

TECHNICAL REPORT STANDARD TITLE PAGE

1. REPORT NO. NASA CR-150776	2. GOVERNMENT ACCESSION NO.	3. RECIPIENT'S CATALOG NO.	
4. TITLE AND SUBTITLE Analysis of Vector Wind Change with Respect to Time for Vandenberg Air Force Base, California		5. REPORT DATE August 1978	6. PERFORMING ORGANIZATION CODE
		8. PERFORMING ORGANIZATION REPORT #	
7. AUTHOR(S) Stanley I. Adelfang		10. WORK UNIT NO.	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Science Applications, Inc. 2109 W. Clinton Avenue, Suite 800 Huntsville, Alabama 35805		11. CONTRACT OR GRANT NO. NAS8-32226	
		13. TYPE OF REPORT & PERIOD COVERED Contractor	
12. SPONSORING AGENCY NAME AND ADDRESS National Aeronautics and Space Administration Washington, D. C. 20546		14. SPONSORING AGENCY CODE	
15. SUPPLEMENTARY NOTES Prepared under the technical monitorship of the Atmospheric Sciences Division, Space Sciences Laboratory, NASA/Marshall Space Flight Center			
16. ABSTRACT This report presents a statistical analysis of the temporal variability of wind vectors at 1 km altitude intervals from 0 to 27 km altitude taken from a 10-year data sample of twice-daily rawinsonde wind measurements over Vandenberg Air Force Base, California.			
17. KEY WORDS		18. DISTRIBUTION STATEMENT Unclassified — Unlimited <i>Charles A. Lundquist</i> Charles A. Lundquist Director, Space Sciences Laboratory	
19. SECURITY CLASSIF. (of this report) Unclassified	20. SECURITY CLASSIF. (of this page) Unclassified	21. NO. OF PAGES 426	22. PRICE NTIS

AUTHOR'S ACKNOWLEDGMENTS

This report describes an investigation performed under Contract NAS8-32226 to National Aeronautics and Space Administration, George C. Marshall Space Flight Center (NASA/MSFC). Mr. Orvel E. Smith of MSFC Atmospheric Sciences Division, Space Sciences Laboratory, was the NASA Contracting Officer's Representative (COR). The author wishes to express his appreciation to Mr. Smith for the technical discussions and guidance during this effort. The achievements of this investigation could not have been possible without the analytical tools that have been developed in past investigations by the Space Sciences Laboratory.

The author wishes to acknowledge the contributions to this effort by other SAI personnel; Mr. Willie Robinson was responsible for the computer programming efforts utilizing the UNIVAC 1108 computer and Mr. John Hickey prepared the programs for the Space Sciences Laboratory Hewlett Packard 21 MX computer.

TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
I	INTRODUCTION	1
II	TECHNICAL BACKGROUND	
	A. Introduction	3
	B. Data	3
	C. Definitions	4
	D. Statistics	4
III	ANALYSIS	
	A. Introduction	7
	B. Wind Component Change with Respect to Time	7
	C. Joint Distribution of Wind Component Change with Respect to Time	24
	D. Modulus of Vector Wind Change with Respect to Time	30
	E. Conditional Vector Wind Ellipses	37
	F. Year to Year Variability	46
	G. Comparison of Wind Change with Respect to Time at KSC and VAFB	53
IV	CONCLUSIONS	55
V	REFERENCES	57
	APPENDIX	58

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Zonal and Meridional Wind Component Autocorrelation at 12 km at VAFB (1965-74)	9
2	Constants b and c of Equations 18 and 19 for VAFB during November (1965-74)	12
3	Constants b and c of Equations 18 and 19 for VAFB during December (1965-74)	13
4	Constants b and c of Equations 18 and 19 for VAFB during January (1965-74)	14
5	Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of zonal wind component change, Δu , with respect to time increment, τ , during November at 12 km at VAFB (1965-74)	18
6	Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv , with respect to time increment, τ , during November at 12 km at VAFB (1965-74)	19
7	Theoretical (straight lines) and observed (plotted points) of cumulative probability distribution of zonal wind component changes, Δu , with respect to time increment, τ , during December at 12 km at VAFB (1965-74).....	20
8	Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv , with respect to time increment, τ , during December at 12 km at VAFB (1965-74)	21
9	Theoretical (straight lines) and observed plotted points) cumulative probability distribution of zonal wind component change, Δu , with respect to time increment, τ , during January at 12 km at VAFB (1965-74)	22
10	Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv , with respect to time increment, τ , during January at 12 km at VAFB (1965-74)	23
11	Observed λ_e as a function of theoretical λ_e for a bivariate normal distribution of wind component changes (Δu , Δv) with respect to time at 12 km during November (1965-74) at VAFB	26

LIST OF ILLUSTRATIONS (Cont'd)

<u>Figure</u>	<u>Page</u>
12	Observed λ_e as a function of theoretical λ_e for a bivariate normal distribution of wind component changes (Δu , Δv) with respect to time at 12 km during December (1965-74) at VAFB 27
13	Observed λ_e as a function of theoretical λ_e for a bivariate normal distribution of wind component changes (Δu , Δv) with respect to time at 12 km during January (1965-74) at VAFB 28
14	November, December and January 95 percent wind change ellipses at 6, 12, 18 and 24 km over VAFB 29
15	November theoretical percentiles of modulus, R, of vector wind change with respect to time interval (τ) at 12 km over VAFB (1965-74) 32
16	December theoretical percentiles of modulus, R, of vector wind change with respect to time interval (τ) at 12 km over VAFB (1965-74) 33
17	January theoretical percentile of modulus, R, of vector wind change with respect to time interval (τ) at 12 km over VAFB (1965-74) 34
18	November conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at VAFB (1965-74) 38
19	December conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at VAFB (1965-74) 39
20	January conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at VAFB (1965-74) 40
21	Wind direction characteristics of a vector wind probability ellipse 45
22	Monthly mean zonal wind for reference period 1965-72 (Falls, Ref. 3) and for individual months during the period 1965-74 at 12 km over VAFB 47
23	Monthly mean meridional wind for reference period 1965-72 (Falls, Ref. 3) and for individual months during the period 1965-74 at 12 km over VAFB 48

LIST OF ILLUSTRATIONS (Cont'd)

<u>Figure</u>		<u>Page</u>
24	Distribution of Deviations, D, of the monthly mean zonal and meridional wind from the reference month mean given by Falls [3]	49
25	95 Percent vector wind ellipse at 12 km during November 1965 and 1969 at VAFB	52
26	Comparison of 95 percent wind change ellipses at 12 km from VAFB (1965-74) and KSC (1956-70)	54

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1 Constants b and c of Equations 18 and 19 at Altitudes from 1 to 27 km during December, January and November (1965-74) at VAFB	11
2 Calculated [Eqs. 22, 23] and observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during November (1965-74) at VAFB	15
3 Calculated [Eqs. 22, 23] and observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during December (1965-74) at VAFB	16
4 Calculated [Eqs. 22, 23] and observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during January (1965-74) at VAFB	17
5 Theoretical and Observed Modulus, R, of Vector Wind Change with respect to time at 12 km during November (1965-74) at VAFB	35
6 Theoretical and Observed Modulus, R, of Vector Wind Change with respect to time at 12 km during December (1965-74) at VAFB	36
7 Theoretical and Observed Modulus, R, of Vector Wind Change with respect to time at 12 km during January (1965-74) at VAFB	37
8 Wind direction (degrees) characteristics of 95 percent conditional wind ellipses at VAFB during November (1965-74) for an elapsed Time (τ) of 12 hours	42
9 Wind direction (degrees) characteristics of 95 percent conditional wind ellipses at VAFB during December (1965-74) for an elapsed time (τ) of 12 hours	43
10 Wind direction (degrees) characteristics of 95 percent conditional wind ellipses at VAFB during January (1965-74) for an elapsed time (τ) of 12 hours	44
11 Bivariate Normal Statistics of the Vector Wind at 12 km over VAFB for individual months during the period 1965-74	50
A-1 Notation of Variables	58

I. INTRODUCTION

It is anticipated that Space Shuttle launches from Vandenberg Air Force Base (VAFB), California, will be constrained to minimize the probability of exceeding design maximum wind loads. The reduction of wind loads is normally achieved by biasing the ascent trajectory with respect to a nominal wind profile. The wind profile to be used and the rationale for its selection is the subject of continuing studies. Ideally, maximum reduction of wind loads would be achieved if wind biasing is with respect to the wind profile "seen" by the vehicle; such a profile is not observable prior to launch because of the variability of wind with respect to time and the inability of available wind measurement systems to measure winds in the space-time coordinate system of the vehicle. The time required for implementation of modifications to the wind bias program based on updated wind profile data also dictates that the wind profile measurement must be obtained prior to launch.

The specification of an optimum time for the wind profile measurement depends in part on quantitative information on the temporal variability of winds aloft and knowledge of the load reduction achieved by utilizing wind profiles obtained at various time intervals prior to launch. Establishment of the optimum time interval is the objective of proposed simulation studies. A simulation study could involve the use of a series of wind profiles measured at closely spaced time intervals. The last profile of the series is chosen to represent the profile seen by the vehicle and each preceding profile is used for establishing a series of wind bias trajectories. The loads are calculated for each biased trajectory, and the amount of load reduction achieved is tabulated as a function of time interval prior to launch. The results are also compared with the load reduction that would have been achieved by simply using the monthly mean wind profile as the basis for the biased trajectory. An optimum time interval is chosen based on a statistical analysis of a large number of simulations. The ultimate implementation of the results of such a study is the establishment of a wind monitoring scheme to support space shuttle launches.

Quantitative information on wind change with respect to time is the basis for the simulation studies described above. This is the second report prepared by SAI on the analysis of wind change at Space Shuttle launch sites. This report is concerned with the Vandenberg AFB, California, launch site. The previous report [1] was concerned with the Cape Kennedy, Florida, launch site.

This report describes wind change at Vandenberg AFB for time intervals from 12 to 72 hours at altitudes from 0 to 27 km calculated from a ten-year (1965-74) sample of twice daily Rawinsonde profiles. Wind change with respect to time is presented in terms of statistical summaries of wind component change and the modulus of vector wind change; the parameters of idealized theoretical probability distribution functions representing the wind change variables are also presented. The validity of the hypothetical distributions is established by comparing them with the observed distributions. These distribution functions can be utilized to obtain statistical predictions of wind change with respect to time.

Succeeding sections of this report consist of a brief statement of technical background (Section II), an analysis of wind change statistics (Section III), and conclusions (Section IV); the calculated statistics of wind change with respect to time by reference month at 1 km altitude intervals from 0 to 27 km are listed in the Appendix.

II. TECHNICAL BACKGROUND

A. INTRODUCTION

The large sample of wind profiles obtained at VAFB is suitable for calculation of an equally large sample of wind change data. In order to readily abstract information on wind change from these data, it is necessary to perform a second series of calculations which provide statistical summaries of wind change. The choice of statistical parameters for description of wind change is based in part on the need to specify the parameters of theoretical distributions of wind change. These theoretical distribution functions are described in detail by Smith [2]. The basic distribution of the four variables consisting of the zonal and meridional components of the vector wind at an initial time and after an elapsed time, Δt , is quadrivariate normal. The conditional distribution of the wind components at a specified future time, given the wind components at an initial time, is bivariate normal. The modulus of the wind change vector is Rayleigh and the distribution of either the zonal or meridional wind component change is univariate normal. A significant portion of the analytical discussion in Section III of this report is the presentation of observed distributions of wind change and comparison with the theoretical distributions of wind change variables. Succeeding paragraphs of this section are concerned with a description of the wind profile data and the definition of statistical parameters of wind change used in the various theoretical distribution functions.

B. DATA

Wind change statistics for periods from 12 to 72 hours are calculated from the serially complete (0-27 km) Rawinsonde data at 1 km altitude intervals obtained twice daily during the period 1965-74 at Vandenberg AFB, California. The basic winds aloft data are recorded in terms of wind direction, θ and magnitude, W . The wind vector is expressed in the standard meteorological coordinate system in which the direction from which the wind is blowing is measured in degrees clockwise from true north. The zonal component, u , of the wind vector is positive for a west (west to

east) wind ($\theta=270^{\circ}$) and negative for an east (east to west) wind ($\theta=90^{\circ}$); the meridional component, v , is positive for a south (south to north) wind ($\theta=180^{\circ}$) and negative for a north (north to south) wind ($\theta=0^{\circ}$); u and v are obtained from θ and W according to:

$$u = -W \sin \theta, \quad 0 \leq \theta \leq 360^{\circ} \quad (1)$$

$$v = -W \cos \theta, \quad (2)$$

The relation between θ defined above and the angle defined in standard mathematical polar form is:

$$\theta = 270 - \theta_{\text{Math}} \quad (3)$$

C. DEFINITIONS

The subscript 0 is used to denote the initial value of a variable, and the subscript 1 denotes the variable after an elapsed time, Δt . Thus:

$$\Delta u = u_1 - u_0 \quad (4)$$

$$\Delta v = v_1 - v_0 \quad (5)$$

Where Δu and Δv are the components of the wind change for a specified Δt , the modulus, R , of the wind change with respect to time is given by:

$$R = \sqrt{(\Delta u)^2 + (\Delta v)^2} \quad (6)$$

The statistical means are denoted by an overbar, the standard deviations and the correlation coefficients are denoted by σ_x and $R(X,Y)$, respectively, with X and Y replaced with the notation appropriate to the variable of interest.

D. STATISTICS

The wind vector measurements at an initial time and after an elapsed time are treated in this investigation as a sample from a quadrivariate normal distribution defined by the fourteen statistics listed below:

MEANS

$$\bar{u}_0, \bar{v}_0, \bar{u}_1, \bar{v}_1$$

STANDARD DEVIATIONS

$$\sigma_{u_0}, \sigma_{v_0}, \sigma_{u_1}, \sigma_{v_1}$$

CORRELATION COEFFICIENTS

$$R(u_0, v_0), R(u_0, u_1)$$

$$R(v_0, v_1), R(u_1, v_1)$$

$$R(u_1, v_0), R(v_1, u_0)$$

The fourteen statistics of the quadrivariate normal distribution of vector wind difference with respect to time consist of the five bivariate normal statistics of vector wind at an initial time ($u_0, v_0, \sigma_{u_0}, \sigma_{v_0}$ and $R(u_0, v_0)$) and the nine statistics involving component differences which can be calculated from the quadrivariate statistics listed above according to the following equations:

MEANS

$$\Delta u = \bar{u}_1 - \bar{u}_0 = u_1 - u_0$$

$$\Delta v = \bar{v}_1 - \bar{v}_0 = v_1 - v_0$$

STANDARD DEVIATIONS

$$\sigma_{\Delta u} = \sqrt{\sigma_{u_1}^2 + \sigma_{u_0}^2 - 2\sigma_{u_1}\sigma_{u_0}R(u_1, u_0)}$$

$$\sigma_{\Delta v} = \sqrt{\sigma_{v_1}^2 + \sigma_{v_0}^2 - 2\sigma_{v_1}\sigma_{v_0}R(v_1, v_0)}$$

where $R(x, y)$ is the correlation coefficient of variables x and y

CORRELATION COEFFICIENTS

$$R(u_0, \Delta u) = \frac{\sigma_{u_1} R(u_0, u_1) - \sigma_{u_0}}{\sigma_{\Delta u}} \quad (11)$$

Where, $\sigma_{\Delta u}$ is obtained from Equation 9

$$R(v_0, \Delta v) = \frac{\sigma_{v_1} R(v_0, v_1) - \sigma_{v_0}}{\sigma_{\Delta v}} \quad (12)$$

Where, $\sigma_{\Delta v}$ is obtained from Equation 10

$$R(\Delta u, v_0) = \frac{\sigma_{u_1} R(v_0, u_1) - \sigma_{u_0} R(u_0, v_0)}{\sigma_{\Delta u}} \quad (13)$$

$$R(\Delta v, u_0) = \frac{\sigma_{v_1} R(u_0, v_1) - \sigma_{v_0} R(u_0, v_0)}{\sigma_{\Delta v}} \quad (14)$$

$$R(\Delta u, \Delta v) = \frac{[\sigma_{u_1} \sigma_{v_1} R(u_1, v_1) - \sigma_{u_1} \sigma_{v_0} R(u_1, v_0) + \sigma_{u_0} \sigma_{v_1} R(u_0, v_1) + \sigma_{u_0} \sigma_{v_0} R(u_0, v_0)]}{\sigma_{\Delta u} \sigma_{\Delta v}} \quad (15)$$

III. ANALYSIS

A. INTRODUCTION

The statistics presented in the appendix of this report can be useful in the establishment of a basis for certain aspects of Space Shuttle Launch planning for Vandenberg AFB. A prelaunch wind monitoring program may be required to provide data for assessment or modification of the Space Shuttle wind bias program. The development and utilization of the wind monitoring program will require knowledge of the magnitude of vector wind change with respect to time. The analysis presented in this section establishes a theoretical basis for estimation of wind change. This is accomplished by comparison of theoretical probability distributions, which contain wind change sample statistics as parameters (from the appendix of this report), to observed probability distributions of wind change. Wind change with respect to time is analyzed herein in terms of wind component change, unconditional and conditional joint distribution of wind component change and the modulus of vector wind change.

B. WIND COMPONENT CHANGE WITH RESPECT TO TIME

The theoretical probability distribution of wind component change with respect to time is univariate normal with zero mean and standard deviation given by Equations 9 and 10; the assumption of zero means of component differences is verified by the sample statistics given in the appendix. The theoretical normal distribution of component differences can be derived by using either the standard deviations of component differences given in the appendix or an estimate which can be obtained from the standard deviation of the components if it is assumed that:

$$\sigma_{u_0} = \sigma_{u_1} = \sigma_u$$

$$\sigma_{v_0} = \sigma_{v_1} = \sigma_v$$

Equations 9 and 10 reduce to

$$\sigma_{\Delta u} = \sqrt{2} \sigma_u \sqrt{1 - R(u_1, u_0)} \quad (16)$$

$$\sigma_{\Delta v} = \sqrt{2} \sigma_v \sqrt{1 - R(v_1, v_0)} \quad (17)$$

The wind component autocorrelation functions, $R(u_1, u_0)$ and $R(v_1, v_0)$ can be represented by a negative exponential function of time increment, τ ; i.e.,

$$R(u_1, u_0) = \text{EXP}(-b\tau) \quad (18)$$

$$R(v_1, v_0) = \text{EXP}(-c\tau) \quad (19)$$

where b and c are computed according to

$$b = - \frac{\sum_i \tau_i \ln R_i(u_1, u_0)}{\sum_i \tau_i^2} \quad (20)$$

$$c = - \frac{\sum_i \tau_i \ln R_i(v_1, v_0)}{\sum_i \tau_i^2} \quad (21)$$

Examples of the decay of the autocorrelation function at 12 km during November, December and January at VAFB are illustrated in Figure 1; the lines in the figure represent the decay rate predicted by Equations 18 and 19.

Substitution of Equations 18 and 19 into 16 and 17, respectively, yields a simple expression for $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ in terms of σ_u and σ_v , respectively.

$$\sigma_{\Delta u} = \sqrt{2} \sigma_u \sqrt{1 - \text{EXP}(-b\tau)} \quad (22)$$

$$\sigma_{\Delta v} = \sqrt{2} \sigma_v \sqrt{1 - \text{EXP}(-c\tau)} \quad (23)$$

ORIGINAL PAGE IS
OF POOR QUALITY

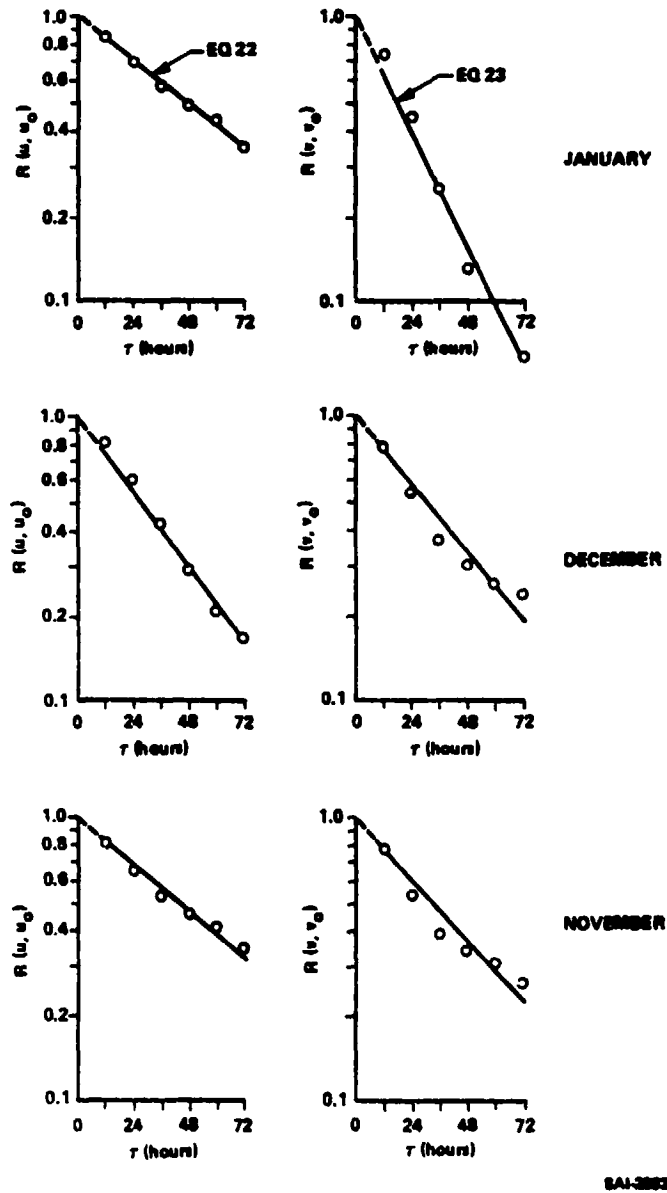


Figure 1. Zonal and Meridional Wind Component Autocorrelation at 12 km at VAFB (1965-74)

Equations 22 and 23 indicate that $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ are asymptotic to $\sqrt{2} \sigma_u$ and $\sqrt{2} \sigma_v$ for large values of τ . Therefore, estimates of the extreme value of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ are obtained by setting τ equal to ∞ in equations 22 and 23.

The calculated values of b and c for VAFB during November, December and January listed in Table 1 are also plotted in Figures 2 through 4. Disregarding minor variations at small altitude intervals, the decay of the zonal component autocorrelation function with respect to time decreases with altitude during November, December and January. The decay of the meridional component autocorrelation function generally exceeds the decay for the zonal component during November, at altitudes above 16 km during December and above 1 km during July. The most rapid decay of the autocorrelation function occurs for the meridional wind component at altitudes between 8 and 16 km during January. The calculated and observed values of $\sigma_{\Delta u}(\tau)$ and $\sigma_{\Delta v}(\tau)$ at 1, 6, 12, 18 and 24 km during November, December and January are listed in Tables 2 through 4. The estimated extreme values of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$, ($\sqrt{2} \sigma_u$ and $\sqrt{2} \sigma_v$, respectively), are listed at the bottom of each column of calculated values. The comparisons in Tables 1 through 3 indicate that $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ can be accurately estimated by application of Equations 22 and 23, respectively. General application of this estimation technique at other locations utilizing published statistics of wind component standard deviations (as in [3], for example) would require a more adequate knowledge of the form of the autocorrelation function than is presently available.

The theoretical distribution of wind component differences has been derived from sample estimates of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ and $\bar{\Delta u}$ and $\bar{\Delta v}$ (given in the appendix) for the intervals of 12, 24, 36 and 48 hours during November, December and January at 12 km over VAFB; the theoretical normal distributions are plotted as straight lines in Figures 5 through 10; the plotted symbols represent the observed distributions of Δu and Δv . It is indicated that the observed distribution of component changes is accurately represented by the theoretical normal distribution for a large range of probabilities; the deviation of the observed distribution from the theoretical distribution at the extreme probabilities is attributed to the small sample of observations and errors in the Rawinsonde data.

Table 1. Constants $b(\text{hr}^{-1})$ and $c(\text{hr}^{-1})$ of Equations 18 and 19 at Altitudes From 1 to 27 km During December, January and November (1965-74) at VAFB

Z(km)	NOV		DEC		JAN	
	$10^2 b$	$10^2 c$	$10^2 b$	$10^2 c$	$10^2 b$	$10^2 c$
1	3.400	3.850	4.808	3.153	3.582	3.201
2	2.319	2.999	3.401	2.440	2.176	3.152
3	2.058	2.495	2.999	2.125	2.048	2.679
4	2.025	2.366	3.036	2.144	1.910	2.754
5	1.871	2.308	3.059	2.318	1.856	2.773
6	1.812	2.285	2.998	2.517	1.863	2.896
7	1.775	2.391	2.952	2.666	1.884	2.992
8	1.720	2.307	3.051	2.668	1.943	3.237
9	1.781	2.228	3.011	2.535	1.935	3.468
10	1.735	2.157	2.847	2.422	1.787	3.628
11	1.592	2.037	2.511	2.308	1.558	3.860
12	1.544	2.055	2.488	2.247	1.455	3.845
13	1.513	2.050	2.330	2.124	1.356	4.304
14	1.518	2.037	2.485	2.013	1.321	4.237
15	1.444	1.980	2.275	1.904	1.364	3.749
16	1.575	1.985	2.163	1.898	1.373	2.935
17	1.525	2.041	1.821	1.984	1.318	2.635
18	1.366	2.234	1.667	1.911	1.200	2.202
19	1.328	2.413	1.414	2.138	1.063	1.964
20	1.183	2.506	1.316	2.543	0.920	1.792
21	1.030	2.632	1.277	2.727	0.860	1.907
22	0.858	3.658	1.039	2.735	0.842	1.824
23	0.673	3.274	0.875	2.681	0.821	1.894
24	0.585	3.420	0.755	2.629	0.800	1.827
25	0.553	2.939	0.743	2.268	0.794	1.746
26	0.400	2.444	0.722	2.195	0.691	1.710
27	0.365	2.349	0.633	1.938	0.613	1.556

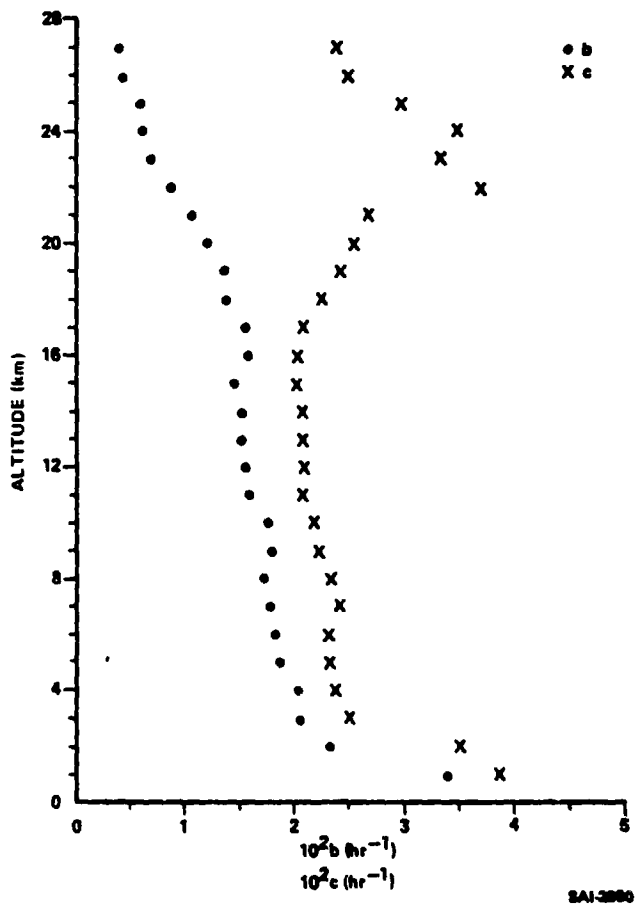


Figure 2. Constants b and c of Equations 18 and 19 for VAFB During November (1965-74)

ORIGINAL PAGE IS
OF POOR QUALITY

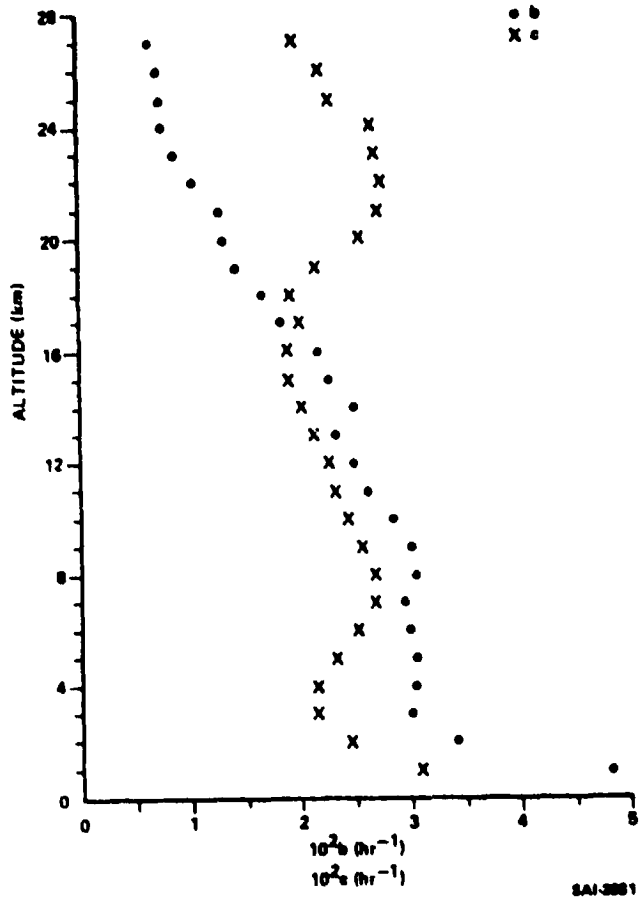


Figure 3. Constants b and c of Equations 18 and 19 for VAFB During December (1965-74)

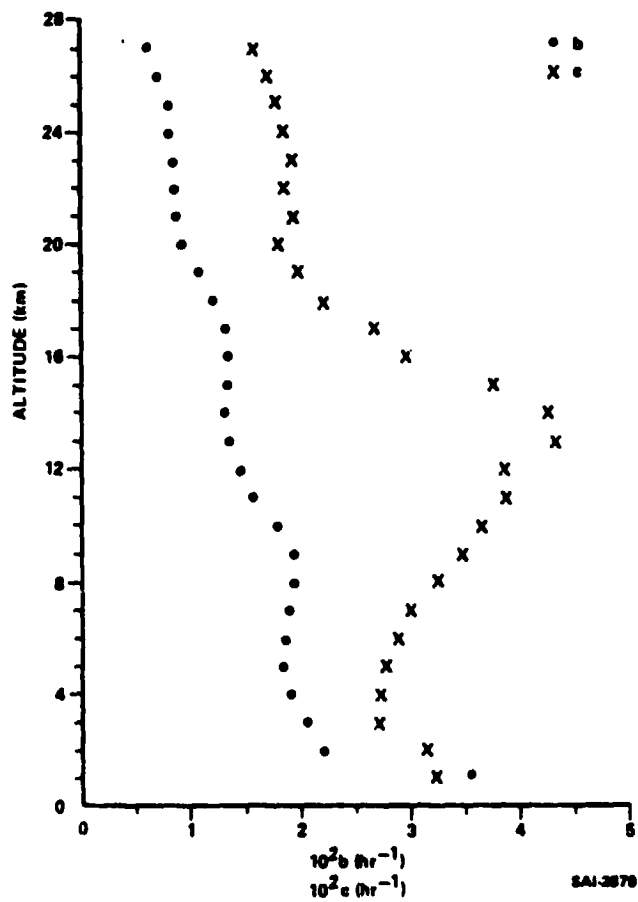


Figure 4. Constants b and c of Equations 18 and 19 for VAFB During January (1965-74)

Table 2. Calculated [Eqs. 22, 23] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during November (1965-74) at VAFB

ALTITUDE (KMI)	τ (HOURS)	$\sigma_{\Delta u}$ (m/sec)		$\sigma_{\Delta v}$ (m/sec)	
		CALCULATED	OBSERVED	CALCULATED	OBSERVED
24	12	2.92	3.98	2.70	3.08
	24	4.08	4.61	3.48	3.55
	36	4.89	5.31	3.92	3.87
	48	5.58	5.71	4.18	4.15
	60	6.11	6.03	4.34	4.32
	72	6.58	6.39	4.45	4.44
∞		11.23	---	4.85	---
18	12	3.56	4.52	3.86	4.03
	24	4.84	5.45	5.13	5.09
	36	5.70	6.08	5.92	6.10
	48	6.35	6.58	6.48	6.64
	60	6.84	6.78	6.84	6.96
	72	7.24	7.01	7.12	7.12
∞		9.15	---	7.98	---
12	12	9.86	10.17	12.64	12.75
	24	13.35	14.18	18.87	18.41
	36	15.88	16.42	19.55	21.23
	48	17.35	17.88	21.41	22.18
	60	18.64	18.47	22.76	22.88
	72	19.65	19.40	23.78	23.55
∞		23.98	---	27.04	---
6	12	7.30	7.77	9.42	9.95
	24	9.81	10.54	12.50	13.88
	36	11.43	12.08	14.40	15.88
	48	12.58	13.08	15.70	16.44
	60	13.45	13.53	16.61	16.60
	72	14.10	13.90	17.28	17.05
∞		18.52	---	19.23	---
1	12	3.14	3.64	5.93	6.26
	24	4.05	4.55	7.57	7.23
	36	4.55	4.92	8.44	8.44
	48	4.88	5.05	8.94	9.13
	60	5.06	5.14	9.26	9.36
	72	5.81	5.18	9.43	9.34
∞		5.42	---	9.74	---

SAI-3877

Table 3. Calculated [Eqs. 22, 23] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during December (1965-74) at VAFB

ALTITUDE (KM)	τ (HOURS)	$\sigma_{\Delta u}$ (m/sec)		$\sigma_{\Delta v}$ (m/sec)	
		CALCULATED	OBSERVED	CALCULATED	OBSERVED
24	12	3.21	4.05	2.57	3.45
	24	4.44	4.84	3.38	3.78
	36	5.32	5.38	3.86	3.94
	48	6.01	6.04	4.18	4.25
	60	6.58	6.61	4.40	4.42
	72	7.08	7.08	4.55	4.47
	∞	10.90	--	4.94	--
18	12	4.05	5.04	4.06	4.42
	24	5.47	6.21	5.44	5.76
	36	6.39	6.77	6.32	6.48
	48	7.06	7.10	6.95	6.98
	60	7.57	7.38	7.41	7.32
	72	7.96	7.66	7.75	7.49
	∞	9.52	--	8.97	--
12	12	11.17	9.49	12.99	12.44
	24	14.74	14.10	17.26	18.06
	36	16.90	16.92	19.91	21.03
	48	18.35	18.66	21.71	22.03
	60	19.35	19.67	23.00	22.65
	72	20.06	20.34	23.83	22.97
	∞	21.98	--	26.73	--
6	12	9.58	8.60	10.68	11.01
	24	12.48	12.12	14.08	15.03
	36	14.16	14.23	16.15	17.13
	48	15.22	15.38	17.52	17.77
	60	15.92	16.21	18.46	18.31
	72	16.39	16.86	19.13	18.87
	∞	17.42	--	20.92	--
1	12	4.14	4.27	6.80	6.01
	24	5.17	5.44	7.53	7.67
	36	5.67	5.84	8.52	8.73
	48	5.93	5.89	9.13	9.10
	60	6.07	6.15	9.53	9.44
	72	6.15	6.42	9.79	9.71
	∞	6.25	--	10.34	--

SAI-2878

Table 4. Calculated [Eqs. 22, 23] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ During January (1965-74) at VAFB

ALTITUDE (KAI)	r (HOURS)	$\sigma_{\Delta u}$ (m/sec)		$\sigma_{\Delta v}$ (m/sec)	
		CALCULATED	OBSERVED	CALCULATED	OBSERVED
24	12	3.97	4.51	2.62	3.33
	24	5.49	5.41	3.52	3.71
	36	6.57	6.32	4.10	4.07
	48	7.41	7.36	4.51	4.40
	60	8.10	8.24	4.81	4.83
	72	8.68	8.63	5.06	5.11
∞		13.12	---	5.90	---
18	12	3.62	4.36	3.68	3.81
	24	4.96	5.09	4.89	4.80
	36	5.85	5.85	5.65	5.64
	48	6.54	6.49	6.17	6.22
	60	7.08	7.06	6.54	6.54
	72	7.52	7.55	6.81	6.82
∞		9.89	---	7.64	---
12	12	10.40	9.99	13.84	11.86
	24	14.10	14.42	17.66	17.01
	36	16.58	16.88	19.87	19.58
	48	18.41	18.35	20.83	20.98
	60	19.81	19.48	21.52	21.43
	72	20.92	20.87	21.96	21.77
∞		25.94	---	22.64	---
6	12	7.94	7.71	9.37	9.44
	24	10.66	10.89	12.24	12.86
	36	12.40	12.43	13.91	14.62
	48	13.64	13.43	14.98	15.27
	60	14.55	14.17	15.68	15.44
	72	15.25	15.01	16.18	15.61
∞		17.75	---	17.28	---
1	12	3.83	4.10	5.06	5.54
	24	4.66	5.08	7.32	7.56
	36	5.22	5.44	8.27	8.69
	48	5.56	5.55	8.86	9.07
	60	5.77	5.78	9.24	9.17
	72	5.90	5.87	9.49	9.48
∞		6.14	---	10.00	---

SAI-3901

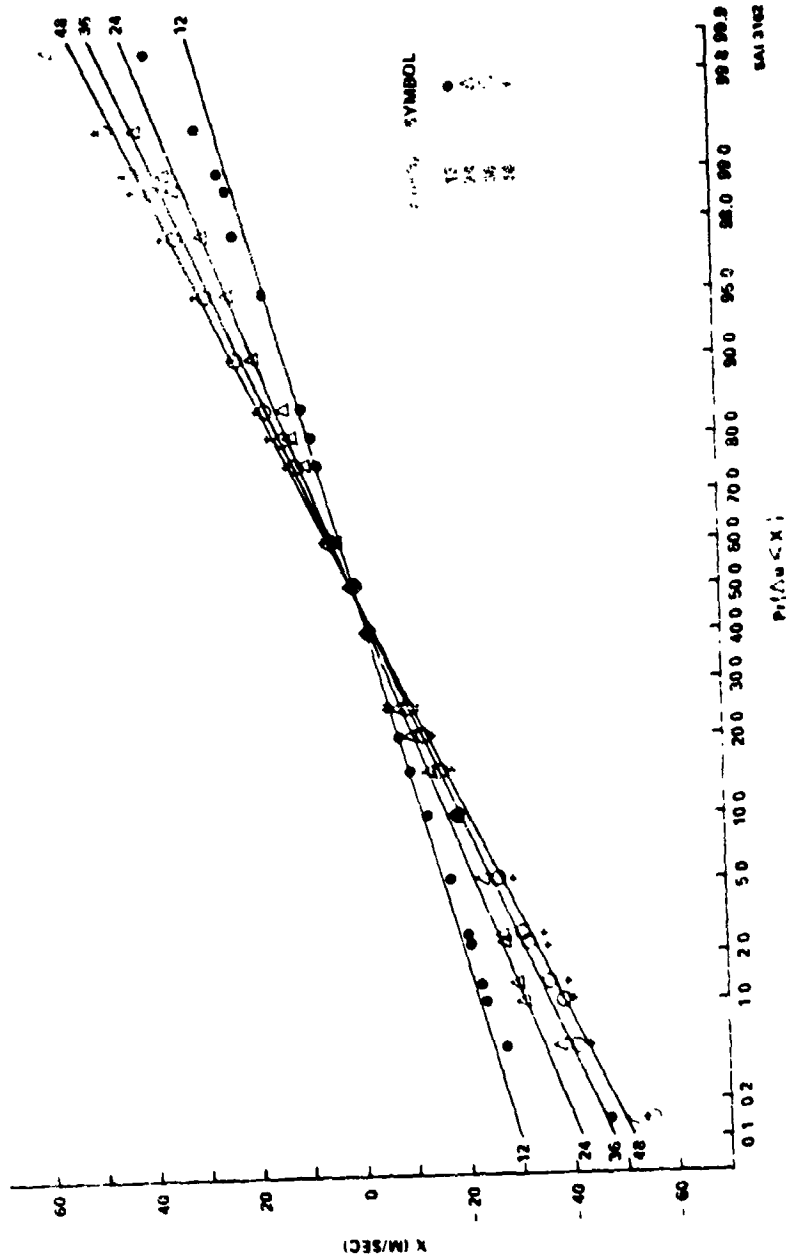


Figure 5. Theoretical (straight lines) and Observed (plotted points) Cumulative Probability Distribution of Zonal Wind Component Change, Δu , with Respect to Time Increment, τ , During November at 12 km at VAFB (1965-74)

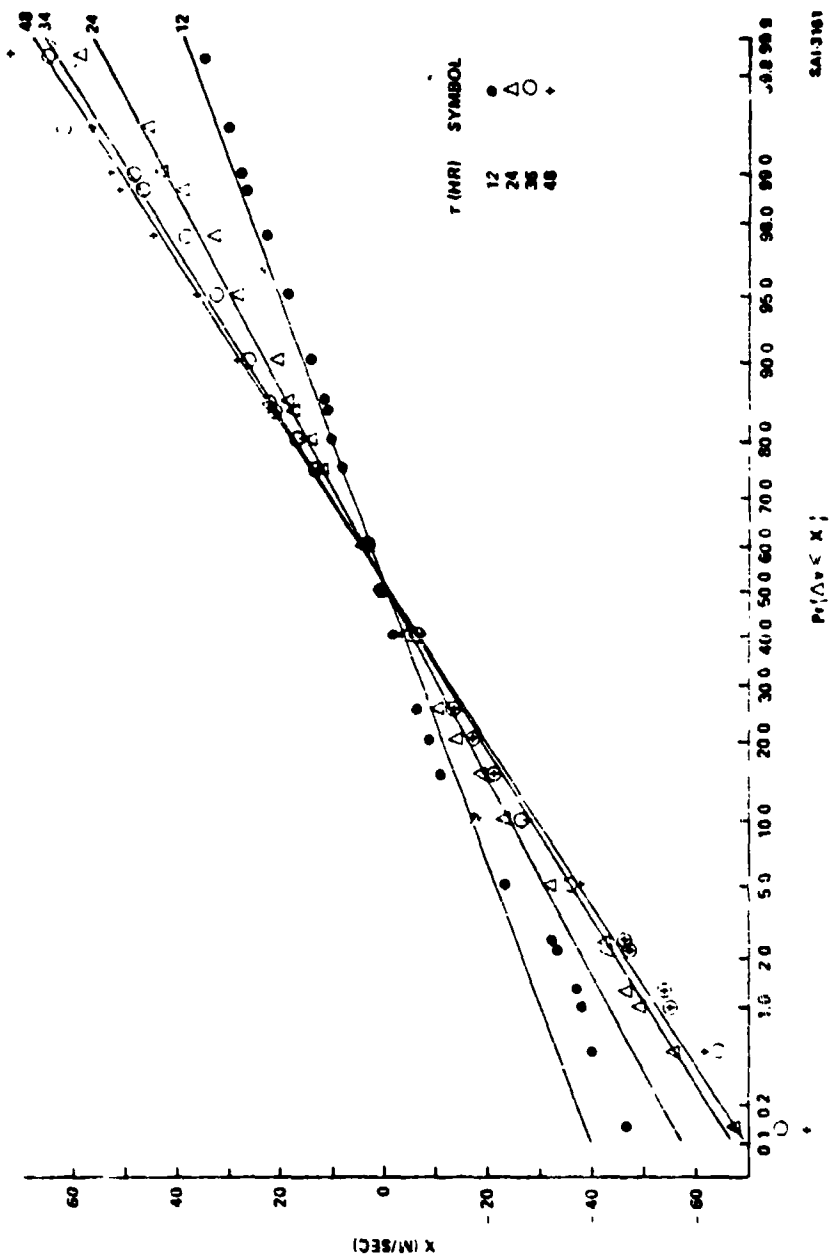


Figure 6. Theoretical (straight lines) and Observed (Plotted Points) Cumulative Probability Distribution of Meridional Wind Component Change, Δv , with respect to time Increment, τ , During November at 12 km at VAFB (1965-74)

ORIGINAL PAGE IS
OF POOR QUALITY

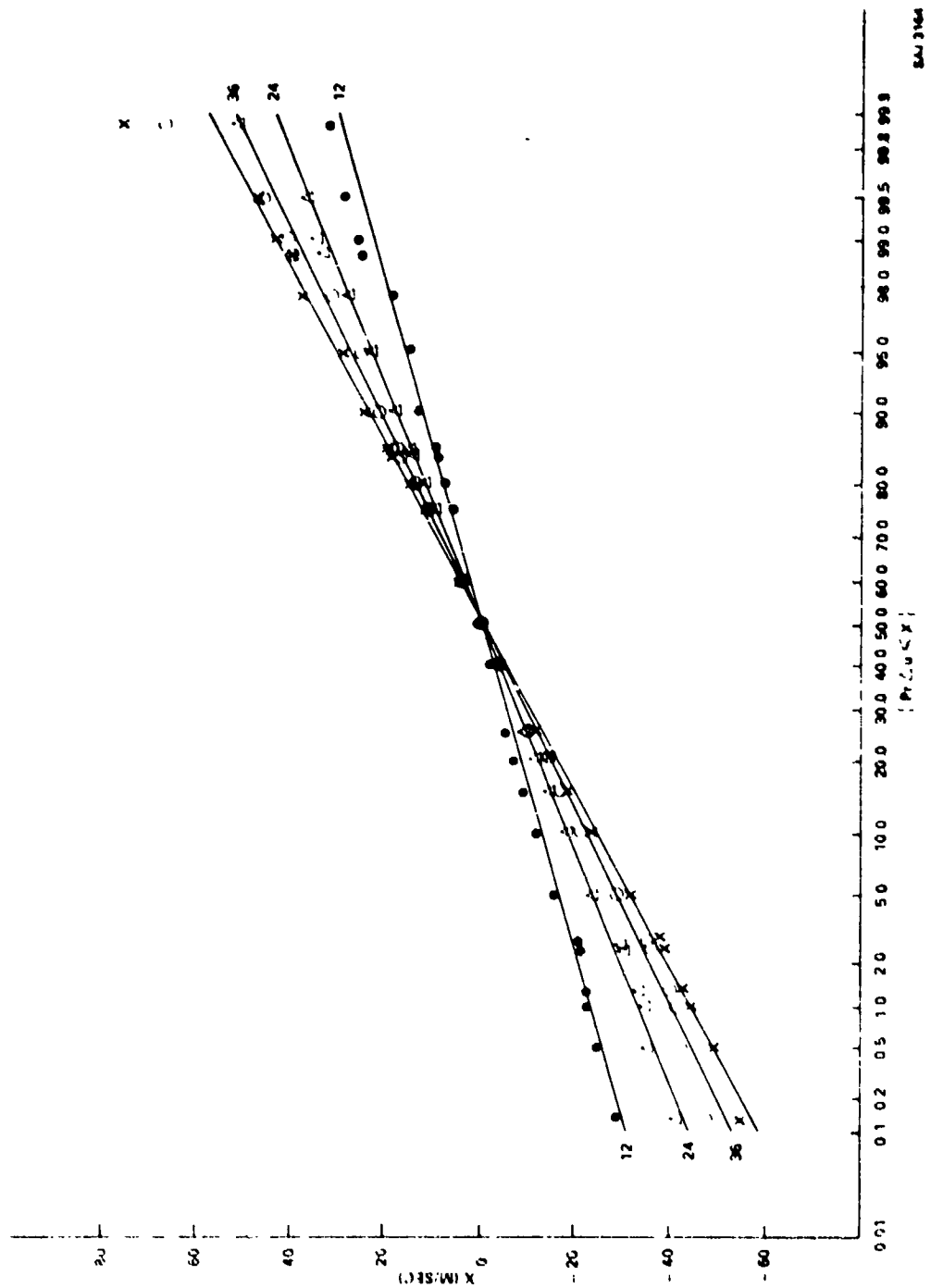


Figure 7. Theoretical (straight lines) and Observed (plotted points) Cumulative Probability Distribution of Zonal Wind Component Changes, Δu , with Respect to Time Increment, t , During December at 12 km at VAFB (1965-74)

ORIGINAL PAGE IS
OF POOR QUALITY

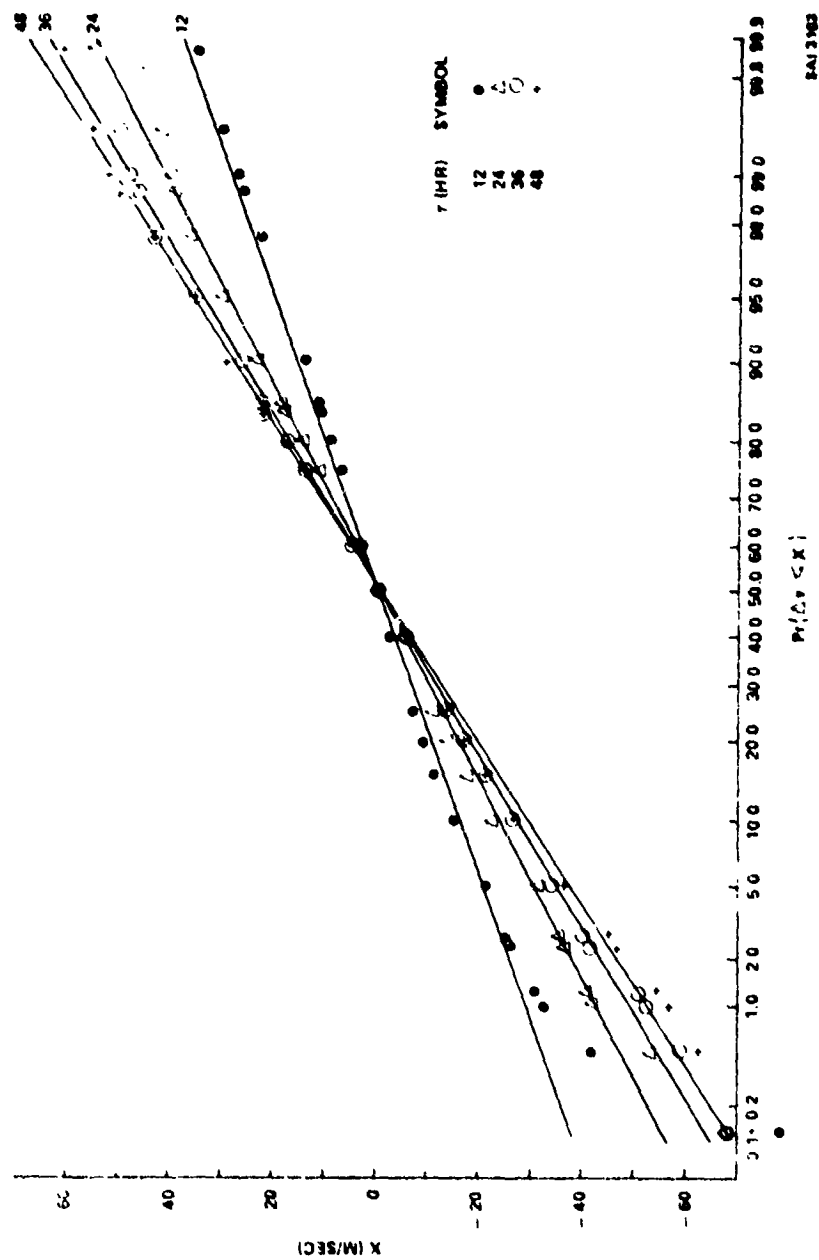


Figure 8. Theoretical (straight lines) and Observed (plotted points) Cumulative Probability Distribution of Meridional Wind Component Change, Δv , with Respect to Time Increment, τ , during December at 12 km at VAFB (1965-74)

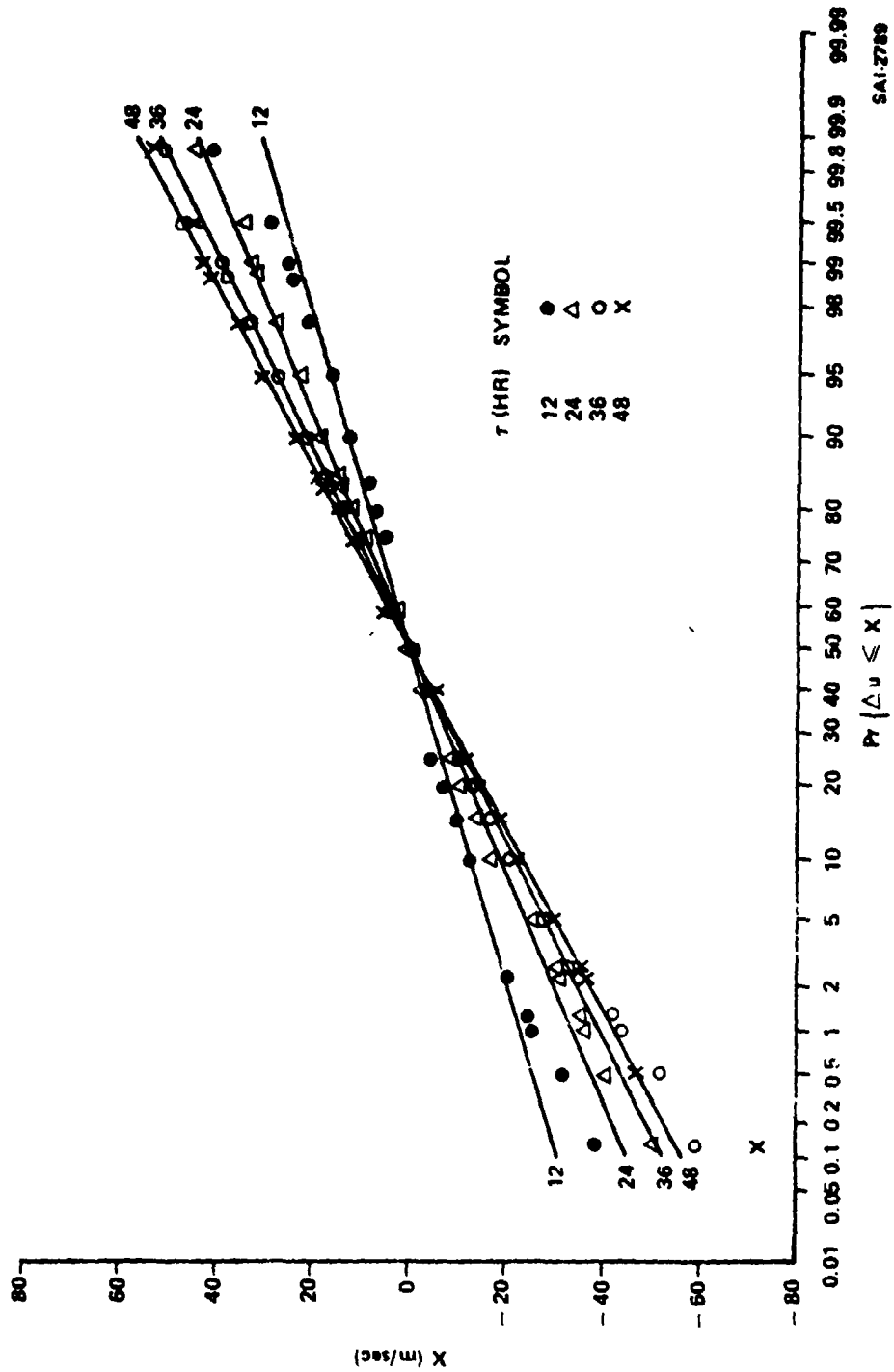
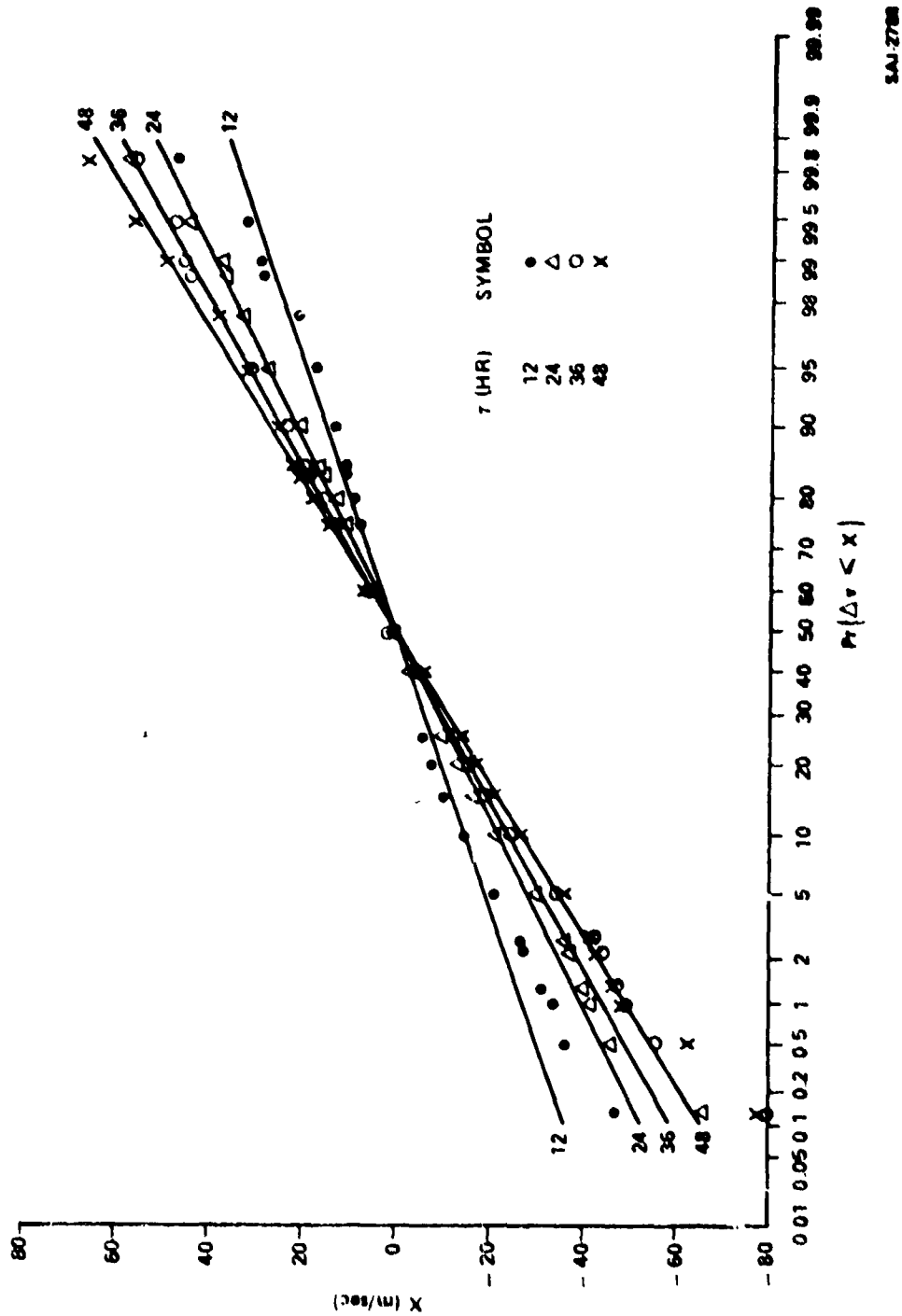


Figure 9. Theoretical (straight lines) and Observed Plotted Points) Cumulative Probability Distribution of Zonal Wind Component Change, Δu , with Respect to Time Increment, τ , During January at 12 km at VAFB (1965-74)



SAJ-2788

Figure 10. Theoretical (straight lines) and Observed (plotted points) Cumulative Probability Distribution of Meridional Wind Component Change, Δv , with Respect to Time Increment, τ , during January at 12 km at VAFB (1965-74)

C. JOINT DISTRIBUTION OF WIND COMPONENT CHANGES WITH RESPECT TO TIME

The joint distribution of zonal and meridional wind component change with respect to time (Δu and Δv) can be approximated by a bivariate normal distribution. A useful property of such a distribution is that an ellipse can be calculated which contains the end points of a specified percent of vectors having components Δu and Δv . A detailed description of the derivation of probability ellipses and plotting methodology is given by Smith [2]. The five parameters of the bivariate normal distribution of Δu and Δv , calculated for each monthly reference period at VAFB at 1 km altitude intervals from 0 to 27 km are listed in the appendix.

The degree of approximation of the bivariate normal distribution to the observed distribution can be evaluated by comparison of the observed percentage of vectors which are contained within the ellipse to that predicted by the ellipse at a specified probability level. For example, for a sample of 1,000 vectors, 950 of the vectors should terminate within the 95 percent (theoretical $P = .95$) ellipse calculated from the bivariate statistics of the 1,000 vectors; however, a plot of the 1,000 vectors could indicate that only 945 vectors (observed $p = .945$) terminate within the 95 percent ellipse. For illustration on a linear graph comparison of the theoretical to the observed P is given in terms of the parameter λ_e given by

$$\lambda_e = \sqrt{2} \sqrt{-\ln(1-P)} \quad (24)$$

A comparison of theoretical and observed values of λ_e for November, December and January at 12 km for time intervals of 12, 24, 36 and 48 hours is illustrated in Figures 11 through 13. Perfect agreement between theoretical and observed λ_e is represented by a line drawn from the origin with a slope, B , equal to 1. The calculated least squares slopes are given in the figure legend. The plots indicate a tendency for the theoretical λ_e to exceed the observed λ_e for large values of λ_e . The interpretation of this result is that for extreme probabilities the theoretical distributions predict fewer wind change vectors terminating outside the ellipse than is observed. These results may have to be taken into

consideration if engineering application of theoretical wind change statistics beyond the 95 percent level is required.

The 95 percent probability ellipses for the joint distribution of wind component changes with respect to time at 6, 12, 18 and 24 km during November, December and January are illustrated in Figure 14; the relatively small changes with respect to time at 18 and 24 km, the large changes at 12 km and the similarities between the three months are clearly illustrated.

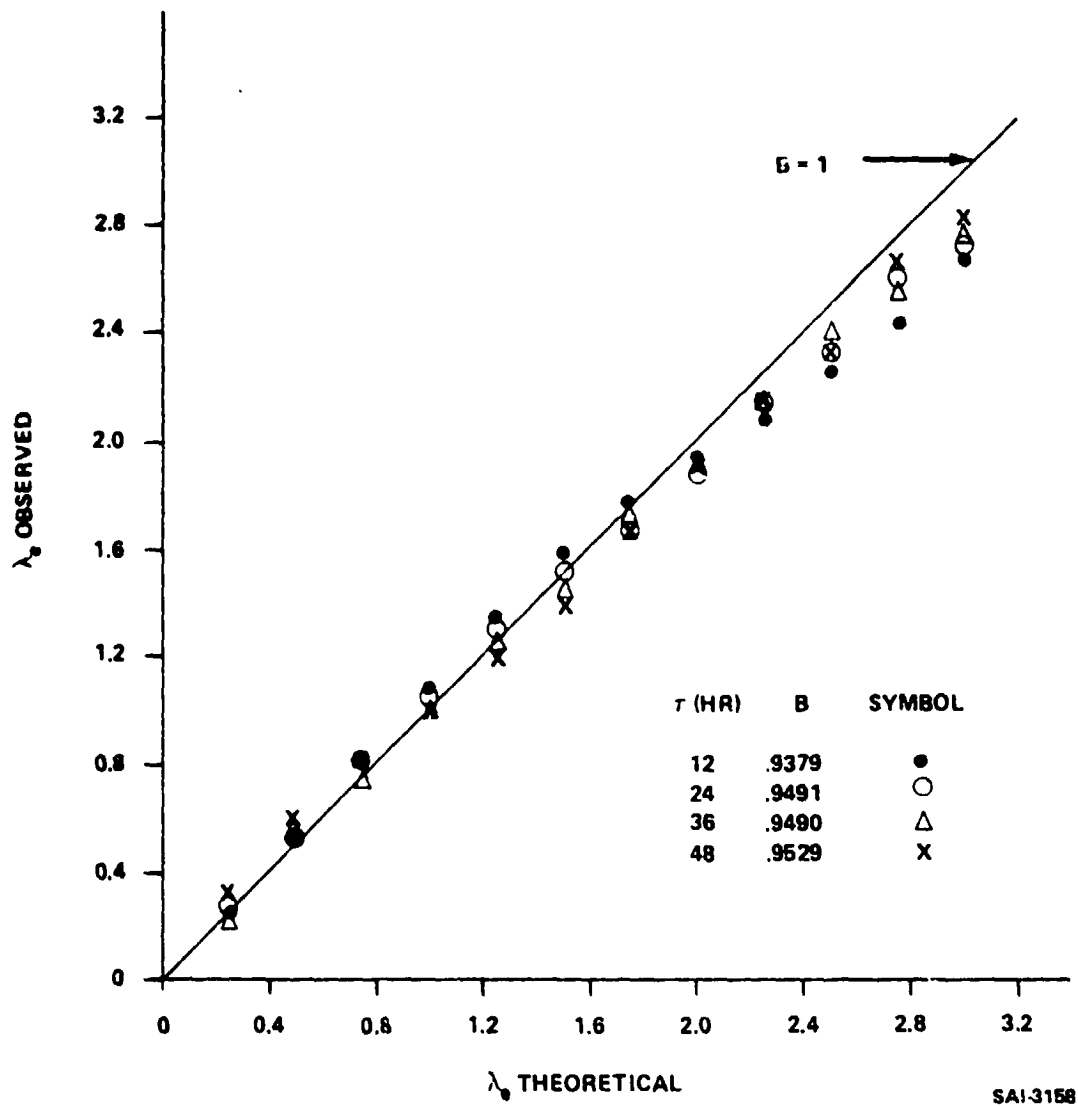


Figure 11. Observed λ_e as a Function of Theoretical λ_e for a Bivariate Normal Distribution of Wind Component Changes (Δu , Δv) with Respect to Time at 12 km During November (1965-74) at VAFB

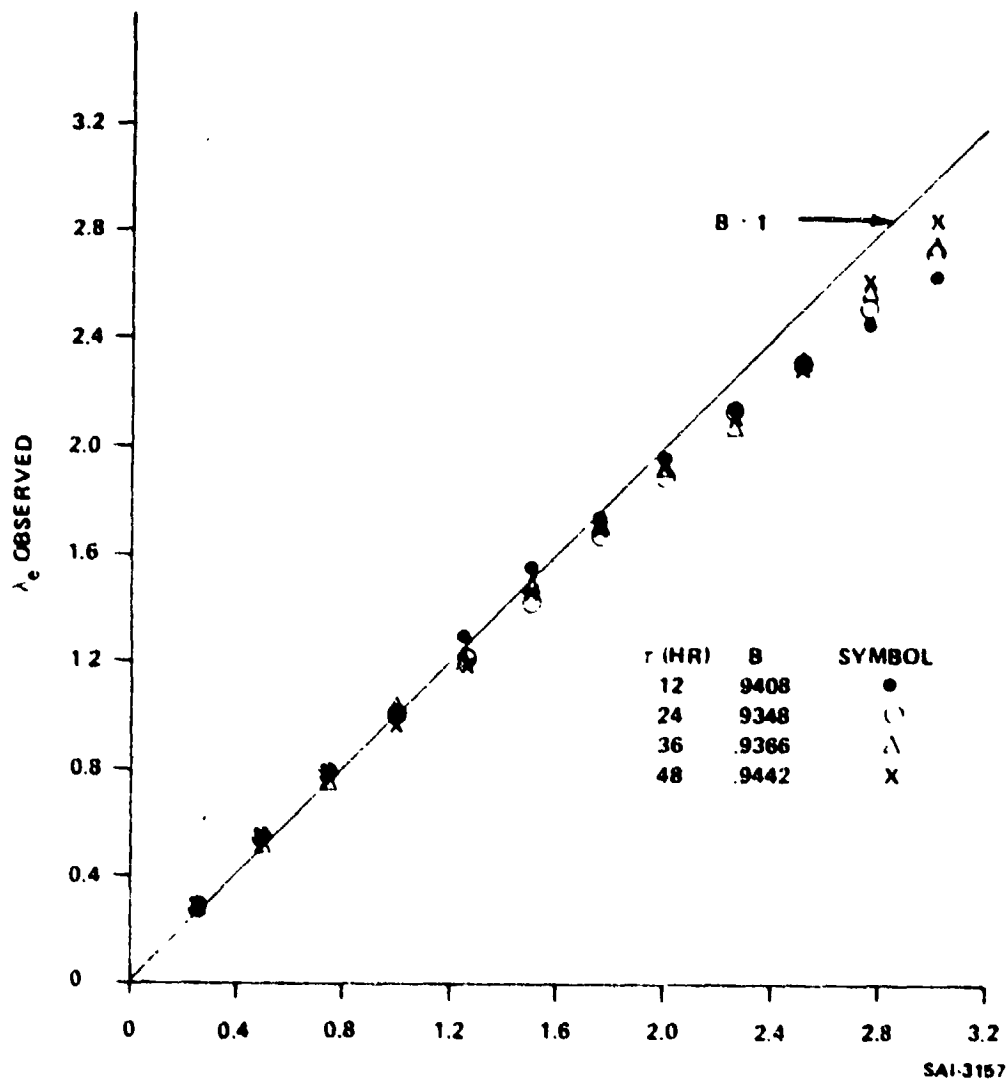
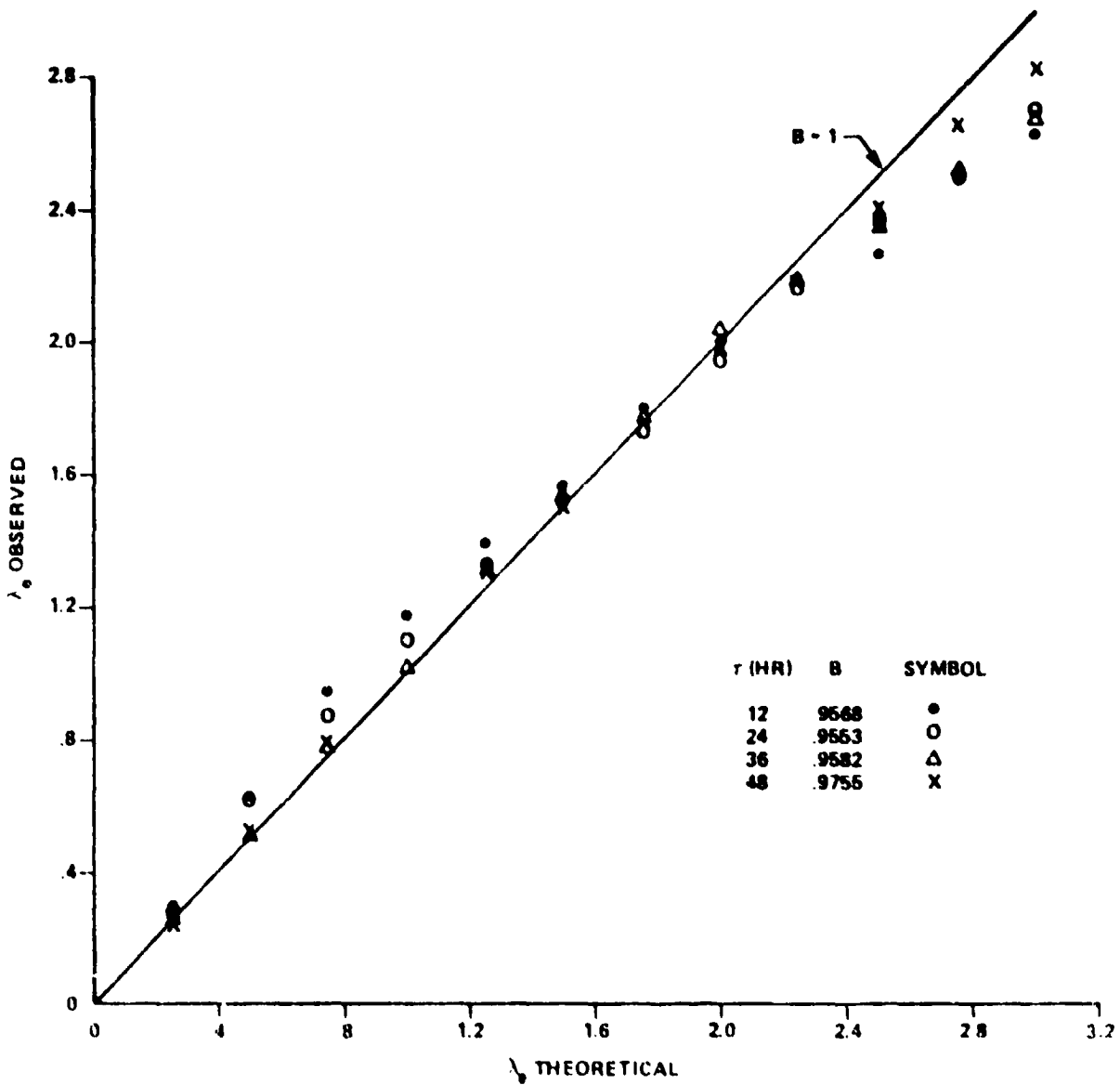


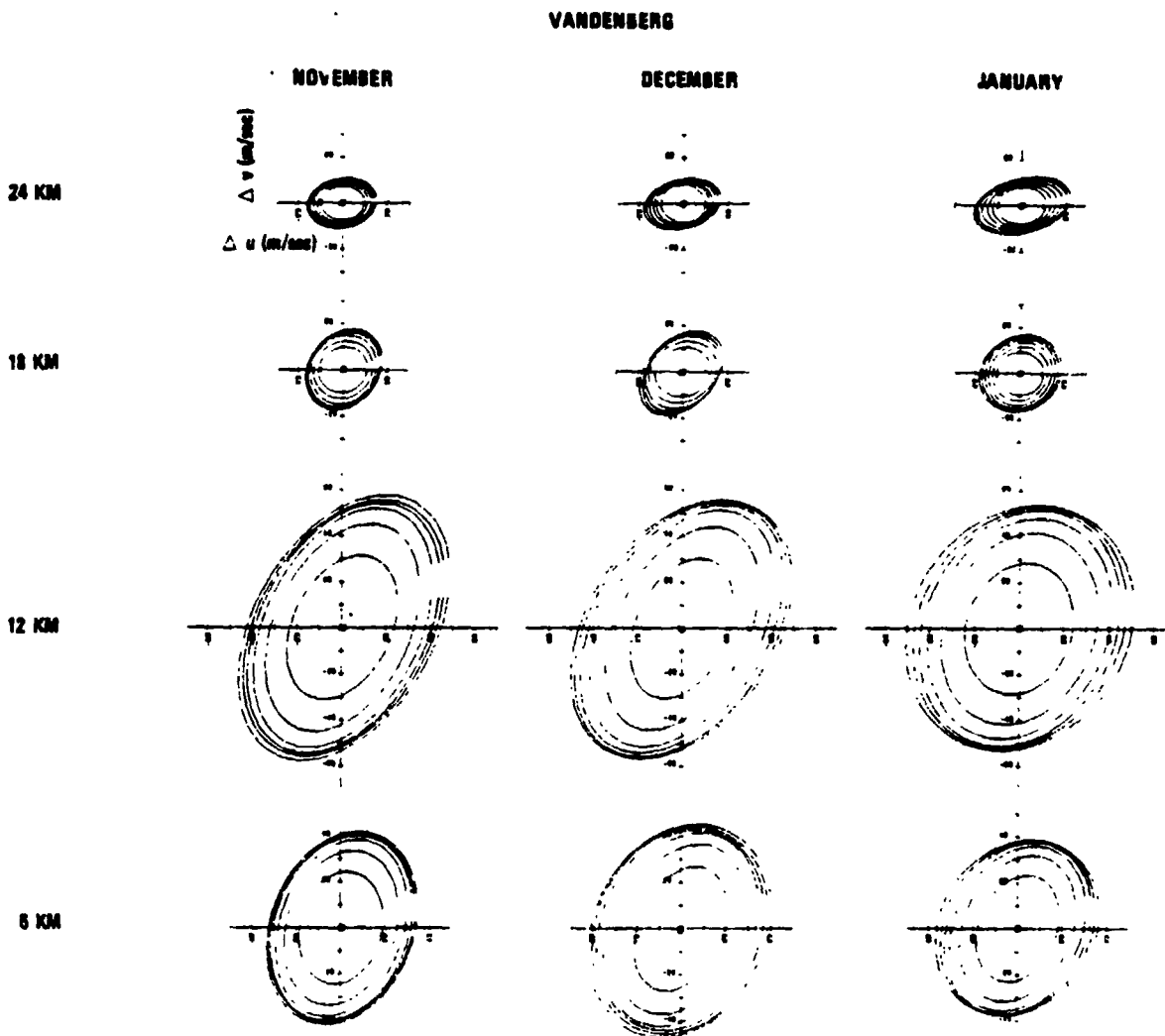
Figure 12. Observed v_e as a Function of Theoretical v_e for a Bivariate Normal Distribution of Wind Component Changes ($\Delta u, \Delta v$) with Respect to Time at 12 km During December



SAI 2787

Figure 13. Observed λ_e as a Function of Theoretical λ_e for a Bivariate Normal Distribution of Wind Component Changes ($\Delta u, \Delta v$) with Respect to Time at 12 km During January (1965-74) at VAFB

ORIGINAL PAGE IS
OF POOR QUALITY



THE SIX ELLIPSES FOR EACH ALTITUDE AND MONTH ARE FOR TIME INCREMENTS AT 12-HOUR INTERVALS FROM 12 TO 72 HOURS; THE AREA OF THE ELLIPSES INCREASES WITH INCREASING TIME INTERVAL.

6A1-3847

Figure 14. November, December and January 95 Percent Wind Change Ellipses at 6, 12, 18 and 24 km over Vandenberg AFB

D. MODULUS OF VECTOR WIND CHANGE WITH RESPECT TO TIME

If wind change with respect to time has a distribution which is bivariate normal, the modulus R , of the wind change vector (defined by Equation 6) has a Rayleigh distribution. Since the Rayleigh distribution cannot be integrated in closed form, numerical integration is required to obtain the cumulative probability distribution. Derivation of the Rayleigh distribution, given the five bivariate normal distribution statistics, requires summation involving products of the modified Bessel function of the first kind. Smith [2] summarizes the basic equations for the Rayleigh distribution derived by Wier [4] and extended by Yadavalli [5] to include the condition for correlated variables. The Rayleigh distribution reduces to the integrable classical form, if it is assumed that the components of the vector wind change are independent and that they have zero means and equal standard deviations; the classical Rayleigh probability density function is

$$f(R) = \frac{R}{\sigma^2} \text{EXP} (-R^2/2\sigma^2) \quad R \geq 0 \quad (25)$$

Integration of Equation 25 from zero to a specified value of R yields the cumulative probability that $R \leq R^*$ where,

$$\text{Pr} \{R \leq R^*\} = 1 - \text{EXP} (-R^2/2\sigma^2) \quad R \geq 0 \quad (26)$$

$$\text{where } \sigma = \sigma_{\Delta u} = \sigma_{\Delta v}$$

Since the standard deviation of the component difference can be expressed as a function of the standard deviation of the components (Equations 22 and 23) it follows that

$$\text{Pr} \{R \leq R^*\} = 1 - \text{EXP} \left[-\frac{R^2}{4\sigma_k^2 (1 - \text{EXP} (-k))} \right] \quad (27)$$

where σ_k and k correspond to either σ_u and b or σ_v and C given in Equations 22 and 23.

An expression for R given a particular probability, $\text{Pr} [R \leq R^*]$, is obtained by solution of Equation 27 to obtain

$$R = \sqrt{2} \lambda_e \sigma_k \sqrt{1 - \text{EXP}(-kT)} \quad (28)$$

where λ_e is derived from Equation 24 denoting $\text{Pr} [R \leq R^*]$ by P

The choice of $\sigma_k = \sigma_v$ and $k = c$ (from Equation 23) at 12 km during November, December and January yields the most accurate approximation of the cumulative Rayleigh distribution obtained by numerical integration of Equation 28 in Reference 1. Comparisons of the 99, 95, and 50 percentile modulus of the wind change vector with respect to time based on the Rayleigh (Equation 28, Reference 1) and the classical Rayleigh (Equation 27) are illustrated in Figures 15, 16 and 17; the rather good agreement between the distributions for time intervals from 12 to 72 hours is attributable to the accuracy of the simplifying assumptions described above. There is a slight tendency, especially for time intervals ≤ 36 hours for the classical Rayleigh to be larger than the Rayleigh.

The remaining question is: How well do these theoretical distributions compare with observed distributions? Comparisons of observed and theoretical values of R for time intervals of 12, 24, 36 and 48 hours at 12 km during November, December and January at VAFB are given in Tables 5 through 7; column II of the tables contains R calculated according to the classical Rayleigh distribution with σ equal to the monthly value of σ_v at 12 km and k equal to the decay constant, c, in the monthly exponential least squares fit to the v component autocorrelation function (Equation 23); Column I was obtained by numerical integration of the Rayleigh distribution. It is indicated that the observed cumulative distribution agrees fairly well with the theoretical distribution for probabilities less than .95 to .97. For large probabilities, there is a consistent tendency for the theoretical distribution to underestimate the observed distribution. This tendency is attributable to the small sample of data available at the extreme probabilities and errors in the Rawinsonde data.

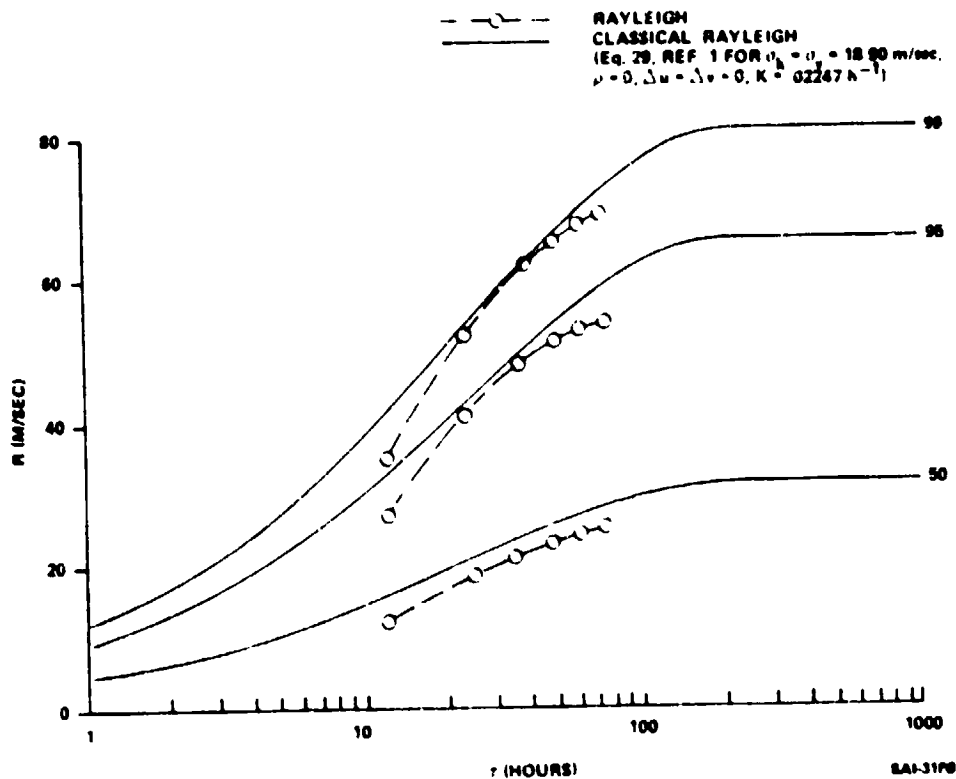
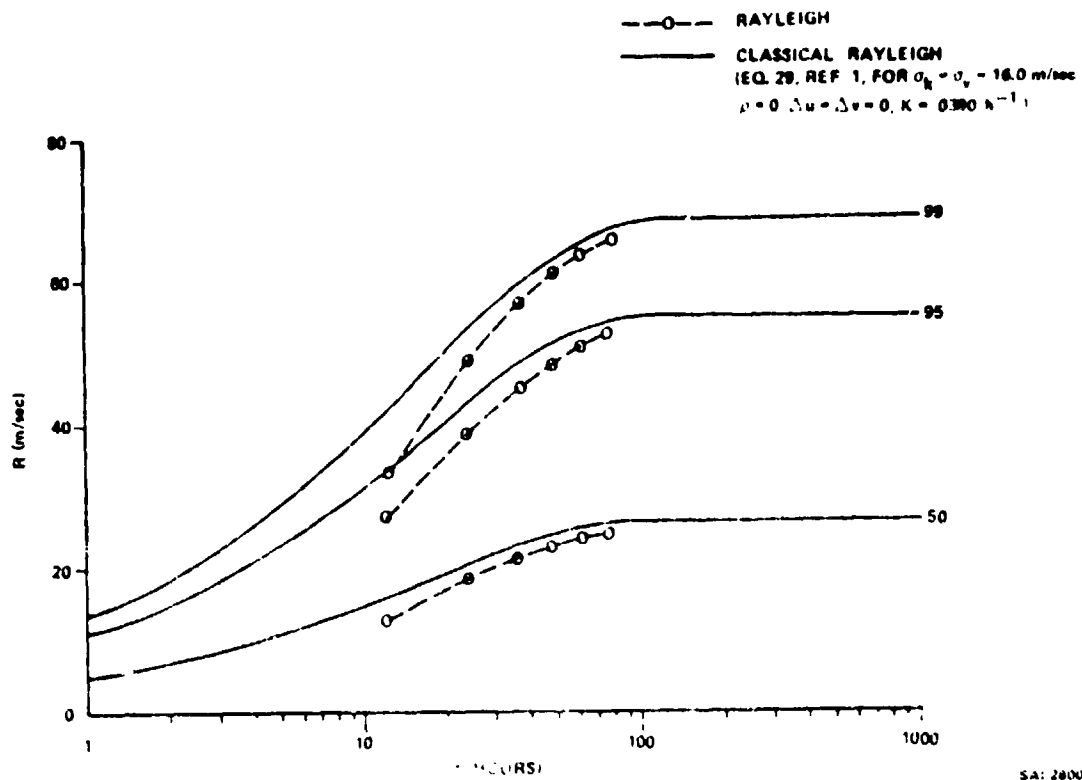


Figure 15. November Theoretical Percentiles of Modulus, R, of Vector Wind Change with Respect to Time Interval (τ) at 12 km over VAFB (1965-74)



SA: 2800

Figure 16. December Theoretical Percentiles of Modulus, R, of Vector
 Wind Change with Respect to Time Interval, T, at 11.5 m
 over 1975 (1965-74)

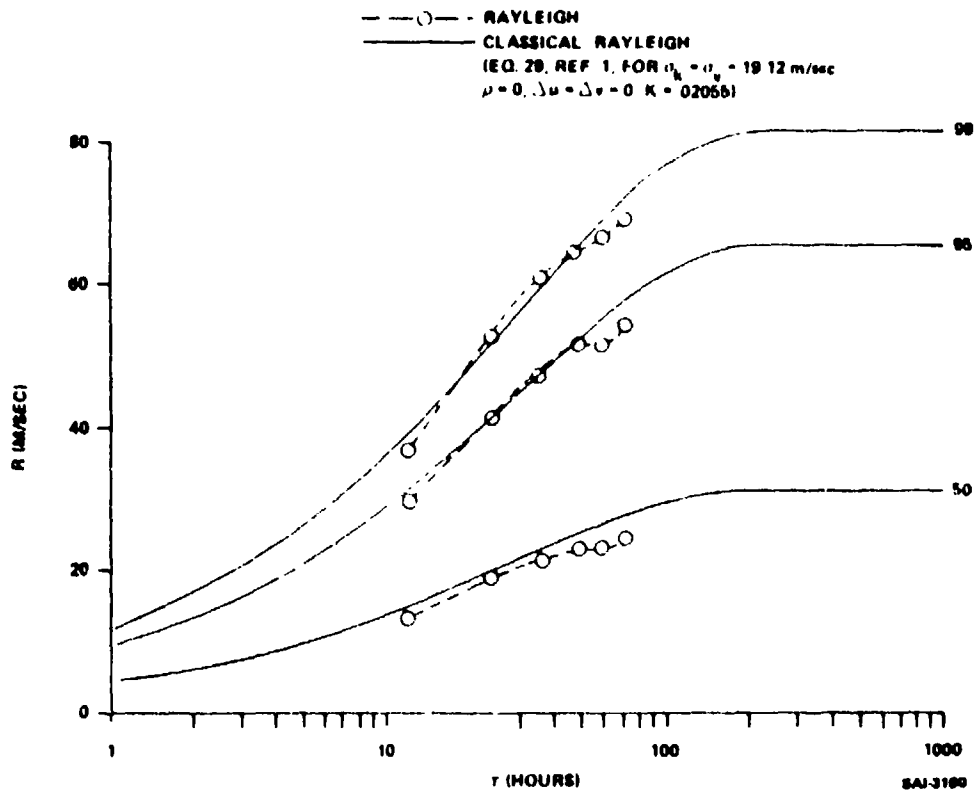


Figure 17. January Theoretical Percentiles of Modulus, R, of Vector Wind Change with Respect to Time Interval (τ) at 12 km Over VAFB (1965-74)

Table 5. Theoretical and Observed Modulus, R, of Vector Wind Change with Respect to Time at 12 km during November (1965-74) at VAFB

τ (HOURS)	12			24			36			48		
	P(R < R')	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED	I	II
50	13.23	14.88	11.75	18.72	19.87	18.17	21.59	23.02	20.91	22.86	25.21	21.96
60	15.29	17.11	13.55	21.68	22.84	20.95	24.98	26.47	24.25	26.45	28.99	25.80
75	18.99	21.05	17.78	26.99	28.09	25.62	31.16	32.55	30.83	32.96	36.65	32.58
80	20.57	22.68	19.69	29.26	30.27	28.89	33.79	35.08	33.14	35.73	38.42	35.50
84134	22.10	24.26	21.69	31.49	32.37	31.23	36.38	37.52	35.48	38.45	41.09	39.07
850	22.47	24.82	22.29	32.01	32.86	31.90	33.98	38.08	36.00	39.08	41.71	39.35
900	24.95	27.13	25.63	35.63	36.71	34.62	41.13	41.96	40.40	43.50	45.94	43.62
95	28.84	30.94	31.00	41.29	41.30	43.50	47.76	47.86	47.86	50.42	52.41	52.25
97502	32.39	34.34	37.20	46.47	45.83	50.25	53.78	53.11	57.51	56.73	58.17	59.51
97725	32.84	34.77	37.47	41.12	46.41	50.59	54.55	53.78	58.17	57.54	58.90	61.12
98734	35.81	37.37	42.10	51.15	49.88	59.40	59.22	57.80	67.40	62.48	63.30	65.40
99	38.67	38.36	42.50	52.71	51.20	62.00	61.02	59.33	71.00	64.35	64.98	68.00
995	39.87	41.15	43.50	57.07	54.92	65.00	66.10	63.64	76.50	69.88	69.70	76.00

COLUMN I CALCULATIONS OF R BASED ON EQS. 28a AND 28b OF REF. 1 AND NUMERICAL INTEGRATION OF THE RAYLEIGH PROBABILITY DENSITY FUNCTION

COLUMN II CALCULATIONS OF R BASED ON EQ. 29 OF THIS TEXT AND ASSUMING $u = v_0 = 19.12$ m/sec, $K = C = 0.2055$ hr⁻¹ AND $\Delta u = \Delta v = 0$

SAI 3128

Table 6. Theoretical and Observed Modulus, R, of Vector Wind Change with Respect to Time at 12 km during December (1965-74) at VAFB

τ (HOURS)	12			24			36			48		
	P(R < R')	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED	I	II
50	12.64	15.30	11.61	18.16	20.12	17.93	21.67	23.44	20.80	23.27	25.57	22.82
60	14.62	17.59	13.35	21.26	23.36	21.20	25.09	26.95	25.02	26.82	29.39	26.28
75	18.19	21.64	16.98	26.56	28.73	26.37	31.32	33.15	30.88	33.54	36.15	33.29
80	19.71	23.31	18.84	28.82	30.96	28.73	33.98	35.71	33.56	36.36	38.98	36.93
84134	21.20	24.93	20.72	31.04	33.11	30.78	36.58	38.20	37.57	39.12	41.68	39.10
850	21.56	25.31	21.17	31.57	33.61	31.48	37.19	38.78	38.13	39.77	42.29	39.39
900	23.96	27.89	24.45	35.19	37.03	35.60	41.44	42.72	42.32	44.26	46.59	44.72
95	27.75	31.81	28.16	40.87	42.24	41.26	48.09	48.73	49.08	51.29	53.16	54.28
97502	31.20	35.30	32.83	46.06	46.88	48.42	54.17	54.08	54.66	57.71	58.28	60.42
97725	31.65	35.74	34.02	46.74	47.47	48.78	54.95	54.76	56.02	58.54	59.73	60.76
98734	34.31	38.41	37.21	50.75	51.01	54.11	59.69	58.65	62.23	63.53	64.19	64.23
99	35.37	39.44	40.88	53.34	52.37	54.93	61.51	60.41	64.43	65.48	65.90	65.88
995	38.29	42.30	43.93	56.72	55.17	60.48	66.64	64.80	70.93	70.88	70.68	73.93

COLUMN I CALCULATIONS OF R BASED ON EQS. 28a AND 28b OF REF. 1 AND NUMERICAL INTEGRATION OF THE RAYLEIGH PROBABILITY DENSITY FUNCTION

COLUMN II CALCULATIONS OF R BASED ON EQ. 29 OF THIS TEXT AND ASSUMING $u = v_0 = 18.90$ m/sec, $K = C = 0.2247$ hr⁻¹ AND $\Delta u = \Delta v = 0$

SAI 3128

Table 7. Theoretical and Observed Modulus, R, of Vector Wind change with Respect to Time at 12 km during January (1965-74) at VAFB

HOURS	12			24			36			48		
	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED
50	12 69	16 21	10 90	18 39	20 69	16 85	21 30	23 08	20 20	23 00	24 46	22 48
60	14 61	18 63	13 17	21 18	23 79	19 76	24 64	26 63	23 36	26 49	28 13	26 88
76	18 01	22 92	17 33	26 14	29 27	26 92	30 29	32 64	29 60	32 70	34 60	33 13
90	19 44	24 70	18 81	28 22	31 53	28 69	32 70	35 17	31 53	35 29	37 28	35 43
84134	20 81	26 41	20 40	30 23	33 73	31 18	35 02	37 61	33 96	37 81	39 87	37 69
850	21 13	26 81	20 79	30 70	34 24	31 78	36 68	38 18	35 14	38 40	40 47	38 00
900	23 34	29 64	24 12	33 92	37 72	36 10	39 32	42 06	39 76	42 42	44 59	42 17
96	26 72	33 69	29 75	38 88	43 02	40 50	46 07	47 98	47 50	48 63	50 86	47 86
97602	29 76	37 39	33 61	43 37	47 76	46 38	50 27	53 26	52 26	54 21	56 44	56 17
97725	30 14	37 86	34 46	43 93	48 36	46 72	50 93	53 82	52 96	54 92	57 15	56 63
98734	32 50	40 69	40 08	47 40	51 96	50 16	54 95	57 94	51 15	59 26	61 42	60 16
99	33 40	41 77	40 90	48 74	53 34	51 80	56 51	59 49	52 80	60 91	63 06	61 40
996	35 92	44 81	46 90	52 50	57 21	60 90	60 87	63 81	64 90	66 62	67 63	73 90

COLUMN I CALCULATIONS OF R BASED ON EQS 26 AND 26b OF REF 1 AND NUMERICAL INTEGRATION OF THE RAYLEIGH PROBABILITY DENSITY FUNCTION

COLUMN II CALCULATIONS OF R BASED ON EQ 29 OF THIS TEXT AND ASSUMING $\sigma = \sigma_0 = 16.01$ m sec, $k = C = 0.845$ hr⁻¹ AND $\Delta u = \Delta v = 0$

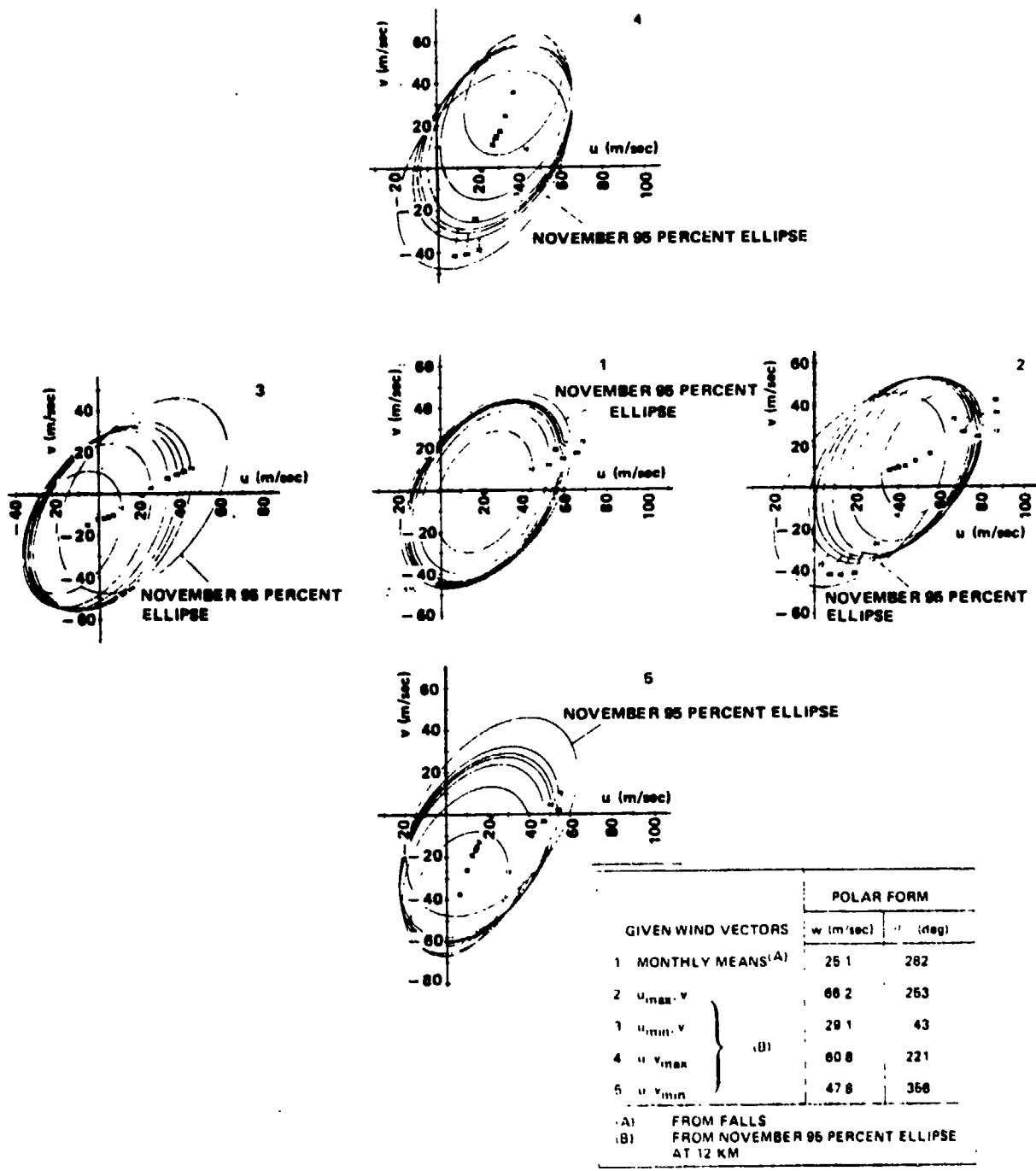
841 312

E. CONDITIONAL VECTOR WIND ELLIPSES

Prior knowledge that environmental constraints necessary to assure the success of a space vehicle launch will be satisfied implies that there is a capability for prediction of environmental parameters; the prediction can be based on knowledge of conditions prior to launch. With regard to winds aloft, prior conditions are typically based on Rawinsonde or Jimsphere wind profiles. A typical question that could be posed before launch is: Given a measurement of the wind vector 12 hours prior to launch at 12 km, will the wind vector at launch time be within 95 percent reference month wind ellipse? A question of this type can be answered if the distribution of vector wind components at an initial time, T_0 , and at a future time, T_1 , can be approximated by a quadrivariate normal distribution. Given the components of the vector at T_0 , the conditional distribution of the vector wind at T_1 is bivariate normal. Smith [1] describes the derivation of the conditional bivariate normal distribution and documents the computer program used in this investigation for calculation of these distributions. Figures 18 thru 20 illustrate the 95 percent conditional bivariate normal distributions at 12 km that have been calculated for time increments of 12, 24, 36, 48, 60 and 72 hours for the months of November, December and January. Five vectors were selected as given initial conditions for calculations of the conditional ellipses. The components of the vectors are defined below:

1. Monthly component means given by falls [3].
2. Maximum zonal wind and the corresponding meridional wind from the monthly 95 percent vector wind ellipse.
3. Minimum zonal wind and the corresponding meridional wind from the monthly 95 percent vector wind ellipse.
4. Maximum meridional wind and the corresponding zonal wind from the monthly 95 percent vector wind ellipse.
5. Minimum meridional wind and the corresponding zonal wind from the monthly 95 percent vector wind ellipse.

The given vectors are specified in the inset of Figures 18 through 20 (polar form, at 12 km) and in Tables 8 through 10 (component form, at 1, 6, 12, 18 and 24 km).

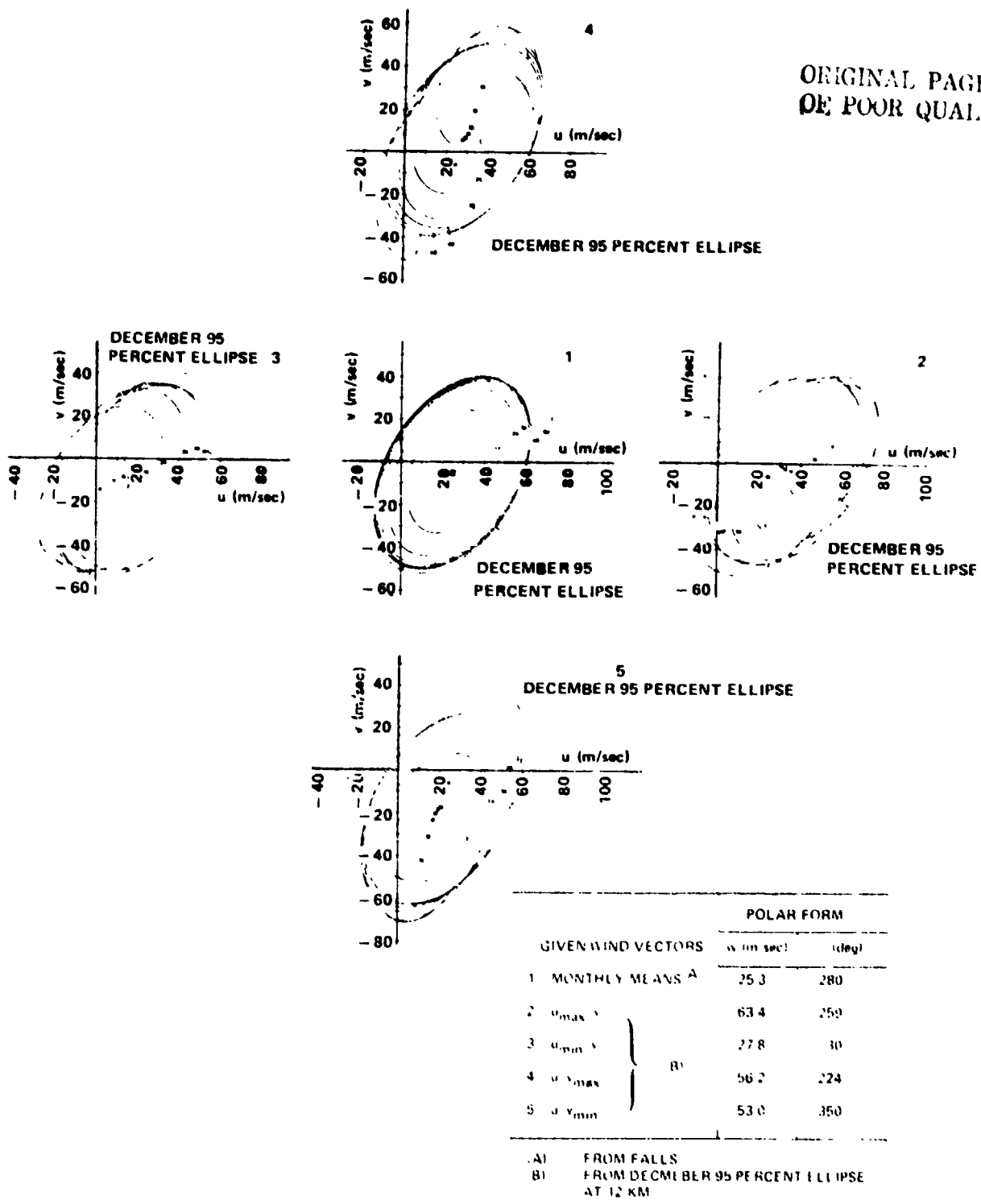


SAI-3184

Figure 18. November Conditional 95 Percent Wind Ellipses at 12 km for Time Increments of 12, 24, 36, 48, 60, and 72 Hours at VAFB (1965-74)

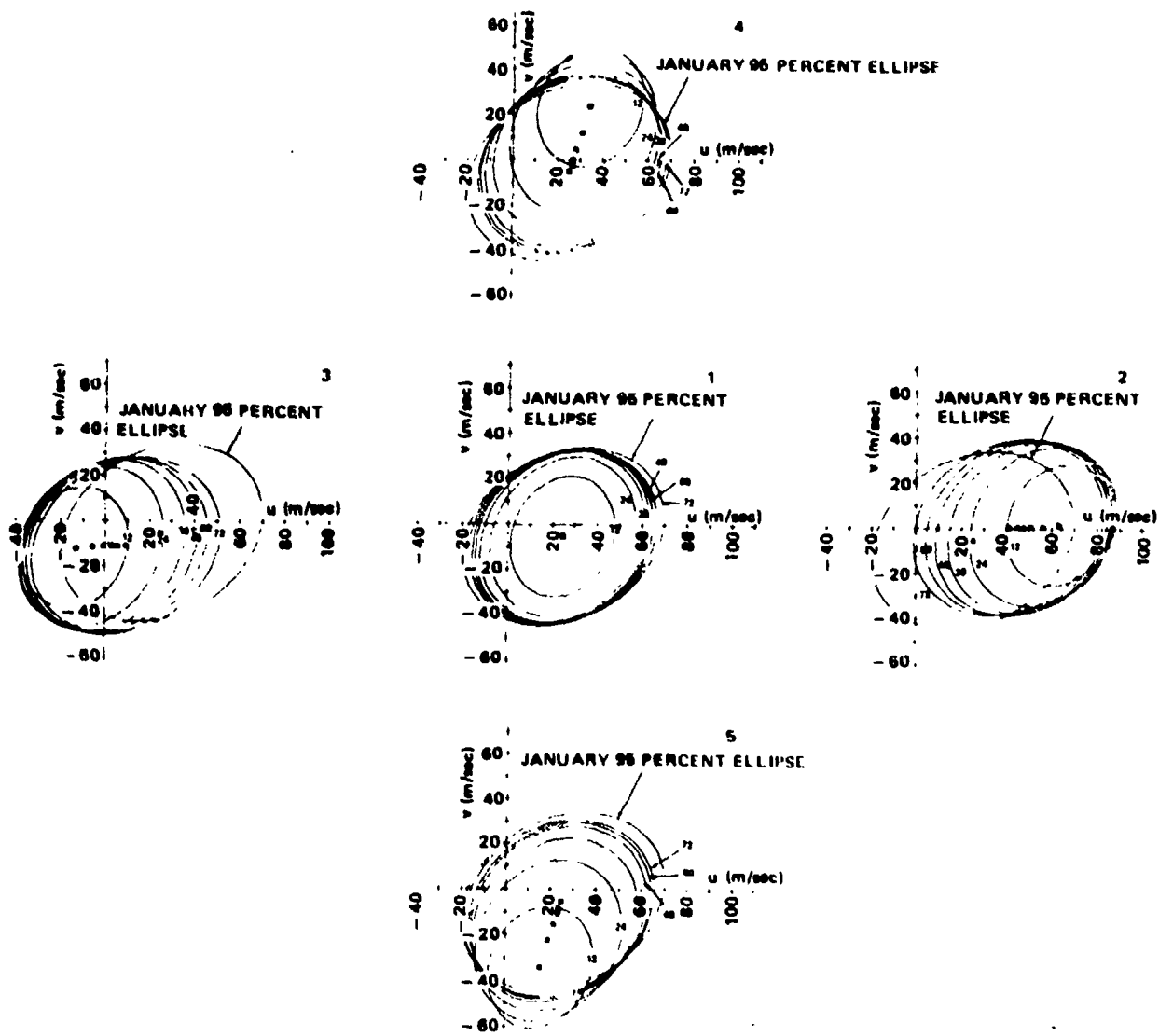
ORIGINAL PAGE IS OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY



SAI 3155

Figure 19. December Conditional 95 Percent Wind Ellipses at 12 km for Time Increments of 12, 24, 36, 48, 60 and 72 hours at VAFB (1965-74)



GIVEN WIND VECTORS	POLAR FORM	
	w (m/sec)	(deg)
1 MONTHLY MEANS (A)	21.2	770
2 " " " "	50.1	267
3 " " " "	24.2	55
4 " " " "	56.7	224
5 " " " "	47.0	141

(A) FROM TABLE
(B) FROM JANUARY 95 PERCENT ELLIPSE AT 12 KM

Figure 20. January Conditional 95 Percent Wind Ellipses at 12 km for Time Increments of 12, 24, 36, 48, 60 and 72 Hours at VAFB (1965-74)

The conditional ellipses illustrated at the center of Figures 18 through 20 show that if the observed wind vector has components equivalent to the monthly mean components (condition 1) then 95 percent of the wind vectors after elapsed times as large as 72 hours will fall within the monthly 95 percent ellipse. Therefore, satisfaction of a launch constraint which states that the wind vector must be included within the 95 percent monthly ellipse would be assured for periods as long as 72 hours following an observation of a wind vector having components which correspond to the monthly means. The conditional ellipses based on selection of given wind vectors that terminate on the monthly 95 percent ellipse (conditions 2 through 5) have a significant proportion of their area lying outside the monthly 95 percent ellipse; as the time increment increases this proportion decreases but remains significant for a time increment as large as 72 hours. This implies that a significant proportion of wind vectors will not satisfy a launch constraint based on the 95 percent wind ellipse for periods as long as 72 hours (or longer if these calculations are extended) following an observation of a wind vector which terminates on the 95 percent ellipse.

The wind direction characteristics of a wind ellipse can be described in terms of the angles associated with wind vectors constructed between the origin and the center of the ellipse (at the component means) and between the origin and the two tangent positions to the ellipse. The three vectors constructed in this manner and the angles θ_A , θ_B , θ_E and $\Delta\theta$ are illustrated in Figure 21, the range of wind angles, θ_R , is θ_A to θ_B . The angles θ_R , θ_E , $\Delta\theta$ calculated from five 95 percent conditional ellipses for November, December and January at 1, 6, 12, 18 and 24 km are listed in Tables 8 through 10.

Table 8. Wind Direction (Degrees) Characteristics of 95 Percent Conditional Wind Ellipses at VAFB during November (1965-74) for an Elapsed Time (τ) of 12 hours

CONDITION(*)	ALTITUDE (km)	θ_0	θ_A	θ_B	$\Delta\theta$
1	1	341	.	.	.
	6	277	.	.	.
	12	271	.	.	.
	18	272	.	.	.
2	24	293	.	.	.
	1	274	.	.	.
	6	257	225	297	72
	12	254	231	286	55
3	18	259	234	285	51
	24	268	250	287	37
	1	67	.	.	.
	6	43	.	.	.
4	12	34	.	.	.
	18	27	.	.	.
	24	76	32	109	77
	1	171	.	.	.
5	6	213	171	268	97
	12	226	202	259	57
	18	233	184	268	74
	24	250	.	.	.
5	1	349	295	34	99
	6	342	286	22	96
	12	351	284	24	90
	18	334	284	26	102
5	24	381	.	.	.

* 95 PERCENT CONDITIONAL ELLIPSE COVERS ALL QUADRANTS.
 (*) THE FIVE CONDITIONAL DISTRIBUTIONS AT EACH ALTITUDE ARE BASED ON THE FIVE GIVEN WIND VECTORS LISTED BELOW. CONDITION 1 IS BASED ON MONTHLY MEAN WIND COMPONENTS CALCULATED BY FALLS (3). CONDITIONS 2 THRU 5 ARE FROM THE 95 PERCENT VECTOR WIND ELLIPSES AT THE INDICATED ALTITUDES THAT WERE CALCULATED FROM TWICE DAILY RAWINSONDE DATA DURING THE PERIOD 1965-1974

ALTITUDE (km)	CONDITIONS									
	1		2		3		4		5	
	u	v	u _{max}	v	u _{min}	v	u	v _{max}	u	v _{min}
1	0.25	-0.70	9.80	-3.30	-8.96	0.94	-0.76	15.69	1.60	-18.05
6	10.89	-1.07	40.44	6.38	-16.74	-9.42	18.63	31.76	5.07	-34.82
12	21.15	-0.11	63.25	19.60	-19.77	-21.40	39.92	45.90	3.56	-47.70
18	8.45	-0.95	24.96	3.52	-6.72	-5.10	14.07	12.99	4.17	-14.57
24	3.27	-1.46	24.22	8.55	-14.66	-3.19	9.29	6.73	0.27	-9.37

SAI 3294

Table 9. Wind Direction (Degrees) Characteristics of 95 Percent Conditional Wind Ellipses at VAFB during December (1965-74) for an Elapsed Time (τ) of 12 hours

CONDITION (*)	ALTITUDE (km)	α	A	B	ΔD
1	1	331	.	.	.
	6	290	.	.	.
	12	280	225	351	126
	18	280	.	.	.
	24	357	.	.	.
2	1	273	.	.	.
	6	265	233	309	76
	12	261	237	294	57
	18	257	231	285	54
	24	272	243	302	59
3	1	43	.	.	.
	6	30	.	.	.
	12	18	.	.	.
	18	13	.	.	.
	24	74	44	98	54
4	1	172	.	.	.
	6	217	.	.	.
	12	230	206	267	61
	18	240	208	272	64
	24	244	.	.	.
5	1	348	287	27	100
	6	337	288	9	81
	12	345	301	12	71
	18	350	299	34	96
	24	29	.	.	.

* 95 PERCENT CONDITIONAL ELLIPSE COVERS ALL QUADRANTS
 (*) THE FIVE CONDITIONAL DISTRIBUTIONS AT EACH ALTITUDE ARE BASED ON THE FIVE GIVEN WIND VECTORS LISTED BELOW. CONDITION 1 IS BASED ON MONTHLY MEAN WIND COMPONENTS CALCULATED BY FALLS (3). CONDITIONS 2 THRU 5 ARE FROM THE 95 PERCENT VECTOR WIND ELLIPSES AT THE INDICATED ALTITUDES THAT WERE CALCULATED FROM TWICE DAILY RAWINSONDE DATA DURING THE PERIOD 1965-1974

ALTITUDE (km)	CONDITIONS									
	1		2		3		4		5	
	u	v	v _{max}	v	u _{min}	v	u	v _{max}	u	v _{min}
1	1.39	-2.33	12.09	-3.83	-9.55	1.43	0.55	15.26	1.99	-2.05
6	14.63	-5.17	44.45	-2.49	-15.87	-13.91	21.12	30.49	7.46	-4.19
12	24.91	-4.36	62.20	12.21	-13.88	-24.09	39.09	40.12	9.23	-52.20
18	10.21	-1.66	25.98	5.14	-6.96	9.74	17.41	13.22	1.61	-17.80
24	0.13	-2.79	18.42	-0.95	-19.32	4.60	3.58	5.77	-4.48	-11.30

SAI 3296

Table 10. Wind Direction (Degrees) Characteristics of 95 Percent Conditional Wind Ellipses at VAFB during January (1965-74) an Elapsed Time (:) of 12 hours

CONDITION (*)	ALTITUDE (km)	θ_0	θ_A	θ_B	θ_1
1	1	329	.	.	.
	6	286	.	.	.
	12	282	217	354	137
	18	287	.	.	.
	24	20	.	.	.
2	1	252	.	.	.
	6	261	233	236	63
	12	268	246	294	48
	18	265	244	287	43
	24	268	243	295	52
3	1	42	.	.	.
	6	43	.	.	.
	12	47	.	.	.
	18	26	.	.	.
	24	73	52	93	41
4	1	279	.	.	.
	6	224	.	.	.
	12	236	203	276	73
	18	244	207	277	70
	24	236	.	.	.
5	1	350	292	37	105
	6	340	285	19	94
	12	335	289	13	84
	18	338	297	22	85
	24	43	.	.	.

* 95 PERCENT CONDITIONAL ELLIPSE COVERS ALL QUADRANTS

(*) THE FIVE CONDITIONAL DISTRIBUTIONS AT EACH ALTITUDE ARE BASED ON THE FIVE GIVEN WIND VECTORS LISTED BELOW. CONDITION 1 IS BASED ON MONTHLY MEAN WIND COMPONENTS CALCULATED BY FALLEN. CONDITIONS 2 THROUGH 5 ARE FROM THE 95 PERCENT VECTOR WIND ELLIPSES AT THE INDICATED ALTITUDES THAT WERE CALCULATED FROM TWICE DAILY RAWINSONDE DATA DURING THE PERIOD 1965-1974.

ALTITUDE (km)	CONDITIONS									
	1		2		3		4		5	
	u	v	u _{max}	v	u _{min}	v	u	v _{max}	u	v _{min}
1	0.91	1.66	11.79	-0.85	9.54	2.25	15.1	15.76	0.65	18.86
6	12.22	3.34	43.64	4.61	17.80	11.89	21.39	26.27	4.45	33.55
12	24.60	5.11	69.98	3.37	19.80	13.89	34.97	33.93	15.21	44.45
18	1.02	3.10	27.32	1.41	7.20	5.27	15.53	10.29	2.29	16.15
24	0.89	2.89	21.27	0.81	-24.17	6.49	6.68	7.17	9.58	13.05

SAI 3293

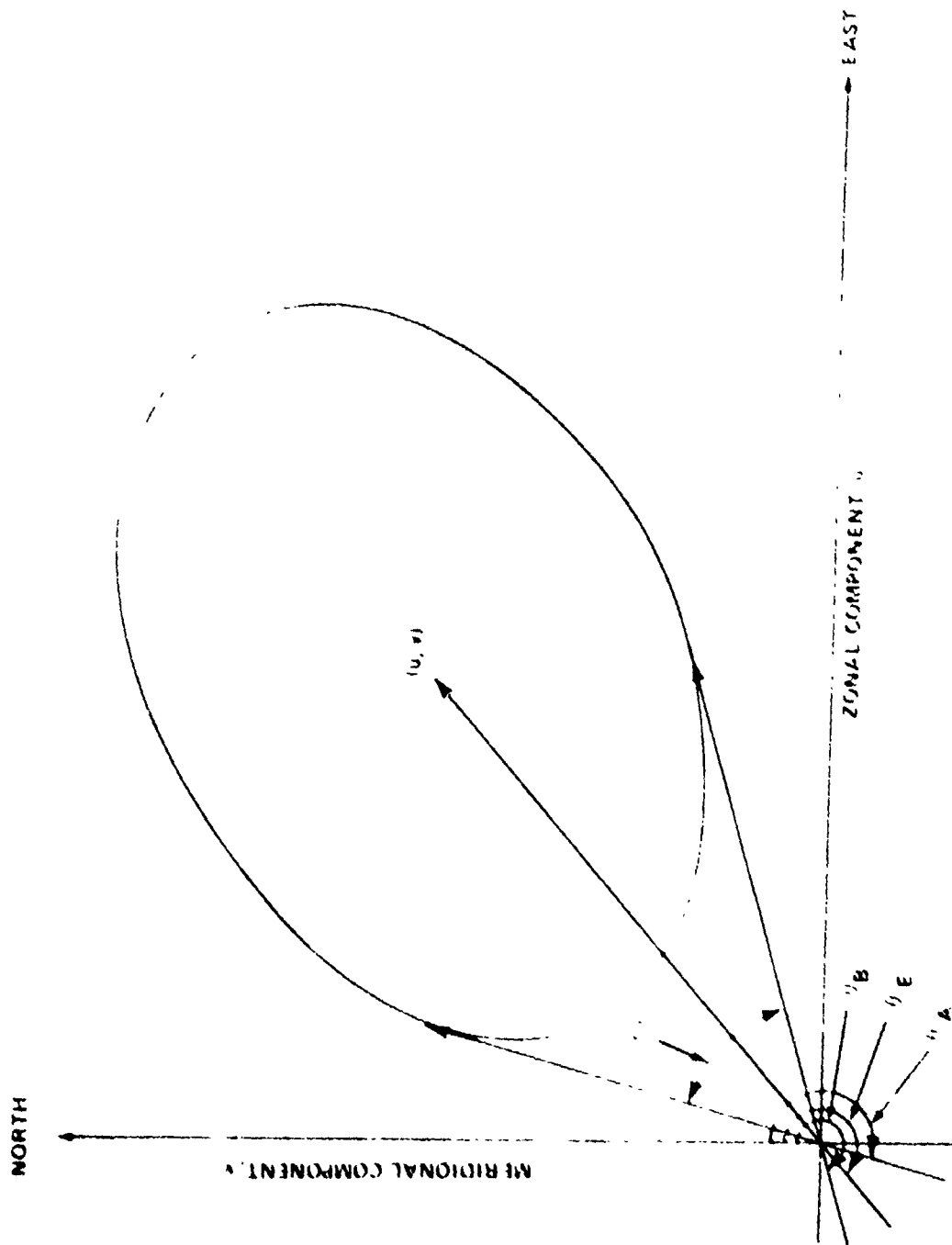


Figure 21. Wind Direction Characteristics of a Vector Wind Probability Ellipse

F. YEAR TO YEAR VARIABILITY

Artificial wind profiles that are constructed using reference month statistics, such as those based on an eight-year sample given by Falls [3], have been used for development of wind bias programs for launch vehicles. It is of interest to study how realistic these reference month statistics are when compared with data from individual months.

A comparison of individual monthly means to reference month means given by Falls [3] is illustrated in Figures 22 and 23 for the zonal and meridional component, respectively. The reference month means are illustrated as a repeating function. The distribution of deviations of zonal and meridional wind components from the reference month means illustrated in Figures 22 and 23 can be treated as having a normal distribution. The distribution of the deviations during the period 1965-74 are illustrated in Figure 24; the straight lines represent normal distributions and the plotted symbols represent the observed distribution. It is indicated that 10 percent of the monthly means at 12 km have an absolute difference of more than 8.5 m/sec from the reference month means.

Another indicator of the year to year variability is the variability of the bivariate normal statistics of the vector wind. These statistics at 12 km for any months during the period 1965-74 are listed in Table 11. To illustrate the variability, the 95 percent probability ellipse for the wind at 12 km during November 1965 and 1969 are shown in Figure 25.

The variability of the wind statistics from year to year described above supports the conclusion that the reference month statistics based on a relatively long data sample do not necessarily provide an accurate estimate of the conditions during a particular month. If wind biasing is to be required for reduction of wind loading on the Space Shuttle, the utilization of an artificial wind profile composed of reference month sampling period winds may not yield the desired results. It is recommended that pre-launch wind bias models be based on sets of wind profiles that represent the range of year to year variability indicated herein. In an operational sense, the greatest reduction of in-flight loads would be achieved by wind biasing with respect to a wind profile measurement taken prior to launch.

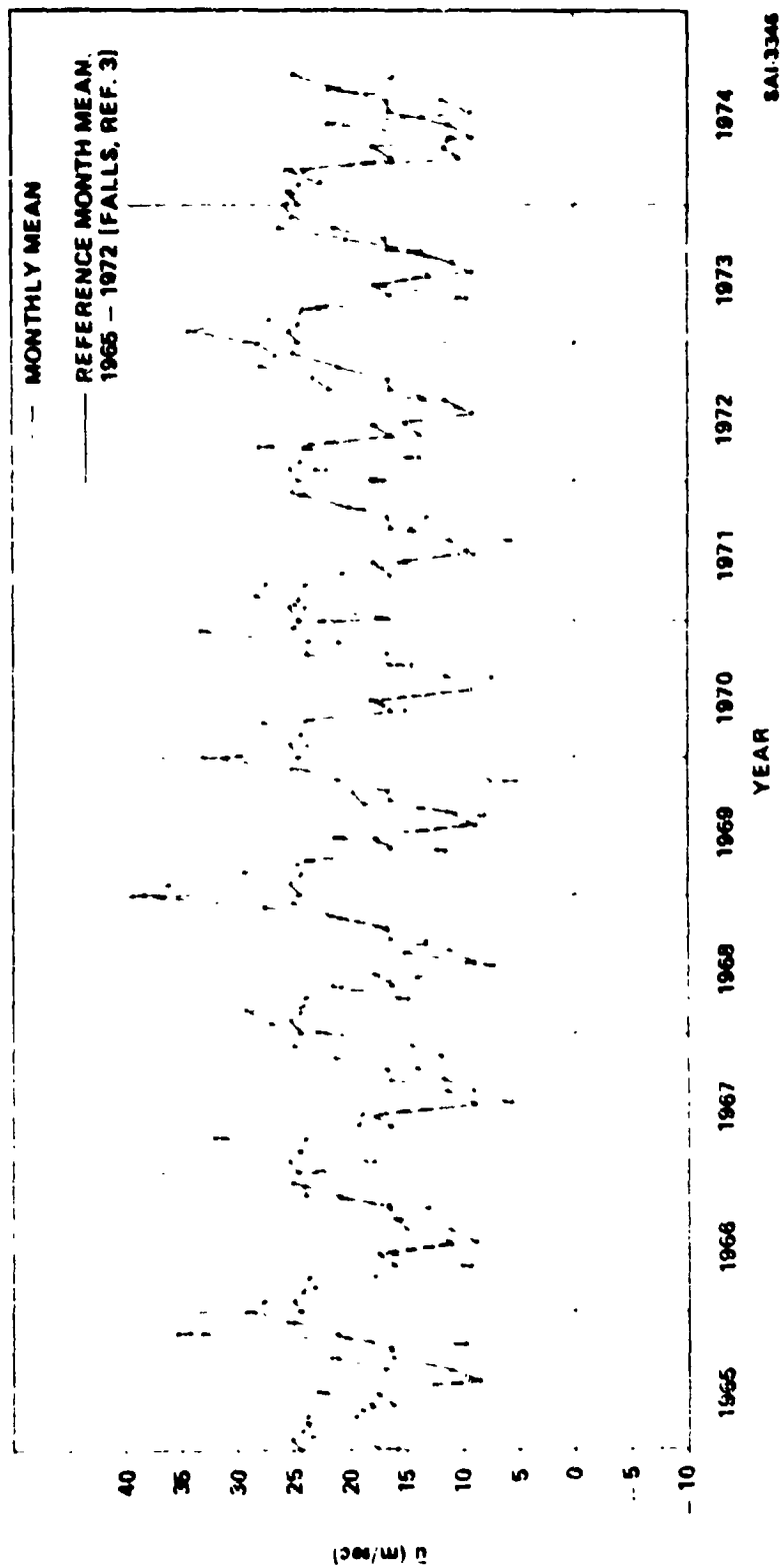


Figure 22. Monthly Mean Zonal Wind for Reference Period 1965-72 (Fall's, Ref. 3) and for Individual Months during the Period 1965-74 at 12 km Over VAFB

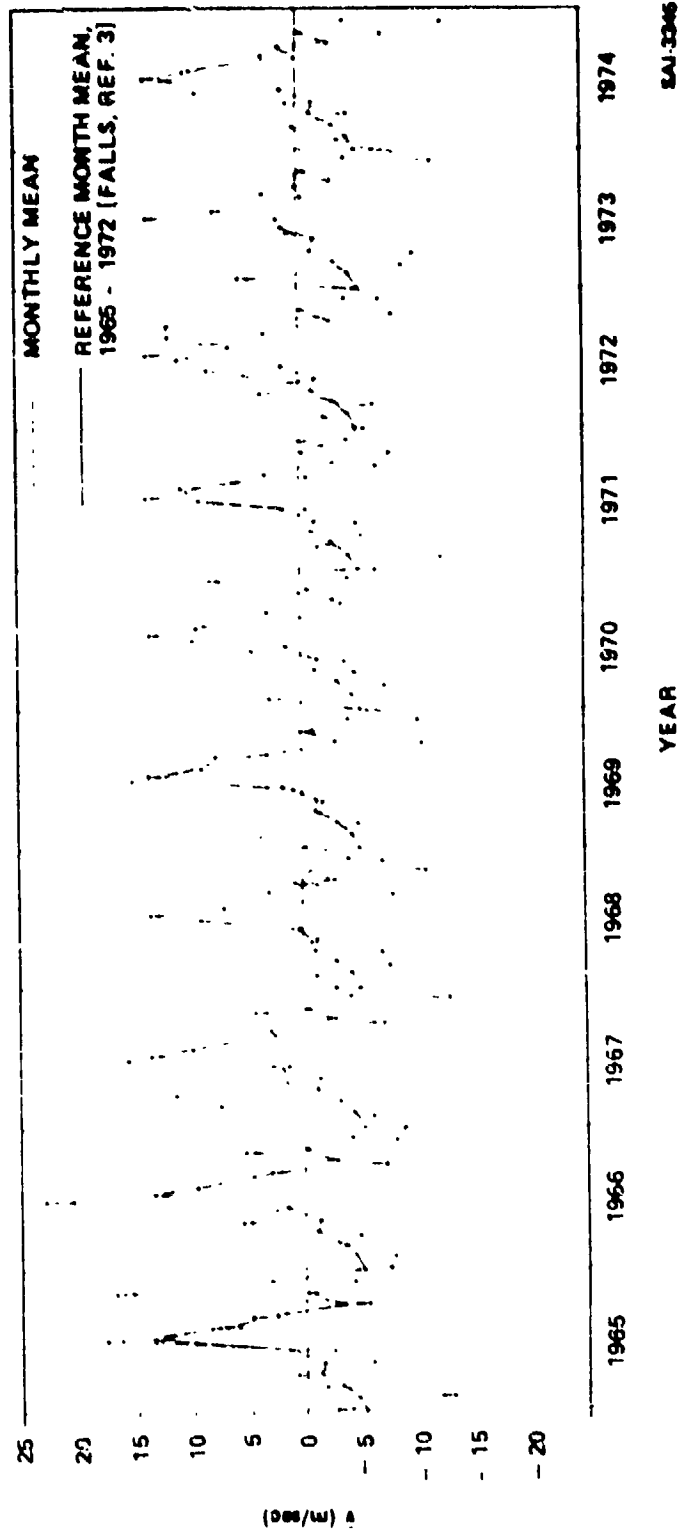


Figure 23. Monthly Mean Meridional wind for Reference Period 1965-72 (Falls, Ref. 3); and for Individual Months during the Period 1965-74 at 12 km Over VAFB

ORIGINAL PAGE IS
OF POOR QUALITY

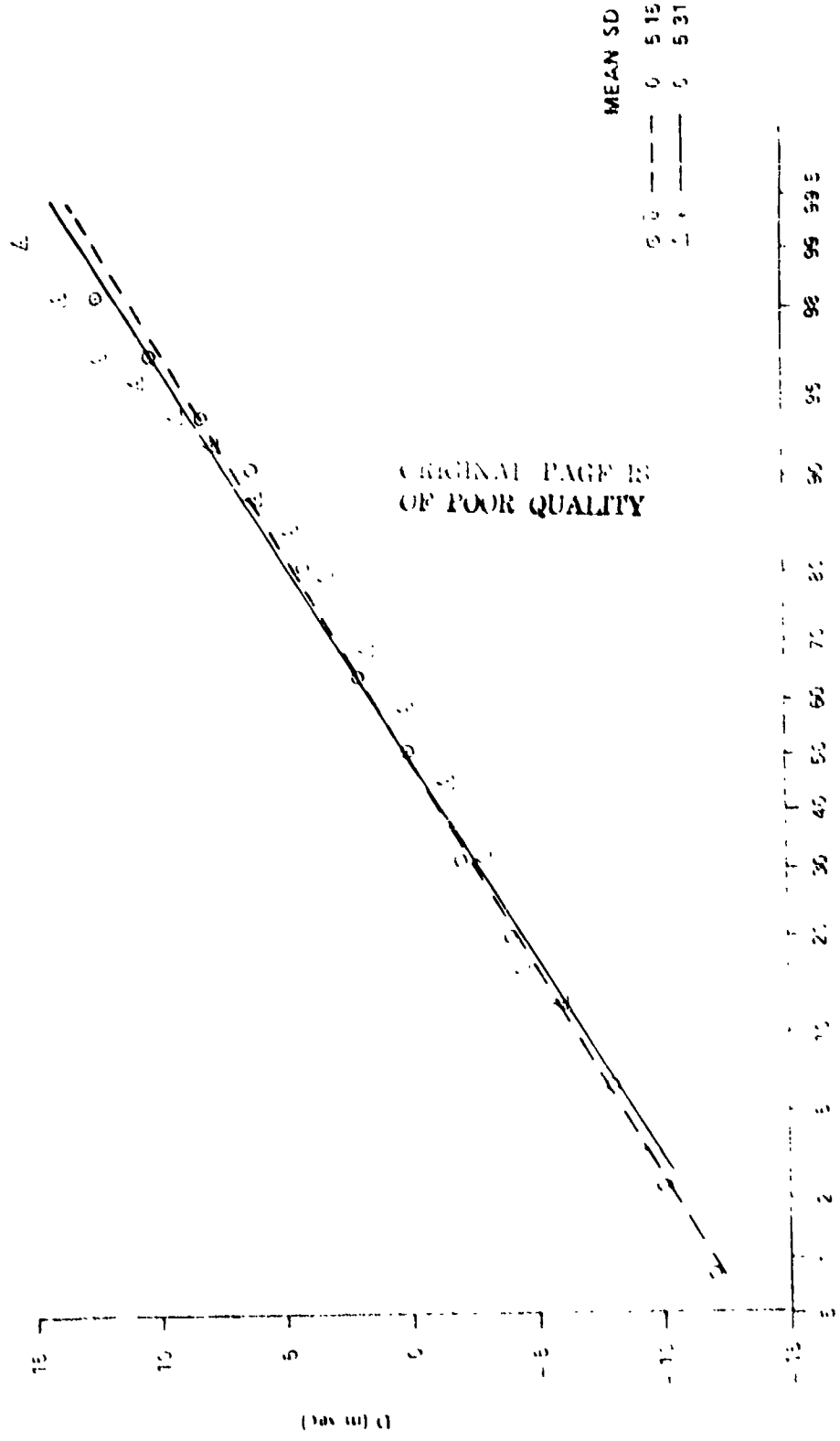


Figure 21. The relationship between the number of... and the... of the...
 The... of the... is... and the... of the... is...
 The... of the... is... and the... of the... is...
 The... of the... is... and the... of the... is...

Table 11. Bivariate Normal Statistics of the Vector
Wind at 12 km Over VAFB for Individual Months
During the Period 1965-74

BIVARIATE NORMAL STATISTICS OF THE VECTOR
WIND AT 12 KM OVER VAFB FOR INDIVIDUAL MONTHS
DURING THE PERIOD 1965-74

MONTH	PER. OF REC.	ALT AM,	ALPHA DEG.	MEAN U	MEAN V	σ _U	σ _V	ρ	MEAN W	MEAN D	N
1	JANUARY 1965	12	90-C	15.77	26.30	+9998	-2.68	22.00	62		
1	JANUARY 1966	12	90-C	29.21	11.10	+1852	-7.32	15.00	62		
1	JANUARY 1967	12	90-C	24.13	12.79	+5030	-8.83	15.94	62		
1	JANUARY 1968	12	90-C	21.48	20.29	+08-7	-2.90	12.84	62		
1	JANUARY 1969	12	90-C	39.25	24.25	+3224	-3.38	17.30	62		
1	JANUARY 1970	12	90-C	33.33	19.24	+1544	-9.77	14.02	62		
1	JANUARY 1971	12	90-C	16.5	19.74	+9245	-6.47	15.29	62		
1	JANUARY 1972	12	90-C	18.72	17.14	+507	-5.84	13.27	62		
1	JANUARY 1973	12	90-C	28.31	11.90	+4949	-6.98	15.77	62		
1	JANUARY 1974	12	90-C	25.85	16.87	+3749	-6.88	15.84	62		
2	FEBRUARY 1965	12	90-C	23.71	21.82	+7677	-13.07	11.34	56		
2	FEBRUARY 1966	12	90-C	27.63	11.47	+3100	-7.91	19.24	56		
2	FEBRUARY 1967	12	90-C	17.80	17.71	+69-7	-8.23	14.93	56		
2	FEBRUARY 1968	12	90-C	26.84	-3.12	-0142	-1.84	15.29	56		
2	FEBRUARY 1969	12	90-C	34.21	16.53	+3432	-3.48	16.12	56		
2	FEBRUARY 1970	12	90-C	23.86	16.61	+1454	-2.93	18.05	56		
2	FEBRUARY 1971	12	90-C	24.13	13.54	+2923	-12.44	12.82	56		
2	FEBRUARY 1972	12	90-C	22.92	16.43	+1523	-2.25	15.94	56		
2	FEBRUARY 1973	12	90-C	39.47	21.94	+1104	-5.15	15.68	56		
2	FEBRUARY 1974	12	90-C	25.25	12.69	+2905	-3.97	12.55	56		
3	MARCH 1965	12	90-C	23.56	10.11	-2194	-1.60	15.29	62		
3	MARCH 1966	12	90-C	23.45	16.93	-2923	-3.36	12.44	62		
3	MARCH 1967	12	90-C	29.18	11.43	+2066	-7.43	14.22	62		
3	MARCH 1968	12	90-C	28.37	16.43	+2254	-7.74	18.82	62		
3	MARCH 1969	12	90-C	29.33	13.98	+5094	-5.15	10.29	62		
3	MARCH 1970	12	90-C	29.25	9.22	+2744	-7.36	12.33	62		
3	MARCH 1971	12	90-C	29.45	13.64	+2377	-1.64	14.83	62		
3	MARCH 1972	12	90-C	12.84	12.43	+965	-6.77	13.44	62		
3	MARCH 1973	12	90-C	27.29	12.14	+2024	-8.55	15.71	62		
3	MARCH 1974	12	90-C	22.11	11.7	+1-7	-1.2	15.71	62		
4	APRIL 1965	12	90-C	19.69	9.34	+0201	-1.80	13.08	60		
4	APRIL 1966	12	90-C	18.19	14.50	+5231	-4.89	12.67	60		
4	APRIL 1967	12	90-C	31.75	10.09	+1274	-11.50	13.56	60		
4	APRIL 1968	12	90-C	14.90	12.36	+2121	-9.13	10.81	60		
4	APRIL 1969	12	90-C	22.79	14.46	+1452	-1.42	12.40	60		
4	APRIL 1970	12	90-C	27.84	14.89	+3453	-4.88	15.67	60		
4	APRIL 1971	12	90-C	27.51	11.38	+0390	-5.59	15.44	60		
4	APRIL 1972	12	90-C	28.28	12.91	+5725	-3.39	14.00	60		
4	APRIL 1973	12	90-C	22.52	14.14	+1444	-10.37	14.35	60		
4	APRIL 1974	12	90-C	25.44	12.79	+0241	-4.80	18.40	60		
5	MAY 1965	12	90-C	17.84	16.52	+2353	-5.81	15.44	62		
5	MAY 1966	12	90-C	9.68	11.30	+5827	-5.42	12.69	62		
5	MAY 1967	12	90-C	19.42	17.83	+3644	-1.44	15.69	62		
5	MAY 1968	12	90-C	21.70	16.56	+0305	-1.74	14.31	62		
5	MAY 1969	12	90-C	11.59	16.44	+5362	-11.92	9.73	62		
5	MAY 1970	12	90-C	14.92	12.10	+5409	-4.08	10.45	62		
5	MAY 1971	12	90-C	20.44	9.06	+2498	-9.08	14.94	62		
5	MAY 1972	12	90-C	13.44	16.72	+2941	-1.32	9.84	62		
5	MAY 1973	12	90-C	9.73	16.49	+0109	-2.58	12.45	62		
5	MAY 1974	12	90-C	11.23	18.29	+5660	-7.4	14.39	62		
6	JUNE 1965	12	90-C	23.18	14.13	+7496	-2.42	16.12	60		
6	JUNE 1966	12	90-C	1.47	13.72	+22.7	-2.09	13.05	60		
6	JUNE 1967	12	90-C	19.24	13.31	+2977	-1.43	13.08	60		
6	JUNE 1968	12	90-C	14.02	12.83	+0490	-0.4	14.32	60		
6	JUNE 1969	12	90-C	21.49	15.40	+1468	-4.4	14.43	60		
6	JUNE 1970	12	90-C	18.27	14.83	+0534	-4.08	15.79	60		
6	JUNE 1971	12	90-C	14.44	8.19	+2144	-4.8	12.44	60		
6	JUNE 1972	12	90-C	15.11	4.44	+1724	-7.71	12.00	60		
6	JUNE 1973	12	90-C	15.40	13.44	+1222	-1.4	13.24	60		
6	JUNE 1974	12	90-C	11.40	9.40	+0305	-6.59	16.44	60		

Table 11. Bivariate Normal Statistics of the Vector
Wind at 12 km Over VAFB for Individual Months
During the Period 1965-74 (Cont'd)

BIVARIATE NORMAL STATISTICS OF THE VECTOR WIND AT 12 KM OVER VAFB FOR INDIVIDUAL MONTHS DURING THE PERIOD 1965-74 (CONT'D)

MONTH	PER. OF OBL.	ALT. ANG.	ALPHA DEGR.	MEAN U	STD. DEV. U	MEAN V	STD. DEV. V	R	MEAN W	STD. DEV. W	N
1	1965	12	90.0	8.38	10.11	-0.89	17.89	7.59	82		
1	1966	12	90.0	11.27	9.12	-0.54	23.12	10.44	82		
1	1967	12	90.0	7.81	8.78	-2.61	16.55	8.96	82		
1	1968	12	90.0	7.10	8.47	-1.69	9.78	8.00	82		
1	1969	12	90.0	10.13	11.87	-1.93	15.07	8.93	82		
1	1970	12	90.0	7.25	7.23	-1.24	9.76	8.15	82		
1	1971	12	90.0	10.19	12.71	-1.37	8.82	8.02	82		
1	1972	12	90.0	7.17	17.43	-1.75	10.59	10.76	82		
1	1973	12	90.0	13.19	12.91	-1.79	11.69	8.59	82		
1	1974	12	90.0	10.40	11.82	-0.20	11.91	7.92	82		
8	1965	12	90.0	18.87	17.78	-0.55	8.76	7.96	82		
8	1966	12	90.0	18.76	8.98	-0.81	9.86	7.87	82		
8	1967	12	90.0	8.17	7.15	-1.27	9.71	8.82	82		
8	1968	12	90.0	15.23	7.80	-0.71	10.17	8.81	82		
8	1969	12	90.0	7.89	7.47	-0.21	8.77	8.08	82		
8	1970	12	90.0	8.94	5.71	-1.09	9.08	8.09	82		
8	1971	12	90.0	7.41	8.70	-1.27	10.49	8.15	82		
8	1972	12	90.0	13.67	17.37	-1.71	9.88	12.57	82		
8	1973	12	90.0	13.72	8.27	-1.27	7.21	8.21	82		
8	1974	12	90.0	21.95	8.91	-0.77	9.08	9.25	82		
7	1965	12	90.0	21.72	12.31	-1.88	8.69	18.02	82		
7	1966	12	90.0	18.12	21.87	-1.07	8.50	18.00	82		
7	1967	12	90.0	11.68	18.23	-1.02	2.26	12.63	82		
7	1968	12	90.0	13.07	8.48	-1.89	-8.15	8.97	82		
7	1969	12	90.0	18.81	8.35	-1.88	7.53	11.76	82		
7	1970	12	90.0	18.49	11.03	-0.87	-1.07	7.58	82		
7	1971	12	90.0	17.81	12.72	-1.83	-1.82	10.18	82		
7	1972	12	90.0	21.89	13.37	-0.91	11.31	12.59	82		
7	1973	12	90.0	13.81	7.17	-1.35	1.48	11.81	82		
7	1974	12	90.0	8.17	7.19	-0.55	7.77	8.81	82		
10	1965	12	90.0	10.09	18.78	-1.33	-8.26	11.07	82		
10	1966	12	90.0	12.82	21.19	-1.07	-7.60	11.87	82		
10	1967	12	90.0	18.28	11.15	-1.87	-7.21	11.73	82		
10	1968	12	90.0	18.40	17.78	-1.29	1.57	11.12	82		
10	1969	12	90.0	18.91	13.13	-1.89	-10.82	12.53	82		
10	1970	12	90.0	21.47	18.77	-1.71	-7.81	10.77	82		
10	1971	12	90.0	11.38	13.11	-1.15	-7.12	13.02	82		
10	1972	12	90.0	23.25	8.79	1.11	11.10	23.27	82		
10	1973	12	90.0	20.45	17.85	-1.87	-1.87	15.82	82		
10	1974	12	90.0	11.83	11.89	-1.87	11.31	17.58	82		
11	1965	12	90.0	18.79	18.87	-1.17	18.99	22.29	80		
11	1966	12	90.0	24.04	17.83	-1.63	5.11	18.75	80		
11	1967	12	90.0	11.78	18.05	-1.40	7.35	18.13	80		
11	1968	12	90.0	20.47	18.81	-1.87	-11.03	19.82	80		
11	1969	12	90.0	7.55	18.72	-1.78	1.18	11.75	80		
11	1970	12	90.0	23.88	8.23	-1.87	-1.12	11.77	80		
11	1971	12	90.0	20.11	18.17	-1.89	-8.77	18.72	80		
11	1972	12	90.0	27.89	18.79	-1.88	-8.58	18.89	80		
11	1973	12	90.0	29.13	18.37	-1.38	-7.18	7.88	80		
11	1974	12	90.0	21.88	18.25	-1.80	-8.01	8.08	80		
2	1965	12	90.0	29.76	17.83	-1.86	7.10	17.75	82		
2	1966	12	90.0	23.22	27.23	-2.73	-8.78	18.88	82		
2	1967	12	90.0	19.82	18.53	-1.20	-12.98	19.27	82		
2	1968	12	90.0	27.33	8.78	-1.48	8.95	8.09	82		
2	1969	12	90.0	29.89	18.07	-1.17	-10.25	21.94	82		
2	1970	12	90.0	13.58	18.53	-1.77	-7.89	11.88	82		
2	1971	12	90.0	29.58	18.53	-1.11	-7.19	28.82	82		
2	1972	12	90.0	78.81	18.31	-1.53	-7.48	12.82	82		
2	1973	12	90.0	29.82	18.22	-2.82	-12.71	18.20	82		
2	1974	12	90.0	18.04	12.98	-1.82	-13.08	18.10	82		

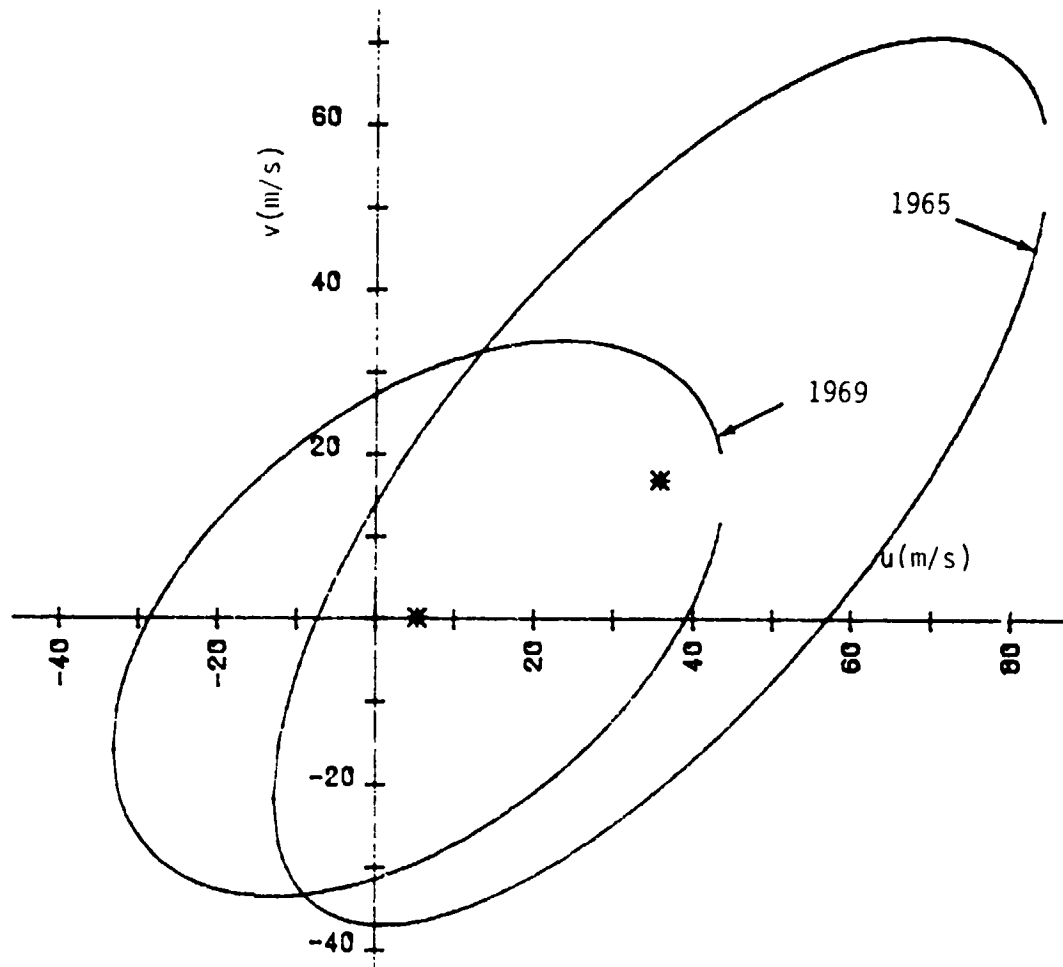
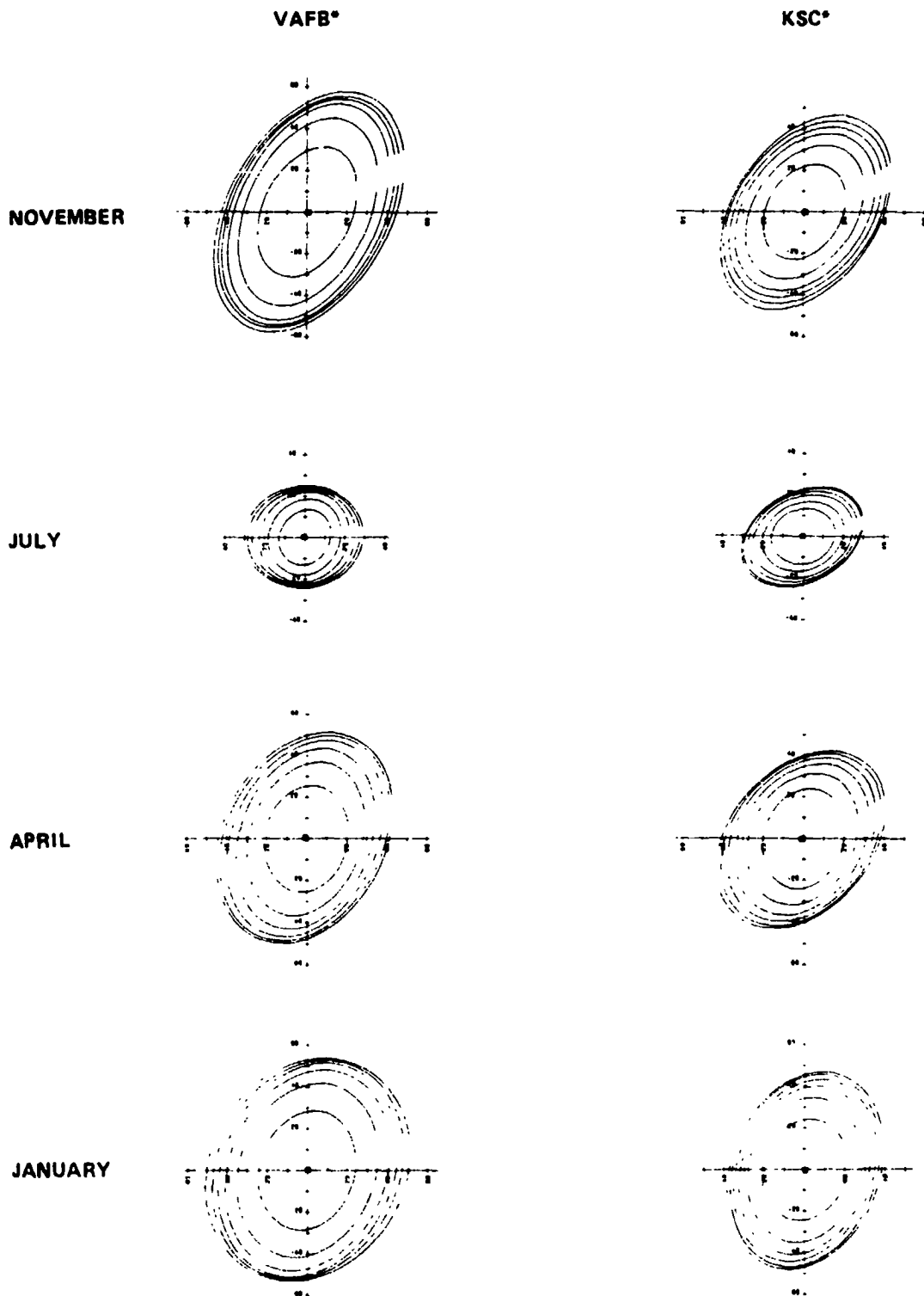


Figure 25. 95 Percent Vector Wind Ellipse at 12 km During November 1965 and 1969 at VAFB

G. COMPARISON OF WIND CHANGE WITH RESPECT TO TIME AT KSC AND VAFB

Wind change at KSC has been studied in detail in an earlier report (1). In anticipation of questions that may arise concerning comparisons of KSC and VAFB, a set of 95 percent vector wind change ellipses at 12 km have been prepared for the two locations. The ellipses illustrated in Figure 2c are for the months of January, April, July and November. The larger wind change at VAFB is clearly shown during all months with the exception of July when the wind change is small at both locations.



THE SIX ELLIPSES FOR EACH MONTH ARE FOR THE INCREMENTS AT 12 KM HR INTERVALS FROM 12 TO 72 HOURS; THE AREA OF THE ELLIPSES INCREASES WITH INCREASING TIME INTERVAL

Figure 26. Comparison of 95 Percent Wind Change Ellipses at 12 km for VAFB (1965-74) and KSC (1956-70)

IV. CONCLUSIONS

The analysis presented in the preceding section for selected months and altitudes illustrates how various theoretical distribution functions can be used for calculation of wind change with respect to time at Vandenberg AFB, California. The calculations can be made by utilization of the statistics given in the appendix for any reference month at 1 km altitude increments from 0 to 27 km.

The basic underlying assumption for the calculation of the distributions is that the joint distribution of the four variables represented by the components of the wind vector at any initial time and after a specified elapsed time is quadrivariate normal. If the wind vector is specified at an initial time, then the conditional joint distribution of the wind components at a future time is bivariate normal. Since each of the variables of the quadrivariate normal distribution is normal and the difference of two normal distributions is normal, it follows that wind component change is also normal and the joint distribution of zonal and meridional wind change is bivariate normal. The modulus of bivariate normally distributed variables has a Rayleigh distribution. Therefore, the modulus of vector wind change with respect to time is Rayleigh.

Sample distributions based on reference month Rawinsonde data obtained during 1965-74 agree reasonably well with the aforementioned theoretical distributions.

The standard deviation of wind component change with respect to time is the only statistic required for determination of the theoretical probability distribution (normal with zero mean) of wind component change. It has been shown that over a large range of altitudes that this statistic can be estimated from wind component standard deviation and the decay constant of the component theoretical autocorrelation function (Table 1). The assumption of exponential decay of the autocorrelation function is reasonably accurate in most instances to time increments as large as 60 hours during November, December and January.

The observed modulus of vector wind change with respect to time is systematically larger than the predicted modulus (Section III.C) for extreme probabilities. This may be attributable to inadequacy of the theory or inaccuracies of the data which affect the observed distribution at the extreme probabilities. If the theoretical distribution at extreme probabilities is to be used in engineering applications, it will be necessary to explain these systematic differences.

V. REFERENCES

1. Adelfang, S. I.: Analysis of Vector Wind Change with Respect to Time for Cape Kennedy, Florida. Science Applications, Inc., Report SAI-78-552-HU, prepared for NASA-Marshall Space Flight Center under Contract NAS8-32226, 14 April 1977.
2. Smith, O. E.: Vector Wind and Vector Wind Shear Models 0-27 km Altitude for Cape Kennedy, Florida, and Vandenberg AFB, California. NASA TMX-73319, July 1976.
3. Falls, L. W.: Normal Probabilities for Vandenberg AFB Wind Component. Monthly Reference Periods for all Flight Azimuths, 0 to 70 km Altitudes. NASA TMX-64897, January 1975.
4. Weil, H.: The Distribution of Radial Error. Ann. of Mathematical Statistics, Vol. 25, 1954, pp. 168-170.
5. Yadavalli, S. V.: On Applications of Some Results Related to Bivariate Gaussian Density Distribution Functions. Int. J. of Control, 1st Series, Vol. 5, No. 2, 1967, pp. 191-194.

APPENDIX

This appendix contains two sets of reference month quadrivariate and conditional bivariate normal statistics of variables X, Y, XP and YP, at 1 km intervals from 0 to 27 km. The statistics were calculated from 10 years (1965-74) of twice daily VAFB serially complete Rawinsonde data. The notation for the variable given in Section II of this report differs from the notation established for the computer output given herein; the notations are compared in Table A-1.

TABLE A-1. NOTATION OF VARIABLES

Computation Set Variable	A		B	
	Text (Sect. II)	Computer Output	Text (Sect. II)	Computer Output
X	u_0	$u(\text{at } T)$	u_0	$u(\text{at } T)$
Y	v_0	$v(\text{at } T)$	v_0	$v(\text{at } T)$
XP	u_1	$u(\text{at } T+DT)$	$u_1 - u_0$ $= \Delta u$	$u(\text{at } T+DT)$ $-u(\text{at } T)$
YP	v_1	$v(\text{at } T+DT)$	$v_1 - v_0$ $= \Delta v$	$v(\text{at } T+DT)$ $-v(\text{at } T)$

Table A-1 shows that the quadrivariate statistics of computation set "A" are for wind components at an initial time and after a specified time increment; the statistics for set "B" are for wind components at an initial time and wind component change after a specified time increment. The reference month quadrivariate normal statistics at a particular altitude for six time increments (12, 24, 36, 48, 60 and 72 hours) are listed in the lower left of each page of computer listing; the six sets of conditional bivariate normal statistics corresponding to the six time increments are listed in the lower right. The data were conditioned on monthly means given by Falls [3]. The derivation of the conditional bivariate normal statistics for any other given vector involves recalculation of the

conditional means according to equations A-1 and A-2; the standard deviations and correlation coefficients do not have to be recalculated because they are independent of the given wind vector.

$$\bar{x}_c | xp^* = \bar{x} + \frac{[(R(x, xp) - R(x, yp) R(xp, yp)) (xp^* - \bar{xp}) (\sigma_x / \sigma_{xp}) + (R(x, yp) - R(x, xp) R(xp, yp)) (yp^* - \bar{yp}) (\sigma_x / \sigma_{yp})]}{1 - [R(xp, yp)]^2} \quad (A-1)$$

$$\bar{y}_c | yp^* = \bar{y} + \frac{[(R(y, xp) - R(y, yp) R(xp, yp)) (xp^* - \bar{xp}) (\sigma_y / \sigma_{xp}) + (R(y, yp) - R(y, xp) R(xp, yp)) (yp^* - \bar{yp}) (\sigma_y / \sigma_{yp})]}{1 - [R(xp, yp)]^2} \quad (A-2)$$

where, \bar{x}_c and \bar{y}_c are the mean components of the conditional distribution, xp^* and yp^* are the components of the given vector and $\sigma_x, \sigma_y, \sigma_{xp}$ and σ_{yp} are equivalent to S.D.x, S.D.y, S.D.xp and S.D.y_p, respectively given in the computer listings.

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	.42	2.89	-.5137	-.62	3.43	620						.41			-.57	
12	.42	2.89	-.0914	.4789	-.5127	-.0415	.41	2.76	-.4535	.41	2.90	.41	2.76	-.4535	-.59	2.90
24	.43	2.88	.4193	.3937	-.5113	-.2097	.41	2.61	-.4701	.41	3.15	.42	2.61	-.4701	-.61	3.15
36	.42	2.89	-.2815	.1625	-.5179	.1066	.42	2.77	-.4859	.42	3.30	.42	2.77	-.4859	-.61	3.30
48	.42	2.88	-.2593	.2221	-.5135	-.0787	.42	2.73	-.5085	.42	3.34	.41	2.70	-.4797	-.60	3.31
60	.38	2.89	-.3259	.1102	-.5035	.1520	.41	2.70	-.4797	.41	3.31	.43	2.80	-.5137	-.62	3.40
72	.38	2.88	-.2529	.1328	-.5031	-.0798	.43	2.80	-.5137	.43	3.40					

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	1.08	4.34	.0402	-1.55	7.07	620						.91			-1.55	
12	1.06	4.29	.5498	.6927	.0496	.2260	1.01	3.58	.0149	1.01	4.91	1.01	3.58	.0149	-1.68	4.91
24	1.07	4.26	.3036	.4260	.0580	.2142	1.04	4.11	-.0279	1.04	5.25	1.04	4.11	-.0279	-1.65	5.25
36	1.06	4.26	.2020	.2459	.0532	.2013	1.05	4.25	-.0033	1.05	5.72	1.05	4.25	-.0033	-1.63	5.72
48	1.01	4.30	.1746	.1837	.0630	.2072	1.06	4.28	.0013	1.06	6.81	1.06	4.28	.0013	-1.63	6.81
60	.95	4.35	.1176	.1632	.0582	.1954	1.08	4.31	.0219	1.08	6.85	1.08	4.31	.0219	-1.59	6.85
72	.88	4.42	.1027	.1192	.0329	.1695	1.09	4.32	.0275	1.09	6.92	1.09	4.32	.0275	-1.57	6.92

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1922-4) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/60 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
2		3.57	5.87	.1187	-2.61	7.75	620	3.23	3.99	.0391	3.30	5.05	3.23	3.99	.0391	-2.74	5.05
24		3.63	5.77		-2.55	7.71		3.30	4.97	.0245	3.34	5.60	3.30	4.97	.0245	-2.80	5.60
36		3.73	5.78		-2.53	7.77		3.34	5.35	.0326	3.40	7.20	3.34	5.35	.0326	-2.81	7.20
48		3.68	5.80		-2.57	7.81		3.40	5.52	.0338	3.45	7.32	3.40	5.52	.0338	-2.82	7.32
60		3.60	5.86		-2.46	7.80		3.45	5.64	.0495	3.45	7.38	3.45	5.64	.0495	-2.78	7.38
72		3.53	5.87		-2.37	7.85		3.49	5.70	.0627	3.49	7.46	3.49	5.70	.0627	-2.75	7.46

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	3.18
GIVEN Y	-2.64

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	N	MEAN YP	S.D. YP	R (XP, Y)	MEAN X	S.D. X	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
2		5.30	7.80	.1907	-3.33	8.73	520	5.91	4.98	.0532	5.91	5.68	5.91	4.98	.0532	-3.33	5.68
24		5.45	7.74		-3.22	8.69		6.01	4.87	.0780	6.01	7.40	6.01	4.87	.0780	-3.44	7.40
36		5.52	7.64		-3.20	8.71		6.05	4.78	.0853	6.05	7.58	6.05	4.78	.0853	-3.47	7.58
48		5.54	7.66		-3.22	8.74		6.04	4.74	.0862	6.04	8.11	6.04	4.74	.0862	-3.48	8.11
60		5.43	7.67		-3.24	8.71		6.04	4.71	.0830	6.04	8.21	6.04	4.71	.0830	-3.49	8.21
72		5.31	7.71		-3.14	8.73		6.07	4.71	.0833	6.07	8.31	6.07	4.71	.0833	-3.46	8.31

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	5.89
GIVEN Y	-3.16

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		8.78	9.49	.2065	-3.61	9.76				620						
12		8.85	9.42	.7906	-3.60	9.69		.7285	.2030	.3166	.0512	8.21	5.71	.0800	-3.50	6.47
24		8.89	9.26	.5960	-3.54	9.64		.4889	.2008	.3203	.0082	8.31	7.54	.0969	-3.66	8.22
36		9.00	9.26	.4836	-3.57	9.67		.3298	.1901	.2896	.0197	8.35	8.28	.1090	-3.72	8.93
48		9.96	9.25	.3937	-3.54	9.63		.2457	.1950	.2960	.0174	8.45	8.71	.1183	-3.77	9.13
60		8.85	9.28	.3356	-3.47	9.60		.2036	.2036	.3019	.0264	8.54	8.93	.1247	-3.77	9.22
72		8.74	9.33	.2542	-3.38	9.60		.1579	.1962	.2680	.0434	8.64	9.18	.1502	-3.74	9.35

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.19	-3.27

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		11.10	11.12	.2550	-3.45	10.98				620						
12		11.17	11.02	.8028	-3.43	10.92		.7163	.2488	.3216	.0796	10.46	6.49	.1972	-3.39	7.49
24		11.22	10.65	.6230	-3.35	10.84		.4646	.2456	.3044	.0127	10.55	8.55	.1861	-3.53	9.48
36		11.31	10.74	.5049	-3.36	10.86		.3051	.2345	.2806	.0057	10.61	9.51	.1788	-3.60	10.19
48		11.27	10.71	.4124	-3.26	10.71		.2177	.2540	.2949	-.0068	10.71	10.05	.1764	-3.65	10.37
60		11.15	10.77	.3390	-3.18	10.65		.1947	.2621	.3142	.0045	10.84	10.42	.1801	-3.65	10.35
72		11.02	10.91	.2600	-3.07	10.63		.1718	.2554	.2834	.0252	10.94	10.73	.2020	-3.61	10.47

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.45	-3.17

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (53214) - VALCENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/63 - 12/74
 ALPHA ANGLE - 92.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF A, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. XP (XP, YP)	R (XP, YP)	MEAN GIVEN Y	S.D. YP (XP, YP)
12	12.92	12.55	.2757	-3.64	12.22	620						12.22			-3.34	
12	13.02	12.39		-3.57	12.11		1.6939	.2653	.3130	.1147	12.21	7.26	.2179		-3.60	8.59
24	13.09	12.20		-3.51	12.03		4.304	.2597	.2887	.0208	12.30	9.59	.2200		-3.74	10.83
36	13.15	12.19		-3.51	12.04		.2737	.2582	.2542	-.0167	12.37	10.75	.2247		-3.79	11.52
48	13.11	12.08		-3.37	11.93		1.193	.2663	.2842	-.0218	12.51	11.35	.2161		-3.64	11.68
60	12.99	12.11		-3.26	11.83		1.769	.2732	.2736	-.0114	12.63	11.72	.2154		-3.85	11.67
72	12.84	12.13		-3.17	11.87		1.716	.2691	.2580	.0229	12.75	12.10	.2308		-3.81	11.74

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. XP (XP, YP)	R (XP, YP)	MEAN GIVEN Y	S.D. YP (XP, YP)
12	14.83	13.96	.2916	-4.15	13.44	620						13.93			-3.79	
12	14.94	13.80		-4.07	13.32		1.6932	.2654	.3082	.1280	13.95	8.23	.2165		-4.08	9.64
24	15.06	13.62		-3.99	13.24		4.197	.2633	.2835	.0434	14.05	10.86	.2222		-4.28	11.97
36	15.13	13.57		-3.97	13.25		1.261	.2642	.2435	-.0135	14.15	12.02	.2247		-4.34	12.77
48	15.08	13.55		-3.84	13.22		1.842	.2582	.2435	-.0052	14.29	12.62	.2252		-4.38	12.67
60	14.97	13.61		-3.76	13.19		1.700	.2575	.2710	.0055	14.45	13.10	.2281		-4.40	12.66
72	14.81	13.65		-3.72	13.24		1.662	.2567	.2392	.0365	14.60	13.50	.2355		-4.34	12.57

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		16.68	15.65	.2816	-4.50	14.69	620						15.75	15.75	-4.09		
12		15.78	15.50	.7993	-4.44	14.51		15.79	9.37	.2450	15.79	10.72	15.79	9.37	.2450	15.79	10.72
24		15.97	15.40	.6073	-4.36	14.54		15.95	12.28	.2351	15.95	13.14	15.95	12.28	.2351	15.95	13.14
36		17.00	15.30	.4738	-4.33	14.56		15.98	13.54	.2445	15.98	14.03	15.98	13.54	.2445	15.98	14.03
48		16.98	15.28	.3874	-4.25	14.51		16.12	14.28	.2358	16.12	14.23	16.12	14.28	.2358	16.12	14.23
60		16.95	15.26	.3168	-4.17	14.49		16.29	14.77	.2306	16.29	14.16	16.29	14.77	.2306	16.29	14.16
72		16.68	15.37	.2542	-4.10	14.53		16.43	15.12	.2409	16.43	14.24	16.43	15.12	.2409	16.43	14.24

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		18.75	17.22	.2709	-5.02	15.81	620						17.82	17.82	-4.62		
12		18.84	17.14	.7391	-4.95	15.75		17.90	10.29	.2400	17.90	11.87	17.90	10.29	.2400	17.90	11.87
24		19.02	17.05	.6086	-4.89	15.71		17.95	13.52	.2429	17.95	14.37	17.95	13.52	.2429	17.95	14.37
36		19.06	15.96	.4739	-4.83	15.72		18.58	14.97	.2462	18.58	15.22	18.58	14.97	.2462	18.58	15.22
48		19.07	15.96	.3950	-4.79	15.61		18.20	15.71	.2322	18.20	15.41	18.20	15.71	.2322	18.20	15.41
60		18.93	17.05	.3260	-4.71	15.56		18.36	16.17	.2205	18.36	15.30	18.36	16.17	.2205	18.36	15.30
72		18.82	17.05	.2527	-4.63	15.60		18.50	16.65	.2311	18.50	15.38	18.50	16.65	.2311	18.50	15.38

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	21.08	18.50	.260:	-5.33	16.99	620										
12	21.16	18.57	.8253	-5.34	16.95		20.21	10.96	.2412	-5.18	12.34	20.21	10.96	.2412	-5.18	12.34
24	21.31	18.47	.8228	-5.29	16.91		20.27	14.45	.2436	-5.38	15.46	20.27	14.45	.2436	-5.38	15.46
36	21.40	18.41	.4935	-5.25	16.90		20.35	15.92	.2424	-5.47	16.41	20.35	15.92	.2424	-5.47	16.41
48	21.43	18.44	.4136	-5.14	16.84		20.46	16.74	.2279	-5.55	16.63	20.46	16.74	.2279	-5.55	16.63
60	21.35	18.58	.3248	-5.09	16.74		20.59	17.26	.2116	-5.60	16.54	20.59	17.26	.2116	-5.60	16.54
72	21.24	18.57	.2845	-5.01	16.81		20.74	17.80	.2215	-5.57	16.64	20.74	17.80	.2215	-5.57	16.64

ALTITUDE (KM) - 11

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	23.75	19.45	.2412	-5.41	17.23	620										
12	23.78	19.42	.8297	-5.35	17.19		23.06	10.86	.2056	-5.18	12.08	23.06	10.86	.2056	-5.18	12.08
24	23.94	19.33	.8553	-5.30	17.13		23.05	14.60	.2343	-5.35	15.55	23.05	14.60	.2343	-5.35	15.55
36	24.07	19.25	.5383	-5.25	17.13		23.08	16.24	.2692	-5.46	16.56	23.08	16.24	.2692	-5.46	16.56
48	24.13	19.28	.4668	-5.18	17.10		23.14	17.02	.2132	-5.52	16.93	23.14	17.02	.2132	-5.52	16.93
60	24.12	19.43	.4052	-5.08	16.98		23.23	17.64	.1982	-5.57	16.93	23.23	17.64	.1982	-5.57	16.93
72	23.99	19.44	.3345	-4.97	17.02		23.39	18.28	.2019	-5.56	16.98	23.39	18.28	.2019	-5.56	16.98

GUAOPAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

.....
 GUAOPAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X		S.D. X		R (X,Y)		MEAN Y		S.D. Y		N	MEAN XP		S.D. XP		R (XP,YP)		MEAN YP		S.D. YP	
	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	R (X,Y)	MEAN YP	S.D. YP	R (XP,YP)	S.D. XP		R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP				
12	25.09	18.34	.2201	-5.23	16.01	620	24.60	9.62	15.44	15.97	1772	24.69	9.62	.1544	-5.18	10.86					
24										16.00	1562	24.69	13.29	.1847	-5.24	14.37					
36										15.99	1430	24.68	15.00	.1923	-5.29	15.42					
48										15.87	1406	24.71	15.88	.1865	-5.33	15.75					
60										15.87	1499	24.77	15.48	.1806	-5.35	15.79					
72										15.85	1479	24.67	17.17	.1837	-5.34	15.82					

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

ALTITUDE (KM) - 13

.....
 GUAOPAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X		S.D. X		R (X,Y)		MEAN Y		S.D. Y		N	MEAN XP		S.D. XP		R (XP,YP)		MEAN YP		S.D. YP	
	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	R (X,Y)	MEAN YP	S.D. YP	R (XP,YP)	S.D. XP		R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP				
12	24.33	15.40	.2651	-4.64	13.34	620	23.95	7.61	13.31	2301	23.98	7.61	.1580	-4.51	8.66						
24									13.35	1873	23.99	10.57	.2205	-4.59	11.97						
35									13.32	1585	23.95	12.29	.2303	-4.66	12.95						
48									13.30	1600	23.96	13.08	.2223	-4.71	13.14						
60									13.24	1671	24.01	13.65	.2165	-4.74	13.14						
72									13.22	1633	24.10	14.32	.2244	-4.73	13.16						

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	22.60	13.34	.3028	-4.10	11.36	620							22.28				-4.01	
12	22.55	13.30	.8538	-4.10	11.35		22.27	6.72	.2979	.7616	9.87	22.27	6.72	22.27	6.72	.1765	-4.05	7.32
24	22.73	13.27	.7415	-4.08	11.36		22.25	8.92	.2472	.4434	9.87	22.25	8.92	22.25	8.92	.2384	-4.12	10.09
36	22.85	13.27	.6245	-4.08	11.35		22.22	10.37	.1978	.2297	9.87	22.22	10.37	22.22	10.37	.2561	-4.15	10.95
48	22.94	13.26	.5425	-3.96	11.33		22.22	11.14	.2990	.1070	9.87	22.22	11.14	22.22	11.14	.2587	-4.19	11.16
60	23.00	13.32	.4591	-3.84	11.30		22.27	11.81	.1872	.0684	9.87	22.27	11.81	22.27	11.81	.2505	-4.21	11.16
72	22.95	13.36	.3715	-3.75	11.25		22.35	12.38	.1909	.0790	9.87	22.35	12.38	22.35	12.38	.2555	-4.21	11.15

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	19.77	10.99	.3158	-3.52	9.87	620							19.54				-3.68	
12	19.63	10.92	.8485	-3.57	9.87		19.52	5.82	.3235	.7626	9.87	19.52	5.82	19.52	5.82	.1385	-3.63	6.32
24	19.89	10.89	.7422	-3.55	9.89		19.51	7.36	.3020	.4879	9.89	19.51	7.36	19.51	7.36	.1845	-3.63	8.47
36	19.97	10.88	.6311	-3.55	9.86		19.50	8.51	.2537	.2679	9.86	19.50	8.51	19.50	8.51	.2228	-3.62	9.34
48	20.05	10.88	.5328	-3.48	9.84		19.50	9.29	.2315	.1403	9.84	19.50	9.29	19.50	9.29	.2374	-3.63	9.57
60	20.11	10.91	.4401	-3.37	9.81		19.52	9.87	.2287	.0896	9.81	19.52	9.87	19.52	9.87	.2466	-3.64	9.61
72	20.13	10.92	.3593	-3.32	9.80		19.56	10.25	.2144	.0809	9.80	19.56	10.25	19.56	10.25	.2620	-3.64	9.64

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	16.77	9.41	.3510	-3.11	8.29	620					16.71	16.71	-3.36		
12	16.83	9.38	.8414	-3.12	8.28	.3604	.3473	.2892	16.66	5.09	.1524	.1524	-3.31	5.05	
24	16.86	9.37	.7414	-3.12	8.30	.3293	.3465	.2236	16.66	6.30	.2213	.2213	-3.25	6.88	
36	16.84	9.38	.6150	-3.12	8.29	.2824	.3438	.1766	16.63	7.41	.2559	.2559	-3.21	7.68	
48	16.98	9.36	.5350	-3.07	8.28	.2652	.3487	.1552	16.63	7.93	.2650	.2650	-3.21	7.92	
60	17.01	9.36	.4426	-2.99	8.26	.2585	.3440	.1176	16.64	8.43	.2778	.2778	-3.21	7.98	
72	17.01	9.34	.3564	-2.94	8.23	.2356	.3419	.1010	16.67	8.79	.2960	.2960	-3.20	8.05	

ALTITUDE (KM) - 17

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	13.49	8.19	.3274	-2.97	6.65	620					13.46	13.46	-3.10		
12	13.51	8.17	.7863	-2.96	6.63	.3684	.3257	.2660	13.45	5.06	.0822	.0822	-3.08	4.21	
24	13.60	8.15	.7250	-2.98	6.65	.3533	.3248	.2123	13.45	5.64	.1475	.1475	-3.05	5.41	
36	13.66	8.16	.6177	-2.97	6.63	.3184	.3228	.1789	13.37	6.44	.1927	.1927	-3.04	6.01	
48	13.68	8.15	.5459	-2.94	6.62	.3243	.3231	.1568	13.37	6.86	.1966	.1966	-3.04	6.20	
60	13.71	8.17	.4602	-2.93	6.61	.2929	.3185	.1412	13.37	7.27	.2294	.2294	-3.04	6.31	
72	13.73	8.17	.3830	-2.88	6.58	.2793	.3206	.1266	13.39	7.57	.2490	.2490	-3.04	6.36	

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENEGG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, YP)	MEAN YP	S.D. YP	R (X, XP)	MEAN XP	S.D. XP	R (XP, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN YP	S.D. YP
	9.91	6.99	.3286	-2.93	5.40												
12	9.96	6.97	.8049	-2.93	5.41	.7516	-2.93	5.41	.3303	9.96	4.15	.3797	9.96	5.40	.0538	-3.04	3.48
24	10.05	7.00	.7354	-2.95	5.43	.6073	-2.95	5.43	.3278	9.90	4.73	.3842	9.90	5.40	.1244	-3.01	4.16
36	10.07	7.01	.6515	-2.92	5.43	.4561	-2.92	5.43	.3209	9.88	5.30	.3693	9.88	5.40	.1572	-3.01	4.63
48	10.12	7.03	.5709	-2.87	5.42	.3398	-2.87	5.42	.3207	9.86	5.74	.3570	9.86	5.40	.1745	-3.01	4.88
60	10.14	7.03	.4938	-2.85	5.42	.2682	-2.85	5.42	.3147	9.85	6.08	.3312	9.85	5.40	.2031	-3.00	5.01
72	10.18	7.03	.4196	-2.83	5.42	.2049	-2.83	5.42	.3131	9.83	6.34	.3060	9.83	5.40	.2299	-2.99	5.10

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
10.02	-3.10

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, YP)	MEAN YP	S.D. YP	R (X, XP)	MEAN XP	S.D. XP	R (XP, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN YP	S.D. YP
	6.80	6.60	.3646	-2.90	4.74												
12	6.85	6.62	.7810	-2.89	4.76	.7398	-2.89	4.76	.3738	6.83	4.12	.3698	6.83	4.74	.1850	-3.03	3.15
24	6.92	6.68	.7372	-2.91	4.76	.6277	-2.91	4.76	.3730	6.75	4.45	.3703	6.75	4.74	.2288	-3.01	3.62
36	6.94	6.71	.6654	-2.91	4.77	.4882	-2.91	4.77	.3690	6.77	4.92	.3461	6.77	4.74	.2268	-2.98	4.05
48	6.98	6.76	.6077	-2.87	4.76	.3891	-2.87	4.76	.3683	6.75	5.24	.3399	6.75	4.74	.2335	-2.97	4.25
60	7.00	6.77	.5426	-2.85	4.76	.2936	-2.85	4.76	.3687	6.74	5.54	.3150	6.74	4.74	.2514	-2.97	4.40
72	7.02	6.78	.4737	-2.82	4.75	.2522	-2.82	4.75	.3713	6.74	5.81	.2899	6.74	4.74	.2732	-2.97	4.48

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
6.88	-3.09

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/85 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	3.81	6.00	.2914	-2.86	4.09	620											
12	3.91	6.85	.8200	7.116	.2951	.3350	4.11	4.11	.2951	.7116	4.11	.2708	3.80	3.89	-.0066	-3.01	2.82
24	3.96	6.90	.7544	6.414	.2907	.3698	4.09	4.09	.2907	6.414	4.09	.1955	3.78	4.38	.0510	-2.99	3.04
36	4.01	6.95	.7051	5.153	.2887	.3325	4.12	4.12	.2887	5.153	4.12	.2017	3.74	4.82	.0977	-2.96	3.42
48	4.04	6.97	.6416	4.161	.2839	.3259	4.12	4.12	.2839	4.161	4.12	.1726	3.73	5.21	.1259	-2.96	3.61
60	4.05	6.98	.5745	3.513	.2883	.2856	4.10	4.10	.2883	3.513	4.10	.1807	3.72	5.56	.1639	-2.96	3.75
72	4.09	7.02	.5384	2.809	.2895	.2769	4.10	4.10	.2895	2.809	4.10	.1646	3.71	5.73	.1777	-2.94	3.84

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.91	-3.07

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	1.79	6.90	.2322	-2.91	3.85	620											
12	1.85	6.95	.8144	6.535	.2323	.2768	3.86	3.86	.2323	6.535	3.86	.2289	1.86	3.99	-.0417	-2.97	2.87
24	1.91	6.98	.7601	5.632	.2311	.3192	3.87	3.87	.2311	5.632	3.87	.2115	1.81	4.47	-.0556	-2.97	3.09
36	1.96	7.01	.7110	4.884	.2312	.2820	3.86	3.86	.2312	4.884	3.86	.1924	1.77	4.85	.0319	-2.96	3.29
48	1.98	7.02	.6559	4.149	.2378	.2733	3.89	3.89	.2378	4.149	3.89	.1699	1.77	5.21	.0709	-2.96	3.43
60	2.02	7.05	.6126	3.527	.2391	.2182	3.89	3.89	.2391	3.527	3.89	.1515	1.74	5.42	.1325	-2.96	3.56
72	2.08	7.08	.5601	2.477	.2457	.2044	3.88	3.88	.2457	2.477	3.88	.1322	1.72	5.71	.1499	-2.95	3.69

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.95	-3.01

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
12	.13	7.41	.8459	-3.00	3.77	.7034	.08	7.34	.2616	-2.99	3.77	620
24	.21	7.44	.7981	-3.00	3.76	.5716						
36	.27	7.50	.7427	-3.02	3.77	.5035						
48	.30	7.54	.6708	-3.00	3.77	.4199						
60	.36	7.56	.6094	-3.00	3.78	.3488						
72	.43	7.57	.5478	-2.97	3.78	.2791						

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (XP, YP)
.25	3.90	.0312	-3.03	2.66	
.19	4.41	.0427	-3.02	3.05	
.14	4.91	.1085	-3.01	3.22	
.11	5.44	.1517	-3.01	3.38	
.07	5.82	.2204	-3.02	3.52	
.04	6.14	.2214	-3.02	3.60	

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
12	-.98	8.16	.8676	-2.99	3.85	.6723	-1.06	3.10	.3076	-3.02	3.85	620
24	-.91	8.20	.822	-2.99	3.85	.5824						
36	-.83	8.27	.7505	-2.99	3.87	.5145						
48	-.77	8.28	.6866	-2.98	3.87	.4081						
60	-.72	8.26	.6145	-2.99	3.88	.3255						
72	-.64	8.27	.5454	-2.98	3.89	.2637						

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (XP, YP)
-.82	4.01	.0079	-3.03	2.81	
-.89	4.72	.0892	-3.03	3.08	
-.96	5.38	.1429	-3.03	3.25	
-1.00	5.88	.1938	-3.03	3.48	
-1.04	6.39	.2430	-3.03	3.61	
-1.09	6.77	.2777	-3.03	3.70	

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
	-1.45	9.28	.3578	-2.84	4.17	620											
12	-1.37	9.32	.8832	-2.83	4.19		-1.03	4.36	.3327	-1.03	4.36	.1111	.3327	-1.03	4.36	-2.86	3.01
24	-1.26	9.36	.8315	-2.83	4.20		-1.14	5.15	.2987	-1.14	5.15	.1563	.2987	-1.14	5.15	-2.85	3.26
36	-1.17	9.43	.7722	-2.82	4.21		-1.23	6.89	.2777	-1.23	6.89	.2056	.2777	-1.23	6.89	-2.86	3.49
48	-1.10	9.44	.6909	-2.79	4.22		-1.30	6.71	.2594	-1.30	6.71	.2482	.2594	-1.30	6.71	-2.87	3.69
60	-1.06	9.42	.6112	-2.78	4.22		-1.35	7.34	.2410	-1.35	7.34	.2887	.2410	-1.35	7.34	-2.87	3.90
72	-.99	9.44	.5553	-2.77	4.23		-1.40	7.71	.2366	-1.40	7.71	.3180	.2366	-1.40	7.71	-2.87	4.01

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
	-1.78	10.49	.3599	-2.63	4.38	620											
12	-1.71	10.55	.8866	-2.60	4.39		-1.18	4.64	.3569	-1.18	4.64	-.0292	.3569	-1.18	4.64	-2.53	2.99
24	-1.59	10.59	.8320	-2.58	4.43		-1.32	5.82	.3242	-1.32	5.82	.1244	.3242	-1.32	5.82	-2.55	3.34
36	-1.51	10.61	.7611	-2.58	4.46		-1.42	6.80	.3031	-1.42	6.80	.2091	.3031	-1.42	6.80	-2.57	3.60
48	-1.42	10.62	.6911	-2.55	4.49		-1.52	7.57	.2882	-1.52	7.57	.2467	.2882	-1.52	7.57	-2.59	3.83
60	-1.37	10.60	.6217	-2.54	4.49		-1.57	8.21	.2671	-1.57	8.21	.2833	.2671	-1.57	8.21	-2.60	4.06
72	-1.28	10.59	.5572	-2.55	4.49		-1.64	8.70	.2529	-1.64	8.70	.3078	.2529	-1.64	8.70	-2.61	4.19

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDELBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.63	11.56	3777	-2.89	4.71	620										
12	-1.52	11.60	.9117	.7327	4.75	.4020	.3841	4.020	.3623	-.91	4.75	.0110	4.75	.0110	-2.74	3.15
24	-1.40	11.63	.8555	.6844	4.81	.3857	.3820	3.857	.3384	-1.06	5.98	.1205	5.98	.1205	-2.78	3.46
36	-1.30	.62	.7888	-2.76	4.83	.5658	.3935	.3441	.3084	-1.18	7.10	.2147	7.10	.2147	-2.82	3.83
48	-1.19	11.66	.7203	-2.73	4.84	.4576	.3973	.3153	.2836	-1.30	8.02	.2492	8.02	.2492	-2.84	4.13
60	-1.11	11.66	.6564	-2.70	4.85	.3547	.3379	.2487	.2539	-1.38	8.72	.3110	8.72	.3110	-2.86	4.35
72	-1.02	11.65	.6054	-2.70	4.85	.2787	.3939	.2026	.2412	-1.45	9.20	.3347	9.20	.3347	-2.87	4.50

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.01	12.90	.4350	-3.12	5.11	620										
12	-.89	12.95	.9262	.7632	5.18	.4592	.4382	4.592	.4082	-.05	4.86	.0330	4.86	.0330	-2.95	3.22
24	-.75	13.00	.8683	-2.99	5.20	.4679	.4399	4.679	.3671	-.23	6.39	.1134	6.39	.1134	-2.98	3.70
36	-.64	12.98	.8108	-2.96	5.23	.4347	.4430	4.347	.3392	-.37	7.54	.2004	7.54	.2004	-3.01	4.02
48	-.51	13.03	.7507	-2.94	5.23	.3979	.4462	3.979	.2960	-.52	8.50	.2700	8.50	.2700	-3.04	4.34
60	-.42	13.02	.6868	-2.91	5.25	.3156	.4454	3.156	.2765	-.62	9.37	.3156	9.37	.3156	-3.06	4.60
72	-.33	13.01	.6441	-2.97	5.23	.3039	.4432	3.039	.2591	-.70	9.90	.3457	9.90	.3457	-3.08	4.74

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = USTAT
Y = VIAT

MOUTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
1	1/65 - 12/74	0	90.0	.42	2.89	-.5137	-.62	3.43	620
1	1/65 - 12/74	1	90.0	1.08	4.34	.0402	-1.55	7.07	620
1	1/65 - 12/74	2	90.0	3.57	5.87	1.187	-2.61	7.75	620
1	1/65 - 12/74	3	90.0	6.38	7.80	.1907	-3.33	8.73	620
1	1/65 - 12/74	4	90.0	8.78	9.49	.2065	-3.61	9.76	620
1	1/65 - 12/74	5	90.0	11.10	11.12	.2550	-3.45	10.38	620
1	1/65 - 12/74	6	90.0	12.92	12.55	.2757	-3.64	12.22	620
1	1/65 - 12/74	7	90.0	14.83	13.96	.2816	-4.15	13.44	620
1	1/65 - 12/74	8	90.0	16.63	15.65	.2816	-4.50	14.69	620
1	1/65 - 12/74	9	90.0	18.76	17.22	.2709	-5.02	15.81	620
1	1/65 - 12/74	10	90.0	21.08	18.89	.2601	-5.39	16.99	620
1	1/65 - 12/74	11	90.0	23.75	19.45	.2412	-5.41	17.23	620
1	1/65 - 12/74	12	90.0	25.09	18.34	.2201	-5.26	16.01	620
1	1/65 - 12/74	13	90.0	24.33	15.40	.2651	-4.84	13.34	620
1	1/65 - 12/74	14	90.0	22.60	13.34	.3028	-4.10	11.36	620
1	1/65 - 12/74	15	90.0	19.77	10.99	.3178	-3.52	9.87	620
1	1/65 - 12/74	16	90.0	16.77	8.41	.3510	-3.11	8.29	620
1	1/65 - 12/74	17	90.0	13.49	8.19	.3274	-2.97	6.65	620
1	1/65 - 12/74	18	90.0	9.91	6.99	.3286	-2.93	5.40	620
1	1/65 - 12/74	19	90.0	6.80	6.60	.3646	-2.90	4.74	620
1	1/65 - 12/74	20	90.0	3.81	6.80	.2914	-2.86	4.09	620
1	1/65 - 12/74	21	90.0	1.79	6.50	.2322	-2.91	3.65	620
1	1/65 - 12/74	22	90.0	.08	7.34	.2616	-2.99	3.77	620
1	1/65 - 12/74	23	90.0	-1.05	8.10	.3076	-3.02	3.85	620
1	1/65 - 12/74	24	90.0	-1.45	9.28	.3579	-2.84	4.17	620
1	1/65 - 12/74	25	90.0	-1.78	10.49	.3599	-2.63	4.38	620
1	1/65 - 12/74	26	90.0	-1.63	11.56	.3777	-2.89	4.71	620
1	1/65 - 12/74	27	90.0	-1.11	12.90	.4350	-3.12	5.11	620

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93211) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 AZIMUTH ANGLE - 90.0

..... ALTITUDE (KM) 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	.63	3.05	-.5499	-.78	3.49	564											
HP	.70	2.09	-.1379	.4495	2.53		.75	2.87	-.5064	.80	3.06		.75	2.87	-.5064	.80	3.06
24	.73	2.09	-.3979	.4485	2.55		.74	2.77	-.5196	.89	3.1		.74	2.77	-.5196	.89	3.1
36	.73	2.08	-.2625	.2359	2.61		.74	2.85	-.5231	.86	3.32		.74	2.85	-.5231	.86	3.32
48	.75	2.09	-.3527	.2328	2.62		.72	2.85	-.5281	.84	3.34		.72	2.85	-.5281	.84	3.34
60	.82	3.10	-.2673	.1850	2.64		.75	2.90	-.5518	.83	3.42		.75	2.90	-.5518	.83	3.42
72	.87	3.09	-.3210	.2039	2.62		.66	2.89	-.5373	.81	3.35		.66	2.89	-.5373	.81	3.35

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
	.77	-1.02

..... ALTITUDE (KM) 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	.23	4.28	-.1341	-.161	7.38	504											
HP	.25	4.31	-.4721	.7215	7.44		.31	3.61	-.0164	-.03	4.99		.31	3.61	-.0164	-.03	4.99
24	.27	4.26	-.2814	.4424	7.50		.31	3.90	-.1257	-.03	6.22		.31	3.90	-.1257	-.03	6.22
36	.27	4.27	-.1285	.1456	7.55		.30	4.17	-.1625	-.05	6.85		.30	4.17	-.1625	-.05	6.85
48	.28	4.28	-.0540	.2322	7.52		.27	4.25	-.1775	-.01	7.03		.27	4.25	-.1775	-.01	7.03
60	.25	4.37	-.0035	.2273	7.45		.25	4.26	-.1770	-.01	7.11		.25	4.26	-.1770	-.01	7.11
72	.26	4.41	-.0269	.2155	7.45		.25	4.27	-.1876	-.02	7.18		.25	4.27	-.1876	-.02	7.18

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
	.23	-2.07

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 1322A - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 1/74
 ALPHA ANGLE - 30.0

ALTIUDE (FT) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HP	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	2.24	5.25	-0.1193	-2.02	8.58	584	2.24	5.25	-0.1193	-2.02	8.58	584	2.24	5.25	-0.1193	-2.02	8.58
12	24	2.23	5.23	.6222	1.33	8.57	573	2.23	5.23	.6222	1.33	8.57	573	2.23	5.23	.6222	1.33	8.57
24	36	2.26	5.27	1.054	1.96	8.71	1317	2.26	5.27	1.054	1.96	8.71	1317	2.26	5.27	1.054	1.96	8.71
36	48	2.24	5.24	.2249	1.73	8.77	1537	2.24	5.24	.2249	1.73	8.77	1537	2.24	5.24	.2249	1.73	8.77
48	60	2.24	5.23	1.1315	1.73	8.74	1495	2.24	5.23	1.1315	1.73	8.74	1495	2.24	5.23	1.1315	1.73	8.74
60	72	2.24	5.23	.0782	1.96	8.73	1033	2.24	5.23	.0782	1.96	8.73	1033	2.24	5.23	.0782	1.96	8.73
72	84	2.26	5.22	1.123	1.99	8.68	1032	2.26	5.22	1.123	1.99	8.68	1032	2.26	5.22	1.123	1.99	8.68

ALTIUDE (FT) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HP	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	4.96	6.50	-0.053	-2.87	9.70	564	4.96	6.50	-0.053	-2.87	9.70	564	4.96	6.50	-0.053	-2.87	9.70
12	24	4.96	6.54	.6842	2.75	9.73	1572	4.96	6.54	.6842	2.75	9.73	1572	4.96	6.54	.6842	2.75	9.73
24	36	4.96	6.58	1.4933	2.59	9.81	1512	4.97	6.71	1.4933	2.59	9.81	1512	4.97	6.71	1.4933	2.59	9.81
36	48	4.98	6.57	.2700	2.50	9.88	2107	4.97	6.24	.2700	2.50	9.88	2107	4.97	6.24	.2700	2.50	9.88
48	60	4.99	6.75	1.1751	2.53	9.87	1814	4.97	6.46	1.1751	2.53	9.87	1814	4.97	6.46	1.1751	2.53	9.87
60	72	4.99	6.81	1.287	2.47	9.89	1391	4.94	6.53	1.287	2.47	9.89	1391	4.94	6.53	1.287	2.47	9.89
72	84	4.97	6.82	1.1351	2.54	9.83	1192	4.91	6.53	1.1351	2.54	9.83	1192	4.91	6.53	1.1351	2.54	9.83

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - V. T. NEEBPG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN YP	S.D. YP
		7.48	8.05	.0041	-3.14	10.85	564						7.33	7.33	-3.39		
12		7.49	8.05	.6968	-2.99	10.88	.1810	7.42	5.61	-.1583	7.45	6.89	7.42	5.61	.0065	-3.47	6.89
24		7.54	8.03	.4563	-2.93	10.97	.1969	7.45	6.99	-.1884	7.45	6.99	7.45	6.99	.0159	-3.42	9.12
36		7.50	8.07	.2809	-2.83	11.01	.2023	7.50	7.82	-.1517	7.50	7.82	7.50	7.82	.0062	-3.39	9.83
48		7.62	8.22	.1976	-2.76	11.06	.1887	7.46	7.87	-.0647	7.46	7.87	7.46	7.87	-.0147	-3.38	10.20
60		7.78	8.30	.1727	-2.78	11.05	.1573	7.42	7.92	-.0297	7.42	7.92	7.42	7.92	-.0164	-3.36	10.44
72		8.00	8.35	.1686	-2.82	11.00	.1464	7.39	7.93	-.0201	7.39	7.93	7.39	7.93	-.0172	-3.36	10.54

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN YP	S.D. YP
		9.70	9.39	.0215	-3.18	11.80	564						9.45	9.45	-3.45		
12		9.75	9.45	.7203	-3.03	11.81	.1849	9.53	6.40	-.1050	9.53	7.72	9.53	6.40	-.0477	-3.55	7.72
24		9.79	9.47	.4873	-3.00	11.92	.2036	9.59	8.03	-.1343	9.59	10.08	9.59	8.03	-.0109	-3.47	10.08
36		9.77	9.45	.3208	-2.93	11.99	.1892	9.65	8.83	-.1176	9.65	10.83	9.65	8.83	.0058	-3.43	10.83
48		9.96	9.69	.2288	-2.91	12.03	.1729	9.61	9.13	-.0444	9.61	11.17	9.61	9.13	-.0043	-3.43	11.17
60		10.15	9.83	.1978	-2.95	12.05	.1520	9.57	9.21	-.0021	9.57	11.37	9.57	9.21	-.0071	-3.41	11.37
72		10.42	9.94	.1710	-3.00	12.02	.1679	9.50	9.25	.0021	9.50	11.41	9.50	9.25	-.0068	-3.45	11.41

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.69	10.59	.0738	-3.20	12.91	564											
12	11.74	10.68	.7297	-3.08	12.94		11.49	7.18	.0769	-3.55	8.75	-.0362	11.49	7.18	-.0362	-3.55	8.75
24	11.78	10.70	.4991	-3.04	12.99		11.55	9.09	.0754	-3.49	11.18	-.0839	11.55	9.09	-.0839	-3.49	11.18
36	11.79	10.72	.3328	-2.96	13.07		11.62	9.91	.0783	-3.44	12.04	-.0882	11.62	9.91	-.0882	-3.44	12.04
48	12.00	10.92	.2467	-2.96	13.10		11.57	10.25	.0837	-3.43	12.36	-.0288	11.57	10.25	-.0288	-3.43	12.36
60	12.23	11.08	.2037	-3.01	13.12		11.54	10.37	.0866	-3.42	12.53	-.0047	11.54	10.37	-.0047	-3.42	12.53
72	12.51	11.22	.1640	-3.09	13.09		11.52	10.45	.0851	-3.47	12.57	.0027	11.52	10.45	.0027	-3.47	12.57

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTIITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	13.87	12.12	.1126	-3.38	14.21	564											
12	13.95	12.22	.7330	-3.26	14.24		13.63	8.21	.1184	-3.69	10.01	.0220	13.63	8.21	-.0014	-3.69	10.01
24	13.97	12.23	.4900	-3.22	14.23		13.72	10.49	.1153	-3.63	12.64	-.0480	13.72	10.49	.0576	-3.63	12.64
36	13.98	12.26	.3334	-3.11	14.40		13.78	11.41	.1223	-3.59	13.41	-.0544	13.78	11.41	.0957	-3.59	13.41
48	14.18	12.48	.2365	-3.10	14.43		13.75	11.77	.1236	-3.58	13.73	-.0037	13.75	11.77	.0867	-3.58	13.73
60	14.41	12.62	.1950	-3.14	14.42		13.72	11.88	.1300	-3.58	13.86	.0209	13.72	11.88	.0891	-3.58	13.86
72	14.69	12.74	.1478	-3.19	14.40		13.72	11.99	.1325	-3.62	13.89	.0217	13.72	11.99	.0911	-3.62	13.89

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 1932.4 - VALDEPEZERO
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 50.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	16.33	13.71	.7373	-3.63	15.43	.1633	15.40	58+		15.96	9.19	-.0259	-4.08	11.11
24	16.34	13.55	.48+3	-3.55	15.43	.1719	15.40			15.02	11.88	.1335	-4.01	13.91
36	16.33	13.72	.3252	-3.44	15.56	.1783	15.40			16.10	12.96	-.0278	-3.95	14.74
48	16.51	14.01	.2285	-3.32	15.51	.1715	15.40			16.13	13.30	.1446	-3.93	15.04
60	16.7	14.11	.1769	-3.41	15.53	.1752	15.40			15.10	13.45	.1439	-3.95	15.10
72	17.11	14.22	.1299	-3.44	15.57	.1756	15.40			16.09	13.55	.1470	-3.98	15.13

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.91	-4.06

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	18.84	15.55	.1818	-4.15	16.52	.1652	16.52	56+		18.37	10.35	.1201	-4.65	11.99
24	18.94	15.40	.7457	-4.03	16.54	.1917	16.52			18.54	13.36	.1505	-4.51	15.05
36	18.91	15.44	.3207	-3.77	16.62	.2050	16.52			18.67	14.71	.1614	-4.42	15.97
48	19.02	15.60	.2355	-3.67	16.69	.2058	16.52			18.66	15.11	.1585	-4.38	16.22
60	19.32	16.63	.1710	-3.66	16.76	.2073	16.52			18.64	15.31	.1620	-4.38	16.20
72	19.62	15.75	.1156	-3.69	16.78	.2152	16.52			18.66	15.43	.1659	-4.40	16.29

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.27	-4.71

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	21.43	17.56	.2138	-4.34	17.44	564												20.57	-5.08
12	21.47	17.44	.7607	-4.28	17.46		-4.28	17.46	.7084	.7084		.7084	.2251	.1827	20.73	11.40	.1672	-4.94	12.31
24	21.49	17.34	.5344	-4.11	17.46		-4.11	17.46	.4267	.4267		.4267	.2337	.1291	20.92	14.84	.1883	-4.78	15.77
36	21.47	17.29	.3404	-3.98	17.51		-3.98	17.51	.2436	.2436		.2436	.2438	.1079	21.09	16.51	.1934	-4.63	16.90
48	21.56	17.32	.2423	-3.88	17.57		-3.88	17.57	.1944	.1944		.1944	.2477	.0877	21.13	17.01	.1931	-4.58	17.18
60	21.77	17.27	.1752	-3.87	17.68		-3.87	17.68	.1181	.1181		.1181	.2506	.0934	21.13	17.22	.1945	-4.55	17.28
72	22.09	17.39	.1105	-3.97	17.75		-3.97	17.75	.1132	.1132		.1132	.2511	.0999	21.19	17.39	.1986	-4.56	17.28

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	24.40	18.63	.2311	-4.08	17.10	564												23.33	-4.86
12	24.49	18.53	.7623	-4.01	17.13		-4.01	17.13	.7333	.7333		.7333	.2417	.2375	23.45	11.57	.1472	-4.69	11.63
24	24.52	18.39	.5683	-3.91	17.15		-3.91	17.15	.4501	.4501		.4501	.2457	.1973	23.67	15.29	.1997	-4.49	15.27
36	24.52	18.38	.3725	-3.75	17.24		-3.75	17.24	.2483	.2483		.2483	.2561	.1638	23.88	17.20	.2097	-4.36	15.36
48	24.59	18.31	.2546	-3.67	17.30		-3.67	17.30	.1946	.1946		.1946	.2585	.1446	23.99	17.95	.2119	-4.28	15.30
60	24.71	18.17	.1762	-3.63	17.42		-3.63	17.42	.1096	.1096		.1096	.2624	.1393	24.06	18.25	.2144	-4.25	15.28
72	25.02	18.17	.1152	-3.81	17.48		-3.81	17.48	.0999	.0999		.0999	.2582	.1196	24.14	18.43	.2176	-4.26	16.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (91214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN YP	S.D. YP
	36.28	17.26	.2387	-3.50	15.75	564							25.48	-4.52
12	26.45	17.24	.8136	-3.47	15.78		26.43	9.96	.1689	.7635	.2416	.2640	25.43	10.17
24	26.53	17.16	.6076	-3.37	15.79		25.57	13.67	.0924	.4847	.2512	.2119	25.57	13.77
36	26.64	17.21	.4177	-3.23	15.93		25.76	15.67	.0635	.2658	.2633	.1469	25.76	15.18
48	26.59	17.20	.2751	-3.20	16.01		25.89	16.57	.0650	.1508	.2676	.1274	25.89	15.57
60	26.80	17.08	.1990	-3.24	16.06		25.94	16.87	.0727	.1038	.2701	.1249	25.94	15.65
72	27.06	17.03	.1399	-3.28	16.10		26.00	17.06	.0675	.0900	.2731	.1001	26.00	15.67

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN YP	S.D. YP
	25.44	14.65	.2665	-2.88	13.26	564							24.44	-3.73
12	25.57	14.65	.8303	-2.81	13.29		24.43	9.04	.1988	.7952	.2778	.3244	24.43	8.04
24	25.70	14.70	.6554	-2.71	13.30		24.56	11.00	.1300	.5386	.2833	.2603	24.56	11.17
36	25.75	14.73	.4866	-2.60	13.46		24.76	12.77	.0860	.3245	.2955	.1953	24.76	12.55
48	25.82	14.77	.3468	-2.58	13.56		24.92	13.72	.1060	.1925	.2985	.1523	24.92	13.00
60	25.94	14.73	.2634	-2.56	13.58		25.03	14.12	.1048	.1302	.3015	.1072	25.03	13.12
72	26.10	14.70	.1926	-2.70	13.57		25.11	14.37	.1025	.1060	.3029	.0746	25.11	13.15

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	23.55	12.55	.2398	-2.51	11.53	564								22.73	-3.23	
12	23.67	12.60	.8341	-2.48	11.54		23.67	12.60	.8341	-2.48	11.54	22.73	6.88	.0410	-3.11	7.05
24	23.80	12.70	.6939	-2.45	11.59		23.80	12.70	.6939	-2.45	11.59	22.78	9.00	.1655	-2.96	9.55
36	23.03	12.72	.5387	-2.3	11.69		23.03	12.72	.5387	-2.3	11.69	22.93	10.56	.2048	-2.84	10.77
48	23.84	12.74	.4097	-2.35	11.74		23.84	12.74	.4097	-2.35	11.74	23.08	11.44	.2108	-2.74	11.24
60	23.86	12.70	.3188	-2.40	11.77		23.86	12.70	.3188	-2.40	11.77	23.18	11.89	.2147	-2.69	11.37
72	24.01	12.65	.2466	-2.46	11.82		24.01	12.65	.2466	-2.46	11.82	23.24	12.16	.2207	-2.68	11.42

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	20.49	10.09	.2340	-2.43	9.69	564								19.98	-3.09	
12	20.58	10.18	.8140	-2.37	9.69		20.58	10.18	.8140	-2.37	9.69	19.98	5.84	.0313	-3.01	5.82
24	20.68	10.25	.6852	-2.32	9.73		20.68	10.25	.6852	-2.32	9.73	19.99	7.33	.1352	-2.88	7.97
36	20.73	10.26	.5673	-2.25	9.79		20.73	10.26	.5673	-2.25	9.79	20.05	8.30	.1843	-2.76	8.97
48	20.77	10.31	.4634	-2.26	9.85		20.77	10.31	.4634	-2.26	9.85	20.15	8.94	.1934	-2.66	9.38
60	20.77	10.29	.3811	-2.29	9.89		20.77	10.29	.3811	-2.29	9.89	20.22	9.32	.2010	-2.62	9.49
72	20.85	10.29	.2922	-2.35	9.96		20.85	10.29	.2922	-2.35	9.96	20.25	9.64	.2062	-2.59	9.55

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	17.59	8.52	.2630	-2.22	8.40	564										
12	17.65	8.55	.7955	-2.18	8.39	.2592	17.36	5.16	.1025	-2.72	5.13	17.36	5.16	.1025	-2.72	5.13
24	17.74	8.61	.6925	-2.15	8.40	.2354	17.33	6.14	.1657	-2.62	6.84	17.33	6.14	.1657	-2.62	6.84
36	17.75	8.61	.5762	-2.11	8.45	.2076	17.39	6.96	.2031	-2.51	7.70	17.39	6.96	.2031	-2.51	7.70
48	17.78	8.66	.4786	-2.11	8.50	.2061	17.42	7.48	.2065	-2.44	8.01	17.42	7.48	.2065	-2.44	8.01
60	17.84	8.70	.4034	-2.12	8.54	.1920	17.44	7.78	.2160	-2.39	8.15	17.44	7.78	.2160	-2.39	8.15
72	17.91	8.74	.3328	-2.16	8.54	.1885	17.44	8.02	.2236	-2.37	8.21	17.44	8.02	.2236	-2.37	8.21

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	14.25	7.29	.2425	-2.26	6.81	564										
12	14.33	7.39	.7547	-2.23	6.81	.2525	14.27	4.78	.1330	-2.62	4.29	14.27	4.78	.1330	-2.62	4.29
24	14.37	7.48	.6891	-2.20	6.81	.2707	14.25	5.28	.1225	-2.56	5.32	14.25	5.28	.1225	-2.56	5.32
36	14.40	7.54	.5632	-2.18	6.87	.2467	14.26	6.01	.1714	-2.48	6.05	14.26	6.01	.1714	-2.48	6.05
48	14.41	7.58	.5048	-2.17	6.92	.2489	14.26	6.27	.1683	-2.42	6.36	14.26	6.27	.1683	-2.42	6.36
60	14.44	7.59	.4227	-2.17	6.95	.2558	14.26	6.58	.1953	-2.37	6.51	14.26	6.58	.1953	-2.37	6.51
72	14.46	7.59	.3913	-2.20	6.99	.2624	14.24	6.69	.1772	-2.34	6.56	14.24	6.69	.1772	-2.34	6.56

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	10.58	6.32	.2277	-2.23	5.49	564	10.67	6.44	.7181	-2.23	5.50	10.62	4.38	-.0645	-2.54	3.46
24	10.68	5.43		2.19	3.92		10.68	5.43		2.19	3.92	10.62	4.83	-.0012	-2.48	4.18
36	10.74	6.46		2.18	3.225		10.74	6.46		2.18	3.225	10.58	5.22	.0479	-2.45	4.55
48	10.71	6.47		2.19	3.252		10.71	6.47		2.19	3.252	10.62	5.43	.0947	-2.39	4.83
60	10.73	6.50		2.20	3.348		10.73	6.50		2.20	3.348	10.61	5.69	.1122	-2.34	4.98
72	10.78	6.54		2.24	3.866		10.78	6.54		2.24	3.866	10.58	5.82	.1340	-2.32	5.12

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	7.35	5.90	.2586	-2.25	4.45	564	7.41	5.90	.7753	-2.24	4.43	7.48	3.72	.0128	-2.51	2.96
24	7.40	5.88		2.19	3.588		7.40	5.88		2.19	3.588	7.47	4.23	-.0102	-2.49	3.29
36	7.41	5.91		2.18	3.583		7.41	5.91		2.18	3.583	7.45	4.61	.0381	-2.44	3.56
48	7.39	5.91		2.17	3.588		7.39	5.91		2.17	3.588	7.47	4.64	.0793	-2.40	3.76
60	7.41	5.95		2.16	3.919		7.41	5.95		2.16	3.919	7.43	5.14	.1007	-2.36	3.82
72	7.42	5.97		2.16	3.921		7.42	5.97		2.16	3.921	7.43	5.26	.1350	-2.34	4.04

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
12	4.62	6.05	.2503	-2.11	3.83	564	4.64	6.02	.8043	-2.11	3.83	5.01	3.59	.1049	-2.28	2.73
24	4.62	6.05	.2503	-2.11	3.83	564	4.62	5.98	.7750	-2.12	3.88	5.02	3.61	.0217	-2.20	2.99
36	4.67	6.02	.2590	-2.10	3.90	564	4.68	6.04	.7014	-2.08	3.93	4.95	4.30	.0505	-2.19	3.16
48	4.74	6.22	.3769	-2.10	3.96	564	4.74	6.22	.5497	-2.10	3.96	4.93	4.61	.0821	-2.18	3.29
60	4.74	6.23	.4923	-2.08	3.97	564	4.74	6.23	.4923	-2.08	3.97	4.82	5.06	.0841	-2.14	3.40
72	4.74	6.23	.4923	-2.08	3.97	564	4.74	6.23	.4923	-2.08	3.97	4.80	5.27	.1090	-2.14	3.45

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
12	2.46	6.28	.2192	-2.00	3.50	564	2.43	6.25	.7671	-1.99	3.49	2.96	4.03	.1091	-2.15	2.65
24	2.45	6.24	.2332	-1.98	3.48	564	2.45	6.24	.7578	-1.98	3.48	2.96	4.10	.0219	-2.10	2.73
36	2.45	6.25	.3031	-1.94	3.48	564	2.45	6.25	.6807	-1.94	3.48	2.91	4.52	.0368	-2.09	2.93
48	2.53	6.51	.3836	-1.91	3.46	564	2.45	6.25	.6807	-1.91	3.46	2.93	4.59	.0602	-2.09	2.98
60	2.53	6.51	.3836	-1.91	3.46	564	2.53	6.51	.5932	-1.91	3.46	2.78	5.06	.1167	-2.06	3.15
72	2.52	6.53	.3554	-1.88	3.48	564	2.52	6.53	.5386	-1.88	3.48	2.78	5.29	.0953	-2.05	3.18

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANSENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE .. 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	1.13	6.72	.1556	-2.29	3.32	564										
12	1.12	6.70	.8436	-2.26	3.32	.1815	1.77	3.60	-.0381	-2.37	2.60	1.77	3.60	-.0381	-2.37	2.60
24	1.16	6.68	.8134	-2.24	3.32	.2274	1.74	3.91	-.0529	-2.35	2.77	1.74	3.91	-.0529	-2.35	2.77
36	1.12	6.64	.7812	-2.20	3.29	.4935	1.76	4.19	-.0274	-2.35	2.65	1.76	4.19	-.0274	-2.35	2.65
48	1.12	6.62	.7449	-2.16	3.27	.2616	1.74	4.48	-.0495	-2.33	2.94	1.74	4.48	-.0495	-2.33	2.94
60	1.14	6.64	.7127	-2.12	3.27	.2452	1.70	4.71	-.0133	-2.34	3.02	1.70	4.71	-.0133	-2.34	3.02
72	1.12	6.64	.6524	-2.09	3.29	.2500	1.71	5.07	.0188	-2.32	3.05	1.71	5.07	.0188	-2.32	3.05

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	.34	7.08	.1576	-2.11	3.29	564										
12	.32	7.07	.8364	-2.11	3.28	.1781	1.19	3.88	.0200	-2.12	2.53	1.19	3.88	.0200	-2.12	2.53
24	.34	7.05	.8022	-2.09	3.28	.2187	1.16	4.20	.0422	-2.11	2.65	1.16	4.20	.0422	-2.11	2.65
36	.35	7.05	.7899	-2.08	3.27	.1559	1.15	4.32	.0795	-2.13	2.78	1.15	4.32	.0795	-2.13	2.78
48	.35	7.06	.7515	-2.05	3.25	.1927	1.11	4.67	.0577	-2.11	2.97	1.11	4.67	.0577	-2.11	2.97
60	.42	7.10	.7088	-1.99	3.24	.2190	1.03	4.97	.0431	-2.12	2.99	1.03	4.97	.0431	-2.12	2.99
72	.40	7.11	.6942	-1.95	3.25	.1922	1.05	5.05	.0748	-2.12	3.09	1.05	5.05	.0748	-2.12	3.09

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N
		.07	7.71	.1225	-1.37	3.50				564
12		.04	7.67	.8590	-1.96	3.46	.1149	.6690	.1362	.0922
24		.05	8.355	3.45	-1.94	3.45	.1024	.5767	.1543	.0279
36		.06	7.59	.8238	-1.93	3.44	.1028	.4772	.1503	.0399
48		.09	7.60	.7772	-1.92	3.45	.1038	.3723	.1461	.0204
60		.15	7.67	.7447	-1.86	3.44	.1021	.3295	.1522	.0198
72		.20	7.71	.7092	-1.62	3.43	.1030	.2747	.1599	.0325

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	S.D. XP	R (XP,YP)	MEAN XP	S.D. YP
1.30	-1.96				
3.95	.0258	1.16		1.16	2.59
4.20	.0402	1.13		1.13	2.83
4.35	.0385	1.11		1.11	3.05
4.63	.0531	1.04		1.04	3.27
5.13	.0432	.95		.95	3.27
5.42	.0293	.87		.87	3.33

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N
		-.13	8.56	.1193	-1.90	3.57				564
12		-.10	8.51	.8944	-1.89	3.55	.1066	.6596	.1226	.1119
24		-.09	8.49	.8701	-1.87	3.50	.0960	.5643	.1500	.0429
36		-.06	8.43	.8515	-1.85	3.48	.0967	.5117	.1565	.0373
48		-.06	8.47	.8147	-1.86	3.47	.0952	.3895	.1365	.0318
60		.01	8.53	.7813	-1.81	3.47	.0907	.3244	.1485	.0265
72		.04	8.59	.7501	-1.75	3.47	.0951	.2533	.1507	.0382

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	S.D. XP	R (XP,YP)	MEAN XP	S.D. YP
1.40	-1.88				
3.82	-.0304	1.22		1.22	2.68
4.20	-.0057	1.17		1.17	2.93
4.47	-.0009	1.14		1.14	3.04
4.95	.0311	1.08		1.08	3.27
5.33	.0138	.97		.97	3.35
5.65	.0082	.90		.90	3.42

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1921M) - VASSENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.40	9.64	.9052	-1.79	3.98	.6654	-1.80	4.02	564	2.01	4.10	.1422	-1.77	2.99
24	.42	9.64	.8819	-1.81	3.92	.5669				1.96	4.55	.0957	-1.72	3.28
36	.41	9.62	.8619	-1.79	3.89	.4981				1.93	4.90	.0200	-1.73	3.46
48	.36	9.60	.8247	-1.76	3.86	.3945				1.92	5.46	.0757	-1.75	3.68
60	.44	9.68	.8003	-1.72	3.84	.2497				1.81	5.78	.0779	-1.76	3.75
72	.44	9.74	.7740	-1.64	3.83	.2666				1.75	6.11	.0764	-1.77	3.65

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.18	-1.81

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.58	11.30	.9112	-1.69	4.33	.6851	-1.69	4.38	564	3.32	4.65	.1433	-1.65	3.18
24	1.57	11.28	.8920	-1.69	4.30	.5802				3.30	5.10	.1061	-1.63	3.55
36	1.56	11.31	.8639	-1.66	4.27	.4819				3.25	5.68	.0605	-1.64	3.82
48	1.52	11.32	.8257	-1.60	4.25	.3810				3.22	6.36	.0714	-1.65	4.03
60	1.58	11.43	.8020	-1.57	4.24	.2569				3.11	6.74	.1004	-1.67	4.08
72	1.58	11.49	.7821	-1.53	4.25	.2874				3.05	7.04	.0902	-1.68	4.18

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.49	-1.70

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANENBERG

X = VIAT T)
Y = VIAT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
2	1/65 - 12/74	0	90.0	.69	3.05	-.5499	-.78	3.49	564
2	1/65 - 12/74	1	90.0	.23	4.28	-.1941	-1.60	7.38	564
2	1/65 - 12/74	2	90.0	2.24	5.25	-.1149	-2.02	8.58	564
2	1/65 - 12/74	3	90.0	4.96	6.60	-.0159	-2.87	9.70	564
2	1/65 - 12/74	4	90.0	7.48	8.05	.0041	-3.14	10.65	564
2	1/65 - 12/74	5	90.0	9.77	9.39	.0215	-3.18	11.60	564
2	1/65 - 12/74	6	90.0	11.69	10.59	.0738	-3.20	12.91	564
2	1/65 - 12/74	7	90.0	13.87	12.12	.1176	-3.38	14.21	564
2	1/65 - 12/74	8	90.0	16.25	13.6	.1176	-3.75	15.40	564
2	1/65 - 12/74	9	90.0	18.84	15.35	.1818	-4.15	16.52	564
2	1/65 - 12/74	10	90.0	21.43	17.55	.2138	-4.34	17.44	564
2	1/65 - 12/74	11	90.0	24.40	18.83	.2311	-4.08	17.10	564
2	1/65 - 12/74	12	90.0	26.28	17.26	.2387	-3.50	15.75	564
2	1/65 - 12/74	13	90.0	25.44	14.65	.2665	-2.88	13.26	564
2	1/65 - 12/74	14	90.0	23.55	12.55	.2398	-2.51	11.53	564
2	1/65 - 12/74	15	90.0	22.49	10.09	.2340	-2.43	9.69	564
2	1/65 - 12/74	16	90.0	17.59	8.52	.2630	-2.22	8.40	564
2	1/65 - 12/74	17	90.0	14.25	7.29	.2425	-2.26	6.81	564
2	1/65 - 12/74	18	90.0	10.53	6.32	.2277	-2.23	5.49	564
2	1/65 - 12/74	19	90.0	7.35	5.90	.2586	-2.25	4.45	564
2	1/65 - 12/74	20	90.0	4.62	6.05	.2503	-2.11	3.83	564
2	1/65 - 12/74	21	90.0	2.45	6.28	.2192	-2.00	3.50	564
2	1/65 - 12/74	22	90.0	1.13	6.72	.1555	-2.29	3.32	564
2	1/65 - 12/74	23	90.0	.34	7.03	.1576	-2.11	3.29	564
2	1/65 - 12/74	24	90.0	.07	7.71	.1225	-1.97	3.50	564
2	1/65 - 12/74	25	90.0	-.13	8.56	.1103	-1.90	3.57	564
2	1/65 - 12/74	26	90.0	.40	9.66	.1468	-1.80	4.02	564
2	1/65 - 12/74	27	90.0	1.58	11.30	.1503	-1.69	4.38	564

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	1.83	2.78	-.5703	-1.84	3.48	620															
12	1.83	2.77	-.2722	-1.85	3.47		1.85	2.72	-.2722	-1.85	3.47	.3540	-.5742	-.0154	-.0763	1.84	2.55	-.5455	-1.85	3.16	
24	1.80	2.79	-.5054	-1.83	3.45		1.85	2.59	-.5053	-1.86	3.16	.4123	-.5840	-.3079	-.3529	1.85	2.39	-.5053	-1.86	3.16	
36	1.82	2.81	-.4000	-1.83	3.40		1.83	2.82	-.4000	-1.84	3.40	.0460	-.5770	.1637	.1201	1.83	2.32	-.5468	-1.84	3.38	
48	1.82	2.81	-.4049	-1.82	3.40		1.84	2.81	-.4049	-1.82	3.40	.1628	-.5812	-.1392	-.1856	1.84	2.53	-.5786	-1.84	3.43	
60	1.81	2.82	-.4001	-1.81	3.39		1.83	2.82	-.4001	-1.83	3.39	-.0300	-.5753	.1958	.1588	1.83	2.53	-.5429	-1.84	3.40	
72	1.80	2.81	-.4060	-1.81	3.38		1.85	2.81	-.4060	-1.85	3.38	.1468	-.5746	-.1673	-.1687	1.85	2.53	-.5662	-1.85	3.43	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	1.13	4.00	-.0862	-3.35	6.35	620															
12	1.11	4.00	-.5061	-3.39	6.29		1.11	3.99	-.5061	-3.39	6.29	.6797	-.0939	.1185	-.2478	.97	3.35	-.0117	-3.55	4.51	
24	1.05	4.01	-.2950	-3.37	6.21		1.07	3.73	-.0571	-3.52	5.68	.3943	-.1181	.1646	-.2424	1.07	3.73	-.0571	-3.52	5.68	
36	1.11	4.00	-.1856	-3.41	6.11		1.09	3.87	-.0960	-3.48	6.16	.1526	-.1241	.1726	-.1863	1.09	3.94	-.0960	-3.48	6.16	
48	1.10	4.00	-.1369	-3.39	6.11		1.09	3.97	-.1021	-3.43	6.26	.0640	-.1222	.1530	-.1143	1.09	3.97	-.1021	-3.43	6.26	
60	1.09	3.97	-.1175	-3.38	6.10		1.09	3.97	-.1021	-3.43	6.30	.0067	-.1268	.1312	-.0686	1.09	3.97	-.1021	-3.43	6.30	
72	1.02	3.97	-.0964	-3.41	6.09		1.10	3.98	-.0952	-3.40	6.32	.0303	-.1304	.0918	-.0315	1.10	3.98	-.0952	-3.40	6.32	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

C-2

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/85 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	3.15	4.96	.6284	-3.30	7.42	.7245	-3.30	5.00	-.0330	-3.30	7.48	620	3.00	3.77	.1084	-3.45	5.09
36	48	3.07	4.92	.4397	-3.26	7.31	.4031	4.031						3.11	4.35	.0113	-3.42	6.78
60	72	3.05	4.86	.2032	-3.25	7.19	.1752	1.752						3.16	4.75	-.0303	-3.38	7.31
		3.05	4.84	.1095	-3.25	7.20	.0816	0.816						3.16	4.87	-.0480	-3.36	7.42
		2.99	4.82	.0967	-3.28	7.19	.0574	0.574						3.19	4.98	-.0430	-3.35	7.41

ALTIITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	6.02	6.63	.7238	-3.52	8.48	.7240	-3.51	6.64	-.0176	-3.51	8.53	620	5.90	4.50	.0664	-3.51	5.85
36	48	5.95	6.66	.5200	-3.48	8.41	.4389	4.389						5.99	5.54	.0312	-3.53	7.63
60	72	5.95	6.68	.3502	-3.46	8.34	.2292	2.292						6.02	6.15	-.0199	-3.53	8.27
		5.95	6.60	.2731	-3.51	8.35	.1284	1.284						6.03	6.36	-.0305	-3.53	8.42
		5.95	6.55	.1915	-3.54	8.41	.1219	1.219						6.04	6.51	-.0278	-3.52	8.44
		5.89	6.56	.1508	-3.59	8.44	.1452	1.452						6.06	6.56	-.0221	-3.50	8.42

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	S.D. XP	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
	8.62	8.39	.0439	-3.52	9.74	620						8.30	8.30						
12	8.53	8.39	.7443	-3.55	9.73		8.41	8.73	.0379	8.41	8.71	8.41	5.49	.1284	8.41	8.41	8.41	-3.37	6.71
24	8.47	8.40	.5185	-3.50	9.65		8.50	9.65	.0424	8.50	8.78	8.50	7.01	.0803	8.50	8.50	8.50	-3.46	8.78
36	8.45	8.41	.3726	-3.49	9.61		8.54	9.61	.0350	8.54	9.48	8.54	7.70	.0497	8.54	8.54	8.54	-3.49	9.48
48	8.48	8.35	.2825	-3.54	9.57		8.55	9.57	.0163	8.55	9.65	8.55	8.01	.0389	8.55	8.55	8.55	-3.50	9.65
60	8.48	8.30	.2117	-3.59	9.74		8.56	9.74	.0005	8.56	9.65	8.56	8.19	.0358	8.56	8.56	8.56	-3.50	9.65
72	8.40	8.27	.1705	-3.65	9.87		8.59	9.87	-.0119	8.59	9.62	8.59	8.26	.0428	8.59	8.59	8.59	-3.47	9.62

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	S.D. XP	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
	11.05	10.20	.0475	-3.60	11.04	620						10.73	10.73						
12	10.98	10.16	.7380	-3.66	11.07		10.84	11.07	.0457	10.84	10.83	10.84	6.80	.1015	10.84	10.84	10.84	-3.40	7.83
24	10.95	10.16	.4845	-3.59	11.00		10.92	11.00	.0475	10.92	10.08	10.92	8.80	.0801	10.92	10.92	10.92	-3.52	10.08
36	10.90	10.17	.3393	-3.55	10.96		10.98	10.96	.0382	10.98	10.74	10.98	9.53	.0326	10.98	10.98	10.98	-3.56	10.74
48	10.92	10.06	.2504	-3.57	11.153		10.99	11.153	.0800	10.99	10.93	10.99	9.85	.0650	10.99	10.99	10.99	-3.59	10.93
60	10.93	9.97	.2114	-3.58	11.10		11.03	11.10	.0221	11.03	10.97	11.03	9.96	.0446	11.03	11.03	11.03	-3.58	10.97
72	10.83	9.88	.1635	-3.63	11.24		11.03	11.24	.0121	11.03	10.93	11.03	10.06	.0466	11.03	11.03	11.03	-3.56	10.93

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GLABORATORY AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 12220 - WANDENBERG
 MONTH OF RECORD - MARCH
 PER DO OF RECORDS - 1/55 - 12/74
 ALPHA ANGLE 30.0

ALTITUDE (M) - 8

GLABORATORY NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	P (1,1)	MEAN Y	S.D. Y	P (1,1)	MEAN XP	S.D. XP	P (1,1)	MEAN YP	S.D. YP	P (1,1)	MEAN X	S.D. X	P (1,1)	MEAN Y	S.D. Y	P (1,1)	MEAN XP	S.D. XP	P (1,1)	MEAN YP	S.D. YP	P (1,1)
DT	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
HP	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
12	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
24	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
36	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
48	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
60	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		
72	12.13	11.89	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	-3.81	12.21	.0004	12.78	12.78	.0004	-3.58			12.78	12.78	.0004	-3.58		

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

	MEAN XP	S.D. XP	P (XP,XP)	MEAN YP	S.D. YP	P (YP,YP)	GIVEN X	GIVEN Y
DT	12.31	7.97	.1447	-3.94	9.30	.1447		
HP	12.31	7.97	.1447	-3.94	9.30	.1447		
12	12.31	7.97	.1447	-3.94	9.30	.1447		
24	12.31	7.97	.1447	-3.94	9.30	.1447		
36	12.31	7.97	.1447	-3.94	9.30	.1447		
48	12.31	7.97	.1447	-3.94	9.30	.1447		
60	12.31	7.97	.1447	-3.94	9.30	.1447		
72	12.31	7.97	.1447	-3.94	9.30	.1447		

ALTITUDE (M) - 7

GLABORATORY NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	P (1,1)	MEAN Y	S.D. Y	P (1,1)	MEAN XP	S.D. XP	P (1,1)	MEAN YP	S.D. YP	P (1,1)	MEAN X	S.D. X	P (1,1)	MEAN Y	S.D. Y	P (1,1)	MEAN XP	S.D. XP	P (1,1)	MEAN YP	S.D. YP	P (1,1)
DT	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
HP	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
12	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
24	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
36	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
48	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
60	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		
72	12.21	13.28	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	-4.11	13.73	.0002	14.87	14.87	.0002	-3.80			14.87	14.87	.0002	-3.80		

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

	MEAN XP	S.D. XP	P (XP,XP)	MEAN YP	S.D. YP	P (YP,YP)	GIVEN X	GIVEN Y
DT	12.33	8.71	.1913	-3.80	12.31	.1913		
HP	12.33	8.71	.1913	-3.80	12.31	.1913		
12	12.33	8.71	.1913	-3.80	12.31	.1913		
24	12.33	8.71	.1913	-3.80	12.31	.1913		
36	12.33	8.71	.1913	-3.80	12.31	.1913		
48	12.33	8.71	.1913	-3.80	12.31	.1913		
60	12.33	8.71	.1913	-3.80	12.31	.1913		
72	12.33	8.71	.1913	-3.80	12.31	.1913		

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, X)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	
	17.17	14.48	.1792	-4.39	15.17	620						16.86			-4.02							
12	17.12	14.49	.7559	-4.38	15.21		-4.38	15.21	.0998	.6418	.1792		9.45	.2713	16.95	16.95	16.95	9.45	.2713	-4.16	11.63	
24	17.10	14.55	.5147	-4.32	15.20		-4.32	15.20	.0199	.3374	.1795		12.29	.2635	17.00	17.00	17.00	12.29	.2635	-4.28	14.27	
36	17.19	14.48	.3645	-4.27	15.13		-4.27	15.13	.0098	.1541	.1803		13.39	.2113	17.01	17.01	17.01	13.39	.2113	-4.35	14.98	
48	17.25	14.26	.2776	-4.30	15.21		-4.30	15.21	.0453	.0453	.1761		13.84	.1880	17.02	17.02	17.02	13.84	.1880	-4.38	15.15	
60	17.25	14.13	.2313	-4.26	15.33		-4.26	15.33	.0293	.0412	.1695		14.04	.1810	17.05	17.05	17.05	14.04	.1810	-4.39	15.15	
72	17.18	13.99	.1771	-4.30	15.43		-4.30	15.43	.0171	.0726	.1526		14.24	.1831	17.09	17.09	17.09	14.24	.1831	-4.38	15.13	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, X)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	
	19.07	15.33	.2137	-4.65	16.56	620						18.73			-4.18							
12	19.08	15.46	.7611	-4.64	16.61		-4.64	16.61	.1091	.6524	.2136		9.91	.3356	18.78	18.78	18.78	9.91	.3356	-4.34	12.54	
24	19.08	15.53	.5239	-4.60	16.59		-4.60	16.59	.0228	.3304	.2135		12.94	.3025	18.84	18.84	18.84	12.94	.3025	-4.49	15.61	
36	19.18	15.48	.3744	-4.55	16.54		-4.55	16.54	-.0055	.1197	.2155		14.12	.2513	18.86	18.86	18.86	14.12	.2513	-4.59	16.43	
48	19.30	15.32	.2960	-4.60	16.63		-4.60	16.63	.0000	.0184	.2032		14.57	.2267	18.86	18.86	18.86	14.57	.2267	-4.64	16.56	
60	19.27	15.19	.2315	-4.55	16.67		-4.55	16.67	.0090	.0176	.1989		14.87	.2195	18.91	18.91	18.91	14.87	.2195	-4.65	16.56	
72	19.21	15.04	.1868	-4.59	16.68		-4.59	16.68	-.0042	.0410	.1818		15.05	.2207	18.96	18.96	18.96	15.05	.2207	-4.63	16.55	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VAIGENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN XP	S.D. XP	R (XP, Y)	R (YP, X)	MEAN YP	S.D. YP
	21.43	15.64	.2275	-4.66	17.35							
12	21.48	15.81	.7704	-4.66	17.45	.2253	21.10	9.97	.1096	.1581	21.10	13.00
24	21.51	15.87	.5539	-4.66	17.45	.2221	21.14	12.96	.0165	.0444	21.14	16.34
36	21.63	15.84	.4042	-4.65	17.47	.2124	21.15	14.25	-.0240	.0093	21.15	17.20
48	21.73	15.73	.3205	-4.63	17.50	.1951	21.17	14.77	-.0308	-.0097	21.17	17.34
60	21.75	15.64	.2456	-4.64	17.52	.1876	21.22	15.13	-.0157	-.0149	21.22	17.35
72	21.69	15.44	.2003	-4.60	17.46	.1768	21.28	15.31	-.0323	-.0096	21.28	17.52

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
21.06	-4.14

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN XP	S.D. XP	R (XP, Y)	R (YP, X)	MEAN YP	S.D. YP
	23.72	15.07	.2201	-4.44	16.60							
12	23.75	15.24	.7955	-4.46	16.69	.2153	23.55	9.12	.0957	.2037	23.55	11.82
24	23.75	15.32	.5575	-4.45	16.71	.2114	23.57	12.19	-.0057	.1071	23.57	15.26
36	23.82	15.25	.4421	-4.49	16.70	.1982	23.56	13.49	-.0596	.0356	23.56	16.26
48	23.89	15.21	.3453	-4.52	16.70	.1849	23.56	14.11	-.0548	.0333	23.56	16.55
60	23.92	15.17	.2795	-4.45	16.67	.1696	23.59	14.45	-.0423	.0397	23.59	16.58
72	23.83	15.03	.2301	-4.42	16.65	.1628	23.63	14.66	-.0372	.0113	23.63	16.57

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
23.52	-3.96

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	25.02	13.84	.1946	-3.56	15.06	620											
12	25.03	13.95	.8152	-3.56	15.13		25.08	7.98	.2591	-3.35	9.83	.2114	25.08	7.98	.2591	-3.35	9.83
24	25.02	14.02	.6195	-3.62	15.18		25.07	10.86	.2931	-3.42	13.52	.1411	25.07	10.86	.2931	-3.42	13.52
36	25.02	13.89	.4737	-3.65	15.10		25.05	12.19	.2792	-3.50	14.72	.0692	25.05	12.19	.2792	-3.50	14.72
48	25.08	13.69	.3706	-3.67	15.09		25.02	12.86	.2501	-3.55	14.97	.0468	25.02	12.86	.2501	-3.55	14.97
60	25.12	13.87	.3069	-3.63	15.10		25.01	13.18	.2301	-3.56	15.01	.0387	25.01	13.18	.2301	-3.56	15.01
72	25.06	13.81	.2592	-3.62	15.08		25.04	13.37	.2203	-3.56	15.02	.0505	25.04	13.37	.2203	-3.56	15.02

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	24.75	11.79	.1699	-2.74	12.93	620											
12	24.76	11.91	.8350	-2.74	12.98		24.98	6.43	.1767	-2.60	8.11	.2020	24.98	6.43	.1767	-2.60	8.11
24	24.72	11.87	.6731	-2.77	12.99		24.96	8.69	.2616	-2.67	11.41	.1557	24.96	8.69	.2616	-2.67	11.41
36	24.71	11.77	.5161	-2.76	12.89		24.92	10.09	.2453	-2.73	12.60	.0957	24.92	10.09	.2453	-2.73	12.60
48	24.75	11.71	.4131	-2.78	12.83		24.86	10.74	.2230	-2.76	12.87	.0535	24.86	10.74	.2230	-2.76	12.87
60	24.75	11.68	.3481	-2.77	12.85		24.85	11.05	.2033	-2.76	12.90	.0504	24.85	11.05	.2033	-2.76	12.90
72	24.74	11.64	.2952	-2.79	12.90		24.84	11.25	.1944	-2.76	12.91	.0463	24.84	11.25	.1944	-2.76	12.91

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VAJZENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	23.32	10.34	.2158	-1.9'	10.95	620	-1.88	10.98	.7726	.2087	.1250	23.73	5.95	.1517	-1.72	5.34
24							-1.83	10.53	.4852	.2015	.0345	23.74	7.88	.2534	-1.81	9.55
36							-1.83	10.83	.2401	.1266	-.0143	23.57	8.79	.2596	-1.88	12.51
48							-1.52	10.85	.0879	.1707	-.0483	23.53	9.33	.2634	-1.92	10.88
60							-1.83	10.85	.0415	.1518	-.0734	23.54	9.70	.2577	-1.95	10.90
72							-1.91	10.87	.0425	.1289	-.0575	23.52	9.89	.2470	-1.95	10.91

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 15

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	20.81	8.63	.1833	-1.51	8.92	620	-1.55	8.98	.7752	.1532	.1135	21.31	5.13	.1007	-1.33	5.83
24							-1.56	8.98	.5095	.1153	.0416	21.27	6.33	.2072	-1.41	7.57
36							-1.56	8.98	.2753	.1321	-.0285	21.20	7.17	.2194	-1.47	8.56
48							-1.54	8.95	.1377	.1131	-.0576	21.12	7.74	.2215	-1.53	8.82
60							-1.51	8.95	.0573	.0947	-.0579	21.05	8.05	.2053	-1.54	8.93
72							-1.49	8.93	.0625	.0708	-.0569	21.03	8.20	.2034	-1.55	8.86

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
12	18.03	7.83	.1355	-1.18	7.52	620	18.03	7.83	.1355	-1.18	7.52	18.85	7.83	.1355	-1.18	7.52
12	18.04	7.88	.7864	-1.20	7.58		18.04	7.88	.7864	-1.20	7.58	18.66	7.88	.0669	-1.13	4.96
24	18.02	7.93	.5922	-1.20	7.61		18.02	7.93	.5922	-1.20	7.61	18.60	7.93	.1362	-1.15	6.47
36	18.06	7.92	.5830	-1.19	7.53		18.06	7.92	.5830	-1.19	7.53	18.49	7.92	.1821	-1.19	7.21
48	18.05	7.87	.4834	-1.18	7.59		18.05	7.87	.4834	-1.18	7.59	18.41	7.87	.1907	-1.22	7.45
60	18.06	7.85	.4172	-1.17	7.58		18.06	7.85	.4172	-1.17	7.58	18.35	7.85	.1788	-1.22	7.50
72	18.01	7.81	.3628	-1.16	7.67		18.01	7.81	.3628	-1.16	7.67	18.33	7.81	.1767	-1.24	7.49

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

90

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
12	15.26	7.30	.0862	-1.36	6.58	620	15.26	7.30	.0862	-1.36	6.58	15.15	7.30	.0862	-1.40	6.58
12	15.26	7.39	.7667	-1.38	6.61		15.26	7.39	.7667	-1.38	6.61	15.94	7.39	.0309	-1.34	4.45
24	15.20	7.27	.6619	-1.36	6.61		15.20	7.27	.6619	-1.36	6.61	15.89	7.27	.1014	-1.36	5.69
36	15.23	7.24	.5913	-1.35	6.60		15.23	7.24	.5913	-1.35	6.60	15.83	7.24	.1454	-1.41	6.30
48	15.24	7.23	.5212	-1.33	6.59		15.24	7.23	.5212	-1.33	6.59	15.74	7.23	.1636	-1.45	6.48
60	15.27	7.24	.4686	-1.32	6.60		15.27	7.24	.4686	-1.32	6.60	15.68	7.24	.1493	-1.44	6.54
72	15.22	7.19	.4254	-1.31	6.63		15.22	7.19	.4254	-1.31	6.63	15.66	7.19	.1462	-1.46	6.54

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	MEAN YP	S.D. YP
12	11.78	6.40	.0414	-1.20	5.01									
24	11.75	6.35	.7496	7.250	5.01	.0726	12.50	4.23	.0987	12.50	4.23	.0133	-1.30	3.45
36	11.74	6.36	.6513	5.519	5.00	.0437	12.44	4.77	-.0568	12.44	4.77	.0925	-1.28	4.15
48	11.70	6.31	.6021	4.201	4.99	.0274	12.41	5.07	-.0880	12.41	5.07	.0962	-1.27	4.70
60	11.75	6.28	.5558	2.202	4.97	-.0220	12.35	5.27	-.0275	12.35	5.27	.0973	-1.27	4.89
72	11.74	6.25	.4958	1.372	4.97	-.0229	12.30	5.51	-.0296	12.30	5.51	.0974	-1.27	4.55
84	11.71	6.23	.4615	.0897	4.98	-.0240	12.27	5.56	-.0709	12.27	5.56	.0814	-1.25	4.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.70	-1.37

ALTITUDE (M) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	MEAN YP	S.D. YP
12	8.55	6.09	.0253	-1.26	4.18									
24	8.54	6.07	.7823	6.957	4.19	.0329	9.30	2.80	-.0186	9.30	2.80	.0378	-1.28	3.00
36	8.53	6.06	.7291	5.705	4.20	.0223	9.27	4.07	-.0743	9.27	4.07	.0482	-1.25	3.53
48	8.51	6.03	.6775	4.240	4.19	.0229	9.24	4.45	-.0522	9.24	4.45	.0544	-1.27	3.79
60	8.62	6.04	.6415	3.570	4.17	.0150	9.20	4.65	-.0277	9.20	4.65	.0545	-1.27	3.29
72	8.60	6.03	.5943	2.270	4.21	.0136	9.18	4.87	-.0337	9.18	4.87	.0541	-1.28	3.07
84	8.58	6.00	.5522	1.532	4.22	-.0216	9.16	5.04	-.0830	9.16	5.04	.0893	-1.31	3.13

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.45	-1.32

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (82214) - JANUERS
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (MM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	MEAN YP	S.D. YP	R (X,Y)	R (XP,Y)	R (Y,YP)	R (XP,YP)	N
12	24	5.44	6.24	-1.28	3.83	6.23	6.23	7.27	6.23	-0.061	-0.061	-0.061	-0.061	623
12	24	6.45	7.53	-1.37	3.81	6.23	6.23	7.27	6.23	-0.119	-0.119	-0.119	-0.119	623
24	48	6.45	7.53	-1.37	3.77	6.23	6.23	7.27	6.23	-0.125	-0.125	-0.125	-0.125	623
36	72	6.45	7.53	-1.37	3.73	6.23	6.23	7.27	6.23	-0.132	-0.132	-0.132	-0.132	623
48	96	6.45	7.53	-1.37	3.70	6.23	6.23	7.27	6.23	-0.140	-0.140	-0.140	-0.140	623
60	120	6.45	7.53	-1.37	3.67	6.23	6.23	7.27	6.23	-0.148	-0.148	-0.148	-0.148	623
72	144	6.45	7.53	-1.37	3.65	6.23	6.23	7.27	6.23	-0.156	-0.156	-0.156	-0.156	623

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.27	-1.50	7.08	4.23	-0.012	-1.42	2.97
		7.05	4.22	-0.028	-1.42	3.16
		7.05	4.27	-0.027	-1.41	3.44
		7.03	4.74	-0.013	-1.40	3.55
		7.07	4.87	-0.033	-1.41	3.65
		7.05	5.00	-0.055	-1.42	3.69

ALTITUDE (MM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	MEAN YP	S.D. YP	R (X,Y)	R (XP,Y)	R (Y,YP)	R (XP,YP)	N
12	24	4.60	6.72	-1.27	3.43	4.60	6.72	-1.27	3.43	-0.038	-0.038	-0.038	-0.038	620
12	24	4.67	6.68	-1.29	3.43	4.60	6.72	-1.27	3.43	-0.053	-0.053	-0.053	-0.053	620
24	48	4.67	6.68	-1.29	3.40	4.60	6.72	-1.27	3.40	-0.053	-0.053	-0.053	-0.053	620
36	72	4.67	6.68	-1.29	3.39	4.60	6.72	-1.27	3.39	-0.053	-0.053	-0.053	-0.053	620
48	96	4.67	6.68	-1.29	3.37	4.60	6.72	-1.27	3.37	-0.053	-0.053	-0.053	-0.053	620
60	120	4.67	6.68	-1.29	3.35	4.60	6.72	-1.27	3.35	-0.053	-0.053	-0.053	-0.053	620
72	144	4.67	6.68	-1.29	3.33	4.60	6.72	-1.27	3.33	-0.053	-0.053	-0.053	-0.053	620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.58	-1.45	5.32	4.23	-0.007	-1.35	2.80
		5.29	4.55	-0.038	-1.35	2.87
		5.19	4.92	-0.077	-1.33	3.22
		5.19	5.19	-0.059	-1.32	3.34
		5.29	5.05	-0.053	-1.32	3.37
		5.25	5.16	-0.042	-1.32	3.39

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 192214 - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (MP) - 22

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MP	MEAN X	S.D. Y	P (X, Y)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	P (Y, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (YP, Y)	R (YP, X)	MEAN YP	S.D. YP	P (YP, X)	MEAN YP	S.D. YP	P (YP, X)	
12	24	3.12	7.07	-0.003	-1.07	3.09	620																	
12	24	3.17	7.02		-1.28	3.07		5721			4.09	3.58		4.07	3.58		0.001	4.09	3.58		4.07	3.58		0.001
24	36	3.18	6.93		-1.28	3.09		4718			4.07	3.58		4.07	3.58		-0.071	4.07	3.58		4.07	3.58		-0.071
36	48	3.20	6.93		-1.07	3.11		2324			4.07	3.58		4.07	3.58		-0.071	4.07	3.58		4.07	3.58		-0.071
48	60	3.21	6.93		-1.05	3.12		2321			4.07	3.58		4.07	3.58		-0.071	4.07	3.58		4.07	3.58		-0.071
60	72	3.18	6.93		-1.05	3.15		1575			4.07	3.58		4.07	3.58		-0.071	4.07	3.58		4.07	3.58		-0.071
72		3.24	6.68		-1.05	3.15		1587			4.07	3.58		4.07	3.58		-0.071	4.07	3.58		4.07	3.58		-0.071

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 4.29

GIVEN Y
 -1.20

ALTITUDE (MP) - 22

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MP	MEAN Y	S.D. Y	P (X, Y)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	P (Y, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (YP, Y)	R (YP, X)	MEAN YP	S.D. YP	P (YP, X)	MEAN YP	S.D. YP	P (YP, X)	
12	24	2.90	7.84	0.132	-0.86	3.24	620																	
12	24	2.97	7.78		-0.83	3.23		5630			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375
24	36	2.98	7.72		-0.82	3.21		4503			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375
36	48	2.98	7.66		-0.81	3.21		3242			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375
48	60	2.91	7.55		-0.78	3.21		1870			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375
60	72	2.91	7.51		-0.78	3.21		1852			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375
72		2.97	7.58		-0.78	3.21		1675			4.14	3.93		4.14	3.93		0.375	4.14	3.93		4.14	3.93		0.375

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 4.41

GIVEN Y
 -0.94

BIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: 1922 (M) - VANCEMBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 50.0

ALTITUDE (M) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, YP, YP

	MEAN X	S.D. X	P (Y, X)	MEAN Y	S.D. Y	P (XP, Y)	MEAN YP	S.D. YP	P (YP, Y)	N	MEAN X	S.D. X	P (XP, YP)	MEAN Y	S.D. Y	P (YP, Y)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP		
DT	3.30	8.74	1.927	-0.54	3.29	620																	
12	3.37	8.70	1.922	-0.53	3.28	2158											4.73	3.69	0.118	-0.49	2.76		
24	3.37	8.68	1.924	-0.52	3.26	2057											4.71	4.15	0.258	-0.47	2.59		
36	3.37	8.67	1.927	-0.48	3.27	1808											4.68	4.43	0.259	-0.49	3.14		
48	3.42	8.51	1.925	-0.47	3.26	1408											4.56	4.92	0.122	-0.47	3.24		
60	3.44	8.54	1.926	-0.45	3.27	1158											4.50	5.35	0.170	-0.43	3.27		
72	3.45	8.48	1.922	-0.45	3.27	9757											4.46	5.51	0.225	-0.43	3.27		

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN	GIVEN
X	Y
4.95	-0.52

ALTITUDE (M) - 25

QUADRIVARIATE NORMAL STATISTICS OF Y, YP, YP

	MEAN Y	S.D. Y	P (Y, YP)	MEAN YP	S.D. YP	P (YP, Y)	MEAN Y	S.D. Y	P (YP, Y)	N	MEAN Y	S.D. Y	P (YP, YP)	MEAN YP	S.D. YP	P (YP, Y)	MEAN Y	S.D. Y	P (YP, YP)	MEAN YP	S.D. YP		
DT	3.68	9.96	0.228	-0.20	3.29	620																	
12	3.7	9.83	0.217	-0.21	3.28	2073											5.42	3.95	-0.084	-0.18	2.80		
24	3.7	9.83	0.220	-0.20	3.27	1808											5.37	4.30	0.243	-0.19	2.99		
36	3.7	9.83	0.220	-0.20	3.27	1607											5.35	4.91	0.127	-0.19	3.19		
48	3.76	9.83	0.220	-0.20	3.25	1308											5.33	5.28	0.232	-0.21	3.23		
60	3.80	9.83	0.220	-0.20	3.25	1108											5.32	5.73	0.281	-0.21	3.26		
72	3.82	9.79	0.223	-0.20	3.25	9584											5.34	5.55	0.321	-0.26	3.27		

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

GIVEN	GIVEN
Y	YP
5.63	-0.22

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDERBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 99.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	4.50	10.30	.9141	-.18	3.27	620	4.50	10.30	.3227	-.18	3.27	6.32	6.59	.0783	-.05	2.63
24	4.57	10.24	.8955	-.20	3.26		4.57	10.24	.3170	-.20	3.26	6.24		.0792	-.03	2.90
36	4.65	10.18	.8586	-.20	3.26		4.65	10.18	.3078	-.20	3.26	6.09		.1859	-.05	3.08
48	4.73	10.10	.8228	-.21	3.26		4.73	10.10	.3017	-.21	3.26	5.98		.2442	-.06	3.17
60	4.75	10.03	.8015	-.22	3.25		4.75	10.03	.3052	-.22	3.25	5.92		.3037	-.08	3.21
72	4.84	9.94	.7632	-.22	3.25		4.84	9.94	.2930	-.22	3.25	5.80		.3381	-.09	3.22

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	5.70	11.34	.9263	.05	3.53	620	5.70	11.34	.4180	.05	3.53	7.73	8.00	.0738	.21	2.59
24	5.77	11.25	.8951	.05	3.53		5.77	11.25	.4139	.05	3.53	7.60		.1749	.22	3.00
36	5.86	11.15	.8614	.03	3.53		5.86	11.15	.4020	.03	3.53	7.47		.2659	.23	3.28
48	5.93	11.04	.8312	.01	3.52		5.93	11.04	.4094	.01	3.52	7.36		.3426	.22	3.40
60	5.97	10.91	.7898	.01	3.52		5.97	10.91	.4122	.01	3.52	7.25		.3939	.20	3.45
72	6.07	10.82	.7467	-.01	3.50		6.07	10.82	.3989	-.01	3.50	7.12		.3993	.19	3.47

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (9321-) - VAUSE BERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
3	1/55 - 12/74	0	90.0	1.83	2.78	-.5703	-1.84	3.48	820
3	1/55 - 12/74	1	90.0	1.13	4.00	-.0862	-3.35	6.35	820
3	1/55 - 12/74	2	90.0	3.21	5.00	-.0730	-3.30	7.48	820
3	1/55 - 12/74	3	90.0	6.53	5.94	-.0716	-3.51	8.53	820
3	1/55 - 12/74	4	90.0	8.62	8.39	-.0739	-3.52	9.74	820
3	1/55 - 12/74	5	90.0	11.05	10.20	-.075	-3.60	11.04	820
3	1/55 - 12/74	6	90.0	13.19	11.69	-.0824	-3.81	12.21	820
3	1/55 - 12/74	7	90.0	15.20	13.05	-.1353	-4.11	13.73	820
3	1/55 - 12/74	8	90.0	17.17	14.58	-.1732	-4.33	15.17	820
3	1/55 - 12/74	9	90.0	19.07	15.33	-.2177	-4.55	15.56	820
3	1/55 - 12/74	10	90.0	21.43	15.64	-.2276	-4.65	17.35	820
3	1/55 - 12/74	12	90.0	23.72	15.07	-.2201	-4.44	15.60	820
3	1/55 - 12/74	13	90.0	25.02	13.84	-.1946	-3.55	15.06	820
3	1/55 - 12/74	14	90.0	27.75	11.79	-.1699	-2.74	12.93	820
3	1/55 - 12/74	15	90.0	23.32	10.34	-.1458	-1.90	10.95	820
3	1/55 - 12/74	16	90.0	20.81	8.63	-.1333	-1.51	8.92	820
3	1/55 - 12/74	17	90.0	18.03	7.83	-.1355	-1.18	7.62	820
3	1/55 - 12/74	18	90.0	15.25	7.33	-.0852	-1.35	6.58	820
3	1/55 - 12/74	19	90.0	11.78	6.40	-.0714	-1.20	5.01	820
3	1/55 - 12/74	20	90.0	8.65	6.03	-.0553	-1.25	4.16	820
3	1/55 - 12/74	21	90.0	6.44	6.24	-.0651	-1.28	3.83	820
3	1/55 - 12/74	22	90.0	4.60	5.72	-.0538	-1.27	3.48	820
3	1/55 - 12/74	23	90.0	3.12	7.07	-.1132	-1.07	3.08	820
3	1/55 - 12/74	24	90.0	2.90	7.84	-.1132	-1.05	3.24	820
3	1/55 - 12/74	25	90.0	3.31	8.74	-.0927	-1.30	3.29	820
3	1/55 - 12/74	26	90.0	4.53	9.66	-.0829	-1.19	3.27	820
3	1/55 - 12/74	27	90.0	5.63	10.35	-.0627	-1.04	3.57	820

GLAUCIAPIMATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (322.00) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTTITUDE (FT)

GLAUCIAPIMATE NORMAL STATISTICS OF X, Y, P

MEAN	S.D.	P	MEAN	S.D.	N
X	X	(P, Y)	Y	Y	
2.22	2.80	-0.8005	-2.35	3.24	900
MEAN	S.D.	P	MEAN	S.D.	P
XP	XP	(P, Y)	YP	YP	(P, Y)
2.21	2.78	-0.8004	-2.35	3.24	-0.8005
2.22	2.79	-0.8005	-2.35	3.24	-0.8005
2.23	2.80	-0.8006	-2.35	3.24	-0.8006
2.24	2.81	-0.8007	-2.35	3.24	-0.8007
2.25	2.82	-0.8008	-2.35	3.24	-0.8008

CONDITONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

MEAN	S.D.	P	MEAN	S.D.
XP	XP	(P, YP)	YP	YP
2.22	2.80	-0.8005	-2.35	3.24
2.21	2.78	-0.8004	-2.35	3.24
2.22	2.79	-0.8005	-2.35	3.24
2.23	2.80	-0.8006	-2.35	3.24
2.24	2.81	-0.8007	-2.35	3.24
2.25	2.82	-0.8008	-2.35	3.24

ALTTITUDE (FT)

GLAUCIAPIMATE NORMAL STATISTICS OF X, Y, P

MEAN	S.D.	P	MEAN	S.D.	N
X	X	(P, Y)	Y	Y	
1.21	2.80	-0.8005	-2.35	3.24	900
MEAN	S.D.	P	MEAN	S.D.	P
XP	XP	(P, Y)	YP	YP	(P, Y)
1.21	2.78	-0.8004	-2.35	3.24	-0.8005
1.22	2.79	-0.8005	-2.35	3.24	-0.8005
1.23	2.80	-0.8006	-2.35	3.24	-0.8006
1.24	2.81	-0.8007	-2.35	3.24	-0.8007
1.25	2.82	-0.8008	-2.35	3.24	-0.8008

CONDITONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

MEAN	S.D.	P	MEAN	S.D.
XP	XP	(P, YP)	YP	YP
1.21	2.80	-0.8005	-2.35	3.24
1.21	2.78	-0.8004	-2.35	3.24
1.22	2.79	-0.8005	-2.35	3.24
1.23	2.80	-0.8006	-2.35	3.24
1.24	2.81	-0.8007	-2.35	3.24
1.25	2.82	-0.8008	-2.35	3.24

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (9221N) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (M) - 2

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)
12	24	2.63	4.97	-.1282	-3.68	7.08	600	2.77	5.00	.7051	-1.328	.0715	-.3015
24	36							2.73	4.98	.4351	-1.1335	.1471	-.3484
48	60							2.62	4.94	.1844	-1.1335	.1759	-.2270
60	72							2.55	4.94	.0225	-1.1377	.1625	-.1680
								2.54	4.94	.0213	-1.1432	.1097	-.0781
										.0200	-1.1287	.1350	-.0086

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.77	3.87	-.0134	-3.28	4.88
2.73	4.38	-.0951	-3.38	8.20
2.74	4.72	-.1103	-3.52	6.81
2.78	4.87	-.1361	-3.60	6.97
2.81	4.95	-.1294	-3.62	7.03
2.83	4.97	-.1320	-3.62	7.01

..... ALTITUDE (M) - 3

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)
12	24	5.61	6.56	-.0255	-3.94	8.60	600	5.51	5.59	.7232	-1.0261	.1608	-.2414
24	36							5.45	6.52	.4434	-1.0245	.2517	-.3153
48	60							5.47	6.04	.2091	-1.0255	.2563	-.3793
60	72							5.54	6.35	.0551	-1.0232	.2320	-.2208
								5.58	6.50	.0108	-1.0288	.1843	-.1252
								5.60	6.55	.0263	-1.0345	.1809	-.0562

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.51	4.59	.0805	-3.35	5.73
5.45	5.52	-.0012	-3.34	7.37
5.47	6.04	-.0291	-3.71	8.08
5.54	6.35	-.0455	-3.83	8.35
5.58	6.50	-.0337	-3.86	8.45
5.60	6.55	-.0275	-3.84	8.45

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (BZ21) - VALDENEERS
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1955 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M)

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN XP	S.D. XP	P (X, XP)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N	GIVEN X	GIVEN Y	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	8.53	8.49	7.13	7.31	10.32	0.336	7.31	10.35	600	8.55	-3.08	-0.219	8.42	5.72	-0.219	-3.35	6.70
24	8.47	8.41	4.32	4.37	10.30	0.330	4.37	10.35	600	8.55	-3.08	-0.222	8.37	7.12	-0.222	-3.63	8.81
36	8.40	8.27	2.329	2.70	10.24	0.275	2.70	10.35	600	8.55	-3.08	-0.240	8.33	8.22	-0.240	-3.85	9.81
48	8.29	8.22	1.648	1.94	10.21	0.251	1.94	10.35	600	8.55	-3.08	-0.257	8.47	8.21	-0.257	-3.97	9.98
60	8.18	8.20	0.721	1.76	10.16	0.209	1.76	10.35	600	8.55	-3.08	-0.284	8.51	8.29	-0.284	-3.99	10.11
72	8.10	8.29	0.222	1.51	9.96	0.159	1.51	10.35	600	8.55	-3.08	-0.375	8.54	8.45	-0.375	-3.99	10.16

ALTITUDE (M)

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN XP	S.D. XP	P (X, XP)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N	GIVEN X	GIVEN Y	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	11.30	10.30	7.13	7.23	11.30	0.331	7.23	11.30	600	11.37	-2.30	-0.444	11.27	7.05	-0.444	-3.21	7.94
24	11.21	10.27	4.32	4.43	11.21	0.328	4.43	11.30	600	11.37	-2.30	-0.425	11.22	8.73	-0.425	-3.49	10.15
36	11.13	10.25	2.329	2.82	11.13	0.272	2.82	11.30	600	11.37	-2.30	-0.498	11.23	9.47	-0.498	-3.73	11.03
48	10.98	10.18	1.648	1.93	11.03	0.249	1.93	11.30	600	11.37	-2.30	-0.345	11.24	9.95	-0.345	-3.83	11.44
60	10.84	10.14	0.721	1.59	10.98	0.203	1.59	11.30	600	11.37	-2.30	-0.200	11.31	10.15	-0.200	-3.87	11.63
72	10.77	10.13	0.222	1.47	10.91	0.171	1.47	11.30	600	11.37	-2.30	-0.373	11.34	10.26	-0.373	-3.87	11.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	13.91	11.96	.1493	-4.02	13.48	600											
12	13.85	11.95	.7289	7.167	13.40	.2555	13.88	8.10	.0654	13.85	10.07	.0311	13.88	8.10	.0311	-3.27	9.12
24	13.72	11.92	.5079	4.344	13.36	.3249	13.85	10.07	-.1088	13.87	10.59	.0650	13.85	10.07	.0650	-3.52	11.59
36	13.51	11.91	.3511	2.298	13.34	.3278	13.87	10.59	-.1235	13.87	11.54	.1044	13.87	10.59	.0678	-3.72	12.48
48	13.43	11.83	.2165	1.322	13.22	.2634	13.92	11.54	-.1116	13.92	11.79	.1294	13.92	11.54	.1044	-3.80	12.93
60	13.28	11.83	.1150	0.952	13.11	.2043	13.92	11.79	-.1042	13.92	11.79	.1294	13.92	11.79	.1294	-3.84	13.15
72	13.20	11.82	.0810	1.070	12.98	.1722	13.95	11.90	-.0420	13.95	11.90	.1339	13.95	11.90	.1339	-3.85	13.22

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.94	-2.95

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	16.25	13.19	.1773	-3.94	15.00	600											
12	16.16	13.18	.7595	7.126	14.90	.2732	16.36	8.51	.0529	16.31	10.81	.0573	16.36	8.51	.0573	-3.06	10.28
24	16.00	13.09	.5493	4.314	14.86	.3072	16.31	10.81	-.0657	16.31	11.59	.1104	16.31	10.81	.1010	-3.34	13.07
36	15.81	13.09	.3261	2.425	14.87	.2941	16.34	11.59	-.0847	16.34	12.68	.1445	16.34	11.59	.1104	-3.53	14.04
48	15.59	13.03	.2444	1.557	14.73	.2332	16.37	12.68	-.0794	16.37	12.68	.1445	16.37	12.68	.1445	-3.63	14.47
60	15.44	13.03	.1481	1.232	14.61	.1658	16.34	12.96	-.0829	16.34	12.96	.1663	16.34	12.96	.1663	-3.68	14.68
72	15.32	13.02	.1001	1.266	14.49	.1423	16.35	13.12	-.0208	16.35	13.12	.1708	16.35	13.12	.1708	-3.73	14.77

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.42	-2.74

ORIGINAL FILED IN
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANZENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		18.19	14.48	.2183	-4.05	16.28	600						18.47	-2.86						
12		18.08	14.40	.7647	-4.08	16.17		18.08	14.40	.2763	.6933	.2157	18.43	9.30	.1116	18.43	9.30	.0933	-3.17	11.54
24		17.89	14.31	.5710	-4.07	16.14		17.89	14.31	.2928	.4200	.2174	18.40	11.73	-.0084	18.40	11.73	.1358	-3.45	14.37
36		17.57	14.31	.4058	-4.02	16.18		17.57	14.31	.2687	.2341	.2129	18.40	13.09	-.0457	18.40	13.09	.1565	-3.62	15.41
48		17.48	14.28	.2615	-3.78	16.08		17.48	14.28	.2144	.1405	.2195	18.38	13.85	-.0701	18.38	13.85	.1879	-3.73	15.83
60		17.31	14.23	.1650	-3.61	15.98		17.31	14.23	.1695	.1277	.2265	18.34	14.19	-.0729	18.34	14.19	.2086	-3.78	15.98
72		17.19	14.27	.1270	-3.35	15.83		17.19	14.27	.1410	.1325	.2375	18.35	14.35	-.0100	18.35	14.35	.2096	-3.82	16.04

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (M) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		20.00	15.47	.2739	-4.08	17.08	600						20.21	-2.81						
12		19.83	15.31	.7663	-4.10	16.98		19.83	15.31	.2967	.6922	.2707	20.24	9.92	.1666	20.24	9.92	.1628	-3.16	12.08
24		19.64	15.19	.5738	-4.08	16.94		19.64	15.19	.2973	.4222	.2714	20.21	12.58	-.0458	20.21	12.58	.2004	-3.48	15.14
36		19.41	15.14	.4141	-4.02	16.99		19.41	15.14	.2687	.2334	.2687	20.21	13.92	-.0211	20.21	13.92	.2216	-3.65	16.20
48		19.16	15.10	.2643	-3.72	16.87		19.16	15.10	.2060	.1428	.2776	20.21	14.78	-.0507	20.21	14.78	.2490	-3.77	16.63
60		19.03	15.10	.1622	-3.62	16.77		19.03	15.10	.1575	.1410	.2345	20.15	15.18	-.0530	20.15	15.18	.2684	-3.82	16.78
72		18.89	15.09	.1139	-3.34	16.67		18.89	15.09	.1319	.1342	.2928	20.15	15.36	-.0266	20.15	15.36	.2677	-3.87	16.84

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VARGENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 10

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN YP	S.D. XP	R (XP, YP)	MEAN XP	GIVEN Y	S.D. YP
	21.87	15.68	.2879	-4.08	17.42	600							21.94	-2.64					
12	21.53	15.47	.7822	-4.08	17.27		3047	.1817		22.02	9.74						22.02		12.05
24	21.43	15.33	.5744	-4.04	17.24		.2803	.0537		22.01	12.70						22.01		15.24
36	21.20	15.23	.4111	-3.92	17.21		.2498	-0.062		22.04	14.11						22.04		16.48
48	21.08	15.26	.2634	-3.70	17.13		.1825	-0.27		22.07	14.99						22.07		17.00
60	20.79	15.24	.1457	-3.51	17.04		.1481	-0.53		22.00	15.44						22.00		17.13
72	20.64	15.24	.0946	-3.25	16.94		.1234	-0.094		21.99	15.59						21.99		17.24

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (M) - 11

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN YP	S.D. XP	R (XP, YP)	MEAN XP	GIVEN Y	S.D. YP
	23.20	15.23	.2802	-3.53	16.82	600							23.25	-2.13					
12	22.93	15.04	.7837	-3.49	16.69		2771	.2020		23.33	9.48						23.33		11.24
24	22.79	14.87	.5878	-3.41	16.63		.2581	.1012		23.41	12.28						23.41		14.46
36	22.55	14.83	.4406	-3.27	16.53		.2248	.0407		23.44	13.61						23.44		15.83
48	22.35	14.82	.2978	-3.06	16.50		.1507	-0.125		23.42	14.45						23.42		16.43
60	22.18	14.80	.1727	-2.88	16.52		.1353	-0.215		23.36	14.96						23.36		16.58
72	22.03	14.80	.1147	-2.61	16.38		.1196	-0.115		23.34	15.11						23.34		16.66

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		23.94	13.64	.2944			-2.36	15.48	600							
12		23.72	13.44	.7966	-2.32	15.39	.7723	.2592	.2480	.2181	24.08	8.24	.1255	-1.38	9.80	
24		23.51	13.31	.6008	-2.20	15.30	.5237	.2632	.2060	.1245	24.13	10.69	.2176	-1.74	13.14	
36		23.29	13.28	.4422	-2.04	15.32	.3426	.2702	.1721	.0598	24.16	12.20	.2357	-1.98	14.48	
48		23.08	13.20	.2850	-1.88	15.27	.2213	.2806	.1301	-.0043	24.13	13.42	.2523	-2.12	15.05	
60		22.93	13.14	.1534	-1.69	15.18	.1433	.2932	.0971	-.0120	24.07	13.45	.2531	-2.21	15.29	
72		22.81	13.12	.0903	-1.50	15.07	.0903	.3037	.0976	-.0163	24.04	13.57	.2510	-2.23	15.37	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.87	-1.05

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		23.32	11.20	.2311			-1.02	12.84	600							
12		23.14	10.97	.7934	-1.02	12.78	.8118	.2413	.2185	.2050	23.39	6.81	.1320	-0.00	7.49	
24		22.96	10.94	.6032	-0.95	12.72	.5743	.2449	.1787	.1268	23.45	8.93	.2073	-.33	10.50	
36		22.78	10.89	.4680	-0.84	12.68	.3863	.2493	.1613	.0566	23.45	9.87	.2221	-.58	11.82	
48		22.55	10.83	.3148	-0.70	12.61	.2502	.2615	.1324	.0054	23.48	10.59	.2269	-.74	12.40	
60		22.40	10.79	.1801	-0.50	12.56	.1709	.2789	.0782	-.0103	23.44	10.99	.2346	-.86	12.68	
72		22.26	10.72	.0996	-0.29	12.47	.1158	.2991	.0497	-.0072	23.41	11.13	.2332	-.94	12.76	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.21	.23

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 14

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	MEAN YP	S.D. YP
		21.55	9.14	.2090	.25	10.85	600							
		MEAN XP	S.D. XP	K (X, XP)	MEAN YP	S.D. YP	R (XP, Y)	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12		21.40	8.95	.7835	.27	10.78	.2005	.8257	.2191	.1719	21.60	5.68	1.13	6.12
24		21.30	8.91	.6205	.35	10.74	.1785	.6092	.2225	.1150	21.63	7.17	.85	8.60
36		21.13	8.88	.4736	.41	10.70	.1609	.3928	.2271	.0532	21.67	9.04	.64	9.92
48		20.97	8.26	.3290	.51	10.63	.1355	.2616	.2354	.0167	21.68	8.62	.50	10.44
60		20.85	8.85	.2173	.64	10.53	.0997	.1729	.2459	.0152	21.67	8.92	.40	10.65
72		20.75	8.81	.1495	.83	10.47	.0700	.1125	.2677	.0262	21.65	9.04	.34	10.77

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

..... ALTITUDE (KM) - 15

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	R (Y, YP)	R (XP, YP)	MEAN YP	S.D. YP
		19.33	8.00	.2190	.73	9.21	600							
		MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (XP, Y)	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12		19.22	7.84	.7493	.81	9.12	.2230	.8225	.2339	.1779	19.28	5.30	1.34	5.10
24		19.10	7.79	.6302	.86	9.06	.1826	.6265	.2352	.1233	19.34	6.21	1.31	7.17
36		18.94	7.74	.4695	.93	8.93	.1452	.4240	.2481	.0563	19.39	6.96	1.10	8.33
48		18.81	7.74	.3730	1.03	8.84	.0953	.2968	.2469	.0159	19.41	7.39	.97	8.80
60		18.70	7.63	.2491	1.12	8.82	.0550	.2140	.2657	.0145	19.42	7.73	.88	9.00
72		18.59	7.67	.1652	1.28	8.78	.0049	.1464	.2819	-.0063	19.42	7.84	.73	9.11

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	16.28	6.86	.7294	.87	7.72	.8452	.6652	7.79	500	16.31	4.80	.1423	1.62	4.18
12	24	16.19	6.78	.6113	.93	7.65	.6652	.6652	7.79	500	16.34	5.52	.1881	1.41	5.81
12	36	16.06	6.65	.4792	1.00	7.60	.4905	.2299	7.79	500	16.39	6.11	.2030	1.22	6.79
12	48	15.96	6.64	.4015	1.08	7.56	.3473	.2430	7.79	500	16.39	6.35	.2155	1.08	7.31
12	60	15.87	6.59	.2958	1.18	7.49	.2573	.2588	7.79	500	16.40	6.62	.2201	.98	7.53
12	72	15.82	6.58	.2133	1.31	7.41	.1759	.2749	7.79	500	16.40	6.77	.2154	.90	7.67

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, YP)	MEAN YP	S.D. YP
12	24	16.19	16.19	1.82	1.82	1.82

ALTITUDE (M) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	13.21	8.09	.1087	.82	6.60	.7928	.6599	6.60	600	13.14	4.44	-.0127	1.43	4.01
12	24	13.15	5.95	.6841	.90	6.54	.6599	.6599	6.60	600	13.14	4.82	.0785	1.31	4.94
12	36	13.10	5.86	.6103	.93	6.49	.4983	.4983	6.60	600	13.19	5.39	.0929	1.17	5.71
12	48	13.02	5.78	.4634	.99	6.45	.3667	.4983	6.60	600	13.21	5.64	.1135	1.06	6.13
12	60	12.92	5.72	.3688	1.05	6.38	.2731	.5888	6.60	600	13.23	5.88	.1246	.97	6.34
12	72	12.81	5.65	.2435	1.16	6.30	.1823	.6764	6.60	600	13.22	5.95	.1327	.90	6.49

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, YP)	MEAN YP	S.D. YP
12	24	13.04	13.04	1.67	1.67	1.67

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 1972(14) - VAUGENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (MM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN Y	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. GIVEN X	MEAN GIVEN Y	S.D. GIVEN Y
12	10.04	5.43	.0843	.93	5.16	600	9.94	4.15	.1231	1.41	3.22	9.86	4.15	1.50	3.22
24	9.92	5.30	.0853	.7289	5.12	.0785	9.96	4.45	.0798	1.32	3.74	9.86	4.45	1.50	3.74
36	9.83	5.27	.085	5447	5.07	.1373	9.92	4.74	.1152	1.23	4.42	9.86	4.74	1.50	4.42
48	9.82	5.25	.085	4012	4.93	.0394	10.01	5.05	.1330	1.14	4.72	9.86	5.05	1.50	4.72
60	9.76	5.24	.0844	3264	4.81	.0361	10.01	5.13	.1342	1.06	4.91	9.86	5.13	1.50	4.91
72	9.67	5.20	.0827	2357	4.62	-.0414	10.02	5.21	.1464	1.01	4.99	9.86	5.21	1.50	4.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (MM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. GIVEN X	MEAN GIVEN Y	S.D. GIVEN Y
12	7.01	4.74	.0852	.76	4.13	600	6.97	3.40	.0547	1.17	2.76	6.97	3.40	1.38	2.76
24	6.95	4.70	.0848	7428	4.05	.0717	6.96	3.55	.0457	1.09	3.13	6.97	3.55	1.38	3.13
36	6.92	4.66	.0847	5321	4.02	.1128	6.93	3.96	.0422	1.02	3.49	6.97	3.96	1.38	3.49
48	6.87	4.65	.0844	4293	3.98	.0550	7.00	4.17	.0727	.96	3.73	6.97	4.17	1.38	3.73
60	6.84	4.65	.0844	3228	3.91	.0107	7.00	4.37	.0882	.93	3.89	6.97	4.37	1.38	3.89
72	6.79	4.68	.0833	3115	3.85	-.0228	7.00	4.45	.1105	.86	3.92	6.97	4.45	1.38	3.92

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93E14) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	1.69	4.58	.1862	.04	2.82	600	1.64	4.55	.6923	.06	2.81	.5502	.1866	.1871	.1904	1.85	3.29	.0402	.19	2.34
12	24	1.58	4.51	.6474	.08	2.76		1.58	4.51	.4380	.07	2.76	.4380	.1998	.2481	.1665	1.87	3.48	.0156	.17	2.49
36	48	1.51	4.45	.5878	.05	2.73		1.54	4.48	.5878	.05	2.71	.2453	.1999	.1985	.1907	1.90	3.69	.0617	.15	2.62
60	72	1.47	4.45	.4998	.05	2.68		1.47	4.45	.4998	.05	2.68	.1330	.1943	.1752	.1620	1.89	3.81	.0980	.13	2.71
72		1.40	4.42	.4306	.06	2.64		1.40	4.42	.4306	.06	2.64	.1014	.1993	.0830	.1157	1.90	4.13	.1646	.10	2.79
																	1.90	4.13	.1646	.09	2.80

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 1.84
 GIVEN Y .31

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	1.25	4.82	.2015	.09	2.94	600	1.21	4.80	.7369	.07	2.53	.4228	.2033	.2149	.2446	1.35	3.22	.0094	.18	2.28
12	24	1.17	4.77	.6678	.07	2.50		1.17	4.77	.6678	.07	2.50	.3594	.2133	.2655	.2010	1.37	3.57	.0086	.17	2.32
36	48	1.09	4.71	.6014	.04	2.46		1.13	4.75	.6409	.06	2.49	.2303	.2183	.2240	.1935	1.39	3.69	.0651	.15	2.43
60	72	1.03	4.67	.5310	.03	2.49		1.09	4.71	.6014	.04	2.46	.1276	.2134	.2105	.1762	1.41	3.84	.0910	.13	2.47
72		.95	4.82	.4565	.02	2.46		1.03	4.67	.5310	.03	2.49	.0262	.2113	.1978	.1544	1.42	4.08	.1182	.11	2.49
								.95	4.82	.4565	.02	2.46	.0273	.2175	.1407	.1149	1.43	4.28	.1557	.12	2.52

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 1.31
 GIVEN Y .27

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	1.68	5.08	.2060	.01	2.58	600															
12	1.63	5.05	.7595	-.00	2.58	.4969	-.00	2.58	.2233	.2604	.2011	.4969	.2233	.2011	.2604	1.57	3.27	.0182	.07	2.23	
24	1.61	5.02	.7245	-.04	2.59	.3966	-.04	2.59	.2372	.2298	.3052	.4147	.2372	.3052	.2298	1.88	3.49	-.0560	.09	2.31	
36	1.56	4.99	.6575	-.07	2.57	.2315	-.07	2.57	.2507	.2211	.2833	.2597	.2507	.2833	.2211	1.90	3.82	.0143	.08	2.44	
48	1.49	4.96	.6217	-.10	2.57	.2456	-.10	2.57	.2456	.1288	.2725	.1445	.2456	.2725	.1288	1.91	3.98	.0505	.07	2.48	
60	1.43	4.93	.5704	-.12	2.57	.2462	-.12	2.57	.2462	.1536	.2248	.1949	.2462	.2248	.1536	1.94	4.18	.0981	.06	2.51	
72	1.35	4.89	.4988	-.14	2.56	.2402	-.14	2.56	.2402	.1144	.1800	.1577	.2402	.1800	.1144	1.95	4.41	.1384	.04	2.52	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	2.50	5.66	.1852	-.10	2.91	600															
12	2.45	5.65	.7507	-.10	2.90	.5059	-.10	2.90	.1593	.2201	.2000	.5059	.1593	.2000	.2201	2.54	3.72	.0017	-.07	2.49	
24	2.37	5.65	.7188	-.10	2.89	.4147	-.10	2.89	.2095	.2257	.2126	.4147	.2095	.2126	.2257	2.60	3.91	.0050	-.07	2.62	
36	2.27	5.62	.6765	-.11	2.87	.2597	-.11	2.87	.2214	.1883	.1883	.2597	.2214	.1883	.1883	2.65	4.14	.0579	-.07	2.78	
48	2.20	5.61	.6347	-.13	2.86	.1445	-.13	2.86	.2250	.1688	.1688	.1445	.2250	.1688	.1688	2.70	4.36	.0959	-.07	2.85	
60	2.12	5.59	.6058	-.15	2.87	.0218	-.15	2.87	.2209	.1420	.1420	.0218	.2209	.1420	.1420	2.74	4.49	.1312	-.08	2.87	
72	2.03	5.54	.5366	-.18	2.87	.0181	-.18	2.87	.2268	.1577	.0950	.0181	.2268	.0950	.1577	2.77	4.77	.1619	-.08	2.89	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATISTIC (92214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIUDE (KH) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP
		3.14	6.05	.2909	-.13	3.02	600				3.03	-.15		
12		3.07	6.04	.8360	-.17	3.02		3.11	3.30	.1020	-.12	2.50		
24		2.96	6.03	.7969	-.17	3.01		3.19	3.65	.1095	-.12	2.65		
36		2.88	6.01	.7447	-.16	3.01		3.25	4.03	.1607	-.12	2.85		
48		2.79	5.98	.7224	-.17	3.02		3.31	4.18	.2129	-.11	2.92		
60		2.69	5.92	.6621	-.20	3.04		3.36	4.52	.2612	-.11	2.98		
72		2.58	5.84	.6212	-.24	3.04		3.43	4.74	.2714	-.10	2.99		

ALTIUDE (KH) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP
		4.38	6.58	.2794	.00	3.32	600				4.31	-.10		
12		4.31	6.56	.8235	-.05	3.35		4.37	3.68	-.0268	-.02	2.70		
24		4.19	6.51	.7755	-.08	3.36		4.47	4.14	.0351	.00	2.87		
36		4.10	6.50	.7058	-.07	3.38		4.53	4.46	.0928	.02	3.10		
48		3.99	6.45	.7058	-.10	3.42		4.61	4.86	.1371	.04	3.16		
60		3.91	6.39	.6614	-.13	3.43		4.65	4.92	.1867	.04	3.23		
72		3.80	6.29	.6081	-.14	3.43		4.71	5.21	.2024	.05	3.25		

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
4	1/65 - 12/74	0	90.0	2.22	2.80	-.6305	-2.38	3.24	600
4	1/65 - 12/74	1	90.0	1.31	3.99	-.0877	-4.01	5.68	600
4	1/65 - 12/74	2	90.0	2.83	4.97	-.1262	-3.69	7.09	600
4	1/65 - 12/74	3	90.0	5.61	6.56	-.0255	-3.94	8.60	600
4	1/65 - 12/74	4	90.0	8.55	8.47	.0571	-4.12	10.35	600
4	1/65 - 12/74	5	90.0	11.34	10.30	.1063	-4.03	11.50	600
4	1/65 - 12/74	6	90.0	13.91	11.98	.1403	-4.02	13.46	600
4	1/65 - 12/74	7	90.0	16.25	13.19	.1773	-3.94	15.00	600
4	1/65 - 12/74	8	90.0	18.19	14.48	.2183	-4.05	16.28	600
4	1/65 - 12/74	9	90.0	20.00	15.47	.2739	-4.08	17.09	600
4	1/65 - 12/74	10	90.0	21.87	15.68	.2879	-4.08	17.42	600
4	1/65 - 12/74	11	90.0	23.20	15.23	.2802	-3.53	16.82	600
4	1/65 - 12/74	12	90.0	23.32	13.64	.2544	-2.36	15.48	600
4	1/65 - 12/74	13	90.0	23.32	11.20	.2311	-1.02	12.84	600
4	1/65 - 12/74	14	90.0	21.55	9.14	.2090	.25	10.85	600
4	1/65 - 12/74	15	90.0	19.33	8.00	.2190	.73	9.21	600
4	1/65 - 12/74	16	90.0	16.36	6.98	.1934	.81	7.79	600
4	1/65 - 12/74	17	90.0	13.21	6.09	.1087	.82	6.60	600
4	1/65 - 12/74	18	90.0	10.04	5.43	.0843	.93	5.15	600
4	1/65 - 12/74	19	90.0	7.01	4.74	.0552	.76	4.13	600
4	1/65 - 12/74	20	90.0	4.54	4.44	.0413	.57	3.43	600
4	1/65 - 12/74	21	90.0	2.95	4.48	.1350	.29	3.14	600
4	1/65 - 12/74	22	90.0	1.69	4.58	.1862	.04	2.82	600
4	1/65 - 12/74	23	90.0	1.25	4.82	.2015	.09	2.54	600
4	1/65 - 12/74	24	90.0	1.69	5.09	.2060	.01	2.58	600
4	1/65 - 12/74	25	90.0	2.50	5.66	.1852	-.10	2.91	600
4	1/65 - 12/74	26	90.0	3.14	6.05	.2909	-.13	3.02	600
4	1/65 - 12/74	27	90.0	4.38	6.58	.2784	-.00	3.32	600

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENSEPG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.02	4.10	-0.3577	-3.13	5.43	620						.95	-2.96					
12	1.07	4.11	.6212	3.12	5.43		7.132	5.43	-.3556	-.2319		.93		.93	3.08	-.1227	-3.02	3.80
24	1.08	4.13	.4829	-3.12	5.43		.5509	5.43	-.3616	-.1206		.94		.94	3.35	-.1872	-3.05	4.51
36	1.05	4.13	.2790	-3.12	5.42		.9486	5.42	-.3812	-.0217		.97		.97	3.68	-.2716	-3.08	5.05
48	1.00	4.12	.2022	-3.16	5.39		2.366	5.39	-.3627	-.0124		.96		.96	3.76	-.3035	-3.08	5.26
60	.99	4.13	.0558	-3.15	5.37		1.142	5.37	-.3667	-.0186		.98		.98	3.92	-.3391	-3.10	5.38
72	.98	4.14	.0543	-3.19	5.36		.0857	5.36	-.3631	.0103		.98		.98	3.99	-.3477	-3.10	5.41

.....

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

..... ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.72	5.20	-0.4074	-2.57	6.53	620						2.74	-2.46					
12	2.76	5.91	.7594	-2.55	6.52		.7741	6.52	-.4106	-.2611		2.69		2.69	3.62	-.1304	-2.50	4.12
24	2.72	5.92	.5791	-2.53	6.50		.5714	6.50	-.4137	-.1694		2.71		2.71	4.45	-.2266	-2.52	5.34
36	2.68	5.92	.4164	-2.52	6.49		.3571	6.49	-.4160	-.0707		2.72		2.72	4.96	-.3104	-2.53	5.96
48	2.61	5.91	.2989	-2.55	6.46		.2438	6.46	-.4149	-.0097		2.71		2.71	5.28	-.3560	-2.52	6.30
60	2.55	5.91	.1875	-2.56	6.43		1.143	6.43	-.4114	-.0048		2.70		2.70	5.52	-.3391	-2.54	6.48
72	2.53	5.91	.1202	-2.59	6.39		.0403	6.39	-.4008	-.0231		2.69		2.69	5.67	-.4131	-2.56	6.53

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (X,Y)	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)
	4.54	7.29	-0.3220	-2.20	7.45					620						
12	4.53	7.36	.8181	-2.16	7.40	.7715					4.67	3.98	-0.0608	-2.22	4.73	
24	4.47	7.39	.6396	-2.13	7.36	.5543					4.68	5.23	-0.1644	-2.22	5.18	
36	4.43	7.43	.4875	-2.12	7.33	.3722					4.67	5.89	-0.2335	-2.21	5.89	
48	4.34	7.44	.3684	-2.13	7.30	.2141					4.65	6.32	-0.2881	-2.19	7.26	
60	4.28	7.42	.2632	-2.18	7.26	.0837					4.61	6.68	-0.3250	-2.19	7.42	
72	4.24	7.42	.1948	-2.18	7.20	.0113					4.59	6.92	-0.3388	-2.19	7.45	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 4.70
 -2.20

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (X,Y)	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)
	6.17	8.44	-0.1763	-2.01	8.09					620						
12	6.14	8.52	.8126	-1.95	8.01	.7495					6.42	4.79	.0092	-2.05	5.35	
24	6.10	8.54	.6406	-1.90	7.96	.5195					6.41	6.20	-0.0608	-2.05	6.90	
36	6.08	8.54	.5108	-1.89	7.92	.3155					6.38	6.85	-0.1148	-2.03	7.65	
48	6.00	8.56	.3979	-1.91	7.86	.1826					6.36	7.36	-0.1631	-2.00	7.33	
60	5.91	8.55	.2938	-1.99	7.84	.0648					6.31	7.77	-0.1874	-1.99	8.07	
72	5.84	8.54	.2184	-2.03	7.79	.0324					6.27	8.00	-0.1938	-1.99	8.09	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 6.45
 -2.01

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92E14) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	7.48	9.94	-.0695	-2.05	9.04	620	7.83	5.51	.0974	-2.12	5.94	7.83	5.51	.0974	-2.12	5.94	
36	48	7.42	9.67	0.88	2.772	0.742	0.411	7.75	7.79	-.0217	-2.07	8.67	7.75	7.79	-.0217	-2.07	8.67	
60	72	7.20	9.64	0.81	1.440	0.761	0.663	7.67	8.80	-.0873	-2.01	9.02	7.67	8.80	-.0873	-2.01	9.02	
		7.10	9.62	0.73	-.0282	-.0731	0.568	7.63	9.05	-.0926	-2.01	9.02	7.63	9.05	-.0926	-2.01	9.02	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.89	-2.05

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	8.73	10.63	-.0016	-2.29	10.32	620	9.13	6.12	.1045	-2.35	6.93	9.13	6.12	.1045	-2.35	6.93	
36	48	8.74	10.77	0.75	2.469	0.732	0.181	9.06	8.12	-.0644	-2.29	9.97	9.06	8.12	-.0644	-2.29	9.97	
60	72	8.61	10.73	0.82	1.237	0.959	0.780	9.00	9.41	-.0061	-2.25	10.21	9.00	9.41	-.0061	-2.25	10.21	
		8.33	10.72	0.83	-.0383	-.0129	0.721	8.91	10.15	-.0264	-2.23	10.29	8.91	10.15	-.0264	-2.23	10.29	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.23	-2.33

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 93.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (Y, YP)	S.D. YP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	10.06	11.72	.0601	-2.56	11.78														
12	10.08	11.85	.8124	-2.46	11.72	.0668	10.62	6.78	.7282	.0537	.0178	10.62	6.78	.1738	10.62	6.78	-2.73	9.07	
24	10.09	11.87	.6377	-2.40	11.69	.0694	10.54	8.80	.4343	.0705	-.1248	10.54	8.80	.1301	10.54	8.80	-2.67	10.60	
36	10.06	11.87	.5283	-2.43	11.60	.0645	10.49	9.63	.2425	.0938	-.1783	10.49	9.63	.0767	10.49	9.63	-2.57	11.33	
48	9.93	11.86	.4276	-2.49	11.53	.0612	10.45	10.37	.1264	.0883	-.1680	10.45	10.37	.0529	10.45	10.37	-2.52	11.65	
60	9.75	11.82	.3195	-2.58	11.48	.0516	10.41	10.91	.0226	.0834	-.1574	10.41	10.91	.0395	10.41	10.91	-2.48	11.74	
72	9.55	11.85	.2513	-2.72	11.44	.0489	10.37	11.17	-.0315	.0802	-.1568	10.37	11.17	.0357	10.37	11.17	-2.46	11.73	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (Y, YP)	S.D. YP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.27	12.61	.1322	-2.44	12.78														
12	11.28	12.74	.8060	-2.35	12.73	.1413	12.05	7.44	.7040	.0959	.0648	12.05	7.44	.2137	12.05	7.44	-2.58	9.07	
24	11.26	12.76	.6334	-2.26	12.71	.1437	11.94	9.58	.4138	.0966	-.0538	11.94	9.58	.1883	11.94	9.58	-2.52	11.62	
36	11.22	12.76	.5407	-2.29	12.60	.1393	11.89	10.34	.2364	.1085	-.1115	11.89	10.34	.1457	11.89	10.34	-2.42	12.38	
48	11.09	12.75	.4504	-2.36	12.53	.1376	11.84	11.03	.1231	.1085	-.1152	11.84	11.03	.1191	11.84	11.03	-2.36	12.63	
60	10.86	12.72	.3490	-2.46	12.52	.1305	11.79	11.63	.0280	.0961	-.1174	11.79	11.63	.1103	11.79	11.63	-2.32	12.72	
72	10.66	12.71	.2872	-2.63	12.52	.1264	11.73	11.92	-.0238	.0918	-.1186	11.73	11.92	.1066	11.73	11.92	-2.30	12.72	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	12.72	13.43	.1951	-2.30	13.58	-2.30	-2.30	13.58	620	.1388	13.58	7.91	.2386	-2.40	9.48
12	24	12.73	13.58	.8076	-2.21	13.54	.7155	.4328	.2038	.1431	.1388	13.58	7.91	.2386	-2.40	9.48
36	48	12.67	13.61	.5291	-2.13	13.52	.2483	.2086	.2086	.1301	.0082	13.45	10.35	.2386	-2.35	12.23
48	60	12.51	13.59	.4338	-2.17	13.42	.1292	.2030	.2030	.1381	-.0514	13.38	11.10	.1966	-2.24	13.10
60	72	12.29	13.60	.3474	-2.28	13.41	.0263	.2019	.2019	.1258	-.0733	13.35	11.85	.1745	-2.17	13.38
72		12.06	13.68	.2933	-2.46	13.49	-.0301	.1995	.1995	.1018	-.0640	13.29	12.42	.1651	-2.11	13.47
												13.25	12.73	.1686	-2.12	13.49

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	14.09	14.04	.2578	-2.07	14.05	-2.07	-2.07	14.05	620	.2024	14.99	8.28	.2624	-2.20	9.46
12	24	14.06	14.10	.8071	-1.97	14.00	.7377	.4609	.2688	.2001	.2024	14.99	8.28	.2624	-2.20	9.46
36	48	14.00	14.12	.6300	-1.88	13.97	.4609	.2740	.2740	.1809	.0532	14.90	10.77	.2857	-2.12	12.44
48	60	13.93	14.13	.5310	-1.91	13.90	.2770	.2668	.2668	.1794	-.0309	14.84	11.70	.2384	-1.97	12.39
60	72	13.77	14.10	.4249	-1.93	13.87	.1503	.2658	.2658	.1539	-.0504	14.79	12.46	.2257	-1.83	12.74
72		13.56	14.11	.3331	-2.03	13.91	.0427	.2647	.2647	.1333	-.0353	14.71	13.08	.2246	-1.83	13.88
		13.33	14.14	.2901	-2.20	14.02	-.0129	.2658	.2658	.1333	-.0353	14.67	13.33	.2268	-1.61	13.90

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.3

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.08	13.20	.2846	-1.25	12.82	620										
12	15.23	13.23	.8200	-1.15	12.76		15.05	7.55	.2375	16.05	7.55	16.05	7.55	.2375	-1.37	8.47
24	14.93	13.20	.6510	-1.08	12.71		15.97	9.95	.2827	15.97	9.95	15.97	9.95	.2827	-1.27	11.17
36	14.82	13.20	.5254	-1.12	12.62		15.91	11.06	.2674	15.91	11.06	15.91	11.06	.2674	-1.13	12.15
48	14.67	13.22	.4232	-1.13	12.63		15.85	11.75	.2554	15.85	11.75	15.85	11.75	.2554	-1.04	12.53
60	14.47	13.25	.3355	-1.21	12.65		15.76	12.27	.2499	15.76	12.27	15.76	12.27	.2499	-.97	12.63
72	14.28	13.28	.2729	-1.34	12.73		15.67	12.60	.2574	15.67	12.60	15.67	12.60	.2574	-.98	12.69

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.31	11.17	.2797	.00	10.61	620										
12	15.23	11.18	.8487	.11	10.52		16.25	5.90	.2525	16.25	5.90	16.25	5.90	.2525	-.12	6.61
24	15.13	11.14	.6823	.18	10.48		16.18	8.09	.2816	16.18	8.09	16.18	8.09	.2816	-.04	9.04
36	15.02	11.14	.5234	.16	10.45		16.09	9.36	.2692	16.09	9.36	16.09	9.36	.2692	.09	10.03
48	14.83	11.18	.3387	.15	10.47		15.99	10.53	.2628	15.99	10.53	15.99	10.53	.2628	.15	10.41
60	14.75	11.23	.3024	.05	10.47		15.87	10.83	.2594	15.87	10.83	15.87	10.83	.2594	.18	10.52
72	14.62	11.27	.2228	-.05	10.52		15.74	10.65	.2643	15.74	10.65	15.74	10.65	.2643	.17	10.55

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	P (X, XP)	MEAN YP	R (X, Y)	MEAN Y	R (Y, YP)	R (XP, YP)	S.D. YP	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	14.86	8.93	.8444	.98	8.55	.8025	.2265	.2285	8.55	.2285	.1562	15.57	4.77	15.61	.81	.83	5.11
24	14.55	8.91	.6935	1.02	8.51	.5583	.2347	.2246	8.51	.2246	.0670	15.53	6.40	15.61	.81	.93	7.09
36	14.44	8.92	.5320	1.03	8.51	.3342	.2357	.1925	8.51	.1925	-.0070	15.45	7.45	15.61	.81	.98	8.33
48	14.33	8.94	.3932	1.03	8.54	.1724	.2364	.1459	8.54	.1459	-.0533	15.33	8.10	15.61	.81	1.02	8.41
60	14.22	8.96	.2852	.95	8.52	.0583	.2352	.1163	8.52	.1163	-.0715	15.22	8.46	15.61	.81	1.05	8.53
72	14.11	8.95	.1974	.87	8.54	-.0067	.2364	.0819	8.54	.0819	-.0722	15.10	8.68	15.61	.81	1.04	8.56

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	P (X, XP)	MEAN YP	R (X, Y)	MEAN Y	R (Y, YP)	R (XP, YP)	S.D. YP	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	13.22	7.00	.7118	1.45	6.84	1.45	6.84	6.84	6.84	6.84	6.84	13.89	3.97	13.91	1.30	1.32	4.21
24	13.12	6.97	.8225	1.50	6.80	.8090	.1921	.1919	6.80	.1919	.1238	13.89	3.97	13.91	1.30	1.32	4.21
36	13.01	6.94	.7074	1.52	6.79	.6043	.2043	.2003	6.79	.2003	.0629	13.90	4.91	13.91	1.30	1.33	5.43
48	12.92	6.97	.5510	1.51	6.78	.3998	.2059	.1794	6.78	.1794	.0178	13.81	5.80	13.91	1.30	1.47	6.24
60	12.84	6.98	.4322	1.49	6.80	.2328	.2124	.1510	6.80	.1510	-.0053	13.71	6.31	13.91	1.30	1.52	6.62
72	12.73	6.99	.3134	1.45	6.81	.1065	.2143	.1110	6.81	.1110	-.0220	13.63	6.62	13.91	1.30	1.55	6.78
72	12.66	6.99	.2299	1.38	6.83	.0147	.2175	.0705	6.83	.0705	-.0311	13.54	6.79	13.91	1.30	1.54	6.83

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
		11.17	5.80	.1725	1.61	5.69	620										
12		11.03	5.75	.8028	1.64	5.64	.2023	11.69	3.46	.1451	11.69	3.46	11.69	3.46	.0467	1.53	3.55
24		10.92	5.73	.7003	1.64	5.62	.1993	11.73	4.12	.0797	11.73	4.12	11.73	4.12	.1286	1.57	4.42
36		10.82	5.72	.5240	1.62	5.60	.1652	11.64	5.34	.0509	11.64	5.34	11.64	5.34	.1441	1.62	5.09
48		10.72	5.74	.3658	1.58	5.59	.1151	11.55	5.69	.0298	11.55	5.69	11.55	5.69	.1608	1.64	5.44
60		10.61	5.74	.2708	1.53	5.60	.0838	11.47	5.58	.0141	11.47	5.58	11.47	5.58	.1622	1.67	5.63
72		10.52	5.73	.1891	1.47	5.60	.0383	11.40	5.69	-.0029	11.40	5.69	11.40	5.69	.1697	1.65	5.68

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.67	1.48

ALTIITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
		8.59	4.69	.1054	1.43	4.37	620										
12		8.45	4.81	.7637	1.45	4.34	.1402	8.96	3.16	.0929	8.96	3.16	8.96	3.16	-.0076	1.37	2.98
24		8.34	4.79	.6653	1.46	4.33	.1263	8.99	3.64	.0507	8.99	3.64	8.99	3.64	.0361	1.40	3.43
36		8.23	4.78	.4966	1.43	4.33	.0689	8.95	4.24	.0496	8.95	4.24	8.95	4.24	.0640	1.44	4.03
48		8.12	4.81	.3954	1.43	4.33	.0689	8.91	4.69	.0401	8.91	4.69	8.91	4.69	.0905	1.44	4.23
60		8.03	4.81	.2768	1.39	4.31	.0172	8.84	4.69	.0040	8.84	4.69	8.84	4.69	.1081	1.43	4.35
72		7.93	4.78	.2136	1.35	4.32	-.0137	8.81	4.77	-.0037	8.81	4.77	8.81	4.77	.1115	1.42	4.37

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.93	1.33

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	5.57	3.95	.1232	1.05	3.45	620											
12	5.46	3.92	.6956	1.06	3.44		5.77	2.84	.0866	5.83	2.90	.0953	5.77	2.84	.0953	1.05	2.68
24	5.33	3.90	.6194	1.04	3.44		5.83	3.10	.0363	5.84	3.26	.0834	5.83	3.10	.0833	1.09	2.90
36	5.21	3.88	.5043	1.05	3.44		5.84	3.41	.0874	5.84	3.41	.0874	5.84	3.41	.0874	1.09	3.26
48	5.10	3.91	.4099	1.05	3.45		5.80	3.77	.0703	5.80	3.44	.0703	5.80	3.77	.1174	1.07	3.44
60	4.99	3.91	.3001	1.03	3.45		5.76	3.65	.0756	5.76	3.45	.0756	5.76	3.65	.1209	1.07	3.45
72	4.90	3.93	.2217	1.01	3.45				.0570								

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X GIVEN Y
 5.74 1.05

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.67	3.62	.0947	.64	2.73	620											
12	2.55	3.57	.6963	.62	2.72		2.78	2.63	.1200	2.85	2.57	.0438	2.78	2.63	-.0103	.68	2.29
24	2.41	3.50	.6154	.62	2.72		2.85	2.83	-.0432	2.88	2.61	.0172	2.85	2.83	.0531	.70	2.37
36	2.32	3.48	.5330	.61	2.72		2.90	3.06	.0264	2.90	2.70	.0264	2.90	3.06	.0596	.68	2.61
48	2.20	3.47	.4404	.58	2.71		2.87	3.23	.0248	2.87	2.73	.0248	2.87	3.23	.0890	.66	2.73
60	2.10	3.43	.3200	.55	2.71		2.88	3.46	.0002	2.88	2.72	.0002	2.88	3.46	.1024	.63	2.72
72	2.01	3.42	.2943	.55	2.71												

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X GIVEN Y
 2.71 .68

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	
		.22	3.42	.1000	.04	2.31							.20	.02	
DT	HR	MEAN XP	S.D. XP	P (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	.11	3.37	.6313	.03	2.31	.4047	.0871	.0967	.1356	.27	2.64	.0097	.04	2.11
24	36	.01	3.36	.6188	.02	2.31	.3794	.0719	.1953	.0333	.34	2.69	-.0234	.06	2.11
36	48	-.10	3.30	.5426	.02	2.20	.2360	.0640	.1070	.0756	.39	2.67	-.0403	.06	2.24
48	60	-.20	3.26	.5014	.02	2.30	.0397	.0612	.1428	.0592	.43	2.96	.0315	.08	2.28
60	72	-.30	3.24	.3995	.02	2.30	.0317	.0570	.0795	.0583	.43	3.13	.0730	.07	2.30
72		-.40	3.21	.3748	-.00	2.29	-.0267	.0558	.0370	.0518	.46	3.17	.0941	.06	2.31

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	
		-1.40	3.40	.1441	-.36	2.46							-1.45	-.45	
DT	HR	MEAN XP	S.D. XP	P (X, YP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	P (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	-1.47	3.34	.6040	-.39	2.44	.3828	.1268	.0817	.1491	-1.39	2.70	.0915	-.38	2.26
24	36	-1.54	3.32	.5705	-.39	2.45	.3155	.1243	.2316	.0175	-1.34	2.79	.0261	-.37	2.28
36	48	-1.63	3.29	.5486	-.35	2.45	.2346	.1222	.1028	.0229	-1.30	2.84	.1042	-.37	2.40
48	60	-1.72	3.26	.4341	-.35	2.44	.0395	.1210	.0227	.0115	-1.26	3.06	.1215	-.35	2.45
60	72	-1.79	3.23	.4322	-.33	2.41	-.0112	.1103	.0418	.0377	-1.24	3.07	.1397	-.35	2.45
72		-1.89	3.22	.3457	-.33	2.41	-.0734	.1129	-.0173	.0236	-1.23	3.19	.1593	-.36	2.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORDS - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.3

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)
	-2.36	3.32	.0733	-.51	2.22							
12	-2.44	3.28		.3333	.0835	.0393	-2.35	2.46	.1729	-.52	2.10	.1729
24	-2.51	3.27		.0725	.1319	.0712	-2.31	2.64	.0819	-.51	2.14	.0819
36	-2.59	3.23		.1590	.0626	-.0006	-2.27	2.78	.0172	-.52	2.19	.0172
48	-2.67	3.19		-.0327	.0491	-.0720	-2.25	3.01	.0198	-.51	2.22	.0198
60	-2.76	3.15		-.0788			-2.22	3.05	.0354	-.51	2.22	.0354
72	-2.83	3.15					-2.22	3.13		-.53	2.21	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN X	S.D. X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-2.42		-.55					

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)
	-2.79	3.65	.1021	-.65	2.28							
12	-2.91	3.60		.3029	.1122	.0026	-2.77	2.68	.2210	-.68	2.12	.2210
24	-3.02	3.59		.1767	.1143	.0957	-2.68	2.88	.0581	-.65	2.24	.0581
36	-3.10	3.57		.1505	.1150	-.0039	-2.65	3.02	.0997	-.67	2.25	.0997
48	-3.21	3.53		-.0254	.1259	.0046	-2.62	3.20	.0748	-.65	2.29	.0748
60	-3.32	3.52		-.0599	.1207	-.0313	-2.58	3.27	.0674	-.65	2.28	.0674
72	-3.40	3.50		-.1081	.1196	-.0318	-2.57	3.35	.0451	-.65	2.27	.0451

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN X	S.D. X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-2.65		-.72					

ORIGINAL PAGE IS OF POOR QUALITY

COVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (9214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		-2.69	4.08	.0703	-0.75	2.33	620						-2.67				
12		-2.80	4.05	.7281	-0.73	2.33		-2.60	2.77	.0820	-2.60	2.22	-2.60	2.77	.0820	-0.76	2.22
24		-2.93	4.00	.6996	-0.70	2.31		-2.51	2.91	-.0075	-2.47	2.27	-2.51	2.91	-.0075	-0.74	2.27
36		-3.01	3.96	.6452	-0.68	2.31		-2.47	3.11	-.0858	-2.41	2.31	-2.47	3.11	-.0858	-0.75	2.31
48		-3.13	3.94	.5975	-0.66	2.29		-2.41	3.27	.1177	-2.41	2.32	-2.41	3.27	.1177	-0.75	2.32
60		-3.25	3.93	.5367	-0.63	2.28		-2.38	3.44	.1201	-2.38	2.30	-2.38	3.44	.1201	-0.75	2.30
72		-3.35	3.92	.5097	-0.64	2.28		-2.33	3.51	.1418	-2.33	2.31	-2.33	3.51	.1418	-0.77	2.31

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		-2.60	4.26	.0838	-0.68	2.31	620						-2.62				
12		-2.71	4.22	.7571	-0.67	2.30		-2.54	2.77	.0489	-2.54	2.17	-2.54	2.77	.0489	-0.70	2.17
24		-2.82	4.21	.7373	-0.65	2.30		-2.45	2.88	.0426	-2.45	2.24	-2.45	2.88	.0426	-0.69	2.24
36		-2.92	4.18	.6903	-0.62	2.30		-2.39	3.08	.0871	-2.39	2.28	-2.39	3.08	.0871	-0.70	2.28
48		-3.02	4.17	.6359	-0.60	2.28		-2.34	3.29	.1071	-2.34	2.31	-2.34	3.29	.1071	-0.68	2.31
60		-3.14	4.15	.5913	-0.59	2.28		-2.29	3.44	.1360	-2.29	2.29	-2.29	3.44	.1360	-0.68	2.29
72		-3.22	4.15	.5428	-0.57	2.26		-2.27	3.58	.1547	-2.27	2.29	-2.27	3.58	.1547	-0.68	2.29

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDERBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

MEAN X	S.D. X	P (X, XP)	MEAN YP	S.D. YP	P (X, Y)	MEAN Y	S.D. Y	M
-2.31	4.67	.0151	-0.59	2.49				620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (Y, YP)	P (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-2.45	4.52	.8078	-0.55	2.48	.4551	.0351	-.0258	.0425	-2.30	2.75	.0543	-.62	2.22
24	-2.57	4.59	.7740	-.54	2.48	.3512	.0213	.0305	-.0010	-2.20	2.96	-.0056	-.61	2.33
36	-2.68	4.59	.7224	-.54	2.50	.1453	.0228	.0172	.0225	-2.14	3.23	.0025	-.60	2.46
48	-2.79	4.59	.6636	-.53	2.50	.0546	.0497	.0080	.0738	-2.08	3.49	.0162	-.58	2.49
60	-2.89	4.58	.5105	-.52	2.47	.1073	.0570	-.0426	.0549	-2.03	3.70	.0449	-.59	2.48
72	-2.99	4.58	.5662	-.49	2.47	.1066	.0522	-.0666	.0739	-2.00	3.83	.0721	-.59	2.47

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

MEAN X	S.D. X	P (X, XP)	MEAN YP	S.D. YP	P (X, Y)	MEAN Y	S.D. Y	M
-1.73	5.19	.0242	-0.58	2.88				620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (Y, YP)	P (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	-1.98	5.18	.8459	-.54	2.86	.4439	.0397	-.0108	.0545	-1.71	2.77	.0503	-.65	2.58
24	-2.00	5.18	.8145	-.53	2.87	.2584	.0471	.0066	.0350	-1.60	3.01	.0392	-.63	2.78
36	-2.12	5.18	.7610	-.51	2.84	.1126	.0426	-.0348	.0265	-1.52	3.37	.0781	-.61	2.86
48	-2.24	5.19	.7243	-.48	2.73	.0722	.0528	-.0654	.0515	-1.45	3.52	.1058	-.59	2.87
60	-2.40	5.20	.6536	-.49	2.78	.1590	.0568	-.0830	.0735	-1.35	3.93	.1337	-.57	2.84
72	-2.54	5.18	.6078	-.49	2.76	.1314	.0492	-.0891	.0738	-1.31	4.12	.1620	-.56	2.85

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
5	1/65 - 12/74	0	90.0	2.32	2.39	-.6009	-2.15	2.59	620
5	1/65 - 12/74	1	90.0	1.02	3.43	-.1995	-3.93	4.41	620
5	1/65 - 12/74	2	90.0	1.02	4.10	-.3577	-3.13	5.43	620
5	1/65 - 12/74	3	90.0	2.72	5.90	-.4074	-2.57	6.53	620
5	1/65 - 12/74	4	90.0	4.54	7.29	-.3220	-2.20	7.45	620
5	1/65 - 12/74	5	90.0	6.17	8.44	-.1763	-2.01	8.09	620
5	1/65 - 12/74	6	90.0	7.48	9.54	-.0595	-2.05	9.04	620
5	1/65 - 12/74	7	90.0	8.73	10.63	-.0013	-2.29	10.32	620
5	1/65 - 12/74	8	90.0	10.06	11.72	.0601	-2.56	11.78	620
5	1/65 - 12/74	9	90.0	11.27	12.61	.1322	-2.44	12.78	620
5	1/65 - 12/74	10	90.0	12.72	13.43	.1951	-2.30	13.58	620
5	1/65 - 12/74	11	90.0	14.09	14.04	.2578	-2.07	14.05	620
5	1/65 - 12/74	12	90.0	15.08	13.20	.2846	-2.07	12.82	620
5	1/65 - 12/74	13	90.0	15.31	11.17	.2797	-1.25	14.05	620
5	1/65 - 12/74	14	90.0	14.75	11.17	.2104	.00	10.61	620
5	1/65 - 12/74	15	90.0	13.22	8.93	.1718	.91	8.59	620
5	1/65 - 12/74	16	90.0	11.17	7.00	.1725	1.45	6.84	620
5	1/65 - 12/74	17	90.0	8.59	5.80	.1054	1.43	5.69	620
5	1/65 - 12/74	18	90.0	5.57	4.89	.1232	1.43	4.37	620
5	1/65 - 12/74	19	90.0	2.87	3.95	.0947	1.05	3.45	620
5	1/65 - 12/74	20	90.0	.22	3.62	.1000	.64	2.73	620
5	1/65 - 12/74	21	90.0	-1.40	3.42	.1441	.04	2.31	620
5	1/65 - 12/74	22	90.0	-2.36	3.40	.0733	-.36	2.46	620
5	1/65 - 12/74	23	90.0	-2.79	3.32	.1021	-.51	2.22	620
5	1/65 - 12/74	24	90.0	-2.69	3.65	.0703	-.75	2.28	620
5	1/65 - 12/74	25	90.0	-2.60	4.08	.0838	-.68	2.33	620
5	1/65 - 12/74	26	90.0	-2.31	4.26	.0151	-.59	2.31	620
5	1/65 - 12/74	27	90.0	-1.73	4.67	.0242	-.58	2.49	620
5	1/65 - 12/74	27	90.0	-1.73	5.19		-.58	2.88	620

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN Y	S.D. Y	R (YP,X)	MEAN XP	S.D. XP	R (YP,X)	MEAN YP	S.D. YP
12	2.43	2.31	-.4148	-1.89	2.35	.2203	-1.88	2.37	600	2.39	2.05	-.5737	2.49	2.27	2.51	2.05	-.5737	-1.91	2.05	-.5737	2.39	2.05	-.5737	-1.87	2.27
24	2.43	2.30	.7078	-1.91	2.34	.4196	-1.88	2.37	600	2.49	1.64	-.4202	2.49	2.09	2.51	1.64	-.4202	-1.91	1.64	-.4202	2.49	1.64	-.4202	-1.91	2.09
36	2.42	2.29	-.4830	-1.93	2.31	-.0039	-1.88	2.37	600	2.38	2.01	-.5520	2.38	2.32	2.51	2.01	-.5520	-1.86	2.01	-.5520	2.38	2.01	-.5520	-1.86	2.32
48	2.42	2.28	.6300	-1.92	2.32	.2365	-1.88	2.37	600	2.49	1.80	-.3430	2.49	2.25	2.51	1.80	-.3430	-1.91	1.80	-.3430	2.49	1.80	-.3430	-1.91	2.25
60	2.42	2.28	-.5497	-1.92	2.33	-.0744	-1.88	2.37	600	2.38	1.93	-.5265	2.38	2.29	2.51	1.93	-.5265	-1.85	1.93	-.5265	2.38	1.93	-.5265	-1.85	2.29
72	2.42	2.29	.5723	-1.92	2.33	.1518	-1.88	2.37	600	2.49	1.89	-.5332	2.49	2.29	2.51	1.89	-.5332	-1.91	1.89	-.5332	2.49	1.89	-.5332	-1.91	2.29

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (M) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN Y	S.D. Y	R (YP,X)	MEAN XP	S.D. XP	R (YP,X)	MEAN YP	S.D. YP
12	.80	3.15	-.2355	-3.51	4.34	-3.51	-3.51	4.34	600	.86	2.79	-.0560	-3.59	3.30	.80	3.15	-.2355	-3.51	4.34	-.0560	.86	2.79	-.0560	-3.59	3.30
24	.79	3.12	.3541	-3.53	4.28	.6339	-3.51	4.34	600	.87	2.74	-.2254	-3.53	3.66	.79	3.12	.3541	-3.53	4.28	-.2254	.87	2.74	-.2254	-3.53	3.66
36	.83	3.11	.0720	-3.59	4.26	.5313	-3.51	4.34	600	.81	2.99	-.1727	-3.53	4.19	.83	3.11	.0720	-3.53	4.26	-.1727	.81	2.99	-.1727	-3.53	4.19
48	.82	3.11	.2194	-3.62	4.21	.2165	-3.51	4.34	600	.82	3.06	-.2477	-3.49	4.20	.82	3.11	.2194	-3.49	4.20	-.2477	.82	3.06	-.2477	-3.49	4.20
60	.83	3.10	-.1024	-3.67	4.20	.0353	-3.51	4.34	600	.78	3.04	-.2360	-3.50	4.34	.83	3.10	-.1024	-3.50	4.34	-.2360	.78	3.04	-.2360	-3.50	4.34
72	.80	3.12	.6774	-3.66	4.23	.0677	-3.51	4.34	600	.81	3.14	-.2490	-3.47	4.25	.80	3.12	.6774	-3.47	4.25	-.2490	.81	3.14	-.2490	-3.47	4.25

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDERBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	P (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		.80	4.06				-.4029	-2.59	5.16	600				.80	-2.79
12		.76	4.04	.6356	-2.57	5.13	.6658	.6558	-.4018	-.2576	.85	3.09	-.2823	-2.74	3.85
24		.74	4.03	.4951	-2.54	5.12	.5519	.5519	-.3969	-.2050	.88	3.42	-.2730	-2.73	4.31
36		.74	4.05	.2739	-2.54	5.12	.3378	.4057	-.0911	-.2702	.85	3.84	-.3608	-2.68	4.85
48		.77	4.03	.2279	-2.52	5.11	.2858	.4102	-.0652	-.2471	.86	3.89	-.3709	-2.67	4.94
60		.82	4.30	.0231	-2.52	5.09	.1168	.4111	-.0255	-.1408	.83	4.02	-.3975	-2.64	5.11
72		.82	3.98	.0651	-2.48	5.07	.0833	.4123	.0507	-.1513	.84	4.01	-.3963	-2.63	5.12

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	P (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		2.41	5.52				-.3349	-1.41	6.16	800				3.37	-1.75
12		2.39	5.48	.7819	-1.37	6.13	.7671	.7671	-.3272	-.2266	3.12	3.38	-.1845	-1.67	3.85
24		2.38	5.46	.6079	-1.33	6.13	.6104	.6104	-.3269	-.1785	3.02	4.29	-.2162	-1.64	4.88
36		2.39	5.47	.4306	-1.31	6.15	.4477	.4477	-.3284	-.1145	2.85	4.91	-.2760	-1.57	5.50
48		2.46	5.45	.3165	-1.28	6.14	.3637	.3637	-.3292	-.0699	2.72	5.18	-.2996	-1.53	5.73
60		2.53	5.40	.1956	-1.25	6.15	.2426	.2426	-.3294	.0169	2.60	5.37	-.3249	-1.44	5.84
72		2.57	5.38	.1151	-1.19	6.13	.1710	.1710	-.3303	.0602	2.53	5.45	-.3313	-1.41	6.02

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0
 X = U/(AT T)
 Y = V/(AT T)
 XP = U/(AT T + DT)
 YP = V/(AT T + DT)

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
12	3.87	6.64	.8092	-.44	6.93	.8095	.8095	-.2490	600	4.07	3.86	-.0981	-.93	4.97	-.3156
24	3.90	6.62	.8407	-.39	6.95	.8377	.8377	-.2514	600	4.07	3.86	-.0981	-.88	4.97	-.3206
36	3.87	6.58	.4802	-.35	6.98	.4975	.4975	-.2551	600	4.05	3.77	-.1760	-.82	4.95	-.2848
48	3.96	6.53	.3684	-.32	6.97	.4015	.4015	-.2601	600	4.02	6.14	-.2066	-.78	4.01	-.2483
60	3.99	6.48	.2419	-.27	6.97	.2984	.2984	-.2676	600	4.01	6.42	-.2340	-.74	4.01	-.2124
72	4.03	6.44	.1402	-.23	6.94	.2057	.2057	-.2717	600	4.01	6.56	-.2457	-.70	4.01	-.1847

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
4.02

GIVEN Y
-.95

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
12	5.45	7.46	.7896	-.12	7.76	.8040	.8040	-.2004	600	5.74	4.58	-.1406	-.62	4.59	-.2470
24	5.45	7.44	.8249	-.06	7.78	.8381	.8381	-.2008	600	5.72	4.81	-.1159	-.57	4.59	-.2566
36	5.43	7.41	.4728	-.01	7.81	.4945	.4945	-.2051	600	5.70	6.57	-.1340	-.51	4.57	-.2407
48	5.47	7.35	.3752	.04	7.81	.3593	.3593	-.2138	600	5.59	6.88	-.1400	-.47	4.57	-.2517
60	5.49	7.31	.2485	.11	7.80	.3028	.3028	-.2271	600	5.67	7.17	-.1699	-.42	4.57	-.2426
72	5.52	7.28	.1531	.19	7.79	.2059	.2059	-.2384	600	5.66	7.33	-.1894	-.36	4.56	-.2190

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
5.73

GIVEN Y
-.67

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		8.94	8.51	-0.1842	.02	8.90	8.90	600			7.39	-0.60			
12		6.90	8.39	.8009	.10	8.92	.8145	-0.1769	-0.1126	-0.2123	7.38	5.06	-0.1050	-0.54	5.15
24		6.89	8.36	.8416	.14	8.93	.8462	-0.1746	-0.1020	-0.2311	7.34	6.45	-0.0719	-0.45	6.79
36		6.86	8.31	.8053	.20	8.95	.8022	-0.1814	-0.1036	-0.2356	7.31	7.22	-0.0817	-0.39	7.69
48		6.90	8.24	.4001	.25	8.95	.3881	-0.1890	-0.0806	-0.2516	7.27	7.65	-0.1013	-0.31	8.20
60		6.91	8.22	.2670	.30	8.93	.3076	-0.1979	-0.0222	-0.2502	7.23	8.02	-0.1295	-0.24	8.46
72		6.94	8.19	.1816	.42	8.91	.2370	-0.2126	-.0233	-0.2271	7.20	8.21	-0.1506	-0.20	8.62

ALTIITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		8.54	9.51	-0.1565	.21	10.18	10.18	600			9.07	-0.49			
12		8.48	9.35	.8089	.29	10.19	.8069	-0.1547	-0.1146	-0.1881	9.07	5.56	-0.0374	-0.42	6.01
24		8.44	9.32	.8471	.32	10.20	.8200	-0.1541	-0.1002	-0.2047	9.03	7.18	-0.0449	-0.30	7.99
36		8.40	9.29	.8212	.37	10.21	.4596	-0.1572	-0.1061	-0.2195	8.99	8.01	-0.0518	-0.21	9.04
48		8.46	9.22	.3597	.42	10.22	.3685	-0.1636	-0.0831	-0.2286	8.92	8.57	-0.0761	-0.14	9.46
60		8.48	9.20	.2778	.46	10.17	.3078	-0.1736	-0.0341	-0.2282	8.86	8.97	-0.1014	-0.08	8.69
72		8.52	9.17	.1943	.57	10.14	.2425	-0.1655	.0165	-0.2136	8.81	9.17	-0.1227	-0.02	9.86

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
		10.15	10.83	-.1110	.17	11.78	600															
12		10.08	10.54	.8093	.24	11.78		.7819	-.1132	-.0937	-.1279	10.69	6.35	-.0187	10.64	8.32	-.0020	10.69	10.69	10.69	7.34	
24		10.02	10.59	.6355	.26	11.79		.5780	-.1133	-.1054	-.1466	10.64	8.32	-.0020	10.64	8.32	-.0020	10.64	10.64	10.64	9.60	
36		9.98	10.56	.5026	.30	11.79		.4091	-.1132	-.1083	-.1658	10.60	9.29	-.0170	10.60	9.29	-.0170	10.60	10.60	10.60	10.72	
48		10.06	10.52	.3800	.37	11.80		.3247	-.1185	-.0926	-.1792	10.50	9.91	-.0384	10.50	9.91	-.0384	10.50	10.50	10.50	11.12	
60		10.10	10.50	.2730	.39	11.75		.2770	-.1264	-.0396	-.1871	10.44	10.28	-.0636	10.44	10.28	-.0636	10.44	10.44	10.44	11.32	
72		10.18	10.42	.1979	.51	11.69		.2158	-.1398	.0114	-.1799	10.40	10.48	-.0842	10.40	10.48	-.0842	10.40	10.40	10.40	11.49	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
10.71	-.56

ALTITUDE (KM) - 9

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
		11.74	11.78	-.0905	.58	13.39	600															
12		11.67	11.58	.8298	.66	13.40		.7597	-.0952	-.0987	-.1039	12.34	6.56	.0282	12.28	8.89	.0272	12.34	12.34	12.34	9.70	
24		11.52	11.52	.6520	.68	13.39		.5581	-.0957	-.1142	-.1230	12.28	8.89	.0272	12.28	8.89	.0272	12.28	12.28	12.28	11.08	
36		11.60	11.49	.5195	.69	13.41		.3914	-.0996	-.1372	-.1440	12.21	10.02	.0200	12.21	10.02	.0200	12.21	12.21	12.21	12.25	
48		11.68	11.47	.3956	.76	13.41		.3109	-.1022	-.1117	-.1479	12.11	10.73	-.0160	12.11	10.73	-.0160	12.11	12.11	12.11	12.68	
60		11.75	11.44	.2961	.83	13.36		.2545	-.1161	-.0466	-.1645	12.04	11.13	-.0480	12.04	11.13	-.0480	12.04	12.04	12.04	12.95	
72		11.85	11.33	.2233	1.02	13.28		.2100	-.1306	.0178	-.1566	11.99	11.36	-.0710	11.99	11.36	-.0710	11.99	11.99	11.99	13.08	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
12.36	-.23

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (S3214) - VANDEBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	13.92	12.42	-.0238	.84	14.62	600												14.12	.08
12	13.42	12.23	.8053	1.03	14.63		1.03	14.63	-.0288	.7534	-.0594	-.0181	-.0288	-.0181	14.09	7.37	-.0520	.19	9.60
24	13.37	12.15	.6314	1.06	14.63		1.06	14.63	-.0325	.5627	-.0795	-.0486	-.0325	-.0486	14.03	9.63	-.0643	.33	12.05
36	13.36	12.11	.5040	1.10	14.64		1.10	14.64	-.0351	.4091	-.1089	-.0790	-.0351	-.0790	13.97	10.70	-.0713	.44	13.27
48	13.45	12.10	.3966	1.16	14.63		1.16	14.63	-.0404	.3169	-.1037	-.0930	-.0404	-.0930	13.86	11.37	-.0480	.53	13.80
60	13.55	12.04	.3014	1.25	14.59		1.25	14.59	-.0571	.2520	-.0503	-.1032	-.0571	-.1032	13.79	11.80	-.0140	.62	14.14
72	13.68	11.90	.2115	1.47	14.44		1.47	14.44	-.0745	.1996	-.0007	-.1057	-.0745	-.1057	13.73	12.09	-.0058	.66	14.33

ALTIITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.45	12.71	.0228	1.47	15.14	600												16.10	.75
12	15.39	12.59	.8022	1.56	15.14		1.56	15.14	.0173	.7638	-.0275	.0334	.0173	.0334	16.01	7.59	.0779	.81	9.75
24	15.35	12.54	.6348	1.62	15.15		1.62	15.15	.0132	.5852	-.0563	.0114	.0132	.0114	15.93	9.82	.0911	.90	12.24
36	15.35	12.49	.5034	1.68	15.15		1.68	15.15	.0088	.4330	-.0945	-.0345	.0088	-.0345	15.86	10.97	.1135	.97	13.53
48	15.45	12.46	.3881	1.75	15.14		1.75	15.14	.0047	.3468	-.1034	-.0453	.0047	-.0453	15.74	11.70	.0911	1.04	14.11
60	15.55	12.39	.2778	1.89	15.09		1.89	15.09	-.0110	.2801	-.0557	-.0585	-.0110	-.0585	15.66	12.19	.0585	1.12	14.51
72	15.64	12.27	.1814	2.12	14.93		2.12	14.93	-.0292	.2234	-.0191	-.0725	-.0292	-.0725	15.61	12.47	.0432	1.15	14.75

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	17.24	12.80	.0656	2.23	14.57	600	17.20	12.74	.8065	2.32	14.58	17.85	17.97	1.62	14.57	17.85	7.56	.0751	1.64	8.62
24							17.16	12.72	.6371	2.38	14.59	17.75				17.75	9.86	.1083	1.70	11.33
36							17.19	12.66	.5133	2.48	14.61	17.66				17.66	10.98	.1358	1.74	12.68
48							17.28	12.58	.3902	2.59	14.61	17.54				17.54	11.78	.1211	1.78	13.37
60							17.35	12.50	.2701	2.73	14.59	17.45				17.45	12.32	.0961	1.84	13.81
72							17.42	12.40	.1736	2.96	14.51	17.41				17.41	12.59	.0867	1.87	14.09

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	N	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y
12	17.20	12.74	.8065	2.32	14.58	600	17.85	7.56	.0751	1.64	8.62	17.85	7.56	.0751	1.64	8.62	17.85	7.56	.0751	1.64	8.62
24	17.16	12.72	.6371	2.38	14.59		17.75	9.86	.1083	1.70	11.33	17.75	9.86	.1083	1.70	11.33	17.75	9.86	.1083	1.70	11.33
36	17.19	12.66	.5133	2.48	14.61		17.66	10.98	.1358	1.74	12.68	17.66	10.98	.1358	1.74	12.68	17.66	10.98	.1358	1.74	12.68
48	17.28	12.58	.3902	2.59	14.61		17.54	11.78	.1211	1.78	13.37	17.54	11.78	.1211	1.78	13.37	17.54	11.78	.1211	1.78	13.37
60	17.35	12.50	.2701	2.73	14.59		17.45	12.32	.0961	1.84	13.81	17.45	12.32	.0961	1.84	13.81	17.45	12.32	.0961	1.84	13.81
72	17.42	12.40	.1736	2.96	14.51		17.41	12.59	.0867	1.87	14.09	17.41	12.59	.0867	1.87	14.09	17.41	12.59	.0867	1.87	14.09

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	17.24	11.55	.0578	3.04	13.03	600	17.17	11.52	.8124	3.14	13.04	17.28	17.25	2.62	13.03	17.28	6.72	.0157	2.61	7.10
24							17.14	11.52	.6702	3.24	13.07	17.30				17.30	8.57	.0962	2.62	9.59
36							17.16	11.47	.5400	3.34	13.09	17.29				17.29	9.72	.1164	2.65	10.98
48							17.22	11.40	.4084	3.48	13.12	17.27				17.27	10.54	.1070	2.67	11.73
60							17.28	11.31	.2792	3.63	13.14	17.26				17.26	11.08	.0885	2.59	12.16
72							17.31	11.23	.1698	3.83	13.12	17.28				17.28	11.33	.0818	2.70	12.46

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	N	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y
12	17.17	11.52	.8124	3.14	13.04	600	17.28	6.72	.0157	2.61	7.10	17.28	6.72	.0157	2.61	7.10	17.28	6.72	.0157	2.61	7.10
24	17.14	11.52	.6702	3.24	13.07		17.30	8.57	.0962	2.62	9.59	17.30	8.57	.0962	2.62	9.59	17.30	8.57	.0962	2.62	9.59
36	17.16	11.47	.5400	3.34	13.09		17.29	9.72	.1164	2.65	10.98	17.29	9.72	.1164	2.65	10.98	17.29	9.72	.1164	2.65	10.98
48	17.22	11.40	.4084	3.48	13.12		17.27	10.54	.1070	2.67	11.73	17.27	10.54	.1070	2.67	11.73	17.27	10.54	.1070	2.67	11.73
60	17.28	11.31	.2792	3.63	13.14		17.26	11.08	.0885	2.59	12.16	17.26	11.08	.0885	2.59	12.16	17.26	11.08	.0885	2.59	12.16
72	17.31	11.23	.1698	3.83	13.12		17.28	11.33	.0818	2.70	12.46	17.28	11.33	.0818	2.70	12.46	17.28	11.33	.0818	2.70	12.46

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDEBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KH) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R ² (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		15.31	9.34	.0754	3.48	10.69	600													
12		15.25	9.34	.8252	3.57	10.69				.0425			.8588	.0656	.0726	16.72	5.27	.0844	3.03	5.48
24		15.22	9.33	.7032	3.66	10.69				.0039			.7012	.0589	.0417	16.53	6.67	.1422	2.99	7.61
36		15.24	9.30	.5652	3.75	10.70				-.0390			.5638	.0540	-.0059	16.30	7.76	.1716	2.95	8.80
48		15.27	9.25	.4359	3.90	10.74				-.0481			.4520	.0462	-.0480	16.11	8.38	.1996	2.97	9.51
60		15.28	9.20	.3173	4.05	10.78				-.0339			.3744	.0327	-.0813	15.93	8.81	.1379	3.02	9.90
72		15.28	9.16	.2220	4.22	10.80				-.0164			.3242	.0198	-.1019	15.60	9.05	.1239	3.06	10.11

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.97	3.08

ALTITUDE (KH) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R ² (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		12.35	7.48	.0104	3.20	8.20	600													
12		12.31	7.48	.8196	3.26	8.19				.0195			.8625	.0029	-.0119	12.78	4.28	.0236	2.78	4.15
24		12.30	7.48	.6940	3.35	8.19				-.0060			.7230	-.0044	-.0595	12.75	5.37	.1117	2.78	5.67
36		12.28	7.45	.5765	3.44	8.20				-.0304			.5656	-.0100	-.0882	12.72	6.08	.1158	2.79	6.65
48		12.26	7.41	.4605	3.50	8.23				-.0475			.4721	-.0219	-.1148	12.69	6.59	.1052	2.80	7.22
60		12.25	7.40	.3268	3.65	8.24				-.0470			.3875	-.0370	-.1240	12.63	7.02	.0799	2.84	7.56
72		12.20	7.40	.2282	3.77	8.22				-.0326			.3327	-.0495	-.1294	12.60	7.23	.0627	2.85	7.73

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.82	2.77

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	8.60	5.77	-0.0854	2.46	8.04	600	8.60	2.14	0.84	0.094	0.0815	2.15	3.39	0.094	2.15	3.39
12	24	8.59	5.79	.7644	2.52	6.04	600	8.59	2.52	-0.741	-0.0484	-0.0947	8.84	3.71	0.094	2.15	3.39
24	36	8.51	5.78	.6954	2.58	6.03	600	8.51	2.58	-0.642	-0.0432	-0.1599	8.67	4.10	0.0815	2.14	4.09
36	48	8.46	5.79	.5620	2.67	6.05	600	8.46	2.67	-0.927	-0.0718	-0.1775	8.88	4.72	0.0725	2.14	4.90
48	60	8.42	5.77	.4417	2.76	6.06	600	8.42	2.76	-1.025	-0.0718	-0.2181	8.88	5.08	0.0655	2.15	5.27
60	72	8.35	5.80	.3517	2.84	6.06	600	8.35	2.84	-1.234	-0.0806	-0.2231	8.69	5.30	0.0382	2.17	5.56
72		8.27	5.81	.2554	2.90	6.05	600	8.27	2.90	-1.321	-0.0504	-0.2257	8.68	5.46	0.0118	2.21	5.71

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	24	4.77	4.75	-0.0642	1.67	4.51	600	4.77	1.67	4.97	1.47	0.095	4.99	3.34	0.095	1.48	3.28
12	24	4.68	4.78	.7054	1.75	4.52	600	4.68	1.75	-1.052	-0.0686	-0.1823	4.99	3.34	0.095	1.48	3.28
24	36	4.60	4.81	.6479	1.77	4.52	600	4.60	1.77	-1.053	-0.0253	-0.2298	5.05	3.53	0.0574	1.48	3.32
36	48	4.53	4.81	.5365	1.83	4.51	600	4.53	1.83	-1.189	-0.0581	-0.2410	5.06	3.92	0.0362	1.50	3.97
48	60	4.45	4.85	.4564	1.87	4.52	600	4.45	1.87	-1.255	-0.0486	-0.2536	5.07	4.12	0.0173	1.50	4.06
60	72	4.38	4.85	.3595	1.92	4.51	600	4.38	1.92	-1.380	-0.0645	-0.2704	5.08	4.32	-0.0111	1.53	4.32
72		4.28	4.89	.2602	1.96	4.50	600	4.28	1.96	-1.420	-0.0572	-0.2499	5.05	4.44	-0.0223	1.52	4.33

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	.82	3.85	-.1412	1.15	3.18	600											
MR																	
12	.76	3.86	.6237	1.18	3.17		.93	3.00	-.0338	1.05	2.63	-.1553	.93	3.00	-.0338	1.05	2.63
24	.70	3.87	.6210	1.21	3.18		1.05	2.95	-.0846	1.05	2.57	-.2563	1.05	2.95	-.0846	1.05	2.57
36	.64	3.87	.5247	1.23	3.18		1.06	3.19	-.0205	1.08	2.93	-.2790	1.06	3.19	-.0205	1.08	2.93
48	.60	3.38	.4667	1.28	3.15		1.06	3.28	-.0847	1.08	3.03	-.3232	1.06	3.28	-.0847	1.08	3.03
60	.55	3.89	.3581	1.29	3.15		1.06	3.44	-.0577	1.08	3.10	-.3267	1.06	3.44	-.0577	1.08	3.10
72	.46	3.92	.2965	1.31	3.13		1.05	3.57	-.0910	1.09	3.12	-.2766	1.05	3.57	-.0910	1.09	3.12

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
	1.01	1.00

..... ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	-1.18	3.34	-.1005	.59	2.52	600											
MR																	
12	-2.05	3.34	.5474	.62	2.51		-1.90	2.80	-.0675	.53	2.25	-.0767	-1.90	2.80	-.0675	.53	2.25
24	-2.13	3.36	.5372	.62	2.50		-1.83	2.65	-.0806	.54	2.22	-.1605	-1.83	2.65	-.0806	.54	2.22
36	-2.21	3.35	.4328	.64	2.50		-1.83	2.99	-.0567	.54	2.40	-.1470	-1.83	2.99	-.0567	.54	2.40
48	-2.26	3.35	.4836	.68	2.50		-1.78	3.12	-.0500	.53	2.48	-.1957	-1.78	3.12	-.0500	.53	2.48
60	-2.33	3.37	.3220	.70	2.51		-1.81	3.12	-.081	.53	2.48	-.1906	-1.81	3.12	-.081	.53	2.48
72	-2.41	3.33	.2961	.71	2.51		-1.79	3.13	-.0821	.56	2.52	-.2172	-1.79	3.13	-.0821	.56	2.52

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
	-1.89	.50

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (52214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 20

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
	-4.13	3.14	-0.0373	.25	2.14	600					
12	-4.18	3.14	.5432	.26	2.14		.26	2.14	.0297	.26	2.14
24	-4.26	3.15	.5316	.29	2.15		.29	2.15	-.0284	.29	2.15
36	-4.32	3.16	.4281	.31	2.16		.31	2.16	-.0263	.31	2.16
48	-4.40	3.19	.4117	.33	2.18		.33	2.18	-.0332	.33	2.18
60	-4.47	3.21	.3078	.35	2.17		.35	2.17	-.0475	.35	2.17
72	-4.56	3.23	.2993	.36	2.17		.36	2.17	-.0578	.36	2.17

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-4.06	2.04	-.0291	.22	2.06
	-4.00	2.05	-.0291	.22	2.08
	-3.97	2.06	-.0091	.22	2.12
	-3.59	2.08	-.0052	.21	2.12
	-3.56	2.08	-.0057	.21	2.12
	-3.56	2.08	-.0039	.21	2.13

ALTITUDE (M) - 21

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
	-5.98	3.05	-.0693	.05	2.02	600					
12	-5.70	3.06	.5136	.07	2.01		.07	2.01	-.0940	.07	2.01
24	-5.78	3.04	.5011	.08	2.01		.08	2.01	-.0710	.08	2.01
36	-5.85	3.04	.4446	.09	2.00		.09	2.00	-.0693	.09	2.00
48	-5.92	3.06	.4163	.09	2.02		.09	2.02	-.0693	.09	2.02
60	-6.02	3.04	.3614	.10	2.03		.10	2.03	-.0936	.10	2.03
72	-6.09	3.06	.3658	.09	2.04		.09	2.04	-.1053	.09	2.04

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-6.02	2.61	-.0231	.09	1.96
	-5.95	2.64	-.0534	.04	1.98
	-5.88	2.73	-.0233	.07	2.00
	-5.82	2.77	-.0207	.11	2.00
	-5.75	2.84	-.0437	.07	2.01
	-5.73	2.84	-.0445	.03	2.00

ORIGINAL PAGE IS OF POOR QUALITY

STATISTICS OF X, Y, XP, YP
 X = VIAT T;
 Y = VIAT T;
 XP = VIAT T + DT;
 YP = VIAT T + DT)

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	-5.96	3.04	-0.372	-1.1	2.03	600										
12	24	-5.96	3.22	.511	-.14	2.03	.1905	-.0431	-.0601	.0983			-6.80	2.59	-.0356	-.18	1.99
24	36	-7.05	3.22	.5225	-.14	2.06	.1698	-.0580	.0121	-.0869			-6.74	2.59	-.0404	-.17	2.00
36	48	-7.16	3.21	.4723	-.15	2.05	.0513	-.0515	-.0138	.0275			-6.71	2.72	-.0404	-.18	2.02
48	60	-7.27	3.11	.4016	-.17	2.05	.0573	-.0577	-.0494	-.0589			-6.69	2.78	-.0164	-.13	2.02
60	72	-7.35	3.22	.3928	-.15	2.05	-.0615	-.0577	-.0475	-.0217			-6.67	2.83	-.0255	-.19	2.02
72	84	-7.45	2.99	.2324	-.14	2.07	-.0395	-.0770	.0002	-.1428			-6.67	2.98	-.0444	-.17	2.03

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.83	-.17

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	-7.92	3.21	-.0250	-1.35	1.91	600										
12	24	-8.03	3.22	.5124	-.34	1.92	.0318	-.0405	-.0892	.0323			-7.86	2.76	.0124	-.35	1.90
24	36	-8.11	3.18	.4573	-.34	1.92	.0438	-.0350	-.0118	-.0394			-7.82	2.85	-.0210	-.35	1.91
36	48	-8.23	3.15	.4432	-.34	1.92	.0434	-.0372	-.0531	.0181			-7.78	2.88	-.0035	-.36	1.91
48	60	-8.31	3.17	.3270	-.35	1.91	-.0259	-.0398	-.0478	.0228			-7.77	2.95	-.0070	-.36	1.90
60	72	-8.40	3.22	.3226	-.34	1.92	-.0252	-.0512	-.0574	-.0571			-7.75	3.02	-.0037	-.37	1.90
72	84	-8.52	3.18	.3337	-.34	1.91	-.0227	-.0327	-.0763	.0511			-7.71	3.03	-.0055	-.35	1.91

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.89	-.37

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-8.53	3.34	-.0451	-.38	1.92	600													
12	-8.63	3.33	.5967	.1058	1.91		-8.46	2.68	-.0224	-8.40	1.90	-8.46	2.68	.0224	-8.46	2.68	.0224	-8.40	1.90
24	-8.73	3.34	.5825	.0550	1.93		-8.40	2.69	-.0486	-8.34	1.92	-8.40	2.69	-.0486	-8.40	2.69	-.0486	-8.34	1.92
36	-8.86	3.36	.5350	.0253	1.93		-8.34	2.81	-.0254	-8.29	1.91	-8.34	2.81	-.0254	-8.29	2.81	-.0254	-8.29	1.91
48	-8.97	3.37	.5192	.0547	1.93		-8.29	2.95	-.0268	-8.28	1.91	-8.29	2.95	-.0268	-8.28	2.95	-.0268	-8.28	1.91
60	-9.06	3.37	.4509	-.0346	1.94		-8.28	2.98	-.0054	-8.24	1.91	-8.28	2.98	-.0054	-8.24	2.98	-.0054	-8.24	1.91
72	-9.17	3.36	.4418	-.0191	1.95		-8.24	2.99	-.0197	-8.24	1.92	-8.24	2.99	-.0197	-8.24	2.99	-.0197	-8.24	1.92

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-9.35	3.57	-.0514	-.31	2.03	600													
12	-9.48	3.51	.6618	.1006	2.03		-9.25	2.67	-.0657	-9.19	2.01	-9.25	2.67	.0657	-9.25	2.67	.0657	-9.19	2.01
24	-9.59	3.49	.6176	.0395	2.04		-9.19	2.81	-.0535	-9.12	2.02	-9.19	2.81	-.0535	-9.12	2.81	-.0535	-9.12	2.02
36	-9.73	3.50	.5825	.0041	2.05		-9.12	3.00	-.0793	-9.06	2.02	-9.12	3.00	-.0793	-9.06	3.00	-.0793	-9.06	2.02
48	-9.86	3.53	.5400	.0394	2.05		-9.06	3.04	-.0812	-9.01	2.02	-9.06	3.04	-.0812	-9.01	3.04	-.0812	-9.01	2.02
60	-9.99	3.52	.5237	-.0742	2.10		-9.01	3.06	-.1087	-8.95	2.02	-9.01	3.06	-.1087	-8.95	3.06	-.1087	-8.95	2.02
72	-10.11	3.51	.5125	-.0153	2.11		-8.95	3.06	-.1083	-8.95	2.02	-8.95	3.06	-.1083	-8.95	3.06	-.1083	-8.95	2.02

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG X = U(AT T)
 MONTH OF RECORD - JULY Y = V(AT T)
 PERIOD OF RECORD - 1/55 - 12/74 XP = U(AT T + DT)
 ALPHA ANGLE - 93.0 YP = V(AT T + DT)

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP	
		-9.88	3.80	-0.108	-0.18	2.18	600											
12		-10.00	3.79		0.1579	2.17		-9.85	2.73		-9.85	2.12	-9.85	2.73		-0.135	-0.18	2.12
24		-10.14	3.76		0.302	2.17		-9.75	2.81		-9.75	2.13	-9.75	2.81		-0.322	-0.19	2.13
36		-10.27	3.72		0.356	2.11		-9.68	3.00		-9.68	2.15	-9.68	3.00		-0.331	-0.20	2.15
48		-10.41	3.73		0.333	2.09		-9.61	3.12		-9.61	2.15	-9.61	3.12		-0.479	-0.21	2.15
60		-10.56	3.69		0.033	2.14		-9.55	3.21		-9.55	2.14	-9.55	3.21		-0.447	-0.23	2.14
72		-10.69	3.66		0.094	2.13		-9.50	3.30		-9.50	2.15	-9.50	3.30		-0.659	-0.23	2.15

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP	
		-10.08	3.87	-0.108	-0.20	2.15	600											
12		-10.21	3.82		0.1784	2.14		-10.00	2.91		-10.00	2.11	-10.00	2.91		0.052	-0.20	2.11
24		-10.34	3.82		0.036	2.12		-9.91	2.92		-9.91	2.14	-9.91	2.92		0.035	-0.20	2.14
36		-10.48	3.75		0.743	2.10		-9.83	3.05		-9.83	2.14	-9.83	3.05		0.166	-0.21	2.14
48		-10.51	3.73		0.110	2.11		-9.75	3.13		-9.75	2.15	-9.75	3.13		0.115	-0.21	2.15
60		-10.73	3.68		0.033	2.16		-9.71	3.26		-9.71	2.14	-9.71	3.26		0.113	-0.22	2.14
72		-10.87	3.69		0.015	2.16		-9.63	3.35		-9.63	2.14	-9.63	3.35		0.113	-0.22	2.14

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6	1/65 - 12/74	0	90.0	2.43	2.32	-.5661	-1.88	2.37	600
6	1/65 - 12/74	1	90.0	.80	3.15	-.2355	-3.51	4.34	600
6	1/65 - 12/74	2	90.0	.80	4.06	-.4029	-2.59	5.16	600
6	1/65 - 12/74	3	90.0	2.41	5.52	-.3349	-1.41	6.16	600
6	1/65 - 12/74	4	90.0	3.90	6.70	-.2591	-.92	6.94	600
6	1/65 - 12/74	5	90.0	5.47	7.56	-.2119	-.19	7.75	600
6	1/65 - 12/74	6	90.0	6.94	8.51	-.1642	.02	8.90	600
6	1/65 - 12/74	7	90.0	8.54	9.51	-.1565	.21	10.18	600
6	1/65 - 12/74	8	90.0	10.15	10.83	-.1110	.17	11.78	600
6	1/65 - 12/74	9	90.0	11.74	11.76	-.0905	.58	13.39	600
6	1/65 - 12/74	10	90.0	13.52	12.42	-.0238	.94	14.62	600
6	1/65 - 12/74	11	90.0	15.45	12.71	.0228	1.47	15.14	600
6	1/65 - 12/74	12	90.0	17.24	12.80	.0656	2.23	14.57	600
6	1/65 - 12/74	13	90.0	17.24	11.55	.0578	3.04	13.03	600
6	1/65 - 12/74	14	90.0	15.31	9.34	.0754	3.48	10.69	600
6	1/65 - 12/74	15	90.0	12.35	7.48	.0104	3.20	8.20	600
6	1/65 - 12/74	16	90.0	8.60	5.77	-.0654	2.46	6.04	600
6	1/65 - 12/74	17	90.0	4.77	4.75	-.0942	1.67	4.51	600
6	1/65 - 12/74	18	90.0	.82	3.65	-.1412	1.15	3.18	600
6	1/65 - 12/74	19	90.0	-1.99	3.34	-.1005	.59	2.52	600
6	1/65 - 12/74	20	90.0	-4.13	3.14	-.0373	.25	2.14	600
6	1/65 - 12/74	21	90.0	-5.58	3.05	-.0693	.05	2.02	600
6	1/65 - 12/74	22	90.0	-6.86	3.04	-.0372	-.17	2.03	600
6	1/65 - 12/74	23	90.0	-7.92	3.21	-.0250	-.35	1.91	600
6	1/65 - 12/74	24	90.0	-8.53	3.34	-.0451	-.38	1.92	600
6	1/65 - 12/74	25	90.0	-9.35	3.57	-.0514	-.31	2.03	600
6	1/65 - 12/74	26	90.0	-9.88	3.80	-.1081	-.18	2.16	600
6	1/65 - 12/74	27	90.0	-10.08	3.87	-.0108	-.20	2.15	600

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	P (X, XP)	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	2.01	1.93	-.4805	1.82	0.939	-.4551	1.989	-.2103	2.00	1.82	620	2.00	1.82	-.4551	2.00	1.82
24	2.01	1.93	-.6344	1.85	.4452	-.4480	1.989	-.4066	2.05	1.85	620	2.05	1.85	-.4480	2.05	1.85
36	2.01	1.92	-.4940	1.87	-.0044	-.4546	1.989	-.2613	2.00	1.87	620	2.00	1.87	-.4546	2.00	1.87
48	2.02	1.93	-.5522	1.87	-.2929	-.4611	1.989	-.2970	2.06	1.87	620	2.06	1.87	-.4611	2.06	1.87
60	2.01	1.94	-.5263	1.86	-.0901	-.4754	1.989	-.2726	2.00	1.86	620	2.00	1.86	-.4754	2.00	1.86
72	2.01	1.93	-.5529	1.85	-.2410	-.4726	1.989	-.2928	2.06	1.85	620	2.06	1.85	-.4726	2.06	1.85

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.08	-1.50

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.24	2.54	.1243	3.89	-.2064	-1.90	3.87	-.1969	-.6331	3.87	620	.23	2.44	-.0415	-1.83	2.96
24	.24	2.52	.4726	3.91	-.1969	-.6331	3.87	-.2015	-.4974	3.87	620	.25	2.24	-.2713	-1.83	3.24
36	.26	2.53	-.1182	3.91	-.2049	-.6331	3.87	-.0379	-.1792	3.87	620	.23	2.51	-.1980	-1.87	3.81
48	.26	2.52	-.2226	3.93	-.2022	-.6331	3.87	-.1624	-.0425	3.87	620	.28	2.47	-.2625	-1.88	3.80
60	.27	2.53	-.2020	3.90	-.2008	-.6331	3.87	-.0586	-.0221	3.87	620	.24	2.48	-.2045	-1.91	3.86
72	.28	2.52	-.1753	3.87	-.2062	-.6331	3.87	-.2143	-.0658	3.87	620	.25	2.49	-.2542	-1.90	3.78

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.26	-1.80

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANKENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN YP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-.25	3.04	-.1869	-.16	3.92	620										
12	-.24	3.01	.6345	.7277	-.1810	-.1581	-.20	3.95	-.1810	-.1581	-.2069	-.36	2.33	-.0382	-.06	2.69
24	-.23	3.00	.5086	.5242	-.1841	-.0682	-.22	3.97	-.1841	-.0682	-.1753	-.35	2.60	-.1495	.01	3.34
36	-.22	2.98	.2820	.2857	-.1838	-.0174	-.25	3.98	-.1838	-.0174	-.0468	-.26	2.92	-.1994	-.06	3.76
48	-.24	2.95	.1823	.1505	-.1839	.0130	-.27	4.01	-.1839	.0130	.0035	-.29	2.98	-.2016	-.11	3.88
60	-.27	2.94	.1133	.0719	-.1857	.0540	-.28	4.00	-.1857	.0540	.0664	-.24	3.01	-.2036	-.14	3.90
72	-.30	2.95	.1365	.0368	-.1883	.0550	-.27	3.99	-.1883	.0550	.0631	-.23	3.00	-.2020	-.15	3.91

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.39	.10

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN YP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.88	4.03	-.1257	1.60	4.32	620										
12	.88	4.03	.7352	.7597	-.1295	-.1026	1.58	4.33	-.1295	-.1026	-.1650	.70	2.72	.063	1.81	2.81
24	.88	4.01	.6056	.5232	-.1303	-.0382	1.58	4.35	-.1303	-.0382	-.1397	.73	3.20	-.1039	1.75	3.60
36	.90	3.98	.4687	.3385	-.1350	-.0236	1.56	4.36	-.1350	-.0236	-.0584	.77	3.56	-.1399	1.70	4.06
48	.85	3.95	.3374	.2316	-.1370	.0080	1.56	4.36	-.1370	.0080	.0072	.82	3.82	-.1538	1.66	4.27
60	.80	3.93	.3081	.1537	-.1405	-.0055	1.53	4.35	-.1405	-.0055	.0425	.86	3.82	-.1464	1.65	4.27
72	.75	3.92	.2551	.1209	-.1415	-.0255	1.51	4.35	-.1415	-.0255	.0713	.89	3.97	-.1384	1.64	4.29

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.65	1.87

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.76	4.86	.0035	2.82	4.66	620										
12	1.74	4.82	.7633	2.81	4.66		2.81	4.66	.0007	.7386	.0007	1.54	3.12	-.0621	3.06	3.14
24	1.71	4.78	.6076	2.81	4.64		2.81	4.64	.0069	.5788	.0069	1.60	3.85	-.0659	3.00	3.79
36	1.71	4.75	.4499	2.79	4.62		2.79	4.62	.0049	.4087	.0049	1.66	4.34	-.0259	2.95	4.25
48	1.66	4.73	.3606	2.77	4.63		2.77	4.63	.0093	.3455	.0093	1.71	4.53	-.0255	2.92	4.45
60	1.63	4.72	.2856	2.77	4.63		2.77	4.63	.0076	.3322	.0076	1.73	4.65	-.0142	2.90	4.53
72	1.57	4.70	.2383	2.75	4.62		2.75	4.62	.0136	.1854	.0136	1.75	4.72	-.0021	2.89	4.58

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP
	1.76	4.86	.0035	2.82	4.66	620										
12	1.74	4.82	.7633	2.81	4.66		2.81	4.66	.0007	.7386	.0007	1.54	3.12	-.0621	3.06	3.14
24	1.71	4.78	.6076	2.81	4.64		2.81	4.64	.0069	.5788	.0069	1.60	3.85	-.0659	3.00	3.79
36	1.71	4.75	.4499	2.79	4.62		2.79	4.62	.0049	.4087	.0049	1.66	4.34	-.0259	2.95	4.25
48	1.66	4.73	.3606	2.77	4.63		2.77	4.63	.0093	.3455	.0093	1.71	4.53	-.0255	2.92	4.45
60	1.63	4.72	.2856	2.77	4.63		2.77	4.63	.0076	.3322	.0076	1.73	4.65	-.0142	2.90	4.53
72	1.57	4.70	.2383	2.75	4.62		2.75	4.62	.0136	.1854	.0136	1.75	4.72	-.0021	2.89	4.58

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP
	2.26	5.46	.0642	3.40	4.83	620										
12	2.23	5.42	.7945	3.42	4.82		3.42	4.82	.0465	.7369	.0465	2.06	3.31	.0502	3.68	3.25
24	2.18	5.38	.6626	3.41	4.80		3.41	4.80	.0436	.5640	.0436	2.12	4.05	.0530	3.62	3.97
36	2.16	5.37	.5083	3.41	4.76		3.41	4.76	.0441	.3935	.0441	2.16	4.70	.0653	3.56	4.43
48	2.12	5.36	.4232	3.39	4.76		3.39	4.76	.0487	.2913	.0487	2.19	4.94	.0674	3.52	4.61
60	2.10	5.34	.3165	3.38	4.75		3.38	4.75	.0488	.1862	.0488	2.21	5.18	.0637	3.48	4.74
72	2.06	5.33	.2500	3.33	4.74		3.33	4.74	.0568	.1399	.0568	2.23	5.29	.0643	3.47	4.78

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP
	2.26	5.46	.0642	3.40	4.83	620										
12	2.23	5.42	.7945	3.42	4.82		3.42	4.82	.0465	.7369	.0465	2.06	3.31	.0502	3.68	3.25
24	2.18	5.38	.6626	3.41	4.80		3.41	4.80	.0436	.5640	.0436	2.12	4.05	.0530	3.62	3.97
36	2.16	5.37	.5083	3.41	4.76		3.41	4.76	.0441	.3935	.0441	2.16	4.70	.0653	3.56	4.43
48	2.12	5.36	.4232	3.39	4.76		3.39	4.76	.0487	.2913	.0487	2.19	4.94	.0674	3.52	4.61
60	2.10	5.34	.3165	3.38	4.75		3.38	4.75	.0488	.1862	.0488	2.21	5.18	.0637	3.48	4.74
72	2.06	5.33	.2500	3.33	4.74		3.33	4.74	.0568	.1399	.0568	2.23	5.29	.0643	3.47	4.78

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 5

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP
12	2.85	6.17	.8035	3.97	5.28	620	2.74	3.97	.0781	3.94	5.23	2.68	3.70	.0167	3.94	5.23	620	2.68	3.70	.0167	3.94	5.23
24	2.80	6.17	.6560	3.99	5.27		3.99	5.27	.0748	4.13	5.24	2.76	4.70	.0102	4.13	5.24		2.76	4.70	.0102	4.13	5.24
36	2.76	6.16	.5131	4.00	5.24		4.00	5.24	.0791	3.65	5.23	2.80	5.35	-.0105	3.65	5.23		2.80	5.35	-.0105	3.65	5.23
48	2.73	6.16	.4071	3.99	5.23		3.99	5.23	.0819	2.64	5.21	2.83	5.69	-.0141	2.64	5.21		2.83	5.69	-.0141	2.64	5.21
60	2.70	6.15	.3144	4.02	5.21		4.02	5.21	.0858	1.89	5.17	2.86	5.92	.0026	1.89	5.17		2.86	5.92	.0026	1.89	5.17
72	2.68	6.12	.2362	3.96	5.17		3.96	5.17	.0949	1.52	5.17	2.87	6.06	.0012	1.52	5.17		2.87	6.06	.0012	1.52	5.17

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
2.62	4.51

ALTITUDE (M) - 7

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP
12	3.83	6.98	.0503	4.72	6.08	620	3.47	3.98	.0471	4.75	6.08	3.47	3.98	-.0107	4.75	6.08	620	3.47	3.98	-.0107	4.75	6.08
24	3.72	6.94	.6595	4.80	6.09		4.80	6.09	.0484	4.80	6.09	3.56	5.24	-.0192	4.80	6.09		3.56	5.24	-.0192	4.80	6.09
36	3.67	6.94	.5334	4.84	6.06		4.84	6.06	.0542	3.77	6.06	3.69	5.90	-.0163	3.77	6.06		3.69	5.90	-.0163	3.77	6.06
48	3.64	6.93	.4129	4.84	6.06		4.84	6.06	.0596	3.68	6.06	3.69	6.35	-.0181	3.68	6.06		3.69	6.35	-.0181	3.68	6.06
60	3.64	6.93	.3191	4.89	6.06		4.89	6.06	.0668	1.97	6.06	3.74	6.62	.0055	1.97	6.06		3.74	6.62	.0055	1.97	6.06
72	3.63	6.92	.2576	4.85	6.06		4.85	6.06	.0761	1.81	6.06	3.75	6.74	-.0073	1.81	6.06		3.75	6.74	-.0073	1.81	6.06

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
3.37	5.44

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1922-4) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN		S.D.		R		MEAN		S.D.		R		N		GIVEN		S.D.		MEAN		S.D.		
	XP	X	XP	X	YP	Y	XP, YP	Y, YP	XP, YP	Y, YP	XP, Y	Y, X	XP, Y	Y, X	XP	Y	XP, YP	Y, YP	XP	Y	XP, YP	Y, YP	
12	4.94	5.03	7.87	7.90	5.90	5.86	.6191	.7644	6.95	6.95	.0402	.0409	.0657	620	4.52	4.47	.0539	4.52	4.60	6.45	6.45	4.47	4.47
24	4.89		7.85		5.95		.6767	.5730	6.94			.0410	.0381		5.60		.0697	5.60	4.70	6.27	6.27	5.71	5.71
36	4.86		7.83		6.00		.5423	.4262	6.93			.0398	.0051		6.62		.0764	6.62	4.78	6.16	6.16	6.28	6.28
48	4.78		7.84		6.02		.4072	.3275	6.93			.0391	-.0368		7.21		.0783	7.21	4.88	6.09	6.09	5.56	5.56
60	4.78		7.80		6.11		.2965	.2837	6.93			.0485	-.0423		7.54		.0599	7.54	4.94	6.04	6.04	6.65	6.65
72	4.76		7.79		6.11		.2369	.2566	6.95			.0554	-.0576		7.57		.0595	7.57	4.96	6.03	6.03	6.70	6.70

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN		S.D.		R		MEAN		S.D.		R		N		GIVEN		S.D.		MEAN		S.D.		
	XP	X	XP	X	YP	Y	XP, YP	Y, YP	XP, YP	Y, YP	XP, Y	Y, X	XP, Y	Y, X	XP	Y	XP, YP	Y, YP	XP	Y	XP, YP	Y, YP	
12	6.09	6.17	8.70	8.72	7.35	7.29	.8204	.7742	7.80	7.80	.0001	-.0030	.0098	620	4.98	5.56	.0392	4.98	5.71	7.94	7.94	4.94	4.94
24	6.04		8.67		7.43		.6779	.5775	7.78			-.0033	-.0214		6.41		.0539	6.41	5.82	7.74	7.74	5.37	5.37
36	5.99		8.71		7.51		.5222	.4294	7.75			-.0075	-.0258		7.44		.0507	7.44	5.93	7.61	7.61	7.04	7.04
48	5.52		8.64		7.55		.3838	.3444	7.77			-.0094	-.0757		8.07		.0282	8.07	6.05	7.54	7.54	7.31	7.31
60	5.88		8.57		7.62		.2753	.3071	7.77			.0047	-.0781		8.39		.0148	8.39	6.10	7.49	7.49	7.40	7.40
72	5.84		8.55		7.63		.2100	.2638	7.79			.0036	-.0730		8.53		.0165	8.53	6.11	7.49	7.49	7.46	7.46

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		7.28	9.47	-0.109	9.00	8.60	9.00	8.60	0.20			6.62	10.02					
12		7.21	9.46	8.05	9.07	8.59	7.965	-0.155	-0.304	6.77	5.13	0.904	9.77	5.20				
24		7.15	9.44	.6300	9.16	8.59	.6147	-0.169	-0.315	6.90	6.86	.0656	9.55	6.78				
36		7.07	9.42	.5310	9.21	8.59	.4680	-0.215	-0.360	7.01	8.02	.0735	9.41	7.57				
48		6.99	9.34	.3227	9.27	8.57	.3246	-0.200	-0.104	7.14	8.75	.0344	9.32	7.86				
60		6.93	9.30	.2750	9.35	8.56	.3575	-0.033	-0.0909	7.20	9.11	.0145	9.26	8.00				
72		6.88	9.27	.1998	9.37	8.57	.3313	.0006	-0.0804	7.22	9.28	.0136	9.23	8.09				

ALTITUDE (KM) - 11

QUADRVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		8.53	9.98	-0.191	10.92	9.35	10.92	9.35	620			7.96	12.10					
12		8.44	9.95	.8423	10.99	9.33	.8168	-0.0243	-0.076	8.11	5.28	.1432	11.84	5.32				
24		8.39	9.94	.7019	11.11	9.35	.6541	-0.0254	-0.071	8.23	7.11	.0712	11.58	7.05				
36		8.32	9.94	.5406	11.17	9.36	.5195	-0.0311	-0.102	8.32	8.39	.0631	11.43	7.95				
48		8.20	9.88	.3980	11.22	9.42	.4674	-0.0318	-0.0979	8.43	9.15	.0271	11.34	8.23				
60		8.12	9.85	.2312	11.26	9.44	.4245	-0.0165	-0.0917	8.48	9.55	.0103	11.29	8.38				
72		8.05	9.81	.2138	11.31	9.45	.3968	-0.0167	-0.0654	8.50	9.75	.0024	11.23	8.55				

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.46	9.94	-0.163	12.23	9.69	620										
12	9.35	9.95		12.35	9.67		8.23	9.67	-0.054	12.33	9.67	9.04	5.13	.1134	13.33	5.21
24	9.30	9.97		12.50	9.70		7.09	9.70	-0.064	12.88	9.70	9.16	6.89	.0837	13.06	6.89
36	9.20	9.96		12.55	9.71		5.808	9.71	-0.039	12.81	9.71	9.26	8.17	.0661	12.88	7.85
48	9.05	9.95		12.57	9.81		5.450	9.81	-0.1017	12.81	9.81	9.39	8.99	.0341	12.81	8.09
60	8.98	9.95		12.64	9.85		5.105	9.85	-0.0924	12.74	9.85	9.43	9.41	.0154	12.74	8.30
72	8.91	9.95		12.71	9.88		4.747	9.88	-0.0625	12.66	9.88	9.44	9.64	.0075	12.66	8.51

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.46	9.94	-0.163	12.23	9.69	620										
12	9.35	9.95		12.35	9.67		8.23	9.67	-0.192	13.40	9.67	9.33	4.86	.1194	13.40	4.93
24	9.30	9.97		12.50	9.70		7.09	9.70	-0.061	13.15	9.70	9.46	6.40	.0839	13.15	6.34
36	9.20	9.96		12.55	9.71		5.808	9.71	-0.032	12.96	9.71	9.55	7.59	.0921	12.96	7.28
48	9.05	9.95		12.57	9.81		5.450	9.81	-0.162	12.90	9.81	9.66	8.33	.0836	12.90	7.52
60	8.98	9.95		12.64	9.85		5.105	9.85	-0.191	12.81	9.85	9.69	8.83	.0696	12.81	7.81
72	8.91	9.95		12.71	9.88		4.747	9.88	-0.100	12.75	9.88	9.70	9.10	.0562	12.75	8.04

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.65	9.54	.0394	12.21	9.29	620										
12	9.56	9.53		12.31	9.28		8.472	9.28	.082	13.40	9.28	9.33	4.86	.1194	13.40	4.93
24	9.48	9.55		12.43	9.34		7.306	9.34	-0.061	13.15	9.34	9.46	6.40	.0839	13.15	6.34
36	9.37	9.54		12.49	9.37		6.191	9.37	-0.032	12.96	9.37	9.55	7.59	.0921	12.96	7.28
48	9.20	9.57		12.51	9.44		5.836	9.44	-0.162	12.90	9.44	9.66	8.33	.0836	12.90	7.52
60	9.11	9.63		12.55	9.47		5.370	9.47	-0.191	12.81	9.47	9.69	8.83	.0696	12.81	7.81
72	9.03	9.64		12.59	9.47		4.991	9.47	-0.100	12.75	9.47	9.70	9.10	.0562	12.75	8.04

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.65	9.54	.0394	12.21	9.29	620										
12	9.56	9.53		12.31	9.28		8.472	9.28	.082	13.40	9.28	9.33	4.86	.1194	13.40	4.93
24	9.48	9.55		12.43	9.34		7.306	9.34	-0.061	13.15	9.34	9.46	6.40	.0839	13.15	6.34
36	9.37	9.54		12.49	9.37		6.191	9.37	-0.032	12.96	9.37	9.55	7.59	.0921	12.96	7.28
48	9.20	9.57		12.51	9.44		5.836	9.44	-0.162	12.90	9.44	9.66	8.33	.0836	12.90	7.52
60	9.11	9.63		12.55	9.47		5.370	9.47	-0.191	12.81	9.47	9.69	8.83	.0696	12.81	7.81
72	9.03	9.64		12.59	9.47		4.991	9.47	-0.100	12.75	9.47	9.70	9.10	.0562	12.75	8.04

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 14

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
		8.58	8.47	.1050	11.05	8.28	620						8.30	12.33					
12		8.50	8.47	.7937	11.13	8.39		8.43	4.53	.0873	8.43	4.53	8.30	12.33	8.43	4.53	.1284	12.08	4.40
24		8.41	8.48	.7411	11.23	8.37		8.53	5.69	.0873	8.53	5.69	8.30	12.33	8.53	5.69	.1258	11.88	5.40
36		8.30	8.47	.6152	11.27	8.38		8.61	6.68	.0873	8.61	6.68	8.30	12.33	8.61	6.68	.1411	11.73	6.34
48		8.15	8.43	.5222	11.27	8.40		8.70	7.22	.0873	8.70	7.22	8.30	12.33	8.70	7.22	.1375	11.67	6.60
60		8.08	8.54	.4358	11.25	8.33		8.72	7.68	.0873	8.72	7.68	8.30	12.33	8.72	7.68	.1236	11.61	6.98
72		8.03	8.54	.3403	11.28	8.43		8.70	7.85	.0873	8.70	7.85	8.30	12.33	8.70	7.85	.1256	11.58	7.12

ALTITUDE (M) - 15

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
		8.15	7.07	.1810	8.55	6.18	620						5.88	9.41					
12		8.04	7.28	.7377	8.61	6.19		6.03	4.27	.1319	6.03	4.27	5.88	9.41	6.03	4.27	.1145	9.18	3.59
24		8.58	7.05	.7545	8.66	6.25		6.09	4.64	.1319	6.09	4.64	5.88	9.41	6.09	4.64	.1325	9.12	3.98
36		8.87	7.08	.6526	8.68	6.25		6.21	5.64	.1319	6.21	5.64	5.88	9.41	6.21	5.64	.1384	9.32	4.71
48		8.78	7.03	.5223	8.68	6.26		6.27	5.82	.1319	6.27	5.82	5.88	9.41	6.27	5.82	.1506	9.39	4.82
60		8.70	7.12	.4352	8.63	6.28		6.28	5.45	.1319	6.28	5.45	5.88	9.41	6.28	5.45	.1543	9.32	5.24
72		8.67	7.14	.3563	8.68	6.29		6.27	5.47	.1319	6.27	5.47	5.88	9.41	6.27	5.47	.1560	9.39	5.40

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (3224) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	2.55	5.20	.7422	5.93	4.65	2.55	3.46	-.0295	2.50	3.46	.1541	2.50	3.46	-.0295	6.11	3.89
24	2.49	5.17	.7394	5.94	4.66	2.61	3.49	.0938	2.71	3.49	.0919	2.61	3.49	.0938	6.19	3.26
36	2.40	5.16	.5605	5.95	4.67	2.74	4.27	.0363	2.74	4.27	.1632	2.74	4.27	.0363	6.06	4.23
48	2.32	5.20	.5442	5.91	4.68	2.76	4.35	.1302	2.76	4.35	.1147	2.76	4.35	.1302	6.12	3.98
60	2.30	5.21	.4059	5.89	4.70	2.76	4.70	.0236	2.76	4.70	.1677	2.76	4.70	.0236	6.02	4.47
72	2.29	5.24	.3621	5.88	4.70	2.72	4.79	.1547	2.72	4.79	.0886	2.72	4.79	.1547	6.07	4.24

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 2.46 6.37

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-0.78	3.91	.6624	3.85	3.58	-0.67	2.94	.1974	-0.67	2.94	.1403	-0.67	2.94	.1974	3.94	3.37
24	-0.84	3.91	.6952	3.87	3.59	-0.62	2.82	.1442	-0.62	2.82	.1588	-0.62	2.82	.1442	3.98	2.79
36	-0.90	3.91	.5331	3.88	3.58	-0.61	3.32	.2246	-0.61	3.32	.1077	-0.61	3.32	.2246	3.92	3.53
48	-0.95	3.95	.4957	3.85	3.58	-0.59	3.41	.1873	-0.59	3.41	.1478	-0.59	3.41	.1873	3.96	3.26
60	-1.00	3.97	.3859	3.86	3.62	-0.60	3.62	.2479	-0.60	3.62	.0859	-0.60	3.62	.2479	3.89	3.56
72	-1.02	3.97	.3169	3.84	3.63	-0.61	3.71	.2144	-0.61	3.71	.1398	-0.61	3.71	.2144	3.93	3.44

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X -0.72 4.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. Y	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	-3.43	3.29	.2395	2.23	2.78	620											
12	-3.49	3.26	.5911	2.26	2.80	.2835	2.26	2.80	.2348	.2835	.0809	.1411	-3.40	2.67	.2450	2.26	2.67
24	-3.54	3.25	.6567	2.26	2.80	.4693	2.26	2.80	.2434	.4693	.2558	.0847	-3.36	2.46	.1593	2.28	2.42
36	-3.58	3.25	.4699	2.27	2.80	.2055	2.27	2.80	.2363	.2055	.0526	.1364	-3.35	2.90	.2428	2.26	2.72
48	-3.65	3.23	.4387	2.24	2.81	.2459	2.24	2.81	.2311	.2459	.1730	.1050	-3.34	2.95	.1883	2.29	2.68
60	-3.67	3.25	.3122	2.24	2.82	.1312	2.24	2.82	.2365	.1312	.0334	.0917	-3.35	3.12	.2408	2.26	2.76
72	-3.69	3.28	.2651	2.24	2.82	.1874	2.24	2.82	.2355	.1874	.1010	.1077	-3.36	3.16	.2170	2.28	2.73

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
-3.44	2.28

ALTITUDE (KM) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. Y	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	-5.61	2.71	.1653	1.43	2.13	620											
12	-5.67	2.70	.4167	1.43	2.13	.2134	1.43	2.13	.1584	.2134	-.0444	.0730	-5.59	2.46	.2058	1.43	2.07
24	-5.70	2.73	.5573	1.44	2.11	.2544	1.44	2.11	.1602	.2544	.1490	.0112	-5.56	2.22	.1265	1.44	2.04
36	-5.73	2.72	.3333	1.43	2.11	.1203	1.43	2.11	.1622	.1203	-.0380	.0679	-5.57	2.55	.1895	1.42	2.11
48	-5.80	2.76	.3903	1.43	2.10	.0907	1.43	2.10	.1521	.0907	.0442	.0442	-5.54	2.49	.1592	1.44	2.11
60	-5.82	2.76	.2328	1.42	2.11	.0250	1.42	2.11	.1373	.0250	-.0171	.0230	-5.56	2.63	.1744	1.43	2.12
72	-5.84	2.78	.2866	1.43	2.10	.0283	1.43	2.10	.1405	.0283	.0755	.0188	-5.55	2.59	.1508	1.44	2.12

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
-5.62	1.44

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDELBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
		-7.34	2.49	.1657	.85	1.99	.84							-7.38	.84		
12		-7.39	2.49	.3664	.86	1.97	.0453	.1638	-.0070	.1638	-7.34	2.31	.1715			.85	1.98
24		-7.41	2.52	.4463	.87	1.97	.2046	.1509	.0965	.0131	-7.32	2.23	.1526			.84	1.94
36		-7.44	2.49	.3082	.86	1.96	.0623	.1430	-.0030	.0730	-7.32	2.37	.1735			.85	1.98
48		-7.47	2.51	.2766	.83	1.98	.0031	.1343	-.0013	.0427	-7.32	2.40	.1728			.85	1.99
60		-7.49	2.49	.1600	.80	1.97	-.0322	.1387	-.0066	.0112	-7.32	2.46	.1686			.85	1.98
72		-7.48	2.49	.1714	.80	1.98	-.0329	.1473	-.0707	.0396	-7.32	2.46	.1805			.84	1.98

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
		-9.10	2.49	.0821	.44	1.99	.44							-9.09	.44		
12		-9.13	2.48	.3727	.43	1.98	.1344	.0717	-.0066	.1791	-9.09	2.18	.0705			.44	1.97
24		-9.16	2.48	.4735	.43	1.98	.1178	.0646	.0640	-.0314	-9.07	2.28	.0676			.44	1.97
36		-9.19	2.47	.3410	.42	1.98	.0875	.0737	-.0369	.0998	-9.07	2.33	.0943			.44	1.98
48		-9.21	2.48	.2680	.40	1.98	.0458	.0699	.0608	.0519	-9.07	2.39	.0671			.44	1.98
60		-9.24	2.50	.2170	.40	1.96	-.0798	.0755	-.0266	.0411	-9.07	2.43	.0883			.44	1.98
72		-9.25	2.51	.1742	.40	1.96	.0537	.0658	.0119	.0296	-9.08	2.45	.0806			.44	1.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN XP	S.D. XP	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
		-13.25	2.61	.0240	-.17	2.12	620											-13.19	-.18		
12		-13.26	2.61	.4472	.0670	2.12		-.18	2.12	.0136	.0670	2.12	-13.22	2.32	.1016	-13.22	2.32	.0440	.0440	-.18	2.11
24		-13.29	2.63	.4541	.1245	2.12		-.18	2.12	.0231	.1245	2.12	-13.20	2.32	-.0484	-13.20	2.32	.0624	.0624	-.18	2.10
36		-13.30	2.64	.3784	.0362	2.13		-.17	2.13	.0156	.0362	2.13	-13.21	2.41	.0263	-13.21	2.41	.0687	.0687	-.18	2.11
48		-13.32	2.64	.3010	.0392	2.14		-.17	2.14	.0135	.0392	2.14	-13.21	2.48	-.0586	-13.21	2.48	.0478	.0478	-.18	2.12
60		-13.39	2.67	.2693	.0144	2.12		-.17	2.12	-.0042	.0144	2.12	-13.20	2.51	.0121	-13.20	2.51	.0508	.0508	-.19	2.11
72		-13.41	2.70	.1901	.0251	2.10		-.16	2.10	-.0136	.0251	2.10	-13.21	2.56	-.0542	-13.21	2.56	.0328	.0328	-.18	2.12

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, X)	MEAN XP	S.D. XP	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
		-14.36	2.76	.0014	.06	2.09	620											-14.31	.02		
12		-14.40	2.75	.5149	.0307	2.08		.06	2.08	-.0048	.0307	2.08	-14.32	2.37	-.0178	-14.32	2.37	.0472	.0472	.06	2.08
24		-14.44	2.75	.5043	.1013	2.07		.09	2.07	-.0345	.1013	2.07	-14.30	2.39	-.0272	-14.30	2.39	.0201	.0201	.05	2.08
36		-14.53	2.77	.3870	.0447	2.07		.09	2.07	-.0122	.0447	2.07	-14.30	2.55	-.0466	-14.30	2.55	.0627	.0627	.04	2.07
48		-14.48	2.79	.3828	.0372	2.05		.08	2.05	-.0382	.0372	2.05	-14.29	2.54	-.0788	-14.29	2.54	.0241	.0241	.05	2.08
60		-14.54	2.80	.3172	-.0023	2.03		.09	2.03	-.0025	-.0023	2.03	-14.28	2.60	-.1189	-14.28	2.60	.0361	.0361	.04	2.08
72		-14.59	2.83	.2968	.0562	2.02		.10	2.02	-.0131	.0562	2.02	-14.28	2.63	-.0475	-14.28	2.63	.0289	.0289	.04	2.08

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	-15.11	2.88	.0669	.25	2.11				620													
12	-15.14	2.88	.4931	.26	2.12	.0909	.0909	.0699	-.0834	.0031	-15.04	2.50	.1288	-15.04	2.10	.0031	-15.04	2.50	.1288	.23	2.10	
24	-15.18	2.89	.5292	.26	2.11	.1223	.1223	.0765	-.0605	-.0457	-15.01	2.43	.1316	-15.01	2.09	-.0457	-15.01	2.43	.1316	.22	2.09	
35	-15.22	2.90	.3414	.25	2.11	.0309	.0309	.0745	-.1113	-.0456	-15.03	2.70	.1164	-15.03	2.10	-.0456	-15.03	2.70	.1164	.22	2.10	
48	-15.24	2.92	.3422	.25	2.12	.0570	.0570	.0570	-.0766	-.0377	-15.03	2.70	.1009	-15.03	2.11	-.0377	-15.03	2.70	.1009	.23	2.11	
60	-15.28	2.93	.2469	.24	2.07	.0177	.0177	.0631	-.0599	-.0223	-15.04	2.79	.0854	-15.04	2.11	-.0223	-15.04	2.79	.0854	.23	2.11	
72	-15.30	2.95	.2508	.25	2.09	.0336	.0336	.0579	-.0841	-.0248	-15.03	2.78	.0941	-15.03	2.11	-.0248	-15.03	2.78	.0941	.22	2.11	

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	-15.58	3.03	.0456	.15	2.17				620													
12	-15.63	3.05	.5479	.16	2.18	.1101	.1101	.0425	-.0300	.0355	-15.52	2.54	.0730	-15.52	2.16	.0355	-15.52	2.54	.0730	.14	2.16	
24	-15.67	3.06	.5198	.15	2.20	.0848	.0848	.0504	-.0566	-.0432	-15.49	2.58	.0931	-15.49	2.17	-.0432	-15.49	2.58	.0931	.14	2.17	
36	-15.73	3.06	.3665	.15	2.21	-.0030	-.0030	.0437	-.0300	-.0309	-15.50	2.82	.0849	-15.50	2.16	-.0309	-15.50	2.82	.0849	.14	2.16	
48	-15.77	3.06	.3235	.14	2.22	.0099	.0099	.0290	-.0952	-.0346	-15.49	2.87	.0818	-15.49	2.16	-.0346	-15.49	2.87	.0818	.13	2.16	
60	-15.81	3.09	.2894	.13	2.16	-.0345	-.0345	.0338	-.0941	-.0110	-15.50	2.90	.0758	-15.50	2.16	-.0110	-15.50	2.90	.0758	.13	2.16	
72	-15.85	3.10	.2498	.14	2.16	-.0421	-.0421	.0360	-.1217	-.0020	-15.50	2.94	.0787	-15.50	2.15	-.0020	-15.50	2.94	.0787	.13	2.15	

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
7	1/65 - 12/74	0	90.0	2.03	1.93	-.4607	-1.61	1.92	620
7	1/65 - 12/74	1	90.0	.25	2.54	-.2064	-1.90	3.87	620
7	1/65 - 12/74	2	90.0	-.25	3.04	-.1257	-.16	3.92	620
7	1/65 - 12/74	3	90.0	.88	4.03	-.1257	1.60	4.32	620
7	1/65 - 12/74	4	90.0	1.76	4.86	.0035	2.82	4.66	620
7	1/65 - 12/74	5	90.0	2.26	5.46	.0642	3.40	4.83	620
7	1/65 - 12/74	6	90.0	2.90	6.24	.0861	3.94	5.29	620
7	1/65 - 12/74	7	90.0	3.83	6.98	.0503	4.72	6.08	620
7	1/65 - 12/74	8	90.0	5.03	7.90	.0402	5.86	6.95	620
7	1/65 - 12/74	9	90.0	6.17	8.72	.0001	7.29	7.80	620
7	1/65 - 12/74	10	90.0	7.28	9.47	-.0109	9.00	8.60	620
7	1/65 - 12/74	11	90.0	8.53	9.98	-.0191	10.92	9.35	620
7	1/65 - 12/74	12	90.0	9.46	9.98	-.0163	12.23	9.69	620
7	1/65 - 12/74	13	90.0	9.65	9.54	.0354	12.21	9.29	620
7	1/65 - 12/74	14	90.0	8.59	8.47	.1050	11.05	8.28	620
7	1/65 - 12/74	15	90.0	6.15	7.07	.1610	8.55	6.18	620
7	1/65 - 12/74	16	90.0	2.64	5.19	.1318	5.89	4.63	620
7	1/65 - 12/74	17	90.0	-.71	3.93	.2216	3.89	3.57	620
7	1/65 - 12/74	18	90.0	-3.43	3.29	.2395	2.26	2.78	620
7	1/65 - 12/74	19	90.0	-5.61	2.71	.1653	1.43	2.13	620
7	1/65 - 12/74	20	90.0	-7.34	2.49	.1657	.65	1.99	620
7	1/65 - 12/74	21	90.0	-9.10	2.49	.0821	.44	1.99	620
7	1/65 - 12/74	22	90.0	-10.66	2.43	.0760	.10	1.99	620
7	1/65 - 12/74	23	90.0	-11.96	2.54	.0085	-.12	2.00	620
7	1/65 - 12/74	24	90.0	-13.25	2.61	.0240	-.17	2.12	620
7	1/65 - 12/74	25	90.0	-14.36	2.76	.0014	.06	2.09	620
7	1/65 - 12/74	26	90.0	-15.11	2.88	.0669	.25	2.11	620
7	1/65 - 12/74	27	90.0	-15.58	3.03	.0456	.15	2.17	620

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.00	2.07	-0.5690	-1.51	1.85	620										
12	2.01	2.06	-0.4506	-1.51	1.84		2.00	1.84	-0.152	2.00	1.84	2.00	1.84	-0.5394	-1.51	1.77
24	2.00	2.07	-0.6244	-1.49	1.82		2.01	1.82	0.981	2.01	1.82	2.01	1.82	-0.3373	-1.52	1.51
36	2.02	2.09	-0.4736	-1.49	1.80		2.01	1.80	-1.123	2.01	1.82	2.01	1.82	-0.5266	-1.52	1.78
48	2.01	2.09	-0.5907	-1.47	1.79		2.01	1.79	0.3994	2.01	1.82	2.01	1.82	-0.4294	-1.52	1.63
60	1.98	2.06	-0.4747	-1.47	1.80		1.99	1.80	-1.490	1.99	1.82	1.99	1.82	-0.4974	-1.51	1.74
72	1.98	2.07	-0.5611	-1.47	1.80		2.02	1.80	0.3192	2.02	1.71	2.02	1.71	-0.4618	-1.53	1.69

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP
	.46	2.60	-0.2910	-2.02	3.99	620										
12	.47	2.59	0.1667	-1.98	4.00		.49	2.42	-0.3006	.49	2.42	.49	2.42	-0.3568	-2.10	2.82
24	.48	2.60	0.4865	-1.56	3.99		.49	2.25	-0.3099	.49	2.25	.49	2.25	-0.2663	-2.08	3.38
36	.44	2.60	-0.0701	-1.92	4.01		.48	2.46	-0.3099	.48	2.46	.48	2.46	-0.2748	-2.07	3.82
48	.45	2.60	0.1854	-1.88	4.02		.48	2.54	-0.3187	.48	2.54	.48	2.54	-0.3055	-2.04	3.92
60	.43	2.60	-0.1929	-1.88	4.04		.46	2.47	-0.3265	.46	2.47	.46	2.47	-0.3010	-2.02	3.99
72	.44	2.62	0.0442	-1.86	4.06		.46	2.59	-0.3338	.46	2.59	.46	2.59	-0.3003	-2.00	3.95

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 2

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	
	.02	3.15		-.34	4.19		620								.13	-.37						
12	.03	3.16	.5634	-.28	4.19		.7044			-.2807	-.1723		.08	2.56	-.1555		.08	2.56	-.1555	-.40	2.97	
24	.02	3.17	.4608	-.24	4.19		.5331			-.2777	-.0968		.08	2.73	-.2003		.08	2.73	-.2003	-.41	3.54	
36	.01	3.17	.2282	-.22	4.21		.3064			-.2795	-.0518		.05	3.01	-.2430		.05	3.01	-.2430	-.38	3.98	
48	.04	3.18	.1432	-.17	4.23		.1871			-.2812	-.0264		.04	3.05	-.2583		.04	3.05	-.2583	-.38	4.11	
60	.05	3.24	-.0245	-.15	4.26		.0713			-.2926	.0074		.05	3.11	-.2794		.05	3.11	-.2794	-.36	4.17	
72	.08	3.28	-.0140	-.13	4.31		.0236			-.2951	.0660		.03	3.14	-.2843		.03	3.14	-.2843	-.35	4.17	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTIITUDE (KM) - 3

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (XP,X)	MEAN XP	S.D. XP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	
	1.15	3.87		1.23	4.30	620									1.18	1.22						
12	1.16	3.88	.6909	1.25	4.32		.7495			-.2618	-.1964		1.17	2.75	-.0704		1.17	2.75	-.0704	1.20	2.84	
24	1.15	3.88	.5329	1.26	4.33		.5562			-.2604	-.1150		1.18	3.22	-.1640		1.18	3.22	-.1640	1.20	3.57	
36	1.13	3.89	.3591	1.27	4.33		.3508			-.2620	-.0791		1.18	3.55	-.2056		1.18	3.55	-.2056	1.21	4.02	
48	1.13	3.90	.2856	1.28	4.35		.2277			-.2640	-.0473		1.17	3.68	-.2415		1.17	3.68	-.2415	1.21	4.18	
60	1.15	3.94	.1386	1.30	4.38		.1277			-.2706	-.0261		1.16	3.82	-.2550		1.16	3.82	-.2550	1.22	4.26	
72	1.19	3.96	.0902	1.31	4.41		.1041			-.2719	-.0164		1.16	3.85	-.2603		1.16	3.85	-.2603	1.22	4.27	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	1.77	4.55	-0.1722	2.16	4.34		2.16	4.34	620					
12	1.79	4.56	.7676	2.16	4.38		.7223	-0.1696	-1.000	1.73	2.87	-0.0243	2.16	3.00
24	1.79	4.57	.6260	2.14	4.41		.5241	-0.1682	-0.555	1.73	3.47	-0.0828	2.17	3.69
36	1.77	4.58	.4620	2.14	4.42		.3397	-0.1689	-0.594	1.75	3.98	-0.1178	2.17	4.08
48	1.78	4.59	.3756	2.13	4.43		.2518	-0.1710	-0.464	1.75	4.20	-0.1484	2.17	4.20
60	1.78	4.62	.2720	2.12	4.44		.1835	-0.1693	-0.487	1.76	4.37	-0.1573	2.17	4.27
72	1.80	4.65	.2201	2.12	4.47		.1519	-0.1726	-0.414	1.76	4.43	-0.1635	2.17	4.29

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.73	2.16

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 5

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	2.50	5.41	-0.1032	2.47	4.76		2.47	4.76	620					
12	2.53	5.42	.8013	2.43	4.80		.7057	-0.1027	-0.184	2.42	3.18	-0.0131	2.45	3.36
24	2.55	5.43	.6698	2.40	4.84		.4776	-0.1058	-0.080	2.42	3.94	-0.0560	2.47	4.17
36	2.52	5.44	.5445	2.35	4.86		.2999	-0.1048	-0.007	2.44	4.45	-0.0720	2.48	4.54
48	2.52	5.46	.4543	2.32	4.87		.2279	-0.1022	-0.028	2.45	4.78	-0.0793	2.49	4.63
60	2.52	5.50	.3522	2.30	4.90		.1460	-0.0992	-0.110	2.45	5.05	-0.0817	2.49	4.71
72	2.52	5.56	.2728	2.31	4.95		.1185	-0.0975	-0.0474	2.47	5.19	-0.0860	2.49	4.72

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.42	2.40

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
		3.71	6.19	-.0499	2.80	5.56		2.80	5.56	620					
12		3.75	6.20	.8028	2.73	5.60		.7280	-.0532	.0695	3.55	3.63	-.0779	2.72	3.76
24		3.78	6.21	.7012	2.66	5.63		.4858	-.0538	.1174	3.55	4.30	-.0915	2.77	4.79
36		3.81	6.20	.5907	2.59	5.64		.3453	-.0493	.1221	3.56	4.88	-.0864	2.79	5.16
48		3.81	6.23	.4912	2.54	5.65		.2692	-.0464	.1061	3.57	5.31	-.0755	2.80	5.31
60		3.85	6.26	.3979	2.50	5.69		.1961	-.0437	.0921	3.61	5.63	-.0709	2.81	5.42
72		3.85	6.30	.3118	2.52	5.76		.1706	-.0378	.0659	3.61	5.84	-.0560	2.81	5.46

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.54	2.65

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
		5.07	6.80	.0147	3.34	6.43		3.34	6.43	620					
12		5.11	6.82	.8058	3.27	6.50		.7127	.0191	.1503	4.80	3.95	-.0576	3.25	4.42
24		5.15	6.82	.6685	3.15	6.51		.4957	-.0160	.1694	4.81	4.92	-.0231	3.30	5.49
36		5.21	6.79	.5501	3.09	6.51		.3939	.0215	.1784	4.81	5.55	-.0200	3.31	5.81
48		5.24	6.85	.4487	3.01	6.51		.3083	.0243	.1623	4.83	5.98	-.0126	3.33	6.03
60		5.25	6.88	.3542	2.94	6.53		.2308	.0274	.1532	4.86	6.27	-.0034	3.33	6.18
72		5.25	6.95	.2635	2.98	6.61		.1874	.0364	.1549	4.91	6.47	.0026	3.32	6.24

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.77	3.19

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
		6.62	7.42	.0032	3.99	7.27	620										
12		6.68	7.45	.8020	3.90	7.33		6.21	4.35	-.0191	6.21	4.35	6.21	4.35	-.0191	6.21	4.35
24		6.74	7.47	.6761	3.80	7.34		6.21	5.33	-.0086	6.21	5.33	6.21	5.33	-.0086	6.21	5.33
36		6.84	7.48	.5379	3.71	7.37		6.22	6.11	-.0071	6.22	6.11	6.22	6.11	-.0071	6.22	6.11
48		6.90	7.57	.4283	3.62	7.37		6.25	6.59	-.0142	6.25	6.59	6.25	6.59	-.0142	6.25	6.59
60		6.94	7.61	.3347	3.50	7.40		6.28	6.86	-.0023	6.28	6.86	6.28	6.86	-.0023	6.28	6.86
72		6.94	7.68	.2681	3.51	7.47		6.34	7.03	.0002	6.34	7.03	6.34	7.03	.0002	6.34	7.03

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.18	3.97

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
		8.28	8.20	-.0505	4.96	7.89	620										
12		8.39	8.26	.8159	4.85	7.95		7.72	4.63	.0024	7.72	4.63	7.72	4.63	.0024	7.72	4.63
24		8.49	8.32	.6537	4.75	7.95		7.74	5.99	-.0437	7.74	5.99	7.74	5.99	-.0437	7.74	5.99
36		8.63	8.38	.5199	4.64	7.97		7.76	6.87	-.0454	7.76	6.87	7.76	6.87	-.0454	7.76	6.87
48		8.71	8.49	.4087	4.55	7.99		7.81	7.38	-.0554	7.81	7.38	7.81	7.38	-.0554	7.81	7.38
60		8.78	8.54	.3330	4.43	8.02		7.85	7.64	-.0509	7.85	7.64	7.85	7.64	-.0509	7.85	7.64
72		8.81	8.62	.2510	4.42	8.08		7.90	7.81	-.0509	7.90	7.81	7.90	7.81	-.0509	7.90	7.81

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.74	5.08

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDERBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	10.02	9.01	.8178	6.05	8.40	.7724	.7724	.0550	620	9.09	5.03	.1043	6.29	5.29
24	10.15	9.12	.8481	5.92	8.39	.5586	.5586	.0837		9.14	6.65	.0415	6.28	6.90
36	10.31	9.21	.8038	5.80	8.41	.4517	.4517	.0977		9.18	7.57	.0290	6.27	7.42
48	10.44	9.35	.7821	5.72	8.43	.3488	.3488	.1041		9.26	8.12	.0099	6.24	7.80
60	10.54	9.40	.7856	5.61	8.43	.2571	.2571	.1015		9.33	8.12	.0051	6.21	8.05
72	10.60	9.47	.7250	5.55	8.49	.1704	.1704	.1006		9.38	8.55	-.0046	6.16	8.20

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.09	6.28

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (X,XP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	11.36	9.56	-.0043	7.40	8.97	.0043	7.40	8.97	620	10.47	5.26	.1028	7.54	5.44
24							.7939	.0098		10.51	7.00	.0744	7.58	7.22
36							.4743	.0189		10.58	8.02	.0663	7.57	7.88
48							.3757	.0512		10.66	8.64	.0452	7.55	8.30
60							.2961	.0647		10.74	8.98	.0365	7.54	8.55
72							.2044	.0799		10.79	9.12	.0217	7.49	8.77

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.45	7.49

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	12.27	9.68	.0040	8.32	9.09												
12	12.43	9.71	.8358	8.13	9.10	.8213	.0184	.0249	.0184	.0249	.0249	.0249	11.26	5.27	.1348	8.53	5.18
24	12.55	9.74	.6674	7.93	9.05	.6512	.0342	.0369	.0342	.0369	.0369	.0369	11.33	7.09	.1217	8.61	6.90
36	12.72	9.80	.5226	7.80	9.04	.5309	.0462	.0420	.0462	.0420	.0420	.0420	11.37	8.05	.1149	8.62	7.70
48	12.93	9.83	.3872	7.70	9.00	.4462	.0654	.0576	.0654	.0576	.0576	.0576	11.46	8.72	.0837	8.59	8.13
60	13.03	9.86	.2549	7.56	8.98	.3784	.0751	.0646	.0751	.0646	.0646	.0646	11.55	9.04	.0691	8.58	8.41
72	13.11	9.90	.2574	7.41	9.01	.2859	.0906	.0588	.0906	.0588	.0588	.0588	11.60	9.21	.0496	8.55	8.70

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	12.07	9.16	-.0067	8.58	9.67												
12	12.21	9.16	.8331	8.39	8.69	.8267	.0083	.0170	.0083	.0170	.0170	.0170	10.29	5.03	.1081	8.76	4.88
24	12.36	9.17	.6904	8.21	8.60	.6786	.0328	.0328	.0328	.0328	.0328	.0328	10.44	6.52	.1114	8.85	6.37
36	12.55	9.20	.5532	8.07	8.59	.5741	.0438	.0329	.0438	.0329	.0329	.0329	10.58	7.45	.1211	8.89	7.10
48	12.77	9.14	.4405	7.98	8.55	.4918	.0518	.0271	.0518	.0271	.0271	.0271	10.70	8.00	.1104	8.91	7.55
60	12.86	9.11	.3549	7.85	8.54	.4176	.0637	.0173	.0637	.0173	.0173	.0173	10.86	8.35	.0902	8.94	7.88
72	12.96	9.13	.3047	7.73	8.59	.3392	.0799	.0198	.0799	.0198	.0198	.0198	10.96	8.54	.0607	8.91	8.16

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VARDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	MEAN YP	S.D. YP	R (X, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	10.72	10.72	7.77	7.53	7.65	.8251	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32
24	10.84	10.84	7.76	7.37	7.56	.6720	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32
36	10.98	10.98	7.74	7.26	7.54	.5379	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32
48	11.19	11.19	7.72	7.16	7.55	.4597	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32
60	11.30	11.30	7.68	7.03	7.59	.3849	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32
72	11.39	11.39	7.70	6.97	7.58	.3255	7.68	7.66	620	9.84	4.49	.1213	7.85	4.32

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	MEAN YP	S.D. YP	R (X, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	7.92	7.92	6.39	6.17	6.06	.7829	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72
24	8.02	8.02	6.43	6.05	6.02	.6912	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72
36	8.16	8.16	6.42	5.96	6.02	.5334	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72
48	8.31	8.31	6.41	5.87	6.02	.4568	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72
60	8.42	8.42	6.36	5.77	6.03	.3611	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72
72	8.52	8.52	6.35	5.69	6.04	.3193	6.27	6.05	620	7.41	4.13	.0587	6.43	3.72

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	4.30	5.36	.7314	4.40	4.63	.5970	4.48	4.62	620	3.87	3.65	-.1609	4.58	3.68
24	4.40	5.39	.7142	4.32	4.63	.6645				3.78	3.71	.0011	4.65	3.44
36	4.51	5.35	.5816	4.25	4.61	.3877				3.81	4.35	-.0857	4.57	4.23
48	4.82	5.36	.5805	4.20	4.64	.4381				3.70	4.33	.0136	4.64	4.15
60	4.71	5.36	.4704	4.13	4.66	.2827				3.77	4.72	-.0385	4.56	4.46
72	4.79	5.37	.4690	4.06	4.70	.3395				3.69	4.70	.0197	4.64	4.35

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.91	4.63

ALTIITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	4.34	4.34	.0931	2.92	3.61	2.92	2.92	3.61	620	.17	3.19	.0236	2.98	3.22
24						.4439				.08	3.08	.0496	3.05	2.83
36						.6123				.09	3.56	.0955	3.01	3.45
48						.2933				.01	3.59	.0806	3.05	3.23
60						.4395				.05	3.80	.0850	2.98	3.54
72						.1821				.02	3.90	.0866	3.05	3.39

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.18	3.06

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VAUDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		-2.68	3.59	.0720	1.69	2.79					1.69	2.79	620					
12		-2.60	3.62	.5968	1.65	2.78	.3517							-2.80	2.88	.1045	1.75	2.61
24		-2.53	3.62	.6492	1.62	2.78	.5581							-2.87	2.72	-.0087	1.77	2.29
36		-2.48	3.62	.5198	1.56	2.78	.2955							-2.85	3.06	.1247	1.78	2.66
48		-2.40	3.60	.5199	1.53	2.80	.3615							-2.91	3.06	.0562	1.77	2.55
60		-2.34	3.60	.4605	1.48	2.79	.2047							-2.90	3.18	.1093	1.78	2.73
72		-2.26	3.57	.3919	1.44	2.83	.2363							-2.89	3.30	.0615	1.76	2.71

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.81	1.82

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		-5.02	3.18	.0069	1.05	2.25					1.05	2.25	620					
12		-4.95	3.17	.5058	1.01	2.25	.1962							-5.14	2.74	.0743	1.09	2.20
24		-4.88	3.16	.6492	.98	2.26	.3706							-5.24	2.38	.0367	1.09	2.09
36		-4.83	3.16	.4636	.94	2.26	.2778							-5.18	2.80	.0778	1.13	2.15
48		-4.74	3.10	.5129	.90	2.27	.1634							-5.28	2.71	.0351	1.09	2.22
60		-4.65	3.12	.3989	.89	2.26	.2128							-5.24	2.91	.0582	1.13	2.19
72		-4.58	3.11	.4353	.83	2.29	.1271							-5.25	2.86	.0441	1.11	2.23

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.18	1.12

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193:14) - VANDENBERG
 MONTH OF RECORD - AUGUS.
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, XP)	MEAN YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	S.D. XP	R (XP, YP)	MEAN XP	S.D. YP
		-7.02	2.82	.0997	.57		2.15	620						-7.15	.67				
12		-5.36	2.82	.571	.54		2.15	620											
24		-5.23	2.84	.543	.51		2.15	620											
36		-5.22	2.82	.523	.49		2.15	620											
48		-5.16	2.82	.494	.47		2.15	620											
60		-5.03	2.86	.397	.47		2.15	620											
72		-5.53	2.90	.359	.45		2.15	620											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	S.D. XP	R (XP, YP)	MEAN XP	S.D. YP
		-8.50	2.76	.0120	.36		1.93	620						-8.54	.39				
12		-8.43	2.77	.4515	.36		1.93	620											
24		-8.37	2.81	.5453	.33		1.94	620											
36		-8.30	2.83	.4847	.32		1.94	620											
48		-8.22	2.86	.555	.32		1.92	620											
60		-8.14	2.94	.3949	.29		1.93	620											
72		-8.06	2.86	.3984	.25		1.95	620											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1922/4) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 30.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	R (Y, YP)	P (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP		
	-10.2:	2.87	-0.0378	.04	1.90	620																				
12	-10.13	2.91	.4839	.02	1.91	.0522	-0.4+3	-0.999	-0.132	-10.25	2.51	.0115	-10.25	2.51	.0115											
24	-10.25	2.95	.55+1	.01	1.90	.1255	-0.444	.0022	-1.103	-10.30	2.37	-.0284	-10.30	2.37	-.0284											
36	-9.28	2.93	.4529	.01	1.92	.0110	-0.655	-1.201	-0.312	-10.32	2.56	-.0192	-10.32	2.56	-.0192											
48	-9.95	2.95	.4622	.02	1.92	.0107	-0.813	-0.537	-0.650	-10.36	2.54	-.0144	-10.36	2.54	-.0144											
60	-9.73	2.83	.39+3	-.03	1.91	.0355	-0.759	-0.4+3	-.0242	-10.38	2.64	-.0221	-10.38	2.64	-.0221											
72	-9.75	2.92	.35+4	-.04	1.92	.0353	-0.757	-0.4+3	-.0634	-10.39	2.68	-.0243	-10.39	2.68	-.0243											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 -10.22
 .05

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	R (Y, YP)	P (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP		
	-11.58	2.89	-0.0706	.04	1.84	620																				
12	-11.53	2.92	.5115	.02	1.84	-.0839	-0.647	-0.998	.0378	-11.62	2.47	-.0155	-11.62	2.47	-.0155											
24	-11.48	2.92	.5483	.01	1.82	.1412	-0.651	-0.771	-1.320	-11.64	2.40	-.0185	-11.64	2.40	-.0185											
36	-11.41	2.91	.4933	.01	1.82	-.0221	-0.634	-0.472	-.0256	-11.66	2.52	-.0245	-11.66	2.52	-.0245											
48	-11.34	2.92	.4444	.01	1.81	.0353	-0.635	-0.894	-.10+6	-11.71	2.58	-.0252	-11.71	2.58	-.0252											
60	-11.22	2.86	.4339	-.01	1.81	-.0105	-0.653	-0.314	-.0731	-11.75	2.60	-.0259	-11.75	2.60	-.0259											
72	-11.14	2.89	.4061	-.01	1.82	.0828	-0.6496	-0.277	-.0825	-11.78	2.63	-.0259	-11.78	2.63	-.0259											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 -11.5:
 .05

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932-4) - VANZENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, YP)	MEAN YP	S.D. YP	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (YP, X)	MEAN YP	S.D. YP	CONV. STATISTICS
12	-12.56	2.93	.5547	.08	2.01	-.0505	-.0505	2.00	620	-12.64	2.41	-.0329	-12.64	2.41	GIVEN X
24	-12.50	2.93	.5227	.07	2.01	.1617	.1617	2.00	620	-12.68	2.35	-.0770	-12.68	2.35	GIVEN Y
36	-12.42	2.95	.5050	.05	2.00	.0352	.0352	2.00	620	-12.70	2.50	-.0557	-12.70	2.50	R (XP, YP)
48	-12.33	2.97	.4918	.03	1.98	-.1739	-.1739	2.00	620	-12.74	2.52	-.1271	-12.74	2.52	R
60	-12.23	2.94	.4836	.05	1.97	-.0252	-.0252	2.00	620	-12.72	2.58	-.0465	-12.72	2.58	MEAN YP
72	-12.14	2.97	.4750	.05	1.97	.0501	.0501	2.00	620	-12.81	2.59	-.1279	-12.81	2.59	S.D. YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	R
-12.62	.03	

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, YP)	MEAN YP	S.D. YP	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (YP, X)	MEAN YP	S.D. YP	CONV. STATISTICS
12	-13.74	2.96	.5511	.00	2.01	.0862	.0862	2.00	620	-13.84	2.42	-.0533	-13.84	2.42	GIVEN X
24	-13.66	2.97	.5331	-.02	2.01	.1433	.1433	2.00	620	-13.89	2.35	-.0926	-13.89	2.35	GIVEN Y
36	-13.58	2.99	.5227	-.03	2.00	.0181	.0181	2.00	620	-13.93	2.48	-.0767	-13.93	2.48	R (XP, YP)
48	-13.48	3.01	.5071	-.03	2.01	.0546	.0546	2.00	620	-13.97	2.51	-.1317	-13.97	2.51	R
60	-13.36	3.01	.4922	-.05	2.01	.0371	.0371	2.00	620	-14.03	2.53	-.0867	-14.03	2.53	MEAN YP
72	-13.23	3.00	.4819	-.06	2.00	.0430	.0430	2.00	620	-14.08	2.56	-.1256	-14.08	2.56	S.D. YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND XP

GIVEN X	GIVEN Y	R
-13.80	.04	

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: (193214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN Y	S.D. X	P (X, YP)	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	S.D. (XP, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	-14.57	2.39	-0.0662	-0.06	1.95	620										
HR	MEAN XP	S.D. XP	P (X, YP)	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	S.D. (XP, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-14.50	3.02	.5873	-.06	1.94	.0285	-.0748	-.0810	-.0783	-.14.51	2.41	-.0466	1.94	-.07	1.94	
24	-14.44	3.02	.5911	-.06	1.95	.1528	-.0648	-.0884	-.0289	-.14.54	2.47	-.0446	1.92	-.06	1.92	
36	-14.36	3.03	.5807	-.07	1.97	-.0128	-.0618	-.0916	-.0235	-.14.59	2.47	-.0420	1.94	-.06	1.94	
48	-14.26	3.04	.5322	-.10	1.97	.0711	-.0630	-.0951	-.0056	-.14.63	2.50	-.0475	1.93	-.05	1.93	
60	-14.16	3.05	.5069	-.11	1.96	.0184	-.0497	-.0929	-.0420	-.14.68	2.57	-.0430	1.94	-.05	1.94	
72	-14.08	3.07	.4738	-.13	1.95	.0352	-.0417	-.0854	-.0045	-.14.71	2.63	-.0527	1.94	-.04	1.94	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 27

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	P (Y, YP)	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	S.D. (XP, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
DT	-15.14	3.18	-0.0372	-0.02	2.07	620										
HR	MEAN XP	S.D. XP	P (Y, YP)	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	S.D. (XP, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-15.06	3.20	.5716	-.02	2.05	.1230	-.0313	-.0485	-.0120	-.15.10	2.61	-.0125	2.05	-.03	2.05	
24	-14.98	3.21	.5746	-.03	2.03	.1336	-.0282	-.0511	-.0326	-.15.16	2.60	-.0435	2.05	-.03	2.05	
36	-14.90	3.21	.5397	-.03	2.03	.0547	-.0151	-.0621	-.0355	-.15.19	2.62	-.0344	2.07	-.02	2.07	
48	-14.81	3.21	.5097	-.03	2.02	.0598	-.0188	-.0137	-.0484	-.15.24	2.63	-.0400	2.06	-.02	2.06	
60	-14.73	3.22	.4706	-.03	2.02	.0124	-.0211	-.0942	-.0176	-.15.25	2.61	-.0382	2.06	-.01	2.06	
72	-14.62	3.22	.4442	-.02	2.02	.0261	-.0267	-.0200	-.0113	-.15.30	2.65	-.0316	2.07	-.02	2.07	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	A-T KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
8	1/55	1	90.0	2.00	2.07	-.5930	-1.51	1.85	620
8	1/55	1	90.0	.46	2.60	-.6910	-2.02	3.99	620
8	1/55	2	90.0	.02	3.15	-.2870	-.34	4.19	620
8	1/55	3	90.0	1.15	3.87	-.2645	1.23	4.30	620
8	1/55	3	90.0	1.77	4.55	-.1722	2.16	4.34	620
8	1/55	3	90.0	2.50	5.41	-.1032	2.47	4.76	620
8	1/55	6	90.0	3.71	6.19	-.0499	2.80	5.56	620
8	1/55	7	90.0	5.07	6.80	.0147	3.34	6.43	620
8	1/55	8	90.0	6.62	7.42	.0332	3.99	7.27	620
8	1/55	9	90.0	8.28	8.20	-.0505	4.66	7.89	620
8	1/55	10	90.0	9.82	8.95	-.0142	5.16	8.36	620
8	1/55	11	90.0	11.32	9.56	-.0343	7.40	8.97	620
8	1/55	12	90.0	12.27	9.69	-.0040	8.32	9.09	620
8	1/55	13	90.0	12.57	9.16	-.0267	8.58	8.67	620
8	1/55	13	90.0	12.59	7.79	-.0147	7.66	7.66	620
8	1/55	13	90.0	7.79	6.40	-.0235	6.27	6.05	620
8	1/55	14	90.0	4.15	5.35	-.0356	4.48	4.62	620
8	1/55	14	90.0	.34	4.54	-.0331	2.92	3.61	620
8	1/55	17	90.0	-2.08	3.59	-.0720	1.05	2.79	620
8	1/55	18	90.0	-5.02	3.18	-.0359	1.57	2.25	620
8	1/55	19	90.0	-7.02	2.82	-.0397	1.05	2.15	620
8	1/55	20	90.0	-9.50	2.76	-.0120	.36	1.93	620
8	1/55	21	90.0	-10.21	2.67	-.0378	.04	1.90	620
8	1/55	22	90.0	-11.59	2.30	-.0706	.04	1.64	620
8	1/55	23	90.0	-13.61	2.30	-.0170	.08	2.00	620
8	1/55	24	90.0	-14.81	2.32	-.0174	.00	2.00	620
8	1/55	26	90.0	-14.57	2.99	-.0862	-1.06	1.95	620
8	1/55	27	90.0	-15.14	3.18	-.0372	-1.02	2.17	620

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	1.71	2.19	-0.5912	-1.45	2.17	600										
12	1.70	2.21	0.553	-0.853	2.21	3007	1.70	1.84	-0.5379	1.74	2.05	1.70	1.84	-0.5379	-1.43	2.05
24	1.68	2.23	0.630	0.471	2.22	4951	1.73	1.56	-0.4102	1.74	1.67	1.73	1.56	-0.4102	-1.44	1.67
36	1.68	2.23	0.573	1.797	2.23	4954	1.69	1.80	-0.4988	1.74	2.01	1.69	1.80	-0.4988	-1.43	2.01
48	1.67	2.24	0.615	3.355	2.23	3700	1.74	1.70	-0.4950	1.74	1.93	1.74	1.70	-0.4950	-1.45	1.93
60	1.68	2.24	0.504	-2.506	2.24	4032	1.69	1.77	-0.4780	1.69	1.98	1.69	1.77	-0.4780	-1.43	1.98
72	1.66	2.25	0.5256	0.2430	2.24	3318	1.74	1.78	-0.5175	1.74	2.04	1.74	1.78	-0.5175	-1.46	2.04

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF Y,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	-0.32	2.90	-0.3485	-1.54	4.35	600										
12	-0.34	2.90	0.2700	0.6312	4.37	2565	-0.39	2.58	-0.0997	-0.35	3.37	-0.39	2.58	-0.0997	-1.39	3.37
24	-0.34	2.91	0.2947	0.4326	4.41	2970	-0.37	2.70	-0.2920	-0.37	3.89	-0.37	2.70	-0.2920	-1.45	3.89
36	-0.35	2.92	0.466	1.980	4.41	3076	-0.37	2.72	-0.3028	-0.35	4.26	-0.37	2.72	-0.3028	-1.43	4.26
48	-0.34	2.93	0.1155	0.984	4.40	1533	-0.35	2.85	-0.3528	-0.34	4.29	-0.35	2.85	-0.3528	-1.52	4.29
60	-0.33	2.93	0.1047	-0.0283	4.39	1683	-0.34	2.85	-0.3485	-0.34	4.34	-0.34	2.85	-0.3485	-1.55	4.34
72	-0.32	2.92	0.0217	-0.0584	4.37	1665	-0.35	2.90	-0.3510	-0.35	4.33	-0.35	2.90	-0.3510	-1.57	4.33

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (53214) - VANCEMBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-0.50	4.07	.6562	-0.26	5.07	.7105	4.997	-0.377	-1.650	-0.58	2.94	-0.1518	-0.03	3.52
24	-0.53	4.10	.4351	-0.29	5.12	.4997	4.997	-0.396	-0.375	-0.56	3.52	-0.2551	-0.08	4.30
36	-0.54	4.14	.2303	-0.30	5.11	.2959	4.999	-0.403	-0.099	-0.55	3.84	-0.3014	-0.13	4.73
48	-0.58	4.17	.0969	-0.32	5.12	.1781	4.999	-0.384	.1304	-0.53	3.98	-0.3205	-0.16	4.85
60	-0.58	4.17	-0.0411	-0.35	5.12	.0618	4.999	-0.391	.1597	-0.52	4.02	-0.3181	-0.20	4.93
72	-0.57	4.18	-0.0909	-0.40	5.11	.0083	4.999	-0.382	.1520	-0.50	4.03	-0.3195	-0.22	4.97

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	1.09	5.47	.7385	.26	5.67	.7717	.5652	-0.2366	-0.092	1.15	3.51	-0.1070	.58	3.50
24	1.06	5.52	.5341	.24	5.73	.5652	.5652	-0.271	.0543	1.13	4.42	-0.2048	.54	4.49
36	1.03	5.60	.3573	.26	5.78	.3822	.5652	-0.2510	.1310	1.13	4.92	-0.2470	.48	5.01
48	1.02	5.65	.2250	.21	5.83	.2397	.5652	-0.2502	.1857	1.11	5.18	-0.2470	.45	5.25
60	1.02	5.68	.0820	.14	5.84	.1707	.5652	-0.2435	.1764	1.09	5.32	-0.2276	.43	5.37
72	.99	5.71	.0004	.05	5.91	.1104	.5652	-0.2365	.1378	1.13	5.38	-0.2243	.41	5.49

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPH. ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.43	6.54	-.1256	.45	6.37	600											
12	2.39	6.61	.8008	.42	6.48		.42	6.48	.7706	.42	6.48	-.2849	2.55	3.74	-.0085	.81	3.98
24	2.37	6.70	.6115	.42	6.58		.42	6.58	.5605	.42	6.58	-.3073	2.49	4.97	-.1331	.76	5.08
36	2.37	6.77	.4208	.41	6.62		.41	6.62	.3877	.41	6.62	-.2517	2.45	5.80	-.1846	.70	5.63
48	2.34	6.86	.2922	.38	6.70		.38	6.70	.2505	.38	6.70	-.2010	2.43	6.17	-.1618	.65	5.95
60	2.35	6.92	.1845	.31	6.75		.31	6.75	.1713	.31	6.75	-.1512	2.40	6.39	-.1399	.62	6.12
72	2.36	6.98	.0956	.20	6.81		.20	6.81	.1228	.20	6.81	-.1106	2.38	6.48	-.1291	.59	6.22

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	2.65
GIVEN Y	.85

ALTITUDE (KM) - 5

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.46	7.45	-.0982	.10	7.14	600											
12	3.61	7.55	.8128	.09	7.25		.09	7.25	.7780	.09	7.25	-.2333	3.91	4.20	-.0465	.52	4.40
24	3.60	7.60	.6182	.12	7.34		.12	7.34	.5547	.12	7.34	-.2293	3.83	5.73	-.1517	.43	5.76
36	3.62	7.67	.4435	.12	7.40		.12	7.40	.3860	.12	7.40	-.1699	3.77	6.62	-.1742	.37	6.35
48	3.62	7.71	.3205	.13	7.45		.13	7.45	.2691	.13	7.45	-.1239	3.74	7.03	-.1667	.32	6.62
60	3.61	7.78	.2139	.03	7.50		.03	7.50	.1775	.03	7.50	-.0982	3.70	7.25	-.1405	.29	6.81
72	3.63	7.84	.1348	-.09	7.54		-.09	7.54	.1325	-.09	7.54	-.0655	3.67	7.37	-.1193	.26	6.94

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	4.02
GIVEN Y	.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	4.81	8.37	-0.0190	-0.25	8.17	0.17	600			5.16	4.82	-0.0708	0.28	4.68
12	4.75	8.49	.8101	-.25	8.28	.7868				5.07	6.60	-.0832	.15	6.37
24	4.73	8.55	.6018	-.16	8.42	.5956				5.01	7.51	-.1099	.10	7.08
36	4.71	8.62	.4345	-.16	8.47	.4352				4.95	7.93	-.0988	.05	7.44
48	4.71	8.70	.3146	-.16	8.54	.3120				4.90	8.18	-.0691	.02	7.70
60	4.70	8.77	.2052	-.28	8.60	.2127				4.89	8.29	-.0513	-.01	7.86
72	4.70	8.85	.1356	-.41	8.61	.1671								

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	R (Y,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
	6.14	9.40	.0670	-.14	9.12	0.12	600			6.55	5.34	-0.0407	.4	5.68
12	6.13	9.54	.8175	-.14	9.22	.7742				6.45	7.35	-.0636	.21	7.19
24	6.12	9.61	.6140	-.05	9.41	.5885				6.38	8.46	-.0403	.21	7.84
36	6.08	9.66	.4318	-.01	9.49	.4562				6.31	9.98	-.0032	.19	8.25
48	6.05	9.73	.2925	-.03	9.55	.3314				6.25	9.25	-.0201	.17	8.52
60	6.04	9.82	.1784	-.16	9.61	.2377				6.23	9.34	-.0399	.13	8.74
72	6.02	9.89	.1057	-.33	9.60	.1896								

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	7.71	10.45	.1619	-.13	10.32	600											
12	7.72	10.60	.8149	.7543	.1630	.2253	.10	10.46	.7543	.1630	.2253	.0506	8.22	5.99	.1047	.40	6.69
24	7.72	10.62	.6050	.5697	.1679	.2560	.01	10.73	.5697	.1679	.2560	.0206	8.08	8.28	.0797	.26	8.31
36	7.66	10.69	.4234	.4383	.1596	.4768	.11	10.86	.4383	.1596	.4768	.0232	8.00	9.46	.0782	.19	9.02
48	7.60	10.73	.2787	.3253	.1545	.2761	.05	10.93	.3253	.1545	.2761	.0400	7.92	10.04	.0974	.18	9.47
60	7.56	10.81	.1661	.2519	.1591	.2681	-.05	10.97	.2519	.1591	.2681	.0627	7.86	10.30	.1183	.18	9.70
72	7.53	10.86	.1024	.1904	.1607	.2217	-.22	10.95	.1904	.1607	.2217	.0869	7.83	10.37	.1341	.15	9.93

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	8.41
GIVEN Y	.53

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.35	11.66	.2510	.27	11.45	600											
12	9.31	11.82	.8115	.7656	.2545	.2990	.29	11.59	.7656	.2545	.2990	.1377	10.08	6.76	.1607	.81	7.26
24	9.27	11.88	.5950	.5815	.2644	.3107	.37	11.87	.5815	.2644	.3107	.0876	9.91	9.33	.1623	.69	9.12
36	9.20	11.69	.4221	.4573	.2585	.3006	.47	12.04	.4573	.2585	.3006	.0807	9.78	10.56	.1723	.63	9.95
48	9.13	11.91	.2774	.3390	.2566	.2903	.37	12.11	.3390	.2566	.2903	.0773	9.66	11.20	.1916	.64	10.50
60	9.06	12.06	.1575	.2641	.2669	.2626	.23	12.18	.2641	.2669	.2626	.0693	9.54	11.51	.2189	.63	10.80
72	8.93	12.10	.0952	.2069	.2702	.2209	.07	12.19	.2069	.2702	.2209	.0768	9.50	11.59	.2310	.60	11.03

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	10.26
GIVEN Y	.89

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (191214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (MM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.37	12.02	.3247	.65	12.25	600										12.35	1.32
12	11.31	13.01	.8089	.67	12.40		.57	12.40	.3295	.7857	.3295		12.19	7.53	.1810	1.27	7.48
24	11.25	13.04	.6023	.74	12.26		.74	12.26	.3331	.5976	.3331		12.01	10.22	.2247	1.15	9.64
36	11.16	13.07	.4267	.81	12.79		.81	12.79	.3252	.4768	.3252		11.87	11.60	.2472	1.10	10.55
48	11.04	13.07	.2793	.68	12.88		.68	12.88	.3237	.3608	.3237		11.74	12.31	.2736	1.11	11.21
60	10.96	13.22	.1702	.48	12.94		.48	12.94	.3293	.2715	.3293		11.61	12.63	.2969	1.10	11.58
72	10.86	13.26	.0343	.25	12.93		.25	12.93	.3267	.2177	.3267		11.55	12.74	.3082	1.07	11.82

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (MM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP
	13.63	13.57	.3833	1.29	12.86	500										14.71	1.90
12	13.60	13.77	.8280	1.27	13.01		1.27	13.01	.3799	.9029	.3799		14.54	7.40	.2002	1.87	7.57
24	13.55	13.81	.6371	1.34	13.22		1.34	13.22	.3806	.6250	.3806		14.35	10.45	.2856	1.76	10.07
36	13.44	13.83	.4578	1.15	13.35		1.15	13.35	.3735	.4739	.3735		14.20	12.06	.3110	1.72	11.13
48	13.33	13.66	.3191	1.23	13.37		1.23	13.37	.3746	.3631	.3746		14.06	12.86	.3279	1.72	11.77
60	13.24	13.34	.2153	1.05	13.41		1.05	13.41	.3755	.2699	.3755		13.95	13.25	.3478	1.72	12.17
72	13.19	13.98	.1511	.60	13.38		.60	13.38	.3760	.2028	.3760		13.88	13.40	.3583	1.68	12.42

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	15.47	13.40	.2491	2.05	12.52	.8276	.6340	.3685	3734	.15	16.36	7.01	.2184	2.57	6.89
24	15.46	13.47	.6644	2.10	12.69	.6340	.3699	.3699	3409	.2283	16.18	9.92	.2728	2.45	9.47
36	15.35	13.51	.5014	2.09	12.74	.4889	.3684	.3684	3185	.1683	16.06	11.47	.2951	2.42	10.64
48	15.25	13.56	.3873	1.92	12.76	.3780	.3703	.3703	2894	.1340	15.97	12.24	.3129	2.44	11.29
60	15.20	13.67	.2919	1.72	12.80	.2827	.3701	.3701	2663	.1093	15.87	12.70	.3260	2.44	11.68
72	15.16	13.70	.2194	1.51	12.80	.2244	.3697	.3697	2264	.1114	15.81	12.95	.3384	2.41	11.91

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.50	2.64

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	16.17	12.39	.2554	2.55	11.74	.8434	.6774	.3412	3576	.2687	17.01	6.38	.2074	2.99	5.99
24	16.14	12.44	.6987	2.58	11.74	.6774	.3404	.3404	3374	.2009	16.86	8.79	.2542	2.92	8.19
36	16.06	12.53	.5583	2.58	11.74	.5292	.3393	.3393	3254	.1260	16.75	10.17	.2792	2.89	9.40
48	15.96	12.62	.4568	2.41	11.44	.4068	.3371	.3371	3032	.0816	16.67	10.90	.2903	2.93	10.10
60	15.91	12.68	.3670	2.23	11.48	.2945	.3367	.3367	2802	.0635	16.57	11.41	.2935	2.91	10.54
72	15.80	12.74	.2877	2.02	11.47	.2229	.3359	.3359	2431	.0729	16.50	11.77	.3031	2.82	10.79

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.18	3.07

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	H	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.02	10.01	.2902	2.24	9.51	600						15.85	2.71					
12	15.04	10.15	.8557	2.26	9.59		2.26	9.59	.2817	.3252	.2074	15.70	5.15	15.70	.1500	2.68	4.88	
24	15.10	10.23	.7200	2.29	9.67		2.29	9.67	.2828	.3329	.1629	15.54	6.93	15.54	.1593	2.61	6.86	
36	15.10	10.32	.6054	2.27	9.71		2.27	9.71	.2770	.3197	.0958	15.44	7.93	15.44	.2031	2.58	7.79	
48	15.02	10.40	.4948	2.17	9.73		2.17	9.73	.2733	.3058	.0616	15.39	8.66	15.39	.2148	2.59	8.45	
60	15.00	10.46	.3910	2.03	9.79		2.03	9.79	.2737	.2863	.0565	15.32	9.20	15.32	.2315	2.56	8.88	
72	14.99	10.54	.3020	1.83	9.78		1.83	9.78	.2734	.2236	.0921	15.26	9.54	15.26	.2421	2.53	9.10	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR X AND YP

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	12.28	8.22	.2518	.59	7.81	600						12.88	1.98					
12	12.32	8.31	.8335	1.59	7.87		1.59	7.87	.2476	.3223	.1461	12.72	4.51	12.72	.1173	1.96	3.99	
24	12.34	8.36	.7093	1.59	7.93		1.59	7.93	.2392	.3486	.0684	12.62	5.74	12.62	.1488	1.94	5.41	
36	12.38	8.41	.5845	1.60	7.95		1.60	7.95	.2431	.3327	.0137	12.52	6.58	12.52	.1795	1.87	6.43	
48	12.36	8.49	.4768	1.54	8.00		1.54	8.00	.2357	.3117	-.0100	12.47	7.15	12.47	.1868	1.84	6.96	
60	12.38	8.57	.3511	1.43	8.08		1.43	8.08	.2322	.2584	.0004	12.40	7.67	12.40	.2031	1.81	7.30	
72	12.37	8.63	.2670	1.36	8.09		1.36	8.09	.2331	.2339	.0482	12.40	7.92	12.40	.2082	1.78	7.47	

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932:4) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HP	MEAN X	S.D. X	R (X, XP)	MEAN XP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	24	8.97	7.19	.9297	1.00	5.04	.8226	1.01	5.02	500	9.28	3.56	.0551	9.42	1.34	1.33	3.50
24	36	8.99	7.23	.7353	.99	5.09	.6955	1.01	5.02	500	9.19	4.74	.1523			1.30	4.22
36	48	9.05	7.27	.5855	.98	5.13	.5393	1.01	5.02	500	9.09	5.72	.0665			1.24	5.02
48	60	9.09	7.29	.5005	.98	5.12	.3734	1.01	5.02	500	9.04	6.11	-.0192			1.19	5.73
60	72	9.12	7.35	.3253	.92	5.22	.2311	1.01	5.02	500	9.00	6.57	-.0002			1.16	5.63
72		9.17	7.41	.3223	.91	5.25	.2294	1.01	5.02	500	8.98	6.75	.0257			1.13	5.75

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HP	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN YP	S.D. XP	R (XP, YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	24	5.19	5.75	.1666	.25	4.61	.6729	.25	4.61	600	5.42	3.49	.0332	5.57	.43	.42	3.35
24	36	5.27	5.79	.7921	.21	4.62	.6729	.25	4.61	600	5.32	3.85	.0615			.40	3.41
36	48	5.43	5.81	.7281	.24	4.65	.6435	.25	4.61	600	5.23	4.55	-.0179			.34	4.05
48	60	5.53	5.82	.5140	.23	4.69	.5820	.25	4.61	600	5.19	4.86	.0325			.32	4.18
60	72	5.92	5.92	.4225	.21	4.75	.5147	.25	4.61	600	5.17	5.18	-.0173			.28	4.40
72		5.64	5.98	.3573	.22	4.81	.4715	.25	4.61	600	5.14	5.35	.1139			.27	4.43

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	2.12	4.93	.7759	-0.27	3.47	600	2.18	3.07	.1072	2.09	3.15	2.18	3.07	.1072	2.09	3.15	600	2.18	3.07	.1072	2.09	3.15
35	49	2.31	4.97	.6150	-0.24	3.51	600	2.33	3.02	.1136	2.33	3.02	2.33	3.02	.1136	2.33	3.02	600	2.33	3.02	.1136	2.33	3.02
50	72	2.47	5.05	.4570	-0.27	3.58	600	2.47	3.05	.1114	2.47	3.05	2.47	3.05	.1114	2.47	3.05	600	2.47	3.05	.1114	2.47	3.05
72		2.56	5.08	.3886	-0.26	3.61	600	2.56	3.61	.1014	2.56	3.61	2.56	3.61	.1014	2.56	3.61	600	2.56	3.61	.1014	2.56	3.61

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

GIVEN X	GIVEN Y	R	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
2.32	-0.11		2.18	3.07	.1072	2.09	3.15

ALTITUDE (KM) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24	-0.02	4.27	.7889	-0.45	2.86	600	-0.04	2.70	.0826	-0.33	2.35	-0.04	2.70	.0826	-0.33	2.35	600	-0.04	2.70	.0826	-0.33	2.35
35	49	0.17	4.29	.6778	-0.43	2.90	600	0.17	2.77	.0672	-0.36	2.67	0.17	2.77	.0672	-0.36	2.67	600	0.17	2.77	.0672	-0.36	2.67
50	72	0.26	4.32	.5824	-0.50	2.93	600	0.26	3.41	.0323	-0.40	2.74	0.26	3.41	.0323	-0.40	2.74	600	0.26	3.41	.0323	-0.40	2.74
72		0.30	4.33	.5128	-0.52	2.96	600	0.30	3.63	.0659	-0.41	2.80	0.30	3.63	.0659	-0.41	2.80	600	0.30	3.63	.0659	-0.41	2.80
		0.40	4.35	.4421	-0.50	2.96	600	0.40	3.79	.1007	-0.42	2.81	0.40	3.79	.1007	-0.42	2.81	600	0.40	3.79	.1007	-0.42	2.81

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19274) - VANCOUVER
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. Y	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, X)	MEAN YP	S.D. YP
		-1.68	3.92	.0757	-0.49	2.37	600										
12		-1.51	3.33	.6290	-0.50	2.40		-1.68	2.83	.0053	-1.68	2.17	-1.77	2.80	-.0520	-1.46	2.22
24		-1.52	3.32	.5975	-0.53	2.44		-1.77	3.10	.0338	-1.90	2.26	-1.80	3.10	.0338	-1.46	2.26
36		-1.43	3.26	.5112	-0.55	2.46		-1.82	3.48	.0522	-1.82	2.36	-1.83	3.48	.0522	-1.50	2.36
48		-1.34	3.23	.5307	-0.56	2.47		-1.83	3.46	.0668	-1.83	2.37	-1.83	3.46	.0668	-1.50	2.37
60		-1.23	3.22	.4511	-0.53	2.49											
72		-1.25	3.20	.4856	-0.52	2.52											

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. Y	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, X)	MEAN YP	S.D. YP
		-2.86	3.84	.0791	-0.37	2.33	600										
12		-2.75	3.96	.7937	-0.40	2.33		-2.86	2.71	.0453	-2.86	2.22	-3.01	2.80	-.0191	-2.37	2.23
24		-2.58	3.85	.6811	-0.39	2.35		-3.01	3.00	.0774	-3.05	2.29	-3.07	3.00	.0774	-2.37	2.29
36		-2.57	3.86	.6137	-0.42	2.38		-3.07	3.20	.0672	-3.10	2.33	-3.10	3.20	.0672	-2.37	2.33
48		-2.50	3.88	.5830	-0.44	2.40		-3.10	3.31	.0632	-3.10	2.33	-3.10	3.31	.0632	-2.37	2.33
60		-2.41	3.89	.5025	-0.41	2.43		-3.10	3.45	.1107	-3.10	2.32	-3.10	3.45	.1107	-2.37	2.32
72		-2.35	3.90	.4315	-0.38	2.42											

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (32214) - VANCOUVER
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.3

ALTITUDE (M) - 24

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP	MEAN YP	S.D. YP
12	12	-5.34	4.25	.773	-2.21	2.21	500	-5.80	2.55	.058	-5.80	2.55	-5.80	2.55	-5.80	2.55
24	24	-5.27	4.12	.748	-2.21	2.21	500	-5.31	2.63	.0314	-5.31	2.63	-5.31	2.63	-5.31	2.63
36	36	-5.15	4.16	.598	-2.21	2.21	500	-5.01	2.87	.0582	-5.01	2.87	-5.01	2.87	-5.01	2.87
48	48	-4.97	4.21	.574	-2.21	2.21	500	-4.25	3.07	.153	-4.25	3.07	-4.25	3.07	-4.25	3.07
60	60	-4.81	4.25	.512	-2.21	2.21	500	-3.11	3.19	.1543	-3.11	3.19	-3.11	3.19	-3.11	3.19
72	72	-4.57	4.31	.551	-2.21	2.21	500	-3.14	3.33	.1224	-3.14	3.33	-3.14	3.33	-3.14	3.33

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	P (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
-5.72	-2.4		-5.80	2.55	-5.80	2.55

ALTITUDE (M) - 25

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP	MEAN YP	S.D. YP
12	12	-5.07	4.24	.583	-1.11	2.19	500	-5.32	2.48	.1125	-5.32	2.48	-5.32	2.48	-5.32	2.48
24	24	-5.76	4.30	.555	-1.11	2.19	500	-5.13	2.71	.1191	-5.13	2.71	-5.13	2.71	-5.13	2.71
36	36	-5.53	4.37	.482	-1.11	2.19	500	-5.53	2.80	.2134	-5.53	2.80	-5.53	2.80	-5.53	2.80
48	48	-5.43	4.41	.513	-1.11	2.19	500	-5.53	2.91	.2222	-5.53	2.91	-5.53	2.91	-5.53	2.91
60	60	-5.28	4.50	.523	-1.11	2.19	500	-5.53	3.29	.2243	-5.53	3.29	-5.53	3.29	-5.53	3.29
72	72	-5.14	4.56	.531	-1.11	2.19	500	-5.57	3.44	.1934	-5.57	3.44	-5.57	3.44	-5.57	3.44

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	P (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
-6.23	-1.13		-5.32	2.48	-5.32	2.48

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDEMBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	MEAN XP	S.D. XP	R (XP,X)	MEAN YP	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,Y)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-5.41	4.55	.2279	-0.09	2.20	.2542	.0847	.0338	.1419	-5.75	2.53	.1040	-6.02	2.11	.0277	-6.92	2.71	.0727	-6.05	2.15	.0277	-6.92	2.71	.0727	-6.05	2.15
24	-5.22	4.57	.2118	-0.03	2.19	.1488	.0775	.0598	.0874	-7.03	2.94	.1552	-7.04	2.17	.0336	-7.11	3.27	.1957	-7.04	2.18	.0336	-7.11	3.27	.1957	-7.04	2.18
36	-5.04	4.72	.7730	-0.05	2.20	-0.010	.0634	-0.0534	.0824	-7.11	3.47	.1794	-7.11	2.17	.0336	-7.11	3.47	.1794	-7.11	2.17	.0336	-7.11	3.47	.1794	-7.11	2.17
48	-5.87	4.77	.7101	-0.02	2.23	-0.0079	.0748	-0.0479	.0837	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17
60	-5.53	4.85	.6551	-0.02	2.24	-0.0055	.0617	-0.0358	.0811	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17
72	-5.54	4.83	.6352	-0.02	2.24	-0.0055	.0617	-0.0358	.0811	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17	.0336	-7.25	3.59	.2073	-7.25	2.17

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.68	.05

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	MEAN XP	S.D. XP	R (XP,X)	MEAN YP	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,Y)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-5.55	4.97	.8377	-0.05	2.11	.2090	.0571	.0515	.1115	-7.05	2.73	.0251	-7.05	2.09	.0251	-7.05	2.73	.0251	-7.05	2.09	.0251	-7.05	2.73	.0251	-7.05	2.09
24	-5.47	5.00	.8213	-0.07	2.12	.1207	.0502	.0688	.0310	-7.21	2.82	.0254	-7.21	2.08	.0254	-7.21	2.82	.0254	-7.21	2.08	.0254	-7.21	2.82	.0254	-7.21	2.08
36	-5.30	5.02	.7741	-0.05	2.15	.0373	.0494	.0729	.0729	-7.31	3.13	.1044	-7.31	2.10	.1044	-7.31	3.13	.1044	-7.31	2.10	.1044	-7.31	3.13	.1044	-7.31	2.10
48	-5.12	5.08	.7313	-0.07	2.16	-0.023	.0245	-0.0138	.0222	-7.42	3.37	.1153	-7.42	2.10	.1153	-7.42	3.37	.1153	-7.42	2.10	.1153	-7.42	3.37	.1153	-7.42	2.10
60	-5.33	5.13	.6975	-0.05	2.15	-0.0238	.0193	-0.0682	.0344	-7.50	3.59	.1285	-7.50	2.09	.1285	-7.50	3.59	.1285	-7.50	2.09	.1285	-7.50	3.59	.1285	-7.50	2.09
72	-5.74	5.21	.6578	-0.05	2.16	-0.0260	.0549	-0.0768	.1004	-7.55	3.68	.1591	-7.55	2.09	.1591	-7.55	3.68	.1591	-7.55	2.09	.1591	-7.55	3.68	.1591	-7.55	2.09

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.95	.03

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: 32200 - JANDENBERG
 MONTH OF RECORDS - OCTOBER
 PERIOD OF RECORDS - 1/55 - 12/70
 ALPHA ANGLE - 80.0

ALTITUDE (CM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP	MEAN YP	S.D. YP
1.22	2.53	-0.5814	-1.25	2.84	820	1.34	2.53	-0.5814	-1.21	2.84	1.34	2.53	-0.5814	-1.21

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP
1.34	2.53	-0.5814	-1.21	2.84	820	1.34	2.53	-0.5814	-1.21	2.84

ALTITUDE (CM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN YP	S.D. YP	MEAN YP	S.D. YP
1.07	2.38	-0.5823	-1.94	5.27	820	1.13	2.38	-0.5823	-2.15	5.27	1.13	2.38	-0.5823	-2.15

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP
1.13	2.38	-0.5823	-2.15	5.27	820	1.13	2.38	-0.5823	-2.15	5.27

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	3.91	7.79	-.0889	-2.51	8.72	620												
12	3.96	7.73	.7965	-2.57	8.67		8.133	8.67	.0638	.8133	8.67	-.0803	-.2372	4.10	4.50	.0090	-2.76	4.95
24	4.00	7.70	.5872	-2.66	8.62		.5890	8.62	.1166	.5890	8.62	-.0754	-.2740	4.05	6.04	-.0314	-2.64	6.90
36	4.06	7.67	.3963	-2.74	8.59		4.130	8.59	.1012	4.130	8.59	-.0688	-.2555	3.98	7.91	-.0403	-2.57	7.86
48	4.15	7.63	.2712	-2.81	8.54		.2948	8.54	.0703	.2948	8.54	-.0616	-.2207	3.93	7.32	-.0522	-2.54	8.29
60	4.18	7.56	.1962	-2.76	8.54		.2173	8.54	.0548	.2173	8.54	-.0612	-.1965	3.93	7.49	-.0627	-2.55	8.49
72	4.25	7.53	.1672	-2.65	8.56		.1483	8.56	.0768	.1483	8.56	-.0581	-.1767	3.93	7.56	-.0796	-2.56	8.59

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 4.14
 GIVEN Y -2.90

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 5

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	5.60	8.92	.0530	-2.67	9.83	620												
12	5.66	8.86	.8232	-2.75	9.78		.7999	9.78	.1385	.7999	9.78	.0636	-.0882	5.80	4.91	.1551	-2.67	5.84
24	5.66	8.85	.6128	-2.89	9.71		.5697	9.71	.1384	.5697	9.71	.0669	-.1305	5.73	6.68	.1029	-2.73	6.02
36	5.76	8.86	.4375	-2.97	9.68		.3942	9.68	.1147	.3942	9.68	.0656	-.1550	5.65	7.85	.0922	-2.68	8.99
48	5.81	8.81	.3158	-3.05	9.65		.2860	9.65	.0793	.2860	9.65	.0681	-.1512	5.61	8.32	.0859	-2.66	9.40
60	5.86	8.75	.2374	-2.94	9.66		.2152	9.66	.0771	.2152	9.66	.0677	-.1544	5.61	8.53	.0759	-2.69	9.58
72	5.94	8.70	.1874	-2.83	9.68		.1414	9.68	.0913	.1414	9.68	.0717	-.1533	5.61	8.64	.0613	-2.71	9.70

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 5.85
 GIVEN Y -3.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	7.01	10.14	.1045	-2.71	11.23	620											
12	7.06	10.06	.8193	-2.81	11.18		7.881	.1131	.1613	.7881	.0039		7.14	5.73	.1379	-2.94	6.86
24	7.11	10.04	.6194	-2.95	11.10		.5653	.1121	.1423	.5653	-.0671		7.07	7.87	.1454	-2.80	9.22
36	7.19	10.05	.4578	-3.06	11.08		.3898	.1091	.1135	.3898	-.0988		7.01	8.88	.1362	-2.73	10.31
48	7.23	9.96	.3392	-3.11	11.04		.2865	.1094	.0945	.2865	-.1181		6.99	9.40	.1306	-2.71	10.74
60	7.25	9.91	.2693	-3.01	11.04		.2168	.1076	.0877	.2168	-.1221		7.00	9.64	.1215	-2.74	10.94
72	7.36	9.86	.2202	-2.92	11.08		.1508	.1121	.0969	.1508	-.1322		6.99	9.76	.1111	-2.75	11.06

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X GIVEN Y
 7.18 -3.13

..... ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	8.49	11.69	.1505	-2.87	12.74	620											
12	8.51	11.60	.7834	-3.00	12.68		.7767	.1555	.1897	.7767	.0466		8.64	7.21	.1539	-3.11	7.97
24	8.54	11.61	.5616	-3.15	12.56		.5351	.1534	.1514	.5351	-.0370		8.58	9.56	.1888	-2.95	10.72
36	8.61	11.61	.4041	-3.30	12.50		.3547	.1539	.1090	.3547	-.0753		8.52	10.56	.1824	-2.89	11.89
48	8.66	11.51	.3187	-3.35	12.49		.2492	.1546	.0779	.2492	-.0974		8.49	10.94	.1780	-2.86	12.32
60	8.69	11.43	.2642	-3.29	12.52		.1877	.1521	.0743	.1877	-.0988		8.49	11.15	.1666	-2.88	12.50
72	8.80	11.36	.2262	-3.20	12.56		.1392	.1539	.0779	.1392	-.1099		8.48	11.25	.1593	-2.89	12.59

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X GIVEN Y
 8.66 -3.33

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0
 X = U(AT T)
 Y = V(AT T)
 XP = U(AT T + DT)
 YP = V(AT T + DT)

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.88	13.01	.2050	-2.74	14.36	620												9.98	-3.29	
12	9.85	12.93	.7728	-2.91	14.28		-2.91	14.28	.2053	.7607	.2081	.2053	.2081	.0537		10.00	8.22	.2179	-3.02	9.29
24	9.86	12.94	.5398	-3.10	14.09		-3.10	14.09	.2061	.5172	.1575	.2061	.1575	.0346		9.97	10.86	.2415	-2.83	12.27
36	9.90	12.93	.3777	-3.23	13.98		-3.23	13.98	.2016	.3358	.1169	.2016	.1169	-.0454		9.91	11.93	.2322	-2.74	13.51
48	9.94	12.85	.2825	-3.34	13.93		-3.34	13.93	.1996	.2211	.0830	.1996	.0830	-.0710		9.88	12.34	.2265	-2.73	14.00
60	10.00	12.74	.2376	-3.29	14.04		-3.29	14.04	.1966	.1725	.0871	.1966	.0871	-.0763		9.87	12.55	.2155	-2.74	14.12
72	10.14	12.69	.2030	-3.23	14.12		-3.23	14.12	.1971	.1352	.0933	.1971	.0933	-.0694		9.84	12.65	.2073	-2.76	14.20

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.35	14.29	.2673	-2.69	15.55	620												11.43	-3.27	
12	11.33	14.20	.7774	-2.88	15.47		-2.88	15.47	.2659	.7479	.2442	.2659	.2442	.1404		11.46	8.94	.3048	-2.97	10.30
24	11.33	14.21	.5519	-3.09	15.26		-3.09	15.26	.2570	.5104	.1826	.2570	.1826	.0348		11.43	11.81	.3097	-2.77	13.35
36	11.34	14.18	.3859	-3.28	15.12		-3.28	15.12	.2569	.3302	.1249	.2569	.1249	-.0255		11.39	13.05	.3006	-2.68	14.66
48	11.38	14.10	.2947	-3.32	15.12		-3.32	15.12	.2518	.2161	.0804	.2518	.0804	-.0492		11.37	13.53	.2891	-2.68	15.17
60	11.44	13.93	.2480	-3.26	15.15		-3.26	15.15	.2425	.1813	.0699	.2425	.0699	-.0558		11.35	13.74	.2803	-2.59	15.27
72	11.62	13.86	.2113	-3.24	15.26		-3.24	15.26	.2373	.1660	.1075	.2373	.1075	-.0400		11.31	13.91	.2696	-2.71	15.29

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (3214) - VAN DER BERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 92.0

ALTITUDE (M) - 13

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	13.09	15.02	.3007	-2.82	16.26	620					
24	13.13	14.91	.7756	7.37	16.20		13.10	9.44	.1972	13.17	10.65
36	13.05	14.92	.5517	5.03	15.04	.2823	13.12	12.43	.0526	13.04	13.36
48	13.03	14.86	.3910	3.70	15.94	1.191	13.09	13.69	-0.27	13.04	15.30
60	13.13	14.75	.2918	2.73	15.92	.0844	13.07	14.21	-0.40	13.03	15.37
72	13.22	14.56	.2510	1.90	15.93	.0930	13.02	14.45	-0.376	13.06	15.96
	13.33	14.52	.2248	1.72	15.93	.0978	13.02	14.57	-0.319	13.02	15.93

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.08	-3.48

ALTITUDE (M) - 11

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	14.94	15.18	.3209	-2.68	16.24	620					
24	14.89	15.04	.7369	7.55	16.20		14.92	9.16	.2271	14.97	10.65
36	14.84	15.00	.5726	5.17	15.07	.2695	14.94	12.31	.057	14.94	13.94
48	14.88	14.88	.4153	3.79	15.00	1.135	14.93	13.71	-0.228	14.93	15.15
60	14.92	14.74	.3196	2.81	15.96	.0987	14.98	14.29	-0.40	14.98	15.71
72	15.05	14.72	.2133	1.85	15.12	.0926	14.97	14.77	-0.213	14.97	15.90

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.97	-3.38

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	16.63	14.57	.3216	-2.55	15.43																
12	16.55	14.62	.8142	-2.76	15.44	.3209	16.83	8.50	.2829	16.82	9.90	.3624	-2.99	9.90	.7663	16.83	8.50	-2.99	9.90	16.77	-3.35
24	16.52	14.60	.5934	-2.94	15.29	.3130	16.82	11.85	.1966	16.82	13.17	.3619	-2.75	13.17	.5200	16.82	11.85	-2.75	13.17	16.77	-3.35
36	16.54	14.54	.4270	-3.06	15.23	.3114	16.77	13.20	.1468	16.77	14.26	.3544	-2.65	14.26	.3651	16.77	13.20	-2.65	14.26	16.77	-3.35
48	16.57	14.43	.3251	-3.09	15.21	.3077	16.72	13.75	.1183	16.72	14.89	.3447	-2.61	14.89	.2532	16.72	13.75	-2.61	14.89	16.77	-3.35
60	16.50	14.28	.2512	-3.00	15.25	.3043	16.72	14.04	.1100	16.72	15.09	.3565	-2.61	15.09	.1686	16.72	14.04	-2.61	15.09	16.77	-3.35
72	16.70	14.26	.2109	-2.97	15.36	.3041	16.68	14.27	.0961	16.68	15.19	.3293	-2.61	15.19		16.68	14.27	-2.61	15.19	16.77	-3.35

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	16.81	12.86	.2936	-2.27	13.41																
12	16.74	12.81	.8128	-2.49	13.47	.2928	16.95	7.37	.2626	16.95	8.54	.2947	-2.67	8.54	.7699	16.95	7.37	-2.67	8.54	16.89	-3.04
24	16.75	12.82	.5961	-2.67	13.36	.2856	16.93	10.27	.1930	16.93	11.29	.3329	-2.45	11.29	.5393	16.93	10.27	-2.45	11.29	16.89	-3.04
36	16.80	12.72	.4354	-2.80	13.34	.2875	16.91	11.49	.1328	16.91	12.41	.3225	-2.35	12.41	.3772	16.91	11.49	-2.35	12.41	16.89	-3.04
48	16.82	12.51	.3251	-2.81	13.35	.2907	16.88	12.00	.1113	16.88	13.11	.3203	-2.32	13.11	.2583	16.88	12.00	-2.32	13.11	16.89	-3.04
60	16.87	12.49	.2639	-2.71	13.39	.2925	16.85	12.29	.1052	16.85	13.11	.3030	-2.33	13.11	.2031	16.85	12.29	-2.33	13.11	16.89	-3.04
72	16.93	12.46	.2218	-2.67	13.43	.2965	16.83	12.45	.0904	16.83	13.12	.3030	-2.32	13.12	.1537	16.83	12.45	-2.32	13.12	16.89	-3.04

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	P (XP, YP)	MEAN YP	S.D. YP
		15.02	11.22	.2597	-1.82	11.68	620						15.15	15.15		-2.49	
12	24	15.97	11.14	.2605	-1.97	11.71	.2875	15.21	8.35	.2556	15.21	8.35	15.21	8.35	.2556	-2.21	7.18
35	43	15.32	11.10	.2623	-2.13	11.64	.2871	15.21	8.76	.2659	15.21	8.76	15.21	8.76	.2659	-1.91	9.54
48	60	15.97	11.03	.2624	-2.26	11.64	.2873	15.17	9.29	.2634	15.17	9.29	15.17	9.29	.2634	-1.88	10.55
60	72	15.25	11.06	.2623	-2.23	11.62	.2873	15.13	10.35	.2617	15.13	10.35	15.13	10.35	.2617	-1.82	11.05
		15.11	10.85	.2625	-2.20	11.57	.2872	15.07	10.66	.2612	15.07	10.66	15.07	10.66	.2612	-1.87	11.44

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	P (XP, YP)	MEAN YP	S.D. YP
		14.38	9.13	.2528	-1.59	9.68	620						14.55	14.55		-2.19	
12	24	14.35	9.15	.2673	-1.74	9.72	.2699	14.52	5.24	.2832	14.52	5.24	14.52	5.24	.2832	-1.91	6.14
35	43	14.30	9.16	.2629	-1.84	9.71	.2667	14.52	7.01	.2932	14.52	7.01	14.52	7.01	.2932	-1.76	8.00
48	60	14.32	9.10	.2622	-1.97	9.68	.2690	14.50	7.97	.2804	14.50	7.97	14.50	7.97	.2804	-1.66	8.83
60	72	14.36	9.05	.2652	-1.99	9.68	.2601	14.50	8.41	.2811	14.50	8.41	14.50	8.41	.2811	-1.64	9.16
		14.43	8.94	.2671	-1.93	9.67	.2682	14.49	8.64	.2717	14.49	8.64	14.49	8.64	.2717	-1.63	9.37
				.2671	-1.94	9.67	.2685	14.45	8.81	.2776	14.45	8.81	14.45	8.81	.2776	-1.63	9.48

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VALDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	11.99	7.55	.1974	-1.49	7.90	620	12.13	7.34	.2237	-1.93	7.55	12.13	7.34	.2237	-1.93	7.55
HP																
12	11.95	7.54	.1973	-1.57	7.92	2519	12.19	7.45	.2014	-1.77	7.81	12.17	7.44	.1770	-1.74	7.81
24	11.93	7.52	.1950	-1.63	7.91	2758	12.17	7.44	.2049	-1.74	7.81	12.17	7.44	.1770	-1.74	7.81
36	11.96	7.51	.1918	-1.59	7.91	2600	12.13	7.51	.2092	-1.85	7.81	12.13	7.51	.1893	-1.87	7.81
48	11.93	7.59	.1934	-1.72	7.91	1189	12.08	7.94	.2181	-1.96	7.81	12.08	7.94	.2293	-1.96	7.81
60	12.02	7.55	.1918	-1.68	7.75	1344	12.07	7.17	.2202	-1.75	7.55	12.07	7.17	.2197	-1.75	7.55
72	12.05	7.51	.2227	-1.71	7.74	1214	12.05	7.34	.2291	-1.87	7.55	12.05	7.34	.2237	-1.84	7.55

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	8.97	6.21	.1603	-1.30	5.99	620	9.11	6.11	.2043	-1.68	6.03	9.11	6.11	.1720	-1.53	6.03
HP																
12	8.97	6.19	.1593	-1.35	6.05	2548	9.11	6.04	.1693	-1.61	6.03	9.11	6.04	.1720	-1.53	6.03
24	8.98	6.18	.1609	-1.41	6.07	2184	9.10	6.07	.1634	-1.47	6.03	9.10	6.07	.1599	-1.44	6.03
36	9.00	6.17	.1478	-1.48	6.08	1833	9.05	6.05	.1709	-1.65	6.03	9.05	6.05	.1812	-1.58	6.03
48	9.04	6.15	.1455	-1.52	6.09	1571	9.02	6.09	.1820	-1.83	6.03	9.02	6.09	.1862	-1.85	6.03
60	9.12	6.15	.1547	-1.52	6.05	1321	9.00	6.05	.1934	-1.82	6.03	9.00	6.05	.1985	-1.85	6.03
72	9.15	6.14	.2232	-1.53	6.03	1212	8.99	6.03	.2043	-1.87	6.03	8.99	6.03	.2049	-1.84	6.03

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	5.97	5.02	.1535	-1.25	4.53	620										
12	5.37	4.99	.6975	-1.27	4.57		5.05	3.58	.0845	-1.39	3.17	6.05	3.58	.0845	-1.39	3.17
24	5.99	4.99	.6164	-1.33	4.58		6.05	3.87	.1170	-1.31	3.59	6.05	3.87	.1170	-1.31	3.59
36	5.99	5.02	.4742	-1.37	4.58		6.02	4.35	.1330	-1.28	4.02	6.02	4.35	.1330	-1.28	4.02
48	6.01	5.00	.3820	-1.39	4.58		6.00	4.56	.1374	-1.25	4.25	6.00	4.56	.1374	-1.25	4.25
60	6.05	4.98	.2930	-1.39	4.57		5.99	4.73	.1482	-1.26	4.42	5.99	4.73	.1482	-1.26	4.42
72	6.09	4.98	.2295	-1.39	4.55		5.98	4.80	.1624	-1.26	4.48	5.98	4.80	.1624	-1.26	4.48

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.59	4.44	.2103	-1.33	3.54	620										
12	3.60	4.41	.6832	-1.33	3.53		3.65	3.24	.0959	-1.39	2.64	3.65	3.24	.0959	-1.39	2.64
24	3.62	4.41	.6231	-1.34	3.55		3.65	3.44	.1105	-1.37	2.75	3.65	3.44	.1105	-1.37	2.75
36	3.54	4.42	.4955	-1.35	3.55		3.64	3.83	.1571	-1.35	3.18	3.64	3.83	.1571	-1.35	3.18
48	3.66	4.44	.4203	-1.34	3.54		3.62	4.00	.1741	-1.35	3.32	3.62	4.00	.1741	-1.35	3.32
60	3.72	4.45	.3409	-1.34	3.55		3.60	4.15	.2000	-1.35	3.43	3.60	4.15	.2000	-1.35	3.43
72	3.75	4.49	.2893	-1.36	3.54		3.59	4.22	.1980	-1.34	3.47	3.59	4.22	.1980	-1.34	3.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)
	1.43	4.33	.2176	- .96	2.91	620												
12	1.45	4.32	.6891	-.96	2.93	.1827	4.542	2.126	.2126	.4542	.1575		1.44	3.13	.1343	-.37	2.59	.1827
24	1.48	4.33	.6580	-.96	2.95	.1151	3.505	2.137	.2137	.3505	.2254		1.43	3.26	.1151	-.57	2.69	.1151
36	1.52	4.36	.5417	-1.00	2.96	.1157	2.878	2.174	.2174	.2174	.1217		1.41	3.64	.1895	-.96	2.79	.1157
48	1.58	4.39	.4443	-1.00	2.98	.0835	2.164	2.208	.2208	.2164	.1253		1.38	3.88	.1891	-.97	2.84	.0835
60	1.64	4.37	.3747	-1.01	2.99	.0580	1.302	2.391	.2391	.1302	.0407		1.37	4.01	.2247	-.96	2.89	.0580
72	1.67	4.41	.3641	-1.03	2.98	.0538	.0187	2.402	.2402	.0187	.0070		1.36	4.03	.2317	-.96	2.91	.0538

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.47	-1.00

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)
	1.43	4.55	.1465	-.77	2.89	620												
12	1.49	4.50	.7239	-.80	2.90	.1820	4.189	1.556	.1556	.4189	.1525		1.36	3.12	.0130	-.73	2.61	.1820
24	1.54	4.51	.6535	-.83	2.90	.1000	3.767	1.564	.1564	.3767	.2028		1.32	3.45	.0214	-.74	2.64	.1000
36	1.57	4.52	.5612	-.83	2.92	.0573	2.720	1.586	.1586	.2720	.1155		1.31	3.77	.1004	-.75	2.77	.0573
48	1.62	4.55	.5228	-.85	2.93	.0934	1.501	1.661	.1661	.1501	.0366		1.31	3.88	.1500	-.75	2.85	.0934
60	1.70	4.54	.4184	-.84	2.94	.1070	.0607	1.856	.1856	.0607	.1076		1.30	4.13	.1517	-.77	2.88	.1070
72	1.76	4.58	.3922	-.82	2.94	.1080	.0110	1.905	.1905	.0110	-.0434		1.29	4.19	.1771	-.76	2.88	.1080

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.37	-.68

QUADRIVARIATE A'D CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

Y = U(AT T)
 YP = V(AT T)
 XP = U(AT T + DT)
 YP = V(AT T + DT)

..... ALTITUDE (KM) - 26

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	3.28	6.23	.1811	-.21	3.00		620						2.98	.02
12	3.43	6.17	.8583	-.20	3.01	.4729	.1839	.1538	.1909	2.91	3.19	.0753	-.12	2.64
24	3.56	6.17	.8123	-.21	3.03	.3936	.1884	.1434	.1445	2.80	3.63	.0663	-.15	2.74
36	3.67	6.18	.7624	-.24	3.05	.2569	.1915	.1443	.1653	2.76	4.03	.1069	-.18	2.88
48	3.77	6.22	.7037	-.23	3.06	.1320	.1978	.0850	.1599	2.73	4.43	.1692	-.20	2.97
60	3.88	6.22	.6476	-.27	3.05	.0970	.2127	.0187	.1610	2.71	4.75	.2199	-.18	2.99
72	4.03	6.27	.5998	-.27	3.06	.0602	.2185	-.0163	.1469	2.67	4.99	.2378	-.17	2.99

..... ALTITUDE (KM) - 27

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	4.38	5.91	.2076	-.15	3.30		620						3.93	.10
12	4.53	6.85	.8608	-.16	3.34	.5460	.2104	.1663	.2060	3.87	3.51	.1202	-.02	2.76
24	4.68	6.84	.8320	-.16	3.37	.4063	.2138	.1848	.1827	3.75	3.83	.1033	-.09	3.00
36	4.86	6.83	.7593	-.16	3.37	.3026	.2221	.1306	.1923	3.68	4.49	.1645	-.10	2.14
48	5.01	6.86	.7205	-.14	3.37	.1394	.2190	.0742	.1751	3.63	4.79	.2215	-.14	3.27
60	5.17	6.88	.6618	-.14	3.38	.0576	.2207	.0193	.1720	3.57	5.18	.2585	-.14	3.30
72	5.35	6.96	.6213	-.14	3.39	.0601	.2214	-.0107	.1606	3.52	5.41	.2722	-.11	3.29

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = STAT
Y = STAT T

MON	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N
0000	1/55 - 12/74	0	00	1.33	2.53	55.14	1.25	6.4	88
0000	1/55 - 12/74	1	00	1.27	2.53	55.23	1.25	6.4	88
0000	1/55 - 12/74	2	00	1.54	4.49	2.927	1.64	6.27	88
0000	1/55 - 12/74	3	00	2.14	6.17	2.152	1.22	7.25	88
0000	1/55 - 12/74	4	00	3.51	7.79	1.536	1.81	6.72	88
0000	1/55 - 12/74	5	00	5.50	10.32	1.150	2.57	5.82	88
0000	1/55 - 12/74	6	00	7.01	11.69	1.145	3.71	5.23	88
0000	1/55 - 12/74	7	00	8.28	12.51	1.145	5.07	4.55	88
0000	1/55 - 12/74	8	00	9.28	14.23	2.272	6.74	3.95	88
0000	1/55 - 12/74	9	00	11.15	15.03	2.272	8.03	3.55	88
0000	1/55 - 12/74	10	00	12.15	15.88	2.272	9.33	3.20	88
0000	1/55 - 12/74	11	00	13.22	16.76	2.272	10.63	2.90	88
0000	1/55 - 12/74	12	00	14.32	17.66	2.272	11.93	2.65	88
0000	1/55 - 12/74	13	00	15.43	18.58	2.272	13.23	2.45	88
0000	1/55 - 12/74	14	00	16.57	19.51	2.272	14.53	2.30	88
0000	1/55 - 12/74	15	00	17.73	20.45	2.272	15.83	2.20	88
0000	1/55 - 12/74	16	00	18.93	21.40	2.272	17.13	2.15	88
0000	1/55 - 12/74	17	00	20.17	22.36	2.272	18.43	2.15	88
0000	1/55 - 12/74	18	00	21.43	23.33	2.272	19.73	2.15	88
0000	1/55 - 12/74	19	00	22.73	24.31	2.272	21.03	2.15	88
0000	1/55 - 12/74	20	00	24.03	25.30	2.272	22.33	2.15	88
0000	1/55 - 12/74	21	00	25.33	26.30	2.272	23.63	2.15	88
0000	1/55 - 12/74	22	00	26.63	27.30	2.272	24.93	2.15	88
0000	1/55 - 12/74	23	00	27.93	28.30	2.272	26.23	2.15	88
0000	1/55 - 12/74	24	00	29.23	29.30	2.272	27.53	2.15	88
0000	1/55 - 12/74	25	00	30.53	30.30	2.272	28.83	2.15	88
0000	1/55 - 12/74	26	00	31.83	31.30	2.272	30.13	2.15	88
0000	1/55 - 12/74	27	00	33.13	32.30	2.272	31.43	2.15	88
0000	1/55 - 12/74	28	00	34.43	33.30	2.272	32.73	2.15	88
0000	1/55 - 12/74	29	00	35.73	34.30	2.272	34.03	2.15	88
0000	1/55 - 12/74	30	00	37.03	35.30	2.272	35.33	2.15	88
0000	1/55 - 12/74	31	00	38.33	36.30	2.272	36.63	2.15	88
0000	1/55 - 12/74	32	00	39.63	37.30	2.272	37.93	2.15	88
0000	1/55 - 12/74	33	00	40.93	38.30	2.272	39.23	2.15	88
0000	1/55 - 12/74	34	00	42.23	39.30	2.272	40.53	2.15	88
0000	1/55 - 12/74	35	00	43.53	40.30	2.272	41.83	2.15	88
0000	1/55 - 12/74	36	00	44.83	41.30	2.272	43.13	2.15	88
0000	1/55 - 12/74	37	00	46.13	42.30	2.272	44.43	2.15	88
0000	1/55 - 12/74	38	00	47.43	43.30	2.272	45.73	2.15	88
0000	1/55 - 12/74	39	00	48.73	44.30	2.272	47.03	2.15	88
0000	1/55 - 12/74	40	00	50.03	45.30	2.272	48.33	2.15	88
0000	1/55 - 12/74	41	00	51.33	46.30	2.272	49.63	2.15	88
0000	1/55 - 12/74	42	00	52.63	47.30	2.272	50.93	2.15	88
0000	1/55 - 12/74	43	00	53.93	48.30	2.272	52.23	2.15	88
0000	1/55 - 12/74	44	00	55.23	49.30	2.272	53.53	2.15	88
0000	1/55 - 12/74	45	00	56.53	50.30	2.272	54.83	2.15	88
0000	1/55 - 12/74	46	00	57.83	51.30	2.272	56.13	2.15	88
0000	1/55 - 12/74	47	00	59.13	52.30	2.272	57.43	2.15	88
0000	1/55 - 12/74	48	00	60.43	53.30	2.272	58.73	2.15	88
0000	1/55 - 12/74	49	00	61.73	54.30	2.272	60.03	2.15	88
0000	1/55 - 12/74	50	00	63.03	55.30	2.272	61.33	2.15	88
0000	1/55 - 12/74	51	00	64.33	56.30	2.272	62.63	2.15	88
0000	1/55 - 12/74	52	00	65.63	57.30	2.272	63.93	2.15	88
0000	1/55 - 12/74	53	00	66.93	58.30	2.272	65.23	2.15	88
0000	1/55 - 12/74	54	00	68.23	59.30	2.272	66.53	2.15	88
0000	1/55 - 12/74	55	00	69.53	60.30	2.272	67.83	2.15	88
0000	1/55 - 12/74	56	00	70.83	61.30	2.272	69.13	2.15	88
0000	1/55 - 12/74	57	00	72.13	62.30	2.272	70.43	2.15	88
0000	1/55 - 12/74	58	00	73.43	63.30	2.272	71.73	2.15	88
0000	1/55 - 12/74	59	00	74.73	64.30	2.272	73.03	2.15	88
0000	1/55 - 12/74	60	00	76.03	65.30	2.272	74.33	2.15	88
0000	1/55 - 12/74	61	00	77.33	66.30	2.272	75.63	2.15	88
0000	1/55 - 12/74	62	00	78.63	67.30	2.272	76.93	2.15	88
0000	1/55 - 12/74	63	00	79.93	68.30	2.272	78.23	2.15	88
0000	1/55 - 12/74	64	00	81.23	69.30	2.272	79.53	2.15	88
0000	1/55 - 12/74	65	00	82.53	70.30	2.272	80.83	2.15	88
0000	1/55 - 12/74	66	00	83.83	71.30	2.272	82.13	2.15	88
0000	1/55 - 12/74	67	00	85.13	72.30	2.272	83.43	2.15	88
0000	1/55 - 12/74	68	00	86.43	73.30	2.272	84.73	2.15	88
0000	1/55 - 12/74	69	00	87.73	74.30	2.272	86.03	2.15	88
0000	1/55 - 12/74	70	00	89.03	75.30	2.272	87.33	2.15	88
0000	1/55 - 12/74	71	00	90.33	76.30	2.272	88.63	2.15	88
0000	1/55 - 12/74	72	00	91.63	77.30	2.272	89.93	2.15	88
0000	1/55 - 12/74	73	00	92.93	78.30	2.272	91.23	2.15	88
0000	1/55 - 12/74	74	00	94.23	79.30	2.272	92.53	2.15	88
0000	1/55 - 12/74	75	00	95.53	80.30	2.272	93.83	2.15	88
0000	1/55 - 12/74	76	00	96.83	81.30	2.272	95.13	2.15	88
0000	1/55 - 12/74	77	00	98.13	82.30	2.272	96.43	2.15	88
0000	1/55 - 12/74	78	00	99.43	83.30	2.272	97.73	2.15	88
0000	1/55 - 12/74	79	00	100.73	84.30	2.272	99.03	2.15	88
0000	1/55 - 12/74	80	00	102.03	85.30	2.272	100.33	2.15	88
0000	1/55 - 12/74	81	00	103.33	86.30	2.272	101.63	2.15	88
0000	1/55 - 12/74	82	00	104.63	87.30	2.272	102.93	2.15	88
0000	1/55 - 12/74	83	00	105.93	88.30	2.272	104.23	2.15	88
0000	1/55 - 12/74	84	00	107.23	89.30	2.272	105.53	2.15	88
0000	1/55 - 12/74	85	00	108.53	90.30	2.272	106.83	2.15	88
0000	1/55 - 12/74	86	00	109.83	91.30	2.272	108.13	2.15	88
0000	1/55 - 12/74	87	00	111.13	92.30	2.272	109.43	2.15	88
0000	1/55 - 12/74	88	00	112.43	93.30	2.272	110.73	2.15	88
0000	1/55 - 12/74	89	00	113.73	94.30	2.272	112.03	2.15	88
0000	1/55 - 12/74	90	00	115.03	95.30	2.272	113.33	2.15	88
0000	1/55 - 12/74	91	00	116.33	96.30	2.272	114.63	2.15	88
0000	1/55 - 12/74	92	00	117.63	97.30	2.272	115.93	2.15	88
0000	1/55 - 12/74	93	00	118.93	98.30	2.272	117.23	2.15	88
0000	1/55 - 12/74	94	00	120.23	99.30	2.272	118.53	2.15	88
0000	1/55 - 12/74	95	00	121.53	100.30	2.272	119.83	2.15	88
0000	1/55 - 12/74	96	00	122.83	101.30	2.272	121.13	2.15	88
0000	1/55 - 12/74	97	00	124.13	102.30	2.272	122.43	2.15	88
0000	1/55 - 12/74	98	00	125.43	103.30	2.272	123.73	2.15	88
0000	1/55 - 12/74	99	00	126.73	104.30	2.272	125.03	2.15	88
0000	1/55 - 12/74	100	00	128.03	105.30	2.272	126.33	2.15	88

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, Z, P, YP
 STATION 1922(1) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 32.3

ALTITUDE (FM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, Z, P

	MEAN X	S.D. X	P (X, Y, Z)	MEAN Y	S.D. Y	P (Y, Z, P)	MEAN Z	S.D. Z	P (Z, P, YP)	MEAN YP	S.D. YP	N
DT	2.22	5.13	.0552	1.04	7.98	.000						500
12	2.23	5.24	.7109	1.02	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500
24	2.25	5.23	.6112	1.02	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500
36	2.23	5.34	.3547	1.02	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500
48	2.30	5.37	.3255	1.07	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500
60	2.28	5.43	.2426	1.09	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500
72	2.41	5.45	.2237	1.13	7.92	.0051	1.253	1.789	1.253	1.789	1.253	500

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

	MEAN YP	S.D. YP	P (YP, YP)	MEAN YP	S.D. YP	P (YP, YP)	MEAN YP	S.D. YP
DT	1.83	7.51						
12	1.89	7.51	.0915	1.89	7.51	.0915	1.89	7.51
24	1.90	7.51	.1177	1.90	7.51	.1177	1.90	7.51
36	1.91	7.51	.1507	1.91	7.51	.1507	1.91	7.51
48	1.92	7.51	.1931	1.92	7.51	.1931	1.92	7.51
60	1.93	7.51	.2477	1.93	7.51	.2477	1.93	7.51
72	1.95	7.51	.3180	1.95	7.51	.3180	1.95	7.51

ALTITUDE (FM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, Z, P

	MEAN X	S.D. X	P (X, Y, Z)	MEAN Y	S.D. Y	P (Y, Z, P)	MEAN Z	S.D. Z	P (Z, P, YP)	MEAN YP	S.D. YP	N
DT	4.28	6.93	.0524	1.44	9.22	.000						500
12	4.34	6.94	.7597	1.41	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500
24	4.32	6.95	.6531	1.41	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500
36	4.30	7.00	.3943	1.41	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500
48	4.33	7.02	.3544	1.43	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500
60	4.29	7.03	.2841	1.43	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500
72	4.25	7.16	.2594	1.47	9.22	.0057	1.203	1.632	1.203	1.632	1.203	500

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

	MEAN YP	S.D. YP	P (YP, YP)	MEAN YP	S.D. YP	P (YP, YP)	MEAN YP	S.D. YP
DT	4.23	7.85						
12	4.30	7.85	.1025	4.30	7.85	.1025	4.30	7.85
24	4.30	7.85	.1277	4.30	7.85	.1277	4.30	7.85
36	4.30	7.85	.1680	4.30	7.85	.1680	4.30	7.85
48	4.30	7.85	.2230	4.30	7.85	.2230	4.30	7.85
60	4.30	7.85	.2977	4.30	7.85	.2977	4.30	7.85
72	4.30	7.85	.3980	4.30	7.85	.3980	4.30	7.85

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDEMBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 4

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN YP	S.D. YP
	7.45	8.51	.0937	-1.43	10.27	600				6.52	-.02					
DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	P (XP,YP)	MEAN YP	S.D. YP		
12	7.55	8.60	.7522	-1.40	10.30	.7645	.0954	.1591	-.0295	6.63	5.54	.1219	-1.10	6.56		
24	7.67	8.61	.5521	-1.40	10.37	.5251	.0932	.1627	-.0833	6.75	7.00	.1072	-1.28	8.67		
36	7.77	8.68	.4418	-1.41	10.43	.3580	.0968	.1612	-.0333	6.83	7.55	.0848	-1.41	9.50		
48	7.86	8.75	.3568	-1.41	10.49	.2793	.0901	.1248	-.0254	6.93	8.13	.0856	-1.43	9.81		
60	7.97	8.81	.3010	-1.46	10.55	.2477	.0823	.0943	-.0462	6.98	8.21	.0906	-1.40	10.00		
72	8.04	8.85	.2606	-1.52	10.58	.2183	.0861	.0846	-.0232	7.04	8.21	.0873	-1.40	10.00		

..... ALTITUDE (KM) - 5

..... QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP,YP)	MEAN YP	S.D. YP
	9.69	10.28	.1543	-1.34	11.68	600				6.68	-.01					
DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	P (XP,YP)	MEAN YP	S.D. YP		
12	9.83	10.38	.7574	-1.31	11.73	.7539	.1518	.2213	-.0408	8.79	6.67	.0986	-1.12	7.57		
24	9.98	10.40	.5709	-1.29	11.82	.5127	.1540	.1978	-.0141	8.90	7.37	.1326	-1.28	9.93		
36	10.11	10.48	.4593	-1.29	11.88	.3579	.1644	.1681	-.0377	8.98	8.05	.1415	-1.35	10.83		
48	10.24	10.53	.3593	-1.29	11.92	.2911	.1590	.1337	-.0192	9.08	9.52	.1434	-1.37	11.13		
60	10.35	10.58	.3310	-1.35	11.98	.2626	.1530	.1134	-.0250	9.13	9.69	.1372	-1.34	11.24		
72	10.42	10.59	.3017	-1.43	12.01	.2277	.1592	.1128	-.0218	9.16	9.73	.1361	-1.35	11.34		

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEMBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.65	11.68	.2371	-1.53	13.60	600											
12	12.02	11.76	.7800	-1.52	13.67	.2829	.7338	.2317	.2317	.7338	.1139	.1139	10.92	7.26	.1529	-1.37	9.11
24	12.16	11.76	.5960	-1.53	13.81	.2332	.5019	.2374	.2374	.5019	.0476	.0476	11.03	9.31	.2087	-1.49	11.66
36	12.31	11.84	.4727	-1.52	13.86	.1783	.3499	.2466	.2466	.3499	.0170	.0170	11.11	10.22	.2271	-1.54	12.68
48	12.46	11.91	.3650	-1.53	13.92	.1517	.2867	.2452	.2452	.2867	.0355	.0355	11.26	10.76	.2211	-1.56	12.98
60	12.60	11.93	.2734	-1.56	13.96	.1273	.2745	.2456	.2456	.2745	.0696	.0696	11.26	10.97	.2189	-1.53	13.05
72	12.65	11.93	.3068	-1.60	13.98	.1210	.2364	.2447	.2447	.2364	.0466	.0466	11.29	11.11	.2236	-1.55	13.19

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

ALTIITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	13.78	13.06	.2947	-1.65	15.67	600											
12	13.95	13.12	.7932	-1.66	15.82	.2879	.7068	.2892	.2892	.7068	.1707	.1707	12.91	7.97	.2487	-1.35	11.00
24	14.10	13.14	.5975	-1.71	16.02	.2189	.4854	.2943	.2943	.4854	.0751	.0751	12.93	10.42	.2899	-1.47	13.64
36	14.27	13.23	.4776	-1.72	16.07	.1724	.3470	.3032	.3032	.3470	.017	.017	13.04	11.41	.2970	-1.56	14.66
48	14.42	13.31	.4026	-1.71	16.15	.1600	.2766	.3035	.3035	.2766	.0509	.0509	13.10	11.92	.2840	-1.64	15.01
60	14.57	13.34	.3631	-1.70	16.16	.1379	.2552	.3044	.3044	.2552	.0696	.0696	13.14	12.16	.2931	-1.64	15.12
72	14.63	13.34	.3015	-1.73	16.17	.1052	.2169	.3042	.3042	.2169	.0354	.0354	13.20	12.43	.2953	-1.61	15.28

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.57	14.45	.3273	-1.70	17.69	600				14.69	-0.95					
12	15.77	14.44	.7908	-1.73	17.94		14.59	8.83	.2965	-1.25	12.44	14.59	8.83	.2965	-1.25	12.44
24	15.93	14.46	.5913	-1.80	18.14		14.75	11.00	.3567	-1.36	15.59	14.75	11.00	.3567	-1.36	15.59
36	16.11	14.52	.4744	-1.84	18.20		14.79	12.66	.3455	-1.47	16.59	14.79	12.66	.3455	-1.47	16.59
48	16.30	14.61	.4075	-1.83	18.27		14.81	13.14	.3264	-1.61	16.91	14.81	13.14	.3264	-1.61	16.91
60	16.48	14.67	.3778	-1.80	18.25		14.83	13.36	.3191	-1.63	17.00	14.83	13.36	.3191	-1.63	17.00
72	16.53	14.68	.3216	-1.80	18.24		14.90	13.66	.3274	-1.62	17.16	14.90	13.66	.3274	-1.62	17.16

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	17.27	15.71	.3727	-1.64	19.22	600				16.35	-0.67					
12	17.50	15.67	.7858	-1.65	19.51		16.33	9.71	.3684	-1.01	13.34	16.33	9.71	.3684	-1.01	13.34
24	17.68	15.67	.5934	-1.73	19.77		16.39	12.60	.4057	-1.19	16.92	16.39	12.60	.4057	-1.19	16.92
36	17.87	15.75	.4629	-1.80	19.85		16.46	13.88	.3912	-1.32	18.02	16.46	13.88	.3912	-1.32	18.02
48	18.07	15.84	.3914	-1.82	19.93		16.49	14.42	.3724	-1.46	18.31	16.49	14.42	.3724	-1.46	18.31
60	18.26	15.91	.3614	-1.76	19.91		16.52	14.63	.3618	-1.53	18.40	16.52	14.63	.3618	-1.53	18.40
72	18.32	15.92	.3110	-1.74	19.88		16.50	14.92	.3672	-1.52	18.56	16.50	14.92	.3672	-1.52	18.56

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 13214 - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 30.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	MEAN YP	S.D. YP
12	19.06	16.91	.4074	-1.77	20.59	500	18.20	12.55	.3641	18.24	13.57	.4197	-1.17	14.06	18.06	14.06
24	19.28	15.98	.7912	-1.30	20.35	3259	18.24	13.57	.4197	18.28	15.42	.4009	-1.57	13.56	19.27	19.27
36	19.46	15.89	.5953	-1.30	21.24	1746	18.32	15.69	.3975	18.32	15.69	.3975	-1.53	13.63	19.63	19.63
48	19.68	16.35	.4783	-2.11	21.34	1275	18.32	15.69	.3975	18.32	15.69	.3975	-1.53	13.63	19.63	19.63
60	19.89	17.09	.4073	-2.02	21.45	1328	18.32	15.69	.3975	18.32	15.69	.3975	-1.53	13.63	19.63	19.63
72	20.03	17.16	.3159	-1.32	21.47	1111	18.32	15.69	.3975	18.32	15.69	.3975	-1.53	13.63	19.63	19.63

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN Y	S.D. Y	MEAN YP	S.D. YP
12	20.59	17.40	.4371	-1.34	20.66	500	19.73	13.79	.3521	19.77	13.51	.4553	-1.98	17.65	19.09	19.09
24	20.83	17.37	.8022	-1.30	20.79	3514	19.73	13.79	.3521	19.73	13.79	.3521	-1.76	13.70	19.70	19.70
36	21.04	17.36	.5238	-1.40	21.24	2828	19.73	13.79	.3521	19.73	13.79	.3521	-1.76	13.70	19.70	19.70
48	21.29	17.43	.5773	-1.53	21.15	2319	19.73	13.79	.3521	19.73	13.79	.3521	-1.76	13.70	19.70	19.70
60	21.45	17.49	.4388	-1.56	21.24	1737	19.73	13.79	.3521	19.73	13.79	.3521	-1.76	13.70	19.70	19.70
72	21.69	17.55	.4312	-1.51	21.31	1701	19.73	13.79	.3521	19.73	13.79	.3521	-1.76	13.70	19.70	19.70

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEMBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	21.74	15.96	.4380	- .90	19.12	600										
12	21.97	16.90	.8195	.7778	.4345	.3702	21.08	9.71	.3697	21.08	12.00	21.08	9.71	.3456	-.41	12.00
24	22.15	16.87	.6486	.5409	.4370	.3012	21.09	12.91	.2820	21.09	16.02	21.09	12.91	.3816	-.60	16.02
36	22.38	16.94	.5307	.3936	.4393	.2475	21.08	14.37	.2247	21.08	17.50	21.08	14.37	.3991	-.72	17.50
48	22.56	17.01	.4579	.3421	.4418	.2394	21.07	15.07	.1842	21.07	18.67	21.07	15.07	.4018	-.81	18.67
60	22.72	17.06	.4102	.3144	.4502	.2290	21.08	15.46	.1735	21.08	18.05	21.08	15.46	.4030	-.87	18.05
72	22.80	17.04	.3489	.2598	.4550	.2076	21.14	15.89	.1429	21.14	18.36	21.14	15.89	.4030	-.94	18.36

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	21.39	15.16	.4344	-.41	16.42	600										
12	21.57	15.10	.8215	.7966	.4312	.3935	20.77	8.64	.3638	20.77	9.68	20.77	8.64	.3022	-.27	9.68
24	21.70	15.06	.6559	.5726	.4349	.3197	20.81	11.44	.2930	20.81	13.40	20.81	11.44	.3581	-.35	13.40
36	21.89	15.14	.5369	.4177	.4318	.2610	20.76	12.79	.2348	20.76	14.64	20.76	12.79	.3843	-.39	14.64
48	22.09	15.23	.4748	.3394	.4306	.2524	20.78	13.34	.1855	20.78	15.32	20.78	13.34	.3895	-.48	15.32
60	22.23	15.32	.4147	.3035	.4392	.2320	20.78	13.80	.1715	20.78	15.49	20.78	13.80	.3872	-.55	15.49
72	22.35	15.30	.3537	.2573	.4427	.2338	20.83	14.18	.1515	20.83	15.71	20.83	14.18	.3940	-.59	15.71

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	14.62	8.65	.3863	-0.30	9.13	600													
12	14.76	8.62	.8106	-0.22	9.13		14.76	8.62	.8106	-0.22	9.13	.8003	.3859	.2614	13.91	5.04	.2807	-0.45	5.39
24	14.88	8.62	.6519	-0.23	9.19		14.88	8.62	.6519	-0.23	9.19	.6074	.3822	.1888	13.36	6.53	.3138	-0.48	7.15
36	15.01	8.64	.5353	-0.21	9.21		15.01	8.64	.5353	-0.21	9.21	.4667	.3823	.1517	14.01	7.29	.3301	-0.51	7.97
48	15.12	8.73	.4553	-0.17	9.31		15.12	8.73	.4553	-0.17	9.31	.3846	.3887	.1312	14.05	7.68	.3432	-0.51	8.42
60	15.27	8.84	.3870	-0.16	9.39		15.27	8.84	.3870	-0.16	9.39	.3050	.4021	.1156	14.09	7.97	.3574	-0.49	8.64
72	15.30	8.84	.3459	-0.16	9.42		15.30	8.84	.3459	-0.16	9.42	.2551	.4048	.0930	14.13	8.11	.3567	-0.51	8.76

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	13.90
GIVEN Y	-0.29

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	12.24	7.42	.3477	-0.53	7.26	600													
12	12.33	7.40	.7539	-0.49	7.23		12.33	7.40	.7539	-0.49	7.23	.7965	.3481	.2394	11.59	4.87	.1995	-0.71	4.31
24	12.47	7.48	.6319	-0.47	7.29		12.47	7.48	.6319	-0.47	7.29	.6237	.3371	.1753	11.60	5.74	.2678	-0.74	5.59
36	12.58	7.50	.5153	-0.43	7.32		12.58	7.50	.5153	-0.43	7.32	.4746	.3339	.1535	11.67	6.35	.2738	-0.77	6.30
48	12.67	7.58	.4626	-0.35	7.40		12.67	7.58	.4626	-0.35	7.40	.3448	.3448	.1488	11.69	6.57	.2877	-0.77	6.70
60	12.74	7.65	.4053	-0.33	7.47		12.74	7.65	.4053	-0.33	7.47	.2892	.3551	.1354	11.74	6.78	.3006	-0.76	6.89
72	12.81	7.66	.3760	-0.30	7.47		12.81	7.66	.3760	-0.30	7.47	.2397	.3614	.1265	11.75	6.87	.3077	-0.75	6.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	11.47
GIVEN Y	-0.60

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDERBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	P (YF, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	24	9.21	6.47	.7552	-0.75	5.64	600	8.54	4.24	.1154	.2234	8.54	4.24	8.45	-0.95	.1154	8.54	4.24	-1.02	3.69
24	36	9.30	6.45	.6447	-0.72	5.53		8.57	4.95	.1434	.1812	8.57	4.95			.1434	8.57	4.95	-1.02	4.42
36	48	9.37	6.42	.5549	-0.68	5.33		9.61	5.39	.1844	.1513	9.61	5.39			.1844	9.61	5.39	-1.05	5.00
48	52	9.48	6.49	.4852	-0.60	5.72		8.52	5.66	.2215	.1638	8.52	5.66			.2215	8.52	5.66	-1.05	5.25
52	55	9.55	6.55	.4521	-0.55	5.79		8.63	5.75	.2483	.1568	8.63	5.75			.2483	8.63	5.75	-1.01	5.38
55	72	9.59	6.54	.4203	-0.50	5.60		8.55	5.87	.2617	.1559	8.55	5.87			.2617	8.55	5.87	-0.98	5.44

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

..... ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	P (YF, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	24	6.91	6.05	.2838	-1.05	4.75	600	6.37	4.00	.1540	.1811	6.37	4.00	6.22	-1.24	.1540	6.37	4.00	-1.26	3.45
24	36	6.95	6.04	.7415	-1.03	4.75		6.42	4.59	.1530	.1280	6.42	4.59			.1530	6.42	4.59	-1.29	3.88
36	48	7.06	6.00	.5835	-0.95	4.75		6.14	4.92	.1794	.1453	6.14	4.92			.1794	6.14	4.92	-1.27	4.31
48	50	7.15	6.07	.5106	-0.90	4.82		6.45	5.21	.1838	.1561	6.45	5.21			.1838	6.45	5.21	-1.26	4.49
50	52	7.20	6.09	.4732	-0.85	4.88		6.45	5.33	.2121	.1579	6.45	5.33			.2121	6.45	5.33	-1.24	4.57
52	72	7.24	6.06	.4138	-0.85	4.89		6.49	5.51	.2119	.1550	6.49	5.51			.2119	6.49	5.51	-1.26	4.56

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XF, YP)	MEAN YP	S.D. YP
	5.19	6.06	.2919	-1.39	4.14	600										
12	5.21	6.05	.7318	-.138	4.17	.6037	.2967	.3016	.1980	4.59	4.13	4.59	4.13	.1455	-1.61	3.26
24	5.20	6.05	.6611	-1.33	4.18	.5295	.2787	.2798	.1744	4.65	4.55	4.65	4.55	.1780	-1.62	3.47
36	5.26	6.03	.5990	-1.29	4.16	.3820	.2712	.2426	.1959	4.66	4.85	4.66	4.85	.1847	-1.60	3.78
48	5.33	6.09	.5906	-1.23	4.23	.2747	.2902	.5286	.1648	4.67	5.06	4.67	5.06	.2082	-1.59	3.93
60	5.38	6.09	.5217	-1.22	4.24	.1929	.3030	.2065	.1753	4.67	5.17	4.67	5.17	.2199	-1.56	4.02
72	5.40	6.07	.4846	-1.21	4.25	.2122	.3025	.2258	.1829	4.71	5.36	4.71	5.36	.2118	-1.58	3.99

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XF, YP)	MEAN YP	S.D. YP
	4.37	6.18	.2403	-1.56	3.66	600										
12	4.39	6.19	.7747	-1.56	3.66	.5182	.2412	.2895	.1914	3.63	3.90	3.63	3.90	.0263	-1.76	3.00
24	4.41	6.20	.7196	-1.56	3.70	.4557	.2217	.3064	.1342	3.67	4.29	3.67	4.29	.0502	-1.77	3.16
36	4.41	6.20	.6400	-1.53	3.69	.3194	.2159	.2827	.1490	3.75	4.74	3.75	4.74	.0796	-1.75	3.37
48	4.43	6.22	.6034	-1.49	3.72	.2504	.2155	.2241	.1193	3.78	4.92	3.78	4.92	.1411	-1.72	3.48
60	4.46	6.20	.5588	-1.49	3.71	.2043	.2213	.2190	.1485	3.79	5.12	3.79	5.12	.1426	-1.72	3.52
72	4.42	6.18	.5063	-1.49	3.71	.1995	.2255	.1870	.1370	3.86	5.32	3.86	5.32	.1697	-1.69	3.54

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	4.78	7.94	.2319	-1.32	3.29				600					
12	4.76	7.96	.8757	-1.34	3.29		5.601	.2336	.2484	.2033	3.48	.382	-1.46	2.70
24	4.68	8.01	.8331	-1.35	3.29		4.167	.2334	.2744	.1410	3.61	.0474	-1.47	2.93
36	4.63	8.05	.7798	-1.36	3.30		3.109	.2337	.2952	.1347	3.73	.0241	-1.47	3.04
48	4.57	8.06	.7458	-1.39	3.29		2.041	.2299	.2969	.0971	3.82	.0338	-1.47	3.11
60	4.49	8.06	.7164	-1.38	3.27		1.344	.2296	.2538	.0864	3.91	.0830	-1.44	3.17
72	4.40	8.07	.6813	-1.46	3.26		.0804	.2355	.2372	.0957	4.01	.1017	-1.42	3.20

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.27	-1.46

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	5.71	8.91	.3116	-0.98	3.51				600					
12	5.62	8.95	.8947	-0.99	3.48		5.455	.3087	.3428	.2674	4.11	.0015	-1.24	2.87
24	5.57	8.98	.8719	-1.01	3.47		4.544	.3133	.3814	.2283	4.21	-.0104	-1.25	3.00
36	5.47	9.03	.8375	-1.02	3.47		3.110	.3054	.3651	.1891	4.35	.0417	-1.22	3.18
48	5.40	9.04	.8094	-1.05	3.47		2.339	.3040	.3687	.1806	4.46	.0408	-1.21	3.23
60	5.29	9.04	.7641	-1.05	3.47		1.727	.3008	.3425	.1540	4.62	.0929	-1.18	3.29
72	5.17	9.03	.7483	-1.11	3.47		.1396	.3037	.3063	.1493	4.72	.1380	-1.14	3.34

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.83	-1.25

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		6.99	10.02	.3818	-.65	3.54	500											4.96	-1.12	
12		6.90	10.06	.9245	-.86	3.53		6.90	3.53	.4231	-.86	3.53	.6194	.3821	.3625	5.20	3.82	-.0497	-1.14	2.69
24		6.79	10.11	.8936	-.87	3.51		6.79	3.51	.4361	-.87	3.50	.4832	.3808	.3087	5.37	4.54	.0124	-1.14	2.35
36		6.66	10.18	.8590	-.87	3.50		6.66	3.50	.4135	-.87	3.50	.3786	.3768	.2675	5.56	5.11	.0944	-1.11	3.10
48		6.57	10.25	.8247	-.90	3.50		6.57	3.50	.4017	-.90	3.50	.3729	.3729	.2431	5.69	5.62	.1234	-1.08	3.19
60		6.46	10.26	.7858	-.92	3.50		6.46	3.50	.3765	-.92	3.50	.2012	.3765	.2293	5.84	6.15	.1775	-1.04	3.29
72		6.33	10.25	.7529	-.98	3.52		6.33	3.52	.3357	-.98	3.52	.2160	.3785	.2223	5.96	6.44	.2201	-1.01	3.32

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		8.57	11.45	.4206	-.75	4.00	500											6.21	-1.05	
12		8.45	11.54	.9361	-.73	3.98		8.45	3.98	.4603	-.73	3.98	.6337	.4176	.3918	6.49	4.03	-.0415	-1.10	2.97
24		8.33	11.59	.9031	-.74	3.94		8.33	3.94	.4544	-.74	3.94	.5219	.4169	.3458	6.67	4.90	.0648	-1.08	3.25
36		8.19	11.65	.8672	-.78	3.95		8.19	3.95	.4505	-.78	3.95	.4869	.4136	.3212	6.88	5.68	.0907	-1.05	3.46
48		8.05	11.72	.8353	-.80	3.95		8.05	3.95	.4228	-.80	3.95	.2845	.4052	.2842	7.05	6.26	.1524	-1.01	3.59
60		7.92	11.73	.8054	-.83	3.97		7.92	3.97	.4092	-.83	3.97	.2445	.4050	.2741	7.21	6.75	.1730	-.98	3.63
72		7.74	11.73	.7810	-.90	3.99		7.74	3.99	.3847	-.90	3.99	.2242	.4107	.2723	7.39	7.12	.2166	-.94	3.68

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANCEBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
11	1/65 - 12/74	0	90.0	.70	2.69	-.5711	-.92	3.11	600
11	1/65 - 12/74	1	90.0	.42	3.83	-.1256	-1.18	6.89	600
11	1/65 - 12/74	2	90.0	2.22	5.19	.0092	-1.04	7.98	600
11	1/65 - 12/74	3	90.0	4.88	6.89	.0524	-1.44	9.22	600
11	1/65 - 12/74	4	90.0	7.45	8.51	.0937	-1.43	10.27	600
11	1/65 - 12/74	5	90.0	9.69	10.28	.1543	-1.34	11.68	600
11	1/65 - 12/74	6	90.0	11.85	11.68	.2371	-1.53	13.60	600
11	1/65 - 12/74	7	90.0	13.78	13.05	.2947	-1.65	15.67	600
11	1/65 - 12/74	8	90.0	15.57	14.45	.3273	-1.70	17.69	600
11	1/65 - 12/74	9	90.0	17.27	15.71	.3727	-1.64	19.22	600
11	1/65 - 12/74	10	90.0	19.06	16.91	.4074	-1.77	20.59	600
11	1/65 - 12/74	11	90.0	20.59	17.40	.4371	-1.34	20.66	600
11	1/65 - 12/74	12	90.0	21.74	16.96	.4380	-.90	19.12	600
11	1/65 - 12/74	13	90.0	21.38	15.16	.4344	-.41	16.42	600
11	1/65 - 12/74	14	90.0	19.89	12.61	.4379	-.11	13.56	600
11	1/65 - 12/74	15	90.0	17.41	10.42	.4373	-.08	11.12	600
11	1/65 - 12/74	16	90.0	14.62	8.65	.3863	-.30	9.13	600
11	1/65 - 12/74	17	90.0	12.24	7.42	.3477	-.53	7.26	600
11	1/65 - 12/74	18	90.0	9.12	6.47	.3127	-.79	5.63	600
11	1/65 - 12/74	19	90.0	6.91	6.05	.2838	-1.05	4.75	600
11	1/65 - 12/74	20	90.0	5.19	6.06	.2919	-1.39	4.14	600
11	1/65 - 12/74	21	90.0	4.37	6.18	.2403	-1.56	3.66	600
11	1/65 - 12/74	22	90.0	4.13	6.64	.2406	-1.79	3.60	600
11	1/65 - 12/74	23	90.0	4.18	7.17	.2296	-1.70	3.45	600
11	1/65 - 12/74	24	90.0	4.78	7.94	.2319	-1.32	3.29	600
11	1/65 - 12/74	25	90.0	5.71	8.91	.3116	-.98	3.51	600
11	1/65 - 12/74	26	90.0	6.99	10.02	.3818	-.65	3.54	600
11	1/65 - 12/74	27	90.0	8.57	11.45	.4206	-.75	4.00	600

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: (92214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. GIVEN X	MEAN GIVEN Y	S.D. GIVEN Y	
12	.41	2.17	-.1378	-1.11	3.20	614	-.4916	2.84	-1.09	3.20	614	.33	2.79	-1.05	2.98	
24	.43	2.84	-.3462	-1.14	3.19											
35	.43	2.83	-.2024	-1.15	3.19											
48	.43	2.83	-.3304	-1.18	3.18											
60	.46	2.82	-.1779	-1.20	3.15											
72	.47	2.83	-.3118	-1.20	3.16											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN XP	S.D. GIVEN XP	MEAN GIVEN YP	S.D. GIVEN YP
12	1.27	4.42	-.0659	-2.63	7.31	1.39	3.63	-2.33	5.34
24	1.30	4.46	-.2482	-2.76	7.30	1.24	4.20	-2.42	6.49
35	1.29	4.43	-.1888	-2.82	7.27	1.25	4.30	-2.47	6.97
48	1.28	4.40	-.1092	-2.56	7.27	1.25	4.37	-2.48	7.05
60	1.30	4.37	-.0197	-2.93	7.25	1.24	4.40	-2.51	7.15
72	1.30	4.38	-.0642	-2.98	7.24	1.23	4.42	-2.54	7.24

ORIGINAL PAGE IS
OF POOR QUALITY

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN GIVEN X	S.D. GIVEN X	MEAN GIVEN Y	S.D. GIVEN Y	
12	1.27	4.42	-.0659	-2.63	7.31	614	-.0659	4.42	-2.63	7.31	614	1.39	3.63	-2.33	5.34	
24	1.30	4.46	-.2482	-2.76	7.30											
35	1.29	4.43	-.1888	-2.82	7.27											
48	1.28	4.40	-.1092	-2.56	7.27											
60	1.30	4.37	-.0197	-2.93	7.25											
72	1.30	4.38	-.0642	-2.98	7.24											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP, X)	MEAN YP	S.D. YP	MEAN GIVEN XP	S.D. GIVEN XP	MEAN GIVEN YP	S.D. GIVEN YP
12	1.27	4.42	-.2292	-2.63	7.31	1.27	3.63	-2.37	5.34
24	1.30	4.46	-.2014	-2.76	7.30	1.24	4.20	-2.42	6.49
35	1.29	4.43	-.1484	-2.82	7.27	1.25	4.30	-2.47	6.97
48	1.28	4.40	-.1055	-2.56	7.27	1.25	4.37	-2.48	7.05
60	1.30	4.37	-.0945	-2.93	7.25	1.24	4.40	-2.51	7.15
72	1.30	4.38	-.0535	-2.98	7.24	1.23	4.42	-2.54	7.24

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.87	5.74	.0425	-3.59	8.52	614										
12	3.88	5.73	.6630	.7515	.0442	.1521	-3.68	8.52	.7515	.1499	5.53	3.89	4.17	.1598	-3.17	5.53
24	3.88	5.75	.4402	.5241	.0473	.1381	-3.79	8.50	.5241	-.1721	7.19	3.84	5.04	.1105	-3.24	7.19
36	3.85	5.73	.2881	.3852	.0497	.1273	-3.86	8.48	.3852	-.1290	7.81	3.85	5.44	.0695	-3.30	7.81
48	3.86	5.70	.1976	.3076	.0378	.1196	-3.92	8.44	.3076	-.0918	8.06	3.85	5.60	.0532	-3.33	8.06
60	3.86	5.67	.1307	.2361	.0204	.1122	-4.03	8.45	.2361	-.0562	8.23	3.86	5.68	.0436	-3.36	8.23
72	3.80	5.71	.0768	.1805	.0215	.0968	-4.03	8.43	.1805	-.0340	8.35	3.87	5.72	.0423	-3.39	8.35

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 4.00
 -3.15

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	6.84	7.49	.0952	-4.29	9.88	614										
12	6.81	7.46	.6977	.7786	.1009	.1850	-4.41	9.89	.7786	-.0839	6.11	6.90	5.24	.1956	-3.70	6.11
24	6.79	7.54	.4628	.5525	.1016	.1625	-4.54	9.85	.5525	-.1058	8.16	6.84	5.53	.1432	-3.80	8.16
36	6.76	7.52	.3324	.4033	.1089	.1442	-4.62	9.83	.4033	-.0859	8.98	6.85	7.02	.1025	-3.89	8.98
48	6.71	7.49	.2422	.3330	.1095	.1226	-4.73	9.79	.3330	-.0130	9.27	6.88	7.26	.0861	-3.92	9.27
60	6.74	7.44	.1698	.2890	.0975	.1078	-4.85	9.77	.2890	.0177	9.42	6.89	7.38	.0815	-3.93	9.42
72	6.66	7.43	.1145	.2451	.0943	.0855	-4.98	9.78	.2451	.0162	9.55	6.89	7.44	.0876	-3.95	9.55

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 7.02
 -3.68

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 1932(4) - VANDEBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALTITUDE (KM) - 50.0

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN X	S.D. X	P (X,XP)	MEAN YP	S.D. YP	P (Y,YP)	MEAN Y	S.D. Y	P (XP,Y)	N	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	14.15	12.41	.7590	-5.92	14.79	.7229	14.79	14.79	.0335	614	14.59	7.86	3048	10.15
24	14.05	12.59	.5257	-5.96	14.73	.5819	14.73	14.73	.0280	614	14.49	10.23	2622	12.89
36	13.91	12.57	.3452	-5.10	14.73	.3253	14.73	14.73	.0243	614	14.45	11.45	2440	13.95
48	13.83	12.64	.2454	-5.33	14.81	.2250	14.81	14.81	.0202	614	14.45	11.95	2161	14.15
60	13.83	12.60	.1842	-5.33	14.82	.1633	14.82	14.82	.0169	614	14.39	12.17	2181	14.31
72	13.73	12.53	.1357	-5.17	14.82	.1225	14.82	14.82	.0145	614	14.35	12.27	2242	14.51

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN X	S.D. X	P (X,XP)	MEAN YP	S.D. YP	P (Y,YP)	MEAN Y	S.D. Y	P (XP,Y)	N	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	15.21	14.17	.7703	-5.26	15.55	.7324	15.55	15.55	.0290	614	15.79	9.80	3402	11.75
24	15.05	14.31	.5350	-5.73	15.45	.5915	15.45	15.45	.0240	614	15.69	11.05	3222	12.74
36	14.96	14.32	.3562	-5.54	15.45	.3333	15.45	15.45	.0210	614	15.60	12.38	3105	13.79
48	14.87	14.30	.2521	-5.11	15.42	.2293	15.42	15.42	.0182	614	15.55	13.55	2920	15.22
60	14.86	14.24	.1812	-5.11	15.51	.1604	15.51	15.51	.0155	614	15.47	13.95	2904	16.20
72	14.83	14.27	.1353	-5.21	15.51	.1225	15.51	15.51	.0130	614	15.42	13.97	2933	16.40

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	18.24	15.73	.7588	-6.44	17.90	.7057	18.90	10.06	.3709	-5.81	12.75	18.38	15.58	.3447	-6.37	18.08	614	18.90	10.06	.3709	-5.81	12.75
24	18.09	15.91	.5169	-6.55	17.79	.4558	18.78	13.22	.3745	-5.94	16.07							18.78	13.22	.3745	-5.94	16.07
36	18.01	15.93	.3416	-6.71	17.80	.3128	19.65	14.58	.3671	-6.04	17.17							19.65	14.58	.3671	-6.04	17.17
48	17.89	15.95	.2342	-6.94	17.77	.2254	18.61	15.14	.3443	-6.00	17.40							18.61	15.14	.3443	-6.00	17.40
60	17.85	15.89	.1593	-7.19	17.84	.2149	18.54	15.40	.3444	-6.01	17.64							18.54	15.40	.3444	-6.01	17.64
72	17.81	15.95	.0910	-7.43	17.92	.1558	18.51	15.51	.3403	-6.06	17.82							18.51	15.51	.3403	-6.06	17.82

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	20.20	16.93	.7698	-6.89	19.40	.7250	20.97	10.67	.3707	-6.05	13.47	20.34	16.77	.3720	-6.80	19.62	614	20.97	10.67	.3707	-6.05	13.47
24	20.07	17.12	.5239	-6.98	19.23	.4756	20.82	14.25	.3571	-6.26	17.26							20.82	14.25	.3571	-6.26	17.26
36	19.98	17.22	.3538	-7.09	19.22	.3169	20.69	15.67	.3681	-6.42	18.61							20.69	15.67	.3681	-6.42	18.61
48	19.88	17.22	.2397	-7.36	19.22	.2739	20.52	16.28	.3573	-6.38	18.87							20.52	16.28	.3573	-6.38	18.87
60	19.84	17.15	.1555	-7.63	19.26	.2301	20.55	16.56	.3654	-6.37	19.09							20.55	16.56	.3654	-6.37	19.09
72	19.77	17.23	.1105	-7.90	19.34	.1921	20.53	16.66	.3642	-6.39	19.25							20.53	16.66	.3642	-6.39	19.25

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 93.0

ALTIITUDE (KM) - 10

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN YP	S.D. YP	P (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN YP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	22.05	17.53	.7756	-5.92	20.49	.7470	.4119	.3287	.2980	22.92	11.03	.3874	-5.97	13.82
24	21.24	17.54	.5324	-5.35	20.24	.4375	.4136	.1881	.1933	22.74	14.72	.4289	-5.28	18.04
36	21.81	17.58	.3831	-7.02	23.23	.3343	.4175	.1339	.1398	22.62	16.23	.4175	-5.43	13.59
48	21.57	17.36	.2519	-7.29	20.15	.2775	.4105	.0811	.1256	22.53	16.91	.4315	-5.48	19.37
60	21.51	17.29	.1745	-7.57	21.14	.2422	.3922	.0778	.0347	22.45	17.21	.3922	-5.45	20.17
72	21.56	17.55	.1265	-7.84	20.19	.2132	.4029	.0652	.0315	22.42	17.32	.3930	-5.43	20.32

ALTIITUDE (KM) - 11

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND XP

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN Y	S.D. Y	P (Y, YP)	MEAN XP	S.D. XP	P (XP, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP
12	23.51	17.02	.3229	-5.81	20.58	-.514	.3833	.3102	.2044	24.45	10.36	.3450	-5.62	13.39
24	23.53	17.40	.5531	-5.33	20.24	.5333	.3841	.1787	.2274	24.27	14.01	.3283	-5.01	17.71
36	23.28	17.53	.3955	-7.11	23.15	.3411	.3831	.1399	.1345	24.14	15.66	.3345	-5.28	19.33
48	23.19	17.56	.2819	-7.20	20.11	.2841	.3841	.0864	.1332	24.05	16.35	.3775	-5.33	19.71
60	23.12	17.52	.2115	-7.51	23.17	.2562	.3715	.0742	.1263	23.97	16.55	.3750	-5.27	19.89
72	23.10	17.61	.1573	-7.74	20.25	.2422	.3745	.0632	.1112	23.92	15.78	.3719	-5.22	19.97

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (192214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PER DO OF RECORD - 1.65 - (2/7)
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 12

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DO	YP	MEAN Y	S.D. Y	P (1,1)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP,Y)	MEAN YP	S.D. YP
12	24.15	15.54	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	
24	24.12	15.55	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	
36	24.12	15.55	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	
48	24.12	15.55	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	
60	24.12	15.55	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	
72	24.12	15.55	.3924	-5.34	18.90	514	24.81	9.22	.3228	-4.59	11.77	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DO	YP	MEAN XP	S.D. XP	P (XP,YP)	MEAN YP	S.D. YP
12	24.15	24.81	9.22	.3228	-4.59	11.77
24	24.12	24.81	9.22	.3228	-4.59	11.77
36	24.12	24.81	9.22	.3228	-4.59	11.77
48	24.12	24.81	9.22	.3228	-4.59	11.77
60	24.12	24.81	9.22	.3228	-4.59	11.77
72	24.12	24.81	9.22	.3228	-4.59	11.77

ALTITUDE (M) - 13

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

DO	YP	MEAN Y	S.D. Y	P (1,1)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP,Y)	MEAN YP	S.D. YP
12	23.50	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	
24	23.48	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	
36	23.48	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	
48	23.48	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	
60	23.48	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	
72	23.48	13.93	.3974	-4.83	15.29	514	24.18	12.13	.3117	-3.44	9.62	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DO	YP	MEAN XP	S.D. XP	P (XP,YP)	MEAN YP	S.D. YP
12	23.50	24.18	12.13	.3117	-3.44	9.62
24	23.48	24.18	12.13	.3117	-3.44	9.62
36	23.48	24.18	12.13	.3117	-3.44	9.62
48	23.48	24.18	12.13	.3117	-3.44	9.62
60	23.48	24.18	12.13	.3117	-3.44	9.62
72	23.48	24.18	12.13	.3117	-3.44	9.62

ORIGINAL PAGE IS OF POOR QUALITY

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (132214) - VANCEBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0
 X = U(1, T)
 Y = V(1, T)
 XP = U(1, T + DT)
 YP = V(1, T + DT)

..... ALTITUDE (KM) - 14

..... QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N
12	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614
24	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614
36	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614
48	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614
60	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614
72	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968	-3.80	13.99	614

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N
12	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968
24	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968
36	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968
48	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968
60	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968
72	21.75	11.80	.3968	-3.80	13.99	614	21.75	11.80	.3968

..... ALTITUDE (KM) - 15

..... QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	M	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N
12	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614
24	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614
36	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614
48	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614
60	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614
72	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028	-3.18	11.76	614

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	R	MEAN Y	S.D. Y	N
12	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028
24	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028
36	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028
48	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028
60	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028
72	19.40	17.03	.4028	-3.18	11.76	614	19.40	17.03	.4028

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (192114) - VANDEMBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

.....

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)
	16.30	8.86	.4113	-2.75	9.81	614						
12	16.26	8.88	.7552	-2.83	9.73	.9090	16.91	5.78	.4086	15.91	5.73	.3554
24	16.24	8.88	.5712	-2.85	9.73	.6259	16.83	7.25	.4039	16.83	7.25	.2950
36	16.17	8.83	.4734	-2.92	9.59	.4255	16.75	7.93	.4046	16.75	7.93	.2734
48	16.10	8.76	.3233	-3.03	9.50	.2812	16.71	8.32	.3933	16.71	8.32	.2352
60	16.00	8.63	.2594	-3.16	9.51	.2233	16.55	8.52	.3341	16.55	8.52	.1857
72	16.00	8.54	.2453	-3.23	9.50	.2673	16.53	8.57	.3795	16.53	8.57	.1536

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	S.D. XP	R (XP, YP)	GIVEN Y	S.D. YP	MEAN XP	MEAN YP
	17.03	5.78	.2103	-1.73	5.73	16.91	-1.83
		7.25	.3137	-2.02	7.25	16.83	-2.02
		7.93	.3432	-2.15	7.93	16.75	-2.15
		8.32	.3575	-2.22	8.32	16.71	-2.22
		8.52	.3810	-2.26	8.52	16.55	-2.26
		8.57	.3870	-2.31	8.57	16.53	-2.31

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (KM) - 17

.....

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
	13.11	7.86	.4425	-2.38	8.27	614						
12	13.10	7.87	.7216	-2.42	8.27	.7793	13.59	5.41	.4392	13.59	5.41	.3875
24	13.01	7.81	.5912	-2.45	8.21	.6022	13.57	6.28	.4450	13.57	6.28	.3523
36	12.95	7.75	.4525	-2.50	8.18	.4655	13.52	6.87	.4419	13.52	6.87	.3134
48	12.90	7.65	.4031	-2.64	8.10	.3759	13.51	7.09	.4288	13.51	7.09	.3037
60	12.83	7.55	.3488	-2.71	8.02	.2951	13.53	7.32	.4219	13.53	7.32	.2454
72	12.81	7.57	.2941	-2.79	8.02	.2545	13.50	7.48	.4117	13.50	7.48	.1939

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	S.D. XP	R (XP, YP)	GIVEN Y	S.D. YP	MEAN XP	MEAN YP
	13.85	5.41	.1714	-1.65	5.41	13.59	-1.65
		6.28	.2534	-1.76	6.28	13.57	-1.76
		6.87	.3192	-1.85	6.87	13.52	-1.85
		7.09	.3577	-1.90	7.09	13.51	-1.90
		7.32	.3876	-1.95	7.32	13.53	-1.95
		7.48	.4052	-1.99	7.48	13.50	-1.99

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	9.45	6.75	.7208	-2.33	6.32	614	9.45	6.75	.4729	-2.30	6.34	10.10	4.62	.1894	-1.74	4.07
24	9.40	6.74	.5745	-2.35	6.30	614	9.40	6.74	.4755	-2.30	6.34	10.02	4.46	.2871	-1.81	5.03
36	9.38	6.72	.4941	-2.43	6.30	614	9.38	6.72	.4749	-2.30	6.34	9.99	5.78	.3437	-1.85	5.50
48	9.31	6.62	.4345	-2.55	6.24	614	9.31	6.62	.4570	-2.30	6.34	9.97	5.02	.3946	-1.89	5.79
60	9.28	6.56	.3830	-2.63	6.15	614	9.28	6.56	.4504	-2.30	6.34	9.93	6.20	.4333	-1.94	5.99
72	9.26	6.57	.3372	-2.55	6.15	614	9.26	6.57	.4483	-2.30	6.34	9.90	6.32	.4380	-1.96	6.05

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	6.22	6.09	.4640	-2.41	4.91	614	6.22	6.09	.4578	-2.41	4.91	6.79	4.13	.1837	-2.08	3.39
24	6.22	6.09	.4640	-2.41	4.91	614	6.22	6.09	.4530	-2.41	4.91	6.73	4.72	.2509	-2.07	3.96
36	6.17	6.07	.5520	-2.47	4.93	614	6.17	6.07	.4529	-2.41	4.91	6.68	5.07	.3281	-2.12	4.35
48	6.11	5.95	.4955	-2.61	4.86	614	6.11	5.95	.4284	-2.41	4.91	6.57	5.28	.3560	-2.12	4.51
60	6.09	5.91	.4325	-2.69	4.81	614	6.09	5.91	.4174	-2.41	4.91	6.55	5.43	.3992	-2.15	4.64
72	6.07	5.91	.3891	-2.75	4.80	614	6.07	5.91	.4113	-2.41	4.91	6.50	5.61	.4089	-2.15	4.68

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.96	5.99	.3738	-2.56	4.23	614										
12	3.91	6.00	.7559	-2.53	4.21	.6509	3.782	.4034	.3265	4.49	3.92	4.49	3.92	.1175	-2.35	3.13
24	3.89	5.99	.6557	-2.63	4.20	.4835	.3813	.4093	.2275	4.43	4.52	4.43	4.52	.1806	-2.33	3.55
36	3.84	5.99	.5754	-2.66	4.20	.3501	.3793	.3428	.1793	4.40	4.88	4.40	4.88	.2512	-2.36	3.85
48	3.77	5.88	.4957	-2.73	4.12	.2657	.3543	.2997	.1435	4.38	5.19	4.38	5.19	.2652	-2.35	3.96
60	3.72	5.86	.4661	-2.79	4.09	.2429	.3317	.2251	.1144	4.37	5.29	4.37	5.29	.3257	-2.38	4.06
72	3.58	5.87	.4366	-2.82	4.07	.1684	.3241	.1915	.1085	4.37	5.38	4.37	5.38	.3356	-2.41	4.13

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	4.62
GIVEN Y	-2.39

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.95	5.99	.2602	-2.71	3.95	614										
12	1.90	5.99	.7630	-2.74	3.92	.6282	.2582	.2757	.2233	2.51	3.87	2.51	3.87	.0687	-2.58	3.04
24	1.82	5.97	.6514	-2.76	3.88	.4742	.2772	.3372	.1934	2.47	4.55	2.47	4.55	.0544	-2.53	3.37
36	1.79	5.98	.5804	-2.79	3.88	.3606	.2728	.2812	.1642	2.44	4.88	2.44	4.88	.1260	-2.54	3.60
48	1.77	5.95	.5332	-2.85	3.85	.2551	.2616	.2464	.1217	2.41	5.07	2.41	5.07	.1650	-2.55	3.75
60	1.69	5.92	.4762	-2.89	3.84	.1871	.2510	.2031	.1071	2.40	5.27	2.40	5.27	.1940	-2.56	3.82
72	1.64	5.95	.4374	-2.90	3.84	.1621	.2347	.1856	.1020	2.38	5.39	2.38	5.39	.2043	-2.57	3.85

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	2.63
GIVEN Y	-2.63

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.36	6.36	.7669	-2.60	3.74	.5603	.5603	3.117	614	1.07	4.10	.1291	-2.49	3.07
24	.27	6.38	.6954	-2.63	3.70	.4464	.4464	.335		1.08	4.57	.1598	-2.44	3.28
36	.22	6.38	.6508	-2.66	3.69	.3628	.3628	.3045		1.07	4.84	.1775	-2.44	3.42
48	.22	6.37	.6031	-2.71	3.70	.2579	.2579	.2750		1.02	5.08	.2070	-2.44	3.55
60	.16	6.39	.5560	-2.72	3.70	.2164	.2164	.2101		1.01	5.29	.2579	-2.46	3.63
72	.09	6.43	.5047	-2.75	3.72	.1458	.1458	.1838		.99	5.50	.2662	-2.47	3.68

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.17	-2.55

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	R (Y,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
12	-.30	7.18	.2410	-2.53	3.56	.5428	.27	4.16	.0428	-2.49	2.95	.2104	-2.46	3.14
24				.4343	.2333	.4343	.27	4.88	.0799	-2.46	3.14	.1349	-2.46	3.14
36				.3761	.2362	.3761	.31	5.04	.1021	-2.45	3.23	.1319	-2.45	3.23
48				.2621	.2346	.2621	.31	5.36	.1645	-2.45	3.39	.0759	-2.45	3.39
60				.2168	.2255	.2168	.29	5.74	.2033	-2.46	3.45	.0657	-2.46	3.45
72				.1583	.2186	.1583	.30	5.90	.2231	-2.47	3.50	.0211	-2.47	3.50

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.32	-2.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-0.54	7.75	.8531	-2.79	3.49	.2507	.12	3.90	-.0164	-2.73	2.95	.12	3.90	-.0164	-2.73	2.95
24	-.62	7.76	.8344	-2.79	3.52	.2409	.16	4.57	.0657	-2.72	3.12	.16	4.57	.0657	-2.72	3.12
36	-.74	7.76	.7599	-2.82	3.51	.2309	.21	4.99	.1008	-2.70	3.20	.21	4.99	.1008	-2.70	3.20
48	-.84	7.82	.6378	-2.82	3.51	.1907	.23	5.48	.1499	-2.71	3.33	.23	5.48	.1499	-2.71	3.33
60	-.92	7.88	.6425	-2.87	3.52	.1817	.21	5.88	.1532	-2.69	3.37	.21	5.88	.1532	-2.69	3.37
72	-1.01	7.91	.5690	-2.85	3.53	.1389	.21	6.18	.1912	-2.71	3.40	.21	6.18	.1912	-2.71	3.40

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
.13	-2.79

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-0.79	8.58	.8838	-2.61	3.53	.2895	-.17	4.00	-.0066	-2.52	2.83	-.17	4.00	-.0066	-2.52	2.83
24	-.93	8.62	.8118	-2.61	3.54	.2920	-.10	4.98	.0721	-2.50	3.03	-.10	4.98	.0721	-2.50	3.03
36	-1.04	8.67	.7575	-2.61	3.54	.2638	-.05	5.55	.1432	-2.49	3.16	-.05	5.55	.1432	-2.49	3.16
48	-1.14	8.71	.6959	-2.61	3.54	.2438	-.03	6.07	.1799	-2.49	3.29	-.03	6.07	.1799	-2.49	3.29
60	-1.22	8.78	.6479	-2.63	3.55	.2257	-.03	6.43	.1949	-2.48	3.35	-.03	6.43	.1949	-2.48	3.35
72	-1.32	8.85	.5948	-2.61	3.55	.2112	-.02	6.77	.2155	-2.49	3.36	-.02	6.77	.2155	-2.49	3.36

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
-.19	-2.59

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-0.39	9.89	.3004	-2.54	3.94	614										
12	-.52	9.96	.8934	.6201	.2932	.3040	.06	4.44	.1011	-2.53	3.05	.13	5.50	.1527	-2.51	3.32
24	-.64	10.02	.8304	.5153	.2881	.2915	.17	6.33	.1727	-2.49	3.45	.19	6.95	.2058	-2.47	3.62
36	-.74	10.03	.7667	.4565	.2865	.2856	.23	7.43	.1826	-2.46	3.73	.21	7.83	.2332	-2.46	3.77
48	-.83	10.12	.7068	.3502	.2888	.2571	.21	7.83	.1826	-2.46	3.77	.21	7.83	.2332	-2.46	3.77
60	-.92	10.18	.6510	.2580	.2838	.2369	.21	7.83	.1826	-2.46	3.77	.21	7.83	.2332	-2.46	3.77
72	-1.02	10.26	.6000	.2290	.2849	.2369	.21	7.83	.1826	-2.46	3.77	.21	7.83	.2332	-2.46	3.77

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.01	-2.62

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.55	11.72	.3440	-2.71	4.54	614										
12	.46	11.76	.9216	.6941	.3449	.3473	.82	4.55	.1162	-2.67	3.22	.92	5.62	.1581	-2.65	3.72
24	.32	11.82	.8668	.5463	.3465	.3476	.97	6.91	.1925	-2.64	3.90	.99	7.75	.2212	-2.63	4.04
36	.23	11.88	.8061	.4823	.3504	.3310	1.02	8.43	.2481	-2.62	4.23	1.02	8.43	.2678	-2.62	4.23
48	.14	11.91	.7454	.4148	.3565	.2943	1.02	8.43	.2481	-2.62	4.23	1.02	8.43	.2678	-2.62	4.23
60	.04	11.97	.6855	.3099	.3583	.2702	1.02	8.43	.2481	-2.62	4.23	1.02	8.43	.2678	-2.62	4.23
72	-.04	12.05	.6236	.2655	.3588	.2702	1.02	8.43	.2481	-2.62	4.23	1.02	8.43	.2678	-2.62	4.23

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(14 T)
Y = V(14 T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N
12	1/55	0	93.0	1.40	1.24	-1.916	-1.03	3.20	614
12	1/55	1	93.0	1.27	1.42	-1.559	-2.63	7.31	614
12	1/55	2	93.0	3.87	5.74	-1.775	-3.53	8.52	614
12	1/55	3	93.0	6.84	7.49	-0.952	-4.23	9.88	614
12	1/55	4	93.0	9.70	9.34	1.001	-4.89	11.61	614
12	1/55	5	93.0	12.14	10.91	1.522	-5.24	13.00	614
12	1/55	6	93.0	14.29	12.22	2.235	-5.71	14.73	614
12	1/55	7	93.0	16.38	14.01	2.947	-6.17	16.53	614
12	1/55	8	93.0	18.34	15.89	3.720	-6.37	18.03	614
12	1/55	9	93.0	20.34	17.77	4.533	-6.80	19.52	614
12	1/55	10	93.0	22.18	19.43	5.389	-6.83	20.20	614
12	1/55	11	93.0	23.51	17.02	6.229	-6.81	20.53	614
12	1/55	12	93.0	24.15	15.54	7.054	-5.94	19.50	614
12	1/55	13	93.0	24.76	13.93	7.839	-5.30	16.23	614
12	1/55	14	93.0	24.76	11.90	8.539	-3.80	13.93	614
12	1/55	15	93.0	23.30	10.00	9.113	-3.18	11.75	614
12	1/55	16	93.0	18.30	8.33	9.735	-2.75	9.81	614
12	1/55	17	93.0	13.51	7.23	10.255	-2.33	8.27	614
12	1/55	18	93.0	8.22	6.03	10.730	-2.51	6.74	614
12	1/55	19	93.0	3.35	5.03	11.133	-2.56	5.23	614
12	1/55	20	93.0	1.95	5.03	11.533	-2.71	3.95	614
12	1/55	21	93.0	1.45	5.33	11.933	-2.59	3.75	614
12	1/55	22	93.0	1.45	6.33	12.333	-2.53	3.75	614
12	1/55	23	93.0	1.45	7.18	12.710	-2.77	3.49	614
12	1/55	24	93.0	1.45	8.55	13.115	-2.55	3.52	614
12	1/55	25	93.0	1.45	9.83	13.510	-2.54	3.54	614
12	1/55	26	93.0	1.45	11.72	13.910	-2.71	3.54	614

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF A, Y, XP, YP
 STATION (19214) - VANDERBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (FM) - 2

QUADRI-VARIATE NORMAL STATISTICS OF A, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N	P (Y, YP)	MEAN YP	S.D. YP	MEAN Y	S.D. Y	P (Y, YP)	MEAN YP	S.D. YP
12	07	4.33	-.3784	-2.33	7.75	920	-.3784	2.52	5.32	3.18	7.75	-.3784	2.52	5.32
24	12	5.53	-.5517	-2.51	7.75	920	-.5517	2.29	5.00	3.18	7.75	-.5517	2.29	5.00
36	18	6.34	-.6341	-2.51	7.75	920	-.6341	2.21	4.84	3.18	7.75	-.6341	2.21	4.84
48	24	6.71	-.6705	-2.51	7.75	920	-.6705	2.19	4.72	3.18	7.75	-.6705	2.19	4.72
60	30	7.15	-.7122	-2.51	7.75	920	-.7122	2.15	4.54	3.18	7.75	-.7122	2.15	4.54
72	36	7.15	-.7122	-2.51	7.75	920	-.7122	2.15	4.54	3.18	7.75	-.7122	2.15	4.54

ALTITUDE (FM) - 2

QUADRI-VARIATE NORMAL STATISTICS OF A, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N	P (Y, YP)	MEAN YP	S.D. YP	MEAN Y	S.D. Y	P (Y, YP)	MEAN YP	S.D. YP
12	08	5.35	-.3535	-3.33	8.73	920	-.3535	1.21	7.15	5.83	8.73	-.3535	1.21	7.15
24	14	6.53	-.5313	-3.33	8.73	920	-.5313	1.24	6.74	5.83	8.73	-.5313	1.24	6.74
36	20	6.82	-.5782	-3.33	8.73	920	-.5782	1.24	6.43	5.83	8.73	-.5782	1.24	6.43
48	26	6.97	-.5927	-3.33	8.73	920	-.5927	1.24	6.32	5.83	8.73	-.5927	1.24	6.32
60	32	7.15	-.6122	-3.33	8.73	920	-.6122	1.24	6.22	5.83	8.73	-.6122	1.24	6.22
72	38	7.15	-.6122	-3.33	8.73	920	-.6122	1.24	6.22	5.83	8.73	-.6122	1.24	6.22

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 4

QUADRVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N
	8.78	9.49	.2065	-3.61	9.76		620		

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
12	.06	6.12	-.3339	.01	7.17	-.3769	.0877	.1671
24	.11	8.43	-.4712	.07	9.81	-.5148	.0889	.1194
36	.21	9.53	-.5263	.04	11.25	-.5840	.0763	.0757
48	.18	10.32	-.5669	.07	11.91	-.6211	.0666	.0753
60	.06	10.82	-.5894	.14	12.32	-.6444	.0563	.0778
72	-.05	11.49	-.6196	.23	12.56	-.6555	.0577	.0470

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
	5.58	8.78	.2275	.77	8.83	-.2120	5.58	8.78
	5.13	8.24	.2470	-.29	8.21	-.1974	5.13	8.24
	4.92	7.99	.2575	-.92	7.84	-.1622	4.92	7.99
	4.98	7.74	.2775	-1.00	7.56	-.1552	4.98	7.74
	4.92	7.60	.2989	-1.01	7.39	-.1430	4.92	7.60
	4.85	7.40	.2996	-1.22	7.32	-.1273	4.85	7.40

ALTIITUDE (KM) - 5

QUADRVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
	11.10	11.12	.2550	-3.45	10.98	620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
12	.07	6.95	-.3272	.03	8.25	-.3336	.2181	.1017
24	.12	9.54	-.4571	.10	11.29	-.5266	.2062	.0489
36	.21	10.93	-.5170	.10	12.87	-.5957	.1752	.0187
48	.17	11.85	-.5648	.19	13.57	-.6376	.1641	.0278
60	.06	12.60	-.5939	.27	13.73	-.6489	.1360	.0434
72	-.08	13.34	-.6229	.38	13.91	-.6581	.1287	.0170

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (XP,X)	MEAN YP	S.D. YP
	7.03	10.34	.2604	1.55	9.93	-.2343	7.03	10.34
	6.14	9.76	.2704	-.29	9.17	-.2358	6.14	9.76
	6.30	9.42	.2816	-.42	8.71	-.2127	6.30	9.42
	6.18	9.08	.3103	-.36	8.33	-.2118	6.18	9.08
	6.14	8.85	.3371	-.40	8.23	-.2005	6.14	8.85
	6.04	8.62	.3409	-.67	8.19	-.1821	6.04	8.62

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (33214) - VANZENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 6

CONDITIONAL BIVARIATE NORMAL STATISTICS

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	12	12.92	12.55	.2757	-3.64	12.22	620	7.75	11.73	.2790	1.31	11.05
24	24							7.78	11.03	.2810	.33	10.10
36	36							7.31	10.57	.2739	-1.31	9.67
48	48							7.16	10.21	.3069	-1.30	9.21
60	60							7.11	9.99	.3322	-1.33	9.10
72	72							6.96	9.72	.3428	-1.70	9.15

ORIGINAL PAGE IS OF POOR QUALITY

ALTITUDE (M) - 7

CONDITIONAL BIVARIATE NORMAL STATISTICS

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	12	14.83	13.96	.2816	-4.15	13.44	620	8.80	13.93	-3.78	8.93	12.15
24	24							8.47	12.29	.2822	-1.05	11.11
36	36							8.44	11.75	.2935	-1.51	10.44
48	48							8.31	11.45	.3042	-1.73	10.17
60	60							8.32	11.15	.3300	-1.75	10.09
72	72							8.12	10.66	.3380	-1.20	10.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.68	15.65	.2816	-4.50	14.69	620						15.75			-4.09	
12	.10	9.94	-.3323	-4.094	2.586	.0023	-.1879	11.81	.2586	-.4094	11.81	9.79	14.67	.2800	.45	13.30
24	.30	13.75	-.4573	-5.463	2.473	-.0253	-.2263	15.73	2.473	-5.463	15.73	9.65	13.79	.2824	-.23	12.19
36	.32	15.88	-.5230	-6.205	2.534	-.0593	-.2538	18.03	2.534	-6.205	18.03	9.56	13.16	.2722	-.55	11.41
48	.31	17.12	-.5624	-6.534	2.370	-.0575	-.2332	18.94	2.370	-6.534	18.94	9.42	12.76	.2811	-.85	11.02
60	.17	18.12	-.5943	-6.824	1.912	-.0297	-.2231	19.04	1.912	-6.824	19.04	9.38	12.46	.3195	-.93	10.96
72	.01	18.94	-.6197	-6.623	1.1700	-.0443	-.1984	19.23	1.1700	-6.623	19.23	9.17	12.20	.3317	-1.32	10.95

..... CONDITIONAL BIVARIATE NORMAL STATISTICS

..... ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	18.76	17.22	.2709	-5.02	15.81	620						17.82			-4.62	
12	.08	10.89	-.3234	-4.201	2.495	-.0252	-.1624	13.13	2.495	-4.201	13.13	10.74	16.23	.2661	-.34	14.29
24	.25	15.16	-.4514	-5.545	2.565	-.0535	-.2156	17.34	2.565	-5.545	17.34	10.81	15.25	.2577	-.77	13.09
36	.30	17.53	-.5238	-6.246	2.644	-.0831	-.2413	19.61	2.644	-6.246	19.61	10.71	14.55	.2474	-1.09	12.27
48	.31	18.95	-.5641	-6.610	2.326	-.0653	-.2425	20.59	2.326	-6.610	20.59	10.63	14.09	.2630	-1.04	11.77
60	.17	19.95	-.5958	-6.665	1.900	-.0285	-.2273	20.71	1.900	-6.665	20.71	10.66	13.81	.2942	-1.01	11.67
72	.05	20.95	-.6164	-6.672	1.1586	-.0417	-.1981	20.91	1.1586	-6.672	20.91	10.73	13.46	.3133	-1.55	11.67

..... CONDITIONAL BIVARIATE NORMAL STATISTICS

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	25.09	18.34	.2201	-5.26	16.01	620														
12	-.01	9.99	-.2787	.03	11.65		-.03	11.65	-.0801	-.3670	13.99	-.0801	-.0801	-.0217	12.23	17.61	.2286	-3.84	14.89	
24	.07	14.42	-.4013	.04	17.01		-.04	17.01	-.0825	-.5317	17.63	-.0825	-.0825	-.0878	12.76	16.80	.2294	-2.35	13.56	
36	.19	16.88	-.4706	.03	19.56		-.03	19.56	-.0853	-.6121	19.62	-.0853	-.0853	-.1305	13.01	16.17	.2244	-1.81	12.65	
48	.24	18.35	-.5098	.15	20.99		-.15	20.99	-.0808	-.6582	19.64	-.0808	-.0808	-.1455	13.12	15.76	.2302	-1.50	12.03	
60	.25	19.48	-.5357	.30	21.43		-.30	21.43	-.0668	-.6757	18.19	-.0668	-.0668	-.1504	13.29	15.46	.2389	-1.32	11.77	
72	.14	20.87	-.5736	.39	21.77		-.39	21.77	-.0642	-.6872	15.99	-.0642	-.0642	-.1388	13.15	15.00	.2533	-1.58	11.61	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 24.60
 GIVEN Y -5.11

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	24.33	15.40	.2651	-4.64	13.34	620														
12	.03	7.97	-.2607	-.01	9.24		-.01	9.24	-.0697	-.3495	13.91	-.0697	-.0697	-.0340	12.09	14.87	.2739	-3.29	12.50	
24	.07	11.33	-.3785	-.02	14.20		-.02	14.20	-.1079	-.5317	20.90	-.1079	-.1079	-.0905	12.18	14.25	.2784	-2.33	11.30	
36	.20	13.71	-.4533	-.04	16.71		-.04	16.71	-.1210	-.6272	22.59	-.1210	-.1210	-.1284	12.50	13.72	.2795	-1.91	10.39	
48	.27	14.34	-.4970	.07	17.80		.07	17.80	-.1103	-.6595	22.32	-.1103	-.1103	-.1475	12.55	13.35	.2884	-1.47	9.89	
60	.30	15.97	-.5276	.23	19.07		.23	19.07	-.0959	-.6327	21.01	-.0959	-.0959	-.1582	12.73	13.06	.2939	-1.27	9.73	
72	.23	17.27	-.5650	.31	18.11		.31	18.11	-.0517	-.6352	18.19	-.0517	-.0517	-.1426	12.68	12.68	.3101	-1.59	9.71	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 23.95
 GIVEN Y -4.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		22.60	13.34	.3028	-4.10	11.36				620			22.28	-4.01	
12		.06	6.95	-.2667	-.01	7.84	-.0112	-.3468	.1712	-.0875	11.83	12.84	.3159	-.23	10.64
24		.13	9.57	-.3659	.02	11.99	-.0793	-.5278	.2471	-.1283	11.79	12.40	.3212	-.60	9.63
36		.25	11.53	-.4381	.02	14.10	-.1226	-.6211	.2708	-.1553	11.86	11.97	.3214	-.37	8.89
48		.35	12.72	-.4831	.14	15.16	-.1331	-.6695	.2643	-.1732	11.82	11.67	.3260	-.87	8.42
60		.40	13.86	-.5212	.26	15.47	-.1115	-.6848	.2447	-.1747	12.07	11.37	.3420	-.83	8.25
72		.35	14.96	-.5597	.35	15.35	-.0996	-.6825	.2153	-.1675	12.04	11.04	.3555	-1.03	8.29

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 15

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		19.77	10.93	.3158	-3.52	9.87				620			19.54	-3.68	
12		.06	6.03	-.2854	-.04	6.80	.0104	-.3438	.1255	-.0834	10.14	10.52	.3357	.06	9.25
24		.12	7.86	-.3695	-.03	10.00	-.0231	-.5045	.1754	-.1155	10.19	10.20	.3520	-.01	8.50
36		.20	9.40	-.4387	-.03	11.93	-.0755	-.6057	.2057	-.1297	10.18	9.87	.3625	-.62	7.84
48		.28	10.57	-.4913	.05	12.92	-.0301	-.6555	.2062	-.1358	10.20	9.56	.3784	-.78	7.43
60		.34	11.59	-.5341	.15	13.28	-.0843	-.6769	.1951	-.1455	10.33	9.28	.3910	-.75	7.25
72		.36	12.39	-.5658	.21	13.33	-.0912	-.6828	.1945	-.1535	10.37	9.02	.3907	-.89	7.22

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VALZENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.91	6.99	.3286	-2.93	5.40	620										
12	.05	4.36	-.3155	-3.93	3.81		-.01	3.81	.0232	-.3493	.0826	5.33	6.61	.3711	-.29	5.03
24	.14	5.09	-.3621	-4.375	4.80		-.02	4.80	.1029	-4.375	.0772	5.58	6.48	.3779	-.08	4.81
36	.16	5.85	-.4142	-5.177	5.64		.01	5.64	.1252	-5.177	.0502	5.56	6.33	.3877	-.22	4.58
48	.21	6.49	-.4393	-5.717	6.22		.05	6.22	.1197	-5.717	.0328	5.40	6.18	.4069	-.49	4.39
60	.23	7.08	-.4905	-6.029	6.54		.07	6.54	.1230	-6.029	.0046	5.43	6.04	.4152	-.72	4.28
72	.27	7.55	-.5354	-6.281	6.82		.10	6.82	.1320	-6.281	-.0195	5.37	5.83	.4238	-.87	4.19

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

GIVEN X	GIVEN Y
10.02	-3.10

ALTITUDE (KM) - 19

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	6.80	6.60	.3645	-2.90	4.74	620										
12	.05	4.38	-.3251	-3.557	3.43		.01	3.43	.1639	-.3557	.0998	3.82	6.23	.3922	-.81	4.42
24	.12	4.81	-.3486	-4.268	4.10		-.01	4.10	.2206	-4.268	.0137	4.15	6.16	.3923	-.53	4.25
36	.14	5.44	-.3923	-5.036	4.81		-.01	4.81	.2006	-5.036	-.0152	3.97	6.06	.4135	-.81	4.08
48	.18	5.92	-.4211	-5.494	5.25		.03	5.25	.1986	-5.494	-.0184	4.03	5.97	.4249	-.79	3.94
60	.19	6.40	-.4572	-5.896	5.62		.05	5.62	.2013	-5.896	-.0426	3.94	5.85	.4367	-.90	3.81
72	.22	6.87	-.4932	-6.107	5.80		.09	5.80	.2136	-6.107	-.0641	3.80	5.73	.4419	-.96	3.74

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

GIVEN X	GIVEN Y
6.88	-3.09

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.81	6.80	.2914	-2.86	4.09	620							3.91			-3.07	
12	.10	4.09	-.2893	-.3749	3.11		.01	3.11	-.0424	-.0763		2.22	.3384	6.50	.3384	-1.12	3.79
24	.16	4.70	-.3234	-.4228	3.47		.00	3.47	.0269	.1215		2.70	.3395	6.39	.3395	-.88	3.67
36	.20	5.28	-.3595	-.4878	4.04		-.01	4.04	.0594	.0623		2.47	.3467	6.33	.3467	-1.07	3.55
48	.23	5.83	-.3985	-.5361	4.44		.03	4.44	.0821	.0512		2.49	.3529	6.21	.3529	-1.06	3.43
60	.25	6.36	-.4380	-.5677	4.67		.06	4.67	.1067	.0021		2.35	.3580	6.10	.3580	-1.14	3.36
72	.28	6.84	-.4843	-.5987	4.91		.04	4.91	.1195	-.0036		2.37	.3632	6.05	.3632	-1.14	3.27

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

250

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.79	6.90	.2322	-2.91	3.85	620							1.95			-3.01	
12	.06	4.22	-.2940	-.4138	3.21		.01	3.21	-.0816	.0762		1.05	.2802	6.59	.2802	-1.35	3.50
24	.12	4.81	-.3304	-.4627	3.61		.02	3.61	.1047	.1306		1.23	.3008	6.50	.3008	-1.32	3.40
36	.17	5.29	-.3616	-.5041	3.90		.02	3.90	-.0152	.0711		1.18	.2937	6.42	.2937	-1.32	3.32
48	.19	5.77	-.3971	-.5346	4.18		.04	4.18	.0295	.0549		1.18	.2984	6.32	.2984	-1.32	3.24
60	.24	6.14	-.4199	-.5624	4.43		.06	4.43	.1012	-.0102		1.11	.2842	6.26	.2842	-1.34	3.18
72	.29	6.56	-.4472	-.6091	4.74		.06	4.74	.1236	-.0236		1.13	.2910	6.17	.2910	-1.33	3.05

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.08	7.34	.2616	-2.99	3.77	620							.35	-3.07						
12	.05	4.09	-.2610	-.3854	-.0016	.0186	-.0146	7.08	.2927	-.0146	3.48	.06	7.08	-.0146	3.48					
24	.13	4.70	-.2983	-.4651	.0015	.0360	-.0273	7.00	.5077	-.0273	3.33	.15	7.00	-.0273	3.33					
36	.19	5.32	-.3320	-.4970	.0685	-.0039	-.0513	6.92	.3005	-.0513	3.27	.18	6.92	-.0513	3.27					
48	.22	6.04	-.3774	-.5377	.1131	-.0261	-.0779	6.79	.2984	-.0779	3.17	.22	6.79	-.0779	3.17					
60	.28	6.59	-.4144	-.5693	.2009	-.0977	-.1075	6.57	.2770	-.1075	3.10	.18	6.57	-.1075	3.10					
72	.35	7.09	-.4494	-.5990	.1938	-.1051	-.1042	6.55	.2853	-.1042	3.02	.17	6.55	-.1042	3.02					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.06	8.10	.3076	-3.02	3.85	620							-.69	-3.04						
12	.07	4.18	-.2424	-.4029	-.0395	.0217	.0077	7.85	.3516	.0077	3.52	-.68	7.85	-.0077	3.52					
24	.15	5.00	-.2870	-.4560	.0504	.0107	-.0369	7.75	.3528	-.0369	3.42	-.51	7.75	-.0369	3.42					
36	.23	5.78	-.3264	-.4918	.1032	-.0145	-.0602	7.65	.3525	-.0602	3.35	-.46	7.65	-.0602	3.35					
48	.29	6.48	-.3719	-.5415	.1535	-.0594	-.0750	7.51	.3536	-.0750	3.23	-.50	7.51	-.0750	3.23					
60	.34	7.18	-.4205	-.5753	.2069	-.1148	-.0908	7.35	.3458	-.0908	3.15	-.55	7.35	-.0908	3.15					
72	.42	7.78	-.4579	-.6003	.2359	-.1624	-.0915	7.20	.3423	-.0915	3.07	-.61	7.20	-.0915	3.07					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN Y	S.D. Y	R (Y, YP)	R (XP, YP)	R (Y, X)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	-1.45	9.28	.3578	-2.84	4.17	620																	
12	.08	4.51	-.2339	-.3328	3.33		.02	3.33	.0874	-.0038		-.91	9.02	.3935	-.0296	-.0296	-.91	9.02	.3935	-.91	9.02	3.84	
24	.19	5.41	-.2706	-.4373	3.71		.01	3.71	.1286	-.0071		-.75	8.91	.3933	-.0542	-.0542	-.75	8.91	.3933	-.75	8.91	3.75	
36	.27	6.32	-.3156	-.4778	4.07		.03	4.07	.1821	-.0431		-.76	8.80	.4028	-.0732	-.0732	-.76	8.80	.4028	-.76	8.80	3.66	
48	.35	7.25	-.3744	-.5167	4.40		.05	4.40	.2218	-.0834		-.82	8.60	.4067	-.0905	-.0905	-.82	8.60	.4067	-.82	8.60	3.57	
60	.38	8.24	-.4270	-.5635	4.83		.06	4.83	.2579	-.1332		-.90	8.39	.4100	-.0905	-.0905	-.90	8.39	.4100	-.90	8.39	3.43	
72	.46	8.83	-.4573	-.6001	5.11		.07	5.11	.2805	-.1688		-.97	8.24	.4089	-.0952	-.0952	-.97	8.24	.4089	-.97	8.24	3.34	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X GIVEN Y
 -.89 -2.89

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN Y	S.D. Y	R (Y, YP)	R (XP, YP)	R (Y, X)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	-1.78	10.43	.3599	-2.63	4.38	620																	
12	.07	5.01	-.2275	-.3733	3.30		.03	3.30	.0618	-.0025		-.12	10.21	.4089	-.0025	-.0025	-.12	10.21	.4089	-.12	10.21	4.06	
24	.19	5.11	-.2750	-.4155	3.77		.04	3.77	.0924	-.0021		-.14	10.08	.4079	-.0353	-.0353	-.14	10.08	.4079	-.14	10.08	3.98	
36	.27	6.23	-.3303	-.4554	4.16		.05	4.16	.1263	-.0645		-.19	9.90	.4056	-.0535	-.0535	-.19	9.90	.4056	-.19	9.90	3.80	
48	.36	8.30	-.3793	-.4947	4.58		.08	4.58	.1713	-.0989		-.22	9.70	.4127	-.0614	-.0614	-.22	9.70	.4127	-.22	9.70	3.65	
60	.41	9.17	-.4243	-.5316	5.04		.09	5.04	.2446	-.1427		-.24	9.49	.4191	-.0744	-.0744	-.24	9.49	.4191	-.24	9.49	3.53	
72	.50	9.92	-.4622	-.5907	5.35		.07	5.35	.2845	-.1765		-.24	9.29	.4226	-.0817	-.0817	-.24	9.29	.4226	-.24	9.29	3.53	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X GIVEN Y
 -1.03 -2.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - JANUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.63	11.56	.3777	-2.89	4.71												
12	.11	4.87	-.2011	-.3558	-.0075	.0614	-.0169	11.32	.4199	-1.06	4.39		-1.06	11.32	.4199	-1.61	4.39
24	.23	6.23	-.2581	-.3890	.1049	.0193	-.0792	11.16	.4256	-1.07	4.33		-1.07	11.16	.4256	-1.61	4.33
36	.32	7.53	-.3180	-.4449	-.1572	-.0490	-.0656	10.96	.4254	-1.09	4.21		-1.09	10.96	.4254	-1.57	4.21
48	.44	8.88	-.3633	-.5017	-.2270	-.0792	-.0819	10.77	.4338	-1.06	4.07		-1.06	10.77	.4338	-1.54	4.07
60	.52	9.62	-.4028	-.5452	-.2927	-.1124	-.1014	10.56	.4248	-1.13	3.95		-1.13	10.56	.4248	-1.52	3.95
72	.61	10.31	-.4356	-.5848	-.3072	-.1344	-.1061	10.39	.4239	-1.14	3.82		-1.14	10.39	.4239	-1.51	3.82

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
GIVEN Y
- .73 -2.68

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.01	12.90	.4350	-3.12	5.11												
12	.11	4.97	-.1829	-.3274	.0222	.0680	-.0311	12.68	.4738	-.73	4.81		-.73	12.68	.4738	-1.71	4.81
24	.25	6.65	-.2428	-.3931	.1057	.0628	-.0740	12.50	.4867	-.51	4.57		-.51	12.50	.4867	-1.66	4.57
36	.36	7.96	-.2977	-.4365	.1873	.0042	-.0951	12.30	.4897	-.56	4.38		-.56	12.30	.4897	-1.64	4.38
48	.50	9.15	-.3402	-.4895	.2633	-.0466	-.1291	12.12	.4893	-.52	4.43		-.52	12.12	.4893	-1.61	4.43
60	.59	10.26	-.3857	-.5354	.2966	-.1083	-.1351	11.90	.4911	-.53	4.31		-.53	11.90	.4911	-1.61	4.31
72	.68	10.99	-.4159	-.5667	.3207	-.1509	-.1446	11.73	.4887	-.66	4.21		-.66	11.73	.4887	-1.59	4.21

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
GIVEN Y
.14 -2.83

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = VI(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
1	1/65 - 12/74	0	90.0	.42	2.89	-.5137	-.62	3.43	620
1	1/65 - 12/74	1	90.0	1.08	4.34	.0402	-1.55	7.07	620
1	1/65 - 12/74	2	90.0	3.57	5.87	.1187	-2.61	7.75	620
1	1/65 - 12/74	3	90.0	6.38	7.80	.1907	-3.33	8.73	620
1	1/65 - 12/74	4	90.0	8.78	9.49	.2685	-3.61	9.76	620
1	1/65 - 12/74	5	90.0	11.10	11.12	.2550	-3.45	10.98	620
1	1/65 - 12/74	6	90.0	12.32	12.55	.2757	-3.64	12.22	620
1	1/65 - 12/74	7	90.0	14.83	13.96	.2816	-4.15	13.44	620
1	1/65 - 12/74	8	90.0	16.68	15.65	.2816	-4.50	14.69	620
1	1/65 - 12/74	9	90.0	18.76	17.22	.2709	-5.02	15.81	620
1	1/65 - 12/74	10	90.0	21.08	18.60	.2601	-5.39	15.99	620
1	1/65 - 12/74	11	90.0	23.75	19.45	.2412	-5.41	17.23	620
1	1/65 - 12/74	12	90.0	25.09	19.45	.2201	-5.26	16.01	620
1	1/65 - 12/74	13	90.0	24.33	18.34	.2651	-4.64	13.34	620
1	1/65 - 12/74	14	90.0	22.60	13.34	.3028	-4.10	11.36	620
1	1/65 - 12/74	15	90.0	19.77	10.99	.3158	-3.62	9.87	620
1	1/65 - 12/74	16	90.0	16.77	9.41	.3510	-3.11	8.29	620
1	1/65 - 12/74	17	90.0	13.49	8.19	.3274	-2.97	6.65	620
1	1/65 - 12/74	18	90.0	9.91	6.93	.3285	-2.93	5.40	620
1	1/65 - 12/74	19	90.0	6.80	6.60	.3646	-2.90	4.74	620
1	1/65 - 12/74	20	90.0	3.81	6.80	.2914	-2.85	4.05	620
1	1/65 - 12/74	21	90.0	1.79	6.90	.2322	-2.91	3.85	620
1	1/65 - 12/74	22	90.0	.08	7.34	.2616	-2.99	3.77	620
1	1/65 - 12/74	23	90.0	-1.06	8.10	.3076	-3.02	3.65	620
1	1/65 - 12/74	24	90.0	-1.45	9.28	.3578	-2.84	4.17	620
1	1/65 - 12/74	25	90.0	-1.78	10.49	.3599	-2.63	4.38	620
1	1/65 - 12/74	26	90.0	-1.63	11.56	.3777	-2.69	4.71	620
1	1/65 - 12/74	27	90.0	-1.01	12.50	.4350	-3.12	5.11	620

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANCEBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.01	4.62	.7517	.01	3.68	587	.01	3.68	-.5165	-.5028	.2927	587	.35	2.01	-.6226	-.27	2.98
24	.03	3.30	-.5423	.01	3.70	3232	.01	3.70	-.5039	-.4370	.2076	3232	.37	2.55	-.5628	-.26	2.99
36	.03	4.89	-.7321	.02	4.33	3681	.02	4.33	-.5340	-.3785	.2785	3681	.36	1.86	-.3837	-.27	2.78
48	.05	3.43	-.5519	.02	4.26	4838	.02	4.26	-.5733	-.4838	.2470	4838	.36	2.52	-.5722	-.27	2.84
60	.13	4.83	-.7328	-.04	4.63	3535	-.04	4.63	-.6297	-.5457	.4249	3535	.33	1.86	-.5806	-.31	2.71
72	.17	3.58	-.5758	-.08	4.31	3028	-.08	4.31	-.5653	-.5603	.3035	3028	.40	2.50	-.5631	-.33	2.83

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 .77
 -1.02

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.23	4.26	-.1941	-1.60	7.38	564	.23	4.26	-1.60	-2.37	3.55	564	.51	3.55	-.2324	-.51	6.74
24	.02	4.41	-.5036	.10	5.52	1992	.10	5.52	-.3679	-.0663	.1992	1992	.41	3.50	-.1924	-.52	6.24
36	.05	5.71	-.6513	.20	8.72	1683	.20	8.72	-.5714	-.1683	.2482	1683	.30	3.13	-.1771	-.52	5.96
48	.15	6.00	-.6245	.15	9.23	2491	.15	9.23	-.6100	-.2307	.0493	2491	.31	3.09	-.1533	-.56	5.79
60	.22	6.11	-.6331	.05	9.27	2085	.05	9.27	-.6126	-.2073	.0733	2085	.30	3.05	-.1620	-.59	5.80
72	.33	6.02	-.6323	-.07	9.32	1884	-.07	9.32	-.6241	-.1944	.1008	1884	.31	3.09	-.1503	-.64	5.74

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 .23
 -2.37

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	MEAN X	S.D. X	P (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	P (XP,Y)	R (YP,X)	MEAN YP	S.D. YP	GIVEN X	P (XP,YP)	MEAN YP	S.D. YP
12	2.24	5.25	-0.143	-2.42	8.58	564	1.74	4.54	-0.372	.233	-.252	1.74	4.54	2.18	-.137	1.74	4.54
24	.02	5.22	0.15	-4.75	8.47		1.33	4.26	-0.570	.233	-.152	1.33	4.26		-.121	1.33	4.26
36	.02	5.42	0.23	-5.84	8.75		1.37	4.35	-0.583	.233	-.035	1.37	4.35		-.131	1.37	4.35
48	.10	5.45	0.22	-5.91	8.42		1.37	4.35	-0.583	.233	-.035	1.37	4.35		-.131	1.37	4.35
60	.20	5.57	0.14	-6.24	8.15		1.36	4.28	-0.548	.233	-.048	1.36	4.28		-.125	1.36	4.28
72	.32	5.55	0.12	-6.59	8.77		1.40	4.38	-0.602	.233	-.037	1.40	4.38		-.122	1.40	4.38

ALTITUDE (KM) - 3

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	MEAN X	S.D. X	P (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	P (XP,Y)	R (YP,X)	MEAN YP	S.D. YP	GIVEN X	P (XP,YP)	MEAN YP	S.D. YP
12	4.95	6.50	-0.159	-2.87	9.70	564	3.45	4.83	-0.372	.233	-.252	3.45	4.83	4.83	-.137	3.45	4.83
24	.02	6.37	0.17	-4.71	9.57		3.11	4.57	-0.570	.233	-.152	3.11	4.57		-.121	3.11	4.57
36	.02	6.52	0.27	-5.25	9.73		2.90	4.55	-0.583	.233	-.035	2.90	4.55		-.131	2.90	4.55
48	.10	6.52	0.34	-5.55	9.57		2.95	4.65	-0.583	.233	-.035	2.95	4.65		-.131	2.95	4.65
60	.20	6.50	0.24	-6.24	9.24		2.84	4.54	-0.548	.233	-.048	2.84	4.54		-.125	2.84	4.54
72	.32	6.45	0.23	-6.54	9.60		2.90	4.54	-0.602	.233	-.037	2.90	4.54		-.122	2.90	4.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VA. ZENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	7.48	8.05	.004	-3.14	10.85	564	7.70	7.17	.0130	7.33	-3.39	4.70	7.17	.0130	1.42	9.28
24	.01	6.27	-.3873	-.3485	-.0127	.2273	4.41	10.83	.0057	1.854	-.1949	4.41	6.71	.0085	.39	3.25
36	.06	8.41	-.5173	-.4882	-.0212	.1654	4.19	12.22	-.0212	1.604	-.1403	4.19	6.33	.0301	-.08	8.90
48	.13	10.31	-.6231	-.5951	-.0646	.1473	4.18	13.07	-.0646	1.473	-.0581	4.18	6.24	.0526	-.49	8.71
60	.23	10.52	-.6233	-.6124	-.0632	.1210	4.23	13.62	-.0632	1.210	-.0274	4.23	6.23	.0547	-.72	8.53
72	.51	10.58	-.6276	-.6313	-.0620	.1140	4.33	13.93	-.0620	1.140	-.0191	4.33	6.25	.0557	-.80	8.38

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 5

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	9.70	9.39	.0215	-3.18	11.80	564	9.73	8.54	.0401	9.45	-3.45	5.73	8.54	.0401	1.67	10.75
24	.05	7.04	-.3686	-.3606	-.0518	.2195	5.53	12.07	-.0228	1.807	-.1536	5.53	7.98	.0414	.54	10.01
36	.08	9.55	-.5004	-.5010	-.0228	.1807	5.38	13.92	-.0150	1.445	-.1231	5.38	7.56	.0484	-.01	9.65
48	.07	10.98	-.5791	-.5585	-.0499	.1243	5.47	14.33	-.0499	1.243	-.0550	5.47	7.43	.0738	-.52	9.45
60	.26	11.85	-.6057	-.5905	-.0621	.1061	5.57	14.86	-.0621	1.061	-.0187	5.57	7.41	.0835	-.81	9.29
72	.45	12.18	-.6115	-.6123	-.0621	.1178	5.74	15.12	-.0621	1.178	-.0151	5.74	7.37	.0841	-.82	9.16

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.05	7.82	-.3579	.12	9.71	-.3731	-.3731	-.0510	1928	6.70	9.73	.0989	1.81	11.76
24	.09	10.66	-.4928	.17	13.47	-.5153	-.5153	.0003	1598	6.58	9.08	.1031	.80	10.87
36	.10	12.31	-.5708	.25	15.16	-.5765	-.5765	.0359	1037	6.48	8.61	.0978	.12	10.43
48	.31	13.21	-.5980	.25	15.93	-.6072	-.6072	.0084	0833	6.56	8.45	.1208	-.41	10.19
60	.55	13.68	-.6034	.19	16.47	-.6253	-.6253	.0018	0653	6.88	8.38	.1307	-.72	10.04
72	.82	14.11	-.6204	.12	16.82	-.6405	-.6405	-.0123	0826	6.89	8.28	.1427	-.71	9.87

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.08	8.29	-.3559	.12	11.08	-.3894	-.3894	-.0109	1416	7.79	11.23	.1381	1.44	12.96
24	.10	12.29	-.4983	.15	15.35	-.5325	-.5325	.0471	1124	7.70	10.40	.1410	.66	11.86
36	.11	14.18	-.5750	.27	16.90	-.5833	-.5833	.0885	0491	7.59	9.85	.1334	-.06	11.45
48	.31	15.20	-.6030	.28	17.89	-.6170	-.6170	.0508	0421	7.59	9.64	.1532	-.94	11.13
60	.57	15.89	-.6156	.24	18.23	-.6313	-.6313	.0475	0287	7.80	9.55	.1703	-.77	10.98
72	.82	16.23	-.6306	.19	18.66	-.6460	-.6460	.0341	0441	7.99	9.39	.1862	-.75	10.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT PR	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.08	9.32	-.3555	.11	12.24	-.3945	-.3945	.0963	.0725	-.1270	9.05	12.70	.1795	11.12
24	.09	13.88	-.5233	.19	16.80	-.5404	-.5404	.1372	.0375	-.1564	8.83	11.70	.1829	12.84
36	.08	16.13	-.6988	.30	18.69	-.5929	-.5929	.1556	-.0115	-.1578	8.74	11.03	.1826	12.26
48	.25	17.19	-.6190	.36	19.78	-.6313	-.6313	.1193	-.0162	-.1200	8.83	10.82	.1939	11.91
60	.52	17.82	-.8270	.34	20.05	-.6419	-.6419	.1039	-.0151	-.1228	9.00	10.64	.2181	11.78
72	.85	18.40	-.8424	.31	20.33	-.6516	-.6516	.0928	-.0370	-.1036	9.22	10.46	.2325	11.55

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT PR	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.08	11.07	-.3505	.12	13.11	-.3952	-.3952	.1187	.0090	-.0836	9.97	14.49	.1989	15.15
24	.09	15.39	-.5243	.22	18.10	-.5450	-.5450	.1553	-.0102	-.1307	9.85	13.40	.2254	13.80
36	.07	18.26	-.6988	.33	20.41	-.6128	-.6128	.1587	-.0406	-.1275	9.67	12.58	.2442	13.02
48	.18	19.26	-.6105	.48	21.44	-.6408	-.6408	.1304	-.0435	-.0933	9.95	12.84	.2353	12.67
60	.47	20.07	-.6414	.45	21.88	-.6513	-.6513	.1193	-.0436	-.0832	10.07	11.93	.2503	12.53
72	.77	20.81	-.6537	.46	22.00	-.6536	-.6536	.1140	-.0371	-.0855	10.28	11.68	.2550	12.49

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, YP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	21.43	17.56	.238	-4.34	17.44	.564								
12	.04	12.11	-.3945	.09	13.37	-.3208								
24	.07	15.84	-.4324	.23	18.68	-.0916								
36	.04	20.02	-.5232	.35	21.50	-.1070								
48	.14	21.47	-.5223	.45	22.53	-.1041								
60	.34	22.37	-.5457	.47	23.31	-.0957								
72	.67	23.31	-.5711	.38	23.43	-.0866								

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.57	-5.08

ALTITUDE (KM) - 11

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, YP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	24.40	18.63	.2311	-4.08	17.10	.564								
12	.09	12.21	-.3377	.05	12.50	-.3532								
24	.12	17.20	-.4755	.15	17.96	-.0223								
36	.12	20.63	-.5560	.32	21.04	-.0285								
48	.19	22.55	-.6155	.41	22.42	-.0248								
60	.31	23.62	-.6533	.39	23.03	-.0595								
72	.62	24.48	-.6755	.27	23.20	-.0618								

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.33	-4.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	25.28	17.26	.2387	-3.50	15.75				25.48	-4.52					
12	.16	10.53	-.3072	-.3418	.1124	.03	10.84	-.1147	12.67	16.38	.2559	.0775	-4.22	14.75	
24	.26	15.25	-.4485	-.5050	.2037	.13	15.01	-.1652	12.73	15.38	.2567	-.0259	-2.94	13.55	
36	.35	18.60	-.5415	-.5938	.2226	.27	18.20	-.1628	13.19	14.49	.2655	-.0739	-1.83	12.59	
48	.41	20.75	-.6039	-.6443	.1937	.30	20.70	-.1446	13.37	13.74	.2881	-.0830	-1.47	12.04	
60	.51	21.74	-.6378	-.6613	.1832	.26	21.30	-.1324	13.37	13.28	.3067	-.0823	-1.38	11.81	
72	.77	22.43	-.6617	-.6555	.1942	.23	21.43	-.1321	13.51	12.93	.3045	-.1000	-1.24	11.76	

ALTITUDE (KM) - 13

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	25.44	14.65	.2665	-2.88	13.26				24.44	-3.73					
12	.13	8.54	-.2924	-.3175	.0567	.07	8.50	-.1160	12.36	13.93	.2971	.0913	-4.74	12.51	
24	.25	12.18	-.4118	-.4782	.2032	.17	12.76	-.1637	12.64	13.30	.2952	-.0558	-2.86	11.61	
36	.31	14.89	-.5024	-.5729	.2297	.28	15.53	-.1672	12.95	12.64	.3039	-.0584	-1.76	10.86	
48	.38	16.81	-.5656	-.6249	.2112	.23	17.05	-.1350	13.29	12.06	.3246	-.0852	-1.07	10.35	
60	.53	17.83	-.6039	-.6492	.2237	.22	17.71	-.1324	13.42	11.67	.3262	-.1174	-.72	10.09	
72	.86	18.64	-.6338	-.6591	.2313	.18	17.94	-.1286	13.55	11.33	.3251	-.1406	-.53	9.97	

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KOH) - 14

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	23.55	12.55	.2398	-2.51	11.53	564											
12	.12	7.24	-.2814	.03	7.46		.3222	.0182	-.0465	12.20	12.03	.0481	12.20	12.03	.2691	-2.36	10.90
24	.25	9.88	-.3784	.07	10.84		-.4646	.1393	-.1081	12.33	11.60	-.0003	12.33	11.60	.2737	-2.01	10.20
36	.28	12.14	-.4637	.16	13.18		-.5593	.1833	-.1256	12.31	11.07	-.0430	12.31	11.07	.2802	-1.37	9.55
48	.29	13.74	-.5335	.15	14.58		-.6175	.1682	-.1156	12.43	10.61	-.0736	12.43	10.61	.2918	-.87	9.07
60	.31	14.74	-.5759	.11	15.25		-.6456	.1903	-.1049	12.46	10.25	-.0594	12.46	10.25	.2984	-.55	8.80
72	.46	15.47	-.6097	.05	15.67		-.6607	.2040	-.1014	12.56	9.95	-.1284	12.56	9.95	.2950	-.32	8.64

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	22.73
GIVEN Y	-3.23

262

ALTITUDE (KOH) - 15

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	20.49	10.09	.2340	2.43	9.69	564											
12	.09	8.18	-.2945	.05	8.27		-.3235	.0083	-.0110	10.80	9.64	.0205	10.80	9.64	.2635	-1.12	9.17
24	.19	8.07	-.3822	.11	9.03		-.4620	.1037	-.0577	10.91	9.33	-.0141	10.91	9.33	.2742	-1.01	8.60
36	.23	9.47	-.4510	.18	10.89		-.5532	.1611	-.0950	10.83	9.00	-.0460	10.83	9.00	.2770	-.94	8.07
48	.23	10.57	-.5030	.16	12.07		-.6090	.1742	-.0831	10.99	8.72	-.0840	10.99	8.72	.2837	-.40	7.68
60	.27	11.34	-.5440	.14	12.59		-.6335	.1972	-.0718	11.09	8.46	-.1290	11.09	8.46	.2795	.11	7.48
72	.36	12.12	-.5844	.08	13.02		-.6503	.1975	-.0705	11.09	8.19	-.1394	11.09	8.19	.2880	.08	7.34

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	19.98
GIVEN Y	-3.09

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
	17.55	8.52	.2630	-2.22	8.40				564				17.37	-2.81	
12	.06	5.46	-.3150	.04	5.44	-.3255	-.3255	.0847	-.0045	9.13	8.08	.2895	-.16	7.94	-.0350
24	.15	6.72	-.2803	.07	7.74	-.4612	-.4612	.1496	-.0318	8.39	7.88	.2957	.05	7.45	-.0730
36	.16	7.83	-.4507	.11	9.33	-.5505	-.5505	.1945	-.0573	9.38	7.60	.2998	.20	7.00	-.1131
48	.19	8.79	-.4992	.11	10.19	-.5964	-.5964	.1926	-.0517	9.48	7.37	.3125	.36	6.72	-.1316
60	.25	9.40	-.5324	.10	10.77	-.6292	-.6292	.2142	-.0558	8.57	7.20	.3176	.51	6.50	-.1535
72	.32	9.97	-.5529	.07	11.06	-.6453	-.6453	.2171	-.0595	9.63	7.03	.3214	.44	6.38	-.1844

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
	14.25	7.29	.2425	-2.26	6.81				564				14.35	-2.71	
12	.08	5.14	-.3335	.03	4.58	-.3368	-.3368	.1105	.0190	7.91	6.86	.2577	.22	6.40	-.0980
24	.12	5.82	-.3671	.06	6.02	-.4414	-.4414	.0945	.0440	8.14	6.75	.2672	.59	6.08	-.1182
36	.15	6.93	-.4390	.08	7.26	-.5249	-.5249	.1545	.0133	8.13	6.52	.2689	.51	5.76	-.1510
48	.16	7.40	-.4677	.09	7.97	-.5711	-.5711	.1565	.0211	8.14	6.41	.2815	.63	5.54	-.1599
60	.19	8.00	-.5101	.08	8.50	-.6074	-.6074	.1763	-.0037	8.04	6.24	.2855	.43	5.36	-.1656
72	.21	8.22	-.5256	.06	8.83	-.6272	-.6272	.1592	.0072	7.98	6.18	.3051	.41	5.25	-.1584

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG X = U(AT T)
 MONTH OF RECORD - FEBRUARY Y = V(AT T)
 PERIOD OF RECORD - 1/65 - 12/74 XP = U(AT T + DT) - U(AT T)
 ALPHA ANGLE - 90.0 YP = V(AT T + DT) - V(AT T)

ALTIITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	10.58	6.32	.2277	-2.23	5.49	564														
12	.09	4.79	-.3534	-.3417	-.1346	.1022	.00	3.78	-.1346	-.3417	-.0310	-.0310	-.0310	-.0310	-.0310	5.81	5.89	.2717	-.23	5.15
24	.10	5.38	-.4045	-.4372	-.0728	.1380	.04	4.83	-.0728	-.4372	-.0612	-.0612	-.0612	-.0612	-.0612	5.80	5.73	.2912	-.26	4.90
36	.17	5.98	-.4493	-.4865	-.0331	.1077	.04	5.42	-.0331	-.4865	-.0762	-.0762	-.0762	-.0762	-.0762	5.80	5.61	.3006	-.01	4.77
48	.13	6.33	-.4759	-.5354	.0338	.1053	.04	5.99	.0338	-.5354	-.1298	-.1298	-.1298	-.1298	-.1298	5.89	5.51	.2972	-.25	4.59
60	.15	6.83	-.5129	-.5728	.0463	.1082	.03	6.44	.0463	-.5728	-.1372	-.1372	-.1372	-.1372	-.1372	5.89	5.37	.3162	-.26	4.44
72	.20	7.12	-.5314	-.5966	.0662	.0741	-.01	6.71	.0662	-.5966	-.1243	-.1243	-.1243	-.1243	-.1243	5.88	5.32	.3187	.02	4.36

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	10.77
GIVEN Y	-2.67

ALTIITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	7.35	5.90	.2566	-2.25	4.45	564														
12	.06	3.95	-.3334	-.3669	-.0260	.0723	.01	3.22	-.3669	-.0260	-.0558	-.0558	-.0558	-.0558	-.0558	3.89	5.55	.2945	-.38	4.13
24	.05	4.59	-.3926	-.4252	-.0685	.1252	.06	3.75	-.4252	-.0685	-.0616	-.0616	-.0616	-.0616	-.0616	3.86	5.40	.3262	-.20	4.00
36	.06	5.13	-.4317	-.4734	-.0270	.1181	.07	4.16	-.4734	-.0270	-.0784	-.0784	-.0784	-.0784	-.0784	3.93	5.29	.3379	-.20	3.89
48	.05	5.47	-.4618	-.5087	.0240	.1077	.08	4.54	.0240	-.5087	-.0998	-.0998	-.0998	-.0998	-.0998	3.92	5.20	.3468	-.15	3.79
60	.06	5.99	-.4990	-.5512	.0272	.1068	.09	4.91	.0272	-.5512	-.1012	-.1012	-.1012	-.1012	-.1012	3.95	5.08	.3572	-.19	3.67
72	.07	6.22	-.5159	-.5713	.0720	.0720	.06	5.11	.0720	-.5713	-.1140	-.1140	-.1140	-.1140	-.1140	3.94	5.03	.3593	-.27	3.62

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	7.60
GIVEN Y	-2.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)
	4.62	6.05	.2503	-2.11	3.83				564						
12	.01	3.77	-.3201	-.01	3.00	-.3927	-.4224	.0966	.0452	2.39	5.72	.2752	2.39	5.72	-.0961
24	.00	4.03	-.3514	-.02	3.48	-.4402	-.4505	.0204	.1287	2.39	5.63	.3018	2.39	5.63	-.1120
36	.04	4.66	-.3315	.00	3.77	-.4731	-.4934	.0520	.1110	2.46	5.54	.3119	2.46	5.54	-.1147
48	.06	5.11	-.4248	.02	4.03	-.5009	-.5181	.0954	.1051	2.50	5.45	.3211	2.50	5.45	-.1351
60	.12	5.83	-.4518	.01	4.35	-.5373	-.5523	.0261	.1135	2.63	5.37	.3379	2.63	5.37	-.1075
72	.11	6.19	-.4825	.02	4.44	-.5473	-.5715	.0457	.0970	2.58	5.27	.3456	2.58	5.27	-.1084

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)
	2.46	6.28	.2192	-2.00	3.50				564						
12	-.02	4.28	-.3485	.02	2.92	-.4224	-.4224	.0966	-.0036	1.00	5.89	.2444	1.00	5.89	-.0584
24	-.01	4.36	-.3572	.02	3.10	-.4505	-.4505	.0202	.1060	1.26	5.84	.2658	1.26	5.84	-.0873
36	-.00	4.90	-.3387	.06	3.41	-.4934	-.4934	.0437	.0823	1.28	5.75	.2772	1.28	5.75	-.0838
48	-.00	5.01	-.4042	.09	3.50	-.5181	-.5181	.0587	.1036	1.28	5.72	.2794	1.28	5.72	-.1116
60	-.08	5.77	-.4152	.09	3.87	-.5523	-.5523	.0249	.0836	1.41	5.68	.2789	1.41	5.68	-.0940
72	.07	6.16	-.4466	.12	3.96	-.5715	-.5715	.0538	.0871	1.47	5.58	.2784	1.47	5.58	-.1235

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.13	6.72	.1556	-2.29	3.32	564	-.01	3.75	-.03	-.4393	2.91	.26	6.44	.1894	-1.02	2.96
24							.03	-.2846	.06	-.4832	3.21	.46	6.37	.1994	-.92	2.89
36							.10	-.3457	.10	-.5095	3.33	.38	6.29	.2060	-.88	2.84
48							.14	-.3746	.14	-.5459	3.53	.46	6.21	.2230	-.82	2.76
60							.17	-.3923	.17	-.5673	3.68	.42	6.17	.2253	-.81	2.71
72							.20	-.4268	.20	-.5822	3.81	.50	6.05	.2204	-.78	2.66

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 1.50
 GIVEN Y -2.45

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.34	7.08	.1576	-2.11	3.29	564	-.03	4.05	-.00	-.4332	2.80	-.26	6.78	.1875	-.95	2.96
24							.02	-.3158	.02	-.4620	3.01	.05	6.70	.1873	-.84	2.88
36							.05	-.3233	.05	-.4928	3.20	.12	6.68	.1855	-.86	2.84
48							.06	-.3560	.06	-.5519	3.56	.15	6.61	.1987	-.86	2.72
60							.12	-.3777	.12	-.5612	3.61	.02	6.54	.2078	-.81	2.69
72							.16	-.3858	.16	-.5917	3.82	-.07	6.52	.1996	-.79	2.62

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 1.33
 GIVEN Y -2.19

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANZENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.07	7.71	.1225	-1.97	3.50	564				1.30	-1.96					
12	-.03	4.09	-.2735	-.4172	.0266	.0248	-.0325	7.41	.1323	-.44	3.17	-.44	7.41	.1323	-.91	3.17
24	-.02	4.40	-.2333	-.4700	.0515	.0719	-.1037	7.34	.1231	-.18	3.06	-.18	7.34	.1231	-.83	3.06
36	-.01	4.54	-.3194	-.5234	.0569	.0445	-.0820	7.29	.1283	-.35	2.97	-.35	7.29	.1283	-.86	2.97
48	.01	5.11	-.3523	-.5686	.0803	.0326	-.0920	7.20	.1273	-.35	2.85	-.35	7.20	.1273	-.85	2.85
60	.08	5.49	-.3823	-.5821	.0628	.0407	-.0835	7.16	.1305	-.28	2.81	-.28	7.16	.1305	-.84	2.81
72	.13	5.88	-.3954	-.6124	.0348	.0493	-.0759	7.11	.1413	-.26	2.75	-.26	7.11	.1413	-.83	2.75

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-.13	8.56	.1103	-1.90	3.57	564				1.40	-1.88					
12	.03	3.92	-.2418	-.4189	-.0463	.0254	-.0011	8.30	.1273	-.80	3.24	-.80	8.30	.1273	-.93	3.24
24	.05	4.34	-.2687	-.4831	.0271	.0761	-.0739	8.22	.1176	-.51	3.11	-.51	8.22	.1176	-.80	3.11
36	.07	4.63	-.2957	-.5134	.0338	.0813	-.0737	8.15	.1218	-.53	3.04	-.53	8.15	.1218	-.79	3.04
48	.07	5.18	-.3198	-.5709	.0544	.0439	-.0728	8.03	.1183	-.53	2.92	-.53	8.03	.1183	-.82	2.92
60	.14	5.65	-.3346	-.5967	.0321	.0574	-.0735	8.00	.1222	-.51	2.85	-.51	8.00	.1222	-.81	2.85
72	.18	6.06	-.3484	-.6250	.0172	.0580	-.0656	8.01	.1323	-.51	2.78	-.51	8.01	.1323	-.80	2.78

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - FEBRUARY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
	.40	9.66	.1468	-1.80	4.02	564												2.18	-1.81
12	.00	4.20	-.2233	.01	3.27	-.4196													
24	.02	4.69	-.2480	-.01	3.70	-.4867													
36	.01	5.07	-.2700	.01	3.97	-.5251													
48	-.04	5.70	-.3059	.04	4.34	-.5759													
60	.04	6.11	-.3134	.08	4.49	-.5966													
72	.04	6.52	-.3251	.16	4.76	-.6302													

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
	1.58	11.30	.1503	-1.69	4.38	564												3.49	-1.70
12	.00	4.75	-.2198	.00	3.46	-.4099													
24	-.01	5.25	-.2364	-.00	3.98	-.4740													
36	-.01	5.90	-.2594	.03	4.41	-.5273													
48	-.05	6.68	-.2924	.09	4.80	-.5752													
60	.01	7.15	-.2976	.12	4.69	-.5867													
72	.01	7.53	-.3070	.19	5.16	-.6127													

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KP	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
2	1/65 - 12/74	1	90.0	.63	3.05	-.5499	-.78	3.49	564
2	1/65 - 12/74	1	90.0	.23	4.28	-.1941	-1.60	7.38	564
2	1/65 - 12/74	1	90.0	2.24	5.25	-.1149	-2.02	8.58	564
2	1/65 - 12/74	1	90.0	4.96	6.60	-.0159	-2.87	9.70	564
2	1/65 - 12/74	1	90.0	7.48	8.05	.0041	-3.14	10.85	564
2	1/65 - 12/74	1	90.0	9.70	9.39	.0215	-3.18	11.80	564
2	1/65 - 12/74	6	90.0	11.69	10.59	.0738	-3.20	12.91	564
2	1/65 - 12/74	7	90.0	13.87	12.12	.1126	-3.38	14.21	564
2	1/65 - 12/74	8	90.0	16.25	13.67	.1636	-3.75	15.40	564
2	1/65 - 12/74	9	90.0	18.84	15.55	.1818	-4.15	16.52	564
2	1/65 - 12/74	10	90.0	21.43	17.55	.2131	-4.34	17.44	564
2	1/65 - 12/74	11	90.0	24.40	18.63	.2311	-4.08	17.10	564
2	1/65 - 12/74	12	90.0	26.28	17.26	.2387	-3.50	15.75	564
2	1/65 - 12/74	13	90.0	25.44	14.65	.2555	-2.88	13.26	564
2	1/65 - 12/74	14	90.0	23.55	12.55	.2388	-2.51	11.53	564
2	1/65 - 12/74	15	90.0	20.49	10.09	.2340	-2.43	9.69	564
2	1/65 - 12/74	16	90.0	17.53	8.52	.2030	-2.22	8.40	564
2	1/65 - 12/74	17	90.0	14.25	7.29	.2425	-2.25	6.81	564
2	1/65 - 12/74	18	90.0	10.58	6.32	.2277	-2.23	5.49	564
2	1/65 - 12/74	19	90.0	7.35	5.90	.2566	-2.25	4.45	564
2	1/65 - 12/74	20	90.0	4.62	5.05	.2503	-2.11	3.83	564
2	1/65 - 12/74	21	90.0	2.46	3.28	.2192	-2.00	3.50	564
2	1/65 - 12/74	22	90.0	1.13	3.72	.1956	-2.29	3.32	564
2	1/65 - 12/74	23	90.0	.34	7.08	.1576	-2.11	3.29	564
2	1/65 - 12/74	24	90.0	.07	7.71	.1225	-1.97	3.50	564
2	1/65 - 12/74	25	90.0	-.13	8.56	.1103	-1.90	3.57	564
2	1/65 - 12/74	26	90.0	.40	9.66	.1468	-1.80	4.02	564
2	1/65 - 12/74	27	90.0	1.58	11.30	.1503	-1.69	4.38	564

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.83	2.78	-0.5733	-1.84	3.48	620	1.84	-1.88									
24	.00	4.43	-0.7979	-0.01	3.95		0.94	1.67	-0.6231	-0.88	2.86		0.94	1.67	-0.6231	-0.88	2.86
36	-0.03	2.77	-0.4932	0.00	3.76		0.92	2.42	-0.6228	-0.86	2.91		0.92	2.42	-0.6228	-0.86	2.91
48	-0.01	4.67	-0.6347	-0.01	4.75		0.92	1.53	-0.5455	-0.85	2.49		0.92	1.53	-0.5455	-0.85	2.49
60	-0.01	3.05	-0.5374	0.01	4.46		0.93	2.34	-0.5780	-0.85	2.62		0.93	2.34	-0.5780	-0.85	2.62
72	-0.02	4.68	-0.6343	0.03	4.94		0.92	1.53	-0.5188	-0.85	2.39		0.92	1.53	-0.5188	-0.85	2.39
	-0.03	3.04	-0.5381	0.02	4.49		0.91	2.34	-0.5830	-0.88	2.60		0.91	2.34	-0.5830	-0.88	2.60

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.13	4.00	-0.0962	-3.35	6.35	620	0.76	-3.53									
24	-0.01	3.97	-0.4968	-0.04	5.06		1.37	3.35	-1.022	-1.38	5.68		1.37	3.35	-1.022	-1.38	5.68
36	-0.07	4.76	-0.5927	-0.07	6.92		1.10	3.12	-1.101	-1.40	5.15		1.10	3.12	-1.101	-1.40	5.15
48	-0.02	5.12	-0.6322	-0.05	8.12		0.99	3.04	-1.003	-1.46	4.67		0.99	3.04	-1.003	-1.46	4.67
60	-0.03	5.26	-0.5567	-0.04	8.53		0.91	2.92	-0.792	-1.48	4.51		0.91	2.92	-0.792	-1.48	4.51
72	-0.03	5.29	-0.5278	-0.03	8.78		0.85	2.95	-0.721	-1.49	4.40		0.85	2.95	-0.721	-1.49	4.40
	-0.10	5.36	-0.6743	-0.05	8.67		0.78	2.94	-0.750	-1.52	4.46		0.78	2.94	-0.750	-1.52	4.46

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL
FC XP AND YP

TISTICS

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-0.05	4.29	-0.397	.01	5.53	-0.3803	-3.30	7.48	620	2.45	4.37	-0.693	-0.60	6.80
24	-0.12	5.25	-0.504	.04	8.08	-0.5506				2.07	4.13	-0.760	-0.81	6.07
36	-0.14	6.05	-0.6156	.05	9.42	-0.6071				1.93	3.90	-0.711	-1.07	5.56
48	-0.13	6.23	-0.6449	.05	10.05	-0.6226				1.82	3.80	-0.748	-1.24	5.31
60	-0.10	6.57	-0.6813	.05	10.22	-0.7093				1.78	3.65	-0.759	-1.33	5.25
72	-0.22	6.60	-0.6974	.02	10.07	-0.7015				1.74	3.52	-0.8104	-1.37	5.32

ALTITUDE (KM) - 3

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

TISTICS

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	6.08	6.54	-0.176	-3.51	8.53	3.76	6.03	-0.398	-0.30	7.81
24						3.55	5.73	-0.507	-0.64	7.09
36						3.59	5.30	-0.476	-1.02	6.56
48						3.27	5.26	-0.528	-1.30	6.31
60						3.19	5.08	-0.573	-1.51	6.33
72						3.15	5.00	-0.622	-1.64	6.42

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (53214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	8.62	8.39	.0439	-3.52	9.74	620										
12	-0.08	6.00	-.3584	-3.754	7.28		-0.03	7.28	.1443	-0.3754	7.74	5.23	7.74	.0218	.24	8.92
24	-0.14	6.24	-.4902	-5.432	10.42		.01	10.42	.1230	-5.432	7.23	4.88	7.23	.0103	-.37	8.07
36	-0.17	9.41	-.5589	-6.859	12.02		.02	12.02	.0859	-6.859	6.92	4.65	6.92	.0122	-1.02	7.53
48	-0.14	10.03	-.6015	-12.78	12.78		-.03	12.78	.0533	-12.78	6.68	4.55	6.68	.0137	-1.38	7.22
60	-0.14	10.48	-.6330	-12.88	12.88		-.07	12.88	.0263	-12.88	6.48	4.48	6.48	.0200	-1.64	7.30
72	-0.21	10.73	-.6509	-12.76	12.76		-.13	12.76	.0147	-12.76	6.36	4.39	6.36	.0181	-1.88	7.44

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	11.05	10.20	.0475	-3.60	11.04	620										
12	-0.07	7.37	-.3570	-3.825	8.54		-0.07	8.54	.1187	-3.825	9.42	6.21	9.42	.0349	.01	12.11
24	-0.11	10.34	-.5109	-5.496	12.07		.01	12.07	.1177	-5.496	8.71	5.99	8.71	.0153	-.64	9.15
36	-0.15	11.71	-.5758	-6.265	13.70		.04	13.70	.0780	-6.265	8.30	5.81	8.30	.0234	-1.10	8.57
48	-0.14	12.40	-.6193	-14.63	14.63		.03	14.63	.0372	-14.63	7.98	5.68	7.98	.0384	-1.39	8.20
60	-0.12	12.67	-.6390	-14.81	14.81		.01	14.81	.0265	-14.81	7.84	5.55	7.84	.0330	-1.75	8.23
72	-0.22	12.99	-.6610	-14.63	14.63		-.03	14.63	.0299	-14.63	7.65	5.45	7.65	.0310	-1.92	8.40

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932[4]) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
12	12.19	11.69	.0894	-3.81	12.21	620	7.03	10.84	.0759	-1.91	11.17	11.17	7.04	10.01	.0548	-1.07	10.02	11.17
24							7.04	10.01	.0548	-1.07	10.02	10.02	6.84	9.31	.0509	-1.32	9.31	9.31
36							6.84	9.31	.0509	-1.32	9.31	9.31	6.84	9.31	.0509	-1.32	9.31	9.31
48							6.84	9.31	.0509	-1.32	9.31	9.31	6.84	9.31	.0509	-1.32	9.31	9.31
60							6.72	9.03	.0584	-1.02	8.97	8.97	6.72	9.03	.0584	-1.02	8.97	8.97
72							6.55	8.77	.0611	-0.86	8.64	8.64	6.55	8.77	.0611	-0.86	8.64	8.64

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)
12	15.20	13.05	.1553	-4.11	13.73	620	7.25	14.87	-3.80	14.87	14.87	14.87	7.25	12.16	.1234	-1.52	12.52	14.87
24							7.25	12.16	.1234	-1.52	12.52	12.52	7.25	11.30	.0373	-1.40	11.25	11.30
36							7.25	11.30	.0373	-1.40	11.25	11.25	7.25	10.71	.0531	-1.50	10.44	10.71
48							7.25	10.71	.0531	-1.50	10.44	10.44	7.25	10.37	.1112	-1.62	9.90	10.37
60							7.25	10.37	.1112	-1.62	9.90	9.90	7.25	10.15	.1134	-1.91	9.34	10.15
72							7.59	9.89	.1034	-2.18	10.20	10.20	7.59	9.89	.1034	-2.18	10.20	9.89

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	17.17	14.48	.1792	-4.39	15.17	620										
24																
36																
48																
60																
72																

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.86	-4.02

ALTIITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	19.07	15.33	.2137	-4.65	16.56	620										
24																
36																
48																
60																
72																

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.73	-4.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (192214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (MM) - 10

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	P (XP, Y)	MEAN YP	S.D. YP	R (XP, Y)
12		21.43	15.64	.2276	-4.66	17.35		11.01	14.79	-.0831	11.44	14.73	.2106
24		.06	10.66	-.3244	-4.062	3331	-.1714	11.21	13.83	-.1764	11.59	13.83	.1764
36		.20	14.89	-.4633	-5.749	3542	-.2193	11.18	13.19	-.1640	11.53	13.19	.1697
48		.30	17.18	-.5775	-7.000	3141	-.2293	11.17	12.74	-.1577	11.57	12.74	.1650
60		.39	18.23	-.6737	-7.615	2819	-.2212	11.16	12.34	-.1722	11.61	12.34	.1711
72		.42	19.16	-.742	-8.374	2598	-.1990	10.91	12.04	-.1585	11.60	12.04	.1633

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
21.06	-4.14	11.01	14.79	.2106	11.44	14.73

ALTITUDE (MM) - 11

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	P (XP, Y)	MEAN YP	S.D. YP	R (XP, Y)
12		23.72	15.07	.2201	-4.44	16.60		11.44	14.73	-.0831	11.44	14.73	.2106
24		.03	9.69	-.3240	-3.924	3247	-.2074	11.59	13.83	-.1764	11.59	13.83	.1764
36		.10	13.80	-.4394	-5.514	3266	-.2477	11.53	13.19	-.1600	11.53	13.19	.1697
48		.17	16.01	-.5198	-6.612	3203	-.2678	11.52	12.66	-.1476	11.52	12.66	.1537
60		.20	17.33	-.5854	-7.697	2875	-.2483	11.44	12.42	-.1457	11.44	12.42	.1457
72		.22	18.15	-.6365	-8.319	2649	-.2181	11.44	12.03	-.1576	11.44	12.03	.1576

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
23.92	-3.96	11.44	14.73	.2081	11.44	14.73

ORIGINAL PAGE IS
 OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	25.02	13.84	.1946	-3.56	15.06	620						25.08			-3.27	
12	.01	8.46	-.2881	.00	10.60		.00	10.60	.2518	-.3452		11.69	13.18	.1858	-8.00	14.00
24	.00	12.16	-.4244	-.05	16.24		-.05	16.24	.2941	-.5317		11.97	12.49	.1573	-5.85	12.63
36	-.00	14.23	-.5104	-.08	19.43		-.08	19.43	.2891	-.6431		12.05	11.88	.1265	-4.79	11.43
48	.06	15.56	-.5591	-.10	21.01		-.10	21.01	.2496	-.6962		12.30	11.47	.1220	-4.26	10.73
60	.09	16.32	-.5875	-.06	21.29		-.06	21.29	.2171	-.7051		12.45	11.20	.1245	-3.88	10.61
72	.04	16.84	-.6104	-.06	21.13		-.06	21.13	.1902	-.7003		12.37	10.96	.1264	-3.96	10.67

ALTITUDE (KM) - 13

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	24.75	11.79	.1699	-2.74	12.93	620						25.02			-2.54	
12	-.03	6.81	-.2707	.00	8.66		.00	8.66	.1590	-.3295		12.05	11.30	.1667	-7.83	12.09
24	-.04	9.57	-.3971	-.03	13.51		-.03	13.51	.2421	-.5180		11.63	10.77	.1399	-6.32	10.92
36	-.00	11.59	-.4933	-.02	16.35		-.02	16.35	.2301	-.6349		11.73	10.23	.1185	-4.67	9.89
48	-.00	12.73	-.5461	-.03	17.85		-.03	17.85	.2066	-.6958		11.91	9.87	.1084	-3.80	9.21
60	.00	13.40	-.5766	-.03	18.24		-.03	18.24	.1765	-.7096		11.99	9.63	.1065	-3.60	9.04
72	-.01	13.87	-.5991	-.05	18.17		-.05	18.17	.1466	-.7044		12.00	9.44	.1015	-3.55	9.11

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	R (YP,X)	MEAN YP	S.D. YP
12	-.02	6.31	-.2994	.02	7.35	-.3332	-.3332	1.429	-.1480	11.02	.0350	11.02	9.83
24	-.14	8.41	-.4173	.01	11.11	-.5073	-.5073	.2300	-.2233	10.40	-.0239	10.40	9.35
36	-.16	9.93	-.5004	.01	13.46	-.6133	-.6133	.2335	-.2377	10.54	-.0650	10.54	8.93
48	-.14	10.89	-.5492	.00	14.72	-.6789	-.6789	.2477	-.2494	10.59	-.1024	10.59	8.63
60	-.14	11.67	-.5888	.01	15.09	-.6935	-.6935	.2420	-.2514	10.65	-.1153	10.65	8.35
72	-.20	12.13	-.6116	-.00	15.10	-.6946	-.6946	.2281	-.2395	10.75	-.1302	10.75	8.18

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	R (YP,X)	MEAN YP	S.D. YP
12	-.01	5.44	-.3080	-.04	6.00	-.3256	-.3256	.0803	-.0877	10.19	.0102	10.19	8.20
24	-.05	6.91	-.4334	-.05	8.86	-.4999	-.4999	.1939	-.1939	9.80	-.0501	9.80	7.89
36	-.02	8.11	-.4752	.05	10.78	-.5991	-.5991	.2112	-.1892	9.93	-.0819	9.93	7.59
48	-.08	9.06	-.5368	-.03	11.76	-.6567	-.6567	.2224	-.2117	9.75	-.1083	9.75	7.28
60	-.06	9.71	-.5745	-.00	12.27	-.6848	-.6848	.2321	-.2014	9.65	-.1176	9.65	7.05
72	-.10	10.05	-.5977	.02	12.22	-.6842	-.6842	.1990	-.2018	9.82	-.1330	9.82	6.92

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	18.03	7.83	.1355	-1.18	7.52	620				18.85	-1.18					
12	.01	5.14	-.3173	-.3425	5.33		-.02	5.33	.0492	-.3425		8.97	7.42	.1387	-.72	7.06
24	-.01	6.16	-.3848	-.4868	7.50		-.03	7.50	.1559	-.4868		8.89	7.23	.1197	-.72	6.57
36	.03	7.19	-.4468	-.5920	9.05		-.02	9.05	.1908	-.5920		8.90	7.00	.0970	-1.16	6.05
48	-.03	7.98	-.5041	-.6566	9.98		-.01	9.98	.2135	-.6566		8.79	6.76	.0591	-1.25	5.66
60	.04	8.46	-.5384	-.6896	10.46		.00	10.46	.1958	-.6896		8.76	6.60	.0399	-1.32	5.43
72	-.02	8.83	-.5657	-.6972	10.60		.02	10.60	.1723	-.6972		8.61	6.46	.0360	-1.72	5.36

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	15.26	7.30	.0862	-.36	6.58	620				16.15	-1.40					
12	.01	4.99	-.3403	-.3586	4.81		-.02	4.81	.0194	-.3586		7.33	6.85	.0909	-.01	6.14
24	-.06	5.98	-.4142	-.4953	6.59		.01	6.59	.1147	-.4953		7.21	6.64	.0763	-.07	5.71
36	-.06	6.57	-.4594	-.5955	7.87		.01	7.87	.1753	-.5955		7.03	6.48	.0423	-.77	5.28
48	-.02	7.11	-.4963	-.6506	8.57		.04	8.57	.1966	-.6506		7.00	6.33	.0084	-1.30	4.99
60	.01	7.49	-.5213	-.6825	9.02		.04	9.02	.1669	-.6825		7.08	6.23	-.0082	-1.46	4.79
72	-.03	7.77	-.5454	-.6884	9.14		.05	9.14	.1497	-.6884		6.98	6.12	-.0202	-1.68	4.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.78	6.40	.0414	-1.20	5.01	620											
12	-.03	4.51	-.3639	.01	3.72		-.3726	.0135	.0434	-.0441	5.31	.0494	5.31	5.95	.0494	.18	4.65
24	-.04	5.25	-.4183	.00	4.69		-.4701	.1280	.0021	-.1048	5.49	.0222	5.49	5.80	.0222	.27	4.41
36	-.08	5.67	-.4582	.01	5.70		-.5726	.1451	-.0419	-.0958	5.23	.0072	5.23	5.88	.0072	-.02	4.10
48	-.03	5.98	-.4654	.03	6.24		-.6282	.1589	-.0674	-.1095	5.27	-.0175	5.27	5.99	-.0175	-.13	3.90
60	-.04	6.35	-.5199	.03	6.55		-.6509	.1586	-.0937	-.1147	5.22	-.0448	5.22	5.46	-.0448	-.37	3.76
72	-.07	6.55	-.5377	.05	6.74		-.6774	.1037	-.0917	-.0831	5.15	-.0425	5.15	5.39	-.0425	-.70	3.69

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
GIVEN Y

12.70 -1.37

ALTITUDE (KM) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	8.65	6.09	.0253	-1.26	4.18	620											
12	-.02	4.03	-.3357	-.03	3.27		-.3877	.0423	.0204	-.0564	3.97	.0182	3.97	5.73	.0182	-.25	3.85
24	-.02	4.35	-.3654	-.04	3.88		-.4604	.0741	.0517	-.1076	4.17	.0082	4.17	5.55	.0082	.16	3.70
36	-.05	4.87	-.4123	-.01	4.50		-.5349	.0823	.0040	-.0854	3.89	-.0009	3.89	5.54	-.0009	-.21	3.53
48	-.03	5.11	-.4400	-.01	4.92		-.5899	.0858	-.0126	-.0934	3.83	-.0183	3.83	5.45	-.0183	-.30	3.37
60	-.05	5.41	-.4735	-.02	5.21		-.6190	.0974	-.0402	-.0959	3.71	-.0356	3.71	5.36	-.0356	-.46	3.28
72	-.07	5.64	-.4953	.02	5.47		-.6470	.1118	-.0916	-.0881	3.60	-.0624	3.60	5.27	-.0624	-.74	3.19

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X
GIVEN Y

9.46 -1.33

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.00	4.29	-.3471	.00	3.30	-.4361	2.91	5.84	.1094	-1.38	3.83	620	2.91	5.84	.0028	-1.15	3.43
24	.01	4.67	-.3822	.03	3.57	-.4935	2.93	5.75	.1095	-1.38	3.83	620	2.93	5.75	-.0057	-.01	3.33
36	-.04	4.97	-.4182	.05	4.03	-.5499	2.79	5.65	.0809	-1.38	3.83	620	2.79	5.65	-.0210	-.15	3.18
48	-.03	5.19	-.4407	.04	4.25	-.5796	2.76	5.58	.0662	-1.38	3.83	620	2.76	5.58	-.0346	-.21	3.11
60	-.02	5.32	-.4853	.06	4.49	-.6149	2.42	5.44	.0352	-1.38	3.83	620	2.42	5.44	-.0426	-.20	3.01
72	-.12	5.47	-.5066	.07	4.56	-.6229	2.31	5.37	.0186	-1.38	3.83	620	2.31	5.37	-.0495	-.32	2.99

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.07	4.48	-.3416	-.02	3.29	-.4704	1.85	6.31	.0840	-1.27	3.48	620	1.85	6.31	-.0497	-.37	3.05
24	.08	4.91	-.3772	.01	3.41	-.4936	1.97	6.21	.0851	-1.27	3.48	620	1.97	6.21	-.0703	-.22	3.02
36	.03	5.37	-.4159	.00	3.69	-.5544	1.86	6.10	.0573	-1.27	3.48	620	1.86	6.10	-.0757	-.41	2.89
48	.10	5.60	-.4373	.01	4.19	-.5941	1.84	6.04	.0677	-1.27	3.48	620	1.84	6.04	-.0767	-.39	2.79
60	.02	5.43	-.4684	.03	4.30	-.6126	1.49	5.93	.0420	-1.27	3.48	620	1.49	5.93	-.0823	-.33	2.74
72	.03	5.54	-.4870	.03	4.37	-.6220	1.39	5.87	.0371	-1.27	3.48	620	1.39	5.87	-.0775	-.44	2.72

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.05	3.51	-.2839	-.01	2.84	-.4629	-1.07	3.08	.0276	.0034	.89	6.78	.0071	-.40	2.73
24	.06	4.17	-.3136	-.02	3.17	-.5101			.0917	-.0553	1.01	6.71	.0024	-.17	2.63
36	.08	4.62	-.3463	-.00	3.67	-.5667			.0734	-.0421	.93	6.63	.0014	-.27	2.48
48	.08	5.05	-.3788	.01	3.84	-.6117			.0322	-.0445	.97	6.54	-.0096	-.33	2.43
60	.06	5.27	-.3973	.02	4.04	-.6389			.0021	-.0165	.87	6.49	-.0080	-.44	2.37
72	.12	5.59	-.4281	.01	4.09	-.6459			-.0371	-.0210	.86	6.39	-.0235	-.49	2.35

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.07	4.07	-.2777	.03	3.02	-.4707	-1.07	3.08	-.0034	.0255	.56	7.53	.1362	-.49	2.86
24	.08	4.33	-.3034	.03	3.38	-.5302			.0507	-.0352	.61	7.46	.1336	-.22	2.74
36	.08	4.67	-.3320	.05	3.75	-.5863			.0223	-.0225	.52	7.39	.1448	-.39	2.63
48	.11	5.05	-.3581	.07	4.11	-.6423			-.0320	-.0215	.54	7.32	.1305	-.39	2.48
60	.11	5.29	-.3854	.08	4.35	-.6805			-.0434	-.0642	.49	7.23	.1442	-.47	2.37
72	.17	5.54	-.4029	.08	4.38	-.6831			-.1034	-.0115	.45	7.17	.1278	-.57	2.35

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	3.30	8.74	.1927	-.54	3.29		620						4.95	-.52
12	.07	3.80	-.2277	.01	3.18	-.4829	-.0440	-.0307	.0243	.73	8.51	.2264	-.49	2.88
24	.05	4.26	-.2593	.04	3.59	-.5547	.0163	.0235	-.0271	.74	8.44	.2318	-.13	2.74
36	.07	4.64	-.2814	.06	3.93	-.6039	.0509	-.0647	-.0114	.71	8.38	.2305	-.37	2.62
48	.12	5.17	-.3199	.07	4.35	-.6680	.0505	-.0816	-.0106	.68	8.28	.2421	-.39	2.44
60	.14	5.61	-.3556	.08	4.52	-.6917	.0898	-.1379	-.0059	.59	8.16	.2393	-.47	2.38
72	.15	5.81	-.3771	.08	4.76	-.7282	.0814	-.1793	-.0154	.50	8.08	.2536	-.57	2.28

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

202

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	3.68	9.65	.2329	-.30	3.29		620						5.63	-.22
12	.03	4.08	-.2181	-.00	3.25	-.4976	-.0788	-.0150	.0262	.79	9.43	.2772	-.44	2.84
24	.07	4.50	-.2495	-.02	3.61	-.5550	.0056	-.0563	.0084	.69	9.36	.2790	-.42	2.73
36	.13	5.11	-.2829	-.02	4.01	-.6129	.0228	-.0909	-.0095	.72	9.27	.2876	-.48	2.58
48	.18	5.47	-.3144	-.03	4.32	-.6655	.0620	-.1451	-.0111	.63	9.17	.2843	-.55	2.43
60	.21	6.04	-.3509	-.03	4.59	-.7042	.0696	-.1785	-.0142	.59	9.04	.3019	-.59	2.29
72	.24	6.37	-.3763	-.02	4.74	-.7259	.1019	-.2526	-.0222	.53	8.93	.2944	-.71	2.18

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (9324) - VANDENBERG
 MONTH OF RECORD - MARCH
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (Y, YP)	R (X, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	4.43	0.36	.3258	-0.18	3.27	0															
12	.07	4.28	-.2200	.01	3.00		-.4587	3.00	-.0619	-.0371		-.0370				.97	10.10	.3861	-.45	2.89	
24	.14	4.71	-.2526	-.00	3.50		-.5371	3.50	-.0127	-.0542		-.0169				.84	10.02	.3925	-.40	2.75	
36	.22	5.46	-.2955	-.02	3.91		-.5997	3.91	-.0319	-.1424		-.0156				.84	9.89	.3992	-.55	2.59	
48	.30	6.99	-.3313	-.02	4.21		-.6468	4.21	-.0745	-.1870		-.0156				.79	9.76	.4095	-.62	2.45	
60	.32	6.43	-.3607	-.03	4.37		-.6718	4.37	-.1119	-.2423		-.0195				.71	9.64	.4132	-.68	2.36	
72	.41	7.00	-.3958	-.03	4.61		-.7066	4.61	-.1062	-.2564		-.0192				.74	9.49	.4251	-.68	2.23	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 6.59
 GIVEN Y -0.11

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (Y, YP)	R (X, Y)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	5.63	11.39	.4227	.04	3.57	620															
12	.06	4.36	-.2029	.01	2.85		-.4114	2.85	-.0982	-.0397		-.0397				1.46	11.15	.4717	-.72	3.23	
24	.14	5.19	-.2555	.01	3.49		-.4993	3.49	-.0283	-.1444		-.0219				1.21	11.00	.4869	-.66	3.06	
36	.22	5.94	-.3010	-.01	4.07		-.5801	4.07	-.0309	-.2105		-.0245				1.10	10.85	.5109	-.79	2.85	
48	.30	6.52	-.3400	-.03	4.45		-.6343	4.45	-.1249	-.2661		-.0246				.98	10.68	.5306	-.85	2.67	
60	.34	7.24	-.3832	-.03	4.69		-.6679	4.69	-.1597	-.3011		-.0185				.90	10.48	.5421	-.91	2.56	
72	.44	7.89	-.4168	-.05	4.78		-.6845	4.78	-.1712	-.2955		-.0037				.99	10.32	.5370	-.69	2.52	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 8.00
 GIVEN Y .17

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (92214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
3	1/65 - 12/74	0	90.0	1.83	2.78	-.5703	-1.84	3.48	620
3	1/65 - 12/74	1	90.0	1.13	4.00	-.0862	-3.35	6.35	620
3	1/65 - 12/74	2	90.0	3.21	5.00	-.0330	-3.30	7.48	620
3	1/65 - 12/74	3	90.0	6.08	6.64	-.0176	-3.51	8.53	620
3	1/65 - 12/74	4	90.0	8.62	8.39	.0439	-3.52	9.74	620
3	1/65 - 12/74	5	90.0	11.05	10.20	.0475	-3.60	11.04	620
3	1/65 - 12/74	6	90.0	13.19	11.69	.0894	-3.81	12.21	620
3	1/65 - 12/74	7	90.0	15.20	13.06	.1363	-4.11	13.73	620
3	1/65 - 12/74	8	90.0	17.17	14.48	.1792	-4.39	15.17	620
3	1/65 - 12/74	9	90.0	19.07	15.33	.2137	-4.65	16.56	620
3	1/65 - 12/74	10	90.0	21.43	15.64	.2276	-4.66	17.35	620
3	1/65 - 12/74	11	90.0	23.72	15.07	.2201	-4.44	16.60	620
3	1/65 - 12/74	12	90.0	25.02	13.84	.1946	-3.56	15.06	620
3	1/65 - 12/74	13	90.0	24.75	11.79	.1699	-2.74	12.93	620
3	1/65 - 12/74	14	90.0	23.32	10.34	.2158	-1.90	10.95	620
3	1/65 - 12/74	15	90.0	20.81	8.33	.1693	-1.51	8.92	620
3	1/65 - 12/74	16	90.0	18.03	7.83	.1355	-1.18	7.52	620
3	1/65 - 12/74	17	90.0	15.26	7.30	.0862	-1.36	6.58	620
3	1/65 - 12/74	18	90.0	11.78	6.40	.0414	-1.20	5.01	620
3	1/65 - 12/74	19	90.0	8.65	6.09	.0253	-1.26	4.18	620
3	1/65 - 12/74	20	90.0	6.44	6.24	-.0061	-1.38	3.83	620
3	1/65 - 12/74	21	90.0	4.60	6.72	-.0538	-1.27	3.48	620
3	1/65 - 12/74	22	90.0	3.12	7.07	-.0003	-1.07	3.08	620
3	1/65 - 12/74	23	90.0	2.90	7.84	.1132	-.86	3.24	620
3	1/65 - 12/74	24	90.0	3.30	8.74	.1927	-.54	3.29	620
3	1/65 - 12/74	25	90.0	3.68	9.66	.2329	-.30	3.29	620
3	1/65 - 12/74	26	90.0	4.43	10.36	.3258	-.18	3.27	620
3	1/65 - 12/74	27	90.0	5.63	11.39	.4227	.04	3.57	620

c-4

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	2.22	2.80	-.6305	-2.39	3.24	600															
12	-.01	4.50	-.8054	.00	3.79	-.5952	-.6526	.4102	.5007	1.18	1.66	-.6614	1.14	2.60	1.14	1.14	1.14	1.14	1.14	1.14	1.14
24	-.00	2.41	-.4375	-.01	3.36	-.5344	-.4789	.2746	.2043	1.14	2.51	-.6753	1.14	2.73	1.14	1.14	1.14	1.14	1.14	1.14	1.14
36	-.02	4.67	-.8332	-.03	4.48	-.7059	-.6541	.4639	.5452	1.14	1.92	-.6331	1.14	2.29	1.14	1.14	1.14	1.14	1.14	1.14	1.14
48	-.02	2.73	-.4951	-.02	4.03	-.6393	-.5506	.3813	.2529	1.14	2.43	-.6802	1.14	2.49	1.14	1.14	1.14	1.14	1.14	1.14	1.14
60	-.03	4.74	-.8526	-.00	4.63	-.7334	-.6749	.4950	.5698	1.14	1.46	-.5984	1.14	2.20	1.14	1.14	1.14	1.14	1.14	1.14	1.14
72	-.01	2.83	-.5159	.00	4.04	-.6440	-.5930	.3957	.2925	1.13	2.40	-.6638	1.13	2.48	1.13	1.13	1.13	1.13	1.13	1.13	1.13

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	2.13
GIVEN Y	-2.22

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	1.31	3.99	-.0877	-4.01	5.68	600															
12	-.02	4.20	-.5277	-.02	4.84	-.4266	-.0569	.1338	-.2293	1.27	3.30	-.1412	1.27	5.06	1.27	1.27	1.27	1.27	1.27	1.27	1.27
24	-.04	4.68	-.5944	-.05	5.14	-.5499	-.1005	.2380	-.1235	1.04	3.13	-.0684	1.04	4.63	1.04	1.04	1.04	1.04	1.04	1.04	1.04
36	-.08	5.43	-.6956	-.02	7.10	-.6629	-.0016	.1256	-.1183	.82	2.83	-.1492	.82	4.19	.82	.82	.82	.82	.82	.82	.82
48	-.12	5.30	-.6839	.04	7.64	-.6972	-.1009	.1329	.0157	.55	2.91	-.0628	.55	4.11	.55	.55	.55	.55	.55	.55	.55
60	-.10	5.61	-.7233	.09	7.98	-.7170	-.0274	.0469	.0028	.60	2.76	-.1371	.60	3.95	.60	.60	.60	.60	.60	.60	.60
72	-.06	5.39	-.7029	.17	7.77	-.7030	-.1330	.1200	.0697	.63	2.84	-.0396	.63	4.03	.63	.63	.63	.63	.63	.63	.63

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	1.34
GIVEN Y	-3.79

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (M) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	P (XP,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)	MEAN YP	S.D. YP	
12	-06	8.81	-.3822	.01	10.11	.0178	-.3822	9.78	.699	-.1797	7.56	10.92	1.64	12.21	12	7.56	10.92	.164	1.28	12.21	7.56	10.92	1.28	12.21
24	-19	11.84	-.4930	-.01	14.26	.0626	-.5371	10.03	.826	-.2323	7.47	10.03	1.751	10.97	24	7.47	10.03	.1751	1.03	10.97	7.47	10.03	1.03	10.97
35	-.30	13.50	-.5723	.05	16.63	.0518	-.6253	9.18	.637	-.2126	7.26	9.18	2.003	10.15	35	7.26	9.18	.2003	.39	10.15	7.26	9.18	.39	10.15
48	-48	14.83	-.6311	.25	17.98	.0892	-.6854	8.97	.497	-.1914	7.04	8.97	1.964	9.81	48	7.04	8.97	.1964	-.50	9.81	7.04	8.97	-.50	9.81
60	-.63	15.83	-.6522	.42	17.97	.1120	-.6835	8.57	.357	-.1821	6.91	8.57	1.833	9.69	60	6.91	8.57	.1833	-.71	9.69	6.91	8.57	-.71	9.69
72	-.71	15.12	-.6824	.61	17.57	.0942	-.6833	8.22	.222	-.1377	6.75	8.22	1.985	9.76	72	6.75	8.22	.1985	-1.08	9.76	6.75	8.22	-1.08	9.76

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

..... ALTITUDE (M) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	P (XP,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP				
12	-09	9.14	-.3534	-.03	11.33	.0516	-.3822	10.19	.650	-.1650	8.55	12.20	1.992	13.63	12	8.55	12.20	.1992	1.76	13.63	8.55	12.20	1.76	13.63
24	-.25	12.48	-.4812	-.03	15.92	.1119	-.4392	11.19	.429	-.2293	8.51	11.33	2.051	12.29	24	8.51	11.33	.2051	1.45	12.29	8.51	11.33	1.45	12.29
35	-.44	14.56	-.5523	.04	18.33	.1023	-.6197	10.23	.437	-.2131	8.27	10.75	2.209	11.48	35	8.27	10.75	.2209	.51	11.48	8.27	10.75	.51	11.48
48	-.66	15.12	-.6208	.27	19.22	.1317	-.6577	9.45	.353	-.1862	8.04	10.23	2.213	11.12	48	8.04	10.23	.2213	-.22	11.12	8.04	10.23	-.22	11.12
60	-.81	17.12	-.6990	.43	19.61	.1565	-.6731	9.04	.249	-.1574	7.92	9.85	2.110	10.96	60	7.92	9.85	.2110	-.56	10.96	7.92	9.85	-.56	10.96
72	-.93	17.58	-.6752	.63	19.49	.1445	-.6753	8.45	.159	-.1159	7.68	9.69	2.252	11.01	72	7.68	9.69	.2252	-1.11	11.01	7.68	9.69	-1.11	11.01

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (322.11) - VAN DERBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 50.0

ALTITUDE (M) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	CP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	24	21.27	15.02	.2273	-4.02	17.42	600					
12	24	-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54
24	36	-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54
36	48	-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54
48	60	-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54
60	72	-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54
72		-1.22	14.22	3.77	17.11	17.22	600	15.32	17.54	.3555	15.32	17.54

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	CP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	24	15.32	17.54	.3555	15.32	17.54
24	36	15.32	17.54	.3555	15.32	17.54
36	48	15.32	17.54	.3555	15.32	17.54
48	60	15.32	17.54	.3555	15.32	17.54
60	72	15.32	17.54	.3555	15.32	17.54
72		15.32	17.54	.3555	15.32	17.54

ALTITUDE (M) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	CP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	24	23.20	15.23	.2222	-3.53	15.22	600					
12	24	-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47
24	36	-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47
36	48	-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47
48	60	-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47
60	72	-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47
72		-1.22	14.22	3.77	17.11	17.22	600	11.27	11.47	.3161	11.27	11.47

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	CP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	24	11.27	11.47	.3161	11.27	11.47
24	36	11.27	11.47	.3161	11.27	11.47
36	48	11.27	11.47	.3161	11.27	11.47
48	60	11.27	11.47	.3161	11.27	11.47
60	72	11.27	11.47	.3161	11.27	11.47
72		11.27	11.47	.3161	11.27	11.47

BIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 S.I. ON 322.5 - VANDENBERG
 MON. OF RECORD - APRIL
 PERIOD OF RECORD - 1/55 - 12/74
 ALTITUDE ANGLE - 35.1

ALTITUDE (XP) - 12

.....
 BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN Y	S.D. Y	P (1, Y)	MEAN X	S.D. X	P (1, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, Y)	N
	22.8	12.84	.2500	-2.35	15.48	500						
12	-.22	5.84	-.2332	2.7	11.96	-.1187	1.955	11.14	12.82	12.75	1.452	500
24	-.42	12.75	-.4058	1.6	11.22	-.0604	1.132	11.20	12.74	12.74	1.271	500
36	-.62	19.66	-.5454	2	10.22	-.0222	1.71	11.27	19.66	19.66	1.022	500
48	-.82	26.57	-.6272	4.8	8.75	-.0088	1.898	11.31	26.57	26.57	1.008	500
60	-1.02	33.48	-.7052	8.7	6.75	-.0052	1.842	11.32	33.48	33.48	1.005	500
72	-1.22	40.39	-.7688	12.6	4.52	-.0013	1.858	11.34	40.39	40.39	1.001	500

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR YP AND XP

	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
	22.87	12.82	.2500	-1.05	12.82
12	11.14	12.82	1.452	11.14	12.82
24	11.20	12.74	1.271	11.20	12.74
36	11.27	12.74	1.022	11.27	12.74
48	11.31	12.75	1.008	11.31	12.75
60	11.32	12.75	1.005	11.32	12.75
72	11.34	12.75	1.001	11.34	12.75

ALTITUDE (YP) - 12

.....
 BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN Y	S.D. Y	P (1, Y)	MEAN X	S.D. X	P (1, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, Y)	N
	22.8	12.84	.2500	-1.02	12.84	500						
12	-.22	5.84	-.2332	2.37	12.81	-.0287	1.942	11.15	12.81	12.81	1.452	500
24	-.42	12.75	-.4058	1.6	12.06	-.0042	1.132	11.22	12.75	12.75	1.271	500
36	-.62	19.66	-.5454	2	10.22	-.0022	1.71	11.27	19.66	19.66	1.022	500
48	-.82	26.57	-.6272	4.8	8.75	-.0012	1.898	11.31	26.57	26.57	1.008	500
60	-1.02	33.48	-.7052	8.7	6.75	-.0008	1.842	11.32	33.48	33.48	1.005	500
72	-1.22	40.39	-.7688	12.6	4.52	-.0003	1.858	11.34	40.39	40.39	1.001	500

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR YP AND XP

	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
	22.82	12.82	.2500	-1.02	12.82
12	11.15	12.81	1.452	11.15	12.81
24	11.22	12.75	1.271	11.22	12.75
36	11.27	12.75	1.022	11.27	12.75
48	11.31	12.75	1.008	11.31	12.75
60	11.32	12.75	1.005	11.32	12.75
72	11.34	12.75	1.001	11.34	12.75

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (32111) - JANUARY
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/15 - 12/74
 ALPHA ANGLE - 90.0

ALITUDE (M) - 15

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT YP	MEAN XP	S.D. XP	P (1,1P)	MEAN YP	S.D. YP	P (1,1)	MEAN Y	S.D. Y	N	P (YP, Y)	P (YP, X)	MEAN YP	S.D. YP	P (XP, YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP	P (XP, YP)	GIVEN Y	MEAN YP	S.D. YP	
12	-1.08	8.13	-1.2503	1.55	7.32	-1.2337	1.81	7.78	500	-1.2337	-1.2513	7.71	8.13	1.2087	16.19	1.82	7.71	8.13	1.2087	16.19	1.82	7.71	8.13
24	-1.17	8.08	-1.4558	1.13	8.32	-1.4527	1.81	7.78	500	-1.4527	-1.4587	7.54	8.08	1.2775			7.54	8.08	1.2775			7.54	8.08
36	-1.21	8.05	-1.5545	1.13	8.77	-1.5527	1.81	7.78	500	-1.5527	-1.5587	7.50	8.05	1.2833			7.50	8.05	1.2833			7.50	8.05
48	-1.23	8.03	-1.5785	1.27	8.77	-1.5831	1.81	7.78	500	-1.5831	-1.5887	7.44	8.03	1.2833			7.44	8.03	1.2833			7.44	8.03
60	-1.23	8.03	-1.5846	1.37	8.32	-1.5835	1.81	7.78	500	-1.5835	-1.5887	7.38	8.03	1.2833			7.38	8.03	1.2833			7.38	8.03
72	-1.24	8.01	-1.5958	1.43	8.77	-1.5945	1.81	7.78	500	-1.5945	-1.5984	7.37	8.01	1.287			7.37	8.01	1.287			7.37	8.01

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALITUDE (M) - 17

QUADRVARIATE NORMAL STATISTICS OF Y, YP, XP, YP

DT YP	MEAN Y	S.D. Y	P (1,1)	MEAN YP	S.D. YP	P (1,1P)	MEAN XP	S.D. XP	N	P (YP, Y)	P (YP, X)	MEAN XP	S.D. XP	P (YP, XP)	GIVEN Y	GIVEN XP	MEAN XP	S.D. XP	P (YP, XP)	GIVEN XP	MEAN XP	S.D. XP	
12	12.21	5.09	1.087	1.82	5.60	1.087	12.21	5.09	500	1.087	1.132	12.21	5.09	1.087	13.04	1.67	12.21	5.09	1.087	13.04	1.67	12.21	5.09
24	-1.08	4.78	-1.227	1.334	6.23	-1.234	12.21	4.78	500	-1.234	-1.232	12.21	4.78	1.1408			12.21	4.78	1.1408			12.21	4.78
36	-1.17	4.77	-1.4773	1.223	6.24	-1.477	12.21	4.77	500	-1.477	-1.478	12.21	4.77	1.1408			12.21	4.77	1.1408			12.21	4.77
48	-1.19	4.75	-1.5544	1.18	6.24	-1.554	12.21	4.75	500	-1.554	-1.554	12.21	4.75	1.1408			12.21	4.75	1.1408			12.21	4.75
60	-1.23	4.74	-1.6228	1.23	6.24	-1.622	12.21	4.74	500	-1.622	-1.622	12.21	4.74	1.1408			12.21	4.74	1.1408			12.21	4.74
72	-1.24	4.73	-1.6737	1.44	6.24	-1.673	12.21	4.73	500	-1.673	-1.673	12.21	4.73	1.1408			12.21	4.73	1.1408			12.21	4.73

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND XP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
12	10.04	5.43	.0843	.83	5.16	570															
24																					
36																					
48																					
60																					
72																					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.86	1.60

ALTITUDE (M) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	7.01	4.74	.0352	.78	4.13	600														
24																				
36																				
48																				
60																				
72																				

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.87	1.38

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
STATION (193214) - VANDENBERG
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/65 - 12/74
ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	4.54	4.44	.0413	.37	3.43	600						4.56	.87					
12	3.75	4.291	.06	-.4171	-.0394	.0267	.06	2.74	-.4171	-.0394	.0267	2.21	4.01	.0665	2.21	4.01	-.01	3.12
24	3.82	4.251	.09	-.4780	-.0114	.1010	.09	3.10	-.4780	-.0114	.1010	2.11	3.98	.0660	2.11	3.98	.39	3.00
36	4.21	4.820	.10	-.5253	.0414	.0267	.10	3.50	-.5253	.0414	.0267	2.15	3.28	.0599	2.15	3.28	.19	2.89
48	4.57	5.239	.12	-.5936	.0856	.0282	.12	3.86	-.5936	.0856	.0282	2.13	3.77	.0471	2.13	3.77	.25	2.75
60	4.92	5.638	.14	-.6199	.1200	.0205	.14	3.99	-.6199	.1200	.0205	2.13	3.66	.0317	2.13	3.66	.16	2.69
72	5.15	5.842	.19	-.6624	.1498	.0702	.19	4.23	-.6624	.1498	.0702	2.16	3.60	.0041	2.16	3.60	.10	2.57

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
12	2.95	4.48	.1350	.29	3.14	600						3.08	.62					
12	3.85	4.281	.05	-.4810	-.0279	.0104	.05	2.95	-.4810	-.0279	.0104	1.28	4.03	.1839	1.28	4.03	-.01	2.75
24	3.75	4.338	.06	-.5124	.0115	.0680	.06	3.12	-.5124	.0115	.0680	1.27	4.03	.1826	1.27	4.03	.20	2.68
36	4.33	5.014	.05	-.5317	.0339	.0078	.05	3.52	-.5317	.0339	.0078	1.28	3.87	.1986	1.28	3.87	.06	2.45
48	4.41	5.112	.05	-.5215	.0822	-.0168	.05	3.73	-.5215	.0822	-.0168	1.25	3.85	.1771	1.25	3.85	.09	2.45
60	4.78	5.463	.05	-.6222	.1174	-.0573	.05	3.93	-.6222	.1174	-.0573	1.25	3.75	.1744	1.25	3.75	.04	2.35
72	4.99	5.707	.06	-.6849	.1657	-.1048	.06	4.28	-.6849	.1657	-.1048	1.24	3.68	.1443	1.24	3.68	.02	2.29

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 122214 - (ANCENBERG)
 METHOD OF RECORD - APRIL
 PERIOD OF RECORD - 1/195 - 12/74
 ALPHA MOLE - 50.0

ALTITUDE (MP) - 22

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

ST	MP	MEAN X	S.D. Y	P (1,1)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	P (1,1)	MEAN YP	S.D. YP	MEAN X	S.D. YP	MEAN YP	S.D. YP
12	24	1.89	4.59	.1992	.04	2.86	500									
12	24	-.04	3.29	-.3594	.21	2.87	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
24	24	-.11	3.52	-.4549	.04	2.86	500	-.4549	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
36	24	-.15	4.11	-.4799	.21	2.87	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
48	24	-.19	4.28	-.4799	.21	2.87	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
60	24	-.22	4.52	-.4799	.21	2.87	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
72	24	-.23	4.59	-.4799	.21	2.87	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND XP

ST	MP	MEAN XP	S.D. YP	P (1,1)	MEAN YP	S.D. YP
12	24					
12	24	.73	4.25	-.5524	.73	2.43
24	24	.73	4.25	-.5524	.73	2.43
36	24	.73	4.25	-.5524	.73	2.43
48	24	.73	4.25	-.5524	.73	2.43
60	24	.73	4.25	-.5524	.73	2.43
72	24	.73	4.25	-.5524	.73	2.43

ALTITUDE (MP) - 23

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

ST	MP	MEAN X	S.D. Y	P (1,1)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	P (1,1)	MEAN YP	S.D. YP	MEAN X	S.D. YP	MEAN YP	S.D. YP
12	24	1.22	4.92	.2015	.63	2.94	500									
12	24	-.04	3.49	-.3594	.21	2.95	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
24	24	-.04	3.52	-.4549	.21	2.95	500	-.4549	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
36	24	-.08	4.09	-.4799	.21	2.95	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
48	24	-.12	4.26	-.4799	.21	2.95	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
60	24	-.16	4.50	-.4799	.21	2.95	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43
72	24	-.17	4.57	-.4799	.21	2.95	500	-.4799	-.5553	-.5524	.73	4.25	-.11	2.319	2.43	2.43

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND XP

ST	MP	MEAN XP	S.D. YP	P (1,1)	MEAN YP	S.D. YP
12	24					
12	24	.73	4.25	-.5524	.73	2.43
24	24	.73	4.25	-.5524	.73	2.43
36	24	.73	4.25	-.5524	.73	2.43
48	24	.73	4.25	-.5524	.73	2.43
60	24	.73	4.25	-.5524	.73	2.43
72	24	.73	4.25	-.5524	.73	2.43

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANOVERBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/69 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	S.D. XP	R (XP, YP)	MEAN XP	S.D. YP
12	24	1.68	5.09	.2060	.01	2.58	600	-.02	2.59	-.0091	.01	2.58	1.26	.09	4.75	-.2745	.71	4.75
12	24							-.05	3.52	-.3556	-.02	2.59			4.75		-.09	4.75
24	24							-.07	3.75	-.3257	-.08	2.96			4.59		.03	4.59
36	24							-.13	4.17	-.2828	-.08	3.19			4.53		-.03	4.53
48	24							-.15	4.37	-.2638	-.11	3.41			4.52		.03	4.52
60	24							-.25	4.56	-.2302	-.14	3.63			4.43		-.24	4.43
72	24							-.33	4.99	-.15305	-.15	3.72			4.31		-.05	4.31

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN Y	S.D. XP	R (XP, YP)	MEAN XP	S.D. YP
12	24	2.50	5.86	.1862	-.10	2.91	600	-.02	2.88	-.0205	-.03	2.91	2.49	-.03	5.29	-.2478	1.23	5.29
12	24							-.05	3.99	-.3547	.00	2.88			5.29		-.10	5.29
24	24							-.14	4.24	-.3774	-.00	3.14			5.24		-.02	5.24
36	24							-.23	4.53	-.3424	-.01	3.51			5.18		-.10	5.18
48	24							-.27	4.82	-.3354	-.02	3.77			5.09		-.09	5.09
60	24							-.32	4.99	-.3113	-.05	4.13			5.04		-.24	5.04
72	24							-.43	5.39	-.2860	-.08	4.11			4.90		-.16	4.90

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - APRIL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.14	6.05	.2909	-.13	3.02	600										
12	-.07	3.46	-.2932	-.4734	2.87		-.04	3.14	-.0385	-.04734	2.87	1.53	5.79	.3360	-.21	2.65
24	-.17	3.25	-.3241	-.5235	3.14		-.03	3.14	-.0687	-.5235	3.14	1.51	5.73	.3500	-.04	2.57
36	-.26	4.31	-.3655	-.5928	3.57		-.02	3.57	-.1258	-.5928	3.57	1.43	5.63	.3628	-.12	2.43
48	-.35	4.48	-.3859	-.6330	3.83		-.04	3.83	-.1658	-.6330	3.83	1.35	5.58	.3618	-.12	2.33
60	-.44	4.92	-.4336	-.6826	4.20		-.07	4.20	-.1823	-.6826	4.20	1.24	5.45	.3620	-.24	2.17
72	-.56	5.18	-.4678	-.6935	4.21		-.11	4.21	-.2242	-.6935	4.21	1.13	5.34	.3644	-.20	2.17

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	4.38	6.58	.2794	.00	3.32	600										
12	-.07	3.90	-.3032	-.4539	3.12		-.05	3.12	-.1098	-.4539	3.12	2.16	6.27	.3471	-.09	2.95
24	-.19	4.33	-.3491	-.5084	3.45		-.08	3.45	-.0936	-.5084	3.45	2.02	6.17	.3535	-.13	2.86
36	-.28	4.80	-.3812	-.5817	3.97		-.07	3.97	-.0035	-.5817	3.97	1.98	6.08	.3761	-.00	2.70
48	-.39	5.00	-.4053	-.6034	4.17		-.10	4.17	-.0770	-.6034	4.17	1.87	6.02	.3654	.03	2.65
60	-.47	5.34	-.4410	-.6345	4.39		-.13	4.39	-.1067	-.6345	4.39	1.77	5.90	.3556	-.09	2.57
72	-.56	5.70	-.4836	-.6601	4.55		-.14	4.55	-.1225	-.6601	4.55	1.63	5.76	.3775	-.09	2.49

ORIGINAL PAGE IS
OF POOR QUALITY

B I V A R I A T E N O R M A L S T A T I S T I C S O F X , Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. CH.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1	1/55 - 12/74	1	90.0	2.22	2.83	-.6375	-2.39	3.24	500
2	1/55 - 12/74	1	90.0	1.31	3.29	-.0277	-4.01	5.58	500
3	1/55 - 12/74	2	90.0	2.83	4.97	-.1282	-3.52	7.02	500
4	1/55 - 12/74	3	90.0	5.61	6.56	-.2355	-3.94	8.50	500
5	1/55 - 12/74	4	90.0	6.55	8.57	-.3371	-4.12	10.35	500
6	1/55 - 12/74	5	90.0	11.34	10.30	-.1353	-4.02	11.90	500
7	1/55 - 12/74	6	90.0	13.91	11.96	-.1433	-4.02	13.45	500
8	1/55 - 12/74	7	90.0	15.25	13.19	-.1773	-3.94	15.00	500
9	1/55 - 12/74	8	90.0	18.19	14.43	-.2123	-4.02	16.23	500
10	1/55 - 12/74	9	90.0	20.00	15.47	-.2733	-4.02	17.02	500
11	1/55 - 12/74	10	90.0	21.87	16.58	-.2872	-3.52	17.42	500
12	1/55 - 12/74	11	90.0	23.20	15.23	-.2522	-3.52	15.82	500
13	1/55 - 12/74	12	90.0	23.94	13.84	-.2544	-2.83	15.43	500
14	1/55 - 12/74	13	90.0	23.32	11.20	-.2311	-1.02	12.84	500
15	1/55 - 12/74	14	90.0	21.55	9.14	-.2290	-.25	10.85	500
16	1/55 - 12/74	15	90.0	19.33	8.00	-.2130	.73	9.21	500
17	1/55 - 12/74	16	90.0	16.36	6.93	-.1934	-.61	7.79	500
18	1/55 - 12/74	17	90.0	13.21	6.03	-.1387	-.82	6.50	500
19	1/55 - 12/74	18	90.0	11.04	5.43	-.0842	-.23	5.16	500
20	1/55 - 12/74	19	90.0	7.01	4.74	-.0352	-.73	4.13	500
21	1/55 - 12/74	20	90.0	4.34	4.44	-.0113	-.37	3.42	500
22	1/55 - 12/74	21	90.0	2.95	4.48	.1350	.29	3.14	500
23	1/55 - 12/74	22	90.0	1.62	4.58	.1862	.74	2.82	500
24	1/55 - 12/74	23	90.0	1.25	4.82	.2015	.09	2.54	500
25	1/55 - 12/74	24	90.0	1.88	5.09	.2060	.01	2.58	500
26	1/55 - 12/74	25	90.0	2.50	5.66	.1852	-.10	2.91	500
27	1/55 - 12/74	26	90.0	3.14	6.05	-.2909	-.13	3.02	500
28	1/55 - 12/74	27	90.0	4.32	6.58	-.2794	-.03	3.32	500

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDERBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/66 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	
		2.32	2.39	-0.5009	-2.15	2.59	520						2.49	-2.20									
12		.02	3.86	-.9074	.02	3.15	.3920	-.8401	3.15	-.8401	.02	3.15	1.10	1.41	-.6105	-1.04	2.05	1.10	1.41	-.6105	-1.04	2.05	
24		.04	2.06	-.4357	.02	2.64	.1959	-.3937	2.64	-.3937	.02	2.64	1.08	2.15	-.5505	-1.05	2.24	1.08	2.15	-.5505	-1.05	2.24	
36		.05	4.03	-.8439	.05	3.83	.4713	-.8436	3.83	-.8436	.05	3.83	1.10	1.28	-.5424	-1.01	1.86	1.10	1.28	-.5424	-1.01	1.86	
48		.05	2.25	-.4889	.05	3.25	.3187	-.5040	3.25	-.5040	.05	3.25	1.05	2.08	-.5420	-1.01	2.02	1.05	2.08	-.5420	-1.01	2.02	
50		.07	4.02	-.8535	.06	3.91	.5092	-.8537	3.91	-.8537	.06	3.91	1.03	1.24	-.4996	-1.00	1.69	1.03	1.24	-.4996	-1.00	1.69	
72		.06	2.35	-.5086	.03	3.42	.3530	-.5061	3.42	-.5061	.03	3.42	1.06	2.05	-.5502	-.95	1.94	1.06	2.05	-.5502	-.95	1.94	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	
		1.02	3.43	-.1995	-3.93	4.41	620						1.02	-3.83									
12		.21	3.84	-.5578	.04	3.76	.0084	.1271	3.76	.1271	.04	3.76	.79	2.83	-.3140	-1.25	4.00	.79	2.83	-.3140	-1.25	4.00	
24		.23	3.50	-.5090	.09	4.35	.1751	-.1999	4.35	-.1999	.09	4.35	.84	2.83	-.2122	-1.57	3.84	.84	2.83	-.2122	-1.57	3.84	
36		.21	4.83	-.6748	.11	5.13	.0739	-.0080	5.13	-.0080	.11	5.13	.72	2.50	-.3505	-1.93	3.59	.72	2.50	-.3505	-1.93	3.59	
48		.22	4.23	-.6151	.11	5.43	.172	-.1784	5.43	-.1784	.11	5.43	.71	2.50	-.2305	-1.96	3.50	.71	2.50	-.2305	-1.96	3.50	
50		.23	5.01	-.7322	.11	5.84	.1018	-.0512	5.84	-.0512	.11	5.84	.70	2.32	-.3639	-1.93	3.28	.70	2.32	-.3639	-1.93	3.28	
72		.25	4.95	-.6674	.10	5.84	.2015	-.1996	5.84	-.1996	.10	5.84	.66	2.94	-.2085	-1.95	3.32	.66	2.94	-.2085	-1.95	3.32	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (3221) - VANDEBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	P (Y, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	1.02	4.10	-.3577	-3.13	5.43	620								
24	.04	3.58												
36	.05	4.13												
48	.02	4.94												
60	.03	5.13												
72	.04	5.66												

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	1.02	4.10	-.3577	-3.13	5.43	620								
24	.04	3.58												
36	.05	4.13												
48	.02	4.94												
60	.03	5.13												
72	.04	5.66												

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR YP AND YP

DT	GIVEN X	GIVEN Y	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	.95	-2.96								
24										
36										
48										
60										
72										

ALTITUDE (M) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	P (Y, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	2.72	5.90	-.4074	-2.57	6.53	620								
24	.04	3.58												
36	.05	4.13												
48	.02	4.94												
60	.03	5.13												
72	.04	5.66												

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	2.72	5.90	-.4074	-2.57	6.53	620								
24	.04	3.58												
36	.05	4.13												
48	.02	4.94												
60	.03	5.13												
72	.04	5.66												

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	GIVEN X	GIVEN Y	MEAN YP	S.D. YP	P (XP, YP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	2.74	-2.46								
24										
36										
48										
60										
72										

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP				
12	7.48	9.54	-0.0695	-2.05	9.04	620	4.19	9.06	0.0707	4.19	9.06	4.19	9.06	-0.0977	7.89	9.04	620	4.19	9.06	0.0707	4.19	9.06	4.19	9.06	-0.0977	7.89	9.04	620	4.19	9.06	0.0707	4.19	9.06				
24																																					
36																																					
48																																					
60																																					
72																																					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP				
12	9.73	10.63	-0.0016	-2.29	10.32	620	4.75	10.32	0.0319	4.75	10.32	4.75	10.32	-0.0193	9.23	10.32	620	4.75	10.32	0.0319	4.75	10.32	4.75	10.32	-0.0193	9.23	10.32	620	4.75	10.32	0.0319	4.75	10.32				
24																																					
36																																					
48																																					
60																																					
72																																					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	10.06	11.72	.0601	-2.56	11.78	620						10.75	-2.70						
12	.02	7.22	-.2890	-.3741	.2002	-.0094	.10	8.66	-.1058	5.39	11.20	.0438	.11	10.89					
24	.03	10.04	-.4132	-.5370	.2005	.0133	.16	12.48	-.1735	5.38	10.61	.0193	.55	9.83					
36	.00	11.46	-.4756	-.6229	.1716	.0357	.13	14.39	-.1930	5.32	10.22	.0073	.57	9.05					
48	-.13	12.67	-.5291	-.6700	.1365	.0271	.07	15.41	-.1717	5.09	9.87	.0110	.13	8.63					
60	-.32	13.73	-.5782	-.7085	.1113	.0205	-.02	16.26	-.1546	4.87	9.50	.0123	-.20	8.23					
72	-.51	14.72	-.6061	-.7278	.1030	.0171	-.16	16.68	-.1500	4.76	9.26	.0108	-.38	8.00					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.27	12.61	.1322	-2.44	12.78	620						12.23	-2.53						
12	.00	7.90	-.2970	-.3889	.2350	-.0564	.10	9.81	-.0882	5.63	12.04	.1231	.35	11.76					
24	-.02	10.86	-.4166	-.5447	.2501	-.0400	.18	13.80	-.1720	5.79	11.43	.1019	.47	10.64					
36	-.06	12.16	-.4695	-.6248	.2293	-.0232	.15	15.68	-.1973	5.77	11.07	.0926	.62	9.85					
48	-.18	13.29	-.5165	-.6704	.1967	-.0274	.08	16.76	-.1870	5.98	10.74	.0993	.31	9.37					
60	-.41	14.45	-.5652	-.7047	.1766	-.0308	-.01	17.64	-.1791	5.35	10.35	.0997	-.05	8.98					
72	-.61	15.15	-.5903	-.7223	.1650	-.0327	-.19	18.10	-.1754	5.24	10.13	.1006	-.26	8.77					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG X = U(AT T)
 MONTH OF RECORD - MAY Y = V(AT T)
 PERIOD OF RECORD - 1/65 - 12/74 XP = U(AT T + DT) - U(AT T)
 ALPHA ANGLE - 90.0 YP = V(AT T + DT) - V(AT T)

ALTITUDE (KM) - 10

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	12.72	13.43	.1951	-2.30	13.58	620											
12	.01	8.38	.10	-.3802	.2506	-.0809	6.23	12.83	.1930	-0.72	12.56	-.0755	6.23	12.83	.1930	-0.72	12.56
24	-.01	11.72	.19	-.5355	.2855	-.0724	6.48	12.16	.1755	.44	11.41	-.1758	6.47	12.16	.1755	.44	11.41
36	-.05	13.12	.17	-.6178	.2626	-.0540	6.47	11.77	.1752	.69	10.57	-.2016	6.29	11.77	.1752	.69	10.57
48	-.20	14.30	.13	-.6651	.2385	-.0520	6.08	11.41	.1795	.50	10.03	-.2043	6.08	11.41	.1795	.50	10.03
60	-.43	15.44	.03	-.7024	.2182	-.0589	5.93	11.04	.1866	.17	9.58	-.1971	5.93	11.04	.1866	.17	9.58
72	-.65	16.11	-.16	-.7199	.2079	-.0762	5.93	10.87	.1915	-.25	9.37	-.1808	5.93	10.87	.1915	-.25	9.37

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 13.80
 GIVEN Y -2.33

ALTITUDE (KM) - 11

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	14.09	14.04	.2578	-2.07	14.05	620											
12	-.02	8.74	.10	-.3660	.2757	-.0912	6.59	13.37	.2621	-.67	13.07	-.0775	6.59	13.37	.2621	-.67	13.07
24	-.09	12.11	.19	-.5231	.3257	-.0878	7.06	12.68	.2489	.81	11.91	-.1921	7.06	12.68	.2489	.81	11.91
36	-.16	13.64	.17	-.6070	.2876	-.0631	7.08	12.27	.2580	1.09	11.04	-.2162	7.08	12.27	.2580	1.09	11.04
48	-.32	14.95	.15	-.6576	.2698	-.0728	6.89	11.86	.2610	.78	10.47	-.2224	6.89	11.86	.2610	.78	10.47
60	-.53	16.25	.05	-.6955	.2612	-.0990	5.70	11.44	.2648	.42	9.00	-.2234	5.70	11.44	.2648	.42	9.00
72	-.76	16.79	-.13	-.7123	.2505	-.1032	6.50	11.28	.2752	.03	8.80	-.2061	6.50	11.28	.2752	.03	8.80

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 15.18
 GIVEN Y -2.14

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (192214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	P (Y, YP)	R (XP, YP)	S.D. YP	MEAN XP	P (X, XP)	R (XP, Y)	S.D. XP	MEAN YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.02	13.20	.2846	-1.25	12.22				6.91			12.60	1.95		6.91	12.60	.2969	1.95	11.96
12	-05	7.31	-.2995	-.3590	9.33	-.3590	.2351	-.0856	7.30	-.4711	-.0856	11.98	1.08	-.0949	7.30	11.98	.2928	1.08	10.95
24	-.14	11.33	-.4171	-.5133	12.95	-.5133	.3084	-.1752	7.40	-.6071	-.1752	11.47	1.47	-.2296	7.40	11.47	.2838	1.47	10.12
36	-.26	12.86	-.4271	-.6071	15.12	-.6071	.3082	-.2296	7.34	-.5260	-.2296	11.07	1.30	-.2805	7.34	11.07	.2805	1.30	9.53
48	-.41	14.18	-.5260	-.6587	15.60	-.6587	.3011	-.2489	7.17	-.5738	-.2489	10.75	1.27	-.2888	7.17	10.75	.2888	1.27	9.15
60	-.51	15.23	-.5738	-.6920	17.50	-.6920	.2822	-.2441	6.95	-.5998	-.2441	10.53	1.43	-.2952	6.95	10.53	.2952	1.43	8.95
72	-.80	15.36	-.5998	-.7120	18.13	-.7120	.2751	-.2262											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.22	-1.33

ALTIITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	P (Y, YP)	R (XP, YP)	S.D. YP	MEAN XP	P (X, XP)	R (XP, Y)	S.D. XP	MEAN YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	15.31	11.17	.2787	.00	10.61				7.30			10.74	1.39		7.30	10.74	.2904	1.39	9.96
12	-.09	8.15	-.2741	-.3410	9.98	-.3410	.2590	-.0459	7.38	-.4501	-.0459	10.21	2.05	-.0901	7.38	10.21	.2904	2.05	9.13
24	-.18	9.83	-.4019	-.5001	10.35	-.5001	.3129	-.0632	7.44	-.5283	-.0632	9.70	2.10	-.1787	7.44	9.70	.2933	2.10	8.41
36	-.28	11.89	-.4900	-.5283	12.42	-.5283	.3158	-.0805	7.35	-.5595	-.0805	9.31	1.71	-.2311	7.35	9.31	.2729	1.71	7.90
48	-.42	13.25	-.5478	-.6595	13.78	-.6595	.3146	-.1034	7.23	-.5879	-.1034	9.01	1.27	-.2452	7.23	9.01	.2783	1.27	7.56
60	-.55	14.23	-.5879	-.6966	14.57	-.6966	.3207	-.1233	7.07	-.6152	-.1233	8.76	1.80	-.2374	7.07	8.76	.2667	1.80	7.35
72	-.63	15.39	-.6152	-.7130	15.13	-.7130	.2912	-.1339											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.31	-.09

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (B2214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M)

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	14.75	8.92	.2104	.91	8.59	620						15.61				7.05	8.59	.2254	2.73	7.10
24																7.04	8.17	.2272	2.88	7.48
36																7.03	7.78	.2267	2.50	6.91
48																5.98	7.43	.2124	2.08	6.49
60																6.20	7.15	.2086	1.75	6.17
72																6.78	6.90	.2039	1.41	6.00

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (M)

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	13.22	7.00	.1718	1.45	5.84	620						13.91				5.11	6.55	.1875	2.52	6.47
24																6.05	6.43	.1945	2.85	6.08
36																6.11	6.14	.1957	2.36	5.95
48																6.11	5.28	.2003	2.03	5.32
60																6.55	5.55	.1974	1.72	5.05
72																6.00	5.48	.1922	1.46	4.85

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDEBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/85 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KMH) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	11.17	5.80	.1725	1.81	5.69	620	4.96	5.48	.1998	11.67	1.48	4.96	5.48	.1998	1.95	5.33		4.96	5.48	.1998	1.95	5.33
24							4.96	5.31	.1985			4.96	5.31	.1985	2.32	5.07		4.96	5.31	.1985	2.32	5.07
36							5.01	5.02	.2010			5.01	5.02	.2010	1.76	4.77		5.01	5.02	.2010	1.76	4.77
48							5.03	4.80	.1968			5.03	4.80	.1968	1.42	4.51		5.03	4.80	.1968	1.42	4.51
60							4.98	4.60	.2003			4.98	4.60	.2003	1.26	4.22		4.98	4.60	.2003	1.26	4.22
72							4.92	4.45	.1876			4.92	4.45	.1876	1.08	4.05		4.92	4.45	.1876	1.08	4.05

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KMH) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	8.53	4.89	.1054	1.43	4.37	620	3.69	4.55	.1319	8.93	1.33	3.69	4.55	.1319	1.25	4.04		3.69	4.55	.1319	1.25	4.04
24							3.69	4.41	.1358			3.69	4.41	.1358	1.52	3.89		3.69	4.41	.1358	1.52	3.89
36							3.73	4.18	.1419			3.73	4.18	.1419	1.14	3.60		3.73	4.18	.1419	1.14	3.60
48							3.76	4.05	.1296			3.76	4.05	.1296	.93	3.43		3.76	4.05	.1296	.93	3.43
60							3.74	3.87	.1064			3.74	3.87	.1064	.83	3.20		3.74	3.87	.1064	.83	3.20
72							3.67	3.77	.0967			3.67	3.77	.0967	.74	3.10		3.67	3.77	.0967	.74	3.10

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 18

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN YP	S.D. YP	R (YP, X)
12	5.57	3.95	.1232	1.05	3.45	620												
24	-1.12	3.07	-0.2908	1.00	2.97		-4.323	0.908	-0.0290	-0.428	2.55	0.1317	2.55	3.11		1.03	3.00	
36	-1.26	3.43	-0.4191	-0.01	3.34		-4.655	0.548	-0.0583	-0.638	2.42	0.1515	2.42	3.00		1.03	3.00	
48	-1.47	3.90	-0.5118	-0.00	4.04		-5.585	0.304	-0.062	-0.942	2.40	0.1709	2.40	2.79		0.88	2.79	
60	-1.57	4.27	-0.5501	-0.01	4.37		-6.344	0.267	-0.0222	-0.418	2.37	0.1670	2.37	2.66		0.64	2.66	
72	-1.59	4.55	-0.5379	-0.03	4.71		-6.929	0.243	-0.0784	-0.249	2.37	0.1561	2.37	2.52		0.45	2.52	
84	-1.58	4.82	-0.5258	-0.04	4.81		-6.973	0.132	-0.0820	-0.0474	2.45	0.1502	2.45	2.47		0.45	2.47	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (M) - 18

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	N	MEAN YP	S.D. YP	R (YP, X)
12	2.67	3.62	.0947	1.84	2.73	620												
24	-1.11	2.25	-0.4129	-0.02	2.51		-4.612	-0.950	0.055	-0.252	1.19	0.1249	1.19	2.39		0.24	2.39	
36	-1.25	2.43	-0.4591	-0.02	2.78		-5.123	0.668	0.090	-0.356	0.98	0.1044	0.98	2.32		0.24	2.32	
48	-1.35	2.74	-0.5148	-0.03	3.27		-6.014	0.571	0.045	-0.548	0.99	0.1105	0.99	2.18		0.38	2.18	
60	-1.45	3.75	-0.5592	-0.04	3.57		-6.587	0.550	-0.075	-0.522	0.94	0.1134	0.94	2.05		0.33	2.05	
72	-1.57	4.12	-0.5130	-0.07	3.76		-6.955	0.749	-0.059	-0.508	0.90	0.1004	0.90	1.96		0.26	1.96	
84	-1.55	4.19	-0.5244	-0.03	3.95		-7.315	0.935	-0.094	-0.652	0.85	0.0719	0.85	1.86		0.22	1.86	

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.11	2.92	-.4423	-.02	2.52	-.5459	-.04	2.31	620	-.06	3.07	-.1382	.02	1.94
24	-.21	2.96	-.4529	-.02	2.57	-.5587				-.00	3.03	-.1372	.05	1.91
36	-.32	3.22	-.5064	-.03	2.85	-.6225				-.06	2.95	-.1253	.02	1.81
48	-.42	3.34	-.5323	-.02	3.10	-.6735				-.12	2.89	-.1417	.03	1.71
60	-.52	3.65	-.5822	-.03	3.17	-.6916				-.18	2.78	-.1208	.01	1.67
72	-.62	3.71	-.5969	-.05	3.30	-.7198				-.23	2.74	-.1039	-.00	1.61

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.20	.02

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.08	3.00	-.4600	-.03	2.71	-.5555	-.36	2.46	620	-.69	3.02	-.1674	-.10	2.04
24	-.15	3.12	-.4834	-.03	2.87	-.5555				-.66	2.96	-.1652	-.25	1.97
36	-.24	3.18	-.5018	.01	3.03	-.6323				-.74	2.94	-.1669	-.13	1.90
48	-.33	3.54	-.5603	.01	3.42	-.7304				-.78	2.81	-.1489	-.14	1.75
60	-.39	3.54	-.5661	.03	3.46	-.7170				-.81	2.80	-.1393	-.11	1.71
72	-.49	3.80	-.6042	.03	3.56	-.7393				-.88	2.71	-.1115	-.09	1.65

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.45	-.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/14) - VANDEENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-2.36	3.32	.0733	-.51	2.22	620						-2.42	-.55					
12	-.08	2.72		-.01	2.56		-.01	2.56	-.0590	-.0421		3.00	.1241	-1.20	3.00	.1241	-.09	1.81
24	-.15	2.92		-.00	2.74		-.00	2.74	-.0519	-.0640		2.95	.1245	-1.16	2.95	.1245	-.29	1.74
36	-.22	3.12		.02	2.88		.02	2.88	-.0516	-.0701		2.88	.1046	-1.20	2.88	.1046	-.20	1.69
48	-.31	3.50		.04	3.12		.04	3.12	-.0724	-.0701		2.74	.0629	-1.23	2.74	.0629	-.20	1.58
60	-.39	3.56		.04	3.19		.04	3.19	-.0785	-.0919		2.70	.0562	-1.27	2.70	.0562	-.19	1.54
72	-.47	3.73		.05	3.25		.05	3.25	-.0928	-.1260		2.64	.0395	-1.32	2.64	.0395	-.15	1.50

ALTIITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-2.79	3.65	.1021	-.65	2.28	620						-2.85	-.72					
12	-.12	2.98		-.01	2.70		-.01	2.70	-.0117	-.1220		3.23	.1489	-1.46	3.23	.1489	-.02	1.82
24	-.23	3.19		.01	2.94		.01	2.94	-.0349	-.0340		3.26	.1353	-1.42	3.26	.1353	-.34	1.75
36	-.31	3.33		.01	2.97		.01	2.97	-.0394	-.1142		3.19	.1147	-1.48	3.19	.1147	-.21	1.74
48	-.41	3.65		.03	3.27		.03	3.27	-.0507	-.0975		3.08	.1269	-1.51	3.08	.1269	-.24	1.59
60	-.53	3.77		.04	3.32		.04	3.32	-.0804	-.0822		3.04	.1082	-1.57	3.04	.1082	-.22	1.56
72	-.61	3.93		.05	3.40		.05	3.40	-.1262	-.0893		2.98	.1038	-1.51	2.98	.1038	-.22	1.52

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANCEBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	-2.69	4.08		-0.75	2.33			620		-1.44	3.77		-0.15	1.86
12	-1.11	3.00	-0.3780	0.02	2.77	-0.5934	-0.934	-0.1140	0.596	-1.37	3.72	0.0887	-0.43	1.80
24	-2.22	3.13	-0.4039	0.05	2.92	-0.531	-0.874	0.0490	-0.170	-1.45	3.64	0.1103	-0.25	1.73
36	-3.32	3.28	-0.4287	0.07	3.07	-0.5559	0.428	-0.0955	0.213	-1.52	3.57	0.0839	-0.24	1.56
48	-4.42	3.50	-0.4733	0.09	3.38	-0.7384	0.781	-0.1184	-0.016	-1.58	3.50	0.0727	-0.24	1.50
60	-5.52	3.85	-0.5113	0.12	3.45	-0.7820	0.899	-0.1244	-0.021	-1.64	3.46	0.0369	-0.24	1.52
72	-6.62	3.96	-0.5247	0.11	3.43	-0.7498	0.857	-0.1113	-0.0221					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	R (XP,YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
-2.67	-0.75					

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	-2.60	4.25		-0.68	2.31			620		-1.34	3.97		-0.17	1.88
12	-1.11	3.36	-0.3821	0.02	2.66	-0.5771	-0.934	-0.0524	0.449	-1.33	3.95	0.1078	-0.33	1.81
24	-2.22	3.57	-0.3719	0.04	2.85	-0.5223	-0.895	0.0097	-0.237	-1.40	3.88	0.0825	-0.23	1.75
36	-3.32	3.72	-0.4138	0.05	2.99	-0.5238	-0.869	-0.0953	0.053	-1.45	3.81	0.1093	-0.23	1.63
48	-4.42	3.90	-0.472	0.08	3.24	-0.7045	-0.975	-0.0913	-0.013	-1.52	3.75	0.0865	-0.21	1.51
60	-5.52	4.14	-0.4744	0.10	3.44	-0.7531	-1.046	-0.0913	-0.031	-1.58	3.69	0.0793	-0.21	1.53
72	-6.62	4.03	-0.4973	0.11	3.38	-0.7461	-1.074	-0.0913	-0.113					

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	R (XP,YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP
-2.62	-0.71					

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - MAY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-2.31	4.67	.0151	-1.59	2.49	620											
12	-.15	2.88	.03	-.5242	.0451		-.14	2.59	-.0575	-.114	4.41	.0261	-.114	4.41	.0180	-.17	2.12
24	-.26	3.11	.04	-.5931	.0085		-.113	2.94	.0224	-.113	4.36	-.0137	-.113	4.36	.0224	-.30	2.01
36	-.37	3.45	.04	-.6515	.0000		-.121	3.26	.0024	-.121	4.29	.0103	-.121	4.29	.0326	-.26	1.89
48	-.48	3.80	.06	-.7250	-.0151		-.131	3.63	-.0089	-.131	4.22	.0403	-.131	4.22	.0579	-.22	1.72
60	-.58	4.08	.07	-.7463	.0447		-.137	3.69	-.0551	-.137	4.14	.0265	-.137	4.14	.0343	-.23	1.66
72	-.68	4.30	.10	-.7461	.0441		-.144	3.63	-.0896	-.144	4.09	.0393	-.144	4.09	.0294	-.17	1.65

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR X_i AND Y_j

GIVEN X GIVEN Y
 -2.44 -.63

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-1.73	5.19	.0242	-1.58	2.88	620											
12	-.14	2.88	.05	-.5313	.0344		-.31	3.03	-.0632	-.31	4.98	.0286	-.31	4.98	.0329	-.13	2.44
24	-.27	3.16	.06	-.6110	.0430		-.20	3.50	-.0290	-.20	4.94	.0087	-.20	4.94	.0374	-.20	2.28
36	-.38	3.59	.08	-.6722	.0089		-.103	3.82	-.0854	-.103	4.86	.0248	-.103	4.86	.0248	-.15	2.13
48	-.51	3.86	.10	-.7424	.0759		-.111	4.15	-.1207	-.111	4.81	.0294	-.111	4.81	.0294	-.11	1.92
60	-.66	4.33	.09	-.7695	.0694		-.120	4.30	-.1288	-.120	4.71	.0332	-.120	4.71	.0332	-.12	1.83
72	-.81	4.59	.10	-.7644	.0907		-.126	4.24	-.1279	-.126	4.64	.0094	-.126	4.64	.0089	-.14	1.85

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR X_i AND Y_j

GIVEN X GIVEN Y
 -1.84 -.69

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (82214) - VANDINEERG

X = VIAT T)
Y = VIAT T)

MONTH	PER. OF REC.	ALT. (M)	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
1	1/55	12/74	30.0	2.22	2.33	-.5008	-2.15	2.53	520
2	1/55	12/74	30.0	1.22	3.43	-.1925	-3.83	4.41	520
3	1/55	12/74	30.0	1.02	4.12	-.3577	-3.12	5.43	520
4	1/55	12/74	30.0	2.72	5.80	-.4274	-2.57	6.53	520
5	1/55	12/74	30.0	4.54	7.28	-.3220	-2.20	7.45	520
6	1/55	12/74	30.0	6.17	8.44	-.1763	-2.31	8.08	520
7	1/55	12/74	30.0	7.45	8.84	-.0624	-2.06	8.74	520
8	1/55	12/74	30.0	8.72	10.63	.0615	-2.06	10.22	520
9	1/55	12/74	30.0	10.06	11.72	.2621	-2.56	11.78	520
10	1/55	12/74	30.0	11.27	12.61	.322	-2.44	12.78	520
11	1/55	12/74	30.0	12.72	13.43	.351	-2.30	13.58	520
12	1/55	12/74	30.0	14.08	14.74	.2578	-2.57	14.05	520
1	1/55	12/74	30.0	15.28	13.20	.2845	-2.82	12.82	520
2	1/55	12/74	30.0	15.31	11.17	.2797	-1.25	10.51	520
3	1/55	12/74	30.0	17.72	8.93	.2100	.61	8.56	520
4	1/55	12/74	30.0	17.22	7.00	.1718	1.45	6.84	520
5	1/55	12/74	30.0	17.17	5.86	.1224	1.61	5.63	520
6	1/55	12/74	30.0	16.53	4.89	.054	1.42	4.37	520
7	1/55	12/74	30.0	16.53	3.89	.1222	1.05	3.45	520
8	1/55	12/74	30.0	16.57	3.82	.0947	.84	2.73	520
9	1/55	12/74	30.0	16.22	3.42	.1000	.74	2.31	520
10	1/55	12/74	30.0	15.7	3.40	.1221	.55	2.45	520
11	1/55	12/74	30.0	15.25	3.32	.2722	.31	2.22	520
12	1/55	12/74	30.0	15.73	3.65	.321	.11	2.28	520
1	1/55	12/74	30.0	16.58	4.08	.0713	-.75	2.33	520
2	1/55	12/74	30.0	16.50	4.26	.0838	-.68	2.31	520
3	1/55	12/74	30.0	16.31	4.57	.0151	-.53	2.48	520
4	1/55	12/74	30.0	16.73	5.13	.0242	-.58	2.88	520

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (22214) - VANZENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 30.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	2.43	2.32	-0.5661	-1.88	2.37						500					
12	-0.01	3.90	-0.8422	-0.01	2.95		-0.8234	-0.5855	0.3512	0.3639		1.17	1.25	-0.6192	-0.93	1.85
24	-0.03	1.77	-0.3933	-0.03	2.54		-0.5437	-0.3451	0.1955	0.1357		1.14	2.14	-0.6368	-0.90	1.99
36	-0.02	3.97	-0.8634	-0.04	2.22		-0.7175	-0.6026	0.4302	0.5203		1.15	1.17	-0.5845	-0.93	1.62
48	-0.01	1.98	-0.4472	-0.04	2.93		-0.8234	-0.4618	0.3045	0.1890		1.11	2.08	-0.6345	-0.88	1.95
60	-0.01	4.08	-0.8220	-0.03	2.45		-0.7398	-0.6356	0.4645	0.5605		1.16	1.09	-0.4950	-0.94	1.60
72	-0.01	1.751	-0.4751	-0.04	3.06		-0.6596	-0.5287	0.3402	0.2526		1.13	2.04	-0.6102	-0.85	1.78

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	R (XP,Y)	R (YP,X)	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	0.80	3.15	-0.2355	-3.51	4.34						600					
12	-0.03	2.57	-0.5727	-0.03	3.69		-0.4402	-0.1923	-0.0320	-0.1536		1.08	2.58	-0.3731	-1.53	3.89
24	-0.02	3.18	-0.5150	-0.07	4.16		-0.4992	-0.2157	0.1340	0.0455		1.07	2.69	-0.2271	-1.60	3.74
36	-0.02	4.27	-0.6666	-0.09	5.22		-0.8264	-0.2722	0.0769	-0.0583		1.07	2.29	-0.3882	-1.60	3.37
48	-0.02	3.91	-0.6316	-0.11	5.35		-0.6401	-0.2513	0.2603	0.0838		1.00	2.43	-0.1992	-1.65	3.30
60	-0.03	4.64	-0.7474	-0.16	5.93		-0.7064	-0.1950	0.1569	0.0109		1.05	2.09	-0.3483	-1.66	3.05
72	-0.03	4.26	-0.6829	-0.15	5.85		-0.6925	-0.2321	0.3014	0.1257		1.08	2.29	-0.1577	-1.69	3.10

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 50.0

ALTITUDE (KM) - 2

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
		.80	4.06	-.4029	-2.59	5.18							.80	-2.79
12		-.04	3.46	-.4313	-.4184	4.21	-.2498	.55	3.65	-.4362	-.12	4.68		
24		-.07	4.08	-.5067	-.4810	4.87	-.2137	.58	3.48	-.4632	-.09	4.50		
36		-.07	4.89	-.6037	-.5809	5.52	-.3231	.52	3.22	-.4498	-.14	4.19		
48		-.03	5.03	-.6245	-.6036	6.14	-.3375	.53	3.15	-.4493	-.13	4.10		
60		-.02	5.46	-.6826	-.6702	6.82	-.3943	.53	2.95	-.4178	-.15	3.82		
72		.01	5.50	-.6911	-.6840	6.93	-.3256	.54	2.91	-.4268	-.12	3.75		

ALTITUDE (KM) - 3

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, YP)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
		2.41	5.52	-.3348	-1.41	6.18							3.37	-1.75
12		-.03	3.63	-.3403	-.3465	4.19	-.1943	.80	5.16	-.3554	.13	5.73		
24		-.03	4.86	-.4521	-.4451	5.42	-.1705	.78	4.90	-.3714	-.06	5.48		
36		-.02	5.87	-.5393	-.5263	6.47	-.2341	.76	4.63	-.3702	-.20	5.21		
48		.05	6.41	-.5915	-.5689	6.95	-.2680	.77	4.43	-.3638	-.24	5.05		
60		.12	6.92	-.6447	-.6182	7.57	-.3189	.73	4.19	-.3402	-.23	4.82		
72		.16	7.22	-.6763	-.6462	7.91	-.3295	.80	4.04	-.3257	-.21	4.67		

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (9214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.90	5.70	-0.2591	-0.52	6.94	600						4.02					
12	-0.03	4.12	-0.3227	-0.3104	4.22	0.08	0.08	4.22	-0.0740	-0.3104	1.90	-0.0909	1.90	6.30	-0.2745	0.90	5.53
24	-0.00	4.362	-0.4362	-0.4246	5.91	0.13	0.13	5.91	-0.0930	-0.4246	1.91	-0.0725	1.91	5.99	-0.2343	0.61	6.23
36	0.00	4.5226	-0.5226	-0.4972	6.88	0.17	0.17	6.88	-0.1294	-0.4972	1.87	-0.0271	1.87	5.68	-0.3003	0.44	5.98
48	0.07	4.745	-0.5798	-0.5444	7.61	0.20	0.20	7.61	-0.1676	-0.5444	1.88	0.0089	1.88	5.43	-0.2988	0.37	5.79
50	0.10	4.812	-0.6328	-0.5911	8.25	0.25	0.25	8.25	-0.2164	-0.5911	1.87	0.0386	1.87	5.15	-0.2872	0.38	5.56
72	0.13	4.862	-0.6730	-0.6237	8.75	0.29	0.29	8.75	-0.2482	-0.6237	1.88	0.0550	1.88	4.90	-0.2732	0.40	5.35

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.02	-0.95

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	5.47	7.56	-0.2119	-0.19	7.75	600						5.73					
12	-0.02	4.87	-0.3412	-0.3119	4.96	0.07	0.07	4.96	-0.1273	-0.3119	2.43	-0.0563	2.43	7.06	-0.2138	1.24	7.31
24	-0.02	4.472	-0.4472	-0.4204	5.61	0.13	0.13	5.61	-0.0824	-0.4204	2.52	-0.0534	2.52	6.72	-0.2336	0.82	6.98
36	-0.04	4.5262	-0.5262	-0.4976	7.22	0.18	0.18	7.22	-0.0932	-0.4976	2.51	-0.0132	2.51	6.39	-0.2435	0.72	6.69
48	-0.03	4.834	-0.5754	-0.5431	8.53	0.23	0.23	8.53	-0.0828	-0.5431	2.32	-0.0282	2.32	6.15	-0.2636	0.71	6.48
50	0.01	4.911	-0.6236	-0.5670	9.11	0.30	0.30	9.11	-0.1348	-0.5670	2.51	-0.0212	2.51	5.81	-0.2850	0.77	6.23
72	0.05	4.865	-0.6260	-0.6230	9.79	0.33	0.33	9.79	-0.1744	-0.6230	2.50	-0.0064	2.50	5.54	-0.2563	0.80	5.98

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.73	-0.67

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	6.94	8.51	-.1842	.02	8.90	600	-.04	5.34	.08	5.43	-.3015	2.97	7.99	-.1863	1.46	8.45
24							-.05	7.14	.12	7.50	-.4177	3.07	7.62	-.2098	1.17	8.05
36							-.08	8.33	.18	8.90	-.4947	3.06	7.28	-.2333	.98	7.71
48							-.04	9.18	.24	9.88	-.5493	3.06	6.97	-.2524	1.02	7.40
60							-.03	10.13	.28	10.49	-.5867	3.08	6.60	-.2542	1.07	7.16
72							-.00	10.69	.40	11.00	-.6170	3.08	6.34	-.2481	1.08	6.96

ALTITUDE (KM) - 7

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	8.54	9.51	-.1565	.21	10.18	600	-.06	5.83	.09	6.33	-.3094	3.61	8.95	-.1586	1.53	9.66
24							-.10	7.91	.12	8.88	-.4346	3.72	8.52	-.1876	1.30	9.14
36							-.14	9.20	.16	10.60	-.5178	3.75	8.18	-.2139	1.16	8.69
48							-.08	10.27	.22	11.46	-.5596	3.77	7.81	-.2277	1.17	8.41
60							-.06	11.25	.26	11.97	-.5888	3.79	7.43	-.2292	1.22	8.19
72							-.02	11.66	.36	12.51	-.6176	3.79	7.14	-.2214	1.28	7.96

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANZENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	P (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
		10.15	10.83	-1.110	.17	11.78				600				10.71			
12		-.07	6.63	-.3343	.07	7.73	-.3237	-.0256			-.0256	4.27	10.20	-.1234	1.05	11.11	
24		-.13	9.15	-.4478	.03	10.82	-.4587	-.0388			-.0388	4.43	9.68	-.1477	.86	10.46	
26		-.16	10.57	-.5173	.13	12.81	-.5226	-.0505			-.0505	4.47	9.26	-.1714	.88	9.83	
48		-.23	11.23	-.5742	.13	13.70	-.5793	-.0523			-.0523	4.53	8.92	-.1849	.96	9.58	
60		-.04	12.86	-.6182	.22	14.15	-.6223	-.0533			-.0533	4.58	8.48	-.1818	1.13	9.38	
72		.03	13.46	-.6514	.34	14.63	-.6233	-.0541			-.0541	4.57	8.16	-.1736	1.25	9.11	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	P (X, YP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
		11.74	11.78	-1.0905	.58	13.39				600				12.36			
12		-.07	6.81	-.3161	.03	9.23	-.3234	-.0193			-.0193	4.97	11.16	-.1081	.81	12.56	
24		-.12	9.72	-.4372	.03	12.53	-.4732	-.0245			-.0245	5.14	10.52	-.1322	.81	11.82	
26		-.15	11.45	-.5122	.11	14.78	-.5240	-.0286			-.0286	5.13	10.12	-.1623	.77	11.13	
48		-.07	12.77	-.5657	.18	15.73	-.5263	-.0270			-.0270	5.23	9.70	-.1670	.96	10.83	
60		.01	13.77	-.6093	.26	16.32	-.5120	-.0288			-.0288	5.23	9.31	-.1536	1.32	10.58	
72		.11	14.43	-.6412	.44	16.75	-.5333	-.0316			-.0316	5.32	8.97	-.1478	1.56	10.34	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R ² (X ² , YP)	MEAN YP	S.D. YP
	13.52	12.42	-.0238	.94	14.62	600												14.12	.08		
12	-.10	7.69	-.3347	.09	10.27		.09	10.27		-.3504			.0561		.0081	5.80	11.70			-.04	13.68
24	-.16	10.55	-.4504	.12	13.68		.12	13.68		-.4671			-.0636		-.0245	5.93	11.09			.50	12.92
36	-.17	12.22	-.5172	.17	15.91		.17	15.91		-.5427			-.0838		-.0509	5.99	10.63			.64	12.28
48	-.07	13.48	-.5659	.22	17.09		.22	17.09		-.5941			-.1032		-.0593	6.12	10.24			.84	11.87
60	.02	14.47	-.6080	.31	17.86		.31	17.86		-.6128			-.0712		-.0648	6.19	9.86			1.20	11.55
72	.15	15.28	-.6486	.54	18.39		.54	18.39		-.6384			-.0070		-.0642	6.18	9.43			1.48	11.25

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R ² (X ² , YP)	MEAN YP	S.D. YP
	15.45	12.71	.0228	1.47	15.14	600												16.10	.75		
12	-.06	7.96	-.3285	.09	10.40		.09	10.40		-.3434			.0784		.0154	6.92	12.00			-.49	14.19
24	-.10	10.79	-.4404	.15	13.79		.15	13.79		-.4548			.1036		-.0126	6.99	11.41			.13	13.46
36	-.10	12.56	-.5117	.21	16.05		.21	16.05		-.5295			.1516		-.0541	7.01	10.92			.47	12.83
48	.01	13.93	-.5657	.28	17.30		.28	17.30		-.5714			.1367		-.0596	7.11	10.48			.66	12.41
60	.10	15.09	-.6147	.42	18.13		.42	18.13		-.6017			.0878		-.0677	7.17	10.03			1.11	12.09
72	.19	15.99	-.6561	.65	18.74		.65	18.74		-.6298			.0547		-.0763	7.17	9.58			1.44	11.76

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (82214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (XP) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HP	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, Y)	MEAN YP	S.D. YP	N	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	
12	17.24	12.80	.0855	2.23	14.57	600														
24																				
36																				
48																				
60																				
72																				

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	17.97	1.62					
24							
36							
48							
60							
72							

ALTITUDE (YP) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, YP, YP

DT HP	MEAN Y	S.D. Y	P (X, Y)	MEAN XP	S.D. XP	N	MEAN YP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	N	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	
12	17.24	11.55	.0578	3.04	13.03	600														
24																				
36																				
48																				
60																				
72																				

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HP	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	17.25	2.62					
24							
36							
48							
60							
72							

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (192214) - VANDEBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 30.0

ALTITUDE (KM) - 16

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (X, XP)	MEAN YP	S.D. YP	R (XP, Y)	P (YP, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	8.50	5.77	-0.0894	2.46	6.04	600	1.79	5.42	-0.0783	1.79	5.42	-0.0783	1.79	5.42	1.79	5.42	-0.0783	8.84	2.14	1.79	5.42	
24	12	3.87	-0.3395	0.8	3.55	0.247	-0.0499	0.086	0.247	0.086	0.247	-0.0499	0.086	0.247	0.086	0.247	-0.0499	4.55	-0.282	1.79	5.42	
35	24	4.51	-0.3681	1.2	4.39	0.284	-0.1297	0.0938	0.284	0.0938	0.284	-0.1297	0.0938	0.284	0.0938	0.284	-0.1297	4.55	-0.1045	1.91	5.39	
48	35	5.41	-0.4543	1.6	5.51	0.071	-0.1233	0.1067	0.071	0.1067	0.071	-0.1233	0.1067	0.071	0.1067	0.071	-0.1233	4.55	-0.1308	2.00	5.21	
60	48	6.10	-0.5279	2.0	6.12	0.060	-0.1513	0.1142	0.060	0.1142	0.060	-0.1513	0.1142	0.060	0.1142	0.060	-0.1513	4.55	-0.1580	1.89	5.04	
72	60	6.93	-0.5954	2.8	6.88	0.036	-0.1431	0.1311	0.036	0.1311	0.036	-0.1431	0.1311	0.036	0.1311	0.036	-0.1431	4.55	-0.1813	1.89	5.04	
	72	7.07	-0.6064	3.1	7.01	0.020	-0.1393	0.1557	0.020	0.1557	0.020	-0.1393	0.1557	0.020	0.1557	0.020	-0.1393	4.55	-0.2022	1.96	4.92	

ALTITUDE (KM) - 17

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (X, XP)	MEAN YP	S.D. YP	R (XP, Y)	P (YP, X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	P (XP, YP)	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	4.77	4.75	-0.0942	1.67	4.51	600	2.20	4.33	-0.0864	2.20	4.33	-0.0864	2.20	4.33	2.20	4.33	-0.0864	4.97	1.47	2.20	4.33	
24	12	3.66	-0.3795	0.8	3.58	0.326	-0.0864	0.0514	0.326	0.0514	0.326	-0.0864	0.0514	0.326	0.0514	0.326	-0.0864	4.97	-0.1279	1.31	4.14	
35	24	4.01	-0.4071	1.2	4.04	0.082	-0.1683	0.0787	0.082	0.0787	0.082	-0.1683	0.0787	0.082	0.0787	0.082	-0.1683	4.97	-0.1427	1.63	4.10	
48	35	4.60	-0.4705	1.6	4.62	0.253	-0.1432	0.0960	0.253	0.0960	0.253	-0.1432	0.0960	0.253	0.0960	0.253	-0.1432	4.97	-0.1773	1.39	3.86	
60	48	5.00	-0.5054	2.0	5.01	0.23	-0.1502	0.0741	0.23	0.0741	0.23	-0.1502	0.0741	0.23	0.0741	0.23	-0.1502	4.97	-0.1848	1.42	3.80	
72	60	5.47	-0.5574	2.8	5.40	0.246	-0.1472	0.0734	0.246	0.0734	0.246	-0.1472	0.0734	0.246	0.0734	0.246	-0.1472	4.97	-0.2002	1.35	3.60	
	72	5.78	-0.5837	3.1	5.41	0.290	-0.1294	0.0466	0.290	0.0466	0.290	-0.1294	0.0466	0.290	0.0466	0.290	-0.1294	4.97	-0.2165	1.32	3.59	

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN Y	S.D. Y	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		.82	3.85		-0.1412	1.15	3.18	600										
12		-0.06	3.35	-0.325	.02	2.98	-0.4718	.0056	.0193	.0251	.26	3.47	-0.1807	.69	2.81			
24		-0.12	3.35	-0.317	.05	2.89	-0.4825	-0.0359	.1572	-0.1245	.08	3.43	-0.1762	.83	2.79			
36		-0.18	3.78	-0.4851	.08	3.51	-0.5568	.0729	.0485	-0.1234	.15	3.35	-0.2328	.77	2.63			
48		-0.22	3.99	-0.5114	.11	3.73	-0.5942	.0410	.1145	-0.1524	.10	3.27	-0.2403	.83	2.52			
60		-0.27	4.39	-0.5610	.14	3.95	-0.6300	.0848	.0847	-0.1463	.11	3.16	-0.2772	.81	2.45			
72		-0.36	4.61	-0.5839	.15	4.03	-0.6443	.0157	.0711	-0.1037	.08	3.11	-0.2622	.80	2.42			

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.01	1.00

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN Y	S.D. Y	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		-1.99	3.34		-0.1005	0.59	2.52	800										
12		-0.08	3.18	-0.4755	.03	2.63	-0.5279	-0.0498	.0287	.0232	-1.07	2.94	-0.1166	.35	2.14			
24		-0.14	3.01	-0.4442	.03	2.59	-0.5233	-0.0488	.1342	-0.0761	-1.18	2.98	-0.1216	.19	2.13			
36		-0.22	3.54	-0.5294	.05	2.97	-0.5959	-0.0109	.0454	-0.0382	-1.18	2.83	-0.1513	.31	2.02			
48		-0.27	3.41	-0.5045	.03	3.18	-0.6360	.0072	.0750	-0.0744	-1.22	2.98	-0.1631	.29	1.94			
60		-0.34	3.91	-0.5773	.11	3.29	-0.6547	.0541	-0.0333	-0.0685	-1.24	2.73	-0.2050	.36	1.90			
72		-0.43	3.99	-0.5851	.11	3.45	-0.6896	.0286	.0410	-0.0843	-1.30	2.70	-0.2114	.34	1.82			

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.88	.50

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19214) - VANCEBERG X = U(AT T)
 MONTH OF RECORD - JUNE Y = V(AT T)
 PERIOD OF RECORD - 1/65 - 12/74 XP = U(AT T + DT) - U(AT T)
 ALPHA ANGLE - 90.0 YP = V(AT T + DT) - V(AT T)

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-4.13	3.14	-.0373	.25	2.14	600	-.05	3.01	-.0247	-.213	2.76
24							-.13	3.05	-.0187	-.219	2.75
36							-.20	3.37	-.0295	-.222	2.66
48							-.28	3.44	-.0285	-.228	2.66
60							-.35	3.74	-.0254	-.232	2.57
72							-.43	3.77	-.0207	-.238	2.57

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

	GIVEN X	R (XP, YP)	GIVEN Y
	-4.05		.15

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-5.58	3.05	-.0693	.05	2.02	600	-.12	3.01	-.0273	-.240	2.65
24							-.19	3.04	-.0186	-.238	2.64
36							-.27	3.21	-.0177	-.244	2.59
48							-.34	3.30	-.0165	-.243	2.57
60							-.43	3.45	-.0170	-.252	2.52
72							-.51	3.44	-.0231	-.258	2.53

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

	GIVEN X	R (XP, YP)	GIVEN Y
	-6.52		-.01

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	R (XP, YP)	S.D. XP	MEAN YP	R (XP, Y)	R (YP, X)	MEAN Y	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	R (XP, YP)	S.D. XP	MEAN YP	R (XP, Y)	R (YP, X)	MEAN Y	S.D. YP
12	-1.10	3.00	-.5004	.03	2.58	-.6350	-.0996	-.0228	600	-3.49	-.1066	2.63	.33	-.0182	.1066	-6.83	2.63	-6.83	-6.83	-3.49	-.1066	2.63	.33	-.0182	.1066	-6.83	2.63
24	-.20	2.95	-.4979	.03	2.63	-.6378	-.0752	.0506		-3.45	-.0392	2.63	-.26	-.0628	-.0392	-6.83	2.63	-6.83	-6.83	-3.45	-.0392	2.63	-.26	-.0628	-.0392	-6.83	2.63
36	-.30	3.20	-.5353	.02	2.75	-.6699	-.0791	.0223		-3.55	-.0343	2.53	.05	-.0343	.0480	-6.83	2.53	-6.83	-6.83	-3.55	-.0343	2.53	.05	-.0343	.0480	-6.83	2.53
48	-.40	3.31	-.5525	.01	2.80	-.6820	-.0137	-.0108		-3.60	-.0235	2.50	-.08	-.0887	-.0235	-6.83	2.50	-6.83	-6.83	-3.60	-.0235	2.50	-.08	-.0887	-.0235	-6.83	2.50
60	-.49	3.41	-.5681	.02	2.97	-.7247	.0150	-.0088		-3.65	-.0310	2.42	-.09	-.1033	-.0310	-6.83	2.42	-6.83	-6.83	-3.65	-.0310	2.42	-.09	-.1033	-.0310	-6.83	2.42
72	-.59	3.57	-.6015	.03	2.96	-.7136	.0182	.0319		-3.66	-.0745	2.42	-.23	-.1140	-.0745	-6.83	2.42	-6.83	-6.83	-3.66	-.0745	2.42	-.23	-.1140	-.0745	-6.83	2.42

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, YP)	MEAN YP	S.D. YP	N	MEAN XP	R (XP, YP)	S.D. XP	MEAN YP	R (XP, Y)	R (YP, X)	MEAN Y	S.D. YP	GIVEN X	GIVEN Y	MEAN XP	R (XP, YP)	S.D. XP	MEAN YP	R (XP, Y)	R (YP, X)	MEAN Y	S.D. YP
12	-7.92	3.21	-.0250	-.35	1.91	-.0066	-.6716	-.0649	600	-4.07	-.026	2.79	.16	-.0477	.026	-7.89	2.79	-7.89	-7.89	-4.07	-.026	2.79	.16	-.0477	.026	-7.89	2.79
24	-.19	3.33	-.5270	.01	2.65	-.0057	-.6902	.0129		-4.01	-.0108	2.73	-.20	-.0432	-.0108	-7.89	2.73	-7.89	-7.89	-4.01	-.0108	2.73	-.20	-.0432	-.0108	-7.89	2.73
36	-.30	3.38	-.5315	.01	2.64	-.0189	-.6883	-.0264		-4.11	-.0312	2.72	.01	-.0398	-.0312	-7.89	2.72	-7.89	-7.89	-4.11	-.0312	2.72	.01	-.0398	-.0312	-7.89	2.72
48	-.39	3.59	-.5698	.00	2.74	-.0242	-.7156	-.0189		-4.12	-.0332	2.64	-.02	-.0391	-.0332	-7.89	2.64	-7.89	-7.89	-4.12	-.0332	2.64	-.02	-.0391	-.0332	-7.89	2.64
60	-.47	3.67	-.5811	.01	2.81	-.0158	-.7325	-.0260		-4.15	-.0220	2.61	-.11	-.0894	-.0220	-7.89	2.61	-7.89	-7.89	-4.15	-.0220	2.61	-.11	-.0894	-.0220	-7.89	2.61
72	-.60	3.69	-.5835	.02	2.70	.0067	-.7071	-.0439		-4.23	-.0185	2.61	-.01	-.0607	-.0185	-7.89	2.61	-7.89	-7.89	-4.23	-.0185	2.61	-.01	-.0607	-.0185	-7.89	2.61

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (32214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 30.0

ALTITUDE (CM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HP	MEAN X	S.D. Y	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP	N
12	24	-8.53	3.34	-0.45	-0.32	1.92	500	-4.29	2.92	-0.976	.08	1.42	
24	36							-4.36	2.98	-0.722	-.27	1.41	
36	48							-4.47	2.93	-1.123	-.21	1.38	
48	60							-4.58	2.92	-1.246	.02	1.40	
60	72							-4.50	2.86	-1.147	-.03	1.34	
72								-4.63	2.84	-1.124	-.14	1.38	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.52	-.37

ALTITUDE (CM) - 25

QUADRIVARIATE NORMAL STATISTICS OF Y, YP, XP, YP

DT	HP	MEAN Y	S.D. XP	P (Y, XP)	MEAN XP	S.D. XP	N	MEAN YP	S.D. YP	P (YP, XP)	MEAN XP	S.D. YP	N
12	24	-8.35	2.57	-0.2514	-0.31	2.03	500	-1.56	2.23	-0.725	.22	1.50	
24	36							-1.50	2.17	-0.401	-.32	1.46	
36	48							-1.55	2.14	-0.950	-.11	1.44	
48	60							-1.53	2.11	-0.769	.09	1.46	
60	72							-1.56	2.09	-1.247	-.13	1.40	
72								-1.30	2.08	-1.1278	-.13	1.45	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.33	-.29

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - JUNE
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-9.88	3.80	-.1081	-.18	2.16	600										
12	-.11	2.96	-.3946	-.00	2.79		-.00	2.79	-.6447	-.0492		-.4.92	3.49	-.1495	.34	1.65
24	-.26	3.06	-.4142	-.01	3.02		-.01	3.02	-.6951	-.0218		-.4.90	3.46	-.1470	-.04	1.56
36	-.39	3.30	-.4592	.02	2.97		.02	2.97	-.7031	-.0322		-.4.84	3.33	-.1631	.17	1.54
48	-.53	3.49	-.4795	.05	3.00		.05	3.00	-.7183	-.0487		-.4.98	3.33	-.1614	.24	1.50
60	-.68	3.62	-.5060	.08	3.12		.08	3.12	-.7279	-.0582		-.4.96	3.28	-.1901	.19	1.48
72	-.81	3.74	-.5283	.09	3.06		.09	3.06	-.7202	-.0694		-.4.98	3.23	-.1762	.04	1.50

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.95	-.17

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-10.08	3.87	-.0108	-.20	2.15	600										
12	-.13	3.18	-.4268	-.02	2.75		-.02	2.75	-.6425	-.0325		-.4.93	3.50	-.0074	.28	1.64
24	-.26	3.18	-.4275	.01	2.89		.01	2.89	-.6810	-.0182		-.4.97	3.50	-.0273	-.14	1.57
36	-.41	3.34	-.4687	.00	2.89		.00	2.89	-.6885	-.0307		-.4.81	3.42	-.0433	-.04	1.56
48	-.53	3.46	-.4866	.02	3.00		.02	3.00	-.7086	-.0249		-.4.86	3.38	-.0366	.02	1.51
60	-.65	3.62	-.5192	.05	3.06		.05	3.06	-.7083	-.0551		-.4.85	3.31	-.0410	.23	1.51
72	-.79	3.77	-.5353	.05	3.05		.05	3.05	-.7050	-.0377		-.4.96	3.27	-.0430	-.01	1.52

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.09	-.22

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (1922) - VANDEBERG

X = U (AT 7)
Y = V (AT 7)

MONTH	PER. OF REC.	ALT. %	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
5	1/55 - 12/74	0	90.0	2.43	2.29	-.5561	-1.28	2.37	500
5	1/55 - 12/74	1	90.0	.80	3.15	-.2255	-2.51	4.34	500
5	1/55 - 12/74	2	90.0	2.41	4.08	-.4729	-2.53	4.16	500
5	1/55 - 12/74	3	90.0	2.90	5.53	-.2691	-1.52	6.16	500
5	1/55 - 12/74	4	90.0	3.47	6.73	-.1219	-1.13	6.94	500
5	1/55 - 12/74	5	90.0	3.94	7.56	-.1342	-.13	7.75	500
5	1/55 - 12/74	6	90.0	3.54	8.51	-.1565	.21	8.90	500
5	1/55 - 12/74	7	90.0	3.15	10.33	-.1110	.17	10.18	500
5	1/55 - 12/74	8	90.0	2.74	11.74	-.0332	.53	11.78	500
5	1/55 - 12/74	9	90.0	2.32	12.42	-.0220	.53	13.33	500
5	1/55 - 12/74	10	90.0	1.91	12.71	.0220	.47	14.62	500
5	1/55 - 12/74	11	90.0	1.50	12.87	.0550	.22	15.17	500
5	1/55 - 12/74	12	90.0	1.09	12.95	.0794	.22	15.57	500
5	1/55 - 12/74	13	90.0	0.67	13.24	.0954	.19	15.65	500
5	1/55 - 12/74	14	90.0	0.25	13.49	.1034	.16	15.60	500
5	1/55 - 12/74	15	90.0	0.17	13.75	.1042	.13	15.51	500
5	1/55 - 12/74	16	90.0	.00	13.85	.1034	.11	15.18	500
5	1/55 - 12/74	17	90.0	-.13	13.84	.1034	.09	14.82	500
5	1/55 - 12/74	18	90.0	-.27	13.75	.1034	.07	14.52	500
5	1/55 - 12/74	19	90.0	-.41	13.54	.1034	.05	14.22	500
5	1/55 - 12/74	20	90.0	-.55	13.21	.1034	.03	13.92	500
5	1/55 - 12/74	21	90.0	-.68	12.81	.1034	.01	13.62	500
5	1/55 - 12/74	22	90.0	-.82	12.34	.1034	-.01	13.32	500
5	1/55 - 12/74	23	90.0	-.95	11.87	.1034	-.03	13.02	500
5	1/55 - 12/74	24	90.0	-1.08	11.40	.1034	-.05	12.72	500
5	1/55 - 12/74	25	90.0	-1.22	10.93	.1034	-.07	12.42	500
5	1/55 - 12/74	26	90.0	-1.35	10.46	.1034	-.09	12.12	500
5	1/55 - 12/74	27	90.0	-1.48	10.00	.1034	-.11	11.82	500
5	1/55 - 12/74	28	90.0	-1.62	9.53	.1034	-.13	11.52	500
5	1/55 - 12/74	29	90.0	-1.75	9.06	.1034	-.15	11.22	500
5	1/55 - 12/74	30	90.0	-1.88	8.60	.1034	-.17	10.92	500
5	1/55 - 12/74	31	90.0	-2.02	8.13	.1034	-.19	10.62	500
5	1/55 - 12/74	32	90.0	-2.15	7.66	.1034	-.21	10.32	500
5	1/55 - 12/74	33	90.0	-2.28	7.20	.1034	-.23	10.02	500
5	1/55 - 12/74	34	90.0	-2.42	6.73	.1034	-.25	9.72	500
5	1/55 - 12/74	35	90.0	-2.55	6.26	.1034	-.27	9.42	500
5	1/55 - 12/74	36	90.0	-2.68	5.80	.1034	-.29	9.12	500
5	1/55 - 12/74	37	90.0	-2.82	5.33	.1034	-.31	8.82	500
5	1/55 - 12/74	38	90.0	-2.95	4.86	.1034	-.33	8.52	500
5	1/55 - 12/74	39	90.0	-3.08	4.40	.1034	-.35	8.22	500
5	1/55 - 12/74	40	90.0	-3.22	3.93	.1034	-.37	7.92	500
5	1/55 - 12/74	41	90.0	-3.35	3.46	.1034	-.39	7.62	500
5	1/55 - 12/74	42	90.0	-3.48	3.00	.1034	-.41	7.32	500
5	1/55 - 12/74	43	90.0	-3.62	2.53	.1034	-.43	7.02	500
5	1/55 - 12/74	44	90.0	-3.75	2.06	.1034	-.45	6.72	500
5	1/55 - 12/74	45	90.0	-3.88	1.60	.1034	-.47	6.42	500
5	1/55 - 12/74	46	90.0	-4.02	1.13	.1034	-.49	6.12	500
5	1/55 - 12/74	47	90.0	-4.15	0.66	.1034	-.51	5.82	500
5	1/55 - 12/74	48	90.0	-4.28	0.20	.1034	-.53	5.52	500
5	1/55 - 12/74	49	90.0	-4.42	-0.27	.1034	-.55	5.22	500
5	1/55 - 12/74	50	90.0	-4.55	-0.74	.1034	-.57	4.92	500
5	1/55 - 12/74	51	90.0	-4.68	-1.20	.1034	-.59	4.62	500
5	1/55 - 12/74	52	90.0	-4.82	-1.67	.1034	-.61	4.32	500
5	1/55 - 12/74	53	90.0	-4.95	-2.13	.1034	-.63	4.02	500
5	1/55 - 12/74	54	90.0	-5.08	-2.60	.1034	-.65	3.72	500
5	1/55 - 12/74	55	90.0	-5.22	-3.06	.1034	-.67	3.42	500
5	1/55 - 12/74	56	90.0	-5.35	-3.53	.1034	-.69	3.12	500
5	1/55 - 12/74	57	90.0	-5.48	-4.00	.1034	-.71	2.82	500
5	1/55 - 12/74	58	90.0	-5.62	-4.46	.1034	-.73	2.52	500
5	1/55 - 12/74	59	90.0	-5.75	-4.93	.1034	-.75	2.22	500
5	1/55 - 12/74	60	90.0	-5.88	-5.40	.1034	-.77	1.92	500
5	1/55 - 12/74	61	90.0	-6.02	-5.86	.1034	-.79	1.62	500
5	1/55 - 12/74	62	90.0	-6.15	-6.33	.1034	-.81	1.32	500
5	1/55 - 12/74	63	90.0	-6.28	-6.80	.1034	-.83	1.02	500
5	1/55 - 12/74	64	90.0	-6.42	-7.26	.1034	-.85	0.72	500
5	1/55 - 12/74	65	90.0	-6.55	-7.73	.1034	-.87	0.42	500
5	1/55 - 12/74	66	90.0	-6.68	-8.20	.1034	-.89	0.12	500
5	1/55 - 12/74	67	90.0	-6.82	-8.66	.1034	-.91	0.00	500
5	1/55 - 12/74	68	90.0	-6.95	-9.13	.1034	-.93	0.00	500
5	1/55 - 12/74	69	90.0	-7.08	-9.60	.1034	-.95	0.00	500
5	1/55 - 12/74	70	90.0	-7.22	-10.06	.1034	-.97	0.00	500
5	1/55 - 12/74	71	90.0	-7.35	-10.53	.1034	-.99	0.00	500
5	1/55 - 12/74	72	90.0	-7.48	-11.00	.1034	-.99	0.00	500
5	1/55 - 12/74	73	90.0	-7.62	-11.46	.1034	-.99	0.00	500
5	1/55 - 12/74	74	90.0	-7.75	-11.93	.1034	-.99	0.00	500
5	1/55 - 12/74	75	90.0	-7.88	-12.40	.1034	-.99	0.00	500
5	1/55 - 12/74	76	90.0	-8.02	-12.86	.1034	-.99	0.00	500
5	1/55 - 12/74	77	90.0	-8.15	-13.33	.1034	-.99	0.00	500
5	1/55 - 12/74	78	90.0	-8.28	-13.80	.1034	-.99	0.00	500
5	1/55 - 12/74	79	90.0	-8.42	-14.26	.1034	-.99	0.00	500
5	1/55 - 12/74	80	90.0	-8.55	-14.73	.1034	-.99	0.00	500
5	1/55 - 12/74	81	90.0	-8.68	-15.20	.1034	-.99	0.00	500
5	1/55 - 12/74	82	90.0	-8.82	-15.66	.1034	-.99	0.00	500
5	1/55 - 12/74	83	90.0	-8.95	-16.13	.1034	-.99	0.00	500
5	1/55 - 12/74	84	90.0	-9.08	-16.60	.1034	-.99	0.00	500
5	1/55 - 12/74	85	90.0	-9.22	-17.06	.1034	-.99	0.00	500
5	1/55 - 12/74	86	90.0	-9.35	-17.53	.1034	-.99	0.00	500
5	1/55 - 12/74	87	90.0	-9.48	-18.00	.1034	-.99	0.00	500
5	1/55 - 12/74	88	90.0	-9.62	-18.46	.1034	-.99	0.00	500
5	1/55 - 12/74	89	90.0	-9.75	-18.93	.1034	-.99	0.00	500
5	1/55 - 12/74	90	90.0	-9.88	-19.40	.1034	-.99	0.00	500
5	1/55 - 12/74	91	90.0	-10.02	-19.86	.1034	-.99	0.00	500
5	1/55 - 12/74	92	90.0	-10.15	-20.33	.1034	-.99	0.00	500
5	1/55 - 12/74	93	90.0	-10.28	-20.80	.1034	-.99	0.00	500
5	1/55 - 12/74	94	90.0	-10.42	-21.26	.1034	-.99	0.00	500
5	1/55 - 12/74	95	90.0	-10.55	-21.73	.1034	-.99	0.00	500
5	1/55 - 12/74	96	90.0	-10.68	-22.20	.1034	-.99	0.00	500
5	1/55 - 12/74	97	90.0	-10.82	-22.66	.1034	-.99	0.00	500
5	1/55 - 12/74	98	90.0	-10.95	-23.13	.1034	-.99	0.00	500
5	1/55 - 12/74	99	90.0	-11.08	-23.60	.1034	-.99	0.00	500
5	1/55 - 12/74	100	90.0	-11.22	-24.06	.1034	-.99	0.00	500

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	2.03	1.93	-0.4607	-1.61	1.82	620	0.97	0.98	0.3799	0.97	1.35
24							0.02	1.74	1.075	1.00	1.56
36							0.02	0.97	4.180	0.97	1.30
48							0.01	1.70	0.0875	0.95	1.48
60							0.02	0.94	0.4981	0.98	1.24
72							0.02	1.70	0.1438	0.98	1.44

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	0.97	0.98	-0.3392	-0.87	1.35
24	1.00	1.74	-0.5481	-0.83	1.56
36	0.97	0.97	-0.2739	-0.90	1.30
48	0.95	1.70	-0.5636	-1.00	1.48
60	0.98	0.94	-0.2944	-0.91	1.24
72	0.98	1.70	-0.5591	-0.96	1.44

..... ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP
12	0.25	2.54	-0.2084	-1.90	3.87	620	0.12	1.90	-0.0256	0.12	3.51
24							0.00	2.17	0.1844	0.15	3.36
36							0.01	1.68	1.132	0.13	2.99
48							0.01	1.97	0.2959	0.16	2.82
60							0.02	1.60	0.1710	0.15	2.63
72							0.03	1.93	0.3276	0.18	2.65

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	0.12	1.90	-0.3350	-1.01	3.51
24	0.15	2.17	-0.1652	-1.03	3.36
36	0.13	1.68	-0.2585	-1.04	2.99
48	0.16	1.97	-0.0877	-1.05	2.82
60	0.15	1.60	-0.2162	-1.02	2.63
72	0.18	1.93	-0.0602	-1.02	2.65

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-0.25	3.04	-0.1869	-0.16	3.92	620						-0.39	0.10					
12	.01	2.59	-0.4368	-0.04	2.91		-0.04	2.91	-0.0940	-0.3600	0.357	-0.0291	2.73	-0.05	2.73	-0.2177	-0.24	3.66
24	.01	2.99	-0.5056	-0.07	3.65		-0.07	3.65	-1.325	-0.4779	0.1215	0.096	2.62	-0.04	2.62	-0.2015	-0.27	3.44
36	.02	3.61	-0.6099	-0.09	4.72		-0.09	4.72	-2.116	-0.5904	0.1432	0.1159	2.41	-0.03	2.41	-0.1678	-0.26	3.17
48	.03	3.92	-0.6509	-0.12	5.17		-0.12	5.17	-2.230	-0.6425	0.1583	0.1446	2.31	-0.04	2.31	-0.1513	-0.26	3.01
60	-0.03	3.96	-0.6755	-0.12	5.40		-0.12	5.40	-2.2719	-0.6734	0.1825	0.1851	2.23	-0.06	2.23	-0.1156	-0.26	2.90
72	-0.05	3.93	-0.6703	-0.12	5.50		-0.12	5.50	-2.2705	-0.6872	0.1856	0.1794	2.25	-0.07	2.25	-0.1185	-0.26	2.85

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	0.88	4.03	-0.1257	1.60	4.32	620						0.65	1.87					
12	-0.01	2.59	-0.3656	-0.01	3.00		-0.01	3.00	-0.0250	-0.3224	0.320	-0.0575	3.75	0.43	3.75	-0.1497	0.70	4.05
24	-0.01	3.57	-0.4493	-0.02	4.10		-0.02	4.10	-0.0922	-0.4664	0.0930	-0.0159	3.59	0.41	3.59	-0.1367	0.72	3.81
36	0.01	4.13	-0.5244	-0.04	4.99		-0.04	4.99	-1.1503	-0.5701	0.0999	0.0578	3.43	0.52	3.43	-0.1219	0.67	3.55
48	-0.03	4.38	-0.5611	-0.04	5.38		-0.04	5.38	-1.1925	-0.6158	0.1083	0.1068	3.34	0.53	3.34	-0.1006	0.64	3.40
60	-0.08	4.68	-0.6021	-0.06	5.64		-0.06	5.64	-1.1978	-0.6472	0.1026	0.1290	3.22	0.52	3.22	-0.0944	0.61	3.29
72	-0.14	4.85	-0.6243	-0.08	5.75		-0.08	5.75	-1.1943	-0.6595	0.0833	0.1484	3.15	0.52	3.15	-0.0945	0.58	3.24

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDEBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-02	3.33	-0.3537	-01	3.37	-0.3612	-0.741	0.464	620	.67	4.53	-0.0077	1.38	4.33
24	-05	4.27	-0.4579	-01	4.27	-0.4622	-0.037	0.780		.71	4.31	0.090	1.26	4.12
36	-06	5.04	-0.5399	-03	5.05	-0.5491	-0.13	0.558		.87	4.09	0.232	1.26	3.89
48	-10	5.43	-0.5812	-03	5.53	-0.5989	-0.19	0.366		.93	3.95	0.362	1.23	3.73
60	-13	5.73	-0.6129	-05	5.75	-0.6229	-0.27	0.236		.93	3.84	0.510	1.21	3.65
72	-19	5.90	-0.6337	-07	5.93	-0.6421	-0.100	0.001		.93	3.76	0.204	1.19	3.57

ALTITUDE (KM) - 5

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-03	3.49	-0.3318	.02	3.50	-0.3647	-0.478	0.439	620	.75	5.14	0.0572	1.65	4.48
24	-09	4.42	-0.4222	.01	4.49	-0.4721	-0.53	0.344		.84	4.94	0.0551	1.59	4.24
36	-10	5.37	-0.5089	.01	5.28	-0.5592	-0.641	0.119		1.02	4.70	0.0507	1.49	4.00
48	-14	5.81	-0.5500	-01	5.71	-0.6023	-0.723	0.201		1.04	4.56	0.0494	1.49	3.85
60	-16	6.32	-0.5975	-02	6.11	-0.6453	-0.660	0.236		1.05	4.38	0.0513	1.47	3.69
72	-20	6.61	-0.6253	-07	6.27	-0.6636	-0.698	0.290		1.06	4.26	0.0547	1.44	3.61

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	-0.05	3.90	-0.3243	.03	3.78	-0.3617	-0.3617	.0196	.0830	-0.0971	.85	5.88	.0916	1.99	4.91		
24	-0.10	5.15	-0.4270	.05	5.06	-0.4221	-0.4221	.0101	.0574	-0.0795	1.08	5.82	.0998	1.89	4.82		
36	-0.14	6.12	-0.5332	.06	5.94	-0.5052	-0.5052	.0032	.0032	-0.0861	1.27	5.39	.0855	1.78	4.34		
48	-0.17	6.75	-0.5928	.05	6.39	-0.6124	-0.6124	.0980	-0.0314	-0.0829	1.35	5.20	.0776	1.73	4.18		
60	-0.20	7.25	-0.5940	.07	6.68	-0.6439	-0.6439	.0849	-0.0379	-0.0661	1.40	5.02	.0869	1.71	4.05		
72	-0.22	7.64	-0.6275	.02	6.81	-0.6607	-0.6607	.0886	-0.0407	-0.0660	1.40	4.86	.0919	1.67	3.97		

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	-0.07	4.18	-0.3091	.03	4.34	-0.3578	-0.3578	.0483	.0616	-0.0856	1.46	6.62	.0497	2.38	5.66		
24	-0.11	5.75	-0.4182	.08	5.79	-0.4759	-0.4759	.0268	.0563	-0.0730	1.67	6.33	.0558	2.28	5.33		
36	-0.16	6.73	-0.4878	.12	6.78	-0.5600	-0.5600	.0533	.0133	-0.0598	1.87	6.09	.0524	2.17	5.03		
48	-0.19	7.54	-0.5468	.12	7.35	-0.6066	-0.6066	.0911	-0.0386	-0.0586	2.00	5.85	.0476	2.09	4.84		
60	-0.19	8.12	-0.5881	.17	7.69	-0.6349	-0.6349	.0880	-0.0593	-0.0394	2.11	5.65	.0414	2.06	4.70		
72	-0.21	8.47	-0.6142	.13	7.77	-0.6416	-0.6416	.1095	-0.0719	-0.0451	2.12	5.51	.0337	2.05	4.67		

33
33
33

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 8
 QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
DT	5.03	7.30	.0402	5.86	6.95	620	2.13	7.51	.0384	2.93	6.51	4.47	6.69	2.93	6.51	
HR																
12	-.09	4.74	-.3060	-.3421	.0828		2.45	7.21	-.0528	2.72	6.15			2.72	6.15	
24	-.14	6.33	-.4080	-.4646	.0853		2.61	6.93	-.0197	2.63	5.86			2.63	5.86	
35	-.18	7.95	-.4733	-.5378	.0931		2.68	6.60	-.0077	2.56	5.65			2.56	5.65	
43	-.25	8.57	-.5432	-.6113	.1087		2.77	6.32	-.0209	2.57	5.56			2.57	5.56	
60	-.26	9.30	-.5980	-.6637	.1266		2.80	6.17	-.0176	2.58	5.50			2.58	5.50	
72	-.28	9.68	-.6239	-.6971	.1371											

..... ALTITUDE (KM) - 9
 QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
DT	6.17	8.72	.0001	7.29	7.80	620	2.87	8.31	-.0066	3.46	7.34	5.56	8.20	3.46	7.34	
HR																
12	-.09	5.22	-.3044	-.3358	.0456		3.20	7.97	-.0176	3.26	6.92			3.26	6.92	
24	-.13	6.98	-.4074	-.4528	.0633		3.38	7.60	-.0304	3.16	6.58			3.16	6.58	
36	-.19	8.52	-.4905	-.5385	.0717		3.47	7.21	-.0281	3.11	6.29			3.11	6.29	
48	-.26	9.66	-.5627	-.6145	.0845		3.52	6.89	-.0182	3.16	6.24			3.16	6.24	
60	-.29	10.41	-.6110	-.6511	.0933											
72	-.33	10.86	-.6361	-.6996	.1031											

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0
 X = U(AT T)
 Y = V(AT T)
 XP = U(AT T + DT) - U(AT T)
 YP = V(AT T + DT) - V(AT T)

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	7.28	9.47	-0.109	9.00	8.60	620	0.07	5.48	-0.3211	0.0994	-0.0345	-0.327	-0.0244	-0.0327	3.82	9.08	6.62	-0.0244	3.96	8.15	
24							0.16	7.54	-0.4411	0.0812	-0.0514	-0.0245	-0.0339	-0.0245	3.96	8.69		-0.0339	3.93	7.72	
36							0.22	8.84	-0.5205	0.1067	-0.0875	-0.0308	-0.0573	-0.0308	4.04	8.26		-0.0573	3.86	7.34	
48							0.28	9.45	-0.5529	0.0660	-0.0807	-0.002	-0.0522	-0.002	4.11	7.81		-0.0522	3.86	7.16	
60							0.36	9.73	-0.5699	0.0540	-0.0656	-0.016	-0.0396	-0.016	4.11	7.48		-0.0396	3.96	7.06	
72							0.37	9.93	-0.5806	0.0625	-0.0541	-0.0096	-0.0449	-0.0096	3.94	7.25		-0.0449	4.06	7.00	

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
12	8.53	9.98	-0.191	10.92	9.35	620	0.08	5.65	-0.3052	0.1554	-0.0697	-0.304	-0.0379	-0.304	4.68	9.58	7.98	-0.0379	4.61	8.90	
24							0.20	7.78	-0.4152	0.0859	-0.0748	-0.0050	-0.0437	-0.0050	4.83	9.18		-0.0437	4.64	8.50	
36							0.25	9.17	-0.4892	0.0916	-0.0854	-0.0165	-0.0588	-0.0165	4.74	8.74		-0.0588	4.72	8.14	
48							0.30	9.69	-0.5105	0.0558	-0.0712	-0.0019	-0.0588	-0.0019	4.63	8.29		-0.0588	4.92	8.03	
60							0.35	9.99	-0.5252	0.0495	-0.0604	-0.016	-0.0506	-0.016	4.72	7.95		-0.0506	4.93	7.95	
72							0.40	10.31	-0.5409	0.0369	-0.0363	-0.0027	-0.0477	-0.0027	4.44	7.70		-0.0477	5.08	7.86	

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.C. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	9.46	9.98	-0.63	12.23	9.69	620	.13	5.44	-0.2849	.1204	-0.0732	-0.0051	5.53	9.60	-0.0308	4.83	9.28	
24							.27	7.50	-0.2850	.0965	-0.0878	-0.0002	5.52	9.25	-0.0415	5.04	8.93	
36							.22	8.82	-0.4557	.0285	-0.0340	-0.0135	5.25	8.84	-0.0944	5.24	8.62	
48							.34	9.30	-0.4673	.0588	-0.0802	-0.0147	5.29	8.43	-0.0567	5.35	8.55	
60							.41	9.67	-0.4824	.0499	-0.0658	-0.0130	5.32	8.12	-0.0490	5.53	8.48	
72							.48	10.03	-0.4987	.0346	-0.0378	-0.0036	4.95	7.90	-0.0447	5.74	8.40	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.88	13.64

ALTITUDE (KM) - 13

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	9.65	9.54	.0394	12.21	9.29	620	.11	5.13	-0.2726	.1223	-0.0514	-0.0299	5.04	9.20	0.0242	5.10	8.92	
24							.22	6.84	-0.3609	.0819	-0.0743	-0.0125	5.28	8.91	0.0170	5.09	8.86	
36							.28	8.15	-0.4284	.0382	-0.0234	-0.0298	5.10	8.55	0.0052	5.27	8.39	
48							.30	8.56	-0.4421	.0933	-0.0349	-0.0206	5.27	8.24	0.0066	5.36	8.32	
60							.35	9.03	-0.4662	.0376	-0.0281	-0.0164	5.35	7.95	0.0056	5.49	8.21	
72							.38	9.39	-0.4859	.0764	-0.0640	-0.0249	5.05	7.73	0.0106	5.61	8.12	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.21	13.71

ORIGINAL P.
OF POOR QUALITY

QUADRVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION 132214 - VANGENBERG
 MONTH OF RECORD - JULY
 PER DO OF RECORD - 1/85 - 12/74
 ALPHA ANGLE - 30.0

ALPHA ANGLE (deg) - 30.0

QUADRVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
12	8.53	8.47	.1150	11.15	8.28	820					
12	4.09	4.78	-.2822	1.28	1.27	10490	4.43	8.13	-.0993	4.83	7.96
24	4.18	4.73	-.2588	1.28	1.25	10797	4.43	7.91	-.0825	4.74	7.82
36	4.23	4.73	-.2448	1.28	1.24	11333	4.55	7.61	-.0855	4.86	7.54
48	4.27	4.73	-.2311	1.28	1.23	11874	4.62	7.33	-.0817	4.80	7.44
60	4.31	4.73	-.2176	1.28	1.21	12415	4.79	7.15	-.0863	4.84	7.23
72	4.36	4.73	-.2043	1.28	1.20	12954	4.80	6.97	-.0838	4.97	7.23

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
8.20	12.33				

ALPHA ANGLE (deg) - 30.0

QUADRVARIATE NORMAL STATISTICS OF Y, YP, YP

DT	MEAN Y	S.D. Y	P (X, Y)	MEAN YP	S.D. YP	N	MEAN YP	S.D. YP	P (YP, YP)	MEAN XP	S.D. XP
12	8.53	8.47	.1150	11.15	8.28	820					
12	4.11	4.52	-.2172	1.05	1.05	10474	2.93	6.71	-.1639	3.93	5.89
24	4.17	4.52	-.2043	1.05	1.05	10797	3.24	6.61	-.1609	4.00	5.84
36	4.23	4.52	-.1914	1.05	1.03	11333	3.64	6.31	-.1611	3.79	5.83
48	4.27	4.52	-.1784	1.05	1.02	11874	3.92	6.24	-.1563	3.69	5.84
60	4.31	4.52	-.1655	1.05	1.01	12415	3.66	6.00	-.1534	3.81	5.42
72	4.36	4.52	-.1523	1.05	1.00	12954	3.61	5.93	-.1550	3.87	5.35

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR YP AND YP

GIVEN X	GIVEN Y	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
5.88	9.41				

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19214) - JANDENBERG
 MONTH OF RECORD - JUL
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 30.0

ALPHA ANGLE (M) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	P (XP, YP)	MEAN XP	S.D. XP	P (Y, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN GIVEN X	S.D. XP	P (XP, YP)	MEAN GIVEN Y	S.D. YP
12	-3.43	3.29	.2395	2.26	2.78	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97
24	-1.08	2.99	.1455	1.01	2.78	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97
36	-1.12	2.71	.1827	1.01	2.88	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97
48	-1.19	2.39	.2433	1.01	3.02	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97
60	-1.22	2.15	.3251	1.01	3.18	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97
72	-1.26	2.07	.4213	1.01	3.31	620	-1.62	2.91	2.97	2.97	2.97	2.97	-3.44	2.97	2.97	2.28	2.97

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN GIVEN X	S.D. XP	P (XP, YP)	MEAN GIVEN Y	S.D. YP
12	-1.62	2.91	.2395	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97
24	-1.62	2.91	.1455	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97
36	-1.62	2.91	.1827	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97
48	-1.62	2.91	.2433	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97
60	-1.62	2.91	.3251	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97
72	-1.62	2.91	.4213	2.26	2.78	620	-3.44	2.97	2.97	2.28	2.97

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	P (X, Y)	MEAN Y	S.D. Y	P (XP, YP)	MEAN XP	S.D. XP	P (Y, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN GIVEN X	S.D. XP	P (XP, YP)	MEAN GIVEN Y	S.D. YP
12	-5.61	2.71	.1553	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14
24	-1.08	2.99	.1455	1.01	2.78	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14
36	-1.12	2.71	.1827	1.01	2.88	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14
48	-1.19	2.39	.2433	1.01	3.02	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14
60	-1.22	2.15	.3251	1.01	3.18	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14
72	-1.26	2.07	.4213	1.01	3.31	620	-5.62	2.71	2.14	2.14	2.14	2.14	-5.62	2.71	2.14	1.44	2.14

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (XP, YP)	MEAN GIVEN X	S.D. XP	P (XP, YP)	MEAN GIVEN Y	S.D. YP
12	-5.62	2.71	.1553	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14
24	-5.62	2.71	.1455	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14
36	-5.62	2.71	.1827	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14
48	-5.62	2.71	.2433	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14
60	-5.62	2.71	.3251	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14
72	-5.62	2.71	.4213	1.43	2.13	620	-5.62	2.71	2.14	2.14	2.14

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	-7.34	2.49	.1657	.85	1.99	620										
12	-.04	2.80	-.5639	.02	2.74		-.6939	.1021	-.1411	-.0020		-3.58	2.05	.2101	.81	1.42
24	-.07	2.64	-.5181	.02	2.50		-.6338	.1592	-.0643	-.1214		-3.84	2.13	.1609	.24	1.53
36	-.10	2.54	-.5288	.01	2.70		-.6931	.1483	-.1432	-.0687		-3.67	2.01	.1610	.64	1.44
48	-.13	3.01	-.5990	.02	2.80		-.7065	.1523	-.1385	-.0872		-3.73	2.00	.1511	.57	1.40
60	-.14	3.23	-.6495	-.05	2.85		-.7242	.1605	-.1331	-.1078		-3.72	1.90	.1463	.48	1.37
72	-.14	3.21	-.6445	-.05	2.75		-.6974	.1924	-.1837	-.0911		-3.65	1.90	.1280	.64	1.42

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	-9.10	2.49	.0821	.44	1.99	620										
12	-.02	2.78	-.5604	-.00	2.82		-.6967	-.0129	-.0792	.0740		-4.54	2.05	.1321	.78	1.49
24	-.05	2.55	-.5154	-.01	2.64		-.6651	.0837	-.0179	-.0855		-4.61	2.13	.0699	-.06	1.48
36	-.09	2.84	-.5789	-.01	2.68		-.6775	.0588	-.1039	.0127		-4.50	2.02	.0904	.61	1.46
48	-.11	3.00	-.6073	-.04	2.74		-.6932	.0236	-.0179	-.0272		-4.59	1.97	.1149	.21	1.43
60	-.14	3.12	-.6231	-.03	2.68		-.6832	.0852	-.0867	-.0308		-4.64	1.94	.0758	.36	1.45
72	-.14	3.21	-.6350	-.04	2.72		-.6932	.0715	-.0543	-.0387		-4.67	1.91	.0943	.22	1.43

FINAL PAGE IS
POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-10.66	2.43	.0760	.10	1.99	620										
12	-.03	2.52	-.02	-.6958	1.418	-.2029	-.02	2.77	.1418	-.6958	1.418	-5.22	2.06	.0348	.96	1.42
24	-.05	2.49	-.02	-.6433	1.074	-.0649	-.02	2.54	.0844	-.6433	1.074	-5.36	2.08	.0654	.15	1.53
36	-.08	2.73	-.03	-.7022	.982	-.1279	-.03	2.77	.0982	-.7022	.982	-5.41	2.01	.0658	.52	1.42
48	-.10	2.81	-.03	-.6884	.955	-.0598	-.03	2.73	.0955	-.6884	.955	-5.46	1.99	.0583	.01	1.45
60	-.15	2.96	-.03	-.6784	.867	-.1315	-.03	2.68	.0867	-.6784	.867	-5.65	1.97	.0585	.57	1.46
72	-.18	3.12	-.04	-.7104	.843	-.0746	-.04	2.78	.1043	-.7104	.843	-5.70	1.92	.0407	.05	1.40

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-11.96	2.54	.0085	-.12	2.00	620										
12	-.00	2.71	-.02	-.7059	.0971	-.1660	-.00	2.81	.0971	-.7059	.0971	-5.95	2.15	-.0472	.85	1.40
24	-.03	2.64	-.02	-.6335	.1073	-.0429	-.03	2.53	.1073	-.6335	.1073	-6.08	2.18	-.0399	.13	1.55
36	-.05	2.94	-.04	-.7032	.503	-.1030	-.04	2.62	.503	-.7032	.503	-6.17	2.10	-.0507	.59	1.41
48	-.09	3.07	-.04	-.7131	.0724	-.0947	-.09	2.86	.0724	-.7131	.0724	-6.22	2.06	-.0375	.33	1.40
60	-.17	3.18	-.05	-.7113	.0598	-.1352	-.17	2.84	.0598	-.7113	.0598	-6.44	2.06	-.0328	.69	1.39
72	-.17	3.30	-.05	-.7231	.0866	-.0712	-.17	2.89	.0866	-.7231	.0866	-6.48	2.03	-.0620	.06	1.38

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDEBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-13.25	2.61	.0240	-.17	2.12	620										
12	-.01	2.75	-.5243	-.01	2.90		-.01	2.90	-.0110	-.0686		-6.70	2.22	-.0371	.63	1.54
24	-.04	2.74	-.5174	-.00	2.81		-.00	2.81	.1066	-.0727		-6.75	2.23	-.0208	-.06	1.59
36	-.05	2.93	-.5501	.00	2.95		.00	2.95	.0777	-.1167		-6.77	2.18	-.0161	.52	1.53
48	-.07	3.10	-.5245	.00	2.96		.00	2.96	.0963	-.0735		-6.81	2.12	-.0350	-.02	1.53
60	-.14	3.19	-.5918	.01	2.93		.01	2.93	.0595	-.0359		-6.82	2.10	-.0257	.40	1.51
72	-.16	3.38	-.6193	.02	2.95		.02	2.95	.0562	-.0475		-7.02	2.05	-.0361	-.01	1.51

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-14.36	2.76	.0014	.06	2.09	620										
12	-.03	2.71	-.4968	.00	2.90		.00	2.90	.0619	-.0771		-7.13	2.40	-.0387	.40	1.50
24	-.07	2.75	-.5003	.03	2.79		.03	2.79	.0379	-.0213		-7.20	2.39	-.0220	.09	1.54
36	-.09	3.06	-.5523	.02	2.87		.02	2.87	.1148	-.1271		-7.23	2.30	-.0819	.53	1.50
48	-.12	3.08	-.5505	.02	2.88		.02	2.88	.0770	-.0437		-7.37	2.31	-.0555	-.03	1.49
60	-.17	3.25	-.5768	.03	2.91		.03	2.91	.1333	-.0900		-7.44	2.26	-.0974	.01	1.45
72	-.23	3.31	-.5750	.04	2.82		.04	2.82	.0711	-.0687		-7.56	2.25	-.0584	.24	1.49

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STAT: 24 (93214) - VANDENBERG
 MONTH OF RECORD - JULY
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	GIVEN X	R (XP,YP)	MEAN YP	S.D. YP
12	-0.03	2.90	-0.5236	.01	2.85	-0.6736	.25	2.11	620	-0.473	-7.53	2.49	-15.02	.0218	.65	1.56
24	-0.06	2.80	-0.4828	.02	2.80	-0.6630				-0.850	-7.65	2.52		0.143	.21	1.59
36	-0.11	3.32	-0.5635	.00	2.93	-0.6933				-0.912	-7.67	2.37		-0.066	.43	1.52
48	-0.13	3.33	-0.5552	.00	2.97	-0.7013				-0.745	-7.79	2.37		0.043	.38	1.51
60	-0.17	3.57	-0.6053	.00	2.93	-0.7087				-0.640	-7.85	2.29		0.217	.31	1.49
72	-0.19	3.55	-0.5954	.01	2.92	-0.7001				-0.562	-7.91	2.31		0.076	.42	1.51

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	R (YP,X)	MEAN XP	S.D. XP	GIVEN X	R (XP,YP)	MEAN YP	S.D. YP
12	-0.05	2.89	-0.4718	.01	2.90	-0.6653	.15	2.17	620	-0.075	-7.89	2.67	-15.52	-0.359	.55	1.62
24	-0.09	2.99	-0.4838	.00	3.01	-0.6826				-0.646	-7.93	2.66		0.116	.18	1.59
36	-0.15	3.43	-0.5569	.00	3.11	-0.7015				-0.539	-7.97	2.52		-0.137	.40	1.55
48	-0.19	3.55	-0.5784	.01	3.09	-0.6964				-0.569	-8.09	2.48		-0.239	.45	1.56
60	-0.23	3.55	-0.5855	.02	3.12	-0.7242				-0.394	-8.09	2.45		-0.109	.47	1.50
72	-0.27	3.76	-0.6020	.01	3.12	-0.7242				-0.331	-8.10	2.42		-0.166	.59	1.49

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(IAT T)
Y = V(IAT T)

MONTH	PER. OF REC.	ALT. KPH.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
7	1/65 - 12/74	0	90.0	2.03	1.93	-.4607	-1.61	1.82	620
7	1/65 - 12/74	1	90.0	.25	2.54	-.2064	-1.90	3.87	620
7	1/65 - 12/74	2	90.0	-.25	3.04	-.1869	-.16	3.92	620
7	1/65 - 12/74	3	90.0	.88	4.03	-.1257	1.60	4.32	620
7	1/65 - 12/74	4	90.0	1.76	4.86	.0035	2.82	4.66	620
7	1/65 - 12/74	5	90.0	2.26	5.46	.0642	3.40	4.83	620
7	1/65 - 12/74	6	90.0	2.90	6.24	.0961	3.94	5.29	620
7	1/65 - 12/74	7	90.0	3.83	6.98	.0503	4.72	6.08	620
7	1/65 - 12/74	8	90.0	5.03	7.90	.0402	5.85	6.95	620
7	1/65 - 12/74	9	90.0	6.17	8.72	.0001	7.29	7.80	620
7	1/65 - 12/74	10	90.0	7.28	9.47	-.0109	9.00	8.60	620
7	1/65 - 12/74	11	90.0	8.53	9.98	-.0191	10.92	9.35	620
7	1/65 - 12/74	12	90.0	9.46	9.98	-.0163	12.23	9.69	620
7	1/65 - 12/74	13	90.0	9.65	9.54	.0354	12.21	9.29	620
7	1/65 - 12/74	14	90.0	8.59	8.47	.1050	11.95	8.28	620
7	1/65 - 12/74	15	90.0	6.15	7.07	.1610	8.55	6.18	620
7	1/65 - 12/74	16	90.0	2.64	5.19	.1318	5.89	4.63	620
7	1/65 - 12/74	17	90.0	-.71	3.93	.2216	3.89	3.57	620
7	1/65 - 12/74	18	90.0	-3.43	3.29	.2395	2.26	2.78	620
7	1/65 - 12/74	19	90.0	-5.61	2.71	.1653	1.43	2.13	620
7	1/65 - 12/74	20	90.0	-7.34	2.49	.1657	.85	1.99	620
7	1/65 - 12/74	21	90.0	-9.10	2.49	.0821	.44	1.99	620
7	1/65 - 12/74	22	90.0	-10.66	2.43	.0760	.10	1.99	620
7	1/65 - 12/74	23	90.0	-11.96	2.54	.0095	-.12	2.00	620
7	1/65 - 12/74	24	90.0	-13.25	2.61	.0240	-.17	2.12	620
7	1/65 - 12/74	25	90.0	-14.36	2.76	.0014	.06	2.09	620
7	1/65 - 12/74	26	90.0	-15.11	2.88	.0669	.25	2.11	620
7	1/65 - 12/74	27	90.0	-15.58	3.03	.0456	.15	2.17	620

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
12	.01	3.52	-.8521	.01	2.59	-.7023	-.6666	.4645	.5556	1.00	1.08	-.4696	-.76	1.31
24	.00	1.79	-.4326	.02	1.84	-.5114	-.1935	.0497	.1117	.96	1.86	-.6993	-.82	1.58
36	.02	3.57	-.8569	.03	2.72	-.7532	-.6661	.4794	.5726	1.01	1.07	-.4627	-.75	1.21
48	.00	1.89	-.4429	.04	1.99	-.5681	-.3473	.1454	.1788	1.00	1.85	-.6657	-.79	1.52
60	-.02	3.55	-.8599	.04	2.76	-.7656	-.6800	.5223	.5601	1.00	1.06	-.4217	-.72	1.19
72	-.02	1.94	-.4674	.04	2.13	-.5979	-.3800	.2000	.1806	.99	1.83	-.6689	-.76	1.48

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
12	.46	2.60	-.2910	-.2910	3.99	-2.02	3.99	620	.53	-.2.08	1.97	-.4317	-.94	3.68
24	.01	3.35	-.6458	.04	3.07	-.3812	.0298	.0208	.0866	.32	1.97	-.4317	-.94	3.68
36	.02	3.80	-.7315	.06	3.89	-.4873	-.2696	.1994	.0468	.33	2.23	-.3106	-.94	3.47
48	-.02	3.32	-.5376	.10	4.78	-.5952	-.1388	.1404	.0155	.29	1.76	-.4406	-.92	3.20
60	-.03	4.01	-.7717	.14	5.28	-.6557	-.3345	.2941	.1203	.29	1.98	-.2822	-.91	2.99
72	-.02	3.61	-.6878	.14	5.68	-.7033	-.2171	.1991	.0913	.25	1.64	-.4249	-.91	2.83

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDEBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTIITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.02	3.15	-.2870	-.34	4.19				620					
12	.01	2.95	-.4822	.06	3.22	-.3825	-.3257	.1213		-.01	2.78	-.3198	-.12	3.86
24	.00	3.28	-.5142	.10	4.05	-.4823	-.1860	.1819		-.01	2.68	-.3278	-.10	3.64
36	-.00	3.32	-.6176	.12	4.94	-.5885	-.1920	.1884		-.03	2.46	-.3379	-.09	3.38
48	.02	4.14	-.6484	.17	5.36	-.6333	-.1856	.1978		-.01	2.39	-.3569	-.07	3.22
60	.04	4.57	-.7060	.19	5.76	-.6745	-.2318	.2029		-.01	2.22	-.3771	-.07	3.08
72	.06	4.56	-.6995	.21	5.94	-.6879	-.2898	.2451		-.00	2.24	-.2928	-.06	3.03

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 .13
 GIVEN Y
 -.37

ALTIITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.15	3.87	-.2645	1.23	4.30				620					
12	.01	3.05	-.3925	.03	3.05	-.3464	-.0378	.0865		.44	3.55	-.3010	.77	4.02
24	-.00	3.75	-.4818	.04	4.06	-.4646	-.1217	.1543		.44	3.37	-.3055	.79	3.78
36	-.03	4.40	-.5635	.04	4.91	-.5652	-.1431	.1632		.47	3.19	-.3219	.75	3.53
48	-.03	4.65	-.5942	.05	5.37	-.6150	-.1927	.1909		.49	3.11	-.3070	.74	3.38
60	-.00	5.13	-.6485	.07	5.73	-.6518	-.2209	.1797		.53	2.94	-.3033	.71	3.25
72	.04	5.23	-.6654	.08	5.83	-.6583	-.2455	.1816		.57	2.89	-.2867	.70	3.23

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X
 1.18
 GIVEN Y
 1.22

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
STATION (322.4) - VANDENBERG
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/65 - 12/74
ALPHA ANGLE - 90.0

ALTITUDE (KM)

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN Y	S.D. Y	P (X, Y)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N
12	1.77	4.55	-0.1722	2.15	4.34	520			
24	.91	3.11	-0.3567	-0.01	3.25	-0.2632	-0.116	-0.052	
36	.22	3.94	-0.2886	-0.33	4.27	-0.4752	-0.240	-0.344	
48	-0.1	4.73	-0.143	-0.22	5.03	-0.5644	-0.323	-0.423	
60	.20	5.11	-0.5372	-0.54	5.26	-0.6115	-0.448	-0.517	
72	.02	5.53	-0.5597	-0.55	5.61	-0.6220	-0.421	-0.510	
	.22	5.75	-0.5223	-0.54	5.74	-0.5991	-0.393	-0.427	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (YP, X)
.83	4.25	-0.1990	1.37	4.02	-0.1017
.67	4.02	-0.2114	1.35	3.78	-0.0970
.77	3.93	-0.2221	1.23	3.57	-0.0935
.83	3.78	-0.2088	1.18	3.45	-0.0905
.83	3.55	-0.2015	1.13	3.28	-0.0875
.82	3.53	-0.1943	1.12	3.34	-0.0842

GIVEN X
1.73 2.16

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	P (X, Y)	MEAN YP	S.D. YP	P (Y, YP)	MEAN Y	S.D. Y	N
12	2.50	5.41	-0.1022	2.47	4.76	520			
24	.23	3.41	-0.3140	-0.04	3.65	-0.3748	-0.1264	-0.1264	
36	.25	4.40	-0.1029	-0.02	4.91	-0.4382	-0.1185	-0.1185	
48	.01	5.18	-0.4720	-0.11	5.63	-0.5234	-0.0926	-0.0926	
60	.21	5.53	-0.5152	-0.15	5.98	-0.6194	-0.0784	-0.0784	
72	.22	5.81	-0.5597	-0.17	6.31	-0.6435	-0.0540	-0.0540	
	.21	6.02	-0.5223	-0.16	6.45	-0.6471	-0.0228	-0.0228	

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	P (YP, X)
.93	5.10	-0.1227	1.75	4.36	-0.1264
.81	4.31	-0.1382	1.63	4.07	-0.1185
.81	4.74	-0.1490	1.49	3.84	-0.1072
.81	4.63	-0.1443	1.37	3.76	-0.0959
.87	4.42	-0.1413	1.29	3.55	-0.0875
.83	4.37	-0.1462	1.23	3.63	-0.0842

GIVEN X
2.42 2.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.71	6.19	-0.499	2.80	5.56	620										
12	.04	3.89	-0.3113	-0.07	4.12	1901	1.33	5.81	-0.0491	2.37	5.10	1.33	5.81	-0.0491	2.37	5.10
24	.07	4.79	-0.3823	-0.14	5.67	2165	1.50	5.63	-0.0572	2.27	4.69	1.50	5.63	-0.0572	2.27	4.69
36	.10	5.61	-0.4501	-0.21	6.41	1902	1.60	5.46	-0.0594	2.02	4.48	1.60	5.46	-0.0594	2.02	4.48
48	.10	6.26	-0.4997	-0.26	6.78	1549	1.70	5.31	-0.0579	1.82	4.40	1.70	5.31	-0.0579	1.82	4.40
60	.13	6.83	-0.5409	-0.30	7.13	1296	1.81	5.18	-0.0529	1.68	4.31	1.81	5.18	-0.0529	1.68	4.31
72	.13	7.33	-0.5763	-0.29	7.29	0988	1.83	5.04	-0.0567	1.62	4.30	1.83	5.04	-0.0567	1.62	4.30

3400

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	5.07	6.80	0.147	3.34	6.43	620										
12	.04	4.25	-0.3073	-0.08	4.90	2181	1.97	6.38	-0.0268	3.29	5.83	1.97	6.38	-0.0268	3.29	5.83
24	.08	5.54	-0.4050	-0.18	6.50	1903	2.19	6.12	-0.0133	2.79	5.44	2.19	6.12	-0.0133	2.79	5.44
36	.14	6.45	-0.4754	-0.28	7.12	1725	2.27	5.89	-0.0189	2.50	5.27	2.27	5.89	-0.0189	2.50	5.27
48	.17	7.17	-0.5202	-0.33	7.61	1412	2.41	5.74	-0.0204	2.24	5.14	2.41	5.74	-0.0204	2.24	5.14
60	.18	7.78	-0.5614	-0.40	8.04	1227	2.47	5.57	-0.0166	2.11	5.00	2.47	5.57	-0.0166	2.11	5.00
72	.18	8.35	-0.5956	-0.36	8.32	1171	2.53	5.41	-0.0239	2.10	4.95	2.53	5.41	-0.0239	2.10	4.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDEBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,(P

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,Y)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. Y	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	.05	4.68	-.2085	-.09	5.32	-.3557	3.99	7.27	620	2.75	6.96	-.0059	3.80	6.66	6.18	3.97	3.80	6.66
24	.12	5.93	-.3963	-.18	7.07	-.4761				3.02	6.72	-.0035	3.31	6.25			3.31	6.25
36	.22	7.16	-.4745	-.28	7.82	-.5252				2.10	6.43	-.0008	2.98	6.05			2.98	6.05
48	.29	8.01	-.5212	-.37	8.37	-.5537				3.25	6.25	-.0095	2.72	5.83			2.72	5.83
60	.33	8.67	-.5619	-.49	8.88	-.5959				3.36	6.07	-.0032	2.52	5.74			2.52	5.74
72	.32	9.14	-.5865	-.47	9.33	-.6195				3.44	5.95	-.0021	2.48	5.62			2.48	5.62

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. Y	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
12	.11	5.03	-.2928	-.11	5.72	-.3522	4.96	7.89	620	3.61	7.76	-.0604	4.59	7.25	7.74	5.08	4.59	7.25
24	.21	6.78	-.3958	-.21	7.70	-.4854				3.89	7.45	-.0524	3.91	6.78			3.91	6.78
36	.34	8.12	-.4738	-.32	8.56	-.5335				4.08	7.15	-.0590	3.44	6.56			3.44	6.56
48	.43	9.03	-.5211	-.41	9.06	-.5635				4.27	6.94	-.0426	3.21	6.42			3.21	6.42
60	.50	9.74	-.5593	-.53	9.69	-.5938				4.39	6.75	-.0459	3.05	6.21			3.05	6.21
72	.53	10.30	-.5866	-.54	10.22	-.6252				4.48	6.60	-.0506	3.01	6.03			3.01	6.03

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.88	8.96	-0.042	6.16	8.36	620						9.09	6.28				4.48	8.49	-0.290	5.07	7.77
12	.14	5.42	-0.2931	-0.11	5.65		-0.11	5.65	0.1348	-0.3305	7.87	0.1149	0.1348	-0.11	-0.3305	7.87	4.83	8.13	-0.330	4.39	7.27
24	.27	7.58	-0.4020	-0.24	7.87		-0.24	7.87	0.0907	-0.4670	8.13	0.1174	0.0907	-0.24	-0.4670	8.13	5.06	7.79	-0.322	4.04	7.02
36	.44	9.08	-0.4788	-0.35	8.78		-0.35	8.78	0.0802	-0.5194	10.81	0.1131	0.0802	-0.35	-0.5194	10.81	5.33	7.55	-0.211	3.79	6.77
48	.57	10.18	-0.5233	-0.44	9.56		-0.44	9.56	0.0645	-0.5676	10.86	0.0986	0.0645	-0.44	-0.5676	10.86	5.47	7.31	-0.188	3.65	6.54
60	.66	10.98	-0.5713	-0.55	10.23		-0.55	10.23	0.0760	-0.6052	10.86	0.0941	0.0760	-0.55	-0.6052	10.86	5.56	7.16	-0.216	3.61	6.33
72	.73	11.48	-0.5946	-0.60	10.86		-0.60	10.86	0.0807	-0.6368	10.86	0.0941	0.0807	-0.60	-0.6368	10.86	5.56	7.16	-0.216	3.61	6.33

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.36	9.56	-0.043	7.40	8.97	620						10.45	7.49				5.30	9.12	-0.124	5.66	8.44
12	.14	5.60	-0.2898	-0.14	5.78		-0.14	5.78	0.1288	-0.3131	7.87	0.0892	0.1288	-0.14	-0.3131	7.87	5.63	8.71	-0.244	5.02	7.89
24	.27	7.90	-0.3975	-0.32	8.11		-0.32	8.11	0.1222	-0.4524	8.13	0.0882	0.1222	-0.32	-0.4524	8.13	5.76	8.32	-0.308	4.70	7.59
36	.41	9.57	-0.4808	-0.44	9.20		-0.44	9.20	0.1262	-0.5127	10.81	0.0828	0.1262	-0.44	-0.5127	10.81	6.04	8.01	-0.243	4.41	7.32
48	.59	10.82	-0.5373	-0.54	10.01		-0.54	10.01	0.1113	-0.5604	10.86	0.0777	0.1113	-0.54	-0.5604	10.86	6.22	7.76	-0.244	4.21	7.11
60	.71	11.71	-0.5787	-0.57	10.63		-0.57	10.63	0.1133	-0.5947	10.86	0.0670	0.1133	-0.57	-0.5947	10.86	6.38	7.62	-0.223	4.14	6.87
72	.78	12.17	-0.6008	-0.76	11.34		-0.76	11.34	0.1176	-0.6267	10.86	0.0573	0.1176	-0.76	-0.6267	10.86	6.38	7.62	-0.223	4.14	6.87

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (92214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 12

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (Y, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN Y	S.D. Y	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP	GIVEN Y
12	.15	5.55	-.2810	-.19	5.44	-.2960	8.32	9.09	620	6.13	9.27	-.0036	6.13	9.27	-.1006	8.32	9.09	11.25	-.0036	6.13	9.27	8.40
24	.28	7.92	-.4307	-.33	7.57	-.4222				6.22	8.84	-.1396	6.22	8.84	-.1714				-.0145	6.22	8.84	
36	.45	9.52	-.4790	-.52	8.78	-.4829				6.31	8.45	-.0392	6.31	8.45	-.1624				-.0282	6.31	8.45	
48	.65	10.80	-.5435	-.62	9.52	-.5332				6.48	7.82	-.0483	6.48	7.82	-.1517				-.0195	6.48	7.82	
60	.75	11.60	-.5826	-.76	10.08	-.5645				6.56	7.82	-.0516	6.56	7.82	-.1613				-.0178	6.56	7.82	
72	.84	12.08	-.6365	-.91	10.82	-.6021				6.76	7.67	-.1397	6.76	7.67	-.1479				-.0128	6.76	7.67	

..... ALTITUDE (KM) - 13

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

..... CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, XP)	MEAN XP	S.D. XP	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN Y	S.D. Y	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP	GIVEN Y
12	12.07	9.16	-.0067	8.58	8.67	-.2907	8.58	8.67	620	6.37	8.76	-.0113	6.37	8.76	-.0895	8.58	8.67	10.09	-.0113	6.37	8.76	8.64
24	.14	5.29	-.2896	-.19	5.11	-.2907	8.58	8.67		6.54	8.41	-.1273	6.54	8.41	-.1273				-.0164	6.54	8.41	
36	.29	7.21	-.3225	-.36	6.92	-.4090				6.61	8.06	-.0419	6.61	8.06	-.1547				-.0329	6.61	8.06	
48	.48	8.68	-.4604	-.51	7.96	-.4695				6.76	7.74	-.0319	6.76	7.74	-.1726				-.0395	6.76	7.74	
60	.70	9.69	-.5307	-.60	8.68	-.5140				6.90	7.50	-.0211	6.90	7.50	-.1694				-.0435	6.90	7.50	
72	.89	10.79	-.5318	-.85	9.92	-.5801				7.10	7.38	-.1411	7.10	7.38	-.1411				-.0307	7.10	7.38	

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (NM) - 14

..... QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XF	R (XP, YP)	MEAN YP	S.D. YP
	10.59	7.79	.0147	7.68	7.66	620										
12	.14	4.77	-.3110	-.15	4.53	.0747	4.68	7.38	.0129	5.32	7.26	4.68	7.38	.0129	5.32	7.26
24	.26	6.16	-.4008	-.32	6.16	.0388	5.19	7.12	.0000	4.81	6.88	5.19	7.12	.0000	4.81	6.88
36	.39	7.24	-.4721	-.42	7.31	.0085	5.33	6.85	-.0241	4.57	6.58	5.33	6.85	-.0241	4.57	6.58
48	.60	8.01	-.5225	-.52	7.91	.0016	5.48	6.62	-.0255	4.38	6.42	5.48	6.62	-.0255	4.38	6.42
60	.71	8.52	-.5593	-.60	8.46	-.0056	5.55	6.44	-.0334	4.25	6.28	5.55	6.44	-.0334	4.25	6.28
72	.80	8.91	-.5821	-.71	8.85	-.0089	5.68	6.32	-.0322	4.11	6.14	5.68	6.32	-.0322	4.11	6.14

GIVEN X Y
 9.84 7.77

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

..... ALTITUDE (KM) - 15

..... QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	7.79	6.40	.0235	6.27	6.05	620										
12	.13	4.43	-.3499	-.10	3.94	.0670	3.29	5.97	.170	3.98	5.69	3.29	5.97	.170	3.98	5.69
24	.23	4.95	-.4808	-.22	4.74	.0556	3.63	5.90	.0123	3.80	5.50	3.63	5.90	.0123	3.80	5.50
36	.37	6.10	-.4741	-.31	5.83	.0335	3.83	5.62	.0047	3.52	5.25	3.83	5.62	.0047	3.52	5.25
48	.52	6.24	-.4860	-.41	6.29	.0153	3.97	5.58	-.0066	3.42	5.17	3.97	5.58	-.0066	3.42	5.17
60	.63	6.93	-.5519	-.51	6.83	-.0055	4.07	5.33	-.0145	3.20	4.96	4.07	5.33	-.0145	3.20	4.96
72	.73	7.10	-.5622	-.58	7.06	-.0169	4.13	5.29	-.0232	3.12	4.89	4.13	5.29	-.0232	3.12	4.89

GIVEN X Y
 7.41 6.40

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)
	-2.68	3.59	.0720	1.69	2.79		620								
12	.08	3.23	-.4411	-.04	3.17	-.5718	-.1109	-.0881	-.0321	-.122	3.22	.0580	-.122	3.22	.0580
24	.15	3.02	-.4109	-.07	2.62	-.4743	-.0262	-.0967	-.0750	-1.45	3.26	.0296	-1.45	3.26	.0296
36	.20	3.53	-.4827	-.13	3.30	-.5959	.1415	-.1219	-.0478	-1.15	3.14	.0360	-1.15	3.14	.0360
48	.33	3.52	-.4859	-.16	3.16	-.5625	.0511	-.0860	-.0260	-1.29	3.17	.0514	-1.29	3.17	.0514
60	.33	3.73	-.5164	-.20	3.52	-.6299	.1086	-.1115	-.0576	-1.12	3.07	.0203	-1.12	3.07	.0203
72	.42	3.95	-.5536	-.25	3.47	-.6109	.0238	-.0316	-.0451	-1.13	2.98	.0532	-1.13	2.98	.0532

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.81	1.82

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP	R (YP,X)
	-5.02	3.18	.0069	1.05	2.25		620								
12	.06	3.15	-.4979	-.04	2.85	-.6343	.1104	-.1034	-.0330	-2.34	2.75	-.0460	-2.34	2.75	-.0460
24	.14	3.65	-.4237	-.07	2.53	-.5589	.0996	-.1338	-.1338	-2.51	2.85	-.0314	-2.51	2.85	-.0314
36	.19	3.26	-.5193	-.11	2.71	-.5992	.1026	-.1233	-.1171	-2.23	2.71	-.0524	-2.23	2.71	-.0524
48	.28	3.10	-.5120	-.15	2.92	-.6436	.0812	-.0833	-.0828	-2.22	2.73	-.0462	-2.22	2.73	-.0462
60	.37	3.45	-.5592	-.17	2.83	-.6259	.0861	-.0920	-.0422	-2.15	2.66	-.0533	-2.15	2.66	-.0533
72	.43	3.34	-.5460	-.22	3.00	-.6539	.0538	-.0700	-.0332	-2.11	2.66	-.0534	-2.11	2.66	-.0534

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.18	1.12

QUADRI-VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: (E32214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

	MEAN X	S.D. Y	P (X, Y)	MEAN Y	S.D. XP	P (Y, XP)	MEAN XP	S.D. YP	P (XP, YP)	MEAN YP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP
ST	-7.22	2.82	-0.0987	.57	2.15	.820				.57				
HP														
12														
24														
36														
48														
60														
72														

ALTITUDE (KM) - 20

QUADRI-VARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR YP AND XP

	MEAN Y	S.D. Y	P (X, Y)	MEAN XP	S.D. YP	P (Y, YP)	MEAN YP	S.D. XP	P (XP, YP)	MEAN XP	S.D. YP	P (XP, YP)	MEAN YP	S.D. YP
ST	-8.50	2.75	-0.120	.35	1.93	.820				.35				
HP														
12														
24														
36														
48														
60														
72														

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-10.21	2.87	-0.378	.04	1.90									
12	.08	2.93	-0.4977	-0.02	2.60	-0.6810	-0.02	2.60	0.226	-5.19	2.49	-0.0771	.31	1.39
24	.16	2.75	-0.4500	-0.02	2.52	-0.6600	-0.02	2.52	0.147	-5.35	2.55	-0.0719	-.42	1.42
36	.23	3.03	-0.5071	-0.03	2.69	-0.6985	-0.03	2.69	0.360	-5.19	2.47	-0.1021	.36	1.36
48	.31	3.02	-0.4977	-0.05	2.68	-0.7003	-0.05	2.68	-0.009	-5.23	2.49	-0.0972	.10	1.36
60	.42	3.17	-0.5447	-0.07	2.69	-0.7026	-0.07	2.69	-0.312	-4.97	2.40	-0.0779	.16	1.35
72	.51	3.29	-0.5580	-0.08	2.69	-0.7012	-0.08	2.69	-0.052	-4.99	2.38	-0.0937	.02	1.35

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-11.58	2.89	-0.706	.04	1.84									
12	.05	2.87	-0.4862	-0.01	2.71	-0.7375	-0.01	2.71	-0.097	-5.90	2.52	-0.0831	.51	1.24
24	.10	2.76	-0.4651	-0.03	2.40	-0.6608	-0.03	2.40	0.593	-5.90	2.55	-0.1305	-.25	1.38
36	.17	2.95	-0.5012	-0.03	2.59	-0.7131	-0.03	2.59	-0.0712	-5.82	2.47	-0.0588	.21	1.29
48	.24	3.06	-0.5179	-0.03	2.58	-0.7111	-0.03	2.58	0.395	-5.80	2.47	-0.1358	-.08	1.30
60	.36	3.06	-0.5179	-0.05	2.60	-0.7166	-0.05	2.60	-0.152	-5.52	2.43	-0.0885	-.27	1.29
72	.44	3.15	-0.5377	-0.05	2.49	-0.6812	-0.05	2.49	-0.084	-5.58	2.42	-0.0929	-.25	1.35

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEMBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	-12.61	2.90	-0.1701	.08	2.00	620														
12	.04	2.75	-0.4523	-0.00	2.92		-0.00	2.92	-0.1236	-0.7281	0.364	0.0942	-0.0942	0.0942	-6.50	2.57	-0.2082	0.54	1.37	
24	.11	2.66	-0.4457	-0.02	2.80		-0.02	2.80	-0.1319	-0.6469	0.579	0.0718	-0.0718	0.0718	-6.44	2.59	-0.1933	.30	1.53	
36	.18	2.91	-0.4840	-0.03	2.92		-0.03	2.92	-0.1184	-0.7062	0.453	0.0807	-0.0807	0.0807	-6.47	2.54	-0.2127	.37	1.42	
48	.27	2.96	-0.4951	-0.01	2.74		-0.01	2.74	-0.0539	-0.6929	0.693	0.0327	-0.0327	0.0327	-6.47	2.53	-0.2270	-.04	1.45	
60	.37	3.05	-0.5127	-0.03	2.85		-0.03	2.85	-0.1286	-0.7211	0.774	0.0275	-0.0275	0.0275	-6.31	2.49	-0.1932	.16	1.39	
72	.47	3.09	-0.5087	-0.03	2.74		-0.03	2.74	-0.0729	-0.6959	0.760	0.0325	-0.0325	0.0325	-6.37	2.50	-0.2179	-.19	1.44	

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	-13.81	2.92	-0.1474	.00	2.00	620														
12	.07	2.76	-0.4566	.00	2.71		.00	2.71	-0.337	-0.6737	0.469	0.0614	-0.0614	0.0614	-7.12	2.60	-0.2121	.70	1.47	
24	.15	2.66	-0.4362	-0.02	2.82		-0.02	2.82	-0.0509	-0.6509	0.148	0.0412	-0.0412	0.0412	-7.14	2.63	-0.1925	.23	1.51	
36	.23	2.87	-0.4553	-0.04	2.80		-0.04	2.80	-0.0605	-0.6505	0.333	0.0502	-0.0502	0.0502	-7.17	2.58	-0.1932	.25	1.43	
48	.33	2.95	-0.4730	-0.03	2.74		-0.03	2.74	-0.128	-0.6811	0.078	0.0108	-0.0108	0.0108	-7.13	2.58	-0.2178	-.03	1.46	
50	.45	2.97	-0.4785	-0.05	2.78		-0.05	2.78	-0.0607	-0.6821	0.530	0.0434	-0.0434	0.0434	-7.11	2.57	-0.1770	-.15	1.44	
72	.58	3.02	-0.4888	-0.06	2.77		-0.06	2.77	-0.0079	-0.6931	0.050	0.0415	-0.0415	0.0415	-7.00	2.55	-0.1888	-.05	1.44	

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - AUGUST
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
	-14.57	2.99	-0.0862	-0.06	1.95				620						-14.39			
12	.07	2.73	-.4439	-.00	2.70	-.6938	-.0014	.0047		-.755	2.67	-.1248	-.09	1.40				
24	.13	2.71	-.4427	.00	2.52	-.6485	-.0284	-.0035		-.752	2.68	-.0986	.18	1.48				
36	.21	2.82	-.4562	-.00	2.79	-.7076	-.0243	-.0072		-.753	2.65	-.1058	.20	1.37				
48	.31	3.04	-.4906	-.03	2.67	-.6776	-.0349	-.0104		-.750	2.60	-.0985	.26	1.43				
60	.41	3.00	-.4802	-.05	2.74	-.6977	-.0028	-.0127		-.749	2.62	-.1109	.03	1.39				
72	.49	3.11	-.4919	-.06	2.71	-.6930	-.0254	-.0017		-.755	2.60	-.0878	.10	1.40				

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	GIVEN X	R (XP, YP)	MEAN YP	S.D. YP
	-15.14	3.18	-.0372	-.02	2.07				620						-15.00			
12	.08	2.95	-.4579	-.00	2.73	-.6669	-.0062	-.0125		-.770	2.83	-.0484	.21	1.54				
24	.16	2.95	-.4530	.02	2.70	-.6656	-.0718	-.0265		-.776	2.83	-.0154	.31	1.54				
36	.24	3.07	-.4730	.02	2.89	-.7131	-.0119	-.0288		-.768	2.78	-.0077	.22	1.45				
48	.32	3.17	-.4870	-.01	2.79	-.6916	-.0564	-.0234		-.759	2.74	-.0691	.25	1.45				
60	.40	3.29	-.5059	-.01	2.87	-.7113	-.0360	-.0582		-.759	2.74	-.0691	.31	1.45				
72	.51	3.37	-.5154	-.00	2.90	-.7175	-.0218	-.0160		-.754	2.72	-.0396	.02	1.44				

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDENBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
8	1/65 - 12/74	0	90.0	2.00	2.07	-.5630	-1.51	1.85	620
8	1/65 - 12/74	1	90.0	.46	2.62	-.2810	-2.02	3.99	620
8	1/65 - 12/74	2	90.0	.02	3.15	-.6870	-.34	4.19	620
8	1/65 - 12/74	3	90.0	1.15	3.87	-.2645	1.23	4.30	620
8	1/65 - 12/74	4	90.0	1.77	4.55	-.1722	2.16	4.34	620
8	1/65 - 12/74	5	90.0	2.50	5.41	-.1032	2.47	4.76	620
8	1/65 - 12/74	6	90.0	3.71	6.19	-.0499	2.80	5.56	620
8	1/65 - 12/74	7	90.0	5.07	6.60	.0147	3.34	6.43	620
8	1/65 - 12/74	8	90.0	6.62	7.42	.0032	3.93	7.27	620
8	1/65 - 12/74	9	90.0	8.28	8.23	-.0535	4.95	7.89	620
8	1/65 - 12/74	10	90.0	9.88	8.96	-.0142	6.16	8.36	620
8	1/65 - 12/74	11	90.0	11.36	9.56	-.0043	7.40	8.97	620
8	1/65 - 12/74	12	90.0	12.27	9.98	.0040	8.32	8.09	620
8	1/65 - 12/74	13	90.0	12.07	9.16	-.0067	8.58	8.67	620
8	1/65 - 12/74	14	90.0	10.59	7.79	.0147	7.68	7.66	620
8	1/65 - 12/74	15	90.0	7.79	6.40	.0235	6.27	6.05	620
8	1/65 - 12/74	16	90.0	4.15	5.35	-.0055	4.42	4.62	620
8	1/65 - 12/74	17	90.0	.34	4.34	-.0331	2.32	3.61	620
8	1/65 - 12/74	18	90.0	-2.62	3.59	.0720	1.59	2.79	620
8	1/65 - 12/74	19	90.0	-5.02	3.12	.0059	1.05	2.25	620
8	1/65 - 12/74	20	90.0	-7.02	2.82	-.0937	.57	2.15	620
8	1/65 - 12/74	21	90.0	-8.50	2.75	-.0120	.36	1.93	620
8	1/65 - 12/74	22	90.0	-10.21	2.87	-.0373	.04	1.80	620
8	1/65 - 12/74	23	90.0	-11.58	2.89	-.0706	.04	1.84	620
8	1/65 - 12/74	24	90.0	-12.61	2.90	-.1701	.08	2.00	620
8	1/65 - 12/74	25	90.0	-13.81	2.92	-.1474	.00	2.00	620
8	1/65 - 12/74	26	90.0	-14.57	2.93	-.0652	-.05	1.95	620
8	1/65 - 12/74	27	90.0	-15.14	3.18	-.0372	-.02	2.07	620

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG X = U(IAT T)
 MONTH OF RECORD - SEPTEMBER Y = V(IAT T)
 PERIOD OF RECORD - 1/55 - 12/74 XP = U(IAT T + DT) - U(IAT T)
 ALPHA ANGLE - 90.0 YP = V(IAT T + DT) - V(IAT T)

ALTITUDE (KM) - 0

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)
	1.71	2.19	-.5912	-1.45	2.17				600				1.72	-1.38	
12	-.01	3.87	-.8780	-.00	3.22	-.7303	-.6984	.5067	.6177	.85	1.05	-.4375	-.78	1.48	.177
24	-.03	1.73	-.3737	.00	2.31	-.5094	-.2834	.1622	.0768	.91	2.03	-.6836	-.75	1.86	.768
36	-.03	3.92	-.8849	.00	3.38	-.7603	-.6974	.5412	.6072	.85	1.02	-.3958	-.77	1.41	.072
48	-.05	1.90	-.4090	.00	2.53	-.5585	-.4128	.2458	.1459	.89	2.00	-.6654	-.76	1.80	.459
60	-.04	3.95	-.8894	.00	3.48	-.7831	-.6912	.5565	.6001	.85	1.00	-.3786	-.76	1.35	.601
72	-.05	2.02	-.4326	.00	2.71	-.5987	-.4183	.2718	.1588	.89	1.98	-.6745	-.75	1.73	.1588

ALTITUDE (KM) - 1

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	R (YP,X)
	-.32	2.90	-.3485	-1.54	4.35				600				-1.42	-1.33	
12	-.01	3.50	-.6731	-.02	3.74	-.4257	-.0093	.0756	-.1036	-.01	2.29	-.4901	-.93	3.92	.1036
24	-.02	3.45	-.5913	-.02	4.67	-.5232	-.2794	.2547	.0460	-.01	2.31	-.3808	-1.00	3.68	.0460
36	-.02	4.21	-.7205	-.05	5.55	-.6271	-.2020	.2324	.0289	-.04	1.98	-.4774	-.98	3.36	.0289
48	-.02	3.87	-.6611	-.06	5.87	-.6665	-.3544	.3351	.1435	-.05	2.16	-.3347	-1.01	3.21	.1435
60	-.01	4.33	-.7400	-.07	6.27	-.7145	-.3071	.2794	.1732	-.08	1.94	-.3839	-.96	2.03	.1732
72	.00	4.07	-.6559	-.08	6.34	-.7264	-.3878	.3104	.2579	-.10	2.08	-.2864	-.95	2.99	.2579

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1922(4)) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 93.0

ALTITUDE (KM) - 2

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 FOR XF AND YP

DT	HP	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		-1.48	4.06	-0.3308	-1.5	5.04	600										
12		-0.02	3.37	-0.101	-0.373	1.342	1995	-0.20	3.63	-0.3790	-0.40	4.61	-0.20	3.63	-0.3790	-0.40	4.61
24		-0.05	4.34	-0.238	-0.4973	2.412	2740	-0.21	3.37	-0.3732	-0.38	4.32	-0.21	3.37	-0.3732	-0.38	4.32
36		-0.07	5.08	-0.314	-0.5843	2.985	3127	-0.22	3.15	-0.3604	-0.35	4.02	-0.22	3.15	-0.3604	-0.35	4.02
48		-0.10	5.53	-0.3604	-0.6323	3.513	3410	-0.24	2.99	-0.3430	-0.35	3.85	-0.24	2.99	-0.3430	-0.35	3.85
54		-0.12	5.94	-0.4120	-0.6789	4.050	3382	-0.24	2.82	-0.3216	-0.35	3.67	-0.24	2.82	-0.3216	-0.35	3.67
72		-0.09	5.00	-0.2930	-0.6391	3.301	3250	-0.24	2.76	-0.2799	-0.36	3.59	-0.24	2.76	-0.2799	-0.36	3.59

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XF AND YP

ALTITUDE (KM) - 3

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 FOR XF AND YP

DT	LP	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,X)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		1.14	5.33	-0.2310	0.30	5.60	600										
12		-0.05	3.93	-0.3445	-0.3223	1.098	2208	0.33	4.33	-0.2580	0.34	5.20	0.33	4.33	-0.2580	0.34	5.20
24		-0.09	5.27	-0.4545	-0.4463	2.120	2534	0.33	4.53	-0.2413	0.30	4.88	0.33	4.53	-0.2413	0.30	4.88
36		-0.11	6.19	-0.5397	-0.5328	2.776	3200	0.35	4.41	-0.2225	0.24	4.62	0.35	4.41	-0.2225	0.24	4.62
48		-0.12	6.88	-0.5938	-0.5953	2.919	3337	0.37	4.20	-0.2055	0.19	4.40	0.37	4.20	-0.2055	0.19	4.40
60		-0.13	7.48	-0.6540	-0.6531	2.842	3005	0.41	4.01	-0.2000	0.09	4.31	0.41	4.01	-0.2000	0.09	4.31
72		-0.15	7.85	-0.6957	-0.6446	2.787	2529	0.41	3.83	-0.1929	-0.00	4.26	0.41	3.83	-0.1929	-0.00	4.26

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.43	6.54	-.1256	.45	6.37	600				2.65	.85					
12	-.04	4.15	-.2994	-.3176	.0076	.2277	-.2400	6.04	-.1559	.86	5.86	.86	6.04	-.1559	.99	5.86
24	-.06	5.84	-.4180	-.4422	-.1236	.2963	-.2011	5.70	-.1393	.82	5.50	.82	5.70	-.1393	.80	5.50
36	-.06	7.17	-.5146	-.5288	-.1921	.3015	-.1205	5.41	-.1139	.86	5.25	.86	5.41	-.1139	.57	5.25
48	-.08	7.97	-.5683	-.5859	-.2061	.2854	-.0684	5.23	-.1032	.92	5.05	.92	5.23	-.1032	.42	5.05
60	-.08	8.70	-.6203	-.6173	-.1952	.2478	-.0261	5.03	-.0985	.98	4.94	.98	5.03	-.0985	.27	4.94
72	-.07	9.14	-.6496	-.6333	-.1807	.2144	-.0053	4.91	-.0956	1.03	4.89	1.03	4.91	-.0956	.15	4.89

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.66	7.45	-.0982	.10	7.14	600				4.02	.56					
12	-.05	4.59	-.2860	-.3140	-.0321	.2293	-.2063	6.95	-.1145	1.53	6.60	1.53	6.95	-.1145	1.23	6.60
24	-.05	5.57	-.4188	-.4491	-.1455	.2795	-.1437	6.59	-.0868	1.46	6.19	1.46	6.59	-.0868	.83	6.19
36	-.04	7.97	-.5078	-.5320	-.2072	.2839	-.0689	6.28	-.0575	1.50	5.91	1.50	6.28	-.0575	.52	5.91
48	-.04	8.84	-.5629	-.5827	-.2267	.2826	-.0251	6.04	-.0349	1.54	5.70	1.54	6.04	-.0349	.39	5.70
60	-.04	9.55	-.6055	-.6186	-.2049	.2579	-.0037	5.85	-.0288	1.59	5.53	1.59	5.85	-.0288	.23	5.53
72	-.03	10.06	-.6325	-.6349	-.1820	.2136	-.0214	5.71	-.0350	1.64	5.47	1.64	5.71	-.0350	.05	5.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19214) - VARDEBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN X	S.D. X	R (XP, YP)	MEAN Y	S.D. Y	R (YP, X)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP
12	4.81	8.37	-0.0190	-0.07	8.17	600	-0.03	5.37	-0.0283	-0.07	5.37	-0.03	4.81	8.37	-0.0190	-0.07	8.17	-0.1698	2.14	7.86	-0.0139	1.27	7.50
24							0.07	7.46	-0.0298	0.07	7.46	-0.03						-0.1348	2.12	7.42	0.0049	0.69	7.25
36							0.09	8.85	-0.0555	0.09	8.85	-0.0555						-0.0577	2.10	7.07	0.0400	0.40	6.93
48							0.08	9.81	-0.0813	0.08	9.81	-0.0813						-0.0759	2.13	6.81	0.0674	0.29	6.66
60							0.04	10.53	-0.0621	0.04	10.53	-0.0621						-0.0157	2.17	6.57	0.0778	0.09	6.44
72							0.15	10.83	-0.0521	0.15	10.83	-0.0521						-0.0177	2.22	6.44	0.0778	-0.14	6.36

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (X, Y)	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (XP, YP)	MEAN X	S.D. X	R (XP, YP)	MEAN Y	S.D. Y	R (YP, X)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP
12	6.14	9.40	0.0570	-0.14	9.12	600	0.00	6.16	0.0209	-0.14	6.16	0.00	6.14	9.40	0.0570	-0.14	9.12	-0.1601	2.96	8.91	0.0704	1.41	8.50
24							0.09	8.41	-0.0266	0.09	8.41	-0.0266						-0.1439	2.85	8.41	0.0937	0.86	8.12
36							0.14	9.71	-0.0827	0.14	9.71	-0.0827						-0.1023	2.79	7.95	0.1239	0.54	7.83
48							0.12	10.80	-0.1030	0.12	10.80	-0.1030						-0.0794	2.77	7.57	0.1496	0.39	7.52
60							0.01	11.57	-0.1029	0.01	11.57	-0.1029						-0.0479	2.80	7.29	0.1668	0.17	7.29
72							0.18	11.92	-0.0832	0.18	11.92	-0.0832						-0.0223	2.84	7.13	0.1668	-0.12	7.18

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (S3214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	7.71	10.45	.1619	-.13	10.32	600															
12	.01	6.41	-.2832	-.3341	7.28		.03	7.28	.1147	.1087		-.1568	.1087	.1087	-.1568	3.93	9.94	.1683	1.64	9.61	
24	.02	9.39	-.4260	-.4311	9.77		.14	9.77	.0673	.1107		-.1484	.1107	.1107	-.1484	3.75	9.37	.1955	.99	9.20	
36	-.04	11.35	-.5220	-.4950	11.24		.23	11.24	.0204	.1115		-.1244	.1115	.1115	-.1244	3.63	8.83	.2249	.67	8.88	
48	-.11	12.72	-.5864	-.5475	12.36		.18	12.36	.0028	.0999		-.0999	.0999	.0999	-.0999	3.58	8.40	.2495	.41	8.57	
60	-.15	13.73	-.6301	-.5802	13.03		.08	13.03	-.0043	.0880		-.0755	.0880	.0880	-.0755	3.57	8.07	.2748	.22	8.36	
72	-.18	14.28	-.6540	-.6081	13.54		-.09	13.54	.0092	.0501		-.0531	.0501	.0501	-.0531	3.58	7.89	.2777	-.07	8.17	

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.41	.53

..... ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	
	9.35	11.66	.2510	.27	11.45	600															
12	-.04	7.21	-.2864	-.3258	7.89		.02	7.89	.1637	.0845		-.1618	.0845	.0845	-.1618	4.75	11.09	.2643	2.14	10.70	
24	-.08	10.60	-.4334	-.4258	10.67		.11	10.67	.1451	.0722		-.1718	.0722	.0722	-.1718	4.51	10.43	.2921	1.42	10.24	
36	-.15	12.66	-.5245	-.4849	12.25		.20	12.25	.1178	.0512		-.1552	.0512	.0512	-.1552	4.36	9.87	.3150	.98	9.93	
48	-.22	14.17	-.5900	-.5417	13.55		.11	13.55	.1045	.0371		-.1430	.0371	.0371	-.1430	4.28	9.37	.3399	.70	9.56	
60	-.29	15.40	-.6339	-.5736	14.35		-.03	14.35	.1205	.0156		-.1414	.0156	.0156	-.1414	4.30	8.99	.3550	.51	9.33	
72	-.36	15.95	-.6557	-.5593	14.89		-.20	14.89	.1340	-.0158		-.1300	-.0158	-.0158	-.1300	4.27	8.79	.3574	.26	9.13	

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.26	.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-06	7.99	-.2877	-.02	8.07	-.3104	.701	.0543	600	5.76	12.23	.3460	2.12	11.57
24	-.12	11.53	-.4309	.05	11.18	-.4132	.1974	.0265		5.52	11.51	.3560	1.58	11.04
36	-.22	13.86	-.5229	.12	12.82	-.4793	.1865	.0011		5.38	10.87	.3826	1.16	10.69
48	-.33	15.54	-.5857	-.01	14.21	-.5349	.1913	-.0254		5.26	10.31	.3982	.85	10.31
60	-.41	16.78	-.6302	-.21	15.21	-.5744	.2070	-.0441		5.28	9.92	.4086	.69	9.98
72	-.51	17.52	-.6575	-.44	15.76	-.5987	.2196	-.0784		5.21	9.65	.4147	.36	9.79

ALTITUDE (KM) - 11

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	P (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-03	7.78	-.2610	-.02	8.12	-.2979	.1919	.0294	600	7.06	13.05	.4011	2.53	12.23
24	-.08	11.67	-.4033	.04	11.58	-.4187	.2587	-.0178		6.79	12.33	.4134	1.96	11.62
36	-.18	14.27	-.5072	.06	13.42	-.4886	.2554	-.0469		6.60	11.64	.4261	1.52	11.18
48	-.30	16.00	-.5717	-.07	14.81	-.5406	.2495	-.0569		6.46	11.03	.4460	1.21	10.78
60	-.39	17.23	-.6134	-.25	15.88	-.5820	.2570	-.0854		6.42	10.69	.4571	1.03	10.43
72	-.45	17.95	-.6363	-.49	16.57	-.6125	.2589	-.1129		6.37	10.43	.4658	.66	10.15

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	-02	7.33	-.2600	.02	7.31	-.2767	-2767	.2040	.0084	-1.140	7.80	12.80	2.63	11.87
24	-14	10.96	-.3953	.07	10.73	-.4041	-4041	.2474	-.0320	-.1593	7.69	12.17	2.13	11.29
36	-15	13.34	-.4851	.07	12.71	-.4842	-4842	.2528	-.0479	-.1939	7.57	11.57	1.99	10.79
48	-25	14.85	-.5405	-.11	14.03	-.5389	-5389	.2590	-.0685	-.2066	7.50	11.14	1.74	10.39
60	-30	16.04	-.5792	-.30	15.09	-.5803	-5803	.2575	-.0811	-.212	7.51	10.79	1.53	10.04
72	-34	16.86	-.6095	-.52	15.69	-.6063	-6063	.2597	-.1052	-.2028	7.5	10.51	1.12	9.83

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	16.50
GIVEN Y	2.64

ALTITUDE (KM) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.01	6.66	-.2584	.05	6.33	-.2680	-2680	.1955	.0299	-.1311	8.06	11.84	3.45	10.01
24	-01	9.60	-.3749	.08	9.12	-.3857	-3857	.2350	-.0035	-.1732	8.00	11.35	2.85	10.34
36	-09	11.67	-.4544	.08	11.02	-.4728	-4728	.2541	-.0134	-.2211	8.03	10.67	2.87	9.85
48	-19	12.99	-.5031	-.09	12.37	-.5343	-5343	.2602	-.0314	-.2380	8.01	10.54	2.61	9.44
60	-24	14.05	-.5438	-.27	13.51	-.5836	-5836	.2513	-.0484	-.2331	7.95	10.25	2.26	9.07
72	-30	14.34	-.5776	-.47	14.17	-.6146	-6146	.2436	-.0760	-.2147	7.88	9.99	1.74	8.64

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

GIVEN X	17.18
GIVEN Y	3.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12-74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
12	.02	5.40	-.2438	.02	5.17	-.2892	1.24	9.51	600	7.71	9.63	.2988	3.95	9.13
24	.23	7.57	-.3234	.05	7.43	-.3636	1.323			7.64	9.31	.3145	3.25	8.77
36	.33	9.03	-.4167	.03	8.15	-.4555	1.755			7.76	9.01	.3133	3.04	8.35
48	-.00	10.28	-.4742	-.07	10.42	-.5634	1.781			7.70	8.72	.3211	2.68	8.00
60	-.02	11.30	-.5235	-.21	11.40	-.6774	1.934			7.67	8.47	.3298	2.11	7.73
72	-.03	12.15	-.5720	-.35	11.83	-.8220	1.938			7.64	8.25	.3458	1.47	7.58

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
15.85	2.71

ALTITUDE (KM) - 15

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP
12	.28	8.82	-.2518	1.52	7.81	-.2892	1.24	9.51	600	7.71	9.63	.2988	3.95	9.13
24	.23	10.77	-.3234	.05	10.63	-.3636	1.323			7.64	9.31	.3145	3.25	8.77
36	.33	12.24	-.4167	.03	12.10	-.4555	1.755			7.76	9.01	.3133	3.04	8.35
48	-.00	13.71	-.4742	-.07	13.85	-.5634	1.781			7.70	8.72	.3211	2.68	8.00
60	-.02	14.88	-.5235	-.21	15.02	-.6774	1.934			7.67	8.47	.3298	2.11	7.73
72	-.03	15.85	-.5720	-.35	15.83	-.8220	1.938			7.64	8.25	.3458	1.47	7.58

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
15.88	1.98

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	8.93	7.15	.2304	1.01	6.02	600	4.19	3.79	.0490	1.498	.1498	4.13	6.78	4.13	6.78	.2542	2.56	5.64
24							-.02	4.77	.1555	1.526	.1526	4.45	6.54	4.45	6.54	.2430	2.64	5.40
36							-.03	6.00	.1473	1.088	.1088	4.44	6.31	4.44	6.31	.2601	1.88	5.14
48							-.03	6.65	.1736	.0636	.0636	4.49	6.17	4.49	6.17	.2537	1.56	4.98
60							-.10	7.34	.1401	.0467	.0467	4.49	5.98	4.49	5.98	.2788	1.21	4.83
72							-.10	7.64	.1385	.0095	.0095	4.56	5.89	4.56	5.89	.2831	.93	4.78

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	5.19	5.75	.1666	.25	4.61	600	3.72	3.73	.0340	.1267	.1267	2.49	5.42	2.49	5.42	.1858	.97	4.18
24							-.01	3.91	.0795	.1916	.1916	2.58	5.26	2.58	5.26	.1908	1.35	4.07
36							-.01	5.00	.0590	.1618	.1618	2.65	5.12	2.65	5.12	.2146	.93	3.80
48							-.01	5.25	.0562	.1226	.1226	2.70	4.99	2.70	4.99	.2037	.78	3.75
60							-.02	5.87	.0908	.0760	.0760	2.72	4.89	2.72	4.89	.2184	.53	3.60
72							-.03	5.92	.0951	.0549	.0549	2.78	4.80	2.78	4.80	.2120	.43	3.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VALCENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN Y	S.D. Y	P (X, Y)	MEAN Y _P	S.D. Y _P	P (Y, Y _P)	MEAN Y	S.D. Y	N
22	2.04	4.88	.132	-1.73	3.47	500			
23	2.28	3.22		2.84	2.84	2.84			
24	2.11	2.22		1.11	1.50	1.50			
25	2.20	1.36		1.36	1.36	1.36			
26	1.75	1.47		1.47	1.47	1.47			
27	1.43	1.37		1.37	1.37	1.37			
28	1.51	1.52		1.52	1.52	1.52			

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y	N
22	1.01	1.51	.1075	2.32	4.88	500
23	1.08	1.55	.1202			
24	1.03	1.41	.1236			
25	1.11	1.32	.1355			
26	1.17	1.22	.1421			
27	1.21	1.13	.1550			

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF Y, YP, XP

	MEAN Y	S.D. Y	P (Y, Y _P)	MEAN Y _P	S.D. Y _P	P (Y _P , X)	MEAN Y	S.D. Y	N
22	2.04	4.88	.132	-1.73	3.47	500			
23	2.28	3.22		2.84	2.84	2.84			
24	2.11	2.22		1.11	1.50	1.50			
25	2.20	1.36		1.36	1.36	1.36			
26	1.75	1.47		1.47	1.47	1.47			
27	1.43	1.37		1.37	1.37	1.37			
28	1.51	1.52		1.52	1.52	1.52			

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y	N
22	1.01	1.51	.1075	2.32	4.88	500
23	1.08	1.55	.1202			
24	1.03	1.41	.1236			
25	1.11	1.32	.1355			
26	1.17	1.22	.1421			
27	1.21	1.13	.1550			

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEMBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
12	-1.68	3.92	.0757	-1.49	2.37	600

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

	GIVEN X	GIVEN Y
MEAN XP	-1.63	-.42
S.D. XP	3.60	3.60
R (XP, YP)	.1120	.1159
MEAN YP	-.26	-.33
S.D. YP	3.53	3.53
R (YP, X)	.1015	.1194
MEAN XP	-.85	-.74
S.D. XP	3.43	3.43
R (XP, Y)	.0026	.0082
MEAN YP	-.59	-.59
S.D. YP	3.38	3.38
R (YP, X)	.0281	.0245
MEAN XP	-.70	-.70
S.D. XP	3.39	3.39
R (XP, Y)	.0018	.0387
MEAN YP	-.26	-.26
S.D. YP	2.00	2.00
R (YP, X)	.0398	.0095
MEAN XP	-.74	-.75
S.D. XP	3.60	3.60
R (XP, Y)	.1155	.1177
MEAN YP	-.50	-.50
S.D. YP	3.53	3.53
R (YP, X)	.1015	.1194
MEAN XP	-.75	-.73
S.D. XP	3.43	3.43
R (XP, Y)	.0026	.0082
MEAN YP	-.33	-.33
S.D. YP	3.38	3.38
R (YP, X)	.0281	.0245
MEAN XP	-.70	-.70
S.D. XP	3.39	3.39
R (XP, Y)	.0018	.0387
MEAN YP	-.26	-.26
S.D. YP	2.00	2.00

ALTITUDE (KM) - 21

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
12	-2.86	3.84	.07131	-.37	2.33	600

CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

	GIVEN X	GIVEN Y
MEAN XP	-2.89	-.38
S.D. XP	3.55	3.55
R (XP, YP)	.1104	.0983
MEAN YP	-.07	-.35
S.D. YP	3.52	3.52
R (YP, X)	.1075	.1075
MEAN XP	-1.41	-1.32
S.D. XP	3.40	3.40
R (XP, Y)	.0955	.0955
MEAN YP	-.14	-.14
S.D. YP	3.35	3.35
R (YP, X)	.0738	.0738
MEAN XP	-1.24	-1.20
S.D. XP	3.35	3.27
R (XP, Y)	.0308	.0308
MEAN YP	-.09	-.09
S.D. YP	1.87	1.87
R (YP, X)	.0983	.0983
MEAN XP	-1.32	-1.30
S.D. XP	3.45	3.45
R (XP, Y)	.1075	.1075
MEAN YP	-.08	-.08
S.D. YP	1.80	1.80
R (YP, X)	.0955	.0955
MEAN XP	-1.27	-1.24
S.D. XP	3.40	3.35
R (XP, Y)	.0955	.0955
MEAN YP	-.14	-.14
S.D. YP	1.67	1.67
R (YP, X)	.0738	.0738
MEAN XP	-1.24	-1.20
S.D. XP	3.35	3.27
R (XP, Y)	.0308	.0308
MEAN YP	-.09	-.09
S.D. YP	1.87	1.87

ORIGINAL PAGE IS
OF POOR QUALITY

QUACRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VAJENSEBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUACRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. Y	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, Y)	MEAN YP	S.D. YP	MEAN Y GIVEN X	S.D. Y GIVEN X	P (Y, XP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN Y GIVEN YP	S.D. Y GIVEN YP				
-3.01	-3.01	3.58	.1505	-1.72	2.11	600	-1.94	3.22	.2076	-1.05	1.61	-4.36	1.50												
12	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
24	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
36	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
48	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
60	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
72	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														

ALTITUDE (KM) - 22

QUACRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT	MEAN X	S.D. Y	P (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	P (XP, Y)	MEAN YP	S.D. YP	MEAN Y GIVEN X	S.D. Y GIVEN X	P (Y, XP)	MEAN XP	S.D. XP	P (XP, YP)	MEAN YP	S.D. YP	MEAN Y GIVEN YP	S.D. Y GIVEN YP				
-4.32	-4.32	3.93	.1501	-1.34	2.12	600	-2.74	3.68	.212	-1.02	1.64	-4.99	1.32												
12	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
24	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
36	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
48	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
60	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														
72	1.22	2.74	.3558	-1.01	2.53	1129	1.34	3.22	.2076	-.05	1.61														

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-5.58	4.05	.0151	-0.22	2.17				600					
12	.14	2.73	-.3326	-.01	2.74	-.6206	-.0201	-.0831		-.259	3.81	.0682	.24	1.69
24	.31	2.90	-.3399	.02	2.78	-.6274	-.0178	-.0201		-2.72	3.81	.0579	-.05	1.69
36	.48	3.19	-.3522	.02	2.91	-.6555	-.0173	-.1057		-2.77	3.77	.0693	.31	1.63
48	.61	3.46	-.3725	.00	3.13	-.7042	-.0277	-.1806		-2.73	3.74	.0323	.32	1.53
60	.77	3.65	-.3726	.03	3.25	-.7201	-.0271	-.1171		-2.76	3.72	.0384	.17	1.50
72	.91	3.88	-.4113	.03	3.23	-.7061	-.1512	-.1827		-2.71	3.69	-.0085	.20	1.53

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	-5.07	4.24	.0983	-.11	2.19				600					
12	.16	2.84	-.2977	-.02	2.84	-.6026	-.0258	-.1303		-3.02	4.04	.1184	.24	1.73
24	.31	2.90	-.3199	-.02	2.79	-.6382	-.0834	-.1024		-3.02	4.02	.0853	.19	1.68
36	.48	3.05	-.3165	-.01	3.02	-.6955	-.1195	-.2233		-3.09	4.02	.0795	.63	1.56
48	.64	3.47	-.3589	-.01	3.15	-.7152	-.1619	-.2364		-3.03	3.96	.0507	.48	1.50
60	.79	3.77	-.3725	.01	3.26	-.7354	-.2049	-.2547		-3.11	3.93	.0220	.39	1.46
72	.94	4.03	-.3921	.01	3.24	-.7311	-.1960	-.2206		-3.10	3.90	-.0286	.26	1.48

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (936,4) - VANDENBERG
 MONTH OF RECORD - SEPTEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.15	2.73	-.2897	-.03	2.67	-.6071	-.6071	-.1161	600	-.3.18	4.45	.1211	.49	1.72
24	.75	2.86	-.3028	-.03	2.65	-.6501	-.6501	-.0278		-.3.13	4.44	.1171	.09	1.65
36	.52	3.16	-.3175	-.02	2.93	-.6665	-.6665	.0918		-.3.16	4.41	.1013	.43	1.61
48	.69	3.53	-.3523	.00	3.12	-.7069	-.7069	-.2032		-.3.15	4.35	.0799	.44	1.52
60	.87	3.89	-.3557	.03	3.22	-.7237	-.7237	.1512		-.3.23	4.33	.0741	.25	1.50
72	1.03	4.08	-.3775	.04	3.23	-.7211	-.7211	.1529		-.3.18	4.30	.0798	.40	1.49

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.68	.05

ALTITUDE (KM) - 27

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	1.15	2.93	-.2834	-.02	2.65	-.6278	-.6278	-.0496	600	-.3.38	4.74	.0933	.27	1.63
24	.75	2.97	-.2821	-.04	2.79	-.6556	-.6556	.0249		-.3.40	4.74	.0763	-.15	1.59
36	.52	3.75	-.3174	-.03	2.95	-.6950	-.6950	.0455		-.3.40	4.69	.0737	.25	1.52
48	.71	3.68	-.3355	-.04	3.14	-.7281	-.7281	.0267		-.3.33	4.66	.0351	.12	1.44
60	.89	4.00	-.3507	-.03	3.14	-.7309	-.7309	.1480		-.3.40	4.63	.0259	.22	1.43
72	1.08	4.15	-.3527	-.03	3.16	-.7334	-.7334	.1671		-.3.42	4.63	.0239	.18	1.43

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.95	.03

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9	1/65 - 12/74	0	90.0	1.71	2.19	-.5912	-1.45	2.17	600
9	1/65 - 12/74	1	90.0	-.32	2.90	-.3485	-1.54	4.35	600
9	1/65 - 12/74	2	90.0	-.48	4.06	-.3308	-1.25	5.04	500
9	1/65 - 12/74	3	90.0	1.14	5.39	-.2310	.30	6.60	600
9	1/65 - 12/74	4	90.0	2.43	6.54	-.1256	.45	6.37	600
9	1/65 - 12/74	5	90.0	3.66	7.45	-.0982	.10	7.14	600
9	1/65 - 12/74	6	90.0	4.81	8.37	-.0190	-.25	8.17	600
9	1/65 - 12/74	7	90.0	6.14	9.40	.0670	-.14	9.12	600
9	1/65 - 12/74	8	90.0	7.71	10.45	.1619	-.13	10.32	600
9	1/65 - 12/74	9	90.0	9.35	11.66	.2510	.27	11.45	600
9	1/65 - 12/74	10	90.0	11.37	12.82	.3247	.69	12.25	600
9	1/65 - 12/74	11	90.0	13.63	13.57	.3833	1.29	12.86	600
9	1/65 - 12/74	12	90.0	15.50	13.28	.3721	2.03	12.38	600
9	1/65 - 12/74	13	90.0	16.15	12.30	.3442	2.50	11.26	600
9	1/65 - 12/74	14	90.0	15.02	10.01	.2902	2.24	9.51	600
9	1/65 - 12/74	15	90.0	12.28	8.22	.2518	1.59	7.81	600
9	1/65 - 12/74	16	90.0	8.93	7.15	.2304	1.01	6.02	600
9	1/65 - 12/74	17	90.0	5.19	5.75	.1666	.25	4.61	670
9	1/65 - 12/74	18	90.0	2.04	4.88	.1132	-.23	3.47	600
9	1/65 - 12/74	19	90.0	-.11	4.23	.1320	-.41	2.82	600
9	1/65 - 12/74	20	90.0	-1.68	3.92	.0757	-.49	2.37	600
9	1/65 - 12/74	21	90.0	-2.86	3.84	.0791	-.37	2.33	600
9	1/65 - 12/74	22	90.0	-3.91	3.59	.1565	-.48	2.11	600
9	1/65 - 12/74	23	90.0	-4.84	3.93	.1601	-.34	2.12	600
9	1/65 - 12/74	24	90.0	-5.58	4.95	.0451	-.22	2.17	600
9	1/65 - 12/74	25	90.0	-6.07	4.24	.0983	-.11	2.19	600
9	1/65 - 12/74	26	90.0	-6.56	4.65	.1020	-.05	2.18	600
9	1/65 - 12/74	27	90.0	-6.82	4.84	.0696	-.03	2.10	600

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEMBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.33	2.53	-.5614	-1.25	2.64												
12	.01	4.23	-.8358	.00	3.31	-.6356	.66	1.39	-.5355	-.63	2.04	.5282	.66	1.39	-.5355	-.63	2.04
24	.00	2.06	-.4115	.01	2.60	-.5068	.66	2.30	-.6114	-.60	2.27	.1499	.66	2.30	-.6114	-.60	2.27
36	-.01	4.33	-.8569	.00	3.74	-.7210	.65	1.30	-.4932	-.63	1.83	.5287	.65	1.30	-.4932	-.63	1.83
48	-.01	2.28	-.4562	.00	3.26	-.6275	.65	2.25	-.6028	-.57	2.05	.2004	.65	2.25	-.6028	-.57	2.05
60	-.01	4.37	-.8657	.00	3.87	-.7438	.66	1.27	-.4611	-.63	1.76	.5344	.66	1.27	-.4611	-.63	1.76
72	-.01	2.32	-.4638	.02	3.31	-.6358	.66	2.24	-.6111	-.56	2.03	.1931	.66	2.24	-.6111	-.56	2.03

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X GIVEN Y
1.34 -1.21

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.07	2.98	-.0923	-1.94	5.27												
12	.02	3.47	-.5769	-.01	4.45	-.4241	.25	2.39	-.0864	-.88	4.73	-.0961	.25	2.39	-.0864	-.88	4.73
24	.05	3.71	-.6191	.02	5.73	-.5521	.21	2.30	-.0964	-.85	4.33	-.0943	.21	2.30	-.0964	-.85	4.33
36	.09	4.15	-.6824	.04	6.44	-.6193	.16	2.14	-.1007	-.84	4.11	-.0332	.16	2.14	-.1007	-.84	4.11
48	.09	3.9	-.6535	.04	6.85	-.6561	.11	2.25	-.1260	-.84	3.96	-.0219	.11	2.25	-.1260	-.84	3.96
60	-.01	4.14	-.6862	.08	7.13	-.6802	.06	2.17	-.1212	-.82	3.86	-.0280	.06	2.17	-.1212	-.82	3.86
72	.07	3.88	-.5405	.11	7.21	-.6847	.05	2.29	-.1113	-.81	3.84	-.0342	.05	2.29	-.1113	-.81	3.84

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X GIVEN Y
.13 -2.15

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932/4) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 2

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	.54	4.49	-.2667	-1.64	6.21												
12	.04	3.59	-.4051	-.03	4.57	-.3673	-.03	4.57	-.1064	-.3673	1.979	-.1270	.50	4.04	-.2992	-.47	5.69
24	.08	4.71	-.5340	-.04	6.19	-.4999	-.04	6.19	-.1906	-.4999	.2644	-.0741	.44	3.71	-.2959	-.53	5.27
36	.14	5.45	-.6205	-.04	7.27	-.5835	-.04	7.27	-.2236	-.5835	.2544	-.0146	.36	3.48	-.2657	-.58	4.96
48	.19	5.79	-.6609	-.08	7.77	-.6216	-.08	7.77	-.2489	-.6216	.2472	.0716	.35	3.34	-.2743	-.63	4.83
60	.18	6.02	-.6695	-.08	8.07	-.6474	-.08	8.07	-.2487	-.6474	.2432	.0898	.33	3.24	-.2752	-.62	4.70
72	.20	6.09	-.6978	-.02	8.36	-.6718	-.02	8.36	-.2821	-.6718	.2715	.1205	.33	3.20	-.2417	-.60	4.57

ALTITUDE (KM) - 3

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	2.14	6.17	-.2152	-2.02	7.35												
12	.06	4.20	-.3509	-.04	4.66	-.3137	-.04	4.66	-.0761	-.3137	.2275	-.1622	1.57	5.62	-.2367	-.02	6.80
24	.09	5.77	-.4794	-.08	6.68	-.4531	-.08	6.68	-.1155	-.4531	.2472	-.1500	1.37	5.28	-.2708	-.30	6.38
36	.14	6.95	-.5778	-.15	8.06	-.5518	-.15	8.06	-.1125	-.5518	.2166	-.0853	1.22	4.95	-.2591	-.51	6.02
48	.21	7.62	-.6333	-.22	8.74	-.6000	-.22	8.74	-.1305	-.6000	.1908	-.0279	1.18	4.72	-.2623	-.67	5.82
60	.22	7.95	-.6627	-.19	9.19	-.6306	-.19	9.19	-.1383	-.6306	.1756	.0060	1.14	4.59	-.2646	-.71	5.66
72	.28	8.04	-.5705	-.09	9.52	-.6534	-.09	9.52	-.1635	-.6534	.1943	.0306	1.16	4.55	-.2441	-.66	5.52

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.05	4.95	-.3269	-.05	5.31	-.3142	-.3142	.0106	.2395	-.2411	7.11	-.1023	2.82	7.72
24	.08	7.03	-.4632	-.14	7.86	-.4634	-.4634	-.0089	.2260	-.2018	6.70	-.1072	2.39	7.01
36	.15	8.49	-.5579	-.23	9.38	-.5516	-.5516	-.0025	.1730	-.1523	6.34	-.1159	2.21	6.44
48	.24	9.29	-.6156	-.29	10.25	-.6004	-.6004	-.0004	.1321	-.1063	6.07	-.1195	2.12	6.69
60	.27	9.73	-.6472	-.24	10.80	-.6356	-.6356	-.0032	.1137	-.0836	5.89	-.1219	2.07	6.66
72	.33	9.89	-.6601	-.13	11.27	-.6607	-.6607	-.0274	.1285	-.0653	5.81	-.1064	2.09	6.47

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
4.14	-2.90

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.06	5.29	-.3078	-.09	6.20	-.3242	-.3242	.1765	.1425	-.2230	8.35	.0417	3.63	9.08
24	.08	7.82	-.4459	-.22	9.06	-.4743	-.4743	.1363	.0962	-.1973	7.89	.0370	3.17	8.51
36	.16	9.43	-.5348	-.30	10.74	-.5598	-.5598	.1351	.0576	-.1883	7.47	.0244	3.07	8.04
48	.21	10.37	-.5920	-.38	11.64	-.6076	-.6076	.1374	.0218	-.1702	7.15	.0169	2.97	7.74
60	.26	10.91	-.6273	-.27	12.21	-.6349	-.6349	.1279	.0184	-.1648	6.91	.0165	2.95	7.53
72	.34	11.23	-.6451	-.16	12.79	-.6617	-.6617	.1123	.0286	-.1569	6.74	.0268	2.97	7.30

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
5.85	-3.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 8

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.88	13.01	.2050	7.74	14.36	620										
12	-.02	8.74	-.3443	-.3533	.2217	.0030	-.16	9.91	-.3533	-.16	9.91	5.37	12.17	.2028	-.35	13.38
24	-.02	12.44	-.4840	-.5061	.2567	-.0505	-.36	13.98	-.5061	-.36	13.98	5.29	11.33	.1837	-.17	12.33
36	.02	14.47	-.5612	-.5918	.2593	-.0798	-.54	16.33	-.5918	-.54	16.33	5.21	10.72	.1741	-.48	11.92
48	.07	15.42	-.6031	-.6367	.2650	-.1063	-.60	17.70	-.6367	-.60	17.70	5.12	10.34	.1635	-.69	11.03
60	.12	15.97	-.6306	-.6534	.2449	-.0975	-.55	18.27	-.6534	-.55	18.27	5.08	10.06	.1711	-.71	10.83
72	.27	16.22	-.6430	-.6650	.2282	-.0914	-.49	18.73	-.6650	-.49	18.73	5.11	9.93	.1624	-.74	10.69

ALTITUDE (KM) - 9

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.35	14.29	.2673	-.69	15.55	620										
12	-.03	9.51	-.3421	-.3616	.3138	-.0372	-.19	11.01	-.3616	-.19	11.01	6.22	13.38	.2602	.59	14.44
24	-.03	13.49	-.4781	-.5092	.3268	-.0909	-.40	15.24	-.5092	-.40	15.24	6.16	12.49	.2404	-.00	13.32
36	-.01	15.77	-.5585	-.5948	.3303	-.1300	-.60	17.75	-.5948	-.60	17.75	6.01	11.81	.2275	-.39	12.45
48	.02	16.86	-.6072	-.6396	.3209	-.1510	-.63	19.20	-.6396	-.63	19.20	5.89	11.30	.2219	-.64	11.92
60	.08	17.31	-.6262	-.6516	.3036	-.1484	-.57	19.65	-.6516	-.57	19.65	5.83	11.10	.2234	-.71	11.77
72	.26	17.68	-.6427	-.6541	.2705	-.1318	-.56	19.90	-.6541	-.56	19.90	5.86	10.91	.2408	-.79	11.74

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.00	10.00	-.3445	-.18	11.62	-.3627	-.3627	.3068	-.0607	6.93	14.08	.2973	.12	15.13
24	-.02	14.16	-.4792	-.43	15.99	-.5049	-.5049	.3621	-.1208	7.09	13.13	.2715	-.10	13.99
36	-.01	16.49	-.5587	-.61	18.54	-.5873	-.5873	.3783	-.1666	6.93	12.42	.2531	-.45	13.12
48	.04	17.64	-.6026	-.64	20.13	-.6359	-.6359	.3637	-.1651	6.79	11.95	.2489	-.69	12.52
60	.12	18.11	-.6277	-.57	20.49	-.6459	-.6459	.3415	-.1851	6.69	11.66	.2519	-.83	12.40
72	.30	18.39	-.6393	-.53	20.77	-.6499	-.6499	.3102	-.1894	6.78	11.51	.2617	-.88	12.34

ALTITUDE (KM) - 11

QUADRIVARIATE NORMAL STATISTICS OF Y, YP, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.04	9.63	-.3313	-.17	11.38	-.3540	-.3540	.5241	-.0848	7.46	14.31	.3209	-.17	15.18
24	-.10	13.86	-.4661	-.41	15.96	-.5020	-.5020	.3667	-.1104	7.74	13.41	.3022	-.22	14.02
36	-.03	16.30	-.5473	-.55	17.27	-.5794	-.5794	.3741	-.1170	7.71	12.67	.2917	-.34	13.25
48	-.03	17.53	-.5945	-.61	18.70	-.6210	-.6210	.3694	-.1817	7.62	12.18	.2855	-.49	12.70
60	-.01	18.14	-.6215	-.54	20.33	-.6346	-.6346	.3565	-.1884	7.53	11.86	.2839	-.59	12.46
72	.12	18.76	-.6413	-.52	20.67	-.6424	-.6424	.3405	-.1871	7.58	11.61	.2868	-.75	12.43

ORIGINAL PAGE IS
OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/6J - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 12

.....

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	16.63	14.67	.3216	-2.55	15.43	620	-0.08	9.93	-.3097	-.21	10.55	8.59	13.94	.3229	.41	14.49
24							-.11	13.36	-.4605	-.39	15.05	6.73	12.99	.2992	.17	13.36
36							-.09	15.69	-.5431	-.51	17.27	8.63	12.29	.2687	-.03	12.63
48							-.06	16.91	-.5902	-.54	18.65	8.55	11.81	.2822	-.12	12.12
60							-.02	17.60	-.6218	-.45	19.40	8.44	11.45	.2827	-.14	11.86
72							.07	18.18	-.6416	-.42	19.85	8.37	11.23	.2917	-.41	11.75

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

.....

ALTITUDE (KM) - 13

.....

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	16.81	12.86	.2936	-2.27	13.41	620	-.08	7.73	-.3067	-.23	9.12	8.73	12.23	.2934	.70	12.62
24							-.06	11.54	-.4527	-.41	12.86	8.87	11.44	.2739	.34	11.71
36							-.06	13.59	-.5391	-.54	14.93	8.69	10.81	.2602	.12	11.07
48							-.01	14.68	-.5876	-.55	16.18	8.55	10.39	.2583	.01	10.62
60							.06	15.33	-.6199	-.45	16.92	8.46	10.07	.2645	.01	10.36
72							.16	15.80	-.6352	-.41	17.46	8.45	9.87	.2673	-.07	10.16

.....

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

.....

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN Y	S.D. Y	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
	16.02	11.22	.2697	-1.82	11.68				620						16.15	-2.49		
12	-.05	6.70	-.3098	-.15	7.66		-.3236	.2667	.0265	8.67	10.61	.2761	8.67	10.61	2.88	10.97	2.88	10.97
24	-.09	9.82	-.4492	-.31	10.79		-.4653	.3248	-.0547	8.53	9.96	.2555	8.53	9.96	1.44	10.27	1.44	10.27
36	-.10	11.64	-.5347	-.43	12.49		-.5379	.3460	-.1050	8.25	9.44	.2438	8.25	9.44	.77	9.79	.77	9.79
48	-.06	12.58	-.5812	-.45	13.58		-.5855	.3442	-.1174	8.14	9.09	.2437	8.14	9.09	.70	9.41	.70	9.41
60	-.03	13.25	-.6155	-.37	14.38		-.6189	.3114	-.1062	8.06	8.81	.2625	8.06	8.81	.66	9.11	.66	9.11
72	-.09	13.85	-.6436	-.38	14.84		-.6356	.3214	-.1252	8.01	8.56	.2586	8.01	8.56	.48	8.96	.48	8.96

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN YP	S.D. YP	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN Y	S.D. Y	GIVEN X	GIVEN Y	MEAN YP	S.D. YP
	14.38	9.19	.2588	-1.59	9.68				620						14.55	-2.19		
12	-.03	5.55	-.3088	-.15	6.59		-.3337	.3010	.0165	7.94	8.70	.2594	7.94	8.70	2.80	9.05	2.80	9.05
24	-.06	7.86	-.4322	-.25	9.12		-.4681	.3228	-.0395	7.76	8.24	.2479	7.76	8.24	1.70	8.48	1.70	8.48
36	-.08	9.40	-.5207	-.38	10.58		-.5438	.3435	-.0863	7.54	7.81	.2333	7.54	7.81	1.09	8.06	1.09	8.06
48	-.05	10.20	-.5595	-.39	11.31		-.5843	.3243	-.0951	7.34	7.53	.2441	7.34	7.53	.83	7.80	.83	7.80
60	-.02	10.70	-.6023	-.34	11.92		-.6177	.3196	-.1049	7.21	7.31	.2494	7.21	7.31	.74	7.56	.74	7.56
72	-.05	11.20	-.6313	-.35	12.26		-.6341	.3371	-.1241	7.22	7.11	.2383	7.22	7.11	.65	7.43	.65	7.43

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (32214) - VALENZUELO
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP	
12	11.99	7.65	.1974	-1.49	7.80	620	-0.05	4.75	.0875	-0.3278	.1853	6.74	7.20	.2023	6.74	7.20	2.57	7.27	
24																			
36																			
48																			
60																			
72																			

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

ALTITUDE (KM) - 17

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	MEAN YP	S.D. YP	
12	8.97	6.21	.1603	-1.30	5.99	620	-0.01	4.22	.1378	-0.3279	.0692	4.85	5.76	.1834	4.85	5.76	1.59	5.58	
24																			
36																			
48																			
60																			
72																			

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	5.97	5.02	.1535	-1.25	4.53	620										
12	.00	3.89	-.3959	-.3754	.0774	.0993	3.49	3.49	-.3754	-.3754	3.49	3.18	4.58	.1779	-.38	4.16
24	.01	4.38	-.4444	-.4468	.1307	.1369	4.16	4.16	-.4468	-.4468	4.16	3.33	4.42	.1756	.70	3.96
36	.02	5.15	-.5132	-.5264	.1497	.0853	4.86	4.86	-.5264	-.5264	4.86	3.26	4.25	.1733	.33	3.78
48	.04	5.55	-.5574	-.5352	.1741	.0508	5.38	5.38	-.5352	-.5352	5.38	3.18	4.13	.1748	.20	3.61
60	.08	5.95	-.5994	-.6335	.2032	-.0037	5.79	5.79	-.6335	-.6335	5.79	3.12	4.00	.1625	.02	3.46
72	.12	6.21	-.6244	-.6528	.2452	-.0461	5.95	5.95	-.6528	-.6528	5.95	3.11	3.91	.1438	-.04	3.39

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	6.06
GIVEN Y	-1.46

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.59	4.44	.2103	-1.33	3.54	620										
12	.01	3.52	-.4066	-.4171	.0743	.0567	2.94	2.94	-.4171	-.4171	2.94	1.91	4.04	.2415	-.26	3.20
24	.03	3.84	-.4407	-.4457	.0961	.1351	3.19	3.19	-.4457	-.4457	3.19	2.12	3.92	.2496	.02	3.10
36	.05	4.45	-.5060	-.5453	.1552	.0422	3.88	3.88	-.5453	-.5453	3.88	1.99	3.72	.2406	-.22	2.93
48	.07	4.78	-.5391	-.5874	.1864	.0152	4.16	4.16	-.5874	-.5874	4.16	1.99	3.70	.2394	-.24	2.83
60	.12	5.11	-.5727	-.6232	.2303	-.0541	4.42	4.42	-.6232	-.6232	4.42	1.94	3.63	.2252	-.36	2.75
72	.16	5.32	-.5907	-.6440	.2328	-.0549	4.56	4.56	-.6440	-.6440	4.56	1.96	3.58	.2334	-.36	2.69

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	3.70
GIVEN Y	-1.44

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION: 132241 - JACOBBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (FM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

ST HP	MEAN X	S.D. X	MEAN Y	S.D. Y	P (X, Y)	MEAN XP	S.D. XP	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y	N
12	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
24	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
36	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
48	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
60	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
72	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ST HP	MEAN XP	S.D. XP	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y
12	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
24	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
36	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
48	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
60	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
72	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28

ALTITUDE (FM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

ST HP	MEAN X	S.D. X	MEAN Y	S.D. Y	P (X, Y)	MEAN XP	S.D. XP	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y	N
12	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
24	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
36	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
48	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
60	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620
72	1.59	3.46	-1.21	3.14	.2035	-1.01	3.20	-1.4528	3.42	.0018	-1.22	3.42	620

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ST HP	MEAN XP	S.D. XP	MEAN YP	S.D. YP	P (XP, YP)	MEAN Y	S.D. Y
12	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
24	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
36	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
48	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
60	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28
72	1.15	3.28	-1.43	3.02	.2838	-1.27	3.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.43	4.33	.2176	- .96	2.91	620													
12	.02	3.41	-.3966	-.00	3.05		-.02	3.05	.0970	-.0640		-.5183	-.0970	-.0323	.69	3.98	.2490	-.49	2.49
24	.05	3.58	-.4135	.00	3.34		-.05	3.34	.1059	-.0954		-.5625	.1059	-.0954	.80	3.94	.2565	-.39	2.40
36	.08	4.16	-.4737	-.04	3.51		-.08	3.51	.1731	-.0831		-.5876	.1731	-.0831	.75	3.81	.2386	-.49	2.36
48	.15	4.60	-.5172	-.04	3.69		-.15	3.69	.1742	-.0852		-.6157	.1742	-.1046	.81	3.71	.2441	-.47	2.30
60	.21	4.87	-.5532	-.05	3.89		-.21	3.89	.2429	-.1571		-.6487	.2429	-.1184	.79	3.61	.2226	-.50	2.22
72	.24	4.93	-.5535	-.07	4.13		-.24	4.13	.2515	-.1850		-.6918	.2515	-.1146	.80	3.61	.2198	-.51	2.10

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.43	4.55	.1465	-.77	2.89	620													
12	.06	3.36	-.3862	-.03	3.12		-.06	3.12	-.0407	.0054		-.5364	-.0407	.0336	.73	4.20	.2033	-.47	2.43
24	.10	3.77	-.4265	-.05	3.23		-.10	3.23	.0010	.0654		-.5558	.0010	-.0413	.82	4.11	.2026	-.40	2.39
36	.14	4.25	-.4753	-.05	3.50		-.14	3.50	.0828	-.0343		-.5964	.0828	-.0395	.81	4.01	.1843	-.45	2.32
48	.19	4.45	-.4875	-.08	3.79		-.19	3.79	.1432	-.1125		-.6446	.1432	-.0392	.82	3.97	.1670	-.49	2.20
60	.27	4.90	-.5412	-.07	3.99		-.27	3.99	.1399	-.1196		-.6786	.1399	-.0272	.84	3.82	.1857	-.49	2.12
72	.33	5.04	-.5461	-.05	4.10		-.33	4.10	.1751	-.1717		-.6962	.1751	-.0256	.86	3.79	.1689	-.50	2.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - OCTOBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.06	3.47	-.3543	-.00	3.16	-.5383	-5383	-.0133	620	-.0192	.0221	1.01	4.65	.1629	-.45	2.47
24	.13	3.84	-.3893	-.03	3.41	-.5240	-5240	.0499		.0159	-.0510	1.09	4.58	.1521	-.37	2.38
36	.19	4.30	-.4297	-.05	3.68	-.6298	-.6298	.0718		-.0559	-.0209	1.10	4.49	.1540	-.45	2.28
48	.27	4.61	-.4608	-.05	3.85	-.6537	-.6537	.1483		-.1145	-.0320	1.13	4.42	.1246	-.46	2.22
60	.37	5.01	-.4979	-.09	4.00	-.6796	-.6796	.1437		-.1270	-.0285	1.16	4.31	.1442	-.49	2.15
72	.47	5.20	-.5100	-.07	3.95	-.6680	-.6680	.1857		-.1816	-.0246	1.20	4.27	.1246	-.50	2.18

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.11	3.44	-.3182	.02	2.92	-.4970	-4970	-.1319	620	.0344	.0704	1.28	5.19	.1483	-.37	2.51
24	.22	3.81	-.3572	.03	3.14	-.5319	-5319	.0187		.0184	-.0158	1.33	5.12	.1244	-.27	2.45
36	.31	4.30	-.3956	.02	3.49	-.5876	-.5876	-.0055		-.0035	-.0180	1.39	5.03	.1407	-.32	2.34
48	.39	4.66	-.4185	.01	3.74	-.6311	-.6311	.0320		-.0464	.0235	1.44	4.97	.1428	-.35	2.24
60	.50	4.99	-.4488	-.04	3.91	-.6612	-.6612	.1251		-.1521	.0277	1.46	4.87	.1255	-.41	2.16
72	.64	5.27	-.4640	-.04	3.96	-.6666	-.6666	.1270		-.1558	.0302	1.55	4.83	.1261	-.41	2.15

ORIGINAL PAGE IS
OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
10	1/65 - 12/74	0	90.0	1.33	2.53	-.5614	-1.25	2.64	620
10	1/65 - 12/74	1	90.0	.07	2.98	-.0323	-1.94	5.27	620
10	1/65 - 12/74	2	90.0	.54	4.49	-.2667	-1.64	6.21	620
10	1/65 - 12/74	3	90.0	2.14	6.17	-.2152	-2.02	7.35	620
10	1/65 - 12/74	4	90.0	3.91	7.78	-.0889	-2.51	8.72	620
10	1/65 - 12/74	5	90.0	5.60	8.92	.0530	-2.67	9.83	620
10	1/65 - 12/74	6	90.0	7.01	10.14	.1045	-2.71	11.23	620
10	1/65 - 12/74	7	90.0	8.49	11.69	.1505	-2.67	12.74	620
10	1/65 - 12/74	8	90.0	9.88	13.01	.2050	-2.74	14.36	620
10	1/65 - 12/74	9	90.0	11.35	14.29	.2673	-2.69	15.55	620
10	1/65 - 12/74	10	90.0	13.09	15.02	.3007	-2.82	16.26	620
10	1/65 - 12/74	11	90.0	14.94	15.18	.3209	-2.68	16.24	620
10	1/65 - 12/74	12	90.0	16.63	14.67	.3216	-2.55	15.43	620
10	1/65 - 12/74	13	90.0	18.81	12.86	.2936	-2.27	13.41	620
10	1/65 - 12/74	14	90.0	16.02	11.22	.2697	-1.82	11.68	620
10	1/65 - 12/74	15	90.0	14.38	9.19	.2588	-1.59	9.68	620
10	1/65 - 12/74	16	90.0	11.99	7.65	.1974	-1.49	7.80	620
10	1/65 - 12/74	17	90.0	8.97	6.21	.1603	-1.30	5.99	620
10	1/65 - 12/74	18	90.0	5.97	5.02	.1535	-1.25	4.53	620
10	1/65 - 12/74	19	90.0	3.59	4.44	.2103	-1.33	3.54	620
10	1/65 - 12/74	20	90.0	2.21	4.27	.2332	-1.22	3.42	620
10	1/65 - 12/74	21	90.0	1.59	4.31	.2035	-1.21	3.14	620
10	1/65 - 12/74	22	90.0	1.43	4.33	.2176	-.96	2.91	620
10	1/65 - 12/74	23	90.0	1.43	4.55	.1465	-.77	2.89	620
10	1/65 - 12/74	24	90.0	1.92	4.98	.1258	-.66	2.94	620
10	1/65 - 12/74	25	90.0	2.34	5.48	.0966	-.45	2.89	620
10	1/65 - 12/74	26	90.0	3.28	6.23	.1811	-.21	3.00	620
10	1/65 - 12/74	27	90.0	4.38	6.91	.2076	-.15	3.30	620

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (19214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
		.70	2.69	-.5711	-.92	3.11							.57	-.66
12		-.01	4.15	-.7707	.01	3.50	-.5604	.42	1.71	.4068	.42	1.71	-.6121	-.59
24		-.02	2.63	-.4858	.03	3.33	-.5249	.42	2.35	.1446	.42	2.35	-.6325	-.56
36		-.02	4.35	-.8375	.05	4.15	-.6559	.41	1.58	.4464	.41	1.58	-.5588	-.57
48		-.02	2.80	-.5171	.06	3.84	-.6051	.39	2.30	.2340	.39	2.30	-.6075	-.56
60		-.05	4.43	-.8215	.08	4.31	-.6765	.38	1.53	.4341	.38	1.53	-.5358	-.56
72		-.06	2.93	-.5377	.07	4.04	-.6304	.38	2.27	.2486	.38	2.27	-.6212	-.56

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (YP, X)	MEAN YP	S.D. YP	GIVEN X	GIVEN Y
		.42	3.83	-.1256	-1.13	6.89							.25	-.70
12		-.03	3.64	-.4712	.01	5.26	-.3780	.37	3.30	-.1327	.37	3.30	-.1330	-.77
24		-.03	4.55	-.5839	-.01	7.23	-.5158	.33	3.05	-.0896	.33	3.05	-.1426	-.60
36		-.04	4.92	-.6269	-.02	8.44	-.6019	.30	2.95	-.0293	.30	2.95	-.1362	-.82
48		-.02	5.05	-.6341	-.01	9.13	-.6488	.30	2.95	.0122	.30	2.95	-.1346	-.82
60		.01	5.14	-.6356	-.03	9.35	-.6622	.31	2.95	.0428	.31	2.95	-.1098	-.84
72		.01	5.16	-.6334	-.05	9.34	-.6562	.32	2.95	.0406	.32	2.95	-.0964	-.85

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (1932:4) - VANZENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	H (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	7.45	8.51	.0937	-1.43	10.27	600											
12	.09	6.02	-.3357	-.3357	7.06		.03	7.06	.1220	-.3357	7.06	-.1795	4.67	7.32	.0895	4.67	9.56
24	.21	8.11	-.4535	-.4802	10.06		.02	10.06	.1217	-.4802	10.06	-.1806	4.57	7.47	.0876	4.57	8.91
36	.32	9.09	-.5148	-.5576	11.73		.01	11.73	.1020	-.5576	11.73	-.1651	4.60	7.23	.0912	4.60	8.43
48	.41	9.79	-.5507	-.5821	12.46		.02	12.46	.0917	-.5821	12.46	-.1332	4.61	7.07	.0912	4.61	8.26
60	.52	10.24	-.5724	-.5998	12.77		-.04	12.77	.0947	-.5998	12.77	-.1135	4.66	6.96	.0913	4.66	8.20
72	.59	10.56	-.5878	-.6106	13.04		-.10	13.04	.0844	-.6106	13.04	-.0926	4.68	6.88	.1010	4.68	8.12

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.52	-.82

..... ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	H (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.69	10.28	.1543	-1.34	11.68	600											
12	.14	7.20	-.3355	-.3458	8.21		.03	8.21	.0890	-.3458	8.21	-.1613	5.88	9.59	.1621	5.88	10.86
24	.28	9.58	-.4532	-.4845	11.60		.05	11.60	.1363	-.4845	11.60	-.1697	5.03	9.09	.1538	5.03	10.13
36	.41	10.79	-.5073	-.5567	13.35		.05	13.35	.1598	-.5567	13.35	-.1685	5.87	8.81	.1589	5.87	9.63
48	.54	11.69	-.5463	-.5844	14.05		.05	14.05	.1484	-.5844	14.05	-.1445	5.89	8.58	.1634	5.89	9.44
60	.66	12.07	-.5613	-.5941	14.37		-.02	14.37	.1266	-.5941	14.37	-.1071	5.91	8.50	.1728	5.91	9.38
72	.72	12.34	-.5740	-.6077	14.72		-.09	14.72	.1218	-.6077	14.72	-.1047	5.94	8.41	.1771	5.94	9.26

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.68	-.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION - 93214 - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.85	11.68	.2371	-1.53	13.60	600										
12	.18	7.77	-.3224	-.3550	.1484	-.0717	7.10	10.96	.2476	.2476	-.1678	7.10	10.96	.2476	1.43	12.58
24	.31	10.54	-.4430	-.4877	.2169	-.0025	6.39	10.41	.2448	.2448	-.1877	6.39	10.41	.2448	.50	11.79
36	.47	12.08	-.5034	-.5382	.2467	-.0544	7.01	10.06	.2407	.2407	-.1909	7.01	10.06	.2407	.06	11.22
48	.62	13.08	-.5420	-.5849	.2230	-.0735	7.01	9.80	.2507	.2507	-.1682	7.01	9.80	.2507	-.36	11.01
60	.76	13.53	-.5308	-.5885	.2073	-.0925	6.93	9.27	.2597	.2597	-.1358	6.93	9.27	.2597	-.70	10.99
72	.80	13.93	-.5769	-.6040	.2162	-.0954	7.03	9.53	.2555	.2555	-.1510	7.03	9.53	.2555	-.68	10.83

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
10.83	-1.07						

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. YP	R (Y, YP)	R (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	11.89	13.05	.2947	-1.65	15.67	600										
12	.17	8.48	-.3181	-.3723	.2530	-.0085	8.04	12.34	.2990	.2990	-.1590	8.04	12.34	.2990	1.03	14.48
24	.33	11.76	-.4434	-.4912	.3039	-.0228	7.93	11.68	.2940	.2940	-.1925	7.93	11.68	.2940	.07	13.61
36	.50	13.44	-.5021	-.5565	.3237	-.1158	7.95	11.28	.2915	.2915	-.2087	7.95	11.28	.2915	-.17	12.98
48	.64	14.72	-.5344	-.5853	.2922	-.1192	8.01	11.03	.3024	.3024	-.1983	8.01	11.03	.3024	-.38	12.68
60	.80	15.90	-.5518	-.5943	.2947	-.1349	8.01	10.89	.3083	.3083	-.1793	8.01	10.89	.3083	-.69	12.59
72	.85	15.60	-.5756	-.6103	.3096	-.1550	8.02	10.64	.2942	.2942	-.2029	8.02	10.64	.2942	-.74	12.40

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y	R (XP, YP)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12.91	-1.05						

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 8

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	15.57	14.45	.3273	-1.70	17.69	600						14.69			-0.95	
12	.20	9.34	-.3243	-.3655	.2997	-.0709	8.61	13.66	.2997	8.61	13.66	8.61	13.66	.3302	-0.08	15.45
24	.37	13.07	-.4515	-.4962	.3774	-.1611	8.59	12.89	.3774	8.59	12.89	8.59	12.89	.3142	-.69	15.35
36	.55	14.85	-.5090	-.5552	.3720	-.1732	8.72	12.43	.3720	8.72	12.43	8.72	12.43	.3155	-.65	14.70
48	.74	15.81	-.5374	-.5902	.3456	-.1547	8.90	12.18	.3456	8.90	12.18	8.90	12.18	.3285	-.48	14.38
60	.92	16.25	-.5483	-.5876	.3272	-.1570	8.95	12.08	.3272	8.95	12.08	8.95	12.08	.3386	-.69	14.30
72	.96	16.97	-.5735	-.6012	.3431	-.1725	8.96	11.83	.3431	8.96	11.83	8.96	11.83	.3310	-.73	14.12

ALTITUDE (M) - 9

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	17.27	15.71	.3727	-1.64	19.22	600						16.35			-0.67	
12	.23	10.27	-.3302	-.3576	.3669	-.1242	9.30	14.82	.3669	9.30	14.82	9.30	14.82	.3702	-1.08	17.95
24	.41	14.15	-.4529	-.4923	.4224	-.2016	9.34	14.00	.4224	9.34	14.00	9.34	14.00	.3572	-1.20	16.73
36	.60	16.30	-.5182	-.5520	.4103	-.2138	9.52	13.45	.4103	9.52	13.45	9.52	13.45	.3594	-1.11	16.03
48	.79	17.40	-.5463	-.5722	.3943	-.1866	9.77	13.15	.3943	9.77	13.15	9.77	13.15	.3730	-.73	15.75
60	.96	17.87	-.5574	-.5798	.3620	-.1801	9.86	13.04	.3620	9.86	13.04	9.86	13.04	.3857	-.81	15.65
72	1.05	18.56	-.5794	-.5928	.3719	-.1937	9.85	12.80	.3719	9.85	12.80	9.85	12.80	.3850	-.87	15.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANCOUVER
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (CM) - 10

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		19.06	16.91	.4074	-1.77	20.58	600											
	12	.22	11.18	-.3228	-3.775	.3520	-1241	10.17	15.94	.4087	-1.44	19.31		10.20	15.03	.3975	-1.55	17.98
	24	.40	15.20	-.4503	-4.875	.4223	-2103	10.38	14.54	.4003	-1.49	17.21		10.38	14.54	.4003	-1.49	17.21
	36	.52	17.33	-.5098	-5.488	.4122	-2267	10.64	14.26	.4096	-1.19	16.98		10.64	14.26	.4096	-1.19	16.98
	48	.83	18.49	-.5374	-5.654	.3985	-2128	10.72	14.11	.4179	-1.22	16.94		10.72	13.92	.4190	-1.12	16.74
	60	1.03	19.09	-.5503	-5.685	.4023	-2195											
	72	1.07	19.93	-.5763	-5.819													

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 18.13
 GIVEN Y -.86

ALTITUDE (CM) - 11

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
		20.59	17.40	.4371	-1.34	20.68	600											
	12	.24	10.93	-.3170	-3.480	.3366	-1215	10.74	16.50	.4477	-1.30	19.37		10.96	15.69	.4475	-1.88	18.15
	24	.46	14.95	-.4325	-4.762	.3957	-1804	11.20	15.17	.4485	-1.93	17.33		11.20	15.17	.4485	-1.93	17.33
	36	.71	17.11	-.4900	-5.442	.4031	-2083	11.34	14.79	.4553	-1.84	17.14		11.34	14.79	.4553	-1.84	17.14
	48	.88	18.48	-.5261	-5.581	.3947	-2042	11.42	14.62	.4623	-1.84	17.05		11.42	14.62	.4623	-1.84	17.05
	60	1.11	19.12	-.5419	-5.645	.3970	-2084	11.42	14.32	.4656	-1.78	16.74		11.42	14.32	.4656	-1.78	16.74
	72	1.15	20.01	-.5682	-5.862	.4064	-2205											

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 19.80
 GIVEN Y -.42

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (62214) - YANKEEBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KFT) - 12

..... QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		21.74	16.96	.4380	- .90	19.12	600								21.15	- .11	
12		.23	13.17	-.3055	-.3324	12.75		.10	12.75	.3303	-.3324	- .1151	11.10	16.15	.4483	-1.02	18.03
24		.40	14.18	-.4243	-.4711	18.41		-.01	18.41	.3634	-.4711	- .1656	11.27	15.35	.4576	-.66	16.08
36		.63	16.42	-.4852	-.5402	21.23		-.10	21.23	.3739	-.5402	- .1970	11.50	14.83	.4621	-.57	15.08
48		.81	17.88	-.5166	-.5605	22.18		-.14	22.18	.3824	-.5605	- .1898	11.78	14.49	.4653	-.28	15.82
60		.98	18.47	-.5391	-.5710	22.68		-.10	22.68	.3824	-.5710	- .1907	11.87	14.28	.4743	-.22	15.69
72		1.06	19.40	-.5678	-.5959	23.55		-.04	23.55	.3913	-.5959	- .2006	11.89	13.96	.4774	-.11	15.34

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

..... ALTITUDE (KFT) - 13

..... QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		21.38	15.16	.4344	- .41	15.42	600								20.82	- .04	
12		.19	9.04	-.3053	-.3262	10.45		.13	10.45	.2840	-.3262	- .0713	11.11	14.43	.4487	.55	15.52
24		.32	12.54	-.4214	-.4820	15.13		.10	15.13	.3347	-.4820	- .1528	11.04	13.75	.4593	.07	14.96
36		.52	14.58	-.4826	-.5351	17.76		.03	17.76	.3567	-.5351	- .1809	11.28	13.68	.4614	-.10	13.96
48		.71	15.57	-.5095	-.5687	18.97		-.01	18.97	.3627	-.5687	- .2157	11.64	13.04	.4638	.34	13.48
60		.86	16.49	-.5343	-.5819	19.52		.01	19.52	.3526	-.5819	- .1853	11.80	12.81	.4779	.52	13.33
72		.97	17.31	-.5633	-.6014	21.17		.02	21.17	.3553	-.6014	- .2284	11.79	12.52	.4841	.48	13.10

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (101) - 14

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	R (YP, X)	N
12	19.89	12.61	.4379	.11	13.56						600
12	.15	7.63	-.3147	.06	8.74	-.3256	.06	3.98	-.0553	-.1556	
24	.26	10.55	-.4310	.05	12.62	-.4553	.05	35.70	-.1266	-.1978	
36	.42	12.27	-.4579	.02	14.57	-.5334	.02	35.57	-.1547	-.2177	
48	.58	13.13	-.5148	-.00	15.50	-.5610	-.00	37.14	-.1661	-.2341	
60	.70	13.78	-.5341	-.02	16.16	-.5815	-.02	35.36	-.1557	-.2304	
72	.80	14.28	-.5539	-.03	16.63	-.5013	-.03	34.46	-.1593	-.2300	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN XP	S.D. XP	MEAN YP	S.D. YP	R (XP, YP)	MEAN X	S.D. X	MEAN Y	S.D. Y
12	10.64	11.95	10.64	11.95	.4490	19.21	13.31		
24	10.60	11.37	10.60	11.37	.4563				
36	10.78	11.00	10.78	11.00	.4527				
48	11.00	10.60	11.00	10.60	.4529				
60	11.12	10.65	11.12	10.65	.4803				
72	11.13	10.49	11.13	10.49	.4507				

ALTITUDE (101) - 15

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (Y, YP)	MEAN YP	S.D. YP	R (XP, YP)	R (YP, X)	N
12	17.41	10.42	.4373	-.08	11.12						600
12	.11	6.36	-.3131	.11	7.04	-.3209	.11	3074	-.0043	-.1904	
24	.22	8.51	-.4242	.12	9.94	-.4465	.12	3732	-.0914	-.2272	
36	.35	9.84	-.4765	.16	11.61	-.5220	.16	39.46	-.1351	-.2435	
48	.50	10.62	-.5071	.15	12.61	-.5589	.15	38.26	-.1532	-.2544	
60	.63	11.19	-.5266	.17	13.15	-.5810	.17	37.84	-.1702	-.2578	
72	.70	11.66	-.5459	.18	13.61	-.6224	.18	3726	-.1829	-.2345	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT	MEAN XP	S.D. XP	MEAN YP	S.D. YP	R (XP, YP)	MEAN X	S.D. X	MEAN Y	S.D. Y
12	9.75	9.84	9.75	9.84	.4526	16.74	10.01		
24	9.54	9.41	9.54	9.41	.4538				
36	9.52	9.14	9.52	9.14	.4567				
48	9.75	8.95	9.75	8.95	.4591				
60	9.77	8.85	9.77	8.85	.4703				
72	9.71	8.70	9.71	8.70	.4786				

ORIGINAL PAGE IS OF POOR QUALITY

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KFT) - 16

..... QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	14.62	8.65	.3863	-0.31	9.13	600	8.43	8.15	.4010	2.85	8.16	-.1990	8.43	8.15	.4010	2.85	8.16
24							8.28	7.80	.4094	1.73	8.18	-.2207	8.28	7.80	.4094	1.73	8.18
36							8.24	7.54	.4110	1.17	7.82	-.2243	8.24	7.54	.4110	1.17	7.82
48							8.30	7.33	.4152	.87	7.59	-.2219	8.30	7.33	.4152	.87	7.59
60							8.42	7.27	.4179	.70	7.46	-.2235	8.42	7.27	.4179	.70	7.46
72							8.41	7.16	.4248	.72	7.32	-.2252	8.41	7.16	.4248	.72	7.32

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.80	-0.29

..... ALTITUDE (KFT) - 17

..... QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	12.24	7.42	.3477	-0.53	7.28	500	6.94	6.89	.3731	1.47	6.82	-.1718	6.94	6.89	.3731	1.47	6.82
24							7.14	6.68	.3673	.99	6.52	-.1974	7.14	6.68	.3673	.99	6.52
36							7.07	6.47	.3788	.60	6.24	-.1872	7.07	6.47	.3788	.60	6.24
48							7.11	6.40	.3271	.41	6.03	-.1714	7.11	6.40	.3271	.41	6.03
60							7.16	6.31	.3328	.34	5.90	-.1721	7.16	6.31	.3328	.34	5.90
72							7.16	6.25	.3358	.31	5.79	-.1737	7.16	6.25	.3358	.31	5.79

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.47	-0.60

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.09	4.52	-.3505	.03	4.03	-.3558	-.3558	.0827	.0595	-.1159	-.1159	5.15	6.04	.3478	.63	5.23
24	.18	5.45	-.4253	.07	5.09	-.4516	-.4516	.0936	.0461	-.1395	-.1395	5.16	5.83	.3601	.51	4.99
36	.25	6.08	-.4787	.12	6.10	-.5385	-.5385	.1228	-.0061	-.1216	-.1216	5.09	5.67	.3744	.21	4.73
48	.36	6.58	-.5054	.19	6.64	-.5759	-.5759	.1675	-.0445	-.1241	-.1241	5.20	5.58	.3799	.14	4.59
60	.42	6.78	-.5124	.23	6.96	-.5946	-.5946	.2078	-.0872	-.1225	-.1225	5.24	5.56	.3747	.03	4.52
72	.47	7.01	-.5315	.20	7.12	-.6085	-.6085	.2182	-.1119	-.1201	-.1201	5.21	5.48	.3731	-.10	4.46

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 8.45
 GIVEN Y -.95

ALTITUDE (KM) - 19

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	MEAN Y	S.D. Y	N	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	.03	4.35	-.3619	.03	3.83	-.4014	-.4014	.1356	.0278	-.1270	-.1270	4.05	5.62	.3089	.16	4.33
24	.08	5.06	-.4237	.06	4.52	-.4790	-.4790	.1292	.0540	-.1638	-.1638	4.10	5.44	.3232	.30	4.13
36	.14	5.50	-.4641	.11	5.28	-.5550	-.5550	.1409	-.0219	-.1234	-.1234	3.95	5.35	.3285	-.07	3.94
48	.24	6.00	-.4923	.16	5.79	-.5960	-.5960	.1411	-.0332	-.1024	-.1024	4.02	5.27	.3532	-.12	3.80
60	.29	6.23	-.5093	.20	6.02	-.6121	-.6121	.1634	-.0677	-.0959	-.0959	4.01	5.21	.3552	-.21	3.75
72	.32	6.56	-.5406	.20	6.00	-.6081	-.6081	.1474	-.0546	-.0983	-.0983	4.01	5.09	.3642	-.20	3.76

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 6.22
 GIVEN Y -1.24

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANCEBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (M) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)
DT	5.19	6.06	.2919	-1.39	4.14	600	3.20	5.62	.0127	3.19	5.51	-.1035
12	.02	4.43	-.3577	-4.385	.1219		3.19	5.62	.0127	3.19	5.51	-.1035
24	.07	4.98	-.4133	-4.781	.1464		3.02	5.40	-.0153	3.02	5.40	-.0845
36	.07	5.41	-.4521	-5.330	.1244		3.18	5.35	-.0555	3.18	5.35	-.0845
48	.14	5.78	-.4856	-5.918	.1557		3.12	5.30	-.0654	3.12	5.30	-.0877
60	.19	6.34	-.5488	-6.247	.1718		3.13	5.19	-.0859	3.13	5.19	-.0822
72	.21	6.27	-.5153	-6.157	.1435		3.20	5.62	-.0635	3.20	5.62	-.0822

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	4.39	-1.63	3.20	5.62	.3251	3.19	5.51
12			3.19	5.51	.3229	3.02	5.40
24			3.02	5.40	.3376	3.18	5.35
36			3.18	5.35	.3474	3.12	5.30
48			3.12	5.30	.3526	3.13	5.19
60			3.13	5.19	.3768		
72							

ALTITUDE (M) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	R (YP, X)
DT	4.37	6.18	.2403	-1.52	3.66	600	2.83	5.81	.0740	2.87	5.71	-.0512
12	.03	4.15	-.3333	-4.738	.0008		2.83	5.81	.0740	2.87	5.71	-.0512
24	.05	4.63	-.3898	-5.131	.0290		2.37	5.59	.0512	2.37	5.59	-.0767
36	.05	5.25	-.4205	-5.781	.0249		2.85	5.54	-.0164	2.85	5.54	-.0859
48	.06	5.52	-.4393	-6.039	.1027		2.80	5.45	-.0216	2.80	5.45	-.0705
60	.08	5.81	-.4604	-6.524	.0795		2.74	5.36	-.0216	2.74	5.36	-.0795
72	.06	6.13	-.4355	-6.6258	.1132							

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.44	-1.76	2.83	5.81	.2915	2.87	5.71
12			2.37	5.59	.3035	2.85	5.54
24			2.85	5.54	.2832	2.80	5.45
36			2.80	5.45	.3031	2.74	5.36
48			2.74	5.36	.2933		
60							
72							

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	4.13	6.64	.2406	-1.79	3.60	500													
12	.02	4.21	-.3129	-.4895	.0158	.0509	.01	3.53	-.4895	.0158	.0509	-.0497	.0509	-.0497	2.81	6.30	.2842	-.68	3.13
24	.02	4.59	-.3400	-.5556	.0441	.0721	.00	4.04	-.5556	.0441	.0721	-.0859	.0721	-.0859	2.80	6.23	.2910	-.61	2.97
36	.01	5.20	-.3887	-.6019	.1230	-.0274	.04	4.37	-.6019	.1230	-.0274	-.0936	-.0274	-.0936	2.79	6.11	.2755	-.72	2.87
48	-.05	5.61	-.4173	-.6358	.1684	-.0761	.03	4.85	-.6358	.1684	-.0761	-.1052	-.0761	-.1052	2.73	6.03	.2671	-.76	2.77
60	-.07	5.79	-.4283	-.6598	.1798	-.1251	.02	4.79	-.6598	.1798	-.1251	-.0860	-.1251	-.0860	2.63	6.00	.2669	-.85	2.71
72	-.11	6.18	-.4582	-.6683	.1782	-.1359	.02	4.85	-.6683	.1782	-.1359	-.0835	-.1359	-.0835	2.58	5.90	.2673	-.87	2.68

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
3.05	-1.91

ALTITUDE (KM) - 23

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	4.18	7.17	.2296	-1.70	3.45	500													
12	-.01	4.08	-.2764	-.5225	.1050	.0666	.01	3.62	-.5225	.1050	.0666	-.0671	.0666	-.0671	2.94	6.89	.2587	-.66	2.93
24	-.05	4.48	-.2987	-.5554	.1028	.0626	.01	3.89	-.5554	.1028	.0626	-.1032	.0626	-.1032	3.05	6.83	.2645	-.54	2.84
36	-.03	5.10	-.3385	-.6029	.1103	.0332	.00	4.22	-.6029	.1103	.0332	-.1099	.0332	-.1099	3.00	6.73	.2585	-.64	2.73
48	-.15	5.48	-.3638	-.6465	.1326	.0168	-.00	4.50	-.6465	.1326	.0168	-.1217	.0168	-.1217	3.00	6.67	.2660	-.62	2.61
60	-.21	5.74	-.3757	-.6593	.1682	-.0551	-.00	4.59	-.6593	.1682	-.0551	-.1072	-.0551	-.1072	2.69	6.64	.2531	-.75	2.59
72	-.26	6.11	-.4048	-.6444	.1630	-.0694	-.06	4.48	-.6444	.1630	-.0694	-.1071	-.0694	-.1071	2.83	6.55	.2505	-.79	2.63

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
2.86	-1.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/85 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	R (XP,YP)	S.D. XP	GIVEN X	MEAN YP	R (XP,YP)	S.D. XP	GIVEN Y	MEAN YP	S.D. YP
	4.78	7.94	.2319	-1.32	3.29	600				3.27	-1.46								
12	-.02	3.96	-.2454	-.03	3.08	-.4702	.0295	.0340	-.0308	3.26	.2683	7.70	7.70	-.46	.2683	7.70	-.46	2.90	
24	-.10	4.61	-.2754	-.03	3.55	-.5404	.0790	.0773	-.0843	3.41	.2739	7.62	7.62	-.30	.2739	7.62	-.30	2.74	
36	-.15	5.31	-.3140	-.04	3.87	-.5861	.0447	1.007	-.0826	3.39	.2942	7.52	7.52	-.33	.2942	7.52	-.33	2.63	
48	-.21	5.71	-.3381	-.07	4.15	-.6307	.0737	.0967	-.1068	3.39	.2966	7.44	7.44	-.32	.2966	7.44	-.32	2.51	
60	-.29	6.03	-.3592	-.07	4.32	-.6600	.1106	.0340	-.1036	3.29	.2907	7.39	7.39	-.39	.2907	7.39	-.39	2.45	
72	-.38	6.39	-.3823	-.14	4.44	-.6817	.1226	.0113	-.1016	3.21	.2964	7.32	7.32	-.46	.2964	7.32	-.46	2.39	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	MEAN Y	S.D. Y	N	MEAN XP	R (XP,YP)	S.D. XP	GIVEN X	MEAN YP	R (XP,YP)	S.D. XP	GIVEN Y	MEAN YP	S.D. YP
	5.71	8.91	.3116	-0.98	3.51	600				3.83	-1.25								
12	-.09	4.10	-.2196	-.01	3.33	-.4823	-.0234	.0713	-.0275	3.94	.3656	8.69	8.69	-.15	.3656	8.69	-.15	3.07	
24	-.15	4.53	-.2394	-.03	3.65	-.5291	.0261	.1434	-.0823	4.09	.3781	8.62	8.62	-.13	.3781	8.62	-.13	2.93	
36	-.24	5.11	-.2631	-.04	4.10	-.5932	.0904	.1018	-.1067	4.12	.3925	8.56	8.56	-.09	.3925	8.56	-.09	2.77	
48	-.31	5.54	-.2864	-.07	4.32	-.6238	.0835	1.009	-.1078	4.06	.3870	8.50	8.50	-.03	.3870	8.50	-.03	2.69	
60	-.43	6.17	-.3238	-.07	4.49	-.6484	.1283	.0523	-.1246	3.99	.3870	8.39	8.39	-.03	.3870	8.39	-.03	2.63	
72	-.55	6.37	-.3374	-.13	4.58	-.6603	.1695	-.0013	-.1255	3.87	.3797	8.36	8.36	-.12	.3797	8.36	-.12	2.61	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - NOVEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 26

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	6.99	10.02	.3818	-0.95	3.54	600															
12	-.09	3.90	-.1832	-.00	3.09		-.00	3.09	-.0648	-.4400		-.4400	-.0648	.1110	-.0238	4.71	9.84	.4401	.08	3.17	
24	-.20	4.71	-.2142	-.01	3.59		-.01	3.59	.0348	-.5147		-.5147	.0348	.1247	-.0749	4.87	9.76	.4533	.27	3.00	
36	-.33	5.39	-.2373	-.01	3.89		-.01	3.89	.1276	-.5613		-.5613	.1276	.0719	-.1073	4.98	9.70	.4489	.24	2.89	
48	-.42	6.00	-.2608	-.05	4.14		-.05	4.14	.1532	-.5955		-.5955	.1532	.0488	-.1214	4.98	9.63	.4525	.17	2.80	
60	-.53	6.64	-.2937	-.06	4.45		-.06	4.45	.1970	-.6380		-.6380	.1970	-.0144	-.1237	4.83	9.55	.4600	.04	2.70	
72	-.66	6.98	-.3144	-.12	4.42		-.12	4.42	.2365	-.6291		-.6291	.2365	-.0547	-.1289	4.70	9.49	.4489	-.06	2.73	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 27

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP, YP)	R (XP, Y)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	
	8.57	11.45	.4206	-.75	4.00	600															
12	-.12	4.11	-.1576	.01	3.41		.01	3.41	-.0474	-.4333		-.4333	-.0474	.1208	-.0363	5.91	11.29	.4763	.41	3.50	
24	-.23	5.07	-.1928	.00	3.88		.00	3.88	.0829	-.4995		-.4995	.0829	.0892	-.0818	6.05	11.21	.4822	.48	3.44	
36	-.37	5.96	-.2242	-.04	4.40		-.04	4.40	.1056	-.5617		-.5617	.1056	.0736	-.0941	6.01	11.13	.4997	.39	3.26	
48	-.52	6.66	-.2488	-.05	4.75		-.05	4.75	.1690	-.6043		-.6043	.1690	.0212	-.1174	6.03	11.05	.4985	.29	3.15	
60	-.64	7.24	-.2762	-.09	4.89		-.09	4.89	.1922	-.6167		-.6167	.1922	-.0019	-.1215	5.88	10.97	.5027	.19	3.11	
72	-.82	7.67	-.2979	-.15	4.98		-.15	4.98	.2095	-.6234		-.6234	.2095	-.0394	-.1194	5.69	10.91	.5032	.07	3.10	

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = UGAT T)
Y = VIAT T)

MONTH	PER. OF REC.	ALT. KM.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
11	1/65 - 12/74	0	90.0	.70	2.69	-.5711	-.92	3.11	600
11	1/65 - 12/74	1	90.0	.42	3.83	-.1256	-1.18	5.89	600
11	1/65 - 12/74	2	90.0	2.22	5.19	.0002	-1.04	7.98	600
11	1/65 - 12/74	3	90.0	4.88	6.89	.0524	-1.44	9.22	600
11	1/65 - 12/74	4	90.0	7.45	8.51	.0937	-1.43	10.27	600
11	1/65 - 12/74	5	90.0	9.69	10.28	.1543	-1.34	11.68	600
11	1/65 - 12/74	6	90.0	11.85	11.68	.2371	-1.53	13.60	600
11	1/65 - 12/74	7	90.0	13.78	13.05	.2947	-1.65	15.67	600
11	1/65 - 12/74	8	90.0	15.57	14.45	.3273	-1.70	17.69	600
11	1/65 - 12/74	9	90.0	17.27	15.71	.3727	-1.64	19.22	600
11	1/65 - 12/74	10	90.0	19.05	16.91	.4074	-1.77	20.59	600
11	1/65 - 12/74	11	90.0	20.59	17.40	.4371	-1.34	20.66	600
11	1/65 - 12/74	12	90.0	21.74	18.96	.4380	-.90	19.12	600
11	1/65 - 12/74	13	90.0	21.39	15.16	.4344	-.41	16.42	600
11	1/65 - 12/74	14	90.0	19.89	12.61	.4379	.11	13.56	600
11	1/65 - 12/74	15	90.0	17.41	10.42	.4373	-.08	11.12	600
11	1/65 - 12/74	16	90.0	14.82	8.65	.3863	-.30	9.13	600
11	1/65 - 12/74	17	90.0	12.24	7.42	.3477	-.53	7.26	600
11	1/65 - 12/74	18	90.0	8.12	6.47	.3127	-.79	5.63	600
11	1/65 - 12/74	19	90.0	6.91	6.05	.2838	-1.05	4.75	600
11	1/65 - 12/74	20	90.0	5.19	6.06	.2919	-1.39	4.14	600
11	1/65 - 12/74	21	90.0	4.37	6.18	.2403	-1.56	3.60	600
11	1/65 - 12/74	22	90.0	4.13	6.64	.2406	-1.79	3.60	600
11	1/65 - 12/74	23	90.0	4.18	7.17	.2296	-1.70	3.45	600
11	1/65 - 12/74	24	90.0	4.78	7.94	.2319	-1.32	3.29	600
11	1/65 - 12/74	25	90.0	5.71	8.91	.3116	-.98	3.51	600
11	1/65 - 12/74	26	90.0	6.99	10.02	.3818	-.85	3.54	600
11	1/65 - 12/74	27	90.0	8.57	11.45	.4206	-.75	4.00	600

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDEMBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 0

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN Y	S.D. Y	R (X,Y)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)	N
	.40	2.84	-.4916	-1.09	3.20								614
12	.01	4.27	-.7535	-.01	3.76	-.5959	-.5403	.3384	.3808	.27	1.86	-.4734	2.59
24	.02	3.24	-.5703	-.05	3.72	-.5241	-.4088	.2716	.1955	.28	2.33	-.5333	2.59
36	.02	4.39	-.7763	-.06	4.37	-.6855	-.5137	.3572	.3736	.27	1.79	-.4860	2.32
48	.03	3.28	-.5833	-.03	4.08	-.6425	-.4355	.2577	.2434	.26	2.31	-.5422	2.45
60	.06	4.34	-.7685	-.11	4.47	-.7291	-.5216	.3625	.3223	.27	1.81	-.4857	2.26
72	.07	3.32	-.5881	-.11	4.23	-.6705	-.4376	.2821	.2503	.28	2.23	-.5508	2.37

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y	R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	.33	-.96						

ALTITUDE (KM) - 1

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X,XP)	MEAN Y	S.D. Y	R (X,Y)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP	R (YP,X)	N
	1.27	4.42	-.0669	-2.63	7.31								614
12	.04	4.27	-.4774	-.05	6.01	-.4129	-.0361	.1971	-.1972	.95	3.76	-.0785	6.53
24	.03	5.44	-.6283	-.13	7.87	-.5235	-.0671	.1838	-.1247	.79	3.43	-.0665	6.06
36	.02	5.54	-.6355	-.19	8.73	-.6009	-.0452	.1231	-.0575	.69	3.39	-.0760	5.80
48	.01	5.89	-.6693	-.23	9.10	-.6271	-.0399	.1475	-.0306	.67	3.25	-.0498	5.66
60	.03	6.15	-.7242	-.30	9.44	-.6521	-.0367	.1234	-.0208	.65	3.11	-.0622	5.52
72	.03	6.42	-.7324	-.35	9.71	-.6715	-.0738	.0933	-.0014	.63	3.00	-.0703	5.41

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y	R (XP,YP)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	1.39	-2.33						

ORIGINAL PAGE IS OF POOR QUALITY

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KPH) - 2

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12		3.87	5.74	.0425	-3.59	8.52	614	2.66	5.08	.0204	2.66	7.8	2.66	4.00	-3.15	2.66	5.08	.0204	-1.57	7.8	
24								2.28	4.79	.0749	2.28	7.32	2.28			2.28	4.79	.0749	-1.21	7.32	
36								2.01	4.56	.0328	2.01	7.01	2.01			2.01	4.56	.0328	-1.56	7.01	
48								1.95	4.40	.0429	1.95	6.82	1.95			1.95	4.40	.0429	-1.77	6.82	
60								1.91	4.27	.0506	1.91	6.65	1.91			1.91	4.27	.0506	-1.97	6.65	
72								1.91	4.19	.0561	1.91	6.50	1.91			1.91	4.19	.0561	-2.07	6.50	

ALTITUDE (KPH) - 3

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	MR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12		6.84	7.49	.0952	-4.29	9.88	614	4.44	6.72	.0226	4.44	9.15	4.44	7.02	-3.50	4.44	6.72	.0226	-1.17	9.15	
24								3.88	6.34	.0810	3.88	8.59	3.88			3.88	6.34	.0810	-1.27	8.59	
36								3.58	6.08	.1026	3.58	8.20	3.58			3.58	6.08	.1026	-1.78	8.20	
48								3.41	5.89	.1220	3.41	8.01	3.41			3.41	5.89	.1220	-2.17	8.01	
60								3.33	5.70	.1297	3.33	7.88	3.33			3.33	5.70	.1297	-2.44	7.88	
72								3.27	5.56	.1236	3.27	7.75	3.27			3.27	5.56	.1236	-2.59	7.75	

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 4

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	9.70	9.34	.1001	-4.88	11.61	614	-0.05	6.76	0.00	-3420	2014	6.14	8.51	.0821	.59	10.71
24							-1.11	9.39	11.22	-4845	1626	5.58	8.22	.0776	-1.96	10.01
36							-1.21	12.76	12.73	-5576	1133	5.12	7.63	.0974	-1.67	9.59
48							-1.28	11.46	13.57	-5824	6233	4.81	7.33	.1321	-2.42	9.38
60							-1.28	12.57	12.57	-5924	6207	4.72	7.12	.1429	-2.63	9.29
72							-1.34	12.52	14.14	-6119	6030	4.64	6.93	.1325	-2.87	9.18

ALTITUDE (KM) - 5

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	12.14	10.91	.1582	-5.24	13.00	614	-1.11	7.71	9.20	-3523	2551	7.55	10.05	.1399	1.10	11.96
24							-1.17	10.78	12.77	-4923	2165	6.93	9.48	.1387	-1.72	11.17
36							-1.23	12.63	14.53	-5017	1957	6.39	8.92	.1444	-1.74	10.69
48							-1.33	13.43	15.46	-5312	1725	6.12	8.68	.1722	-2.49	10.46
60							-1.40	14.22	16.83	-5522	1610	6.04	8.36	.1824	-2.72	10.33
72							-1.45	14.77	18.37	-5826	1529	5.96	8.14	.1724	-2.94	10.15

ORIGINAL PAGE IS
OF FOUR ORIGINALS

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 6

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	14.29	12.32	.2265	-5.71	14.75	614							14.63	-5.17						
12	-14	8.60	-.3383	-.11	11.01		-.3725	.0307	-.2458	9.04	11.46	1.52	.2104	13.52						
24	-23	12.12	-.4591	-.26	15.03		-.5116	.2930	-.2504	8.26	10.78	-.53	.2064	12.56						
36	-36	14.23	-.5593	-.39	17.13		-.5824	.2694	-.2256	7.59	10.17	-1.75	.2123	11.95						
48	-46	15.38	-.6032	-.46	17.77		-.5997	.1931	-.1733	7.32	9.80	-2.56	.2449	11.81						
60	-46	16.21	-.6402	-.62	18.31		-.6166	.1780	-.1694	7.23	9.44	-2.85	.2517	11.62						
72	-50	16.66	-.6658	-1.00	18.87		-.6362	.1967	-.1662	7.11	9.18	-3.17	.2462	11.40						

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 7

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	GIVEN X	MEAN Y	GIVEN Y	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	16.34	14.01	.2957	-6.17	16.63	614							16.84	-5.65						
12	-13	9.54	-.3278	-.09	12.78		-.3904	.3613	-.0189	9.92	13.15	1.18	.2865	15.15						
24	-25	13.65	-.4647	-.21	17.23		-.5282	.3480	-.0867	9.22	12.34	-.50	.2782	14.01						
36	-37	15.95	-.5499	-.37	19.39		-.5920	.3331	-.1391	8.53	11.68	-2.22	.2806	13.36						
48	-47	17.31	-.6012	-.59	19.83		-.6066	.2739	-.1163	8.30	11.17	-2.64	.3094	13.19						
60	-46	18.41	-.6442	-.83	20.74		-.6298	.2639	-.1273	8.17	10.70	-3.04	.3127	12.90						
72	-51	19.22	-.6723	-1.04	21.49		-.6501	.2755	-.1573	7.97	10.37	-3.47	.3149	12.63						

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

..... ALTITUDE (KM) - 8

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (XP,Y)	MEAN XF	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	18.38	15.58	.3447	-6.37	18.08	614											
DT																	
HR																	
12	10.88	-3346		-08	13.78		-3939	.3846		-3939	13.78	-.0549	10.79	14.62	.3405	1.47	16.51
24	15.48	-4751		-19	18.71		-5327	.3983		-5327	18.71	-.1337	10.16	13.66	.3282	-1.22	15.22
36	18.11	-5526		-34	21.04		-5947	.3938		-5947	21.04	-.1851	9.61	12.90	.3239	-2.39	14.50
48	19.52	-6065		-58	21.63		-6138	.3400		-6138	21.63	-.1700	9.34	12.37	.3483	-2.88	14.25
60	20.53	-6433		-83	22.50		-6330	.3237		-6330	22.50	-.1759	9.16	11.91	.3550	-3.28	13.99
72	21.26	-6644		-1.08	23.25		-6499	.3201		-6499	23.25	-.1699	9.00	11.64	.3669	-3.66	13.74

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

..... ALTITUDE (KM) - 9

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (XP,Y)	MEAN XF	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
	20.34	16.77	.3720	-6.80	19.62	614											
DT																	
HR																	
12	11.44	-3274		-09	14.45		-3833	.3784		-3833	14.45	-.0735	11.32	15.82	.3752	1.46	18.06
24	16.54	-4721		-18	19.90		-5265	.4154		-5265	19.90	-.1739	10.70	14.77	.3629	-2.32	16.35
36	19.32	-5228		-30	22.71		-5960	.4097		-5960	22.71	-.2214	10.24	13.98	.3623	-3.26	15.75
48	20.96	-6034		-57	23.41		-6135	.3520		-6135	23.41	-.2341	10.13	13.37	.3623	-3.54	15.49
60	22.04	-6393		-84	24.12		-6297	.3486		-6297	24.12	-.1998	10.08	12.89	.3860	-3.73	15.24
72	22.68	-6557		-1.11	24.76		-6424	.3378		-6424	24.76	-.2003	9.99	12.65	.4007	-3.97	15.03

..... CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 10

.....
 QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		22.18	17.48	.3953	-6.89	20.80	614								
12		11.76	14.59	-.03	-.3747	.3917	-.1048				11.60	16.54	.4071	-1.68	19.26
24		16.97	20.58	-.06	-.5215	.4477	-.2142				11.16	15.49	.3937	-3.16	17.74
36		20.02	23.55	-.13	-.5939	.4410	-.2323				10.84	14.63	.3939	-3.77	16.73
48		21.68	24.62	-.40	-.6177	.4112	-.2553				10.68	14.01	.4028	-4.15	16.36
60		22.73	25.19	-.68	-.6313	.3965	-.2545				10.75	13.95	.4021	-4.15	15.13
72		23.40	25.71	-.94	-.6417	.3778	-.2334				10.79	13.31	.4185	-4.17	15.95

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

ALTITUDE (KM) - 11

.....
 QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT	HR	MEAN XP	S.D. XP	R (X, XP)	MEAN YP	S.D. YP	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
		23.61	17.02	.3829	-6.81	20.58	614								
12		10.99	14.23	-.11	-.3552	.3398	-.1085				12.03	16.19	.4825	-3.43	19.24
24		16.00	20.22	-.15	-.5080	.3950	-.2152				11.60	15.23	.3914	-4.69	17.72
36		19.08	23.39	-.20	-.5859	.3861	-.2499				11.34	14.39	.3882	-4.94	16.67
48		20.89	24.35	-.39	-.6105	.3741	-.2563				11.24	13.77	.3912	-5.09	16.29
60		21.83	24.80	-.70	-.6228	.3601	-.2392				11.43	13.38	.3893	-4.82	16.10
72		22.48	25.02	-.93	-.6284	.3464	-.2171				11.63	13.17	.4010	-4.50	16.01

.....
 CONDITIONAL BIVARIATE NORMAL STATISTICS
 FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KPH) - 12

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	24.16	15.54	.3924	-5.94	18.90	614	-0.03	9.49	-0.2939	-1.13	12.44	11.87	14.86	.3991	11.87	14.86	.3991	-4.61	17.79
24							-0.06	14.10	-0.4340	-0.14	18.06	11.74	14.00	.3963	11.74	14.00	.3963	-5.13	16.45
36							-0.12	16.92	-0.5244	-0.16	21.03	11.49	13.22	.3836	11.49	13.22	.3836	-5.32	15.45
48							-0.25	18.66	-0.5621	-0.29	22.03	11.47	12.62	.3800	11.47	12.62	.3800	-5.19	15.04
60							-0.31	19.67	-0.6163	-0.57	22.65	11.90	12.24	.3952	11.90	12.24	.3952	-4.56	14.78
72							-0.32	20.34	-0.6341	-0.73	22.97	12.14	12.01	.3960	12.14	12.01	.3960	-3.95	14.66

ALTITUDE (KPH) - 13

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X GIVEN Y	S.D. X (XP, YP)	R (YP, X)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
12	23.50	13.93	.3874	-4.83	16.29	614	-0.02	8.47	-0.2934	-0.12	10.12	11.18	13.31	.3995	11.18	13.31	.3995	-4.76	15.46
24							-0.01	12.19	-0.4239	-0.15	15.04	11.18	12.60	.3923	11.18	12.60	.3923	-4.82	14.36
36							-0.11	14.69	-0.5152	-0.16	17.72	10.92	11.91	.3910	10.92	11.91	.3910	-5.01	13.52
48							-0.21	16.32	-0.5755	-0.28	18.87	10.97	11.37	.3837	10.97	11.37	.3837	-4.68	13.08
60							-0.29	17.33	-0.6162	-0.51	19.33	11.08	10.97	.3959	11.08	10.97	.3959	-4.29	12.86
72							-0.33	17.83	-0.6341	-0.64	19.61	11.27	10.77	.4105	11.27	10.77	.4105	-3.68	12.75

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDEBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 14

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (XP,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP
	21.76	11.80	.3968	-3.80	13.99				614				22.52	-2.29
12	-.01	7.66	-.3143	-.07	8.42	.2837	-.3050	-.0665	-.1107	11.15	11.20	.4079	-1.84	13.32
24	-.01	10.81	-.4469	-.13	12.59	.3606	-.4564	-.1622	-.1622	10.78	10.56	.4029	-2.86	12.45
36	-.06	12.91	-.5406	-.14	14.96	.3772	-.5449	-.2405	-.1738	10.27	9.92	.4015	-3.73	11.72
48	-.14	14.06	-.5940	-.26	15.90	.3772	-.5837	-.2633	-.1867	10.08	9.48	.4016	-3.92	11.34
60	-.22	14.65	-.6254	-.40	16.33	.3586	-.6039	-.2608	-.1915	10.00	9.20	.4078	-3.95	11.13
72	-.26	15.20	-.6482	-.49	16.71	.3491	-.6184	-.2389	-.2164	10.21	8.99	.4146	-3.43	10.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

ALTITUDE (KM) - 15

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (XP,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP
	19.40	10.03	.4038	-3.18	11.76				614				20.21	-1.94
12	-.01	6.54	-.3148	-.05	7.12	.2948	-.3108	-.0437	-.1214	10.10	9.51	.4184	-.80	11.17
24	-.01	9.22	-.4494	-.11	10.31	.3415	-.4493	-.1298	-.1818	9.81	8.96	.4170	-1.53	10.50
36	-.03	10.74	-.5281	-.18	12.24	.3519	-.5326	-.1959	-.1836	9.40	8.52	.4195	-2.50	9.95
48	-.10	11.72	-.5936	-.28	13.19	.3518	-.5791	-.2254	-.1949	9.17	8.14	.4203	-2.84	9.58
60	-.19	12.28	-.6184	-.44	13.53	.3541	-.5957	-.2323	-.2124	9.04	7.89	.4184	-2.89	9.44
72	-.25	12.57	-.6314	-.52	13.84	.3381	-.6101	-.2100	-.2254	9.18	7.78	.4296	-2.53	9.32

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 16

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	16.30	8.86	.4113	-2.75	9.81	614	-0.03	6.19	.1723	-3.129	6.06	8.04	8.31	.4392	-1.22	9.32
24							-0.06	8.21	.2738	-4.404	7.86	7.86	7.86	.4445	-1.75	8.81
36							-0.12	9.42	.2962	-5.169	7.99	7.99	7.99	.4499	-2.45	8.40
48							-0.19	10.25	.2924	-5.700	7.47	7.47	7.16	.4555	-2.51	8.06
60							-0.29	10.65	.3282	-5.982	7.30	7.30	6.93	.4363	-2.57	7.85
72							-0.30	10.75	.3308	-6.217	7.39	7.39	6.90	.4337	-2.47	7.68

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
17.03	-1.73

ALTITUDE (KM) - 17

QUADRIVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP,Y)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	13.11	7.86	.4425	-2.38	8.27	614	-0.01	5.67	.1063	-3.314	5.49	6.39	7.29	.4894	-0.93	7.80
24							-0.10	7.08	.1681	-4.529	7.37	6.09	6.99	.5138	-1.35	7.37
36							-0.16	8.09	.2271	-5.152	8.34	5.85	6.67	.5191	-1.95	7.08
48							-0.21	8.44	.2590	-5.715	9.14	5.69	6.51	.5129	-2.23	6.78
60							-0.28	8.90	.2981	-6.104	9.67	5.60	6.32	.5010	-2.16	6.54
72							-0.30	9.17	.3250	-6.261	9.95	5.69	6.20	.4854	-2.13	6.44

CONDITIONAL BIVARIATE NORMAL STATISTICS
FOR XP AND YP

GIVEN X	GIVEN Y
13.85	-1.55

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (193214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/55 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 18

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	9.51	6.73	.4795	-2.30	6.34	614										
12	-.06	5.04	-.3711	-.3535	.1114	-.0120	4.42	-.0120	.1114	-.3535	4.58	4.58	6.25	.5315	-1.11	5.93
24	-.11	6.21	-.4605	-.4604	.1834	-.0576	5.76	-.0576	.1834	-.4604	4.50	4.50	5.97	.5559	-1.18	5.62
36	-.14	6.77	-.5039	-.5171	.2357	-.1244	6.48	-.1244	.2357	-.5171	4.34	4.34	5.82	.5612	-1.55	5.42
48	-.20	7.10	-.5429	-.5652	.2974	-.1837	7.98	-.1837	.2974	-.5652	4.20	4.20	5.65	.5401	-1.74	5.23
60	-.23	7.38	-.5717	-.6027	.3619	-.2419	7.32	-.2419	.3619	-.6027	4.11	4.11	5.52	.5153	-1.86	5.05
72	-.25	7.66	-.5900	-.6160	.3611	-.2401	7.49	-.2401	.3611	-.6160	4.15	4.15	5.44	.5186	-1.80	4.99

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 10.21
 GIVEN Y -1.66

ALTITUDE (KM) - 19

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	6.22	6.09	.4640	-2.41	4.91	614										
12	-.02	4.45	-.3642	-.3822	.1120	-.0179	3.80	-.0179	.1120	-.3822	3.01	3.01	5.66	.5204	-.90	4.52
24	-.04	5.23	-.4308	-.4745	.1574	-.0082	4.72	-.0082	.1574	-.4745	2.97	2.97	5.48	.5405	-.95	4.31
36	-.05	5.76	-.4758	-.5408	.2394	-.0901	5.34	-.0901	.2394	-.5408	2.87	2.87	5.35	.5378	-1.17	4.12
48	-.10	6.04	-.5194	-.5796	.2715	-.1449	5.62	-.1449	.2715	-.5796	2.71	2.71	5.20	.5208	-1.38	4.00
60	-.13	6.28	-.5443	-.6118	.3170	-.1948	5.84	-.1948	.3170	-.6118	2.66	2.66	5.10	.5014	-1.50	3.88
72	-.15	6.64	-.5711	-.6245	.3202	-.1939	5.95	-.1939	.3202	-.6245	2.71	2.71	4.99	.5008	-1.48	3.83

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X 6.98
 GIVEN Y -2.07

QUADRIVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 20

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	3.96	5.99	.3738	-2.56	4.23						
12	-05	4.19	-.3468	-.03	3.53	.0435	1.91	5.60	.4306	-1.00	3.82
24	-.07	4.97	-.4140	-.07	4.26	.1401	1.99	5.42	.4468	-.88	3.61
36	-.12	5.51	-.4598	-.10	4.81	-.0335	1.89	5.30	.4389	-1.00	3.44
48	-.19	5.96	-.5158	-.17	4.99	-.0803	1.77	5.11	.4232	-1.14	3.34
60	-.23	6.12	-.5321	-.23	5.13	-.1503	1.70	5.05	.3868	-1.30	3.28
72	-.28	6.29	-.5444	-.26	5.36	-.1772	1.64	5.01	.3846	-1.38	3.17

ALTITUDE (KM) - 21

QUADRIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	R (XP, Y)	MEAN XP	S.D. XP	R (XP, YP)	MEAN YP	S.D. YP
	1.95	5.99	.2602	-2.71	3.95						
12	-.05	4.13	-.3451	-.03	3.39	.0324	.76	5.62	.3005	-1.29	3.55
24	-.12	5.00	-.4210	-.06	4.01	.0065	.81	5.42	.3446	-1.17	3.34
36	-.16	5.49	-.4601	-.09	4.43	-.0882	.73	5.22	.3345	-1.24	3.21
48	-.18	5.77	-.4889	-.15	4.76	-.1294	.71	5.22	.3214	-1.28	3.08
60	-.26	6.10	-.5205	-.18	4.97	-.1536	.62	5.11	.3104	-1.35	3.00
72	-.31	6.33	-.5357	-.20	5.04	-.1507	.61	5.05	.3025	-1.39	2.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 22

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	.45	6.38	.3123	-2.59	3.55	614						1.17	-2.55			
12	-.08	4.35		-.4731	.0975	-.0025	-.0671	5.99		-.03	3.31			.3582	-1.25	3.14
24	-.18	4.98		-.5383	.1525	-.0268	-.1405	5.85		.13	3.14			.3628	-1.14	3.06
36	-.23	5.33		-.5766	.1535	-.0097	-.1254	5.78		-.00	3.06			.3696	-1.20	2.94
48	-.23	5.68		-.6181	.1899	-.0424	-.1463	5.70		-.02	2.94			.3645	-1.24	2.90
60	-.29	6.02		-.6336	.2517	-.1082	-.1690	5.62		-.08	2.90			.3354	-1.28	2.83
72	-.36	6.37		-.6588	.2430	-.1275	-.1680	5.55		-.13	2.83			.3327	-1.33	2.83

ALTITUDE (KM) - 23

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N	MEAN XP	S.D. XP	R (XP, Y)	MEAN YP	S.D. YP	MEAN X	S.D. X	R (XP, YP)	MEAN YP	S.D. YP
	-.30	7.18	.2410	-2.53	3.56	614						.32	-2.57			
12	-.08	4.36		-.4746	.0138	.0307	-.0310	6.84		-.36	3.13			.2837	-1.26	3.13
24	-.15	5.26		-.5343	.0722	.0307	-.1004	6.67		-.18	2.99			.2846	-1.21	2.99
36	-.23	5.46		-.5621	.0953	.0307	-.0986	6.63		-.29	2.93			.2855	-1.22	2.93
48	-.29	5.92		-.6087	.1846	-.0312	-.1362	6.54		-.34	2.81			.2849	-1.22	2.81
60	-.36	6.48		-.6265	.2121	-.0858	-.1402	6.44		-.43	2.77			.2484	-1.26	2.77
72	-.46	6.80		-.6491	.2488	-.1113	-.1696	6.39		-.44	2.70			.2272	-1.26	2.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP
 STATION (93214) - VANDENBERG
 MONTH OF RECORD - DECEMBER
 PERIOD OF RECORD - 1/65 - 12/74
 ALPHA ANGLE - 90.0

ALTITUDE (KM) - 24

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (XP,Y)	MEAN Y	S.D. Y	N	R (XP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP
	-45	7.71	.2136	-2.77	3.49	614									
12	-.09	4.05	-.2537	-.01	3.45	.0728	-.4921	-.0321	.0728	-.0194	-.38	7.46	.2602	-1.39	3.03
24	-.17	4.84	-.3040	-.02	3.78	.0459	-.5340	.0778	.0459	-.0789	-.29	7.34	.2471	-1.38	2.93
36	-.29	5.36	-.3383	-.04	3.94	.0271	-.5592	.1241	.0271	-.1084	-.28	7.24	.2391	-1.36	2.87
48	-.39	6.04	-.3732	-.05	4.25	-.0257	-.6027	.1844	-.0257	-.1311	-.37	7.14	.2253	-1.35	2.77
60	-.47	6.61	-.4031	-.09	4.42	-.0326	-.6294	.1779	-.0326	-.1405	-.39	7.04	.2209	-1.39	2.71
72	-.56	7.08	-.4311	-.08	4.47	-.0775	-.6317	.2225	-.0775	-.1621	-.44	6.94	.1977	-1.39	2.69

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.13	-2.79

ALTITUDE (KM) - 25

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

DT HR	MEAN X	S.D. X	R (X,Y)	MEAN YP	S.D. YP	R (XP,Y)	MEAN Y	S.D. Y	N	R (XP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN Y	S.D. YP
	-70	8.55	.2615	-2.56	3.52	614									
12	-.09	4.13	-.2330	-.05	3.24	.0606	-.4573	-.0288	.0606	-.0170	-.49	8.31	.3067	-1.31	3.12
24	-.23	5.27	-.2943	-.05	3.62	.0553	-.5094	.0711	.0553	-.0854	-.33	8.15	.2996	-1.29	3.01
36	-.34	5.99	-.3306	-.05	3.85	.0086	-.5411	.1552	.0086	-.1217	-.36	8.04	.2853	-1.26	2.94
48	-.44	6.73	-.3692	-.05	4.14	-.0165	-.5823	.2123	-.0165	-.1626	-.35	7.91	.2741	-1.24	2.83
60	-.52	7.27	-.3930	-.07	4.33	-.0348	-.6068	.2279	-.0348	-.1818	-.36	7.82	.2630	-1.25	2.77
72	-.62	7.83	-.4195	-.05	4.35	-.0468	-.6085	.2483	-.0468	-.2063	-.34	7.71	.2494	-1.23	2.76

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.19	-2.59

ORIGINAL PAGE IS OF POOR QUALITY

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (93214) - VANDEBERG

X = U(IAT T)
Y = V(IAT T)

MONTH	PER. OF REC.	ALT. K4.	ALPHA DEG.	MEAN X	S.D. X	R (X, Y)	MEAN Y	S.D. Y	N
12	1/65 - 12/74	0	90.0	.40	2.84	-.4916	-1.09	3.20	614
12	1/65 - 12/74	1	90.0	1.27	4.42	-.0559	-2.63	7.31	614
12	1/65 - 12/74	2	90.0	3.87	5.74	.0425	-3.59	8.52	614
12	1/65 - 12/74	3	90.0	6.84	7.49	.0952	-4.29	9.88	614
12	1/65 - 12/74	4	90.0	9.70	9.34	.1001	-4.23	11.61	614
12	1/65 - 12/74	5	90.0	12.14	10.91	.1582	-5.24	13.00	614
12	1/65 - 12/74	6	90.0	14.29	12.22	.2265	-5.71	14.79	614
12	1/65 - 12/74	7	90.0	15.34	14.01	.2957	-6.17	16.63	614
12	1/65 - 12/74	8	90.0	16.38	15.58	.3447	-6.57	18.08	614
12	1/65 - 12/74	9	90.0	18.34	16.77	.3720	-6.80	19.62	614
12	1/65 - 12/74	10	90.0	20.34	17.48	.3933	-6.83	20.80	614
12	1/65 - 12/74	11	90.0	23.61	17.02	.3933	-6.81	20.58	614
12	1/65 - 12/74	12	90.0	24.15	15.54	.3324	-5.94	18.90	614
12	1/65 - 12/74	13	90.0	23.50	13.53	.3374	-4.83	16.29	614
12	1/65 - 12/74	14	90.0	21.76	11.80	.3968	-3.82	13.99	614
12	1/65 - 12/74	15	90.0	19.40	10.03	.4038	-3.18	11.76	614
12	1/65 - 12/74	16	90.0	16.30	8.86	.4113	-2.75	9.81	614
12	1/65 - 12/74	17	90.0	13.11	7.86	.4425	-2.39	8.27	614
12	1/65 - 12/74	18	90.0	9.51	6.73	.4795	-2.33	6.34	614
12	1/65 - 12/74	19	90.0	6.22	6.09	.4640	-2.41	4.91	614
12	1/65 - 12/74	20	90.0	3.96	5.99	.3738	-2.56	4.23	614
12	1/65 - 12/74	21	90.0	1.95	5.99	.2602	-2.71	3.95	614
12	1/65 - 12/74	22	90.0	.45	6.33	.3123	-2.59	3.76	614
12	1/65 - 12/74	23	90.0	-.30	7.18	.2410	-2.53	3.56	614
12	1/65 - 12/74	24	90.0	-.45	7.71	.2136	-2.77	3.49	614
12	1/65 - 12/74	25	90.0	-.70	8.55	.2615	-2.55	3.52	614
12	1/65 - 12/74	26	90.0	-.99	9.89	.3004	-2.54	3.94	614
12	1/65 - 12/74	27	90.0	.55	11.72	.3440	-2.71	4.54	614

ORIGINAL PAGE IS
OF POOR QUALITY