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*The Ranger III Flight Path and Its Determination
From Tracking Data*

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ABSTRACT

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This Report describes the *Ranger III* tracking data obtained from the Deep Space Instrumentation Facility (DSIF) and the way in which these data were used to determine the spacecraft's orbit. The data are presented in the form of residual plots (i.e., the difference between the actual observed data and theoretical calculated data), and the resulting spacecraft orbit parameters are displayed in summary tables and the Orbit Determination Program (ODP) computer printout.

Ranger III executed a maneuver approximately 13½ hr from launch but missed the Moon by about 35,000 km because of booster-guidance errors. Its transmitter continued operating for another four days. Good tracking data were obtained both prior to and after the maneuver, which have given an estimate on the universal gravitational constant times the Earth's mass (GM_{\oplus}) as well as the spacecraft's position and velocity.

Beifler

I. INTRODUCTION

At various times since the launching of *Ranger III* in 1962, some computations derived from the mission's data were used in reports on subsequent missions. However, because of the improved quality of the data on these later missions—*Ranger IV* through *VII*—reports on them have taken precedence over documentation of *Ranger III*. In fact, the quality of tracking data obtained on the later *Ranger* missions as well as on *Mariner* missions, including *Mariner IV*, so far surpasses the quality of *Ranger III* data that their analysis provides results far outweighing anything that could be achieved by more exhaustive analysis of *Ranger III* data. Comparison of *Ranger III* and *Ranger VII* data, for example, shows a remarkable difference in data quality as a result of tremendous advancements in the techniques of obtaining and handling

data. Indeed, these techniques have become so far advanced that noise sources have now been reduced to the point where a double-precision orbit determination program is essential in the handling of present extremely accurate data.

Nevertheless, documentation of the types, amounts, and quality of tracking data derived from the *Ranger III* mission does have certain value. Therefore, this Report presents the results of *Ranger III* in terms of old existing high-speed computer computations.

There may be some apparent errors in these old calculations because of recent changes in thinking, but these

shortcomings will be pointed out, and the overall characteristics of the data will then be available for review. A final report will present results from all *Ranger* missions using the latest computational programs and most recent knowledge of data behavior. In the meantime, it is hoped that this abbreviated report will suffice.

Ranger III was launched January 26, 1962, at Cape Kennedy and was tracked for approximately five days by four Deep Space Instrumentation Facility (DSIF) stations, after which useful data for orbit calculations ended. About 13½ hr from launch, a maneuver was executed to reduce a 40,000-km lunar miss (total maneuver capability is ≈ 10,000 km). However, because of an error in the turn-angle sign convention, the maneuver executed was not the one planned, although it did result in a

reduction of 5,000 km in the closest approach distance. After the maneuver, the spacecraft was tracked for another four days during which time the orbit was reestablished and the maneuver performance was measured. The actual trajectory characteristics of both the premaneuver and postmaneuver trajectories can be obtained from Ref. 1 and Appendices F and G.

The main body of this Report presents the tracking data in the form of residual plots and their statistics, along with comments and results on the spacecraft orbit parameters. The JPL Orbit Determination Program (Ref. 2) computer printouts are listed in the appendices, and—since the printout has the calculated data value and the residual—the raw doppler and angular data are available (i.e., calculated data plus residual equals raw data).

II. ANALYSIS OF DSIF TRANSPONDER DATA

A. Procedure

The Jet Propulsion Laboratory Orbit Determination Program (ODP) (Ref. 2) was the primary tool in analysis of the DSIF transponder data. Many additional capabilities have been added to the program since these computations were made back in May 1963, but their effects would cause no significant change in the calculations of the solution parameters. There are some anomalies in the data fits which will be pointed out, but these discrepancies should have minor effects on the final solution. The ODP does a modified weighted least-square fit to the data. It simultaneously estimates the six position and velocity components of the spacecraft at a given epoch, GM_{\oplus} , GM_{ζ} , and station locations. Standard corrections are made on signal travel time, refraction, and station local vertical displacement. Each data point is weighted independently *a priori* and rejection limits are set to reject blunder points.

The final estimates and statistics are reported at various epochs and in two different coordinate systems. The estimates are made in two separate blocks, the premidcourse and the postmidcourse. These phases do not contain powered flight data and give strictly free-flight orbit parameters.

B. Method of Obtaining and Analyzing Data

1. Amount and Types of Data

Figure 1 shows the data coverage of tracking stations, the locations of which are shown in Table 1. At first glance there seems to be a huge amount of data available, but a closer look shows that there are only two doppler tracking stations: Station 1 at Johannesburg, South Africa, and Station 3, the Goldstone Tracking Station, in California. Neither of those stations have usable angular data. The doppler data covers only a few hours of the normal 10- to 12-hr view period. The angular data acquired at Station 4, Woomera, Australia, and Station 5, Johannesburg, South Africa, are good data, but they soon

Table 1. Deep-space station locations^a

Station	Location	Geodetic latitude	Astronomic longitude
2, 3	Goldstone, California, U.S.A.	35.4°N	116.8°W
1, 5	Johannesburg, South Africa	25.9°S	27.7°E
4	Woomera, Australia	31.4°S	136.9°E

^aLocations are approximate.

lose their effectiveness because the geometry becomes very weak as the probe leaves the Earth. These data are further broken down in Table 2, where the percentage of good data is tabulated as are percentages for various bad-data causes. The bad-format and blunder-point data are attributed to transmission errors at the station, over the teletype lines, or at the converter at the JPL control center in Pasadena, California. The "bad-data-condition code" reflects the out-of-lock condition of the station's hardware with the spacecraft. Better than 70% of transmitted data were good data.

There are three very noticeable areas in Fig. 1 where there is no doppler coverage, and these gaps will be explained. The first gap from injection plus 4 hr to injection plus 11 hr was a planned gap because the signal from the omniantenna was too weak to lock up in two-way doppler mode after 4 hr. Antenna switchover, incidentally, was made at Goldstone because that was the only station with command capability.

The next break at injection plus 14 hr to injection plus 20 hr was due to a failure in the doppler loop, and all

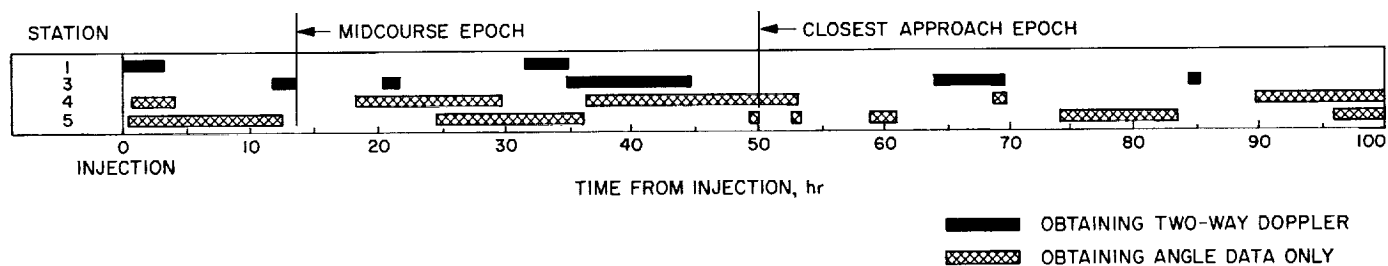


Fig. 1. Ranger III tracking station data coverage

Table 2. Summary of data

Premidcourse

Station	Data type	Points received (%)	Points used (%)	Bad format (%)	Blunder points (%)	Bad data condition code (%)	Reject limits
1	Two-way doppler	1249 100%	903 72%	43 3.5%	7 0.5%	296 24%	2.0 cps
3	Two-way doppler	90 100%	66 73.5%	0 0%	4 4.5%	20 22%	1.0 cps
4	Hour angle to declination	479 100%	356 74%	10 2%	13 3%	100 21%	0.1 deg
5	Hour angle to declination	1008 100%	720 71.5%	193 19%	34 3.5%	61 6%	0.1 deg

Postmidcourse

1	Two-way doppler	1423 100%	1183 83%	193 13.5%	5 0.5%	42 3%	3.0 cps
3	Two-way doppler	2105 100%	1841 87%	60 3%	19 1%	185 9%	1.8 cps
4	Hour angle to declination	1442 100%	968* 67%	263 18.4%	2 0.1%	209 14.5%	0.1 deg
5	Hour angle to declination	1524 100%	1064* 70%	207 13.5%	3 0.2%	250 16.3%	0.1 deg

*Usable but not used in orbit calculation.

data acquired at Station 3 at this time were bad data. This, however, is not reflected in Table 2. Station 1 could now get two-way doppler because the switchover to the high-gain antenna had increased the received power 28 db.

The last gap from injection plus 22 hr to injection plus 31 hr was caused partially because neither Station 1 nor Station 3 had a view of the spacecraft and partially because of a delay in setting up Station 1 for taking previously unplanned doppler data after the first pass. This setup was made because Station 3 had only 1 hr of good postmidcourse data. After the second pass, the received signal of Station 1 was too weak.

The other gaps in the doppler data are normal view periods for Station 3 and finally the weak-signal area. Reference 3 contains a discussion of peculiar characteristics of the station.

All doppler data taken on *Ranger III* were destructive count doppler, meaning that the doppler count is reset to zero at the end of every count interval. This is in contrast to the present approach of sampling a cumulative counter (i.e., making a continuous count). The doppler count time was 1 sec at Station 1 with a 10-sec sample spacing, whereas at Station 3 the count time was 10 sec

with the sampling interval varying from 20 sec to 1 min to 2 min. The angular data were taken at 20 sec and 1 min sample intervals. All these sampling rates and count times for exact periods can be seen in Appendices B and C under the residual format (i.e., block 7 explained in Appendix D).

2. Weighting the Data

The data are weighted *a priori* and reflect various noise sources with their correlation intervals such as counter roundoff, transmitter drift, refraction, cycle "drop" or "add-in," angle-correction error, angle jitter, and computer noise. Approximate data weights are shown in Table 3 and exactly in Appendices B and C under the residual printout. The number stated is actually the inverse weight, or the standard deviation of the "effective" noise, where effective noise is defined as the sum of the variance on the various noise sources mentioned above. The predominant noise sources in this doppler data are the rounding error and the transmitter drift, which have been significantly reduced in *Ranger VIII* and *Mariner IV* by continuous-count data over long sample times and rubidium-controlled transmitter oscillators. The angular data still have the same calibration problems and long correlation

Table 3. Data statistics
Premidcourse

Station	Data type	Number of points	Doppler ^a count time in sec	Residual standard deviation ^b	Residual bias ^b	Weight ^{b, c}	Remarks
1	Two-way doppler	903	1 ^d	0.644	0.0047	0.71	All 10-sec sample
3	Two-way doppler	66	10 ^e	0.282	-0.0076	0.33	All 1-min sample
4	Hour angle	356	—	0.011	-0.056	0.18	Weight for 1-min sample, some 20-sec sample
4	Declination	356	—	0.010	-0.038	0.18	Weight for 1-min sample, some 20-sec sample
5	Hour angle	720	—	0.010	0.018	0.18	Weight for 1-min sample, some 20-sec sample
5	Declination	720	—	0.020	0.016	0.18	Weight for 1-min sample
Postmidcourse							
1	Two-way doppler	1183	1	0.876	-0.051	2.5	All 10-sec sample
3	Two-way doppler	1841	10	0.389	-0.007	1.1	Weight for 20-sec sample, some 1- and 2-min samples
^a This is a destructive count doppler; the counter restarts from 0 after each count-time interval. ^b In cps when two-way doppler (1 cps = 0.156 m/sec), or in deg if hour-angle or declination. ^c Approximate weight, see Appendix B and C, Orbit Determination Printout, for exact weight. ^d Station 1 doppler is counted ± 1/2 sec centered about the message time. ^e Station 3 doppler is time-tagged at the end of the count interval.							

intervals (i.e., 5 hr) which places its effective noise for a 1-min sample at 0.18 deg. As can be seen in Table 3 the (effective) weight is larger than the visible data noise. The weights applied to the postmidcourse doppler are conservative and will be revised in future data reduction.

3. Residuals

Residuals are the difference between observed data and calculated value based on the theoretical model. Figures 2 through 7 show premidcourse residuals and Fig. 8 through

15 show postmidcourse residuals. Table 3 is a tabulation of the standard deviation and bias of these residuals.

Some characteristics are clearly evident. For example, Fig. 2 and 3 show Station 1 and 3 residuals with a dramatic reduction in data noise. This is due to the longer count time at Station 3 (i.e., 1 sec vs 10 sec). Noise in transmitter drift degrades Station 3 more than Station 1 since Station 1 data are taken relatively close to Earth, whereas Station 3 has a range of $\approx 150,000$ km. Figures 4 through 6 show the angle bias remaining after calibration.

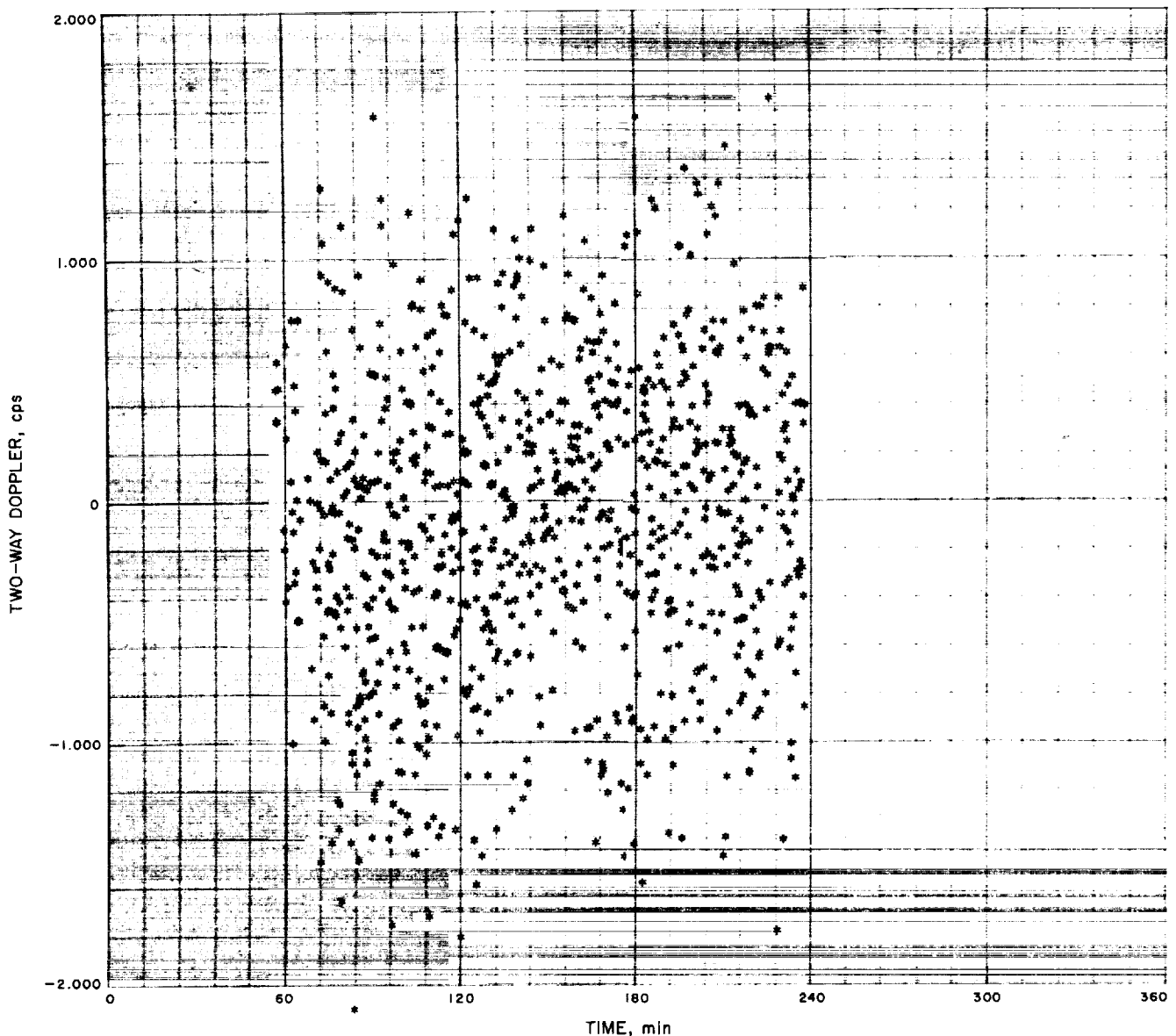


Fig. 2. Station 1 premidcourse residuals from January 26, 1962, 2000 hr GMT

Also evident is the angle "hitching" in declination when the declination motion is very small compared to hour angle.

Another comparison is Station 1 in Fig. 2, 8, and 9, where transmitter drift and cycle "add-in" and "drop-outs" have increased visible data noise (i.e., $\sigma_{pre} = 0.644$ cps, whereas $\sigma_{post} = 0.876$ cps). Also visible in Fig. 8 and 9 is the systematic parabolic residual chain which was discussed in the *Ranger IV* report (Ref. 4). These chains are caused by the rounding of the data and have been duplicated by

simulation and published in an internal document by D. Chaney (Ref. 5).

Figures 3 and 12 show again the increase in noise due to transmitter instability. Figure 16, a residual plot from the *Ranger VII* report (Ref. 6), shows data at this same range but under a rubidium-controlled transmitter. Its noise level is 0.01 cps compared to this 0.39 cps. The 0.01-cps noise comes primarily from roundoff on a 1-min sample, and the transmitter drift effect is on the order of 0.001 cps.

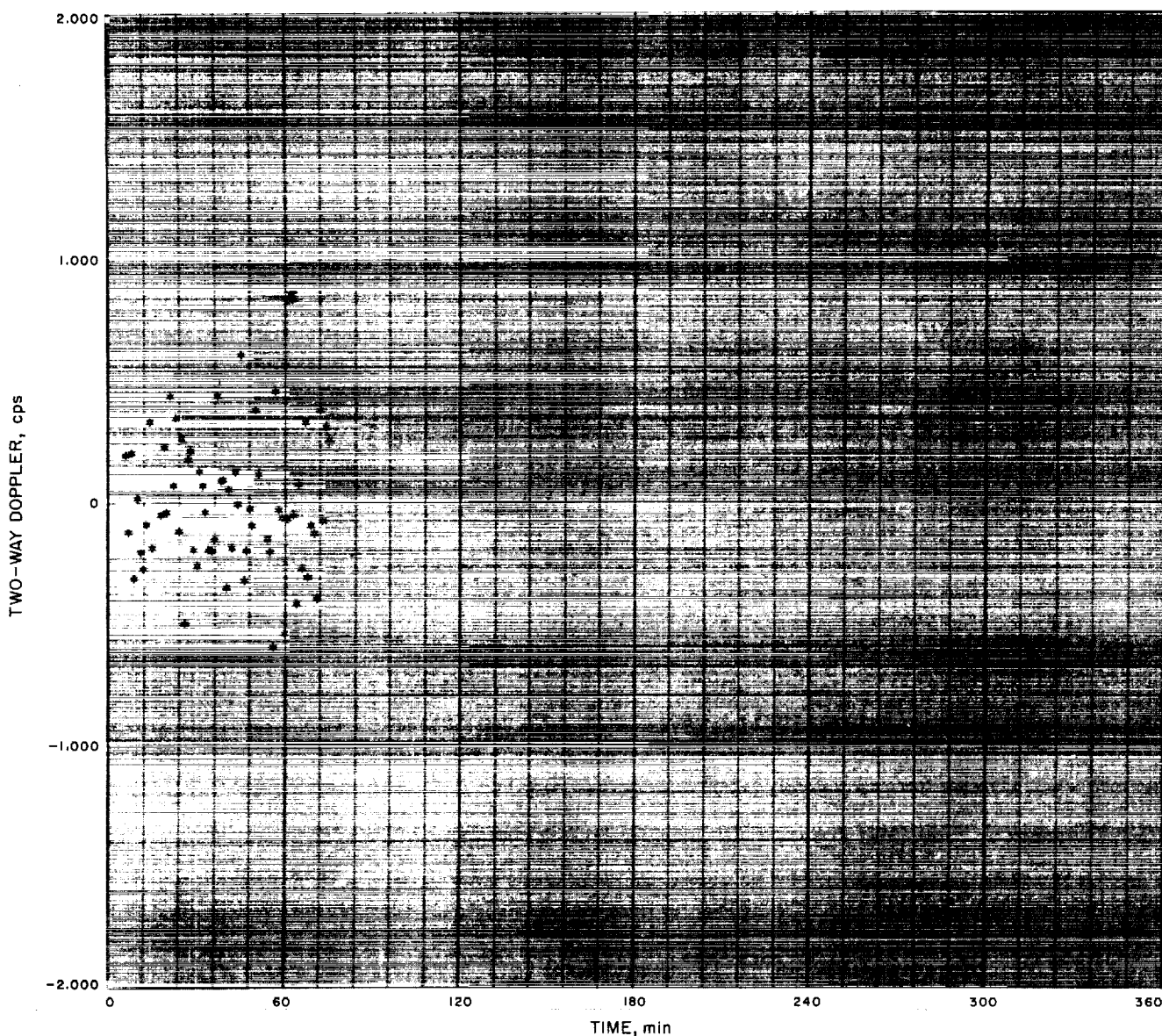


Fig. 3. Station 3 premidcourse residuals from January 27, 1962, 0900 hr GMT

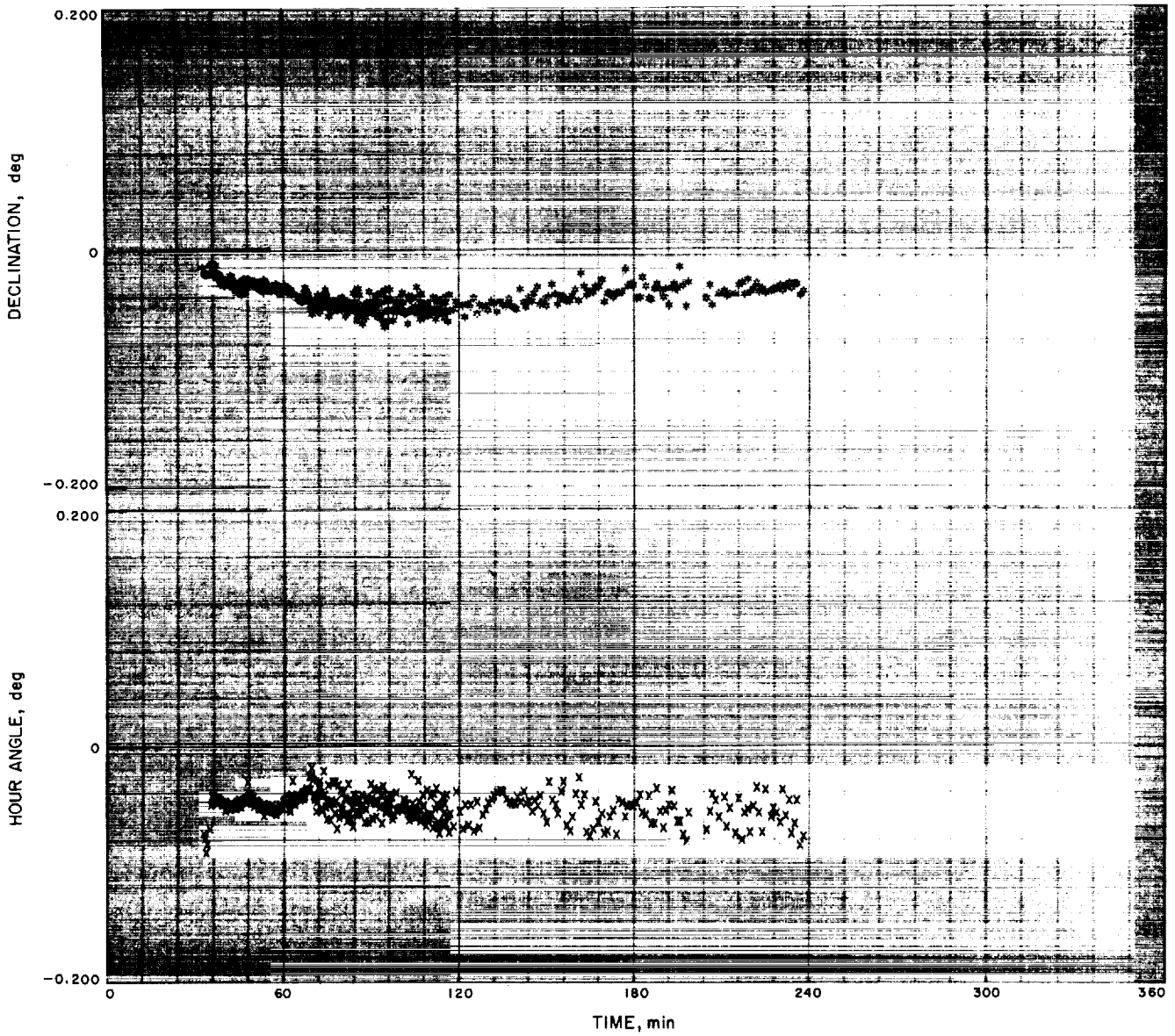


Fig. 4. Station 4 premidcourse residuals from January 26, 1962, 2100 hr GMT

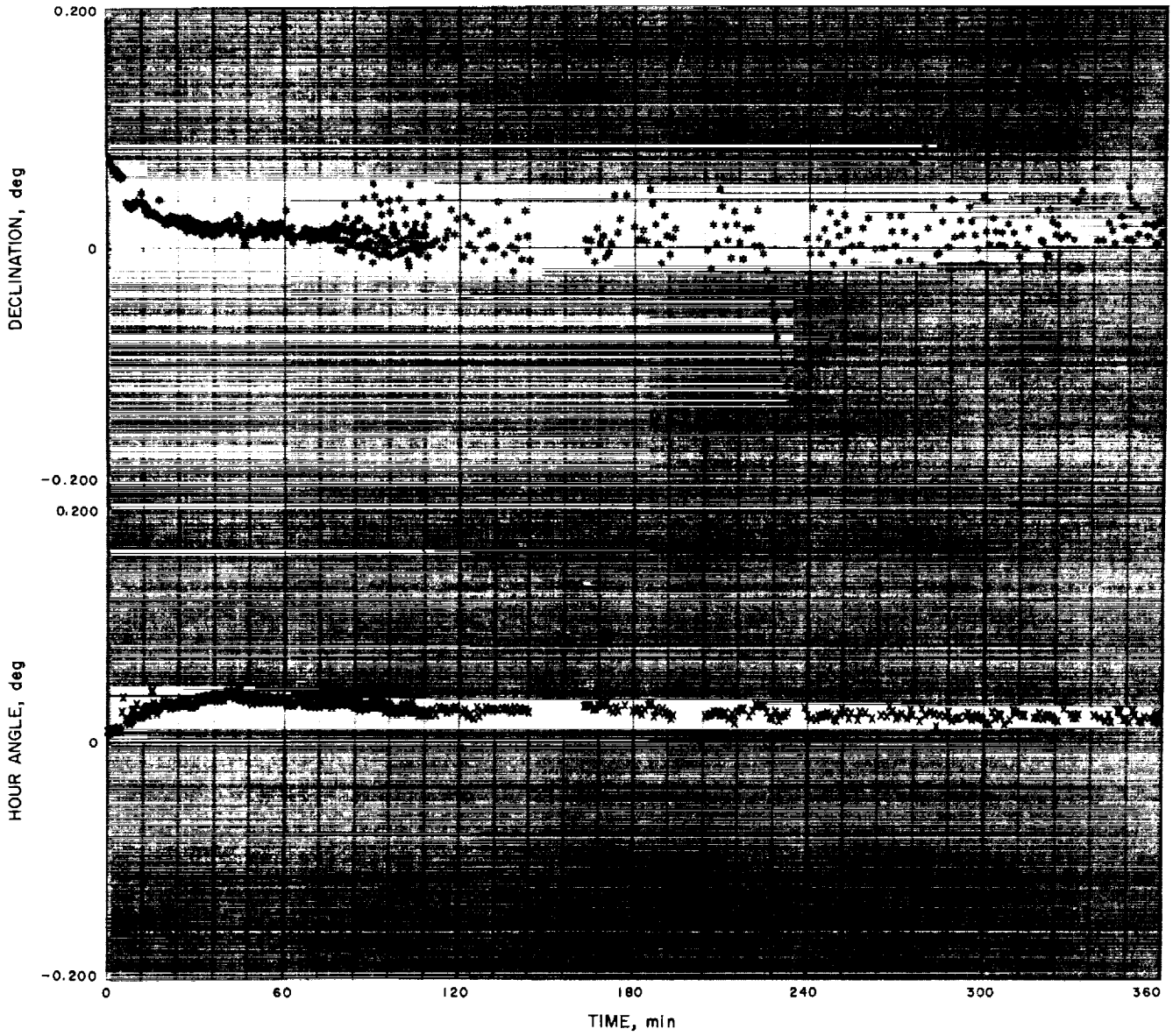


Fig. 5. Station 5 premidcourse residuals from January 26, 1962, 2100 hr GMT

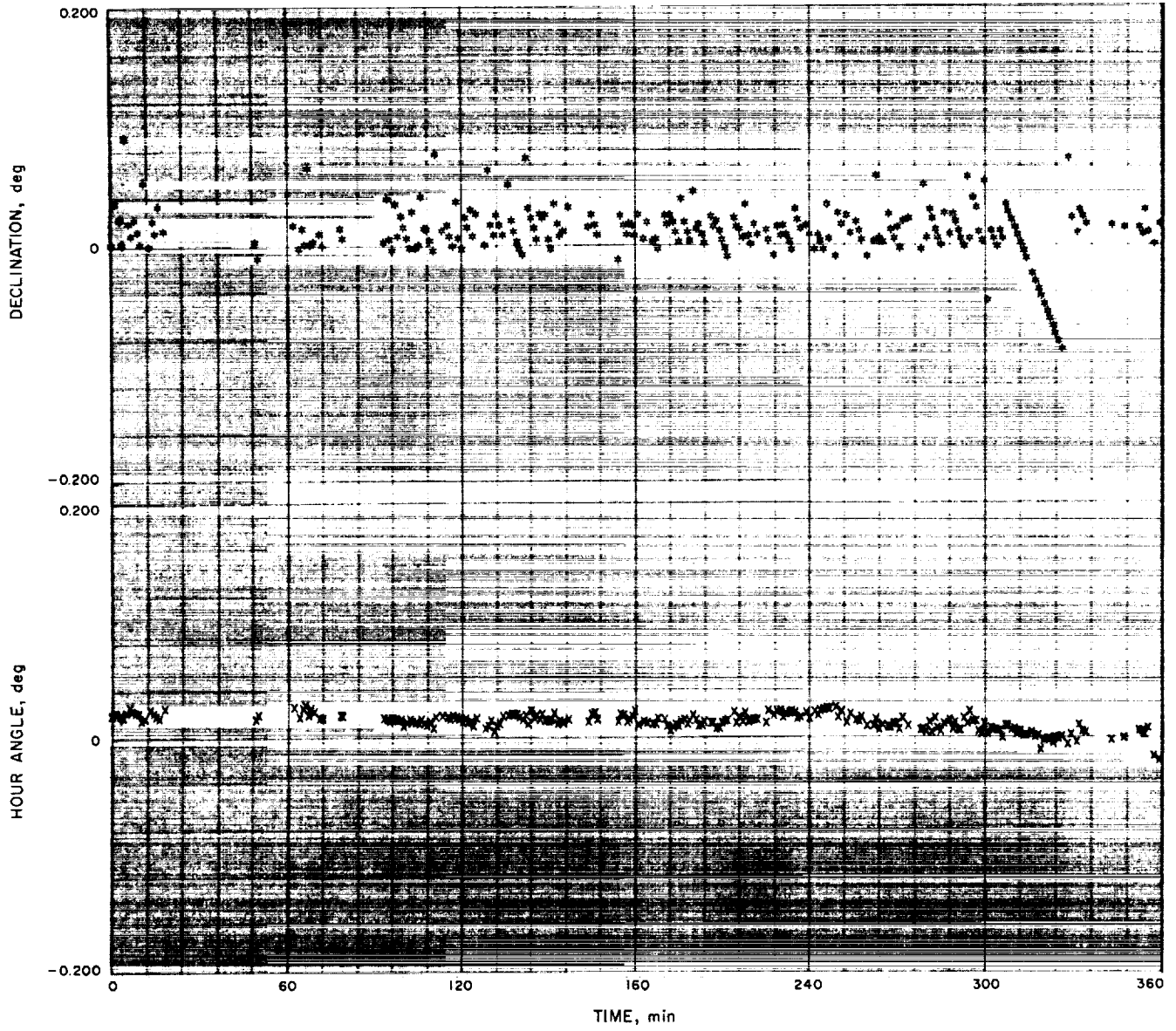


Fig. 6. Station 5 premidcourse residuals from January 27, 1962, 0300 hr GMT

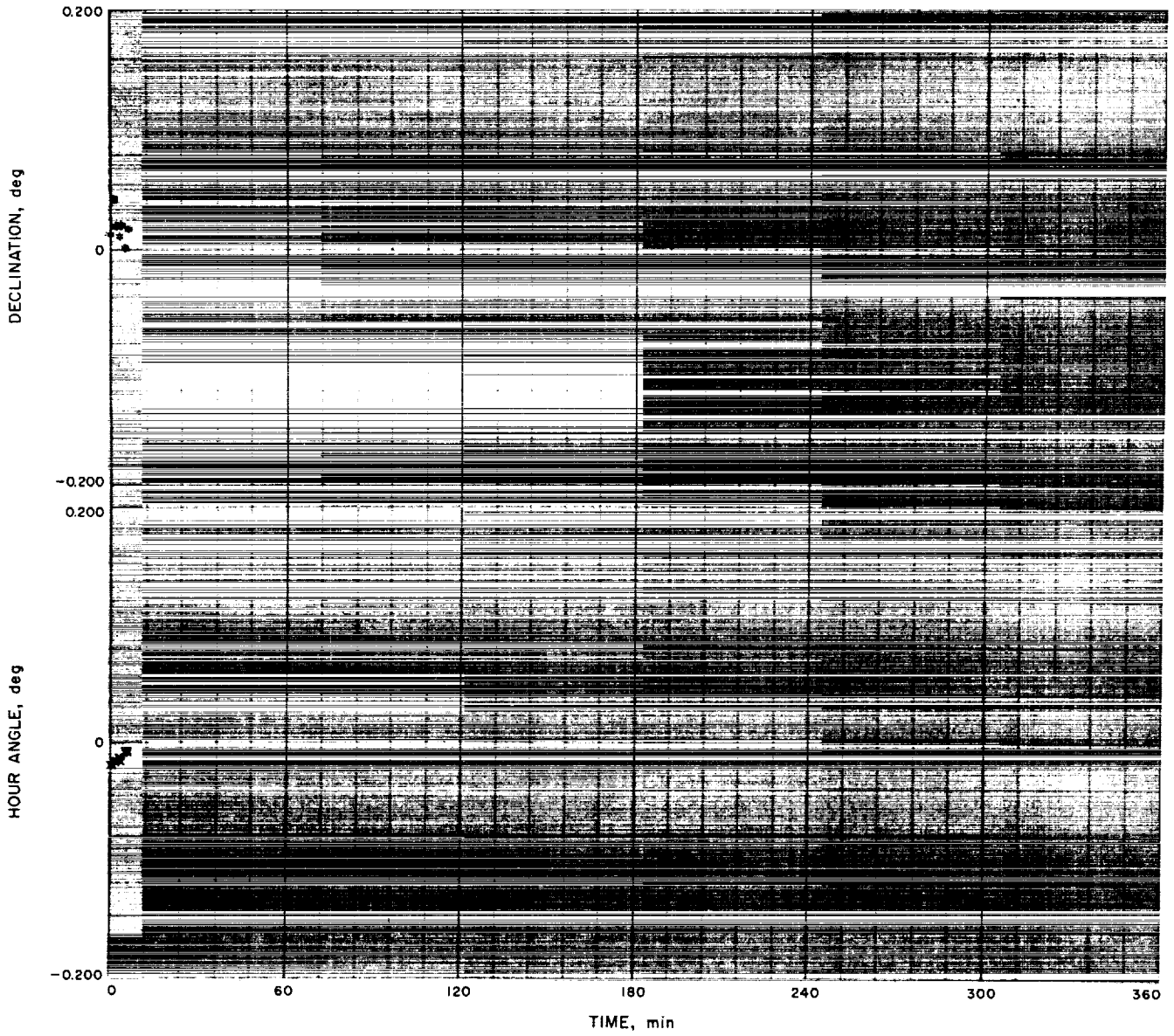


Fig. 7. Station 5 premidcourse residuals from January 27, 1962, 0900 hr GMT

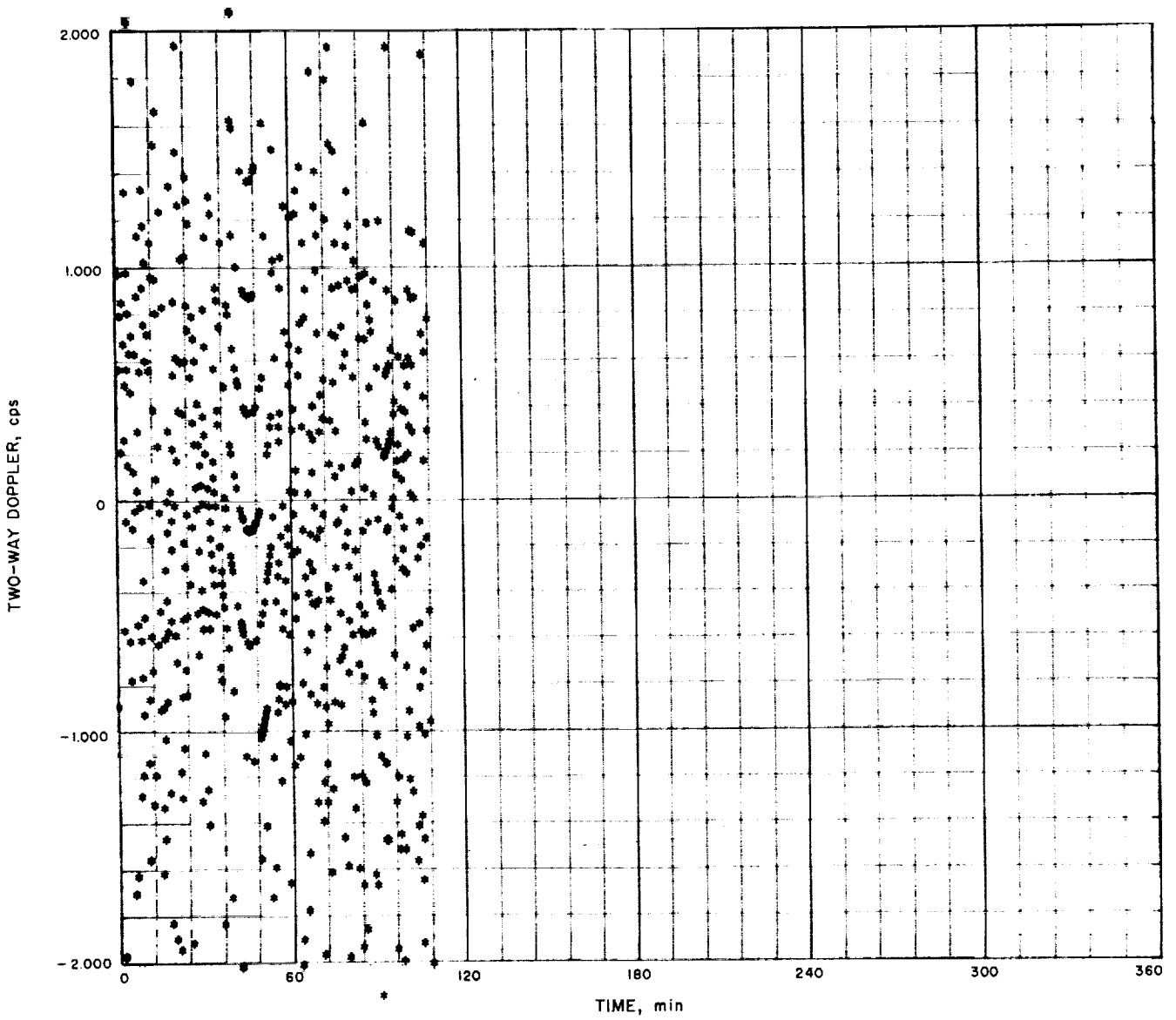


Fig. 8. Station 1 postmidcourse residuals from January 28, 1962, 0449 hr GMT

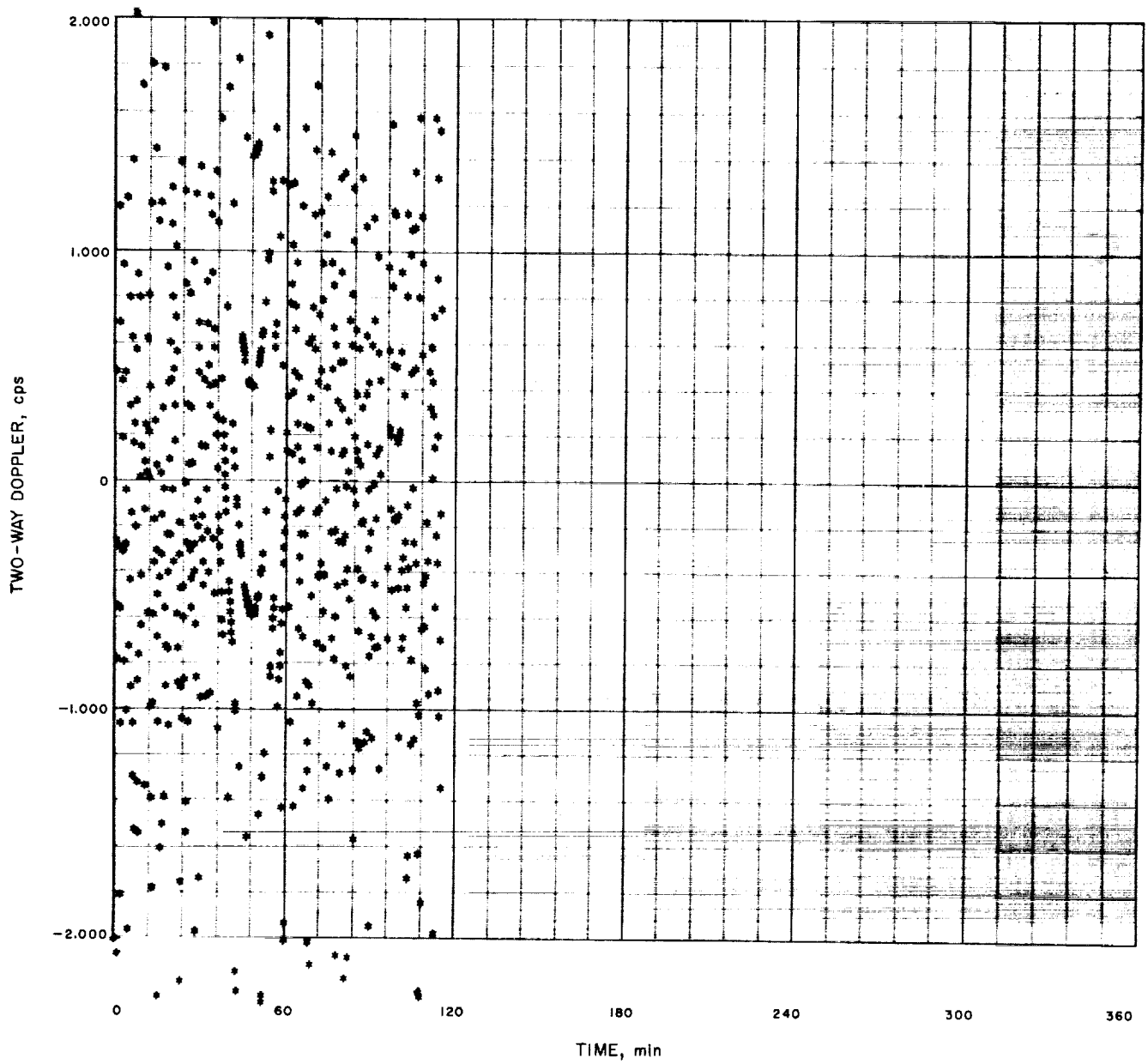


Fig. 9. Station 1 postmidcourse residuals from January 28, 1962, 0637 hr GMT

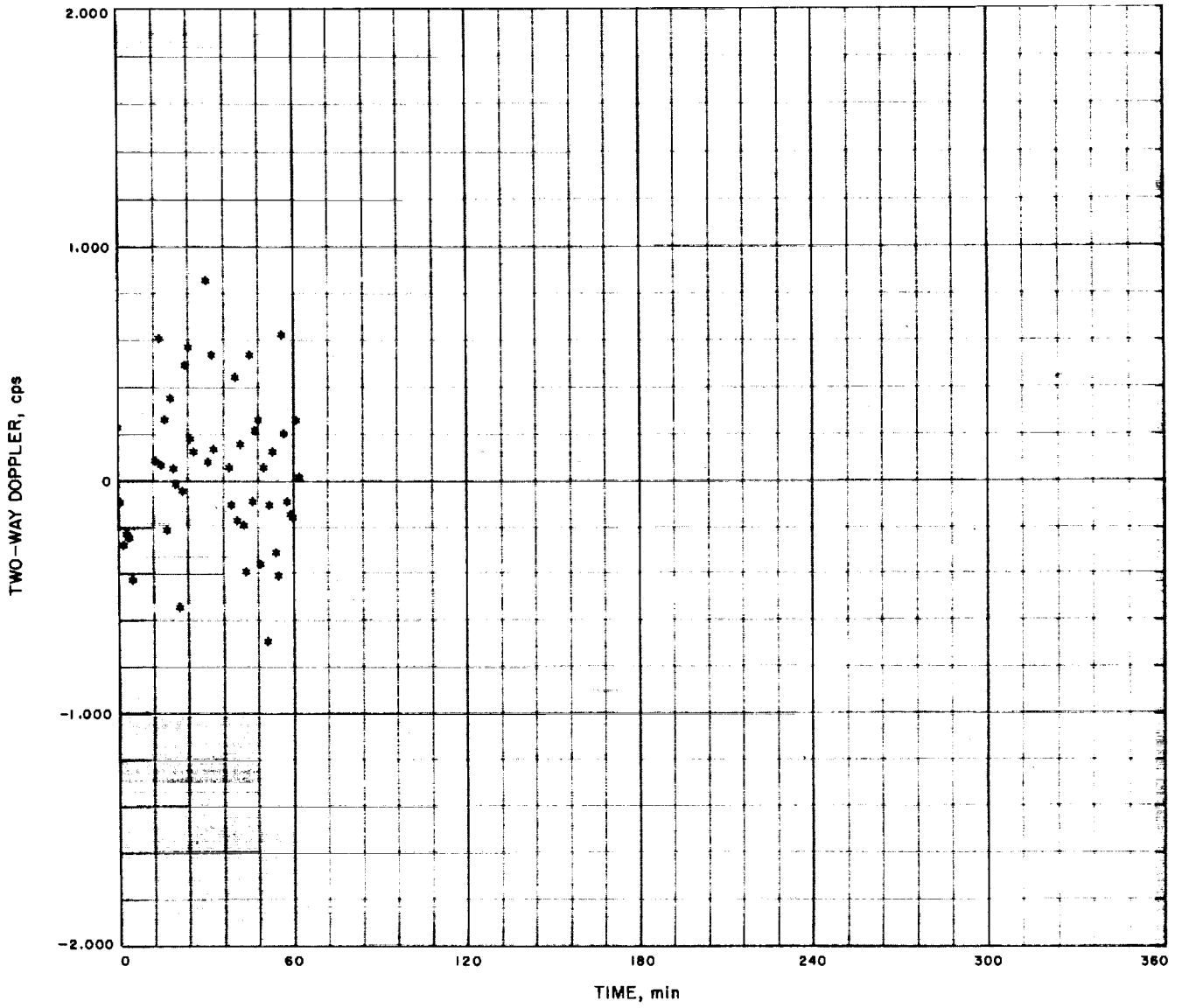


Fig. 10. Station 3 postmidcourse residuals from January 27, 1962, 1734 hr GMT

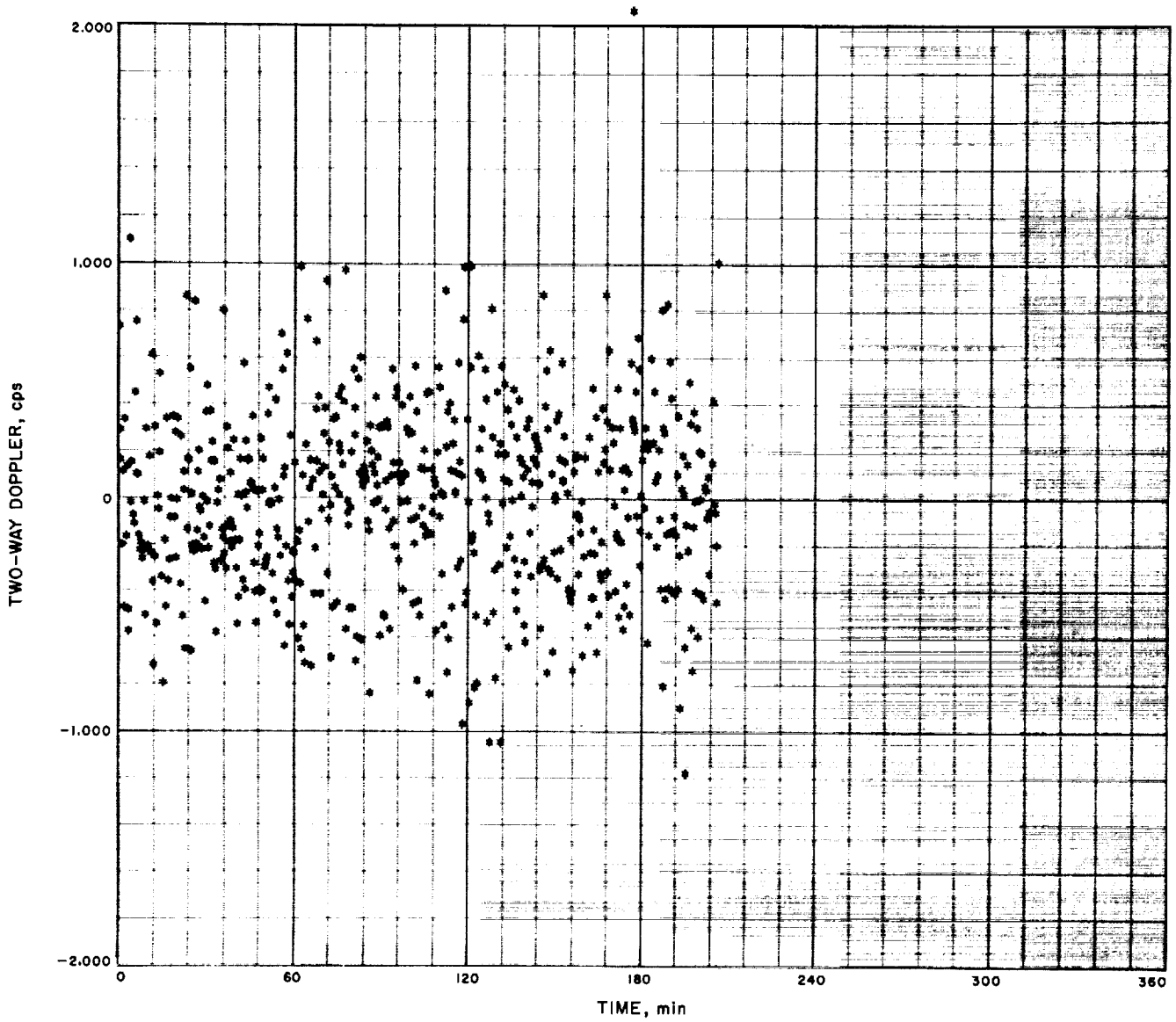


Fig. 11. Station 3 postmidcourse residuals from January 28, 1962, 0850 hr GMT

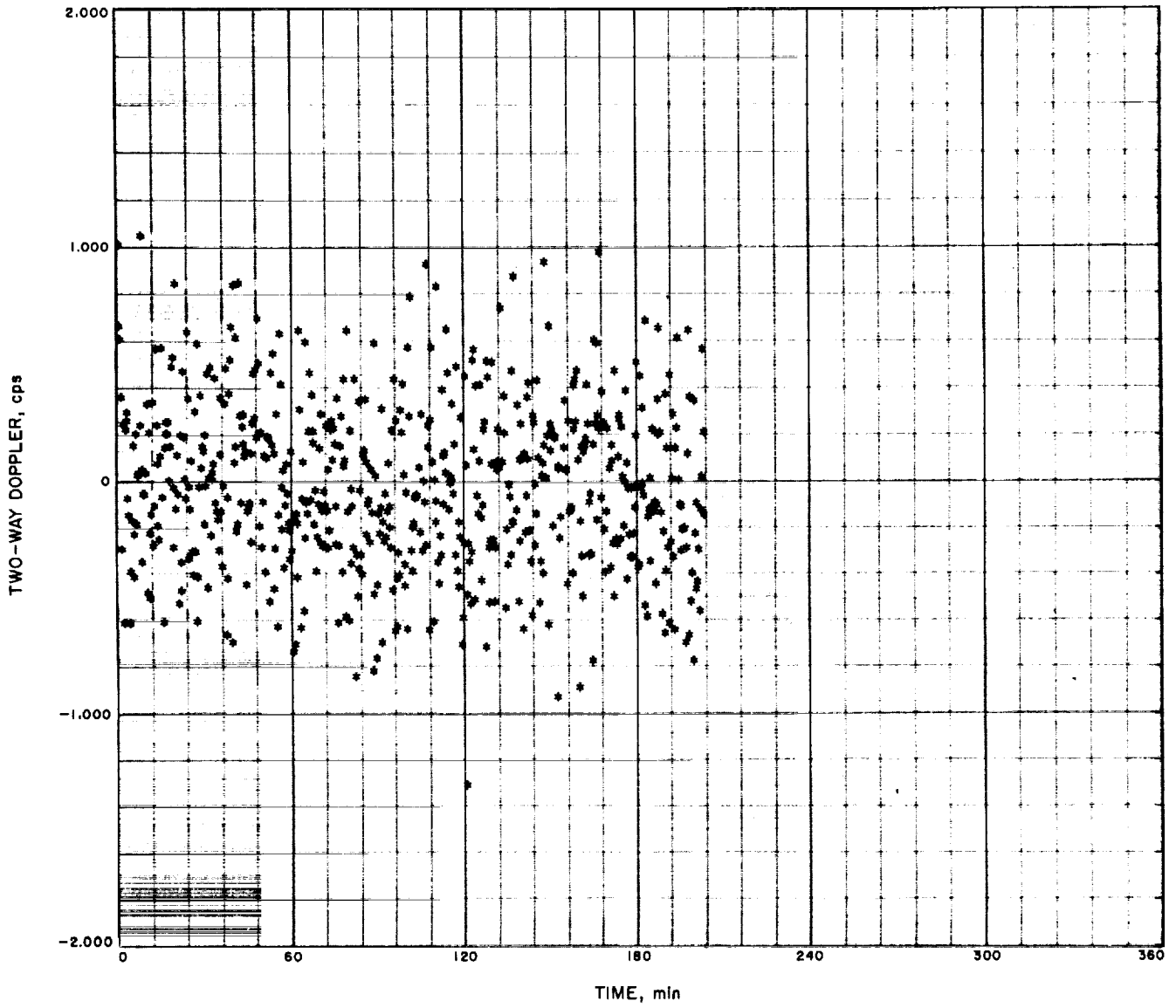


Fig. 12. Station 3 postmidcourse residuals from January 28, 1962, 1216 hr GMT

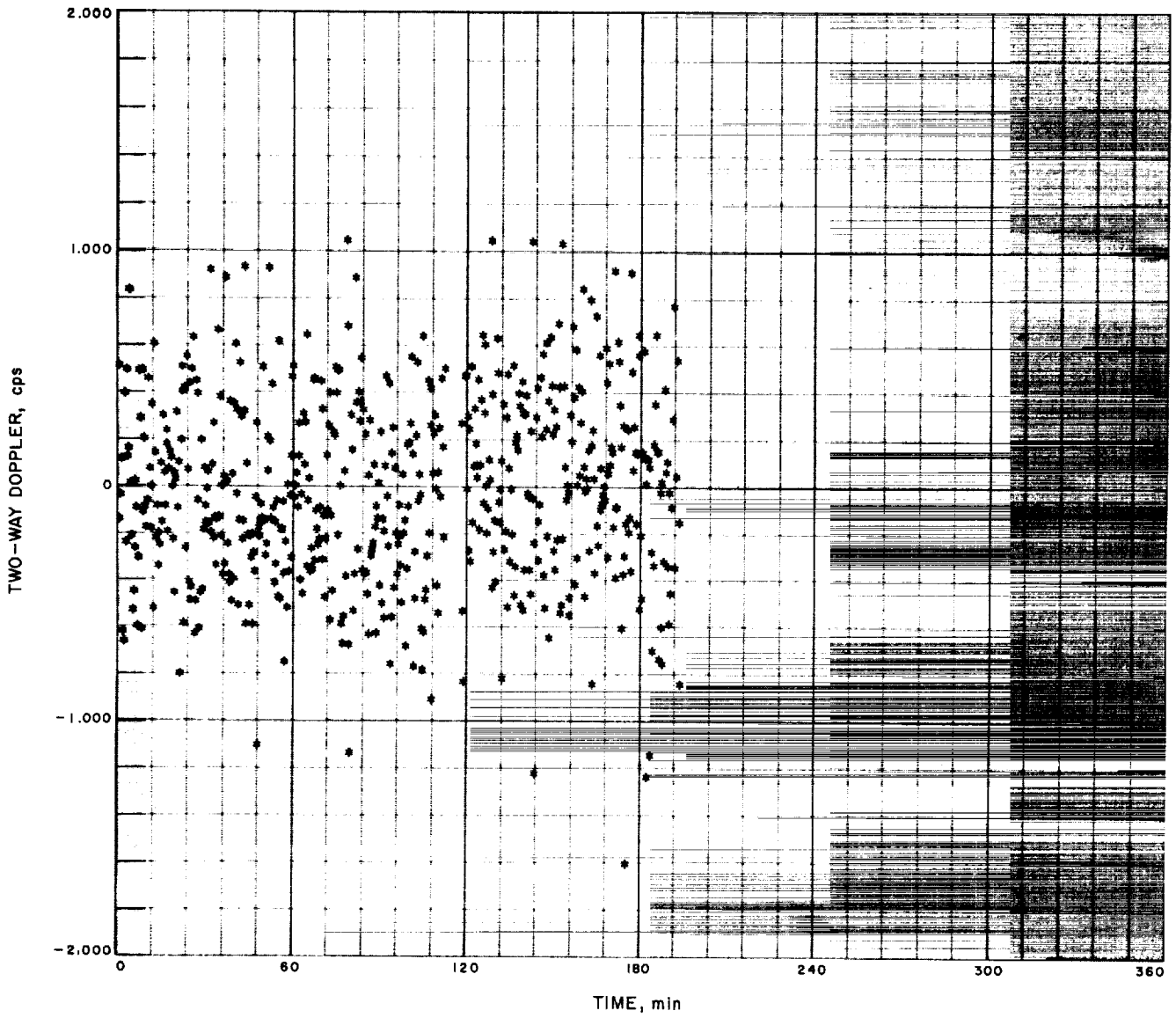


Fig. 13. Station 3 postmidcourse residuals from January 28, 1962, 1539 hr GMT

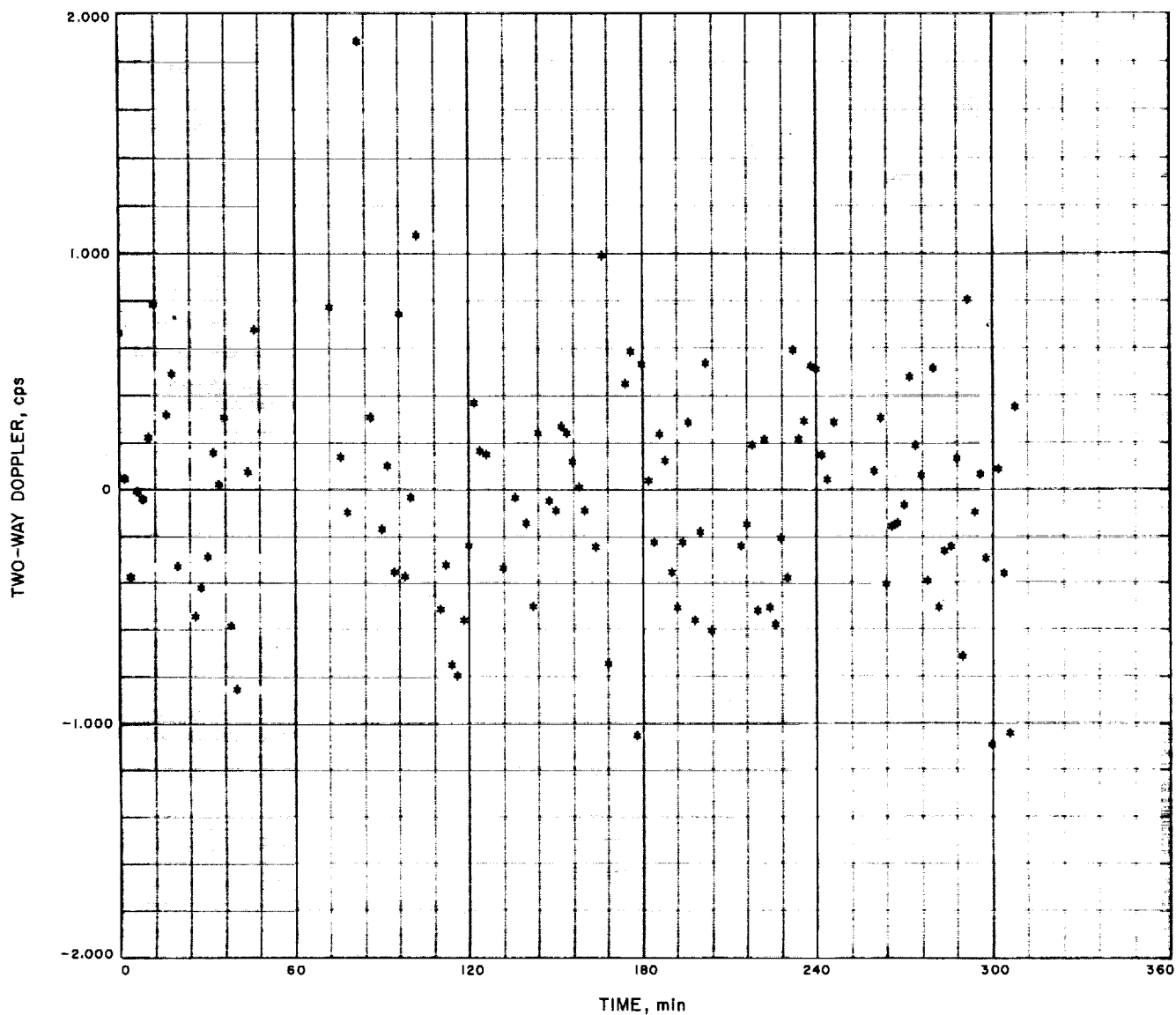


Fig. 14. Station 3 postmidcourse residuals from January 29, 1962, 1347 hr GMT

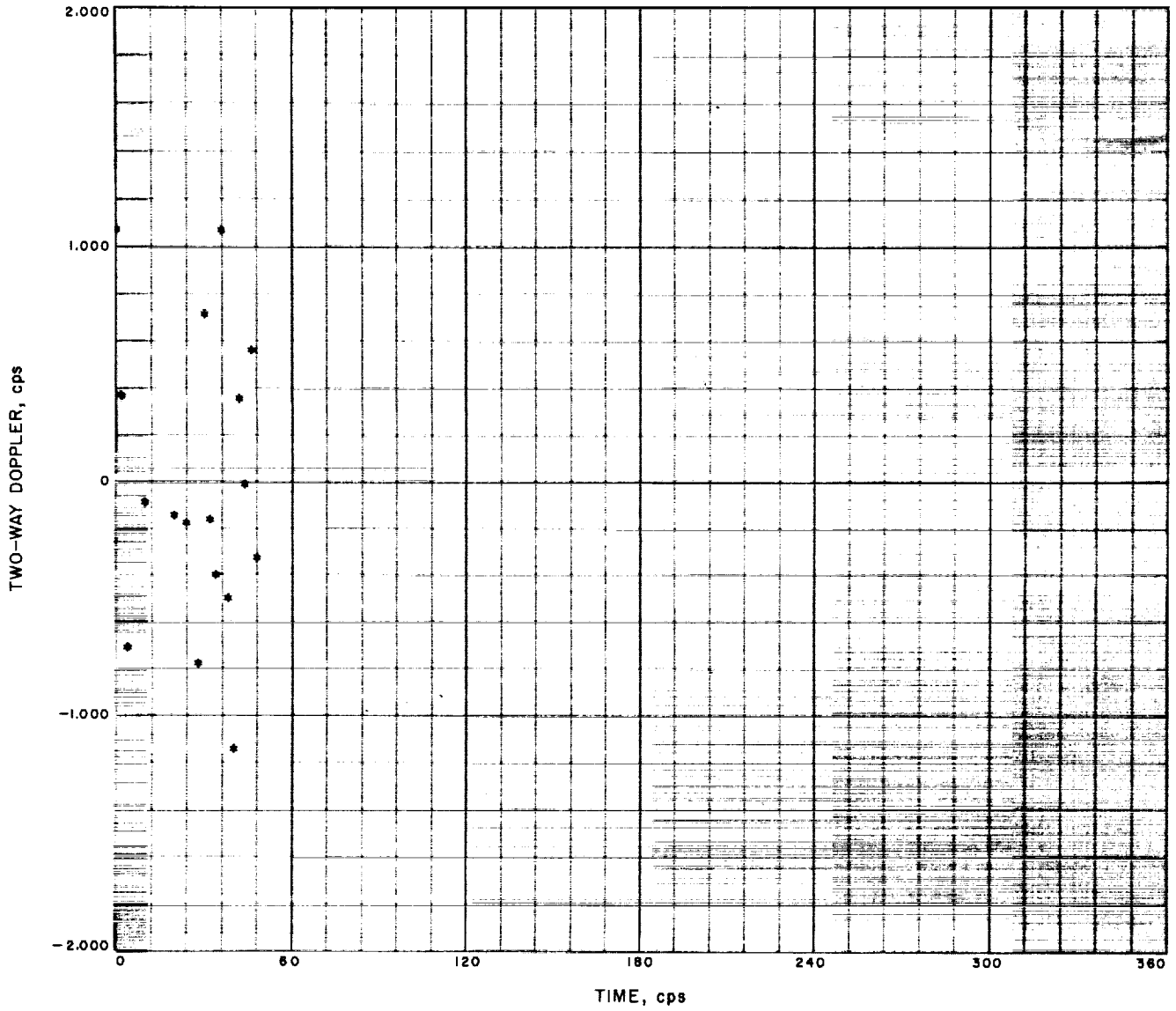


Fig. 15. Station 3 postmidcourse residuals from January 30, 1962, 0903 hr GMT

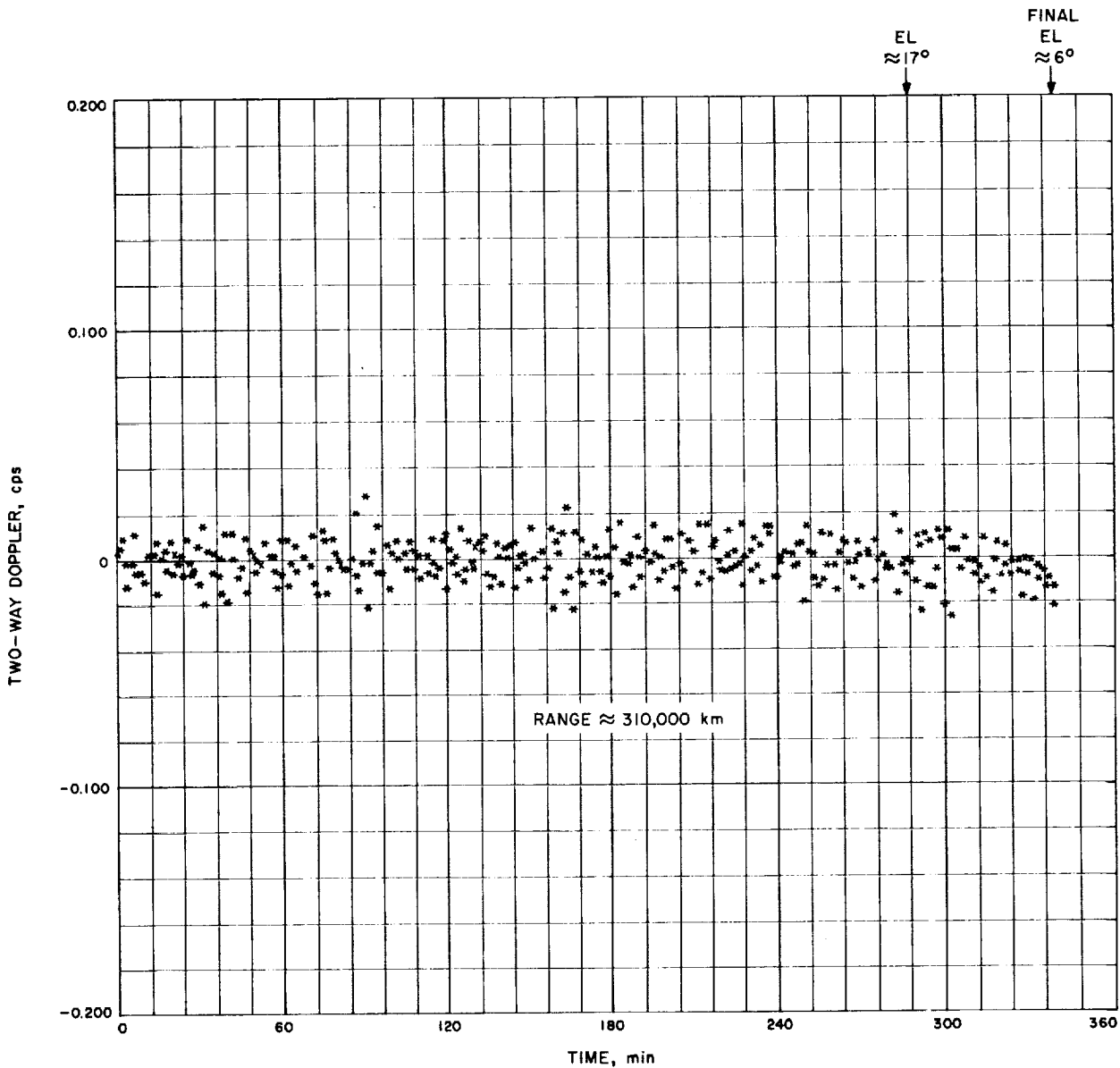


Fig. 16. Ranger VII station 12 residuals from July 30, 1964, 1318 hr GMT

C. Orbit Estimate

1. Premidcourse

The first calculations in the ODP involve fitting strictly to the premidcourse data. The parameters estimated were the six geocentric-space-fixed cartesian components of position and velocity, GM_{\oplus} , GM_{ζ} , and the three components of station location of the four tracking stations (radius, latitude, and longitude), making a total of 20 solution parameters. These parameters are listed in Table 4 with their *a priori* uncertainty. Also tabulated

are their statistics, both at injection and midcourse epoch after the data had been processed. Notice that for the first seven elements large *a priori* uncertainties were used because of the ability of the data to determine these parameters (i.e., $\sigma_x = 0.527$), whereas the others after the estimate virtually retain their *a priori* sigma (i.e., GM_{ζ} and station locations). Table 5 shows the actual parameter solution and the deviations from the "nominal" parameter solution. At the bottom of the table, it becomes quite apparent that the booster guidance error was large. The other parameter deviations, however, are well within

the solution statistics quoted in Table 4. This is pointed out because in Appendix B premidcourse ODP printout block 5 has two bad elements in $\sigma_{LA(4)}^2$ and $\sigma_{LA(5)}^2$, but they appear to have caused no trouble in the solution. Also following block 5 in Appendix B is the correlation matrix on the solution vector.

This solution has also been mapped to encounter and here the parameters are expressed in selenographic and B-plane (see explanation in Appendix A) coordinates as shown in Table 6. The bottom block of items in this table are the statistics in the B plane. The abbreviation SMAA stands for the semimajor axis of the 40% dispersion ellipse in the B plane, SMIA the semiminor axis, THETA the orientation angle for the dispersion ellipse, and DEL T the 1-sigma uncertainty in linearized time of flight as defined in Ref. 7.

2. Postmidcourse

The second and last step in these Ranger III ODP computations was to fit the postmidcourse data with the premidcourse data as a priori data. This was done by taking the covariance matrix on the premidcourse data-only fit just described and mapping it to midcourse epoch by pre- and post-multiplying it by the matrix of first order partial derivatives, i.e.,

$$\frac{\partial X_M}{\partial X_o} = \begin{bmatrix} 6 \times 6 & 0 & 0 \\ 6 \times 2 & I & 0 \\ 0 & 0 & I \end{bmatrix} = U \quad (1)$$

$$\Lambda_M = U^T \Lambda_o U$$

Once the covariance matrix at midcourse (Λ_M) is obtained, the lower 3x3 of the upper by 6x6 (the covariance on velocity) is corrupted so that all velocity information has

Table 4. Statistics on estimated parameters

Estimated parameters	Units	A priori (1- σ)	Premidcourse data only		Postmidcourse data with a priori from premidcourse	
			Injection epoch	Midcourse epoch	Midcourse epoch	Encounter epoch
X	km	1×10^4	0.527	5.93	5.65	13.5
Y	km	1×10^4	0.334	6.20	6.05	17.9
Z	km	1×10^4	1.021	20.80	11.69	29.1
DX	m/sec	1×10^7	0.586	0.153	0.124	0.103
DY	m/sec	1×10^7	0.863	0.115	0.150	0.128
DZ	m/sec	1×10^7	1.076	0.375	0.231	0.136
GM \oplus	km ³ /sec ²	1×10^4	4.09		2.53	
GM C	km ³ /sec ²	5.0	5.00		4.37	
RI(1)	km	0.06	0.060		0.057	
LA(1)	deg	0.001	0.00100		0.00097	
LO(1)	deg	0.001	0.00099		0.00094	
RI(3)	km	0.06	0.060		0.057	
LA(3)	deg	0.001	0.00100		0.00094	
LO(3)	deg	0.001	0.00100		0.00098	
RI(4)	km	0.06	0.060		---b	
LA(4)	deg	0.001	---a		---b	
LO(4)	deg	0.001	0.00100		---b	
RI(5)	km	0.06	0.060		---b	
LA(5)	deg	0.001	---a		---b	
LO(5)	deg	0.001	0.00099		---b	

*Inversion problem; see Appendix B, Blocks.
 bThese parameters were not estimated in the postmidcourse calculation.

Table 5. Estimated parameter solution vector

Estimated parameters	Units	Premidcourse data only		Postmidcourse with <i>a priori</i> from premidcourse	
		Value	Change from nominal	Value	Change from pre-midcourse value
X	km	-129823.13 ^b	---	-129825.26	-2.13 ^e
Y	km	-82373.281 ^b	---	-82372.683	+0.598 ^e
Z	km	-49540.038 ^b	---	-49526.645	+13.393 ^e
DX	m/sec	-1707.2911 ^b	---	-1695.4419	+11.8492 ^e
DY	m/sec	-1572.6162 ^b	---	-1545.3654	+27.2508 ^e
DZ	m/sec	-542.91970 ^b	---	-521.16175	+21.7580 ^e
GM _⊕	km ³ /sec ²	398600.41	-2.79	398601.63	+1.22
GM _⊙	km ³ /sec ²	4900.63	-0.13	4900.58	-0.05
RI(1)	km	6375.6470	-0.010	6375.6455	-0.002
LA(1)	deg	-25.732403	-0.00020	-25.732475	-0.00007
LO(1)	deg	27.705739	0.00046	27.705492	-0.00024
RI(3) ^a	km	6372.0881	0.005	6372.1053	0.017
LA(3) ^a	deg	35.119391	-0.00011	35.119004	-0.00039
LO(3) ^a	deg	243.19258	-0.00012	243.19265	0.00007
RI(4)	km	6372.6058	-0.002	--- ^d	---
LA(4)	deg	-31.212356	0.00000	--- ^d	---
LO(4)	deg	136.88583	-0.00033	--- ^d	---
RI(5)	km	6375.4851	-0.010	--- ^d	---
LA(5)	deg	-25.735023	-0.00020	--- ^d	---
LO(5)	deg	27.685239	0.00046	--- ^d	---
X	km	3394.4723 ^c	-124.6	---	---
Y	km	5711.2334 ^c	+205.9	---	---
Z	km	513.62575 ^c	-185.1	---	---
DX	m/sec	-7793.1342 ^c	-163.7	---	---
DY	m/sec	5615.8511 ^c	-290.2	---	---
DZ	m/sec	-5307.1322 ^c	-108.0	---	---

^aThis is not the present Goldstone station 12. This antenna does not exist at this site presently; it was moved to another Goldstone site.
^bConditions at midcourse epoch.
^cConditions at injection epoch.
^dNot estimated (no data from these stations in postmidcourse phase).
^eEffect of midcourse maneuver.

been deleted. This used as *a priori* data then allows the postmidcourse data to solve for velocity independent of premidcourse velocity. The net result is an independent estimate of the maneuver as can be seen in the last column of Table 5.

Again as in the premidcourse discussion, parameter statistics are shown in Table 4 and encounter parameters and statistics are displayed in Table 6. The complete postmidcourse ODP printout is shown in Appendix C and, specifically, the correlation matrix on the estimated parameters is shown in printout block 6 (Appendix C).

3. Maneuver Estimate

The orbit determination (OD) maneuver estimate (Table 7) as mentioned in the previous section comes

directly from the difference in the velocity components for the two ODP computations (pre-post). There is also the estimate of the maneuver which was commanded (having corrected for the sign error). It is interesting to compare the two results. It appears that the magnitude of the maneuver was within 0.21 m/s of the commanded maneuver. However, there appears to have been some pointing errors of about 2 deg.

4. GM_⊕* Estimate

The solution for GM_⊕ using *Ranger III* data has been quoted in Ref. 6 and 8. However, this solution is the one obtained solely from premidcourse data (the solution of 398600.41 ±4.1 km³/sec² as shown in Tables 4 and 5).

*GM_⊕ = Universal gravitational constant times mass of Earth.

When postmidcourse data are used with premidcourse data as *a priori* data, the solution of 398601.63 ± 2.5 km³/sec² is produced. This is in close agreement with the *Ranger VII* result (Ref. 5) and is consistent with the preliminary results of *Rangers VIII* and *IX*. Figure 17 shows the various GM_{\oplus} estimates for the series of *Ranger* missions with an update on *Ranger III*. They all appear consistently lower than the nominal value of 398603.2 km³/sec² set by Symposium 21 International Astronomical Union in Paris in 1963.

Other interesting comparisons are shown in Table 8. Here the solutions for GM_{\oplus} for the *Ranger III* through *IX* missions using premidcourse data only and then pre-

Table 6. Encounter parameters (closest approach)

Encounter parameters	Units	Premidcourse	Postmidcourse
Latitude	deg	-42.2	-45.2
Longitude	deg	227.3	227.8
Altitude	km	39,082	35,134
Flight time ^a	hrs	50.0532	50.5957
GMT ^b	mo-day-yr hr-min-sec	Jan. 28, 1962 22-53-20.5	Jan. 28, 1962 23-24-53.4
B ^c	km	42,217	38,354
B · R ^c	km	30,965	29,345
B · T ^c	km	-28.697	-24.696
SMAA ^c	km	63.9	28.9
SMIA ^c	km	16.9	20.7
THETA ^c	deg	26.9	11.3
DEL T ^c	sec	16.6	4.5

^aTime from injection.
^bTime of closest approach, GMT.
^cDefined in Appendix D, Orbit Determination Format Description; see also Appendix A, Definition of the Miss Parameter B.

Table 7. Maneuver estimate

Parameters m/s	O.D. maneuver estimate	Commanded maneuver estimate	Difference commanded minus O.D.	O.D. 1-σ
\dot{X}	11.85	11.00	-0.85	0.12
\dot{Y}	27.25	27.97	+0.72	0.15
\dot{Z}	21.76	20.92	-0.84	0.23
ΔV	36.83	36.62	+0.21	—

Table 8. Estimated values of universal gravitational constant times mass of Earth (GM_{\oplus})

Source	Premidcourse data only		
	Value km ³ /sec ²	Std. dev. km ³ /sec ²	Remarks
JPL Nominal ^a	398603.20	4.0	-----
RANGER III	398600.41	4.1	13 hr of tracking
RANGER IV	398601.87	13.3	8 hr of tracking; Total mission data
RANGER V	398599.20	13.2	8 hr of tracking; Total mission data
RANGER VI	398603.04	4.3	17 hr of tracking
RANGER VII	398601.77	6.3	17 hr of tracking
RANGER VIII ^b	398601.29	2.8	17 hr of tracking
RANGER IX ^b	398600.83	0.8	39 hr of tracking

Source	Postmidcourse data with premidcourse as <i>a priori</i>		
	Value km ³ /sec ²	Std. dev. km ³ /sec ²	Remarks
RANGER III	398601.63	2.5	4 days of tracking
RANGER VI	398600.61	1.1	65 hr of tracking
RANGER VII	398601.28	1.5	68 hr of tracking
RANGER VIII ^b	398601.23	0.7	65 hr of tracking
RANGER IX ^b	398601.54	0.6	65 hr of tracking

^aValue set by Symposium 21, International Union, Paris, 1963.
^bPreliminary Results.

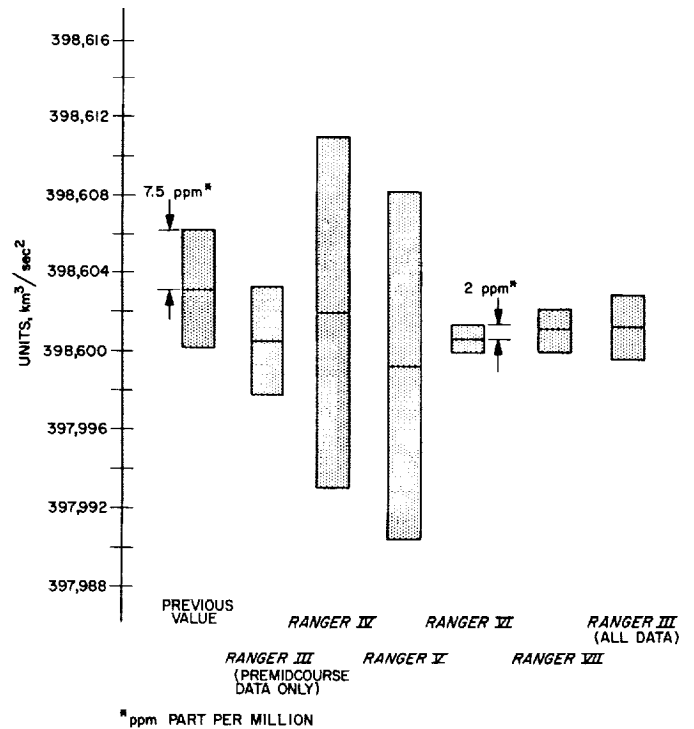


Fig. 17. Mass of Earth with probable errors

midcourse as *a priori* data for the postmidcourse (i.e., all data) still remain within the one-sigma uncertainty, and "pre" solutions seem randomly higher and lower than the final solution for that mission.

There is no estimate on GM_c , because the spacecraft missed the Moon by some 35,000 km. There were insufficient data from any station to give an estimate on station location.

III. SUMMARY

The most striking observation in compiling this short report on *Ranger III* is the amazing advancement in data-gathering hardware and procedures. Data noise sources which were predominant in *Ranger III* have now been reduced to the point that computer computation noise is the largest contributor.

Although this Report makes available the raw tracking data on *Ranger III*, the results are not as significant as those provided by data on *Rangers VI, VII, VIII, and IX*. The results do give an estimate on GM_\oplus , which will stand as one more independent observation when the series of *Ranger* missions are analyzed together.

APPENDIX A

Definition of the Miss Parameter \mathbf{B}

The miss parameter \mathbf{B} is used at JPL to measure miss distances for lunar and interplanetary trajectories and is described by W. Kizner in Ref. 9. \mathbf{B} has the desirable feature of being very nearly a linear function of changes in injection conditions.

The osculating conic at closest approach to the target body is used in defining \mathbf{B} . \mathbf{B} is the vector from the target's center of mass perpendicular to the incoming asymptote. Let \mathbf{S}_I be a unit vector in the direction of the incoming asymptote. The orientation of \mathbf{B} in the plane normal to \mathbf{S}_I is described in terms of two unit vectors \mathbf{R} and \mathbf{T} , normal to \mathbf{S}_I . \mathbf{T} is taken parallel to a fixed *reference plane* and \mathbf{R} completes a right-handed orthogonal system. Figure A-1 illustrates the situation.

The *Ranger III* work has used the orbital plane of the Moon as the reference plane. If \mathbf{W} is a unit vector normal to the orbital plane (\mathbf{W} in direction of $\mathbf{R}_M \times \mathbf{V}_M$, where \mathbf{R}_M is radius vector to Moon from Earth and \mathbf{V}_M is the space-fixed velocity of the Moon relative to the Earth's center) then $\mathbf{T} = \mathbf{S}_I \times \mathbf{W}$ defines our coordinate system.

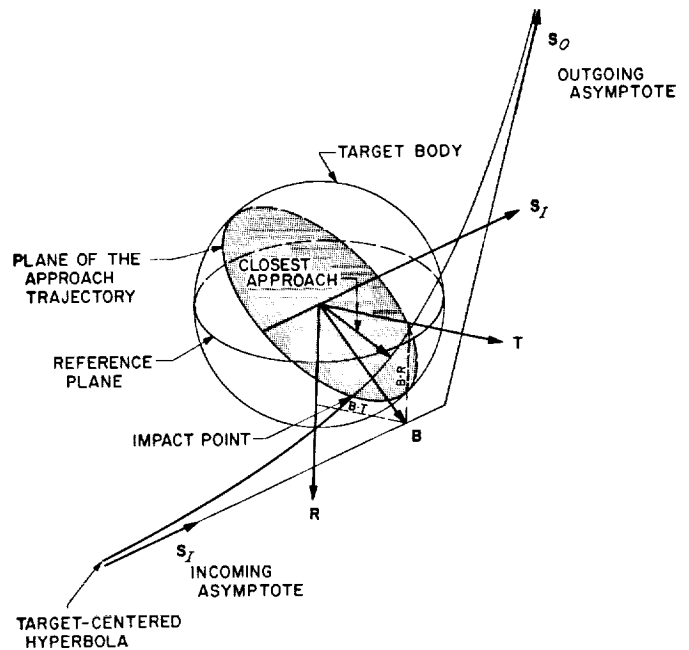


Fig. A-1. Definition of $\mathbf{B} \cdot \mathbf{T}$, $\mathbf{B} \cdot \mathbf{R}$ system

APPENDIX B

***Ranger III* Premidcourse Orbit Determination Program Printout**

The material in this appendix is a data-processing printout of data derived from the premidcourse orbit determination program (ODP) for the *Ranger III* mission.

INPUT COVARIANCE MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	RJ01
X	.99999999 08	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Y	.00000000 00	.99999999 38	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Z	.00000000 00	.00000000 00	.99999999 08	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DX	.00000000 00	.00000000 00	.00000000 00	.99999999 08	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DY	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.99999999 08	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DZ	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.99999999 08	.00000000 00	.00000000 00	.00000000 00
KE	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.99999999 08	.00000000 00	.00000000 00
KM	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.99999999 08	.00000000 00
RJ01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.99999999 08
LA01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.35992799-02
LA05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA01		LG01	RI03	LA03	LD03	RI04	LA04	LD04	RI05
X	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Y	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Z	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DX	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DY	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DZ	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KE	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KM	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.35992799-02
LA01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.36000000-02
LA05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA05		LG05							
X	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Y	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Z	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DX	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DY	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DZ	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KE	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KM	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00

RA-3 PRE W/C NC APRIGRI KE EST KP STA LOC CDR STA 6 MAY 63

	EPDGM	EZ/C1/Z6	205009.000	CLOCK	022310	SDS	.83612 03	QSDS	.83654 C3
Q	EQ	STCEVQ	OLD Q	NEW Q	NOMINAL Q	DS	INDM1		
X	-.78366623-03	.52722052 00	.33944731 04	.33944723 04	.33947685 04			-.24614258 00	
Y	-.16574340-02	.33353612 00	.57112335 04	.57112334 04	.57116786 04			-.44512939 00	
Z	.44767121-06	.58646901-03	.51362430 03	.51362475 03	.51300109 03			.62465668 00	
DX	.48995741-06	.86306214-03	.56158506 01	.56158511 01	.56148519 01			.99915265-03	
DY	.74700268-06	.13762454-02	.53071330 01	.53071322 01	.53075343 01			.40215233-02	
DZ	-.12235134-02	.40883407 01	.39860041 06	.39860041 06	.39860320 06			-.27851562 01	
KE	.15256342-04	.49992496 01	.49096276 04	.49096276 04	.49007569 04			-.13134766 00	
STA 1									
RI	.37187999-04	.59771188-01	.63756470 04	.63756470 04	.63756566 04			-.96435547-02	
LA	-.14730840-06	.99593260-03	-.25732403 02	-.25732403 02	-.25732200 02			-.20337105-03	
LD	-.10570454-07	.98959906-03	-.27705739 02	-.27705739 02	-.27705280 02			.45943259-03	
STA 3									
RI	.44261137-04	.59893869-01	.63720881 04	.63720881 04	.63720800 04			-.51269531-02	
LA	.32946361-06	.99713472-03	-.35119391 02	-.35119391 02	-.35119500 02			-.10871887-03	
LD	.49059582-06	.99464284-03	.24319258 03	.24319258 03	.24319270 03			-.12207031-03	
STA 4									
RI	-.22178153-04	.59996726-01	.63726058 04	.63726058 04	.63726077 04			-.18920898-02	
LA	-.33915026-07	.79214814 19	-.31212356 02	-.31212356 02	-.31212360 02			.40931158-05	
LD	.13344639-05	.92741545-01	.13688563 03	.13688583 03	.13688617 03			-.33378601-03	
STA 5									
RI	.38895115-04	.59771277-01	.63756481 04	.63756481 04	.63756497 04			-.96435547-02	
LA	-.12365362-06	.28335882 19	-.25735023 02	-.25735023 02	-.25734820 02			-.20	

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J MATRIX

	X	Y	Z	DX	DY	DZ	KE	KM	RI01
X	.11050715 06	.17093003 06	.21262290 05	-.17230499 09	-.12433541 09	-.11813024 09	-.31190562 04	.62223082 01	-.44037787 04
Y	.17093003 06	.29585584 06	.25655305 05	-.29233603 09	.21612929 09	-.20012481 09	-.52669484 04	.10669204 02	-.63678407 04
Z	.21262290 05	.25655305 05	.60376813 04	-.25027401 08	.17819690 08	-.17319617 08	-.47953742 03	.91459938 00	.36165117 04
DX	-.17230499 09	-.29233603 09	-.25027401 08	.30758802 18	-.21836356 12	.20983700 12	.53611578 07	-.10634519 05	.22580505 07
DY	-.12433541 09	.21612929 09	.17819690 08	-.21836356 12	.15932553 12	-.14926822 12	-.38848473 07	.78439509 04	-.44729271 07
DZ	-.11813024 09	-.20012481 09	-.17319617 08	.20983700 12	-.14926822 12	.14319034 12	.36660180 07	-.72790137 04	.14804121 07
KE	-.31190562 04	-.52669484 04	-.47953742 03	.53611578 07	-.38848473 07	.36660180 07	.92744462 02	-.19914246 00	.37581841 02
KM	.62223082 01	.10669204 02	.91459938 00	-.10634519 05	.78439509 04	-.72790137 04	-.19914246 00	.40606927 01	-.68070918 02
RI01	-.44037787 04	-.63678407 04	.36165117 04	-.22580505 07	-.44729271 07	-.14804121 07	.37581841 02	-.68070918 02	.70062336 06
LA01	-.41283951 06	-.27320004 04	-.29585584 06	-.3805462 09	-.17803884 08	-.22707844 09	.62320593 03	-.58021606 00	-.92590945 05
LD01	.73123563 06	.47729759 05	.55275235 06	.19679389 05	-.29465374 09	.48596011 09	.20619776 04	.58298819 00	-.42915745 06
RI03	-.17762853 04	-.30486228 04	-.26050668 03	.30374866 07	-.22407206 07	.20789261 07	.57025229 02	-.17809185 00	-.00000000 00
LA03	.13418516 06	.23025808 06	.19679389 05	-.22945958 09	.16926917 09	-.15704743 09	-.43078224 04	.13452490 02	.00000000 00
LD03	.11931119 06	.20477616 06	.17449966 05	-.20402162 09	.15056631 09	-.13963880 09	-.38312868 04	.12066253 02	.00000000 00
RI04	.23957806 01	.10920792 03	.40495563 01	-.26180915 07	.10600824 07	-.14022337 02	-.13750103 02	-.10351077 07	.00000000 00
LA04	.11539854 01	.12958240 02	.18105268 01	-.16089761 04	.10148323 05	-.72233837 04	.15386779 00	.14732506 04	.00000000 00
LD04	.18185574 02	.10213095 03	-.23691824 02	-.28196697 05	.94570887 05	-.28445727 05	-.13259872 01	-.64729203 04	.00000000 00
RI05	-.28491967 01	-.10833692 00	.28615646 01	.14437244 02	.14995310 03	.57977387 02	.18330181 02	.60820500 06	-.69437499 06
LA05	-.24113327 01	.41273256 01	-.3773295 01	-.25639542 03	.10211858 04	-.15707311 05	-.86641152 01	-.11113785 03	.00000000 00
LD05	.12218288 03	.39897387 03	-.72548370 02	-.19393124 06	.35920584 06	-.16198847 06	-.58314746 01	.11968571 02	.00000000 00

	LAC1	LC01	RI03	LA03	LD03	RI04	LAC4	RI05
X	-.41283951 06	.73123563 06	-.17762853 04	.13418516 06	-.11931119 06	.23957806 01	.11539854 01	.18185574 02
Y	-.27320004 04	.47797579 05	-.30486228 04	.23025808 06	.20477616 06	.10920792 03	.12958240 02	.10213095 03
Z	.25655305 05	.55275235 06	-.26050668 03	.19679389 05	-.17449966 05	-.40495563 01	.18105268 01	-.23691824 02
DX	-.3805462 09	.19679389 05	.30374866 07	-.22945958 09	-.20402162 09	-.24180615 02	-.28196697 05	-.14437244 02
DY	-.17803884 08	-.24077206 07	-.16926917 09	.15056631 09	-.10600824 07	.10148323 05	.9470887 05	.14995310 03
DZ	-.11813024 09	.20619776 04	-.20789261 07	-.15704743 09	-.13963880 09	-.14022337 02	-.72233837 04	-.28445727 05
KE	.62223082 01	.10669204 02	.91459938 00	-.10634519 05	.78439509 04	-.72790137 04	-.19914246 00	.40606927 01
KM	-.44037787 04	-.63678407 04	.36165117 04	-.22580505 07	-.44729271 07	-.14804121 07	.37581841 02	-.68070918 02
RI01	-.41283951 06	-.27320004 04	-.29585584 06	-.3805462 09	-.17803884 08	-.22707844 09	.62320593 03	-.58021606 00
LD01	.73123563 06	.47729759 05	.55275235 06	.19679389 05	-.29465374 09	.48596011 09	.20619776 04	.58298819 00
RI03	-.17762853 04	-.30486228 04	-.26050668 03	.30374866 07	-.22407206 07	.20789261 07	.57025229 02	-.17809185 00
LA03	.13418516 06	.23025808 06	.19679389 05	-.22945958 09	.16926917 09	-.15704743 09	-.43078224 04	.13452490 02
LD03	.11931119 06	.20477616 06	.17449966 05	-.20402162 09	.15056631 09	-.13963880 09	-.38312868 04	.12066253 02
RI04	.23957806 01	.10920792 03	.40495563 01	-.26180915 07	.10600824 07	-.14022337 02	-.13750103 02	-.10351077 07
LA04	.11539854 01	.12958240 02	.18105268 01	-.16089761 04	.10148323 05	-.72233837 04	.15386779 00	.14732506 04
LD04	.18185574 02	.10213095 03	-.23691824 02	-.28196697 05	.94570887 05	-.28445727 05	-.13259872 01	-.64729203 04
RI05	-.28491967 01	-.10833692 00	.28615646 01	.14437244 02	.14995310 03	.57977387 02	.18330181 02	.60820500 06
LA05	-.24113327 01	.41273256 01	-.3773295 01	-.25639542 03	.10211858 04	-.15707311 05	-.86641152 01	-.11113785 03
LD05	.12218288 03	.39897387 03	-.72548370 02	-.19393124 06	.35920584 06	-.16198847 06	-.58314746 01	.11968571 02

	LA05	LC05
X	-.24113327 01	.12218288 03
Y	.41273256 01	.39897387 03
Z	-.3773295 01	-.72548370 02
DX	-.25639542 03	-.19393124 06
DY	.10211858 04	.35920584 06
DZ	-.15707311 05	-.86641152 01
KE	-.86641152 01	-.58314746 01
KM	-.11113785 03	.11968571 02
RI01	.00000000 00	.00000000 00
LA01	-.24997499 10	.00000000 00
LD01	.00000000 00	-.24997499 10
RI03	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00
LA04	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00
LA05	-.24997499 10	.00000000 00
LD05	-.31557744 03	.25002671 10

COVARIANCE MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	RI01
X	.27796149 00	.67626337 01	-.51488084 00	.15942605 03	-.24916147 03	-.26198747 03	.11956299 01	-.97240385 02	-.27949103 02
Y	.67626337 01	.11124634 00	-.20480404 00	.12230498 03	-.27954489 03	-.27655375 03	-.31006490 00	-.24300668 01	.20691274 02
Z	-.51488084 00	-.20480404 00	.10433178 01	-.35244945 03	.65463444 03	.65896574 03	.17480056 01	-.16428951 02	-.17994698 02
DX	.15942605 03	.12230498 03	-.35244945 03	.34394591 04	-.34651356 06	-.61190680 06	.27372057 03	.23788277 04	-.43121167 05
DY	-.24916147 03	-.27954489 03	.65463444 03	-.34651356 06	.74467627 06	.75446194 06	.53141265 03	.54711336 04	.12664388 05
DZ	-.26198747 03	-.27655375 03	.65896574 03	-.61190680 06	.75446194 06	.11583041 05	.71529912 04	-.24086958 04	.65868153 05
KE	.11956299 01	-.31006490 00	-.17480056 01	.27372057 03	.53141265 03	.16714530 02	.83311544 00	.70988750 01	.00000000 00
KM	-.97240385 02	.24300668 01	-.16428951 02	.23788277 04	-.54711336 04	-.24086958 04	.63311544 00	.24992497 02	-.20807322 03
RI01	-.27949103 02	.20691274 02	-.17994698 02	-.43121167 05	.12664388 05	.65868153 05	.70988750 01	-.20807322 03	.35725950 02
LA01	.22027013 04	.22688542 05	.43381432 04	.13594987 07	.72579425 07	.63383719 07	.94290247 03	.60232662 05	.16249933 06
LD01	-.10030128 03	.75354588 04	-.70312562 05	-.11839850 06	-.17364451 06	.26390176 07	-.60407443 03	.10897908 04	.29051219 06
RI03	-.79434209 03	.12377294 02	.58155468 03	-.1052706 05	-.26726201 05	.88718039 06	-.40313875 01	.23819464 03	.10607269 04
LA03	.16790113 04	-.25890811 04	-.12393208 04	.22161848 07	.56086621 07	-.18609597 07	.84685364 03	-.49562638 05	-.22263110 06
LD03	.32038298 05	-.21376116 04	.72637802 05	.17982239 07	.49401526 07	-.17267699 07	.66544879 03	-.84657788 05	-.19359915 06
RI04	-.22767140 04	.23177307 04	.18589194 04	-.21859431 07	-.49121654 07	-.59194341 07	.32542644 03	-.72059778 05	.51387839 06
LA04	.11298958 05	-.84959211 07	.19484743 05	.12570825 08	.14119893 09	.21330109 08	-.93246627 05	.24381853 06	.87044977 08
LD04	-.18588851 05	.42521917 05	-.68409058 06	.18135434 08	-.97007243 08	-.72018584 08	-.49769490 04	-.18283105 05	-.77801429 07
RI05	-.27943400 02	.20687169 02	.17990885 02	-.43112331 05	.12661738 05	.65854639 05	.70974638 01	-.20802647 03	.35718803 02
LA05	.22022031 04	-.22618215 05	.43374777 04	-.13589065 07	.72568505 07	.53379141 07	.94271853 03	.60221466 05	.16243141 06
LD05	-.10028588 03	.75343015 04	-.70244452 05	-.11837410 06	-.17361656 06	.26380161 07	-.60402024 03	.10893363 04	.29040035 06

	LA01	LO01	RI03	LA03	LO03	RI04	LA04	LO04	RI05
X	.22927013-04	-1.00361720-03	-.79434209-03	.16790113-04	-.32038298-05	-.22767140-04	.11298558-05	-.18588851-05	-.27943400-02
Y	-.22608542-05	.75354588-04	.12377294-02	-.25990808-04	-.21326116-04	.23177101-04	-.84495211-07	-.65495058-06	-.20687169-02
Z	.43381250-07	-.17364451-06	-.26726201-05	.58154688-03	-.12393208-04	.72634802-05	.18589915-04	-.19484763-05	-.68495058-06
DX	.11594981-07	-.11839850-06	-.10552704-05	.22161848-07	-.17982239-07	.21859431-07	-.12570825-08	.18135434-08	-.43112331-05
DY	.72579425-07	-.17364451-06	-.26726201-05	.58154688-03	-.12393208-04	.72634802-05	.18589915-04	-.19484763-05	-.68495058-06
DZ	.53387319-07	.26390176-07	.88718039-04	-.18409597-07	-.17267699-07	-.59194241-07	.21330109-08	-.72018584-08	.65824629-05
KE	.94290247-03	-.60407443-03	-.40313875-01	.84685364-03	-.32540644-03	.53246627-05	-.49769490-04	.70974638-01	
KM	-.60232662-05	.10897908-04	.27819464-03	.49562638-05	-.84657788-05	-.72020978-05	-.25381853-06	-.18283310-05	-.20802847-03
RI01	-.16249933-06	.29051219-06	.16607269-04	-.27261110-06	-.19359915-06	-.51387839-06	.87044977-08	-.71801429-07	.35718803-02
LA01	.99188177-06	.94933203-08	.24139426-06	-.50514330-08	-.58133779-08	-.13666575-07	-.23225087-09	-.28667761-08	-.16245849-06
LO01	.94983263-08	.37930630-06	-.32393527-06	.67283186-08	.12682119-07	.31267414-07	.70373510-09	.70248520-08	.29044862-06
RI03	.24139426-06	-.32393527-06	.35872756-02	.26745730-06	.19559977-06	.42986450-06	.85054678-08	.97121497-07	.10604899-04
LA03	-.50518330-06	.67283186-08	.26745730-06	.99437735-06	-.40311737-08	-.90462855-08	-.17772186-09	-.20413242-08	-.22258135-06
LO03	-.98133779-08	.12682119-07	.19559977-06	-.40311737-08	.98931439-06	-.52299741-08	-.23092121-09	-.14932847-08	-.19355622-06
RI04	-.13666575-07	.31267414-07	.42986450-06	-.90462855-08	-.55299741-08	.35998471-02	-.26761741-09	-.24093774-07	-.51377565-06
LA04	-.23225087-09	.70373510-09	.85054678-06	-.17772186-09	-.23092121-09	-.26761741-09	.62749869 38	-.42678684-09	.87026730-08
LO04	-.28667761-08	.70245208-08	.97121497-07	-.20413242-08	-.14932847-08	-.24093774-07	-.42678684-09	.99483761-06	-.77786067-07
RI05	-.16245849-06	.29033682-06	.10604899-04	-.22258135-06	-.19355622-06	-.51377565-06	.87026730-08	-.71786667-07	.35726957-02
LA05	.99168321-06	.94965330-08	.24134730-06	-.50508498-08	-.58122873-08	-.13664280-07	-.23218653-09	-.2866512-08	-.16239059-06
LO05	.94333881-08	.77911245-06	-.32374443-06	.67243233-08	.12677682-07	.31263055-07	.70356472-09	.70237422-08	.29033682-06

	LA05	LO05
X	.22022631-04	-.10024588-03
Y	-.22618215-05	.75343015-04
Z	.43374777-04	-.23244452-05
DX	.11594981-07	-.11837410-06
DY	.72568505-07	-.17361656-06
DZ	.53379141-07	.26380161-07
KE	.94271853-03	-.60402024-03
KM	-.60221466-05	.10893363-04
RI01	-.16249933-06	.29044899-06
LA01	.99168321-06	.94933081-08
LO01	.94965330-08	.37911245-06
RI03	.24134730-06	-.32374443-06
LA03	-.50508498-08	.67243233-08
LO03	-.98122873-08	.12677682-07
RI04	-.13666575-07	.31263055-07
LA04	-.23218653-09	.70356472-09
LO04	-.28662512-08	.70237422-08
RI05	-.16239059-06	.29033682-06
LA05	.80292224 37	.94915216-08
LO05	.94915216-08	.94931859-06

CORRELATION MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	RI01
X	.10000000 01	.38457468 00	-.95610616 00	.51561067 00	-.54757865 00	-.46171810 00	.55469899 00	.36893472-02	-.88691841-01
Y	.38457468 00	.99999999 00	-.60115623 00	.62525361 00	-.97110599 00	-.77941614 00	-.22738544 00	-.14573723-01	.10378927 00
Z	-.95610616 00	-.60115623 00	.10000000 01	-.58836044 00	.74264453 00	.59943657 00	-.41858864 00	-.32173381-03	-.29476359-01
DX	.51561067 00	.62525361 00	-.58836044 00	.10000000 01	-.84438691 00	.98948002 00	-.96943657 00	-.11461635 00	-.12019371 00
DY	-.54757865 00	-.97110599 00	.74264453 00	-.84438691 00	.10000000 01	-.81223244 00	.15060616 00	.12680326-01	.24549929-01
DZ	-.46171810 00	-.77941614 00	.59943657 00	-.96943657 00	.81223244 00	.10000000 01	.16256584-01	-.44767808-02	.10239348 00
KE	.55469899 00	-.22738544 00	-.41858864 00	.11461635 00	-.15060616 00	-.16256584-01	.99999999 00	.40761792-01	.29050295 00
KM	.36893472-02	-.14573723-01	-.32173381-03	.11339903-02	.12680326-01	-.44767808-02	.40761792-01	.10000000 01	-.69633698-03
RI01	-.88691841-01	.10378927 00	-.29476359-01	-.12019371 00	.24549929-01	-.10239348 00	.29050295 00	-.69633698-03	.10000000 01
LA01	.41395011-01	-.68062119-02	.42644755-01	.23275743-01	.84438691-01	.49804383-01	.23157936 00	-.12097546-02	-.27297931-02
LO01	-.15224493 00	.22830087 00	-.69560865-02	-.20400548 00	-.20311045 00	.24778311-01	-.14930835 00	.22028202-02	.49114690-02
RI03	-.2515496-01	.61956436-01	.9560452-02	-.30042523-01	-.51702646-01	.13763163-01	-.16463611 00	.79550841-03	.29629839-02
LA03	.3136381-01	-.78145025-01	-.12167457-01	.37895294-01	.65169280-01	-.17340038-01	.20772351 00	-.99420048-03	-.32732383-02
LO03	.61996603-02	-.64283830-01	.71456962-02	.30827019-01	.57548117-01	-.16130803-01	.16364412 00	-.17025306-02	.32564497-02
RI04	-.71973751-03	.11581854-02	.3033824-03	.62122904-03	-.94861287-03	.91869919-03	-.13265903-02	-.24021107-04	-.14329348-03
LA04	.27053953-24	.32155938-25	-.24381302-24	-.27059035-24	-.20492989-25	.25019311-24	.16441393-24	-.61560059-26	.18384228-25
LO04	-.35349570-02	.12781854-01	-.67114740-01	.31003218-02	-.11269016-01	-.67089903-02	-.12205062-01	-.36666874-03	-.13050272-02
RI05	-.88673611-01	.10378927 00	-.29468069-01	-.12298832 00	.24544755-01	.10237232 00	.29044477 00	-.69617949-03	.99979847 00
LA05	.14741046-22	-.23931984-23	.14986223-22	.81772586-23	.29673539-22	.17503444-22	.81176349-22	-.42511825-24	-.95950208-24
LO05	-.19221420 00	.22826437 00	-.69493107-02	-.20396216 00	-.20327646 00	.24768753-01	-.14929402 00	.22018876-02	.49095676-02
LA01		LC01	RI03	LA03	LO03	RI04	LA04	LO04	RI05
X	.41395011-01	-.19224493 00	-.25155496-01	.31936381-01	.61039663-02	-.71973751-03	.27053953-24	-.35349570-02	-.88673611-01
Y	-.68062119-02	.22830087 00	.61958436-01	-.78145025-01	-.64283830-01	.11581854-02	-.32155938-25	.12781854-01	.10378927 00
Z	.42644755-01	-.69560865-02	.9560452-02	-.12167457-01	.71439602-02	.3033824-03	-.24081302-24	-.67147401-03	-.29468069-01
DX	.51561067 00	.62525361 00	-.58836044 00	.10000000 01	.30827019-01	.30827019-01	.62122904-03	-.94861287-03	-.12298832 00
DY	-.54757865 00	-.97110599 00	.74264453 00	-.84438691 00	.10000000 01	.57548117-01	-.16130803-01	-.16463611 00	.24549929-01
DZ	-.46171810 00	-.77941614 00	.59943657 00	-.96943657 00	.81223244 00	.10000000 01	.16256584-01	-.44767808-02	.10239348 00
KE	.55469899 00	-.22738544 00	-.41858864 00	.11461635 00	-.15060616 00	-.16256584-01	.99999999 00	.40761792-01	.29050295 00
KM	.36893472-02	-.14573723-01	-.32173381-03	.11339903-02	.12680326-01	-.44767808-02	.40761792-01	.10000000 01	-.69633698-03
RI01	-.88691841-01	.10378927 00	-.29476359-01	-.12019371 00	.24549929-01	-.10239348 00	.29050295 00	-.69633698-03	.10000000 01
LA01	.41395011-01	-.68062119-02	.42644755-01	.23275743-01	.84438691-01	.49804383-01	.23157936 00	-.12097546-02	-.27297931-02
LO01	-.15224493 00	.22830087 00	-.69560865-02	-.20400548 00	-.20311045 00	.24778311-01	-.14930835 00	.22028202-02	.49114690-02
RI03	-.2515496-01	.61956436-01	.9560452-02	-.30042523-01	-.51702646-01	.13763163-01	-.16463611 00	.79550841-03	.29629839-02
LA03	.3136381-01	-.78145025-01	-.12167457-01	.37895294-01	.65169280-01	-.17340038-01	.20772351 00	-.99420048-03	-.32732383-02
LO03	.61996603-02	-.64283830-01	.71456962-02	.30827019-01	.57548117-01	-.16130803-01	.16364412 00	-.17025306-02	.32564497-02
RI04	-.71973751-03	.11581854-02	.3033824-03	.62122904-03	-.94861287-03	.91869919-03	-.13265903-02	-.24021107-04	-.14329348-03
LA04	.27053953-24	.32155938-25	-.24381302-24	-.27059035-24	-.20492989-25	.25019311-24	.16441393-24	-.61560059-26	.18384228-25
LO04	-.35349570-02	.12781854-01	-.67114740-01	.31003218-02	-.11269016-01	-.67089903-02	-.12205062-01	-.36666874-03	-.13050272-02
RI05	-.88673611-01	.10378927 00	-.29468069-01	-.12298832 00	.24544755-01	.10237232 00	.29044477 00	-.69617949-03	.99979847 00
LA05	.14741046-22	-.23931984-23	.14986223-22	.81772586-23	.29673539-22	.17503444-22	.81176349-22	-.42511825-24	-.95950208-24
LO05	-.19221420 00	.22826437 00	-.69493107-02	-.20396216 00	-.20327646 00	.24768753-01	-.14929402 00	.22018876-02	.49095676-02
LA01		LC01	RI03	LA03	LO03	RI04	LA04	LO04	RI05
X	.41395011-01	-.19224493 00	-.25155496-01	.31936381-01	.61039663-02	-.71973751-03	.27053953-24	-.35349570-02	-.88673611-01
Y	-.68062119-02	.22830087 00	.61958436-01	-.78145025-01	-.64283830-01	.11581854-02	-.32155938-25	.12781854-01	.10378927 00
Z	.42644755-01	-.69560865-02	.9560452-02	-.12167457					

JPL TECHNICAL REPORT NO. 32-563

STATION NUMBER 1 62/01/26						STATION NUMBER 1 62/01/26							
TIME	TC	Q	FRC	CC3		TIME	TC	Q	FRC	CC3			
205721	1	1	8135.0	.68768592	05 .736 00	.4072	212451	1	1	8139.0	.14005968	06 .709 00	-.3223
205731	1	1	8135.0	.70368768	05 .730 00	.2314	212501	1	1	8139.0	.13999986	06 .709 00	-.1367
205741	1	1	8135.0	.72043818	05 .727 00	-.1816	212511	1	1	8139.0	.13994024	06 .709 00	-1.2422
205751	1	1	8135.0	.73793620	05 .723 00	-.3799	212521	1	1	8139.0	.13988082	06 .709 00	1.1836
205811	1	1	8135.0	.77512793	05 .717 00	-.2802	212531	1	1	8139.0	.13982159	06 .709 00	-.5899
205941	1	1	8135.0	.96981488	05 .707 00	-.4883	212541	1	1	8139.0	.13976256	06 .709 00	-.5625
210011	1	1	8135.0	.10378151	06 .705 00	-.5098	212551	1	1	8139.0	.13970374	06 .709 00	-.2637
210021	1	1	8135.0	.10599370	06 .705 00	-.6973	212601	1	1	8139.0	.13964511	06 .709 00	-.8906
210041	1	1	8135.0	.11027796	06 .703 00	-.0352	212611	1	1	8139.0	.13958669	06 .709 00	-.3125
210051	1	1	8135.0	.11233354	06 .703 00	-.4551	212621	1	1	8139.0	.13952847	06 .709 00	-.4707
210111	1	1	8135.0	.11623849	06 .703 00	-.4912	212631	1	1	8139.0	.13947046	06 .709 00	-.4590
210221	1	1	8135.0	.12740287	06 .703 00	-.1289	212641	1	1	8139.0	.13941265	06 .709 00	-.3457
210231	1	1	8135.0	.12867319	06 .703 00	-.8105	212651	1	1	8139.0	.13935505	06 .709 00	-.0547
210241	1	1	8135.0	.12986696	06 .703 00	-.0381	212701	1	1	8139.0	.13929766	06 .709 00	-.6641
210251	1	1	8135.0	.13098691	06 .703 00	-.9141	212711	1	1	8139.0	.13924048	06 .709 00	-.5215
210301	1	1	8135.0	.13203602	06 .703 00	-.0156	212721	1	1	8139.0	.13918350	06 .709 00	-.5059
210321	1	1	8135.0	.13393438	06 .703 00	-.6132	212731	1	1	8139.0	.13912674	06 .709 00	-.7422
210351	1	1	8135.0	.13749020	06 .703 00	-.1953	212741	1	1	8139.0	.13907019	06 .709 00	-.1875
210381	1	1	8135.0	.13958814	06 .703 00	-.1367	212751	1	1	8139.0	.13901384	06 .709 00	-.8438
210391	1	1	8135.0	.13633146	06 .703 00	-.5391	212801	1	1	8139.0	.13895771	06 .709 00	-.2910
210401	1	1	8135.0	.13702333	06 .703 00	-.3281	212811	1	1	8139.0	.13890179	06 .709 00	-.7852
210411	1	1	8135.0	.13766681	06 .703 00	-.1855	212821	1	1	8139.0	.13884607	06 .709 00	-.0742
210451	1	1	8135.0	.13981405	06 .703 00	-.9472	212831	1	1	8139.0	.13879057	06 .709 00	-.5723
210501	1	1	8135.0	.14025729	06 .703 00	-.2949	212841	1	1	8139.0	.13873529	06 .709 00	-.2852
210511	1	1	8135.0	.14064787	06 .703 00	-.1328	212851	1	1	8139.0	.13868020	06 .709 00	-.2051
210751	1	1	8139.0	.14418366	06 .705 00	-.3359	212901	1	1	8139.0	.13862534	06 .709 00	-.3379
210841	1	1	8139.0	.14455275	06 .705 00	-.2461	212911	1	1	8139.0	.13857068	06 .709 00	-.3184
210911	1	1	8139.0	.14467945	06 .705 00	-.4531	212921	1	1	8139.0	.13851624	06 .709 00	-.7637
210941	1	1	8139.0	.14475600	06 .705 00	-.0000	212941	1	1	8139.0	.13846228	06 .709 00	-.0195
211001	1	1	8139.0	.14483989	06 .705 00	-.4523	212951	1	1	8139.0	.13840845	06 .709 00	-.1681
211031	1	1	8139.0	.14476810	06 .705 00	-.0956	213001	1	1	8139.0	.13835056	06 .709 00	-.6605
211051	1	1	8139.0	.14474703	06 .705 00	-.0273	213011	1	1	8139.0	.13829271	06 .709 00	-.1680
211059	1	1	8139.0	.14473475	06 .705 00	-.2500	213021	1	1	8139.0	.13823509	06 .709 00	-.9824
211111	1	1	8139.0	.14471253	06 .705 00	-.4688	213031	1	1	8139.0	.13817761	06 .709 00	-1.0117
211131	1	1	8139.0	.14466612	06 .705 00	-.1504	213041	1	1	8139.0	.13812024	06 .709 00	-.7559
211141	1	1	8139.0	.14463989	06 .705 00	-.0645	213051	1	1	8139.0	.13806306	06 .709 00	-.3125
211201	1	1	8139.0	.14457223	06 .705 00	-1.2344	213101	1	1	8139.0	.13798333	06 .711 00	-.3340
211211	1	1	8139.0	.14450676	06 .705 00	-.2363	213111	1	1	8139.0	.13792404	06 .711 00	1.8046
211231	1	1	8139.0	.14446856	06 .705 00	-.4375	213121	1	1	8139.0	.13787925	06 .711 00	-.7441
211251	1	1	8139.0	.14438660	06 .705 00	1.2031	213131	1	1	8139.0	.13782753	06 .711 00	-.5273
211301	1	1	8139.0	.14434345	06 .705 00	1.5508	213141	1	1	8139.0	.13777600	06 .711 00	-.0039
211311	1	1	8139.0	.14429958	06 .705 00	-.8440	213151	1	1	8139.0	.13772468	06 .711 00	-.3164
211321	1	1	8139.0	.14425228	06 .705 00	-.2949	213201	1	1	8139.0	.13767357	06 .711 00	-.4277
211341	1	1	8139.0	.14420467	06 .705 00	1.3320	213211	1	1	8139.0	.13762266	06 .711 00	-.6602
211341	1	1	8139.0	.14415579	06 .705 00	-.2109	213221	1	1	8139.0	.13757195	06 .711 00	-.9531
211351	1	1	8139.0	.14410573	06 .707 00	-.7305	213231	1	1	8139.0	.13752145	06 .711 00	-.4492
211401	1	1	8139.0	.14405457	06 .707 00	-.4326	213241	1	1	8139.0	.13747115	06 .711 00	-.8535
211411	1	1	8139.0	.14400236	06 .707 00	-.6348	213251	1	1	8139.0	.13742104	06 .711 00	-.9541
211421	1	1	8139.0	.14394919	06 .707 00	-.1934	213301	1	1	8139.0	.13737114	06 .711 00	-.1445
211431	1	1	8139.0	.14389511	06 .707 00	-.8867	213311	1	1	8139.0	.13732144	06 .711 00	-.5566
211441	1	1	8139.0	.14384018	06 .707 00	-.1816	213321	1	1	8139.0	.13727194	06 .711 00	-.0566
211451	1	1	8139.0	.14378445	06 .707 00	-.4551	213331	1	1	8139.0	.13722264	06 .711 00	1.3594
211501	1	1	8139.0	.14372799	06 .707 00	-.0137	213341	1	1	8139.0	.13717352	06 .711 00	1.4680
211511	1	1	8139.0	.14367082	06 .707 00	1.1758	213401	1	1	8139.0	.13712462	06 .711 00	-.5840
211521	1	1	8139.0	.14361301	06 .707 00	-.0156	213411	1	1	8139.0	.13707592	06 .711 00	-.6016
211531	1	1	8139.0	.14355441	06 .707 00	-.6074	213421	1	1	8139.0	.13702740	06 .711 00	-.0762
211541	1	1	8139.0	.14349564	06 .707 00	-.3633	213431	1	1	8139.0	.13697908	06 .711 00	-.0508
211551	1	1	8139.0	.14343615	06 .707 00	-1.1523	213441	1	1	8139.0	.13693095	06 .711 00	-.0196
211601	1	1	8139.0	.14337618	06 .707 00	-.1836	213451	1	1	8139.0	.13688321	06 .711 00	-.7266
211611	1	1	8139.0	.14331577	06 .707 00	-.2266	213501	1	1	8139.0	.13683527	06 .711 00	-.2793
211621	1	1	8139.0	.14325495	06 .707 00	-.0488	213511	1	1	8139.0	.13678772	06 .711 00	-.6387
211631	1	1	8139.0	.14319375	06 .707 00	-.2400	213521	1	1	8139.0	.13674036	06 .711 00	-1.1914
211641	1	1	8139.0	.14313221	06 .707 00	-.7930	213531	1	1	8139.0	.13669319	06 .711 00	-.2070
211651	1	1	8139.0	.14307034	06 .707 00	-.4563	213541	1	1	8139.0	.13664621	06 .711 00	-.4141
211701	1	1	8139.0	.14300819	06 .707 00	-.1914	213551	1	1	8139.0	.13659941	06 .711 00	-.1934
211711	1	1	8139.0	.14294578	06 .707 00	-.2227	213621	1	1	8139.0	.13655281	06 .711 00	-.0996
211721	1	1	8139.0	.14288313	06 .707 00	-.1270	213631	1	1	8139.0	.13650630	06 .711 00	-.2344
211729	1	1	8139.0	.14282026	06 .707 00	1.5213	213641	1	1	8139.0	.13646036	06 .711 00	-1.5547
211731	1	1	8139.0	.14275720	06 .707 00	-.7402	213651	1	1	8139.0	.13641495	06 .711 00	-1.0508
211741	1	1	8139.0	.14269398	06 .707 00	-.2031	213701	1	1	8139.0	.13636906	06 .711 00	-.7305
211751	1	1	8139.0	.14263059	06 .707 00	-.9785	213711	1	1	8139.0	.13632370	06 .711 00	-.4102
211801	1	1	8139.0	.14256700	06 .707 00	-.3965	213721	1	1	8139.0	.13627885	06 .711 00	-.3691
211811	1	1	8139.0	.14250310	06 .707 00	-1.0977	213731	1	1	8139.0	.13623456	06 .711 00	-1.504
211821	1	1	8139.0	.14243888	06 .707 00	-.5156	213741	1	1	8139.0	.13619082	06 .711 00	-.2461
211831	1	1	8139.0	.14237437	06 .707 00	-.2246	213751	1	1	8139.0	.13614762	06 .711 00	1.1797
211841	1	1	8139.0	.14230959	06 .707 00	-.9922	213801	1	1	8139.0	.13610495	06 .711 00	-.5644
211851	1	1	8139.0	.14224444	06 .707 00	-.1465	213811	1	1	8139.0	.13606281	06 .711 00	-.4922
211901	1	1	8139.0	.14217895	06 .707 00	-.2659	213821	1	1	8139.0	.13602119	06 .711 00	-.4082
211921	1	1	8139.0	.14211209	06 .707 00	-1.3945	213831	1	1	8139.0	.13598006	06 .711 00	-1.1667
211931	1	1	8139.0	.14204584	06 .707 00	-.3508	213841	1	1	8139.0	.13593942	06 .711 00	-.9238
211951	1	1	8139.0	.14197920	06 .707 00	1.4023	213901	1	1	8139.0	.13589927	06 .711 00	-.7129
212001	1	1	8139.0	.14191217	06 .707 00	-.2871	213911	1	1	8139.0	.13585961	06 .711 00	-.3301
212011	1	1	8139.0	.14184467	06 .707 00	1.1328							

STATION NUMBER 1 62/01/26					STATION NUMBER 1 62/01/26						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
214361	1	1	8139.0	.13455765 C6 .711 00	.3535	220241	1	1	8139.0	.13093080 C6 .713 00	.1953
214361	1	1	8139.0	.13451902 C6 .711 00	.9805	220251	1	1	8139.0	.13090467 C6 .713 00	.3252
214401	1	1	8139.0	.13448054 C6 .711 00	.4629	220301	1	1	8139.0	.13087863 C6 .713 00	1.3750
214411	1	1	8139.0	.13444220 C6 .711 00	-.2012	220311	1	1	8139.0	.13085266 C6 .713 00	-.6582
214421	1	1	8139.0	.13440401 C6 .711 00	-.9922	220321	1	1	8139.0	.13082666 C6 .713 00	1.0430
214431	1	1	8139.0	.13436596 C6 .711 00	-.9590	220351	1	1	8139.0	.13079457 C6 .713 00	-.4762
214441	1	1	8139.0	.13432805 C6 .711 00	-.0527	220421	1	1	8139.0	.13076308 C6 .713 00	-.0850
214451	1	1	8139.0	.13429029 C6 .711 00	-1.2891	220431	1	1	8139.0	.13073108 C6 .713 00	-.7422
214501	1	1	8139.0	.13425267 C6 .711 00	.3320	220441	1	1	8139.0	.13069948 C6 .713 00	.5234
214511	1	1	8139.0	.13421518 C6 .711 00	.8164	220451	1	1	8139.0	.13066729 C6 .713 00	-1.2891
214521	1	1	8139.0	.13417784 C6 .711 00	-.8818	220501	1	1	8139.0	.13063527 C6 .713 00	.8242
214531	1	1	8139.0	.13414063 C6 .711 00	.3633	220511	1	1	8139.0	.13060311 C6 .713 00	-.1396
214541	1	1	8139.0	.13410357 C6 .711 00	-.5723	220521	1	1	8139.0	.13057108 C6 .713 00	-.1777
214551	1	1	8139.0	.13406664 C6 .711 00	-.6426	220531	1	1	8139.0	.13053929 C6 .713 00	-.2900
214601	1	1	8139.0	.13402985 C6 .711 00	-.8516	220541	1	1	8139.0	.13050748 C6 .713 00	-1.4766
214611	1	1	8139.0	.13399319 C6 .711 00	-.1953	220551	1	1	8139.0	.13047574 C6 .713 00	-.7402
214621	1	1	8139.0	.13395667 C6 .711 00	-.6738	220601	1	1	8139.0	.13044406 C6 .713 00	-.0742
214631	1	1	8139.0	.13392046 C6 .711 00	.9648	220611	1	1	8139.0	.13041248 C6 .713 00	.5156
214651	1	1	8139.0	.13388471 C6 .711 00	1.0859	220621	1	1	8139.0	.13038098 C6 .713 00	1.0352
214701	1	1	8139.0	.13384893 C6 .711 00	-.0703	220631	1	1	8139.0	.13034952 C6 .713 00	.4795
214721	1	1	8139.0	.13381325 C6 .711 00	-.3496	220641	1	1	8139.0	.13031815 C6 .713 00	-.1475
214731	1	1	8139.0	.13377766 C6 .711 00	-.7959	220651	1	1	8139.0	.13028685 C6 .713 00	-.8477
214741	1	1	8139.0	.13374218 C6 .711 00	-.7026	220701	1	1	8139.0	.13025562 C6 .713 00	-.6151
214751	1	1	8139.0	.13370679 C6 .711 00	-.0449	220711	1	1	8139.0	.13022446 C6 .713 00	.5391
214801	1	1	8139.0	.13367154 C6 .711 00	.2539	220721	1	1	8139.0	.13019337 C6 .713 00	.6270
214811	1	1	8139.0	.13363646 C6 .711 00	-.6660	220731	1	1	8139.0	.13016236 C6 .713 00	-1.3594
214821	1	1	8139.0	.13360151 C6 .711 00	.2871	220741	1	1	8139.0	.13013141 C6 .713 00	-.4150
214831	1	1	8139.0	.13356672 C6 .711 00	-.8848	220751	1	1	8139.0	.13010054 C6 .713 00	-.4600
214841	1	1	8139.0	.13353218 C6 .711 00	-1.1836	220801	1	1	8139.0	.13006974 C6 .713 00	.2637
214851	1	1	8139.0	.13349786 C6 .711 00	-.3955	220811	1	1	8139.0	.13003900 C6 .713 00	-.0000
214901	1	1	8139.0	.13346375 C6 .711 00	.8496	220821	1	1	8139.0	.13000833 C6 .713 00	-.3340
214911	1	1	8139.0	.13342982 C6 .711 00	-.8203	220831	1	1	8139.0	.13000174 C6 .713 00	.2627
214921	1	1	8139.0	.13339611 C6 .711 00	-.6133	220841	1	1	8139.0	.13000321 C6 .713 00	.7910
214931	1	1	8139.0	.13336273 C6 .711 00	.4727	220851	1	1	8139.0	.13000475 C6 .713 00	-.2524
214941	1	1	8139.0	.13332956 C6 .711 00	-1.5825	220901	1	1	8139.0	.12997435 C6 .713 00	.3545
214951	1	1	8139.0	.13329667 C6 .711 00	-.2813	220911	1	1	8139.0	.12994403 C6 .713 00	-1.0313
215001	1	1	8139.0	.13326405 C6 .711 00	.0059	220921	1	1	8139.0	.12991377 C6 .713 00	-.7715
215011	1	1	8139.0	.13323169 C6 .711 00	.6094	220931	1	1	8139.0	.12988358 C6 .713 00	.4189
215021	1	1	8139.0	.13319950 C6 .711 00	.0957	220941	1	1	8139.0	.12985346 C6 .713 00	.5430
215031	1	1	8139.0	.13316758 C6 .711 00	.4629	220951	1	1	8139.0	.12982340 C6 .713 00	-.4014
215041	1	1	8139.0	.13313592 C6 .711 00	-.7149	221001	1	1	8139.0	.12979340 C6 .713 00	.5918
215051	1	1	8139.0	.13310451 C6 .711 00	-1.1563	221011	1	1	8139.0	.12976346 C6 .713 00	-.4814
215101	1	1	8139.0	.13307335 C6 .711 00	-.8594	221021	1	1	8139.0	.12973358 C6 .713 00	-.3779
215111	1	1	8139.0	.13304244 C6 .711 00	-.2402	221031	1	1	8139.0	.12970376 C6 .713 00	-.1738
215121	1	1	8139.0	.13301178 C6 .711 00	-.4531	221041	1	1	8139.0	.12967400 C6 .713 00	-.0957
215131	1	1	8139.0	.13298128 C6 .711 00	.2168	221051	1	1	8139.0	.12964430 C6 .713 00	-.4307
215141	1	1	8139.0	.13295094 C6 .711 00	-.2246	221101	1	1	8139.0	.12961466 C6 .713 00	-.1199
215151	1	1	8139.0	.13292076 C6 .711 00	-.7813	221111	1	1	8139.0	.12958508 C6 .713 00	-.2920
215201	1	1	8139.0	.13289074 C6 .711 00	-.4492	221121	1	1	8139.0	.12955556 C6 .713 00	-.1816
215211	1	1	8139.0	.13286087 C6 .711 00	-.2305	221131	1	1	8139.0	.12952610 C6 .713 00	.5918
215221	1	1	8139.0	.13283116 C6 .711 00	-.1230	221141	1	1	8139.0	.12949670 C6 .713 00	-.0605
215231	1	1	8139.0	.13280160 C6 .711 00	-.1256	221151	1	1	8139.0	.12946736 C6 .713 00	1.2227
215241	1	1	8139.0	.13277220 C6 .711 00	-1.2382	221201	1	1	8139.0	.12943808 C6 .713 00	-.5566
215251	1	1	8139.0	.13274296 C6 .711 00	-.4609	221211	1	1	8139.0	.12940886 C6 .713 00	.6055
215301	1	1	8139.0	.13271387 C6 .711 00	.7656	221221	1	1	8139.0	.12937970 C6 .713 00	.7012
215311	1	1	8139.0	.13268494 C6 .711 00	.2168	221231	1	1	8139.0	.12935059 C6 .713 00	-1.2656
215321	1	1	8139.0	.13265616 C6 .711 00	.5625	221241	1	1	8139.0	.12932153 C6 .713 00	-.2910
215331	1	1	8139.0	.13262753 C6 .711 00	-1.2031	221251	1	1	8139.0	.12929252 C6 .713 00	.6230
215341	1	1	8139.0	.13259905 C6 .711 00	-.0703	221301	1	1	8139.0	.12926356 C6 .713 00	-.5254
215401	1	1	8139.0	.13257072 C6 .711 00	.9551	221311	1	1	8139.0	.12923464 C6 .713 00	-.2444
215411	1	1	8139.0	.13254254 C6 .711 00	-.1250	221321	1	1	8139.0	.12920576 C6 .713 00	.9961
215431	1	1	8139.0	.13251451 C6 .711 00	-.5977	221331	1	1	8139.0	.12917692 C6 .713 00	.6660
215441	1	1	8139.0	.13248673 C6 .711 00	.0098	221341	1	1	8139.0	.12914812 C6 .713 00	-.7246
215451	1	1	8139.0	.13245919 C6 .711 00	-.4863	221351	1	1	8139.0	.12911946 C6 .713 00	-.1738
215501	1	1	8139.0	.13243180 C6 .711 00	.9180	221411	1	1	8139.0	.12909094 C6 .713 00	-.2450
215521	1	1	8139.0	.13240456 C6 .711 00	.4160	221421	1	1	8139.0	.12906246 C6 .713 00	-.1240
215531	1	1	8139.0	.13237747 C6 .711 00	-.4863	221431	1	1	8139.0	.12903402 C6 .713 00	.4385
215541	1	1	8139.0	.13235053 C6 .711 00	-.4492	221441	1	1	8139.0	.12900562 C6 .713 00	.6953
215601	1	1	8139.0	.13232375 C6 .711 00	.2079	221451	1	1	8139.0	.12897726 C6 .713 00	.8945
215611	1	1	8139.0	.13229712 C6 .711 00	.9063	221501	1	1	8139.0	.12894894 C6 .713 00	1.0352
215621	1	1	8139.0	.13227064 C6 .711 00	.5078	221521	1	1	8139.0	.12892066 C6 .713 00	-.1526
215641	1	1	8139.0	.13224331 C6 .711 00	.4130	221541	1	1	8139.0	.12889242 C6 .713 00	-.0526
215651	1	1	8139.0	.13221613 C6 .711 00	-.2715	221551	1	1	8139.0	.12886422 C6 .713 00	-.1221
215701	1	1	8139.0	.13218910 C6 .711 00	-.0546	221601	1	1	8139.0	.12883606 C6 .713 00	-.3232
215711	1	1	8139.0	.13216222 C6 .711 00	.0566	221611	1	1	8139.0	.12880794 C6 .713 00	-.5820
215721	1	1	8139.0	.13213549 C6 .711 00	.0801	221621	1	1	8139.0	.12877986 C6 .713 00	1.0955
215731	1	1	8139.0	.13210891 C6 .711 00	1.0078	221641	1	1	8139.0	.12875182 C6 .713 00	.3173
215741	1	1	8139.0	.13208248 C6 .711 00	-.1602	221651	1	1	8139.0	.12872382 C6 .713 00	-.1670
215751	1	1	8139.0	.13205620 C6 .711 00	-.6219	221701	1	1	8139.0	.12869586 C6 .713 00	-.7031
215801	1	1	8139.0	.13203007 C6 .711 00	-.2227	221711	1	1	8139.0	.12866794 C6 .713 00	.7090
215811	1	1	8139.0	.13200409 C6 .711 00	-1.2266	221721	1	1	8139.0	.12864006 C6 .713 00	.0645
215821	1	1	8139.0	.13197826 C6 .711 00	1.2344	221741	1	1	8139.0	.12861222 C6 .713 00	-.3848
215831	1	1	8139.0	.13195258 C6 .711 00	-.3965	221751	1	1	8139.0	.12858442 C6 .713 00	-1.1914
215841	1	1	8139.0	.13192705 C6 .711 00	-2.1250	221801	1	1	8139.0	.12855666 C6 .713 00	-1.0508
215851	1	1	8139.0	.13190167 C6 .711 00	-.2120	221811	1	1	8139.0	.12852894 C6 .713 00	.0361
215901	1	1	8139.0	.13187644 C6 .711 00	-.0645	221821	1	1	8139.0	.12850126 C6 .713 00	-.0703
215911	1	1	8139.0	.13185136 C6 .711 00	-.8418	221831	1	1	8139.0	.12847362 C6 .713 00	.0508
215921	1	1	8139.0	.13182642 C6 .711 00	-.1621	221841	1	1	8139.0	.12844602 C6 .713 00	.9805
215931	1	1	8139.0	.13180163 C6 .711 00	-.0781	221851	1	1	8139.0	.12841846 C6 .713 00	-.1536</

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STATION NUMBER 1 62701/26						STATION NUMBER 1 62701/26							
TIME	TC	Q	FRC	CC3		TIME	TC	Q	FRC	CC3			
222231	1	1	8139.0	.12829672	06 .711 00	.2822	224521	1	1	8139.0	.12610712	06 .711 00	.8809
222241	1	1	8139.0	.12827759	06 .711 00	-.9922	224531	1	1	8139.0	.12609350	06 .711 00	.5039
222301	1	1	8139.0	.12824068	06 .711 00	.3203	224541	1	1	8139.0	.12607991	06 .711 00	.0938
222311	1	1	8139.0	.12822209	06 .711 00	-1.0938	224551	1	1	8139.0	.12606634	06 .711 00	.6392
222321	1	1	8139.0	.12820356	06 .711 00	-.4434	224611	1	1	8139.0	.12605276	06 .711 00	.1758
222331	1	1	8139.0	.12818507	06 .711 00	-.0664	224621	1	1	8139.0	.12603918	06 .711 00	-1.3750
222341	1	1	8139.0	.12816662	06 .711 00	-.3779	224631	1	1	8139.0	.12602560	06 .711 00	.4355
222351	1	1	8139.0	.12814822	06 .711 00	-.2236	224641	1	1	8139.0	.12601202	06 .711 00	-.2012
222401	1	1	8139.0	.12812987	06 .711 00	-.1279	224701	1	1	8139.0	.12599844	06 .711 00	-.8672
222411	1	1	8139.0	.12811157	06 .711 00	-.5664	224711	1	1	8139.0	.12598486	06 .711 00	.4414
222421	1	1	8139.0	.12809331	06 .711 00	-.3066	224721	1	1	8139.0	.12597128	06 .711 00	-.2783
222431	1	1	8139.0	.12807509	06 .711 00	-.0928	224731	1	1	8139.0	.12595770	06 .711 00	-.0283
222441	1	1	8139.0	.12805692	06 .711 00	1.0781	224741	1	1	8139.0	.12594412	06 .711 00	-.1963
222451	1	1	8139.0	.12803880	06 .711 00	1.1992	224751	1	1	8139.0	.12593054	06 .711 00	.3926
222501	1	1	8139.0	.12802072	06 .711 00	.2773	224811	1	1	8139.0	.12591696	06 .711 00	.5605
222511	1	1	8139.0	.12800269	06 .711 00	-.3096	224821	1	1	8139.0	.12590338	06 .711 00	.7012
222541	1	1	8139.0	.12798486	06 .711 00	-.1416	224831	1	1	8139.0	.12588980	06 .709 00	.8145
222551	1	1	8139.0	.12796710	06 .711 00	-.0649	224841	1	1	8139.0	.12587622	06 .709 00	-1.1016
222601	1	1	8139.0	.12794958	06 .711 00	-.1943	224851	1	1	8139.0	.12586264	06 .709 00	-1.0430
222611	1	1	8139.0	.12793239	06 .711 00	-.3896	224911	1	1	8139.0	.12584906	06 .709 00	-.0107
222621	1	1	8139.0	.12791548	06 .711 00	-.2031	224921	1	1	8139.0	.12583548	06 .709 00	-.0068
222631	1	1	8139.0	.12789894	06 .711 00	-.7422	224931	1	1	8139.0	.12582190	06 .709 00	-.9727
222641	1	1	8139.0	.12788278	06 .711 00	-.2773	224941	1	1	8139.0	.12580832	06 .709 00	-1.0781
222651	1	1	8139.0	.12786698	06 .711 00	-.8574	224951	1	1	8139.0	.12579474	06 .709 00	-.1563
222701	1	1	8139.0	.12785077	06 .711 00	-.5234	225011	1	1	8139.0	.12578116	06 .709 00	.7402
222711	1	1	8139.0	.12783499	06 .711 00	-.1533	225021	1	1	8139.0	.12576758	06 .709 00	.4531
222721	1	1	8139.0	.12781959	06 .711 00	.4053	225031	1	1	8139.0	.12575400	06 .709 00	-.9395
222731	1	1	8139.0	.12780459	06 .711 00	-.6152	225041	1	1	8139.0	.12574042	06 .709 00	-1.1758
222741	1	1	8139.0	.12778994	06 .711 00	-.2158	225051	1	1	8139.0	.12572684	06 .709 00	-.4385
222751	1	1	8139.0	.12777578	06 .711 00	-.0879	225101	1	1	8139.0	.12571326	06 .709 00	.2734
222801	1	1	8139.0	.12776215	06 .711 00	-.0020	225111	1	1	8139.0	.12569968	06 .709 00	-.0410
222811	1	1	8139.0	.12774900	06 .711 00	1.0430	225121	1	1	8139.0	.12568610	06 .709 00	-.6191
222821	1	1	8139.0	.12773637	06 .711 00	.0459	225131	1	1	8139.0	.12567252	06 .709 00	.2510
222831	1	1	8139.0	.12772430	06 .711 00	-.0088	225141	1	1	8139.0	.12565894	06 .709 00	-.1416
222841	1	1	8139.0	.12771282	06 .711 00	-.0884	225151	1	1	8139.0	.12564536	06 .709 00	-.4404
222851	1	1	8139.0	.12770190	06 .711 00	-.8125	225201	1	1	8139.0	.12563178	06 .709 00	-.0039
222901	1	1	8139.0	.12769158	06 .711 00	-.4229	225211	1	1	8139.0	.12561820	06 .709 00	.5273
222911	1	1	8139.0	.12768182	06 .711 00	-.0547	225221	1	1	8139.0	.12560462	06 .709 00	3.0513
222921	1	1	8139.0	.12767267	06 .711 00	-.4307	225231	1	1	8146.0	.12559104	06 .709 00	.5725
222931	1	1	8139.0	.12766417	06 .711 00	-.7188	225241	1	1	8146.0	.12557746	06 .709 00	-.8496
222941	1	1	8139.0	.12765637	06 .711 00	-.6504	225251	1	1	8146.0	.12556388	06 .709 00	.4287
222951	1	1	8139.0	.12764922	06 .711 00	-.2695	225301	1	1	8146.0	.12555030	06 .709 00	.6836
223001	1	1	8139.0	.12764277	06 .711 00	-.4785	225311	1	1	8146.0	.12553672	06 .709 00	-.0889
223011	1	1	8139.0	.12763697	06 .711 00	-.2637	225321	1	1	8146.0	.12552314	06 .709 00	-.2949
223021	1	1	8139.0	.12763177	06 .711 00	-.0869	225331	1	1	8146.0	.12550956	06 .709 00	.4502
223031	1	1	8139.0	.12762712	06 .711 00	-.1523	225341	1	1	8146.0	.12549598	06 .709 00	-.5801
223041	1	1	8139.0	.12762307	06 .711 00	-.2314	225351	1	1	8146.0	.12548240	06 .709 00	-.3135
223051	1	1	8139.0	.12761957	06 .711 00	-.1826	225401	1	1	8146.0	.12546882	06 .709 00	-.2334
223101	1	1	8139.0	.12761667	06 .711 00	-.0977	225411	1	1	8146.0	.12545524	06 .709 00	-.8848
223111	1	1	8139.0	.12761432	06 .711 00	-.0244	225421	1	1	8146.0	.12544166	06 .709 00	-.7949
223121	1	1	8139.0	.12761252	06 .711 00	-.4766	225431	1	1	8146.0	.12542808	06 .709 00	-.1406
223131	1	1	8139.0	.12761132	06 .711 00	-.0996	225441	1	1	8146.0	.12541450	06 .709 00	-.1465
223141	1	1	8139.0	.12761067	06 .711 00	-.3115	225451	1	1	8146.0	.12540092	06 .709 00	-.1846
223151	1	1	8139.0	.12761052	06 .711 00	-.2441	225501	1	1	8146.0	.12538734	06 .709 00	-.1246
223161	1	1	8139.0	.12761092	06 .711 00	1.2383	225511	1	1	8146.0	.12537376	06 .709 00	-.4453
223171	1	1	8139.0	.12761192	06 .711 00	-.3174	225521	1	1	8146.0	.12536018	06 .709 00	-.5762
223181	1	1	8139.0	.12761357	06 .711 00	-.0938	225531	1	1	8146.0	.12534660	06 .709 00	-.2656
223191	1	1	8139.0	.12761582	06 .711 00	.4688	225541	1	1	8146.0	.12533302	06 .709 00	-.1808
223201	1	1	8139.0	.12761872	06 .711 00	-.8105	225551	1	1	8146.0	.12531944	06 .709 00	-.1318
223211	1	1	8139.0	.12762232	06 .711 00	-.1152	225601	1	1	8146.0	.12530586	06 .709 00	-.1846
223221	1	1	8139.0	.12762657	06 .711 00	-.3279	225611	1	1	8146.0	.12529228	06 .709 00	-.2461
223231	1	1	8139.0	.12763152	06 .711 00	-.8242	225621	1	1	8146.0	.12527870	06 .709 00	-.4453
223241	1	1	8139.0	.12763722	06 .711 00	-.9922	225631	1	1	8146.0	.12526512	06 .709 00	-.2656
223251	1	1	8139.0	.12764372	06 .711 00	-.1250	225641	1	1	8146.0	.12525154	06 .709 00	-.1089
223261	1	1	8139.0	.12765097	06 .711 00	-.2246	225651	1	1	8146.0	.12523796	06 .709 00	-.1182
223271	1	1	8139.0	.12765892	06 .711 00	-.3193	225701	1	1	8146.0	.12522438	06 .709 00	-.2347
223281	1	1	8139.0	.12766762	06 .711 00	-.2932	225711	1	1	8146.0	.12521080	06 .709 00	-.4043
223291	1	1	8139.0	.12767712	06 .711 00	-.2246	225721	1	1	8146.0	.12519722	06 .709 00	-.1289
223301	1	1	8139.0	.12768737	06 .711 00	-.3193	225731	1	1	8146.0	.12518364	06 .709 00	-.1680
223311	1	1	8139.0	.12769832	06 .711 00	-.2139	225741	1	1	8146.0	.12517006	06 .709 00	-.5137
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223331	1	1	8139.0	.12772222	06 .711 00	-.2932	225801	1	1	8146.0	.12514290	06 .709 00	-.1352
223341	1	1	8139.0	.12773527	06 .711 00	-.1113	225811	1	1	8146.0	.12512932	06 .709 00	-.0029
223351	1	1	8139.0	.12774902	06 .711 00	-.0244	225821	1	1	8146.0	.12511574	06 .709 00	-.5703
223361	1	1	8139.0	.12776347	06 .711 00	-.8066	225831	1	1	8146.0	.12510216	06 .709 00	-.8887
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223381	1	1	8139.0	.12779437	06 .711 00	-.9004	225851	1	1	8146.0	.12507500	06 .709 00	-.8711
223391	1	1	8139.0	.12781082	06 .711 00	-.8008	225901	1	1	8146.0	.12506142	06 .709 00	-.1394
223401	1	1	8139.0	.12782797	06 .711 00	-.5332	225911	1	1	8146.0	.12504784	06 .709 00	-.0576
223411	1	1	8139.0	.12784582	06 .711 00	-.1016	225921	1	1	8146.0	.12503426	06 .709 00	-.5117
223421	1	1	8139.0	.12786432	06 .711 00	-.2979	225931	1	1	8146.0	.12502068	06 .709 00	-.1045
223431	1	1	8139.0	.12788352	06 .711 00	-.2725	225941	1	1	8146.0	.12500710	06 .709 00	-.2832
223441	1	1	8139.0	.12790337	06 .711 00	-.3154	225951	1	1	8146.0			

STATION NUMBER 1 62/01/26					STATION NUMBER 1 62/01/26						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
230521	1	1	8146.0	12465644 06 .709 00	-4424	232631	1	1	8146.0	12344225 06 .707 00	7480
230531	1	1	8146.0	12464574 06 .709 00	2637	232641	1	1	8146.0	12343374 06 .707 00	-7383
230541	1	1	8146.0	12463505 06 .709 00	-0698	232651	1	1	8146.0	12342524 06 .707 00	-2283
230551	1	1	8146.0	12462438 06 .709 00	-3828	232701	1	1	8146.0	12341675 06 .707 00	-2480
230601	1	1	8146.0	12461374 06 .709 00	12656	232711	1	1	8146.0	12340828 06 .707 00	-2861
230611	1	1	8146.0	12460311 06 .709 00	-1104	232721	1	1	8146.0	12339982 06 .707 00	11758
230621	1	1	8146.0	12459252 06 .709 00	4961	232731	1	1	8146.0	12339138 06 .707 00	6191
230631	1	1	8146.0	12458192 06 .709 00	-9180	232741	1	1	8146.0	12338295 06 .707 00	-9951
230641	1	1	8146.0	12457135 06 .709 00	-3516	232751	1	1	8146.0	12337454 06 .707 00	-5430
230651	1	1	8146.0	12456080 06 .709 00	-1943	232801	1	1	8146.0	12336616 06 .707 00	2412
230701	1	1	8146.0	12455029 06 .709 00	-7793	232811	1	1	8146.0	12335776 06 .707 00	-6133
230711	1	1	8146.0	12453981 06 .709 00	12266	232821	1	1	8146.0	12334939 06 .707 00	-0322
230721	1	1	8146.0	12452928 06 .709 00	-2892	232831	1	1	8146.0	12334103 06 .707 00	13086
230731	1	1	8146.0	12451882 06 .709 00	1826	232841	1	1	8146.0	12333269 06 .707 00	6348
230741	1	1	8146.0	12450837 06 .709 00	6309	232851	1	1	8146.0	12332436 06 .707 00	-0578
230811	1	1	8146.0	12449774 06 .709 00	-1436	232901	1	1	8146.0	12331605 06 .707 00	-1982
230821	1	1	8146.0	12448717 06 .709 00	2256	232911	1	1	8146.0	12330770 06 .707 00	2998
230831	1	1	8146.0	12447662 06 .709 00	4781	232921	1	1	8146.0	12329947 06 .707 00	-14727
230841	1	1	8146.0	12446609 06 .709 00	-0918	232951	1	1	8146.0	12329126 06 .707 00	7422
230851	1	1	8146.0	12445558 06 .709 00	-7813	233001	1	1	8146.0	12328306 06 .707 00	-0579
230901	1	1	8146.0	12444509 06 .709 00	9137	233011	1	1	8146.0	12327486 06 .707 00	1279
230911	1	1	8146.0	12443462 06 .709 00	-2129	233021	1	1	8146.0	12326667 06 .707 00	14609
230921	1	1	8146.0	12442416 06 .709 00	9410	233051	1	1	8146.0	12325854 06 .707 00	-13984
230931	1	1	8146.0	12441372 06 .709 00	2764	233101	1	1	8146.0	12325047 06 .707 00	-2666
230951	1	1	8146.0	12439421 06 .709 00	6914	233111	1	1	8146.0	12324246 06 .707 00	-11484
231001	1	1	8146.0	12438473 06 .709 00	-1299	233121	1	1	8146.0	12323449 06 .707 00	-0659
231011	1	1	8146.0	12437528 06 .709 00	-9707	233131	1	1	8146.0	12322654 06 .707 00	-8789
231021	1	1	8146.0	12436586 06 .709 00	1769	233141	1	1	8146.0	12321868 06 .707 00	2314
231041	1	1	8146.0	12435646 06 .709 00	-6935	233221	1	1	8146.0	12321087 06 .707 00	2666
231051	1	1	8146.0	12434708 06 .709 00	4824	233241	1	1	8146.0	12320310 06 .707 00	2959
231101	1	1	8146.0	12433773 06 .709 00	-4502	233311	1	1	8146.0	12319536 06 .707 00	-2393
231111	1	1	8146.0	12432840 06 .709 00	-4023	233321	1	1	8146.0	12318766 06 .707 00	1934
231131	1	1	8146.0	12431909 06 .709 00	-13633	233331	1	1	8146.0	12318000 06 .707 00	0665
231151	1	1	8146.0	12430980 06 .709 00	-3945	233341	1	1	8146.0	12317246 06 .707 00	9766
231201	1	1	8146.0	12430053 06 .709 00	-4325	233401	1	1	8146.0	12316496 06 .707 00	-1230
231211	1	1	8146.0	12429129 06 .709 00	-4189	233411	1	1	8146.0	12315750 06 .707 00	-2354
231221	1	1	8146.0	12428208 06 .709 00	3203	233421	1	1	8146.0	12315006 06 .707 00	-3613
231241	1	1	8146.0	12427289 06 .709 00	-7909	233431	1	1	8146.0	12314264 06 .707 00	7000
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231301	1	1	8146.0	12425457 06 .709 00	-10820	233451	1	1	8146.0	12312786 06 .707 00	1826
231311	1	1	8146.0	12424544 06 .709 00	7451	233511	1	1	8146.0	12312050 06 .707 00	-1875
231321	1	1	8146.0	12423633 06 .709 00	-7024	233521	1	1	8146.0	12311316 06 .707 00	-3916
231331	1	1	8146.0	12422724 06 .709 00	3506	233531	1	1	8146.0	12310584 06 .707 00	3906
231341	1	1	8146.0	12421817 06 .709 00	1270	233541	1	1	8146.0	12309854 06 .707 00	-8398
231351	1	1	8146.0	12420912 06 .709 00	-1152	233601	1	1	8146.0	12309126 06 .707 00	0830
231421	1	1	8146.0	12420009 06 .709 00	0527	233611	1	1	8146.0	12308400 06 .707 00	6621
231431	1	1	8146.0	12419108 06 .709 00	-2598	233621	1	1	8146.0	12307676 06 .707 00	-6674
231441	1	1	8146.0	12418209 06 .709 00	5898	233631	1	1	8146.0	12306954 06 .707 00	1104
231451	1	1	8146.0	12417312 06 .709 00	10625	233641	1	1	8146.0	12306234 06 .707 00	-1855
231501	1	1	8146.0	12416417 06 .709 00	6973	233651	1	1	8146.0	12305516 06 .707 00	-4932
231511	1	1	8146.0	12415524 06 .709 00	3154	233701	1	1	8146.0	12304800 06 .707 00	8165
231521	1	1	8146.0	12414633 06 .709 00	-0890	233711	1	1	8146.0	12304086 06 .707 00	-1465
231531	1	1	8146.0	12413744 06 .709 00	4980	233721	1	1	8146.0	12303374 06 .707 00	-4932
231541	1	1	8146.0	12412857 06 .709 00	10625	233731	1	1	8146.0	12302664 06 .707 00	1773
231551	1	1	8146.0	12411972 06 .709 00	-13867	233741	1	1	8146.0	12301956 06 .707 00	3926
231611	1	1	8146.0	12411089 06 .709 00	6563	233751	1	1	8146.0	12301250 06 .707 00	-0039
231621	1	1	8146.0	12410208 06 .709 00	1533	233801	1	1	8146.0	12300546 06 .707 00	5879
231631	1	1	8146.0	12409329 06 .709 00	6348	233811	1	1	8146.0	12300000 06 .707 00	1650
231641	1	1	8146.0	12408452 06 .709 00	-9043	233821	1	1	8146.0	12299454 06 .707 00	-2695
231651	1	1	8146.0	12407577 06 .709 00	4430	233831	1	1	8146.0	12298908 06 .707 00	-7168
231701	1	1	8146.0	12406703 06 .709 00	-0293	233841	1	1	8146.0	12298364 06 .707 00	-1758
231711	1	1	8146.0	12405830 06 .709 00	13828	233851	1	1	8146.0	12297820 06 .707 00	3525
231721	1	1	8146.0	12404958 06 .709 00	7793	233911	1	1	8146.0	12297276 06 .707 00	-1328
231731	1	1	8146.0	12404087 06 .709 00	1572	233921	1	1	8146.0	12296732 06 .707 00	3711
231741	1	1	8146.0	12403217 06 .709 00	9176	233931	1	1	8146.0	12296188 06 .707 00	-11367
231751	1	1	8146.0	12402348 06 .709 00	-1377	233951	1	1	8146.0	12295644 06 .707 00	-7402
231801	1	1	8146.0	12401480 06 .709 00	4571	234001	1	1	8146.0	12295100 06 .707 00	7031
231811	1	1	8146.0	12400612 06 .709 00	7969	234021	1	1	8146.0	12294556 06 .707 00	-4512
231821	1	1	8146.0	12400000 06 .709 00	-6752	234031	1	1	8146.0	12294012 06 .707 00	-10469
231831	1	1	8146.0	12399389 06 .709 00	3379	234041	1	1	8146.0	12293468 06 .707 00	3467
231841	1	1	8146.0	12398778 06 .709 00	-4170	234101	1	1	8146.0	12292924 06 .707 00	-9063
231911	1	1	8146.0	12398168 06 .709 00	10234	234121	1	1	8146.0	12292380 06 .707 00	7969
231921	1	1	8146.0	12397559 06 .709 00	-2881	234131	1	1	8146.0	12291836 06 .707 00	1289
231931	1	1	8146.0	12396950 06 .709 00	0576	234141	1	1	8146.0	12291292 06 .707 00	-5308
231941	1	1	8146.0	12396342 06 .709 00	2070	234201	1	1	8146.0	12290748 06 .707 00	0537
231951	1	1	8146.0	12395734 06 .709 00	-2578	234211	1	1	8146.0	12290204 06 .707 00	-6621
232021	1	1	8146.0	12395126 06 .709 00	-7070	234221	1	1	8146.0	12289660 06 .707 00	-3887
232111	1	1	8146.0	12394518 06 .709 00	3115	234231	1	1	8146.0	12289116 06 .707 00	-1289
232121	1	1	8146.0	12393910 06 .709 00	13164	234241	1	1	8146.0	12288572 06 .707 00	-8809
232131	1	1	8146.0	12393302 06 .709 00	-6973	234251	1	1	8146.0	12288028 06 .707 00	-6445
232141	1	1	8146.0	12392694 06 .709 00	12734	234301	1	1	8146.0	12287484 06 .707 00	-6180
232151	1	1	8146.0	12392086 06 .709 00	2295	234311	1	1	8146.0	12286940 06 .707 00	7949
232201	1	1	8146.0	12391478 06 .709 00	-8301	234351	1	1	8146.0	12286396 06 .707 00	6313
232211	1	1	8146.0	12390870 06 .709 00	-9263	234401	1	1	8146.0	12285852 06 .707 00	6855
232221	1	1	8146.0	12390262 06 .709 00	6029	234411	1	1	8146.0	12285308 06 .707 00	8281
232241	1	1	8146.0	12389654 06 .709 00	-2266	234421	1	1	8146.0	12284764 06 .707 00	-0400
232251	1	1	8146.0	12389046 06 .709 00	6367	234431	1	1	8146.0	12284220 06 .707 00	5879
232301	1	1	8146.0	12388438 06 .709 00	-5176	234441	1	1	8146.0	12283676 06 .707 00	-3701
232311	1	1	8146.0	12387830 06 .709 00	-6875	234501					

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STATION NUMBER 1 62/C1/26									
TIME	TC	Q	FRQ	CC3					
235031	1	1	8146.0	.12235213	06	.707	00	-.1279	
235041	1	1	8146.0	.12234542	06	.707	00	-1.4219	
235051	1	1	8146.0	.12233877	06	.707	00	-.2754	
235111	1	1	8146.0	.12232536	06	.707	00	-.3633	
235121	1	1	8146.0	.12231870	06	.707	00	-.2018	
235141	1	1	8146.0	.12230540	06	.707	00	-.5996	
235151	1	1	8146.0	.12229877	06	.707	00	-.2314	
235201	1	1	8146.0	.12229215	06	.707	00	-.1475	
235211	1	1	8146.0	.12228553	06	.707	00	-.6648	
235221	1	1	8146.0	.12227893	06	.707	00	-.0654	
235231	1	1	8146.0	.12227234	06	.707	00	-.3838	
235251	1	1	8146.0	.12225919	06	.707	00	-.1943	
235301	1	1	8146.0	.12225264	06	.707	00	-.6367	
235311	1	1	8146.0	.12224609	06	.707	00	-1.0859	
235321	1	1	8146.0	.12223955	06	.707	00	-.5488	
235331	1	1	8146.0	.12223302	06	.707	00	-1.0195	
235341	1	1	8146.0	.12222650	06	.707	00	-.4921	
235351	1	1	8146.0	.12222000	06	.707	00	-.0029	
235401	1	1	8146.0	.12221350	06	.707	00	-.4930	
235411	1	1	8146.0	.12220701	06	.707	00	-.0127	
235431	1	1	8146.0	.12219407	06	.707	00	-.0703	
235441	1	1	8146.0	.12218761	06	.707	00	-.3857	
235451	1	1	8146.0	.12218117	06	.707	00	-1.1680	
235501	1	1	8146.0	.12217473	06	.707	00	-.7344	
235511	1	1	8146.0	.12216831	06	.707	00	-.3096	
235521	1	1	8146.0	.12216189	06	.707	00	-.1055	
235601	1	1	8146.0	.12213634	06	.707	00	-.3359	
235611	1	1	8146.0	.12212997	06	.707	00	-.0283	
235621	1	1	8146.0	.12212362	06	.707	00	-.3818	
235631	1	1	8146.0	.12211727	06	.707	00	-.2736	
235641	1	1	8146.0	.12211094	06	.707	00	-.0605	
235651	1	1	8146.0	.12210461	06	.707	00	-.3857	
235701	1	1	8146.0	.12209830	06	.707	00	-.3008	
235721	1	1	8146.0	.12208570	06	.707	00	-.2979	
235731	1	1	8146.0	.12207942	06	.707	00	-.4170	
235741	1	1	8146.0	.12207314	06	.707	00	-.8574	
235751	1	1	8146.0	.12206688	06	.707	00	-.8769	
235801	1	1	8146.0	.12206062	06	.707	00	-.3770	
235801	1	1	8146.0	.12206062	06	.707	00	-.3770	

STATISTICS STATION 1									
DATA TYPE	BEGINNING TIME	END TIME	NUMBER OF POINTS	STD DEV	RMS	FIRST MOMENT	SECOND MOMENT		
CC3	1/26-205721	1/26-235801	903	.644 00	.644 00	-.469-02	.415 00		

STATION NUMBER 3 62/C1/27										STATION NUMBER 3 62/C1/27									
TIME	TC	Q	FRQ	CC3						TIME	TC	Q	FRQ	CC3					
090606	10	3	9099.0	.11338830	06	.423	00	-.2021		100406	10	3	8869.0	.11330793	06	.320	00	-.4287	
090706	10	3	9099.0	.11338552	06	.417	00	-.1172		100506	10	3	8869.0	.11330793	06	.319	00	-.0645	
090806	10	3	9099.0	.11338278	06	.411	00	-.2148		100606	10	3	8869.0	.11330799	06	.319	00	-.2871	
090906	10	3	9099.0	.11338010	06	.405	00	-.3047		100706	10	3	8869.0	.11330808	06	.318	00	-.3174	
091006	10	3	9099.0	.11337747	06	.400	00	-.0244		100806	10	3	8869.0	.11330822	06	.318	00	-.3242	
091106	10	3	9099.0	.11337489	06	.396	00	-.1963		100906	10	3	8869.0	.11330841	06	.318	00	-.1094	
091206	10	3	9099.0	.11337237	06	.392	00	-.2566		101006	10	3	8869.0	.11330864	06	.317	00	-.1377	
091306	10	3	9099.0	.11336989	06	.388	00	-.0869		101106	10	3	8869.0	.11330891	06	.317	00	-.4121	
091406	10	3	9099.0	.11336746	06	.384	00	-.3408		101206	10	3	8869.0	.11330923	06	.317	00	-.3691	
091506	10	3	9099.0	.11336508	06	.380	00	-.1807		101306	10	3	8869.0	.11330956	06	.316	00	-.0928	
091806	10	3	9099.0	.11335924	06	.371	00	-.0449		101406	10	3	8869.0	.11331000	06	.316	00	-.3608	
091906	10	3	9099.0	.11335666	06	.368	00	-.2344		101506	10	3	8869.0	.11331045	06	.316	00	-.2510	
092006	10	3	9099.0	.11335423	06	.365	00	-.0361		102106	10	3	8869.0	.11331406	06	.314	00	-.99.9999	
092106	10	3	9099.0	.11335185	06	.363	00	-.4443											
092206	10	3	9099.0	.11334983	06	.360	00	-.0732											
092306	10	3	9099.0	.11334784	06	.358	00	-.3535											
092406	10	3	9099.0	.11334591	06	.356	00	-.1143											
092506	10	3	9099.0	.11334403	06	.354	00	-.2676											
092606	10	3	9099.0	.11334220	06	.353	00	-.5020											
092706	10	3	9099.0	.11334042	06	.351	00	-.1836											
092806	10	3	9099.0	.11333868	06	.350	00	-.2178											
092906	10	3	9099.0	.11333700	06	.348	00	-.1963											
093006	10	3	9099.0	.11333536	06	.346	00	-.2598											
093106	10	3	9099.0	.11333377	06	.345	00	-.1239											
093206	10	3	9099.0	.11333223	06	.344	00	-.0649											
093306	10	3	9099.0	.11333074	06	.342	00	-.0410											
093406	10	3	9099.0	.11332930	06	.341	00	-.1982											
093506	10	3	9099.0	.11332790	06	.340	00	-.2041											
093606	10	3	9099.0	.11332656	06	.339	00	-.1942											
093706	10	3	9099.0	.11332526	06	.337	00	-.4395											
093806	10	3	9099.0	.11332401	06	.336	00	-.0889											
093906	10	3	9099.0	.11332281	06	.335	00	-.0904											
094006	10	3	9099.0	.11332165	06	.334	00	-.3545											
094106	10	3	9099.0	.11332055	06	.333	00	-.0518											
094206	10	3	9099.0	.11331949	06	.333	00	-.1904											
094306	10	3	9099.0	.11331848	06	.332	00	-.1211											
094406	10	3	9099.0	.11331751	06	.331	00	-.0156											
094506	10	3	9099.0	.11331660	06	.330	00	-.6016											
094606	10	3	9099.0	.11331573	06	.329	00	-.3301											
094706	10	3	9099.0	.11331491	06	.329	00	-.2090											
094806	10	3	9099.0	.11331413	06	.328	00	-.0332											
094906	10	3	9099.0	.11331340	06	.327	00	-.1045											
095006	10	3	9099.0	.11331272	06	.327	00	-.3160											
095106	10	3	9099.0	.11331209	06	.326	00	-.1104											
095406	10	3	8869.0	.11331036	06	.324	00	-.1611											
095506	10	3	8869.0	.11330991	06	.324	00	-.2119											
095606	10	3	8869.0	.11330951	06	.323	00	-.6094											
095706	10	3	8869.0	.11330915	06	.323	00	-.4492											
095806	10	3	8869.0	.11330884	06	.322	00	-.0400											
095906	10	3	8869.0	.11330857	06	.322	00	-.0742											
100006	10	3	8869.0	.11330835	06	.321	00	-.5547											
100106	10	3	8869.0	.11330818	06	.321	00	-.0801											
100206	10	3	8869.0	.11330805	06	.320	00	-.8496											
100306	10	3	8869.0	.11330797	06	.320	00	-.0674											

STATISTICS STATION 3									
DATA TYPE	BEGINNING TIME	END TIME	NUMBER OF POINTS	STD DEV	RMS	FIRST MOMENT	SECOND MOMENT		
CC3	1/27-090606	1/27-102106	66	.282 00	.282 00	-.756-02	.793-01		

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STATION		NUMBER		4		62701/26							
TIME	TC	Q	FRQ	DEC		HA							
221141	10	0	.0	.33608488	03	.330	00	-.0370	.66497342	02	.330	00	-.0458
221201	10	0	.0	.33608925	03	.330	00	-.0415	.66440478	02	.330	00	-.0388
221221	10	0	.0	.33609375	03	.330	00	-.0460	.66384614	02	.330	00	-.0350
221241	10	0	.0	.33609838	03	.330	00	-.0508	.66329737	02	.330	00	-.0411
221301	10	0	.0	.33610312	03	.330	00	-.0416	.66275839	02	.330	00	-.0582
221321	10	0	.0	.33610798	03	.330	00	-.0465	.66222905	02	.330	00	-.0593
221341	10	0	.0	.33611296	03	.330	00	-.0396	.66170929	02	.330	00	-.0293
221401	10	0	.0	.33611805	03	.330	00	-.0367	.66119897	02	.330	00	-.0464
221421	10	0	.0	.33612325	03	.330	00	-.0321	.66069802	02	.330	00	-.0563
221441	10	0	.0	.33612856	03	.330	00	-.0375	.66020632	02	.330	00	-.0671
221501	10	0	.0	.33613398	03	.330	00	-.0430	.65972381	02	.330	00	-.0529
221521	10	0	.0	.33613949	03	.330	00	-.0485	.65925033	02	.330	00	-.0375
221541	10	0	.0	.33614511	03	.330	00	-.0542	.65878582	02	.330	00	-.0551
221601	10	0	.0	.33615082	03	.330	00	-.0439	.65833017	02	.330	00	-.0674
221621	10	0	.0	.33615663	03	.330	00	-.0438	.65788334	02	.330	00	-.0508
221641	10	0	.0	.33616253	03	.330	00	-.0498	.65744518	02	.330	00	-.0350
221701	10	0	.0	.33616853	03	.330	00	-.0419	.65701561	02	.330	00	-.0541
221721	10	0	.0	.33617461	03	.330	00	-.0441	.65659457	02	.330	00	-.0620
221741	10	0	.0	.33618079	03	.330	00	-.0463	.65618192	02	.330	00	-.0347
221801	10	0	.0	.33618705	03	.330	00	-.0466	.65577761	02	.330	00	-.0522
221821	10	0	.0	.33619338	03	.330	00	-.0430	.65538153	02	.330	00	-.0747
221841	10	0	.0	.33619981	03	.330	00	-.0494	.65499366	02	.330	00	-.0340
221901	10	0	.0	.33620631	03	.330	00	-.0400	.65461385	02	.330	00	-.0559
221921	10	0	.0	.33621288	03	.330	00	-.0466	.65424201	03	.330	00	-.0428
221941	10	0	.0	.33621954	03	.330	00	-.0414	.65387812	02	.330	00	-.0564
222001	10	0	.0	.33622627	03	.330	00	-.0481	.65352266	02	.330	00	-.0588
222021	10	0	.0	.33623306	03	.330	00	-.0455	.65317372	02	.330	00	-.0461
222041	10	0	.0	.33623993	03	.330	00	-.0399	.65283307	02	.330	00	-.0640
222101	10	0	.0	.33624687	03	.330	00	-.0469	.65250063	02	.330	00	-.0487
222121	10	0	.0	.33625388	03	.330	00	-.0540	.65217451	02	.330	00	-.0500
222141	10	0	.0	.33626094	03	.330	00	-.0411	.65185644	02	.330	00	-.0684
222201	10	0	.0	.33626808	03	.330	00	-.0442	.65154575	02	.330	00	-.0372
222221	10	0	.0	.33627528	03	.330	00	-.0455	.65124235	02	.330	00	-.0630
222241	10	0	.0	.33628256	03	.330	00	-.0508	.65094616	02	.330	00	-.0513
222301	10	0	.0	.33628985	03	.330	00	-.0442	.65065715	02	.330	00	-.0664
222321	10	0	.0	.33629723	03	.330	00	-.0476	.65037522	02	.330	00	-.0563
222341	10	0	.0	.33630465	03	.330	00	-.0471	.65010031	02	.330	00	-.0728
222401	10	0	.0	.33631214	03	.330	00	-.0345	.64983234	02	.330	00	-.0460
222421	10	0	.0	.33631968	03	.330	00	-.0421	.64957125	02	.330	00	-.0499
222441	10	0	.0	.33632727	03	.330	00	-.0498	.64931697	02	.330	00	-.0625
222501	10	0	.0	.33633491	03	.330	00	-.0575	.64905942	02	.330	00	-.0637
222521	10	0	.0	.33634260	03	.330	00	-.0492	.64882855	02	.330	00	-.0497
222541	10	0	.0	.33635035	03	.330	00	-.0310	.64859433	02	.330	00	-.0522
222601	10	0	.0	.33635813	03	.330	00	-.0369	.64836663	02	.330	00	-.0615
222621	10	0	.0	.33636596	03	.330	00	-.0447	.64814544	02	.330	00	-.0574
222641	10	0	.0	.33637384	03	.330	00	-.0526	.64793068	02	.330	00	-.0459
222701	10	0	.0	.33638177	03	.330	00	-.0605	.64772227	02	.330	00	-.0551
222741	10	0	.0	.33639773	03	.330	00	-.0505	.64732428	02	.330	00	-.0693
222801	10	0	.0	.33640578	03	.330	00	-.0486	.64713462	02	.330	00	-.0504
222821	10	0	.0	.33641387	03	.330	00	-.0548	.64695104	02	.330	00	-.0580
222841	10	0	.0	.33642199	03	.330	00	-.0428	.64677355	02	.330	00	-.0483
222901	10	0	.0	.33643015	03	.330	00	-.0491	.64660210	02	.330	00	-.0691
222921	10	0	.0	.33643834	03	.330	00	-.0333	.64643660	02	.330	00	-.0507
222941	10	0	.0	.33644657	03	.330	00	-.0415	.64627697	02	.330	00	-.0366
223001	10	0	.0	.33645404	03	.330	00	-.0498	.64612319	02	.330	00	-.0493
223021	10	0	.0	.33646314	03	.330	00	-.0502	.64597924	02	.330	00	-.0664
223041	10	0	.0	.33647147	03	.330	00	-.0505	.64583296	02	.330	00	-.0522
223101	10	0	.0	.33647996	03	.330	00	-.0459	.64569164	02	.330	00	-.0400
223121	10	0	.0	.33648822	03	.330	00	-.0533	.64556549	02	.330	00	-.0536
223141	10	0	.0	.33649665	03	.330	00	-.0378	.64544014	02	.330	00	-.0652
223201	10	0	.0	.33650510	03	.330	00	-.0363	.64532030	02	.330	00	-.0531
223221	10	0	.0	.33651358	03	.330	00	-.0447	.64520596	02	.330	00	-.0416
223241	10	0	.0	.33652208	03	.330	00	-.0532	.64509707	02	.330	00	-.0568
223301	10	0	.0	.33653062	03	.330	00	-.0458	.64499353	02	.330	00	-.0464
223321	10	0	.0	.33653918	03	.330	00	-.0344	.64489532	02	.330	00	-.0706
223341	10	0	.0	.33654776	03	.330	00	-.0430	.64480238	02	.330	00	-.0474
223401	10	0	.0	.33655637	03	.330	00	-.0516	.64471468	02	.330	00	-.0386
223421	10	0	.0	.33656500	03	.330	00	-.0603	.64463219	02	.330	00	-.0564
223441	10	0	.0	.33657366	03	.330	00	-.0630	.64455481	02	.330	00	-.0607
223501	10	0	.0	.33658246	03	.330	00	-.0463	.64448255	02	.330	00	-.0615
223521	10	0	.0	.33659142	03	.330	00	-.0423	.64441532	02	.330	00	-.0548
223541	10	0	.0	.33659974	03	.330	00	-.0491	.64435309	02	.330	00	-.0505
223601	10	0	.0	.33660848	03	.330	00	-.0577	.64429583	02	.330	00	-.0468
223621	10	0	.0	.33661724	03	.330	00	-.0486	.64424350	02	.330	00	-.0596
223641	10	0	.0	.33662601	03	.330	00	-.0314	.64419603	02	.330	00	-.0529
223701	10	0	.0	.33663481	03	.330	00	-.0432	.64415337	02	.330	00	-.0466
223721	10	0	.0	.33664361	03	.330	00	-.0490	.64411554	02	.330	00	-.0669
223741	10	0	.0	.33665244	03	.330	00	-.0579	.64408241	02	.330	00	-.0635
223821	10	0	.0	.33667014	03	.330	00	-.0475	.64403027	02	.330	00	-.0443
223841	10	0	.0	.33667902	03	.330	00	-.0424	.64401116	02	.330	00	-.0604
223901	10	0	.0	.33668790	03	.330	00	-.0513	.64399660	02	.330	00	-.0590
223921	10	0	.0	.33669680	03	.330	00	-.0442	.64398661	02	.330	00	-.0580
223941	10	0	.0	.33670572	03	.330	00	-.0391	.64398114	02	.330	00	-.0575
224001	10	0	.0	.33671465	03	.330	00	-.0461	.64398008	02	.330	00	-.0574
224021	10	0	.0	.33672359	03	.330	00	-.0450	.64398351	02	.330	00	-.0577
224041	10	0	.0	.33673254	03	.330	00	-.0339	.64399128	02	.330	00	-.0586
224101	10	0	.0	.33674150	03	.330	00	-.0428	.64400344	02	.330	00	-.0498
224121	10	0	.0	.33675047	03	.330	00	-.0519	.64401989	02	.330	00	-.0514
224141	10	0	.0	.33675946	03	.330	00	-.0509	.64404062	02	.330	00	-.0536
224201	10	0	.0	.33676846	03	.330	00	-.0499	.64405662	02	.330	00	-.0540
224221	10	0	.0	.33677746	03	.330	00	-.0509	.64409479	02	.330	00	-.0590
224241	10	0	.0	.33678648	03	.330	00	-.0599	.64412816	02	.330	00	-.0623
224301	10	0	.0	.33679549	03	.330	00	-.0369	.64416563	02	.330	00	-.0681
224321	10	0	.0	.33680452	03	.330	00	-.0399	.64420724	02	.330	00	-.0642
224341	10	0	.0	.33681356	03	.330	00	-.0490	.64425290	02	.330	00	-.0289
224401	10	0	.0	.33682260	03	.330	00	-.0380	.64430259	02	.330	00	-.0538
224421	10	0	.0	.33683166	03	.330	00	-.0470	.64435630	02	.330	00	-.0592
224441	10	0	.0</										

STATION		NUMBER		4		42701726							
TIME	TC	Q	FR	DEC	HA								
224821	10	0	0	33694067	03	330	00	-0540	64530112	02	330	00	-0640
224841	10	0	0	33694977	03	330	00	-0491	64540395	02	330	00	-0723
224901	10	0	0	33695889	03	330	00	-0441	64551038	02	330	00	-0428
224921	10	0	0	33696799	03	330	00	-0532	64562032	02	330	00	-0659
224941	10	0	0	33697711	03	330	00	-0424	64573377	02	330	00	-0652
225001	10	0	0	33698621	03	330	00	-0475	64585071	02	330	00	-0630
225021	10	0	0	33699533	03	330	00	-0505	64597111	02	330	00	-0470
225041	10	0	0	33700445	03	330	00	-0477	64609492	02	330	00	-0632
225101	10	0	0	33701356	03	330	00	-0487	64622217	02	330	00	-0740
225121	10	0	0	33702268	03	330	00	-0378	64635277	02	330	00	-0452
225141	10	0	0	33703179	03	330	00	-0470	64648671	02	330	00	-0586
225201	10	0	0	33704090	03	330	00	-0560	64662400	02	330	00	-0723
225221	10	0	0	33705002	03	330	00	-0511	64676456	02	330	00	-0404
225241	10	0	0	33705913	03	330	00	-0402	64690843	02	330	00	-0548
225301	10	0	0	33706824	03	330	00	-0493	64705551	02	330	00	-0696
225321	10	0	0	33707735	03	330	00	-0445	64720583	02	330	00	-0786
225341	10	0	0	33708645	03	330	00	-0415	64735933	02	330	00	-0599
225401	10	0	0	33709556	03	330	00	-0505	64751603	02	330	00	-0715
225421	10	0	0	33710467	03	330	00	-0516	64767587	02	330	00	-0816
225441	10	0	0	33711376	03	330	00	-0387	64783881	02	330	00	-0619
225501	10	0	0	33712287	03	330	00	-0459	64800488	02	330	00	-0725
225521	10	0	0	33713196	03	330	00	-0549	64817400	02	330	00	-0535
225541	10	0	0	33714105	03	330	00	-0420	64834620	02	330	00	-0708
225601	10	0	0	33715014	03	330	00	-0510	64852140	02	330	00	-0463
225621	10	0	0	33715923	03	330	00	-0581	64869965	02	330	00	-0640
225641	10	0	0	33716831	03	330	00	-0352	64888086	02	330	00	-0731
225701	10	0	0	33717739	03	180	00	-0447	64915822	02	180	00	-0620
225721	10	0	0	33718647	03	180	00	-0479	64933266	02	180	00	-0735
225741	10	0	0	33719555	03	180	00	-0409	65033287	02	180	00	-0436
230011	10	0	0	33720463	03	180	00	-0439	65095830	02	180	00	-0601
230111	10	0	0	33721371	03	180	00	-0449	65160838	02	180	00	-0752
230211	10	0	0	33722279	03	180	00	-0538	65228259	02	180	00	-0546
230311	10	0	0	33723187	03	180	00	-0427	65298041	02	180	00	-0725
230411	10	0	0	33724095	03	180	00	-0455	65370128	02	180	00	-0546
230511	10	0	0	33724999	03	180	00	-0343	65444480	02	180	00	-0769
230611	10	0	0	33725903	03	180	00	-0509	65521045	02	180	00	-0515
230711	10	0	0	33726807	03	180	00	-0436	65599777	02	180	00	-0745
230811	10	0	0	33727711	03	180	00	-0460	65680628	02	180	00	-0615
230911	10	0	0	33728615	03	180	00	-0444	65763559	02	180	00	-0582
231011	10	0	0	33729519	03	180	00	-0488	65848522	02	180	00	-0532
231111	10	0	0	33730423	03	180	00	-0410	65935476	02	180	00	-0502
231211	10	0	0	33731327	03	180	00	-0432	66024388	02	180	00	-0471
231311	10	0	0	33732231	03	180	00	-0473	66115213	02	180	00	-0441
231411	10	0	0	33733135	03	180	00	-0414	66207912	02	180	00	-0427
231511	10	0	0	33734039	03	180	00	-0432	66302454	02	180	00	-0433
231611	10	0	0	33734943	03	180	00	-0450	66399479	02	180	00	-0497
231711	10	0	0	33735847	03	180	00	-0348	66496897	02	180	00	-0519
231811	10	0	0	33736751	03	180	00	-0444	66596738	02	180	00	-0537
231911	10	0	0	33737655	03	180	00	-0460	66699276	02	180	00	-0533
232011	10	0	0	33738559	03	180	00	-0478	66803477	02	180	00	-0466
232111	10	0	0	33739463	03	180	00	-0308	66909317	02	180	00	-0514
232211	10	0	0	33740367	03	180	00	-0420	67012756	02	180	00	-0439
232311	10	0	0	33741271	03	180	00	-0452	67120771	02	180	00	-0540
232411	10	0	0	33742175	03	180	00	-0342	67230326	02	180	00	-0515
232511	10	0	0	33743079	03	180	00	-0413	67341400	02	180	00	-0607
232611	10	0	0	33743983	03	180	00	-0341	67453958	02	180	00	-0513
232711	10	0	0	33744887	03	180	00	-0288	67567577	02	180	00	-0553
232811	10	0	0	33745791	03	180	00	-0435	67683428	02	180	00	-0468
232911	10	0	0	33746695	03	180	00	-0400	67800284	02	180	00	-0516
233011	10	0	0	33747599	03	180	00	-0444	67918212	02	180	00	-0701
233111	10	0	0	33748503	03	180	00	-0367	68038118	02	180	00	-0356
233211	10	0	0	33749407	03	180	00	-0270	68159043	02	180	00	-0505
233311	10	0	0	33750311	03	180	00	-0352	68281240	02	180	00	-0548
233411	10	0	0	33751215	03	180	00	-0431	68404798	02	180	00	-0624
233511	10	0	0	33752119	03	180	00	-0370	68529586	02	180	00	-0432
233611	10	0	0	33753023	03	180	00	-0369	68655609	02	180	00	-0353
233711	10	0	0	33753927	03	180	00	-0406	68782849	02	180	00	-0725
233811	10	0	0	33754831	03	180	00	-0423	68912292	02	180	00	-0749
233911	10	0	0	33755735	03	180	00	-0356	69042913	02	180	00	-0647
234011	10	0	0	33756639	03	180	00	-0311	69174692	02	180	00	-0454
234111	10	0	0	33757543	03	180	00	-0404	69307605	02	180	00	-0314
234211	10	0	0	33758447	03	180	00	-0176	69441663	02	180	00	-0544
234311	10	0	0	33759351	03	180	00	-0246	69577075	02	180	00	-0466
234411	10	0	0	33760255	03	180	00	-0356	69714948	02	180	00	-0779
234511	10	0	0	33761159	03	180	00	-0324	69854277	02	180	00	-0823
234611	10	0	0	33762063	03	180	00	-0313	69995959	02	180	00	-0754
234711	10	0	0	33762967	03	180	00	-0240	70139952	02	180	00	-0519
234811	10	0	0	33763871	03	180	00	-0246	70287317	02	180	00	-0693
234911	10	0	0	33764775	03	180	00	-0210	70437681	02	180	00	-0618
235011	10	0	0	33765679	03	180	00	-0414	70590622	02	180	00	-0741
235111	10	0	0	33766583	03	180	00	-0317	70746132	02	180	00	-0774
235211	10	0	0	33767487	03	180	00	-0338	70904254	02	180	00	-0647
235311	10	0	0	33768391	03	180	00	-0378	70968769	02	180	00	-0588
235411	10	0	0	33769295	03	180	00	-0338	71133880	02	180	00	-0801
235511	10	0	0	33770199	03	180	00	-0316	71299889	02	180	00	-0500
235611	10	0	0	33771103	03	180	00	-0333	71467791	02	180	00	-0930
235711	10	0	0	33772007	03	180	00	-0130	71638466	02	180	00	-0649
235811	10	0	0	33772911	03	180	00	-0246	71813204	02	180	00	-0554
235911	10	0	0	33773815	03	180	00	-0260	71992625	02	180	00	-0549
236011	10	0	0	33774719	03	180	00	-0299	72176695	02	180	00	-0666

STATION		NUMBER		4		62/01/27							
006611	10	0	0	33873296	03	180	00	-0273	72003056	02	180	00	-0554
006711	10	0	0	33874199	03	180	00	-0386	72154204	02	180	00	-0525
006811	10	0	0	33875103	03	180	00	-0377	72306164	02	180	00	-0465
006911	10	0	0	33876007	03	180	00	-0208	72458921	02	180	00	-0613
007011	10	0	0	33876911	03	180	00	-0278	72612467	02	180	00	-0627
007111	10	0	0	33877815	03	180	00	-0386	72766783	02	180	00	-0471
007211	10	0	0	33878719	03	180	00	-0394	72921864	02	180	00	-0703
007311	10	0	0	33879623	03	180	00	-0301	73077700	02	180	00	-0701
007411	10	0	0	33880527									

JPL TECHNICAL REPORT NO. 32-563

STATION		NUMBER		4		62701/27	
TIME	TC	Q	FRC	DEC	HA		
001611	10	0	.0	.33906529 03 .180 00	-.0117	.74512264 02 .180 00	-.0688
001711	10	0	.0	.33908527 03 .180 00	-.0275	.74675034 02 .180 00	-.0796
001811	10	0	.0	.33910516 03 .180 00	-.0450	.74838448 02 .180 00	-.0850
001911	10	0	.0	.33912496 03 .180 00	-.0245	.75002494 02 .180 00	-.0612
002511	10	0	.0	.33924186 03 .180 00	-.0378	.75999524 02 .180 00	-.0762
002611	10	0	.0	.33926104 03 .180 00	-.0267	.76167751 02 .180 00	-.0604
002711	10	0	.0	.33928012 03 .180 00	-.0435	.76336536 02 .180 00	-.0452
002811	10	0	.0	.33929912 03 .180 00	-.0382	.76505882 02 .180 00	-.0505
002911	10	0	.0	.33931804 03 .180 00	-.0349	.76675771 02 .180 00	-.0645
003111	10	0	.0	.33933561 03 .180 00	-.0319	.77017178 02 .180 00	-.0479
003211	10	0	.0	.33937427 03 .180 00	-.0363	.77188671 02 .180 00	-.0722
003311	10	0	.0	.33939284 03 .180 00	-.0345	.77360690 02 .180 00	-.0574
003511	10	0	.0	.33942974 03 .180 00	-.0349	.77706257 02 .180 00	-.0791
003611	10	0	.0	.33944866 03 .180 00	-.0269	.77679790 02 .180 00	-.0486
003711	10	0	.0	.33946629 03 .180 00	-.0248	.78053819 02 .180 00	-.0845
003811	10	0	.0	.33948445 03 .180 00	-.0347	.78228331 02 .180 00	-.0610
003911	10	0	.0	.33950252 03 .180 00	-.0225	.78403325 02 .180 00	-.0591
004011	10	0	.0	.33952051 03 .180 00	-.0321	.78578794 02 .180 00	-.0776
004111	10	0	.0	.33953841 03 .180 00	-.0297	.78754728 02 .180 00	-.0554
004211	10	0	.0	.33955624 03 .180 00	-.0252	.78931126 02 .180 00	-.0399
004311	10	0	.0	.33957398 03 .180 00	-.0327	.79107977 02 .180 00	-.0607
004411	10	0	.0	.33959164 03 .180 00	-.0301	.79285280 02 .180 00	-.0781
004511	10	0	.0	.33960922 03 .180 00	-.0333	.79463022 02 .180 00	-.0917
004711	10	0	.0	.33964415 03 .180 00	-.0316	.79819816 02 .180 00	-.0645
004811	10	0	.0	.33966149 03 .180 00	-.0306	.79998853 02 .180 00	-.0576
004911	10	0	.0	.33967875 03 .180 00	-.0296	.80178316 02 .180 00	-.0610
005011	10	0	.0	.33969593 03 .180 00	-.0265	.80358191 02 .180 00	-.0688
005111	10	0	.0	.33971304 03 .180 00	-.0313	.80538476 02 .180 00	-.0411
005211	10	0	.0	.33973007 03 .180 00	-.0280	.80719168 02 .180 00	-.0540
005311	10	0	.0	.33974701 03 .180 00	-.0246	.80900255 02 .180 00	-.0509
005411	10	0	.0	.33976398 03 .180 00	-.0292	.81081742 02 .180 00	-.0784
005511	10	0	.0	.33978067 03 .180 00	-.0256	.81263615 02 .180 00	-.0703
005611	10	0	.0	.33979738 03 .180 00	-.0260	.81445873 02 .180 00	-.0505
005711	10	0	.0	.33982477 03 .180 00	-.0352	.81628361 02 .180 00	-.0891
005811	10	0	.0	.33984123 03 .180 00	-.0312	.81811324 02 .180 00	-.0818

STATISTICS

STATION 4

DATA TYPE	BEGINNING TIME	END TIME	NUMBER OF POINTS	STD DEV	RMS	FIRST MOMENT	SECOND MOMENT
HA	1/26-213301	1/27-C05811	356	.114-01	.571-01	-.559-01	.326-02
DEC	1/26-213301	1/27-C05811	356	.997-02	.392-01	-.379-01	.154-02

STATION NUMBER 5 62701/26

TIME	TC	Q	FRC	DEC	HA		
210001	10	0	.0	.33858844 01 .330 00	-.0573	.23282575 02 .330 00	.0160
210101	10	0	.0	.33873748 01 .330 00	-.0547	.11354185 02 .330 00	.0143
210211	10	0	.0	.33853800 03 .330 00	-.0541	.76441908 01 .330 00	.0184
210221	10	0	.0	.33876334 01 .330 00	-.0486	.35753729 03 .330 00	.0136
210241	10	0	.0	.33913472 03 .330 00	-.0515	.35452185 03 .330 00	.0141
210301	10	0	.0	.33878096 01 .330 00	-.0516	.33158154 03 .330 00	.0132
210321	10	0	.0	.33830469 03 .330 00	-.0464	.34310594 03 .330 00	.0144
210401	10	0	.0	.33808669 03 .330 00	-.0509	.34650296 03 .330 00	.0130
210401	10	0	.0	.33998680 03 .330 00	-.0494	.34414929 03 .330 00	.0151
210421	10	0	.0	.33899461 03 .330 00	-.0482	.34134103 03 .330 00	.0118
210441	10	0	.0	.33829992 03 .330 00	-.0455	.33986904 03 .330 00	.0102
210501	10	0	.0	.33829304 03 .330 00	-.0470	.33752422 03 .330 00	.0273
210521	10	0	.0	.33805497 03 .330 00	-.0478	.32981145 03 .330 00	.0194
210641	10	0	.0	.33828746 03 .330 00	-.0278	.32845895 03 .330 00	.0166
210701	10	0	.0	.33784493 03 .330 00	-.0269	.32718023 03 .330 00	.0172
210721	10	0	.0	.33744273 03 .330 00	-.0256	.32547111 03 .330 00	.0145
210741	10	0	.0	.33707668 03 .330 00	-.0262	.32482810 03 .330 00	.0157
210801	10	0	.0	.33674307 03 .330 00	-.0244	.32271017 03 .330 00	.0157
210841	10	0	.0	.33616036 03 .330 00	-.0260	.32173110 03 .330 00	.0175
210901	10	0	.0	.33590578 03 .330 00	-.0291	.32079976 03 .330 00	.0250
210921	10	0	.0	.33567255 03 .330 00	-.0267	.31991288 03 .330 00	.0201
210941	10	0	.0	.3354865 03 .330 00	-.0290	.31906747 03 .330 00	.0247
211001	10	0	.0	.33526226 03 .330 00	-.0317	.31537386 03 .330 00	.0184
211141	10	0	.0	.33449223 03 .330 00	-.0396	.31472684 03 .330 00	.0197
211201	10	0	.0	.33437245 03 .330 00	-.0316	.31410617 03 .330 00	.0225
211221	10	0	.0	.33426190 03 .330 00	-.0305	.31351031 03 .330 00	.0246
211241	10	0	.0	.33415981 03 .330 00	-.0269	.31293784 03 .330 00	.0233
211301	10	0	.0	.33406551 03 .330 00	-.0294	.31238746 03 .330 00	.0219
211321	10	0	.0	.33397839 03 .330 00	-.0268	.31185794 03 .330 00	.0255
211341	10	0	.0	.33389788 03 .330 00	-.0275	.31138816 03 .330 00	.0155
211401	10	0	.0	.33382347 03 .330 00	-.0222	.31085707 03 .330 00	.0268
211421	10	0	.0	.33374772 03 .330 00	-.0232	.30992715 03 .330 00	.0291
211501	10	0	.0	.33363251 03 .330 00	-.0234	.30948656 03 .330 00	.0398
211521	10	0	.0	.33357833 03 .330 00	-.0242	.30906117 03 .330 00	.0294
211541	10	0	.0	.33352821 03 .330 00	-.0244	.30865022 03 .330 00	.0265
211601	10	0	.0	.33348219 03 .330 00	-.0248	.30825303 03 .330 00	.0238
211621	10	0	.0	.33343968 03 .330 00	-.0234	.30786897 03 .330 00	.0240
211641	10	0	.0	.33340053 03 .330 00	-.0228	.30749742 03 .330 00	.0177
211701	10	0	.0	.33336453 03 .330 00	-.0229	.30713782 03 .330 00	.0235
211721	10	0	.0	.33333146 03 .330 00	-.0222	.30678965 03 .330 00	.0258
211741	10	0	.0	.33330113 03 .330 00	-.0267	.30650169 03 .330 00	.0283
211901	10	0	.0	.33323385 03 .330 00	-.0206	.30523173 03 .330 00	.0194
211921	10	0	.0	.33318441 03 .330 00	-.0198	.30491462 03 .330 00	.0276
211941	10	0	.0	.33316742 03 .330 00	-.0171	.30461399 03 .330 00	.0264
212001	10	0	.0	.33315217 03 .330 00	-.0207	.30436153 03 .330 00	.0290
212021	10	0	.0	.33313836 03 .330 00	-.0206	.30409592 03 .330 00	.0297
212041	10	0	.0	.33312608 03 .330 00	-.0170	.30383986 03 .330 00	.0269
212101	10	0	.0	.33311526 03 .330 00	-.0220	.30359007 03 .330 00	.0298
212121	10	0	.0	.33310580 03 .330 00	-.0195	.30334729 03 .330 00	.0237
212141	10	0	.0	.33309762 03 .330 00	-.0239	.30311127 03 .330 00	.0259
212201	10	0	.0	.33309066 03 .330 00	-.0239	.30288176 03 .330 00	.0275
212221	10	0	.0	.33308483 03 .330 00	-.0228	.30265854 03 .330 00	.0288
212241	10	0	.0	.33308029 03 .330 00	-.0197	.30244138 03 .330 00	.0281
212301	10	0	.0	.33307636 03 .330 00	-.0236		

STATION NUMBER		S		62/C1/26		HA							
TIME	TC	Q	FRC	DEC									
212321	10	0	.0	.33307358	03	.330	00	.0204	.30723010	03	.330	00	.0255
212341	10	0	.0	.33307172	03	.330	00	.0224	.30202448	03	.330	00	.0272
212401	10	0	.0	.33307072	03	.330	00	.0175	.30182433	03	.330	00	.0254
212421	10	0	.0	.33307052	03	.330	00	.0198	.30162949	03	.330	00	.0283
212441	10	0	.0	.33307109	03	.330	00	.0193	.30153972	03	.330	00	.0281
212501	10	0	.0	.33307235	03	.330	00	.0191	.30125505	03	.330	00	.0309
212521	10	0	.0	.33307437	03	.330	00	.0162	.30107512	03	.330	00	.0310
212541	10	0	.0	.33307700	03	.330	00	.0236	.30089986	03	.330	00	.0303
212601	10	0	.0	.33308224	03	.330	00	.0205	.30072913	03	.330	00	.0292
212621	10	0	.0	.33308407	03	.330	00	.0167	.30056277	03	.330	00	.0276
212641	10	0	.0	.33308845	03	.330	00	.0124	.30040507	03	.330	00	.0278
212701	10	0	.0	.33309335	03	.330	00	.0156	.29984270	03	.330	00	.0258
212721	10	0	.0	.33309875	03	.330	00	.0243	.29908874	03	.330	00	.0278
212741	10	0	.0	.33310461	03	.330	00	.0185	.29993869	03	.330	00	.0300
212801	10	0	.0	.33311092	03	.330	00	.0223	.29979241	03	.330	00	.0264
212821	10	0	.0	.33311765	03	.330	00	.0156	.29964982	03	.330	00	.0250
212841	10	0	.0	.33312478	03	.330	00	.0186	.29951080	03	.330	00	.0261
212901	10	0	.0	.33313229	03	.330	00	.0191	.29937527	03	.330	00	.0257
212921	10	0	.0	.33314015	03	.330	00	.0193	.29924312	03	.330	00	.0259
212941	10	0	.0	.33314836	03	.330	00	.0212	.29911427	03	.330	00	.0268
213001	10	0	.0	.33315688	03	.330	00	.0127	.29898863	03	.330	00	.0266
213021	10	0	.0	.33316572	03	.330	00	.0199	.29886612	03	.330	00	.0291
213041	10	0	.0	.33317484	03	.330	00	.0199	.29874665	03	.330	00	.0268
213101	10	0	.0	.33318392	03	.330	00	.0195	.29863015	03	.330	00	.0332
213121	10	0	.0	.33319391	03	.330	00	.0159	.29851654	03	.330	00	.0289
213141	10	0	.0	.33320381	03	.330	00	.0141	.29840576	03	.330	00	.0297
213201	10	0	.0	.33321395	03	.330	00	.0140	.29829773	03	.330	00	.0238
213221	10	0	.0	.33322432	03	.330	00	.0096	.29819237	03	.330	00	.0292
213241	10	0	.0	.33323490	03	.330	00	.0151	.29808964	03	.330	00	.0300
213301	10	0	.0	.33324566	03	.330	00	.0184	.29798947	03	.330	00	.0320
213321	10	0	.0	.33325663	03	.330	00	.0135	.29789179	03	.330	00	.0320
213341	10	0	.0	.33326777	03	.330	00	.0134	.29779655	03	.330	00	.0332
213401	10	0	.0	.33327908	03	.330	00	.0192	.29770369	03	.330	00	.0342
213421	10	0	.0	.33329055	03	.330	00	.0137	.29761317	03	.330	00	.0327
213441	10	0	.0	.33330217	03	.330	00	.0141	.29752491	03	.330	00	.0310
213501	10	0	.0	.33331392	03	.330	00	.0124	.29743888	03	.330	00	.0334
213521	10	0	.0	.33332583	03	.330	00	.0106	.29735503	03	.330	00	.0309
213541	10	0	.0	.33333786	03	.330	00	.0126	.29727329	03	.330	00	.0308
213601	10	0	.0	.33335000	03	.330	00	.0145	.29719364	03	.330	00	.0325
213621	10	0	.0	.33336226	03	.330	00	.0143	.29711603	03	.330	00	.0361
213641	10	0	.0	.33337462	03	.330	00	.0117	.29704040	03	.330	00	.0317
213701	10	0	.0	.33338709	03	.330	00	.0195	.29696672	03	.330	00	.0334
213721	10	0	.0	.33339965	03	.330	00	.0190	.29689495	03	.330	00	.0333
213741	10	0	.0	.33341230	03	.330	00	.0144	.29682504	03	.330	00	.0313
213801	10	0	.0	.33342503	03	.330	00	.0137	.29675698	03	.330	00	.0333
213821	10	0	.0	.33343785	03	.330	00	.0129	.29669069	03	.330	00	.0297
213841	10	0	.0	.33345073	03	.330	00	.0161	.29662617	03	.330	00	.0327
213901	10	0	.0	.33346369	03	.330	00	.0176	.29656336	03	.330	00	.0331
213921	10	0	.0	.33347671	03	.330	00	.0181	.29650224	03	.330	00	.0302
213941	10	0	.0	.33348979	03	.330	00	.0211	.29644277	03	.330	00	.0337
214001	10	0	.0	.33350294	03	.330	00	.0196	.29638397	03	.330	00	.0368
214101	10	0	.0	.33352622	03	.330	00	.0164	.29632680	03	.330	00	.0358
214121	10	0	.0	.33355594	03	.330	00	.0231	.29627193	03	.330	00	.0372
214141	10	0	.0	.33359299	03	.330	00	.0178	.29621893	03	.330	00	.0337
214201	10	0	.0	.33358268	03	.330	00	.0124	.29616701	03	.330	00	.0344
214221	10	0	.0	.33359611	03	.330	00	.0150	.29611693	03	.330	00	.0359
214241	10	0	.0	.33360955	03	.330	00	.0155	.29606769	03	.330	00	.0378
214301	10	0	.0	.33362303	03	.330	00	.0161	.29601931	03	.330	00	.0344
214321	10	0	.0	.33363653	03	.330	00	.0166	.29597167	03	.330	00	.0316
214341	10	0	.0	.33365025	03	.330	00	.0191	.29592476	03	.330	00	.0336
214401	10	0	.0	.33366399	03	.330	00	.0276	.29587852	03	.330	00	.0342
214421	10	0	.0	.33367715	03	.330	00	.0161	.29583281	03	.330	00	.0336
214441	10	0	.0	.33369072	03	.330	00	.0265	.29578766	03	.330	00	.0317
214501	10	0	.0	.33370425	03	.330	00	.0209	.29574299	03	.330	00	.0386
214521	10	0	.0	.33371768	03	.330	00	.0114	.29569881	03	.330	00	.0303
214541	10	0	.0	.33373148	03	.330	00	.0138	.29565465	03	.330	00	.0348
214601	10	0	.0	.33374508	03	.330	00	.0178	.29561051	03	.330	00	.0321
214621	10	0	.0	.33375869	03	.330	00	.0026	.29556633	03	.330	00	.0323
214641	10	0	.0	.33377229	03	.330	00	.0091	.29552249	03	.330	00	.0314
214701	10	0	.0	.33378590	03	.330	00	.0135	.29547855	03	.330	00	.0294
214721	10	0	.0	.33379950	03	.330	00	.0119	.29543460	03	.330	00	.0342
214821	10	0	.0	.33384030	03	.330	00	.0191	.29538852	03	.330	00	.0325
214841	10	0	.0	.33385389	03	.330	00	.0155	.29534251	03	.330	00	.0331
214901	10	0	.0	.33386747	03	.330	00	.0160	.29529651	03	.330	00	.0348
214921	10	0	.0	.33388104	03	.330	00	.0124	.29525053	03	.330	00	.0275
214941	10	0	.0	.33389460	03	.330	00	.0128	.29520453	03	.330	00	.0332
215021	10	0	.0	.33392168	03	.330	00	.0138	.29515852	03	.330	00	.0337
215041	10	0	.0	.33393520	03	.330	00	.0143	.29511251	03	.330	00	.0286
215101	10	0	.0	.33394871	03	.330	00	.0148	.29506651	03	.330	00	.0305
215121	10	0	.0	.33396220	03	.330	00	.0173	.29502053	03	.330	00	.0316
215141	10	0	.0	.33397568	03	.330	00	.0178	.29497453	03	.330	00	.0297
215201	10	0	.0	.33398913	03	.330	00	.0204	.29492853	03	.330	00	.0290
215221	10	0	.0	.33400257	03	.330	00	.0229	.29488253	03	.330	00	.0314
215241	10	0	.0	.33401599	03	.330	00	.0155	.29483653	03	.330	00	.0310
215301	10	0	.0	.33402939	03	.330	00	.0162	.29479053	03	.330	00	.0297
215321	10	0	.0	.33404277	03	.330	00	.0148	.29474453	03	.330	00	.0276
215341	10	0	.0	.33405613	03	.330	00	.0094	.29469853	03	.330	00	.0308
215401	10	0	.0	.33406946	03	.330	00	.0101	.29465253	03	.330	00	.0331
215421	10	0	.0	.33408278	03	.330	00	.0208	.29460653	03	.330	00	.0326
215521	10	0	.0	.33412258	03	.330	00	.0150	.29456053	03	.330	00	.0305
215541	10	0	.0	.33413586	03	.330	00	.0138	.29451453	03	.330	00	.0309
215601	10	0	.0	.33414899	03	.330	00	.0126	.29446853	03	.330	00	.0287
215621	10	0	.0	.33416216	03	.330	00	.0214	.29442253	03	.330	00	.0297
215641	10	0	.0	.33417530	03	.330	00	.0143	.29437653	03	.330	00	.0280
215701	10	0	.0	.33418842	03	.330	00	.0192	.29433053	03	.330	00	.0315
215721	10	0	.0	.33420151	03	.330	00	.0101	.29428453	03	.330	00	.0304
215821	10	0	.0	.33424062	03	.330	00	.0150	.29423853	03	.330	00	.0309
215841	10	0	.0	.33425359	03	.330	00	.0220	.29419253	03	.330	00	.0291
215901	10	0	.0	.33426654	03	.330	00	.0170	.29414653	03	.330	00	.0326

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STATION		NUMBER		5		62/G1/26			
TIME	TC	D	FRQ	DEC	HA				
220301	10	0	.0	.33441962	03 .330 00	-.0060	.29508183	03 .330 00	.0251
220321	10	0	.0	.33443217	03 .330 00	-.0114	.29509005	03 .330 00	.0269
220521	10	0	.0	.33450685	03 .330 00	-.0107	.29515057	03 .330 00	.0283
220541	10	0	.0	.33451919	03 .330 00	-.0123	.29516247	03 .330 00	.0304
220641	10	0	.0	.33455601	03 .330 00	-.0115	.29520116	03 .330 00	.0257
220701	10	0	.0	.33456821	03 .330 00	-.0173	.29521503	03 .330 00	.0278
220721	10	0	.0	.33458038	03 .330 00	-.0171	.29522939	03 .330 00	.0315
220741	10	0	.0	.33459253	03 .330 00	-.0170	.29524422	03 .330 00	.0266
220801	10	0	.0	.33460464	03 .330 00	-.0148	.29525951	03 .330 00	.0313
220821	10	0	.0	.33461672	03 .330 00	-.0147	.29527527	03 .330 00	.0295
220841	10	0	.0	.33462876	03 .330 00	-.0067	.29529148	03 .330 00	.0273
220901	10	0	.0	.33464077	03 .330 00	-.0127	.29530815	03 .330 00	.0244
220921	10	0	.0	.33465275	03 .330 00	-.0127	.29532527	03 .330 00	.0315
220941	10	0	.0	.33466470	03 .330 00	-.0167	.29534283	03 .330 00	.0299
221001	10	0	.0	.33467662	03 .330 00	-.0128	.29536083	03 .330 00	.0299
221021	10	0	.0	.33468850	03 .330 00	-.0109	.29537926	03 .330 00	.0255
221041	10	0	.0	.33470035	03 .330 00	-.0090	.29539812	03 .330 00	.0266
221101	10	0	.0	.33471217	03 .330 00	-.0152	.29541740	03 .330 00	.0293
221121	10	0	.0	.33472396	03 .330 00	-.0114	.29543710	03 .330 00	.0295
221141	10	0	.0	.33473571	03 .330 00	-.0116	.29545723	03 .330 00	.0354
221201	10	0	.0	.33474743	03 .330 00	-.0119	.29547775	03 .330 00	.0289
221221	10	0	.0	.33475912	03 .330 00	-.0142	.29549868	03 .330 00	.0239
221241	10	0	.0	.33477078	03 .330 00	-.0105	.29552002	03 .330 00	.0306
221301	10	0	.0	.33478241	03 .330 00	-.0129	.29554175	03 .330 00	.0289
221321	10	0	.0	.33479400	03 .330 00	-.0133	.29556388	03 .330 00	.0267
221341	10	0	.0	.33480556	03 .330 00	-.0177	.29558639	03 .330 00	.0262
221401	10	0	.0	.33481709	03 .330 00	-.0121	.29560929	03 .330 00	.0372
221441	10	0	.0	.33484066	03 .330 00	-.0092	.29565623	03 .330 00	.0303
221501	10	0	.0	.33485149	03 .330 00	-.0117	.29568024	03 .330 00	.0283
221521	10	0	.0	.33486290	03 .330 00	-.0163	.29570466	03 .330 00	.0298
221541	10	0	.0	.33487426	03 .330 00	-.0109	.29572943	03 .330 00	.0270
221601	10	0	.0	.33488560	03 .330 00	-.0176	.29575456	03 .330 00	.0319
221621	10	0	.0	.33489691	03 .330 00	-.0082	.29578005	03 .330 00	.0244
221641	10	0	.0	.33490819	03 .330 00	-.0189	.29580589	03 .330 00	.0265
221701	10	0	.0	.33491943	03 .330 00	-.0157	.29583209	03 .330 00	.0283
221721	10	0	.0	.33493064	03 .330 00	-.0225	.29585863	03 .330 00	.0278
221741	10	0	.0	.33494183	03 .330 00	-.0192	.29588551	03 .330 00	.0328
221801	10	0	.0	.33495298	03 .330 00	-.0121	.29591275	03 .330 00	.0296
221821	10	0	.0	.33496410	03 .330 00	-.0010	.29594031	03 .330 00	.0260
221841	10	0	.0	.33497519	03 .330 00	-.0178	.29596820	03 .330 00	.0301
221901	10	0	.0	.33498624	03 .330 00	-.0086	.29599644	03 .330 00	.0288
221921	10	0	.0	.33499727	03 .330 00	-.0197	.29602500	03 .330 00	.0313
221941	10	0	.0	.33500827	03 .330 00	-.0207	.29605388	03 .330 00	.0323
222001	10	0	.0	.33501923	03 .330 00	-.0097	.29608308	03 .330 00	.0272
222021	10	0	.0	.33503017	03 .330 00	-.0012	.29611261	03 .330 00	.0296
222041	10	0	.0	.33504108	03 .330 00	-.0378	.29614245	03 .330 00	.0277
222101	10	0	.0	.33505195	03 .330 00	-.0270	.29617260	03 .330 00	.0281
222121	10	0	.0	.33506279	03 .330 00	-.0161	.29620306	03 .330 00	.0271
222141	10	0	.0	.33507361	03 .330 00	-.0053	.29623383	03 .330 00	.0263
222201	10	0	.0	.33508439	03 .330 00	-.0165	.29626489	03 .330 00	.0272
222221	10	0	.0	.33509514	03 .330 00	-.0057	.29629627	03 .330 00	.0278
222241	10	0	.0	.33510587	03 .330 00	-.0190	.29632794	03 .330 00	.0281
222301	10	0	.0	.33511656	03 .330 00	-.0082	.29635991	03 .330 00	.0282
222321	10	0	.0	.33512723	03 .330 00	-.0215	.29639217	03 .330 00	.0259
222341	10	0	.0	.33513786	03 .330 00	-.0109	.29642472	03 .330 00	.0273
222401	10	0	.0	.33514846	03 .330 00	-.0163	.29645755	03 .330 00	.0245
222421	10	0	.0	.33515904	03 .330 00	-.0137	.29649067	03 .330 00	.0253
222441	10	0	.0	.33516959	03 .330 00	-.0031	.29652408	03 .330 00	.0279
222501	10	0	.0	.33518011	03 .330 00	-.0266	.29655776	03 .330 00	.0242
222521	10	0	.0	.33519059	03 .330 00	-.0261	.29659172	03 .330 00	.0282
222541	10	0	.0	.33520105	03 .330 00	-.0156	.29662595	03 .330 00	.0259
222601	10	0	.0	.33521149	03 .330 00	-.0052	.29666046	03 .330 00	.0214
222621	10	0	.0	.33522189	03 .330 00	-.0053	.29669524	03 .330 00	.0246
222641	10	0	.0	.33523226	03 .330 00	-.0023	.29673028	03 .330 00	.0256
222701	10	0	.0	.33524261	03 .330 00	-.0249	.29676559	03 .330 00	.0262
222721	10	0	.0	.33525291	03 .330 00	-.0197	.29680117	03 .330 00	.0262
222741	10	0	.0	.33526321	03 .330 00	-.0033	.29683700	03 .330 00	.0228
222801	10	0	.0	.33527346	03 .330 00	-.0070	.29687310	03 .330 00	.0226
222821	10	0	.0	.33528369	03 .330 00	-.0148	.29690944	03 .330 00	.0263
222841	10	0	.0	.33529390	03 .330 00	-.0066	.29694603	03 .330 00	.0257
222901	10	0	.0	.33530427	03 .330 00	-.0164	.29698289	03 .330 00	.0248
222921	10	0	.0	.33531422	03 .330 00	-.0082	.29702000	03 .330 00	.0256
222941	10	0	.0	.33532434	03 .330 00	-.0001	.29705735	03 .330 00	.0263
223001	10	0	.0	.33533443	03 .330 00	-.0101	.29709493	03 .330 00	.0247
223021	10	0	.0	.33534450	03 .330 00	-.0559	.29713277	03 .330 00	.0328
223041	10	0	.0	.33535453	03 .330 00	-.0458	.29717085	03 .330 00	.0287
223101	10	0	.0	.33536454	03 .330 00	-.0002	.29720917	03 .330 00	.0264
223121	10	0	.0	.33537453	03 .330 00	-.0138	.29724772	03 .330 00	.0258
223141	10	0	.0	.33538448	03 .330 00	-.0158	.29728651	03 .330 00	.0290
223201	10	0	.0	.33539441	03 .330 00	-.0058	.29732554	03 .330 00	.0259
223221	10	0	.0	.33540431	03 .330 00	-.0041	.29736479	03 .330 00	.0247
223241	10	0	.0	.33541418	03 .330 00	-.0400	.29740427	03 .330 00	.0232
223301	10	0	.0	.33542403	03 .330 00	-.0302	.29744398	03 .330 00	.0274
223321	10	0	.0	.33543386	03 .330 00	-.0203	.29748392	03 .330 00	.0255
223341	10	0	.0	.33544365	03 .330 00	-.0105	.29752408	03 .330 00	.0233
223401	10	0	.0	.33545342	03 .330 00	-.0007	.29756446	03 .330 00	.0249
223421	10	0	.0	.33546316	03 .330 00	-.0109	.29760507	03 .330 00	.0242
223441	10	0	.0	.33547287	03 .330 00	-.0072	.29764588	03 .330 00	.0194
223501	10	0	.0	.33548256	03 .330 00	-.0025	.29768692	03 .330 00	.0223
223521	10	0	.0	.33549223	03 .330 00	-.0042	.29772817	03 .330 00	.0271
223541	10	0	.0	.33550187	03 .330 00	-.0421	.29776964	03 .330 00	.0236
223601	10	0	.0	.33551148	03 .330 00	-.0325	.29781131	03 .330 00	.0259
223621	10	0	.0	.33552107	03 .330 00	-.0049	.29785319	03 .330 00	.0240
223641	10	0	.0	.33553063	03 .330 00	-.0047	.29789529	03 .330 00	.0239
223701	10	0	.0	.33554016	03 .330 00	-.0177	.29793759	03 .330 00	.0245
223721	10	0	.0	.33554967	03 .330 00	-.0222	.29798009	03 .330 00	.0190
223741	10	0	.0	.33555916	03 .330 00	-.0127	.29802280	03 .330 00	.0223
223821	10	0	.0	.33557805	03 .330 00	-.0157	.29806882	03 .330 00	.0202
223841	10	0	.0	.33558746	03 .330 00	-.0063	.29811513	03 .330 00	.0209
223901	10	0	.0	.33559685	03 .330 00	-.0031	.29816163	03 .330 00	.0193
223921	10	0	.0	.33560621	03 .330 00	-.0435	.29820923	03 .330 00	.0177
224001	10	0	.0	.33562487	03 .330 00	-.0088	.29825732	03 .330 00	.0216
224021	10	0	.0	.33563415	03 .330 00	-.0095	.29830593	03 .330 00	.0193
224041	10	0	.0	.33564341	03 .330 00	-.0002	.29835406	03 .330 00	.0248
224101	10	0	.0	.33565266	03 .330 00	-.0349	.29840271	03 .330 00	.0261
224121	10	0	.0	.33566187	03 .330 00	-.0217	.29845156	03 .330 00	.0253
224141	10	0	.0	.33567106	03 .330 00	-.0105	.29850058	03 .330 00	.0242
224201	10	0	.0	.33568024	03 .330 00	-.0013	.29854979	03 .330 00	.0210

STATION		NUMBER		5		62/C1/26							
TIME	TC	Q	FRQ	DEC		HA							
224221	10	0	.0	.33568937	03	.330	00	-.0079	.29864119	03	.330	00	.0215
224241	10	0	.0	.33569850	03	.330	00	-.0131	.29868676	03	.330	00	.0220
224301	10	0	.0	.33570759	03	.330	00	.0558	.29873252	03	.330	00	.0262
224321	10	0	.0	.33571667	03	.330	00	.0147	.29877845	03	.330	00	.0242
224341	10	0	.0	.33572572	03	.330	00	.0056	.29882456	03	.330	00	.0241
224401	10	0	.0	.33573475	03	.330	00	.0166	.29887085	03	.330	00	.0278
224421	10	0	.0	.33574375	03	.330	00	.0036	.29891731	03	.330	00	.0233
224441	10	0	.0	.33575273	03	.330	00	.0066	.29896394	03	.330	00	.0266
224501	10	0	.0	.33576169	03	.330	00	.0236	.29901075	03	.330	00	.0198
224521	10	0	.0	.33577063	03	.330	00	.0146	.29905772	03	.330	00	.0208
224541	10	0	.0	.33577954	03	.330	00	.0057	.29910467	03	.330	00	.0217
224601	10	0	.0	.33578843	03	.330	00	-.0033	.29915178	03	.330	00	.0203
224621	10	0	.0	.33579729	03	.330	00	-.0011	.29919967	03	.330	00	.0168
224641	10	0	.0	.33580614	03	.330	00	.0410	.29924732	03	.330	00	.0211
224701	10	0	.0	.33581496	03	.330	00	.0121	.29929513	03	.330	00	.0193
224721	10	0	.0	.33582377	03	.330	00	.0033	.29934310	03	.330	00	.0193
224741	10	0	.0	.33583254	03	.330	00	.0145	.29939124	03	.330	00	.0219
224801	10	0	.0	.33584130	03	.330	00	.0217	.29943954	03	.330	00	.0188
224821	10	0	.0	.33585003	03	.330	00	.0129	.29948800	03	.330	00	.0183
224841	10	0	.0	.33585875	03	.330	00	.0042	.29953662	03	.330	00	.0197
224901	10	0	.0	.33586744	03	.330	00	-.0045	.29958540	03	.330	00	.0189
224914	10	0	.0	.33587608	03	.330	00	.0298	.29963431	03	.330	00	.0190
225011	10	0	.0	.33588479	03	.330	00	.0071	.29968335	03	.330	00	.0168
225111	10	0	.0	.33589341	03	.330	00	.0073	.29973252	03	.330	00	.0179
225211	10	0	.0	.33590203	03	.330	00	.0077	.29978181	03	.330	00	.0176
225311	10	0	.0	.33591064	03	.330	00	.0443	.30003683	03	.330	00	.0239
225411	10	0	.0	.33591924	03	.330	00	.0030	.30008603	03	.330	00	.0221
225511	10	0	.0	.33592784	03	.330	00	.0100	.30013545	03	.330	00	.0228
225611	10	0	.0	.33593642	03	.330	00	.0171	.30018500	03	.330	00	.0194
225711	10	0	.0	.33594500	03	.330	00	.0049	.30023468	03	.330	00	.0204
225811	10	0	.0	.33595358	03	.330	00	.0138	.30028445	03	.330	00	.0229
225911	10	0	.0	.33596216	03	.330	00	.0275	.30114360	03	.330	00	.0239
230111	10	0	.0	.33617059	03	.330	00	-.0047	.30164493	03	.330	00	.0184
230211	10	0	.0	.33617937	03	.330	00	.0294	.30169726	03	.330	00	.0220
230311	10	0	.0	.33618812	03	.330	00	.0077	.30174968	03	.330	00	.0165
230411	10	0	.0	.33619684	03	.330	00	.0242	.30180217	03	.330	00	.0179
230511	10	0	.0	.33620556	03	.330	00	.0038	.30185471	03	.330	00	.0143
230611	10	0	.0	.33621428	03	.330	00	.0615	.30190728	03	.330	00	.0237
230711	10	0	.0	.33622300	03	.330	00	.0145	.30195985	03	.330	00	.0161
230811	10	0	.0	.33623171	03	.330	00	-.0084	.30201242	03	.330	00	.0194
230911	10	0	.0	.33624042	03	.330	00	.0188	.30206500	03	.330	00	.0238
231011	10	0	.0	.33624913	03	.330	00	.0027	.30211757	03	.330	00	.0204
231111	10	0	.0	.33625784	03	.330	00	.0037	.30217014	03	.330	00	.0217
231211	10	0	.0	.33626655	03	.330	00	.0034	.30222271	03	.330	00	.0212
231311	10	0	.0	.33627526	03	.330	00	.0413	.30227528	03	.330	00	.0219
231511	10	0	.0	.33628397	03	.330	00	-.0027	.30232785	03	.330	00	.0226
231611	10	0	.0	.33629268	03	.330	00	.0276	.30238042	03	.330	00	.0226
231711	10	0	.0	.33630139	03	.330	00	.0049	.30243299	03	.330	00	.0217
231811	10	0	.0	.33631010	03	.330	00	-.0175	.30248556	03	.330	00	.0201
231911	10	0	.0	.33631881	03	.330	00	.0011	.30253813	03	.330	00	.0236
232011	10	0	.0	.33632752	03	.330	00	.0119	.30259070	03	.330	00	.0203
232111	10	0	.0	.33633623	03	.330	00	-.0072	.30264327	03	.330	00	.0222
232211	10	0	.0	.33634494	03	.330	00	.0388	.30269584	03	.330	00	.0244
232311	10	0	.0	.33635365	03	.330	00	.0146	.30274841	03	.330	00	.0217
232411	10	0	.0	.33636236	03	.330	00	-.0077	.30280098	03	.330	00	.0193
232511	10	0	.0	.33637107	03	.330	00	.0106	.30285355	03	.330	00	.0249
232611	10	0	.0	.33637978	03	.330	00	.0090	.30290612	03	.330	00	.0256
232711	10	0	.0	.33638849	03	.330	00	.0096	.30295869	03	.330	00	.0258
232811	10	0	.0	.33639720	03	.330	00	-.0087	.30301126	03	.330	00	.0214
232911	10	0	.0	.33640591	03	.330	00	.0191	.30306383	03	.330	00	.0225
233011	10	0	.0	.33641462	03	.330	00	.0049	.30311640	03	.330	00	.0250
233111	10	0	.0	.33642333	03	.330	00	.0129	.30316897	03	.330	00	.0250
233211	10	0	.0	.33643204	03	.330	00	-.0051	.30322154	03	.330	00	.0245
233311	10	0	.0	.33644075	03	.330	00	-.0009	.30327411	03	.330	00	.0275
233411	10	0	.0	.33644946	03	.330	00	.0073	.30332668	03	.330	00	.0220
233511	10	0	.0	.33645817	03	.330	00	.0476	.30337925	03	.330	00	.0200
233611	10	0	.0	.33646688	03	.330	00	.0161	.30343182	03	.330	00	.0236
233711	10	0	.0	.33647559	03	.330	00	.0266	.30348439	03	.330	00	.0266
233811	10	0	.0	.33648430	03	.330	00	.0477	.30353696	03	.330	00	.0253

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000111	10	0	.0	.33734928	03	.330	00	.0203	.31242440	03	.330	00	.0208
000211	10	0	.0	.33735800	03	.330	00	.0092	.31247697	03	.330	00	.0211
000311	10	0	.0	.33736671	03	.330	00	.0103	.31252954	03	.330	00	.0229
000411	10	0	.0	.33737543	03	.330	00	.0175	.31258211	03	.330	00	.0183
000511	10	0	.0	.33738414	03	.330	00	.0087	.31263468	03	.330	00	.0213
000611	10	0	.0	.33739286	03	.330	00	.0520	.31268725	03	.330	00	.0259
000711	10	0	.0	.33740157	03	.330	00	.0393	.31273982	03	.330	00	.0240
000811	10	0	.0	.33741028	03	.330	00	.0226	.31279239	03	.330	00	.0197
000911	10	0	.0	.33741900	03	.330	00	.0063	.31284496	03	.330	00	.0231
001011	10	0	.0	.33742771	03	.330	00	-.0101	.31289753	03	.330	00	.0200
001111	10	0	.0	.33743643	03	.330	00	.0296	.31295010	03	.330	00	.0226
001211	10	0	.0	.33744514	03	.330	00	.0133	.31300267	03	.330	00	.0187
001311	10	0	.0	.33745386	03	.330	00	-.0028	.31305524	03	.330	00	.0144
001411	10	0	.0	.33746257	03	.330	00	.0110	.31310781	03	.330	00	.0139
001511	10	0	.0	.33747129	03	.330	00	.0190	.31316038	03	.330	00	.0168
001611	10	0	.0	.33747999	03	.330	00	.0009	.31321295	03	.330	00	.0163
001711	10	0	.0	.33748871	03	.330	00	-.0144	.31326552	03	.330	00	.0172
001811	10	0	.0	.33749742	03	.330	00	.0224	.31331809	03	.330	00	.0176
001911	10	0	.0	.33750614	03	.330	00	.0072	.31337066	03	.330	00	.0198
002011	10	0	.0	.33751485	03	.330	00	.0521	.31342323	03	.330	00	.0197
002111	10	0	.0	.33752357	03	.330	00	.0371	.31347580	03	.330	00	.0172
002211	10	0	.0	.33753228	03	.330	00	.0221	.31352837	03	.330	00	.0145
002311	10	0	.0	.33754100	03	.330	00	.0092	.31358094	03	.330	00	.0194
002411	10	0	.0	.33754971	03	.330	00	-.0057	.31363351	03	.330	00	.0141
002511	10	0	.0	.33755843	03	.330	00	.0336	.31368608	03	.330	00	.0184
002611	10	0	.0	.33756714	03	.330	00	.0228	.31373865	03	.330	00	.0145
002711	10	0	.0	.33757586	03	.330	00	.0081	.31379122	03	.330	00	.0202
002811	10	0	.0	.33758457	03	.330	00	-.0065	.31384379	03	.330	00	.0217
002911	10	0	.0	.33759329	03	.330	00	.0189	.31389636	03	.330	00	.0

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STATION NUMBER		5		62/C1/27		
TIME	TC	Q	FRQ	DEC	HA	
004711	10	0	.0	.33807177 03 .180 00	-.0441 .32239308 03 .180 00	-.0154
004811	10	0	.0	.33808577 03 .180 00	-.0581 .32261251 03 .180 00	-.0139
004911	10	0	.0	.33809971 03 .180 00	-.0723 .32283219 03 .180 00	-.0201
005011	10	0	.0	.33811362 03 .180 00	-.0862 .32305212 03 .180 00	-.0122
005111	10	0	.0	.33812747 03 .180 00	-.1001 .32327230 03 .180 00	-.0159
005211	10	0	.0	.33814128 03 .180 00	-.1140 .32349271 03 .180 00	-.0175
005311	10	0	.0	.33815504 03 .180 00	-.1279 .32371337 03 .180 00	-.0187
005911	10	0	.0	.33823667 03 .180 00	.0120 .32504226 03 .180 00	-.0236
010011	10	0	.0	.33825012 03 .180 00	-.0015 .32526452 03 .180 00	-.0173
010111	10	0	.0	.33826353 03 .180 00	.0370 .32548703 03 .180 00	-.0147
010311	10	0	.0	.33829024 03 .180 00	.0122 .32592657 03 .180 00	-.0130
010411	10	0	.0	.33830352 03 .180 00	-.0012 .32615582 03 .180 00	-.0158
010511	10	0	.0	.33831677 03 .180 00	.0195 .32637918 03 .180 00	-.0164
010611	10	0	.0	.33832998 03 .180 00	.0082 .32660274 03 .180 00	-.0168
010711	10	0	.0	.33834315 03 .180 00	.0330 .32682652 03 .180 00	-.0190
010811	10	0	.0	.33835627 03 .180 00	-.0103 .32705050 03 .180 00	-.0169
010911	10	0	.0	.33836936 03 .180 00	.0246 .32727468 03 .180 00	-.0147
011011	10	0	.0	.33838241 03 .180 00	.0135 .32749907 03 .180 00	-.0123
011111	10	0	.0	.33839542 03 .180 00	.0004 .32772365 03 .180 00	-.0176
011211	10	0	.0	.33840840 03 .180 00	.0314 .32794843 03 .180 00	-.0228
011311	10	0	.0	.33842133 03 .180 00	-.0183 .32817340 03 .180 00	-.0198
011411	10	0	.0	.33843424 03 .180 00	.0054 .32839857 03 .180 00	-.0146
011511	10	0	.0	.33844710 03 .180 00	-.0076 .32862393 03 .180 00	-.0192
011711	10	0	.0	.33847271 03 .180 00	.0067 .32907922 03 .180 00	-.0138
011811	10	0	.0	.33848547 03 .180 00	.0198 .32930113 03 .180 00	-.0198
012011	10	0	.0	.33851087 03 .180 00	.0283 .32975352 03 .180 00	-.0194
012211	10	0	.0	.33853614 03 .180 00	.0029 .33020663 03 .180 00	-.0142
012511	10	0	.0	.33857378 03 .180 00	.0031 .33068759 03 .180 00	-.0171
012711	10	0	.0	.33859871 03 .180 00	.0300 .33124243 03 .180 00	-.0162
012811	10	0	.0	.33861113 03 .180 00	.0175 .33157010 03 .180 00	-.0245
012911	10	0	.0	.33862351 03 .180 00	.0051 .33179794 03 .180 00	-.0206
013011	10	0	.0	.33863586 03 .180 00	-.0073 .33202593 03 .180 00	-.0146
013111	10	0	.0	.33864818 03 .180 00	.0323 .33225409 03 .180 00	-.0164
013211	10	0	.0	.33866047 03 .180 00	.0179 .33248241 03 .180 00	-.0180
013411	10	0	.0	.33868429 03 .180 00	-.0097 .33293952 03 .180 00	-.0168
013511	10	0	.0	.33869715 03 .180 00	.0750 .33316832 03 .180 00	-.0220
013611	10	0	.0	.33872932 03 .180 00	.0128 .33339726 03 .180 00	-.0170
013811	10	0	.0	.33873356 03 .180 00	-.0115 .33385961 03 .180 00	-.0125
013911	10	0	.0	.33874564 03 .180 00	.0884 .33408500 03 .180 00	-.0231
014011	10	0	.0	.33875769 03 .180 00	.0202 .33431455 03 .180 00	-.0171
014211	10	0	.0	.33878170 03 .180 00	.0381 .33474498 03 .180 00	-.0199
014311	10	0	.0	.33879365 03 .180 00	-.0019 .33500406 03 .180 00	-.0179
014411	10	0	.0	.33880559 03 .180 00	.0001 .33523418 03 .180 00	-.0078
014511	10	0	.0	.33881750 03 .180 00	.0261 .33546444 03 .180 00	-.0175
014711	10	0	.0	.33884123 03 .180 00	.0043 .33592539 03 .180 00	-.0164
014811	10	0	.0	.33885305 03 .180 00	.0444 .33615607 03 .180 00	-.0197
014911	10	0	.0	.33886485 03 .180 00	.0126 .33638687 03 .180 00	-.0148
015111	10	0	.0	.33888837 03 .180 00	.0270 .33684890 03 .180 00	-.0148
015211	10	0	.0	.33890008 03 .180 00	.0152 .33708010 03 .180 00	-.0155
015411	10	0	.0	.33892344 03 .180 00	.0377 .33754291 03 .180 00	-.0167
015511	10	0	.0	.33893529 03 .180 00	.0261 .33777450 03 .180 00	-.0190
015611	10	0	.0	.33894670 03 .180 00	.0144 .33800622 03 .180 00	-.0133
015711	10	0	.0	.33895829 03 .180 00	.0028 .33823806 03 .180 00	-.0154
015811	10	0	.0	.33896986 03 .180 00	-.0089 .33847003 03 .180 00	-.0174
015911	10	0	.0	.33898140 03 .180 00	.0475 .33870211 03 .180 00	-.0153
020011	10	0	.0	.33899292 03 .180 00	.0180 .33893432 03 .180 00	-.0130
020111	10	0	.0	.33900441 03 .180 00	.0065 .33916665 03 .180 00	-.0107
020211	10	0	.0	.33901588 03 .180 00	.0289 .33939910 03 .180 00	-.0102
020311	10	0	.0	.33902733 03 .180 00	.0175 .33963167 03 .180 00	-.0195
020411	10	0	.0	.33903874 03 .180 00	.0060 .33986434 03 .180 00	-.0148
020511	10	0	.0	.33905014 03 .180 00	.0165 .34009714 03 .180 00	-.0180
020611	10	0	.0	.33906152 03 .180 00	.0051 .34033005 03 .180 00	-.0171
020711	10	0	.0	.33907287 03 .180 00	.0237 .34056307 03 .180 00	-.0100
020911	10	0	.0	.33909551 03 .180 00	.0170 .34102945 03 .180 00	-.0135
021011	10	0	.0	.33910879 03 .180 00	.0077 .34126280 03 .180 00	-.0222
021111	10	0	.0	.33912185 03 .180 00	-.0045 .34149624 03 .180 00	-.0187
021311	10	0	.0	.33914050 03 .180 00	.0039 .34196350 03 .180 00	-.0174
021411	10	0	.0	.33915170 03 .180 00	.0206 .34219728 03 .180 00	-.0176
021711	10	0	.0	.33918516 03 .180 00	.0350 .34289923 03 .180 00	-.0155
021811	10	0	.0	.33919627 03 .180 00	.0099 .34313341 03 .180 00	-.0153
021911	10	0	.0	.33920736 03 .180 00	-.0089 .34336770 03 .180 00	-.0190
022011	10	0	.0	.33921843 03 .180 00	-.0073 .34360209 03 .180 00	-.0185
022111	10	0	.0	.33922948 03 .180 00	.0366 .34383657 03 .180 00	-.0161
022211	10	0	.0	.33924051 03 .180 00	.0256 .34407115 03 .180 00	-.0174
022311	10	0	.0	.33925152 03 .180 00	.0146 .34430582 03 .180 00	-.0167
022411	10	0	.0	.33926251 03 .180 00	.0236 .34454060 03 .180 00	-.0139
022511	10	0	.0	.33927347 03 .180 00	.0125 .34477544 03 .180 00	-.0130
022711	10	0	.0	.33929334 03 .180 00	.0146 .34524544 03 .180 00	-.0229
022911	10	0	.0	.33931714 03 .180 00	.0138 .34571583 03 .180 00	-.0185
023011	10	0	.0	.33932801 03 .180 00	.0419 .34595115 03 .180 00	-.0151
023111	10	0	.0	.33933887 03 .180 00	-.0130 .34618655 03 .180 00	-.0157
023211	10	0	.0	.33934969 03 .180 00	.0521 .34642205 03 .180 00	-.0182
023711	10	0	.0	.33940358 03 .180 00	.0102 .34760079 03 .180 00	-.0173
023911	10	0	.0	.33942501 03 .180 00	.0107 .34837286 03 .180 00	-.0151
024111	10	0	.0	.33944635 03 .180 00	.0253 .34884525 03 .180 00	-.0127
024211	10	0	.0	.33945701 03 .180 00	.0187 .34878157 03 .180 00	-.0183
024311	10	0	.0	.33946764 03 .180 00	.0080 .34901796 03 .180 00	-.0119
024511	10	0	.0	.33948886 03 .180 00	.0308 .34949098 03 .180 00	-.0208
024611	10	0	.0	.33949944 03 .180 00	.0222 .34972759 03 .180 00	-.0202
024711	10	0	.0	.33951000 03 .180 00	.0114 .34996429 03 .180 00	-.0135
024811	10	0	.0	.33952055 03 .180 00	.0551 .35020106 03 .180 00	-.0146
024911	10	0	.0	.33953108 03 .180 00	.0105 .35043790 03 .180 00	-.0118
025011	10	0	.0	.33954160 03 .180 00	.0380 .35067482 03 .180 00	-.0208
025111	10	0	.0	.33955209 03 .180 00	.0155 .35091180 03 .180 00	-.0178
025211	10	0	.0	.33956257 03 .180 00	.0350 .35114885 03 .180 00	-.0127
025311	10	0	.0	.33957303 03 .180 00	.0245 .35138598 03 .180 00	-.0116
025411	10	0	.0	.33958348 03 .180 00	.0141 .35162317 03 .180 00	-.0164
025611	10	0	.0	.33960433 03 .180 00	.0233 .35209776 03 .180 00	-.0157
025711	10	0	.0	.33961473 03 .180 00	.0068 .35233516 03 .180 00	-.0123
025811	10	0	.0	.33962512 03 .180 00	.0264 .35257262 03 .180 00	-.0168
025911	10	0	.0	.33963545 03 .180 00	.0151 .35281012 03 .180 00	-.0112
030011	10	0	.0	.33964584 03 .180 00	.0057 .35304774 03 .180 00	-.0136
030111	10	0	.0	.33965618 03 .180 00	.0414 .35328540 03 .180 00	-.0159
030311	10	0	.0	.33966681 03 .180 00	.0267 .35376090 03 .180 00	-.0143
030411	10	0	.0	.33967711 03 .180 00	.0065 .35399874 03 .180 00	-.0125
030511	10	0	.0	.33968738 03 .180 00	.0962 .35423665 03 .180 00	-.0165
030611	10	0	.0	.33970764 03 .180 00	.0239 .35447461 03 .180 00	-.0205
030711	10	0	.0	.33971789 03 .180 00	.0137 .35471263 03 .180 00	-.0185

STATION	NUMBER	5	62/01/27	TIME	FC	C	FRQ	DEC	HA				
030811	10	0	0	.33977812	03	.180	.00	.0275	-35495072	03	.180	.00	-.0164
030911	10	0	0	.33973834	03	.180	.00	.0173	-35518886	03	.180	.00	-.0167
031011	10	0	0	.33974855	03	.180	.00	.0071	-35542706	03	.180	.00	-.0100
031111	10	0	0	.33975873	03	.180	.00	.0588	-35566531	03	.180	.00	-.0117
031211	10	0	0	.33977907	03	.180	.00	.0046	-35614206	03	.180	.00	-.0189
031411	10	0	0	.33978921	03	.180	.00	.0264	-35638041	03	.180	.00	-.0165
031511	10	0	0	.33979934	03	.180	.00	.0163	-35661889	03	.180	.00	-.0140
031611	10	0	0	.33980946	03	.180	.00	.0392	-35685742	03	.180	.00	-.0114
031811	10	0	0	.33982966	03	.180	.00	.0181	-35733465	03	.180	.00	-.0201
034911	10	0	0	.34013566	03	.180	.00	.0087	-47552606	01	.180	.00	-.0105
035011	10	0	0	.34014554	03	.180	.00	-.0025	-49927268	01	.180	.00	-.0145
040211	10	0	0	.34026076	03	.180	.00	.0225	-78780202	01	.180	.00	-.0213
040411	10	0	0	.34027980	03	.180	.00	.0035	-83589034	01	.180	.00	-.0124
040511	10	0	0	.34028930	03	.180	.00	.0201	-85993896	01	.180	.00	-.0198
040611	10	0	0	.34029879	03	.180	.00	.0066	-88399007	01	.180	.00	-.0233
040711	10	0	0	.34030828	03	.180	.00	.0713	-90804403	01	.180	.00	-.0147
040811	10	0	0	.34031774	03	.180	.00	.0028	-93210064	01	.180	.00	-.0203
040911	10	0	0	.34032720	03	.180	.00	.0028	-95615973	01	.180	.00	-.0175
041111	10	0	0	.34034605	03	.180	.00	.0156	-10042859	02	.180	.00	-.0122
041211	10	0	0	.34035551	03	.180	.00	.0063	-10283526	02	.180	.00	-.0115
041811	10	0	0	.34041183	03	.180	.00	.0203	-11172804	02	.180	.00	-.0147
041911	10	0	0	.34042118	03	.180	.00	.0110	-11968876	02	.180	.00	-.0139
043311	10	0	0	.34055094	03	.180	.00	.0088	-15342647	02	.180	.00	-.0136
043411	10	0	0	.34056013	03	.180	.00	.0452	-15883791	02	.180	.00	-.0104
043511	10	0	0	.34056931	03	.180	.00	.0101	-15824930	02	.180	.00	-.0092
043611	10	0	0	.34057848	03	.180	.00	.0011	-16066086	02	.180	.00	-.0121
043711	10	0	0	.34058764	03	.180	.00	.0399	-16307255	02	.180	.00	-.0108
043811	10	0	0	.34059679	03	.180	.00	.0129	-16448441	02	.180	.00	-.0096
043911	10	0	0	.34060592	03	.180	.00	.0238	-16789642	02	.180	.00	-.0164
044011	10	0	0	.34061505	03	.180	.00	.0298	-17030858	02	.180	.00	-.0051
044111	10	0	0	.34062416	03	.180	.00	.0118	-17272088	02	.180	.00	-.0078
044211	10	0	0	.34063328	03	.180	.00	.0028	-17513333	02	.180	.00	-.0106
044311	10	0	0	.34064237	03	.180	.00	.0338	-17754590	02	.180	.00	-.0093
044411	10	0	0	.34065146	03	.180	.00	.0028	-17995859	02	.180	.00	-.0080
044511	10	0	0	.34066053	03	.180	.00	.0058	-18237145	02	.180	.00	-.0067
044611	10	0	0	.34066960	03	.180	.00	.0469	-18478443	02	.180	.00	-.0139
044711	10	0	0	.34067865	03	.180	.00	.0129	-18719751	02	.180	.00	-.0080
044811	10	0	0	.34068770	03	.180	.00	.0189	-18961073	02	.180	.00	-.0066
044911	10	0	0	.34069673	03	.180	.00	.0100	-19202407	02	.180	.00	-.0092
045011	10	0	0	.34070576	03	.180	.00	.0011	-19443752	02	.180	.00	-.0038
045111	10	0	0	.34071477	03	.180	.00	.0820	-19685107	02	.180	.00	-.0124
045211	10	0	0	.34072377	03	.180	.00	.0184	-20167802	02	.180	.00	-.0180
045311	10	0	0	.34073277	03	.180	.00	.0226	-20650637	02	.180	.00	-.0128
045411	10	0	0	.34074176	03	.180	.00	.0137	-20892047	02	.180	.00	-.0113
045511	10	0	0	.34075075	03	.180	.00	.0049	-21133462	02	.180	.00	-.0139
045611	10	0	0	.34075974	03	.180	.00	.0420	-21374889	02	.180	.00	-.0124
045711	10	0	0	.34076873	03	.180	.00	.0112	-21616322	02	.180	.00	-.0109
045811	10	0	0	.34077772	03	.180	.00	.0024	-21857766	02	.180	.00	-.0094
045911	10	0	0	.34078671	03	.180	.00	.0296	-22299218	02	.180	.00	-.0119
046011	10	0	0	.34079570	03	.180	.00	.0206	-22740680	02	.180	.00	-.0084
046111	10	0	0	.34080469	03	.180	.00	.0360	-22982147	02	.180	.00	-.0089
046211	10	0	0	.34081368	03	.180	.00	.0132	-23223618	02	.180	.00	-.0054
046311	10	0	0	.34082267	03	.180	.00	.0325	-23465092	02	.180	.00	-.0119
046411	10	0	0	.34083166	03	.180	.00	.0063	-23706566	02	.180	.00	-.0093
046511	10	0	0	.34084065	03	.180	.00	.0096	-24031095	02	.180	.00	-.0057
046611	10	0	0	.34084964	03	.180	.00	.0228	-24272608	02	.180	.00	-.0102
046711	10	0	0	.34085863	03	.180	.00	.0142	-24514123	02	.180	.00	-.0066
046811	10	0	0	.34086762	03	.180	.00	.0315	-24755649	02	.180	.00	-.0050
046911	10	0	0	.34087661	03	.180	.00	.0228	-24997179	02	.180	.00	-.0074
047011	10	0	0	.34088560	03	.180	.00	.0141	-25238711	02	.180	.00	-.0139
047111	10	0	0	.34089459	03	.180	.00	.0568	-25721792	02	.180	.00	-.0147
047211	10	0	0	.34090358	03	.180	.00	.0262	-25963335	02	.180	.00	-.0151
047311	10	0	0	.34091257	03	.180	.00	.0176	-26204886	02	.180	.00	-.0155
047411	10	0	0	.34092156	03	.180	.00	.0090	-26446439	02	.180	.00	-.0159
047511	10	0	0	.34093055	03	.180	.00	.0024	-26687999	02	.180	.00	-.0122
047611	10	0	0	.34093954	03	.180	.00	-.0022	-26929562	02	.180	.00	-.0107
047711	10	0	0	.34094853	03	.180	.00	.0051	-27171119	02	.180	.00	-.0151
047811	10	0	0	.34095752	03	.180	.00	.0366	-27412684	02	.180	.00	-.0075
047911	10	0	0	.34096651	03	.180	.00	.0231	-27654250	02	.180	.00	-.0179
048011	10	0	0	.34097550	03	.180	.00	.0195	-27895818	02	.180	.00	-.0123
048111	10	0	0	.34098449	03	.180	.00	.0110	-28137389	02	.180	.00	-.0147
048211	10	0	0	.34099348	03	.180	.00	.0325	-28378960	02	.180	.00	-.0110
048311	10	0	0	.34099247	03	.180	.00	.0280	-28620534	02	.180	.00	-.0154
048411	10	0	0	.34100146	03	.180	.00	.0315	-28862110	02	.180	.00	-.0098
048511	10	0	0	.34101045	03	.180	.00	.0110	-29103684	02	.180	.00	-.0102
048611	10	0	0	.34101944	03	.180	.00	.0025	-29345259	02	.180	.00	-.0106
048711	10	0	0	.34102843	03	.180	.00	.0499	-29586838	02	.180	.00	-.0169
048811	10	0	0	.34103742	03	.180	.00	.0236	-29828412	02	.180	.00	-.0073
048911	10	0	0	.34104641	03	.180	.00	.0132	-30069988	02	.180	.00	-.0097
049011	10	0	0	.34105540	03	.180	.00	.0167	-30311566	02	.180	.00	-.0081
049111	10	0	0	.34106439	03	.180	.00	.0378	-30794716	02	.180	.00	-.0108
049211	10	0	0	.34107338	03	.180	.00	.0213	-32485702	02	.180	.00	-.0095
049311	10	0	0	.34108237	03	.180	.00	.0310	-32727266	02	.180	.00	-.0159
049411	10	0	0	.34109136	03	.180	.00	.0227	-32968824	02	.180	.00	-.0162
049511	10	0	0	.34110035	03	.180	.00	.0144	-33210382	02	.180	.00	-.0107
049611	10	0	0	.34110934	03	.180	.00	-.0074	-34901181	02	.180	.00	-.0095
049711	10	0	0	.34111833	03	.180	.00	.0303	-35142710	02	.180	.00	-.0159
049811	10	0	0	.34112732	03	.180	.00	.0222	-35384233	02	.180	.00	-.0143
049911	10	0	0	.34113631	03	.180	.00	.0140	-35625747	02	.180	.00	-.0088
050011	10	0	0	.34114530	03	.180	.00	.0087	-35867263	02	.180	.00	-.0112
050111	10	0	0	.34115429	03	.180	.00	.0216	-36108771	02	.180	.00	-.0084
060011	10	0	0	.34131268	03	.180	.00	.0135	-36350274	02	.180	.00	-.0181
060111	10	0	0	.34132108	03	.180	.00	.0313	-36591771	02	.180	.00	-.0065
060211	10	0	0	.34132947	03	.180	.00	.0110	-37074751	02	.180	.00	-.0095
060311	10	0	0	.34133787	03	.180	.00	.0249	-37316231	02	.180	.00	-.0079
060411	10	0	0	.34134626	03	.180	.00	.0087	-37799175	02	.180	.00	-.0069
060511	10	0	0	.34135466	03	.180	.00	.0107	-38040634	02	.180	.00	-.0074
060611	10	0	0	.34136305	03	.180	.00	.0026	-38282092	02	.180	.00	-.0119
060711	10	0	0	.34137145									

STATION NUMBER		5	62/01/27				HA		
TIME	TC	Q	FRQ	DEC					
062011	10	0	0	.34147712	03 .180 00	.0505	.41178981	02 .180 00	.0143
062111	10	0	0	.34148524	03 .180 00	.0187	.41420336	02 .180 00	.0109
062211	10	0	0	.34149334	03 .180 00	.0228	.41661682	02 .180 00	.0055
062311	10	0	0	.34150144	03 .180 00	.0149	.41903020	02 .180 00	.0061
062411	10	0	0	.34150952	03 .180 00	.0070	.42144365	02 .180 00	.0087
062511	10	0	0	.34151766	03 .180 00	.0292	.42385710	02 .180 00	.0079
062611	10	0	0	.34152566	03 .180 00	.0214	.42627054	02 .180 00	.0086
062711	10	0	0	.34153372	03 .180 00	.0255	.42868398	02 .180 00	.0032
062811	10	0	0	.34154176	03 .180 00	.0176	.43109742	02 .180 00	.0039
062911	10	0	0	.34154979	03 .180 00	.0099	.43351086	02 .180 00	.0086
063011	10	0	0	.34155782	03 .180 00	.0020	.43592430	02 .180 00	.0093
063111	10	0	0	.34156583	03 .180 00	.0038	.43833774	02 .180 00	.0100
063211	10	0	0	.34157383	03 .180 00	.0287	.44075118	02 .180 00	.0173
063311	10	0	0	.34158188	03 .180 00	.0209	.44316462	02 .180 00	.0081
063411	10	0	0	.34158978	03 .180 00	.0192	.44557806	02 .180 00	.0128
063511	10	0	0	.34159778	03 .180 00	.0114	.44799150	02 .180 00	.0096
063611	10	0	0	.34160574	03 .180 00	.0397	.45040494	02 .180 00	.0163
063711	10	0	0	.34161389	03 .180 00	.0139	.45281838	02 .180 00	.0091
063811	10	0	0	.34162163	03 .180 00	.0063	.45523182	02 .180 00	.0099
063911	10	0	0	.34162956	03 .180 00	.0225	.45764526	02 .180 00	.0106
064011	10	0	0	.34163748	03 .180 00	.0149	.46005870	02 .180 00	.0114
064111	10	0	0	.34164539	03 .180 00	.0179	.46247214	02 .180 00	.0079
064211	10	0	0	.34165328	03 .180 00	.0103	.46488558	02 .180 00	.0187
064311	10	0	0	.34166123	03 .180 00	.0030	.46729902	02 .180 00	.0145
064411	10	0	0	.34166906	03 .180 00	.0214	.46971246	02 .180 00	.0173
064511	10	0	0	.34167688	03 .180 00	.0138	.47212590	02 .180 00	.0182
064611	10	0	0	.34168471	03 .180 00	.0222	.47453934	02 .180 00	.0131
064711	10	0	0	.34169254	03 .180 00	.0145	.47695278	02 .180 00	.0170
064811	10	0	0	.34170043	03 .180 00	.0091	.47936622	02 .180 00	.0130
064911	10	0	0	.34170828	03 .180 00	.0015	.48177966	02 .180 00	.0179
065011	10	0	0	.34171610	03 .180 00	.0360	.48419310	02 .180 00	.0168
065111	10	0	0	.34172390	03 .180 00	.0265	.48660654	02 .180 00	.0118
065211	10	0	0	.34173164	03 .180 00	.0190	.48902000	02 .180 00	.0128
065311	10	0	0	.34173948	03 .180 00	.0226	.49143344	02 .180 00	.0168
065411	10	0	0	.34174725	03 .180 00	.0145	.49384688	02 .180 00	.0118
065511	10	0	0	.34175501	03 .180 00	.0016	.49626032	02 .180 00	.0179
065611	10	0	0	.34176276	03 .180 00	.0142	.49867376	02 .180 00	.0150
065711	10	0	0	.34177050	03 .180 00	.0087	.50108720	02 .180 00	.0181
065811	10	0	0	.34177824	03 .180 00	.0013	.50350064	02 .180 00	.0192
065911	10	0	0	.34178598	03 .180 00	.0399	.50591408	02 .180 00	.0202
070011	10	0	0	.34179373	03 .180 00	.0105	.50832752	02 .180 00	.0148
070111	10	0	0	.34180148	03 .180 00	.0042	.51074096	02 .180 00	.0179
070211	10	0	0	.34180923	03 .180 00	.0231	.51315440	02 .180 00	.0150
070311	10	0	0	.34181698	03 .180 00	.0304	.51556784	02 .180 00	.0181
070411	10	0	0	.34182473	03 .180 00	.0199	.51798128	02 .180 00	.0192
070511	10	0	0	.34183248	03 .180 00	.0040	.52039472	02 .180 00	.0202
070611	10	0	0	.34184023	03 .180 00	.0245	.52280816	02 .180 00	.0156
070711	10	0	0	.34184798	03 .180 00	.0076	.52522160	02 .180 00	.0217
070811	10	0	0	.34185573	03 .180 00	.0325	.52763504	02 .180 00	.0128
070911	10	0	0	.34186348	03 .180 00	.0231	.53004848	02 .180 00	.0179
071011	10	0	0	.34187123	03 .180 00	.0304	.53246192	02 .180 00	.0043
071111	10	0	0	.34187898	03 .180 00	.0151	.53487536	02 .180 00	.0156
071211	10	0	0	.34188673	03 .180 00	.0245	.53728880	02 .180 00	.0100
071311	10	0	0	.34189448	03 .180 00	.0173	.53970224	02 .180 00	.0093
071411	10	0	0	.34190223	03 .180 00	.0100	.54211568	02 .180 00	.0126
071511	10	0	0	.34190998	03 .180 00	.0045	.54452912	02 .180 00	.0052
071611	10	0	0	.34191773	03 .180 00	.0091	.54694256	02 .180 00	.0059
071711	10	0	0	.34192548	03 .180 00	.0640	.54935600	02 .180 00	.0026
071811	10	0	0	.34193323	03 .180 00	.0076	.55176944	02 .180 00	.0060
071911	10	0	0	.34194098	03 .180 00	.0313	.55418288	02 .180 00	.0048
072011	10	0	0	.34194873	03 .180 00	.0181	.55659632	02 .180 00	.0042
072111	10	0	0	.34195648	03 .180 00	.0110	.55900976	02 .180 00	.0077
072211	10	0	0	.34196423	03 .180 00	.0199	.56142320	02 .180 00	.0071
072311	10	0	0	.34197198	03 .180 00	.0028	.56383664	02 .180 00	.0026
072411	10	0	0	.34197973	03 .180 00	.0257	.56625008	02 .180 00	.0121
072511	10	0	0	.34198748	03 .180 00	.0276	.56866352	02 .180 00	.0052
072611	10	0	0	.34199523	03 .180 00	.0015	.57107696	02 .180 00	.0015
072711	10	0	0	.34200298	03 .180 00	.0565	.57349040	02 .180 00	.0031
072811	10	0	0	.34201073	03 .180 00	.0115	.57590384	02 .180 00	.0007
072911	10	0	0	.34201848	03 .180 00	.0125	.57831728	02 .180 00	.0044
073011	10	0	0	.34202623	03 .180 00	.0274	.58073072	02 .180 00	.0001
073111	10	0	0	.34203398	03 .180 00	.0186	.58314416	02 .180 00	.0117
073211	10	0	0	.34204173	03 .180 00	.0117	.58555760	02 .180 00	.0035
073311	10	0	0	.34204948	03 .180 00	.0048	.58797104	02 .180 00	.0012
073411	10	0	0	.34205723	03 .180 00	.0319	.59038448	02 .180 00	.0069
073511	10	0	0	.34206498	03 .180 00	.0141	.59279792	02 .180 00	.0022
073611	10	0	0	.34207273	03 .180 00	.0513	.59521136	02 .180 00	.0022
073711	10	0	0	.34208048	03 .180 00	.0244	.59762480	02 .180 00	.0081
073811	10	0	0	.34208823	03 .180 00	.0176	.60003824	02 .180 00	.0019
073911	10	0	0	.34209598	03 .180 00	.0107	.60245168	02 .180 00	.0018
074011	10	0	0	.34210373	03 .180 00	.0040	.60486512	02 .180 00	.0116
074111	10	0	0	.34211148	03 .180 00	.0532	.60727856	02 .180 00	.0075
074211	10	0	0	.34211923	03 .180 00	.0104	.60969200	02 .180 00	.0174
074311	10	0	0	.34212698	03 .180 00	.0457	.61210544	02 .180 00	.0093
074411	10	0	0	.34213473	03 .180 00	.0369	.61451888	02 .180 00	.0093
074511	10	0	0	.34214248	03 .180 00	.0161	.61693232	02 .180 00	.0013
074611	10	0	0	.34215023	03 .180 00	.0094	.61934576	02 .180 00	.0007
074711	10	0	0	.34215798	03 .180 00	.0141	.62175920	02 .180 00	.0044
074811	10	0	0	.34216573	03 .180 00	.0513	.62417264	02 .180 00	.0022
074911	10	0	0	.34217348	03 .180 00	.0244	.62658608	02 .180 00	.0081
075011	10	0	0	.34218123	03 .180 00	.0176	.62900000	02 .180 00	.0019
075111	10	0	0	.34218898	03 .180 00	.0107	.63141344	02 .180 00	.0018
075211	10	0	0	.34219673	03 .180 00	.0040	.63382688	02 .180 00	.0116
075311	10	0	0	.34220448	03 .180 00	.0532	.63624032	02 .180 00	.0075
075411	10	0	0	.34221223	03 .180 00	.0104	.63865376	02 .180 00	.0174
075511	10	0	0	.34221998	03 .180 00	.0457	.64106720	02 .180 00	.0093
075611	10	0	0	.34222773	03 .180 00	.0369	.64348064	02 .180 00	.0093
075711	10	0	0	.34223548	03 .180 00	.0161	.64589408	02 .180 00	.0013
075811	10	0	0	.34224323	03 .180 00	.0094	.64830752	02 .180 00	.0007
075911	10	0	0	.34225098	03 .180 00	.0141	.65072096	02 .180 00	.0044
080011	10	0	0	.34225873	03 .180 00	.0513	.65313440	02 .180 00	.0022
080111	10	0	0	.34226648	03 .180 00	.0244	.65554784	02 .180 00	.0081
080211	10	0	0	.34227423	03 .180 00	.0176	.65796128	02 .180 00	.0019
080311	10	0	0	.34228198	03 .180 00	.0107	.66037472	02 .180 00	.0018
080411	10	0	0	.34228973	03 .180 00	.0040	.66278816	02 .180 00	.0116
080511	10	0	0	.34229748	03 .180 00	.0532	.66520160	02 .180 00	.0075
080611	10	0	0	.34230523	03 .180 00	.0104	.66761504	02 .180 00	.0174
080711	10	0	0	.34231298	03 .180 00	.0457	.67002848	02 .180 00	.0093
080811	10	0	0	.34232073	03 .180 00	.0369	.67244192	02 .180 00	.0093
080911	10	0	0	.34232848	03 .180 00	.0161	.67485536	02 .180 00	.0013
081011	10	0	0	.34233623	03 .180 00	.0094	.67726880	02 .180 00	.0007
081111	10	0	0	.34234398	03 .180 00	.0141	.67968224	02 .180 00	.0044
081211	10	0	0	.34235173	03 .180 00	.0513	.68209568	02 .180 00	.0022
081311	10	0	0	.34235948	03 .180 00	.0244	.68450912		

JPL TECHNICAL REPORT NO. 32-563

COVARIANCE MATRIX AFTER MAPPING										
	X	Y	Z	DX	DY	DZ	KE	KM	R101	
X	.35260567 02	.74585927 01	-.52955218 02	.73821442-03	.17900804-03	-.79485825-03	.80302938 01	.12171152 01	.13537834 00	.13537834 00
Y	.74585927 01	.38409833 02	.94304335 01	.47514919-03	.67862069-03	.14919329-03	.15057567 02	.59472901 00	.13937692-02	.13937692-02
Z	-.52955218 02	.94304335 01	.43179312 03	.30495370-03	.71843520-03	.76929320-02	.53859391 02	.69822898 00	.56235451-01	.56235451-01
DX	.73821442-03	.47514919-03	.30495370-03	.23311522-07	.11489445-07	.78301945-08	.49648773-03	.30061027-04	.39086858-05	.39086858-05
DY	.17900804-03	.67862069-03	.71843520-03	.11489445-07	.13241018-07	.13312108-07	.38084211-03	.15586289-04	.63216489-06	.63216489-06
DZ	-.79485825-03	.14919329-03	.76929320-02	.78301945-08	.13312108-07	.14023977-06	.10167926-02	.21550993-04	.12502922-05	.12502922-05
KE	.80302938 01	.15057567 02	.53859391 02	.49648773-03	.38084211-03	.10167926-02	.16714530 02	.83311544 00	.24992497 02	.24992497 02
KM	.12171152 01	.59472901 00	.69822898 00	.30061027-04	.15986280-04	.21550993-04	.83311544 00	.24992497 02	.20807322-03	.20807322-03
R101	.13537834 00	.13937692-02	.56235451-01	.39086858-05	.63216489-06	.12502922-05	.70988750-01	.20807322-03	.35725950-02	.35725950-02
LAC1	.15486409-02	.28885499-03	.42502739-03	.45789753-07	.17487157-07	.13526558-07	.94290247-03	.60232662-05	.16249933-06	.16249933-06
L001	.28885499-03	.28661545-02	.23453400-03	.43083526-08	.42123022-07	.10767602-07	.60407443-03	.10897908-04	.29051219-06	.29051219-06
R103	-.59679302-01	-.33849261-01	-.44494333-01	-.18532077-05	-.90808503-06	-.11433194-05	-.40313675-01	.73819464-03	.10607269-04	.10607269-04
LA03	.12517839-02	.70155393-03	.94920814-03	.38899318-07	.19078733-07	.24080638-07	.84685364-03	.49562638-05	.22263110-06	.22263110-06
L003	.11638848-02	.52659316-03	.35746283-03	.33467933-07	.14694635-07	.12812101-07	.66544879-03	.84657788-05	.19359915-06	.19359915-06
LA04	.63590290-04	.54235432-03	-.12054433-02	-.72768623-08	-.10678356-07	-.19297234-07	.32540644-03	.72050978-05	.91387839-06	.91387839-06
LA04	-.14730276-04	-.88624723-07	.67507976-04	-.52601386-10	.48609696-10	.10310887-08	.53246627-05	.24381853-06	.87044977-08	.87044977-08
L004	-.17459574-02	-.10181569-03	-.87654637-04	-.14647213-08	-.18972920-08	-.14772661-08	.49769490-04	.18283310-05	.77801429-07	.77801429-07
R105	.13535132 00	.13935678-02	.56224446-01	.39079060-05	.63204035-06	.12518482-05	.70974638 01	.20802647 03	.35718803-02	.35718803-02
LA05	.15483267-02	.70852377-03	.42495836-03	.45780765-07	.17483900-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	.16243141-06
L005	.28879073-03	-.26657220-02	-.23470174-03	-.43091206-08	-.42116677-07	-.10769252-07	-.60402024-03	.10893363-04	.29040035-06	.29040035-06
LAC1		LCC1	R103	LA03	L003	R104	LA04	L004	R105	
X	.15486409-02	.28885499-03	-.59679302-01	.12517839-02	.11638848-02	.63590290-04	-.14730276-04	-.17495557-04	.13535132 00	
Y	.42054998-03	-.26661545-02	-.33349261-01	.70155393-03	.52653116-03	-.54235432-03	-.88624723-07	-.10181569-03	.13935678-02	
Z	.74585927 01	.38409833 02	.94304335 01	.44994333-01	.94920814-03	.35746283-03	-.12054433-02	.67507976-04	.87654637-04	
DX	.45789753-07	-.43083526-08	-.18532077-05	.38899318-07	.33467933-07	-.72768623-08	-.52601386-10	-.14647213-08	.39079060-05	
DY	.17487157-07	-.42123022-07	-.90808503-06	.19078733-07	.14694635-07	-.10678356-07	.48609696-10	-.18972920-08	.63204035-06	
DZ	.13526558-07	-.10767602-07	.11433194-05	.24080638-07	.12812101-07	-.19297234-07	.10310887-08	-.14772661-08	.12518482-05	
KE	.94290247-03	-.60407443-03	-.40313675-01	.84685364-03	.66544879-03	.32540644-03	.53246627-05	.49769490-04	.70974638 01	
KM	.60232662-05	.10897908-04	.23819464-03	.49562638-05	.84657788-05	.72050978-05	.24381853-06	.18283310-05	.20802647 03	
R101	-.16249933-06	.29051219-06	.16607269-04	-.22263110-06	-.19359915-06	-.51387839-06	.87044977-08	-.77801429-07	.35718803-02	
LA01	.99188177-06	.94983203-08	.24139426-06	-.50518330-08	-.58133779-08	-.13666575-07	-.23225087-09	.28667761-08	.16245849-06	
L001	.94983203-08	.97930630-06	-.32393527-06	.67283186-08	.12682119-07	.31267414-07	.70373510-09	.70248520-08	.29044862-06	
R103	-.24139426-06	-.32393527-06	.35872756-02	.26745730-06	.19559977-06	.42986450-06	.85054078-08	.92171497-07	.10608999-04	
LAC3	-.50518330-08	.67283186-08	.6745730-06	.99437735-06	-.40311737-08	-.90462855-08	-.17772186-09	-.20413242-08	-.22258135-06	
L003	.98133779-08	.12682119-07	.19559977-06	-.40311737-08	.98931439-06	-.55299741-08	-.23092121-09	-.14932847-08	.19355622-06	
LA04	-.13666575-07	.31267414-07	.42986450-06	-.90462855-08	.55299741-06	.35998471-02	.26761741-09	-.24093774-07	.51377585-06	
LA04	-.23225087-09	.70373510-09	.85054078-08	-.17772186-09	-.23092121-09	-.26761741-09	.62749869 38	.42678684-09	.87026730-08	
L004	-.28667761-08	.70248520-08	.97121497-07	-.20413242-08	-.14932847-08	-.24093774-07	-.42678684-09	.99483761-06	-.77786067-07	
R105	-.16245849-06	.29044862-06	.10608999-04	-.22258135-06	-.19355622-06	-.51377585-06	.87026730-08	-.77786067-07	.35726057-02	
LAC5	.99168321-06	.94983203-08	.24139426-06	-.50508498-08	-.58122873-08	-.13664280-07	-.23218653-09	.28662512-08	.16239059-06	
L005	.94933081-08	.97911245-06	-.32374443-06	.67283233-08	.12676802-07	.31263055-07	.70356472-09	.70237422-08	.29033662-06	
LAC5		L005								
X	.15483267-02	.70852377-03	.42495836-03	.45780765-07	.17483900-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
Y	.70852377-03	-.26667220-02	-.23470174-03	.45780765-07	.17483900-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
Z	.42495836-03	-.23470174-03	.42495836-03	.45780765-07	.17483900-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
DX	.45780765-07	-.43091206-08	.45780765-07	.17483900-07	.13523790-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
DY	.17483900-07	-.42116677-07	.17483900-07	.13523790-07	.13523790-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
DZ	.13523790-07	-.10769252-07	.13523790-07	.13523790-07	.13523790-07	.13523790-07	.94271853-03	.60221466-05	.16243141-06	
KE	.94271853-03	-.60402024-03	.94271853-03	.60221466-05	.60221466-05	.60221466-05	.94271853-03	.60221466-05	.16243141-06	
KM	.60221466-05	.10893363-04	.60221466-05	.60221466-05	.60221466-05	.60221466-05	.94271853-03	.60221466-05	.16243141-06	
R101	-.16243141-06	.29040035-06	.16243141-06	.60221466-05	.60221466-05	.60221466-05	.94271853-03	.60221466-05	.16243141-06	
LA01	.99168321-06	.94933081-08	.24139426-06	-.50533081-08	-.58133779-08	-.13666575-07	-.23225087-09	.28667761-08	.16245849-06	
L001	.94933081-08	.97911245-06	-.32374443-06	.67283186-08	.12682119-07	.31267414-07	.70373510-09	.70248520-08	.29044862-06	
R103	-.24139426-06	-.32374443-06	.35872756-02	.26745730-06	.19559977-06	.42986450-06	.85054078-08	.92171497-07	.10608999-04	
LA03	-.50508498-08	.67283233-08	.6745730-06	.99437735-06	-.40311737-08	-.90462855-08	-.17772186-09	-.20413242-08	-.22258135-06	
L003	.98122873-08	.12676802-07	.19559977-06	-.40311737-08	.98931439-06	-.55299741-08	-.23092121-09	-.14932847-08	.19355622-06	
LA04	-.13664280-07	.31263055-07	.42986450-06	-.90462855-08	.55299741-06	.35998471-02	.26761741-09	-.24093774-07	.51377585-06	
LA04	-.23218653-09	.70356472-09	.85054078-08	-.17772186-09	-.23092121-09	-.26761741-09	.62749869 38	.42678684-09	.87026730-08	
L004	-.28662512-08	.70237422-08	.97121497-07	-.20413242-08	-.14932847-08	-.24093774-07	-.42678684-09	.99483761-06	-.77786067-07	
R105	-.16239059-06	.29033662-06	.10608999-04	-.22258135-06	-.19355622-06	-.51377585-06	.87026730-08	-.77786067-07	.35726057-02	
LAC5	.80292224 37	.94915216-08	.24139426-06	-.50508498-08	-.58122873-08	-.13664280-07	-.23218653-09	.28662512-08	.16239059-06	
L005	.94915216-08	.97911859-06	-.32374443-06	.67283233-08	.12676802-07	.31263055-07	.70356472-09	.70237422-08	.29033662-06	

CASE 1										SPACE TRAJECTORIES										
EPHEMERIDES, WITH VENUS VELOCITIES																				
GME	.3986061	06	J	.16234500	-02	H	-.57499999	-05	D	.78749999	-05	RE	-.63781650	04	REM	.63781650	04	RE	.63781650	04
R	.66769998	-19	A	.88745998	29	B	.88763998	29	C	.88800998	29	CME	.41780741	-02	AM	.14959900	09	AM	.14959900	09
GRM	.47006276	04	GMS	.13271544	12	GMV	.32476952	06	GMA	.42977799	05	GMB	.00000000	00	GMJ	.12671062	09	GMK	.12671062	09
ARA	.27890000	01	GB	.00000000	01	MAS	.34020000	03	GB1	.00000000	00	GB2	.00000000	00	GC	.00000000	00	GC	.00000000	00
INJECTION CONDITIONS										MCON JULIAN DATE 2437691.36815972 JAN. 26, 1962 20 50 09.000										
GEOCENTRIC										GEOCENTRIC										
X	.33944722	04	Y	.57112330	04	Z	.51362591	03	DX	-.77931340	01	DY	.56158514	01	DZ	-.53071320	01	DX	-.77931340	01
R	.66436654	04	DEC	.44206623	01	RA	.59274861	02	V	.10974351	02	PTH	.22679779	01	AZ	.11924067	03	V	.10974351	02
TA	.65936632	04	LAT	.44206623	01	LCN	.34107530	03	VE	.10554608	02	PIE	.23582227	01	AZE	.12952656	03	VE	.10554608	02
XS	.87497054	08	YS	-.10872425	09	ZS	-.47144052	08	DXS	.24453922	02	DYS	.16321220	02	DES	.70777928	01	DXS	.24453922	02
XM	-.39168894	16	YM	-.94116721	05	ZM	-.76529536	04	DXM	.24768878	00	DYM	-.88013244	00	DZM	-.32787891	00	DXM	.24768878	00
XT	-.39168894	16	YT	-.94116721	05	ZT	-.76529536	04	DXT	.24768878	00	DYT	-.88013244	00	DZT	-.32787891	00	DXT	.24768878	00
RS	.14730668	09	VS	.30240232	02	VM	.40289091	06	VM	.97133280	00	RI	.40289091	06	YI	.97133280	00	VM	.97133280	00
GED	.44506675	01	ALT	.28558734	03	LOS	.23062620	03	RAS	.30882576	03	RAM	.19351180	03	LDM	.11531224	03	RAS	.30882576	03
OUT	.34000000	02	DT	.37500000	01	DR	.43429207	00	SHA	.62304382	04	DES	-.18665352	02	DEM	-.19884024	01	SHA	.62304382	04
GEOCENTRIC										CONIC										
EPOCH OF PERICENTER PASSAGE										JULIAN DATE 2437691.36760776 JAN. 26, 1962 20 49 21.309										
SMA	-.49676707	06	ECC	.10133532	01	TNC	.29543722	02	LAN	.24711440	03	APF	.16650077	03	RCA	.66532986	04	TNC	.29543722	02
VH	.89276186	00	C3	.80238895	00	C1	.73072115	05	SLR	.13395706	05	APD	.00000000	00	TFP	.47681270	02	C1	.73072115	05
TA	.45059673	01	EA	.36765811	00	MA	.49272113	-02	DAQ	-.11027198	02	RAQ	.22700436	03	MFA	.17087454	03	MA	.49272113	-02
WX	.45427334	00	WY	.19175792	00	WZ	.86597967	00	PX	.56524371	00	PY	.81685428	00	PZ	.11510255	00	PX	.56524371	00
QX	-.68874749	00	CY	.54403856	00	QZ	-.47946509	00	RX	-.74149571	-01	RY	.32072185	00	RZ	-.94426654	00	RX	-.74149571	-01
SXQ	-.66935156	00	SY	-.71790136	00	SZQ	-.19127494	00	TX	-.73923630	00	TY	-.61786335	00	TZ	-.59707776	00	TX	-.73923630	00
BX	-.58788110	00	BY	.66921337	00	BZ	-.45447692	00	PX	-.73085374	00	PY	.47818253	00	PZ	-.48702593	00	PX	-.73085374	00
B.T	.92428809	05	B.R	.56072447	05	B	.81575970	05	PER	.00000000	00	QMD	.42663350	-02	NOD	-.28535739	-02	PER	.00000000	00
HELIOCENTRIC										ECLIPTIC COORDINATES										
X	-.87493659	08	Y	.11851082	09	Z	-.20755000	04	DX	-.32247056	02	DY	-.14748788	02	DZ	-.71038395	01	DX	-.32247056	02
R	.14730668	09	LAT	-.80726466	-03	LCN	.12643755	03	V	.36164400	02	PTH	.11625534	02	AZ	.10156871	03	V	.36164400	02
XE	-.87497054	08	YE	.11850538	09	ZE	-.27450000	03	DXE	-.24453922	02	DYE	-.17789910	02	DZE	-.62799453	-03	DXE	-.24453922	02
WT	-.87497054	08	WY	.11841598	09	ZT	.30146000	05	DXT	-.24266233	02	DYT	-.18277736	02	DZT	-.48693597	-01	DXT	-.24266233	02
LTE	.10676895	-03	LCE	.12643987	03	LTT	.11712643	-01	LOT	-.12698292	03	RST	.14746787	09	VST	.30605100	02	LOT	-.12698292	03
EPS	.69223563	02	LSP	.00000000	00	SEP	.11077401	03	EMP	.45150093	02	EMP	.67180292	00	MEP	.13417804	03	EMP	.45150093	02
MPS	.11286286	03	MSP	.14587384	00	SMP	.66991229	02	SEM	.11351174	03	ENS	.66344723	02	ESP	.14333671	00	SMP	.66991229	02
EPT	.45150093	02	ETP	.67180292	00	TEP	.13417804	03	TPS	.11286286	03	TSP	.14587384	00	STP	.66991229	02	TPS	.11286286	03
SET	.11351174	03	STE	.66344723	02	EST	.14333671	00	RPM	.40756277	06	RPT	.40756277	06	SPN	-.39390859	01	RPM	.40756277	06
SAC	.00000000	00	SAC	.00000000	00	SAC	.00000000	00	SAC	.00000000	00	SAC	.00000000	00	SAC	.00000000	00	SAC	.00000000	00
GCE	.24775532	03	CCT	.25967332	03	SIP	.11261853	03	CPT	.94147349	02	SIN	.93923017	02				CPT	.94147349	02
REP	.66636654	04	VEP	.10974351	02															
HELIOCENTRIC										CONIC										
EPOCH OF PERICENTER PASSAGE										JULIAN DATE 2437663.52384946 DEC. 30, 1961 00 34 20.594										
SMA	.26885460	09	ECC	.48614515	00	INC	.11568715	02	LAN	.30643360	03	APF	.16388970	03	RCA	.13804947	09	INC	.11568715	02
VH	.13063326	02	C3	.49400026	03	C1	.52180558	10	SLR	.20516159	09	APD	.39925972	09	TFP	.62799454	07	C1	.52180558	10
TA	.36114310	02	EA	.21704658	02	MA	.11403602	02	DAQ	.67815567	01	RAI	.30881427	02	MFA	.18000000	03	MA	.11403602	02
WX	.16134621	03	WY	-.11910567	00	WZ	.97968490	00	PX	.15275426	-01	PY	.39252668	02	PZ	-.11818510	03	PX	.15275426	-01
QX	.98477965	00	CY	.41041150	-02	QZ	-.16201551	00	RX	-.18000272	-02	RY	.11818510	03	RZ	-.94299117	00	RX	-.18000272	-02
SXI	-.15275426	-01	SYI	.99287368	00	SZI	.11818510	03	TX	.99988171	00	TY	.15381106	-01	TZ	-.17967666	-04	TX	.99988171	00
BX	.98477965	00	BY	-.41041151	-02	BZ	-.16201552	00	PX	-.78815742	00	PY	-.58188246	00	PZ	-.20654302	00	PX	-.78815742	00
B.T	.23162606	09	B.R	-.38300882	08	B	.23477135	09	PER	.87901606	03	DEF						PER	.87901606	03
SELENGCENTRIC										EQUATORIAL COORDINATES										
X	.37906341	06	Y	.99827953	05	Z	.81665795	04	DX	-.80408227	01	DY	.64959836	01	DZ	-.49792531	01	DX	-.80408227	01
R	.40756277	06	DEC	.11481462	01	RA	.14181124	02	V	.11473691	02	PTH	-.33321257	02	AZ	.12041632	03	V	.11473691	02
R	.40756277	06	LAT	-.58048104	01	LCN	.35603248	03	VR	.10985434	02	PTR	-.35012026	02	AZR	.14965504	03	VR	.10985434	02
LTS	.31334208	03	LNS	.28920240	03	LTE	.55904517	01	LNE	.35332227	03	DP	.13478190	-02	ASD	.24433209	00	LNE	.35332227	03
ALT	.43824777	05	SFA	-.37513912	06	ALP	.19172039	01	DR	-.43028799	01							DR	-.43028799	01
HGE	.29077644	03	SVL	-.10932827	02	HNG	.24668931	03	SIA	.44905761	02							SIA	.44905761	02
SAC	.00000000	00																		
2 DAYS 2 HRS. 19 MIN. 30.000 SEC.										JULIAN DATE 2437693.46503472 JAN. 28, 1962 23 09 39.000										
GEOCENTRIC										EQUATORIAL COORDINATES										
X	-.30677708	06	Y	-.25433151	06	Z	-.10166604	06	DX	-.11790018	01	DY	-.11328670	01	DZ	-.27193628	00	DX	-.11790018	01
R	.41125605	06	DEC	-.14311586	02	RA	.21966620	03	V	.16575229	01	PTH	.83631390	02	AZ	.40600203	02	V	.16575229	01
R	.41125605	06	LAT	-.14311586	02	LCN	.10451391	03	VE	.28986399	02	PIE	.32579011	01	AZE	.27027638	03	VE	.28986399	02
XS	.91867321	03	YS	-.10565370	09	ZS	-.45829491	08	DXS	.23784477	02	DYS	-.17122805	02	DZS	-.74278910	01	DXS	.23784477	02
XM	-.30385722	06	YM	-.23832971	06	ZM	-.64157823	05	DXM	.65761686	00	DYM	-.68255443	00	DZM	-.28475504	00	DXM	.65761686	00
XT	-.30385722	06	YT	-.23832971	06	ZT	-.64157823	05	DXT	.65761686	00	DYT	-.68255443	00	DZT	-.28475504	00	DXT	.65761686	00
RS	.14734701	09	VS	.30237478	02	RM	.39515758	06	VM	.98965949	00	RT	.39515758	06	VY	.98965949	00	VM	.98965949	00
GED	-.14405071	02	ALT	.40487915	06	LOS	.19585536	03	RAS	.31039666	03	RAM	.21767891	03	LDM	.10253762	03	RAS	.31039666	03
OUT	.34000000	02	DT	.95999999	03	DR	.16472941	01	SHA	-.41062428	06	DES	-.18121537	02	DEM	-.93439121	01	SHA	-.41062428	06
GEOCENTRIC										CONIC										
EPOCH OF PERICENTER PASSAGE										JULIAN DATE 2437691.37207207 JAN. 26, 1962 20 55 47.027										
SMA	-.49275117	06	ECC	.10144503	01	INC	.50907547	02	LAN	.23162273	03	APF	.17936869	03	RCA	.71203197	04	INC	.50907547	02
VH	.89460446	00	C3	.80892639	00	C1	.75613393	05	SLR	.14343651	05	APD	.00000000	00	TFP	.18083197	06	C1	.75613393	05
TA	.16209994	03	EA	.68672284	-02	MA	.18911467	02	DAQ	-.79828863	01	RAQ	.22507668	03	MFA	.17031773	03	MA	.18911467	02
WX	-.60943427	03	WY	.48184600	00	WZ	.63058034	00	PX	.62624562	00	PY	.77957892	00	PZ	-.85513703	-02	PX	.62624562	00
QX	-.44746680	00	CY	.40010100	00	QZ	-.7760744													

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CASE 1 SPACE TRAJECTORIES																			
HELIOCENTRIC						ECLIPTIC COORDINATES													
X	-92174098	08	Y	11492838	09	Z	75645000	04	DX	-24963479	02	DY	-19818478	02	DZ	20103621	00		
R	14732479	39	LAT	29418938	03	LCN	12873008	03	V	31874562	02	PTH	28407183	00	AZ	89628637	02		
XE	-91867321	08	YE	11520215	09	ZE	-34500000	03	DXE	-23784477	02	DYE	-18670933	02	DZE	-15449924	03		
XT	-92175918	08	YT	11495798	09	ZT	25606000	05	DXT	-23126860	02	DYT	-19410433	02	DZT	18130286	01		
LTE	-13415300	03	LOE	12867042	03	LTI	13845177	01	LOT	12872343	03	RST	-14734903	09	VST	30192990	02		
EPS	93016384	02	ESP	15949038	00	SEP	86823767	02	EPN	64129888	02	EMP	11053760	03	MEP	53325081	01		
MPS	12642018	03	MSP	27453512	18	SMP	53567044	02	SEM	90216196	02	EMS	89630148	02	ESM	15323040	00		
EPT	64129888	02	ETP	11053760	03	TSP	53325081	01	TPS	12642018	03	TSP	27453512	18	STP	53567044	02		
SET	90216196	02	STE	89630148	02	EST	15323040	00	RPM	40814409	05	RPT	40814409	05	SPN	92127923	02		
SAC	03000000	00																	
GCE	82965015	02	GCT	14269257	03	SIP	12397962	03	CPT	11943700	03	SIN	11699644	03					
REP	41125605	06	VEP	16575229	01														
HELIOCENTRIC						CONIC CRBITAL B.T AND B.R						ECLIPTIC COORDINATES							
EPOCH OF PERICENTER PASSAGE																			
SMA	15891713	03	ECC	12792252	00	INC	36140073	00	LAN	12826364	03	APF	35796116	03	RCA	14730882	09		
VH	24666870	02	C3	78588373	03	C1	46958558	10	SLR	16615294	09	APO	19052543	09	TFP	20207280	06		
TA	25052723	01	EA	22029707	01	MA	19212308	01	DAI	-12856447	01	RAI	12622486	03	MTA	18000000	03		
WX	49521713	02	WY	39058898	02	WZ	99998011	02	PX	-59095569	00	PY	80670393	00	PZ	-22438733	03		
QX	-80368876	00	QY	-59094281	00	QZ	63031438	02	RX	13678428	03	RY	-17795112	03	RZ	-99999993	00		
SXI	59095569	00	SVI	86670393	00	SZI	-2438733	03	TX	80670398	00	TY	59095573	00	TZ	-18131917	05		
BX	80668880	03	BY	59094284	00	BZ	-63031442	02	MX	-78008633	00	MY	-62564010	00	MZ	-63069279	02		
B.T	16752599	09	B.R	10568298	07	B	16752932	09	PER	43824396	03	DEF							
SELENOCENTRIC																			
X	18201426	04	Y	-16001801	05	Z	-37502406	05	DX	-18366186	01	DY	-45031255	00	DZ	12818765	01		
R	40814409	05	DEC	-66759551	02	RA	27648927	03	V	18910615	01	PTH	25115262	01	AZ	27485373	03		
R	40814408	05	LAT	-42275761	02	LCN	22750522	03	VR	19696623	01	PTR	24112429	01	AZR	28138816	03		
LTS	26804907	00	LNS	26371142	03	LTE	-67461231	01	LNE	35330728	03								
ALT	39076408	05	SHA	-32837328	05	ALP	13577014	03	OR	82867066	01	DP	26521458	02	ASD	24405623	01		
HGE	26698346	03	SVL	-44023740	02	HNG	21434312	03	SIA	61689325	02								
SAC	03000000	00																	
2 DAYS 2 HRS. 20 MIN. 30.000 SEC. JULIAN DATE 2437693.46572916 JAN. 28, 1962 23 10 39.000																			
GEOCENTRIC																			
EPOCH OF PERICENTER PASSAGE																			
SMA	15891713	03	ECC	12792252	00	INC	36140073	00	LAN	12826364	03	APF	35796116	03	RCA	14730882	09		
VH	24666870	02	C3	78588373	03	C1	46958558	10	SLR	16615294	09	APO	19052543	09	TFP	20207280	06		
TA	25052723	01	EA	22029707	01	MA	19212308	01	DAI	-12856447	01	RAI	12622486	03	MTA	18000000	03		
WX	49521713	02	WY	39058898	02	WZ	99998011	02	PX	-59095569	00	PY	80670393	00	PZ	-22438733	03		
QX	-80368876	00	QY	-59094281	00	QZ	63031438	02	RX	13678428	03	RY	-17795112	03	RZ	-99999993	00		
SXI	59095569	00	SVI	86670393	00	SZI	-2438733	03	TX	80670398	00	TY	59095573	00	TZ	-18131917	05		
BX	80668880	03	BY	59094284	00	BZ	-63031442	02	MX	-78008633	00	MY	-62564010	00	MZ	-63069279	02		
B.T	16752599	09	B.R	10568298	07	B	16752932	09	PER	43824396	03	DEF							
EQUATORIAL COORDINATES																			
X	-33684782	06	Y	-25639948	06	Z	-10167674	06	DX	-11789016	01	DY	-11327086	01	DZ	-27173866	01		
R	41135488	06	DEC	-14310419	02	RA	21966123	03	V	16573110	01	PTH	83629527	02	AZ	40556348	02		
R	41135487	06	LAT	-14310419	02	LCN	10426925	03	VE	28992298	02	PIE	32556623	01	AZE	27027654	03		
XS	91868748	08	YS	-10569268	09	ZS	-45829446	08	DXS	23784250	02	DYS	17130069	02	DZS	47280053	01		
XN	-30855776	06	YN	23837066	06	ZN	-64174908	05	DXN	65773869	00	DYN	-68246029	00	DZN	-28472970	00		
XT	-30855776	06	YT	-23837066	06	ZT	-64174908	05	DAT	65773869	00	DYT	-68246029	00	DMT	-28472970	00		
RS	14734703	09	VS	33237577	02	WS	13951942	06	VM	98966824	00	RT	29515425	06	VT	38966824	00		
GEO	16403897	02	ALT	40697709	05	LOS	19560539	03	RAS	31099738	03	RAM	-21768722	03	LDM	10229524	03		
DUT	34000000	02	CT	59999999	02	OR	16470775	01	SHA	-51072301	06	DES	-18121353	02	DEM	-93465024	01		
GEOCENTRIC																			
EPOCH OF PERICENTER PASSAGE																			
SMA	15891713	03	ECC	12792252	00	INC	36140073	00	LAN	12826364	03	APF	35796116	03	RCA	14730882	09		
VH	24666870	02	C3	78588373	03	C1	46958558	10	SLR	16615294	09	APO	19052543	09	TFP	20207280	06		
TA	25052723	01	EA	22029707	01	MA	19212308	01	DAI	-12856447	01	RAI	12622486	03	MTA	18000000	03		
WX	49521713	02	WY	39058898	02	WZ	99998011	02	PX	-59095569	00	PY	80670393	00	PZ	-22438733	03		
QX	-80368876	00	QY	-59094281	00	QZ	63031438	02	RX	13678428	03	RY	-17795112	03	RZ	-99999993	00		
SXI	59095569	00	SVI	86670393	00	SZI	-2438733	03	TX	80670398	00	TY	59095573	00	TZ	-18131917	05		
BX	80668880	03	BY	59094284	00	BZ	-63031442	02	MX	-78008633	00	MY	-62564010	00	MZ	-63069279	02		
B.T	16752599	09	B.R	10568298	07	B	16752932	09	PER	43824396	03	DEF							
EQUATORIAL COORDINATES																			
X	-33684782	06	Y	-25639948	06	Z	-10167674	06	DX	-11789016	01	DY	-11327086	01	DZ	-27173866	01		
R	41135488	06	DEC	-14310419	02	RA	21966123	03	V	16573110	01	PTH	83629527	02	AZ	40556348	02		
R	41135487	06	LAT	-14310419	02	LCN	10426925	03	VE	28992298	02	PIE	32556623	01	AZE	27027654	03		
XS	91868748	08	YS	-10569268	09	ZS	-45829446	08	DXS	23784250	02	DYS	17130069	02	DZS	47280053	01		
XN	-30855776	06	YN	23837066	06	ZN	-64174908	05	DXN	65773869	00	DYN	-68246029	00	DZN	-28472970	00		
XT	-30855776	06	YT	-23837066	06	ZT	-64174908	05	DAT	65773869	00	DYT	-68246029	00	DMT	-28472970	00		
RS	14734703	09	VS	33237577	02	WS	13951942	06	VM	98966824	00	RT	29515425	06	VT	38966824	00		
GEO	16403897	02	ALT	40697709	05	LOS	19560539	03	RAS	31099738	03	RAM	-21768722	03	LDM	10229524	03		
DUT	34000000	02	CT	59999999	02	OR	16470775	01	SHA	-51072301	06	DES	-18121353	02	DEM	-93465024	01		
GEOCENTRIC																			
EPOCH OF PERICENTER PASSAGE																			
SMA	15891713	03	ECC	12792252	00	INC	36140073	00	LAN	12826364	03	APF	35796116	03	RCA	14730882	09		
VH	24666870	02	C3	78588373	03	C1	46958558	10	SLR	16615294	09	APO	19052543	09	TFP	20207280	06		
TA	25052723	01	EA	22029707	01	MA	19212308	01	DAI	-12856447	01	RAI	12622486	03	MTA	18000000	03		
WX	49521713	02	WY	39058898	02	WZ	99998011	02	PX	-59095569	00	PY	80670393	00	PZ	-22438733	03		
QX	-80368876	00	QY	-59094281	00	QZ	63031438	02	RX	13678428	03	RY	-17795112	03	RZ	-99999993	00		
SXI	59095569	00	SVI	86670393	00	SZI	-2438733	03	TX	80670398	00	TY	59095573	00	TZ	-18131917	05		
BX	80668880	03	BY	59094284	00	BZ	-63031442	02	MX	-78008633	00	MY	-62564010	00	MZ	-63069279	02		
B.T	16752599	09	B.R	10568298	07	B	16752932	09	PER	43824396	03	DEF							
EQUATORIAL COORDINATES																			
X	18201426	04	Y	-16001801	05	Z	-37502406	05	DX	-18366186	01	DY	-45031255	00	DZ	12818765	01		
R	40814409	05	DEC	-66759551	02	RA	27648927	03	V	18910615	01								

CASE I		SPACE TRAJECTORIES									
SELENCENTRIC		CONIC		ORBITAL B.T AND B.R				EQUATORIAL COORDINATES			
EPOCH OF PERICENTER PASSAGE		JULIAN DATE		2437693.45370954				JAN. 28, 1962 22 53 20.504			
SMA	-14690007 04	ECC	.28756182 02	INC	.11306473 03	LAN	.19394188 03	APF	.27033515 03	RCA	.40773851 05
VH	-18264797 31	C3	.33360281 01	C1	.77109045 05	SLR	.12132742 07	APD	.00000000 00	TFP	.10384959 04
TA	-17576884 01	EA	-.2643927 01	MA	-.7381009 02	DAI	-.15251624 01	RAI	-.19459148 03	MTA	-.9192867 02
WX	-.22167788 00	WY	-.89298533 00	WZ	-.39177082 00	PX	-.68713461 01	PY	-.38163237 00	PZ	-.92004710 00
QX	-.97107613 00	CY	-.23870943 00	QZ	-.53820269 02	RX	-.60884448 01	RY	.33331728 00	RZ	-.94084679 00
SXD	-.97357380 00	SVY	-.22529373 00	SZ0	-.37373530 01	DAO	.21418440 01	RAO	.19302941 03	TF	.50053195 02
SXI	-.96742376 00	SXI	-.25183636 00	SZI	-.26615986 01	TX	-.24581100 00	TY	.90855823 00	TZ	.33778531 00
BX	-.12242910 00	BY	-.37310039 00	BZ	-.91967779 00	HX	-.39177082 00	HY	-.33991721 09	HZ	.22167787 00
B.T	-.28694429 05	B.R	.30964746 05	B	.42217300 05	PER	.27014573 04	DEF	.99758138 00		
OP1	.00000000 00	OP2	.00000000 00	OP3	.00000000 00						
BTE	-.16945368 05	BRE	.38840073 05	BTD	-.28696429 05	BRD	.30964746 05				
GP	-.18563216 01	GR	.28507701 04	THA	.13282266 03						
ZAE	-.15212313 03	ZAP	.11463090 03	ZAC	.94112606 02	ETE	.38340047 02	ETS	.22620765 03	ETC	.12000633 03

L MATRIX FOR MAPPING FORWARD

X	Y	Z	OX	OY	OZ	KE	KM	RI01
X	-.32030695 03	-.10012708 03	-.10533019 03	-.19399971 02	-.86762449 03	-.51355974 03	.00000000 00	.00000000 00
Y	-.56199467 03	-.11352733 03	-.26891369 03	-.32729419 02	-.13678745 02	-.12682702 02	.00000000 00	.00000000 00
Z	-.10611923 02	-.42413152 02	-.55168863 02	-.72630987 04	-.74625501 03	-.35901493 03	.00000000 00	.00000000 00
DX	.53975892 06	.15863790 06	.22477544 06	.32271492 01	.14773051 01	.11250472 01	.00000000 00	.00000000 00
DY	-.43259322 06	-.47805530 05	-.20057520 06	-.24891998 01	-.91773847 00	-.90386219 00	.00000000 00	.00000000 00
DZ	.36941056 06	.96355694 05	.17562672 06	.21898377 01	.99198271 00	.85742155 00	.00000000 00	.00000000 00
KL	.20914232 02	.44538134 01	.93711462 01	.12417692 03	.52391998 04	.45258174 04	.10000000 01	.00000000 00
KM	-.47586931 00	-.36807479 02	.24962425 00	-.11856585 04	.28767463 05	.13178243 04	.00000000 00	.10000000 01
RI01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.10000000 01
LAG1	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAC3	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAG4	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAG5	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAG1	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAC3	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAG4	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD04	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
RI05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LAG5	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LD05	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00

JPL TECHNICAL REPORT NO. 32-563

COVARIANCE MATRIX AT IMPACT

	X	Y	Z	OX	OY	DZ	KE	KM	RI01
X	.94369373 03	.54969376 03	.38562757 03	.61485250-02	.36399217-02	.21955265-02	.10362232 03	-.36351572 01	.75518160 00
Y	.54969376 03	.56011016 03	.63447124 03	.35901742-02	.36764908-02	.39570743-02	.89866442 02	.39177324 01	.1955575 00
Z	.38562757 03	.63447124 03	.40593114 04	.28699780-03	.87889916-02	.23948276-01	.17809879 03	.97804239 01	.23826759 00
OX	.61485250-02	.35901742-02	.28699780-03	.43604842-07	.20053411-07	-.12261989-08	.60512840-03	-.24424814-03	.46927160-05
OY	.36399217-02	.36764908-02	.82288914-02	.20053411-07	.29515008-07	.50798211-07	.68295833-03	.10179164-03	.18715798-05
DZ	.21955265-02	.39570743-02	.23948276-01	-.12261989-08	.50798211-07	.14520186-06	.10631824-02	.35013695-03	.10268435-05
KE	.10362232 03	.89866442 02	.17809879 03	.60512840-03	.68295833-03	.10631824-02	.16714538 02	.83311486 00	.70988747-01
KM	-.36351572 01	.39177324 01	.97804239 01	-.24424814-03	.10179164-03	.35013695-03	.83311486 00	.24992497 02	-.20807281-03
RI01	.75518160 00	.1955575 00	.23826759 00	.46927160-05	.18715798-05	.10268435-05	.70280747-01	-.20807281-03	.35725950-02
LAC1	.91450283-02	.42191679-02	.26020476-02	.58764485-07	.29112460-07	.14040834-07	.94290238-03	-.60232531-05	-.16249948-04
LD01	-.18541110-02	-.80894076-02	-.20887084-02	-.18741120-07	-.39309449-07	-.22356298-07	-.60407443-03	.10897909-04	.29051179-04
RI03	-.37650266 00	-.20697683 00	-.20381641 00	-.23711588-05	-.14846640-05	-.12028745-05	-.40313875-01	.23819413-03	.10607285-04
LAC3	.79032963-02	.43483385-02	.42923827-02	.49768970-07	.31197191-07	.25333999-07	.84685365-03	-.49562931-05	-.22263145-06
LD03	.67605833-02	.33700191-02	.23226529-02	.43037541-07	.23541139-07	.13572537-07	.66544878-03	-.84657779-05	-.19359830-06
RI04	-.15573119-02	-.22452462-02	-.35322437-02	-.10171275-07	-.14943496-07	-.20961952-07	-.32540672-03	.72050849-05	.51387841-06
LD04	-.11171073-04	.14878106-04	.18151092-03	-.14261371-09	.28741212-09	.10070433-08	.53246766-05	-.24381836-06	.87044740-08
LD04	-.31267042-03	-.38922634-03	-.28656409-03	-.21910899-08	-.22102095-08	-.18358451-08	-.49769515-04	-.18283300-05	-.77801494-07
RI04	.75503103 00	.19551710 00	.23822097 00	.46917798-05	.18712092-05	.10266450-05	.70974635-01	-.20802606-03	.35718804-02
LD05	.91432290-02	-.42183723-02	.26015322-02	.58773211-07	.29106851-07	.14037987-07	.94271845-03	-.60221336-05	-.16243156-06
LD05	-.18540925-02	-.80882294-02	-.20889718-02	-.18739590-07	-.39305369-07	-.22355977-07	-.60402025-03	.10893364-04	.29039996-06
LAC1	.91450283-02	-.18541110-02	-.37650266 00	.79032963-02	.67605833-02	-.15573118-02	-.11171073-04	-.31267042-03	.75503103 00
Y	.42191679-02	-.80894076-02	-.20697683 00	.43483385-02	.33700191-02	.22452462-02	.14878106-04	-.38922634-03	.19551710 00
Z	.26020476-02	-.20887084-02	-.20381641 00	.42923827-02	.23226529-02	-.35322437-02	.18151092-03	-.28656409-03	.23822097 00
OX	.58764485-07	-.18741120-07	-.23711588-05	.49768970-07	.43037541-07	-.10171275-07	-.14261371-09	.21910899-08	.46917798-05
OY	.29112460-07	-.39309449-07	-.14846640-05	.31197191-07	.23541139-07	-.14943496-07	.28241212-09	-.22102095-08	.18712092-05
DZ	.14040834-07	-.22356298-07	-.12028745-05	.25333999-07	.13572537-07	-.20961952-07	.10070433-08	-.18358451-08	.10266450-05
KE	.94290238-03	-.60407443-03	.40313875-01	.84685365-03	.66544878-03	.32540672-03	.53246766-05	.49769515-04	.70974635-01
KM	-.60232531-05	.10897909-04	.23819413-03	-.49562931-05	-.84657779-05	-.72050849-05	-.24381836-06	-.18283300-05	-.20802606-03
RI01	-.16249948-04	.29051179-04	.10607285-04	-.22263145-06	-.19359830-06	-.51387841-06	.87044740-08	-.77801494-07	.35718804-02
LD01	.99188179-06	.94983021-06	.24139406-06	-.50518291-08	-.58133570-08	-.13665804-07	.23225630-05	-.28667766-08	.16245864-06
LD01	.94983021-06	.97930631-06	-.32393498-06	.67283174-08	.12682097-07	.31267427-07	.70373471-09	.70246534-08	.29044823-06
RI03	.24139406-06	-.32393498-06	.35872756-02	.26745737-06	.19559927-06	.42985467-06	.85053940-08	.97121497-07	-.10604915-04
LAC3	-.50518291-08	.67283124-08	.26745737-06	.99437735-06	-.40311635-08	-.90462893-08	-.17772157-09	-.20413242-08	-.22258171-06
LD03	-.58133570-08	.12682097-07	.19559927-06	-.40311635-08	.98931442-06	-.55299833-08	-.23092092-09	.14932697-08	-.19355538-06
RI04	-.13664584-07	.31267427-07	.42986467-06	-.90462893-08	-.55299833-08	.35998471-02	.97137438 38	-.24093774-07	.51377588-06
LD04	-.23225030-09	.70373471-09	.85053940-08	-.17772157-09	-.23092092-09	.97137438 38	.36362735 37	-.42678485-09	.87026493-08
LD04	-.28667766-08	.70246534-08	.70246534-08	.97121497-07	-.20413242-08	-.14932857-08	-.24093774-07	-.42678485-09	.99483761-06
RI05	-.16245864-06	.29044823-06	.10604915-04	-.22258171-06	-.19355538-06	-.51377588-06	.87026493-08	-.77786132-07	.35726057-02
LD05	.99188179-06	.94983146-06	.24134710-06	-.50508459-08	-.58122665-08	-.13664290-07	-.23218597-09	-.28662517-08	.92882255 37
LD05	.94983298-08	.97911246-06	-.32374411-06	.67243169-08	.12677660-07	.31263067-07	.70356433-09	.70237436-08	.29033642-06
LAC5	.91432290-02	-.18540925-02	-.80882294-02	.79032963-02	.67605833-02	-.15573118-02	-.11171073-04	-.31267042-03	.75503103 00
Y	.42183723-02	-.80882294-02	-.20697683 00	.43483385-02	.33700191-02	.22452462-02	.14878106-04	-.38922634-03	.19551710 00
Z	.26015322-02	-.20889718-02	-.20381641 00	.42923827-02	.23226529-02	-.35322437-02	.18151092-03	-.28656409-03	.23822097 00
OX	.58773211-07	-.18739590-07	-.23711588-05	.49768970-07	.43037541-07	-.10171275-07	-.14261371-09	.21910899-08	.46917798-05
OY	.29106851-07	-.39305369-07	-.14846640-05	.31197191-07	.23541139-07	-.14943496-07	.28241212-09	-.22102095-08	.18712092-05
DZ	.14037987-07	-.22355977-07	-.12028745-05	.25333999-07	.13572537-07	-.20961952-07	.10070433-08	-.18358451-08	.10266450-05
KE	.94271845-03	-.60402025-03	.40313875-01	.84685365-03	.66544878-03	.32540672-03	.53246766-05	.49769515-04	.70974635-01
KM	-.60221336-05	.10893364-04	.23819413-03	-.49562931-05	-.84657779-05	-.72050849-05	-.24381836-06	-.18283300-05	-.20802606-03
RI01	-.16243156-06	.29039996-06	.10607285-04	-.22263145-06	-.19359830-06	-.51387841-06	.87044740-08	-.77801494-07	.35718804-02
LAC1	.99188179-06	.94983298-06	.24139406-06	-.50518291-08	-.58133570-08	-.13665804-07	.23225630-05	-.28667766-08	.16245864-06
LD01	.94983146-06	.97911246-06	-.32393498-06	.67283174-08	.12682097-07	.31267427-07	.70373471-09	.70246534-08	.29044823-06
RI03	.24134710-06	-.32374411-06	.35872756-02	.26745737-06	.19559927-06	.42985467-06	.85053940-08	.97121497-07	-.10604915-04
LAC3	-.50508459-08	.67243169-08	.26745737-06	.99437735-06	-.40311635-08	-.90462893-08	-.17772157-09	-.20413242-08	-.22258171-06
LD03	-.58122665-08	.12677660-07	.19559927-06	-.40311635-08	.98931442-06	-.55299833-08	-.23092092-09	.14932697-08	-.19355538-06
RI04	-.13664290-07	.31263067-07	.42986467-06	-.90462893-08	-.55299833-08	.35998471-02	.97137438 38	-.24093774-07	.51377588-06
LAC4	-.23218597-09	.70356433-09	.85053940-08	-.17772157-09	-.23092092-09	.97137438 38	.36362735 37	-.42678485-09	.87026493-08
LD04	-.28662517-08	.70237436-08	.70237436-08	.97121497-07	-.20413242-08	-.14932857-08	-.24093774-07	-.42678485-09	.99483761-06
RI05	-.16245864-06	.29033642-06	.10604915-04	-.22258171-06	-.19355538-06	-.51377588-06	.87026493-08	-.77786132-07	.35726057-02
LD05	.23034447 36	.70554480 38	.24134710-06	-.50508459-08	-.58122665-08	-.13664290-07	-.23218597-09	-.28662517-08	.92882255 37
LD05	.70554480 38	.97931862-06	-.32374411-06	.67243169-08	.12677660-07	.31263067-07	.70356433-09	.70237436-08	.29033642-06

IMPACT PARAMETERS 62/C1/28 231039						
N MATRIX						
	B.R	B.T	TL	C3	S.TS	S.RS
B.R	.33045602 04	-.15337746 04	-.39870145-01	.24568195-01	-.74480856-02	-.81062960-02
B.T	-.15337746 04	.13641358 04	.70319035-01	-.22886968-01	.35480126-02	.38618485-02
TL	-.39870144-01	.70319033-01	.21386229-04	-.43680483-05	.12681430-06	-.13769372-06
C3	.24568195-01	-.22886967-01	-.43680483-05	.10275567-05	-.57473032-07	-.62512001-07
S.TS	-.74480854-02	.35480126-02	.12681430-06	-.57473031-07	.17461116-07	.19001614-07
S.RS	-.81062959-02	.38618486-02	.13769372-06	-.62512001-07	-.19001614-07	.20678039-07
NORMALIZED N MATRIX						
	B.R	B.T	TL	C3	S.TS	S.RS
B.R	.13000000 01	-.81790875 00	-.14997627 00	.42161127 00	-.98050656 00	-.98064008 00
B.T	-.81790874 00	.10000000 01	.46613022 00	-.69212865 00	.82309623 00	.82326950 00
TL	-.14997627 00	.46613020 00	.10000000 01	-.93178871 00	.20752246 00	.20705816 00
C3	.42161127 00	-.69212864 00	-.93178871 00	.10000000 01	-.42906710 00	-.42885041 00
S.TS	-.98050655 00	.82309623 00	.20752247 00	-.42906709 00	.99999999 00	.99999958 00
S.RS	-.98064007 00	.82326952 00	.20705816 00	-.42885042 00	.99999957 00	.99999959 00
B.R	.30964755 05					
B.T	-.28696710 05					
DEL E	.66096263 02					
DEL S	.30407755 02					
DEL T	.16648289 02					
SMAA	.63903550 02					
SMIA	.16883492 02					
THETA	.24928374 02					
TL	.49302809 02					
B	.42217459 05					

APPENDIX C

***Ranger III* Postmidcourse Orbit Determination Program Printout**

The material in this appendix is a data-processing printout of data derived from the postmidcourse orbit determination program (ODP) for the *Ranger III* mission.


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PAGE HEADING
IR2=3 PCST M/C B MAY 63 )
EPCCM
6201027IC12806000
PRCBE POSITION AND VELOCITY AT EPCCM
X=-129823.01 Y=-82372.405 Z=-49539.305
DX=-1.662900 DY=-1.5446434 DZ=-.52199901
CIPHER PARAMETERS VALUES
SCLAR PRESSURE OFF
RE=358600.49 KP=4900.6295 RI(1)=6375.6471 LA(1)=-25.7324
LC(1)=27.705732 RI(3)=6372.0880 LA(3)=35.119393 LO(3)=243.19258
ESTIMATE THESE PARAMETERS
X Y Z CX CY CZ KE KP RI(1) LA(1) LG(1) RI(3) LA(3) LO(3)
COVARIANCE MATRIX OF ESTIMATED PARAMETERS
RC1=-.35260473EC2 -.74585368EC1 -.52954688E02 .73821340E-03
-.17900841E-03 -.79484559E-03 .80303945E01 .12171235E01
-.13537820E00 .15486453E-02 .288848C9E-03 -.5967936CE-01
.12517853E-02 .1163E884E-02
RC2=-.74585368EC1 .38410008E02 .94297552E01 .47514650E-03
.67882183E-03 .14917877E-03 .15037467E02 .59472791E00
.1393875E-02 .70864248E-03 -.26661545E-02 -.33384783E-01
.70155058E-03 .52653177E-03
RC3=-.52954688E02 .94297552E01 .43179251E03 .30495972E-03
.71841831E-03 .76929104E-02 .53858842E02 .69823132E00
.56234978E-01 .42502902E-03 -.23453814E-03 -.44994346E-01
.54920848E-03 .35746299E-03
RC4=-.73821340E-03 .47514650E-03 .30495972E-03 .1
.11489401E-07 .78303553E-08 .49648774E-03 .30061241E-04
.35086822E-05 .45785878E-07 -.43085181E-08 -.18532094E-05
.38899358E-07 .33468038E-07
RC5=-.17500841E-03 .67882183E-03 .71841831E-03 .11489401E-07
.1 .13311755E-07 .38C83891E-03 .15986277E-04
.63216434E-06 .1748703CE-07 -.42123030E-07 -.90808161E-06
.14078642E-07 .14694612E-07
RC6=-.75484559E-03 .14917877E-03 .76929104E-02 .78303553E-08
.13311755E-07 .1 .10167814E-02 .21551038E-04
.12520838E-05 .1352654CE-07 -.10767688E-07 -.11433180E-05
.24080612E-07 .12812104E-07
RC7=-.80303945E01 .15037467E02 .53858842E02 .49648774E-03
.3885851E-03 .10167814E-02 .16714399E02 .83311842E00
.70988737E-01 .94290324E-03 -.60407558E-03 -.40313831E-01
.84685276E-03 .66544582E-03
RC8=-.12171235EC1 .59472791E00 .69823132E00 .30061241E-04
.15986277E-04 .21551038E-04 .83311842E00 .10000.
-.20807646E-03 -.60232700E-05 .10897594E-04 .23819525E-03
-.49562767E-05 -.84638446E-05
PC5=-.13537820E00 .13938754E-02 .56234978E-01 .39086822E-05
.63216434E-06 .12520838E-05 .70988737E-01 -.20807646E-03
.35725952E-02 -.16250188E-06 .29051670E-06 .10607310E-04
-.22263198E-06 -.19360254E-06
R10=-.15486453E-02 .70864248E-03 .42502902E-03 .45789878E-07
.1748703CE-07 .352654CE-07 .94290324E-03 -.60232700E-05
-.16250188E-06 .99188183E-06 .94593196E-08 .24139289E-06
-.50518043E-08 -.58133829E-08
R11=-.28884809E-03 -.26661545E-02 -.23453814E-03 -.43085181E-08
-.42123030E-07 -.10767688E-07 -.60407558E-03 .10897994E-04
.29051670E-06 .94983196E-08 .97930617E-06 -.32393609E-06
.67283341E-08 .2482204E-07
R12=-.59679360E-01 -.33384783E-01 -.44994346E-01 -.18532094E-05
-.90808161E-04 -.11433180E-05 -.40313831E-01 .23819525E-03
.10607310E-04 .24139289E-06 -.32393609E-06 .35872756E-02
.26745685E-06 .19360002E-06
R13=-.12517853E-02 .7C155058E-03 .54520840E-03 .38859358E-07
.15078642E-07 .24080612E-07 .84685276E-03 -.49562767E-05
-.22263198E-04 -.50518043E-08 .67283341E-08 .26745685E-06
.59437735E-06 -.40311787E-08
R14=-.11638884E-02 .52653177E-03 .35746299E-03 .33468038E-07
.14694612E-07 .12812104E-07 .66544582E-03 -.84658466E-05
-.19360254E-06 -.58133829E-08 .12682206E-07 .19560002E-06
-.40311787E-08 .98931430E-06
STATISTICS, PLOT AND/OR PRINT RESIDUALS FOR THESE PARAMETERS
CC3(1)=2. CC3(3)=4.
WEIGHTS BY DATA TYPE AND STATION
CC3(1)=1.0 CC3(3)=6
REJECTICA SIGMAS
CC3(1)=4. CC3(3)=4.
WEIGHT TABLES
SSC=.1E-2,.5E-2,.15E-1,.3E-1,.2E-2,.5E-2,.15E-1,.5E-1,
.1E-3,.2E-2,.1E-1,.2E-1,.1E-9,.1E-8,.1E-7,.1E-6,
.5E-1,.1E0,.2EC,.3EC,.5E-3,.5E-3,.1E-2,.1E-2,
.1E-4,.3E-4,.1E-3,.3E-3,.5E-11,.15E-10,.28E-10,.5E-10,
.7E-13,.14E-12,.28E-12,.5E-12,.5E-12,.5E-1,.1E0,.2E0,.3E0,
.25E-4,.25E-5,.5E-4,.5E-5,0,0,0,0,
.3E-2,.1E-1,.3E-1,.1E0,.5E-2,.1E-1,.2E-1,.5E-1,
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.4E-6,.4E-5,.8E-5,.12E-4,.6EC,.18E1,.6E1,.18E2,
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123
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102
103
104
110
114
116
106
125

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 CFFLINE CENTRDL
 KEY(16) KEY(14) KEY(16)
 ENC DATA

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100

INPUT COVARIANCE MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	RI01
X	.35260472 02	.74585367 01	-.52554688 02	.73821340-03	.17900841-03	-.79484558-03	.80303994 01	.12171235 01	.13537820 00
Y	-.74585367 01	.38410008 02	-.94297551 01	-.47514649-03	.67882181-03	-.14917877-03	.15057467 02	-.59472790 00	.13938756-02
Z	-.52554688 02	-.94297551 01	.43179251 03	-.36495971-03	.71841830-03	.76829103-02	-.53858841 02	-.69823132 00	.56234977-01
DX	.73821340-03	.47514649-03	.30495971-03	.99999999-01	.11489401-07	.78303552-08	-.49648773-03	.30061240-04	.39086821-05
DY	-.17900841-03	.67882181-03	.71841830-03	.11489401-07	.99999999-01	.13311755-07	.38083890-03	.15986277-04	.63216433-06
DZ	-.79484558-03	.14917877-03	.76529103-02	.78303552-08	.13311755-07	.99999999-01	.10167814-02	.21551038-04	.12520838-05
KE	.80303994 01	.15057467 02	-.53858841 02	-.49648773-03	.38083890-03	.10167814-02	.16714399 02	.83311842 00	.70988736-01
KM	.12171235 01	-.59472790 00	.69823132 00	.30061240-04	.15986277-04	.21551038-04	.83311842 00	.10000000 05	-.20807646-03
RI01	.13537820 00	.13938756-02	.56234977-01	.39086821-05	.63216433-06	.12520838-05	.70988736-01	-.20807646-03	.35725951-02
LAC1	.15486453-02	.70864247-03	.42502901-03	.45789877-07	.17487030-07	.13526540-07	.94290323-03	-.60232699-05	-.16250188-06
LCC1	.28884809-03	-.26661545-02	-.23453814-03	-.43085181-08	-.42123030-07	-.10767688-07	-.60407557-03	.10897994-04	.29051670-06
RIC3	-.59676359-01	-.33384782-01	-.44994345-01	-.18532094-05	-.90808161-06	-.11433180-05	-.40313830-01	.23819525-03	.10607310-04
LAC3	.12517853-02	.7C155096-03	.94520848-03	.38899358-07	.19078662-07	.24080612-07	.84685275-03	-.49562766-05	-.22263198-06
LCC3	.11638884-02	.52653176-03	.35746298-03	.33468037-07	.14694612-07	.12812104-07	.66544980-03	-.84658466-05	-.19360254-06
LAC1		LCC1	RI03	LAD3	LCC3				
X	.15486453-02	.28884809-03	-.59676359-01	.12517853-02	.11638884-02				
Y	.70864247-03	-.26661545-02	-.33384782-01	.70155096-03	.52653176-03				
Z	.42502901-03	-.23453814-03	-.44994345-01	.94520848-03	.35746298-03				
DX	.45789877-07	-.43085181-08	-.18532094-05	.38899358-07	.33468037-07				
DY	.17487030-07	-.42123030-07	-.90808161-06	.19078662-07	.14694612-07				
DZ	.13526540-07	-.10767688-07	-.11433180-05	.24080612-07	.12812104-07				
KE	.94290323-03	-.60407557-03	-.40313830-01	.84685275-03	.66544980-03				
KM	-.60232699-05	.10897994-04	.23819525-03	-.49562766-05	-.84658466-05				
RI01	-.16250188-06	.29051670-06	.10000000-05	.10000000-05	.10000000-05				
LAC1	.59188182-06	.9452156-06	.24135289-06	.50518042-08	-.58133829-08				
LCC1	.54983156-08	-.97536616-06	-.32393608-06	.67283360-08	.12682206-07				
RIC3	.24135289-06	-.32393608-06	.35872756-02	.26745684-06	.19560002-06				
LAC3	-.50518042-08	.67283360-08	.26745684-06	.99437733-06	-.40311787-08				
LCC3	-.58133829-08	.12682206-07	.19560002-06	-.40311787-08	.98931427-06				

RA-3 POST W/C B MAY 63

		EPOCH	62/01/27	102806.000	CLOCK	142550	SOS	.46909 03	OSOS	.46985 03
C	CC	STDEVCQ	GLC Q	NEW Q	NOFINAL Q	DQ (NDM)				
X	.10770547-03	.56543867 01	-.12982526 06	-.12982526 06	-.12982301 06	-.22529297 01				
Y	.48825371-03	.60498124 01	-.82372683 05	-.82372683 05	-.82372404 05	-.27832031 00				
Z	-.15935229-02	.11687756 02	-.49526643 05	-.49526643 05	-.49539305 05	.12659668 02				
DX	.79154456-07	.12448444-03	-.16954420 01	-.16954419 01	-.16962900 01	.84811448-03				
DY	-.53594959-07	.14996659-03	-.15453653 01	-.15453654 01	-.15446434 01	-.72202086-03				
DZ	-.10251217-06	.23138265-03	-.52116165 00	-.52116175 00	-.52199801 00	.83725899-03				
KE	.88860236-03	.25301924 01	.39866163 06	.39866163 06	.39868004 06	.11406250 01				
KM	.26746626-02	.43733264 01	.49005798 04	.49005824 04	.49006295 04	-.47058105-01				
STA 1										
RI	.31011119-04	.57225586-01	.63756455 04	.63756455 04	.63756470 04	-.15258789-02				
LA	-.13738194-06	.96939708-03	-.25732475 02	-.25732475 02	-.25732400 02	-.74863434-04				
LC	.13140353-06	.94483979-03	.27705492 02	.27705492 02	.27705732 02	-.23937225-03				
STA 3										
RI	.19803603-04	.57785259-01	.63721053 04	.63721053 04	.63720880 04	.17333984-01				
LA	.62594561-06	.93525052-03	.35119003 02	.35119004 02	.35119393 02	-.38862228-03				
LC	.15546603-05	.97722478-03	.24319265 03	.24319265 03	.24319258 03	.74386597-04				

J MATRIX

	X	Y	Z	DX	DY	DZ	KE	KM	R101
X	.21014325 02	-1.3083070 02	.80538054 01	-.49231542 06	-.34921392 06	-.14780831 06	-.41307728 02	-.85744339 00	.33908542 02
Y	-1.3083070 02	.82470727 01	-.5048376 01	-.27781274 06	-.19736949 06	.83578046 05	-.26328276 02	-.47225292 00	.23895496 02
Z	.80538054 01	-.5048376 01	.31678700 01	.13371684 06	-.94621927 05	-.44644020 05	-.16693819 02	-.11746772 01	-.14529914 02
DX	-.49231542 06	-.27781274 06	-.13371684 06	.83724081 11	-.59431066 11	-.24985231 11	-.16262469 06	-.15596777 06	-.2706851 06
DY	-.34921392 06	-.19736949 06	-.94621927 05	-.59431066 11	.42248945 11	-.17702370 11	-.11533471 06	-.11333159 06	-.19528210 06
DZ	-.14780831 06	.83578046 05	-.44644020 05	-.24985231 11	-.17702370 11	-.81065923 10	-.49613418 05	-.12290396 05	-.75487574 05
KE	-.41307728 02	-.26328276 02	-.16693819 02	-.16262469 06	-.11533471 06	-.49613418 05	.99499186 02	-.23467137 00	-.89842426 02
KM	-.85744339 00	-.47225292 00	-.11746772 01	-.15596777 06	-.11333159 06	-.12290396 05	-.23467137 00	.22138758 01	.50296658 00
R101	.33908542 02	.23895496 02	-.14529914 02	-.27006851 06	-.19528210 06	-.75487574 05	-.89842426 02	.50296658 00	.48498265 03
LA01	.54087685 03	.40703397 03	.25547002 03	-.14009214 08	-.10132436 08	-.39148953 07	-.17093013 04	.26105424 02	.63960180 04
LC01	.12981078 04	.97620513 03	.56674513 03	-.38923348 08	-.27675476 08	-.11030002 08	-.37181844 04	.67433377 02	.66904791 04
RI03	-.17560261 02	-.10715425 02	-.80587861 01	-.10410755 07	-.71449070 06	-.23064617 06	-.54742012 02	.32806201 01	-.57603863 00
LA03	-.12830089 04	-.78434043 03	-.60245523 03	-.86042995 08	.79145114 08	-.19347081 08	.41497411 04	-.26723543 03	.43781002 02
LC03	-.37292701 04	-.21458880 04	-.12005467 04	-.36070440 09	-.25381657 09	-.10794999 09	.28333385 04	.74932415 03	.35015863 02
	LA01	LC01	RI03	LA03	LC03				
X	.54087685 03	.12981078 04	-.17560261 02	-.12830089 04	-.37292701 04				
Y	.40703397 03	.97620513 03	.10715425 02	-.78434043 03	-.21458880 04				
Z	.25547002 03	.56674513 03	.80587861 01	-.60245523 03	-.12005467 04				
DX	-.14009214 08	-.38923348 08	-.10410755 07	.86042995 08	-.36070440 09				
DY	-.10132436 08	-.27675476 08	-.71449070 06	.59145114 08	-.25381657 09				
DZ	-.39148953 07	-.11030002 08	-.23064617 06	.19347081 08	-.10794999 09				
KE	-.17093013 04	-.37181844 04	-.54742012 02	-.41497411 04	.28333385 04				
KM	.26105424 02	.67433377 02	.32806201 01	.26723543 03	.74932415 03				
R101	.63960180 04	.66904791 04	-.57903863 00	.43781002 02	.35015863 02				
LA01	.12444318 07	.13558040 06	-.11618334 04	.87769867 05	.77847776 05				
LC01	.13558040 06	.16958061 07	.20687774 04	-.15627988 06	-.13904868 06				
RI03	-.11618334 04	.20687774 04	.45200058 03	-.13620598 05	-.38159790 03				
LA03	.87769867 05	-.15627988 06	-.13620598 05	.20655705 07	.19479783 03				
LC03	.77847776 05	-.13904868 06	-.38159790 03	.19479783 03	.31078671 07				

COVARIANCE MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	R101
X	.31972089 02	-.70346382 01	-.46080845 02	-.29744542-03	.73934303-05	.46399308-03	.76761791 01	-.34230098 01	.11915867 00
Y	-.70346382 01	.36602330 02	-.96238941 01	-.16957929-03	-.20251687-03	.43314672-03	.11114032 02	-.81427477 01	-.16195426 01
Z	-.46080845 02	-.96238941 01	.13660365 03	.26806390-03	-.10838882-03	-.43325264-03	.94512839 00	-.92799396 01	-.1482322 00
DX	-.29744542-03	-.16957929-03	.26806390-03	.15496377-07	-.11941126-07	-.14650657-07	-.12450484-03	.22293999-03	-.75416388-06
DY	.73934303-05	-.20251687-03	-.10838882-03	-.11941126-07	.22489980-07	-.96528486-08	-.67729070-04	.59263168-03	.59262186-06
DZ	.46399308-03	.43314672-03	-.43325264-03	-.14650657-07	-.96528486-08	.53537932-07	.23065276-03	-.93531435-03	-.23109165-06
KE	.76761791 01	.11114032 02	.94512839 00	-.10838882-03	-.43325264-03	-.14650657-07	.23065276-03	.64018737 01	.50388308 01
KM	-.34230098 01	-.81427477 01	-.92799396 01	.22293999-03	.22663168-03	-.93531435-03	-.50388308 01	.19125984 02	.20529347-01
R101	.11915867 00	-.16195426 01	-.1482322 00	-.75416388-06	.59262186-06	-.23109165-06	.24039779-01	.20529347-01	.3274678-02
LA01	.12815689-02	.48504370-03	-.18393289-02	-.81653884-08	.38381225-08	-.27422604-08	.37732016-03	.23380549-03	-.40492110-05
LC01	-.18775524-03	-.27836085-02	-.88229165-04	.16544927-07	.13785669-07	-.41181553-07	-.81753717-03	.85833895-03	-.26660435-05
RI03	.37302471-01	-.23805624-01	-.14525440-01	.20144747-05	-.21722076-06	-.43987631-05	-.22944365-01	.80609125-01	.15687286-03
LA03	.75512582-03	.49967496-03	.42010485-03	-.43560128-07	.47673475-08	.95341980-07	.48945912-03	-.17580282-02	-.33958655-05
LC03	-.14002797-02	-.51047427-03	-.54154107-03	.49527983-08	-.49697121-07	.72282452-07	.60933745-03	-.13938610-02	.48530094-06
	LA01	LC01	RI03	LA03	LC03				
X	.12815689-02	-.18775524-03	-.37302471-01	-.75512582-03	.49527983-08				
Y	.48504370-03	-.27836085-02	-.88229165-04	.16544927-07	.13785669-07				
Z	-.18393289-02	-.88229165-04	-.14525440-01	.20144747-05	-.21722076-06				
DX	-.81653884-08	.16944927-07	.20144747-05	-.43560128-07	.49527983-08				
DY	.38381225-08	.13785669-07	-.21722076-06	.47673475-08	-.49697121-07				
DZ	-.27422604-08	-.41181553-07	-.43587631-05	.95341980-07	.72282452-07				
KE	.37732016-03	-.81753717-03	-.22944365-01	.48945912-03	.60933745-03				
KM	.23380549-03	.85833895-03	.8049125-01	-.17580282-02	-.13938610-02				
R101	-.40492110-05	-.26660435-05	.15687286-03	-.33958655-05	.48530094-06				
LA01	.93971073-06	-.36671005-07	.24965332-05	-.53720807-07	.75306807-08				
LC01	-.36671005-07	.89272224-06	.31836596-05	-.70665539-07	.60404067-07				
RI03	.24965332-05	.31836596-05	.33391362-02	.57155024-05	-.15686585-05				
LA03	-.53720807-07	-.70665539-07	.57155024-05	.87469430-06	.35255173-07				
LC03	.75306807-08	.60404067-07	-.15686585-05	.35255173-07	.95496827-06				

CORRELATION MATRIX OF ESTIMATED PARAMETERS

	X	Y	Z	DX	DY	DZ	KE	KM	R101
X	1.0000000 01	-.20564320 00	-.69727448 00	-.42257810 00	.87189852-02	.35646611 00	.53654486 00	-.13842379 00	.36825405 00
Y	-.20564320 00	1.0000000 01	-.13610616 00	-.22517275 00	-.22321572 00	.30942993 00	.72606612 00	-.30776355 00	-.46779999 01
Z	-.69727448 00	-.13610616 00	1.0000000 01	.18424346 00	-.61834478-01	-.16020618 00	.31959950 00	-.18155244 00	-.22161279 00
DX	-.42257810 00	-.22517275 00	.18424346 00	1.0000000 01	-.63964008 00	-.50864008 00	-.39529162 00	.40950668 00	-.10586694 00
DY	.87189852-02	-.22321572 00	-.61834478-01	-.63964008 00	1.0000000 01	-.27818273 00	-.17849540 00	.34555263 00	.69054639-01
DZ	.35646611 00	.30942993 00	-.16020618 00	-.50864008 00	-.27818273 00	1.0000000 01	.39398012 00	-.92430416 00	-.17452723-01
KE	.53654486 00	.72606612 00	.31959950 00	-.39529162 00	-.17849540 00	.39398012 00	1.0000000 01	-.45536991 00	.16603004 00
KM	-.13842379 00	-.30776355 00	-.18155244 00	.40950668 00	.34555263 00	-.92430416 00	-.45536991 00	1.0000000 01	.82030047-01
R101	.36825405 00	-.46779999 01	-.22161279 00	-.10586694 00	.69054639-01	-.17452723-01	.16603004 00	.82030047-01	1.0000000 01
LA01	.23380551 00	.82706044-01	-.16234037 00	-.67664370-01	.26401134-01	-.12225769-01	.15383485 00	.55149439-01	-.72992531-01
LC01	-.35134414-01	-.48697657 00	-.79586148-02	.14406764 00	.97291549-01	-.18837087 00	-.34197612 00	.20772499 00	-.49308159-01
RI03	-.11416553 00	-.68107283-01	-.21312984-01	.28004618 00	-.25066217 00	-.32899000 00	-.15692980 00	.31887397 00	.48044356-01
LA03	.14279234 00	.88311554-01	.38432478-01	-.37415014 00	.33990232-01	.44058045 00	.20684010 00	-.42981917 00	-.63450065-01
LC03	.25341645 00	.86345057-01	-.47413910-01	.40713748-01	-.33911270 00	.31967421 00	.26643923 00	-.32614677 00	.86781349-02
	LA01	LC01	RI03	LA03	LC03				
X	.23380551 00	-.35134414-01	-.11416553 00	.14279234 00	.25341645 00				
Y	.82706044-01	-.48697657 00	-.79586148-02	.14406764 00	.97291549-01				
Z	-.16234037 00	.79586148-02	-.21312984-01	.38432478-01	-.47413910-01				
DX	-.67664370-01	.14406764 00	.28004618 00	-.37415014 00	.40713748-01				
DY	.26401134-01	.97291549-01	-.25066217 00	.33990232-01	-.33911270 00				
DZ	-.12225769-01	-.18837087 00	-.32899000 00	.44058045 00	.31967421 00				
KE	.15383485 00	-.34197612 00	-.15692980 00	.20684010 00	-.24643923 00				
KM	.55149439-01	.20772499 00	.3188						

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STATION NUMBER 1 62/01/28					STATION NUMBER 1 62/01/28						
TYPE	TC	Q	FREQ	CC3	TYPE	TC	Q	FREQ	CC3		
044911	1	1	79C2.0	.11201289 06 .246 01	-8945	051041	1	1	79C2.0	.11221617 06 .247 01	-1.1758
045011	1	1	79C2.0	.11202244 06 .246 01	-5645	051101	1	1	79C2.0	.11221929 06 .247 01	-1.2891
045021	1	1	79C2.0	.11202403 06 .246 01	-9746	051111	1	1	79C2.0	.11222085 06 .247 01	-8477
045041	1	1	79C2.0	.11202720 06 .246 01	-7949	051121	1	1	79C2.0	.11222240 06 .247 01	-5977
045051	1	1	79C2.0	.11202879 06 .246 01	-2051	051131	1	1	79C2.0	.11222356 06 .247 01	-1.0430
045111	1	1	79C2.0	.11203197 06 .246 01	-1.5727	051141	1	1	79C2.0	.11222551 06 .247 01	-5156
045121	1	1	79C2.0	.11203356 06 .246 01	-5605	051151	1	1	79C2.0	.11222707 06 .247 01	-1.0703
045131	1	1	79C2.0	.11203515 06 .246 01	-8516	051201	1	1	79C2.0	.11222862 06 .247 01	-3740
045141	1	1	79C2.0	.11203674 06 .246 01	-2627	051211	1	1	79C2.0	.11223018 06 .247 01	-1807
045151	1	1	79C2.0	.11203832 06 .246 01	-6758	051221	1	1	79C2.0	.11223173 06 .247 01	-7363
045211	1	1	79C2.0	.11204150 06 .246 01	-4990	051231	1	1	79C2.0	.11223329 06 .247 01	-2900
045221	1	1	79C2.0	.11204308 06 .246 01	-0889	051241	1	1	79C2.0	.11223484 06 .247 01	-8438
045231	1	1	79C2.0	.11204468 06 .246 01	1.3242	051251	1	1	79C2.0	.11223640 06 .247 01	-6035
045251	1	1	79C2.0	.11204785 06 .247 01	-1514	051301	1	1	79C2.0	.11223795 06 .247 01	1.0508
045301	1	1	79C2.0	.11204944 06 .247 01	-5645	051311	1	1	79C2.0	.11223950 06 .247 01	-5039
045311	1	1	79C2.0	.11205102 06 .247 01	-9785	051321	1	1	79C2.0	.11224106 06 .247 01	-0557
045321	1	1	79C2.0	.11205261 06 .247 01	-6074	051331	1	1	79C2.0	.11224261 06 .247 01	1.3906
045331	1	1	79C2.0	.11205419 06 .247 01	-8066	051341	1	1	79C2.0	.11224416 06 .247 01	-8358
045341	1	1	79C2.0	.11205578 06 .247 01	-7793	051351	1	1	79C2.0	.11224571 06 .247 01	1.2891
045351	1	1	79C2.0	.11205736 06 .247 01	-6348	051401	1	1	79C2.0	.11224726 06 .247 01	-7383
045401	1	1	79C2.0	.11205895 06 .247 01	2.0469	051411	1	1	79C2.0	.11224881 06 .247 01	1.1875
045411	1	1	79C2.0	.11206053 06 .247 01	-4648	051421	1	1	79C2.0	.11225036 06 .247 01	-3643
045421	1	1	79C2.0	.11206212 06 .247 01	-1201	051431	1	1	79C2.0	.11225191 06 .247 01	-9141
045431	1	1	79C2.0	.11206370 06 .247 01	-1.7031	051441	1	1	79C2.0	.11225346 06 .247 01	-5352
045441	1	1	79C2.0	.11206529 06 .247 01	-7129	051511	1	1	79C2.0	.11225501 06 .247 01	-4113
045451	1	1	79C2.0	.11206687 06 .247 01	-1270	051521	1	1	79C2.0	.11225656 06 .247 01	-3398
045511	1	1	79C2.0	.11207004 06 .247 01	-0400	051531	1	1	79C2.0	.11225811 06 .247 01	-7930
045531	1	1	79C2.0	.11207321 06 .247 01	1.7930	051541	1	1	79C2.0	.11225966 06 .247 01	-2441
045551	1	1	79C2.0	.11207637 06 .247 01	-6289	051551	1	1	79C2.0	.11226121 06 .247 01	-6973
045601	1	1	79C2.0	.11207795 06 .247 01	-4459	051611	1	1	79C2.0	.11226276 06 .247 01	-6035
045611	1	1	79C2.0	.11207954 06 .247 01	-5371	051621	1	1	79C2.0	.11226430 06 .247 01	-5566
045621	1	1	79C2.0	.11208112 06 .247 01	-8809	051631	1	1	79C2.0	.11226584 06 .247 01	-4893
045631	1	1	79C2.0	.11208270 06 .247 01	-2988	051641	1	1	79C2.0	.11226739 06 .247 01	-0352
045641	1	1	79C2.0	.11208428 06 .247 01	-1.2813	051651	1	1	79C2.0	.11226894 06 .247 01	-4199
045651	1	1	79C2.0	.11208586 06 .247 01	1.1367	051701	1	1	79C2.0	.11227049 06 .247 01	-6499
045701	1	1	79C2.0	.11208744 06 .247 01	-5346	051711	1	1	79C2.0	.11227203 06 .247 01	-2139
045711	1	1	79C2.0	.11208902 06 .247 01	-0254	051721	1	1	79C2.0	.11227358 06 .247 01	-2422
045721	1	1	79C2.0	.11209060 06 .247 01	-6055	051731	1	1	79C2.0	.11227512 06 .247 01	-1.3008
045731	1	1	79C2.0	.11209219 06 .247 01	-1.1875	051741	1	1	79C2.0	.11227667 06 .247 01	-1563
045741	1	1	79C2.0	.11209377 06 .247 01	-7656	051751	1	1	79C2.0	.11227821 06 .247 01	-3867
045751	1	1	79C2.0	.11209535 06 .247 01	-3457	051801	1	1	79C2.0	.11227976 06 .247 01	-6713
045801	1	1	79C2.0	.11209693 06 .247 01	-9258	051811	1	1	79C2.0	.11228130 06 .247 01	-4707
045811	1	1	79C2.0	.11209851 06 .247 01	-5059	051821	1	1	79C2.0	.11228284 06 .247 01	-0127
045821	1	1	79C2.0	.11210009 06 .247 01	-9160	051831	1	1	79C2.0	.11228439 06 .247 01	-5547
045831	1	1	79C2.0	.11210167 06 .247 01	1.3359	051841	1	1	79C2.0	.11228594 06 .247 01	-1.0938
045841	1	1	79C2.0	.11210325 06 .247 01	-7958	051851	1	1	79C2.0	.11228749 06 .247 01	-3632
045851	1	1	79C2.0	.11210482 06 .247 01	1.1797	051901	1	1	79C2.0	.11228904 06 .247 01	-8262
045901	1	1	79C2.0	.11210640 06 .247 01	-6035	051911	1	1	79C2.0	.11229059 06 .247 01	-2852
045911	1	1	79C2.0	.11210797 06 .247 01	1.0234	051921	1	1	79C2.0	.11229214 06 .247 01	-1.2539
045921	1	1	79C2.0	.11210955 06 .247 01	-1.5547	051931	1	1	79C2.0	.11229369 06 .247 01	-2070
045931	1	1	79C2.0	.11211113 06 .247 01	-1.1328	051941	1	1	79C2.0	.11229524 06 .247 01	-6680
045951	1	1	79C2.0	.11211428 06 .247 01	-7148	051951	1	1	79C2.0	.11229679 06 .247 01	1.1328
050001	1	1	79C2.0	.11211586 06 .247 01	-8613	052001	1	1	79C2.0	.11229834 06 .247 01	-1.4063
050011	1	1	79C2.0	.11211744 06 .247 01	-5625	052011	1	1	79C2.0	.11229989 06 .247 01	-0557
050021	1	1	79C2.0	.11211902 06 .247 01	-06127	052021	1	1	79C2.0	.11230144 06 .247 01	-4814
050031	1	1	79C2.0	.11212060 06 .247 01	-5898	052031	1	1	79C2.0	.11230299 06 .247 01	-0186
050041	1	1	79C2.0	.11212218 06 .247 01	-1641	052041	1	1	79C2.0	.11230454 06 .247 01	-5547
050051	1	1	79C2.0	.11212376 06 .247 01	-7462	052051	1	1	79C2.0	.11230609 06 .247 01	-0908
050101	1	1	79C2.0	.11212534 06 .247 01	-13164	052101	1	1	79C2.0	.11230764 06 .247 01	-1611
050111	1	1	79C2.0	.11212692 06 .247 01	1.1094	052111	1	1	79C2.0	.11230919 06 .247 01	1.3047
050121	1	1	79C2.0	.11212850 06 .247 01	4929	052121	1	1	79C2.0	.11231074 06 .247 01	-2305
050131	1	1	79C2.0	.11213008 06 .247 01	-3877	052131	1	1	79C2.0	.11231229 06 .247 01	1.2344
050141	1	1	79C2.0	.11213166 06 .247 01	-1.1875	052141	1	1	79C2.0	.11231384 06 .247 01	-2979
050151	1	1	79C2.0	.11213324 06 .247 01	-2.3399	052151	1	1	79C2.0	.11231539 06 .247 01	-1689
050211	1	1	79C2.0	.11213482 06 .247 01	-0957	052201	1	1	79C2.0	.11231694 06 .247 01	-3643
050221	1	1	79C2.0	.11213640 06 .247 01	1.5234	052211	1	1	79C2.0	.11231849 06 .247 01	-1035
050231	1	1	79C2.0	.11213798 06 .247 01	9512	052221	1	1	79C2.0	.11232004 06 .247 01	-5723
050241	1	1	79C2.0	.11213956 06 .247 01	-6211	052231	1	1	79C2.0	.11232159 06 .247 01	-0400
050251	1	1	79C2.0	.11214114 06 .247 01	-8066	052241	1	1	79C2.0	.11232314 06 .247 01	-4512
050301	1	1	79C2.0	.11214272 06 .247 01	-2354	052251	1	1	79C2.0	.11232469 06 .247 01	-0215
050311	1	1	79C2.0	.11214430 06 .247 01	1.6641	052301	1	1	79C2.0	.11232624 06 .247 01	-9180
050321	1	1	79C2.0	.11214588 06 .247 01	-9063	052311	1	1	79C2.0	.11232779 06 .247 01	-3877
050331	1	1	79C2.0	.11214746 06 .247 01	-4775	052321	1	1	79C2.0	.11232934 06 .247 01	-8594
050341	1	1	79C2.0	.11214904 06 .247 01	-0479	052331	1	1	79C2.0	.11233089 06 .247 01	-3301
050351	1	1	79C2.0	.11215062 06 .247 01	-16172	052341	1	1	79C2.0	.11233244 06 .247 01	-1982
050401	1	1	79C2.0	.11215220 06 .247 01	1.2422	052351	1	1	79C2.0	.11233399 06 .247 01	-7266
050411	1	1	79C2.0	.11215378 06 .247 01	-1.3281	052401	1	1	79C2.0	.11233554 06 .247 01	-7461
050421	1	1	79C2.0	.11215536 06 .247 01	-8945	052411	1	1	79C2.0	.11233709 06 .247 01	-7813
050431	1	1	79C2.0	.11215694 06 .247 01	-1.4648	052421	1	1	79C2.0	.11233864 06 .247 01	-3076
050441	1	1	79C2.0	.11215852 06 .247 01	-1.0313	052431	1	1	79C2.0	.11234019 06 .247 01	-1.8359
050451	1	1	79C2.0	.11216010 06 .247 01	-5996	052441	1	1	79C2.0	.11234174 06 .247 01	-3594
050461	1	1	79C2.0	.11216168 06 .247 01	-8340	052451	1	1	79C2.0	.11234329 06 .247 01	1.1133
050471	1	1	79C2.0	.11216326 06 .247 01	-3018	052461	1	1	79C2.0	.11234484 06 .247 01	-4122
050481	1	1	79C2.0	.11216484 06 .247 01	-8691	052471	1	1	79C2.0	.11234639 06 .247 01	-9355
050491	1	1	79C2.0	.11216642 06 .247 01	-4355	052481	1	1	79C2.0	.11234794 06 .247 01	-4600
050511	1	1	79C2.0	.11216800 06 .247 01	-02020	052491	1	1	79C2.0	.11234949 06 .247 01	-0166
050521	1	1	79C2.0	.11216958 06 .247 01	-5684	052501	1	1	79C2.0	.11235104 06 .247 01	-4932
050531	1	1	79C2.0	.11217116 06 .247 01	-1328	052511	1	1	79C2.0	.11235259 06 .247 01	-7266
050541	1										

STATION NUMBER 1 62/01/20					STATION NUMBER 1 62/01/20						
TIME	TC	Q	FREQ	CC3	TIME	TC	Q	FREQ	CC3		
053021	1	1	7902.0	-11235745 06 .247 01	-4.561	055001	1	1	7902.0	-11257260 06 .247 01	-3.965
053041	1	1	7902.0	-11240048 06 .247 01	-5.215	055011	1	1	7902.0	-11257406 06 .247 01	-5.056
053051	1	1	7902.0	-11240199 06 .247 01	1.0078	055021	1	1	7902.0	-11257551 06 .247 01	-5.098
053101	1	1	7902.0	-11240350 06 .247 01	-4.980	055031	1	1	7902.0	-11257696 06 .247 01	-5.081
053111	1	1	7902.0	-11240501 06 .247 01	-2.0156	055041	1	1	7902.0	-11257841 06 .247 01	-4.414
053121	1	1	7902.0	-11240652 06 .247 01	-4.5334	055051	1	1	7902.0	-11257986 06 .247 01	-1.948
053131	1	1	7902.0	-11240803 06 .247 01	-4.0322	055111	1	1	7902.0	-11258277 06 .247 01	1.2344
053141	1	1	7902.0	-11240954 06 .247 01	-5.430	055121	1	1	7902.0	-11258422 06 .247 01	-2.158
053201	1	1	7902.0	-11241256 06 .247 01	-5.586	055131	1	1	7902.0	-11258566 06 .247 01	1.3359
053211	1	1	7902.0	-11241406 06 .247 01	-0.664	055231	1	1	7902.0	-11259435 06 .247 01	-6.523
053221	1	1	7902.0	-11241557 06 .247 01	-5.742	055241	1	1	7902.0	-11259579 06 .247 01	-7.790
053231	1	1	7902.0	-11241708 06 .247 01	-0.811	055251	1	1	7902.0	-11259724 06 .247 01	-7.637
053241	1	1	7902.0	-11241859 06 .247 01	1.4141	055301	1	1	7902.0	-11259868 06 .247 01	-3.184
053251	1	1	7902.0	-11242009 06 .247 01	4.9063	055311	1	1	7902.0	-11260012 06 .247 01	-1.250
053301	1	1	7902.0	-11242160 06 .247 01	4.014	055321	1	1	7902.0	-11260157 06 .247 01	1.4336
053311	1	1	7902.0	-11242310 06 .247 01	-1.1055	055331	1	1	7902.0	-11260301 06 .247 01	-1.0117
053321	1	1	7902.0	-11242461 06 .247 01	3.906	055351	1	1	7902.0	-11260445 06 .247 01	-1.1094
053331	1	1	7902.0	-11242611 06 .247 01	8.867	055401	1	1	7902.0	-11260589 06 .247 01	-2.340
053341	1	1	7902.0	-11242762 06 .247 01	-6.172	055411	1	1	7902.0	-11260733 06 .247 01	-1.7734
053351	1	1	7902.0	-11242912 06 .247 01	-1.201	055421	1	1	7902.0	-11260877 06 .247 01	7.871
053401	1	1	7902.0	-11243062 06 .247 01	3.770	055431	1	1	7902.0	-11261021 06 .247 01	-6.523
053411	1	1	7902.0	-11243212 06 .247 01	-1.250	055441	1	1	7902.0	-11261165 06 .247 01	9.162
053421	1	1	7902.0	-11243363 06 .247 01	-6.870	055451	1	1	7902.0	-11261309 06 .247 01	-1.5273
053431	1	1	7902.0	-11243513 06 .247 01	-1.289	055501	1	1	7902.0	-11261453 06 .247 01	-6.352
053441	1	1	7902.0	-11243663 06 .247 01	-1.299	055511	1	1	7902.0	-11261597 06 .247 01	-4.014
053501	1	1	7902.0	-11243813 06 .247 01	1.3711	055521	1	1	7902.0	-11261740 06 .247 01	-8.379
053511	1	1	7902.0	-11243963 06 .247 01	8.711	055531	1	1	7902.0	-11261884 06 .247 01	-2.275
053521	1	1	7902.0	-11244113 06 .247 01	-1.1289	055541	1	1	7902.0	-11262027 06 .247 01	-2.930
053531	1	1	7902.0	-11244263 06 .247 01	-1.740	055551	1	1	7902.0	-11262171 06 .247 01	-1.426
053541	1	1	7902.0	-11244413 06 .247 01	-1.3789	055601	1	1	7902.0	-11262314 06 .247 01	-1.2656
053611	1	1	7902.0	-11244563 06 .247 01	-1.172	055611	1	1	7902.0	-11262458 06 .247 01	-4.404
053621	1	1	7902.0	-11244713 06 .247 01	3.857	055621	1	1	7902.0	-11262601 06 .247 01	1.270
053631	1	1	7902.0	-11244863 06 .247 01	8.906	055631	1	1	7902.0	-11262745 06 .247 01	-3.037
053641	1	1	7902.0	-11245013 06 .247 01	-6.055	055641	1	1	7902.0	-11262888 06 .247 01	2.656
053651	1	1	7902.0	-11245163 06 .247 01	-0.996	055651	1	1	7902.0	-11263030 06 .247 01	1.8359
053701	1	1	7902.0	-11245313 06 .247 01	4.063	055701	1	1	7902.0	-11263173 06 .247 01	-4.463
053711	1	1	7902.0	-11245463 06 .247 01	-0.879	055711	1	1	7902.0	-11263316 06 .247 01	-0.234
053721	1	1	7902.0	-11245613 06 .247 01	1.4180	055721	1	1	7902.0	-11263459 06 .247 01	-4.512
053731	1	1	7902.0	-11245763 06 .247 01	1.4336	055731	1	1	7902.0	-11263602 06 .247 01	-0.879
053741	1	1	7902.0	-11245913 06 .247 01	-0.586	055741	1	1	7902.0	-11263745 06 .247 01	-1.3086
053751	1	1	7902.0	-11246063 06 .247 01	-1.550	055751	1	1	7902.0	-11263888 06 .247 01	-1.3086
053801	1	1	7902.0	-11246213 06 .247 01	-0.400	055801	1	1	7902.0	-11264031 06 .247 01	1.2656
053811	1	1	7902.0	-11246363 06 .247 01	-5.332	055811	1	1	7902.0	-11264174 06 .247 01	-1.592
053821	1	1	7902.0	-11246513 06 .247 01	-1.0234	055821	1	1	7902.0	-11264316 06 .247 01	1.4180
053831	1	1	7902.0	-11246663 06 .247 01	4.883	055831	1	1	7902.0	-11264458 06 .247 01	9.922
053841	1	1	7902.0	-11246813 06 .247 01	-1.0000	055841	1	1	7902.0	-11264601 06 .247 01	-4.326
053851	1	1	7902.0	-11246963 06 .247 01	-4.893	055851	1	1	7902.0	-11264743 06 .247 01	1.1445
053901	1	1	7902.0	-11247113 06 .247 01	-8.965	055901	1	1	7902.0	-11264886 06 .247 01	7.207
053911	1	1	7902.0	-11247263 06 .247 01	-5.352	055911	1	1	7902.0	-11265028 06 .247 01	-9.727
053921	1	1	7902.0	-11247413 06 .247 01	-4.931	055921	1	1	7902.0	-11265170 06 .247 01	-1.230
053931	1	1	7902.0	-11247563 06 .247 01	-4.385	055931	1	1	7902.0	-11265312 06 .247 01	4.551
053941	1	1	7902.0	-11247713 06 .247 01	-9.238	055941	1	1	7902.0	-11265454 06 .247 01	-1.9448
053951	1	1	7902.0	-11247863 06 .247 01	-1.4102	055951	1	1	7902.0	-11265596 06 .247 01	-1.3867
054001	1	1	7902.0	-11248013 06 .247 01	-8.965	060001	1	1	7902.0	-11265738 06 .247 01	-8.8047
054011	1	1	7902.0	-11248163 06 .247 01	1.6211	060011	1	1	7902.0	-11265880 06 .247 01	-1.2378
054021	1	1	7902.0	-11248313 06 .247 01	1.1367	060021	1	1	7902.0	-11266022 06 .247 01	-3.584
054031	1	1	7902.0	-11248463 06 .247 01	-3.477	060031	1	1	7902.0	-11266164 06 .247 01	-0.586
054041	1	1	7902.0	-11248613 06 .247 01	-3.135	060041	1	1	7902.0	-11266306 06 .247 01	5.254
054101	1	1	7902.0	-11248763 06 .247 01	2.051	060051	1	1	7902.0	-11266447 06 .247 01	-8.926
054111	1	1	7902.0	-11248913 06 .247 01	-2.764	060101	1	1	7902.0	-11266589 06 .247 01	-1.3086
054121	1	1	7902.0	-11249063 06 .247 01	-2.422	060111	1	1	7902.0	-11266731 06 .247 01	-7.237
054131	1	1	7902.0	-11249213 06 .247 01	-2.383	060121	1	1	7902.0	-11266872 06 .247 01	-1.1367
054141	1	1	7902.0	-11249363 06 .247 01	-1.7188	060131	1	1	7902.0	-11267014 06 .247 01	-5.508
054201	1	1	7902.0	-11249513 06 .247 01	-1.982	060141	1	1	7902.0	-11267155 06 .247 01	-9.648
054211	1	1	7902.0	-11249663 06 .247 01	3.232	060151	1	1	7902.0	-11267296 06 .247 01	-3.760
054221	1	1	7902.0	-11249813 06 .247 01	3.623	060201	1	1	7902.0	-11267437 06 .247 01	1.2109
054231	1	1	7902.0	-11249963 06 .247 01	-1.1133	060211	1	1	7902.0	-11267578 06 .247 01	1.8008
054241	1	1	7902.0	-11250113 06 .247 01	-1.5898	060221	1	1	7902.0	-11267720 06 .247 01	-1.6094
054251	1	1	7902.0	-11250263 06 .247 01	-0.645	060231	1	1	7902.0	-11267861 06 .247 01	-4.297
054301	1	1	7902.0	-11250413 06 .247 01	9.844	060241	1	1	7902.0	-11268002 06 .247 01	1.621
054311	1	1	7902.0	-11250563 06 .247 01	1.5078	060251	1	1	7902.0	-11268143 06 .247 01	-1.2461
054321	1	1	7902.0	-11250713 06 .247 01	1.0352	060301	1	1	7902.0	-11268284 06 .247 01	3.437
054331	1	1	7902.0	-11250863 06 .247 01	-4.395	060311	1	1	7902.0	-11268425 06 .247 01	1.975
054401	1	1	7902.0	-11251013 06 .247 01	-9.141	060321	1	1	7902.0	-11268565 06 .247 01	-5.313
054411	1	1	7902.0	-11251163 06 .247 01	6.152	060331	1	1	7902.0	-11268706 06 .247 01	-8.730
054421	1	1	7902.0	-11251313 06 .247 01	-8.594	060341	1	1	7902.0	-11268847 06 .247 01	7.227
054431	1	1	7902.0	-11251463 06 .247 01	-3.301	060351	1	1	7902.0	-11268987 06 .247 01	9.141
054441	1	1	7902.0	-11251613 06 .247 01	-8.027	060411	1	1	7902.0	-11269128 06 .247 01	5.098
054451	1	1	7902.0	-11251763 06 .247 01	-2.275	060421	1	1	7902.0	-11269269 06 .247 01	1.074
054501	1	1	7902.0	-11251913 06 .247 01	2.568	060431	1	1	7902.0	-11269410 06 .247 01	-2.949
054511	1	1	7902.0	-11252063 06 .247 01	-1.2148	060441	1	1	7902.0	-11269551 06 .247 01	3.047
054521	1	1	7902.0	-11252213 06 .247 01	3.184	060451	1	1	7902.0	-11269692 06 .247 01	-0.967
054531	1	1	7902.0	-11252363 06 .247 01	-1.504	060501	1	1	7902.0	-11270110 06 .247 01	1.5039
054541	1	1	7902.0	-11252513 06 .247 01	3.818	060511	1	1	7902.0	-11270249 06 .247 01	1.1055
054551	1	1	7902.0	-11252663 06 .247 01	9.141	060521	1	1	7902.0	-11270389 06 .247 01	-7.237
054601	1	1	7902.0	-11252813 06 .247 01	-5.527	060531	1	1	7902.0	-11270529 06 .247 01	-6.934
054611	1	1	7902.0	-11252963 06 .247 01	-0.195	060541	1	1	7902.0	-11270669 06 .247 01	-0.898
054621											

JPL TECHNICAL REPORT NO. 32-563

STATION NUMBER 1 62/G1/28					STATION NUMBER 1 62/G1/28						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
061001	1	1	7902.0	.11274282 06 .247 01	1.1836	062921	1	1	7902.0	.112805832 06 .247 01	-3.164
061011	1	1	7902.0	.11274420 06 .247 01	-1.1992	062931	1	1	7902.0	.11280961 06 .247 01	-3.857
061021	1	1	7902.0	.11274558 06 .247 01	-4.571	062941	1	1	7902.0	.112809091 06 .247 01	-4.9121
061031	1	1	7902.0	.11274696 06 .247 01	.0439	062951	1	1	7902.0	.11280221 06 .247 01	-1.2670
061041	1	1	7902.0	.11274834 06 .247 01	-1.3359	063001	1	1	7902.0	.11280350 06 .247 01	-4.971
061101	1	1	7902.0	.11275109 06 .247 01	.9102	063011	1	1	7902.0	.11280480 06 .247 01	.2021
061111	1	1	7902.0	.11275246 06 .247 01	.5352	063021	1	1	7902.0	.11280609 06 .247 01	.9082
061121	1	1	7902.0	.11275384 06 .247 01	.1582	063031	1	1	7902.0	.11280738 06 .247 01	.6152
061131	1	1	7902.0	.11275522 06 .247 01	-2.168	063041	1	1	7902.0	.11280868 06 .247 01	.3223
061141	1	1	7902.0	.11275659 06 .247 01	-1.5938	063051	1	1	7902.0	.11280997 06 .247 01	.0313
061151	1	1	7902.0	.11275796 06 .247 01	1.0352	063101	1	1	7902.0	.11291126 06 .247 01	-1.2617
061201	1	1	7902.0	.11275934 06 .247 01	-1.3389	063111	1	1	7902.0	.11291255 06 .247 01	-5.598
061211	1	1	7902.0	.11276071 06 .247 01	-7.129	063121	1	1	7902.0	.11291384 06 .247 01	1.1602
061221	1	1	7902.0	.11276208 06 .247 01	.9180	063131	1	1	7902.0	.11291513 06 .247 01	.8711
061231	1	1	7902.0	.11276345 06 .247 01	-4.541	063141	1	1	7902.0	.11291642 06 .247 01	.5840
061241	1	1	7902.0	.11276482 06 .247 01	.11748	063151	1	1	7902.0	.11291770 06 .247 01	.2969
061251	1	1	7902.0	.11276619 06 .247 01	-1.1953	063201	1	1	7902.0	.11291899 06 .247 01	.0098
061301	1	1	7902.0	.11276756 06 .247 01	-5.645	063221	1	1	7902.0	.11292156 06 .247 01	-1.5586
061311	1	1	7902.0	.11276893 06 .247 01	-1.9336	063231	1	1	7902.0	.11292284 06 .247 01	1.1563
061341	1	1	7902.0	.11277030 06 .247 01	.9668	063241	1	1	7902.0	.11292413 06 .247 01	.8730
061401	1	1	7902.0	.11277167 06 .247 01	-7.656	063251	1	1	7902.0	.11292541 06 .247 01	-1.4102
061411	1	1	7902.0	.11277304 06 .247 01	-1.289	063301	1	1	7902.0	.11292670 06 .247 01	-2.529
061421	1	1	7902.0	.11277441 06 .247 01	-3.398	063321	1	1	7902.0	.11292798 06 .247 01	-5.332
061431	1	1	7902.0	.11277578 06 .247 01	-1.8555	063331	1	1	7902.0	.11292927 06 .247 01	-8.105
061441	1	1	7902.0	.11277715 06 .247 01	-1.2188	063341	1	1	7902.0	.11293055 06 .247 01	-6.889
061451	1	1	7902.0	.11277852 06 .247 01	.596	063351	1	1	7902.0	.11293184 06 .247 01	-1.3672
061501	1	1	7902.0	.11277989 06 .247 01	.6992	063401	1	1	7902.0	.11293312 06 .247 01	-1.606
061511	1	1	7902.0	.11278126 06 .247 01	-3.985	063411	1	1	7902.0	.11293441 06 .247 01	-1.9180
061521	1	1	7902.0	.11278263 06 .247 01	.9805	063431	1	1	7902.0	.11293569 06 .247 01	-1.914
061531	1	1	7902.0	.11278400 06 .247 01	1.6211	063441	1	1	7902.0	.11293698 06 .247 01	-1.4648
061541	1	1	7902.0	.11278537 06 .247 01	.2646	063451	1	1	7902.0	.11293826 06 .247 01	-1.7383
061601	1	1	7902.0	.11278674 06 .247 01	-2.0918	063501	1	1	7902.0	.11293955 06 .247 01	-1.0117
061621	1	1	7902.0	.11278811 06 .247 01	1.1953	063511	1	1	7902.0	.11294083 06 .247 01	-1.188
061631	1	1	7902.0	.11278948 06 .247 01	.8418	063521	1	1	7902.0	.11294212 06 .247 01	.4473
061641	1	1	7902.0	.11279085 06 .247 01	-4.881	063531	1	1	7902.0	.11294340 06 .247 01	.1768
061651	1	1	7902.0	.11279222 06 .247 01	-8.652	063541	1	1	7902.0	.11294469 06 .247 01	1.9102
061701	1	1	7902.0	.11279359 06 .247 01	.7832	063551	1	1	7902.0	.11294597 06 .247 01	.6406
061711	1	1	7902.0	.11279496 06 .247 01	-5.703	063601	1	1	7902.0	.11294726 06 .247 01	-6.628
061721	1	1	7902.0	.11279633 06 .247 01	-9.219	063611	1	1	7902.0	.11294854 06 .247 01	1.1055
061731	1	1	7902.0	.11279770 06 .247 01	.7285	063621	1	1	7902.0	.11294983 06 .247 01	-1.611
061741	1	1	7902.0	.11279907 06 .247 01	-1.6211	063641	1	1	7902.0	.11295111 06 .247 01	.3096
061751	1	1	7902.0	.11280044 06 .247 01	.0293	063651	1	1	7902.0	.11295239 06 .247 01	-9.551
061801	1	1	7902.0	.11280181 06 .247 01	-1.3193	063701	1	1	7902.0	.11295367 06 .247 01	.7832
061811	1	1	7902.0	.11280318 06 .247 01	-1.6680	063711	1	1	7902.0	.11295496 06 .247 01	-4.785
061821	1	1	7902.0	.11280455 06 .247 01	-1.0156	063731	1	1	7902.0	.11295624 06 .247 01	-2.0000
061831	1	1	7902.0	.11280592 06 .247 01	-3.604	063741	1	1	7902.0	.11295752 06 .247 01	-2.598
061841	1	1	7902.0	.11280729 06 .247 01	.1942	063751	1	1	7902.0	.11295880 06 .247 01	.4814
061891	1	1	7902.0	.11280866 06 .247 01	-3.945	063801	1	1	7902.0	.11296008 06 .247 01	-7.754
061911	1	1	7902.0	.11281003 06 .247 01	-2.617	063821	1	1	7902.0	.11296136 06 .247 01	-2.900
061921	1	1	7902.0	.11281140 06 .247 01	-8.011	063831	1	1	7902.0	.11296264 06 .247 01	-5.469
061931	1	1	7902.0	.11281277 06 .247 01	.5781	063841	1	1	7902.0	.11296392 06 .247 01	-5.605
061941	1	1	7902.0	.11281414 06 .247 01	.2363	063891	1	1	7902.0	.11296520 06 .247 01	-1.8125
061951	1	1	7902.0	.11281551 06 .247 01	-1.1055	063921	1	1	7902.0	.11296648 06 .247 01	-1.0625
062001	1	1	7902.0	.11281688 06 .247 01	-4.443	063931	1	1	7902.0	.11296776 06 .247 01	-1.3105
062011	1	1	7902.0	.11281825 06 .247 01	-7.852	063941	1	1	7902.0	.11296904 06 .247 01	.4399
062021	1	1	7902.0	.11281962 06 .247 01	-2.1250	063951	1	1	7902.0	.11297032 06 .247 01	.1514
062031	1	1	7902.0	.11282099 06 .247 01	-4.600	064001	1	1	7902.0	.11297160 06 .247 01	.9453
062041	1	1	7902.0	.11282236 06 .247 01	1.2031	064011	1	1	7902.0	.11297288 06 .247 01	-3.027
062111	1	1	7902.0	.11282373 06 .247 01	-1.406	064021	1	1	7902.0	.11297416 06 .247 01	-7.949
062131	1	1	7902.0	.11282510 06 .247 01	-1.1406	064031	1	1	7902.0	.11297544 06 .247 01	-0.381
062141	1	1	7902.0	.11282647 06 .247 01	-1.4727	064041	1	1	7902.0	.11297672 06 .247 01	-2.813
062151	1	1	7902.0	.11282784 06 .247 01	.1953	064051	1	1	7902.0	.11297800 06 .247 01	-4.766
062201	1	1	7902.0	.11282921 06 .247 01	-1.1367	064101	1	1	7902.0	.11297928 06 .247 01	1.2344
062211	1	1	7902.0	.11283058 06 .247 01	-1.4688	064111	1	1	7902.0	.11298056 06 .247 01	-1.6078
062221	1	1	7902.0	.11283195 06 .247 01	-2.012	064121	1	1	7902.0	.11298184 06 .247 01	-7.246
062231	1	1	7902.0	.11283332 06 .247 01	-1.279	064131	1	1	7902.0	.11298312 06 .247 01	-1.9609
062241	1	1	7902.0	.11283469 06 .247 01	.5430	064201	1	1	7902.0	.11298440 06 .247 01	.8027
062251	1	1	7902.0	.11283606 06 .247 01	.5430	064211	1	1	7902.0	.11298568 06 .247 01	-4.346
062261	1	1	7902.0	.11283743 06 .247 01	.2139	064221	1	1	7902.0	.11298696 06 .247 01	.3301
062301	1	1	7902.0	.11283880 06 .247 01	-1.133	064231	1	1	7902.0	.11298824 06 .247 01	-9.043
062311	1	1	7902.0	.11284017 06 .247 01	.5605	064241	1	1	7902.0	.11298952 06 .247 01	-1.367
062321	1	1	7902.0	.11284154 06 .247 01	.2334	064301	1	1	7902.0	.11299080 06 .247 01	.6309
062331	1	1	7902.0	.11284291 06 .247 01	.9082	064311	1	1	7902.0	.11299208 06 .247 01	1.3984
062341	1	1	7902.0	.11284428 06 .247 01	.5840	064321	1	1	7902.0	.11299336 06 .247 01	.1670
062351	1	1	7902.0	.11284565 06 .247 01	.2588	064331	1	1	7902.0	.11299464 06 .247 01	-1.0625
062401	1	1	7902.0	.11284702 06 .247 01	1.9375	064341	1	1	7902.0	.11299592 06 .247 01	-1.2930
062411	1	1	7902.0	.11284839 06 .247 01	-3.867	064401	1	1	7902.0	.11299720 06 .247 01	-1.5234
062421	1	1	7902.0	.11284976 06 .247 01	-2.910	064411	1	1	7902.0	.11299848 06 .247 01	.2510
062431	1	1	7902.0	.11285113 06 .247 01	.6504	064421	1	1	7902.0	.11300000 06 .247 01	2.6234
062441	1	1	7902.0	.11285250 06 .247 01	-8.699	064431	1	1	7902.0	.11300128 06 .247 01	-2.012
062451	1	1	7902.0	.11285387 06 .247 01	.0117	064441	1	1	7902.0	.11300256 06 .247 01	.5742
062501	1	1	7902.0	.11285524 06 .247 01	-1.3086	064451	1	1	7902.0	.11300384 06 .247 01	.3486
062511	1	1	7902.0	.11285661 06 .247 01	.3760	064501	1	1	7902.0	.11300512 06 .247 01	-8.750
062521	1	1	7902.0	.11285798 06 .247 01	-1.9414	064511	1	1	7902.0	.11300640 06 .247 01	.9043
062531	1	1	7902.0	.11285935 06 .247 01	-2.568	064521	1	1	7902.0	.11300768 06 .247 01	-1.3203
062541	1	1	7902.0	.11286072 06 .247 01	.4277	064531	1	1	7902.0	.11300896 06 .247 01	-1.5391
062551	1	1	7902.0	.11286209 06 .247 01	.4277	064541	1	1	7902.0	.11301024 06 .247 01	.7998
062601	1	1	7902.0	.11286346 06 .247 01	-1.199						

STATION	NUMBER	I	62/01/28	CC3
TIME	TC	Q	FRQ	
065031	1	1	7902.0	.11305677 06 .248 01 -1.7773
065041	1	1	7902.0	.11305797 06 .248 01 -.9707
065051	1	1	7902.0	.11305916 06 .248 01 -1.6441
065101	1	1	7902.0	.11306036 06 .248 01 -3.3564
065111	1	1	7902.0	.11306155 06 .248 01 1.4531
065121	1	1	7902.0	.11306274 06 .248 01 .2598
065131	1	1	7902.0	.11306393 06 .248 01 .0693
065151	1	1	7902.0	.11306631 06 .248 01 -.3086
065201	1	1	7902.0	.11306750 06 .248 01 -.4961
065211	1	1	7902.0	.11306868 06 .248 01 -.6836
065221	1	1	7902.0	.11306987 06 .248 01 1.1328
065231	1	1	7902.0	.11307105 06 .248 01 -1.0547
065241	1	1	7902.0	.11307224 06 .248 01 -2.2422
065251	1	1	7902.0	.11307342 06 .248 01 -.4219
065301	1	1	7902.0	.11307460 06 .248 01 -1.6055
065311	1	1	7902.0	.11307578 06 .248 01 1.2148
065321	1	1	7902.0	.11307697 06 .248 01 .0342
065331	1	1	7902.0	.11307815 06 .248 01 -.1465
065341	1	1	7902.0	.11307932 06 .248 01 -.3252
065351	1	1	7902.0	.11308050 06 .248 01 -1.5039
065401	1	1	7902.0	.11308168 06 .248 01 .3193
065421	1	1	7902.0	.11308403 06 .248 01 -.0322
065441	1	1	7902.0	.11308638 06 .248 01 -1.3828
065451	1	1	7902.0	.11308755 06 .248 01 -.5527
065501	1	1	7902.0	.11308873 06 .248 01 -.7266
065511	1	1	7902.0	.11308990 06 .248 01 -.8965
065521	1	1	7902.0	.11309106 06 .248 01 -.9386
065531	1	1	7902.0	.11309223 06 .248 01 -2.2394
065541	1	1	7902.0	.11309340 06 .248 01 -.4043
065551	1	1	7902.0	.11309457 06 .248 01 .4287
065601	1	1	7902.0	.11309574 06 .248 01 -.7383
065611	1	1	7902.0	.11309690 06 .248 01 .0967
065621	1	1	7902.0	.11309807 06 .248 01 -1.0703
065631	1	1	7902.0	.11309923 06 .248 01 -.2324
065641	1	1	7902.0	.11310039 06 .248 01 .6055
065651	1	1	7902.0	.11310156 06 .248 01 .4424
065701	1	1	7902.0	.11310272 06 .248 01 1.2813
065711	1	1	7902.0	.11310388 06 .248 01 1.1211
065721	1	1	7902.0	.11310504 06 .248 01 -.0381
065731	1	1	7902.0	.11310620 06 .248 01 .8027
065741	1	1	7902.0	.11310735 06 .248 01 -.3555
065751	1	1	7902.0	.11310851 06 .248 01 .4883
065801	1	1	7902.0	.11310967 06 .248 01 .3320
065811	1	1	7902.0	.11311082 06 .248 01 .1768
065821	1	1	7902.0	.11311198 06 .248 01 1.6234
065841	1	1	7902.0	.11311428 06 .248 01 7.188
065851	1	1	7902.0	.11311543 06 .248 01 .5644
065901	1	1	7902.0	.11311658 06 .248 01 -.5859
065911	1	1	7902.0	.11311773 06 .248 01 -.7344
065921	1	1	7902.0	.11311888 06 .248 01 -.8828
065941	1	1	7902.0	.11312118 06 .248 01 -.1777
065951	1	1	7902.0	.11312347 06 .248 01 .3242
070001	1	1	7902.0	.11312576 06 .248 01 -.4688
070021	1	1	7902.0	.11312805 06 .248 01 -1.7578
070031	1	1	7902.0	.11312690 06 .248 01 -.8984
070041	1	1	7902.0	.11312864 06 .248 01 -1.0391
070111	1	1	7902.0	.11313186 06 .248 01 -.4990
070121	1	1	7902.0	.11313260 06 .248 01 -.5977
070131	1	1	7902.0	.11313373 06 .248 01 1.2656
070141	1	1	7902.0	.11313487 06 .248 01 -.8711
070151	1	1	7902.0	.11313601 06 .248 01 -.0059
070201	1	1	7902.0	.11313714 06 .248 01 .8613
070211	1	1	7902.0	.11313827 06 .248 01 -.2725
070221	1	1	7902.0	.11313940 06 .248 01 -1.4063
070231	1	1	7902.0	.11314054 06 .248 01 -1.5352
070241	1	1	7902.0	.11314167 06 .248 01 .3330
070301	1	1	7902.0	.11314393 06 .248 01 .0742
070311	1	1	7902.0	.11314505 06 .248 01 -1.0547
070321	1	1	7902.0	.11314618 06 .248 01 .8203
070331	1	1	7902.0	.11314730 06 .248 01 -.3057
070341	1	1	7902.0	.11314843 06 .248 01 -.4307
070351	1	1	7902.0	.11314956 06 .248 01 -.5566
070401	1	1	7902.0	.11315068 06 .248 01 .3213
070421	1	1	7902.0	.11315292 06 .248 01 .0781
070431	1	1	7902.0	.11315404 06 .248 01 .9590
070441	1	1	7902.0	.11315516 06 .248 01 -.1621
070451	1	1	7902.0	.11315628 06 .248 01 -.2803
070501	1	1	7902.0	.11315740 06 .248 01 -.3984
070531	1	1	7902.0	.11316074 06 .248 01 1.2539
070541	1	1	7902.0	.11316186 06 .248 01 -.8594
070551	1	1	7902.0	.11316297 06 .248 01 -1.5727
070601	1	1	7902.0	.11316408 06 .248 01 -.0840
070611	1	1	7902.0	.11316520 06 .248 01 -1.1963
070621	1	1	7902.0	.11316631 06 .248 01 .6953
070631	1	1	7902.0	.11316741 06 .248 01 .5859
070641	1	1	7902.0	.11316852 06 .248 01 .4766
070651	1	1	7902.0	.11316963 06 .248 01 1.3711
070701	1	1	7902.0	.11317074 06 .248 01 .1572
070721	1	1	7902.0	.11317295 06 .248 01 -.9473
070741	1	1	7902.0	.11317515 06 .248 01 -.1543
070751	1	1	7902.0	.11317625 06 .248 01 -.2559
070801	1	1	7902.0	.11317736 06 .248 01 -.3566
070811	1	1	7902.0	.11317846 06 .248 01 .4570
070821	1	1	7902.0	.11317956 06 .248 01 .4443
070851	1	1	7902.0	.11318285 06 .248 01 .1533
070901	1	1	7902.0	.11318394 06 .248 01 -.9414
070911	1	1	7902.0	.11318503 06 .248 01 -.0361
070921	1	1	7902.0	.11318613 06 .248 01 .8711
070931	1	1	7902.0	.11318722 06 .248 01 -.2217
070941	1	1	7902.0	.11318831 06 .248 01 .6875
070951	1	1	7902.0	.11318940 06 .248 01 -.4043
071001	1	1	7902.0	.11319049 06 .248 01 .5078
071011	1	1	7902.0	.11319158 06 .248 01 .4180
071021	1	1	7902.0	.11319267 06 .248 01 .3301
071031	1	1	7902.0	.11319376 06 .248 01 1.2422
071041	1	1	7902.0	.11319484 06 .248 01 1.1602
071101	1	1	7902.0	.11319701 06 .248 01 1.9883
071111	1	1	7902.0	.11319809 06 .248 01 .9063

STATION	NUMBER	I	62/01/28	CC3
TIME	TC	Q	FRQ	
071131	1	1	7902.0	.11320026 06 .248 01 -.2568
071141	1	1	7902.0	.11320134 06 .248 01 .6641
071151	1	1	7902.0	.11320242 06 .248 01 .5840
071201	1	1	7902.0	.11320349 06 .248 01 -.4941
071211	1	1	7902.0	.11320457 06 .248 01 .4297
071221	1	1	7902.0	.11320565 06 .248 01 1.3516
071231	1	1	7902.0	.11320672 06 .248 01 .2773
071241	1	1	7902.0	.11320780 06 .248 01 .2031
071251	1	1	7902.0	.11320887 06 .248 01 1.1289
071301	1	1	7902.0	.11320994 06 .248 01 .0576
071321	1	1	7902.0	.11321208 06 .248 01 -1.0859
071331	1	1	7902.0	.11321315 06 .248 01 -.1533
071341	1	1	7902.0	.11321422 06 .248 01 -.2217
071351	1	1	7902.0	.11321529 06 .248 01 -.2900
071401	1	1	7902.0	.11321636 06 .248 01 -.3564
071411	1	1	7902.0	.11321742 06 .248 01 1.5781
071421	1	1	7902.0	.11321849 06 .248 01 -.4863
071431	1	1	7902.0	.11321955 06 .248 01 .4492
071441	1	1	7902.0	.11322061 06 .248 01 -.6133
071451	1	1	7902.0	.11322167 06 .248 01 -.6758
071501	1	1	7902.0	.11322273 06 .248 01 .2646
071511	1	1	7902.0	.11322380 06 .248 01 .2041
071521	1	1	7902.0	.11322485 06 .248 01 .1455
071531	1	1	7902.0	.11322591 06 .248 01 .0879
071541	1	1	7902.0	.11322697 06 .248 01 .0313
071551	1	1	7902.0	.11322802 06 .248 01 -.0254
071601	1	1	7902.0	.11322908 06 .248 01 -.0801
071611	1	1	7902.0	.11323013 06 .248 01 -.1338
071631	1	1	7902.0	.11323224 06 .248 01 .7617
071641	1	1	7902.0	.11323329 06 .248 01 1.7109
071701	1	1	7902.0	.11323539 06 .248 01 -1.3906
071711	1	1	7902.0	.11323644 06 .248 01 -.4375
071721	1	1	7902.0	.11323748 06 .248 01 -.4844
071731	1	1	7902.0	.11323853 06 .248 01 -.5313
071741	1	1	7902.0	.11323958 06 .248 01 -.5782
071751	1	1	7902.0	.11324062 06 .248 01 -.6211
071801	1	1	7902.0	.11324166 06 .248 01 -.6641
071811	1	1	7902.0	.11324271 06 .248 01 -.7070
071821	1	1	7902.0	.11324375 06 .248 01 -.7529
071831	1	1	7902.0	.11324479 06 .248 01 1.2109
071851	1	1	7902.0	.11324686 06 .248 01 .1348
071911	1	1	7902.0	.11324894 06 .248 01 .6005
071921	1	1	7902.0	.11324997 06 .248 01 -.9746
071931	1	1	7902.0	.11325101 06 .248 01 -1.0078
071941	1	1	7902.0	.11325205 06 .248 01 -.0742
072001	1	1	7902.0	.11325411 06 .248 01 -.1064
072011	1	1	7902.0	.11325514 06 .248 01 -2.1406
072031	1	1	7902.0	.11325720 06 .248 01 -.1953
072041	1	1	7902.0	.11325822 06 .248 01 -2.2188
072051	1	1	7902.0	.11325925 06 .248 01 -1.2500
072101	1	1	7902.0	.11326027 06 .248 01 -.2764
072111	1	1	7902.0	.11326130 06 .248 01 -.2988
072121	1	1	7902.0	.11326232 06 .248 01 -.3223
072141	1	1	7902.0	.11326437 06 .248 01 .6348
072151	1	1	7902.0	.11326539 06 .248 01 .6133
072201	1	1	7902.0	.11326641 06 .248 01 .5938
072211	1	1	7902.0	.11326742 06 .248 01 .5762
072221	1	1	7902.0	.11326844 06 .248 01 .5586
072231	1	1	7902.0	.11326946 06 .248 01 .5420
072241	1	1	7902.0	.11327047 06 .248 01 .5254
072251	1	1	7902.0	.11327149 06 .248 01 .5089
072301	1	1	7902.0	.11327250 06 .248 01 .4913
072311	1	1	7902.0	.11327351 06 .248 01 .4737
072331	1	1	7902.0	.11327554 06 .248 01 .4561
072341	1	1	7902.0	.11327655 06 .248 01 .4385
072351	1	1	7902.0	.11327755 06 .248 01 .4209
072401	1	1	7902.0	.11327856 06 .248 01 .4033
072411	1	1	7902.0	.11327957 06 .248 01 .3857
072431	1	1	7902.0	.11328057 06 .248 01 .3681
072441	1	1	7902.0	.11328158 06 .248 01 .3505
072451	1	1	7902.0	.11328

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STATION NUMBER 1 62/01/28						STATION NUMBER 1 62/01/28					
TIME	TC	Q	FRQ	CC3		TIME	TC	Q	FRQ	CC3	
073201	1	1	7902.0	-11332573	06 .248 01 1.2695	075311	1	1	7902.0	-11343884	06 .249 01 -1.1357
073211	1	1	7902.0	-11332669	06 .248 01 1.3086	075321	1	1	7902.0	-11343968	06 .249 01 -1.6875
073221	1	1	7902.0	-11332765	06 .248 01 -1.6465	075331	1	1	7902.0	-11344050	06 .249 01 -1.4941
073231	1	1	7902.0	-11332860	06 .248 01 -1.6035	075341	1	1	7902.0	-11344132	06 .249 01 -1.6758
073241	1	1	7902.0	-11332956	06 .248 01 -1.5566	075351	1	1	7902.0	-11344214	06 .249 01 -1.8574
073251	1	1	7902.0	-11333051	06 .248 01 -1.5098	075411	1	1	7902.0	-11344378	06 .249 01 -1.7773
073301	1	1	7902.0	-11333146	06 .248 01 1.5391	075421	1	1	7902.0	-11344459	06 .249 01 -1.5918
073311	1	1	7902.0	-11333241	06 .248 01 -1.5879	075431	1	1	7902.0	-11344540	06 .249 01 -1.5957
073321	1	1	7902.0	-11333336	06 .248 01 -1.6367	075441	1	1	7902.0	-11344622	06 .249 01 -1.2168
073331	1	1	7902.0	-11333431	06 .248 01 -1.6875	075451	1	1	7902.0	-11344703	06 .249 01 -1.0283
073341	1	1	7902.0	-11333526	06 .248 01 -1.0439	075511	1	1	7902.0	-11344885	06 .249 01 -1.3516
073351	1	1	7902.0	-11333621	06 .248 01 -1.9883	075521	1	1	7902.0	-11344966	06 .249 01 -1.4561
073411	1	1	7902.0	-11333716	06 .248 01 1.0703	075531	1	1	7902.0	-11345026	06 .249 01 -1.2637
073451	1	1	7902.0	-11333811	06 .248 01 -1.8711	075541	1	1	7902.0	-11345107	06 .249 01 -2.0703
073501	1	1	7902.0	-11333906	06 .248 01 -1.8105	075601	1	1	7902.0	-11345268	06 .249 01 1.3242
073511	1	1	7902.0	-11333975	06 .248 01 -1.7500	075611	1	1	7902.0	-11345348	06 .249 01 -1.5215
073521	1	1	7902.0	-11334069	06 .248 01 1.3125	075621	1	1	7902.0	-11345428	06 .249 01 -1.2813
073531	1	1	7902.0	-11334164	06 .248 01 -1.6230	075631	1	1	7902.0	-11345508	06 .249 01 -1.9199
073541	1	1	7902.0	-11334259	06 .248 01 -1.5586	075641	1	1	7902.0	-11345588	06 .249 01 -1.1191
073551	1	1	7902.0	-11334354	06 .248 01 -1.5059	075651	1	1	7902.0	-11345668	06 .249 01 -1.3213
073601	1	1	7902.0	-11334449	06 .248 01 -1.4297	075701	1	1	7902.0	-11345747	06 .249 01 -1.5254
073611	1	1	7902.0	-11334544	06 .248 01 -1.3604	075711	1	1	7902.0	-11345827	06 .249 01 -1.2715
073621	1	1	7902.0	-11334639	06 .248 01 -1.2910	075721	1	1	7902.0	-11345906	06 .249 01 -1.0664
073631	1	1	7902.0	-11334734	06 .248 01 -1.2217	075731	1	1	7902.0	-11345986	06 .249 01 -1.1406
073641	1	1	7902.0	-11334829	06 .248 01 -1.1514	075741	1	1	7902.0	-11346065	06 .249 01 1.3477
073651	1	1	7902.0	-11334924	06 .248 01 -1.0821	075751	1	1	7902.0	-11346144	06 .249 01 -1.4434
073701	1	1	7902.0	-11335019	06 .248 01 -2.0078	075801	1	1	7902.0	-11346223	06 .249 01 -1.2334
073711	1	1	7902.0	-11335114	06 .248 01 -1.9386	075811	1	1	7902.0	-11346302	06 .249 01 -1.0225
073721	1	1	7902.0	-11335209	06 .248 01 -1.8693	075821	1	1	7902.0	-11346381	06 .249 01 -1.8105
073731	1	1	7902.0	-11335304	06 .248 01 -1.8001	075841	1	1	7902.0	-11346460	06 .249 01 -1.3828
073741	1	1	7902.0	-11335399	06 .248 01 1.2930	075851	1	1	7902.0	-11346539	06 .249 01 -2.1641
073751	1	1	7902.0	-11335494	06 .248 01 -1.7321	075901	1	1	7902.0	-11346618	06 .249 01 -1.0488
073801	1	1	7902.0	-11335589	06 .248 01 -1.6630	075911	1	1	7902.0	-11346697	06 .249 01 -1.2676
073811	1	1	7902.0	-11335684	06 .248 01 -1.5938	075921	1	1	7902.0	-11346776	06 .249 01 -1.5137
073821	1	1	7902.0	-11335779	06 .248 01 -1.5245	075931	1	1	7902.0	-11346855	06 .249 01 -1.7070
073831	1	1	7902.0	-11335874	06 .248 01 -1.4553	075941	1	1	7902.0	-11346934	06 .249 01 -2.0703
073841	1	1	7902.0	-11335969	06 .248 01 -1.3861	075951	1	1	7902.0	-11347013	06 .249 01 -1.8516
073851	1	1	7902.0	-11336064	06 .248 01 -1.3169	075961	1	1	7902.0	-11347092	06 .249 01 -1.5977
073901	1	1	7902.0	-11336159	06 .248 01 -1.2477	080021	1	1	7902.0	-11347171	06 .249 01 -1.8223
073911	1	1	7902.0	-11336254	06 .248 01 -1.1785	080031	1	1	7902.0	-11347250	06 .249 01 -1.0508
073921	1	1	7902.0	-11336349	06 .248 01 -1.1093	080041	1	1	7902.0	-11347329	06 .249 01 1.2773
073931	1	1	7902.0	-11336444	06 .248 01 -1.0401	080051	1	1	7902.0	-11347408	06 .249 01 -1.5078
073941	1	1	7902.0	-11336539	06 .248 01 -1.4298	080101	1	1	7902.0	-11347487	06 .249 01 -1.2656
073951	1	1	7902.0	-11336634	06 .248 01 -1.3606	080111	1	1	7902.0	-11347566	06 .249 01 -1.4332
074001	1	1	7902.0	-11336729	06 .248 01 -1.2914	080121	1	1	7902.0	-11347645	06 .249 01 -1.2002
074011	1	1	7902.0	-11336824	06 .248 01 -1.2222	080131	1	1	7902.0	-11347724	06 .249 01 -1.5664
074021	1	1	7902.0	-11336919	06 .248 01 -1.1530	080141	1	1	7902.0	-11347803	06 .249 01 -1.6680
074031	1	1	7902.0	-11337014	06 .248 01 -1.0838	080151	1	1	7902.0	-11347882	06 .249 01 -1.0967
074041	1	1	7902.0	-11337109	06 .248 01 -1.0146	080201	1	1	7902.0	-11347961	06 .249 01 -1.1406
074051	1	1	7902.0	-11337204	06 .248 01 -1.9453	080211	1	1	7902.0	-11348040	06 .249 01 -1.4066
074101	1	1	7902.0	-11337299	06 .248 01 -1.8761	080221	1	1	7902.0	-11348119	06 .249 01 -1.3789
074111	1	1	7902.0	-11337394	06 .248 01 -1.8069	080231	1	1	7902.0	-11348198	06 .249 01 -1.3818
074121	1	1	7902.0	-11337489	06 .248 01 -1.7377	080241	1	1	7902.0	-11348277	06 .249 01 -1.1406
074131	1	1	7902.0	-11337584	06 .248 01 -1.6685	080251	1	1	7902.0	-11348356	06 .249 01 -1.0996
074141	1	1	7902.0	-11337679	06 .248 01 -1.5993	080261	1	1	7902.0	-11348435	06 .249 01 -1.6582
074151	1	1	7902.0	-11337774	06 .248 01 -1.5301	080301	1	1	7902.0	-11348514	06 .249 01 -1.5859
074201	1	1	7902.0	-11337869	06 .248 01 -1.4609	080311	1	1	7902.0	-11348593	06 .249 01 -1.1680
074211	1	1	7902.0	-11337964	06 .248 01 -1.3917	080321	1	1	7902.0	-11348672	06 .249 01 -1.0771
074221	1	1	7902.0	-11338059	06 .248 01 -1.3225	080331	1	1	7902.0	-11348751	06 .249 01 1.3242
074231	1	1	7902.0	-11338154	06 .248 01 -1.2533	080341	1	1	7902.0	-11348830	06 .249 01 -1.4277
074241	1	1	7902.0	-11338249	06 .248 01 -1.1841	080351	1	1	7902.0	-11348909	06 .249 01 -1.1777
074251	1	1	7902.0	-11338344	06 .248 01 -1.1149	080411	1	1	7902.0	-11349008	06 .249 01 -1.3242
074301	1	1	7902.0	-11338439	06 .248 01 -1.0457	080421	1	1	7902.0	-11349087	06 .249 01 -1.3229
074311	1	1	7902.0	-11338534	06 .248 01 -1.9765	080431	1	1	7902.0	-11349166	06 .249 01 -1.1689
074321	1	1	7902.0	-11338629	06 .248 01 -1.9073	080441	1	1	7902.0	-11349245	06 .249 01 2.6016
074331	1	1	7902.0	-11338724	06 .248 01 -1.8381	080451	1	1	7902.0	-11349324	06 .249 01 1.1172
074341	1	1	7902.0	-11338819	06 .248 01 -1.7689	080511	1	1	7902.0	-11349403	06 .249 01 -1.3789
074351	1	1	7902.0	-11338914	06 .248 01 -1.7000	080521	1	1	7902.0	-11349482	06 .249 01 -1.6466
074401	1	1	7902.0	-11339009	06 .248 01 -1.6308	080531	1	1	7902.0	-11349561	06 .249 01 -1.0977
074411	1	1	7902.0	-11339104	06 .248 01 -1.5616	080541	1	1	7902.0	-11349640	06 .249 01 -1.689
074421	1	1	7902.0	-11339199	06 .248 01 -1.4924	080551	1	1	7902.0	-11349719	06 .249 01 -1.689
074431	1	1	7902.0	-11339294	06 .248 01 -1.4232	080611	1	1	7902.0	-11349798	06 .249 01 -1.4336
074441	1	1	7902.0	-11339389	06 .248 01 -1.3540	080621	1	1	7902.0	-11349877	06 .249 01 -1.2988
074451	1	1	7902.0	-11339484	06 .248 01 -1.2848	080631	1	1	7902.0	-11349956	06 .249 01 -1.0322
074501	1	1	7902.0	-11339579	06 .248 01 -1.2156	080641	1	1	7902.0	-11350035	06 .249 01 -1.7637
074511	1	1	7902.0	-11339674	06 .248 01 -1.1464	080701	1	1	7902.0	-11350114	06 .249 01 -1.2217
074521	1	1	7902.0	-11339769	06 .248 01 -1.0772	080711	1	1	7902.0	-11350193	06 .249 01 -1.9492
074531	1	1	7902.0	-11339864	06 .248 01 -1.0080	080721	1	1	7902.0	-11350272	06 .249 01 -1.6758
074541	1	1	7902.0	-11339959	06 .248 01 -1.9388	080731	1	1	7902.0	-11350351	06 .249 01 -1.5996
074551	1	1	7902.0	-11340054	06 .248 01 -1.8696	080741	1	1	7902.0	-11350430	06 .249 01 -1.1250
074561	1	1	7902.0	-11340149	06 .248 01 -1.8004	080751	1	1	7902.0	-11350509	06 .249 01 1.1523
074601	1	1	7902.0	-11340244	06 .248 01 -1.7312	080801	1	1	7902.0	-11350588	06 .249 01 -1.5703
074611	1	1	7902.0	-11340339	06 .248 01 -1.6620	080811	1	1	7902.0	-11350667	06 .249 01 -1.7090
074621	1	1	7902.0	-11340434	06 .248 01 -1.5928	080821	1	1	7902.0	-11350746	06 .249 01 -1.4463
074631	1	1	7902.0	-11340529	06 .248 01 -1.5236	080831	1	1	7902.0	-11350825	06 .249 01 -1.7305
074641	1	1	7902.0	-11340624	06 .248 01 -1.4544	080841	1	1	7902.0	-11350904	06 .249 01 -1.4463
074651	1										

STATION NUMBER 1 62/01/28					STATION NUMBER 1 62/01/28						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
081551	1	1	7851.0	.11354017 06 .250 01	-1.1689	082701	1	1	7851.0	.11358217 06 .251 01	-1.1758
081611	1	1	7851.0	.11354150 06 .250 01	.5000	082721	1	1	7851.0	.11358335 06 .251 01	-.3477
081621	1	1	7851.0	.11354216 06 .250 01	-.1631	082731	1	1	7851.0	.11358393 06 .251 01	-.9316
081631	1	1	7851.0	.11354282 06 .250 01	-.1748	082741	1	1	7851.0	.11358451 06 .251 01	-.4854
081651	1	1	7851.0	.11354415 06 .250 01	-.1475	082801	1	1	7851.0	.11358568 06 .251 01	.3232
081701	1	1	7851.0	.11354481 06 .250 01	-.1934	082831	1	1	7851.0	.11358741 06 .251 01	.5898
081711	1	1	7851.0	.11354546 06 .250 01	-.4639	082841	1	1	7851.0	.11358759 06 .251 01	.0137
081721	1	1	7851.0	.11354612 06 .250 01	-1.1211	082851	1	1	7851.0	.11358856 06 .251 01	.4395
081731	1	1	7851.0	.11354678 06 .250 01	.2236	082911	1	1	7851.0	.11358971 06 .251 01	.2939
081741	1	1	7851.0	.11354743 06 .250 01	-.5703	082921	1	1	7851.0	.11359028 06 .251 01	-.7246
081751	1	1	7851.0	.11354808 06 .250 01	.9160	082931	1	1	7851.0	.11359085 06 .251 01	.1543
081801	1	1	7851.0	.11354873 06 .250 01	-.7363	082941	1	1	7851.0	.11359141 06 .251 01	1.5859
081811	1	1	7851.0	.11354939 06 .250 01	-.3867	083001	1	1	7851.0	.11359255 06 .251 01	-.5469
081831	1	1	7851.0	.11355068 06 .250 01	-.6855	083011	1	1	7851.0	.11359311 06 .251 01	.8887
081841	1	1	7851.0	.11355133 06 .250 01	-.3320	083021	1	1	7851.0	.11359368 06 .251 01	1.3242
081901	1	1	7851.0	.11355262 06 .250 01	-.3779	083031	1	1	7851.0	.11359424 06 .251 01	-.2373
081911	1	1	7851.0	.11355327 06 .250 01	-.2666	083041	1	1	7851.0	.11359480 06 .251 01	.2012
081931	1	1	7851.0	.11355455 06 .250 01	-.5508	083051	1	1	7851.0	.11359536 06 .251 01	-.3584
081941	1	1	7851.0	.11355519 06 .250 01	-.8105	083101	1	1	7851.0	.11359592 06 .251 01	-.9180
081951	1	1	7851.0	.11355583 06 .250 01	1.1719	083141	1	1	7851.0	.11359814 06 .251 01	-.1396
082001	1	1	7851.0	.11355647 06 .250 01	-.4668	083151	1	1	7851.0	.11359869 06 .251 01	-.6934
082011	1	1	7851.0	.11355710 06 .250 01	-.1035	083201	1	1	7851.0	.11359924 06 .251 01	.7978
082021	1	1	7851.0	.11355774 06 .250 01	-1.7383	083221	1	1	7851.0	.11360034 06 .251 01	-1.3438
082031	1	1	7851.0	.11355837 06 .250 01	-.3730	083231	1	1	7851.0	.11360089 06 .251 01	.1104
082041	1	1	7851.0	.11355900 06 .250 01	.9941	083251	1	1	7851.0	.11360198 06 .251 01	1.0195
082051	1	1	7851.0	.11355964 06 .250 01	-1.6367	083301	1	1	7851.0	.11360252 06 .251 01	-1.5273
082111	1	1	7851.0	.11356090 06 .250 01	1.1016	083311	1	1	7851.0	.11360307 06 .251 01	-1.0703
082121	1	1	7851.0	.11356152 06 .250 01	-.4746	083321	1	1	7851.0	.11360361 06 .251 01	-1.6133
082131	1	1	7851.0	.11356215 06 .250 01	-1.1523	083331	1	1	7851.0	.11360415 06 .251 01	.8496
082141	1	1	7851.0	.11356278 06 .250 01	-.7793	083341	1	1	7851.0	.11360469 06 .251 01	.3096
082201	1	1	7851.0	.11356403 06 .250 01	-.0264	083351	1	1	7851.0	.11360523 06 .251 01	-1.2305
082211	1	1	7851.0	.11356465 06 .250 01	1.3516	083401	1	1	7851.0	.11360576 06 .252 01	-.7656
082221	1	1	7851.0	.11356527 06 .250 01	-.2705	083411	1	1	7851.0	.11360630 06 .252 01	-.3008
082231	1	1	7851.0	.11356589 06 .250 01	1.1094	083421	1	1	7851.0	.11360683 06 .252 01	.1650
082241	1	1	7851.0	.11356651 06 .250 01	.4912	083431	1	1	7851.0	.11360737 06 .252 01	-.3682
082251	1	1	7851.0	.11356713 06 .250 01	-1.1289	083441	1	1	7851.0	.11360790 06 .252 01	-1.4984
082311	1	1	7851.0	.11356836 06 .250 01	-.3584	083451	1	1	7851.0	.11360843 06 .252 01	-.4307
082321	1	1	7851.0	.11356897 06 .250 01	-.9727	083501	1	1	7851.0	.11360896 06 .252 01	-.5609
082341	1	1	7851.0	.11357020 06 .250 01	.8047	083511	1	1	7851.0	.11360949 06 .252 01	-.5117
082401	1	1	7851.0	.11357142 06 .251 01	1.5959	083521	1	1	7851.0	.11361001 06 .252 01	-.0156
082411	1	1	7851.0	.11357202 06 .251 01	-1.6234	083531	1	1	7851.0	.11361054 06 .252 01	-.4590
082421	1	1	7851.0	.11357263 06 .251 01	-1.6328	083541	1	1	7851.0	.11361106 06 .252 01	-2.0625
082431	1	1	7851.0	.11357324 06 .251 01	-2.2344	083621	1	1	7851.0	.11361315 06 .252 01	.8477
082441	1	1	7851.0	.11357384 06 .251 01	1.1602	083631	1	1	7851.0	.11361367 06 .252 01	.3301
082451	1	1	7851.0	.11357444 06 .251 01	.5566	083641	1	1	7851.0	.11361419 06 .252 01	-.1875
082501	1	1	7851.0	.11357505 06 .251 01	.9551	083651	1	1	7851.0	.11361470 06 .252 01	-.2949
082511	1	1	7851.0	.11357565 06 .251 01	-.6465	083701	1	1	7851.0	.11361522 06 .252 01	-.2178
082521	1	1	7851.0	.11357625 06 .251 01	-2.2500	083711	1	1	7851.0	.11361573 06 .252 01	.2686
082531	1	1	7851.0	.11357684 06 .251 01	-1.8438	083721	1	1	7851.0	.11361624 06 .252 01	-.2441
082541	1	1	7851.0	.11357744 06 .251 01	-.4414						
082601	1	1	7851.0	.11357863 06 .251 01	-.6328						
082621	1	1	7851.0	.11357982 06 .251 01	-.8184						
082631	1	1	7851.0	.11358041 06 .251 01	-.4092						
082641	1	1	7851.0	.11358100 06 .251 01	.0000						

STATISTICS

STATION 1

DATA TYPE	BEGINNING TIME	END TIME	NUMBER OF POINTS	STD DEV	RMS	FIRST MOMENT	SECOND MOMENT
CC3	1/28-044911	1/28-083721	1183	.876 00	.877 00	-.505-01	.769 00

STATION NUMBER 3 62/01/28					STATION NUMBER 3 62/01/28						
TIME	TC	Q	FRO	CC3	TIME	TC	Q	FRQ	CC3		
100526	10	3	7733.0	-10916136 06 .111 01	+2354	104446	10	3	7733.0	+10935726 06 .108 01	+2383
100606	10	3	7733.0	-10916420 06 .111 01	-2002	104506	10	3	7733.0	+10935916 06 .108 01	+3389
100626	10	3	7733.0	-10916562 06 .111 01	+4766	104526	10	3	7733.0	+10936106 06 .108 01	+0352
100646	10	3	7733.0	-10916705 06 .111 01	-1484	104546	10	3	7733.0	+10936297 06 .108 01	+0283
100706	10	3	7733.0	-10916848 06 .111 01	+4160	104606	10	3	7733.0	+10936488 06 .108 01	-1172
100726	10	3	7733.0	-10916992 06 .111 01	-9805	104626	10	3	7733.0	+10936680 06 .108 01	-2974
100746	10	3	7733.0	-10917136 06 .111 01	-15625	104646	10	3	7733.0	+10936871 06 .108 01	+5840
100826	10	3	7733.0	-10917429 06 .111 01	-0566	104706	10	3	7733.0	+10937064 06 .108 01	+1621
100846	10	3	7733.0	-10917571 06 .111 01	-11113	104726	10	3	7733.0	+10937256 06 .108 01	-2646
100906	10	3	7733.0	-10917717 06 .111 01	-44697	104746	10	3	7733.0	+10937449 06 .108 01	+1045
100926	10	3	7733.0	-10917863 06 .111 01	-0313	104806	10	3	7733.0	+10937643 06 .108 01	+1011
100946	10	3	7733.0	-10918010 06 .111 01	-2012	104826	10	3	7733.0	+10937837 06 .108 01	-9668
101006	10	3	7733.0	-10918157 06 .111 01	-14697	104846	10	3	7733.0	+10938031 06 .107 01	+9222
101026	10	3	7733.0	-10918304 06 .111 01	+5547	104906	10	3	7733.0	+10938225 06 .107 01	-4531
101046	10	3	7733.0	-10918452 06 .111 01	+2754	104926	10	3	7733.0	+10938420 06 .107 01	-4014
101106	10	3	7733.0	-10918601 06 .110 01	-3906	104946	10	3	7733.0	+10938615 06 .107 01	+3457
101126	10	3	7733.0	-10918750 06 .110 01	-6973	105006	10	3	7733.0	+10938811 06 .107 01	+1175
101146	10	3	7733.0	-10918900 06 .110 01	-1143	105026	10	3	7733.0	+10939007 06 .107 01	-8730
101226	10	3	7733.0	-10919199 06 .110 01	+1113	105046	10	3	7733.0	+10939203 06 .107 01	+5645
101246	10	3	7733.0	-10919349 06 .110 01	+6074	105106	10	3	7733.0	+10939400 06 .107 01	+9880
101306	10	3	7733.0	-10919500 06 .110 01	-6035	105126	10	3	7733.0	+10939597 06 .107 01	-1748
101326	10	3	7733.0	-10919652 06 .110 01	+0820	105146	10	3	7733.0	+10939795 06 .107 01	-1504
101346	10	3	7733.0	-10919807 06 .110 01	+0645	105206	10	3	7733.0	+10939993 06 .107 01	-1295
101426	10	3	7733.0	-10919958 06 .110 01	-1143	105226	10	3	7733.0	+10940191 06 .107 01	-8125
101446	10	3	7733.0	-10920261 06 .110 01	+0840	105246	10	3	7733.0	+10940390 06 .107 01	-4990
101506	10	3	7733.0	-10920415 06 .110 01	+2480	105306	10	3	7733.0	+10940589 06 .107 01	-7891
101526	10	3	7733.0	-10920569 06 .110 01	-0908	105326	10	3	7733.0	+10940788 06 .107 01	+6191
101546	10	3	7733.0	-10920723 06 .110 01	-1348	105346	10	3	7733.0	+10940988 06 .107 01	+1201
101606	10	3	7733.0	-10920878 06 .110 01	+3174	105406	10	3	7733.0	+10941188 06 .107 01	+2178
101646	10	3	7733.0	-10921148 06 .110 01	+2090	105426	10	3	7733.0	+10941389 06 .107 01	-1133
101706	10	3	7733.0	-10921345 06 .110 01	+1484	105446	10	3	7733.0	+10941589 06 .107 01	+3037
101726	10	3	7733.0	-10921502 06 .110 01	-0166	105506	10	3	7733.0	+10941791 06 .107 01	+0918
101746	10	3	7733.0	-10921658 06 .110 01	+1143	105526	10	3	7733.0	+10941992 06 .107 01	-9258
101826	10	3	7733.0	-10921973 06 .109 01	+0645	105546	10	3	7733.0	+10942194 06 .107 01	+5566
101846	10	3	7733.0	-10922132 06 .109 01	-1826	105606	10	3	7733.0	+10942397 06 .107 01	-4316
101906	10	3	7733.0	-10922290 06 .109 01	-0039	105626	10	3	7733.0	+10942599 06 .107 01	-0049
101926	10	3	7733.0	-10922449 06 .109 01	-3066	105646	10	3	7733.0	+10942803 06 .107 01	-5273
101946	10	3	7733.0	-10922609 06 .109 01	-5879	105706	10	3	7733.0	+10943006 06 .107 01	-6205
102006	10	3	7733.0	-10922768 06 .109 01	-3145	105726	10	3	7733.0	+10943210 06 .107 01	-0986
102026	10	3	7733.0	-10922929 06 .109 01	+3115	105746	10	3	7733.0	+10943414 06 .107 01	-10430
102046	10	3	7733.0	-10923090 06 .109 01	-44961	105806	10	3	7733.0	+10943619 06 .107 01	+8145
102106	10	3	7733.0	-10923250 06 .109 01	-5059	105826	10	3	7733.0	+10943823 06 .107 01	-3646
102126	10	3	7733.0	-10923412 06 .109 01	+0781	105846	10	3	7733.0	+10944029 06 .107 01	-4883
102146	10	3	7733.0	-10923574 06 .109 01	-0410	105926	10	3	7733.0	+10944441 06 .107 01	-3057
102206	10	3	7733.0	-10923736 06 .109 01	-3359	105946	10	3	7733.0	+10944647 06 .107 01	-7695
102226	10	3	7733.0	-10923899 06 .109 01	+3086	110006	10	3	7733.0	+10944854 06 .107 01	+4639
102246	10	3	7733.0	-10924062 06 .109 01	-1221	110026	10	3	7733.0	+10945061 06 .107 01	-1924
102306	10	3	7733.0	-10924226 06 .109 01	-5605	110046	10	3	7733.0	+10945268 06 .107 01	-1832
102326	10	3	7733.0	-10924390 06 .109 01	+1016	110106	10	3	7733.0	+10945476 06 .107 01	+2462
102346	10	3	7733.0	-10924554 06 .109 01	+5566	110126	10	3	7733.0	+10945684 06 .107 01	-10430
102406	10	3	7733.0	-10924719 06 .109 01	-0908	110146	10	3	7733.0	+10945893 06 .107 01	+5723
102426	10	3	7733.0	-10924884 06 .109 01	-1572	110206	10	3	7733.0	+10946102 06 .107 01	-10156
102446	10	3	7733.0	-10925050 06 .109 01	-1492	110226	10	3	7733.0	+10946311 06 .107 01	+0908
102506	10	3	7733.0	-10925216 06 .109 01	+4755	110246	10	3	7733.0	+10946520 06 .107 01	+4941
102526	10	3	7733.0	-10925382 06 .109 01	+756	110306	10	3	7733.0	+10946730 06 .107 01	+1933
102546	10	3	7733.0	-10925549 06 .109 01	+1064	110326	10	3	7733.0	+10946941 06 .107 01	-2080
102606	10	3	7733.0	-10925716 06 .109 01	-2666	110346	10	3	7733.0	+10947151 06 .107 01	+3848
102626	10	3	7733.0	-10925884 06 .109 01	+1563	110406	10	3	7733.0	+10947362 06 .107 01	+0742
102646	10	3	7733.0	-10926052 06 .109 01	+0752	110426	10	3	7733.0	+10947574 06 .107 01	-4466
102706	10	3	7733.0	-10926221 06 .109 01	-0107	110446	10	3	7733.0	+10947786 06 .107 01	-1572
102726	10	3	7733.0	-10926390 06 .109 01	+4014	110506	10	3	7733.0	+10947998 06 .107 01	+3223
102746	10	3	7733.0	-10926559 06 .109 01	-13926	110526	10	3	7733.0	+10948210 06 .107 01	-0020
102826	10	3	7733.0	-10926729 06 .109 01	+1084	110546	10	3	7733.0	+10948423 06 .107 01	+4688
102846	10	3	7733.0	-10927069 06 .109 01	+3037	110606	10	3	7733.0	+10948636 06 .107 01	-2617
102906	10	3	7733.0	-10927241 06 .109 01	-0068	110626	10	3	7733.0	+10948850 06 .107 01	-3975
102926	10	3	7733.0	-10927412 06 .109 01	+2793	110646	10	3	7733.0	+10949063 06 .107 01	+2637
102946	10	3	7733.0	-10927584 06 .109 01	-2617	110706	10	3	7733.0	+10949278 06 .107 01	-4775
103006	10	3	7733.0	-10927756 06 .109 01	+4404	110726	10	3	7733.0	+10949492 06 .107 01	-3232
103046	10	3	7733.0	-10928102 06 .109 01	-2842	110746	10	3	7733.0	+10949707 06 .107 01	+4277
103106	10	3	7733.0	-10928275 06 .109 01	-4492	110806	10	3	7733.0	+10949922 06 .107 01	+1748
103126	10	3	7733.0	-10928449 06 .109 01	-1875	110826	10	3	7733.0	+10950138 06 .107 01	+1086
103146	10	3	7733.0	-10928623 06 .109 01	-5703	110846	10	3	7733.0	+10950354 06 .107 01	+1582
103206	10	3	7733.0	-10928797 06 .109 01	-0752	110906	10	3	7733.0	+10950570 06 .107 01	+0957
103246	10	3	7733.0	-10929140 06 .109 01	-7813	110926	10	3	7733.0	+10950787 06 .107 01	-2705
103326	10	3	7733.0	-10929500 06 .109 01	-4990	110946	10	3	7733.0	+10951004 06 .107 01	-5410
103346	10	3	7733.0	-10929676 06 .108 01	-1338	111006	10	3	7733.0	+10951221 06 .107 01	-6152
103406	10	3	7733.0	-10929853 06 .108 01	-0352	111026	10	3	7733.0	+10951439 06 .107 01	-3086
103426	10	3	7733.0	-10930031 06 .108 01	-1104	111046	10	3	7733.0	+10951657 06 .107 01	+1278
103446	10	3	7733.0	-10930209 06 .108 01	+2119	111106	10	3	7733.0	+10951875 06 .107 01	+3447
103506	10	3	7733.0	-10930387 06 .108 01	-1299	111146	10	3	7733.0	+10952113 06 .107 01	-3330
103526	10	3	7733.0	-10930566 06 .108 01	-1563	111206	10	3	7733.0	+10952533 06 .107 01	-0273
103546	10	3	7733.0	-10930745 06 .108 01	+4531	111226	10	3	7733.0	+10952752 06 .107 01	+0752
103606	10	3	7733.0	-10930924 06 .108 01	-1406	111246	10	3	7733.0	+10952972 06 .107 01	+1758
103626	10	3	7733.0	-10931104 06 .108 01	+4619	111266	10	3	7733.0	+10953193 06 .107 01	+2695
103646	10	3	7733.0	-10931284 06 .108 01	-8398	111326	10	3	7733.0	+10953414 06 .107 01	+2617
103706	10	3	7733.0	-10931464 06 .108 01	-1455	111346	10	3	7733.0	+10953635 06 .107 01	+1504
103726	10	3	7733.0	-10931645 06 .108 01	-0557	111406	10	3	7733.0	+10953856 06 .107 01	+2363
103746	10	3	7733.0	-10931827 06 .10							

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STATION NUMBER 3 62/01/28					STATION NUMBER 3 62/01/28				
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3
112126	10	3	7733.0	-10958813 06 -107 01 -3682	115806	10	3	7733.0	-10985841 06 -106 01 -2842
112146	10	3	7733.0	-10959042 06 -107 01 -1768	115826	10	3	7733.0	-10986103 06 -106 01 -4282
112206	10	3	7733.0	-10959272 06 -107 01 -2178	115846	10	3	7733.0	-10986364 06 -106 01 -1445
112226	10	3	7733.0	-10959501 06 -107 01 .5840	115906	10	3	7733.0	-10986626 06 -106 01 -8359
112246	10	3	7733.0	-10959732 06 -107 01 .0830	115926	10	3	7733.0	-10986888 06 -106 01 -3848
112306	10	3	7733.0	-10959962 06 -107 01 .0791	115946	10	3	7733.0	-10987151 06 -106 01 -5898
112326	10	3	7733.0	-10960193 06 -107 01 .2715	120006	10	3	7733.0	-10987414 06 -106 01 -1357
112346	10	3	7733.0	-10960424 06 -107 01 .1621	120026	10	3	7733.0	-10987676 06 -106 01 .4346
112406	10	3	7733.0	-10960655 06 -107 01 -.0518	120046	10	3	7733.0	-10987940 06 -106 01 -.3965
112426	10	3	7733.0	-10960887 06 -107 01 .0303	120106	10	3	7733.0	-10988203 06 -106 01 -.1318
112446	10	3	7733.0	-10961119 06 -107 01 -.3887	120126	10	3	7733.0	-10988467 06 -106 01 -.0684
112506	10	3	7733.0	-10961351 06 -107 01 -.4131	120146	10	3	7733.0	-10988731 06 -106 01 -.4082
112526	10	3	7733.0	-10961584 06 -107 01 -.4404	120206	10	3	7733.0	-10988995 06 -106 01 -.1494
112546	10	3	7733.0	-10961817 06 -107 01 -.1689	120226	10	3	7733.0	-10989259 06 -106 01 .1064
112606	10	3	7733.0	-10962050 06 -107 01 -.4023	120246	10	3	7733.0	-10989524 06 -106 01 .3594
112626	10	3	7733.0	-10962284 06 -107 01 -.7383	120306	10	3	7733.0	-10989789 06 -106 01 -.3896
112646	10	3	7733.0	-10962518 06 -107 01 .1221	120326	10	3	7733.0	-10990054 06 -106 01 -.2412
112706	10	3	7733.0	-10962752 06 -107 01 -.1787	120346	10	3	7733.0	-10990319 06 -106 01 -.8965
112726	10	3	7733.0	-10962986 06 -107 01 -.0664	120406	10	3	7733.0	-10990585 06 -106 01 .0469
112746	10	3	7733.0	-10963221 06 -107 01 .1846	120426	10	3	7733.0	-10990851 06 -106 01 .1875
112806	10	3	7733.0	-10963457 06 -107 01 -.0664	120446	10	3	7733.0	-10991117 06 -106 01 .0254
112826	10	3	7733.0	-10963692 06 -106 01 -.9323	120506	10	3	7733.0	-10991384 06 -106 01 -.6387
112846	10	3	7733.0	-10963928 06 -106 01 -.0811	120526	10	3	7733.0	-10991650 06 -106 01 -.1095
112906	10	3	7733.0	-10964164 06 -106 01 -.1416	120606	10	3	7733.0	-10991916 06 -106 01 -.1553
112926	10	3	7733.0	-10964401 06 -106 01 -.0068	120626	10	3	7733.0	-10992184 06 -106 01 -.2197
112946	10	3	7733.0	-10964637 06 -106 01 -.6758	120646	10	3	7733.0	-10992452 06 -106 01 -.0049
113006	10	3	7733.0	-10964874 06 -106 01 -.2451	120706	10	3	7733.0	-10992720 06 -106 01 .5039
113026	10	3	7733.0	-10965112 06 -106 01 .1807	120726	10	3	7733.0	-10992987 06 -106 01 .3242
113046	10	3	7733.0	-10965350 06 -106 01 -.2969	120746	10	3	7733.0	-10993256 06 -106 01 -.5566
113106	10	3	7733.0	-10965587 06 -106 01 -.3760	120766	10	3	7733.0	-10993524 06 -106 01 -.7402
113126	10	3	7733.0	-10965824 06 -106 01 -.2588	120806	10	3	7733.0	-10993793 06 -106 01 -.3740
113146	10	3	7733.0	-10966064 06 -106 01 -.5469	120826	10	3	7733.0	-10994061 06 -106 01 -.1143
113206	10	3	7733.0	-10966303 06 -106 01 .2637	120846	10	3	7733.0	-10994330 06 -106 01 -.0049
113226	10	3	7733.0	-10966543 06 -106 01 -.2285	120906	10	3	7733.0	-10994600 06 -106 01 -.3994
113246	10	3	7733.0	-10966782 06 -106 01 -.4238	120926	10	3	7733.0	-10994869 06 -106 01 .3057
113306	10	3	7733.0	-10967022 06 -106 01 -.4775	120946	10	3	7733.0	-10995139 06 -106 01 -.5938
113326	10	3	7733.0	-10967262 06 -106 01 -.4248	121006	10	3	7733.0	-10995409 06 -106 01 .2070
113346	10	3	7733.0	-10967503 06 -106 01 -.1289	121026	10	3	7733.0	-10995679 06 -106 01 -.4039
113406	10	3	7733.0	-10967744 06 -106 01 -.2373	121046	10	3	7733.0	-10995950 06 -106 01 .1992
113426	10	3	7733.0	-10967985 06 -106 01 .3516	121106	10	3	7733.0	-10996221 06 -106 01 -.4082
113446	10	3	7733.0	-10968226 06 -106 01 -.6621	121146	10	3	7733.0	-10996493 06 -106 01 -.4307
113506	10	3	7733.0	-10968468 06 -106 01 .1211	121206	10	3	7733.0	-10996764 06 -106 01 .0557
113526	10	3	7733.0	-10968710 06 -106 01 -.4980	121226	10	3	7733.0	-10997034 06 -106 01 .0351
113546	10	3	7733.0	-10968952 06 -106 01 -.3223	121246	10	3	7733.0	-10997306 06 -106 01 -.0801
113606	10	3	7733.0	-10969195 06 -106 01 -.3477	121306	10	3	7733.0	-10997578 06 -106 01 .0986
113626	10	3	7733.0	-10969438 06 -106 01 -.1768	121326	10	3	7733.0	-10997850 06 -106 01 -.3252
113646	10	3	7733.0	-10969681 06 -106 01 .3906	121346	10	3	7733.0	-10998122 06 -106 01 -.0518
113706	10	3	7733.0	-10969924 06 -106 01 .1563	121406	10	3	7733.0	-10998395 06 -106 01 -.2793
113726	10	3	7733.0	-10970168 06 -106 01 .2188	121426	10	3	7733.0	-10998668 06 -106 01 .0898
113746	10	3	7733.0	-10970412 06 -106 01 .8789	121446	10	3	7733.0	-10998941 06 -106 01 .5772
113806	10	3	7733.0	-10970656 06 -106 01 .3340	121506	10	3	7733.0	-10999214 06 -106 01 .4229
113846	10	3	7733.0	-10971146 06 -106 01 .6367	121526	10	3	7733.0	-10999488 06 -106 01 .0146
113906	10	3	7733.0	-10971351 06 -106 01 -.4160	121546	10	3	7733.0	-10999761 06 -106 01 -.0547
113926	10	3	7733.0	-10971637 06 -106 01 .1289	121606	10	3	7733.0	-11000035 06 -106 01 -.1963
113946	10	3	7733.0	-10971883 06 -106 01 .0493	121626	10	3	7733.0	-11000309 06 -106 01 .4404
114006	10	3	7733.0	-10972129 06 -106 01 .3076	121646	10	3	7733.0	-11000584 06 -106 01 .0801
114026	10	3	7733.0	-10972376 06 -106 01 .2441	121706	10	3	7733.0	-11000859 06 -106 01 .1017
114046	10	3	7733.0	-10972622 06 -106 01 -.0244	121726	10	3	7733.0	-11001133 06 -106 01 .6660
114106	10	3	7733.0	-10972869 06 -106 01 .3945	121746	10	3	7733.0	-11001408 06 -106 01 .6152
114126	10	3	7733.0	-10973117 06 -106 01 -.1670	121806	10	3	7733.0	-11001684 06 -106 01 .3604
114146	10	3	7733.0	-10973364 06 -106 01 -.1436	121826	10	3	7733.0	-11001959 06 -106 01 .2939
114206	10	3	7733.0	-10973612 06 -106 01 .4766	121846	10	3	7733.0	-11002239 06 -106 01 .2490
114226	10	3	7733.0	-10973860 06 -106 01 .15059	121906	10	3	7733.0	-11002511 06 -106 01 .6113
114246	10	3	7733.0	-10974109 06 -106 01 .3086	121926	10	3	7733.0	-11002787 06 -106 01 .2275
114306	10	3	7733.0	-10974358 06 -106 01 .1787	121946	10	3	7733.0	-11003063 06 -106 01 .2637
114326	10	3	7733.0	-10974607 06 -106 01 .1309	121966	10	3	7733.0	-11003340 06 -106 01 .2979
114346	10	3	7733.0	-10974856 06 -106 01 .5625	122006	10	3	7733.0	-11003617 06 -106 01 .0703
114406	10	3	7733.0	-10975106 06 -106 01 .4590	122026	10	3	7733.0	-11003894 06 -106 01 .1466
114426	10	3	7733.0	-10975356 06 -106 01 .0420	122046	10	3	7733.0	-11004171 06 -106 01 .6133
114446	10	3	7733.0	-10975606 06 -106 01 .1387	122106	10	3	7733.0	-11004449 06 -106 01 .3877
114926	10	3	7733.0	-10975856 06 -106 01 .3862	122126	10	3	7733.0	-11004726 06 -106 01 .1641
114946	10	3	7733.0	-10976107 06 -106 01 -.0732	122146	10	3	7733.0	-11005004 06 -106 01 .1563
114966	10	3	7733.0	-10976358 06 -106 01 .1152	122206	10	3	7733.0	-11005282 06 -106 01 .2246
114606	10	3	7733.0	-10976610 06 -106 01 .4971	122226	10	3	7733.0	-11005561 06 -106 01 .4082
114626	10	3	7733.0	-10976861 06 -106 01 .5859	122246	10	3	7733.0	-11005839 06 -106 01 .2070
114706	10	3	7733.0	-10977366 06 -106 01 .3447	122306	10	3	7733.0	-11006118 06 -106 01 .1797
114726	10	3	7733.0	-10977618 06 -106 01 .3203	122326	10	3	7733.0	-11006397 06 -106 01 .0313
114746	10	3	7733.0	-10977871 06 -106 01 .2930	122346	10	3	7733.0	-11006676 06 -106 01 .6391
114806	10	3	7733.0	-10978124 06 -106 01 .4619	122406	10	3	7733.0	-11006955 06 -106 01 .2461
114826	10	3	7733.0	-10978377 06 -106 01 .0713	122426	10	3	7733.0	-11007235 06 -106 01 .1058
114846	10	3	7733.0	-10978631 06 -106 01 .6934	122446	10	3	7733.0	-11007515 06 -106 01 .0518
114906	10	3	7733.0	-10978885 06 -106 01 .5547	122506	10	3	7733.0	-11007795 06 -106 01 .0498
114926	10	3	7733.0	-10979139 06 -106 01 .2871	122546	10	3	7733.0	-11008075 06 -106 01 .0527
114946	10	3	7733.0	-10979393 06 -106 01 .1309	122606	10	3	7733.0	-11008355 06 -106 01 .0410
115006	10	3	7733.0	-10979648 06 -106 01 .0225	122626	10	3	7733.0	-11008636 06 -106 01 .3330
115026	10	3	7733.0	-10979903 06 -106 01 .1719	122646	10	3	7733.0	-11008917 06 -106 01 .2930
115046	10	3	7733.0	-10980158 06 -106 01 .2197	122706	10	3	7733.0	-11009198 06 -106 01 .4766
115106	10	3	7733.0	-10980413 06 -106 01 .0352	122726	10	3	7733.0	-11009479 06 -106 01 .2119
115126	10	3	7733.0	-10980669 06 -106 01 .3066	122746	10	3	7733.0	-11009760 06 -106 01 .5039
115146	10	3	7733.0	-10980925 06 -106 01 .2461	122806	10	3	7733.0	-11010042 06 -106 01 .2197
115206	10	3	7733.0	-10981182 06 -106 01 .4191	122846	10	3	7733.0	-11010324 06 -106 01 .1367
115226	10	3	7733.0	-10981438 06 -106 01 .2158	122866	10	3	7733.0	-11010606 06 -106 01 .3428
115246	10	3	7733.0	-10981695 06 -106 01 .1523	122906	10	3	7733.0	

STATION NUMBER 3 62/01/28					STATION NUMBER 3 62/01/28						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
123508	10	3	7733.0	-11016286 06 .106 01	.5371	131246	10	3	7733.0	-11049600 06 .105 01	-2002
123526	10	3	7733.0	-11016572 06 .106 01	-.0244	131306	10	3	7733.0	-11049902 06 .105 01	-.0225
123546	10	3	7733.0	-11016858 06 .106 01	-.2852	131326	10	3	7733.0	-11050204 06 .105 01	.0547
123606	10	3	7733.0	-11017145 06 .106 01	-.8516	131346	10	3	7733.0	-11050507 06 .105 01	-.3701
123626	10	3	7733.0	-11017431 06 .106 01	-.1162	131406	10	3	7733.0	-11050809 06 .105 01	-.0947
123646	10	3	7733.0	-11017718 06 .106 01	-.1172	131426	10	3	7733.0	-11051112 06 .105 01	-.0791
123706	10	3	7733.0	-11018005 06 .106 01	-.6518	131446	10	3	7733.0	-11051415 06 .105 01	-.0479
123726	10	3	7733.0	-11018292 06 .105 01	-.5234	131506	10	3	7733.0	-11051718 06 .105 01	-.1758
123746	10	3	7733.0	-11018579 06 .105 01	-.2051	131526	10	3	7733.0	-11052020 06 .105 01	-.1051
123806	10	3	7733.0	-11018867 06 .105 01	-.4707	131546	10	3	7733.0	-11052323 06 .105 01	-.3950
123846	10	3	7733.0	-11019142 06 .105 01	.4756	131606	10	3	7733.0	-11052627 06 .105 01	-.1338
123906	10	3	7733.0	-11019420 06 .105 01	-.1953	131626	10	3	7733.0	-11052930 06 .105 01	-.2979
123926	10	3	7733.0	-11019699 06 .105 01	-.6127	131646	10	3	7733.0	-11053233 06 .105 01	-.7305
123946	10	3	7733.0	-11020007 06 .105 01	-.0693	131706	10	3	7733.0	-11053536 06 .105 01	-.1650
124006	10	3	7733.0	-11020295 06 .105 01	.6445	131726	10	3	7733.0	-11053840 06 .105 01	-.7012
124026	10	3	7733.0	-11020584 06 .105 01	.3574	131746	10	3	7733.0	-11054143 06 .105 01	-.1348
124046	10	3	7733.0	-11021173 06 .105 01	-.3301	131806	10	3	7733.0	-11054447 06 .105 01	-.1719
124106	10	3	7733.0	-11021462 06 .105 01	-.0215	131826	10	3	7733.0	-11054751 06 .105 01	-.4092
124126	10	3	7733.0	-11021751 06 .105 01	-.1133	131846	10	3	7733.0	-11055055 06 .105 01	-.8523
124146	10	3	7733.0	-11022041 06 .105 01	.0938	131906	10	3	7733.0	-11055359 06 .105 01	.1325
124206	10	3	7733.0	-11022330 06 .105 01	-.3018	131926	10	3	7733.0	-11055663 06 .105 01	-.6270
124226	10	3	7733.0	-11022620 06 .105 01	-.3994	131946	10	3	7733.0	-11055967 06 .105 01	-.0684
124246	10	3	7733.0	-11022910 06 .105 01	.3008	132006	10	3	7733.0	-11056271 06 .105 01	-.0898
124306	10	3	7733.0	-11023200 06 .105 01	-.2988	132026	10	3	7733.0	-11056575 06 .105 01	-.4547
124326	10	3	7733.0	-11023490 06 .105 01	-.6816	132046	10	3	7733.0	-11056878 06 .105 01	-.6035
124346	10	3	7733.0	-11023780 06 .105 01	.5957	132106	10	3	7733.0	-11057184 06 .105 01	-.2412
124406	10	3	7733.0	-11024071 06 .105 01	-.4111	132126	10	3	7733.0	-11057489 06 .105 01	-.0869
124426	10	3	7733.0	-11024362 06 .105 01	-.0186	132146	10	3	7733.0	-11057793 06 .105 01	-.1328
124446	10	3	7733.0	-11024653 06 .105 01	.3730	132206	10	3	7733.0	-11058098 06 .105 01	.2197
124506	10	3	7733.0	-11024944 06 .105 01	.0635	132226	10	3	7733.0	-11058403 06 .105 01	-.4777
124526	10	3	7733.0	-11025235 06 .105 01	-.1544	132246	10	3	7733.0	-11058708 06 .105 01	-.0762
124546	10	3	7733.0	-11025526 06 .105 01	.1367	132306	10	3	7733.0	-11059012 06 .105 01	.3750
124606	10	3	7733.0	-11025818 06 .105 01	-.1777	132326	10	3	7733.0	-11059317 06 .105 01	.2236
124626	10	3	7733.0	-11026109 06 .105 01	.2041	132346	10	3	7733.0	-11059623 06 .105 01	.1729
124646	10	3	7733.0	-11026401 06 .105 01	-.0137	132406	10	3	7733.0	-11059928 06 .105 01	-.1787
124706	10	3	7733.0	-11026693 06 .105 01	.4698	132426	10	3	7733.0	-11060233 06 .105 01	-.6313
124726	10	3	7733.0	-11026985 06 .105 01	-.4561	132446	10	3	7733.0	-11060538 06 .105 01	-.3838
124746	10	3	7733.0	-11027278 06 .105 01	.4893	132506	10	3	7733.0	-11060844 06 .105 01	-.2383
124806	10	3	7733.0	-11027570 06 .105 01	.4961	132526	10	3	7733.0	-11061149 06 .105 01	-.6938
124826	10	3	7733.0	-11027863 06 .105 01	-.2305	132546	10	3	7733.0	-11061455 06 .105 01	.1504
124846	10	3	7733.0	-11028156 06 .105 01	.0410	132606	10	3	7733.0	-11061760 06 .105 01	.2939
124906	10	3	7733.0	-11028449 06 .105 01	.0127	132626	10	3	7733.0	-11062066 06 .105 01	-.2627
124926	10	3	7733.0	-11028742 06 .105 01	-.0811	132646	10	3	7733.0	-11062372 06 .105 01	-.1201
124946	10	3	7733.0	-11029035 06 .105 01	.4482	132706	10	3	7733.0	-11062678 06 .105 01	-.2783
125006	10	3	7733.0	-11029329 06 .105 01	-.0869	132726	10	3	7733.0	-11062984 06 .105 01	-.0371
125026	10	3	7733.0	-11029622 06 .105 01	-.1221	132746	10	3	7733.0	-11063290 06 .105 01	-.0967
125046	10	3	7733.0	-11029916 06 .105 01	-.1592	132806	10	3	7733.0	-11063596 06 .105 01	.2422
125106	10	3	7733.0	-11030210 06 .105 01	-.2979	132826	10	3	7733.0	-11063902 06 .105 01	-.1191
125126	10	3	7733.0	-11030504 06 .105 01	.3623	132846	10	3	7733.0	-11064208 06 .105 01	-.2803
125146	10	3	7733.0	-11030798 06 .105 01	-.1201	132906	10	3	7733.0	-11064514 06 .105 01	-.6566
125206	10	3	7733.0	-11031092 06 .105 01	-.1230	132926	10	3	7733.0	-11064821 06 .105 01	-.2061
125226	10	3	7733.0	-11031387 06 .105 01	-.3672	132946	10	3	7733.0	-11065127 06 .105 01	.2295
125246	10	3	7733.0	-11031681 06 .105 01	-.0137	133006	10	3	7733.0	-11065433 06 .105 01	.2646
125306	10	3	7733.0	-11031976 06 .105 01	.3389	133026	10	3	7733.0	-11065740 06 .105 01	.0996
125326	10	3	7733.0	-11032271 06 .105 01	.4893	133046	10	3	7733.0	-11066047 06 .105 01	-.2334
125346	10	3	7733.0	-11032566 06 .105 01	-.6602	133106	10	3	7733.0	-11066353 06 .105 01	.1670
125406	10	3	7733.0	-11032861 06 .105 01	-.4131	133126	10	3	7733.0	-11066660 06 .105 01	-.0996
125426	10	3	7733.0	-11033157 06 .105 01	-.0654	133146	10	3	7733.0	-11066967 06 .105 01	-.2676
125446	10	3	7733.0	-11033452 06 .105 01	.3789	133206	10	3	7733.0	-11067273 06 .105 01	.3643
125506	10	3	7733.0	-11033748 06 .105 01	.5234	133226	10	3	7733.0	-11067580 06 .105 01	-.6055
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125546	10	3	7733.0	-11034339 06 .105 01	-.6953	133306	10	3	7733.0	-11068194 06 .105 01	.1563
125606	10	3	7733.0	-11034635 06 .105 01	.8457	133326	10	3	7733.0	-11068501 06 .105 01	.2861
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125646	10	3	7733.0	-11035228 06 .105 01	.6211	133406	10	3	7733.0	-11069116 06 .105 01	.4424
125706	10	3	7733.0	-11035521 06 .105 01	-.2100	133426	10	3	7733.0	-11069423 06 .105 01	.0703
125726	10	3	7733.0	-11035818 06 .105 01	-.1768	133446	10	3	7733.0	-11069730 06 .105 01	.0977
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125906	10	3	7733.0	-11037306 06 .105 01	.2900	133626	10	3	7733.0	-11071267 06 .105 01	.2266
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130006	10	3	7733.0	-11037901 06 .105 01	-.1133	133706	10	3	7733.0	-11071883 06 .105 01	-.0264
130046	10	3	7733.0	-11038199 06 .105 01	-.1240	133726	10	3	7733.0	-11072190 06 .105 01	-.1025
130106	10	3	7733.0	-11038497 06 .105 01	-.1064	133746	10	3	7733.0	-11072498 06 .105 01	-.2803
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130506	10	3	7733.0	-11041875 06 .105 01	.5117	134126	10	3			

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STATION NUMBER 3 62/01/28					STATION NUMBER 3 62/01/28						
TIME	TC	Q	FREQ	CC3	TIME	TC	Q	FREQ	CC3		
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134926	10	3	7733.0	-11083292 06 .105 01	-1250	142526	10	3	7733.0	-11116615 06 .105 01	-2529
134946	10	3	7733.0	-11083601 06 .105 01	-0859	142546	10	3	7733.0	-11116922 06 .105 01	-0811
135006	10	3	7733.0	-11083910 06 .105 01	-1035	142606	10	3	7733.0	-11117228 06 .105 01	-5156
135226	10	3	7733.0	-11084219 06 .105 01	-1934	142626	10	3	7733.0	-11117535 06 .105 01	-2510
135046	10	3	7733.0	-11084528 06 .105 01	-2832	142646	10	3	7733.0	-11117842 06 .105 01	-5176
135106	10	3	7733.0	-11084837 06 .105 01	-2266	142706	10	3	7733.0	-11118148 06 .105 01	-2813
135126	10	3	7733.0	-11085146 06 .105 01	-4629	142726	10	3	7733.0	-11118454 06 .105 01	-0557
135146	10	3	7733.0	-11085455 06 .105 01	-4463	142746	10	3	7733.0	-11118761 06 .105 01	-0928
135206	10	3	7733.0	-11085764 06 .105 01	-6445	142806	10	3	7733.0	-11119067 06 .105 01	-2305
135226	10	3	7733.0	-11086073 06 .105 01	-2656	142826	10	3	7733.0	-11119373 06 .105 01	-0683
135246	10	3	7733.0	-11086382 06 .105 01	-6270	142846	10	3	7733.0	-11119679 06 .105 01	-3086
135306	10	3	7733.0	-11086691 06 .105 01	-4160	142906	10	3	7733.0	-11119985 06 .105 01	-7480
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135406	10	3	7733.0	-11087619 06 .105 01	-3105	143006	10	3	7733.0	-11120903 06 .105 01	-3711
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135446	10	3	7733.0	-11088237 06 .105 01	-4277	143046	10	3	7733.0	-11121514 06 .105 01	-5430
135506	10	3	7733.0	-11088546 06 .105 01	-0361	143106	10	3	7733.0	-11121820 06 .105 01	-1982
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140146	10	3	7733.0	-11094730 06 .105 01	-2988	143746	10	3	7733.0	-11127915 06 .105 01	-0547
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140446	10	3	7733.0	-11097511 06 .105 01	-6908	144046	10	3	7733.0	-11130647 06 .105 01	-0029
140506	10	3	7733.0	-11097820 06 .105 01	-5996	144106	10	3	7733.0	-11130950 06 .105 01	-1338
140526	10	3	7733.0	-11098130 06 .105 01	-0107	144126	10	3	7733.0	-11131253 06 .105 01	-4375
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140626	10	3	7733.0	-11099057 06 .105 01	-8418	144226	10	3	7733.0	-11132162 06 .105 01	-3428
140646	10	3	7733.0	-11099366 06 .105 01	-3486	144246	10	3	7733.0	-11132464 06 .105 01	-0322
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140726	10	3	7733.0	-11099984 06 .105 01	-2266	144326	10	3	7733.0	-11133069 06 .105 01	-0859
140746	10	3	7733.0	-11100293 06 .105 01	-3154	144346	10	3	7733.0	-11133371 06 .105 01	-9434
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140846	10	3	7733.0	-11101219 06 .105 01	-1318	144446	10	3	7733.0	-11134278 06 .105 01	-6133
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141006	10	3	7733.0	-11102454 06 .105 01	-1172	144606	10	3	7733.0	-11135484 06 .105 01	-2266
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141046	10	3	7733.0	-11103072 06 .105 01	-0098	144646	10	3	7733.0	-11136087 06 .105 01	-2031
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141226	10	3	7733.0	-11104615 06 .105 01	-3154	144826	10	3	7733.0	-11137594 06 .105 01	-1855
141246	10	3	7733.0	-11104923 06 .105 01	-4990	144846	10	3	7733.0	-11137895 06 .105 01	-2412
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141326	10	3	7733.0	-11105540 06 .105 01	-1689	145006	10	3	7733.0	-11139095 06 .105 01	-2471
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141646	10	3	7733.0	-11108622 06 .105 01	-4844	145326	10	3	7733.0	-11142090 06 .105 01	-3936
141706	10	3	7733.0	-11108930 06 .105 01	-2637	145346	10	3	7733.0	-11142389 06 .105 01	-4180
141726	10	3	7733.0	-11109238 06 .105 01	-3428	145406	10	3	7733.0	-11142688 06 .105 01	-2314
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STATION NUMBER 3 62/01/28					STATION NUMBER 3 62/01/28						
TIME	TC	Q	FRQ	CC3	TIME	TC	Q	FRQ	CC3		
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15C246	10	3	7733.0	-11150411 06 .105 01	-2891	153926	10	3	7733.0	-11181868 06 .106 01	-2178
15C306	10	3	7733.0	-11150706 06 .105 01	-2373	153946	10	3	7733.0	-11182143 06 .106 01	-1338
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15C526	10	3	7733.0	-11152768 06 .105 01	-3857	154206	10	3	7733.0	-11184063 06 .106 01	-2354
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151206	10	3	7733.0	-11158620 06 .106 01	-4180	154846	10	3	7733.0	-11189488 06 .106 01	-6811
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JPL TECHNICAL REPORT NO. 32-563

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173046	10	3	7733.0	.11257603	06	.110	01	.4688
173066	10	3	7733.0	.11257772	06	.110	01	.1777
173086	10	3	8071.0	.11261463	06	.639	00	-.8281
173826	10	3	8071.0	.11261562	06	.639	00	.4775
173846	10	3	8071.0	.11261721	06	.639	00	-.4844
173866	10	3	8071.0	.11261880	06	.639	00	-.0029
173886	10	3	8071.0	.11262039	06	.639	00	.3125
173906	10	3	8071.0	.11262197	06	.639	00	-.2676
174006	10	3	8071.0	.11262356	06	.639	00	.2578
174026	10	3	8071.0	.11262511	06	.639	00	-.3135
174046	10	3	8071.0	.11262668	06	.641	00	-.5195
174066	10	3	8071.0	.11262824	06	.641	00	-.1445
174126	10	3	8071.0	.11262980	06	.641	00	.0967
174146	10	3	8071.0	.11263136	06	.641	00	.3418
174206	10	3	8071.0	.11263291	06	.641	00	.1914
174226	10	3	8071.0	.11263445	06	.641	00	.0449
174246	10	3	8071.0	.11263600	06	.641	00	.1025
174306	10	3	8071.0	.11263753	06	.643	00	.4648
174326	10	3	8071.0	.11263907	06	.643	00	-.1689
174346	10	3	8071.0	.11264060	06	.643	00	.1006
174406	10	3	8071.0	.11264212	06	.643	00	.3760
174426	10	3	8071.0	.11264364	06	.643	00	.6543
174446	10	3	8071.0	.11264516	06	.643	00	-.1025
174506	10	3	8071.0	.11264667	06	.643	00	.3252
174526	10	3	8071.0	.11264818	06	.645	00	.6172
174546	10	3	8071.0	.11264969	06	.645	00	.0117
174606	10	3	8071.0	.11265119	06	.645	00	-.1875
174626	10	3	8071.0	.11265268	06	.645	00	-.0840
174646	10	3	8071.0	.11265417	06	.645	00	.1250
174706	10	3	8071.0	.11265564	06	.645	00	.4450
174726	10	3	8071.0	.11265711	06	.645	00	1.0547
174746	10	3	8071.0	.11265862	06	.646	00	-.4248
174806	10	3	8071.0	.11266010	06	.646	00	.4014
174826	10	3	8071.0	.11266157	06	.646	00	-.2695
174846	10	3	8071.0	.11266304	06	.646	00	-.1367
174906	10	3	8071.0	.11266450	06	.646	00	-.3975
174926	10	3	8071.0	.11266595	06	.648	00	.6445
174946	10	3	8071.0	.11266741	06	.648	00	.4912
175006	10	3	8071.0	.11266886	06	.648	00	-.0576
175026	10	3	8071.0	.11267030	06	.648	00	-.0020
175046	10	3	8071.0	.11267174	06	.648	00	-.1426
175106	10	3	8071.0	.11267318	06	.648	00	.1211
175126	10	3	8071.0	.11267461	06	.650	00	-.18105
175146	10	3	8071.0	.11267604	06	.650	00	.3613
175206	10	3	8071.0	.11267746	06	.650	00	-.2617
175226	10	3	8071.0	.11267888	06	.650	00	-.1816
175246	10	3	8071.0	.11268029	06	.650	00	.3947
175306	10	3	8071.0	.11268170	06	.652	00	-.3059
175326	10	3	8071.0	.11268311	06	.652	00	.4883
175346	10	3	8071.0	.11268451	06	.652	00	.0869
175406	10	3	8071.0	.11268591	06	.652	00	-.3115
175426	10	3	8071.0	.11268730	06	.652	00	-.0039
175446	10	3	8071.0	.11268869	06	.654	00	-.1924
175506	10	3	8071.0	.11269008	06	.654	00	.5234
175526	10	3	8071.0	.11269146	06	.654	00	-.4570
175546	10	3	8071.0	.11269283	06	.654	00	-.3330
175606	10	3	8071.0	.11269420	06	.656	00	-.1953
175626	10	3	8071.0	.11269557	06	.656	00	.2289
175646	10	3	8071.0	.11269693	06	.656	00	.1660
175706	10	3	8071.0	.11269829	06	.656	00	.4063
175726	10	3	8071.0	.11269965	06	.656	00	.3535
175746	10	3	8071.0	.11270100	06	.658	00	-.4961
175806	10	3	8071.0	.11270234	06	.658	00	.4580
175826	10	3	8071.0	.11270368	06	.658	00	.3174
175846	10	3	8071.0	.11270502	06	.658	00	-.5196
175906	10	3	8071.0	.11270635	06	.660	00	-.3506
175926	10	3	8071.0	.11270768	06	.660	00	.3213
175946	10	3	8071.0	.11270900	06	.660	00	.3975
180006	10	3	8071.0	.11271032	06	.660	00	-.0215
180026	10	3	8071.0	.11271164	06	.662	00	-.0361
180046	10	3	8071.0	.11271295	06	.662	00	-.3467
180106	10	3	8071.0	.11271425	06	.662	00	-.4521
180126	10	3	8071.0	.11271555	06	.664	00	.2471
180146	10	3	8071.0	.11271685	06	.664	00	1.0500
180206	10	3	8071.0	.11271814	06	.664	00	-.0430
180226	10	3	8071.0	.11271943	06	.664	00	-.2324
180246	10	3	8071.0	.11272071	06	.666	00	-1.2148
180306	10	3	8071.0	.11272199	06	.666	00	.3057
180326	10	3	8071.0	.11272327	06	.666	00	.4307
180346	10	3	8071.0	.11272454	06	.668	00	-.1406
180406	10	3	8071.0	.11272580	06	.668	00	-.3057
180426	10	3	8071.0	.11272707	06	.668	00	-.0684
180446	10	3	8071.0	.11272832	06	.670	00	.4746
180506	10	3	8071.0	.11272958	06	.670	00	.2217
180526	10	3	8071.0	.11273082	06	.670	00	.5742
180546	10	3	8071.0	.11273207	06	.672	00	-.3711
180606	10	3	8071.0	.11273331	06	.672	00	-.5098
180626	10	3	8071.0	.11273454	06	.672	00	.2549
180646	10	3	8071.0	.11273578	06	.674	00	.6250
180706	10	3	8071.0	.11273700	06	.674	00	-.2021
180726	10	3	8071.0	.11273822	06	.674	00	.3760
180746	10	3	8071.0	.11273944	06	.676	00	-.6406
180806	10	3	8071.0	.11274065	06	.676	00	.6465
180826	10	3	8071.0	.11274186	06	.676	00	.4385
180846	10	3	8071.0	.11274306	06	.678	00	-.2344
180906	10	3	8071.0	.11274426	06	.678	00	-.2646
180926	10	3	8071.0	.11274546	06	.680	00	.3398
180946	10	3	8071.0	.11274665	06	.680	00	-.3506
181006	10	3	8071.0	.11274783	06	.680	00	.2637
181026	10	3	8071.0	.11274902	06	.682	00	-.2178
181046	10	3	8071.0	.11275019	06	.682	00	.7051
181106	10	3	8071.0	.11275137	06	.684	00	.4536
181126	10	3	8071.0	.11275253	06	.684	00	-.5352
181146	10	3	8071.0	.11275370	06	.686	00	-.4990

STATION	NUMBER	3	62/01/28	TIME	TC	Q	FRQ	CC3
181206	10	3	8071.0	.11275486	06	.686	00	1.0430
181226	10	3	8071.0	.11275603	06	.688	00	-.2119
181246	10	3	8071.0	.11275716	06	.688	00	.4385
181306	10	3	8071.0	.11275831	06	.689	00	-.0928
181326	10	3	8071.0	.11275945	06	.689	00	-.0479
181346	10	3	8071.0	.11276058	06	.689	00	.0156
181406	10	3	8071.0	.11276172	06	.691	00	-.0166
181426	10	3	8071.0	.11276284	06	.691	00	-.4131
181446	10	3	8071.0	.11276397	06	.693	00	-.4658
181506	10	3	8071.0	.11276508	06	.695	00	.3154
181526	10	3	8071.0	.11276620	06	.695	00	.2012
181546	10	3	8071.0	.11276731	06	.697	00	.6934
181606	10	3	8071.0	.11276841	06	.697	00	.3877
181626	10	3	8071.0	.11276952	06	.697	00	.2922
181646	10	3	8071.0	.11277061	06	.699	00	.5918
181706	10	3	8071.0	.11277170	06	.701	00	-.2988
181726	10	3	8071.0	.11277279	06	.703	00	.0146
181746	10	3	8071.0	.11277387	06	.703	00	.4326
181806	10	3	8071.0	.11277494	06	.705	00	.0957
181826	10	3	8071.0	.11277602	06	.705	00	-.0200
181846	10	3	8071.0	.11277708	06	.707	00	.4150
181906	10	3	8071.0	.11277815	06	.709	00	.8516
181926	10	3	8071.0	.11277921	06	.709	00	.0918
181946	10	3	8071.0	.11278026	06	.711	00	-.4629
182006	10	3	8071.0	.11278131	06	.713	00	-.0127
182026	10	3	8071.0	.11278236	06	.713	00	-.0200
182046	10	3	8071.0	.11278340	06	.715	00	-.1650
182106	10	3	8071.0	.11278443	06	.717	00	-.2674
182126	10	3	8071.0	.11278547	06	.719	00	.0866
182146	10	3	8071.0	.11278649	06	.719	00	.1836
182206	10	3	8071.0	.11278751	06	.721	00	-.8359
182226	10	3	8071.0	.11278853	06	.723	00	-.2329
182246	10	3	8071.0	.11278955	06	.725	00	.0439
182306	10	3	8071.0	.11279055	06	.727	00	-.3613
182326	10	3	8071.0	.11279156	06	.727		

CASE 1

SPACE TRAJECTORIES

EPHEMERIDES WITH VENUS VELOCITIES

GPE .39860163 06 J .16234500-02 H -.57459999-05 D .78749999-05 RE .63781650 04 REW .63783149 04
G .66765998-19 A .88745998 29 B .88763998 29 C .88800998 29 OME .41780741-02 AU .14959900 09
GMO .49005824 04 GMS .13271544 12 GMV .32476952 06 GMA .42977799 05 GMB .00000000 00 GMJ .12671062 09
ARA .27890000 01 GB .00000000 00 MAS .34020000 03 GB1 .00000000 00 GB2 .00000000 00 GB3 .00000000 00

INJECTION CONDITIONS MOCN JULIAN DATE 2437691.93618055 JAN. 27, 1962 10 28 06.000

GEOCENTRIC X0-.12982526 06 Y0-.82372683 C5 Z0-.49526645 05 DX0-.16954418 01 DY0-.15453653 01 DZ0-.52116174 00
CARTESIAN XC.00000000 00 YC.00000000 00 ZC.00000000 00 TX.37686000 05 GHA.28324693 03 GHD.12579204 03

0 DAYS 0 HRS. 0 MIN. 0.000 SEC. JULIAN DATE 2437691.93618055 JAN. 27, 1962 10 28 06.000

GEOCENTRIC EQUATORIAL COORDINATES

X -.12982526 06 Y -.82372677 05 Z -.49526644 05 DX -.16954418 01 DY -.15453653 01 DZ -.52116174 00
R .16193249 08 DEC -.17854741 02 RA .21239467 03 V .23525064 01 PTH .79154370 02 AZ .63616467 02
R .16193248 06 LAT -.17854741 02 LCN .28514774 03 VE .11041665 02 PTE .12056900 02 AZE .27104204 03
XS .88685284 08 VS -.10751781 05 ZS -.46794340 08 DXS .24275854 02 DYS .16542348 02 DZS .71735502 01
XM -.37661564 06 YP -.13648082 06 ZP -.23639547 05 CXM .36509294 00 DYM -.84409497 00 DYM .10592214 00
XT -.37661564 06 YP -.13648082 06 ZP -.23639547 05 DXT .36509294 00 DYT -.84409497 00 DYT .32279713 00
RS .14731729 09 VS .30239481 02 RM .40128315 06 VM .97467284 00 RT .46128319 06 VT .97467284 00
GED -.17968818 02 ALT .15515631 06 LCS .26168831 02 RAS .30941526 03 RAM .19591969 03 ROM .27667275 03
CUT .34000000 02 DT .12000000 03 DR .23104854 01 SHA .16151899 06 DES -.18520457 02 DEM -.53772425 01

GEOCENTRIC CONIC ORBITAL B.T AND B.R EQUATORIAL COORDINATES

EPCCF OF PERICENTER PASSAGE JULIAN DATE 2437691.36404820 JAN. 26, 1962 20 44 13.765
SPA -.66540498 08 ECC .10059522 01 INC .31495683 02 LAN .24411272 03 APF .16830233 03 RCA .63827049 04
VH .77397425 00 C3 .59903613 00 C1 .71503267 05 SLR .12926634 05 APO .00000000 00 TFP .49432235 05
TA .15574191 03 EA .38227135 02 WA .32943773 01 DAG .10094311 02 RAO .22722129 03 MTA .17209561 03
NR -.47001229 00 WY .22805567 00 PX .58306516 00 PY .80549084 00 PZ .10592214 00
CX -.66266527 00 CY .54649521 00 QZ -.51158365 00 RX .-85384947-01 RY .30877146 00 RZ .-94729593 00
SXD -.66865540 00 SYC -.72262075 00 SZ0 -.17526895 00 TX .-73865375 00 TY .61844922 00 TZ .26816265 00
BX -.57618599 00 BY .65252701 00 BZ .-49215668 00 MX .36488439 00 MY .-82941440 00 MZ .42300212 00
B.T .64400698 05 B.R .66230194 05 B .-92384487 05 PER .00000000 00 DMD .30408057-02 NOD .-19677616-02

MELICENTRIC ECLIPTIC COORDINATES

X -.88822667 08 Y .11753109 09 Z -.12971000 05 DX -.25971296 02 DY -.19655926 02 DZ .13612705 00
R .14731546 09 LAT -.50444707-02 LCN .12707971 03 V .32571186 02 PTH .-35937823-01 AZ .89760542 02
XE -.88682842 08 YE .11762637 09 ZE -.30200000 03 DXE .24275854 02 DYE .18030782 02 DZE .51075219-03
XT -.89065461 08 YT .11745175 09 ZT .32305000 05 DXT .-23910761 02 DYT .-18933623 02 DZT .39136588-01
LTE -.11745175-03 LCE .12717009 03 LTT .12954105-01 LOT .12716545 03 RST .14743704 09 VST .30499313 02
EPS .89190718 02 ESP .62165044-01 SEP .90740460 02 EPM .14913329 03 EMP .11918499 02 MEP .18948210 02
MPS .11753357 03 MSP .87356456-01 SMP .62378906 02 SEM .10728875 03 EMS .72562308 02 ESM .14886133 00
EPT .14913329 03 ETP .11918499 02 TEP .18948210 02 TPS .11753357 03 TSP .87356456-01 STP .62378906 02
SET .10728875 03 STE .72562308 02 EST .14886133 00 RPH .25397893 06 RPT .52597893 06 SPN .86933847 02
SAC .00000000 00 GCT .25284672 03 STP .11714149 03 CPT .98642650 02 SIN .98250565 02
GCE .88945635 02 GCT .25284672 03 VEP .23525064 01

MELICENTRIC CONIC ORBITAL B.T AND B.R ECLIPTIC COORDINATES

EPCCF OF PERICENTER PASSAGE JULIAN DATE 2437692.17810316 JAN. 27, 1962 16 16 28.114
SPA .17913832 09 ECC .17762308 00 INC .23923566 00 LAN .12828659 03 APF .35905787 03 RCA .14731922 09
VH .22745672 02 C3 .-74085455 03 C1 .-47583684 10 SLR .17348651 09 APO .21095742 09 TFP .-20902114 05
TA .-28477751 00 EA .-22126739 00 WA .18156624 00 DAG .-24275854 02 RAO .12734448 03 MTA .18000000 03
NR .-32811519 02 WY .25900557 00 PX .-60660566 00 PY .79500257 00 PZ .-68732560-04
CX .-79455581 00 CY .-60466014 00 CZ .-41796713-02 RX .55100396-04 RY .-44412851-04 RZ .-99999976 00
SXI .-66660566 00 SYI .79500257 00 SZI .-68732560-04 TX .79500277 00 TY .60660581 00 TZ .16863878-04
BX .79455599 00 BY .60466028 00 BZ .-41796723-02 MX .-79779074 00 MY .-66291999 00 MZ .41793101-02
B.T .17622817 09 B.R .73580601 06 B .17628972 09 PER .47861703 03 DEF .

SELENCENTRIC EQUATORIAL COORDINATES

X .24675438 06 Y .54108138 05 Z .-25887097 05 DX .-20605347 01 DY .-70127036 00 DZ .-19836460 00
R .25357893 04 DEC .-58500987 01 RA .12366085 02 V .21856193 01 PTH .-77214488 02 AZ .21025766 03
R .25357892 04 LAT .-11462491 02 LCN .34399612 03 VR .23951358 01 PTR .-62860479 02 AZR .25511726 03
LTS .30534787 00 LNS .28226979 03 LTF .-60191852 01 LNE .35472828 03 CP .10911499-03 ASD .39208359 00
ALT .25224959 06 SHA .-22503370 06 ALP .34252073 01 DIR .-21314277 01 SIA .14874120 03
HCE .27080328 03 SVL .-14234424 02 HNG .11848381 03 SRA .14874120 03
SAC .00000000 00

1 DAYS 10 HRS. 35 MIN. 48.425 SEC. JULIAN DATE 2437693.37771325 JAN. 28, 1962 21 03 54.425

GEOCENTRIC EQUATORIAL COORDINATES

X .-29597142 06 Y .-24217889 06 Z .-96796393 05 DX .-11730565 01 DY .-11242155 01 DZ .-27420868 00
R .39448619 06 DEC .-14203897 02 RA .21929176 03 V .16477598 01 PTH .83621829 02 AZ .44220677 02
R .39448619 06 LAT .-14203897 02 LCN .13567225 03 VE .27808324 02 PTE .33759533 01 AZE .27027168 03
XS .9168784 08 VS .-10582282 09 ZS .-45865800 08 DXS .23819017 02 DYS .17090560 02 DZS .7413494 01
XM .-31350064 06 YP .-23313583 06 ZP .-61997588 05 CXM .64220018 00 DYM .-69424424 00 DYM .-28788360 00
XT .-31350064 06 YP .-23313583 06 ZP .-61997588 05 DXT .64220018 00 DYT .-69424424 00 DYT .-28788360 00
RS .14734527 09 VS .30237594 02 RM .39557384 06 VM .98857124 00 RT .39557384 06 VT .98857124 00
GED .-14296738 02 ALT .38810928 06 LCS .22728704 03 RAS .31090654 03 RAM .21663646 03 LOM .13301696 03
CUT .34000000 02 DT .48000000 03 DR .16375607 01 SHA .-39398377 06 DES .-18144669 02 DEM .-90170422 01

GEOCENTRIC CONIC ORBITAL B.T AND B.R EQUATORIAL COORDINATES

EPCCF OF PERICENTER PASSAGE JULIAN DATE 2437691.37903373 JAN. 26, 1962 21 05 48.515
SPA .-57414903 04 ECC .10113281 01 INC .47648847 02 LAN .23263165 03 APF .17766636 03 RCA .65040126 04
VH .83321525 00 C3 .69424766 00 C1 .72210720 05 SLR .13081703 05 APO .00000000 00 TFP .37268591 06
TA .16294211 03 EA .63610335 02 WA .14358600 02 DAG .-80459234 01 RAO .22528009 03 MTA .17141626 03
NR .-58734293 06 WY .44856347 00 QZ .67367257 00 PX .62823394 00 PY .77744220 00 PZ .30091956-01
CX .-51024441 00 QY .44089789 00 QZ .-73841555 00 RX .-10668392 00 RY .29491193 00 RZ .-94950080 00
SXD .-69735325 00 SYC .-70292790 00 SZ0 .-13996676 00 TX .-70874320 00 TY .64723971 00 TZ .28064893 00
BX .-41076278 00 BY .55199672 00 BZ .-72565389 00 MX .30351350 00 MY .-64955540 00 MZ .69710474 00
B.T .18543873 05 B.R .77422107 05 B .86665002 05 PER .00000000 00 DMD .17565747-02 NOD .-18647664-02

CASE 1												SPACE TRAJECTORIES																																												
HELICENTRIC												ECLIPTIC COORDINATES																																												
X	-91983735	08	Y	-11568219	09	Z	-71935000	04	DX	-24986074	02	DY	-19775219	02	DZ	-19548792	00	R	-14732549	09	LAT	-27975882	-02	LCN	-12863490	03	V	-31865363	02	PTH	-27507221	00	AZ	-89648508	02																					
XE	-91687744	08	YE	-11534289	09	ZE	-34460000	03	DXE	-23813017	02	DYE	-18634708	02	DZE	-17619133	-03	XT	-92001264	08	YT	-11510433	09	ZT	-35522500	05	DXT	-23170817	02	DYT	-19386177	02	DZT	-11888802	-01	LTE	-13376573	-03	LCE	-12848170	03	LTT	-13812230	-01	LOT	-12863485	03	RST	-14735414	09	VST	-30211103	02			
EPS	-92738797	02	ESP	-15323340	00	SEP	-87107675	02	EPH	-88655136	02	EPM	-88542861	02	EPS	-88638732	02	ESM	-15355230	00	MPS	-13491146	03	MSP	-98911702	-02	TEP	-58019949	01	TPS	-13491146	03	TSP	-98911702	-02	STP	-45077519	02	EPT	-88655136	02	ETP	-8542861	02	EST	-15355230	00	RPM	-40000002	05	RPT	-40000002	05	SPN	-91812406	02
SET	-91227489	02	STE	-88638732	02	EST	-15355230	00	SIP	-13242117	03	CPT	-12191758	03	SIN	-11942729	03	SAC	-00000000	00	GCT	-17382565	03	SIP	-13242117	03	CPT	-12191758	03	SIN	-11942729	03	GCE	-82994180	02	GCT	-17382565	03	SIP	-13242117	03	CPT	-12191758	03	SIN	-11942729	03	REP	-39448619	06	VEP	-16477598	01			
HELICENTRIC												CONIC																																												
EPOCH OF PERICENTER PASSAGE												JULIAN DATE 2437691.10212349																																												
SMA	-16875403	09	ECC	-12727456	00	IAC	-35151995	00	LAN	-12817888	03	APF	-35801918	03	RCA	-14731085	09	VH	-24672101	02	C3	-78425671	03	CL	-46545390	10	SLR	-16605977	09	APD	-19027722	09	TFP	-19681095	06																					
TA	-24368246	01	EA	-21441884	01	MA	-18713518	01	DAI	-12149470	-01	RAI	-12619812	03	MTA	-18000000	03	WX	-42225036	-02	WY	-37920594	-02	WZ	-99998118	00	PX	-59057910	00	PY	-80697945	00	PZ	-21204826	-03	CX	-80654506	00	QY	-59056696	00	CZ	-61311722	-02	RX	-12999060	-03	RY	-16763558	-03	RZ	-99999975	00			
SXI	-59057510	00	SVI	-80657545	00	SZI	-21264826	-03	TX	-80697965	00	TY	-59057925	00	TZ	-58976707	-05	BX	-80654525	00	BY	-59056709	00	BZ	-61311735	-02	MX	-78112542	00	MY	-62434400	00	MZ	-61346451	-02	B.T	-16741812	09	B.R	-10274761	07	B	-16742128	09	PER	-43776499	03	DEF								
SELENCENTRIC												EQUATORIAL COORDINATES																																												
X	-17525016	05	Y	-49043605	04	Z	-34758805	05	DX	-18152566	01	CY	-42997130	00	DZ	-13674922	-01	R	-40000002	05	DEC	-60455162	02	RA	-33271120	03	V	-18655345	01	PTH	-22376148	02	AZ	-22474515	03																					
R	-40000002	05	DEC	-60455162	02	RA	-33271120	03	V	-18655345	01	PTH	-22376148	02	AZ	-22474515	03	R	-39959599	05	LAT	-44779363	02	LCN	-26298511	03	VR	-19338386	01	PTR	-21545459	02	AZR	-25749159	03																					
LTS	-27017523	00	LNS	-26477350	03	LTE	-67229201	01	LME	-3537093	03	DP	-24709781	-02	ASD	-24902844	01	ALT	-38262002	05	SHA	-28322514	05	ALP	-90375026	02	DR	-71018187	00	HCE	-26726115	03	SVL	-45082483	02	HNG	-17516605	03	SIA	-86164851	02															
SAC	-00000000	00	GCT	-14503229	03	SIP	-12193640	03	CPT	-12229089	03	SIN	-11958923	03	1 DAYS 12 HRS. 59 MIN. 48.425 SEC.	JULIAN DATE 2437693.47771325	JAN. 28, 1962	23 27 54.425																																						
GECCENTRIC												EQUATORIAL COORDINATES																																												
X	-30667425	06	Y	-25180029	06	Z	-99030143	05	DX	-11639964	01	DY	-11022838	01	DZ	-24186202	00	R	-40852393	06	DEC	-14028803	02	RA	-21944335	05	V	-16212386	01	PTH	-83288708	02	AZ	-36138850	02																					
R	-40852393	06	DEC	-14028803	02	RA	-21944335	05	V	-16212386	01	PTH	-83288708	02	AZ	-36138850	02	R	-40852393	06	LAT	-14028804	02	LCN	-99725289	02	VE	-28805173	02	PTE	-32010074	01	AZE	-27030451	03																					
XS	-91893374	08	YS	-10567494	09	ZS	-49821754	08	DXS	-23780328	02	DYS	-17134628	02	DZS	-74299790	01	XS	-30787563	06	YS	-23907645	06	ZS	-49821754	08	DXS	-23780328	02	DYS	-17134628	02	DZS	-74299790	01																					
XT	-30787563	06	YT	-23907645	06	ZT	-64469497	05	DXT	-65983930	00	DYT	-68083311	00	DZT	-28429125	00	RS	-14734727	09	VS	-30237461	02	RM	-39509653	06	VM	-98981974	00	RT	-39509653	06	VT	-98981974	00																					
RS	-14734727	09	VS	-30237461	02	RM	-39509653	06	VM	-98981974	00	RT	-39509653	06	VT	-98981974	00	GED	-14120595	02	ALT	-40214699	06	LCS	-19129168	03	RAS	-31100974	03	RAM	-21783062	03	LCM	-98112553	02																					
GLT	-34000000	02	DT	-24000000	03	DR	-16101293	01	SHA	-48080928	06	DES	-18118176	02	DEM	-93911779	01																																							
GECCENTRIC												CONIC																																												
EPOCH OF PERICENTER PASSAGE												JULIAN DATE 2437691.36810677																																												
SMA	-58878437	04	ECC	-10126834	01	INC	-55059420	02	LAN	-22948184	03	APF	-18079203	03	RCA	-74678097	04	VH	-82279453	00	C3	-67490804	00	CL	-77462304	05	SLR	-15030337	05	APD	-00000000	00	TFP	-18227000	06																					
TA	-26221629	03	EA	-63201318	02	MA	-14593553	02	CAO	-67876139	01	RAC	-22471888	03	MTA	-17092235	03	WX	-62347493	00	WY	-53283540	00	WZ	-57215416	00	PX	-64361426	00	PY	-76526603	00	PZ	-11337012	-01																					
CK	-44389115	00	QY	-36117807	00	CZ	-80206726	00	RX	-12136909	00	RY	-28347907	00	RZ	-95126713	00	SKT	-70705873	00	SWC	-48889733	00	SGZ	-11818925	00	TX	-69819200	00	TY	-56857420	00	TZ	-28481947	00																					
BX	-33678691	00	BY	-47739284	00	BZ	-81158528	00	MX	-22349100	00	MY	-57980561	00	MZ	-78350266	00	B.T	-29872877	05	B.R	-89203227	05	B	-94072337	05	PER	-00000000	00	OMD	-64290037	-03	NDD	-11552669	-02																					
HELICENTRIC												ECLIPTIC COORDINATES																																												
X	-92195448	08	Y	-11451129	09	Z	-89700000	04	DX	-24944325	02	DY	-19783711	02	DZ	-21646470	00	R	-14732733	09	LAT	-34884439	-02	LCN	-12874193	03	V	-31838049	02	PTH	-32349312	00	AZ	-89610460	02																					
XE	-91869374	08	YE	-11518170	09	ZE	-34660000	03	DXE	-23780328	02	DYE	-18676189	02	DZE	-15133619	-03	XT	-92221249	08	YT	-11493671	09	ZT	-35616500	05	DXT	-23120489	02	DYT	-19413925	02	DZT	-98742842	-02																					
LTE	-13454161	-03	LCE	-12856329	03	LTT	-13849330	-01	LOT	-12873629	03	RST	-14734829	09	VST	-30190356	02	EPS	-92717576	02	ESP	-15841325	00	SEP	-87123746	02	EPH	-86215231	02	FHP	-10885860	03	MEP	-48989501	01																					
MPS	-12441806	03	MSP	-27453512	-18	SWP	-5530138	02	SEH	-90072078	02	FMS	-89774287	02	ESM	-15323340	00	EPT	-66215231	02	ETP	-10888580	03	TEP	-48569501	01	TPS	-12463806	03	TSP	-27453512	-18	STP	-5530138	02																					
SET	-90072078	02	STE	-89774287	02	EST	-15323340	00	RPM	-36872474	05	RPT	-36872474	05	SPN	-91823021	02	SAC	-00000000	00	GCT	-14503229	03	SIP	-12193640	03	CPT	-12229089	03	SIN	-11958923	03																								
GCE	-82757740	02	GCT	-14503229	03	SIP	-12193640	03	CPT	-12229089	03	SIN	-11958923	03	REP	-40852393	06	VEP	-16212386	01																																				
HELICENTRIC												CONIC																																												
EPOCH OF PERICENTER PASSAGE												JULIAN DATE 2437690.76340426																																												
SMA	-16842507	09	ECC	-12539007	00	INC	-38947931	00	LAN	-12822885	03	APF	-35760882	03	RCA	-14730624	09	VH	-24748456	02	C3	-78757511	03	CL	-46905400	10	SLR	-16577698	09	APD	-18543909	09	TFP	-23451630	06																					
TA	-29042540	01	EA	-25404193	01	MA	-22394752	01	DAI	-16253288	-01	RAI	-12583774	03	MTA	-18000000	03	WX	-53485892	-02	WY	-42072286	-02	WZ	-95957690	00	PX	-58549170	00	PY	-81067814	00	PZ	-28366330	-03																					
CX	-81066558	00	QY	-58547664	00	CZ	-67953046	-02	RX	-17021202	-03	RY	-22697727	-03	RZ	-99999978	00	SXI	-58549170	00	SVI	-81067814	00	SZI	-28366330	-03	TX	-81067831	00	TY	-58549183	00	TZ	-50938354	-05																					
BX	-81066558	00	BY	-58547675	00	BZ	-67953046	-02	MX	-17799543	00	MY	-62579946	00	MZ	-67986953	-02	B.T	-16765189	09	B.R	-11359404	07	B	-16769575	09	PER	-43633044	03	DEF																										
SELENCENTRIC												EQUATORIAL COORDINATES																																												
X	-18013867	04	Y	-12723840	05	Z	-34560646	05	DX	-18238357	01	DY	-42145071	00	DZ	-42429228	-01	R	-36872474	05	DEC	-69603299	02	RA	-2785814	03	V	-18723775	01	PTH	-50679149	00	AZ	-27509522	03																					
R	-36872474	05	DEC	-69603299	02	RA	-2785814	03	V	-18723775	01	PTH	-50679149	00	AZ	-27509522	03	R	-36872473	05	LAT	-45162600	02	LCN	-22775733	03	VR	-19402360	01	PTR	-48906374	00	AZR	-28687838	03																					
LTS	-26774000	00	LNS	-26355720	03	LTE	-67492966	01	LNE	-3529824	03	DP	-29093554	-02	ASD	-27016616	01	ALT	-35134474	05	SHA	-30326441	05	ALP	-13376451	03	DR	-16561304	-01	HCE	-26728242	03	SVL	-47005361	02	HNG	-21353574	03	SIA	-63513570	02															
SAC	-00000000	00	GCT	-1450																																																				

CASE 1

SPACE TRAJECTORIES

SELENCENTRIC				CONIC				ERBITAL B.T AND B.R				EQUATORIAL COORDINATES					
EPOCH	CF	PERICENTER	PASSAGE	JULIAN DATE				2437693.47561779				JAN. 28, 1962					
SPA	-15125323	04	ECC	.25376582	02	INC	.11031254	03	LAN	.19349220	03	APF	.27136461	03	RCA	.36870974	05
WH	-17959559	01	C3	.32359851	01	C1	.69036490	05	SLR	.97254504	06	APD	.00000000	00	TFP	.18104811	03
TA	-52674039	00	EA	.50840430	00	MA	.12344783	02	DAI	-.83816836	00	RAI	.19380249	03	MTA	.92258367	02
WX	-21880416	00	WY	.91193090	00	WZ	-.34714089	00	PX	.57812022	-01	PY	-.34302093	00	PZ	-.93754701	00
QX	-.97405467	00	CY	-.22520810	00	CZ	.22333038	-01	RX	-.67320579	-01	RY	.33173059	00	RZ	-.94096903	00
SXD	-.97557624	00	SYC	-.21151617	00	SZD	.59261271	-01	DAO	.33974112	01	RAO	.19223304	03	TF	.36946493	02
SXI	-.97101598	00	SYI	-.23855019	00	SZI	-.14628288	-01	TX	-.22932100	00	TY	-.91271497	00	TZ	.33817637	00
EX	-.96150512	-01	BV	-.33380001	00	BZ	-.93769899	00	HX	-.34714089	00	MY	-.30944122	-09	NZ	.21880416	00
B.T	-.24695721	05	B.R	.29344566	05	B	.38353692	05	PER	.27173902	04	DEF	.99689434	00			
CPI	.00000000	00	CY	.00000000	00	CPZ	.00000000	00	BRO	.29344966	05						
BTE	-.13315559	05	BRE	.35968062	05	BTO	-.24695721	05									
GP	-.11928515	01	IR	.28771872	04	THA	.13008282	03									
ZAE	.15141254	03	ZAP	.11562239	03	ZAC	.94187140	02	ETE	.41012146	02	ETS	.22912152	03	ETC	.12267292	03

L MATRIX FOR MAPPING FORWARD

	X	Y	Z	DX	CY	DZ	KE	KM	R101
X	.13193590 01	.40338913 00	.17095464 00	.28385107-05	-.37055771-05	-.27031486-06	.00000000 00	.00000000 00	.00000000 00
Y	.46808952 00	-.95706650 00	-.14202180 00	.38031843-05	-.14990017-05	-.19314761 05	.00000000 00	.00000000 00	.00000000 00
Z	-.18551157 00	.15011670 00	-.77693922 00	.51609159-06	-.20297084-05	-.12097680-05	.00000000 00	.00000000 00	.00000000 00
DX	-.14210177 06	.10285237 05	.11116144 04	.10784546 01	.11475925 00	-.16013609 00	.00000000 00	.00000000 00	.00000000 00
DY	.10438015 05	.13025954 06	.41320606 04	.11940618 00	.81679364 00	-.15446709 00	.00000000 00	.00000000 00	.00000000 00
DZ	.14264607 04	.42802646 04	.12793056 06	-.14988510 00	.15679377 00	.11055248 01	.00000000 00	.00000000 00	.00000000 00
KE	-.25322213 00	.17271042 00	.86775314-01	.33901659-05	.24711787-05	.11737235-05	.10000000 01	.00000000 00	.00000000 00
KM	-.13488149 01	-.24200467 00	.26152372 00	-.13340929-04	.13958218-04	.43488947-04	.00000000 00	.10000000 01	.00000000 00
R101	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.10000000 01
LA01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LCC1	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
R103	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LCC3	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
	LA01	LCC1	R103	LA03	LCC3				
X	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Y	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
Z	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DX	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DY	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
DZ	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KE	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
KM	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
R101	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA01	.10000000 01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
R103	.00000000 00	.00000000 00	.10000000 01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LA03	.00000000 00	.00000000 00	.00000000 00	.10000000 01	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.00000000 00
LCC3	.00000000 00	.00000000 00	.00000000 00	.00000000 00	.10000000 01	.00000000 00	.00000000 00	.00000000 00	.00000000 00

COVARIANCE MATRIX AT IMPACT

	X	Y	Z	DX	DY	DZ	KE	KM	RI01
X	.18140540 03	-.21913543 03	-.75544882 C1	.13208480-02	-.14391758-02	-.74359909-03	.51856954 01	-.39224484 01	.19206294-03
Y	-.21913543 03	.31973651 03	-.45648570 02	-.16084015-02	.19507442-02	.82565916-03	.70841622 01	.11745563 02	.77945902-01
Z	-.75544882 01	-.45648570 02	.82170203 03	-.91147519-03	-.17158146-02	.18900657-02	.31954072 02	-.12285942 03	-.11759093 00
DX	.13208480-02	-.16084015-02	-.91147519-03	.11935044-07	-.93258826-08	-.10510387-07	-.23459997-04	.89966766-04	-.70017114-06
DY	-.14391758-02	.19507442-02	-.17158146-02	-.93258826-08	.16397815-07	-.18383507-08	-.74253713-04	.29924328-03	.87220716-06
DZ	-.74359909-03	.82565916-03	.18900657-02	-.10510387-07	-.18383507-08	.18582615-07	.75246821-04	-.21427837-03	.10580926-05
KE	.51856954 01	.70841622 01	.31954072 02	-.23459997-04	-.74253713-04	.75246821-04	.64018737 01	-.50388308 01	.24039779-01
KM	-.39224484 01	-.11745563 02	-.12285942 03	.89966766-04	.29924328-03	-.21427837-03	-.50388308 01	.19125984 02	.20529347-01
RI01	.19206294-03	.77945902-01	-.11759093 00	-.70017114-06	.87220716-06	.10580926-05	.24039779-01	.20529347-01	.32747678-02
LAC1	.20359210-03	.11178600-02	-.13511296-02	-.52434909-08	.62524342-08	.12988063-07	.37732016-03	.23380549-03	-.40492110-05
LC01	-.27165165-03	-.13081583-02	-.55355966-02	.76533814-09	.20006020-07	-.15062951-07	-.81753177-03	.85833895-03	-.26660435-05
RI03	.10155449 00	-.89881971-01	-.56335568 00	.14487708-05	.36048953-06	-.17789035-05	-.22944365-01	.80609125-01	.15887286-03
LA03	-.22308757-02	.19367648-02	.12277683-01	-.31325021-07	-.65874916-08	.37895571-07	.48945912-03	-.17580282-02	-.33958655-05
LCC3	.42778551-02	-.46984949-02	.86266652-02	.14870969-07	-.43316037-07	.13557426-07	.60933745-03	-.13938610-02	.48530094-C6
LAC1	LC01	RI03	LA03	LC03					
X	.20359210-03	-.27165165-03	.10155449 00	-.22308757-02	.42778551-02				
Y	.11178600-02	-.13081583-02	-.89881971-01	.19367648-02	-.46984949-02				
Z	-.13511296-02	-.55355966-02	-.56335568 00	.12277683-01	.86266652-02				
DX	-.52434909-08	.76533814-09	.14487708-05	-.31325021-07	.14870969-07				
DY	.62524342-08	-.20006020-07	.30048953-06	-.65874916-08	-.43316037-07				
DZ	.12988063-07	-.15062951-07	-.17789035-05	.37895571-07	.13557426-07				
KE	.37732016-03	-.81753177-03	-.22944365-01	.48945912-03	.60933745-03				
KM	.23380549-03	.85833895-03	.80609125-01	-.17580282-02	-.13938610-02				
RI01	-.40492110-05	-.26660435-05	.15887286-03	-.33958655-05	.48530094-06				
LAC1	.53973073-06	-.36671005-07	.24965332-05	-.53720807-07	.75306807-08				
LCC1	-.38671005-07	.89272274-06	.31836596-05	-.70665539-07	.60404067-07				
RI03	.24965332-05	.31836596-05	.33391362-02	.57155024-05	-.15686585-05				
LAC3	-.53720807-07	-.70665539-07	.57155024-05	.87469430-06	.35255173-07				
LCC3	.75306807-08	.60404067-07	-.15686585-05	.35255173-07	.95496827-06				

IMPACT PARAMETERS 62/01/28 232754

A MATRIX

	B.R	B.T	TL	C3	S.TS	S.RS
B.R	.82121196 03	-.79025637 02	.12986618-02	.20522421-02	-.96942881-03	-.93060444-03
B.T	-.79025637 02	.44247417 03	-.21174827-01	.39915469-02	-.55753576-04	-.12448519-03
TL	.12986618-02	-.21174827-01	.15668442-05	-.19985803-06	.25104737-07	.29999386-07
C3	.20522421-02	.39915469-02	-.19985803-06	.67300896-07	.16878353-08	.15622730-08
S.TS	-.96942881-03	-.55753576-04	.25104737-07	.16878348-08	.38569537-08	.40362227-08
S.RS	-.93060444-03	-.12448519-03	.29999386-07	.15622726-08	.40362227-08	.42426046-08

NORMALIZED A MATRIX

	B.R	B.T	TL	C3	S.TS	S.RS
B.R	.99595959 00	-.13109810 00	.36203915-01	.27605176 00	-.54471090 00	-.49856433 00
B.T	-.13109810 00	.10000000 01	-.80419802 00	.73145372 00	-.42678245-01	-.90856803-01
TL	.36203915-01	-.80419803 00	.10000000 01	-.61545777 00	.32293904 00	.36794523 00
C3	.27605175 00	.73145372 00	-.61545777 00	.99999999 00	.10476046 00	.92454957-01
S.TS	-.54471090 00	-.42678257-01	.32293901 00	.10476044 00	.10000000 01	.99778420 00
S.RS	-.49856433 00	-.90856817-01	.36794521 00	.92454936-01	.99778421 00	.99999999 00
B.R	.29344566 05					
B.T	-.24695935 05					
DEL B	.35548363 02					
DEL S	.81112326 01					
DEL T	.45062514 01					
SPAA	.28931637 02					
SPIA	.20655423 02					
THETA	.11325646 02					
TL	.36191677 02					
B	.38353832 05					

APPENDIX D

Orbit Determination Program Format Description

This appendix defines the functions within each block of the orbit determination program printout.

Printout Block	Function
1	Control card input
2	<i>A priori</i> covariance matrix
3	See Table D-1
4	Normal equations including <i>a priori</i> (<i>J</i>)
5	Covariance matrix on estimated parameters including <i>a priori</i> (J^{-1})
6	Correlation matrix of covariance matrix of block 5
7	Residuals for a particular station (see Table D-2)

At the end of each station's residuals, a summary is given which includes the beginning and end time for the data, the number of points, standard deviation, root mean square, first moment, and second moment.

7A,7B,7C These blocks include, respectively, the matrix which maps the covariance matrix at injection to the midcourse epoch, the integrated conditions at midcourse epoch, and the covariance matrix at midcourse epoch. These blocks are only on the premidcourse phase.

Table D-1. Explanation of printout block 3

Iteration number	Epoch year/month/day			XX XXX XX	Clock XXXXXX	SOS ^a XXXXX QSOS ^b XXXXX
GMT				hr min sec	(PC time now) hr min sec	Floating pointing numbers
Q	DQ	STDEVDQ	OLD Q	NEW Q	NOMINAL Q	DQ (NOM)
X, Y, Z = Position space fixed cartesian component in km DX, DY, DZ = Velocity S.F.C. in km/sec R _I = Radius in km KE = GM _⊕ in km ³ /sec ² LA = Latitude in deg LO = Longitude in deg KM = GM _⊙ in km ³ /sec ²	Difference in estimated parameters from previous iteration and this iteration	Standard deviations on estimated parameters	Value of estimated parameters from previous iteration (Initial estimate on 1st iteration)	Value of estimated parameters on this iteration	Initial estimate of parameters	Total difference in new Q and nominal Q

^aWeighted sum of the squares of the residuals.

^bWeighted sum of the squares of the residuals plus the product $\delta x^T \Gamma^{-1} \delta x$ where δx is the difference in the *a priori* Q and the value of Q on the particular iteration and Γ is an *a priori* covariance on Q.

Table D-2. Residuals for a particular station

GMT	TC	Q	FRQ	CC3(HA or DEC)		
XX XX XX	X	X	XXXX.X	.XXXXXXXX XX	.XXX XX	.XXXX*
hr sec min	Doppler count time in seconds	Trans- mitting station	Last digits in transmitter frequency 2966 XXXX.X in cps	Calculated 2-way doppler (CC3) in cps, or hour angle in deg or declination in deg (floating point)	Associated weight in floating point	Residual (observed minus calculated) in cps. Asterisk means data deleted from fit

- 8 A trajectory printout; see Appendix E for explanation
- 9 The matrix which maps the covariance matrix at the estimated parameter *solution time* to encounter epoch
- 10 The covariance matrix at encounter epoch
- 11 The N matrix. This is just a rotation of the covariance matrix at encounter (block 10) into the B-plane system explained in Appendix A. The quantities S·TS and S·RS, are the S-vector dotted on a standard R and T vector fixed in the program. C3 is twice the energy (*vis viva* energy integral). T_L is linearized time of flight. The units are B·R in km, B·T in km, T_L in hours, C3 in km²/sec², S·TS in km, S·RS in km.
- 12 Correlation matrix of N (block 11)
- 13
 - B·R = The B vector dotted on the R axis in km (T axis in the Moon's orbital plane; Appendix A)
 - B·T = The B vector dotted on the T axis in km
 - DEL B = $(N_{11} + N_{22})^{1/2}$ where N_{11} and N_{22} are elements from the N matrix (block 11); units are km
 - DEL S = Hyperbolic excess velocity times DEL T (like position uncertainty in the direction of the incoming asymptote), units are km
 - DEL T = Uncertainty in linearized time of flight in sec
 - SMAA = The square root of larger eigenvalue of the upper 2×2 of the N matrix (block 11; commonly called the semimajor axis of the 40% dispersion ellipse in the B plane).
 - SMIA = The semiminor axis of the 40% dispersion ellipse or the square root of smaller eigen value of the upper 2×2 of the N matrix.
 - THETA = The orientation angle of the semimajor axis (SMAA) in deg, $0^\circ \leq THETA \leq 45^\circ$, measured from the R axis if $N_{11} > N_{22}$ or T axis if $N_{22} > N_{11}$, and in a direction of positive or

negative correlation of T and R depending on the sign of N_{12} (i.e., N_{12} positive means positive correlation).

T_L = Linearized time of flight in hours from epoch of estimated parameters.

B = The vector measured from the center of the Moon perpendicular to the incoming asymptote in km.

APPENDIX E

Trajectory Format Explanation

The tables in this appendix provide a key to the *Ranger III* trajectory (Table E-1), and define the key terms (Table E-2) and conversion factors for the *Ranger III* trajectory constants (Table E-3).

Table E-1. Ranger III trajectory key

COLUMN		1	2	3	4	5	6			
A	1	GME	J	H	D	RE	REM			
	2	G	A	B	C	OME	AU			
	3	GMM	GMS	GMV	GMA	GMB	GMJ			
B	4	INJECTION CONDITIONS		TARGET		JULIAN DATE		MONTH DAY, YEAR		hr min sec
	5	GEOCENTRIC CARTESIAN		XO	YO	ZO TO	DXO GHA	DYO GHO	DZO	
C	6	TIME PAST INJECTION			JULIAN DATE		MONTH DAY, YEAR		hr min sec	
	7	GEOCENTRIC			EQUATORIAL COORDINATES					
	8	X	Y	Z	DX	DY	DZ			
	9	R	DEC	RA	Y	PTH	AZ			
	10	R	LAT	LON	VE	PTE	AZE			
	11	XS	YS	ZS	DXS	DYS	DZS			
	12	XM	YM	ZM	DXM	DYM	DZM			
	13	XT	YT	ZT	DXT	DYT	DZT			
	14	RS	VS	RM	VM	RT	VT			
	15	GED	ALT	LOS	RAS	RAM	LOM			
	16	DUT	DT	DR	SHA	DES	DEM			
	D	15	GEOCENTRIC		CONIC		ORBITAL B · T AND B · R		EQUATORIAL COORDINATES	
		16	EPOCH OF PERICENTER PASSAGE			JULIAN DATE		MONTH DAY YEAR		hr min sec
		17	SMA	ECC	INC	LAN	APF	RCA		
18		VH	C3	C1	SLR	APO	TFP			
19		TA	EA	MA	DAO	RAO	MTA			
20		WX	WY	WZ	PX	PY	PZ			
21		QX	QY	QZ	RX	RY	RZ			
22		SXO	SYO	SZO	TX	TY	TZ			
23		BX	BY	BZ	MX	MY	MZ			
24		B · T	B · R	B	PER	OMD	NOD			
E	24	HELIOCENTRIC			EQUATORIAL COORDINATES					
	25	X	Y	Z	DX	DY	DZ			
	26	R	LAT	LON	V	PTH	AZ			
	27	XE	YE	ZE	DXE	DYE	DZE			
	28	XT	YT	ZT	DXT	DYT	DZT			
	29	LTE	LOE	LTT	LOT	RST	VST			
	30	EPS	ESP	SEP	EPM	EMP	MEP			
	31	MPS	MSP	SMP	SEM	EMS	ESM			
	32	EPT	ETP	TEP	TPS	TSP	STP			
	33	SET	STE	EST	RPM	RPT	SPN			
	34	GCE	GCT	SIP	CPT	SIN	D1			
35	REP	VEP	CPE	CPS	D2	D3				
F	35	SELENOCENTRIC			EQUATORIAL COORDINATES					
	36	X	Y	Z	DX	DY	DZ			
	37	R	DEC	RA	V	PTH	AZ			
	38	R	LAT	LON	VR	PTR	AZR			
	39	LTS	LNS	LTE	LNE	DP	ASD			
40	ALT	SHA	ALP	DR						
41	HGE	SVL	HNG	SIA						
G	41	SELENOCENTRIC		CONIC		ORBITAL B · T AND B · R		EQUATORIAL COORDINATES		
	42	EPOCH OF PERICENTER PASSAGE			JULIAN DATE		MONTH DAY YEAR		hr min sec	
	43	SMA	ECC	INC	LAN	APF	RCA			
	44	VH	C3	C1	SLR	APO	TFP			
	45	TA	EA	MA	DAI	RAI	MTA			
	46	WX	WY	WZ	PX	PY	PZ			
	47	QX	QY	QZ	RX	RY	RZ			
	48	SXO	SYO	SZO	DAO	RAO	TF			
	49	SXI	SYI	SZI	TX	TY	TZ			
50	BX	BY	BZ	MX	MY	MZ				
51	B · T	B · R	B	PER	DEF	C3J				
H	50	YOCTAL		XOCTAL		YOCTAL		ZOCTAL		
	51	YY MM DDD HH	TT SS SSS						SOCTAL	

Table E-2. Ranger III trajectory key definitions

Group	Trajectory constant	Group	Trajectory constant
Group A		Group C	Inertial position and velocity of the probe, Sun, Moon and target body in a geocentric equatorial system. The principal direction X is the vernal equinox direction of date and the principal plane XY is the equatorial plane of date. Z is along the direction of the Earth's spin axis of date. Miscellaneous parameters are also included.
Row 1	<p>GME Universal gravitational constant times the mass of Earth, km³/sec²</p> <p>J Coefficient of the second harmonic in the Earth's potential function</p> <p>H Coefficient of the third harmonic in the Earth's potential function</p> <p>D Coefficient of the fourth harmonic in the Earth's potential function</p> <p>RE Earth radius used in the potential function, km</p> <p>REM Conversion factor for converting lunar ephemerides into km</p>	Row 6	<p>X } Cartesian components of the probe radius vector, km</p> <p>Y }</p> <p>Z }</p> <p>DX } Cartesian components of the probe space-fixed velocity vector, km/sec</p> <p>DY }</p> <p>DZ }</p>
Row 2	<p>G Universal constant of gravitation, km³/kg sec²</p> <p>A } Moments of inertia about principal axis for the Moon, kg km²</p> <p>B }</p> <p>C }</p> <p>OME Sidereal rotation rate of the Earth, deg/sec</p> <p>AU Astronomical unit, km</p>	Row 7	<p>R Probe radius distance, km</p> <p>DEC Probe declination angle, deg</p> <p>RA Probe right Ascension angle, deg</p> <p>V Probe space-fixed velocity, km/sec</p> <p>PTH Pitch angle of the probe space-fixed velocity vector with respect to the local horizontal, deg</p> <p>AZ Azimuth angle of the probe space-fixed velocity vector measured East of true North, deg</p>
Row 3	<p>GMM Universal gravitational constant times the mass of Moon, km³/sec²</p> <p>GMS Universal gravitational constant times the mass of Sun, km³/sec²</p> <p>GMV Universal gravitational constant times the mass of Venus, km³/sec²</p> <p>GMA Universal gravitational constant times the mass of Mars, km³/sec²</p> <p>GMB Universal gravitational constant times the mass of Earth-Moon, km³/sec²</p> <p>GMJ Universal gravitational constant times the mass of Jupiter, km³/sec²</p>	Row 8 ^a	<p>R Probe radius distance, km</p> <p>LAT Probe geocentric latitude, deg</p> <p>LON Probe East longitude, deg</p> <p>VE Probe Earth-fixed velocity, km/sec</p> <p>PTE Pitch angle of the probe Earth-fixed velocity vector with respect to the local horizontal, deg</p> <p>AZE Azimuth angle of the probe Earth-fixed velocity vector measured East of true North, deg</p>
Group B	Injection conditions are vernal equinox cartesian coordinates in a geocentric equatorial system. The principal direction X is the vernal equinox direction of date and the principal plane XY is the equatorial plane of date. Z is along the direction of the Earth's spin axis of date.	Row 9	<p>XS } Cartesian components of the Sun radius vector, km</p> <p>YS }</p> <p>ZS }</p> <p>DXS } Cartesian components of the Sun space-fixed velocity vector, km/sec</p> <p>DYS }</p> <p>DZS }</p>
Row 4	<p>XO } Cartesian components of the probe radius vector, km</p> <p>YO }</p> <p>ZO }</p> <p>DXO } Cartesian components of the probe space-fixed velocity vector, km/sec</p> <p>DYO }</p> <p>DZO }</p>	Row 10	<p>XM } Cartesian components of the Moon radius vector, km</p> <p>YM }</p> <p>ZM }</p> <p>DXM } Cartesian components of the Moon space-fixed velocity vector, km/sec</p> <p>DYM }</p> <p>DZM }</p>
Row 5	<p>TO Time of Injection in seconds past midnight of day before launch, sec</p> <p>GHA HA of Greenwich at injection epoch, deg</p> <p>GHO HA of Greenwich at midnight of day before launch, deg</p>	Row 11	<p>XT Cartesian components of the target radius vector, km</p> <p>YT }</p> <p>ZT }</p> <p>DXT Cartesian components of the target space-fixed velocity vector, km/sec</p> <p>DYT }</p> <p>DZT }</p>
<p>^aThese are Earth-fixed spherical coordinates in a geocentric equatorial system. The principal direction X is directed towards Greenwich and is the intersection of the meridian plane of Greenwich with the equatorial plane. The principal plane is the Earth's geometrical equatorial plane X, Y, Z is along the direction of the Earth's geometrical north direction.</p>			

Table E-2. (Cont'd)

Group	Trajectory constant	Group	Trajectory constant
Row 12	<p>RS Sun radius distance, km</p> <p>VS Sun space-fixed velocity, km/sec</p> <p>RM Moon radius distance, km</p> <p>VM Moon space-fixed velocity, km/sec</p> <p>RT Target radius distance, km</p> <p>VT Target space-fixed velocity, km/sec</p>	Row 19	<p>QX } Components of a unit vector perpendicular to the perigee direction, vector P, and being in the orbit plane $Q = W \times P$</p> <p>QY }</p> <p>QZ }</p> <p>RX } Components of the unit vector R^b</p> <p>RY }</p> <p>RZ }</p>
Row 13	<p>GED Geodetic latitude of the probe, deg</p> <p>ALT Altitude of the probe above the Earth's surface, km</p> <p>LOS East longitude of the Sun in coordinate system defined in Row 8, deg</p> <p>RAS Right ascension of the Sun, deg</p> <p>RAM Right ascension of the Moon, deg</p> <p>LOM East longitude of the Moon in coordinate system defined in Row 8, deg</p>	Row 20	<p>SXO } Components of the unit vector S^b, along the direction of the outgoing asymptote</p> <p>SYO }</p> <p>SZO }</p> <p>TX } Components of the unit vector T^b</p> <p>TY }</p> <p>TZ }</p>
Row 14	<p>DUT Ephemeris time minus Universal Time, sec</p> <p>DT Adams-Moulton step size, sec</p> <p>DR Radial velocity of probe, km/sec</p> <p>SHA Sun shadow parameter, km</p> <p>DES Declination of the Sun, deg</p> <p>DEM Declination of the Moon, deg</p>	Row 21	<p>BX } Components of the impact parameter B^b, km</p> <p>BY }</p> <p>BZ }</p> <p>MX } Components of a unit vector which lies in the orbit plane and is normal to the radius vector R.</p> <p>MY }</p> <p>MZ }</p> $M = W \times \frac{R}{ R }$
Group D	Characteristics of the Earth conic in the geocentric equatorial system described under Group B	Row 22	<p>B·T Projection of the impact parameter B^b upon the vector T, km</p> <p>B·R Projection of the impact parameter B^b upon the vector R, km</p> <p>B The magnitude of the impact parameter,^b km</p> <p>PER Period, min</p> <p>OMD Rate of change of argument of perigee, deg/day</p> <p>NOD Rate of change of RA of the ascending node, deg/day</p>
Row 15	<p>SMA Semimajor axis, km</p> <p>ECC Eccentricity</p> <p>INC Inclination of the orbit plane to the equatorial plane, deg</p> <p>LAN Longitude of the ascending node, deg</p> <p>APF Argument of pericenter, deg</p> <p>RCA Magnitude of the closest approach vector, km</p>	Row 23	C3J Earth-Moon Jacobi constant, km^2/sec^2
Row 16	<p>VH Hyperbolic excess speed, km/sec</p> <p>C3 Twice the energy (vis viva energy integral, km^2/sec^2)</p> <p>C1 Angular momentum, km^2/sec</p> <p>SLR Semi-latus rectum, km</p> <p>APO Apogee distance, km</p> <p>TFP Time from pericenter passage, sec</p>	Group E	Inertial position and velocity of the probe, Sun, Moon, and target body in a heliocentric equatorial system. The principal direction X is the vernal equinox direction of date and the principal plane XY is the equatorial plane of date. Z is along the direction of the Earth's spin axis of date. Miscellaneous parameters are also included.
Row 17	<p>TA True anomaly, deg</p> <p>EA Eccentric anomaly, deg</p> <p>MA Mean anomaly, deg</p> <p>DAO Declination of the outgoing asymptote,^b deg</p> <p>RAO Right ascension of the outgoing asymptote,^b deg</p> <p>MTA Maximum true anomaly, deg</p>	Row 24	<p>X } Cartesian components of the probe radius vector, km</p> <p>Y }</p> <p>Z }</p> <p>DX } Cartesian components of the probe space-fixed velocity vector, km/sec</p> <p>DY }</p> <p>DZ }</p>
Row 18	<p>WX } Components of a unit vector normal to the conic</p> <p>WY }</p> <p>WZ }</p> $W = \frac{R \times V}{R \times V}$ <p>PX } Components of a unit vector in the direction of perigee</p> <p>PY }</p> <p>PZ }</p>		

^bSee appendix A.

Table E-2. (Cont'd)

Group	Trajectory constant	Group	Trajectory constant
Row 25 R LAT LON V PTH AZ	Sun probe radius distance, km Probe celestial declination, deg Probe celestial right ascension, deg Probe space-fixed velocity, km/sec Pitch angle of the probe space-fixed velocity vector with respect to the local horizontal, deg Azimuth angle of the probe space-fixed velocity vector measured East of true North, deg	Row 33 GCE GCT SIP CPT SIN D1	Clock angle of Earth, deg Clock angle of target, deg Sun-probe-near limb of target angle, deg Canopus-probe-near limb of target angle, deg Canopus-probe-near limb of target angle, deg Radius of a circle (target) used in construction of visible planet, cm
Row 26 XE } YE } ZE } DXE } DYE } DZE }	Cartesian components of the Earth radius vector, km Cartesian components of the Earth-space-fixed velocity vector, km/sec	Row 34 REP VEP CPE CPS D2 D3	Earth probe distance, km Velocity of the probe with respect to Earth, km/sec Canopus-probe-Earth angle, deg Canopus-probe-Sun angle, deg Semi-minor axis of ellipse used in construction of visible planet, cm Distance from intersection of ellipse with circle to the diameter (of the circle) that is perpendicular to D1, in construction of visible planet, cm
Row 27 XT } YT } ZT } DXT } DYT } DZT }	Cartesian components of the target radius vector, km Cartesian components of the target space-fixed velocity vector, km/sec	Group F Row 35, 36	Inertial position of probe in a selenocentric equatorial system. The principal direction X is the vernal equinox direction of date and the principal plane XY is the geocentric equatorial plane of date. Z is along the direction of the Earth's spin axis of date.
Row 28 LTE LOE LTT LOT RST YST	Celestial latitude of the Earth, deg Celestial longitude of the Earth, deg Celestial latitude of the target, deg Celestial longitude of the target, deg Sun-target range, km Sun-target velocity, km/sec	Row 37, 38, 39	Selenocentric-fixed spherical coordinates of the probe, Sun and Earth in a selenocentric equatorial system. The principal direction X is in the direction of the mean Moon-Earth line. The principal plane XY is the mean selenocentric equatorial plane. Z is along the direction of the Moon's mean spin axis. Miscellaneous parameters are also included.
Row 29 EPS ESP SEP EPM EMP MEP	Earth-probe-Sun angle, deg Earth-Sun-probe angle, deg Sun-Earth-probe angle, deg Earth-probe-Moon angle, deg Earth-Moon-probe angle, deg Moon-Earth-probe angle, deg	Row 35 X } Y } Z } DX } DY } DZ }	Cartesian components of the probe radius vector, km Cartesian components of the probe velocity vector, km/sec
Row 30 MPS MSP SMP SEM EMS ESM	Moon-probe-Sun angle, deg Moon-Sun-probe angle, deg Sun-Moon-probe angle, deg Sun-Earth-Moon angle, deg Earth-Moon-Sun angle, deg Earth-Sun-Moon angle, deg	Row 36 R DEC RA V PTH AZ	Probe radius distance, km Probe declination angle, deg Probe right ascension angle, deg Probe space-fixed velocity, km/sec Pitch angle of the probe space-fixed velocity vector with respect to the local horizontal, deg Azimuth angle of the probe space-fixed velocity vector measured East of true North, deg
Row 31 EPT ETP TEP TPS TSP STP	Earth-probe-target angle, deg Earth-target-probe angle, deg Target-Earth-probe angle, deg Target-probe-Sun angle, deg Target-Sun-probe angle, deg Sun-target-probe angle, deg		
Row 32 SET STE EST RPM RPT SPN	Sun-Earth-target angle, deg Sun-target-Earth angle, deg Earth-Sun-target angle, deg Moon probe radius distance, km Target probe radius distance, km Sun-probe-near limb of Earth angle, deg		

Table E-2. (Cont'd)

Group	Trajectory constant	Group	Trajectory constant
Row 37	<i>R</i> Probe radius distance, km	Row 43	<i>TA</i> True anomaly, deg
	<i>LAT</i> Probe selenocentric latitude, deg		<i>EA</i> Eccentric anomaly, deg
	<i>LON</i> Probe selenocentric East longitude, deg		<i>MA</i> Mean anomaly, deg
	<i>VR</i> Probe selenocentric-fixed velocity, km/sec		<i>DAI</i> Declination of the outgoing asymptote, ^d deg
	<i>RTR</i> Pitch angle of the probe selenocentric-fixed velocity vector with respect to the local horizontal, deg		<i>RAI</i> Right ascension of the incoming asymptote, ^d deg
	<i>AZR</i> Azimuth angle of the probe selenocentric-fixed velocity vector measured East of the Moon's mean spin axis, deg		<i>MTA</i> Maximum true anomaly, deg
Row 38	<i>LTS</i> Selenocentric latitude of the Sun, deg	Row 44	<i>WX</i> } Components of a unit vector normal to the conic
	<i>LNS</i> Selenocentric longitude of the Sun, deg		<i>WY</i> } $W = \frac{R \times V}{ R \times V }$
	<i>LTE</i> Selenocentric latitude of the Earth, deg		<i>WZ</i> }
	<i>LNE</i> Selenocentric longitude of the Earth, deg		<i>PX</i> } Components of a unit vector in the direction of perigee
Row 39	<i>ALT</i> Altitude of the probe above the Moon's surface, km		<i>PY</i> }
	<i>SHA</i> Sun shadow parameter, km		<i>PZ</i> }
	<i>ALP</i> Illuminated crescent orientation viewing angle, deg	Row 45	<i>QX</i> } Components of a unit vector perpendicular to the perigee direction, vector <i>P</i> , and being in the orbit plane $Q = W \times P$
	<i>DR</i> First time derivative of the probe radius distance, km/sec		<i>QY</i> }
	<i>DP</i> First time derivative of the probe radius direction, deg/sec		<i>QZ</i> }
	<i>ASD</i> Angular semidiameter of Moon as seen from the probe, deg		<i>RX</i> } Components of the unit vector R^d
Row 40	<i>HGE</i> Right ascension of Earth in probe coordinate system, ^c deg		<i>RY</i> }
	<i>SVL</i> Declination of the Moon in probe coordinate system, ^c deg		<i>RZ</i> }
	<i>HNG</i> Right ascension of the Moon in probe coordinate system, ^c deg	Row 46	<i>SXO</i> } Components of the unit vector S^d along the direction of the outgoing asymptote
	<i>SIA</i> Earth-probe-Moon angle minus <i>ASD</i> , deg		<i>SYO</i> }
Group G	Characteristics of the selenocentric conic in the geocentric equatorial system described under Group B except centered at the Moon.		<i>SZO</i> }
Row 41	<i>SMA</i> Semimajor axis, km		<i>DAO</i> Declination of the outgoing asymptote, ^d deg
	<i>ECC</i> Eccentricity		<i>RAO</i> Right ascension of the outgoing asymptote, ^d deg
	<i>INC</i> Inclination of the orbit plane to the equatorial plane, deg		<i>TF</i> Time from injection to epoch of pericenter passage, hr
	<i>LAN</i> Longitude of the ascending node, deg	Row 47	<i>SXI</i> } Components of the unit vector S^d along the direction of the incoming asymptote
	<i>APF</i> Argument of pericenter, deg		<i>SYI</i> }
	<i>RCA</i> Magnitude of the closest approach vector, km		<i>SZI</i> }
Row 42	<i>VH</i> Hyperbolic excess speed, km/sec		<i>TX</i> } Components of the unit vector T^d
	<i>C3</i> Twice the energy (vis viva energy integral, km ² /sec ²)		<i>TY</i> }
	<i>C1</i> Angular momentum, km ² /sec		<i>TZ</i> }
	<i>SLR</i> Semi-latus rectum, km	Row 48	<i>BX</i> } Components of the impact parameter B^d , km
	<i>APO</i> Apogee distance, km		<i>BY</i> }
	<i>TFP</i> Time from pericenter passage, sec		<i>BZ</i> }
			<i>MX</i> } Components of a unit vector which lies in the orbit plane and is normal to the radius vector <i>R</i> .
			<i>MY</i> }
			<i>MZ</i> }
		Row 49	<i>B · T</i> Projection of the impact parameter B^d upon the vector <i>T</i> , km
			<i>B · R</i> Projection of the impact parameter B^d upon the vector <i>R</i> , km
			<i>B</i> The magnitude of the impact parameter, ^d km
			<i>PER</i> Period, min
			<i>DFP</i> Angle between the incoming and outgoing asymptotes, deg
			<i>C3J</i> Earth-Moon Jacobi constant, km ² /sec ²

^cSame coordinate system as defined under B except centered at the probe.

^dSee appendix A.

APPENDIX F
Premidcourse Trajectory Computer Printout

The material in this appendix is a data-processing printout of premidcourse data derived from the trajectory computer.

CASE 1 I85YS-JPTRAJ-SPACE 050865 BK

DOUBLE PRECISION EPHEMERIS TAPE - EPHEM1 GME .39860041 06 J .16234500-02 H -.57649999-05 D .78749999-05 RF .63781650 04 REM .63783149 04

INJECTION CONDITIONS MOON 23555321710020200000000 J.D.= 2437691.36815972 JAN. 26, 1962 20 50 09.000

GEOCENTRIC X0 .33944722 04 Y0 .57112334 04 Z0 .51362574 03 DX0 -.77931332 01 DYO .56158508 01 DZ0 -.53071320 01

EPOCH OF PERICENTER PASSAGE 235553217064202247410260 J.D.= 2437691.36760774 JAN. 26, 1962 20 49 21.309

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE DX -.77931339 01 DY .56158508 01 DZ -.53071320 01

HELIOCENTRIC X -.87493276 08 Y .10872968 09 Z .47144449 08 DX -.32246983 02 DY -.10705299 02 DZ -.12384890 02

GEOCENTRIC X -.16075193 04 Y .76833474 04 Z -.25327157 04 DX -.85493810 01 DY .13166945 01 DZ -.47531674 01

EPOCH OF PERICENTER PASSAGE 23555321706420232521000 J.D.= 2437691.36761200 JAN. 26, 1962 20 49 21.677

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE DX -.85493810 01 DY .13166945 01 DZ -.47531674 01

CASE 1

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-87512728	08	Y	-10872200	09	Z	-47137219	08	DX	-33001100	02	DY	-15007128	02	DZ	-11832082	02
R	-14731215	09	LAT	-18661828	02	LDN	-12883135	03	V	-38135085	02	PTH	-71443650	01	AZ	-11186256	03
XE	-87511121	08	YE	-10871432	09	ZE	-47139753	08	DXE	-24451719	02	DYE	-16323822	02	DZE	-70789149	01
XT	-87902643	08	YT	-10861968	09	ZT	-47131906	08	DXT	-24202599	02	DYT	-17203599	02	DZT	-74067613	01
LTE	-18663632	02	LOE	-12883281	03	LTT	-18639326	02	LDT	-12898220	03	LST	-14746704	09	VST	-30603753	02
EPS	-45168719	02	ESP	-00000000	00	SEP	-13482900	03	EPH	-87485138	02	EMP	-11720093	01	MEP	-91342869	02
MPS	-11252121	03	MSP	-14469538	00	SMP	-67334095	02	SEM	-11343701	03	EMS	-66419376	02	ESM	-14367758	00
RPM	-40315135	06	SPN	-54788971	01												
GCE	-19770429	03	GCT	-25907163	03	SIP	-11227419	03	CPT	-94795572	02	SIN	-94548553	02			
REP	-82481872	04	VEP	-98700657	01	CPE	-14488575	03	CP5	-10312110	03						

0 DAYS 1 HRS. 9 MIN. 51.000 SEC. 23555322113020200000000 J.D.= 2437691.41666666 JAN. 26, 1962 22 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-23684213	05	Y	-17660536	04	Z	-12746631	05	DX	-46121747	01	DY	-23402070	01	DZ	-18898875	01
R	-26954359	05	DEC	-28222502	02	RA	-17573593	03	V	-55063961	01	PTH	-60510270	02	AZ	-80925007	02
R	-26954359	05	LAT	-28222502	02	LDN	-80025664	02	VE	-49039171	01	PTE	-77791303	02	AZE	-55652800	02
XS	-87599125	08	YS	-10865552	09	ZS	-47114256	08	DXS	-24438738	02	DYS	-16340093	02	DZS	-73859614	01
XN	-39050953	06	YN	-97800149	05	ZN	-90266488	04	DXN	-25782682	00	DYN	-87757193	00	DZN	-32763490	00
XT	-34006093	06	YT	-97800149	05	ZT	-90266488	04	DXT	-25782682	00	DYT	-87757193	00	DZT	-32763490	00
RS	-14730710	09	VS	-30240063	02	RM	-40267812	06	VM	-97157180	00	RT	-40267812	06	VT	-97157180	00
GEO	-28384949	02	ALT	-20580982	05	LOS	-21316623	03	RAS	-30887609	03	RAM	-19405664	03	LOM	-98346769	02
DUT	-34000000	02	DT	-12000000	03	DR	-47930093	01	SHA	-24466689	05	DES	-18653064	02	DEM	-12841934	01
CCL	-24497452	03	MCL	-32251488	03	TCL	-32251488	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202274160000 J.D.= 2437691.36760960 JAN. 26, 1962 20 49 21.470
 SMA -53543107 06 ECC -10124289 01 B -84679881 05 SLR -13392373 05 APD -00000000 00 RGA -66548305 04
 VH -86281380 00 C3 -74444765 00 C1 -73063024 05 TFP -42385295 04 TF -13202652-01 LTF -21424733 01
 TA -11979970 03 MTA -17101295 03 EA -15631493 02 MA -39133739 00 C3J -46745610 00 TFI -11641667 01

X	-23684213	05	Y	-17660536	04	Z	-12746631	05	DX	-46121747	01	DY	-23402070	01	DZ	-18898875	01
INC	-29531056	02	LAN	-24707253	03	APF	-16657743	03	MX	-14781158	00	MY	-97920243	00	MZ	-13897610	00
WX	-45395599	00	WY	-19201492	00	WZ	-87008865	00	PX	-56494251	00	PY	-81715902	00	PZ	-11441628	00
QX	-64803115	00	QY	-54349002	00	QZ	-47943161	00	RX	-12734522	00	RY	-13817092	00	RZ	-98218734	00
BX	-59232204	00	BY	-66444735	00	BZ	-45567285	00	TX	-73532620	00	TY	-67771334	00	TZ	-00000000	00
SKI	-45037272	00	SYI	-89202654	00	SZI	-38119092-01	00	DAI	-21845907	01	RAI	-63211376	02			
SKD	-66564147	00	SYD	-72222809	00	SDZ	-18790426	00	DAO	-10830505	02	RAO	-22733478	03			

BTQ -73732591 05 BRQ -41643574 05 B -84679881 05 THA -33054259 03 T VECTOR IN EARTH EQUATOR PLANE

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-87622809	08	Y	-10865729	09	Z	-47101508	08	DX	-29050913	02	DY	-18680300	02	DZ	-83758489	01
R	-14731841	09	LAT	-18646347	02	LDN	-12888321	03	V	-35685782	02	PTH	-10135753	01	AZ	-10575175	03
XE	-87599125	08	YE	-10865552	09	ZE	-47114256	08	DXE	-24438738	02	DYE	-16340093	02	DZE	-70859614	01
XT	-87989734	08	YT	-10855772	09	ZT	-47105229	08	DXT	-24180911	02	DYT	-17217665	02	DZT	-74135963	01
LTE	-18653064	02	LOE	-12887609	03	LTT	-18628676	02	LDT	-12902595	03	LST	-14746483	09	VST	-30596174	02
EPS	-45180999	02	ESP	-98911702-02	02	SEP	-11480748	03	EPH	-14573903	03	EMP	-21607772	01	MEP	-32130172	02
MPS	-11258049	03	MSP	-13634040	00	SMP	-67289106	02	SEM	-11298209	03	EMS	-66873837	02	ESM	-14418738	00
RPM	-38021238	06	SPN	-51493734	02												
GCE	-11502547	03	GCT	-25754035	03	SIP	-11231857	03	CPT	-96134374	02	SIN	-95872403	02			
REP	-26954359	05	VEP	-55063961	01	CPE	-11798253	03	CP5	-10311897	03						

0 DAYS 2 HRS. 9 MIN. 51.000 SEC. 23555322734202000000000 J.D.= 2437691.45833333 JAN. 26, 1962 23 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-38027104	05	Y	-66240290	04	Z	-18378078	05	DX	-35206375	01	DY	-22850053	01	DZ	-13324931	01
R	-42751516	05	DEC	-25460028	02	RA	-18988134	03	V	-44035979	01	PTH	-67163771	02	AZ	-74508165	02
R	-42751515	05	LAT	-25460028	02	LDN	-79130403	02	VE	-42477081	01	PTE	-72831559	02	AZE	-29135015	03
XS	-87687083	08	YS	-10859667	09	ZS	-47088734	08	DXS	-24425744	02	DYS	-16356356	02	DZS	-70930043	01
XN	-38966571	06	YN	-10095534	05	ZN	-10205717	05	DXN	-26652051	00	DYN	-87529530	00	DZN	-32739725	00
XT	-38966571	06	YT	-10095534	05	ZT	-10205717	05	DXT	-26652051	00	DYT	-87529530	00	DZT	-32739725	00
RS	-14730787	09	VS	-30240007	02	RM	-40266053	06	VM	-97178392	00	RT	-40266053	06	VT	-97178392	00
GEO	-25611387	02	ALT	-36377300	05	LOS	-19816843	03	RAS	-30891936	03	RAM	-19452493	03	LOM	-83773995	02
DUT	-34000000	02	DT	-24000000	03	DR	-40584350	01	SHA	-41068270	05	DES	-18642485	02	DEM	-14523560	01
CCL	-25516259	03	MCL	-33200949	03	TCL	-33200949	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202272020000 J.D.= 2437691.36760960 JAN. 26, 1962 20 49 21.453
 SMA -53549115 06 ECC -10124277 01 B -84685293 05 SLR -13392580 05 APD -00000000 00 RGA -66549374 04
 VH -86276539 00 C3 -74436413 00 C1 -73063590 05 TFP -78385466 04 TF -13207376-01 LTF -21426335 01
 TA -18271129 03 MTA -17101337 03 EA -20793697 02 MA -72360005 00 C3J -46633267 00 TFI -21641666 01

X	-38027104	05	Y	-66240290	04	Z	-18378078	05	DX	-35206375	01	DY	-22850053	01	DZ	-13324931	01
INC	-29531806	02	LAN	-24706895	03	APF	-16658094	03	MX	-52255020-01	01	MY	-96907705	00	MZ	-24116164	00
WX	-45395432	00	WY	-19204774	00	WZ	-87038219	00	PX	-55495009	00	PY	-81715750	00	PZ	-11438992	00
QX	-68926500	00	QY	-54348060	00	QZ	-47944953	00	RX	-12732668	00	RY	-13815127	00	RZ	-98219249	00
BX	-59232077	00	BY	-66444746	00	BZ	-45539522	00	TX	-73532736	00	TY	-67771110	00	TZ	-00000000	00
SKI	-45038673	00	SYI	-89202051	00	SZI	-38093510-01	00	DAI	-21831248	01	RAI	-63210504	02			
SKD	-66564374	00	SYD	-72223300	00	SDZ	-18787724	00	DAO	-13828928	02	RAO	-22733488	03			

BTQ -73736689 05 BRQ -41647321 05 B -84685293 05 THA -33054174 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1

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BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -8772510 08 Y 10859004 09 Z 47070355 08 DX -27364381 32 DY -18641361 02 DZ -84254973 31
R 14731976 09 LAT 18633383 02 LON 12893322 03 V 34633648 02 PTH 34522252 00 AZ 10499700 03
XE -87687083 08 YE -10859667 09 ZE 47088734 08 DXE -24425744 02 DYE -16356356 02 DZE -73930043 01
XT -88076748 08 YT 10849571 09 ZT 47078528 08 DXT -24159223 02 DYT -17231651 02 DZT -74204015 31
LTE 18642485 02 LOE 12891936 03 LTT 18618323 02 LTT 18618323 02 LOT 12900367 03 RST 14746261 09 VST 30588563 02
EPS 73852666 02 ESP 15637313 -01 SEP 10613136 03 EPM 15274639 03 EMP 27820583 01 MEP 24421539 02
MPS 11303093 03 MSP 12990992 00 SMP 66838855 02 SEM 11252594 03 EMS 67328533 02 ESM 14452625 00
RPM 36416327 06 SP4 65272610 02
GCE 10483740 03 GCT 25684869 03 STP 11275746 03 CPT 76614110 02 STN 96340644 02
REP -42751516 05 VEP 44035979 01 CPE 10761764 03 CPS 10311503 03

D DAYS 3 HRS. 9 MIN. 51.000 SEC. 2355322454020200000000 J.D. = 2437691.40000000 JAN. 27, 1962 00 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -49671294 05 Y -14627748 05 Z -22686606 05 DX -29779684 01 DY -21627117 01 DZ -10867528 01
R 56532208 05 DEC -23659729 02 RA 19564922 03 V 38530725 01 PTH 70401414 32 AZ 71790846 02
R 56532206 05 LAT -23659729 02 LON 70617180 02 VE 44533259 01 PTF 54595951 02 AZE 27900604 03
XS 87774934 08 YS -10853775 09 ZS -47063186 08 DXS 24412736 02 DYS 16372611 02 DZS 71000435 01
XM -38869060 06 YM -10410220 06 ZM -11383882 05 DMX 27520349 00 DMY -89294731 00 DMZ -32713345 00
XT -38869060 06 YT -10410220 06 ZT -11383882 05 DXT 27520349 00 DYT -89294731 00 DZT -32713345 00
RS 14730864 09 VS 30239952 02 RM 40255092 06 VM 97200264 00 RT 40255092 06 VT 97200264 00
GED -23803093 02 ALT 50154748 05 L05 18317359 03 RAS 30876263 03 RAM 19499351 03 L3M 69201667 02
DJT 34000000 02 DT 24000000 03 DR 35298477 01 SHA 57335332 05 DES -18631898 02 DEM -15205033 01
CCL 25971827 03 MCL 33606142 03 TCL 33606142 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 23553217064202273570000 J.D. = 2437691.36760955 JAN. 26, 1962 20 49 21.467
SMA -53542386 06 ECC 10124294 01 B 84680329 05 SLR 13392591 05 APD 00000000 00 RCA 66549868 04
VM 86281961 00 C3 74445768 00 C1 73063890 05 TFP 11438534 05 TF -13203680 -01 LTF -14225097 01
TA 13891433 03 MTA 17101778 03 EA 24339367 02 MA 10561248 01 C3J 46571970 00 TFI 31661667 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -49671294 05 Y -14627748 05 Z -22686606 05 DX -29779684 01 DY -21627117 01 DZ -10867528 01
INC 29532488 02 LAN 24706677 03 APF 16658311 03 MX 14805477 00 MY -74665597 00 MZ 28622055 00
WX -45395667 00 WY 19206901 00 WZ 87007633 00 PX 55495365 00 PY 81715725 00 PZ 11437376 00
QX -68902154 00 QY 54347351 00 QZ -47946408 00 RX 12732335 00 RY 13814357 00 RZ -98219411 00
BX -59230889 00 BY 66445290 00 BZ -45571103 00 TX -73531999 00 TY 67772007 00 TZ 00000000 00
SX1 45038299 00 SY1 89202338 00 SZ1 38070595 -01 DAX 21818100 01 RAX 63210769 02
SX0 -66565268 00 SY0 -72222698 00 SZ0 -18786864 00 DAX -10828428 02 RAX 22733426 03

BTQ 73731802 05 BRQ -41645880 05 B 84680329 05 THA 33054097 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -87824665 08 Y 10852313 09 Z 47040499 08 DX -27410705 02 DY -18535323 02 DZ -81867963 01
R 14732023 09 LAT 18621068 02 LON 12898225 03 V 34087373 02 PTH 12224075 00 AZ 13472380 03
XE -87774994 08 YE 10853775 09 ZE 47063186 08 DXE -24412736 02 DYE -16372611 02 DZE -71000435 01
XT -88163684 08 YT 10843365 09 ZT 47051802 08 DXT -24137536 02 DYT -17245558 02 DZT -74271769 01
LTF 18631898 02 LOE 12896263 03 LTT 18607353 02 LTT 18607353 02 LOT 12911338 03 RST 14746038 09 VST 30580923 02
EPS 78167566 02 ESP 20987361 -01 SEP 10181091 03 EPM 15444501 03 EMP 34731285 01 MEP 22081858 02
MPS 11348548 03 MSP 12933787 00 SMP 66838855 02 SEM 11207156 03 EMS 67783490 02 ESM 14503307 00
RPM 35080980 06 SP4 71489625 02
GCE 10028173 03 GCT 25634314 03 STP 11320161 03 CPT 96921279 02 STN 96637404 02
REP 56532208 05 VEP 38530725 01 CPE 10251261 03 CPS 10311078 03

D DAYS 4 HRS. 9 MIN. 51.000 SEC. 2355322634420200000000 J.D. = 2437691.54166666 JAN. 27, 1962 01 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -59848318 05 Y -22216072 05 Z -26321220 05 DX -26779718 01 DY -20562765 01 DZ -94325662 00
R 69052021 05 DEC -22406767 02 RA 70036524 03 V 35056638 01 PTH 72432574 02 AZ 70240846 02
R 69052019 05 LAT -22406768 02 LON 70953213 02 VE 49688052 01 PTF 42270087 02 AZE 27758298 03
XS 87862857 08 YS -10847878 09 ZS -47037613 08 DXS 24399716 02 DYS 16388858 02 DZS 71070791 01
XM -38768428 06 YM -10724048 06 ZM -12561051 05 DMX 28386616 00 DMY -87052798 00 DMZ -32684349 00
XT -38768428 06 YT -10724048 06 ZT -12561051 05 DXT 28386616 00 DYT -87052798 00 DZT -32684349 00
RS 14730942 09 VS 30239986 02 RM 40241931 06 VM 97222715 00 RT 40243931 06 VT 97222715 00
GED -22544230 02 ALT 62676952 05 L05 16817278 03 RAS 30900589 03 RAM 19546240 03 LDM 54622993 02
DJT 34000000 02 DT 24000000 03 DR 33421491 01 SHA 68181179 05 DES -18621300 02 DEM -17866225 01
CCL 26247503 03 MCL 33839853 03 TCL 33839853 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 23553217064202301310000 J.D. = 2437691.36761007 JAN. 26, 1962 20 49 21.511
SMA -53531593 06 ECC 10124319 01 B 84671936 05 SLR 13392733 05 APD 00000000 00 RCA 66549876 04
VM 86290698 00 C3 74460778 00 C1 73054006 05 TFP 15338849 05 TF -13191461 -01 LTF -21422850 01
TA 14276410 03 MTA 17101187 03 EA 27234426 02 MA 13889302 01 C3J 46526670 00 TFI 16416666 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -59848318 05 Y -22216072 05 Z -26321220 05 DX -26779718 01 DY -20562765 01 DZ -94325662 00
INC 29533419 02 LAN 24706431 03 APF 16658549 03 MX 20670431 00 MY -92714083 00 MZ 31254331 00
WX -45396153 00 WY 19209040 00 WZ 87008931 00 PX 55495842 00 PY 81715631 00 PZ 11435714 00
QX -68901447 00 QY 54346615 00 QZ -47948267 00 RX 12732340 00 RY 13813680 00 RZ -98217536 00
BX -59229062 00 BY 66445684 00 BZ -45572900 00 TX -73530862 00 TY 67773243 00 TZ 00000000 00
SX1 45037665 00 SY1 89202777 00 SZ1 38043510 -01 DAX 21802570 01 RAX 63211208 02
SX0 -66566565 00 SY0 -7221671 00 SZ0 -18784234 00 DAX -10828059 02 RAX 22733329 03

BTQ 73723737 05 BRQ -41643095 05 B 84671936 05 THA 33053992 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1

18SYS-JPTRAJ-SPACE 050865

OK

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-8722705	08	Y	.10845657	09	Z	.47011292	08	DX	-.27077687	02	DY	-.18445134	02	DZ	-.80503357	01
K	.14732036	09	LAT	.18609064	02	LOA	.12903072	03	V	.33737694	02	PTH	.20646808	-01	AZ	.10458999	03
KE	-.87862857	08	YE	.10847878	09	ZE	.47037613	08	DXE	-.24399716	02	DYE	-.16388858	02	DZE	-.71070791	01
XT	-.88250541	08	YT	.10837154	09	ZT	.47025952	08	DXT	-.24115950	02	DYT	-.17259386	02	DZT	-.74339226	01
LTE	.18621300	02	LOE	.12900589	03	LTT	.18596680	02	LOT	.12915707	03	RST	.14745814	09	VST	.30573253	02
EPS	.80864362	02	FSP	.26169577	-01	SEP	.99109118	02	EPM	.15452117	03	EMP	.42173874	01	MEP	.21161428	02
MPS	.11323235	03	MSP	.12033130	00	SMP	.65956352	02	SEM	.11161593	03	EMS	.68238695	02	ESM	.14553811	00
RPM	.33846151	06	SPV	.75564475	02	SIP	.11362944	03	CPT	.47156318	02	SIV	.98862521	02			
GCE	.97524965	02	GCT	.25592350	03	CPE	.99319358	02	CPS	.13310639	03						
REP	.69052221	05	VEP	.45056436	01												

0 DAYS 5 HRS. 9 MIN. 51.000 SEC. 235553230150202000000000 J.D.= 2437691.58333334 JAN. 27,1962 02 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-.69068868	05	Y	-.29454811	05	Z	-.29533837	05	DX	-.24565022	01	DY	-.19679716	01	DZ	-.84716029	03
R	.80686689	05	DEC	-.21471050	02	RA	.20309510	03	V	.32596205	01	PTH	.73870882	02	AZ	.69218308	02
R	.80686689	05	LAT	-.21471052	02	LOA	.47221922	02	VE	.55977108	01	PTF	.34013535	02	AZE	.27397054	03
XS	-.87950675	08	YS	-.10841975	09	ZS	-.47012015	08	DXS	.24386682	02	DYS	.16405096	02	DZS	.71141111	01
XM	-.38664678	06	YM	-.11036992	06	ZM	-.13737128	05	DXM	.29251693	00	DYM	-.86803735	00	DZM	-.32652732	00
XT	-.38664678	06	YT	-.11036992	06	ZT	-.13737128	05	DXT	.29251693	00	DYT	-.86803735	00	DZT	-.32652732	00
RS	-.14731019	09	VS	.30239841	02	RM	.40232568	06	VM	.97245826	02	RT	.40232569	06	VT	.97245826	00
GEO	-.21603932	02	ALT	.74311375	05	LOS	.15317497	03	RAS	.30904915	03	RAM	.19593161	03	LDM	.40057434	02
DUT	.34000000	02	DT	.24000000	03	DR	.31312965	01	SHA	.83047859	05	OES	-.18610693	02	DEM	-.19567340	01
CCL	.26438661	03	MCL	.33993663	03	TCL	.33993663	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202316240000 J.D.= 2437691.36761124 JAN. 26,1962 20 49 21.612
 SMA -.53518230 06 ECC .10124350 01 B .84661266 05 SLR .13326699 05 APO .00000000 00 RCA .66549721 04
 VH .86301431 00 C3 .74479370 00 C1 .73063311 05 TFP .18638388 05 TF .-13163388-01 LTF .-21419795 01
 TA .14546423 03 MTA .17101078 03 EA .29620108 02 MA .17220559 01 C3J .46488476 00 TFI .51641666 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.69068868	05	Y	-.29454811	05	Z	-.29533837	05	DX	-.24565022	01	DY	-.19679716	01	DZ	-.84716029	03
INC	.29534744	02	LAN	.24706118	03	APF	.16658842	03	MX	.24729137	00	MY	-.91094720	00	NZ	.33018546	00
WX	-.45396975	00	WY	.13212677	00	WZ	.87005692	00	PX	.56496543	00	PY	.81715421	00	PZ	.11433736	00
QX	-.68900334	00	QY	.54345784	00	QZ	-.47950825	00	RX	.12731875	00	RY	.13812901	00	RZ	-.98219664	00
BX	-.59226578	00	BY	.68446202	00	BZ	-.45573374	00	TX	-.73529396	00	TY	.67774833	00	TZ	.00000000	00
SKT	-.45037045	00	SVI	.89203220	00	SII	.38010502	-01	DAI	-.21783710	01	RAI	.63211628	02			
SKD	-.66568213	00	SVJ	-.72220325	00	SZJ	-.18785549	00	DAJ	-.13827660	02	RAJ	.22733206	03			
BTQ	.73713381	05	BRQ	-.41639735	05	B	.84661266	05	THA	.33053846	03	T	VECTOR IN EARTH EQUATOR PLANE				

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-.88019743	08	Y	.10839030	09	Z	.46982481	08	DX	-.26843184	02	DY	-.18373068	02	DZ	-.79612714	01
K	.14732035	09	LAT	.18577243	02	LOA	.12907877	03	V	.33488923	02	PTH	-.32198365	-01	AZ	.10451518	03
KE	-.87950675	08	YE	.10841975	09	ZE	.47012015	08	DXE	-.24386682	02	DYE	-.16405096	02	DZE	-.71141111	01
XT	-.88337321	08	YT	.10830938	09	ZT	.46998277	08	DXT	-.24094165	02	DYT	-.17273133	02	DZT	-.74406384	01
LTE	.18610693	02	LOE	.12904915	03	LTT	.18585796	02	LOT	.12920374	03	RST	.14745590	09	VST	.30565552	02
EPS	.82754202	02	FSP	.30486634	-01	SEP	.97214562	02	EPM	.15428376	03	EMP	.49922944	01	MEP	.20723955	02
MPS	.11434388	03	MSP	.11619496	00	SMP	.65539962	02	SEM	.11116005	03	EMS	.68694157	02	ESM	.14553811	00
RPM	.32810444	06	SPV	.78220443	02	SIP	.11404036	03	CPT	.47353324	02	SIV	.97049806	02			
GCE	.95613376	02	GCT	.25595001	03	CPE	.97070988	02	CPS	.10310195	03						
REP	.80686689	05	VEP	.32596005	01												

0 DAYS 6 HRS. 9 MIN. 51.000 SEC. 235553231754202000000000 J.D.= 2437691.62500000 JAN. 27,1962 03 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-.77632166	05	Y	-.36402760	05	Z	-.32451925	05	DX	-.22915280	01	DY	-.18940997	01	DZ	-.77734842	00
R	.91653610	05	DEC	-.20736546	02	RA	.20513102	03	V	.33729439	01	PTH	.74964592	02	AZ	.68482836	02
R	.91653609	05	LAT	-.20736546	02	LOA	.34215780	02	VE	.62642661	01	PTF	.28278489	02	AZE	.27303813	03
XS	-.88038445	08	YS	-.10836066	09	ZS	-.46986391	08	DXS	.24373536	02	DYS	.16421327	02	DZS	.71211395	01
XM	-.38557817	06	YM	-.11349027	06	ZM	-.14912320	05	DXM	.39115220	00	DYM	-.86547546	00	DZM	-.32618495	00
XT	-.38557817	06	YT	-.11349027	06	ZT	-.14912320	05	DXT	.39115220	00	DYT	-.86547546	00	DZT	-.32618495	00
RS	-.14731097	09	VS	.30239787	02	RM	.40221006	06	VM	.97269575	00	RT	.40221006	06	VT	.97269575	00
GEO	-.20865729	02	ALT	.85278110	05	LOS	.13817715	03	RAS	.33909240	03	RAM	.19640115	03	LDM	.25489508	02
DUT	.34000000	02	DT	.48000000	03	DR	.29677437	01	SHA	.91185698	05	OES	-.18600076	02	DEM	-.21247386	01
CCL	.26581973	03	MCL	.34102406	03	TCL	.34102406	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202344560000 J.D.= 2437691.36761326 JAN. 26,1962 20 49 21.787
 SMA -.53502733 06 ECC .10124384 01 B .84648585 05 SLR .13392573 05 APO .00000000 00 RCA .66548982 04
 VH .86313929 00 C3 .74500944 00 C1 .73063368 05 TFP .22238213 05 TF .-13114750-01 LTF .-21415464 01
 TA .14749962 03 MTA .17100954 03 EA .31691365 02 MA .23555471 01 C3J .46453929 00 TFI .61641666 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.77632166	05	Y	-.36402760	05	Z	-.32451925	05	DX	-.22915280	01	DY	-.18940997	01	DZ	-.77734842	00
INC	.29536606	02	LAN	.24705719	03	APF	.16659203	03	MX	.27751907	00	MY	-.84739674	00	NZ	.34301928	00
WX	-.45398211	00	WY	.19216790	00	WZ	.87004389	00	PX	.56497547	00	PY	.81715058	00	PZ	.11431359	00
QX	-.68898692	00	QY	.54344805	00	QZ	-.47954271	00	RX	.12731680	00	RY	.13811958	00	RZ	-.98219823	00
BX	-.59223370	00	BY	.68446747	00	BZ	-.45578749	00	TX	-.73527607	00	TY	.67776774	00	TZ	.00000000	00
SKT	-.45036654	00	SVI	.89203593	00	SII	.37971123	-01	DAI	-.21610668	01	RAI	.63211936	02			
SKD	-.66570228	00	SVJ	-.72218686	00	SZJ	-.18784724	00	DAJ	-.13827179	02	RAJ	.22733054	03			
BTQ	.73700883	05	BRQ	-.41536074	05	B	.84648585	05	THA	.33053645	03	T	VECTOR IN EARTH EQUATOR PLANE				

CASE 1 IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88116547 08 Y .10872426 09 Z .46953939 08 DX -.26665163 02 DY -.18315425 02 DZ -.78984879 01
R .14732025 09 LAT .18585545 02 LON .12912653 03 V .39299728 02 PTH -.61215569 01 AZ .10447071 03
XE -.88038445 08 YE .10836066 09 ZE .46986391 08 DXE -.24373536 02 DYE -.16421327 02 DZE -.71211395 01
XT -.88424023 08 YT .10824717 09 ZT .46971479 08 DXT -.24072483 02 DYT -.17286802 02 DZT -.74473244 01
LTE .18600076 02 LOE .12909240 03 LTT .18575305 02 LTT .18575305 02 LOT .12924440 03 RST .14745365 09 VST .30557824 02
EPS .84172519 02 ESP .34970568 01 SEP .95792016 02 EPM .15374853 03 EMP .57847658 01 MEP .20466704 02
MPS .11474978 03 MSP .11190585 00 SMP .65138020 02 SEM .11070392 03 EMS .69149887 02 ESM .14620880 02
RPM .31796124 06 SPN .80182189 02
GCE .94180266 02 GCT .25520433 03 SIP .11443657 03 CPT .97528044 02 SIN .97214840 02
REP .91653610 05 VEP .30729439 01 CPE .95373040 02 CPS .10309746 02

0 DAYS 7 HRS. 9 MIN. 51.000 SEC. 235553233560202000000000 J.D.= 7437691.66666666 JAN. 27,1962 04 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.85610621 05 Y -.43105605 05 Z -.35150114 05 DX -.21624638 01 DY -.18313203 01 DZ -.72381741 00
R .10209212 06 DEC -.20138948 02 RA .20672560 03 V .29247043 01 PTH .75836267 02 AZ .67922509 02
R .10209212 06 LAT -.20138948 02 LON .20769302 02 VE .69380487 01 PTE .24125135 02 AZE .27243467 03
XS .88126168 08 YS -.10830152 09 ZS -.46950742 08 DXS .24360576 02 DYS .18437549 02 DZS .71781642 01
XM -.38447851 06 YM -.11660127 06 ZM -.15085633 05 DXM .30977137 00 DYM -.86284238 00 DZM -.32581634 00
XT -.38447851 06 YT -.11660127 06 ZT -.16085633 05 DXT .30977137 00 DYT -.86284238 00 DZT -.32581634 00
RS .14731175 09 VS .30239731 02 RM .40209243 06 VM .97293964 00 RT .43209243 06 VT .72793964 00
GED -.20265061 02 ALT .95716478 05 LOS .12317933 03 RAS .30913564 03 RAM .19687103 03 LDM .10914730 02
DUT .34000000 02 DT .48000000 03 DR .28357346 01 SHA .13175264 06 DES -.18589448 02 DEM -.22927178 01
CCL .26694998 03 MCL .34182592 03 TCL .34182592 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202405320000 J.D.= 2437691.36761622 JAN. 26,1962 20 49 22.042
SMA -.53485193 06 ECC .10124422 01 B .84633950 05 SLR .13392326 05 APO .00000000 00 RCA .66547530 04
VH .86328081 00 C3 .74525374 00 C1 .73062896 05 TFP .25837757 05 TF .13043821 01 LTF -.21411303 01
TA .14910881 03 WTA .17100817 03 EA .33536139 02 MA .23894475 01 C3J .46421397 00 TFI .71641666 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.85610621 05 Y -.43105605 05 Z -.35150114 05 DX -.21624638 01 DY -.18313203 01 DZ -.72381741 00
INC .29539069 02 LAV .24705221 03 APF .16659644 03 MX .30115989 00 MY -.88587701 00 MZ .35288018 00
WX -.45399968 00 WY .19222331 00 WZ .87001970 00 PX .56498903 00 PY .81714519 00 PZ .11428531 00
GX -.68896414 00 GY .54343702 00 GZ -.47958773 00 RX .12731436 00 RY .13810823 00 RZ -.98220016 00
HX -.59219321 00 HY .66447308 00 HZ -.45583192 00 IX -.73525477 00 IY .67779084 00 IZ .00000000 00
SXI .45036509 00 SYI .89203867 00 SZI .37924390 01 DAI .21734276 01 RAI .63212080 02 TAI .22732874 03
SKD -.66572627 00 SYD .72216736 00 SZD -.18783725 00 DAD -.10826596 02 RAD .22732874 03

BTQ .73686220 05 BRQ -.41632275 05 B .84633950 05 THA .33053381 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88211778 08 Y .10825841 09 Z .46925592 08 DX -.26523039 02 DY -.18268869 02 DZ -.78519817 01
R .14732010 09 LAT .18573933 02 LON .12917405 03 V .39149311 02 PTH -.77119665 01 AZ .10444382 03
XE -.88126168 08 YE .10830152 09 ZE .46950742 08 DXE -.24360576 02 DYE -.16437549 02 DZE -.71281642 01
XT -.88510646 08 YT .10818491 09 ZT .46944656 08 DXT -.24050804 02 DYT -.17300391 02 DZT -.74539806 01
LTE .18589448 02 LOE .12913564 03 LTT .18564606 02 LTT .18564606 02 LOT .12928805 03 RST .14745138 09 VST .30550666 02
EPS .85286591 02 ESP .39564682 01 SEP .94673833 02 EPM .15313725 02 EPM .15313725 02 EMP .65878759 01 MEP .20274878 02
MPS .11514355 03 MSP .10812639 00 SMP .64747981 02 SEM .11024752 03 EMS .69605887 02 ESM .14670980 00
RPM .30836193 06 SPN .81704821 02
GCE .93050013 02 GCT .25487594 03 SIP .11482060 03 CPT .97689078 02 SIN .97366126 02
REP .10209212 06 VEP .29247043 01 CPE .94029131 02 CPS .10309294 02

0 DAYS 8 HRS. 9 MIN. 51.000 SEC. 235553235364202000000000 J.D.= 2437691.70833333 JAN. 27,1962 05 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.93201129 05 Y -.49598566 05 Z -.37676378 05 DX -.20578964 01 DY -.17771452 01 DZ -.68116119 00
R .11209807 06 DEC -.19639558 02 RA .20802043 03 V .28030632 01 PTH .76554541 02 AZ .67477614 02
R .11209807 06 LAT -.19639558 02 LON .70230638 01 VE .76064598 01 PTE .21002618 02 AZE .27201478 03
XS .88213845 08 YS -.10824231 09 ZS -.46939068 08 DXS .24347503 02 DYS .16453762 02 DZS .71351853 01
XM -.38334784 06 YM -.11970266 06 ZM -.17257871 05 DXM .31837384 00 DYM -.86013814 00 DZM -.32542149 00
XT -.38334784 06 YT -.11970266 06 ZT -.17257871 05 DXT .31837384 00 DYT -.86013814 00 DZT -.32542149 00
RS .14731253 09 VS .30239677 02 RM .40197279 06 VM .97318994 00 RT .40197279 06 VT .97318994 00
GED -.19763062 02 ALT .10572230 06 LOS .10818150 03 RAS .30917888 03 RAM .19734129 03 LDM .35634391 03
DUT .34000000 02 DT .48000000 03 DR .27262361 01 SHA .11185601 06 DES -.18578810 02 DEM -.24606311 01
CCL .26787368 03 MCL .34243179 03 TCL .34243179 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217064202464600000 J.D.= 2437691.36762048 JAN. 26,1962 20 49 22.411
SMA -.53465648 06 ECC .10124464 01 B .84617247 05 SLR .13391928 05 APO .00000000 00 RCA .66545513 04
VH .86343858 00 C3 .74552618 00 C1 .73061809 05 TFP .29437589 05 TF .12941479 01 LTF -.21405691 01
TA .15042484 03 WTA .17100669 03 EA .35205732 02 MA .27238393 01 C3J .46389997 00 TFI .81641665 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.93201129 05 Y -.49598566 05 Z -.37676378 05 DX -.20578964 01 DY -.17771452 01 DZ -.68116119 00
INC .29542229 02 LAV .24704609 03 APF .16660175 03 MX .32030499 00 MY -.87593161 00 MZ .36076093 00
WX -.45402348 00 WY .19229050 00 WZ .86999252 00 PX .56500657 00 PY .81713773 00 PZ .11425204 00
GX -.68893409 00 GY .54342459 00 GZ -.47964508 00 RX .12731124 00 RY .13809470 00 RZ -.98220246 00
HX -.59214347 00 HY .66447834 00 HZ -.45588887 00 IX -.73522996 00 IY .67781775 00 IZ .00000000 00
SXI .45036716 00 SYI .89203997 00 SZI .37869805 01 DAI .21702985 01 RAI .63210008 02 TAI .22732665 03
SKD -.66575427 00 SYD .72214469 00 SZD -.18782518 00 DAD -.10825891 02 RAD .22732665 03

BTQ .73669218 05 BRQ -.41628413 05 B .84617247 05 THA .33053042 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC EQUATORIAL COORDINATES

X	-88307046	08	Y	-10819271	09	Z	-46897391	08	DX	-26435399	02	DY	-18230908	02	DZ	-78163465	01
R	-14731993	09	LAT	-18562385	02	LOX	-12922137	03	V	-33025863	02	PTH	-85199779	-01	AZ	-10442796	03
XE	-88213845	08	YE	-10824231	09	ZE	-46935068	08	DXE	-24347503	02	DYE	-16653762	02	DZE	-71351853	01
XT	-88597192	08	YT	-10812261	09	ZT	-46917810	08	DXT	-24029129	02	DYT	-17313900	02	DZT	-74600368	01
LTE	-18578810	02	LOE	-12917888	03	LTT	-18553998	02	LOT	-12933168	03	RST	-14744911	09	VST	-30542279	02
EPS	-86190529	02	ESP	-41377734	-01	SEP	-93765965	02	FPM	-15250119	03	EMP	-73980850	01	MEP	-20105713	02
MPS	-11552755	03	MSP	-10444440	00	SMP	-64367537	02	SEM	-10979086	03	EMS	-70062163	02	ESM	-14704286	00
RPM	-29919326	06	SPN	-82928833	02												
GCE	-92126314	02	GCT	-25495811	03	SIP	-11519470	03	CPT	-97841717	02	SIN	-97508867	02			
REP	-11209807	06	VEP	-28030632	01	CPE	-92929333	02	CPS	-10338841	03						

0 DAYS 9 HRS. 9 MIN. 51.000 SEC. 23555323717020200000000 J.D.= 2437691.75000000 JAN. 27, 1962 06 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-10044849	06	Y	-55909186	05	Z	-40063639	05	DX	-19739244	01	DY	-17297636	01	DZ	-64617807	00
SMA	-53444031	06	ECC	-19213523	02	RA	-20919011	03	SLR	-13391368	05	APD	-00000000	00	REA	-66542583	04
R	-12174084	06	LAT	-19213524	02	LOX	-35906168	03	VE	-82643283	01	PTH	-18580011	02	AZE	-27170735	03
XS	-88301472	08	YS	-10818305	09	ZS	-46909368	08	DXS	-24334416	02	DYS	-16469968	02	DZS	-71422029	01
XM	-38218623	06	YM	-12279419	06	ZM	-18428641	05	DXM	-12695902	00	DYM	-85736281	00	DZM	-32500034	00
XT	-38218623	06	YT	-12279419	06	ZT	-18428641	05	DXT	-12695902	00	DYT	-85736281	00	DZT	-32500034	00
RS	-14731330	09	VS	-30239621	02	RM	-40185114	06	VM	-97344666	00	RT	-40185114	06	VT	-97344666	00
GED	-19334773	02	ALT	-11536497	06	LOS	-93183672	02	RAS	-30922211	03	RAM	-19781190	03	LDM	-34177366	03
DUT	-34000000	02	DT	-48000000	03	DN	-26332519	01	SHA	-12157280	06	DES	-18568164	02	DEM	-26294693	01
CCL	-26864875	03	MCL	-34289489	03	TCL	-34289489	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER	PASSAGE	235553217064202566300000 J.D.= 2437691.36762644 JAN. 26, 1962 20 49 22.925
SMA	-53444031	06 ECC -10124509 01 B -84598289 05 SLR -13391368 05 APD -00000000 00 REA -66542583 04
VH	-86361319	00 C3 -74582773 00 C1 -73060282 05 TFP -33037075 05 TF -12798667 -01 LTF -21398916 01
TA	-15152869	03 MTA -17100905 00 MA -36736645 02 MA -30587520 01 C3J -46359199 00 TFI -91641665 01

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-10044849	06	Y	-55909186	05	Z	-40063639	05	DX	-19709244	01	DY	-17297636	01	DZ	-64617807	00
INC	-29546242	02	LAM	-24703872	03	APF	-16660805	03	MX	-33621831	00	MY	-86722775	00	MZ	-36725007	00
WX	-45405630	00	WY	-19237248	00	WZ	-86995798	00	PX	-56502857	00	PY	-81712791	00	PZ	-11421325	00
QX	-68889559	00	QY	-54340999	00	QZ	-47971643	00	RX	-12730725	00	RY	-13807873	00	RZ	-98220524	00
BX	-59208360	00	BY	-66448268	00	BZ	-45596328	00	TX	-73520149	00	TY	-67784864	00	TZ	-00000000	00
SXI	-45037348	00	SVI	-89203940	00	SZI	-37806637 -01	DAT	-21666760	01	RAT	-63211673	02				
SXO	-66578649	00	SVO	-72211875	00	SZO	-18781073	00	DAO	-10825049	02	RAO	-22732424	03			
BTQ	-73649634	05	BRQ	-41624532	05	B	-84598289	05	THA	-33052618	03	T	VECTOR IN EARTH EQUATOR PLANE				

HELIOCENTRIC EQUATORIAL COORDINATES

X	-88401920	08	Y	-10812714	09	Z	-46869304	08	DX	-26305340	02	DY	-18199731	02	DZ	-77883809	01
R	-14731975	09	LAT	-18550886	02	LOX	-12926853	03	V	-32922029	02	PTH	-88345080	-01	AZ	-10441946	03
XE	-88301472	08	YE	-10818305	09	ZE	-46909368	08	DXE	-24334416	02	DYE	-16469968	02	DZE	-71422029	01
XT	-88683658	08	YT	-10806025	09	ZT	-46890939	08	DXT	-24007457	02	DYT	-17327330	02	DZT	-74672331	01
LTE	-18568164	02	LOE	-12922211	03	LTT	-18543181	02	LOT	-12937528	03	RST	-14744684	09	VST	-30534464	02
EPS	-86941941	02	ESP	-47949227 -01	SEP	-93010774	02	EMP	-15186280	03	EMD	-82137531	01	MEP	-19923462	02	
MPS	-11590383	03	MSP	-10111274	00	SMP	-63994665	02	SEM	-10933393	03	EMS	-70518721	02	ESM	-14704286	00
RPM	-29037531	06	SPN	-83938842	02												
GCE	-91351236	02	GCT	-25424612	03	SIP	-11556087	03	CPT	-97989481	02	SIN	-97646523	02			
REP	-12174084	06	VEP	-27007723	01	CPE	-92006514	02	CPS	-10308386	03						

0 DAYS 10 HRS. 9 MIN. 51.000 SEC. 235553240774202000000000 J.D.= 2437691.79166666 JAN. 27, 1962 07 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-10740750	06	Y	-62059408	05	Z	-42335609	05	DX	-18970972	01	DY	-16878447	01	DZ	-61683933	00
R	-13107267	06	DEC	-18844049	02	RA	-21001906	03	V	-26130993	01	PTH	-77603899	02	AZ	-66806935	02
R	-13107267	06	LAT	-18844050	02	LOX	-33893955	03	VE	-89037464	01	PTH	-16650666	02	AZE	-27147358	03
XS	-88389058	08	YS	-10812373	09	ZS	-46883643	08	DXS	-24321317	02	DYS	-16486165	02	DZS	-71492167	01
XM	-38099375	06	YM	-12587560	06	ZM	-19597846	05	DXM	-33552630	00	DYM	-85451645	00	DZM	-32455291	00
XT	-38099375	06	YT	-12587560	06	ZT	-19597846	05	DXT	-33552630	00	DYT	-85451645	00	DZT	-32455291	00
RS	-14731409	09	VS	-30239566	02	RM	-40172749	06	VM	-97370984	00	RT	-40172749	06	VT	-97370984	00
GED	-18963321	02	ALT	-12469672	06	LOS	-78185829	02	RAS	-30926533	03	RAM	-19828291	03	LDM	-32720340	03
DUT	-34000000	02	DT	-95999999	03	DN	-25529606	01	SHA	-13096049	06	DES	-18557508	02	DEM	-27962222	01
CCL	-26931249	03	MCL	-34324893	03	TCL	-34324893	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER	PASSAGE	235553217064202713200000 J.D.= 2437691.36763412 JAN. 26, 1962 20 49 23.589
SMA	-53420261	06 ECC -10124557 01 B -84577056 05 SLR -13305977 05 APD -00000000 00 REA -66538955 04
VH	-83380531	06 C3 -74615859 00 C1 -73058179 05 TFP -36636412 05 TF -12614488 -01 LTF -21391051 01
TA	-15267295	03 MTA -17100337 03 MA -38154396 02 MA -33942625 01 C3J -46328658 00 TFI -10164167 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-10740750	06	Y	-62059408	05	Z	-42335609	05	DX	-18970972	01	DY	-16878447	01	DZ	-61683933	00
INC	-29551159	02	LAM	-24702994	03	APF	-16661547	03	MX	-34971491	00	MY	-85952161	00	MZ	-37272165	00
WX	-45409356	00	WY	-19267115	00	WZ	-86991566	00	PX	-56505559	00	PY	-81711548	00	PZ	-11416848	00
QX	-68884755	00	QY	-54339176	00	QZ	-47980381	00	RX	-12730243	00	RY	-13806018	00	RZ	-98220524	00
BX	-59201199	00	BY	-66448632	00	BZ	-45604797	00	TX	-73516890	00	TY	-67788398	00	TZ	-00000000	00
SXI	-45038467	00	SVI	-89203683	00	SZI	-37736037 -01	DAT	-21625130	01	RAT	-63211031	02				
SXO	-66582339	00	SVO	-72208912	00	SZO	-18779383	00	DAO	-10824064	02	RAO	-22732149	03			
BTQ	-73627366	05	BRQ	-41620780	05	B	-84577056	05	THA	-33052098	03	T	VECTOR IN EARTH EQUATOR PLANE				

CASE 1

18SYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88496642 08 Y .10806167 09 Z .46841307 08 DX -.26218814 02 DY -.18174009 02 DZ -.77660560 01
R .14731957 09 LAT .18539425 02 LON .12931556 03 V -.32833085 02 PTH -.88238358-01 AZ .10441609 03
XE -.88380955 08 YE .10812373 09 ZE .46883643 08 DXE -.24321317 02 DYE -.16486165 02 DZE -.71492167 01
XT -.88770048 08 YT .10799785 09 ZT .46884045 08 DXT -.23985791 02 DYT -.17340681 02 DZT -.74737696 01
LTE .18557508 02 LDE .12926533 03 LTT .18532457 02 LOT .12941888 03 RST .14744455 09 VST .30526261 02
EPS .87578365 02 ESP .50435271-01 SEP .92370699 02 EPM .15123169 03 EMP .90342534 01 MEP .19734059 02
MPS .11627421 03 MSP .98415912-01 SMP .63627582 02 SEM .10887672 03 EMS .70975568 02 ESM .14754103 00
RPM .28184915 06 SPN .84789250 02 SPP .11592088 03 CPT .98134868 02 SIN .97781555 02
GCE .90687502 02 GCT .25393643 03 CPE .91216996 02 CPS .10307930 03
REP .13107267 06 VEP .26130993 01

0 DAYS 11 HRS. 9 MIN. 51.000 SEC. 235553242600202000000000 J.D.= 2437691.83333333 JAN. 27,1962 08 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.11411971 06 Y -.68067019 05 Z -.44510015 05 DX -.18333993 01 DY -.16503927 01 DZ -.59179080 00
R .14013411 06 DEC -.18519319 02 RA .21081407 03 V .25368022 01 PTH .78140941 02 AZ .66544422 02
R .14013411 06 LAT -.18519319 02 LON .32469351 03 VE .95422890 01 PTE .15080395 02 AZE .27129050 03
XS .88476590 08 YS -.10806434 09 ZS -.46857893 08 DXS .24308209 02 DYS .16502354 02 DZS .71562269 01
XM .37977046 06 YM .12894663 06 ZM .20765395 05 DXM .34407508 00 DYM -.85159910 00 DZM -.37407916 00
XT .37977046 06 YT .12894663 06 ZT .20765395 05 DXT .34407508 00 DYT -.85159910 00 DZT -.37407916 00
RS .14731487 09 VS .30239512 02 RM .40160183 06 VM .97379945 00 RT .40160183 06 VT .97379945 00
GED -.18638835 02 ALT .13375808 06 LOS .63187984 02 RAS .30930855 03 RAM .19875432 03 LOM .31263375 03
OUT .34000000 02 OT .95999999 03 DR .24826569 01 SHA .14006341 06 DES .-18566841 02 DEM .-29638803 01
CCL .26989013 03 MCL .34351637 03 TCL .34351637 03

GEOCENTRIC CNIC

EPOCH OF PERICENTER PASSAGE 235553217065202073540000 J.D.= 2437691.36764428 JAN. 26,1962 20 49 24.466
SMA -.53394229 06 ECC .10124608 01 B .84553277 05 SLR .13389582 05 APO .00000000 00 RCA .66533384 34
VM .86401585 00 C3 .74652338 00 CI .73055411 05 TFP .40235534 05 TF .-12370467-01 LTF .-21381702 01
TA .15329347 03 MTA .17100155 03 EA .39477861 02 MA .37304375 01 CSJ .46298146 00 TFI .11164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.11411971 06 Y -.68067019 05 Z -.44510015 05 DX -.18333993 01 DY -.16503927 01 DZ -.59179080 00
INC .29557096 02 LAN .24701961 03 APF .16662411 03 MX .36134647 00 MY .-85263024 00 MZ .37742614 00
WX .-45414251 00 WY .19258085 00 WZ .86986455 00 PX .56508824 00 PY .81710012 00 PZ .11411715 00
QX .-68878870 00 QY .54337570 00 QZ .-47990941 00 RX .12729641 00 RY .13803879 00 RZ .-98221224 00
BX .-59192737 00 BY .64448882 00 BZ .-45613416 00 TX .-73513198 00 TY .67792401 00 TZ .00000000 00
SX1 .45040167 00 SW1 .89203184 00 SZ1 .37651176-01 DA1 .-21577626 01 RA1 .63210031 02
SK0 .-66586527 00 SK0 .-72205564 00 SZ0 .-18777416 00 DA0 .-10822915 02 RA0 .22731836 03

BTQ .73602083 05 BRQ -.41617188 05 B .84553277 05 THA .33051467 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88590709 08 Y .10799628 09 Z .46801383 08 DX -.26141504 02 DY -.18152747 02 DZ -.77480177 01
R .14731939 09 LAT .18527993 02 LON .12936246 03 V -.32755724 02 PTH -.85025486-01 AZ .10441642 03
XE -.88476590 08 YE .10806434 09 ZE .46883789 08 DXE -.24308209 02 DYE -.16502354 02 DZE -.71562269 01
XT -.88584360 08 YT .10799540 09 ZT .46883712 08 DXT -.23964130 02 DYT -.17353953 02 DZT -.74803060 01
LTE .18546841 02 LDE .12930856 03 LTT .18521723 02 LOT .12946246 03 RST .14744226 09 VST .30518751 02
EPS .88125475 02 ESP .53722807-01 SEP .91820050 02 EPM .15061141 03 EMP .98595946 01 MEP .19528989 02
MPS .11664028 03 MSP .94096185-01 SMP .63264690 02 SEM .10841922 03 EMS .71432707 02 ESM .14787221 00
RPM .27356983 06 SPN .85516840 02 SPP .11627626 03 CPT .98279841 02 SIN .97915817 02
GCE .90109857 02 GCT .25362622 03 CPE .90530941 02 CPS .10307473 03
REP .14013411 06 VEP .25368022 01

0 DAYS 12 HRS. 9 MIN. 51.000 SEC. 235553244404202000000000 J.D.= 2437691.87500000 JAN. 27,1962 09 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.12061756 06 Y -.73946679 05 Z -.46600512 05 DX -.17777054 01 DY -.16166484 01 DZ -.57009047 00
R .14895742 06 DEC -.18230737 02 RA .21151109 03 V .24695731 01 PTH .78545731 02 AZ .66315370 02
R .14895742 06 LAT -.18230737 02 LON .31034947 03 VE .10162213 02 PTE .13778869 02 AZE .27114371 03
XS .88564077 08 YS -.10800491 09 ZS -.46832118 08 DXS .24295079 02 DYS .16518535 02 DZS .71632335 01
XM .-37851642 06 YM .13200703 06 ZM .-21931189 05 DXM .35260475 00 DYM .-84861086 00 DZM .-32357908 00
XT .-37851642 06 YT .13200703 06 ZT .-21931189 05 DXT .35260475 00 DYT .-84861086 00 DZT .-32357908 00
RS .14731565 09 VS .30239457 02 RM .40147418 06 VM .37425557 00 RT .40147418 06 VT .97425557 00
GED .-18346681 02 ALT .14258133 06 LOS .48190136 02 RAS .30935177 03 RAM .19922614 03 LOM .29806450 03
OUT .34000000 02 OT .95999999 03 DR .24203880 01 SHA .14891665 06 DES .-18536165 02 DEM .-31314334 01
CCL .27039953 03 MCL .34371262 03 TCL .34371262 03

GEOCENTRIC CNIC

EPOCH OF PERICENTER PASSAGE 23555321706520207700000 J.D.= 2437691.36765696 JAN. 26,1962 20 49 25.562
SMA -.53365801 06 ECC .10124662 01 B .84526753 05 SLR .13388306 05 APO .00000000 00 RCA .66526860 04
VM .86424595 00 C3 .74692106 00 CI .73051928 05 TFP .43834438 05 TF .-12066245-01 LTF .-21370872 01
TA .15401566 03 MTA .17099961 03 EA .406721437 02 MA .40673579 01 CSJ .46267521 00 TFI .12164167 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.12061756 06 Y -.73946679 05 Z -.46600512 05 DX -.17777054 01 DY -.16166484 01 DZ -.57009047 00
INC .29564278 02 LAN .24700754 03 APF .16663410 03 MX .37150116 00 MY .-84641318 00 MZ .38153836 00
WX .-45420215 00 WY .19272676 00 WZ .86980270 00 PX .56512710 00 PY .81708138 00 PZ .11405864 00
QX .-68871740 00 QY .54335476 00 QZ .-48003522 00 RX .12728970 00 RY .13801430 00 RZ .-98221655 00
BX .-59182841 00 BY .64448969 00 BZ .-45628126 00 TX .-73509037 00 TY .67794915 00 TZ .00000000 00
SX1 .45042521 00 SW1 .89202388 00 SZ1 .37557067-01 DA1 .21523667 01 RA1 .63208621 02
SK0 .-66591252 00 SK0 .-72201792 00 SZ0 .-18775147 00 DA0 .-10821592 02 RA0 .22731485 03

BTQ .73573507 05 BRQ -.41613830 05 B .84526753 05 THA .33050711 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-08684694	08	Y	.10793096	09	Z	.46785517	08	DX	-.26072785	02	DY	-.18135183	02	DZ	-.77333239	01
R	.14731921	09	LAT	.18516586	02	LOM	.12940926	03	V	.32687601	02	PTH	-.82079236	-01	AZ	.10441949	03
KE	-.88564077	08	YE	.10800491	09	ZE	.46832118	08	DXE	-.24295079	02	DYE	-.16518535	02	DZE	-.71632335	01
XT	-.88942593	08	YT	.10787290	09	ZT	.46810187	08	DXT	-.23942474	02	DYT	-.17367146	02	DZT	-.74868126	01
LTE	.18536165	02	LOE	.12935177	03	LTT	.18510982	02	LOT	.12950502	03	RST	.14743996	09	VST	.30510854	02
EPS	.88601518	02	ESP	.57249289	-01	SEP	.91340564	02	EPM	.15300253	03	EMP	.16900215	02	MEP	.19307246	02
MPS	.11700353	03	MSP	.91459911	-01	SMP	.62904537	02	SEM	.10796144	03	EMS	.71890149	02	ESM	.14803752	00
RPM	.26550217	06	SPN	.86147499	02												
GCE	.89600468	02	GCT	.25331309	03	SIP	.11662845	03	CPT	.98425870	02	SIN	.98050785	02			
REP	.14895742	06	VEP	.24695731	01	CPE	.89927163	02	CPS	.10307315	03						

0 DAYS 13 HRS. 9 MIN. 51.000 SEC. 23555324621020200000000 J.D.= 2437691.9166666 JAN. 27,1962 10 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-.12692692	06	Y	-.79710627	05	Z	-.48617866	05	DX	-.17284683	01	DY	-.15860225	01	DZ	-.55106054	00
R	.15756879	06	DEC	-.17971873	02	RA	.21212898	03	V	.24097173	01	PTH	.78908028	02	AZ	.66112424	02
R	.15756879	06	LAT	-.17971873	02	LOM	.29592629	03	VE	.10770075	02	PTE	.12683327	02	AZE	.27102373	03
XS	.88651517	08	YS	-.10794541	09	ZS	-.46806317	08	DXS	-.24281941	02	DYS	-.16534708	02	DZS	-.71702366	01
XM	-.37723172	06	YM	-.13505655	06	ZM	-.23095137	05	DXM	.36111472	00	DYM	-.84555175	00	DZM	-.32305265	00
XT	-.37723172	06	YT	-.13505655	06	ZT	-.23095137	05	DXT	.36111472	00	DYT	-.84555175	00	DZT	-.32305265	00
RS	.14731644	09	VS	.30239403	02	RM	.40134453	06	VM	.97453815	00	RT	.40134453	06	VT	.97453815	00
GED	-.18086396	02	ALT	.15119264	06	LOS	.33192280	02	RAS	.30939498	03	RAM	.19967839	03	L3M	.28349568	03
DUT	.34000000	02	DT	.95999999	03	DR	.23647330	01	SHA	.15754853	06	DES	-.18525479	02	DEM	-.32988738	01
CCL	.27085366	03	MCL	.34384857	03	TCL	.34384857	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217065202570340000 J.D.= 2437691.36767292 JAN. 26,1962 20 49 26.941
 SMA -.53334817 06 ECC .10124719 01 B .84497228 05 SLR .13386723 05 APD .00000000 00 ZCA .66514476 04
 VH .86449695 00 C3 .74735497 00 CL .73047610 05 TFP .47433059 05 TF .-11683106 -01 LTF .-21358228 01
 TA .15465816 03 MTA .17099757 03 EA .41896404 02 MA .44051065 01 C3J .46236664 00 TFI .13164167 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.12692692	06	Y	-.79710627	05	Z	-.48617866	05	DX	-.17284683	01	DY	-.15860225	01	DZ	-.55106054	00
INC	.29573231	02	LAN	.24649355	03	APF	.16664559	03	KX	.38046150	00	MY	-.84076238	00	WZ	.38518534	00
WX	-.45427421	00	WY	.19288822	00	WZ	.86972337	00	PX	.56517281	00	PY	.81705903	00	PZ	-.11399219	00
BX	-.68863246	00	QY	.54333112	00	QZ	-.48018402	00	RX	.12728154	00	RY	.13798641	00	RZ	-.98222153	00
QX	-.59171350	00	BY	.66448859	00	BZ	-.45643188	00	TX	-.73504376	00	TY	.67801968	00	TZ	.00000000	00
SXI	.45045617	00	SYI	.89201272	00	SZI	.37450572	-01	DAI	-.21452606	01	RAI	.63206748	02			
SXO	-.66595553	00	SYO	-.72197580	00	SZO	-.18772544	00	DAO	-.10820074	02	RAO	.22731091	03			

BTQ .73541307 05 BRQ -.41610786 05 B .84497228 05 THA .33049816 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-.88778443	08	Y	.10786570	09	Z	.46757499	08	DX	-.26010409	02	DY	-.18120730	02	DZ	-.77212971	01
R	.14731905	09	LAT	.18505199	02	LOM	.12945595	03	V	.32626992	02	PTH	-.77144424	-01	AZ	.10442465	03
KE	-.88551517	08	YE	.10794541	09	ZE	.46806317	08	DXE	-.24281941	02	DYE	-.16534708	02	DZE	-.71702366	01
XT	-.89028748	08	YT	.10781035	09	ZT	.46783222	08	DXT	-.23920826	02	DYT	-.17380259	02	DZT	-.74932862	01
LTE	.18525479	02	LOE	.12939498	03	LTT	.18500233	02	LOT	.12954456	03	RST	.14743765	09	VST	.30502929	02
EPS	.89019868	02	ESP	.60165642	-01	SEP	.90918856	02	EPM	.14940411	03	EMP	.11526816	02	MEP	.19067064	02
MPS	.11736532	03	MSP	.86745359	-01	SMP	.62545768	02	SEM	.10750336	03	EMS	.72367894	02	ESM	.14836759	00
RPM	.25761808	06	SPN	.86700042	02												
GCE	.89146336	02	GCT	.25299490	03	SIP	.11697875	03	CPT	.98574258	02	SIN	.98187693	02			
REP	.15756879	06	VEP	.24097173	01	CPE	.89390139	02	CPS	.10306557	03						

0 DAYS 13 HRS. 37 MIN. 57.000 SEC. 2355532470552024000000000 J.D.= 2437691.93618055 JAN. 27,1962 10 28 06.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-.12982311	06	Y	-.82373282	05	Z	-.49540028	05	DX	-.17072907	01	DY	-.15726161	01	DZ	-.54291946	00
R	.16153517	06	DEC	-.17859421	02	RA	.21239529	03	V	.23838466	01	PTH	.79065246	02	AZ	.66024747	02
R	.16153517	06	LAT	-.17859421	02	LOM	.28914836	03	VE	.11050800	02	PTE	.12227887	02	AZE	.27097484	03
XS	.88692452	08	YS	-.10791752	09	ZS	-.46794226	08	DXS	.24275783	02	DYS	.16542279	02	DZS	.71735150	01
XM	-.37661953	06	YM	-.13648093	06	ZM	-.23639590	05	DXM	.36509327	00	DYM	-.84409473	00	DZM	-.32279705	00
XT	-.37661953	06	YT	-.13648093	06	ZT	-.23639590	05	DXT	.36509327	00	DYT	-.84409473	00	DZT	-.32279705	00
RS	.14731681	09	VS	.30239377	02	RM	.40128312	06	VM	.97467273	00	RT	.40128312	06	VT	.97467273	00
GED	-.17973324	02	ALT	.15515899	06	LOS	.26168277	02	RAS	.30941521	03	RAM	.19991971	03	L3M	.27667277	03
DUT	.34000000	02	DT	.95999999	03	DR	.23405651	01	SHA	.16152176	06	DES	-.18520472	02	DEM	-.33772485	01
CCL	.27105020	03	MCL	.34389379	03	TCL	.34389379	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217065202730200000 J.D.= 2437691.16768159 JAN. 26,1962 20 49 27.689
 SMA -.53334817 06 ECC .10124747 01 B .84482303 05 SLR .13385870 05 APD .00000000 00 ZCA .66514476 04
 VH .86449695 00 C3 .74757133 00 C1 .73045284 05 TFP .49118310 05 TF .-11475205 -01 LTF .-21351689 01
 TA .15493575 03 MTA .17099656 03 EA .42425708 02 MA .45635968 01 C3J .46222079 00 TFI .13632500 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.12982311	06	Y	-.82373282	05	Z	-.49540028	05	DX	-.17072907	01	DY	-.15726161	01	DZ	-.54291946	00
INC	.29573231	02	LAN	.24649827	03	APF	.16665153	03	KX	.38430875	00	MY	-.83828530	00	WZ	.38676106	00
WX	-.45431254	00	WY	.19297257	00	WZ	.86969034	00	PX	.56519682	00	PY	.81704716	00	PZ	-.11395817	00
BX	-.68858726	00	QY	.54331876	00	QZ	-.48026225	00	RX	.12727729	00	RY	.13797212	00	RZ	-.98222410	00
QX	-.59165364	00	BY	.66448732	00	BZ	-.45651131	00	TX	-.73502004	00	TY	.67804538	00	TZ	.00000000	00
SXI	.45047353	00	SYI	.89200620	00	SZI	.37396128	-01	DAI	-.21431391	01	RAI	.63205691	02			
SXO	-.66599251	00	SYO	-.72195440	00	SZO	-.18771205	00	DAO	-.10819293	02	RAO	.22730890	03			

BTQ .73524889 05 BRQ -.41609498 05 B .84482303 05 THA .33049344 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1 IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88822275 08 Y .10783515 09 Z .46744685 08 DX -.25983074 02 DY -.18114895 02 DZ -.77164344 01
R -.14731898 09 LAT .18499571 02 LON .12947780 03 V .32600811 02 PTH -.74550660-01 AZ .10442765 03
KE -.88692452 08 YE .10791752 09 ZE .45794226 08 DKE -.24257803 02 DVE -.16542273 02 DJE -.71735150 01
AT -.89069071 08 YT .10778104 09 ZT .46770586 08 DKT -.23910690 02 DYT -.17386373 02 DZT -.74963120 01
LTE .18520472 02 LOE .12941521 03 LTT .18495195 02 LOT .12956995 03 RST .14743656 09 VST .30499208 02
EPS .89198903 02 ESP .62165044-01 SEP .90738274 02 EPM .14912698 03 EMP .11920928 02 MEP .18952083 02
MPS .11753462 03 MSP .87356456-01 SMP .62377852 02 SEM .10728872 03 EMS .72562379 02 ESM .14869693 00
RPM .25398216 06 SPN .10793659 02 STP .11714252 03 CPT .98644888 02 SIN .96252789 02
GCE .88949800 02 GCT .25284358 03 CPE .89159171 02 CPS .10306342 03

0 DAYS 14 HRS. 9 MIN. 51.000 SEC. 2355325001420200000000 J.D.= 2437691.95833333 JAN. 27,1962 11 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.13306887 06 Y -.85369223 05 Z -.50570747 05 DX -.16845319 01 DY -.15580497 01 DZ -.53419957 00
R .16598985 06 DEC -.17737810 02 RA .21268186 03 V .23559575 01 PTH .79235181 02 AZ .65930092 02
R .16598984 06 LAT -.17737810 02 LON .28143810 03 VE .11366552 02 PTE .11748935 02 AZE .27092406 03
XS .88738910 08 VS .10788585 09 ZS .46780492 08 DXS .24268789 02 DYS .16550872 02 DZS .71772358 01
XM -.37591642 06 VM -.13809493 06 ZM -.24257142 05 DXM .36960436 00 DVM -.84242188 00 DZM -.32249986 00
XT -.37591642 06 YT -.13809493 06 ZT -.24257142 05 DXT .36960436 00 DYT -.84242188 00 DZT -.32249986 00
RS .14731723 09 VS .30239348 02 RM .40121288 06 VM .97482724 00 RT .40121288 06 VT .97482724 00
GED -.17851041 02 ALT .15961364 06 LOS .18194416 02 RAS .30943818 03 RAM .20017108 03 LDM .26892731 03
DUT .34000000 02 DT .95999999 03 DR .23144977 01 SHA .16598234 06 DES -.18514785 02 DEM -.34661886 01
CCL .27126228 03 MCL .34393198 03 TCL .34393198 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217066202124340000 J.D.= 2437691.36769281 JAN. 26,1962 20 49 28.660
SMA -.53301132 06 ECC .10124779 01 B .84464382 05 SLR .13384781 05 APD .00000000 00 RCA .66508958 04
VA .86477008 00 C3 .74782728 00 C1 .73042312 05 TFP .51031340 05 TF .11205673-01 LTF .21343514 01
TA .15523498 03 MTA .17099542 03 EA .43011774 02 MA .47437721 01 C3J .46205425 00 TFI .14164167 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.13306887 06 Y -.85369223 05 Z -.50570747 05 DX -.16845319 01 DY -.15580497 01 DZ -.53419957 00
INC .29582807 02 LAN .24697742 03 APF .16665876 03 MX .38843803 00 MY -.83559189 00 MZ .38846211 00
WX -.45436039 00 WY .19307575 00 WZ .86954309 00 PX .56522624 00 PY .81703258 00 PZ .11391711 00
QX -.68853194 00 QY .54330461 00 QZ -.48035870 00 RX .12727199 00 RY .13795482 00 RZ .98222721 00
BX -.59158070 00 BY .46448517 00 BZ -.45608999 00 TX -.73499174 00 TY .67807606 00 TZ .00000000 00
SXI .45049583 00 SYI .89199778 00 SZI .37330608-01 DAI .21313643 01 RAI .63201332 02
SXO -.66602476 00 SYO .72192889 00 SZO .18766957 00 DAO .10818342 02 RAO .22730651 03

BTQ .73505074 05 BRQ -.41608126 05 B .84464382 05 THA .33048763 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.88871978 08 Y .10780449 09 Z .46729920 08 DX -.25953321 02 DY -.18108921 02 DZ -.77114353 01
R .14731890 09 LAT .18493426 02 LON .12950257 03 V .32572598 02 PTH -.71430970-01 AZ .10443143 03
KE -.88789108 08 YE .10788555 09 ZE .45780492 08 DKE -.24268789 02 DKE -.16550872 02 DJE -.71772358 01
XT -.89114826 08 YT .10774776 09 ZT .46756234 08 DKT -.23899185 02 DYT -.17393294 02 DZT -.74997357 01
LTE .18514785 02 LOE .12943818 03 LTT .18489474 02 LOT .12959309 03 RST .14743533 09 VST .30494978 02
EPS .89390597 02 ESP .63334395-01 SEP .90544846 02 EPM .14881444 03 EMP .12370299 02 MEP .18815258 02
MPS .11772695 03 MSP .85660053-01 SMP .62187091 02 SEM .10734498 03 EMS .72805952 02 ESM .14869693 00
RPM .24989465 06 SPN .87188520 02 STP .11737843 03 CPT .98726134 02 SIN .98327621 02
GCE .88737717 02 GCT .25284358 03 CPE .88908109 02 CPS .10306097 03

0 DAYS 15 HRS. 9 MIN. 51.000 SEC. 235553251620202000000000 J.D.= 2437692.00000000 JAN. 27,1962 12 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.13906084 06 Y -.90931323 05 Z -.52466248 05 DX -.16450121 01 DY -.15323577 01 DZ -.51912764 00
R .17423871 06 DEC -.17524707 02 RA .21318051 03 V .23073097 01 PTH .79532863 02 AZ .65764163 02
R .17423871 06 LAT -.17524707 02 LON .36689567 03 VE .11952344 02 PTF .10942869 02 AZE .27084014 03
XS .88826255 08 VS .10782624 09 ZS .46754541 08 DXS .24255625 02 DYS .16567028 02 DZS .71842315 01
XM -.37457060 06 VM -.14112191 06 ZM -.25417109 05 DXM .37807309 00 DVM -.83922129 00 DZM .32192070 00
XT -.37457060 06 YT -.14112191 06 ZT .25417109 05 DXT .37807309 00 DYT -.83922129 00 DZT .32192070 00
RS .14731801 09 VS .30239294 02 RM .40107923 06 VM .97512284 00 RT .40107923 06 VT .97512284 00
GED -.17636754 02 ALT .16786246 06 LOS .19165446 01 RAS .30948138 03 RAM .20064422 03 LDM .25435939 03
DUT .34000000 02 DT .95999999 03 DR .22689145 01 SHA .17423753 06 DES -.18504079 02 DEM -.36337003 01
CCL .27163286 03 MCL .34396842 03 TCL .34396842 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217066202534540000 J.D.= 2437691.36771671 JAN. 26,1962 20 49 30.724
SMA -.53264531 06 ECC .10124843 01 B .84428106 05 SLR .13382469 05 APD .00000000 00 RCA .66497257 04
VA .86506715 00 C3 .74834116 00 C1 .73036002 05 TFP .54629275 05 TF .10632276-01 LTF .21326707 01
TA .15575686 03 MTA .17099313 03 EA .44074906 02 MA .50834642 01 C3J .46173823 00 TFI .15164167 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.13906084 06 Y -.90931323 05 Z -.52466248 05 DX -.16450121 01 DY -.15323577 01 DZ -.51912764 00
INC .29594618 02 LAN .24695893 03 APF .16667376 03 MX .39559077 00 MY -.83083180 00 MZ .39144119 00
WX -.45446210 00 WY .19329215 00 WZ .86954131 00 PX .56528806 00 PY .81700156 00 PZ .11383242 00
QX -.68841374 00 QY .54327372 00 QZ -.48056203 00 RX .12726100 00 RY .13791922 00 RZ .98223362 00
BX -.59142802 00 BY .46447891 00 BZ -.45681581 00 TX .73493370 00 TY .67813866 00 TZ .00000000 00
SXI .45054477 00 SYI .89197859 00 SZI .37195151 00 DAI .21313643 01 RAI .63201332 02
SXO -.66609089 00 SYO .72187660 00 SZO .18766213 00 DAO .10816380 02 RAO .22730161 03

BTQ .73464571 05 BRQ -.41606030 05 B .84428106 05 THA .33047532 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1 IBSYS-JPTRAJ-SPACE 050865
 BK
 HELIOCENTRIC EQUATORIAL COORDINATES
 X -88965315 08 Y -10773531 09 Z -46702174 08 DX -25900637 02 DY -18099385 02 DZ -77033591 01
 R -14731876 09 LAT -18482466 02 LON -12954910 03 V -32523414 02 PTH -65152320-01 AZ -10463947 03
 XE -88026255 08 YE -10782624 09 ZE -46754641 08 DXE -24255625 02 DYE -16567028 02 DZE -71842315 01
 XT -89200825 08 YT -10768512 09 ZT -46729223 08 DXT -23877551 02 DYT -17406249 02 DZT -75061522 01
 LTE -18904079 02 LOE -12948138 03 LTT -18478708 02 LDT -12963661 03 RST -14743301 09 VST -30487002 02
 EPS -89721450 02 ESP -67085183-01 SEP -90210783 02 EPM -14823139 03 EMP -13221743 02 MEP -18546865 02
 MFS -11808967 03 MSP -82755473-01 SMP -61827248 02 SEM -10658629 03 EMS -73264325 02 ESM -14918958 00
 RPM -24231301 06 SPN -87623673 02
 GCE -88367140 02 GCT -25233556 03 SIP -11767869 03 CPT -98882530 02 SIN -98471548 02
 REP -17423871 06 VEP -23073097 01 CPE -88472334 02 CPS -13305637 03

0 DAYS 16 HRS. 9 MIN. 51.000 SEC. 23555253424202000000000 J.D.= 2437692.04166666 JAN. 27,1962 13 00 00.00
 GEOCENTRIC EQUATORIAL COORDINATES
 X -14491742 06 Y -96404574 05 Z -54310259 05 DX -16092201 01 DY -15086441 01 DZ -50555105 00
 R -18233076 06 DEC -17329515 02 RA -21363335 03 V -22630020 01 PTH -79805546 02 AZ -65611327 02
 R -18233076 06 LAT -17329515 02 LON -25230745 03 VE -12528137 02 PFE -10240586 02 AZE -27076864 03
 XS -88913555 08 YS -10776657 09 ZS -46728764 08 OXS -24242447 02 OYS -16583176 02 OZS -71912235 01
 XT -37319431 06 YT -14413725 06 ZT -26574944 05 OXM -38652027 00 OYM -83595008 00 OZM -32131514 00
 XM -37319431 06 YM -14413725 06 ZT -26574944 05 OXT -38652027 00 OYT -83595008 00 OZT -32131514 00
 RS -14731880 09 VS -30239239 02 RM -40094360 06 VM -97542496 00 RT -40094360 06 VT -97542496 00
 GED -17440473 02 ALT -17595447 06 LOS -34819867 03 RAS -30952457 03 RAM -20111784 03 LJM -23979194 03
 DUT -34000000 02 DT -95999999 03 DR -22272754 01 SHA -18233053 06 DES -18493363 02 DEM -38004069 01
 CCL -27197123 03 MCL -34396182 03 TCL -34396182 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 23555217067202241000000 J.D.= 2437691.36774603 JAN. 26,1962 20 49 33.258
 SMA -53224801 06 ECC -10124910 01 B -86387833 05 SLR -13379700 05 APD -00000000 00 ACA -6646831 04
 VH -86538995 00 C3 -74889977 00 C1 -73028445 05 TFP -58226742 05 TF -99284648-02 LTF -21307196 01
 TA -15662327 03 MTA -17099075 03 EA -45091901 02 MA -54242903 01 C3J -46141773 00 TFI -16164166 02
 ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -14491742 06 Y -96404574 05 Z -54310259 05 DX -16092201 01 DY -15086441 01 DZ -50555105 00
 INC -29608293 02 LAN -24693781 03 APF -16669082 03 MX -40204476 00 MY -82642704 00 MZ -39418066 00
 WK -45459202 00 WY -19354107 00 WZ -86942341 00 PX -56539326 00 PY -81606559 00 PZ -11373718 00
 QX -68827619 00 QY -54323950 00 QZ -48079800 00 RX -12724623 00 RY -13787915 00 RZ -98224092 00
 BX -59125320 00 BY -66446934 00 BZ -45705597 00 TX -73486941 00 TY -67820863 00 TZ -00000000 00
 SXI -45060468 00 SVI -89195471 00 SZI -37044004-01 DAI -21229491 01 RAI -63197668 02
 SXU -66616427 00 SVU -72181881 00 SZU -18752402 00 DAD -19814157 02 RAD -22729618 03
 BTQ -73619149 05 BRQ -41604505 05 B -84387833 05 THA -33046103 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
 X -89058472 08 Y -10767016 09 Z -46674454 08 DX -25851667 02 DY -18091819 02 DZ -76967746 01
 R -14731863 09 LAT -18471115 02 LON -12959557 03 V -32478653 02 PTH -58462149-01 AZ -10444853 03
 XE -88913555 08 YE -10776657 09 ZE -46728764 08 DXE -24242447 02 DYE -16583176 02 DZE -71912235 01
 XT -89286749 08 YT -10762243 09 ZT -46702189 08 DXT -23859526 02 DYT -17419126 02 DZT -75125387 01
 LTE -18493363 02 LOE -12952457 03 LTT -18457933 02 LDT -12968010 03 RST -14743068 09 VST -30478999 02
 EPS -90018502 02 ESP -67941139-01 SEP -89910583 02 EPM -14765261 03 EMP -14082379 02 MEP -18265002 02
 MFS -11845475 03 MSP -80356293-01 SMP -61465000 02 SEM -10612729 03 EMS -73723024 02 ESM -14951711 00
 RPM -23485739 06 SPN -88013466 02
 GCE -88028762 02 GCT -25199058 03 SIP -11803072 03 CPT -97904432 02 SIN -98620404 02
 REP -18233076 06 VEP -22630020 01 CPE -88075530 02 CPS -10305176 03

0 DAYS 17 HRS. 9 MIN. 51.000 SEC. 23555255230202000000000 J.D.= 2437692.08333333 JAN. 27,1962 14 00 00.00
 GEOCENTRIC EQUATORIAL COORDINATES
 X -15065103 06 Y -10179564 06 Z -56107733 05 DX -15766102 01 DY -14866606 01 DZ -49323871 00
 R -19027917 06 DEC -17149777 02 RA -21404708 03 V -22224185 01 PTH -80056784 02 AZ -65468888 02
 R -19027917 06 LAT -17149777 02 LON -23758012 03 VE -13094578 02 PFE -96233881 01 AZE -27070711 03
 XS -89000804 08 YS -10770584 09 ZS -46702863 08 OXS -24223256 02 OYS -16599315 02 OZS -71982118 01
 XM -37178767 06 YM -14714068 06 ZM -27730551 05 OXM -39494530 00 OYM -83260830 00 OZM -32068318 00
 XT -37178767 06 YT -14714068 06 ZM -27730551 05 OXT -39494530 00 OYT -83260830 00 OZT -32068318 00
 RS -14731960 09 VS -30239185 02 RM -40080598 06 VM -97573360 00 DT -40080598 06 VT -97573360 00
 GED -17259727 02 ALT -18390284 06 LOS -33320079 03 RAS -30956776 03 RAM -20159194 03 LJM -22522498 03
 DUT -34000000 02 DT -95999999 03 DR -21890363 01 SHA -19027540 06 DES -18482639 02 DEM -39672906 01
 CCL -27228206 03 MCL -34391488 03 TCL -34391488 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 23555217070202041600000 J.D.= 2437691.36778083 JAN. 26,1962 20 49 36.264
 SMA -53181743 06 ECC -10124981 01 B -84343455 05 SLR -13376437 05 APD -00000000 00 ACA -6646831 04
 VH -86574021 00 C3 -74950610 00 C1 -73019340 05 TFP -61823736 05 TF -80935230-02 LTF -21284991 01
 TA -15666794 03 MTA -17098824 03 EA -46067861 02 MA -57663751 01 C3J -46109211 00 TFI -17164166 02
 ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -15065103 06 Y -10179564 06 Z -56107733 05 DX -15766102 01 DY -14866606 01 DZ -49323871 00
 INC -29624155 02 LAN -24691376 03 APF -16671016 03 MX -40789766 00 MY -82233043 00 MZ -37672588 00
 WK -45472219 00 WY -19382627 00 WZ -86928660 00 PX -56544090 00 PY -81692393 00 PZ -11363019 00
 QX -68811654 00 QY -54320035 00 QZ -48107075 00 RX -12723363 00 RY -13783422 00 RZ -98224909 00
 BX -59105355 00 BY -66445579 00 BZ -45733380 00 TX -73479801 00 TY -67828599 00 TZ -00000000 00
 SXI -45067665 00 SVI -89192533 00 SZI -36874046-01 DAI -21132042 01 RAI -63193206 02
 SXU -66624580 00 SVU -72175468 00 SZU -18758110 00 DAD -10811653 02 RAD -22729014 03
 BTQ -73368529 05 BRQ -441603814 05 B -84343455 05 THA -33044448 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.89151455 08 Y -1.0740504 09 Z 4.6644755 08 DX -.25805866 02 DY -.18085975 02 DZ -.76914506 01
R -.14731852 09 LAT -1.8459772 02 LON -1.2964196 03 V 3.2437688 02 PTH -.51472305-01 AZ 1.0445840 03
XE -.89000804 08 YE 1.0770684 09 ZE 4.6702863 08 DXE -.24229256 02 DYE -.16599315 02 DZE -.71982118 01
XT -.89372591 08 YT 1.0755970 09 ZT 4.6675132 08 DXT -.23834310 02 DYT -.17431923 02 DZT -.75188990 01
LTE 1.8482639 02 LOE 1.2956776 03 LTT 1.8657152 02 LOT 1.2972358 03 RST 1.4742834 09 VST 3.0470971 02
EPS 9.0286583 02 ESP 7.2684965-01 SEP 8.8963942 02 EPM 1.4707564 03 EMP 1.4953604 02 MEP 1.7970754 02
MPS 1.1882344 03 MSP 7.6616680-01 SMP 6.1099902 02 SEM 1.0566797 03 EMS 7.4182051 02 ESM 1.4968061 00
RPM 2.2751451 06 RPN 8.8365716 02
GCE 8.7717940 02 GCT 2.5163281 03 SIP 1.1838573 03 CPT 9.9212809 02 STN 9.8775095 02
REP 1.9027917 06 VEP 2.2224185 01 CPE 8.7712167 02 CPS 1.0304715 03

0 DAYS 18 HRS. 9 MIN. 51.000 SEC.

2355525703420200000000 J.D.= 2437692.12500000 JAN. 27,1962 15 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.15627230 06 Y -.10711036 06 Z -.57862874 05 DX -.15467441 01 DY -.14662011 01 DZ -.48200596 00
R 1.9809537 06 DEC -.16983484 02 RA 2.1442707 03 V 2.1850613 01 PTH 8.0289461 02 AZ 6.5334605 02
R 1.9809536 06 LAT -1.6983484 02 LON 2.2301903 03 VE 1.3652271 02 PTE 9.0767869 01 AZE 2.7065368 03
XS 8.0808008 08 YS -.10764705 09 ZS -4.6676936 08 DXS 2.4216051 02 DYS 1.6615446 02 DZS 1.2051965 01
XM -.37035074 06 YM -.15013195 06 ZM -.28883835 05 DXM 4.0334757 00 DYM 8.2919607 00 DZM 1.2002481 00
XT -.37035074 06 YT -.15013195 06 ZT -.28883835 05 DXT 4.0334757 00 DYT 8.2919607 00 DZT 1.2002481 00
RS 1.4732309 09 VS 3.0239131 02 RM 4.0066638 06 VM 9.7634880 00 RT 4.0066638 06 VT 9.7634880 00
GED -.17092498 02 ALT 1.9171900 06 LOS 3.3182090 03 RAS 3.0961094 03 RAM 2.0206654 03 LDM 2.0166580 03
DUT 3.4000000 02 DT 9.9999999 03 DR 2.1537548 01 SHA -.19808426 06 DES -.18471904 02 DEM -.41340095 01
CCL 2.2726908 03 MCL 3.4382928 03 TCL 3.4382928 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE

235553217070202756640000 J.D.= 2437691.36782251 JAN. 26,1962 20 49 39.866

SMA -.53135080 06 ECC 1.0125054 01 B 8.4294385 05 SLR 1.3372609 05 APD 0.0000000 00 R2A 6.6447569 04
VH 8.6612026 00 C3 7.5016431 00 C1 7.7009092 05 TFP 6.5420134 05 TF 8.0928802-02 LTF 1.2259451 01
TA 1.5744082 03 MTA 1.7098287 03 EA 4.7007159 02 MA 6.1098592 01 C3J 4.6076107 00 TFI 1.8164166 02

X -.15627230 06 Y -.10711036 06 Z -.57862874 05 DX -.15467441 01 DY -.14662011 01 DZ -.48200596 00
INC 2.9642438 02 LAN 2.4688644 03 APF 1.6673205 03 MX 4.1322771 00 MY 8.1850347 00 WZ 1.39411872 00
WX 4.45488551 00 WY 1.9415224 00 WZ 8.8912882 00 PX 5.6553417 00 PY 8.1687611 00 PZ 1.1351019 00
QX 6.88793216 00 QY 5.4315630 00 QZ 4.8138478 00 RX 1.2721683 00 RY 1.3778385 00 RZ 9.8225835 00
BX 5.9082615 00 BY 6.6443755 00 BZ 4.5765401 00 TX 7.73471909 00 TY 6.8737147 00 TZ 0.0000000 00
SX1 4.5076253 00 SY1 8.9188989 00 SZ1 3.6683786-01 DAI 2.1022964 01 RAI 6.3187895 02
SX0 6.66633605 00 SY0 7.2168397 00 SZ0 1.8753269 00 DAD 1.10808830 02 RAD 2.2728348 03

BTQ 7.3311993 05 BRQ 4.41604028 05 B 8.4294385 05 THA 3.33042540 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.89244280 08 Y -1.0753994 09 Z 4.6619074 08 DX -.25762796 02 DY -.18081647 02 DZ -.76872025 01
R 1.4731842 09 LAT -1.8448435 02 LON -1.2964196 03 V 3.2400010 02 PTH 8.0289461 02 AZ 1.0445840 03
XE 8.9008008 08 YE 1.0767005 09 ZE 4.6676936 08 DXE -.24216051 02 DYE -.16615446 02 DZE -.75252213 01
XT 8.9458358 08 YT 1.0749692 09 ZT 4.6648053 08 DXT -.23812704 02 DYT -.17444642 02 DZT 1.2002481 00
LTE 1.8471904 02 LOE 1.2961094 03 LTT 1.8446361 02 LOT 1.2976705 03 RST 1.4742600 09 VST 3.0462917 02
EPS 9.0529604 02 ESP 7.7252514-01 SEP 8.8939352 02 EPM 1.4649788 03 EMP 1.5836969 02 MEP 1.7665149 02
MPS 1.1919702 03 MSP 7.5003516-01 SMP 6.0728242 02 SEM 1.0520832 03 EMS 7.4641415 02 ESM 1.5049542 00
RPM 2.2027305 06 RPN 8.8684557 02
GCE 8.7430923 02 GCT 2.5126021 03 SIP 1.1874492 03 CPT 9.9388642 02 STN 9.8936538 02
REP 1.9809537 06 VEP 2.1850613 01 CPE 8.7377714 02 CPS 1.0304253 03

0 DAYS 19 HRS. 9 MIN. 51.000 SEC.

2355532604020200000000 J.D.= 2437692.16666666 JAN. 27,1962 16 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.16179045 06 Y -.11235391 06 Z -.59579293 05 DX -.15192648 01 DY -.14470930 01 DZ -.47170321 00
R 2.0578932 06 DEC -1.6828979 02 RA 2.1477769 03 V 2.1505226 01 PTH 8.0505973 02 AZ 6.5206575 02
R 2.0578931 06 LAT -1.6828979 02 LON 2.0832859 03 VE 1.4201770 02 PTE 8.8589322 01 AZE 2.7060693 03
XS 8.9175164 08 YS -.10758720 09 ZS -4.6650985 08 DXS 2.4202834 02 DYS 1.6631568 02 DZS 1.2121776 01
XM 3.6888359 06 YM -.15311082 06 ZM -.30034702 05 DXM 4.1172647 00 DYM 8.2571346 00 DZM 1.31934002 00
XT 3.6888359 06 YT -.15311082 06 ZT -.30034702 05 DXT 4.1172647 00 DYT 8.2571346 00 DZT 1.31934002 00
RS 1.4732118 09 VS 3.0239077 02 RM 4.0052479 06 VM 9.7637054 00 RT 4.0052479 06 VT 9.7637054 00
GED 1.6937119 02 ALT 1.9941292 06 LOS 3.0320501 03 RAS 3.0965411 03 RAM 2.0254164 03 LDM 1.9609254 03
DUT 3.4000000 02 DT 9.9999999 03 DR 2.1210665 01 SHA -.20576768 06 DES 1.8461160 02 DEM 1.43005942 01
CCL 2.2728353 03 MCL 3.4370589 03 TCL 3.4370589 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE

23555321707202016300000 J.D.= 2437691.36787166 JAN. 26,1962 20 49 44.112

SMA 5.3084532 06 ECC 1.0125131 01 B 8.4240320 05 SLR 1.3368180 05 APD 0.0000000 00 R2A 6.5425307 04
VH 8.6653253 00 C3 7.5087862 00 C1 7.72997002 05 TFP 6.9015887 05 TF 6.9134235-02 LTF 1.2330412 01
TA 1.5744082 03 MTA 1.7098287 03 EA 4.7913534 02 MA 6.4548860 01 C3J 4.6042395 00 TFI 1.9164166 02

X -.16179045 06 Y -.11235391 06 Z -.59579293 05 DX -.15192648 01 DY -.14470930 01 DZ -.47170321 00
INC 2.9663567 02 LAN 2.4685548 03 APF 1.6675678 03 MX 4.1809719 00 MY 8.1491227 00 WZ 4.0138857 00
WX 4.4507452 00 WY 1.9452372 00 WZ 8.8894637 00 PX 5.6564026 00 PY 8.1682129 00 PZ 1.1337564 00
QX 6.8771967 00 QY 5.4310546 00 QZ 4.8174500 00 RX 1.2719761 00 RY 1.3772749 00 RZ 9.8226873 00
BX 5.9056784 00 BY 6.6441364 00 BZ 4.5802201 00 TX 7.73463183 00 TY 6.8746598 00 TZ 0.0000000 00
SX1 4.5086370 00 SY1 8.9184739 00 SZ1 3.6470741-01 DAI 2.0900814 01 RAI 6.3181619 02
SX0 6.66443591 00 SY0 7.2160587 00 SZ0 1.8747825 00 DAD 1.10805655 02 RAD 2.2727611 03

BTQ 7.3249049 05 BRQ 4.41605388 05 B 8.4240320 05 THA 3.33040347 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1
 BK
 HELIOCENTRIC
 X -1.83336754 08 Y -1.0747485 09 Z -4.6591406 08 DX -2.25722099 02 DY -1.18078661 02 DZ -1.76838808 01
 R -1.4731254 09 LAT -1.8437102 02 LON -1.2973457 03 V -3.2365203 02 PTH -1.36898288 -01 AZ -1.0448003 03
 XE -1.8917164 08 YE -1.0758720 09 ZE -4.6650985 08 DXE -2.24202834 02 DYE -1.16631568 02 DZE -1.77121776 01
 XT -1.89544347 08 YT -1.0743409 09 ZT -4.6620950 08 DXT -2.23791108 02 DYT -1.17457282 02 DZT -1.75315176 01
 LTE -1.8441160 02 LOE -1.2965411 03 LTT -1.8435561 02 LOT -1.2981049 03 RST -1.4742365 09 VST -1.30454839 02
 EPS -1.97750764 02 ESP -1.80356253 -01 SEP -1.89159704 02 EPM -1.45915666 03 EMP -1.6734198 02 MEP -1.17349146 02
 MPS -1.19576085 03 MSP -1.1668340 -01 SMP -1.60351115 02 SEM -1.0474834 03 EMS -1.75101118 02 ESM -1.5082012 00
 RPM -2.1132338 06 SPN -1.88974720 02 SIP -1.1910957 03 CPT -1.93572345 02 SIN -1.99105673 02
 GCE -1.87164646 02 GCT -2.5080754 03 CPE -1.87068461 02 CPS -1.0303790 03
 REP -2.9574932 06 VEP -2.1505226 01

0 DAYS 20 HRS. 9 MIN. 51.000 SEC. 23555326244420200000000 J.D. = 2437692.20833333 JAN. 27, 1962 17 00 00.000

GEOCENTRIC
 X -1.16721352 06 Y -1.11753088 06 Z -1.61260108 05 DX -1.14938788 01 DY -1.14291901 01 DZ -1.62220773 00
 R -2.1336979 06 DEC -1.16684875 02 RA -2.1510258 03 V -2.1184650 01 PTH -1.80708288 02 AZ -1.6508100 02
 R -2.1336979 06 LAT -1.16684875 02 LON -1.9361241 03 VE -1.4743586 02 PTE -1.81521303 01 AZE -1.7056574 03
 XS -1.89262271 08 YS -1.0752730 09 ZS -4.6625008 08 DXS -2.4189504 02 DYS -1.16647683 02 DZS -1.72191548 01
 XM -1.36738633 06 YM -1.15607701 06 ZM -1.31183056 05 OXM -4.2008137 00 OYM -1.82216052 00 OZM -1.31862879 00
 XT -1.36738633 06 YT -1.15607701 06 ZT -1.31183056 05 DXT -4.2008137 00 DYT -1.82216052 00 DZT -1.31862879 00
 RS -1.4732198 09 VS -3.0239022 02 RM -4.0038123 06 VM -9.7669881 00 RT -4.0038123 06 VT -9.7669881 00
 GEO -1.16792199 02 ALT -2.0649337 06 LOS -2.8820711 03 RAS -3.3769728 03 RAM -2.0301728 03 L3M -1.8152711 03
 DUT -3.4000000 02 DT -1.9599999 03 DR -2.0906689 01 SHA -2.21333493 06 DES -1.18450407 02 DEM -1.44669146 01
 CCL -2.7308342 03 MCL -1.34354485 03 TCL -1.34354485 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217073202221300000 J.D. = 2437691.36792981 JAN. 26, 1962 20 49 49.136
 SMA -1.53029783 06 ECC -1.0125212 01 B -1.84180679 05 SLR -1.3363042 03 APD -1.00000000 00 RCA -1.66399512 04
 WM -1.86687973 00 C3 -1.75165385 00 WZ -1.86873715 00 PX -1.56576384 00 PY -1.81675875 00 PZ -1.11322486 01
 TA -1.5778620 03 MTA -1.17098000 03 EA -1.48790330 02 MA -1.68016350 01 C3J -1.46008074 00 TFI -1.20164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -1.16721352 06 Y -1.11753088 06 Z -1.61260108 05 DX -1.14938788 01 DY -1.14291901 01 DZ -1.62220773 00
 INC -2.9687780 02 LAN -2.4682043 03 APF -1.6678471 03 MK -4.2255738 00 MY -1.81152963 00 MZ -1.40356581 00
 WM -1.45529330 00 WY -1.19494676 00 WZ -1.86873715 00 PX -1.56576384 00 PY -1.81675875 00 PZ -1.11322486 01
 QX -1.68747569 00 QY -1.54304805 00 QZ -1.48215799 00 RX -1.2717563 00 RY -1.13766445 00 RZ -1.98228044 00
 BX -1.59027451 00 BY -1.66438320 00 BZ -4.5844408 00 TX -1.73463546 00 TY -1.67857030 00 TZ -1.00300000 00
 SXI -1.45098258 00 SYI -1.89179708 00 SZI -1.36232347 -01 DAI -2.0764142 01 RAI -1.63174234 02
 SXO -1.66654634 00 SYO -1.72151982 00 SZO -1.18741702 00 DAD -1.10802083 02 RAD -1.22726797 03
 BTQ -1.73178915 05 BRQ -1.41608091 05 B -1.84180679 05 THA -1.33037829 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC
 X -1.89429484 08 Y -1.0740977 09 Z -4.6553748 08 DX -2.25683482 02 DY -1.18076872 02 DZ -1.76813426 01
 R -1.47312627 09 LAT -1.8425773 02 LON -1.2978080 03 V -3.2332923 02 PTH -1.29413355 -01 AZ -1.0444156 03
 XE -1.89262271 08 YE -1.0752730 09 ZE -4.6625008 08 DXE -2.4189504 02 DYE -1.16647683 02 DZE -1.72191548 01
 XT -1.89629657 08 YT -1.0737122 09 ZT -4.6593825 08 DXT -2.23769523 02 DYT -1.17469843 02 DZT -1.75377737 01
 LTE -1.8450407 02 LOE -1.2969728 03 LTT -1.8424753 02 LOT -1.2985392 03 RST -1.4742130 09 VST -1.30446737 02
 EPS -1.90952709 02 ESP -1.81344489 -01 SEP -1.8894518 02 EPM -1.4532915 02 EMP -1.7647230 02 MEP -1.17023516 02
 MPS -1.1996431 03 MSP -1.68884033 -01 SMP -1.59466308 02 SEM -1.0428803 03 EMS -1.75561170 02 ESM -1.5082012 00
 RPM -2.0605724 06 SPN -1.89239782 02 SIP -1.1948101 03 CPT -1.99766786 02 SIN -1.99283491 02
 GCE -1.86916573 02 GCT -2.5046142 03 CPE -1.85781337 02 CPS -1.0303327 03
 REP -2.1336979 06 VEP -2.1184650 01

0 DAYS 21 HRS. 9 MIN. 51.000 SEC. 23555326425020200000000 J.D. = 2437692.25000000 JAN. 27, 1962 18 00 00.000

GEOCENTRIC
 X -1.17254859 06 Y -1.12264538 06 Z -1.62908036 05 DX -1.14703421 01 DY -1.14123681 01 DZ -1.45341775 00
 R -2.2084458 06 DEC -1.16590005 02 RA -2.1540473 03 V -2.2886066 01 PTH -1.80898061 02 AZ -1.64962661 02
 R -2.2084457 06 LAT -1.16520006 02 LON -1.17887350 03 VE -1.5278187 02 PTE -1.77578484 01 AZE -1.7052923 03
 XS -1.8934932 08 YS -1.0746734 09 ZS -4.6599007 08 DXS -2.4176360 02 DYS -1.16663789 02 DZS -1.7261286 01
 XM -1.36585903 06 YM -1.15903030 06 ZM -1.32328802 05 OXM -4.20841166 00 OYM -1.81853740 00 OZM -1.31789112 00
 XT -1.36585903 06 YT -1.15903030 06 ZT -1.32328802 05 DXT -4.20841166 00 DYT -1.81853740 00 DZT -1.31789112 00
 RS -1.4732177 09 VS -3.0238968 02 RM -4.0023570 06 VM -9.7703366 00 RT -4.0023570 06 VT -9.7703366 00
 GEO -1.16656562 02 ALT -2.1446812 06 LNS -2.7320721 03 RAS -1.30974745 03 RAM -2.0349345 03 L3M -1.6696222 03
 DUT -3.4000000 02 DT -1.9599999 03 DR -2.0623079 01 SHA -2.2079422 06 DES -1.18439644 02 DEM -1.46330809 01
 CCL -2.7331541 03 MCL -1.34334560 03 TCL -1.34334560 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217074202603300000 J.D. = 2437691.36799799 JAN. 26, 1962 20 49 55.026
 SMA -1.52970499 06 ECC -1.0125296 01 B -1.84114991 05 SLR -1.3357139 05 APD -1.00000000 00 RCA -1.66369899 04
 WM -1.8674445 00 C3 -1.75249510 00 WZ -1.85849650 00 PX -1.56589743 00 PY -1.81668752 00 PZ -1.11305585 01
 TA -1.5810853 03 MTA -1.17097700 03 EA -1.49640375 02 MA -1.71502910 01 C3J -1.45973083 00 TFI -2.1164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -1.17254859 06 Y -1.12264538 06 Z -1.62908036 05 DX -1.14703421 01 DY -1.14123681 01 DZ -1.45341775 00
 INC -2.9715595 02 LAN -2.46678079 03 APF -1.6681820 03 MK -4.2664702 00 MY -1.80833016 00 MZ -1.40567586 00
 WM -1.4559542 00 WY -1.19542770 00 WZ -1.85849650 00 PX -1.56589743 00 PY -1.81668752 00 PZ -1.11305585 01
 QX -1.68714603 00 QY -1.54298212 00 QZ -1.48243024 00 RX -1.2715047 00 RY -1.13759396 00 RZ -1.98229357 00
 BX -1.58994212 00 BY -1.66434482 00 BZ -4.5892730 00 TX -1.73462914 00 TY -1.67868539 00 TZ -1.00000000 00
 SXI -1.45112114 00 SYI -1.89173777 00 SZI -1.35965501 -01 DAI -2.0611146 01 RAI -1.63165611 02
 SXO -1.66666829 00 SYO -1.72142501 00 SZO -1.18734818 00 DAD -1.10798068 02 RAD -1.22725899 03
 BTQ -1.73100880 05 BRQ -1.41612415 05 B -1.84114991 05 THA -1.33034946 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1 IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.89521880 08 Y .10734469 09 Z .46536098 08 DX -.25646702 02 DY -.18076157 02 DZ -.76795463 01
R .14731822 09 LAT .18414444 02 LON .12982697 03 V .32302882 02 PTH .21848921-01 AZ .10450346 03
XE -.89349332 08 YE .10746734 09 ZE .46539007 08 DXE -.24176360 02 DYE -.16663789 02 DZE -.72261286 01
XT -.89715191 08 YT .10730831 09 ZT .46566677 08 DXT -.23747949 02 DYT -.17482326 02 DZT -.75440196 01
LTE .18439644 02 LDE .12974044 03 LTF .18413933 02 LDT .12989733 03 RST .14741894 09 VST .30438611 02
EPS .91137645 02 ESP .85660053-01 SEP .88776480 02 EPN .14473241 03 EMP .18578227 02 MEP .16689362 02
MPS .12036291 03 MSP .66351990-01 SMP .59572329 02 SEM .10382738 03 EMS .76021574 02 ESM .15114412 00
RPM .19906752 06 SPN .89482713 02
GCE .86684987 02 GCT .25003019 03
REP .22084458 06 VEP .20886066 01 SJP .11980364 03 CPT .99971318 02 SIN .99471052 02
CPE .86513772 02 CPS .10302863 03

0 DAYS 22 HRS. 9 MIN. 51.000 SEC. 235553266054202000000000 J.O.+ 2437692.29166666 JAN. 27,1962 19 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.17780195 06 Y -.12770110 06 Z -.64525461 05 DX -.14484506 01 DY -.13965202 01 DZ -.44524792 00
R .22822059 06 DEC -.16423376 02 RA .21568670 03 V .20607095 01 PTH .81076736 02 AZ .44843820 02
R .22822059 06 LAT -.16423377 02 LON .16411440 03 VE .15806003 02 PTE .74000924 01 AZE .27049667 03
XS .89436344 08 YS -.10740732 09 ZS -.46572980 08 DXS .24163104 02 DYS .16679886 02 DZS .72330985 01
XM -.36430179 06 YM -.16197041 06 ZM -.33471845 05 DXM .43671672 00 DYM -.81484415 00 DZM -.31712700 00
XT -.36430179 06 YT -.16197041 06 ZT -.33471845 05 DXT .43671672 00 DYT -.81484415 00 DZT -.31712700 00
RS .14732357 09 VS .30238914 02 RW .40008820 26 VM .37737505 00 RT .40008820 06 VT .97737505 00
GED -.16529211 02 ALT .22184411 06 LOS .25821130 03 RAS .30978360 03 RAM .20397017 03 LJM .15239787 03
DUT .34000000 02 DT .95999999 03 DR .20357687 01 SHA .22815284 06 DES .-18428870 02 DEM .-47990411 01
CCL .27353309 03 MCL .34310498 03 TCL .34310698 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217076202365300000 J.O.+ 2437691.36807774 JAN. 26,1962 20 50 01.917
SMA -.52906276 06 ECC .10125384 01 B .84042674 05 SLR .13350357 05 APD .00000000 00 RCA .66335911 04
VH .86799110 00 C3 .75340854 00 C1 .72948321 05 TFP .79738083 05 TF .19676685-02 LTF .21116714 01
TA .15841045 03 MTA .17097387 03 EA .50466277 02 MA .75310590 01 C3J .45937401 00 TFI .22164166 02

X -.17780195 06 Y -.12770110 06 Z -.64525461 05 DX -.14484506 01 DY -.13965202 01 DZ -.44524792 00
INC .29747421 02 LAN .24667300 03 APF .16685173 03 MX .43040578 00 MY -.80529292 00 MZ .40774304 00
WX -.45583587 00 WY .19597432 00 WZ .86822114 00 PX .56605212 00 PY .81660654 00 PZ .11286633 00
QX -.68687604 00 QY .54290698 00 QZ .-48317021 00 RX .12712175 00 RY .13751515 00 RZ .-98230833 00
BX -.58956530 00 BY .66429728 00 BZ .-45948000 00 TX .-73431170 00 TY .67481244 00 TZ .00000000 00
SXT .45128215 00 SYT .89166832 00 SZT .35656587 01 DAT .20439776 01 RAT .63155577 02
SKD -.66680311 00 SYD .-72132050 00 SZD .-18727081 00 DAD .-10793555 02 RAD .22724908 03
BTQ .73014073 05 BRQ .-441618702 05 B .84042674 05 THA .33031646 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.89614145 08 Y .10727962 09 Z .46508455 08 DX -.25611555 02 DY -.18076406 02 DZ -.76783464 01
R .14731818 09 LAT .18403118 02 LON .12987310 03 V .32274838 02 PTH .14226430-01 AZ .10451568 03
XE -.89349332 08 YE .10740732 09 ZE .46539007 08 DXE -.24163104 02 DYE -.16663789 02 DZE -.72330985 01
XT -.89715191 08 YT .10730831 09 ZT .46566677 08 DXT -.23747949 02 DYT -.17482326 02 DZT -.75440196 01
LTE .18428870 02 LDE .12978360 03 LTF .18403115 02 LDT .12994073 03 RST .14741657 09 VST .30438611 02
EPS .91307436 02 ESP .89020541-01 SEP .88603828 02 EPN .14412326 03 EMP .19529625 02 MEP .16347108 02
MPS .12076826 03 MSP .63719410-01 SMP .59167570 02 SEM .10336637 03 EMS .76482338 02 ESM .15130585 00
RPM .19214812 06 SPN .89706004 02
GCE .86466703 02 GCT .24957388 03 SJP .12024998 03 CPT .10018779 03 SIN .99669506 02
REP .22822059 06 VEP .20607095 01 CPE .86263601 02 CPS .10302399 03

0 DAYS 23 HRS. 9 MIN. 51.000 SEC. 235553267660202000000000 J.O.+ 2437692.33333333 JAN. 27,1962 20 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.18297920 06 Y -.13270139 06 Z -.66114480 05 DX -.14280319 01 DY -.13815542 01 DZ -.43762598 00
R .23550408 06 DEC -.16304138 02 RA .21595062 03 V .20345721 01 PTH .81245486 02 AZ .64725200 02
R .23550407 06 LAT .-16304138 02 LON .14933726 03 VE .16327427 02 PTE .70744503 01 AZE .27046752 03
XS .89523310 08 YS -.10734724 09 ZS -.46546927 08 DXS .24149835 02 DYS .16695976 02 DZS .72040650 01
XM -.36271469 06 YM -.16489710 06 ZM -.34612089 05 DXM .44499592 00 DYM -.81138088 00 DZM -.31633642 00
XT -.36271469 06 YT -.16489710 06 ZT -.34612089 05 DXT .44499592 00 DYT -.81138088 00 DZT -.31633642 00
RS .14732343 09 VS .30238859 02 RW .39993874 06 VM .97772300 00 RT .39993874 06 VT .97772300 00
GED .-16409289 02 ALT .22912757 06 LOS .24321339 03 RAS .30982675 03 RAM .20444746 03 LJM .13783410 03
DUT .34000000 02 DT .95999999 03 DR .20108584 01 SHA .-23541732 06 DES .-18418088 02 DEM .-49647868 01
CCL .27373800 03 MCL .34282715 03 TCL .34282715 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217100202364600000 J.O.+ 2437691.36817028 JAN. 26,1962 20 50 09.912
SMA -.52836689 06 ECC .10125475 01 B .83962996 05 SLR .13342603 05 APD .00000000 00 RCA .66297084 04
VH .86856249 00 C3 .75440080 00 C1 .72927136 05 TFP .83390088 05 TF .25320053-03 LTF .-21068181 01
TA .15869420 03 MTA .17097063 03 EA .52167036 02 MA .78542103 01 C3J .45901003 00 TFI .23164166 02

X -.18297920 06 Y -.13270139 06 Z -.66114480 05 DX -.14280319 01 DY -.13815542 01 DZ -.43762598 00
INC .29783846 02 LAN .24668541 03 APF .16689180 03 MX .43385433 00 MY .-80239838 00 MZ .40979011 00
WX .-45616989 00 WY .19659538 00 WZ .86790552 00 PX .56622700 00 PY .81651464 00 PZ .11265365 00
QX .-68651013 00 QY .54282092 00 QZ .-48317021 00 RX .12708886 00 RY .13742694 00 RZ .-98232492 00
BX .-58913838 00 BY .66423882 00 BZ .-46011170 00 TX .-73418214 00 TY .67895256 00 TZ .00000000 00
SXT .45146846 00 SYT .89158729 00 SZT .35315646-01 DAT .-20247703 01 RAT .-63143939 02
SKD .-66695203 00 SYD .-72120542 00 SZD .-18718372 00 DAD .-10788675 02 RAD .-22723815 03
BTQ .72917447 05 BRQ .-41627284 05 B .83962996 05 THA .33027872 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1 IBSYS-JPTRAJ-SPACE 05 65
 BK
 HELIOCENTRIC EQUATORIAL COORDINATES
 X -.89706289 08 Y .10721454 09 Z .44480813 08 DX -.25577866 02 DY -.18077530 02 DZ -.76776909 01
 R .14731816 09 LAT .18391792 02 LON .12991919 03 V .32248585 02 PTH -.65593362-02 AZ .10452815 03
 KE -.89523310 08 YE .10734724 09 ZE .46546921 08 OAE -.74149315 02 DVE -.16699976 02 DZE -.72400450 01
 XT -.87886024 08 YT .10718234 09 ET .46512315 08 OAT -.23704838 02 DYT -.17507056 02 DZT -.75546013 01
 LTE .18418088 02 LDE .12982675 03 LTT .18322284 02 LOT .12998411 03 RST .14741420 09 VST .30422787 02
 EPS .91463661 02 ESP .91192092-01 SEP .88444776 02 EPM .14349831 03 EMP .20504166 02 MEP .15997914 02
 MPS .12118410 03 MSP .61373100-01 SMP .58750287 02 SEM .10290501 03 SEM .76943466 02 ESM .15162881 00
 RPM .18529386 06 SPN .89911769 02 SIP .12065065 03 SPT .10041757 03 SIN .99880118 02
 GCE .86261999 02 GCT .24908914 03 CPE .86028982 02 CPS .10301934 03
 REP .23550408 06 VEP .20345721 01

1 DAYS 0 HRS. 9 MIN. 51.000 SEC. 235553271464202000000000 J.D.= 2437692.17500000 JAN. 27,1962 21 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -.18808537 06 Y -.13764926 06 Z -.67676952 05 DX -.14089397 01 DY -.13673898 01 DZ -.43049017 00
 R .24270062 06 DEC -.16191551 02 RA .21619833 01 V .20100218 01 PTH .81405379 02 AZ .64605407 02
 R .24270062 06 LAT -.16191551 02 LON .13454390 03 VE .16842821 02 PTE .67766830 01 AZE .27044130 03
 XS .89610228 08 YS -.10728711 09 ZS -.46520850 08 OXS .24136552 02 DYS .16712056 02 DZS .72470775 01
 XM -.36109785 06 YM -.16781012 06 ZM -.35749440 05 OXM .45324865 00 OYM -.80724771 00 OZM -.31551938 00
 XT -.36109785 06 YT -.16781012 06 ZT -.35749440 05 OXT .45324865 00 OYT -.80724771 00 OZT -.31551938 00
 RS .14732517 04 YS .30238805 02 RM .39978733 06 VM .47607753 06 VT .39978733 06 VV .97807753 00
 GED -.16296056 02 ALT .23632409 06 LOS .22821547 03 RAS .10986990 03 RAM .20492533 03 LOM .12327090 03
 DUT .34000000 02 DT .95999999 03 DR .19874501 01 SHA -.24259355 06 DES -.18407295 02 DEM -.51303078 01
 CCL .27393142 03 MCL .34250358 03 TCL .34250358 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217102202635500000 J.D.= 2437691.36827814 JAN. 26,1962 20 50 19.231
 SMA -.52761274 06 ECC .10125571 01 B .83875255 05 SLR .13333771 05 APD .00000000 00 KCA .66252884 04
 VH .86918302 00 C3 .75547912 00 C1 .72902795 05 TFP .84980768 05 TFL .28419494-02 LTF -.21013089 01
 TA .15896171 03 MTA .17096720 03 EA .52054760 02 MA .87059748 01 C3J .45863878 00 TFI .24164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -.18808537 06 Y -.13764926 06 Z -.67676952 05 DX -.14089397 01 DY -.13673898 01 DZ -.43049017 00
 INC .29825583 02 LAN .24662824 03 APF .16693702 03 MX .43701564 00 MY .79962868 00 MZ .41183957 00
 WX .45655360 00 WY .19730115 00 WZ .96754344 00 PX .56642482 00 PY .81641036 00 PZ .11241465 00
 QX .68669179 00 QY .54272151 00 QZ .48449132 00 RX .17705117 00 RY .13732813 00 RZ .98234361 00
 BX .58865464 00 BY .66416711 00 BZ .46083180 00 TX -.73403910 00 TY .67910721 00 TZ .00000000 00
 SKT .49168415 00 SVT .89149291 00 SZT .34955543-01 SAT .20032125 01 RAT .63130472 02
 SXO -.66711663 00 SVO -.72107862 00 SZO .18708558 00 SDO .10782751 02 RAO .22722608 03
 BTQ .72809902 05 BRO -.41638641 05 B .83875255 05 THA .13023556 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
 X -.89798113 08 Y .10714946 09 Z .44453173 08 DX -.25545491 02 DY -.18079446 02 DZ -.76775177 01
 R .14731816 09 LAT .18380465 02 LON .12996523 03 V .32223947 02 PTH -.11360528-07 AZ .10454063 03
 KE -.89610228 08 YE .10728711 09 ZE .46520850 08 OAE -.74116552 02 DVE -.16712056 02 DZE -.72400450 01
 XT -.89711925 08 YT .10711930 09 ET .46485101 08 OAT -.23683303 02 DYT -.17519304 02 DZT -.75625469 01
 LTE .18407295 02 LDE .12986990 03 LTT .18381443 02 LOT .11002747 03 RST .14741183 09 VST .30414091 02
 EPS .91607473 02 ESP .93835890-01 SEP .88297974 02 EPM .14285384 03 EMP .21504973 02 MEP .15641182 02
 MPS .12162234 03 MSP .58097472-01 SMP .58318578 02 SEM .10244129 03 SEM .77404964 02 ESM .15162881 00
 RPM .17850031 06 SPN .90101808 02 SIP .12106443 03 SPT .10066219 03 SIN .10010428 03
 GCE .86068576 02 GCT .24857215 03 CPE .85808335 02 CPS .10301648 03
 REP .24270362 06 VEP .20100218 01

1 DAYS 1 HRS. 9 MIN. 51.000 SEC. 235553273270202000000000 J.D.= 2437692.41666666 JAN. 27,1962 27 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -.19312500 06 Y -.14254748 06 Z -.69214531 05 DX -.13910490 01 DY -.13539571 01 DZ -.42378716 00
 R .24981533 06 DEC -.16084979 02 RA .21649140 03 V .19669101 01 PTH .81557325 02 AZ .64448101 02
 R .24981532 06 LAT -.16084979 02 LON .11973590 03 VE .17352521 02 PTE .65033825 01 AZE .27041762 03
 XS .89697096 08 YS -.10722691 09 ZS -.46434748 08 OXS .24123256 02 DYS .16728129 02 DZS .72537866 01
 XM -.35945133 06 YM -.17070921 06 ZM -.36883802 05 OXM .46147428 00 OYM -.80334472 00 OZM -.31467988 00
 XT -.35945133 06 YT -.17070921 06 ZT -.36883802 05 OXT .46147428 00 OYT -.80334472 00 OZT -.31467988 00
 RS .14732597 09 YS .30238751 02 RM .39963397 06 VM .97843862 00 RT .39963397 06 VT .97843862 00
 GED -.16188871 02 ALT .24343878 06 LOS .21321755 03 RAS .10991304 03 RAM .20540379 03 LOM .10870829 03
 DUT .34000000 02 DT .95999999 03 DR .19653787 01 SHA -.24786683 06 DES -.18396494 02 DEM -.52955916 01
 CCL .27411449 03 MCL .34213300 03 TCL .34213300 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217105202400700000 J.D.= 2437691.76840285 JAN. 26,1962 20 50 30.007
 SMA -.52673478 06 ECC .10125671 01 B .83778650 05 SLR .13323732 05 APD .00000000 00 KCA .66202674 04
 VH .86995754 00 C3 .75665215 00 C1 .72875544 05 TFP .92559993 05 TFL .58350562-02 LTF -.20995028 01
 TA .15921465 03 MTA .17096365 03 EA .52821427 02 MA .85686740 01 C3J .45825863 00 TFI .25164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -.19312500 06 Y -.14254748 06 Z -.69214531 05 DX -.13910490 01 DY -.13539571 01 DZ -.42378716 00
 INC .29873409 02 LAN .24656361 03 APF .16698808 03 MX .43990596 00 MY .79696766 00 MZ .41391441 00
 WX .45699437 00 WY .19810367 00 WZ .86712798 00 PX .56664845 00 PY .81629211 00 PZ .11214570 00
 QX .68661336 00 QY .54260658 00 QZ .48529407 00 RX .12700794 00 RY .13721732 00 RZ .94236467 00
 BX .58810589 00 BY .66407990 00 BZ .46165936 00 TX -.73388099 00 TY .67927807 00 TZ .00000000 00
 SKI .49193244 00 SVI .89138333 00 SZI .34532804-01 SAT .13789764 01 RAT .63114924 02
 SXO -.66729878 00 SVO -.72393876 00 SZO .18697489 00 SDO .10776296 02 RAO .22721274 03
 BTQ .72690172 05 BRO -.41653341 05 B .83778650 05 THA .33018618 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.8990221 08 Y .10708437 09 Z .46425533 08 DX -.25514305 02 DY -.18082086 02 DZ -.76777737 01
R .14731817 09 LAT .18369135 02 LON .13001123 03 V .32200773 02 PTH .88542685-02 AZ .10455370 03
XE -.89697096 08 YE .10722691 09 ZE .46494748 08 OXE -.24123256 02 OYE -.16728129 02 OZE -.72539866 01
XT -.90056547 08 YT .10705620 09 ZT .46457864 08 DXT -.23661781 02 DYT -.17531473 02 DZT -.75686625 01
LTE .18396494 02 LOE .12991304 03 LTT .18370596 02 LOT .13007282 03 LST .14740945 09 VST .30405873 02
EPS .91740637 02 ESP .96407213-01 SEP .88162252 02 EPM .14218574 03 EMP .22535601 02 MEP .15278655 02
RPM .17176381 06 SPN .90277669 02 SMP .57870344 02 SEM .10198121 03 EMS .77866843 02 ESM .15195109 00
GCE .85885507 02 GCT .24801851 03 SIP .12149329 03 CPT .10092336 03 STN .10034357 03
REP .24981533 06 VEP .19869103 01 CPE .85600299 02 CPS .10301002 03

1 DAYS 2 HRS. 9 MIN. 51.000 SEC. 235553275074202000000000 J.D.= 2437692.45833333 JAN. 27,1962 23 00 00.00

GEOCENTRIC

EQUATORIAL COORDINATES

X -.19810223 06 Y -.14739856 06 Z -.70728686 05 DX -.13742531 01 DY -.13411943 01 DZ -.41747048 00
R .25685282 06 DEC .15983861 02 RA .21665120 03 V .19651095 01 PTH .81702121 02 AZ .64395610 02
R .25685282 06 LAT .15983861 02 LON .10491464 03 VE .17856834 02 PTE .62516780 01 AZE .27039617 03
XS .89783918 08 YS -.10718666 09 ZS .46448620 08 DXS .24109947 02 DYS .16744193 02 DZS .72609419 01
XM -.35777526 06 YM -.17359413 06 ZM -.38015079 05 DXM .46967218 00 DYM -.79937202 00 DZM -.31380591 00
XT -.35777526 06 YT -.17359413 06 ZT .38015079 05 DXT .46967218 00 DYT .79937202 00 DZT .31380591 00
RS .14732677 09 VS .30238697 02 RM .39947866 06 VM .97880627 00 RT .39947866 06 VT .97880627 00
GED .16080170 02 ALT .25047625 06 LOS .19821962 03 RAS .30995518 03 RAM .20588286 03 L3M .94146301 02
DUT .34000000 02 DT .95999999 03 DR .19445371 01 SHA .25670203 06 DES .18385681 02 DEM .54660286 01
CCL .27428818 03 MCL .34171130 03 TCL .34171130 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217110202476400000 J.D.= 2437691.36854731 JAN. 26,1962 20 50 42.488
SMA .52590714 06 ECC .10125774 01 B .83672240 05 SLR .13312335 05 APD .00000000 00 RGA .66145705 04
VM .87059133 00 C3 .75792926 00 C1 .72844370 05 TFP .94157511 05 TF .93021392-02 LTF .-20880270 01
TA .15945451 03 MTA .17095996 03 EA .53572200 02 MA .89306459 01 C3J .45787066 00 TFI .26164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.19810223 06 Y -.14739856 06 Z -.70728686 05 DX -.13742531 01 DY -.13411943 01 DZ -.41747048 00
INC .29928219 02 LAN .24649049 03 APF .16704581 03 MX .44253706 00 MY .79440027 00 MZ .41603367 00
WX -.45750090 00 WY .19901725 00 WZ .86665112 00 PX .56690142 00 PY .81615803 00 PZ .11184246 00
QX .68505594 00 QY .54247359 00 QZ .48621627 00 RX .12695826 00 RY .13709283 00 RZ .98238844 00
BX .58748268 00 BY .66397422 00 BZ .46260387 00 TX .73370608 00 TY .67946699 00 TZ .00000000 00
SK1 .45221909 00 SY1 .89125631 00 SZ1 .34056697-01 DAI .19516813 01 RAI .63096985 02
SX0 .46750053 00 SY0 .72078440 00 SZ0 .18684979 00 DAO .-10768999 02 RAO .22719799 03

BTQ .72556762 05 BRQ .-41672046 05 B .83672240 05 THA .33012965 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.89982020 08 Y .10701926 09 Z .46397892 08 DX -.25484200 02 DY -.18085387 02 DZ -.76784123 01
R .14731819 09 LAT .18357805 02 LON .13005719 03 V .32178932 02 PTH .16594798-01 AZ .10456670 03
XE -.89783918 08 YE .10718666 09 ZE .46468620 08 OXE -.24109947 02 OYE -.16744193 02 OZE -.72609419 01
XT -.90141693 08 YT .10699307 09 ZT .46430605 08 DXT -.23640275 02 DYT -.17543565 02 DZT -.75747477 01
LTE .18385681 02 LOE .12995618 03 LTT .18359740 02 LOT .13011415 03 LST .14740706 09 VST .30397632 02
EPS .91863555 02 ESP .99650790-01 SEP .88036604 02 EPM .14148942 03 EMP .23600133 02 MEP .14910443 02
RPM .16508138 06 SPV .90440679 02 SMP .57403268 02 SEM .10151875 03 EMS .78329101 02 ESM .15211196 00
GCE .85711818 02 GCT .24742311 03 SIP .12193938 03 CPT .10120299 03 SIN .10059973 03
REP .25685282 06 VEP .19651095 01 CPE .85403688 02 CPS .10300535 03

1 DAYS 3 HRS. 9 MIN. 51.000 SEC. 235553276700202000000000 J.D.= 2437692.50000000 JAN. 28,1962 00 00 00.00

GEOCENTRIC

EQUATORIAL COORDINATES

X -.20302082 06 Y -.15220482 06 Z -.72220735 05 DX -.13584600 01 DY -.13290472 01 DZ -.41149919 00
R .26381735 06 DEC .19887701 02 RA .21689591 03 V .19445080 01 PTH .81840503 02 AZ .64224231 02
R .26381734 06 LAT .15887701 02 LON .90081243 02 VE .18356348 02 PTE .60191263 01 AZE .27037667 03
XS .89870692 08 YS -.10710635 09 ZS .46444268 08 DXS .24096625 02 DYS .16760249 02 DZS .72678933 01
XM -.35606972 06 YM -.17646641 06 ZM -.39143177 05 DXM .47784172 00 DYM -.79532973 00 DZM .31290947 00
XT -.35606972 06 YT -.17646641 06 ZT .39143177 05 DXT .47784172 00 DYT .79532973 00 DZT .31290947 00
RS .14732758 09 VS .30238643 02 RM .39932141 06 VM .97918348 00 RT .39932141 06 VT .97918048 00
GED .15990454 02 ALT .25744076 06 LOS .18322163 03 RAS .30999931 03 RAM .20636255 03 LDM .79584880 02
DUT .34000000 02 DT .95999999 03 DR .19248235 01 SHA .28364354 06 DES .18374861 02 DEM .56254086 01
CCL .27445334 03 MCL .34123337 03 TCL .34123337 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217114202164600000 J.D.= 2437691.36871426 JAN. 26,1962 20 50 56.912
SMA .52494331 06 ECC .10125882 01 B .83554874 05 SLR .13299383 05 APD .00000000 00 RGA .66080993 04
VM .87139019 00 C3 .75932086 00 C1 .72808924 05 TFP .97743308 05 TF .13308763-01 LTF .-20800352 01
TA .15968261 03 MTA .17095613 03 EA .54308805 02 MA .92962745 01 C3J .45747387 00 TFI .27164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.20302082 06 Y -.15220482 06 Z -.72220735 05 DX -.13584600 01 DY -.13290472 01 DZ -.41149919 00
INC .29991018 02 LAN .24640765 03 APF .16711116 03 MX .44491675 00 MY .79191252 00 MZ .41823911 00
WX -.45808402 00 WY .20005898 00 WZ .86610377 00 PX .56718795 00 PY .81600587 00 PZ .11149984 00
QX .68443930 00 QY .54231994 00 QZ .48727032 00 RX .12690094 00 RY .13695400 00 RZ .98241544 00
BX .58677385 00 BY .66384625 00 BZ .46385890 00 TX .73351245 00 TY .67967602 00 TZ .00000000 00
SK1 .45254944 00 SY1 .89110909 00 SZ1 .33519418-01 DAI .19208805 01 RAI .63076277 02
SX0 .66772421 00 SY0 .72061396 00 SZ0 .18670799 00 DAO .-10760729 02 RAO .22718166 03

BTQ .72407869 05 BRQ .-41695530 05 B .83554874 05 THA .33006483 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

MELIOCENTRIC EQUATORIAL COORDINATES

X	-90073712	08	Y	.10695415	09	Z	.46370247	08	DX	-.25455084	02	DY	-.18089296	02	DZ	-.76793925	01
R	.14731824	09	LAT	.18346672	02	LOX	.13010312	03	V	.32158311	02	PTH	.24352185	-01	AZ	.10457983	03
XL	-.89870692	08	YE	-.10710635	09	ZE	-.46442668	08	DXE	-.24096625	02	DYE	-.16760249	02	DZE	-.72678933	01
XT	-.90226761	08	YT	-.10692989	09	ZT	-.46403325	08	DXT	-.23618783	02	DYT	-.17555578	02	DZT	-.75808027	01
LTE	.18374861	02	LDE	.12899930	03	LTT	.18348876	02	LDT	.13015746	03	RST	.14740467	09	VST	.33389370	02
EPS	.91977308	02	ESP	-.10255385	00	SEP	-.87920152	02	EPM	-.14075972	03	EMP	-.24703266	02	MEP	-.14537002	02
MPS	.12303360	03	MSP	.51869734	-01	SMP	.56914769	02	SEM	-.10105591	03	EMS	.78791752	02	ESM	-.15243321	00
RPM	.15845071	06	SPN	.90592001	02	SIP	.12240509	03	CPT	.10150326	03	SIN	.10087476	03			
GCE	.85546654	02	GCT	.24678002	03	CPE	.85217469	02	CPS	.10300068	03						
REP	.26381735	06	VEP	.19445080	01												

1 DAYS 4 HRS. 9 MIN. 51.000 SEC. 23555330050420200000000 J.D.= 2437692.54166666 JAN. 28, 1962 01 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-.20788424	06	Y	-.15696838	06	Z	-.73691853	05	DX	-.13435908	01	DY	-.13174675	01	DZ	-.40583680	00
R	.27071280	06	DEC	-.15796062	02	RA	-.21705557	03	V	.19250392	01	PTH	.81973091	02	AZ	.54084344	02
R	.27071280	06	LAT	-.15796063	02	LOX	.75236837	02	VE	-.18850431	02	PTF	-.58036442	01	AZE	-.27035892	03
XS	-.89957417	08	YS	-.10704599	09	ZS	-.46416291	08	DXS	-.24083290	02	DYS	-.16776296	02	DZS	-.72744413	01
XM	-.35433483	06	YM	-.17932043	06	ZM	-.40268000	05	DXM	-.48598228	00	DYM	-.79121797	00	DZM	-.31198655	00
XS	-.35433483	06	YS	-.17932043	06	ZS	-.40268000	05	DXS	-.48598228	00	DYS	-.79121797	00	DZS	-.31198655	00
RT	.14732838	09	VS	.30238589	02	RM	.39916224	06	VM	.97956125	00	RT	.39916224	06	VT	.97956125	00
GED	-.15888286	02	ALT	.26433619	06	LDS	.16822769	03	RAS	.31004243	03	RAM	-.20684288	03	LJM	.65024145	02
DUT	.34000000	02	DT	-.95999999	03	DR	-.10661491	01	SHA	-.27051545	06	DES	-.18364030	02	DEM	-.57499214	01
CCL	.27461073	03	MCL	.34069296	03	TCL	.34069296	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217120202303600000 J.D.= 2437691.36890659 JAN. 26, 1962 20 51 13.523

SMA	-.52389576	06	ECC	.10125994	01	B	-.83425499	05	SLR	.13284750	05	APN	.00000000	00	ACA	.66007918	04
WM	.87226096	00	C3	.76083914	00	C1	.72768858	05	TFP	.10132647	06	TF	.17924785	-01	LTF	-.20710074	01
TA	.15990007	03	MTA	.17095214	03	EA	.55032904	02	MA	.96660063	01	C3J	.45706776	00	TFI	-.28164166	02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

INC	-.20788424	06	Y	-.15696838	06	Z	-.73691853	05	DX	-.13435908	01	DY	-.13174675	01	DZ	-.40583680	00
IMC	.30063291	02	LAW	.24631169	03	APF	-.16718527	03	MX	.44704738	00	MY	-.78948836	00	MZ	-.20343115	00
WX	-.45874935	00	WY	.20124850	00	WZ	.86547254	00	PX	.56751268	00	PY	.81583298	00	PZ	-.11111165	00
QX	-.68372010	00	QY	.54213953	00	QZ	-.48847856	00	RX	.12683469	00	RY	.13679442	00	RZ	-.99244602	00
BX	-.58596627	00	BY	.66369128	00	BZ	-.46492733	00	TX	-.73329767	00	TY	.67990774	00	TZ	.00000000	00
SXI	.45292998	00	SVI	.89093833	00	SZI	.32911339	-01	DAT	.18860201	01	RAI	.63052393	02			
SXD	-.66797265	00	SYD	-.72042538	00	SZD	-.18654692	00	DAD	-.10751335	02	RAO	.22716356	03			
BTQ	.72241621	05	BRQ	-.41724836	05	B	.83425499	05	THA	.32999041	03	T	VECTOR IN	EARTH EQUATOR PLANE			

MELIOCENTRIC EQUATORIAL COORDINATES

X	-.90165301	08	Y	.10688902	09	Z	.46342599	08	DX	-.25426880	02	DY	-.18093763	02	DZ	-.76806781	01
R	.14731829	09	LAT	.18335135	02	LOX	.13014901	03	V	.32138813	02	PTH	.23232624	-01	AZ	.10459304	03
XL	-.89957417	08	YE	-.10704599	09	ZE	-.46416291	08	DXE	-.24083290	02	DYE	-.16776296	02	DZE	-.72744413	01
XT	-.90311751	08	YT	-.10686667	09	ZT	-.46376023	08	DXT	-.23597307	02	DYT	-.17567514	02	DZT	-.75868278	01
LTE	.18364030	02	LDE	.13004243	03	LTT	.18338004	02	LDT	.13020075	03	RST	.14740228	09	VST	.30381086	02
EPS	.92082655	02	ESP	-.10491172	00	SEP	-.87812132	02	EPM	-.13990075	03	EMP	-.25650467	02	MEP	-.14158777	02
MPS	.12354883	03	MSP	.47949227	-01	SMP	.56401968	02	SEM	-.10059269	03	EMS	.79254796	02	ESM	-.15243321	00
RPM	.15187015	06	SPN	.90732641	02	SIP	.12289309	03	CPT	.10182667	03	SIN	.10117093	03			
GCE	.85389265	02	GCT	.24608222	03	CPE	.85040735	02	CPS	.10299600	03						
REP	.27071280	06	VEP	.19250092	01												

1 DAYS 5 HRS. 9 MIN. 51.000 SEC. 23555330231020200000000 J.D.= 2437692.58333334 JAN. 28, 1962 02 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-.21269569	06	Y	-.16169122	06	Z	-.75143094	05	DX	-.13295779	01	DY	-.13064122	01	DZ	-.40045035	00
R	.27754277	06	DEC	-.15708554	02	RA	-.21724209	03	V	.19065284	01	PTH	.82100478	02	AZ	.63934720	02
R	.27754277	06	LAT	-.15708554	02	LOX	.60382783	02	VE	-.19340233	02	PTF	-.50334555	01	AZE	-.27034772	03
XS	.90044035	08	YS	-.10698956	09	ZS	-.46390089	08	DXS	-.24069941	02	DYS	-.16792335	02	DZS	-.72817855	01
XM	-.35257068	06	YM	-.18216131	06	ZM	-.41389453	05	DXM	-.49499321	00	DYM	-.78703685	00	DZM	-.31103717	00
XS	-.35257068	06	YS	-.18216131	06	ZS	-.41389453	05	DXS	-.49499321	00	DYS	-.78703685	00	DZS	-.31103717	00
RT	.14732919	09	VS	.30238535	02	RM	.39900115	06	VM	.97994857	00	RT	.39900115	06	VT	.97994857	00
GED	-.15810269	02	ALT	.27116615	06	LDS	.15322574	03	RAS	.31008555	03	RAM	-.20732386	03	LJM	.50464053	02
DUT	.34000000	02	DT	-.95999999	03	DR	-.18884366	01	SHA	-.27732148	06	DES	-.18353190	02	DEM	-.59541550	01
CCL	.27476101	03	MCL	.34008240	03	TCL	.34008240	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217125202127200000 J.D.= 2437691.36912826 JAN. 26, 1962 20 51 32.682

SMA	-.52275632	06	ECC	.10126111	01	B	-.83282776	05	SLR	.13288164	05	APN	.00000000	00	ACA	.65925129	04
WM	.87221105	00	C3	.76249753	00	C1	.72723419	05	TFP	.10490732	06	TF	.23244857	-01	LTF	-.20607853	01
TA	.16010797	03	MTA	.17094801	03	EA	.55746110	02	MA	.10040338	02	C3J	.45665178	00	TFI	-.29164166	02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

INC	-.21269569	06	Y	-.16169122	06	Z	-.75143094	05	DX	-.13295779	01	DY	-.13064122	01	DZ	-.40045035	00
IMC	.30146452	02	LAW	.24620689	03	APF	-.16726949	03	MX	.44892832	00	MY	-.78711434	00	MZ	-.42298438	00
WX	-.45952941	00	WY	.20261054	00	WZ	.86474452	00	PX	.56788154	00	PY	.81563636	00	PZ	-.11067054	00
QX	-.68289384	00	QY	.54192912	00	QZ	-.48988760	00	RX	.12675785	00	RY	.13661535	00	RZ	-.98248089	00
BX	-.58504355	00	BY	.66350392	00	BZ	-.46635458	00	TX	-.73305899	00	TY	.68016507	00	TZ	.00000000	00
SXI	.45336911	00	SVI	.89074042	00	SZI	.32221133	-01	DAT	.18464537	01	RAI	.63024813	02			
SXD	-.66824918	00	SYD	-.72021645	00	SZD	-.18636337	00	DAD	-.10740631	02	RAO	.22714345	03			
BTQ	.72055688	05	BRQ	-.41761212	05	B	.83282776	05	THA	.32990476	03	T	VECTOR IN	EARTH EQUATOR PLANE			

CASE I

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90256790 08 Y -.10682387 09 Z .46314945 08 DX -.25399519 02 DY -.18098747 02 DZ -.76822358 01
R .14731836 09 LAT .18323796 02 LON .13019487 03 V .32120351 02 PTH .39942092-01 AZ .10460632 03
XE -.90044095 08 YE .10698556 09 ZE .46390089 08 DXE -.24069941 02 DYE -.16792335 02 DZE -.72817855 01
XT -.90396665 08 YT .10680340 09 ZT .46348699 08 DXT -.23575848 02 DYT -.17579371 02 DZT -.75928226 01
LTE .18351190 02 LOE .13008555 03 LTT .18327123 02 LOT .13024404 03 RST .14739988 09 VST .30377781 02
EPS .92180269 02 ESP .10744563 00 SEP .87711871 02 EPM .13917574 03 EMP .27048093 02 MEP .13776156 02
RPM .12409157 03 RSP .45327037-01 SMP .55861636 02 SEM .10012908 03 SEM .79718241 02 ESM .15243321 00
GCE .85238986 02 GCT .24532138 03 SIP .12340636 03 CPT .10217605 03 SIN .10149084 03
REP .27754277 06 VEP .19065284 01 CPE .84872681 02 CPS .10299131 03

1 DAYS 6 HRS. 9 MIN. 51.000 SEC. 235553304114202000000000 J.D.= 2437692.62500000 JAN. 28,1962 03 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.21745816 06 Y -.16637514 06 Z -.76575393 05 DX -.13163631 01 DY -.12958428 01 DZ -.39530959 00
R .28431062 06 DEC -.15624822 02 RA .21741925 03 V .18889918 01 PTH .82223175 02 AZ .63772923 00
R .28431061 06 LAT -.15624822 02 LON .45518383 02 VE .19825687 02 PTE .54170007 01 AZE .27032792 03
XS .90130724 08 YS -.10692508 09 ZS -.46363861 08 DXS .24056580 02 DYS .18008365 02 DZS .72887260 01
XM -.35077738 06 YM -.18498702 06 ZM -.42507441 05 DXM .50217389 00 DYM .10061013 00 DZM -.31006132 00
XT -.35077738 06 YT -.18498702 06 ZT -.42507441 05 DXT .50217389 00 DYT .10061013 00 DZT -.31006132 00
RS .14732999 09 VS .30238480 02 RM .39883813 06 VM .98034243 00 RT .39883813 06 VT .98034243 00
GED -.15726051 02 ALT .27793197 06 LOS .13822779 03 RAS .31012866 03 RAM .20780550 03 LOM .35904633 02
DUT .34000000 02 DT .95999999 03 DR .18716181 01 SHA .28406511 06 DES .18342339 02 DEM .61181009 01
CCL .27490478 03 MCL .33939233 03 TCL .33939233 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217132202534100000 J.D.= 2437691.36938333 JAN. 26,1962 20 51 54.720
SMA -.52151559 06 ECC .10126232 01 B .83125217 05 SLR .13249467 05 APD .00000000 00 RCA .65831833 04
VM .87424915 00 C3 .76431158 00 C1 .72672161 05 TFP .10848528 06 TF .29366493-01 LTF -.20492300 01
TA .16030721 03 MTA .17094371 03 EA .56450013 02 MA .10419847 02 C3J .45622531 00 TFI .30164166 02

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.21745816 06 Y -.16637514 06 Z -.76575393 05 DX -.13163631 01 DY -.12958428 01 DZ -.39530959 00
INC .30242658 02 LAN .24608524 03 APF .16736539 03 MX .45055238 00 MY -.78477277 00 MZ .42559874 00
WX -.46042366 00 WY .20417348 00 WZ .86390004 00 PX .56830118 00 PY .81541212 00 PZ .11016757 00
QX .68194120 00 QY .54147926 00 QZ .49146703 00 RX .12666837 00 RY .13641199 00 RZ .98875269 00
BX .58399869 00 BY .66327644 00 BZ .46799958 00 TX .73279322 00 TY .68045139 00 TZ .00000000 00
SX1 .45387611 00 SY1 .89051019 00 SZ1 .31435036-01 DAI .18013906 01 RAI .62992926 02
SX0 .66855758 00 SY0 .71998450 00 SZ0 .18615345 00 DAD .10728309 02 RAD .22712107 03

BTQ .71847385 05 BRQ .41806162 05 B .83125217 05 THA .32980596 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90348182 08 Y .10675870 09 Z .46287786 08 DX -.25372943 02 DY -.18104208 02 DZ -.76840355 01
R .14731836 09 LAT .18312453 02 LON .13024070 03 V .32102850 02 PTH .47788271-01 AZ .10461965 03
XE -.90130724 08 YE .10692508 09 ZE .46363861 08 DXE -.24056580 02 DYE -.16808365 02 DZE -.72887260 01
XT -.90481501 08 YT .10674009 09 ZT .46321354 08 DXT -.23554406 02 DYT -.17591151 02 DZT -.75987872 01
LTE .18342339 02 LOE .13012866 03 LTT .18316236 02 LOT .13028730 03 RST .14739748 09 VST .30364456 02
EPS .92270733 02 ESP .11036527 00 SEP .87618785 02 EPM .13830685 03 EMP .28303622 02 MEP .13389521 02
RPM .13885620 06 RSP .90985298 02 SMP .55290160 02 SEM .99665068 02 EMS .80182095 02 ESM .15243321 00
GCE .85095222 02 GCT .24448755 03 SIP .12394824 03 CPT .10255468 03 SIN .10183748 03
REP .28431062 06 VEP .18889918 01 CPE .84712599 02 CPS .10298662 03

1 DAYS 7 HRS. 9 MIN. 51.000 SEC. 235553305720202000000000 J.D.= 2437692.66666666 JAN. 28,1962 04 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.22217440 06 Y -.17102183 06 Z -.77989586 05 DX -.13038974 01 DY -.12857246 01 DZ -.39038622 00
R .29101943 06 DEC -.15544549 02 RA .21758777 03 V .18723347 01 PTH .82341687 02 AZ .63596036 02
R .29101942 06 LAT -.15544549 02 LON .30645838 02 VE .20307017 02 PTE .52429444 01 AZE .27031438 03
XS .90217306 08 YS -.10686454 09 ZS -.46337609 08 DXS .24043206 02 DYS .16824387 02 DZS .72956627 01
XM .34895506 06 YM .18779730 06 ZM .43621868 05 DXM .51022368 00 DYM .77846699 00 DZM .30905899 00
XT .34895506 06 YT .18779730 06 ZT .43621868 05 DXT .51022368 00 DYT .77846699 00 DZT .30905899 00
RS .14733080 09 VS .30238426 02 RM .39867321 06 VM .98074283 00 RT .39867321 06 VT .98074283 00
GED .15665310 02 ALT .28464277 06 LOS .12322983 03 RAS .31017177 03 RAM .20828782 03 LOM .21345882 02
DUT .34000000 02 DT .95999999 03 DR .18536343 01 SHA .29074956 06 DES .18331479 02 DEM .62817454 01
CCL .27504255 03 MCL .33861125 03 TCL .33861125 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217141202014700000 J.D.= 2437691.36967709 JAN. 26,1962 20 52 20.101
SMA -.52016331 06 ECC .10126357 01 B .82951116 05 SLR .13228340 05 APD .00000000 00 RCA .65726449 04
VM .87538482 00 C3 .76629858 00 C1 .72614198 05 TFP .11205990 06 TF .36416769-01 LTF .20361479 01
TA .16049870 03 MTA .17093926 03 EA .57146195 02 MA .10805186 02 C3J .45578778 00 TFI .31164166 02

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.22217440 06 Y -.17102183 06 Z -.77989586 05 DX -.13038974 01 DY -.12857246 01 DZ -.39038622 00
INC .30354067 02 LAN .24594633 03 APF .16747493 03 MX .45190872 00 MY -.78244815 00 MZ .42843113 00
WX .46146021 00 WY .20597338 00 WZ .86291905 00 PX .56877983 00 PY .81515587 00 PZ .10959180 00
QX .68084061 00 QY .54138321 00 QZ .49315151 00 RX .12656366 00 RY .13618016 00 RZ .98256631 00
BX .58272784 00 BY .66299973 00 BZ .46990125 00 TX .73249664 00 TY .68077065 00 TZ .00000000 00
SX1 .45446282 00 SY1 .89024211 00 SZ1 .30536285-01 DAI .17498714 01 RAI .62955983 02
SX0 .66890231 00 SY0 .71972653 00 SZ0 .18591233 00 DAD .10714329 02 RAD .22709610 03

BTQ .71613500 05 BRQ .41861604 05 B .82951116 05 THA .32969162 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-90439480	08	Y	10669352	09	Z	46259619	08	DX	-25347103	02	DY	-18110111	02	DZ	-76860488	01
R	14731856	09	LAT	18301106	02	LON	13028650	03	V	32086244	02	PTH	55682262	-01	AZ	10663300	03
XE	-90217306	08	YE	10686454	09	ZE	46337609	08	DXE	-24043206	02	DYE	-16824387	02	DZE	-72956627	01
XT	-90566261	08	YT	10667674	09	ZT	46293987	08	DXT	-23532982	02	DYT	-17602854	02	DZT	-76047216	01
LTE	18311479	02	LOE	13017176	03	LTT	18305339	02	LOT	13033054	03	RST	14739507	09	VST	30350111	02
EPS	92354566	02	ESP	11255962	00	SEP	87532350	02	EPH	13737489	03	EMH	29625872	02	EMV	12999230	02
MPS	12527449	03	MSP	41377734	-01	SMP	54683486	02	SEM	99200658	02	EMS	80644361	02	ESM	15291383	00
RPM	13242315	06	SPN	91098768	02	SIP	12452244	03	CPT	10296635	03	SIN	10271430	03			
GCE	84957448	02	GCT	24356870	03	CPE	84559852	02	EPS	10298192	03						
REP	29101943	06	VEP	18723347	01												

1 DAYS 8 HRS. 9 MIN. 51.000 SEC. 2355530752420200000000 J.D.= 2437692.70833333 JAN. 28,1962 05 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-22684706	06	Y	-17563287	06	Z	-79386406	05	DX	-12921394	01	DY	-12760261	01	DZ	-38565319	00
R	29767212	06	DEC	-15467442	02	RA	21774828	03	V	18565008	01	PTH	82656470	02	AZ	63400579	02
R	29767212	06	LAT	-15467442	02	LON	15765276	02	VE	20784434	02	PTF	50801179	01	AZE	27030201	03
XS	90303840	08	YS	-10680394	09	ZS	-46311331	08	DXS	-24029818	02	DYS	-16840400	02	DZS	-73025957	01
XW	-34710381	06	YW	-19059191	06	ZW	-44732638	05	DXW	51824194	00	DYW	-77407853	00	DZW	-30803021	00
XT	-34710381	06	YT	-19059191	06	ZT	-44732638	05	DXT	51824194	00	DYT	-77407853	00	DZT	-30803021	00
RS	14733161	09	VS	30238372	02	RM	39850638	06	VH	98114978	00	RT	39850638	06	VT	98114978	00
GED	-15567753	02	ALT	29129545	06	LOS	10823186	03	RAS	31021487	03	RAM	20877083	03	LDM	67878265	01
DUT	34000000	02	DT	95999999	03	DR	18404336	01	SHA	-29737784	06	DES	-18320610	02	DEM	-64450783	01
CCL	27517481	03	MCL	33772504	03	TCL	33772504	03									

GEOCENTRIC CONIC

EPDCH OF PERICENTER PASSAGE 235553217150202242600000 J.D.= 2437691.37001471 JAN. 26,1962 20 52 49.271
 SMA -51868806 06 ECC 10126487 01 B .82758710 05 SLR -13204489 05 APD .00000000 00 ZCA .65607521 04
 VH .87652882 00 C3 .76847808 00 C1 .72548708 05 TFP -11563073 06 TF .44519901-01 LTF -20213453 01
 TA .16068322 03 MTA .17093464 03 EA .57836252 02 MA .11197095 02 C3J .45533833 00 TFI .32164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-22684706	06	Y	-17563287	06	Z	-79386406	05	DX	-12921394	01	DY	-12760261	01	DZ	-38565319	00
INC	30483590	02	LAN	24578726	03	APF	16750041	03	MX	45297926	00	MY	-78012116	00	MZ	43153359	00
WK	-46266508	00	WV	20805351	00	WZ	86177447	00	PX	56332749	00	PY	81486224	00	PZ	10892990	00
QK	-67956419	00	QV	54103000	00	QZ	-49545886	00	RX	12644062	00	RY	13591483	00	RZ	-98261889	00
BX	-58137204	00	BY	66266246	00	BZ	-47210702	00	TX	-73216465	00	TY	68112769	00	TZ	00000000	00
SKI	49514340	00	SYI	88992921	00	SZI	29504322-01	00	DAI	16907177	01	RAI	62913083	02			
SKO	-66922894	00	SYO	-71943882	00	SZO	-18563425	00	DAD	-10649113	02	RAI	22706817	03			

BTQ .71350389 05 BRQ -.41930014 05 B .82758710 05 THA .32955880 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-90530687	08	Y	10667831	09	Z	46231944	08	DX	-25321957	02	DY	-18116425	02	DZ	-76882489	01
R	14731868	09	LAT	18289755	02	LON	13031227	03	V	32070478	02	PTH	63641140-01	AZ	10464635	03	
XE	-90303840	08	YE	10680394	09	ZE	46311331	08	DXE	-24029818	02	DYE	-16840400	02	DZE	-73025957	01
XT	-90650943	08	YT	10661335	09	ZT	46266598	08	DXT	-23511576	02	DYT	-17614478	02	DZT	-76106799	01
LTE	18320610	02	LOE	13021487	03	LTT	18294436	02	LOT	13037377	03	RST	14739266	09	VST	30347746	02
EPS	92432225	02	ESP	11956174	00	SEP	87452116	02	EPH	13636904	03	EMH	31025324	02	EMV	12605622	02
MPS	12592324	03	MSP	37664454-01	00	SMP	54037078	02	SEM	98735837	02	EMS	81111047	02	ESM	15291383	00
RPM	12604104	06	SPN	91204497	02	SIP	12513312	03	CPT	10341544	03	SIN	10262531	03			
GCE	84825186	02	GCT	24255023	03	CPE	84411870	02	EPS	10297721	03						
REP	29767212	06	VEP	18565008	01												

1 DAYS 9 HRS. 9 MIN. 51.000 SEC. 235553311330202000000000 J.D.= 2437692.75000000 JAN. 28,1962 06 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-23147861	06	Y	-18020970	06	Z	-80766489	05	DX	-12810554	01	DY	-12667187	01	DZ	-38108389	00
R	30427143	06	DEC	-15393231	02	RA	21790131	03	V	18414408	01	PTH	82967930	02	AZ	63182314	02
R	30427143	06	LAT	-15393231	02	LON	18772302	00	VE	21258139	02	PTF	49275016	01	AZE	27029071	03
XS	90390324	08	YS	-10674329	09	ZS	-46285028	08	DXS	-24016418	02	DYS	-16856405	02	DZS	-73095250	01
XW	-34522375	06	YW	-19337060	06	ZW	-45839658	05	DXW	52622805	00	DYW	-76962122	00	DZW	-30697497	00
XT	-34522375	06	YT	-19337060	06	ZT	-45839658	05	DXT	52622805	00	DYT	-76962122	00	DZT	-30697497	00
RS	14733242	09	VS	30238318	02	RM	39833767	06	VH	98156324	00	RT	39833767	06	VT	98156324	00
GED	-15493109	02	ALT	29789475	06	LOS	93233890	02	RAS	31025796	03	RAM	20925454	03	LDM	35223047	03
DUT	34000000	02	DT	95999999	03	DR	18259707	01	SHA	-30395280	06	DES	-18309730	02	DEM	-66080901	01
CCL	27530199	03	MCL	33671615	03	TCL	33671615	03									

GEOCENTRIC CONIC

EPDCH OF PERICENTER PASSAGE 23555321716020254300000 J.D.= 2437691.37040268 JAN. 26,1962 20 53 22.792
 SMA -51707707 06 ECC 10126622 01 B .82545980 05 SLR -13177628 05 APD .00000000 00 ZCA .65473619 04
 VH .87799335 00 C3 .77087233 00 C1 .72476878 05 TFP -11919721 06 TF .53831100-01 LTF -20046011 01
 TA .16086149 03 MTA .17092985 03 EA .58521814 02 MA .11596439 02 C3J .45487610 00 TFI .33164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-23147861	06	Y	-18020970	06	Z	-80766489	05	DX	-12810554	01	DY	-12667187	01	DZ	-38108389	00
INC	30634942	02	LAN	24560452	03	APF	16774461	03	MX	45373761	00	MY	-77776857	00	MZ	43496861	00
WK	-46406984	00	WV	21044712	00	WZ	86043142	00	PX	56995605	00	PY	81452457	00	PZ	10816523	00
QK	-67807752	00	QV	54004014	00	QZ	-49795339	00	RX	12629525	00	RY	13560973	00	RZ	-98267972	00
BX	-57974917	00	BY	66224918	00	BZ	-47667560	00	TX	-73179191	00	TY	68152814	00	TZ	00000000	00
SKI	45593483	00	SYI	88956255	00	SZI	28313622-01	00	DAI	16224670	01	RAI	62863124	02			
SKO	-66972388	00	SYO	-71911708	00	SZO	-18531187	00	DAD	-10679316	02	RAI	22703682	03			

BTQ .71053660 05 BRQ -.42014471 05 B .82545980 05 THA .32940391 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1
BK

IBSYS-JPTRAJ-SPACE 050865

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90621802 08 Y .10656307 09 Z .46204262 08 DX -.25297473 02 DY -.18123124 02 DZ -.76906089 01
R .14731881 09 LAT .18278398 02 LON .13037802 03 V .32055502 02 PTH .71680272 -01 AZ .10465968 03
XE -.90390324 08 YE .10674329 09 ZE .46285028 08 DXE -.24016418 02 DYE -.16856405 02 DZE -.73095250 01
XT -.90735547 08 YT .10654991 09 ZT .46239189 08 DXT -.23490189 02 DYT -.17626026 02 DZT -.76145000 01
LTE .18309730 02 LOE .13025796 03 LTI .18283525 02 LTO .13041698 03 RST .14739025 09 VST .30339361 02
EPS .92504106 02 ESP .11786692 00 SEP .87377676 02 EPM .13527644 03 EMP .32514523 02 MEP .12209032 02
MPS .12661675 03 MSP .34970568 -01 SMP .53345893 02 SEM .98270600 02 EMS .81576161 02 ESM .15323340 00
RPM .11971236 06 SPN .91303010 02
GCE .84698004 02 GCT .24141416 03 SIP .12578485 03 CPT .10390705 03 SIN .10307516 03
REP .30427143 06 VEP .18414408 01 CPE .84274139 02 CPS .10297250 03

1 DAYS 10 HRS. 9 MIN. 51.000 SEC. 235553313134202000000000 J.D.= 2437692.79166666 JAN. 28, 1962 07 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.23607143 06 Y -.18475369 06 Z -.82130376 05 DX -.12706186 01 DY -.12577756 01 DZ -.37665137 00
R .31081995 06 DEC -.15321665 02 RA .21804736 03 V .18271118 01 PTH .82676466 02 AZ .62936015 02
R .31081995 06 LAT -.15321665 02 LON .34598223 03 VE .21728327 02 PTE .47841948 01 AZE .27028041 03
XS .90476761 08 YS -.10668257 09 ZS -.46258701 08 DXS .24003004 02 DYS .16872402 02 DZS .73164507 01
XM -.34331500 06 YM .19613311 06 ZM -.46942831 05 DXM .53418134 00 DYM -.76509518 00 DZM -.30589328 00
XT -.34331500 06 YT .19613311 06 ZT -.46942831 05 DXT .53418134 00 DYT -.76509518 00 DZT -.30589328 00
RS .14733323 09 VS .30238263 02 RM .39816707 06 VM .98198321 00 RT .39816707 06 VT .98198321 00
GED .15421125 02 ALT .30444325 06 LOS .78235916 02 RAS .31030105 03 RAM .20973888 03 LQM .33767384 03
DUT .34000000 02 DT .95999999 03 DR .18122066 01 SHA -.31047712 06 DES -.18298843 02 DEM -.67707673 01
ECL .27542449 03 MCL .33556273 03 TCL .33556273 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 23555321717220247700000 J.D.= 2437691.37084851 JAN. 26, 1962 20 54 01.312
SMA -.51531649 06 ECC .10126762 01 B .82310661 05 SLR .13147365 05 APO .00000000 00 RCA .65322803 04
VH .87949190 00 C3 .77350601 00 C1 .72391610 05 TFP .12275869 06 TF .64530849 -01 LTF .19856430 01
TA .16103423 03 MTA .17092489 03 EA .59204558 02 MA .12004185 02 C3J .45440027 00 CFI .34161666 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.23607143 06 Y -.18475369 06 Z -.82130376 05 DX -.12706186 01 DY -.12577756 01 DZ -.37665137 00
INC .30812745 02 LAN .24539388 03 APF .16791094 03 MK .45414892 00 MY -.77536499 00 MZ .43881394 00
WX -.46571500 00 WY .21328104 00 WZ .85884838 00 PX .57068033 00 PY .81413485 00 PZ .10727719 00
QX -.67633820 00 QY .54008847 00 QZ -.50087009 00 RX .12612246 00 RY .13525700 00 RZ .98275052 00
BX -.57785934 00 BY .66174062 00 BZ -.47767975 00 TX -.73137204 00 TY .68197870 00 TZ .00000000 00
SKT .45685867 00 SYT .88913146 00 SZT .26932615 -01 DAT .15433102 01 RAT .62804732 02
SKO -.67021493 00 SYO .71875626 00 SZO .18493607 00 DAD .10657405 02 RAD .22700154 03

BTO .70718038 05 BRQ -.42118926 05 B .82310661 05 THA .32922241 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90712832 08 Y .10649782 09 Z .46176571 08 DX -.25273622 02 DY -.18130177 02 DZ -.76931021 01
R .14731897 09 LAT .18267038 02 LON .13042373 03 V .32041272 02 PTH .79827834 -01 AZ .10467297 03
XE -.90476761 08 YE .10668257 09 ZE .46258701 08 DXE -.24003004 02 DYE -.16872402 02 DZE -.73164507 01
XT -.90820076 08 YT .10648644 09 ZT .46211759 08 DXT -.23468823 02 DYT -.17637497 02 DZT -.76223439 01
LTE .18298843 02 LOE .13030105 03 LTI .18272604 02 LTO .13046017 03 RST .14738783 09 VST .30330959 02
EPS .92570562 02 ESP .12033130 00 SEP .87308685 02 EPM .13408166 03 EMP .34108553 02 MEP .11809782 02
MPS .12736057 03 MSP .34970568 -01 SMP .52604380 02 SEM .97804943 02 EMS .82041704 02 ESM .15323340 00
RPM .11344090 06 SPN .91394775 02
GCE .84575507 02 GCT .24013824 03 SIP .12648267 03 CPT .10444714 03 SIN .10356925 03
REP .31081995 06 VEP .18271118 01 CPE .84140194 02 CPS .10296778 03

1 DAYS 11 HRS. 9 MIN. 51.000 SEC. 235553314740202000000000 J.D.= 2437692.83333333 JAN. 28, 1962 08 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.24062781 06 Y -.18926610 06 Z -.83478513 05 DX -.12608092 01 DY -.12491723 01 DZ -.37232727 00
R .31732012 06 DEC -.15252510 02 RA .21818686 03 V .18134769 01 PTH .82782467 02 AZ .62655171 02
R .31732012 06 LAT -.15252510 02 LON .33108066 03 VE .22195186 02 PTE .44494079 01 AZE .27027106 03
XS .90563150 08 YS -.10662180 09 ZS -.46232349 08 DXS .23989577 02 DYS .16888390 02 DZS .73233725 01
XM -.34137768 06 YM .19887921 06 ZM -.48042063 05 DXM .54210117 00 DYM -.76050057 00 DZM -.30478515 00
XT -.34137768 06 YT .19887921 06 ZT -.48042063 05 DXT .54210117 00 DYT -.76050057 00 DZT -.30478515 00
RS .14733405 09 VS .30238209 02 RM .39799459 06 VM .98240967 00 RT .39799459 06 VT .98240967 00
GED .15391564 02 ALT .31094341 06 LOS .63237932 02 RAS .31034413 03 RAM .21022414 03 LQM .32311794 03
DUT .34000000 02 DT .95999999 03 DR .17901076 01 SHA -.31695331 06 DES -.18287945 02 DEM -.69331013 01
ECL .27554267 03 MCL .33423727 03 TCL .33423727 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217205202304700000 J.D.= 2437691.37136039 JAN. 26, 1962 20 54 45.538
SMA -.51339132 06 ECC .10126908 01 B .82050467 05 SLR .13113372 05 APO .00000000 00 RCA .65153439 04
VH .88113938 00 C3 .77640660 00 C1 .72297964 05 TFP .12631446 06 TF .76816081 -01 LTF .19642069 01
TA .16120204 03 MTA .17091974 03 EA .59886210 02 MA .12421436 02 C3J .45390958 00 TFI .35164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.24062781 06 Y -.18926610 06 Z -.83478513 05 DX -.12608092 01 DY -.12491723 01 DZ -.37232727 00
INC .31021985 02 LAN .24515014 03 APF .16810352 03 MK .45416485 00 MY -.77287695 00 MZ .44316447 00
WX -.46764961 00 WY .21657841 00 WZ .85696959 00 PX .57151826 00 PY .81368299 00 PZ .10623362 00
QX -.67429249 00 QY .53945660 00 QZ -.50429704 00 RX .12591571 00 RY .13484710 00 RZ .98283339 00
BX -.57564692 00 BY .66111013 00 BZ -.48121100 00 TX -.73089732 00 TY .68248744 00 TZ .00000000 00
SXJ .45794081 00 SYJ .88862193 00 SZJ .25321228 -01 DAT .14509533 01 RAT .82736220 02
SXO -.67077145 00 SYO .71835029 00 SZO .18449527 00 DAD .10631707 02 RAD .22696167 03

BTO .70337336 05 BRQ -.42248528 05 B .82050467 05 THA .32900862 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1 18SYS-JPTRAJ-SPACE 050865
 BK
 HELIOCENTRIC EQUATORIAL COORDINATES
 X -.30803777 08 Y .10643253 09 Z .46148870 08 DX -.25250386 02 DY -.18137562 02 DZ -.76956998 01
 R .14731913 09 LAT .18255670 02 LON .13046942 03 V .32027752 02 PTH .88112000-01 AZ .10468618 03
 KE -.90563150 08 YE .10662180 09 ZE .46232349 08 DXE -.23989577 02 DYE -.16888390 02 DZE -.73233725 01
 XT -.90909527 08 YT .10644292 09 ZT .46184307 08 DXT -.23447475 02 DYT -.17648890 02 DYT -.76281577 01
 LTE -.18287945 02 LOE .13034413 03 LTT .18261478 02 LDT .13050335 03 RST .14738541 09 VST .30322536 02
 EPS .92631894 02 ESP .12294532 00 SEP .87244833 02 EPM .13276610 03 EMP .35825699 02 MEP .11408195 02
 MPS .12814068 03 MSP .31278626-01 SMP .51806539 02 SEM .97338861 02 EMS .82507684 02 ESM .15291383 00
 RPM .10723194 06 SP4 .91480196 02
 GCE .84457332 02 GCT .23869460 03 SIP .12723195 03 CPT .10504261 03 SIN .10411388 03
 REP .31732012 06 VEP .18134769 01 CPE .84011614 02 CPS .10296305 03
 1 DAYS 12 HRS. 9 MIN. 51.000 SEC. 235553316544202000000000 J.D.= 2437692.87500000 JAN. 28,1962 09 00 00.00

GEOCENTRIC EQUATORIAL COORDINATES
 X -.24514998 06 Y -.19374811 06 Z -.84811230 05 DX -.12516139 01 DY -.12408847 01 DZ -.36808068 00
 R .32377429 06 DEC -.15185534 02 RA .21832019 03 V .18005043 01 PTH .82886269 02 AZ .62331612 02
 R .32377428 06 LAT -.15185534 02 LON .31617293 03 VE .22658904 02 PTF .45224415 01 AZE .27026263 03
 XS .90649490 08 YS -.10656097 09 ZS -.46205972 08 DXS .23976137 02 DYS .16904369 02 DZS .73302907 01
 XM -.33941190 06 YM .20160864 06 ZM -.49137257 05 DXM .54998692 02 DYM -.75583754 00 DZM -.30365057 00
 XT -.33941190 06 YT -.20160864 06 ZT -.49137257 05 DXT .54998692 00 DYT -.75583754 00 DZT -.30365057 00
 RS .14733486 09 VS .30238155 02 RM .39782025 06 VM .98284264 00 RT .39782025 06 VT .98284264 00
 GEO -.15284195 02 ALT .11739756 06 LOS .34823998 02 RAS .31038721 03 RAM .21071005 03 LDM .30856279 03
 DUT .34000000 02 DT .95999999 03 DR .17866445 31 SHA -.32338383 06 DES .18277036 02 DEM -.70950791 01
 CCL .27565685 03 MCL .33270484 03 TCL .33270484 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217222202037600000 J.D.= 2437691.37194731 JAN. 26,1962 20 55 36.248
 SMA -.51128581 06 ECC .10127059 01 B .81763032 05 SLR .13075280 05 APD .00000000 00 RGA .44963686 04
 VH .88295181 00 C3 .77960389 00 C1 .72192878 05 TFP .12986375 06 TF .90902327-01 LTF .19399819 01
 TA .16136550 03 MTA .17091438 03 EA .60568543 02 MA .12849429 02 C3J .65340279 00 TFI .16543607 02
 ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -.24514998 06 Y -.19374811 06 Z -.84811230 05 DX -.12516139 01 DY -.12408847 01 DZ -.36808068 00
 INC .31270644 02 LAN .24486700 03 APF .16832742 03 MX .45372195 00 MY -.77026384 00 MZ .44813921 03
 WK -.46993588 00 WY .22046409 00 WZ .85472488 00 PX .57249220 00 PY .81315653 00 PZ .10501493 00
 QX -.67187224 00 QY .53867561 00 QZ -.50834543 00 RX .12566660 00 RY .13436755 00 RZ .98293094 00
 BX -.57304058 00 BY .66032321 00 BZ -.48538412 00 TX -.71035840 00 TY .68306413 00 TZ .00000000 00
 SKI .45921393 00 SYI .88801660 00 SZI .23428978-01 DAI .13425035 01 RAI .62655468 02
 SKD -.67140487 00 SYD .71789187 00 S2D .18937482 00 DAD .10601369 02 RAD .22691644 03
 BTQ .69904129 05 BRQ .42409972 05 B .81763032 05 THA .32875533 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
 X -.90894639 08 Y .10636722 09 Z .46121161 08 DX -.25227751 02 DY -.18145254 02 DZ -.76983714 01
 R .14731932 09 LAT .18244299 02 LON .13051509 03 V .32014912 02 PTH .96589481-01 AZ .10468618 03
 KE -.90664940 08 YE .10656097 09 ZE .46205972 08 DXE -.23976137 02 DYE -.16904369 02 DZE -.73302907 01
 XT -.90988901 08 YT .10635936 09 ZT .46156834 08 DXT -.23426190 02 DYT -.17660207 02 DYT -.76339413 01
 LTE -.18277036 02 LOE .13038721 03 LTT .18250741 02 LDT .13054651 03 RST .14738299 09 VST .30314096 02
 EPS .92688367 02 ESP .12589407 00 SEP .87185860 02 EPM .13130714 03 EMP .37888264 02 MEP .11004590 02
 MPS .12902335 03 MSP .28837468-01 SMP .50946116 02 SEM .96872344 02 EMS .82974111 02 ESM .15323340 00
 RPM .10109268 06 SPN .91559630 02
 GCE .84343145 02 GCT .23704798 03 SIP .12803821 03 CPT .10570150 03 SIN .10471636 03
 REP .32377429 06 VEP .18005043 01 CPE .83888003 02 CPS .10295832 03

1 DAYS 13 HRS. 9 MIN. 51.000 SEC. 235553320350202000000000 J.D.= 2437692.91666666 JAN. 28,1962 10 00 00.00
 GEOCENTRIC EQUATORIAL COORDINATES
 X -.24964015 06 Y -.19820083 06 Z -.86128747 05 DX -.12430266 01 DY -.12328896 01 DZ -.36387656 00
 R .33018469 06 DEC -.15120515 02 RA .21844768 03 V .17881661 01 PTH .82888188 02 AZ .61954911 02
 R .33018466 06 LAT -.15120515 02 LON .30125935 03 VE .27319562 02 PTF .44026707 01 AZE .27025510 03
 XS .90735782 08 YS -.10650009 09 ZS -.46179570 08 DXS .23962684 02 DYS .16920340 02 DZS .73372052 01
 XM -.33741781 06 YM .20432117 06 ZM -.50228320 05 DXM .55783792 00 DYM -.75110622 00 DZM -.30248958 00
 XT -.33741781 06 YT .20432117 06 ZT .50228320 05 DXT .55783792 00 DYT -.75110622 00 DZT -.30248958 00
 RS .14733568 09 VS .30238100 02 RM .39764406 06 VM .98328207 00 RT .39764406 06 VT .98328207 00
 GEO -.15218795 02 ALT .32380795 06 LOS .33241951 02 RAS .31043288 03 RAM .21119672 03 LDM .29400839 03
 DUT .34000000 02 DT .95999999 03 DR .17747925 01 SHA .32977099 06 DES .18266120 02 DEM -.72566900 01
 CCL .27576737 03 MCL .33092077 03 TCL .33092077 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 235553217240202450200000 J.D.= 2437691.37261938 JAN. 26,1962 20 56 34.314
 SMA -.50898413 06 ECC .10127218 01 B .81446061 05 SLR .13027778 05 APD .00000000 00 RGA .44752021 04
 VH .88494595 00 C3 .78312933 00 C1 .72075453 05 TFP .13340569 06 TF .10703182 00 LTF .19126609 01
 TA .16152511 03 MTA .17090877 03 EA .61253351 02 MA .13289525 02 C3J .45287865 00 TFI .37164166 02
 ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -.24964015 06 Y -.19820083 06 Z -.86128747 05 DX -.12430266 01 DY -.12328896 01 DZ -.36387656 00
 INC .31567753 02 LAN .24453674 03 APF .16858882 03 MX .45273533 00 MY -.76747270 00 MZ .45388801 04
 WK -.47265196 00 WY .22507144 00 WZ .85202169 00 PX .57362995 00 PY .81253976 00 PZ .10357660 00
 QX -.66899012 00 QY .53769956 00 QZ -.51315631 00 RX .12536409 03 RY .13380277 00 RZ .98304660 00
 BX -.56994937 00 BY .65933257 00 BZ -.49034506 00 TX .72974402 00 TY .68372045 00 TZ .00000000 00
 SKI .46071895 00 SYI .88729288 00 SZI .21191278-01 DAI .12142608 01 RAI .62559804 02
 SKD -.67212907 00 SYD .71737239 00 S2D .18335576 00 DAD .10565286 02 RAD .22686493 03
 BTQ .69409467 05 BRQ .42612042 05 B .81446061 05 THA .32845329 03 T VECTOR IN EARTH EQUATOR PLANE

CASE I IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

X -.90985422 08 Y .10630189 09 Z .46093440 08 DX -.25205711 02 DY -.18153230 02 DZ -.77010817 01
R .14731953 09 LAT .18232921 02 LON .13056073 03 V .32002722 02 PTH .10524809 00 AZ .10471223 03
XE -.90735782 08 YE .10650009 09 ZE .46179570 08 DXE -.23962884 02 DYE -.16920340 02 DZE -.73372052 01
XT -.91073199 08 YT .10624976 09 ZT .46129341 08 DXT -.23434846 02 DYT -.17671446 02 DZT -.76396948 01
LTE .18266120 02 LOE .13043028 03 LTT .18239798 02 LDT .13058965 03 RST .14738057 09 VST .30305639 02
EPS .02740203 02 ESP .12820425 00 SEP .87131539 02 EPM .12967709 03 EMP .39723603 02 MEP .10599302 02
MPS .12995470 03 MSP .27088086-01 SMP .50016974 02 SEM .96405388 02 EMS .83440986 02 ESM .15323340 00
RPM .95032713 05 SPN .91633382 02
GCE .84232622 02 GCT .23515339 03 SIP .12890674 03 CPT .13643307 03 SIN .10538511 03
REP .33018469 06 VEP .17881661 01 CPE .83769003 02 CPS .10295358 03

EQUATORIAL COORDINATES

1 DAYS 14 HRS. 9 MIN. 51.000 SEC.

235553322154202000000000 J.D.= 2437692.95833333 JAN. 28, 1962 11 00 00.000

GEOCENTRIC

X -.25410050 06 Y -.20262525 06 Z -.87431146 05 DX -.12350483 01 DY -.12251630 01 DZ -.35967366 00
R .33655350 06 DEC -.15057233 02 RA .21856962 03 V .17764389 01 PTH .83088689 02 AZ .61511810 02
R .33655350 06 LAT -.15057233 02 LON .28634021 03 VE .23577647 02 PTE .42895398 01 AZE .27024848 03
XS .90822027 08 YS -.10643914 09 ZS -.46153143 08 DXS .23949218 02 DYS .16936303 02 DZS .73441159 01
XM -.33539551 06 YM -.20701654 06 ZM -.51315155 05 DXM .56565353 00 DYM -.74630678 00 DZM -.30130217 00
XT -.33539551 06 YT -.20701654 06 ZT -.51315155 05 DXT .56565353 00 DYT -.74630678 00 DZT -.30130217 00
RS .14733650 09 VS .30238045 02 RM .39746602 06 VM .98372796 00 RT .39746602 06 VT .98372796 00
GEO -.15155140 02 ALT .33017675 06 LMS .18243950 02 RAS .31047335 03 RAM .21168417 03 LDM .27945477 03
DUT .34000000 02 DT .95999999 03 DR .17635295 01 SHA -.33611703 06 DES -.18255193 02 DEM -.74179717 01
CCL .27587453 03 MCL .32882730 03 TCL .32882730 03

EQUATORIAL COORDINATES

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217261202116000000 J.D.= 2437691.37338668 JAN. 26, 1962 20 57 40.609
SH .50647157 06 ECC .10127386 01 B .81097818 05 SLR .12985653 05 APD .00000000 00 RCA .64517333 04
VM .88713831 00 C3 .78701438 00 C1 .71945024 05 TFP .13693939 06 TF .12544727 00 LTF -.18819356 01
TA .16168126 03 MTA .17090284 03 EA .61942383 02 MA .13763181 02 C3J .45233577 00 TFI .38164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.25410050 06 Y -.20262525 06 Z -.87431146 05 DX -.12350483 01 DY -.12251630 01 DZ -.35967366 00
INC .31925182 02 LAN .24414993 03 APF .16889529 03 MX .45109302 00 MY -.76443517 00 MZ .46060137 00
WX -.47589733 00 WY .23057093 00 WZ .84873933 00 PX .57496618 00 PY .81181301 00 PZ .10185037 00
QX .66553392 00 QY .53646670 00 QZ -.51891014 00 RX .12499365 00 RY .13313273 00 RZ -.98318474 00
BX .56625532 00 BY .65807396 00 BZ .44627974 00 TX -.72904350 00 TY .68447057 00 TZ .00000000 00
SXI .46250710 00 SVI .88642201 00 SZI .18524809-01 DAI .10614532 01 RAI .62445864 02
SKO .67296102 00 SKO .71678149 00 SZO .18261362 00 DAD .10522034 02 RAD .22768060 03

BTQ .68842732 05 BRQ .42866469 05 B .81097818 05 THA .32809362 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

X -.91076127 08 Y .10623652 09 Z .46065711 08 DX -.25184266 02 DY -.18161466 02 DZ -.77037895 01
R .14731975 09 LAT .18221539 02 LON .13060635 03 V .31991162 02 PTH .11420503 00 AZ .10472498 03
XE -.90822027 08 YE .10643914 09 ZE .46153143 08 DXE -.23949218 02 DYE -.16936303 02 DZE -.73441159 01
XT -.91157422 08 YT .10623213 09 ZT .46101827 08 DXT -.23383564 02 DYT -.17682610 02 DZT -.76454180 01
LTE .18255193 02 LOE .13047335 03 LTT .18228846 02 LDT .13063278 03 RST .14737815 09 VST .30297164 02
EPS .02787584 02 ESP .13028593 00 SEP .87081692 02 EPM .12784188 03 EMP .41965661 02 MEP .10192653 02
MPS .13095998 03 MSP .24228320-01 SMP .49013871 02 SEM .95937989 02 EMS .83908315 02 ESM .15323340 00
RPM .89064733 05 SPN .91701711 02
GCE .84125465 02 GCT .23295276 03 SIP .12984178 03 CPT .10724789 03 SIN .10612970 03
REP .33655350 06 VEP .17764385 01 CPE .83654273 02 CPS .10294883 03

EQUATORIAL COORDINATES

1 DAYS 15 HRS. 9 MIN. 51.000 SEC.

235553323760202000000000 J.D.= 2437693.00000000 JAN. 28, 1962 12 00 00.000

GEOCENTRIC

X -.25853323 06 Y -.20702230 06 Z -.88718342 05 DX -.12276868 01 DY -.12176793 01 DZ -.35542181 00
R .34288279 06 DEC -.14995457 02 RA .21868624 03 V .17652995 01 PTH .83187303 02 AZ .60995084 02
R .34288277 06 LAT .14995457 02 LON .27141578 03 VE .24033045 02 PTE .41825465 01 AZE .27024279 03
KS .90908220 08 YS -.10637814 09 ZS -.46126691 08 DXS .23935739 02 DYS .16952257 02 DZS .73510229 01
XM -.33334514 06 YM -.20969451 06 ZM -.52397668 05 DXM .57343309 00 DYM -.74143936 00 DZM -.30008836 00
XT -.33334514 06 YT -.20969451 06 ZT -.52397668 05 DXT .57343309 00 DYT -.74143936 00 DZT -.30008836 00
RS .14733731 09 VS .30237991 02 RM .39728615 06 VM .98418029 00 RT .39728615 06 VT .98418029 00
GEO -.15093000 02 ALT .33650602 06 LMS .32459450 01 RAS .31051641 03 RAM .21217240 03 LDM .26490193 03
DUT .34000000 02 DT .95999999 03 DR .17528352 01 SHA -.34242414 06 DES -.18244257 02 DEM -.75787650 01
CCL .27597862 03 MCL .32634929 03 TCL .32634929 03

EQUATORIAL COORDINATES

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217303202770600000 J.D.= 2437691.37425860 JAN. 26, 1962 20 58 55.943
SHA .50373671 06 ECC .10127567 01 B .80717642 05 SLR .12934037 05 APD .00000000 00 RCA .64260307 04
VM .88954325 00 C3 .79128718 00 C1 .71801896 05 TFP .14044406 06 TF .14637327 00 LTF -.18475861 04
TA .16183407 03 MTA .17089643 03 EA .62637216 02 MA .14211872 02 C3J .45177278 00 TFI .16164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.25853323 06 Y -.20702230 06 Z -.88718342 05 DX -.12276868 01 DY -.12176793 01 DZ -.35542181 00
INC .32358795 02 LAN .24369514 03 APF .16925601 03 MX .44864391 00 MY -.76105649 00 MZ .46851983 00
WX -.47979581 00 WY .23718019 00 WZ .84471341 00 PX .57654415 00 PY .81095105 00 PZ .99775788-01
QX .66135644 00 QY .53488650 00 QZ -.52583577 00 RX .12453503 00 RY .13233159 00 RZ -.98335096 00
BX .56180570 00 BY .65645758 00 BZ .50342607 00 TX -.72823118 00 TY .68533155 00 TZ .00000000 00
SXI .46464252 00 SVI .88936575 00 SZI .15321555-01 DAI .87789445 00 RAI .62309380 02
SKO .67392144 00 SKO .71611646 00 SZO .18171646 00 DAD .10469755 02 RAD .22673831 03

BTQ .68191306 05 BRQ .43188927 05 B .80717642 05 THA .32765190 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1 IBSYS-JPTRAJ-SPACE 050865
 BK
 HELIOCENTRIC EQUATORIAL COORDINATES
 X -91166753 08 Y -10617112 09 Z -46037972 08 DX -25163425 02 DY -18169936 02 DZ -77064444 01
 R -14731998 09 LAT -18210151 02 LON -13065194 03 V -31980210 02 PTH -12351458 00 AZ -10473746 01
 XE -90908220 08 YE -106337814 09 ZE -46125691 08 DXE -23935739 02 DYE -16952957 02 DYE -173510229 01
 XT -91241565 08 YT -10616445 09 ZT -46074292 08 DXT -23362306 02 DYT -17693696 02 DZT -76511112 01
 LTE -18244257 02 LOE -13051641 03 LTT -18217888 02 LOT -13067589 03 RST -14737572 09 VST -30288672 02
 EPS -92830653 02 FSP -13251956 00 SEP -87036169 02 FPM -12575934 03 EMP -44455642 02 MEP -97850165 01
 MPS -13204207 03 MSP -22117329-01 SMP -47933901 02 SEM -95470138 02 EMS -84376108 02 ESM -15355230 00
 RPM -83205492 05 SPV -91764827 02 SLP -13084512 03 SPT -10815772 03 SIN -10696077 03
 GCE -84021376 02 GCT -23037066 03 CPE -83543497 02 CPS -10294408 03
 REP -34784279 06 VEP -17652995 01

1 DAYS 16 HRS. 9 MIN. 51.000 SEC. 235553275564202000000000 J.D.= 2437693.04166666 JAN. 28, 1962 13 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -26294059 06 Y -21139280 06 Z -89990054 05 DX -12209565 01 DY -12104097 01 DZ -35105826 00
 R -34917456 06 DEC -14934950 02 RA -21879777 03 V -17547270 01 PTH -83284685 02 AZ -60352930 02
 XE -34917456 06 LAT -14934951 02 LON -25648623 03 VE -24486547 02 PTF -40812292 01 AZE -27023811 03
 XS -90994368 08 YS -10631708 09 ZS -46100213 08 DXS -23922246 02 DYS -16968202 02 DZS -73579261 01
 XM -33126682 06 YM -21235483 06 ZM -53475764 05 DXM -58117595 00 DYM -73650413 00 DZM -29884816 00
 XT -33126682 06 YT -21235483 06 ZT -53475764 05 DXT -58117595 00 DYT -73650413 00 DZT -29884816 00
 RS -14733814 09 VS -30237937 02 RM -39710444 06 VM -98463903 00 RT -39710444 06 VT -98463903 00
 GEO -15032138 02 ALT -34279779 06 LOS -34824793 03 RAS -31055947 03 RAM -21766144 03 LOM -25034990 03
 DUT -34000000 02 DT -95999999 03 DR -17426886 01 SHA -34869439 06 DES -18233311 02 DEM -77392062 01
 CCL -27607993 03 MCL -32338843 03 TCL -32338843 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 23555321733120216420000000 J.D.= 2437691.37524199 JAN. 26, 1962 21 00 20.908
 SMA -50077569 06 ECC -10127769 01 B -80306945 05 SLR -12878454 05 APD -00000000 00 ACA -63983515 04
 VH -89216925 00 C3 -79596597 00 CI -71647450 05 TFP -14397309 06 TF -16997433 00 LTF -18095347 01
 TA -16198341 03 MTA -17088932 03 EA -83339005 02 MA -14596911 02 C3J -45118859 00 TFI -40164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -26294059 06 Y -21139280 06 Z -89990054 05 DX -12209565 01 DY -12104097 01 DZ -35105826 00
 INC -32888727 02 LAV -24315874 03 APF -16968204 03 MX -44518842 00 MY -75721129 00 MZ -47795187 00
 WX -48450572 00 WY -24517941 00 WZ -83927670 00 PX -57841791 00 PY -80992189 00 PZ -92785865-01
 QX -65626730 00 QY -53283526 00 QZ -53427794 00 RX -12336538 00 RY -13136591 00 RZ -98355252 00
 BX -55440028 00 BY -65435796 00 BZ -51208827 00 TX -71229617 00 TY -68637376 00 TZ -00000000 00
 SXI -46723069 00 SYI -88407438 00 SZI -11440854-01 DAI -65552554 00 RAI -62144327 02
 SKO -67503546 00 SYO -21753397 00 SZO -18062731 00 DAO -10406311 02 RAO -22666019 03
 BTQ -67440312 05 BRQ -43600568 05 B -80306945 05 THA -32711709 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
 X -91257308 08 Y -10610569 09 Z -46010223 08 DX -25143202 02 DY -18178611 02 DZ -77089483 01
 R -14732024 09 LAT -18198757 02 LON -13067952 03 V -31989845 02 PTH -11326724 00 AZ -10474960 01
 XE -90994368 08 YE -10631708 09 ZE -46100213 08 DXE -23922246 02 DYE -16968202 02 DZE -73579261 01
 XT -91241565 08 YT -10610473 09 ZT -46046738 08 DXT -23341070 02 DYT -17704706 02 DZT -76567742 01
 LTE -18233311 02 LOE -13055946 03 LTT -18204921 02 LOT -13071898 03 RST -14737329 09 VST -30280164 02
 EPS -92869515 02 FSP -13580115 00 SEP -86994868 02 FPM -12337722 03 EMP -47266027 02 MEP -93767513 01
 MPS -13319842 03 MSP -20982341-01 SMP -46779115 02 SEM -95001829 02 EMS -84844369 02 ESM -15371151 00
 RPM -77477052 05 SPV -91822897 02 SLP -13191346 03 SPT -10917504 03 SIN -13788958 03
 GCE -83920064 02 GCT -22730849 03 CPE -83436358 02 CPS -10293932 03
 REP -34917456 06 VEP -17547270 01

1 DAYS 17 HRS. 9 MIN. 51.000 SEC. 235553273702020000000000 J.D.= 2437693.08333333 JAN. 28, 1962 14 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -26732488 06 Y -21573747 06 Z -91245738 05 DX -12148769 01 DY -12033174 01 DZ -34650284 00
 R -35543077 06 DEC -14875451 02 RA -21890435 03 V -17446957 01 PTH -83380352 02 AZ -59585488 02
 XE -35543076 06 LAT -14875452 02 LON -24155174 03 VE -24936850 02 PTE -39851618 01 AZE -27023451 03
 XS -91080466 08 YS -10625597 09 ZS -46073712 08 DXS -23908741 02 DYS -16984139 02 DZS -73648255 01
 XM -32916071 06 YM -21499727 06 ZM -54549348 05 DXM -58888146 00 DYM -73150126 00 DZM -29758158 00
 XT -32916071 06 YT -21499727 06 ZT -54549348 05 DXT -58888146 00 DYT -73150126 00 DZT -29758158 00
 RS -14733806 09 VS -30237882 02 RM -39692093 06 VM -98510418 00 RT -39692093 06 VT -98510418 00
 GEO -14972287 02 ALT -34905398 06 LOS -33324492 03 RAS -31060252 03 RAM -21315128 03 LOM -23579868 03
 DUT -34000000 02 DT -95999999 03 DR -17330644 01 SHA -35492984 06 DES -18222355 02 DEM -78992341 01
 CCL -27617877 03 MCL -31981628 03 TCL -31981628 03

GEOCENTRIC CONIC
 EPOCH OF PERICENTER PASSAGE 23555321736020270260000000 J.D.= 2437691.37633705 JAN. 26, 1962 21 01 55.521
 SMA -49759836 06 ECC -10128003 01 B -79871138 05 SLR -12820374 05 APD -00000000 00 ACA -63694218 04
 VH -89501311 00 C3 -80104847 00 CI -71485708 05 TFP -14748448 06 TF -19625616 00 LTF -17680199 01
 TA -16212853 03 MTA -17088105 03 EA -64048058 02 MA -15199153 02 C3J -45058268 00 TFI -41164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -26732488 06 Y -21573747 06 Z -91245738 05 DX -12148769 01 DY -12033174 01 DZ -34650284 00
 INC -33541667 02 LAV -24252471 03 APF -17018635 03 MX -44045969 00 MY -75722556 00 MZ -48928611 00
 WX -49022303 00 WY -25492526 00 WZ -83348420 00 PX -58065420 00 PY -80868493 00 PZ -94177962-01
 QX -65001749 00 QY -53013456 00 QZ -544445928 00 RX -12324712 00 RY -13019237 00 RZ -98379880 00
 BX -54977713 00 BY -65159803 00 BZ -52262500 00 TX -72621171 00 TY -68747114 00 TZ -00000000 00
 SXI -47029785 00 SYI -88248245 00 SZI -66893208-02 DAI -36384638 00 RAI -61945685 02
 SKO -67633328 00 SYO -71444620 00 SZO -17927606 00 DAO -10327596 02 RAO -22656973 03
 BTQ -66572780 05 BRQ -44130082 05 B -79871138 05 THA -32664021 03 T VECTOR IN EARTH EQUATOR PLANE

CASE L

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -91347790 08 Y 10604023 09 Z 45982466 08 DX -25123617 02 DY -18187457 02 DZ -77113283 01
R -14732052 09 LAT 18187358 02 LON 13074308 03 V 31960042 02 PTH 14358253 00 AZ 10476128 03
KE -91080466 08 YE 10625597 09 ZE 46073712 08 DXE -23908741 02 DYE -16984139 02 DZE -73648255 01
XT -91409626 08 YT 10604097 09 ZT 46019162 08 DXT -23319859 02 DYT -17715640 02 DZT -76624071 01
LTE 18222355 02 LOE 13060251 03 LTT 18195946 02 LTT 18195946 02 LOT 13076205 03 RST 14737086 09 VST 30271640 02
EPS 92904223 02 ESP 13794551 00 SEP 86957734 02 EPM 12063082 03 EMP 50400906 02 WEP 89682653 01
MPS 13441884 03 MSP 18504685-01 SMP 45561188 02 SEM 94533058 02 EMS 85313104 02 ESM 15371151 00
RPM 71908567 05 RPN 91876028 02
GCE 83821227 02 GCT 22363751 03 STP 13303381 03 CPT 11031200 03 SIN 10892698 03
REP 35543077 06 VEP 17446957 01 CPE 83332554 02 CPS 10293455 03

1 DAYS 18 HRS. 9 MIN. 51.000 SEC. 2355533117420200000000 J.D.= 2437693.12500000 JAN. 28, 1962 15 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -27168850 06 Y -22005686 06 Z -92484524 05 DX -12094690 01 DY -11963592 01 DZ -34165198 00
R 36165321 06 DEC -14816672 02 RA 21900609 03 V 17351704 01 PTH 83473624 02 AZ 58647288 02
R 36165321 06 LAT -14816672 02 LON 22661243 03 VE 29385655 02 PTF 38939207 01 AZE 27023214 03
XS 91166515 08 YS -10619479 09 ZS -46047185 08 DXS 23895222 02 DYS 17000067 02 DZS 13717213 01
XM -32702691 06 YM -21762157 06 ZM -55618325 05 DXM 59654897 00 DYM -72643091 00 DZM -29628866 00
XT -32702691 06 YT -21762157 06 ZT -55618325 05 DXT 59654897 00 DYT -72643091 00 DZT -29628866 00
RS 14733978 09 VS 30237827 02 RM 39673562 06 VM 98557571 00 RT 39673562 06 VT 98557571 00
GED -14913160 02 ALT 35527642 06 LOS 31825189 03 RAS 31064555 03 RAM 21364196 03 LDM 22124829 03
DUT 34000000 02 DT 95999999 03 DR 17239260 01 SHA -36113241 06 DES -18211990 02 DEM -80588559 01
CCL 27627544 03 MCL 31546702 03 TCL 31546702 03

GEOCENTRIC CONIC

EPCH OF PERICENTER PASSAGE 23555321742202542000000 J.D.= 2437691.37753201 JAN. 26, 1962 21 03 38.766
SMA -49423940 06 ECC 10128294 01 B 79422429 05 SLR 12762932 05 APO 00000000 00 ACA 63407916 04
VM 89804931 00 C3 80649257 00 C1 71325380 05 TFP 15098123 06 TF 22493505 00 LTF -17236682 01
TA 16226763 03 MTA 17087081 03 EA 64763085 02 MA 15718403 02 CJJ 44995573 00 TFI 42164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -27168850 06 Y -22005686 06 Z -92484524 05 DX -12094690 01 DY -11963592 01 DZ -34165198 00
INC 34352263 02 LAN 24177518 03 APF 17078357 03 MK 43610237 00 MV -74735541 00 MZ 50300375 00
MX -49718412 00 MY 26686499 00 MZ 82558390 00 PX 59333364 00 PY 80718876 00 PZ 90377017-01
QX -64228607 00 QY 52654450 00 QZ -55699289 00 RX 12233459 00 RY 12875504 00 RZ -39410180 00
BX -54159670 00 BY 64792509 00 BZ -53559881 00 TX -72495077 00 TY 68880069 00 TZ 00000000 00
SXI 47403926 00 SVI 88050305 00 SZI 85923167-03 DAI 49231149-01 RAI 61703168 02
SKO -67858000 00 SKO -71342535 00 SDI -17760522 00 DAD -10230302 00 RAD 22646474 03

BTO .65569978 05 BRQ -.44816284 05 B .79422429 05 THA .32564786 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -91438203 08 Y 10597474 09 Z 45954700 08 DX -25104491 02 DY -18196427 02 DZ -77133732 01
R -14732082 09 LAT 18175955 02 LON 13078861 03 V 31950768 02 PTH 15459706 00 AZ 10477237 03
XE -91493541 08 YE 10597717 09 ZE 46047185 08 DXE -23895222 02 DYE -17000067 02 DZE -73717213 01
XT -91493541 08 YT 10597717 09 ZT 45991566 08 DXT -23298673 02 DYT -17726498 02 DZT -76680098 01
LTE 18211390 02 LOE 13064556 03 LTT 18184963 02 LTT 18184963 02 LOT 13080511 03 RST 14736842 09 VST 30263101 02
EPS 92934794 02 ESP 14057998 00 SEP 86924753 02 EPM 11744064 03 EMP 53999333 02 WEP 85600239 01
MPS 13567242 03 MSP 19639313-01 SMP 44309494 02 SEM 94063818 02 EMS 85782321 02 ESM 15371151 00
RPM 66538618 05 RPN 91924291 02
GCE 83724555 02 GCT 21919158 03 STP 13417560 03 CPT 11157801 03 SIN 11008119 03
REP 36165321 06 VEP 17351704 01 CPE 83231773 02 CPS 10292977 03

1 DAYS 19 HRS. 9 MIN. 51.000 SEC. 2355533300020200000000 J.D.= 2437693.16666666 JAN. 28, 1962 16 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -27603388 06 Y -22435135 06 Z -93705121 05 DX -12047470 01 DY -11894750 01 DZ -33637191 00
R 36784355 06 DEC -14758284 02 RA 21910308 03 V 17260974 01 PTH 83563052 02 AZ 57492194 02
R 36784355 06 LAT -14758284 02 LON 21166835 03 VE 25832663 02 PTE 38070782 01 AZE 27023117 03
XS 91252515 08 YS -10613356 09 ZS -46020634 08 DXS 23881890 02 DYS 17015987 02 DZS 13786132 01
XM -32486559 06 YM -22022750 06 ZM -56682600 05 DXM 60417779 00 DYM -72129327 00 DZM -29496940 00
XT -32486559 06 YT -22022750 06 ZT -56682600 05 DXT 60417779 00 DYT -72129327 00 DZT -29496940 00
RS 14734060 09 VS 30237772 02 RM 39654851 06 VM 98605360 00 RT 39654851 06 VT 98605360 00
GED -14854426 02 ALT 36146674 06 LOS 30325386 03 RAS 31068859 03 RAM 21413348 03 LDM 20669874 03
DUT 34000000 02 DT 95999999 03 DR 17152159 01 SHA -36730387 06 DES -18200416 02 DEM -82180024 01
CCL 27637029 03 MCL 31013371 03 TCL 31013371 03

GEOCENTRIC CONIC

EPCH OF PERICENTER PASSAGE 2355532174452027152000000 J.D.= 2437691.37879170 JAN. 26, 1962 21 05 27.604
SMA -49077576 06 ECC 10128673 01 B 78984783 05 SLR 12711716 05 APO 00000000 00 ACA 63152254 04
VM 90121273 00 C3 81218438 00 C1 71182127 05 TFP 15447240 06 TF 25516748 00 LTF -16789323 01
TA 16259745 03 MTA 17085729 03 EA 65479968 02 MA 16252408 02 CJJ 44931090 00 TFI 43164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -27603388 06 Y -22435135 06 Z -93705121 05 DX -12047470 01 DY -11894750 01 DZ -33637191 00
INC 35363501 02 LAN 24089186 03 APF 17148912 03 MK 42565820 00 MV -74077205 00 MZ 51968481 00
MX -50566639 00 MY 28154432 00 MZ 81549662 00 PX 58655062 00 PY 80537054 00 PZ 85655098-01
QX -63266098 00 QY 52164306 00 QZ -57238870 00 RX 12116598 00 RY 12698301 00 RZ -98447658 00
BX -53142398 00 BY 64298439 00 BZ -55150671 00 TX -72348380 00 TY 69034136 00 TZ 00000000 00
SXI 47857283 00 SVI 87802478 00 SZI -63822306-02 DAI -36567808 00 RAI 61407134 02
SKO -67962491 00 SKO -71225286 00 SDI -17551604 00 DAD -10108691 02 RAD 22634286 03

BTO .64413121 05 BRQ -.45711555 05 B 78984783 05 THA .32463812 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1 IBSYS-JPTRAJ-SPACE 050865
 BK
 HELIOCENTRIC EQUATORIAL COORDINATES
 X -91528548 08 Y -10590921 09 Z -45926929 08 DX -25086437 02 DY -18205462 02 DZ -77149851 01
 R -14732114 09 LAT -18164545 02 LON -13083414 03 V -13941965 02 PTH -16648586 00 AZ -10478269 03
 XE -91252515 08 YE -10613356 09 ZE -46020634 08 DXE -23881690 02 DYE -17015987 02 DZE -73786132 01
 XT -91577380 08 YT -10591334 09 ZT -45963952 08 DXT -23277512 02 DYT -17737280 02 DZT -76735826 01
 LTE -18200416 02 LOE -13068899 03 LTT -18173974 02 LOT -13084815 03 RST -14736599 09 VST -30254564 02
 EPS -92961183 02 ESP -14316597 00 SEP -86895964 02 EPM -11371074 03 EMP -58136763 02 MEP -81524870 01
 MPS -13689920 03 MSP -13988227 01 SMP -43084478 02 SEM -93594102 02 EMS -86252022 02 ESM -15355230 00
 RPM -61418316 05 SPN -91967689 02 SPT -13527756 03 CPT -11297515 03 SIN -11135351 03
 GCE -83629708 02 GCT -21376342 03 CPE -83133691 02 CPS -10292498 03
 REP -36784355 06 VEP -17260974 01

1 DAYS 20 HRS. 9 MIN. 51.000 SEC. 235553334604202000000000 J.D. = 2437693.20833333 JAN. 28, 1962 17 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -28036348 06 Y -22862108 06 Z -94905688 05 DX -12007044 01 DY -11825850 01 DZ -33049306 00
 R -37400316 06 DEC -14699906 02 RA -21919536 03 V -17173887 01 PTH -83646007 02 AZ -56066059 02
 X -37400316 06 LAT -14699906 02 LON -19571956 03 VE -26278066 02 PTE -37241538 01 AZE -27023182 03
 XS -91338466 08 YS -10607228 09 ZS -45994058 08 DXS -23881645 02 DYS -17031898 02 DZS -73855015 01
 XM -32267688 06 YM -22281481 06 ZM -57742078 05 DXM -61176730 00 DYM -71608850 00 DZM -29362382 00
 XT -32267688 06 YT -22281481 06 ZT -57742078 05 DXT -61176730 00 DYT -71608850 00 DZT -29362382 00
 RS -14734142 09 VS -30237717 02 RM -39635963 06 VM -98653784 00 RT -98653784 00 VT -98653784 00
 GEO -14795703 02 ALT -36762635 06 LOS -28825982 03 RAS -31073163 03 RAM -21462585 03 LOM -19215005 03
 DUT -34000000 02 DT -95999999 03 DN -17068389 01 SHA -37344575 06 DES -18189433 02 DEM -83767198 01
 CCL -27646369 03 MCL -30357809 03 TCL -30357809 03

GEOCENTRIC CONIC
 EPDCH OF PERICENTER PASSAGE 235553217500202670000000 J.D. = 2437691.38003978 JAN. 26, 1962 21 07 15.438
 SMA -48735275 06 ECC -10129225 01 B -78601228 05 SLR -12676994 05 APD -00000000 00 RGA -62978053 04
 WH -90437210 00 C3 -81788889 00 C1 -71084842 05 TFP -15796456 06 TF -28512144 00 LTF -16368493 01
 TA -16251189 03 MTA -17083811 03 EA -66189818 02 MA -16795233 02 C3J -44869561 00 TFI -44164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -28036348 06 Y -22862108 06 Z -94905688 05 DX -12007044 01 DY -11825850 01 DZ -33049306 00
 IMC -36628171 02 LAN -23985915 03 APF -17231690 03 MX -41454796 00 MY -73252120 00 MZ -53996425 00
 WX -51595189 00 WY -23957848 00 WZ -80252422 00 PX -59040359 00 PY -80315562 00 PZ -79764188 -01
 QX -62065643 00 QY -51496896 00 QZ -59126250 00 RX -11964361 00 RY -12478909 00 RZ -98694112 00
 BX -51873165 00 BY -63628167 00 BZ -57101937 00 TX -72178283 00 TY -69211961 00 TZ -00000000 00
 SXT -48804961 00 SVT -87490495 00 SZT -153396898 -01 DAI -88271113 00 RAI -61046015 02
 SKD -68169706 00 SKV -71091358 00 SZD -17289008 00 DAD -99558979 01 RAD -22620187 03
 BTC -63086907 05 BRQ -46884909 05 B -78601228 05 THA -32338101 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
 X -91618829 08 Y -10584365 09 Z -45889152 08 DX -25068850 02 DY -18214483 02 DZ -77159945 03
 R -14732114 09 LAT -18153132 02 LON -13087963 03 V -13933543 02 PTH -17944102 00 AZ -10479202 03
 XE -91338466 08 YE -10607228 09 ZE -45994058 08 DXE -23881645 02 DYE -17031898 02 DZE -73855015 01
 XT -91661142 08 YT -10584946 09 ZT -45936316 08 DXT -23256378 02 DYT -17747986 02 DZT -76791253 01
 LTE -18189433 02 LOE -13073163 03 LTT -18162975 02 LOT -13089117 03 RST -14736356 09 VST -30245976 02
 EPS -92983299 02 ESP -14536996 00 SEP -86871458 02 EPM -10932945 03 EMP -62924299 02 MEP -77462430 01
 MPS -13708715 03 MSP -13988227 01 SMP -41998111 02 SEM -93123904 02 EMS -86722215 02 ESM -15402942 00
 RPM -56615104 05 SPN -92006168 02 SPT -13622789 03 CPT -11448965 03 SIN -11273039 03
 GCE -83536306 02 GCT -20711439 03 CPE -83037961 02 CPS -10292018 03
 REP -37400316 06 VEP -17173887 01

1 DAYS 21 HRS. 9 MIN. 51.000 SEC. 235553336410202000000000 J.D. = 2437693.25000000 JAN. 28, 1962 18 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -28467969 06 Y -23286584 06 Z -96083712 05 DX -11972869 01 DY -11755819 01 DZ -32381070 00
 R -38013301 06 DEC -14641095 02 RA -21928290 03 V -17089009 01 PTH -83718073 02 AZ -54311430 02
 X -38013300 06 LAT -14641095 02 LON -18176604 03 VE -26722017 02 PTE -36445804 01 AZE -27023437 03
 XS -91424370 08 YS -10601093 09 ZS -45967457 08 DXS -23854588 02 DYS -17047801 02 DZS -73923859 01
 XM -32046090 06 YM -22538327 06 ZM -58796664 05 DXM -61931680 00 DYM -71081679 00 DZM -29225195 00
 XT -32046090 06 YT -22538327 06 ZT -58796664 05 DXT -61931680 00 DYT -71081679 00 DZT -29225195 00
 RS -14734225 09 VS -30237662 02 RM -39616897 06 VM -98702837 00 RT -39616897 06 VT -98702837 00
 GEO -14736542 02 ALT -37375618 06 LOS -27325779 03 RAS -31077465 03 RAM -21511909 03 LOM -17760223 03
 DUT -34000000 02 DT -95999999 03 DN -16986398 01 SHA -37955917 06 DES -18178439 02 DEM -85349753 01
 CCL -27655607 03 MCL -29557431 03 TCL -29557431 03

GEOCENTRIC CONIC
 EPDCH OF PERICENTER PASSAGE 235553217530202406000000 J.D. = 2437691.38113480 JAN. 26, 1962 21 08 50.047
 SMA -48422056 06 ECC -10130040 01 B -78343698 05 SLR -12675514 05 APD -00000000 00 RGA -62968151 04
 WH -90729236 00 C3 -82317947 00 C1 -71080694 05 TFP -16164995 06 TF -31140184 00 LTF -16040058 01
 TA -16260108 03 MTA -17080956 03 EA -66876259 02 MA -17334782 02 C3J -44800442 00 TFI -45164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -28467969 06 Y -23286584 06 Z -96083712 05 DX -11972869 01 DY -11755819 01 DZ -32381070 00
 IMC -38202830 02 LAN -23867016 03 APF -17327530 03 MX -40010847 00 MY -72202878 00 MZ -56443577 00
 WX -52827039 00 WY -32157033 00 WZ -78582633 00 PX -59498955 00 PY -80046491 00 PZ -72419401 01
 QX -60573844 00 QY -50581470 00 QZ -61419256 00 RX -11771867 00 RY -12207319 00 RZ -98551531 00
 BX -50293305 00 BY -62716892 00 BZ -59474154 00 TX -71982884 00 TY -69415160 00 TZ -00000000 00
 SXT -49060424 00 SVT -87097622 00 SZT -26606913 -01 DAI -15246425 01 RAI -60608271 02
 SKD -68409703 00 SKV -70940235 00 SZD -16958641 00 DAD -97637740 01 RAD -22604035 03
 BTQ -61586340 05 BRQ -48423730 05 B -78343698 05 THA -32182295 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1 IBSYS-JPTRAJ-SPACE 050865
BK

HELIOCENTRIC EQUATORIAL COORDINATES
X -.91709049 08 Y .10577807 09 Z .45871373 08 DX -.25051874 02 DY -.18223383 02 DZ -.77161966 01
R .14732226 09 LAT .18141715 02 LON .13092512 03 B .31925347 02 PTH .19365806 00 AZ .10480009 03
XE -.91426370 08 YE .10601093 09 ZE .45967457 08 DXE .23894588 02 DYE -.17047801 02 DZE -.73923859 01
XT -.91744830 08 YT .10578555 09 ZT .45908660 08 DXT -.23235271 02 DYT -.17758617 02 DZT -.76846378 01
LTE .18178439 02 LOE .13077465 03 LTT .18151969 02 LOT .13093418 03 LST .14736112 09 VST .30237393 02
EPS .93000995 02 ESP .14754103 00 SEP .86851387 02 EPM .10417580 03 EMP .68482233 02 MEP .73419607 01
RPM .52216930 05 RPN .92039622 02 SMP .41240156 02 SEM .97653221 02 EMS .87192907 02 ESM .15371151 00
GCE .83443930 02 GCT .119001825 03 STP .13683895 03 CPT .11607787 03 SIN .11417037 03
REP .38013301 06 VEP .17089009 01 CPE .82944199 02 CPS .10291537 03

1 DAYS 22 HRS. 9 MIN. 51.000 SEC. 23555340214202000000000 J.D.= 2437693.29166666 JAN. 28,1962 19 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
X -.28898453 06 Y -.23708498 06 Z -.97235898 05 DX -.11943536 01 DY -.11683298 01 DZ -.31610226 00
R .38623331 06 DEC -.14581346 02 RA .21936570 03 V .17004105 01 PTH .83772490 02 AZ .52181660 02
R .38623330 06 LAT -.14581347 02 LON .16680777 03 VE .27164597 02 PTE .35676596 01 AZE .27023901 03
XS .91510226 08 VS -.10594953 09 ZS -.45940831 08 DXS .23841017 02 DYS .17063695 02 DZS .73992665 01
XM -.31821784 06 YM -.22793263 06 ZM -.59846266 05 DXM .62682564 00 DYM -.70547834 00 DZM -.29085381 00
XT -.31821784 06 YT -.22793263 06 ZT -.59846266 05 DXT .62682564 00 DYT -.70547834 00 DZT -.29085381 00
RS .14734308 09 VS .30237607 02 RM .39597658 06 VM .98752519 00 RT .39597658 06 VT .98752519 00
GED -.14676439 02 ALT .37985647 06 LOS .25825974 03 RAS .31081767 03 RAM .21561321 03 LOM .16305528 03
DUT .34000000 02 DT .95999999 03 DR .16903763 01 SHA .-38564452 06 DES .-18167436 02 DEM .-86927595 01
CCL .27664790 03 MCL .28601599 03 TCL .28601599 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 2355532175472025422000000 J.D.= 2437691.38183758 JAN. 26,1962 21 09 50.768
SMA -.48177605 06 ECC .10131288 01 B .78323564 05 SLR .12733296 05 APD .00000000 00 RCA .63251273 04
VH .90959123 00 C3 .82735620 00 C1 .71242521 05 TFP .16500923 06 TF .32826900 00 LTF .-15907707 01
TA .16264995 03 MTA .17076605 03 EA .67512199 02 MA .17849741 02 C3J .44738254 00 TFI .46164166 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.28898453 06 Y -.23708498 06 Z -.97235898 05 DX -.11943536 01 DY -.11683298 01 DZ -.31610226 00
INC .40136185 02 LAN .23733592 03 APF .17436095 03 MX .38170291 00 MY .-70863625 00 MZ .59341025 00
MX -.54266046 00 MY .34790152 00 WZ .76451445 00 PX .60034209 00 PY .79723106 00 PZ .63339573 -01
QX -.58745905 00 QY .49334183 00 QZ .-64148580 00 RX .11522784 00 RY .11873516 00 RZ .-98621725 00
RX -.48311235 00 BY .61487718 00 BZ .-62309713 00 TX .-71762639 00 TY .69642836 00 TZ .00000000 00
SX1 .49829530 00 SY1 .86606460 00 SZ1 .-40417854 -01 DAI .-23164031 01 RAI .60085779 02
SX0 .-68682966 00 SY0 .-70773546 00 SZ0 .-16545541 00 DAO .-95236930 01 RAO .22585884 03
BTQ .59928521 05 BRQ .-50429676 05 B .78323564 05 THA .31991948 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC EQUATORIAL COORDINATES
X -.91799210 08 Y .10571244 09 Z .45843595 08 DX -.25035370 02 DY -.18232024 02 DZ -.77153687 01
R .14732227 09 LAT .18130295 02 LON .13097059 03 B .31917133 02 PTH .20928297 00 AZ .10480662 03
XE -.91510226 08 YE .10594953 09 ZE .45940831 08 DXE .23841017 02 DYE .-17063695 02 DZE .-73992665 01
XT -.91828443 08 YT .10572159 09 ZT .45880985 08 DXT .-23214191 02 DYT .-17769173 02 DZT .-76901203 01
LTE .18167436 02 LOE .13081767 03 LTT .18140956 02 LOT .13097717 03 LST .14735869 09 VST .30228779 02
EPS .93014082 02 ESP .14984393 00 SEP .86835933 02 EPM .98137230 02 EMP .74922301 02 MEP .69404677 01
RPM .13888927 03 MSP .13988227 -01 SMP .41098370 02 SEM .92182045 02 EMS .87664104 02 ESM .15371151 00
GCE .83352102 02 GCT .18936809 03 STP .13682854 03 CPT .11764590 03 SIN .11558517 03
REP .38623331 06 VEP .17004105 01 CPE .82851981 02 CPS .10291555 03

1 DAYS 23 HRS. 9 MIN. 51.000 SEC. 23555342020202000000000 J.D.= 2437693.33333333 JAN. 28,1962 20 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
X -.29327928 06 Y -.24127734 06 Z -.98358188 05 DX -.11916292 01 DY -.11606738 01 DZ -.30717804 00
R .39230323 06 DEC .-14520109 02 RA .21944372 03 V .16915976 01 PTH .83800209 02 AZ .49668655 02
R .39230322 06 LAT .-14520109 02 LON .15184472 03 VE .27605741 02 PTE .34925421 01 AZE .27024585 03
XS .91596030 08 VS .-10588807 09 ZS .-45914181 08 DXS .23827432 02 DYS .17079580 02 DZS .74061434 01
XM .-31594780 06 YM .-23046264 06 ZM .-60890785 05 DXM .63429317 00 DYM .-70007332 00 DZM .-28942941 00
XT .-31594780 06 YT .-23046264 06 ZT .-60890785 05 DXT .63429317 00 DYT .-70007332 00 DZT .-28942941 00
RS .14734391 09 VS .30237551 02 RM .39578243 06 VM .38802826 00 RT .39578243 06 VT .98802826 00
GED .-14614838 02 ALT .38592638 06 LDS .24326169 03 RAS .31080669 03 RAM .21610823 03 LOM .14850923 03
DUT .34000000 02 DT .95999999 03 DR .16817040 01 SHA .-39170116 06 DES .-18156423 02 DEM .-88500570 01
CCL .27673969 03 MCL .27508740 03 TCL .27508740 03

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 2355532175462025526000000 J.D.= 2437691.38179205 JAN. 26,1962 21 09 46.834
SMA -.48058967 06 ECC .10133176 01 B .78694225 05 SLR .12885811 05 APD .00000000 00 RCA .64002876 04
VH .91071325 00 C3 .82939862 00 C1 .71667913 05 TFP .16861317 06 TF .32717609 00 LTF .-16120937 04
TA .16263879 03 MTA .17070061 03 EA .68057866 02 MA .18307175 02 C3J .44682804 00 TFI .47161666 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X -.29327928 06 Y -.24127734 06 Z -.98358188 05 DX -.11916292 01 DY -.11606738 01 DZ -.30717804 00
INC .42441608 02 LAN .23589616 03 APF .17555144 03 MX .35900240 00 MY .-69178800 00 MZ .62653458 00
MX .-55878107 00 MY .37837768 00 WZ .73796546 00 PX .60640075 00 PY .79343438 00 PZ .52343088 -01
QX .-56572209 00 QY .47675087 00 QZ .-67280474 00 RX .11238577 00 RY .11470477 00 RZ .-98705596 00
BX .-46029709 00 BY .59868905 00 BZ .-6550444 00 TX .-71522483 00 TY .69889444 00 TZ .00000000 00
SX1 .50701427 00 SY1 .86004633 00 SZ1 .-57065488 -01 DAI .-32713882 01 RAI .59597813 02
SX0 .-68984793 00 SY0 .-70596694 00 SZ0 .-16037582 00 DAO .-92287124 01 RAO .22566162 03
BTQ .58168440 05 BRQ .-53002004 05 B .78694225 05 THA .31766079 03 T VECTOR IN EARTH EQUATOR PLANE

JPL TECHNICAL REPORT NO. 32-563

CASE 1

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC EQUATORIAL COORDINATES

X	-91889309	08	Y	.10564679	09	Z	.45815822	08	DX	-.25019062	02	DY	-.18240253	02	DZ	-.77133214	01
R	.14732270	09	LAT	.18118875	02	LOX	.13101604	03	V	.31908550	02	PTH	.22631405	00	AZ	.10481143	03
XE	-.91596030	08	YE	.10588807	09	ZE	.45914181	08	DXE	-.23827432	02	DYE	-.17079580	02	DZE	-.74061434	01
XT	-.91911977	08	YT	.10565761	09	ZT	.45853290	08	DXT	-.23193139	02	DYT	-.17779653	02	DZT	-.76955727	01
LTE	.18156423	02	LOE	.13086069	03	LTF	.18129935	02	LOT	.13102014	03	RST	.14735625	09	VST	.30220189	02
EPS	.93022376	02	ESP	.15227267	00	SEP	.86825284	02	EPW	.91145108	02	EMP	.82312051	02	MEP	.65428337	01
HPS	.13804824	03	HSP	.98911702	02	SMP	.41940027	02	SEM	.91710367	02	EMS	.88135809	02	ESM	.15355230	00
RPM	.45106826	05	SPN	.92090830	02												
GCE	.83260302	02	GCT	.17834770	03	SIP	.13583993	03	CPT	.11902828	03	SIN	.11681997	03			
REP	.39230323	06	VEP	.16915976	01	CPE	.82760836	02	CPS	.10290571	03						

2 DAYS 0 HRS. 9 MIN. 51.000 SEC. 235553343624202000000000 J.D.= 2437693.37500000 JAN. 28, 1962 21 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-.29756398	06	Y	-.24544119	06	Z	-.99446042	05	DX	-.11886777	01	DY	-.11524763	01	DZ	-.29697815	00
R	.39834058	06	DEC	-.14456848	02	RA	.21951701	03	V	.16820678	01	PTH	.83791526	02	AZ	.46841905	02
R	.39834057	06	LAT	-.14456848	02	LOX	.13687694	03	VE	.28051568	02	PTF	-.34183073	01	AZE	-.27025466	03
XS	.91681787	08	YS	-.10582655	09	ZS	-.45887505	08	DXS	-.23813835	02	DYS	-.17095456	02	DZS	-.74130166	01
XM	-.31365097	06	YM	-.23297309	06	ZM	-.61930130	05	DXM	.64171870	00	DYM	-.69460195	00	DZM	-.28797880	00
XT	-.31365097	06	YT	-.23297309	06	ZT	-.61930130	05	DXT	.64171870	00	DYT	-.69460195	00	DZT	-.28797880	00
RS	.14734474	09	VS	.30237496	02	RM	.39558656	06	VM	.98853757	00	RT	.39558656	06	VT	.98853757	00
GEO	-.14551200	02	ALT	.39196371	06	LOS	.27826363	03	RAS	.31090369	03	RAM	-.21660416	03	LOM	-.13396409	03
DUT	.34000000	02	DT	.95999999	03	DR	.16722025	01	SHA	-.39772704	06	DES	-.18145401	02	DEM	-.90068576	01
CCL	.27683200	03	MCL	.26339354	03	TCL	.26339354	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217513202667200000 J.D.= 2437691.38054898 JAN. 26, 1962 21 07 59.432

SMA	-.48137380	06	ECC	.10135902	01	B	.79630859	05	SLR	.13172301	05	APD	.00000000	00	RCA	-.65419968	04
VH	.90997119	00	C3	.82804751	00	C1	.72441879	05	TFP	-.17232057	06	TF	.29734230	00	LTF	-.16862141	01
TA	-.16254749	03	MTA	.17060695	03	EA	.68463629	02	MA	.18664009	02	C3J	.44639093	00	TFI	.48164166	02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.29756398	06	Y	-.24544119	06	Z	-.99446042	05	DX	-.11886777	01	DY	-.11524763	01	DZ	-.29697815	00
INC	.45059603	02	LAN	.23442564	03	APF	.17680056	03	MX	.33243242	00	MY	-.67139616	00	MZ	-.66235476	00
WX	-.57573071	00	WY	.41179292	00	WZ	.70637082	00	PX	.61291961	00	PY	.78915689	00	PZ	.39508182	01
QX	-.54116841	00	QY	.45694422	00	QZ	-.70673789	00	RX	.10824586	00	RY	.10999210	00	RZ	-.98802052	00
BX	-.43388032	00	BY	.57838005	00	BZ	-.69081429	00	TX	-.71274190	00	TY	.70142633	00	TZ	.00000000	00
SXI	.51637951	00	SVI	.85294801	00	SZI	-.76365564	01	DAT	-.43796888	01	RAT	.58809052	02			
SXO	-.69302361	00	SVO	-.70420369	00	SZO	-.15432748	00	DAD	-.88775049	01	RAO	.22545844	03			

BTQ .56413677 05 BRQ -.56201158 05 B .79630859 05 THA .31510812 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-.91979950	08	Y	.10558111	09	Z	.45788059	08	DX	-.25002513	02	DY	-.18247932	02	DZ	-.77099947	01
R	.14732317	09	LAT	.18107454	02	LOX	.13106148	03	V	.31899164	02	PTH	.24447723	00	AZ	.10481449	03
XE	-.91681787	08	YE	.10582655	09	ZE	.45887505	08	DXE	-.23813835	02	DYE	-.17095456	02	DZE	-.74130166	01
XT	-.91995437	08	YT	.10559358	09	ZT	.45825575	08	DXT	-.23172116	02	DYT	-.17790058	02	DZT	-.77009954	01
LTE	.18154401	02	LOE	.13090369	03	LTF	.18118906	02	LOT	.13106309	03	RST	.14735381	09	VST	.30211562	02
EPS	.93022573	02	ESP	.15450506	00	SEP	.86819579	02	EPW	.83230459	02	EMP	.90618984	02	MEP	.61505438	01
HPS	.13587795	03	HSP	.98911702	02	SMP	.44110496	02	SEM	.91238186	02	EMS	.88608031	02	ESM	.15323340	00
RPM	.42681242	05	SPN	.92108132	02												
GCE	.83188001	02	GCT	.16656155	03	SIP	.13354407	03	CPT	.11998431	03	SIN	.11765043	03			
REP	.39834058	06	VEP	.16820678	01	CPE	.82670284	02	CPS	.10290086	03						

2 DAYS 1 HRS. 9 MIN. 51.000 SEC. 235553345430202000000000 J.D.= 2437693.41666666 JAN. 28, 1962 22 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES

X	-.30183682	06	Y	-.24957446	06	Z	-.10049512	06	DX	-.11849495	01	DY	-.11436828	01	DZ	-.28569640	00
R	.40434162	06	DEC	-.14391141	02	RA	.21958572	03	V	.16714479	01	PTH	.83740253	02	AZ	.43876360	02
R	.40434161	06	LAT	-.14391142	02	LOX	.12190459	03	VE	.28482348	02	PTF	-.33441758	01	AZE	-.27026472	03
XS	.91767495	08	YS	-.10576498	09	ZS	-.45860805	08	DXS	-.23800225	02	DYS	-.17111325	02	DZS	-.74198859	01
XM	-.31132747	06	YM	-.23546371	06	ZM	-.62964205	05	DXM	.64910156	00	DYM	-.68906443	00	DZM	-.28650199	00
XT	-.31132747	06	YT	-.23546371	06	ZT	-.62964205	05	DXT	.64910156	00	DYT	-.68906443	00	DZT	-.28650199	00
RS	.14734557	09	VS	.30237441	02	RM	.39538898	06	VM	.98905309	00	RT	.39538898	06	VT	.98905309	00
GEO	-.14485102	02	ALT	.39796474	06	LOS	.21326557	03	RAS	.31094470	03	RAM	-.21710100	03	LOM	-.11941987	03
DUT	.34000000	02	DT	.95999999	03	DR	.16614824	01	SHA	-.40371853	06	DES	-.18134370	02	DEM	-.91631478	01
CCL	.27692525	03	MCL	.25184682	03	TCL	.25184682	03									

GEOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553217415202731200000 J.D.= 2437691.37768168 JAN. 26, 1962 21 03 51.697

SMA	-.48489525	06	ECC	.10139521	01	B	.81271556	05	SLR	.13623307	05	APD	.00000000	00	RCA	-.67844641	04
VH	.90671704	00	C3	.82213578	00	C1	.73680267	05	TFP	-.17618830	06	TF	-.22852707	00	LTF	-.18294767	01
TA	.16236597	03	MTA	.17048414	03	EA	.68682229	02	MA	.18876783	02	C3J	.44612151	00	TFI	.49164166	02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE

X	-.30183682	06	Y	-.24957446	06	Z	-.10049512	06	DX	-.11849495	01	DY	-.11436828	01	DZ	-.28569640	00
INC	.47828164	02	LAN	.23302607	03	APF	.17804016	03	MX	.33359722	00	MY	-.64832117	00	MZ	-.64821886	00
WX	-.59210009	00	WY	.44575703	00	WZ	.67135635	00	PX	.61944223	00	PY	.78463298	00	PZ	.25345921	01
QX	-.51547005	00	QY	.43087403	00	QZ	-.74070196	00	RX	.10377995	00	RY	.10474414	00	RZ	-.98906491	00
BX	-.40597037	00	BY	.58466074	00	BZ	-.72631917	00	TX	-.71036877	00	TY	.70382968	00	TZ	.00000000	00
SXI	.52570087	00	SVI	.84506866	00	SZI	-.97456065	01	DAT	-.55926988	01	RAT	.58115055	02			
SXO	-.69613641	00	SVO	-.70260403	00	SZO	-.14745038	00	DAD	-.84792025	01	RAO	.22526492	03			

BTQ .54823112 05 BRQ -.59995773 05 B .81271556 05 THA .31242054 03 T VECTOR IN EARTH EQUATOR PLANE

CASE 1

IBSYS-JPTRAJ-SPACE 050865

BK

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.92069331 08 Y .10551540 09 Z .45760310 08 DX -.24985175 02 DY -.18255007 02 DZ -.77055823 01
R .14732368 09 LAT .18096035 02 LON .13110690 03 V .31888559 02 PTH -.26311767 00 AZ .10481616 03
XE -.91767495 08 YE .10576498 09 ZE .45806807 03 OXE -.23800225 02 DVE -.17111325 02 DZE -.74198859 01
XT -.92073822 09 YT .10552951 09 ZT .45797841 08 DXT -.23151124 02 DYT -.17800389 02 DZT -.77063879 01
LFE .18134370 02 LOE .13094670 03 LTT .18107869 02 LDT .13110603 03 RST .14735138 09 VST .30202926 02
EPS .93024191 02 ESP .15686166 00 SEP .86818796 02 EPM .74584115 02 EMP .99650135 02 MEP .57657433 01
MPS .13223288 03 MSP .98911702-02 SMP .47755252 02 SEM .90765494 02 EMS .89080776 02 ESM .15355230 00
RPM .41203827 05 SPN .92120382 02 SPT .12981527 03 CPT .12024459 03 SIN .11782698 03
GCE .83074751 02 GCT .15492157 03 CPE .82579875 02 CPS .10289600 03
REP .40434162 06 VEP .16714479 01

2 DAYS 2 HRS. 3 MIN. 9.571 SEC. 235553347067202511066740 J.D.= 2437693.45368715 JAN. 28,1962 22 53 18.571
CHANGE OF PHASE OCCURS AT THIS POINT MOON IS THE CENTRAL BODY FOR INTEGRATION COWELL EQUATIONS OF MOTION

2 DAYS 2 HRS. 3 MIN. 9.571 SEC.

235553347067202511066740 J.D.= 2437693.45368715 JAN. 28,1962 22 53 18.571

GEOCENTRIC

EQUATORIAL COORDINATES

X -.30562027 06 Y -.25321952 06 Z -.10139217 06 DX -.11805774 01 DY -.11354453 01 DZ -.27517373 00
R .40963916 06 DEC -.14330559 02 RA .21964321 03 V .16609393 01 PTH .83660832 02 AZ .41332288 02
K .40963916 06 LAT -.14330559 02 LON .10859821 03 VE .28868328 02 PTE .32781442 01 AZE .27027376 03
XS .91843604 08 YS -.10571022 09 ZS -.45837061 08 DXS .23788121 02 DYS .17125416 02 DZS .74259861 01
XW -.30924083 06 YW -.23765979 06 ZW -.63878476 05 DXW .65562484 00 DYW .-68408903 00 DZW .-28516790 00
XZ -.30924083 06 YZ -.23765979 06 ZY -.63878476 05 DYZ .65562484 00 DYT .-68408903 00 DZT .-28516790 00
RS .14734630 09 YS .30237391 02 RM .39521200 06 VM .98951627 00 RT .39521200 06 VT .98951627 00
GED -.14424157 02 OLT .40326228 06 LOS .19993991 03 RAS .31098490 03 RAM .21754323 03 LDM .13649824 03
DUT .34000000 02 DT .12000000 03 DR .16507839 01 SHA .-40900920 06 DES .-18124561 02 DEM .-93015735 01
CCL .27700912 03 MCL .24240315 03 TCL .24240315 03

GEOCENTRIC CONIC

EPDCH OF PERICENTER PASSAGE 235553217265202617666740 J.D.= 2437691.37360096 JAN. 26,1962 20 57 59.124
SMA -.49051600 06 ECC .10143296 01 B .83336477 05 SLR .14158530 05 APO .00000000 00 RCA .70289041 04
VH .90145133 00 C3 .81261449 00 WZ .63987470 00 PX .62476260 00 PY .78071247 00 PZ .12433210-01
TA .16213793 03 MTA .17035776 03 EA .68699418 02 MA .18923733 02 C3J .44604766 00 TFI .50052658 02

X -.30562027 06 Y -.25321952 06 Z -.10139217 06 DX -.11805774 01 DY -.11354453 01 DZ -.27517373 00
INC .50217522 02 LAN .23192459 03 APF .17907298 03 MX .27823775 00 MY .-62712630 00 MZ .72752683 00
WK .-60494628 00 WY .47391907 00 WZ .63987470 00 PX .62476260 00 PY .78071247 00 PZ .12433210-01
QK .-40966615 00 QY .40729349 00 QZ .-76837802 00 RX .99469821-01 RY .99873631-01 RZ .99000000 00
BK .-38204669 00 BY .53230567 00 BZ .-75544093 00 TX .-70853771 00 TY .70567296 00 TZ .00000000 00
SK1 .53325358 00 SY1 .83790304 00 SZ1 .-11644227 00 DAI .-66868208 01 RAI .57526737 02
SKD .-69882726 00 SYD .-70146341 00 SZD .-14095740 00 DAD .-81032518 01 RAD .22511606 03

BTQ .53690162 05 BRQ .-63736439 05 B .83336477 05 THA .31011004 03 T VECTOR IN EARTH EQUATOR PLANE

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.92149224 08 Y .10545700 09 Z .45735670 08 DX -.24968699 02 DY -.18260861 02 DZ -.77011598 01
R .14732417 09 LAT .18085893 02 LON .13114724 03 V .31877936 02 PTH .27292411 00 AZ .10481709 03
XE -.91843604 08 YE .10571022 09 ZE .45803761 08 OXE -.23788121 02 DVE -.17125416 02 DZE -.74259861 01
XT -.92152845 08 YT .10547256 09 ZT .45773184 08 DXT .-23788121 02 DYT .-17800389 02 DZT -.77011598 01
LFE .18124561 02 LOE .13098490 03 LTT .18098058 02 LDT .13114416 03 RST .14734922 09 VST .30195244 02
EPS .91018895 02 ESP .15672175 00 SEP .86822033 02 EPM .66585974 02 EMP .10798147 03 MEP .54325394 01
MPS .12790302 03 MSP .27453512-12 SMP .52084463 02 SEM .90354777 02 EMS .89501248 02 ESM .152941383 00
RPM .40773656 05 SPN .92126776 02 SPT .12545989 03 CPT .11973695 03 SIN .11729382 03
GCE .82990876 02 GCT .14539403 01 S1P .12545989 03 CPE .82499403 02 CPS .10289166 03
REP .40963916 06 VEP .16609393 01

EQUATORIAL COORDINATES

X .36205512 04 Y -.15559732 05 Z -.37513697 05 DX -.18362022 01 DY -.45135627 00 DZ .99941716-02
R .40773656 05 DEC .-66933012 02 RA .28309891 03 V .18908889 01 PTH .-52912468-07 AZ .-27077293 03
R .40773656 05 LAT .-42759129 02 LON .23112571 03 VP .19494588 01 PTP .27094169-06 AZP .-27913743 03
LTS .26832312 00 LMS .26384939 03 LTE .-67432391 01 LNE .35331543 03 DP .26571066-02 ASD .24431305 01
ALT .39035566 05 SHA .-32167049 05 ALP .13168268 03 DR .-29938525-08
HGE .26698109 03 SVL .-44369305 02 HNG .21075275 03 STA .64142843 02

SELENOCENTRIC CONIC

EPDCH OF PERICENTER PASSAGE 235553347067202511071071 J.D.= 2437693.45368715 JAN. 28,1962 22 53 18.571
SMA -.14694189 04 ECC .28748151 02 B .42217509 05 SLR .12129409 07 APO .00000000 00 RCA .40773657 05
VH .18626198 01 C3 .33350787 01 C1 .77098454 05 TFP .-33170496-04 TF .50052658 02 LTF .49901995 02
TA .-68301891-05 MTA .91993424 02 EA .-00000000 00 MA .23620117-05 C3J .44604766 00 TFI .50052658 02
ZAE .15588374 03 ZAP .11461108 03 ZAC .94107617 02 DEF .39868600 01 IR .28511263 04 GP .-51590979-01

X .36205512 04 Y -.15559732 05 Z -.37513697 05 DX -.18362022 01 DY -.45135627 00 DZ .99941716-02
INC .11306477 03 LAN .19393900 03 APF .27032913 03 MX .-97107884 00 MY .-23870057 00 MZ .52854344-02
WK .-22163283 00 WY .89296924 00 WZ .-39177143 00 PX .88796331-01 PY .-38161237 00 PZ .-92004739 00
QX .-97107883 00 QY .-23870057 00 QZ .52854356-02 RX .25859648-01 RY .67316834-02 RZ .-99944232 00
BK .12252142 00 BY .-37307827 00 BZ .-91796744 00 TX .-25192040 00 TY .96774796 00 TZ .00000000 00
SK1 .-96740239 00 SY1 .-25181844 00 SZ1 .-26721470-01 DAI .15312089 01 RAI .19459117 03
SKD .-97357093 00 SYD .-22528179 00 SZD .37285944-01 DAD .21368212 01 RAD .19302866 03
ETE .16036594 03 ETS .33926470 03 ETC .23307988 01

BTQ .-16545522 05 BRQ .38840233 05 B .42217509 05 THA .11307348 03 T VECTOR IN EARTH EQUATOR PLANE

X .-22128441 05 Y .16717386 05 Z .-29888995 05 DX .10990403 01 DY .15379870 01 DZ .46541355-01
INC .12382276 03 LAN .55757982 02 APF .27192309 03 MX .58122954 00 MY .81336731 00 MZ .24613479-01
WK .60632790 00 WY .-41271033 00 WZ .-67973278 00 PX .-54271419 00 PY .41000462 00 PZ .-73304673 00
QX .58122953 00 QY .81336731 00 QZ .24613482-01 RX .-50599064-03 RY .-74470450-03 RZ .-99999958 00
BK .-56260374 00 BY .38146363 00 BZ .-73345929 00 TX .82713738 00 TY .56199979 00 TZ .00000000 00
SK1 .56199955 00 SY1 .82713703 00 SZ1 .-90033954-01 DAI .-51586710-01 RAI .55805790 02
SKD .59975602 00 SYD .79861313 00 SZD .50097513-01 DAD .28715771 01 RAD .53093560 02
ETE .18011525 03 ETS .35901400 03 ETC .25282919 03

```

CASE 1                                IBSYS-JPTRAJ-SPACE 050865
BK
BTQ --.28696636 05   BRD .30964835 05   B .42217508 05   THA .13282279 03   T VECTOR IN ORBIT PLANE OF TARGET
                                ALL VECTORS REFERENCED TO TRUE TARGET EQU. PLANE
X --.22128441 05   Y .20162644 05   Z -.27681958 05   DX .10990403 01   DY .15214599 01   DZ .22962989 00
INC -.13639414 03   LAN .61537192 02   APF -.28014142 03   MX .58122954 00   MY .80462693 00   MZ .12144019 00
WX -.60632790 00   WY -.32869974 00   WZ -.72410148 00   PX -.94271419 00   PY .49450175 00   PZ -.67891776 00
QX .58122955 00   QY .80462694 00   QZ .12144020 00   RX .55200177-01   RY .80672978-01   RZ -.99521095 00
BX -.56260374 00   BY .46621366 00   BZ -.68273117 00   TX .82529355 00   TY -.56470396 00   TZ .00000000 00
SXI .56199957 00   SYI .82134117 00   SZI .97750647-01   DAI .56096582 01   RAI .55618262 02
SKD .59975603 00   SYD .78693882 00   SZD .14498276 00   DAD .83362824 01   RAD .52687592 02
ETE .18397685 03   ETS .28756176 01   ETC .25669080 03
BTI --.30716865 05   BRT .28961909 05   B .42217508 05   THA .13668439 03   T VECTOR IN TRUE TARGET EQU. PLANE
214652214362   215544306147   211775713527   603762144661   203550576715   603523043464   FARTH
                620102620                5009000                00000000000000000000   INITIAL
214672000400   616746377120   620445071322   601726275064   577711146430   172614311440   MODN
                235553347067                202511066740                END
    
```

APPENDIX G

Postmidcourse Trajectory Computer Printout

The material in this appendix is a data-processing printout of postmidcourse data derived from the trajectory computer.

JPL TECHNICAL REPORT NO. 32-563

CASE 2 SPACE TRAJECTORIES
 RA-3 POST-MC EPHEMERIS TAPE IV WITH MARS VELOCITIES. D-B IS R-2373
 GME .39860163 06 J .16274500-02 H -.57499999-05 D .78749999-05 RE .63781660 04 REM .63783149 04
 C .65700988-19 A .88724977 29 B .88800439 29 C .88837498 29 OME .41780741-02 AU .14959900 09
 GMM .49005799 04 GMS .13271544 12 GMV .32476950 06 GMA .42977799 05 GMC .37918700 08 GMJ .17671060 09
 EGM .39860320 06 MGM .49077779 04 JA .29200000-02 HA .00000000 00 DA .00000000 00 RA .34170000 04

INJECTION CONDITIONS MOON 23553247055202400000000 J.D.= 2437691.93618055 JAN. 27, 1962 10 28 06.000
 GEOCENTRIC X0--12982526 04 Y0--82372673 05 Z0--49526644 05 DX0--16954418 01 DY0--15453654 01 DZ0--52116175 00
 CARTESIAN GMC .00000000 00 SGC .00000000 00 TO .37686000 05 GHA .28324693 03 GHD .12579204 03
 DATE OF RUN 032465A L2512 EARTH IS THE CENTRAL BODY FOR INTEGRATION ENCKE EQUATIONS OF MOTION
 0 DAYS 0 HRS. 0 MIN. 0.000 SEC. 23553247055202400000000 J.D.= 2437691.93618055 JAN. 27, 1962 10 28 06.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -.12982526 06 Y -.82372677 05 Z -.49526644 05 DX -.16954418 01 DY -.15453653 01 DZ -.52116174 00
 R .16153248 06 DEC -.1784741 02 RA .21239467 03 V .23525064 01 PTH .79154370 02 AZ .63614643 02
 R .16153248 06 LAT -.1784741 02 LON .28914774 03 VE .11061065 02 PTE .12056991 02 AZE .27104204 03
 XS .88692864 08 YS -.10791779 09 ZS -.46794334 08 DXS .24275853 02 DYS .16542349 02 DZS .-71735504 01
 XM -.37661915 06 YM -.13648177 06 ZM -.23639916 05 DXT .36509557 00 DYM .-84409382 00 DZM .-32279690 00
 XE -.37661915 06 YV -.13648177 06 ZV -.23639916 05 DXT .36509557 00 DYT .-84409382 00 DZT .-32279690 00
 RS .14731728 09 VS .30279480 02 RM .40128307 06 VM .97467276 00 RT .40128307 06 VT .97467276 00
 GED -.17968618 02 ALT .15515630 06 LOS .26168342 02 RAS .30941527 03 RAM .19991984 03 LOM .27667291 03
 DUT .35000000 02 DT .48070000 03 DR .23104853 01 SHA .16151899 06 DES .-18520484 02 DEM .-33772963 01
 DAC .00000000 00 CCL .27175436 03 MCL .34390109 03 TCL .34390109 03

GEOCENTRIC CONIC EPOCH OF PERICENTER PASSAGE 23553216747202342440000 J.D.= 2437691.36404826 JAN. 26, 1962 20 44 13.770
 SMA -.66540533 06 ECC .10075922 01 B .92384467 05 SLR .12826629 05 APO .00000000 00 RCA .63827024 04
 VH .77397404 00 C3 .59933581 00 C1 .71503253 05 TFP .49432230 05 TF .-13731175 02 LTF .-16010990 02
 TA .15576191 03 HTA .17279561 03 EA .38227126 02 MA .32943743 01 C3J .32905269 00 TFI .00000000 00
 ZAE .40933175 02 ZAP .11071521 03 ZAC .61998520 02 DEF .16419122 03 IR .48124521 05 GP .-13198707 02

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE
 X -.12982526 06 Y -.82372677 05 Z -.49526644 05 DX -.16954418 01 DY -.15453653 01 DZ -.52116174 00
 INC .31495678 02 LAN .24411271 03 APF .16830232 03 MK .36888440 00 MY .-82941444 00 MZ .-42300218 00
 WK .-47001032 00 QV .54695223 00 QZ .-51158368 00 RX .11903713 00 RY .12864430 00 RZ .-98452057 00
 CX .-65266517 00 QY .54695223 00 QZ .-51158368 00 RX .11903713 00 RY .12864430 00 RZ .-98452057 00
 BX .-57618595 00 BY .65272703 00 BZ .-49215672 00 TX .-73398238 00 TY .67916851 00 TZ .00000000 00
 SXI .48639557 00 SVI .87375482 00 SZI .34562660-01 DAI .19806874 01 RAI .60876983 02
 SKD .-66865537 00 SYD .-72222076 00 SZD .-17526892 00 DAD .-10094309 02 RAO .22722129 03
 ETE .17712873 03 ETS .19995228 03 ETC .29313453 03 THA .32856028 03
 BTQ .78821447 05 BRQ .-48177851 05 B .92384467 05

HELIOCENTRIC EQUATORIAL COORDINATES
 X -.88822689 08 Y .10773542 09 Z .46744807 08 DX -.25971295 02 DY -.18087714 02 DZ -.76947122 01
 R .14731946 09 LAT .18473825 02 LON .12950261 03 V .32542954 02 PTH .-36828379-01 AZ .10441518 03
 XE .-88822689 08 YE .10773542 09 ZE .46744807 08 DXE .-24268859 02 DYE .-16550942 02 DZE .-71772715 01
 XT .-89069483 08 YT .10776131 09 ZT .46756342 08 DXT .-23809252 02 DYT .-17393363 02 DZT .-74997711 01
 LTE .-18517666 02 LOE .12943824 03 LTT .18489457 02 LOT .12959315 03 RST .14743581 09 VST .30495079 02
 LTE .-18517666 02 LOE .12943824 03 LTT .18489457 02 LOT .12959315 03 RST .14743581 09 VST .30495079 02
 EPS .49375256 02 ESP .6412112-01 SEP .90560210 02 EPM .14884934 03 EMP .12353085 02 MEP .18797570 02
 EPS .49375256 02 ESP .6412112-01 SEP .90560210 02 EPM .14884934 03 EMP .12353085 02 MEP .18797570 02
 MPS .11771240 03 MSP .85640053-01 SMP .10704490 03 SEM .10704490 03 EMS .72806032 02 ESM .14918958 00
 RPM .24991973 06 SPN .87172379 02 SIP .-11731395 03 CPT .98722732 02 SIN .98323780 02 DI .20863203 00
 GCE .88729124 02 GCT .25248033 03 CPE .88903292 02 CPS .10306092 03 D2 .97897885-01 D3 .76492631-03
 REP .16592949 06 VEP .23245990 01

0 DAYS 0 HRS. 31 MIN. 54.000 SEC. 23553250014202000000000 J.D.= 2437691.95833333 JAN. 27, 1962 11 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -.13304834 06 Y -.85316460 05 Z -.50515719 05 DX -.16726714 01 DY -.15307951 01 DZ -.51244278 00
 R .16592949 06 DEC -.17774527 02 RA .21266978 03 V .23265990 01 PTH .79317309 02 AZ .63523299 02
 R .16592949 06 LAT -.17774527 02 LON .28142602 03 VE .11373115 02 PTE .11586776 02 AZE .27098802 03
 XS .88739321 08 YS -.10788612 09 ZS -.46780600 08 DXS .24268859 02 DYS .16550942 02 DZS .-71772715 01
 XM -.37591604 06 YM -.13899578 06 ZM -.24257468 05 DXT .36960666 00 DYM .-84242096 00 DZM .-32249971 00
 XE -.37591604 06 YV -.13899578 06 ZV -.24257468 05 DXT .36960666 00 DYT .-84242096 00 DZT .-32249971 00
 RS .14731770 09 VS .30279451 02 RM .40121283 06 VM .97482727 00 RT .40121283 06 VT .97482727 00
 GED -.17837686 02 ALT .15995328 06 LOS .18194477 02 RAS .30943824 03 RAM .20017121 03 LOM .26897244 03
 DUT .35000000 02 DT .47470000 03 DR .22843111 01 SHA .16592156 06 DES .-18514766 02 DEM .-34662364 01
 DAC .00000000 00 CCL .27177087 03 MCL .34395120 03 TCL .34395120 03

HELIOCENTRIC EQUATORIAL COORDINATES
 X -.88872369 08 Y .10770080 09 Z .46730084 08 DX -.25941530 02 DY -.18081737 02 DZ -.76897142 01
 R .14731942 09 LAT .18473825 02 LON .12950261 03 V .32542954 02 PTH .-36828379-01 AZ .10441518 03
 XE .-88872369 08 YE .10770080 09 ZE .46730084 08 DXE .-24268859 02 DYE .-16550942 02 DZE .-71772715 01
 XT .-89115237 08 YT .10774802 09 ZT .46756342 08 DXT .-23809252 02 DYT .-17393363 02 DZT .-74997711 01
 LTE .-18517666 02 LOE .12943824 03 LTT .18489457 02 LOT .12959315 03 RST .14743581 09 VST .30495079 02
 LTE .-18517666 02 LOE .12943824 03 LTT .18489457 02 LOT .12959315 03 RST .14743581 09 VST .30495079 02
 EPS .49375256 02 ESP .6412112-01 SEP .90560210 02 EPM .14884934 03 EMP .12353085 02 MEP .18797570 02
 EPS .49375256 02 ESP .6412112-01 SEP .90560210 02 EPM .14884934 03 EMP .12353085 02 MEP .18797570 02
 MPS .11771240 03 MSP .85640053-01 SMP .10704490 03 SEM .10704490 03 EMS .72806032 02 ESM .14918958 00
 RPM .24991973 06 SPN .87172379 02 SIP .-11731395 03 CPT .98722732 02 SIN .98323780 02 DI .20863203 00
 GCE .88729124 02 GCT .25248033 03 CPE .88903292 02 CPS .10306092 03 D2 .97897885-01 D3 .76492631-03
 REP .16592949 06 VEP .23245990 01

0 DAYS 1 HRS. 31 MIN. 54.000 SEC. 23553251620202000000000 J.D.= 2437692.00000000 JAN. 27, 1962 12 00 00.000

GEOCENTRIC EQUATORIAL COORDINATES
 X -.13899749 06 Y -.90770408 05 Z -.52332893 05 DX -.16330839 01 DY -.15050809 01 DZ -.49736811 00
 R .17606929 06 DEC -.1746288 02 RA .21314888 03 V .22758749 01 PTH .79602825 02 AZ .63362822 00
 R .17406928 06 LAT -.1746288 02 LON .26686405 03 VE .11951901 02 PTE .10794842 02 AZE .27088070 03
 XS .88826668 08 YS -.10772650 09 ZS -.46754748 08 DXS .24255694 02 DYS .16567098 02 DZS .71842672 01
 XM -.37457021 06 YM -.14112276 06 ZM -.25417438 05 DXT .37807539 00 DYM .-83922034 00 DZM .-32192053 00
 XE -.37457021 06 YV -.14112276 06 ZV -.25417438 05 DXT .37807539 00 DYT .-83922034 00 DZT .-32192053 00
 RS .14731849 09 VS .30279397 02 RM .40107919 06 VM .97512285 00 RT .40107919 06 VT .97512285 00
 DUT .35000000 02 DT .48070000 03 LOS .31964095 01 RAS .30948144 03 RAM .20064436 03 LOM .25435952 03
 DAC .00000000 00 CCL .27144951 03 MCL .34401079 03 TCL .34401079 03

HELIOCENTRIC EQUATORIAL COORDINATES
 X -.88965665 08 Y .10773572 09 Z .46702414 08 DX -.25888778 02 DY -.18072179 02 DZ -.76816353 01
 R .14731935 09 LAT .18472487 02 LON .12954910 03 V .32493691 02 PTH .-30611716-01 AZ .10442320 03
 XE .-88826668 08 YE .10772650 09 ZE .46754748 08 DXE .-24255694 02 DYE .-16567098 02 DZE .-71842672 01
 XT .-89201238 08 YT .10778538 09 ZT .46729330 08 DXT .-23877618 02 DYT .-17406319 02 DZT .-75061877 01
 LTE .18504060 02 LOE .12948144 03 LTT .18478690 02 LOT .12963667 03 RST .14743348 09 VST .30487103 02
 LTE .18504060 02 LOE .12948144 03 LTT .18478690 02 LOT .12963667 03 RST .14743348 09 VST .30487103 02
 EPS .49683533 02 ESP .67045183-01 SEP .90248766 02 EPM .14818127 03 EMP .11753282 02 MEP .18505395 02
 EPS .49683533 02 ESP .67045183-01 SEP .90248766 02 EPM .14818127 03 EMP .11753282 02 MEP .18505395 02
 MPS .11804896 03 MSP .82162237-01 SMP .61867899 02 SEM .10658621 03 EMS .73264407 02 ESM .14918958 00
 RPM .24239080 06 SPN .87573713 02 SIP .11763813 03 CPT .98875183 02 SIN .98464354 02 DI .21511271 00
 GCE .88350484 02 GCT .25276127 03 CPE .88464684 02 CPS .10305631 03 D2 .10206974 00 D3 .82470210-03
 REP .17606929 06 VEP .22778749 01

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

0 DAYS 2 HRS. 31 MIN. 54.00" SEC.

235553253424202000000000 J.D.= 2437692.0416666 JAN. 27, 1962 13 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -1.4481094 06 Y -0.9615389 05 Z -1.5409855 05 DX -1.5971778 01 DY -1.4813287 01 DZ -4.8378452 00
R -1.8205142 06 DEC -1.1727156 02 RA -2.1358441 03 V -2.2314477 01 PTH -7.9864469 02 AZ -6.3215069 02
R -1.8205142 06 LAT -1.1727157 02 LON -2.5225851 03 VE -1.2520629 02 PTE -1.0104289 02 AZE -2.7082257 03
XS -88913966 08 YS -1.0776683 09 ZS -4.6728872 08 DXS -2.4242516 02 DYS -1.6583245 02 DZS -7.1912591 01
XM -3.7319392 06 YM -1.4413808 06 ZM -2.6575269 05 DXM -3.8652255 00 DYM -8.3594912 00 DZM -3.2131497 00
XT -3.7319392 06 YT -1.4413808 06 ZT -2.6575269 05 DXT -3.8652255 00 DYT -8.3594912 00 DZT -3.2131497 00
RE -1.4731928 09 VE -3.0279342 02 RM -4.0094355 06 VM -97542498 00 RT -40094355 06 VT -97542498 00
GEO -1.7397877 02 ALT -1.7547512 06 LOS -3.4819874 03 RAS -3.0952463 03 RAM -2.0111797 03 LOM -2.3979208 03
DUT -35000000 02 DT -95979999 03 DR -2.1966243 01 SHA -1.8205140 06 DES -1.8493346 02 DEM -3.8000453 01
DAC -0.0000000 00 CCL -2.27109562 03 MCL -3.4402838 03 TCL -3.4402838 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -1.89058776 08 Y -1.0775068 09 Z -4.6674773 08 DX -2.5839694 02 DY -1.8064574 02 DZ -4.76750436 01
R -1.4731929 09 LAT -1.8471159 02 LON -1.2959553 03 V -3.2448804 02 PTH -2.4025190-01 AZ -1.0443223 03
XE -88913966 08 YE -1.0776683 09 ZE -4.6728872 08 DXE -2.4242516 02 DYE -1.6583245 02 DZE -7.1912591 01
XT -89287159 08 YT -1.0742269 09 ZT -4.6702297 08 DXT -2.3855993 02 DYT -1.7419194 02 DZT -7.5125740 01
LTE -1.8493346 02 LOE -1.2952463 03 LTT -1.8467916 02 LOT -1.2963016 03 RST -1.4743115 09 VST -3.0479099 02
EPS -89960409 02 ESP -6.9911339-01 SEP -8.9968702 02 EPM -1.4779334 03 EMP -1.4004675 02 MEP -1.8201981 02
MPS -1.1838616 03 MSP -7.9745169-01 SMP -6.1533500 02 SEM -1.0612721 03 EMS -7.3723105 02 ESM -1.4918958 00
RPM -2.3498650 06 SPN -8.7952696 02 SIP -1.1796238 03 CPT -9.9033409 02 SIN -9.8609634 02 D1 -2.27189115 00
GCE -88004378 02 GCT -2.5232376 03 CPE -8.8064902 02 CPS -1.0305170 03 D2 -1.0645253 00 D3 -8.8985111-03
REP -1.8205142 06 VEP -2.2314477 01

0 DAYS 3 HRS. 31 MIN. 54.00" SEC.

235553255230202000000000 J.D.= 2437692.0833333 JAN. 27, 1962 14 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -1.15050094 06 Y -1.0144804 06 Z -5.55817655 05 DX -1.5644190 01 DY -1.4592931 01 DZ -4.7146235 00
R -1.8988904 06 DEC -1.1704513 02 RA -2.1398269 03 V -2.1907122 01 PTH -8.0105634 02 AZ -6.3076977 02
R -1.8988904 06 LAT -1.1704513 02 LON -2.3761573 03 VE -1.1074945 02 PTE -9.9496953 01 AZE -2.7075702 03
XS -89001218 08 YS -1.0770710 09 ZS -4.6702971 08 DXS -2.4229324 02 DYS -1.6599385 02 DZS -7.1982476 01
XM -3.7178727 06 YM -1.4774152 06 ZM -2.7730878 05 DXM -3.9494759 00 DYM -8.3260731 00 DZM -3.2068301 00
XT -3.7178727 06 YT -1.4774152 06 ZT -2.7730878 05 DXT -3.9494759 00 DYT -8.3260731 00 DZT -3.2068301 00
RS -1.4732007 09 VS -3.0279287 02 RM -4.0080593 06 VM -97573363 00 RT -40080593 06 VT -97573363 00
GEO -1.7204152 02 ALT -1.831270 06 LOS -3.3320089 03 RAS -3.0956782 03 RAM -2.0159207 03 LOM -2.2522511 03
DUT -35000000 02 DT -1.9270000 04 DR -2.1581281 01 SHA -1.8988670 06 DES -1.8482621 02 DEM -3.9673375 01
DAC -0.0000000 00 CCL -2.2721384 03 MCL -3.4400683 03 TCL -3.4400683 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -0.8915718 08 Y -1.0740565 09 Z -4.6667153 08 DX -2.5797344 02 DY -1.8058678 02 DZ -4.7667099 01
R -1.4731925 09 LAT -1.8479841 02 LON -1.296188 03 V -3.2407672 02 PTH -1.715527-01 AZ -1.0444208 03
XE -89001218 08 YE -1.0770710 09 ZE -4.6702971 08 DXE -2.4229324 02 DYE -1.6599385 02 DZE -7.1982476 01
XT -89373005 08 YT -1.0759496 09 ZT -4.6675240 08 DXT -2.3834377 02 DYT -1.7431992 02 DZT -7.5189306 01
LTE -1.8482621 02 LOE -1.296792 03 LTT -1.8457134 02 LOT -1.2972364 03 RST -1.4742888 09 VST -3.0471071 02
EPS -90210345 02 ESP -7.2649465-01 SEP -8.9715802 02 EPM -1.4726952 03 EMP -1.4842364 02 MEP -1.7888105 02
MPS -1.1872511 03 MSP -7.7252514-01 SMP -6.1197285 02 SEM -1.0566789 03 EMS -7.4182131 02 ESM -1.4991711 00
RPM -2.2769365 06 SPN -8.8275532 02 SIP -1.1828777 03 CPT -9.9197859 02 SIN -9.8760513 02 D1 -2.2899957 00
GCE -87686152 02 GCT -2.5114929 03 CPE -8.7698412 02 CPS -1.0304707 03 D2 -1.1107011 00 D3 -9.6108526-03
REP -1.8988904 06 VEP -2.197122 01

0 DAYS 4 HRS. 31 MIN. 54.00" SEC.

235553257034202000000000 J.D.= 2437692.1250000 JAN. 27, 1962 15 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -1.5607801 06 Y -1.0664612 06 Z -5.7494381 05 DX -1.5343784 01 DY -1.4387708 01 DZ -4.6021795 00
R -1.9759348 06 DEC -1.16916220 02 RA -2.1434880 03 V -2.1531788 01 PTH -8.0329064 02 AZ -6.2946555 02
R -1.9759347 06 LAT -1.16916220 02 LON -2.2294077 03 VE -1.3630448 02 PTE -8.0958753 01 AZE -2.7070009 03
XS -89088424 08 YS -1.074731 09 ZS -4.6677043 08 DXS -2.4216120 02 DYS -1.6615517 02 DZS -7.2052325 01
XM -3.7035032 06 YM -1.5013279 06 ZM -2.8884163 05 DXM -4.0334987 00 DYM -8.2919506 00 DZM -3.2002462 00
XT -3.7035032 06 YT -1.5013279 06 ZT -2.8884163 05 DXT -4.0334987 00 DYT -8.2919506 00 DZT -3.2002462 00
RS -1.4732087 09 VS -3.0279231 02 RM -4.0056633 06 VM -97604883 00 RT -40066633 06 VT -97604883 00
GEO -1.7024854 02 ALT -1.917110 06 LOS -3.1820247 03 RAS -3.0961100 03 RAM -2.0206667 03 LOM -2.1065864 03
DUT -35000000 02 DT -1.9270000 04 DR -2.1225196 01 SHA -1.9758553 06 DES -1.8471887 02 DEM -4.4130564 01
DAC -0.0000000 00 CCL -2.27240795 03 MCL -3.4394800 03 TCL -3.4394800 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -0.89244502 08 Y -1.0740605 09 Z -4.66619549 08 DX -2.5790498 02 DY -1.8054287 02 DZ -4.76654503 01
R -1.4731922 09 LAT -1.8484852 02 LON -1.2968818 03 V -3.2369810 02 PTH -1.0082975-01 AZ -1.0445261 03
XE -89088424 08 YE -1.074731 09 ZE -4.6677043 08 DXE -2.4216120 02 DYE -1.6615517 02 DZE -7.2052325 01
XT -89458774 08 YT -1.0749718 09 ZT -4.66648159 08 DXT -2.3812770 02 DYT -1.7444712 02 DZT -7.5252571 01
LTE -1.8471887 02 LOE -1.2961100 03 LTT -1.8446341 02 LOT -1.2976711 03 RST -1.4742668 09 VST -3.0463018 02
EPS -90436940 02 ESP -7.6616880-01 SEP -8.9486212 02 EPM -1.4674567 03 EMP -1.5689777 02 MEP -1.7564551 02
MPS -1.1906697 03 MSP -7.5073516-01 SMP -6.0858124 02 SEM -1.0520824 03 EMS -7.4641494 02 ESM -1.5049542 00
RPM -2.2050100 06 SPN -8.857204 02 SIP -1.1861536 03 CPT -9.9369495 02 SIN -9.8917883 02 D1 -2.23648886 00
GCE -87392045 02 GCT -2.5114004 03 CPE -8.7360738 02 CPS -1.0304244 03 D2 -1.1594880 00 D3 -1.0392281-02
REP -1.9759348 06 VEP -2.1517188 01

0 DAYS 5 HRS. 31 MIN. 54.00" SEC.

235553260640202000000000 J.D.= 2437692.1666666 JAN. 27, 1962 16 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -1.16155130 06 Y -1.1110880 06 Z -5.9132340 05 DX -1.5067056 01 DY -1.4195989 01 DZ -4.4490239 00
R -2.0517471 06 DEC -1.16790510 02 RA -2.1468690 03 V -2.1184457 01 PTH -8.0537023 02 AZ -6.2821957 02
R -2.0517471 06 LAT -1.16790510 02 LON -2.0823780 03 VE -1.172594 02 PTE -8.4785844 01 AZE -2.7065025 03
XS -89175577 08 YS -1.0758747 09 ZS -4.6651093 08 DXS -2.4202903 02 DYS -1.6631639 02 DZS -7.2122133 01
XM -3.6888318 06 YM -1.5311164 06 ZM -3.0035027 05 DXM -4.1172874 00 DYM -8.2571243 00 DZM -3.1933983 00
XT -3.6888318 06 YT -1.5311164 06 ZT -3.0035027 05 DXT -4.1172874 00 DYT -8.2571243 00 DZT -3.1933983 00
RS -1.4732166 09 VS -3.0279179 02 RM -4.0052475 06 VM -97637057 00 RT -40052475 06 VT -97637057 00
GEO -1.6858206 02 ALT -1.9874830 06 LOS -3.0320507 03 RAS -3.0965417 03 RAM -2.0254178 03 LOM -1.9609268 03
DUT -35000000 02 DT -1.9270000 04 DR -2.0896180 01 SHA -2.0515838 06 DES -1.8461143 02 DEM -4.3060012 01
DAC -0.0000000 00 CCL -2.2728102 03 MCL -3.4385296 03 TCL -3.4385296 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -0.89337128 08 Y -1.0747566 09 Z -4.66591960 08 DX -2.5709609 02 DY -1.8051230 02 DZ -4.76621157 01
R -1.4731921 09 LAT -1.8477217 02 LON -1.2973442 03 V -3.2334793 02 PTH -2.8650117-02 AZ -1.0446369 03
XE -89175577 08 YE -1.0758747 09 ZE -4.6651093 08 DXE -2.4202903 02 DYE -1.6631639 02 DZE -7.2122133 01
XT -89544460 08 YT -1.0743436 09 ZT -4.6621057 08 DXT -2.3791175 02 DYT -1.7457351 02 DZT -7.5155531 01
LTE -1.8461143 02 LOE -1.2945417 03 LTT -1.8435543 02 LOT -1.2981055 03 RST -1.4742413 09 VST -3.0454940 02
EPS -90643153 02 ESP -7.9745169-01 SEP -8.9277054 02 EPM -1.4621951 03 EMP -1.6548425 02 MEP -1.7232059 02
MPS -1.1941291 03 MSP -7.1648340-01 SMP -6.0514839 02 SEM -1.0474826 03 EMS -7.5101199 02 ESM -1.5049542 00
RPM -2.1339888 06 SPN -8.8841787 02 SIP -1.1894627 03 CPT -9.9549305 02 SIN -9.9082661 02 D1 -2.2433927 00
GCE -87118971 02 GCT -2.5071193 03 CPE -8.7048207 02 CPS -1.0303781 03 D2 -1.2111801 00 D3 -1.1252392-02
REP -2.0517471 06 VEP -2.1114457 01

JPL TECHNICAL REPORT NO. 32-563

CASE 2

SPACE TRAJECTORIES

RA-3 PUST-MC

0 DAYS 6 HRS. 31 MIN. 54.00⁰⁰ SEC. 235553262444202000000000 J.D.= 2437692.2083333 JAN. 27,1962 17 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES													
X	-16692879	O6	Y	-116*8662	O6	Z	-60734648	O5	DX	-14811118	O1	DY	-14016091	O1	DZ	-44039352	O0
R	-21264148	O6	DEC	-165*5908	O2	RA	21500042	O3	V	20861799	O1	PTH	80731387	O2	AZ	62701564	O2
R	-21264148	O6	LAT	-165*5908	O2	LOM	19351025	O3	VE	14707189	O2	PTE	80647597	O1	AZE	2706032	O3
XS	89262685	O8	YS	-107*2756	O9	ZS	-46625115	O8	DXS	-24189673	O2	DYS	166647753	O2	DZS	72191907	O1
XN	-36738590	O6	YN	-156*7778	O6	ZN	-31183381	O5	DXM	42008364	O0	DYM	-82215948	O0	DZM	-31862859	O0
XT	-36738590	O6	YT	-156*7778	O6	ZT	-31183381	O5	DXT	42008364	O0	DYT	-82215948	O0	DZT	-31862859	O0
RS	14732245	O9	VS	302*9125	O2	RM	40038118	O6	VM	97669885	O0	RT	40038118	O6	VT	97669885	O0
GEO	-16702726	O2	ALT	206*76503	O6	LOS	28820718	O3	RAS	30969734	O3	RAM	20301741	O3	LDM	18152724	O3
DUT	35000000	O2	DT	192*0000	O4	DR	20589430	O1	SHA	-21261442	O6	DES	-18450390	O2	DEM	-44669161	O1
DAC	00000000	O0	CCL	273*3561	O3	MCL	34372209	O3	TCL	34372209	O3						

HELIOCENTRIC				EQUATORIAL COORDINATES													
X	-89429613	O8	Y	107*1068	O9	Z	46564380	O8	DX	-25670785	O2	DY	-18049362	O2	DZ	-76595842	O1
R	14731921	O9	LAT	184*5910	O2	LOM	12978060	O3	V	32302289	O2	PTH	44584970	O2	AZ	10447522	O3
XE	89262685	O8	YE	107*2756	O9	ZE	46625115	O8	DXE	-24189673	O2	DYE	166647753	O2	DZE	72191907	O1
XT	89630070	O8	YT	107*7149	O9	ZT	46593932	O8	DXE	-23769589	O2	DYT	-17469913	O2	DZT	-75378192	O1
LTE	18450390	O2	LOE	129*9735	O3	LTT	18424736	O2	LOT	12985398	O3	RST	14742177	O9	VST	30446838	O2
EPS	90831431	O2	ESP	82*75473	O1	SEP	89085876	O2	EPM	14668866	O3	EMP	17420017	O2	MEP	16891324	O2
MPS	11976415	O3	MSP	68*84033	O1	SMP	60166215	O2	SEM	10428795	O3	EMS	75561250	O2	ESM	15082012	O0
RPM	20637898	O6	SPN	89*12635	O2												
GCE	86864381	O2	GCT	250*8647	O3	SIP	11928164	O3	CPT	99738342	O2	SIN	99255825	O2	D1	25265097	O0
REP	21264148	O6	VEP	208*1799	O1	CPE	86757779	O2	CPS	10303317	O3	D2	12661069	O3	D3	12202409	O2

0 DAYS 7 HRS. 31 MIN. 54.00⁰⁰ SEC. 235553264250202000000000 J.D.= 2437692.2500000 JAN. 27,1962 18 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES													
X	-17221751	O6	Y	-121*90167	O6	Z	-62304020	O5	DX	-14573872	O1	DY	-13847024	O1	DZ	-43158994	O0
R	22000154	O6	DEC	-164*1169	O2	RA	2152921	O3	V	20561033	O1	PTH	80913759	O2	AZ	6253888	O2
R	22000154	O6	LAT	-164*1169	O2	LOM	17876098	O3	VE	15234401	O2	PTE	76586500	O1	AZE	27056736	O3
XS	89349744	O8	YS	-107*46761	O9	ZS	-46599115	O8	DXS	24176430	O2	DYS	16663859	O2	DZS	72261641	O1
XN	-36585859	O6	YN	-159*3111	O6	ZN	-32329124	O5	DXM	42841391	O0	DYM	-81853635	O0	DZM	-31789092	O0
XT	-36585859	O6	YT	-159*3111	O6	ZT	-32329124	O5	DXT	42841391	O0	DYT	-81853635	O0	DZT	-31789092	O0
RS	14732325	O9	VS	302*9071	O2	RM	40023565	O6	VM	97703370	O0	RT	40023565	O6	VT	97703370	O0
GEO	-16557162	O2	ALT	213*5207	O6	LOS	2720928	O3	RAS	30974051	O3	RAM	20349358	O3	LDM	16696235	O3
DUT	35000000	O2	DT	192*0000	O4	DR	20303028	O1	SHA	-21996178	O6	DES	-18439625	O2	DEM	-46331273	O1
DAC	00000000	O0	CCL	273*7386	O3	MCL	34355514	O3	TCL	34355514	O3						

HELIOCENTRIC				EQUATORIAL COORDINATES													
X	-89521961	O8	Y	107*4570	O9	Z	46536810	O8	DX	-25633787	O2	DY	-18048561	O2	DZ	-76577540	O1
R	14731923	O9	LAT	184*4606	O2	LOM	12982673	O3	V	32272012	O2	PTH	11858168	O1	AZ	10448713	O3
XE	89349744	O8	YE	107*46761	O9	ZE	46599115	O8	DXE	-24176430	O2	DYE	16663859	O2	DZE	72261641	O1
XT	-89715602	O8	YT	107*0857	O9	ZT	46566785	O8	DXE	-23764816	O2	DYT	-17482395	O2	DZT	-75440550	O1
LTE	18439625	O2	LOE	129*94051	O3	LTF	18413921	O2	LOT	12989739	O3	RST	14741942	O9	VST	30438711	O2
EPS	91003820	O2	ESP	86*79230	O1	SEP	88910630	O2	EPM	14515057	O3	EMP	18306435	O2	MEP	16542990	O2
MPS	12012199	O3	MSP	66*51990	O1	SMP	59810963	O2	SEM	10382729	O3	EMS	76021656	O2	ESM	15114412	O0
RPM	19943409	O6	SPN	89*32542	O2												
GCE	86626139	O2	GCT	250*8127	O3	SIP	11962267	O3	CPT	99937723	O2	SIN	99438403	O2	D1	26144968	O0
REP	22000154	O6	VEP	205*1033	O1	CPE	86486907	O2	CPS	10302852	O3	D2	13246398	O0	D3	13255532	O2

0 DAYS 8 HRS. 31 MIN. 54.00⁰⁰ SEC. 235553266054202000000000 J.D.= 2437692.29166666 JAN. 27,1962 19 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES													
X	-17223272	O6	Y	-126*5764	O6	Z	-63842840	O5	DX	-14352402	O1	DY	-13687651	O1	DZ	-42340659	O0
R	222726184	O6	DEC	-163*5236	O2	RA	21556470	O3	V	20279806	O1	PTH	81085473	O2	AZ	62647548	O2
R	222726184	O6	LAT	-163*5236	O2	LOM	16399240	O3	VE	15754758	O2	PTE	73059109	O1	AZE	27053263	O3
XS	89436757	O8	YS	-107*40758	O9	ZS	-46573087	O8	DXS	24163173	O2	DYS	16679957	O2	DZS	72331342	O1
XN	-36430135	O6	YN	-161*7122	O6	ZN	-33472167	O5	DXM	43671897	O0	DYM	-81484308	O0	DZM	-31712679	O0
XT	-36430135	O6	YT	-161*7122	O6	ZT	-33472167	O5	DXM	43671897	O0	DYT	-81484308	O0	DZT	-31712679	O0
RS	14732405	O9	VS	302*9016	O2	RM	40008815	O6	VM	97737510	O0	RT	40008815	O6	VT	97737510	O0
GEO	-16420450	O2	ALT	220*8534	O6	LOS	25821136	O3	RAS	30978366	O3	RAM	20397030	O3	LDM	15239801	O3
DUT	35000000	O2	DT	192*0000	O4	DR	20034838	O1	SHA	-22720772	O6	DES	-18428853	O2	DEM	-47990881	O1
DAC	00000000	O0	CCL	273*9755	O3	MCL	34335124	O3	TCL	34335124	O3						

HELIOCENTRIC				EQUATORIAL COORDINATES													
X	-89614180	O8	Y	107*8073	O9	Z	46509244	O8	DX	-25598413	O2	DY	-18048722	O2	DZ	-76565408	O1
R	14731926	O9	LAT	184*3303	O2	LOM	12987282	O3	V	32243723	O2	PTH	19311506	O1	AZ	10449935	O3
XE	89436757	O8	YE	107*40758	O9	ZE	46573087	O8	DXE	-24163173	O2	DYE	16679957	O2	DZE	72331342	O1
XT	89801058	O8	YT	107*4561	O9	ZT	46539614	O8	DXE	-23726454	O2	DYT	-17494800	O2	DZT	-75502610	O1
LTE	18428853	O2	LOE	129*8366	O3	LTF	18403096	O2	LOT	12994079	O3	RST	14741705	O9	VST	30430561	O2
EPS	91162046	O2	ESP	87*94651	O1	SEP	88749586	O2	EPM	14460253	O3	EMP	19209808	O2	MEP	16187661	O2
MPS	12048780	O3	MSP	63*79410	O1	SMP	59447705	O2	SEM	10336629	O3	EMS	76482419	O2	ESM	15114412	O0
RPM	19255801	O6	SPN	89*53855	O2												
GCE	86402442	O2	GCT	249*5368	O3	SIP	11997065	O3	CPT	10014867	O3	SIN	99631516	O2	D1	27078657	O0
REP	222726184	O6	VEP	202*9806	O1	CPE	86233439	O2	CPS	10302387	O3	D2	13872010	O0	D3	14427379	O2

0 DAYS 9 HRS. 31 MIN. 54.00⁰⁰ SEC. 235553267660202000000000 J.D.= 2437692.33333333 JAN. 27,1962 20 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES													
X	-18255299	O6	Y	-131*5784	O6	Z	-65353209	O5	DX	-14149908	O1	DY	-13537060	O1	DZ	-41577151	O0
R	23442859	O6	DEC	-161*7201	O2	RA	21581991	O3	V	20016126	O1	PTH	81247688	O2	AZ	62351203	O2
R	23442859	O6	LAT	-161*7201	O2	LOM	14920655	O3	VE	16268552	O2	PTE	69845821	O1	AZE	27050149	O3
XS	89523725	O8	YS	-107*4750	O9	ZS	-46547034	O8	DXS	24149903	O2	DYS	16696046	O2	DZS	72401007	O1
XN	-36271424	O6	YN	-164*9791	O6	ZN	-34612412	O5	DXM	44499818	O0	DYM	-81107980	O0	DZM	-31633620	O0
XT	-36271424	O6	YT	-164*9791	O6	ZT	-34612412	O5	DXT	44499818	O0	DYT	-81107980	O0	DZT	-31633620	O0
RS	14732484	O9	VS	302*8962	O2	RM	39993870	O6	VM	97772307	O0	RT	39993870	O6	VT	97772307	O0
GEO	-16291461	O2	ALT	228*5206	O6	LOS	24321346	O3	RAS	30982682	O3	RAM	20444759	O3	LDM	13783423	O3
DUT	35000000	O2	DT	192*0000	O4	DR	19783046	O1	SHA	-23435873	O6	DES	-18418070	O2	DEM	-49648346	O1
DAC	00000000	O0	CCL	273*0824	O3	MCL	34310893	O3	TCL	34310893	O3						

HELIOCENTRIC				EQUATORIAL COORDINATES										
X	-89706277	O8	Y	107*1575	O9	Z	46481680	O8	DX	-25564494	O2	DY	-18049752	O2

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

0 DAYS 10 HRS. 31 MIN. 54.00" SEC. 23555327146420200000000 J.D.= 2437692.37500000 JAN. 27,1962 21 00 00.000

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-1.8761036	O6	Y	-1.13640529	O6	Z	-.66836981	O5	DX	-.13952642	O1	DY	-.13394456	O1	DZ	-.40862310	O0
R	-2.4150742	O6	DEC	-1.0046281	O2	RA	.21605959	O3	V	.19768282	O1	PTH	.81401397	O2	AZ	.62233519	O2
R	-2.4150741	O6	LAT	-1.0046281	O2	LOM	.13440517	O3	VE	.16776448	O2	PTE	.66906747	O1	AZE	.27047348	O3
XS	.89610639	O8	YS	-.10778737	O9	ZS	-.46520957	O8	DXS	.24136621	O2	DYS	.16712127	O2	DZS	-.72470632	O1
XM	-.36109738	O6	YM	-1.6771092	O6	ZM	-.35749760	O5	DXM	.45325088	O0	DYM	-.80724662	O0	DZM	-.31551917	O0
XT	-.36109738	O6	YT	-1.6771092	O6	ZT	-.35749760	O5	DXT	.45325088	O0	DYT	-.80724662	O0	DZT	-.31551917	O0
RS	.14732564	O9	VS	.30278908	O2	RM	.39978728	O6	VM	.97807760	O0	RT	.39978728	O6	VT	.97807760	O0
GEO	-1.6170065	O2	ALT	.23513087	O6	LOS	.22821553	O3	RAS	.30986996	O3	RAM	.20492546	O3	LOM	-.12327103	O3
DUT	.35000000	O2	DT	.19270000	O4	DR	.19546087	O1	SHA	-.24142069	O6	DES	-.18407278	O2	DEM	-.51303539	O1
DAC	.00000000	O0	CCL	-.27470723	O3	MCL	.34282615	O3	TCL	.34282615	O3						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-.89798249	O8	Y	.10775076	O9	Z	-.46454120	O8	DX	-.25531885	O2	DY	-.18051573	O2	DZ	-.76556863	O1
R	-1.4731937	O9	LAT	.18370696	O2	LOM	.12996486	O3	V	.32192327	O2	PTH	.34318285	O1	AZ	.10452455	O3
XS	-.89610639	O8	YS	-.10778737	O9	ZE	.46520957	O8	DXE	-.24136621	O2	DYE	-.16712127	O2	DZE	-.72470632	O1
XM	-.36109738	O6	YM	-1.6771092	O6	ZT	-.35749760	O5	DXT	.45325088	O0	DYT	-.80724662	O0	DZT	-.31551917	O0
LTE	.18407278	O2	LOE	.12996486	O3	LTT	.18314262	O2	LOT	.13002753	O3	RST	.14741230	O9	VST	.30414192	O2
EPS	.91441666	O2	ESP	.99331123	O1	SEP	.88464437	O2	EPH	.14346458	O3	EMP	.21077255	O2	MEP	.15458157	O2
MPS	.12124940	O3	MSP	.59347024	O1	SMP	.58691117	O2	SEM	.10244321	O3	EMS	.77405046	O2	ESM	.15162881	O0
RPM	.17897149	O6	SPN	.89978359	O2	SIP	.12069105	O3	CPT	.10061077	O3	SIN	-.10005443	O3	D1	.29131249	O0
GCE	.85992771	O2	GCT	.24881892	O3	CPE	.85771458	O2	CPS	.10301455	O3	D2	-.15264016	O0	D3	-.17205172	O2
REP	.24150742	O6	VCP	.19748282	O1												

0 DAYS 11 HRS. 31 MIN. 54.00" SEC. 23555327327020200000000 J.D.= 2437692.41666666 JAN. 27,1962 22 00 00.000

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-1.9260033	O6	Y	-.14140273	O6	Z	-.68295816	O5	DX	-.13771372	O1	DY	-.13259148	O1	DZ	-.40190833	O0
R	-2.4850339	O6	DEC	-.15971794	O2	RA	.21628526	O3	V	.19534808	O1	PTH	.81547482	O2	AZ	.62113100	O2
R	-2.4850339	O6	LAT	-.15971794	O2	LOM	.11958976	O3	VE	.17278478	O2	PTE	.64208516	O1	AZE	.27044817	O3
XS	.89697511	O8	YS	-.10772717	O9	ZS	-.46494855	O8	DXS	.24123324	O2	DYS	.16728199	O2	DZS	-.72540224	O1
XM	-.35945086	O6	YM	-1.7071002	O6	ZM	-.36884123	O5	DXM	.46147652	O0	DYM	-.80334360	O0	DZM	-.31467565	O0
XT	-.35945086	O6	YT	-1.7071002	O6	ZT	-.36884123	O5	DXT	.46147652	O0	DYT	-.80334360	O0	DZT	-.31467565	O0
RS	.14732645	O9	VS	.30278853	O2	RM	.39963392	O6	VM	.97843845	O0	RT	.39963392	O6	VT	.97843845	O0
GEO	-1.6054917	O2	ALT	.24212682	O6	LOS	.21321761	O3	RAS	.30991130	O3	RAM	.20540392	O3	LOM	.10870843	O3
DUT	.35000000	O2	DT	.19270000	O4	DR	.19322621	O1	SHA	-.24839885	O6	DES	-.18396475	O2	DEM	-.52956385	O1
DAC	.00000000	O0	CCL	-.27479565	O3	MCL	.34250014	O3	TCL	.34250014	O3						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-.89891011	O8	Y	.10778577	O9	Z	-.46426558	O8	DX	-.25500461	O2	DY	-.18054114	O2	DZ	-.76559307	O1
R	-1.4731937	O9	LAT	.18370696	O2	LOM	.13001082	O3	V	.32168893	O2	PTH	.41857106	O1	AZ	.10453743	O3
XS	-.89697511	O8	YS	-.10772717	O9	ZE	.46494855	O8	DXE	-.24123324	O2	DYE	-.16728199	O2	DZE	-.72540224	O1
XM	-.35945086	O6	YM	-1.7071002	O6	ZT	-.36884123	O5	DXT	-.23661848	O2	DYT	-.17531543	O2	DZT	-.31467565	O0
LTE	.18396475	O2	LOE	.12991310	O3	LTT	.18370577	O2	LOT	.13007088	O3	RST	-.14740992	O9	VST	.30405973	O2
EPS	.91565398	O2	ESP	.99380644	O1	SEP	.88337401	O2	EPH	.14266792	O3	EMP	.22047118	O2	MEP	.15084958	O2
MPS	.12164856	O3	MSP	.59392909	O1	SMP	.58294410	O2	SEM	.10198113	O3	EMS	.77866924	O2	ESM	.15162881	O0
RPM	.17229252	O6	SPN	.90047404	O2	SIP	.12107060	O3	CPT	.10086510	O3	SIN	.10028712	O3	D1	.30264026	O0
GCE	.85804343	O2	GCT	.24870448	O3	CPE	.85560418	O2	CPS	.10300988	O3	D2	-.16042267	O0	D3	.18860061	O2
REP	.24850339	O6	VCP	.19574808	O1												

0 DAYS 12 HRS. 31 MIN. 54.00" SEC. 23555327507420200000000 J.D.= 2437692.45833333 JAN. 27,1962 23 00 00.000

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-.19752704	O6	Y	-.14615269	O6	Z	-.69731190	O5	DX	-.13601035	O1	DY	-.13130525	O1	DZ	-.39558088	O0
R	-2.5542118	O6	DEC	-.15843143	O2	RA	.21649819	O3	V	.19314431	O1	PTH	.81686702	O2	AZ	.61988482	O2
R	-2.5542117	O6	LAT	-.15843143	O2	LOM	.10476163	O3	VE	.17775051	O2	PTE	.61722925	O1	AZE	.27042522	O3
XS	.89784336	O8	YS	-.10716692	O9	ZS	-.46468728	O8	DXS	.24110015	O2	DYS	.16744264	O2	DZS	-.72609778	O1
XM	-.35777477	O6	YM	-1.739493	O6	ZM	-.38015401	O5	DXM	.46967442	O0	DYM	-.79937088	O0	DZM	-.31380567	O0
XT	-.35777477	O6	YT	-1.739493	O6	ZT	-.38015401	O5	DXT	.46967442	O0	DYT	-.79937088	O0	DZT	-.31380567	O0
RS	.14732725	O9	VS	.30278800	O2	RM	.39947860	O6	VM	.97880634	O0	RT	.39947860	O6	VT	.97880634	O0
GEO	-1.5945638	O2	ALT	.24974458	O6	LOS	.19821968	O3	RAS	.30995624	O3	RAM	.20588803	O3	LOM	.94146437	O0
DUT	.35000000	O2	DT	.19270000	O4	DR	.19111481	O1	SHA	-.25529806	O6	DES	-.18385663	O2	DEM	-.54606755	O1
DAC	.00000000	O0	CCL	-.27477451	O3	MCL	.34212742	O3	TCL	.34212742	O3						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-.89981863	O8	Y	.10772077	O9	Z	-.46398995	O8	DX	-.25470119	O2	DY	-.18057317	O2	DZ	-.76565986	O1
R	-1.4731934	O9	LAT	.18378003	O2	LOM	.13005675	O3	V	.32146796	O2	PTH	.49413002	O1	AZ	.10455046	O3
XS	-.89784336	O8	YS	-.10716692	O9	ZE	.46468728	O8	DXE	-.24110015	O2	DYE	-.16744264	O2	DZE	-.72609778	O1
XM	-.35777477	O6	YM	-1.739493	O6	ZT	-.38015401	O5	DXT	-.23661848	O2	DYT	-.17543635	O2	DZT	-.31380567	O0
LTE	.18385663	O2	LOE	.12995624	O3	LTT	.18359722	O2	LOT	.13011421	O3	RST	.14740754	O9	VST	.30397733	O2
EPS	.91679709	O2	ESP	.99186865	O1	SEP	.88220996	O2	EPH	.14224765	O3	EMP	.23045629	O2	MEP	.14706714	O2
MPS	.12206255	O3	MSP	.54176172	O1	SMP	.57882880	O2	SEM	.10151867	O3	EMS	.78329183	O2	ESM	.15211196	O0
RPM	.16564511	O6	SPN	.90248855	O2	SIP	.12146138	O3	CPT	.10113738	O3	SIN	.10053620	O3	D1	.31478665	O0
GCE	.85625483	O2	GCT	.24775290	O3	CPE	.85360645	O2	CPS	.10300520	O3	D2	.16884813	O0	D3	.20733569	O2
REP	.29542118	O6	VCP	.19314431	O1												

0 DAYS 13 HRS. 31 MIN. 54.00" SEC. 23555327600202000000000 J.D.= 2437692.50000000 JAN. 28,1962 00 00 00.000

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-.20239428	O6	Y	-.15085745	O6	Z	-.71144418	O5	DX	-.13440723	O1	DY	-.13008049	O1	DZ	-.38960005	O0
R	-2.6226502	O6	DEC	-.15779804	O2	RA	.21669953	O3	V	.19106051	O1	PTH	.81819746	O2	AZ	.61858080	O2
R	-2.6226501	O6	LAT	-.15779805	O2	LOM	.89921857	O2	VE	.18266455	O2	PTE	.59426051	O1	AZE	.27040436	O3
XS	.89871106	O8	YS	-.10710661	O9	ZS	-.46442575	O8	DXS	.24098694	O2	DYS	.16760319	O2	DZS	.72679292	O1
XM	-.3560923	O6	YM	-1.7646541	O6	ZM	-.39143495	O5	DXM	.47784407	O0	DYM	-.79532857	O0	DZM	-.31290922	O0
XT	-.3560923	O6	YT	-1.7646541	O6	ZT	-.39143495	O5	DXT	.47784407	O0	DYT	-.79532857	O0	DZT	-.31290922	O0
RS	.14732805	O9	VS	.30278745	O2	RM	.39932136	O6	VM	.97918060	O0	RT	.39932136	O6	VT	.97918060	O0
GEO	-1.5841701	O2	ALT	.25588840	O6	LOS	.18322170	O3	RAS	.30999937	O3	RAM	.20632629	O3	LOM	.79585017	O2
DUT	.35000000	O2	DT	.19270000	O4	DR	.18911654	O1	SHA	-.26212274	O6</						

JPL TECHNICAL REPORT NO. 32-563

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

0 DAYS 14 HRS. 31 MIN. 54.00" SEC.

23553300504202000000000 J.D.= 2437692.54166666 JAN. 28, 1962 01 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES							
X	-20720547 06	Y	-15551916 06	Z	-72536682 05	DX	-13289652 01	DY	-12891244 01	DZ	-38392964 00
R	26903882 06	DEC	-15641309 02	RA	21689025 03	V	18908707 01	PTH	81947201 02	AZ	61720093 02
R	26903881 06	LAT	-15641310 02	LON	75071519 02	VE	18752957 02	PFE	57297432 01	AZE	27038535 03
XS	89957833 08	YS	-10744625 09	ZS	-46416397 08	DXS	24083358 02	DYS	-16776366 02	DZS	-72748771 01
XM	-35433432 06	YM	-17972122 06	ZM	-40268318 05	DXM	48598462 00	DYM	-79121677 00	DZM	-31198629 00
XT	-35433432 06	YT	-17972122 06	ZT	-40268318 05	DXT	48598462 00	DYT	-79121677 00	DZT	-31198629 00
RS	14732886 09	VS	30278691 02	RM	39916218 06	VM	97956136 00	RT	39916218 06	VT	97956136 00
GED	-15742634 02	ALT	26246217 06	LDS	16822375 03	RAS	31004249 03	RAM	20684302 03	LDM	65024281 02
DUT	35000000 02	DT	19200000 04	DR	18722257 01	SHA	-24887691 06	DES	-18364012 02	DEM	-57899684 01
DAC	00000000 00	CCL	27470688 03	MCL	34122344 03	TCL	34122344 03				

HELIOCENTRIC				EQUATORIAL COORDINATES							
X	-90165038 08	Y	10690073 09	Z	46343860 08	DX	-25412323 02	DY	-18065491 02	DZ	-76588067 01
R	14731977 09	LAT	18375463 02	LON	13014848 03	V	32106159 02	PTH	66579436-01	AZ	10457686 02
XE	-89957833 08	YE	10744625 09	ZE	46416397 08	DXE	-24083358 02	DYE	-16776366 02	DZE	-72748771 01
XT	-90312167 08	YT	10676692 09	ZT	46376128 08	DXT	-23597373 02	DYT	-17567583 02	DZT	-75868633 01
LTE	18364012 02	LOF	13074249 03	LTT	18337986 02	LOT	13020082 03	AST	14740275 09	VST	30381186 02
EPS	91883219 02	ESP	10377499 00	SEP	88012206 02	EPM	14091783 03	EMP	25154584 02	MEP	13936678 02
MPS	12294378 03	MSP	48988796-01	SMP	57006475 02	SEM	10059261 03	EMS	79254877 02	ESM	15243321 00
RPM	15249487 06	SPN	90574804 02								
GCE	85293117 02	GCT	24671655 03	SIP	12229076 02	CPT	10174467 03	SIN	10109165 03	D1	34139334 00
REP	26903882 06	VEP	18978707 01	CPE	84991508 02	CPS	10299983 03	DZ	18798379 00	D3	25303269-02

0 DAYS 15 HRS. 31 MIN. 54.00" SEC.

23553302310202000000000 J.D.= 2437692.58333333 JAN. 28, 1962 02 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES							
X	-21196384 06	Y	-16013978 06	Z	-73909047 05	DX	-13147148 01	DY	-12779486 01	DZ	-37853699 00
R	27574620 06	DEC	-15547244 02	RA	21707124 03	V	18721562 01	PTH	82069644 02	AZ	61572496 02
R	27574619 06	LAT	-15547244 02	LON	60211433 02	VE	19234807 02	PFE	55319528 01	AZE	27036799 03
XS	90044511 08	YS	-10678592 09	ZS	-46390194 08	DXS	24070009 02	DYS	-16792406 02	DZS	-72818214 01
XM	-35257017 06	YM	-18216210 06	ZM	-41389771 05	DXM	49409556 00	DYM	-78703561 00	DZM	-31103690 00
XT	-35257017 06	YT	-18216210 06	ZT	-41389771 05	DXT	49409556 00	DYT	-78703561 00	DZT	-31103690 00
RS	14732966 09	VS	30278637 02	RM	39900109 06	VM	97994868 00	RT	39900109 06	VT	97994868 00
GED	-15648021 02	ALT	26976955 06	LDS	15322580 03	RAS	31008561 03	RAM	20732399 03	LDM	65064191 02
DUT	35000000 02	DT	19200000 04	DR	18542519 01	SHA	-27556435 06	DES	-18353171 02	DEM	-59542028 01
DAC	00000000 00	CCL	27476182 03	MCL	34068029 03	TCL	34068029 03				

HELIOCENTRIC				EQUATORIAL COORDINATES							
X	-90256474 08	Y	10672568 09	Z	46316285 08	DX	-25384724 02	DY	-18070374 02	DZ	-76603583 01
R	14731971 09	LAT	18374146 02	LON	13019430 03	V	32087439 02	PTH	72196805-01	AZ	10459901 03
XE	-90044511 08	YE	10678582 09	ZE	46390194 08	DXE	-24070009 02	DYE	-16792406 02	DZE	-72818214 01
XT	-90397081 08	YT	10471366 09	ZT	46348004 08	DXT	-23575914 02	DYT	-17579441 02	DZT	-75928582 01
LTE	18353171 02	LOE	13078561 03	LTT	18327106 02	LOT	13024410 03	AST	14740035 09	VST	30372882 02
EPS	91973756 02	ESP	10676052 00	SEP	87419063 02	EPM	14019733 03	EMP	26257043 02	MEP	13545617 00
MPS	12341616 03	MSP	46917942-01	SMP	56536474 02	SEM	10012199 03	EMS	79718323 02	ESM	15243321 00
RPM	14598844 06	SPN	96648387 02								
GCE	85138176 02	GCT	24571846 03	SIP	12273403 03	CPT	10208495 03	SIN	10140782 03	D1	35717687 00
REP	27574620 06	VEP	18771562 01	CPE	84820437 02	CPS	10299114 03	DZ	189891103 00	D3	28107838-02

0 DAYS 16 HRS. 31 MIN. 54.00" SEC.

23553304114202000000000 J.D.= 2437692.62500000 JAN. 28, 1962 03 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES							
X	-21667237 06	Y	-16472112 06	Z	-75262448 05	DX	-13012636 01	DY	-12672994 01	DZ	-37339221 00
R	28239051 06	DEC	-15477233 02	RA	21724323 03	V	18943884 01	PTH	82187551 02	AZ	61412934 02
R	28239050 06	LAT	-15477233 02	LON	45342363 02	VE	19171224 02	PFE	53477162 01	AZE	27035211 03
XS	90131140 08	YS	-10672534 09	ZS	-46363968 08	DXS	24056649 02	DYS	-16808436 02	DZS	-72818214 01
XM	-35077688 06	YM	-18478780 06	ZM	-42507754 05	DXM	50217622 00	DYM	-78278523 00	DZM	-31006104 00
XT	-35077688 06	YT	-18478780 06	ZT	-42507754 05	DXT	50217622 00	DYT	-78278523 00	DZT	-31006104 00
RS	14733047 09	VS	30278583 02	RM	39883808 06	VM	98034254 00	RT	39883808 06	VT	98034254 00
GED	-15574465 02	ALT	27671383 06	LDS	13822785 03	RAS	31012872 03	RAM	20780564 03	LDM	35904768 02
DUT	35000000 02	DT	19200000 04	DR	18970000 01	SHA	-29259606 06	DES	-18342321 02	DEM	-61181470 01
DAC	00000000 00	CCL	27571009 03	MCL	34006619 03	TCL	34006619 03				

HELIOCENTRIC				EQUATORIAL COORDINATES							
X	-90347812 08	Y	10678062 09	Z	46288705 08	DX	-25357912 02	DY	-18075735 02	DZ	-76621538 01
R	14732005 09	LAT	18318228 02	LON	13024008 03	V	32069682 02	PTH	79849179-01	AZ	10460354 03
XE	-90131140 08	YE	10672534 09	ZE	46363968 08	DXE	-24056649 02	DYE	-16808436 02	DZE	-72818214 01
XT	-90481916 08	YT	10674035 09	ZT	46321459 08	DXT	-23554473 02	DYT	-17591221 02	DZT	-75988227 01
LTE	18342331 02	LOE	13072872 03	LTT	18316218 02	LOT	13028736 03	AST	14737975 09	VST	30364557 02
EPS	92057566 02	ESP	10949840 00	SEP	87832683 02	EPM	13943104 03	EMP	27417973 02	MEP	13150986 02
MPS	12391364 03	MSP	43678226-01	SMP	56041345 02	SEM	99664987 02	EMS	80182176 02	ESM	15291383 00
RPM	13952644 06	SPN	9073389 02								
GCE	84989904 02	GCT	24575609 03	SIP	12319992 03	CPT	10245384 03	SIN	10174012 03	D1	37372161 00
REP	28239051 06	VEP	18543884 01	CPE	84657389 02	CPS	10298644 03	DZ	21092186 00	D3	3135327-02

0 DAYS 17 HRS. 31 MIN. 54.00" SEC.

23553305720202000000000 J.D.= 2437692.66666666 JAN. 28, 1962 04 00 00.000

GEOCENTRIC				EQUATORIAL COORDINATES							
X	-22133383 06	Y	-16976489 06	Z	-76597736 05	DX	-12885626 01	DY	-12570829 01	DZ	-36846751 00
R	28897488 06	DEC	-15370939 02	RA	21740692 03	V	18375035 01	PTH	82301402 02	AZ	61238614 02
R	28897488 06	LAT	-15370939 02	LON	30464987 02	VE	20185483 02	PTE	51757140 01	AZE	27033756 03
XS	90217722 08	YS	-10676480 09	ZS	-46337714 08	DXS	24043274 02	DYS	-16824458 02	DZS	-72956987 01
XM	-34895453 06	YM	-18779808 06	ZM	-43622182 05	DXM	51022600 00	DYM	-77846572 00	DZM	-30905871 00
XT	-34895453 06	YT	-18779808 06	ZT	-43622182 05	DXT	51022600 00	DYT	-77846572 00	DZT	-30905871 00
RS	14733128 09	VS	30278528 02	RM	39867315 06	VM	98074294 00	RT	39867315 06	VT	98074294 00
GED	-15470687 02	ALT	28279819 06	LDS	12322989 03	RAS	31017183 03	RAM	20828796 03	LDM	21346020 02
DUT	35000000 02	DT	19200000 04	DR	18209412 01	SHA	-28875259 06	DES	-18331461 02	DEM	-62817915 01
DAC	00000000 00	CCL	27515223 03	MCL	33937135 03	TCL	33937135 03				

HELIOCENTRIC				EQUATORIAL COORDINATES							
X	-90439055 08	Y	10649553 09	Z	46261616 08	DX	-25331836 02	DY	-18081540 02	DZ	-76641662 01
R	14732023 09	LAT	1831504 02	LON	13028584 03	V	32052823 02	PTH	87544239-01	AZ	10461693 03
XE	-90217722 08	YE	10676480 09	ZE	46337714 08	DXE	-24043274 02	DYE	-16824458 02	DZE	-72956987 01
XT	-90566676 08	YT	10647700 09	ZT	46294092 08	DXT	-23533048 02	DYT	-17602923 02	DZT	-76047594 01
LTE	18314661 02	LOE	13071183 03	LTT	18305322 02	LOT	13033060 03	AST	14739545 09	VST	30356211 02
EPS	92135137 02	ESP	11107583 00	SEP	87752559 02	EPM	13861100 03	EMP	28635902 02	MEP	12753093 02
MPS	12443966 03	MSP	41377734-01	SMP	55517664 02	SEM	99200576 02	EMS	80646444 02	ESM	15291383 00</

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

0 DAYS 18 HRS. 31 MIN. 54.00" SEC.

23555330752420200000000 J.D. = 2437692.70833333 JAN. 28, 1962 05 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-22595087	06	Y	-17377264	06	Z	-77915653	05	DX	-12765707	01	DY	-12472883	01	DZ	-36373636	00
R	29550224	06	DEC	-15298054	02	RA	21756290	03	V	18214459	01	PTH	82411608	02	AZ	61046200	02
R	29550224	06	LAT	-15298054	02	LMN	15579899	02	VE	20654742	02	PTE	50148008	01	AZE	27032425	03
XS	90304256	08	YS	-10604209	09	ZS	-46311436	08	DXS	24029886	02	DYS	16840471	02	DZS	73026318	01
XM	-34710328	06	YM	-19092669	06	ZM	-44732954	05	DXM	51824427	00	DYM	-77407724	00	DZM	-30802992	00
XT	-34710328	06	YT	-19092669	06	ZT	-44732954	05	DXT	51824427	00	DYT	-77407724	00	DZT	-30802992	00
RS	-14733209	09	VS	-30298474	02	RM	39850632	06	VM	98114989	00	RT	39850632	06	VT	98114989	00
GF0	-15387316	02	ALT	-28912553	06	LOS	-10823193	03	RAS	31021493	03	RAM	-20877096	03	LOM	-64787968	01
DUT	-35000000	02	DT	-19200000	04	DR	-18054942	01	SHA	-29525966	06	DES	-18320591	02	DEM	-84451671	01
DAC	00000000	00	GCL	27578872	03	MCL	33858375	03	TCL	33858375	03						

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-90530206	08	Y	10643042	09	Z	46233520	08	DX	-25306457	02	DY	-18087760	02	DZ	-76663682	01
R	14732041	09	LAT	18270177	02	LMN	13033156	03	V	32036806	02	PTH	95299066	01	AZ	10463033	03
XE	-90304256	08	YE	10604209	09	ZE	46311436	08	DXE	-24029886	02	DYE	16840471	02	DZE	-73026318	01
XT	-90651359	08	YT	10641360	09	ZT	46266703	08	DXT	-23511642	02	DYT	-17614549	02	DZT	-76106617	01
LTE	18320591	02	LOE	13071493	03	LTT	18294418	02	LOT	13037383	03	RST	14739314	09	VST	30347846	02
EPS	92206887	02	ESP	-11449859	00	SEP	87678278	02	EPM	13772782	03	EMP	-29919005	02	MEP	-12352268	02
MPS	-12498805	03	MSP	-39544682	-01	SMP	54961591	02	SEM	98735755	02	EMS	81111130	02	ESM	-15291383	00
RPM	12673560	06	SPN	90970142	02												
GCE	84711271	02	GCT	24379502	03	SIP	12421229	03	CPT	10329322	03	SIN	10250747	03	D1	44144639	00
RPE	29550224	06	VFP	18214459	01	CPE	84352879	02	CPS	10297702	03	D2	23888184	00	D3	39568676	-02

0 DAYS 19 HRS. 31 MIN. 54.00" SEC.

23555331133020200000000 J.D. = 2437692.75000000 JAN. 29, 1962 06 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-23052594	06	Y	-17874583	06	Z	-79216842	05	DX	-12652545	01	DY	-12378874	01	DZ	-35917290	00
R	30197532	06	DEC	-15278292	02	RA	21771169	03	V	18061672	01	PTH	82518563	02	AZ	60831632	02
R	30197532	06	LAT	-15278292	02	LMN	168762032	00	VE	21120221	02	PTE	44639715	01	AZE	27031206	03
XS	90300739	08	YS	-11067454	09	ZS	-46205115	08	DXS	24016486	02	DYS	16856474	02	DZS	73095609	01
XM	-34522321	06	YM	-19371137	06	ZM	-45839371	05	DXM	52623034	00	DYM	-76961990	00	DZM	-30674648	00
XT	-34522321	06	YT	-19371137	06	ZT	-45839371	05	DXT	52623034	00	DYT	-76961990	00	DZT	-30674648	00
RS	-14733290	09	VS	-30298420	02	RM	39833760	06	VM	98156334	00	RT	39833760	06	VT	98156334	00
GF0	-15307097	02	ALT	-29598860	06	LOS	93233953	02	RAS	31025902	03	RAM	-20925468	03	LOM	-65232061	03
DUT	-35000000	02	DT	-19200000	04	DR	-17907915	01	SHA	-30171251	06	DES	-18309714	02	DEM	-84608162	01
DAC	00000000	00	GCL	27572006	03	MCL	33768855	03	TCL	33768855	03						

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-90621244	09	Y	11665630	09	Z	46205918	08	DX	-25281740	02	DY	-18094364	02	DZ	-76687338	01
R	14732061	09	LAT	18270177	02	LMN	13037726	03	V	32021583	02	PTH	10312902	00	AZ	10464371	03
XE	-90300739	08	YE	11664154	09	ZE	46285135	08	DXE	-24016486	02	DYE	16856474	02	DZE	-73095609	01
XT	-90735962	08	YT	11665017	09	ZT	46232945	08	DXT	-23490255	02	DYT	-17626096	02	DZT	-76165366	01
LTE	18307714	02	LOE	13075802	03	LTT	18283507	02	LOT	13041704	03	RST	14739073	09	VST	30339462	02
EPS	92273191	02	ESP	-11742773	00	SEP	87609463	02	EPM	13677034	03	EMP	-31280853	02	MEP	-11948602	02
MPS	-12597111	03	MSP	-37644544	-01	SMP	54368825	02	SEM	98270517	02	EMS	81576243	02	ESM	-15323304	00
RPM	12040872	06	SPN	91022960	02												
GCE	84579900	02	GCT	24276854	03	SIP	12476666	03	CPT	10377331	03	SIN	10294627	03	D1	44307025	00
REP	30197532	06	VFP	18061672	01	CPE	84210337	02	CPS	10297230	03	D2	25526009	00	D3	44808969	-02

0 DAYS 20 HRS. 31 MIN. 54.00" SEC.

23555331313420200000000 J.D. = 2437692.79166666 JAN. 29, 1962 07 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-23596146	06	Y	-18278587	06	Z	-80501869	05	DX	-12545871	01	DY	-12288557	01	DZ	-35475106	00
R	30839677	06	DEC	-15171310	02	RA	21785376	03	V	17916259	01	PTH	82622632	02	AZ	60589924	02
R	30839677	06	LAT	-15171310	02	LMN	134578862	03	VE	21582116	02	PTE	47223449	01	AZE	27030092	03
XS	90477180	08	YS	-10648283	09	ZS	-46258806	08	DXS	24003072	02	DYS	16872473	02	DZS	73164867	01
XM	-34331445	06	YM	-19673388	06	ZM	-46943144	05	DXM	53418363	00	DYM	-76509386	00	DZM	-30589298	00
XT	-34331445	06	YT	-19673388	06	ZT	-46943144	05	DXT	53418363	00	DYT	-76509386	00	DZT	-30589298	00
RS	-14733371	09	VS	-30298366	02	RM	39816701	06	VM	98198333	00	RT	39816701	06	VT	98198333	00
GF0	-15297933	02	ALT	-29272006	06	LOS	78235977	02	RAS	31030111	03	HAM	-20971911	03	LOM	-7367397	03
DUT	-35000000	02	DT	-19200000	04	DR	-17767948	01	SHA	-30811390	06	DES	-18298825	02	DEM	-84770813	01
DAC	00000000	00	GCL	27574648	03	MCL	33666731	03	TCL	33666731	03						

HELIOCENTRIC

EQUATORIAL COORDINATES

X	-90712241	08	Y	11660014	09	Z	46178304	08	DX	-25257658	02	DY	-18101329	02	DZ	-76712377	01
R	14732083	09	LAT	1827507	02	LMN	13042293	03	V	32007113	02	PTH	11105973	00	AZ	10465706	03
XE	-90477180	08	YE	11664823	09	ZE	46258806	08	DXE	-24003072	02	DYE	16872473	02	DZE	-73164867	01
XT	-90820494	08	YT	11668670	09	ZT	46211863	08	DXT	-23468888	02	DYT	-17637567	02	DZT	-76223797	01
LTE	18298825	02	LOE	13070111	03	LTT	18272587	02	LOT	13046024	03	RST	14738891	09	VST	30331059	02
EPS	92334380	02	ESP	-11922408	00	SEP	87545788	02	EPM	13572511	03	EMP	-32731881	02	MEP	-11543007	02
MPS	-12622967	03	MSP	-34905688	-01	SMP	53734536	02	SEM	97804862	02	EMS	82041785	02	ESM	-15355230	00
RPM	11413039	06	SPN	91169354	02												
GCE	84453519	02	GCT	24112083	03	SIP	12535712	03	CPT	10430148	03	SIN	10342893	03	D1	44689887	00
REP	30839677	06	VFP	17976259	01	CPE	84073633	02	CPS	10296757	03	D2	27359609	00	D3	51051101	-02

0 DAYS 21 HRS. 31 MIN. 54.00" SEC.

23555331474020200000000 J.D. = 2437692.83333333 JAN. 28, 1962 08 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X	-23955972	06	Y	-18779401	06	Z	-81771190	05	DX	-12445494	01	DY	-12201685	01	DZ	-35044361	00
R	31476905	06	DEC	-15077099	02	RA	21798952	03	V	17777865	01	PTH	82724151	02	AZ	60318885	02
R	31476905	06	LAT	-15077099	02	LMN	13088332	03	VE	22040616	02	PTE	45891460	01	AZE	27029078	03
XS	90563566	08	YS	-10642206	09	ZS	-46232454	08	DXS	23999645	02	DYS	16888461	02	DZS	73234084	01
XM	-34137713	06	YM	-19877997	06	ZM	-48042373	05	DXM	54210341	00	DYM	-76049224	00	DZM	-30478484	00
XT	-34137713	06	YT	-19877997	06	ZT	-48042373	05	DXT	54210341	00	DYT	-76049224	00	DZT	-30478484	00
RS	-14733453	09	VS	-30278311	02	RM	39799454	06	VM	9							

JPL TECHNICAL REPORT NO. 32-563

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

0 DAYS 22 HRS. 31 MIN. 54.00⁰⁰ SEC.

235553316544202000000000 J.D. = 2437692.87500000 JAN. 28, 1962 09 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -24402296 06	Y -19147148 06	Z -83025166 05	DX -12351285 01	DY -12118040 01	DZ -34622109 00
R .32109455 06	DEC -1495180 02	RA -21811934 03	V -17646191 01	PTH .82823431 02	AZ .59998628 02
R .32109455 06	LAT -1495180 02	LMN .31597207 03	VE .22495909 02	PTE .44636865 01	AZE .27028160 03
XS .90649905 08	YS -10676123 09	ZS -46206076 08	DXS .23976205 02	DYS .16904440 02	DZS .73303266 01
XM -.33941134 06	YM -.20140940 06	ZM -.49137566 05	DXM .54998916 00	DYM -.75583619 00	DZM -.30365026 00
XT -.33941134 06	YT -.20140940 06	ZT -.49137566 05	DXT .54998916 00	DYT -.75583619 00	DZT -.30365026 00
RS -.14733534 09	VS -30278257 02	WS .39782020 06	VM .98284276 00	RT .39782020 06	VT .98284276 00
GEO .15082663 02	ALT .31471778 04	LOS .48240005 02	RAS .31038727 03	RAM .21071019 03	LOM .30855292 03
DUT .35000000 02	DT .19270000 04	DR .17507949 01	SHA -.32077228 06	DES -.18277018 02	DEM -.70951244 01
DAC .00000000 00	CCL .27578643 03	MCL .33414811 03	TCL .33414811 03		

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90893927 08	Y .10646976 09	Z .46123051 08	DX -.25211333 02	DY -.18116244 02	DZ -.76765477 01
R .14732131 09	LAT .18244819 02	LMN .13051419 03	V .31980291 02	PTH .12733778 00	AZ .10468350 03
XE -.90649905 08	YE .10676123 09	ZE .46206076 08	DXE -.23976205 02	DYE -.16904440 02	DZE -.73303266 01
XT -.90893916 08	YT .10675962 09	ZT .46156938 08	DXT -.23426216 02	DYT -.17660276 02	DZT -.76339768 01
LTE .18277018 02	LOE .13078727 03	LTT .18250724 02	LOT .13054657 03	RST .14738347 09	VST .30314197 02
EPS .92442495 02	ESP .12471889 00	SEP .87432748 02	EPN .13302276 03	EMP .35971594 02	MEP .10725647 02
MPS .12764888 03	MSP .31278626 01	SMP .52319801 02	SEM .96872262 02	EMS .82974193 02	ESM .15355230 00
RPM .10173540 06	SPN .91374336 02				
GCE .84213564 02	GCT .23876167 03	SIP .12667002 03	CPT .10553224 03	SIN .10455337 03	D1 .51258079 02
REP .32109455 06	VEP .17646191 01	CPE .83816078 02	CPS .10295810 03	D2 .31766475 00	D3 .67640942 00

0 DAYS 23 HRS. 31 MIN. 54.00⁰⁰ SEC.

235553320350202000000000 J.D. = 2437692.91666666 JAN. 28, 1962 10 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.24845338 06	Y -.19571937 06	Z -.84264044 05	DX -.12263198 01	DY -.12037413 01	DZ -.34205024 00
R .32737552 06	DEC -14915404 02	RA -21824353 03	V .17520992 01	PTH .82920747 02	AZ .59631253 02
R .32737552 06	LAT -14915404 02	LMN .30105520 03	VE .22948179 02	PTE .43453629 01	AZE .27027335 03
XS .90736197 08	YS -.10676035 09	ZS -.46179676 08	DXS .23962752 02	DYS .16920411 02	DZS .73372409 01
XM -.33741724 06	YM -.2042191 06	ZM -.50228625 05	DXM .55784013 00	DYM -.75110486 00	DZM -.30248926 00
XT -.33741724 06	YT -.2042191 06	ZT -.50228625 05	DXT .55784013 00	DYT -.75110486 00	DZT -.30248926 00
RS -.14733616 09	VS .30278202 02	WS .39764400 06	VM .98328219 00	RT .39764400 06	VT .98328219 00
GEO .15012475 02	ALT .32079875 06	LOS .33242012 02	RAS .31043034 03	RAM .21119688 03	LOM .29400853 03
DUT .35000000 02	DT .19270000 04	DR .17387424 01	SHA -.32703407 06	DES -.18266102 02	DEM -.72567353 01
DAC .00000000 00	CCL .27570058 03	MCL .33258364 03	TCL .33258364 03		

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.90984650 08	Y .10670453 09	Z .46095411 08	DX -.25189072 02	DY -.18124152 02	DZ -.76792911 01
R .14732157 09	LAT .18273466 02	LMN .13059579 03	V .31957439 02	PTH .13575435 00	AZ .10468350 03
XE -.90736197 08	YE .10670035 09	ZE .46179676 08	DXE -.23962752 02	DYE -.16920411 02	DZE -.73372409 01
XT -.91073614 08	YT .10679602 09	ZT .46129446 08	DXT -.23404912 02	DYT -.17671516 02	DZT -.76397302 01
LTE .18266102 02	LOE .13043034 03	LTT .18239781 02	LOT .13058971 03	RST .14738105 09	VST .30305739 02
EPS .92488875 02	ESP .12743884 00	SEP .87382933 02	EPN .13188129 03	EMP .37804001 02	MEP .10314702 02
MPS .12844321 03	MSP .28877468 01	SMP .51527664 02	SEM .96405306 02	EMS .83441067 02	ESM .15355230 00
RPM .95630909 05	SPN .91373557 02				
GCE .84213564 02	GCT .23876167 03	SIP .12740186 03	CPT .10625345 03	SIN .10521210 03	D1 .54531127 00
REP .32737552 06	VEP .17570992 01	CPE .83694476 02	CPS .10295335 03	D2 .34409817 00	D3 .78766660 02

1 DAYS 0 HRS. 31 MIN. 54.00⁰⁰ SEC.

235553321542020000000000 J.D. = 2437692.95833333 JAN. 28, 1962 11 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.25285319 06	Y -.20013876 06	Z -.85487949 05	DX -.12181258 01	DY -.11959591 01	DZ -.33789197 00
R .33361422 06	DEC -14847542 02	RA -21836237 03	V .17420208 01	PTH .83014304 02	AZ .59199925 02
R .33361421 06	LAT -14847542 02	LMN .28613298 03	VE .23397614 02	PTE .42336312 01	AZE .27026603 03
XS .90822442 08	YS -.10643940 09	ZS -.46153247 08	DXS .23949286 02	DYS .16936374 02	DZS .73441517 01
XM -.33539493 06	YM -.20791728 06	ZM -.51315460 05	DXM .56565573 00	DYM -.74630539 00	DZM -.30130184 00
XT -.33539493 06	YT -.20791728 06	ZT -.51315460 05	DXT .56565573 00	DYT -.74630539 00	DZT -.30130184 00
RS -.14733534 09	VS .30278148 02	WS .39746596 06	VM .98372808 00	RT .39746596 06	VT .98372808 00
GEO .14944213 02	ALT .32773743 06	LOS .18244015 02	RAS .31047341 03	RAM .21168431 03	LOM .27945491 03
DUT .35000000 02	DT .19270000 04	DR .17272958 01	SHA -.33325404 06	DES -.18255174 02	DEM -.74179678 01
DAC .00000000 00	CCL .27671125 03	MCL .33075543 03	TCL .33075543 03		

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91075295 08	Y .10673926 09	Z .46067759 08	DX -.25167412 02	DY -.18132333 02	DZ -.76820337 01
R .14732185 09	LAT .18272108 02	LMN .13060536 03	V .31956124 02	PTH .14445338 00	AZ .10470937 03
XE -.90822442 08	YE .10643940 09	ZE .46153247 08	DXE -.23949286 02	DYE -.16936374 02	DZE -.73441517 01
XT -.91157836 08	YT .10673238 09	ZT .46101932 08	DXT -.23383600 02	DYT -.17682679 02	DZT -.76454536 01
LTE .18255174 02	LOE .13047341 03	LTT .18228829 02	LOT .13063284 03	RST .14737862 09	VST .30297264 02
EPS .92533042 02	ESP .12944386 00	SEP .87337346 02	EPN .13028107 03	EMP .39816220 02	MEP .99027024 01
MPS .12930177 03	MSP .27080885 01	SMP .50671271 02	SEM .95937907 02	EMS .83908398 02	ESM .15355230 00
RPM .89600285 05	SPN .9147602 02				
GCE .83988743 02	GCT .23474417 03	SIP .12819032 03	CPT .10706051 03	SIN .10594906 03	D1 .58202729 00
REP .33361422 06	VEP .17472068 01	CPE .83577198 02	CPS .10294860 03	D2 .37441920 00	D3 .92517383 02

1 DAYS 1 HRS. 31 MIN. 54.00⁰⁰ SEC.

235553323760202000000000 J.D. = 2437693.00000000 JAN. 28, 1962 12 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.25722463 06	Y -.20443060 06	Z -.86696832 05	DX -.12105577 01	DY -.11884356 01	DZ -.33369869 00
R .33981277 06	DEC -14771357 02	RA -21847610 03	V .17289256 01	PTH .83110218 02	AZ .58688041 02
R .33981276 06	LAT -14771358 02	LMN .27120564 03	VE .23844404 02	PTE .41280100 01	AZE .27025967 03
XS .90908636 08	YS -.10677840 09	ZS -.46126796 08	DXS .23935806 02	DYS .16952327 02	DZS .73510587 01
XM -.33334456 06	YM -.20949524 06	ZM -.52397973 05	DXM .57343529 00	DYM -.74143796 00	DZM -.30008802 00
XT -.33334456 06	YT -.20949524 06	ZT -.52397973 05	DXT .57343529 00	DYT -.74143796 00	DZT -.30008802 00
RS .14733779 09	VS .30278093 02	WS .39728608 06	VM .98418041 00	RT .39728608 06	VT .98418041 00
GEO .14877637 02	ALT .33343597 06	LOS .32460060 01	RAS .31051647 03	RAM .21217254 03	LOM .26490207 03
DUT .35000000 02	DT .19270000 04	DR .17164407 01	SHA -.3394438 06	DES -.18244238 02	DEM -.75788102 01
DAC .00000000 00	CCL .27671875 03	MCL .32860098 03	TCL .32860098 03		

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91165860 08	Y .10677397 09	Z .46040098 08	DX -.25146364 02	DY -.18140763 02	DZ -.76847574 01
R .14732215 09	LAT .18210744 02	LMN .13065091 03	V .31944990 02	PTH .15347435 00	AZ .10472195 03
XE -.90908636 08	YE .10677840 09	ZE .46126796 08	DXE -.23935806 02	DYE -.16952327 02	DZE -.73510587 01
XT -.91219800 08	YT .10676871 09	ZT .46074397 08	DXT -.23362371 02	DYT -.17693765 02	DZT -.76511467 01
LTE .18244238 02	LOE .13071647 03	LTT .18217870 02	LOT .13067595 03	RST .14737619 09	VST .30288772 02
EPS .92572129 02	ESP .13214991 00	SEP .87295858 02	EPN .12846410 03	EMP .42045905 02	MEP .94899945 01
MPS .13022922 03	MSP .24278320 01	SMP .49745942 02	SEM .95470055 02	EMS .84376191 02	ESM .15355230 00
RPM .81656269 05	SPN .91476672 02				
GCE .83881246 02	GCT .23248222 03	SIP .12903879 03	CPT .10796736 03	SIN .10677693 03	D1 .62339926 00
REP .33981277 06	VEP .17279256 01	CPE .83463925 02	CPS .10294384 03	D2 .40922851 00	D3 .10968132 01

CASE 2

SPACE TRAJECTORIES

RA-3 POST-MC

1 DAYS 2 HRS. 31 MIN. 54.00" SEC. 235553325564202000000000 J.D. = 2437693.04166666 JAN. 28, 1962 13 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.26156997 06 Y -.20849578 06 Z -.87890467 05 DX -.12036350 01 DY -.11811469 01 DZ -.32941037 00
R .34597328 06 DEC -.14776606 02 RA .21858491 03 V .17182422 01 PTH .83202466 02 AZ .58073875 02
R -.34597328 06 LAT -.14776606 02 LON .25627337 03 VE .24288746 02 PTE .40280613 01 AZE .27025433 03
XS .90994784 08 VS -.10617334 09 ZS -.46100319 08 DKS .23922314 02 DYS .16968273 02 DZS .73579620 01
XM -.33126624 06 YM -.21275556 06 ZM -.53476067 05 DXM .58117814 00 OYM -.73650271 00 OZM .29884781 00
XT -.33126624 06 YT -.21275556 06 ZT -.53476067 05 DXT .58117814 00 DYT -.73650271 00 DZT .29884781 00
RS .14733861 09 VS .30278039 02 RM .39710439 06 VM .98463916 00 RT .39710439 06 VT .98463916 00
GED -.14812501 02 ALT .33949646 06 LOS .34824799 03 RAS .31055953 03 SHW .21266157 03 LOM .35030000 03
DUT .35000000 02 DT .19200000 04 DR .17081641 01 SHA .34557727 06 DES .18233292 02 DEM .77392505 01
DAC .00000000 00 CCL .27672337 03 MCL .32603825 03 TCL .32603825 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91256353 08 Y .10610865 09 Z .46012428 08 DX -.25125949 02 DY -.18149420 02 DZ -.76873723 01
R .14732247 09 LAT .18149375 02 LON .13069643 03 V .31934471 02 PTH .16291879 00 AZ .10473421 03
R .90994784 08 VE .10617334 09 ZE .46100319 08 DXE .23922314 02 DYE .16968273 02 DZE .73579620 01
XT -.91326500 08 YT .10610498 09 ZT .46046843 08 DXT .23341136 02 DYT .17704776 02 DZT .76568098 01
LTE .18233292 02 LOE .13059592 03 LTT .18206903 02 LDT .13071904 03 KST .14737377 09 VST .30280264 02
EPS .92607227 02 ESP .13471617 02 SEP .87258371 02 EPM .12638249 03 EMP .44540539 02 MEP .90769657 01
MPS .13122755 03 MSP .22117329 01 SMP .48749694 02 SEM .95001747 02 EMS .84844454 02 ESM .15371151 00
RPM .77815901 05 SPN .91570922 02 SPP .48749694 02 SEM .95001747 02 EMS .84844454 02 ESM .15371151 00
GCE .83776529 02 GCT .22941488 03 SIP .12994775 03 CPT .10899009 03 SIN .10771029 03 D1 .67021018 00
REP .34597328 06 VEP .17172422 01 CPE .83354346 02 CPS .10293907 03 D2 .44933806 03 D3 .13130867 01

1 DAYS 3 HRS. 31 MIN. 54.00" SEC. 235553327370202000000000 J.D. = 2437693.08333333 JAN. 28, 1962 14 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.26589160 06 Y -.21273512 06 Z -.89068382 05 DX -.11973863 01 DY -.11740648 01 DZ -.32494936 00
R .35209783 06 DEC -.14673027 02 RA .21868894 03 V .17081435 01 PTH .83292706 02 AZ .57328931 00
R .35209783 06 LAT -.14673027 02 LON .24133635 03 VE .24730846 02 PTE .39333855 01 AZE .27025009 03
XS .91080882 08 VS -.10675622 09 ZS -.46073817 08 DKS .23908808 02 DYS .16984210 02 DZS .73648614 01
XM -.32916011 06 YM -.21497999 06 ZM -.54549649 05 DXM .58888365 00 DYM -.73149984 00 DZM .29758124 00
XT -.32916011 06 YT -.21497999 06 ZT -.54549649 05 DXT .58888365 00 DYT .73149984 00 DZT .29758124 00
RS .14733943 09 VS .30277984 02 RM .39692087 06 VM .98510432 00 RT .39692087 06 VT .98510432 00
GED -.14748544 02 ALT .34572100 06 LOS .33324998 03 RAS .31060258 03 SHW .21315142 03 LOM .23579882 03
DUT .35000000 02 DT .19200000 04 DR .16964526 01 SHA .35168489 06 DES .18222338 02 DEM .78992784 01
DAC .00000000 00 CCL .27672540 03 MCL .32295907 03 TCL .32295907 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91346773 08 Y .10674329 09 Z .45984748 08 DX -.25106195 02 DY -.18158274 02 DZ -.76898107 01
R .14732280 09 LAT .18180001 02 LON .13074194 03 V .31924553 02 PTH .17290026 00 AZ .10474601 03
R .91080882 08 VE .10675622 09 ZE .46073817 08 DXE .23908808 02 DYE .16984210 02 DZE .73648614 01
XE -.91410042 08 YT .10674123 09 ZT .46019267 08 DXT .23319924 02 DYT .17715709 02 DZT .76624426 01
LYE .18222338 02 LOE .13040257 03 LTT .18195928 02 LDT .13076212 03 KST .14737133 09 VST .30271740 02
EPS .92638385 02 ESP .13469873 00 SEP .87224838 02 EPM .12397573 03 EMP .47360220 02 MEP .86640409 01
MPS .13229294 03 MSP .20972341 01 SMP .47686321 02 SEM .94532976 02 EMS .85313186 02 ESM .15402432 00
RPM .72102035 05 SPN .91670457 02 SPP .47686321 02 SEM .94532976 02 EMS .85313186 02 ESM .15402432 00
GCE .83674593 02 GCT .22643366 03 SIP .13091170 03 CPT .11014654 03 SIN .10876531 03 D1 .72335204 00
REP .35209783 06 VEP .17071435 01 CPE .83248156 02 CPS .10293429 03 D2 .44956456 00 D3 .15877950 01

1 DAYS 4 HRS. 31 MIN. 54.00" SEC. 235553331174202000000000 J.D. = 2437693.12500000 JAN. 28, 1962 15 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.27019199 06 Y -.21774927 06 Z -.90229778 05 DX -.11918470 01 DY -.11671534 01 DZ -.32021300 00
R .35819840 06 DEC -.14570322 02 RA .21878832 03 V .16986120 01 PTH .83390207 02 AZ .56415901 02
R .35819840 06 LAT -.14570322 02 LON .22639465 03 VE .25170920 02 PTE .38436010 01 AZE .27024711 03
XS .91164932 08 VS -.10619505 09 ZS -.46047290 08 DKS .23895290 02 DYS .17000138 02 DZS .73717573 01
XM -.32702631 06 YM -.21742229 06 ZM -.55618624 05 DXM .59655113 00 OYM -.72642946 00 OZM .29428831 00
XT -.32702631 06 YT -.21742229 06 ZT -.55618624 05 DXT .59655113 00 DYT .72642946 00 DZT .29428831 00
RS .14734025 09 VS .30277930 02 RM .39673555 06 VM .98557885 00 RT .39673555 06 VT .98557885 00
GED -.14684648 02 ALT .35181156 06 LOS .31825195 03 RAS .31067652 03 SHW .21364209 03 LOM .22124843 03
DUT .35000000 02 DT .19200000 04 DR .16875957 01 SHA .35775932 06 DES .18211372 02 DEM .80588812 01
DAC .00000000 00 CCL .27642517 03 MCL .31922091 03 TCL .31922091 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91437123 08 Y .10597790 09 Z .45957059 08 DX -.25087136 02 DY -.18167292 02 DZ -.76919702 01
R .14732316 09 LAT .18176620 02 LON .13078743 03 V .31915271 02 PTH .18356475 00 AZ .10475272 03
R .91164932 08 VE .10619505 09 ZE .46047290 08 DXE .23895290 02 DYE .17000138 02 DZE .73717573 01
XE -.91493958 08 YT .10597743 09 ZT .45991671 08 DXT .23298739 02 DYT .17725688 02 DZT .76680456 01
LTE .18211372 02 LOE .13040562 03 LTT .18184946 02 LDT .13080517 03 RST .14736890 09 VST .30263201 02
EPS .92656505 02 ESP .13918114 00 SEP .87195255 02 EPM .12116726 03 EMP .50581041 02 MEP .82516944 01
MPS .13341024 03 MSP .15679313 01 SMP .46570957 02 SEM .94063734 02 EMS .85782403 02 ESM .15355200 00
RPM .66545434 05 SPN .91645325 02 SPP .46570957 02 SEM .94063734 02 EMS .85782403 02 ESM .15355200 00
GCE .83780823 02 GCT .22799574 03 SIP .13191365 03 CPT .11145526 03 SIN .10995867 03 D1 .78379221 00
REP .35818840 06 VEP .16946120 01 CPE .83145041 02 CPS .10292951 03 D2 .54905262 00 D3 .19384445 01

1 DAYS 5 HRS. 31 MIN. 54.00" SEC. 235553330002020000000000 J.D. = 2437693.16666666 JAN. 28, 1962 16 00 00.000

GEOCENTRIC

EQUATORIAL COORDINATES

X -.27447378 06 Y -.22173878 06 Z -.91373429 05 DX -.11870550 01 DY -.11603649 01 DZ -.31506602 00
R .36424691 06 DEC -.14578155 02 RA .21888310 03 V .16896187 01 PTH .83463417 02 AZ .55286451 02
R .36424691 06 LAT -.14578155 02 LON .21144836 03 VE .25609194 02 PTE .37583261 01 AZE .27024559 03
XS .91252933 08 VS -.10613382 09 ZS -.46020739 08 DKS .23881795 02 DYS .17016058 02 DZS .73786493 01
XM -.32486498 06 YM -.22072822 06 ZM -.56682899 05 DXM .60417995 00 DYM -.72129183 00 DZM .29496904 00
XT -.32486498 06 YT -.22072822 06 ZT -.56682899 05 DXT .60417995 00 DYT .72129183 00 DZT .29496904 00
RS .14734108 09 VS .30277874 02 RM .39654844 06 VM .98605376 00 RT .39654844 06 VT .98605376 00
GED -.14622931 02 ALT .35777006 06 LOS .30325392 03 RAS .31068866 03 SHW .21413361 03 LOM .20669888 03
DUT .35000000 02 DT .19200000 04 DR .16786352 01 SHA .36380258 06 DES .18200398 02 DEM .82180476 01
DAC .00000000 00 CCL .27642302 03 MCL .31463854 03 TCL .31463854 03

HELIOCENTRIC

EQUATORIAL COORDINATES

X -.91527406 08 Y .10571248 09 Z .45929366 08 DX -.25068812 02 DY -.18176423 02 DZ -.76937133 01
R .14732354 09 LAT .18152335 02 LON .13083290 03 V .31906440 02 PTH .19509923 00 AZ .10476768 03
R .91252933 08 VE .10613382 09 ZE .46020739 08 DXE .23881795 02 DYE .17016058 02 DZE .73786493 01
XE -.91577797 08 YT .10571359 09 ZT .45946056 08 DXT .23277578 02 DYT .17737350 02 DZT .76736183 01
LYE .18200398 02 LOE .13048865 03 LTT .18173956 02 LDT .13084821 03 RST .14736647 09 VST .30254664 02
EPS .92688835 02 ESP .14144723 00 SEP .87169676 02 EPM .11786073 03 EMP .54298806 02 MEP .78404567 01
MPS .13454314 03 MSP .15679313 01 SMP .45439898 02 SEM .93594018 02 EMS .86252104 02 ESM .15355230 00
RPM .61187729 05 SPN .91675529 02 SPP .45439898 02 SEM .93594018 02 EMS .86252104 02 ESM .15355230 00
GCE .83476970 02 GCT .21811551 03 SIP .13291547 03 CPT .11293257 03 SIN .11130490 03 D1 .85247559 00
REP .36424691 06 VEP .16876187 01 CPE .83044678 02 CPS .10292471 03 D2 .61025485 00 D3 .23854683 01

JPL TECHNICAL REPORT NO. 32-563

CASE 2

SPACE TRAJECTORIES

RA-3 PUST-MC

1 DAYS 6 HRS. 31 MIN. 54.00" SEC.

23555334604202000000000 J.D.= 2437693.20833333 JAN. 28, 1962 17 00 00.00

GEOCENTRIC			EQUATORIAL COORDINATES		
X	-27873971 06	Y	-225°0397 06	Z	-92497529 05
R	37027511 06	DEC	-144°46125 02	RA	-21897330 03
R	37027510 06	LAT	-144°46125 02	LON	19669750 03
XS	91338883 08	YS	-106°7253 09	ZS	-45994163 08
XM	-32267626 06	YM	-222°1552 06	ZM	-57742375 05
XT	-32267626 06	YT	-222°1552 06	ZT	-57742375 05
RS	14731730 09	VS	-302°7819 02	RM	39639556 06
GEO	-14565032 02	ALT	363°9825 06	LOS	28825589 03
DUT	35000000 02	DT	192°0000 04	DR	16704335 01
DAC	00000000 00	CCL	276°1934 03	MCL	30898030 03
				DX	-11830396 01
				DY	-11536320 01
				DZ	-30931912 00
				V	16811091 01
				PTH	83539507 02
				AZ	53879926 02
				PTE	36771433 01
				AZE	27024579 03
				DYS	17031969 02
				DZS	73855374 01
				DYM	-71608704 00
				DZM	-29362347 00
				DYT	-71608704 00
				DZT	-29362347 00
				DXT	61176945 00
				DXT	61176945 00
				RAM	39639556 06
				VT	98653800 00
				LDM	19215018 03
				DES	-18189413 02
				DEM	-83767641 01

HELIOCENTRIC			EQUATORIAL COORDINATES		
X	-91617622 08	Y	105°4703 09	Z	45901665 08
R	14732394 09	LAT	181°3847 02	LON	13087836 03
R	14732394 09	LAT	181°3847 02	LON	13087836 03
XE	-91338883 08	YE	106°7253 09	ZE	45994163 08
XT	-91661559 08	YT	105°4972 09	ZT	45936420 08
LTE	18189413 02	LOE	130°3169 03	LTT	18162957 02
EPS	92707958 02	ESP	143°3671 00	SEP	87148213 02
MPS	13561744 03	MSP	98911702-02	SMP	44367306 02
RPM	56085368 05	SPN	917°0987 02	SEM	93123822 02
GCE	83380650 02	GCT	212°6095 03	SIP	13384164 03
REP	37027511 06	VEP	168°1091 01	CPE	82966712 02
				CPT	11458633 03
				SIN	11281053 03
				D1	93010092 00
				D2	67930333 00
				D3	29480249-01

1 DAYS 7 HRS. 31 MIN. 54.00" SEC.

23555336410202000000000 J.D.= 2437693.25000000 JAN. 28, 1962 18 00 00.00

GEOCENTRIC			EQUATORIAL COORDINATES		
X	-28299259 06	Y	-229°4490 06	Z	-93599528 05
R	37627444 06	DEC	-144°3754 02	RA	21905889 03
R	37627444 06	LAT	-144°3754 02	LON	18154203 03
XS	91424787 08	YS	-106°1119 09	ZS	-45967561 08
XM	-32046028 06	YM	-225°8397 06	ZM	-58796960 05
XT	-32046028 06	YT	-225°8397 06	ZT	-58796960 05
RS	14734273 09	VS	-302°7764 02	RM	39616891 06
GEO	-14497789 02	ALT	369°9757 06	LOS	27325785 03
DUT	35000000 02	DT	192°0000 04	DR	16625655 01
DAC	00000000 00	CCL	-276°1459 03	MCL	-30198228 03
				DX	-11797991 01
				DY	-11468590 01
				DZ	-30273856 00
				PTH	83603564 02
				AZ	52125107 02
				PTE	35999515 01
				AZE	27024806 03
				DYS	17047877 02
				DZS	73924219 01
				DYM	-71081533 00
				DZM	-29225159 00
				DYT	-71081533 00
				DZT	-29225159 00
				DXT	61931894 00
				DXT	61931894 00
				RAM	39616891 06
				VT	98702855 00
				LDM	17760236 03
				DES	-18178420 02
				DEM	-8530196 01

HELIOCENTRIC			EQUATORIAL COORDINATES		
X	-91707779 08	Y	105°8154 09	Z	45873962 08
R	14732483 09	LAT	181°2434 02	LON	13092380 03
R	14732483 09	LAT	181°2434 02	LON	13092380 03
XE	-91424787 08	YE	106°1119 09	ZE	45967561 08
XT	-91745247 08	YT	105°8580 09	ZT	45908764 08
LTE	18178420 02	LOE	130°7471 03	LTT	18151951 02
EPS	92722796 02	ESP	146°0880 00	SEP	87131049 02
MPS	13644928 03	MSP	139°8227-01	SMP	43490985 02
RPM	51314735 05	SPN	917°1564 02	SEM	92651317 02
GCE	83285407 02	GCT	205°4769 03	SIP	13455433 03
REP	37627444 06	VEP	167°9800 01	CPE	82850742 02
				CPS	110291509 03
				SIN	11446234 03
				D1	10166657 01
				D2	75474348 00
				D3	36318002-01

1 DAYS 8 HRS. 31 MIN. 54.00" SEC.

23555334021420200000000 J.D.= 2437693.29166666 JAN. 28, 1962 19 00 00.00

GEOCENTRIC			EQUATORIAL COORDINATES		
X	-287223511 06	Y	-233°7616 06	Z	-94675894 05
R	38224574 06	DEC	-143°0464 02	RA	21913980 03
R	38224574 06	LAT	-143°0464 02	LON	16658187 03
XS	91510642 08	YS	-105°9478 09	ZS	-45940936 08
XM	-31821720 06	YM	-227°7332 06	ZM	-59846559 05
XT	-31821720 06	YT	-227°7332 06	ZT	-59846559 05
RS	14734356 09	VS	-302°7709 02	RM	39597651 06
GEO	-14436122 02	ALT	375°6886 06	LOS	25829800 03
DUT	35000000 02	DT	192°0000 04	DR	16548223 01
DAC	00000000 00	CCL	276°0928 03	MCL	29340765 03
				DX	-11772586 01
				DY	-11399112 01
				DZ	-29502579 00
				V	16650452 01
				PTH	83647643 02
				AZ	49950277 02
				PTE	35248967 01
				AZE	27025282 03
				DYS	17063765 02
				DZS	73993025 01
				DYM	-70547687 00
				DZM	-29085344 00
				DYT	-70547687 00
				DZT	-29085344 00
				DXT	62682777 00
				DXT	62682777 00
				RAM	39597651 06
				VT	98752538 00
				LDM	16305851 03
				DES	-18167417 02
				DEM	-86928030 01

HELIOCENTRIC			EQUATORIAL COORDINATES		
X	-91797877 08	Y	105°71602 09	Z	45846260 08
R	14732483 09	LAT	181°1058 02	LON	13096922 03
R	14732483 09	LAT	181°1058 02	LON	13096922 03
XE	-91510642 08	YE	105°9478 09	ZE	45940936 08
XT	-91828859 08	YT	105°72185 09	ZT	45881088 08
LTE	18167417 02	LOE	130°1773 03	LTT	18140938 02
EPS	92733097 02	ESP	148°4693 00	SEP	87118430 02
MPS	13694246 03	MSP	98911702-02	SMP	43045061 02
RPM	46978038 05	SPN	917°7019 02	SEM	92181960 02
GCE	83190718 02	GCT	196°9836 03	SIP	13482226 03
REP	38224574 06	VEP	166°0452 01	CPE	82756302 02
				CPS	10291026 03
				SIN	11620624 03
				D1	11106406 01
				D2	83213294 00
				D3	44023569-01

1 DAYS 9 HRS. 31 MIN. 54.00" SEC.

23555334202020200000000 J.D.= 2437693.33333333 JAN. 28, 1962 20 00 00.00

GEOCENTRIC			EQUATORIAL COORDINATES		
X	-29146943 06	Y	-237°5184 06	Z	-95721968 05
R	38818889 06	DEC	-142°7584 02	RA	21921595 03
R	38818889 06	LAT	-142°7584 02	LON	15161696 03
XS	91596448 08	YS	-105°8832 09	ZS	-45914289 08
XM	-31594716 06	YM	-230°4634 06	ZM	-60891078 05
XT	-31594716 06	YT	-230°4634 06	ZT	-60891078 05
RS	14734439 09	VS	-302°7654 02	RM	39578236 06
GEO	-14368854 02	ALT	381°1200 06	LOS	24236175 03
DUT	35000000 02	DT	192°0000 04	DR	16468583 01
DAC	00000000 00	CCL	276°0404 03	MCL	28318551 03
				DX	-11752032 01
				DY	-11326103 01
				DZ	-28585749 00
				V	16569922 01
				PTH	83660004 02
				AZ	47309661 02
				PTE	34522969 01
				AZE	27026039 03
				DYS	17079651 02
				DZS	74061793 01
				DYM	-70007186 00
				DZM	-28942905 00
				DYT	-70007186 00
				DZT	-28942905 00
				DXT	63429529 00
				DXT	63429529 00
				RAM	39578236 06
				VT	98802848 00
				LDM	14850937 03
				DES	-18156405 02
				DEM	-88501013 01

HELIOCENTRIC			EQUATORIAL COORDINATES		
X	-91887917 08	Y	105°5047 09	Z	45818562 08
R	14732533 09	LAT	181°1966 02	LON	13101462 03
R	14732533 09	LAT	181°1966 02	LON	13101462 03
XE	-91596448 08	YE	105°8832 09	ZE	45914289 08
XT	-91912395 08	YT	105°5786 09	ZT	45853393 08
LTE	18156405 02	LOE	130°6075 03	LTT	18129916 02
EPS	92738575 02	ESP	150°5786 00	SEP	87110646 02
MPS	13660771 03	MSP	98911702-02	SMP	43380747 02
RPM	43208100 05	SPN	917°7154 02	SEM	96996410 02
GCE	83095958 02	GCT	186°8147 03	SIP	13430242 03
REP	38818889 06	VEP	165°4922 01	CPE	82662891 02
				CPS	10290542 03
				SIN	11791464 03
				D1	12076

CASE 2 SPACE TRAJECTORIES

RA-3 POST-MC

1 DAYS 10 HRS. 31 MIN. 54.00⁰ SEC. 23555334362420200000000 J.D.= 2437693.37500000 JAN. 28, 1962 21 00 00.000

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-29569663	06	Y	-2411530	06	Z	-96732009	05	DX	-11732011	01	DY	-11247518	01	DZ	-27499742	00
R	39410226	06	DEC	-14278369	02	RA	21928728	03	V	16483568	01	PTH	83625966	02	AZ	44232761	02
R	39410226	06	LAT	-14278369	02	LOM	13664722	03	VE	27780265	02	PTE	33806209	01	AZE	27027090	03
XS	91682204	08	YS	-10572681	09	ZS	-45887609	08	DXS	23813902	02	DYS	-17095528	02	DZS	-74130525	01
XM	-31365031	06	YM	-23277377	06	ZM	-61930422	05	DXM	64172082	00	DYM	-69460047	00	DZM	-28797843	00
XT	-31365031	06	YT	-23277377	06	ZT	-61930422	05	DXT	64172082	00	DYT	-69460047	00	DZT	-28797843	00
RS	14734522	04	VS	30277598	02	RM	39558649	06	VM	98853780	00	RT	39558649	06	VT	98853780	00
GED	-14301237	02	ALT	38772535	06	LOS	22826369	03	RAS	31090376	03	RAM	216660429	03	LOM	13396623	03
DUT	35000000	02	DT	19270000	04	DR	16381672	01	SHA	-39360032	06	DES	-18145383	02	DEM	-90069021	01
DAC	00000000	00	CCL	27679956	03	MCL	27161514	03	TCL	27161514	03						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-91977900	08	Y	10578489	09	Z	45790876	08	DX	-24987103	02	DY	-18220280	02	DZ	-76880299	01
R	14732586	09	LAT	18178265	02	LOM	13106002	03	V	31865965	02	PTH	27378813	00	AZ	10479724	03
R	14732586	09	LAT	18178265	02	LOM	13106002	03	VE	27800186	02	PTE	33759780	01	AZE	27027168	03
XS	91682204	08	YS	-10572681	09	ZS	-45887609	08	DXS	23813902	02	DYS	-17095528	02	DZS	-74130525	01
XM	-31365031	06	YM	-23277377	06	ZM	-61930422	05	DXM	64172082	00	DYM	-69460047	00	DZM	-28797843	00
XT	-31365031	06	YT	-23277377	06	ZT	-61930422	05	DXT	64172082	00	DYT	-69460047	00	DZT	-28797843	00
RS	14734522	04	VS	30277598	02	RM	39558649	06	VM	98853780	00	RT	39558649	06	VT	98853780	00
GED	-14301237	02	ALT	38772535	06	LOS	22826369	03	RAS	31090376	03	RAM	216660429	03	LOM	13396623	03
DUT	35000000	02	DT	19270000	04	DR	16381672	01	SHA	-39360032	06	DES	-18145383	02	DEM	-90069021	01
DAC	00000000	00	CCL	27679956	03	MCL	27161514	03	TCL	27161514	03						

1 DAYS 10 HRS. 35 MIN. 47.25⁷ SEC. 235553343716202240700005 J.D.= 2437693.37769973 JAN. 28, 1962 21 03 53.257

CHANGE OF PHASE OCCURS AT THIS POINT MOON IS THE CENTRAL BODY FOR INTEGRATION ENCKE EQUATIONS OF MOTION

1 DAYS 10 HRS. 35 MIN. 47.25⁷ SEC. 235553343716202240700005 J.D.= 2437693.37769973 JAN. 28, 1962 21 03 53.257

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-29597028	06	Y	-24217759	06	Z	-96796060	05	DX	-11730583	01	DY	-11242189	01	DZ	-27421105	00
R	39448490	06	DEC	-14273916	02	RA	21929173	03	V	16477638	01	PTH	83621817	02	AZ	44021332	02
R	39448490	06	LAT	-14273916	02	LOM	13567711	03	VE	27800186	02	PTE	33759780	01	AZE	27027168	03
XS	91687759	08	YS	-10572282	09	ZS	-45885879	08	DXS	23813021	02	DYS	-17096556	02	DZS	-74134974	01
XM	-31350057	06	YM	-23313575	06	ZM	-61997583	05	DXM	64220047	00	DYM	-69424368	00	DZM	-28788353	00
XT	-31350057	06	YT	-23313575	06	ZT	-61997583	05	DXT	64220047	00	DYT	-69424368	00	DZT	-28788353	00
RS	14734522	04	VS	30277598	02	RM	39557374	06	VM	98857102	00	RT	39557374	06	VT	98857102	00
GED	-14296758	02	ALT	38810739	06	LOS	22729192	03	RAS	31090654	03	RAM	21663646	03	LOM	13302183	03
DUT	35000000	02	DT	19441558	03	DR	16375646	01	SHA	-39398189	06	DES	-18144669	02	DEM	-90170449	01
DAC	00000000	00	CCL	27770579	03	MCL	27083503	03	TCL	27083503	03						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-91983729	08	Y	10578064	09	Z	45789083	08	DX	-24986079	02	DY	-18220775	02	DZ	-76877087	01
R	14732589	09	LAT	1817528	02	LOM	13106296	03	V	31865367	02	PTH	27507562	00	AZ	10479726	03
R	14732589	09	LAT	1817528	02	LOM	13106296	03	VE	27800186	02	PTE	33759780	01	AZE	27027168	03
XS	91687759	08	YS	-10572282	09	ZS	-45885879	08	DXS	23813021	02	DYS	-17096556	02	DZS	-74134974	01
XM	-31350057	06	YM	-23313575	06	ZM	-61997583	05	DXM	64220047	00	DYM	-69424368	00	DZM	-28788353	00
XT	-31350057	06	YT	-23313575	06	ZT	-61997583	05	DXT	64220047	00	DYT	-69424368	00	DZT	-28788353	00
RS	14734522	04	VS	30277598	02	RM	39557374	06	VM	98857102	00	RT	39557374	06	VT	98857102	00
GED	-14296758	02	ALT	38810739	06	LOS	22729192	03	RAS	31090654	03	RAM	21663646	03	LOM	13302183	03
DUT	35000000	02	DT	19441558	03	DR	16375646	01	SHA	-39398189	06	DES	-18144669	02	DEM	-90170449	01
DAC	00000000	00	CCL	27770579	03	MCL	27083503	03	TCL	27083503	03						

1 DAYS 11 HRS. 35 MIN. 47.25⁷ SEC. 2355533452202240700005 J.D.= 2437693.41936640 JAN. 28, 1962 22 03 53.257

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-30018876	06	Y	-24670947	06	Z	-97760827	05	DX	-11703643	01	DY	-11155836	01	DZ	-26150855	00
R	40036180	06	DEC	-14173450	02	RA	21935799	03	V	16378846	01	PTH	83524378	02	AZ	40662645	02
R	40036180	06	LAT	-14173450	02	LOM	12070230	03	VE	28238022	02	PTE	33039435	01	AZE	27028478	03
XS	91773462	08	YS	-10576124	09	ZS	-45859179	08	DXS	23799410	02	DYS	-17112423	02	DZS	-74203669	01
XM	-31117535	06	YM	-23542508	06	ZM	-63031313	05	DXM	64958054	00	DYM	-68870185	00	DZM	-28640502	00
XT	-31117535	06	YT	-23542508	06	ZT	-63031313	05	DXT	64958054	00	DYT	-68870185	00	DZT	-28640502	00
RS	14734610	09	VS	30277539	02	RM	39537605	06	VM	98908692	00	RT	39537605	06	VT	98908692	00
GED	-14225859	02	ALT	3938488	06	LOS	21229385	03	RAS	31094955	03	RAM	21713337	03	LOM	11847768	03
DUT	35000000	02	DT	18070000	03	DR	16274348	01	SHA	-39985294	06	DES	-18133636	02	DEM	-91733017	01
DAC	00000000	00	CCL	27770287	03	MCL	25868956	03	TCL	25868956	03						

HELIOCENTRIC						EQUATORIAL COORDINATES											
X	-92073651	08	Y	10571503	09	Z	45761418	08	DX	-24969775	02	DY	-18228007	02	DZ	-76818754	01
R	14732646	09	LAT	18076135	02	LOM	13110833	03	V	31855315	02	PTH	29539714	00	AZ	10479644	03
R	14732646	09	LAT	18076135	02	LOM	13110833	03	VE	27800186	02	PTE	33039435	01	AZE	27028478	03
XS	91773462	08	YS	-10576124	09	ZS	-45859179	08	DXS	23799410	02	DYS	-17112423	02	DZS	-74203669	01
XM	-31117535	06	YM	-23542508	06	ZM	-63031313	05	DXM	64958054	00	DYM	-68870185	00	DZM	-28640502	00
XT	-31117535	06	YT	-23542508	06	ZT	-63031313	05	DXT	64958054	00	DYT	-68870185	00	DZT	-28640502	00
RS	14734610	09	VS	30277539	02	RM	39537605	06	VM	98908692	00	RT	39537605	06	VT	98908692	00
GED	-14225859	02	ALT	3938488	06	LOS	21229385	03	RAS	31094955	03	RAM	21713337	03	LOM	11847768	03
DUT	35000000	02	DT	18070000	03	DR	16274348	01	SHA	-39985294	06	DES	-18133636	02	DEM	-91733017	01
DAC	00000000	00	CCL	27770287	03	MCL	25868956	03	TCL	25868956	03						

1 DAYS 12 HRS. 35 MIN. 47.25⁷ SEC. 235553347326202240700005 J.D.= 2437693.46103306 JAN. 28, 1962 23 03 53.257

GEOCENTRIC						EQUATORIAL COORDINATES											
X	-30439513	06	Y	-25070890	06	Z	-98677430	05	DX	-11662089	01	DY	-11062042	01	DZ	-24757700	00
R	40619961	06	DEC	-14059442	02	RA	21949196	03	V	16263533	01	PTH	83365902	02	AZ	37361648	02
R	40619961	06	LAT	-14059442	02	LOM	10572301	03	VE	28665162	02	PTE	32306914	01	AZE	27029897	03
XS	91899117	08	YS	-10549961	09	ZS	-45832451	08	DXS	23785786	02	DYS	-17128282	02	DZS	-7427321	01
XM	-30882363	06	YM	-23879434	06	ZM	-64059672	05	DXM	65691721	00	DYM	-68309408	00	DZM	-28490034	00
XT	-30882363	06	YT	-23879434	06	ZT	-64059672	05	DXT	65691721	00	DYT	-68309408	00	DZT	-28490034	00
RS	14734693	09	VS	30277483	02	RM	39517665	06	VM	98960898	00	RT	39517665	06	VT	98960898	00
GED	-14151418	02	ALT	39972267	06</												

JPL TECHNICAL REPORT NO. 32-563

CASE 2

SPACE TRAJECTORIES

RA-3 PUST-MC

HELIOCENTRIC				EQUATORIAL COORDINATES													
X	-.92163512	08	Y	.10544940	09	Z	.45733774	08	DX	-.24951995	02	DY	-.18234486	02	DZ	-.76748091	01
R	.14732707	09	LAT	.180*4748	02	LOX	.13115368	03	V	.31863385	02	PTH	.31570585	00	AZ	.10479409	03
XE	.91859117	08	YE	.10549961	09	ZE	.45824510	08	DXE	-.23785786	02	DYE	-.17128282	02	DZE	-.74272321	01
XT	-.92167941	08	YT	.10546151	09	ZT	.45768392	08	DXT	-.23128868	02	DYT	-.17811376	02	DZT	-.77121325	01
LTE	.18122596	02	LOE	.130*9254	03	LTT	.18096092	02	LOT	.13115179	03	RST	.14734926	09	VST	.30193818	02
EPS	.92723095	02	CSP	.15743936	00	SEP	.87119131	02	EPM	.70135022	02	EMP	.10482094	03	MEP	.50440304	01
MPS	.12691233	03	MSP	.98911702	-02	SMP	.53076177	02	SEM	.90261522	02	EMS	.89584816	02	ESM	.15323340	00
RPM	.36942704	05	SPN	.91873420	02	CPT	.12268643	03	SIN	-.11998991	03	D1	.14129393	01			
GCE	.82798027	02	GCT	.14995937	03	CPE	.82376169	02	CP5	.10289049	03	D2	.88102248	00	D3	.50007864	-01
REP	.40619961	06	VEP	.16243533	01												

1 DAYS 12 HRS. 56 MIN. 46.72* SEC. 235553350021202134332544 J.D.= 2437693.47561020 JAN. 28.1962 23 24 52.722

GEOCENTRIC				EQUATORIAL COORDINATES													
X	-.30586275	06	Y	-.25149998	06	Z	-.98986099	05	DX	-.11642946	01	DY	-.11027825	01	DZ	-.24258010	00
R	.40823133	06	DEC	-.140*7692	02	RA	.21944041	03	V	.16218990	01	PTH	.83298703	02	AZ	.36288196	02
R	.40823132	06	LAT	-.140*7693	02	LOM	.10048152	03	VE	.28813775	02	PTE	.32047589	01	AZE	.27030833	03
XS	.91889074	08	YS	-.10547803	09	ZS	-.45823095	08	DXS	.23781016	02	DYS	-.17133828	02	DZS	.74296331	01
XM	-.30799466	06	YM	-.238*5343	06	ZM	-.64418159	05	DXM	.65947361	00	DYM	-.68111667	00	DZM	-.28436775	00
XT	-.30799466	06	YT	-.238*5343	06	ZT	-.64418159	05	DXT	.65947361	00	DYT	-.68111667	00	DZT	-.28436775	00
RS	.14734722	09	VS	.30274664	02	RM	.39510650	06	VM	.98979308	00	RY	.39510650	06	VT	.98979308	00
GED	-.14124507	02	ALT	.401*5439	06	LOS	.19204869	03	RAS	.31100759	03	RAM	.21780560	03	LOM	.98846710	02
DUT	.35000000	02	DT	.95949999	03	DR	.16108182	01	SHA	-.40771683	02	DES	-.18181731	02	DEM	-.93833932	01
DAC	.00000000	00	CCL	.277*3717	03	MCL	.24327631	03	TCL	.24327631	03						

HELIOCENTRIC				EQUATORIAL COORDINATES													
X	-.92194937	08	Y	.10542643	09	Z	.45724110	08	DX	-.24945311	02	DY	-.18236610	02	DZ	-.76722132	01
R	.14732730	09	LAT	.180*0766	02	LOX	.13116955	03	V	.31838739	02	PTH	.32253775	00	AZ	.10479315	03
XE	.91889074	08	YE	.10547803	09	ZE	.45823095	08	DXE	-.23781016	02	DYE	-.17133828	02	DZE	-.74296331	01
XT	-.92197069	08	YT	.10543908	09	ZT	.45758678	08	DXT	-.23121543	02	DYT	-.17811376	02	DZT	-.77140009	01
LTE	.18118731	02	LOE	.131*0758	03	LTT	.18092726	02	LOT	.13116680	03	RST	.14734841	09	VST	.30190790	02
EPS	.92718299	02	CSP	.158*5878	00	SEP	.87123136	02	EPM	.64708532	02	EMP	.10837446	03	MEP	.49169974	01
MPS	.12493239	03	MSP	.274*8312	-18	SMP	.55055848	02	SEM	.90095834	02	EMS	.89750530	02	ESM	.15323340	00
RPM	.36870350	05	SPN	.91873103	02	CPT	.12223058	03	SIN	.11965047	03	D1	.14157182	01			
GCE	.82762833	02	GCT	.146*9314	03	CPE	.82342950	02	CP5	.10288877	03	D2	.84254608	00	D3	.46682901	-01
REP	.40823133	06	VEP	.162*8990	01												

SELENOCENTRIC				EQUATORIAL COORDINATES													
X	.21319082	04	Y	-.17646551	05	Z	-.34567940	05	DX	-.18237682	01	DY	-.42166586	00	DZ	.41787646	-01
R	.36870350	05	DEC	-.69644737	02	RA	.27956874	03	V	.18723458	01	PTH	-.14249732	-06	AZ	.27367877	03
R	.36870349	05	LAT	-.452*4480	02	LOX	.22851968	03	VP	.19401971	01	PTP	-.49505037	-06	AZP	.28307549	03
LTS	.26779122	00	LNS	.263*8266	03	LTE	-.67487749	01	LME	.35329974	03						
ALT	.35132350	05	SHA	-.302*3021	05	ALP	.13241472	03	DR	-.49661982	-08	DP	.29095874	-02	ASD	.27018162	01
HGE	.26728169	03	SVL	-.470*6085	02	HNG	.21277493	03	SIA	.64006715	02						

SELENOCENTRIC CONIC

EPOCH OF PERICENTER PASSAGE 235553350021202134334540 J.D.= 2437693.47561020 JAN. 28.1962 23 24 52.722

SMA	-.15125042	04	ECC	.253*5572	02	B	.38353128	05	SLR	.97247659	06	APD	.00000000	00	RCA	.36870350	05
VH	.17995886	01	C3	.32398510	01	C1	.69034044	05	TFP	-.43994448	-04	TF	.36946311	02	LTF	.36191447	02
TA	-.68301891	-05	MTA	.922*8494	02	EA	-.85377364	-06	MA	-.29995809	-05	C3J	.31289378	00	TFI	.36946311	02
ZAE	.15463414	03	ZAP	.11541528	03	ZAC	.94186296	02	DEF	.45170224	01	IR	.28772246	04	GP	.33310235	00
OP1	-.27182999	01	OY	-.52846264	02	OP2	.61291466	02									

ALL VECTORS REFERENCED TO EARTH EQUATOR PLANE																	
X	.21319082	04	Y	-.17646551	05	Z	-.34567940	05	DX	-.18237682	01	DY	-.42166586	00	DZ	.41787646	-01
INC	.11031146	03	LAN	.19349179	03	APF	.27136365	03	MX	-.97405523	00	MY	-.22520726	00	MZ	.22318336	-01
WX	-.21879914	00	WY	.91193876	00	WZ	-.34712338	00	PX	.57821746	-01	PY	-.34300058	00	PZ	-.93755388	00
QX	-.97405522	00	QY	-.225*0726	00	QZ	.22318337	-01	RX	.14223183	-01	RY	.34941918	-02	RZ	-.99989272	00
BX	.96162378	-01	BY	-.333*9517	00	BZ	-.93770510	00	TX	-.23857487	00	TY	-.97112411	00	TZ	.00000000	00
SK1	-.97101993	00	SV1	-.238*4928	00	ST1	-.14466102	-01	DA1	-.83918948	00	RA1	.19380244	03			
SKD	-.97557721	00	SVD	-.211*1536	00	SDZ	.59248102	-01	DAZ	.33966539	01	RAZ	.19223299	03			
ETE	-.15952936	03	ETS	.33942364	03	ETC	.23298777	03	THA	.11031374	03						
BTQ	-.13314696	05	BRQ	.35947781	05	B	.38353128	05									

ALL VECTORS REFERENCED TO ORBIT PLANE OF TARGET																	
X	-.11622495	05	Y	-.20742421	05	Z	-.28179643	05	DX	-.16698724	01	DY	.84419854	00	DZ	.67330971	-01
INC	.13068093	03	LAN	.154*1644	03	APF	.27269383	03	MX	-.87055022	00	MY	.26688517	00	MZ	-.15132837	00
WX	.32437049	00	WY	.69276420	00	WZ	-.64386915	00	PX	-.31522606	00	PY	-.56257728	00	PZ	-.76429009	00
QX	-.89186114	00	QY	.450*7748	00	QZ	.35960758	-01	RX	-.52532884	-02	RY	.24903796	-02	RZ	-.99998306	00
BX	-.27983475	00	BY	-.579*0845	00	BZ	-.76511353	00	TX	.42836446	00	TY	.90360605	00	TZ	.00000000	00
SK1	-.90359075	00	SV1	.428*5720	00	ST1	.58136933	-02	DA1	.33310235	00	RA1	.15463619	03			
SKD	-.87874591	00	SVD	.47249727	00	SDZ	.66051953	-01	DAZ	.37872553	01	RAZ	.15172319	03			
ETE	-.17929738	03	ETS	.35919165	03	ETC	.25275578	03	THA	.13008176	03						
BTQ	-.24669482	05	BRQ	.29344991	05	B	.38353128	05									

ALL VECTORS REFERENCED TO TRUE LUNAR EQU. PLANE																	
X	-.17188742	05	Y	-.19441795	05	Z	-.26191343	05	DX	-.15424972	01	DY	.10324214	01	DZ	.24593859	00
INC	.13374656	03	LAN	.15349116	03	APF	-.28047621	03	MX	-.84326163	00	MY	.25231856	00	MZ	-.14797473	00
WX	.32243539	00	WY	.64645579	00	WZ	-.69146970	00	PX	-.46619418	00	PY	-.52730163	00	PZ	-.71036329	00
QX	-.82383154	00	QY	.55140540	00	QZ	-.13135321	00	RX	-.87364452	-01	RY	.55040875	-01	RZ	-.99464647	00
BX	-.43336648	00	BY	-.548*2180	00	BZ	-.71498784	00	TX	.53304647	00	TY	.84608597	00	TZ	.00000000	00
SK1	-.84156336	00	SV1	.53019716	00	ST1	.10325718	00	DA1	.59267651	01	RA1	.14778847	03			
SKD	-.80481980	00	SVD	.571*5695	00	SDZ	.15924917	00	DAZ	.91630871	01	RAZ	.14466094	03			
ETE	.20316498	02	ETS	.230*2717	02	ETC	.28268605	03	THA	.13404201	03						
BTQ	-.26662545	05	BRT	.27549386	05	B	.38353127	05									

621774150403 621500324555 620601616334 601663167730 601612351536 600411670045
620102710 2806000 800000000000

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