

General Disclaimer

One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

DATA ANNOUNCEMENT BULLETIN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NATIONAL SPACE SCIENCE DATA CENTER/
WORLD DATA CENTER A FOR ROCKETS AND SATELLITES

Code 601

Goddard Space Flight Center • Greenbelt, Maryland 20771

November 1982

**AVAILABILITY OF IMP-J (IMP 8) INTERPLANETARY
FIELD AND PLASMA DATA FOR THE INTERNATIONAL
MAGNETOSPHERIC STUDY PERIOD (IMS)**INTRODUCTION

One recommendation of the IMS Assessment Symposium, held at NSSDC in May of 1981, was that 5-min resolution composite interplanetary field and plasma data sets be generated and made available to the scientific community. The purpose of this *Data Announcement Bulletin* (DAB) is to announce the availability of such a data set of IMP-J (IMP 8) field and plasma data.

The data set was compiled by Joseph H. King of the Goddard Space Flight Center Laboratory for Extraterrestrial Physics, using data of that Laboratory and of the Massachusetts Institute of Technology. The magnetic field data are from the Goddard Space Flight Center magnetometer (P.I.: N. F. Ness), and the plasma data are from the Massachusetts Institute of Technology Faraday cup experiment (P.I.: H. S. Bridge). The plots and listings were generated by Charles A. Wallace of the NSSDC staff.

DATA SET MEDIA AND TIME COVERAGE

There are actually two data sets available, one on a single magnetic tape (NSSDC ID: 73-078A-02E) and one on microfiche (NSSDC ID: 73-078A-02F). The microfiche data set consists of 11 fiche of plots displaying a subset of 3 parameters from the tape, and 41 fiche of listings giving a larger subset of parameters from the tape.

The tape data set spans the period April 12, 1977, to May 24, 1980. The microfiche data set covers a shorter interval, ending December 31, 1979. This covers a period from shortly before launch of the IMS-dedicated spacecraft, the ESA-GEOS 1 synchronous orbit spacecraft of the European Space Agency, through the end of the IMS data acquisition phase (December 31, 1979) at which time IMP-J was in the solar wind. (Recall that in its ~ 35 Re, 12.5 day orbit, IMP-J spends 4-5 days per orbit out of the solar wind, in the Earth's magnetosheath and magnetotail regions.)

(NASA-TX-85226) AVAILABILITY OF IMP-J (IMP 8) INTERPLANETARY FIELD AND PLASMA DATA FOR THE INTERNATIONAL MAGNETOSPHERIC STUDY PERIOD (IMS) (NASA) 26 p HC AC3/MF A01 N83-19658
Unclas
CSCL 03A G3/89 02559

EXPECTED READER USE OF PLOTS, LISTINGS, AND TAPE

The purpose of the plots is to enable the reader to identify times when interplanetary variations are likely to have interesting magnetospheric effects. On the other hand, the purpose of the listings is to permit the reader to quantify the state of the interplanetary medium for previously identified interesting intervals of limited durations; either the listed parameters, or others readily computed therefrom, may be of interest. The purpose of the tape data set, in addition to being the source of the plots and listings data set, is to enable statistical studies and to enable the quantification of the interplanetary medium for individual intervals whose long duration renders working from the data listing inconvenient.

COMPILATION OF THE TAPE DATA SET

This merged data set was generated as follows. First a 5-min IMF tape was created. This tape contained 5-min averages of 15.36 s resolution field parameters for hours when, based on magnetic field data signatures, IMP-J was judged to be beyond the Earth's bow shock for the entire hour. Plasma parameters, averaged at MIT over ~ 1-2 min resolution, were taken from an MIT-supplied tape for the times of the IMF records, and were merged onto the IMF tape. The resulting tape is available to the scientific community from NSSDC. Its format is shown in Appendix A. Note that in addition to basic field and plasma data, information is given on magnetic connectivity between IMP-J and the Earth's bow shock. There are field data in all records (whose number, 136325, represents a 42% overall data coverage between the first and last times), and there are plasma data in 79% of the records. This tape was used to generate the associated plots and listings data set.

DESCRIPTION OF PLOTS

Rather than plot each of several interplanetary parameters, computed parameters for each of two basically different ways the solar wind affects the magnetosphere are displayed. Sample plots are shown in Appendix B. Interplanetary pressure variations are responsible for large scale magnetospheric compressions and relaxations. For example, shock associated interplanetary pressure enhancements cause rapid magnetospheric compressions recorded at the Earth's surface as geomagnetic storm sudden commencements. One parameter plotted is interplanetary pressure, kNV^2 . After computing pressure in units of dynes/cm² (N in cm⁻³, V in km/s, $k = 1.67 \times 10^{-14}$), it is plotted logarithmically on a scale from 1 to 100. Because of the neglect of heavier nuclei, pressures are underestimated by typically 20%. It should be noted that the magnetopause standoff distance is proportional to the sixth root of the solar wind pressure.

The other mode of interaction between the solar wind and the magnetosphere is electrodynamic. Many studies have shown that this interaction depends on solar wind speed and on the intensity and orientation of the IMF. The more nearly antiparallel the IMF and geomagnetic fields are in their interaction region, the stronger the interaction. However, the details of the interaction mechanism, and hence the most appropriate combination of interplanetary parameters, are problems on which a consensus has not yet been reached. For

example, since 1978 Akasofu and coworkers have advocated $\epsilon = l_0^2 v B^2 \sin^4(\theta/2)$ as the most appropriate parameter, where v , B , θ , and l_0 are flow speed, magnetic field intensity, polar angle of the Y-Z projection of the IMF vector, and an empirically determined effective magnetospheric cross-sectional radius. However the simple product $B_z v$ (B_z in GSM coordinates), which is proportional to the y component of the solar wind convection electric field, has been used for a yet longer period and continues to be favored by many.

Both ϵ and $B_z v$ were plotted on the same panel. ϵ was computed in units of ergs/s, after which ϵ (ergs/s)/ 3.2×10^{17} was plotted logarithmically from 1 to 100. $B_z v$ was computed in units of volts/m [$3 \times 10^4 \times B_z$ (nT) $\times v$ (km/s)/c (3×10^{10} cm/s)], after which $-B_z v$ (volts/m) $\times 10^4$ was plotted logarithmically from 1 to 100. These scales were chosen to yield profiles only when the solar-wind-to-magnetosphere energy transfer is expected to be very significant ($B_z v < 0$, $\epsilon > 3.2 \times 10^{17}$). It may be observed that these two parameters generally track each other well. Since most ~ 5 min scale variations in these parameters follow from field variations rather than flow speed variations, mean speeds (400 km/s) were used for those 5-min records having field data but no plasma data. On the plots, such times are identifiable by the presence of ϵ and $B_z v$ traces and the absence of a simultaneous pressure trace. In order to avoid the ambiguity between data gaps and off-scale parameter values, off-scale values have been plotted near the bottom or top of the appropriate panel.

DESCRIPTIONS OF DATA LISTINGS

The data listings provide the basic field and plasma parameters, as well as, the computed, plotted parameters. A partial listing is shown in Appendix C. Field parameters include the average field magnitude, Cartesian components in solar magnetospheric coordinates, and the vector standard deviation--i.e. $(\sigma_x^2 + \sigma_y^2 + \sigma_z^2)^{1/2}$ -- and the field azimuth angle. Plasma parameters include the bulk flow speed (km/s), proton density (cm^{-3}), proton temperature (deg K, times 10^{-3}), and the flow longitude and latitude angles (deg). These angles are positive for flow from west and from south of the sun, respectively. In preparing this data compilation, it was noted that the flow latitude angle became increasingly positive with time. Over the 1975-1980 period, the trend could be reasonably fit with the linear equation: $\text{Theta (deg)} = 0.25 + 1.125 \cdot T$, where T is fractional years since 1975.0. In consultation with MIT personnel, this trend was attributed to instrumental effects, and it was subtracted from the MIT-supplied data before generating the composite field/plasma tape and listing therefrom.

The computed parameters listed are pressure (dynes/cm^2 , times 10^{-9}), ϵ (ergs/s, times 10^{-16}), and $B_z v$ (nT*km/s). Note that between the plots and listings, ϵ involves a different normalization factor (3.2×10^{17} vs 10^{16}), and $B_z v$ involves different units (volts/m vs. nT*km/s; 1 volt/m = 10^6 nT*km/s). As noted above, $v = 400$ km/s was assumed in computing both ϵ and $B_z v$ for records having field data but no plasma data.

**ORIGINAL PAGE IS
OF POOR QUALITY**

ORDERING INFORMATION

When making inquiries about the data, please refer to the NSSDC IDs:

73-078A-02E for the tape data set
73-078A-02F for the microfiche data set

Researchers residing in the United States should direct inquiries to

National Space Science Data Center
Code 601.4
Goddard Space Flight Center
Greenbelt, Maryland 20771
Telephone: (301) 344-6695
FTS: 344-6695

Researchers who reside outside the United States should direct inquiries to

World Data Center A for Rockets and Satellites
Code 601
Goddard Space Flight Center
Greenbelt, Maryland 20771, U.S.A.
Telephone: (301) 344-6695
Telex: NASCOM GBLT 89675

FORMAT OF 5-MIN RESOLUTION MERGED IMP-J IMF-PLASMA TAPE

This IMP-J tape contains 5-minute plasma parameter averages provided by MIT, 5-minute IMF averages computed from GSFC 15.36 sec data, and information on whether the 5-min IMF vector intersects the Earth's bow shock. Only times when IMP-J is in the solar wind are included. There are magnetic field data in every record. Some records have fill data (= 0.0) in the plasma words.

The tape is a 9-track, 1600-bpi, binary tape created on an IBM 3081 computer. The tape format is fixed block with a logical record length of 45 words (180 bytes), blocked 150 logical records per physical record. The physical record length is 6750 words (27,000 bytes). The last physical record on the tape may be short, but is an integer multiple of logical records.

The IBM JCL for the DCB parameter used to create the tape was:

NL, 9 TRACK, DEN=3, RECFM=FB, LRECL=180, BLKSIZE=27000

Format of logical data record:

word	type	data
1.	I*4	Year (77, 78, 79, 80)
2.	I*4	DDay (Jan 1 = Day 0)
3.	I*4	Minute of day at start of average (0, 5... 1435)
4.	I*4	Number of 1.28 s IMF values in 5-min <u>B</u> average (note that each 15.36 s average consists of up to 12 1.28 s values)
5.	I*4	Number of 15.36 s IMF values in <u>B</u> average
6.	I*4	Number of points in plasma parameter averages
7.	R*4	X_{GSM} } IMP-J position, km
8.	R*4	Y_{GSM} }
9.	R*4	Z_{GSM} }
10.	R*4	λ_s Geomagnetic Latitude of Sun (degree)
11.	R*4	< B > nT
12.	R*4	< $B_{X_{GSM}}$ > nT

APPENDIX A (continued)

word	type	data
13.	R*4	$\langle B_{YGSM} \rangle : nT$
14.	R*4	$\langle B_{ZGSM} \rangle nT$
15.	R*4	$(\langle B_X \rangle^2 + \langle B_Y \rangle^2 + \langle B_Z \rangle^2)^{1/2}$
16.	R*4	$\theta_{B_{GSM}}$ degrees (from $\langle B_X \rangle$, $\langle B_Y \rangle$, $\langle B_Z \rangle$)
17.	R*4	$\phi_{B_{GSM}}$ degrees (from $\langle B_X \rangle$, $\langle B_Y \rangle$)
18.	R*4	$\left. \begin{array}{l} \sigma_{B_X} \\ \sigma_{B_Y} \\ \sigma_{B_Z} \end{array} \right\} nT, \text{ in generation of 5-min averages from 15.36 s values}$
19.	R*4	
20.	R*4	
21.	R*4	$\{ \langle \sigma_x^2 + \sigma_y^2 + \sigma_z^2 \rangle \}^{1/2}$ these σ 's arise in the generation of 15.36 s averages from 1.28s values
22.	R*4	Maximum value of any of the σ 's contributing to word 21
23.	R*4	V , km/s (bulk flow speed)
24.	R*4	σ_V , km/s
25.	R*4	N , cm^{-3} (proton density)
26.	R*4	σ_N , cm^{-3}
27.	R*4	W , km/s (thermal speed)
28.	R*4	σ_W , km/s
29.	R*4	ϕ_V , degrees, flow azimuth (+ from west)
30.	R*4	σ_ϕ , degrees
31.	R*4	θ_V , degrees, flow latitude (+ from south)
32.	R*4	σ_θ , degrees
33.	R*4	Y_{GSE} (IMP-J position, km)
34.	R*4	Z_{GSE} (IMP-J position, km)

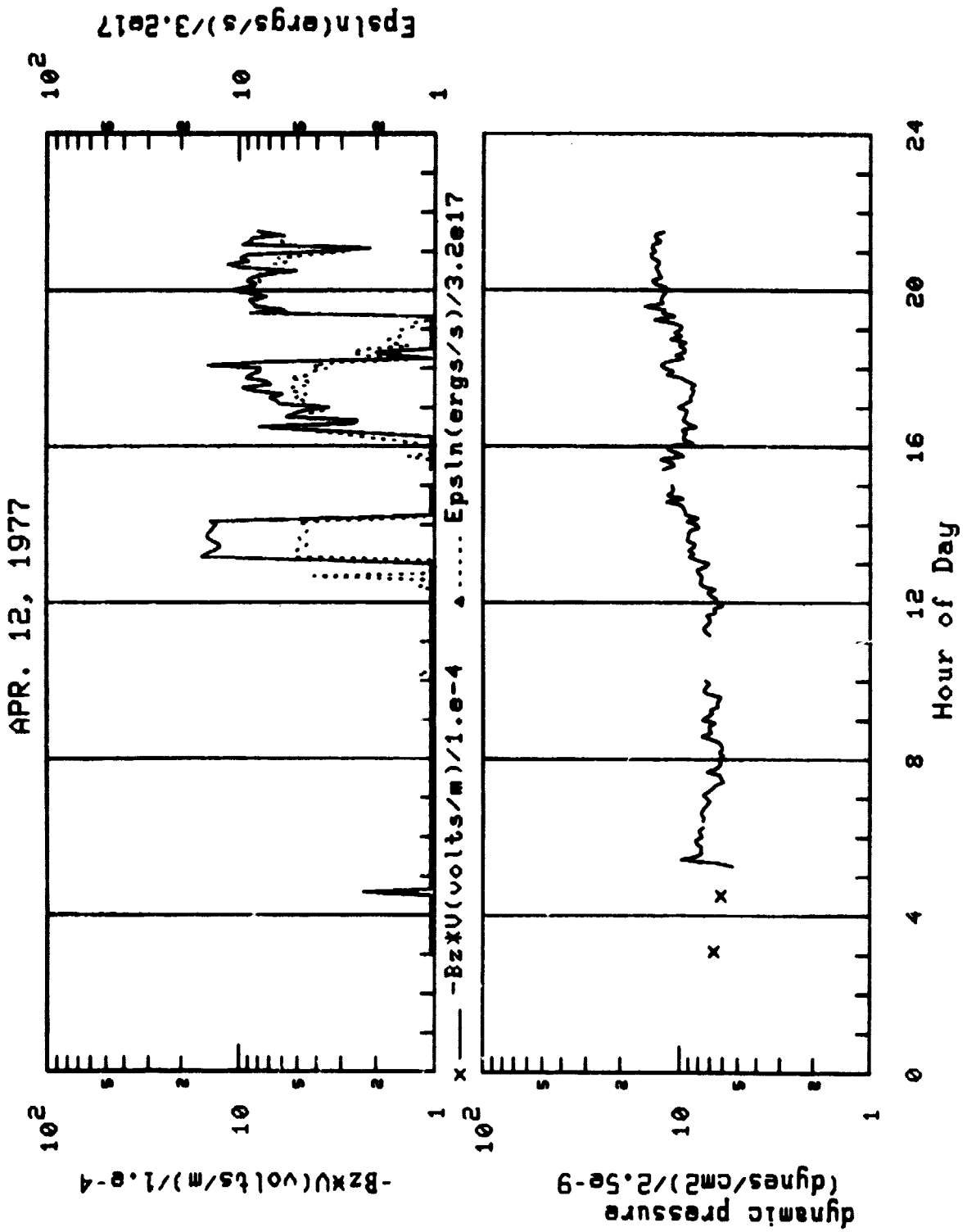
word	type	data
35.	R*4	$\langle B_{yGSE} \rangle$ nT
36.	R*4	$\langle B_{zGSE} \rangle$ nT
37.	R*4	X
38.	R*4	Y } km, in GSE, point of intersection between IMF line through IMP-J, and the bow shock (see footnote)
39.	R*4	Z }
40.	R*4	Distance (km) along \underline{B} between IMP-J and bow shock intersection point
41.	R*4	Angle (in degrees) between \hat{B} and bow shock normal at intersection
42.	R*4	$B_z \cdot V$ (nT x km/s)
43.	R*4	E (ergs/s) = $2 \times 10^{14} \times V \times B^2 \times \sin^4 \left(\frac{1}{2} \tan^{-1} \left(\frac{ B_{yGSM} }{B_{zGSM}} \right) \right)$
44.	R*4	$1.67 \times 10^{-14} \times N \times V^2$, dynamic pressure in dynes/cm ²
45.		Spare

NOTES: In word 31 θ_v (on this tape) = θ_v (on MIT tape) - (.25 + 1.125T) deg where T is fractional years since 1975.0

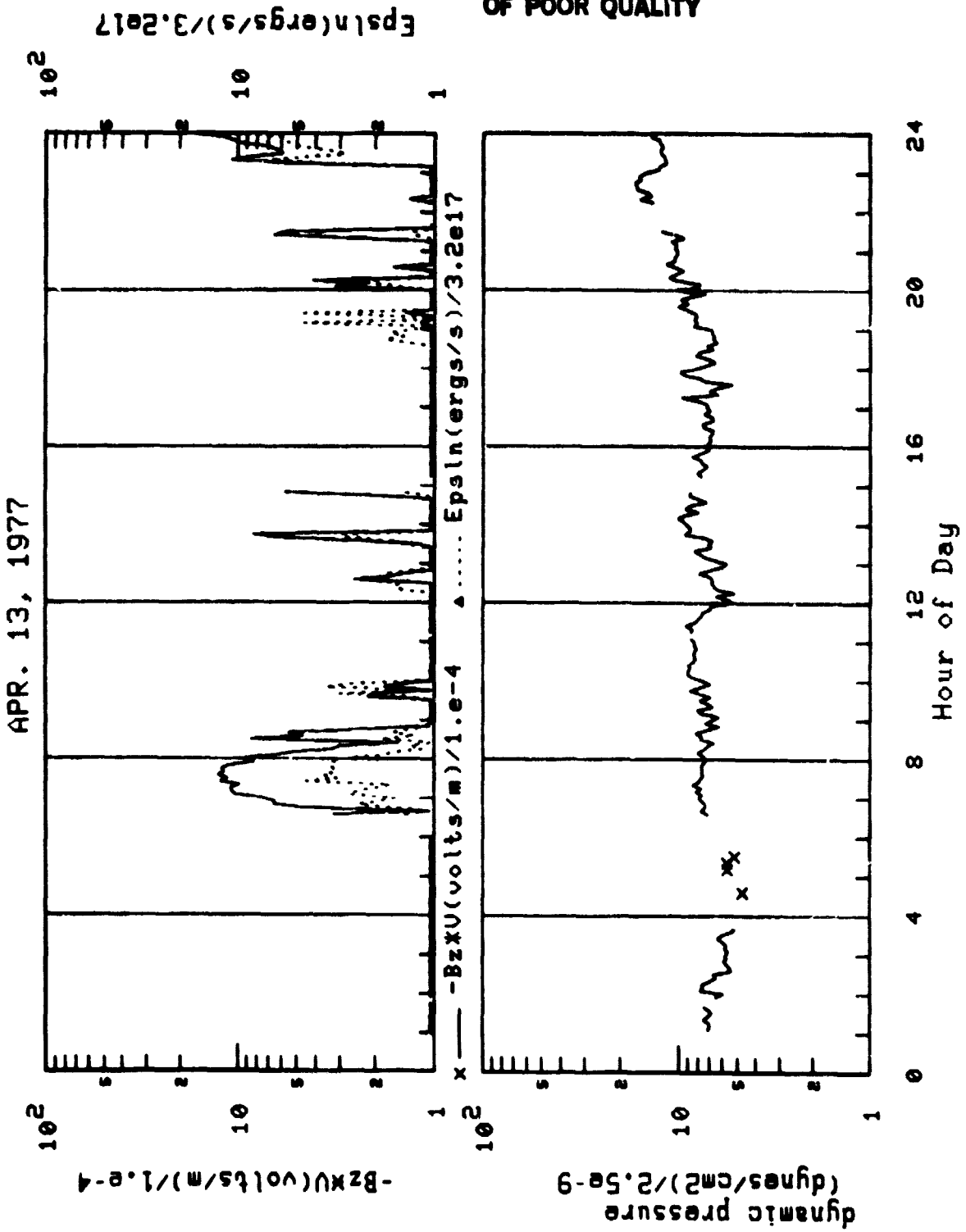
In words 42 and 43, $V = 400$ is used for records with no plasma data.

Words 37-41 = -999. for no-intersection cases. (Intersection calculations are based on a model bow shock - Fairfield, J. Geophys. Res., 76, 6700 - adjusted for simultaneously observed solar wind pressure when available.)

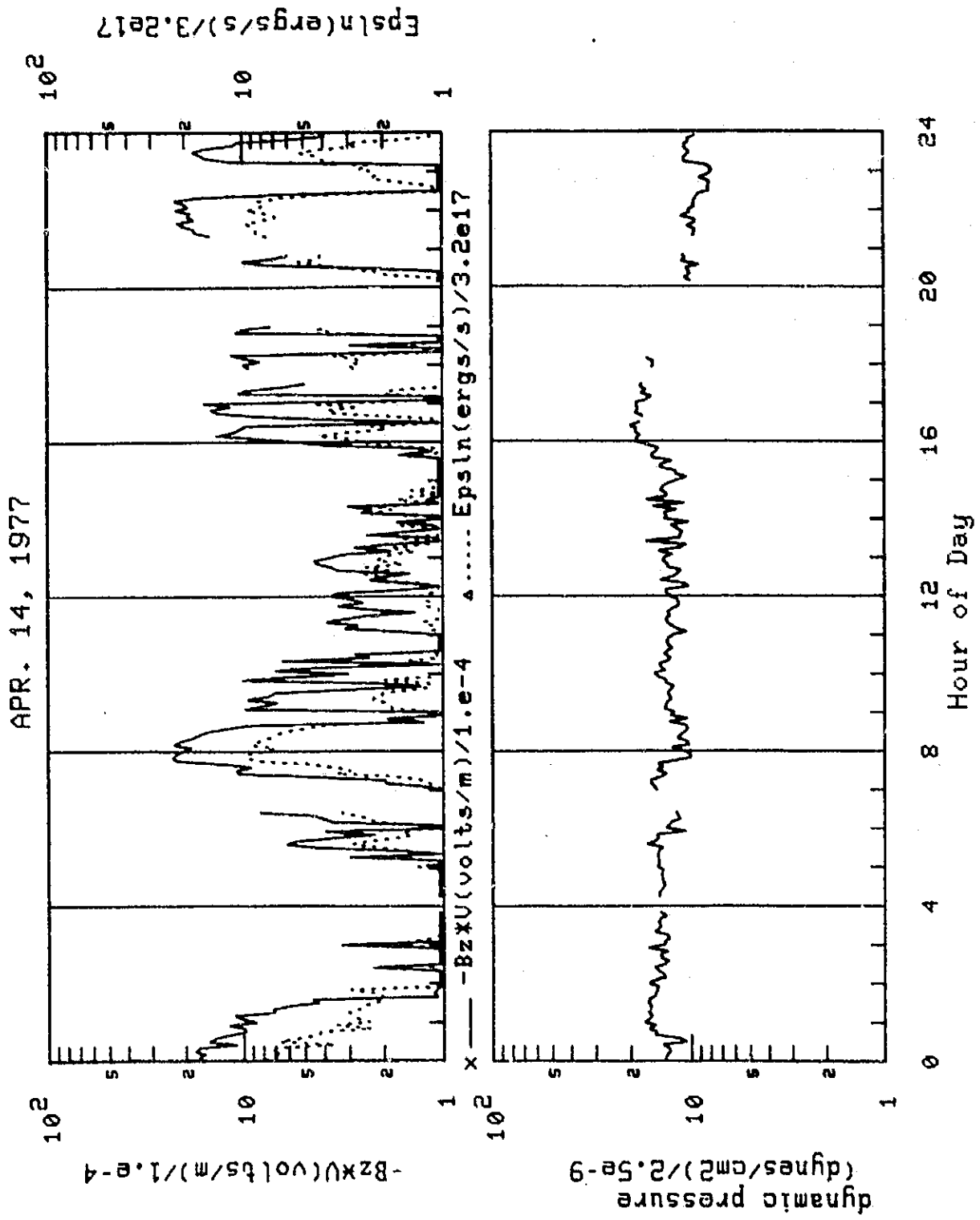
ORIGINAL PAGE IS
OF POOR QUALITY



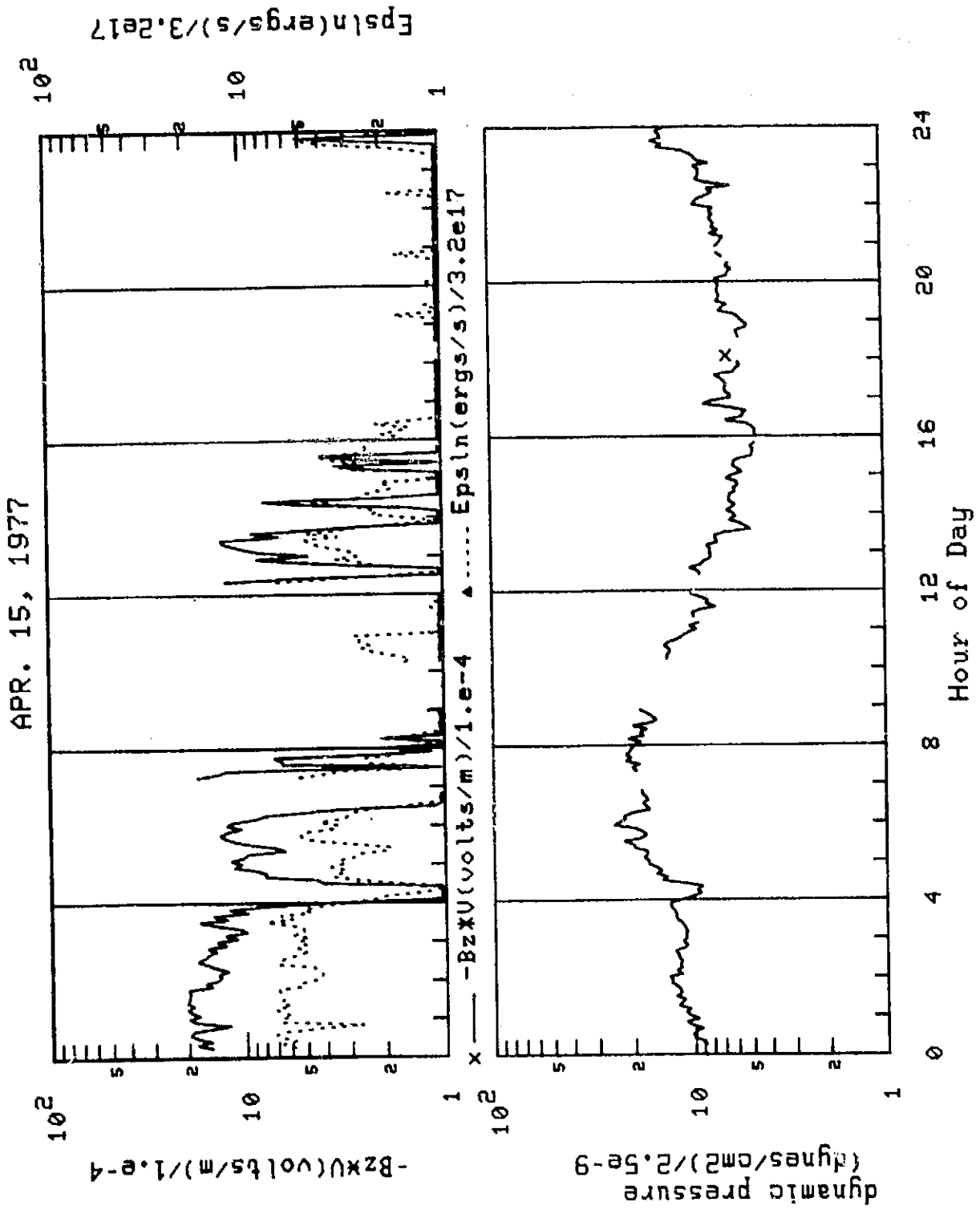
ORIGINAL PAGE IS
OF POOR QUALITY



ORIGINAL PAGE IS
OF POOR QUALITY



ORIGINAL PAGE IS
OF POOR QUALITY



MR	PH	BMAGN	Bx	MAGNETIC	By	FIELD	Bz	(GSM	COORD.)	PHI	U	N	T/1000	PLASMA	PHI	THETA	PRE/52	EPS/16	BxU
				Bx		By		Br	SIGMA					T/1000	PHI	THETA	10e9	10e-16	
3	5	3.0	3.7	1.8	1.9	1.9	1.1	33		416.	5.7	53.	0.3	1.6	16.6			2.1	778.7
3	10	4.2	3.3	-0.5	2.5	0.3	0.3	359										0.0	1000.2
3	15	4.2	3.4	-0.4	2.4	0.4	0.4	352										0.0	1065.7
3	20	4.4	3.0	-0.7	1.5	0.8	0.8	350										0.3	595.7
3	25	4.0	4.1	-1.3	1.5	1.5	1.5	342										2.6	584.8
3	30	4.2	2.4	-2.6	1.3	1.8	1.8	312										3.6	553.0
3	35	4.3	3.3	-1.6	1.4	1.6	1.6	335										3.8	452.8
3	40	4.3	3.3	-1.3	1.1	1.5	1.5	342										7.2	419.2
3	45	4.6	3.8	-1.3	1.1	1.5	1.5	342										10.3	334.5
3	50	4.9	4.2	-1.5	1.0	1.3	1.3	341										8.6	321.1
3	55	4.7	3.4	-1.6	0.8	1.4	1.4	338										2.1	618.7
4	0	4.3	3.0	-1.5	0.8	1.2	1.2	336										1.3	801.2
4	5	4.0	4.2	-1.2	1.5	1.3	1.3	343										3.3	352.7
4	10	5.7	5.0	-2.2	2.0	1.2	1.2	346										2.3	425.9
4	15	4.2	3.6	-1.1	1.5	1.4	1.4	344										4.0	246.7
4	20	4.1	3.4	-0.8	1.1	1.6	1.6	343										12.6	174.1
4	25	4.0	3.5	-0.8	0.6	1.5	1.5	347		422.	5.1	122.	-2.7	-0.7	15.3		44.0	-231.7	
4	30	4.0	3.0	-1.4	0.4	1.6	1.6	334									0.2	505.4	
4	35	4.0	3.0	-2.0	0.6	1.2	1.2	337									0.0	947.0	
4	40	3.9	3.0	-0.6	1.3	2.0	2.0	349									0.2	558.8	
4	45	4.8	4.3	-0.3	2.4	0.5	0.5	351									5.7	447.0	
4	50	4.6	4.3	-0.5	1.4	0.8	0.8	353									0.5	652.1	
4	55	4.3	3.7	-1.5	1.1	1.1	1.1	338									0.2	437.5	
5	0	5.1	5.1	-0.8	1.6	0.7	0.7	351										2.3	173.1
5	5	5.9	3.4	-0.5	1.1	1.4	1.4	352										6.2	182.4
5	10	3.1	1.9	-0.7	0.4	1.5	1.5	344		414.	4.6	67.	-1.5	0.1	13.3		3.5	189.2	
5	15	3.1	3.3	-0.6	0.5	1.4	1.4	350		417.	5.5	68.	-1.3	-0.2	16.6		0.0	526.3	
5	20	4.3	3.7	-0.6	0.5	1.5	1.5	350		418.	8.4	170.	-0.8	0.3	24.6		0.2	976.1	
5	25	4.3	3.6	-1.0	2.3	0.6	0.6	351		422.	6.0	114.	0.4	0.1	20.5		0.5	1038.1	
5	30	4.4	3.6	1.3	2.5	0.2	0.2	351		417.	6.6	73.	0.5	0.2	19.1		0.6	1015.0	
5	35	4.4	3.6	1.3	2.5	0.2	0.2	351		417.	6.6	78.	0.4	1.4	13.3		0.8	1024.1	
5	40	4.4	3.5	1.3	2.4	0.1	0.1	351		417.	6.4	94.	0.4	0.4	13.2		0.1	1088.3	
5	45	4.4	3.3	1.4	2.4	0.7	0.7	352		425.	6.8	109.	-0.4	1.1	20.3		0.6	1027.9	
5	50	4.2	3.2	0.9	2.4	0.4	0.4	351		423.	6.0	100.	-0.1	1.5	20.5		0.8	1111.6	
5	55	4.3	3.2	0.4	2.6	0.6	0.6	352		423.	6.3	197.	0.4	0.4	19.0		0.1	1024.1	
6	0	4.3	3.0	1.5	2.6	0.6	0.6	352		424.	8.4	107.	0.4	2.0	13.3		0.1	1026.8	
6	5	4.2	3.4	0.8	2.4	6.1	6.1	352		424.	6.6	105.	0.5	1.0	13.7		0.1	1003.6	
6	10	4.2	3.2	1.1	2.5	0.4	0.4	351		424.	6.2	101.	0.5	1.6	18.7		0.3	1103.9	
6	15	4.2	3.2	1.1	2.8	0.3	0.3	351									0.3	1104.8	
6	20	4.3	3.1	1.2	2.7	0.2	0.2	350		421.	6.4	105.	0.4	0.0	18.0		0.3	1117.2	
6	25	4.3	3.1	1.2	2.7	0.2	0.2	350		420.	6.3	105.	0.3	0.3	18.6		0.3	1066.2	
6	30	4.2	3.4	1.1	2.9	0.4	0.4	350		420.	6.5	113.	0.4	-0.3	19.2		0.8	840.0	
6	35	4.4	3.4	1.2	2.9	0.3	0.3	350		420.	6.5	118.	0.4	2.3	13.1		0.2	1020.8	
6	40	4.4	3.4	1.0	2.4	0.4	0.4	350		420.	6.1	103.	0.1	2.3	18.5		0.4	952.8	
6	45	4.2	3.4	1.1	2.7	0.2	0.2	350		420.	6.1	112.	0.3	0.4	18.0		0.2	1116.1	
6	50	4.2	3.4	1.1	2.7	0.2	0.2	350		417.	6.1	118.	-0.2	-0.5	17.4		0.3	1202.8	
6	55	4.2	3.0	1.3	2.9	0.5	0.5	351		421.	6.1	95.	-0.0	0.6	18.1		0.7	1156.5	
7	0	4.1	2.5	1.6	2.8	0.0	0.0	350		418.	6.4	95.	0.3	-0.8	18.0		0.7	1100.3	
7	5	4.2	3.0	1.8	2.8	0.1	0.1	350		417.	6.1	75.	0.0	1.3	17.6		1.4	1056.2	
7	10	4.3	3.0	1.8	2.5	0.2	0.2	350		416.	5.8	73.	0.1	-0.2	16.8		1.4	1056.2	
7	15	4.3	3.1	2.0	2.1	1.1	1.1	350		416.	5.6	64.	0.1	0.5	16.2		2.4	905.1	
7	20	4.4	3.1	2.1	2.5	0.2	0.2	350		415.	5.1	49.	0.1	0.4	14.8		7.1	632.3	
7	25	4.4	3.5	2.1	1.7	0.2	0.2	350		415.	5.3	48.	0.1	1.3	15.2		4.7	716.9	

ORIGINAL PAGE IS
OF POOR QUALITY

7 35 4.4 3.4 2.1 1.9 0.2 32. 414. 5.4 5.1 0.1 0.8 15.4 4.6 767.8
 7 40 4.4 3.8 1.1 2.0 0.3 16. 414. 6.3 49. 0.6 2.9 18.0 0.6 807.5
 7 45 4.2 3.8 0.1 1.6 0.4 1. 413. 5.7 51. 0.3 1.4 16.2 0.0 660.0

APR. 12, 1977 IMP-J POSITION IN GSM COORDINATES: X (-8.3); Y (-32.3); Z (7.3) Page 2

HR	MM	MAGNETIC FIELD (GSM COORD.)		Bz	By	Bx	SIGMA		PHI	PLASMA		THETA		PRESSX 100	EPSLNX 100-16	BzZU
		Bx	Bz				T/1000	PHI		THETA	PHI					
7	50	3.9	3.6	-0.1	1.3	0.5	358.	413.	5.4	53.	0.0	-0.4	15.4	0.0	546.9	
7	55	4.0	3.8	0.2	0.8	0.3	12.	414.	5.3	51.	0.3	0.1	15.3	0.0	326.8	
8	0	4.4	3.6	1.4	2.0	0.8	16.	413.	5.4	54.	0.3	0.6	15.5	0.5	836.4	
8	5	4.6	3.5	1.2	2.6	0.3	22.	416.	5.1	65.	-0.5	-0.1	14.0	0.7	1063.5	
8	10	4.6	3.5	1.2	2.7	0.3	20.	414.	5.4	70.	0.2	-0.5	15.5	0.3	1122.3	
8	15	4.6	3.5	1.2	2.8	0.1	19.	417.	5.2	56.	-0.2	0.2	15.0	0.3	1155.7	
8	20	4.5	3.5	1.5	2.4	0.3	24.	417.	5.2	57.	0.2	1.7	15.1	1.0	1015.7	
8	25	4.4	3.5	1.3	2.3	0.2	24.	414.	5.4	45.	0.5	1.7	15.5	0.7	972.8	
8	30	4.3	3.3	1.5	2.4	0.4	24.	412.	6.0	48.	1.4	2.9	17.1	0.8	985.2	
8	35	4.1	3.4	1.5	2.0	0.6	32.	415.	6.6	48.	1.5	4.2	19.1	0.5	1198.2	
8	40	4.3	3.6	1.9	2.8	0.3	37.	412.	6.0	51.	0.0	2.0	17.1	1.2	1152.7	
8	45	4.3	3.9	1.6	2.7	0.2	28.	410.	6.2	52.	1.1	0.4	17.5	0.7	1090.3	
8	50	4.4	3.1	1.6	2.7	0.1	27.	417.	6.0	56.	1.1	-0.2	17.5	0.8	1108.9	
8	55	4.5	3.2	1.5	2.5	0.1	25.	409.	5.9	52.	1.0	0.4	16.4	0.6	1115.9	
9	0	4.2	3.7	1.5	2.0	0.4	30.	425.	6.3	54.	0.0	3.5	19.0	0.5	1254.3	
9	5	4.2	3.7	1.5	2.8	0.4	29.	410.	6.3	52.	1.4	1.0	17.8	0.5	1166.7	
9	10	4.4	3.3	1.5	2.5	0.3	24.	408.	6.1	52.	1.5	0.8	16.9	0.8	1000.3	
9	15	4.5	3.8	1.5	2.5	0.3	24.	409.	6.2	52.	1.6	2.0	17.3	0.9	1005.5	
9	20	4.7	4.2	1.1	1.6	0.2	15.	408.	5.6	49.	0.0	1.5	15.8	1.1	941.8	
9	25	4.7	4.2	1.1	1.6	0.4	14.	410.	5.6	53.	0.0	1.4	15.7	1.6	702.1	
9	30	4.6	4.3	0.5	1.4	0.4	7.	411.	5.4	45.	-0.1	1.5	15.3	0.1	595.3	
9	35	4.5	3.6	1.0	2.4	0.8	16.	408.	6.5	54.	1.2	1.2	18.1	0.3	977.3	
9	40	4.3	3.8	0.8	1.9	0.2	8.	407.	6.8	59.	1.0	1.7	18.7	0.1	744.2	
9	45	4.4	3.8	0.8	1.9	0.6	12.	408.	6.5	58.	0.8	1.9	18.2	0.3	788.4	
9	50	4.6	4.2	1.1	1.4	0.4	15.	408.	6.3	54.	1.4	1.2	17.5	1.8	587.0	
9	55	4.5	4.4	1.0	0.6	0.2	13.	430.	5.9	54.	1.6	-0.8	18.3	1.8	230.7	
10	0	4.5	4.4	1.0	0.6	0.5	10.							11.2	2.2	380.3
10	5	4.6	4.3	1.4	0.6	0.3	17.							38.6	19.1	12.2
10	10	4.5	4.3	1.3	0.6	0.5	17.							12.8	258.2	22.2
10	15	4.5	4.3	1.1	0.6	0.3	15.							9.3	242.2	22.2
10	20	4.4	4.3	0.8	0.3	0.3	11.							26.3	57.2	57.2
10	25	4.2	4.2	0.3	0.3	0.3	4.							22.1	125.3	125.3
10	30	4.2	4.2	0.3	0.6	0.0	22.							10.2	232.8	232.8
10	35	4.1	3.9	1.2	0.8	0.0	34.							9.3	322.4	322.4
10	40	4.1	3.9	1.5	0.8	0.0	58.							14.5	307.4	307.4
10	45	4.5	2.3	2.2	1.1	1.7	60.							13.0	432.1	432.1
10	50	4.4	2.1	2.6	1.0	1.5	60.							10.7	669.1	669.1
10	55	4.4	1.8	2.4	1.0	0.5	91.							2.1	778.1	778.1
11	0	4.3	1.8	1.8	2.0	1.0	33.							2.1	705.0	705.0
11	5	4.5	4.0	1.2	1.7	0.2	14.	402.	6.2	54.	1.0	1.6	17.4	1.4	705.0	705.0
11	10	4.4	3.9	1.0	1.6	0.2	17.	408.	6.6	56.	1.2	1.6	18.3	1.9	668.1	668.1
11	15	4.4	3.8	0.7	1.6	0.5	19.	405.	6.8	71.	1.0	2.0	18.7	0.2	667.6	667.6
11	20	4.2	3.8	0.3	1.6	0.6	4.	407.	6.5	72.	0.7	1.8	18.1	0.0	633.5	633.5
11	25	4.4	4.2	-0.1	1.6	0.6	35.	407.	6.3	67.	0.0	1.0	17.4	0.0	476.1	476.1
11	30	4.4	4.2	0.3	1.2	0.2	2.	407.	6.3	71.	0.0	0.6	17.4	0.0	503.5	503.5
11	35	4.4	4.2	0.7	1.5	0.5	11.	405.	6.6	79.	1.1	1.6	18.1	0.4	572.7	572.7
11	40	4.2	3.9	0.8	1.5	0.9	9.	410.	6.8	79.	1.1	1.9	18.3	0.3	772.7	772.7
11	45	4.8	4.3	0.8	1.8	0.9	12.	411.	6.8	67.	0.7	-0.3	16.6	4.2	719.9	719.9

ORIGINAL PAGE IS
OF POOR QUALITY

11	55	5.1	4.1	1.5	2.0	0.3	18.	414.	5.2	73.	-0.1	0.2	15.0	2.0	817.8
12	5	5.0	4.4	1.0	2.0	0.2	12.	416.	5.5	75.	-0.7	1.0	16.4	0.5	839.5
12	10	5.0	4.5	0.7	2.0	0.2	8.	417.	5.8	106.	-0.0	0.5	16.1	0.1	868.2
12	10	5.0	4.1	0.3	2.7	0.4	4.	411.	6.1	72.	-0.3	1.6	17.0	0.0	1000.0
12	16	4.9	4.1	0.1	2.7	0.6	1.	407.	6.3	61.	-0.1	1.2	17.0	0.0	1132.1
12	20	5.1	4.6	1.4	1.2	0.6	17.	405.	5.9	60.	0.4	2.5	16.3	0.5	455.2
12	55	4.0	3.4	2.0	-0.2	0.8	30.	469.	6.7	63.	1.3	0.3	18.8	37.9	-78.6
12	30	3.0	3.4	1.0	-0.1	0.3	59.	469.	7.0	64.	0.6	-1.1	19.6	32.3	-28.2

APR. 12, 1977 IMP-J POSITION IN GSR COORDINATES: X (-5.4); Y (-32.4); Z (5.1) Page 3

HR	MN	MAGNETIC FIELD (GSR COORD.)		U	M	T/1000	PHI	LASCMA	PHI	THETA	PRESS	EPSLIM	BSSU		
		Bx	By												
12	35	4.2	4.1	1.0	0.2	0.7	14.	407.	7.0	75.	0.4	-0.7	19.3	25.0	67.3
12	40	4.4	4.4	-0.1	-0.2	0.2	358.	406.	6.9	75.	-0.3	0.2	19.1	120.0	-82.1
12	45	4.3	4.3	0.7	0.2	0.4	351.	400.	7.1	76.	-1.0	1.2	19.8	20.1	81.2
12	50	4.2	3.8	1.5	0.7	0.8	338.	411.	7.2	68.	-2.1	2.2	20.2	12.5	276.1
12	55	4.0	3.2	2.0	0.5	1.0	328.	428.	6.2	96.	-3.0	1.4	18.4	16.0	223.3
13	0	3.9	3.0	1.9	0.3	1.3	317.	413.	6.2	72.	-1.2	1.2	17.7	11.2	128.5
13	5	5.0	1.3	1.7	-1.0	2.1	308.	418.	6.0	87.	-1.3	-0.3	20.1	15.0	-432.8
13	10	4.9	1.0	3.1	-3.7	0.6	252.	428.	7.6	75.	-0.5	0.0	22.3	153.7	-1544.2
13	15	4.9	-1.8	3.4	-3.4	0.8	238.	425.	7.0	71.	-0.7	0.0	21.0	153.7	-1441.8
13	20	4.9	-2.4	3.3	-3.1	0.8	231.	424.	6.9	69.	-0.7	1.5	21.0	143.3	-1242.6
13	25	4.9	-2.4	3.0	-3.0	0.5	239.	424.	6.9	75.	-0.8	0.3	20.9	130.6	-1269.5
13	30	4.8	-2.3	2.7	-3.2	0.7	230.	424.	7.6	73.	-1.1	-0.4	22.0	1368.5	-1368.5
13	40	4.7	-2.1	2.5	-3.4	0.4	234.	423.	7.5	72.	-0.4	-0.8	22.5	1448.4	-1448.4
13	45	4.8	-1.4	3.0	-3.4	0.5	244.	416.	7.4	66.	-0.8	-0.0	22.5	145.3	-1433.3
13	50	4.7	-1.4	3.1	-3.3	0.2	246.	416.	7.6	64.	-1.1	1.3	22.1	130.8	-1377.0
13	55	5.0	0.3	3.7	-3.3	0.6	274.	409.	7.1	57.	-1.6	1.5	20.9	133.4	-1334.9
14	0	5.2	1.2	4.0	-3.2	0.3	284.	411.	7.0	58.	-1.6	0.2	20.0	143.4	-1294.8
14	5	5.2	1.7	3.8	-3.3	0.4	288.	416.	7.0	60.	-1.8	1.5	20.0	154.0	-1378.2
14	10	5.8	2.7	3.5	-3.7	0.2	318.	428.	6.5	54.	-1.2	1.2	20.0	48.3	-1287.6
14	15	5.8	4.0	0.7	3.0	0.2	351.	413.	8.2	48.	0.1	1.6	23.3	0.1	1228.2
14	20	6.0	5.2	1.1	2.7	0.2	348.	413.	8.2	47.	-0.1	1.0	23.8	0.3	1131.4
14	25	5.9	5.1	1.5	2.5	0.5	343.	413.	8.4	46.	0.1	1.0	23.8	1.5	1023.0
14	30	5.8	5.1	1.7	2.2	0.5	342.	414.	8.6	49.	0.3	2.0	24.7	2.8	917.7
14	35	6.1	5.0	2.4	2.4	0.7	334.	415.	10.1	60.	-0.7	2.6	29.0	6.8	984.7
14	40	5.5	4.3	2.7	2.7	0.8	326.	414.	8.3	53.	-0.2	2.3	23.0	14.0	696.9
14	45	6.4	5.4	2.0	2.3	0.7	324.	414.	9.1	54.	-0.7	2.3	23.0	10.6	922.5
14	50	6.4	5.6	1.8	2.4	0.6	342.	414.	9.5	53.	0.7	2.1	27.2	10.6	976.5
14	55	6.1	5.3	1.8	2.4	0.5	344.	414.	9.4	54.	0.7	2.1	26.8	3.7	1030.4
15	0	6.2	5.3	1.5	2.4	0.5	338.	413.	8.6	49.	0.8	2.2	26.8	4.6	1010.0
15	5	7.4	6.0	2.4	3.1	0.3	340.	411.	10.7	53.	-2.6	0.0	30.6	12.3	890.6
15	10	6.9	6.0	2.1	1.5	0.6	341.	410.	9.5	55.	-1.6	0.8	26.6	17.5	671.5
15	15	6.6	6.0	1.4	1.4	0.5	341.	411.	9.7	55.	-1.0	1.5	27.3	17.5	571.6
15	20	7.2	6.5	1.4	1.4	0.5	340.	412.	10.0	58.	-2.0	2.0	30.0	2.2	505.8
15	25	6.2	5.5	1.0	1.0	1.2	336.	408.	8.6	63.	-1.2	2.1	23.0	4.3	242.9
15	30	6.2	5.5	1.4	1.0	1.0	345.	408.	8.3	63.	0.5	2.0	25.0	2.7	789.1
15	35	6.8	6.0	2.2	1.1	1.2	342.	428.	10.2	86.	-0.7	1.3	28.4	4.4	964.3
15	40	6.8	6.0	2.0	1.1	1.2	340.	410.	10.3	86.	-0.7	1.3	28.4	8.0	860.1
15	45	6.9	6.0	2.8	0.7	1.0	330.	411.	7.5	70.	-2.2	2.0	21.2	30.6	271.1
15	50	6.2	5.2	2.8	0.7	1.0	332.	407.	8.9	73.	-2.2	1.5	23.0	30.9	182.6
15	55	6.2	5.1	3.1	0.9	1.3	329.	407.	8.5	58.	-2.1	2.4	23.0	72.1	-0.4
16	0	6.2	4.8	-0.5	-0.5	1.2	324.	410.	8.2	68.	-1.4	2.4	23.4	37.8	-108.2
16	5	7.0	5.0	-1.1	-1.1	1.1	319.	406.	8.8	78.	-0.2	2.0	24.2	141.4	-445.0

ORIGINAL PAGE IS
OF POOR QUALITY

16 30	7.0	4.8	-4.3	-1.0	1.2	318.	495.	7.4	61.	-1.7	3.7	59.4	181.3	-779.3
16 35	6.7	5.0	-4.0	-0.6	1.5	321.	496.	8.2	72.	-1.7	3.1	22.7	112.7	-550.8
16 40	6.5	4.3	-3.6	-0.6	1.3	324.	496.	9.0	64.	-1.2	3.5	24.0	186.0	-247.6
16 45	6.5	4.9	-3.6	-1.4	1.2	324.	495.	8.6	64.	-1.9	3.0	23.6	146.3	-565.8
16 50	6.4	4.9	-3.7	-1.4	1.0	323.	497.	8.3	78.	-0.9	3.5	22.9	141.5	-18.7
16 55	6.4	4.3	-4.2	-1.1	1.3	316.	497.	8.7	59.	-1.8	3.4	22.0	119.5	-463.1
17 0	6.2	4.8	-3.3	-0.9	1.3	326.	397.	9.7	70.	-0.6	2.1	25.4	109.0	-746.3
17 5	6.1	4.0	-2.7	-1.5	1.1	331.	401.	8.8	81.	-0.9	1.6	23.6	152.0	-814.0
17 10	6.0	4.7	-3.0	-1.7	1.1	327.	404.	8.0	56.	-1.6	2.8	21.8	144.2	-631.0
17 15	6.0	4.7	-3.4	-1.7	0.9	326.	403.	8.1	63.	-1.4	2.9	22.0	162.9	-688.7
17 20	5.2	4.7	-3.3	-1.5	1.0	326.	403.	7.9	58.	-1.0	3.1	21.5	141.5	-882.7
17 25	5.0	4.4	-3.3	-2.1	1.0	323.	401.	7.8	56.	-1.7	3.1	21.0	162.0	-822.8
17 30	5.0	4.2	-3.6	-2.4	1.2	319.	396.	8.3	59.	-0.0	2.3	21.7	172.6	-563.5

APR. 12, 1977 IMP-J POSITION IN GSM COORDINATES: X(-2.3); Y(-32.4); Z(-4.0) Page 4

HR	PH	BMAGN	Bx	By	FIELD (GSM COORD.)	Bz	SIGMA	PHI	U	N	T/1000	PLASMA	PHI	THETA	PRESS	EPSSLN	BRAU
															1000	10-16	
17 35	5.1	4.1	-3.8	-1.7	1.3	317.	399.	7.8	75.	0.8	2.0	20.7	135.4	881.5			
17 40	6.5	3.6	-4.7	-1.8	1.8	307.	398.	8.7	54.	-0.6	4.8	22.9	139.9	-719.7			
17 45	6.7	4.0	-4.4	-2.3	1.7	312.	403.	9.1	63.	-1.1	2.5	24.7	171.3	910.1			
17 50	6.0	3.1	-4.3	-2.1	1.7	306.	406.	10.5	72.	-1.6	2.1	28.0	137.8	-623.5			
17 55	6.1	3.5	-4.0	-1.9	1.6	311.	406.	10.8	53.	-2.6	2.5	26.0	133.2	-774.1			
18 0	5.7	3.2	-4.3	-1.9	2.0	300.	403.	10.9	62.	-1.0	0.9	29.6	112.6	-770.6			
18 5	4.6	3.1	-2.9	-1.7	2.1	316.	419.	11.0	72.	-1.8	1.8	29.2	132.0	-140.5			
18 15	5.8	4.7	-3.4	-0.6	1.0	327.	403.	8.8	61.	-2.1	2.1	23.0	98.4	258.2			
18 20	5.8	4.2	-3.4	-0.4	1.5	321.	402.	9.7	80.	-1.0	2.0	26.3	73.5	-160.3			
18 25	5.9	4.5	-3.3	-0.5	1.1	324.	396.	8.0	64.	-0.9	1.9	23.4	83.0	-199.5			
18 30	6.3	5.2	-3.1	0.0	1.0	329.	397.	8.9	66.	-2.3	1.5	23.5	72.7	3.2			
18 35	6.3	5.4	-2.8	0.7	0.8	333.	395.	9.6	64.	-2.5	2.2	25.1	42.8	272.2			
18 40	6.6	5.7	-2.9	0.6	0.8	333.	400.	8.7	55.	-1.2	2.8	23.2	53.0	230.5			
18 45	6.2	5.2	-2.7	0.3	1.2	333.	400.	10.4	53.	-1.7	2.8	27.8	54.6	126.0			
18 50	5.7	4.8	-2.7	0.3	0.9	330.	396.	10.3	64.	-2.1	1.8	24.5	47.2	120.8			
18 55	5.1	4.9	-3.3	0.5	1.0	326.	397.	10.1	73.	-2.4	2.2	26.6	49.1	213.1			
19 0	5.6	4.8	-2.9	0.3	0.7	330.	395.	9.4	66.	-2.0	2.2	24.6	47.2	123.0			
19 5	5.8	5.1	-2.9	0.9	0.5	334.	396.	9.4	69.	-2.4	2.0	24.6	40.5	193.8			
19 10	5.5	5.7	-2.9	0.9	0.5	333.	395.	10.4	67.	-1.9	2.1	27.1	41.9	336.7			
19 15	7.3	5.2	-2.9	1.4	0.6	336.	380.	13.3	77.	-1.4	1.7	33.6	32.0	552.6			
19 20	5.9	5.2	-2.3	0.5	1.6	326.	394.	10.2	70.	-1.0	2.7	36.4	27.1	755.0			
19 25	5.4	4.0	-0.0	-2.2	3.0	180.	403.	11.2	71.	-1.1	2.6	36.4	165.4	-872.2			
19 30	6.2	5.8	1.7	-1.4	0.2	163.	420.	10.4	54.	-0.3	1.7	28.8	214.2	-583.5			
19 35	6.2	5.7	1.5	-1.9	0.3	163.	425.	12.5	107.	-0.8	1.4	37.7	260.1	-802.4			
19 40	6.1	5.5	1.5	-2.0	0.3	165.	418.	10.4	52.	-0.7	2.4	30.3	248.5	-840.2			
19 45	6.0	5.4	1.2	-2.1	0.4	167.	417.	10.7	48.	-0.7	1.8	31.1	255.0	-881.7			
19 50	6.0	5.6	1.2	-2.1	0.4	168.	418.	10.5	52.	-1.7	1.7	30.6	246.1	-716.1			
19 55	6.3	5.9	0.6	-2.0	0.4	167.	417.	10.3	52.	-1.1	1.9	29.0	261.2	-846.3			
20 0	6.3	5.7	0.6	-2.0	0.3	170.	419.	10.8	49.	-1.4	1.4	28.7	321.2	-104.3			
20 5	6.0	5.6	0.5	-2.1	0.3	175.	418.	10.1	55.	-1.5	1.8	29.5	293.8	-504.5			
20 10	5.5	5.1	0.6	-1.9	0.3	173.	421.	11.2	76.	-1.7	0.8	33.2	243.5	-815.4			
20 15	5.4	5.2	0.1	-2.1	0.2	182.	423.	10.6	58.	-1.0	0.7	30.0	245.8	-902.8			
20 20	5.6	5.2	0.7	-1.2	0.2	185.	418.	10.6	58.	-2.0	1.2	31.7	245.0	-843.6			
20 25	5.5	5.3	0.7	-1.2	0.6	187.	410.	10.8	65.	-1.4	1.6	32.1	223.0	-706.5			
20 30	5.5	5.7	0.4	-1.3	0.6	186.	422.	10.8	72.	-1.4	1.6	32.1	223.0	-503.9			
20 35	5.5	5.1	-1.1	-2.3	1.0	190.	422.	11.1	67.	-2.1	1.9	33.0	214.0	-862.4			

ORIGINAL PAGE IS
OF POOR QUALITY

20	49	5.6	-4.5	-1.8	2.7	0.3	202	421	10.7	62.	-1.9	1.9	0.	21.7	217.2	-1137.3
20	45	5.5	-4.5	-2.3	-2.1	0.6	207	420	10.8	62.	-1.9	1.2	1.2	31.7	178.7	-899.2
20	50	5.5	-4.6	-1.0	-2.3	0.9	213	424	11.5	70.	-2.3	1.7	1.7	34.5	198.0	-971.0
20	55	5.3	-3.7	-3.0	-0.8	0.8	210	422	11.8	70.	-2.3	2.1	2.1	35.1	143.2	-899.0
21	0	5.5	-3.7	-0.8	-0.5	0.6	218	419	11.7	64.	-2.0	2.6	2.6	33.1	98.5	-354.7
21	5	5.3	-3.8	-3.6	-0.3	0.8	223	421	11.7	69.	-2.4	2.1	2.1	34.6	75.0	-215.7
21	10	5.4	-4.4	-1.9	-0.3	0.8	203	419	11.7	61.	-2.4	2.9	2.9	34.3	184.4	-955.6
21	15	5.6	-4.9	-1.9	-2.1	1.0	202	416	11.4	68.	-1.9	1.8	1.8	30.9	187.5	-858.6
21	20	5.6	-4.9	-1.9	-2.1	1.0	202	416	11.4	68.	-1.9	1.8	1.8	32.9	187.5	-858.6
21	25	5.6	-5.2	-1.5	-1.5	0.3	196	416	11.5	49.	-2.0	1.7	1.7	33.2	184.4	-896.7
21	30	5.5	-5.1	-0.7	-1.9	0.6	188	415	10.4	53.	-1.8	2.4	2.4	29.9	238.1	-705.1

APR. 13, 1977 IMP-J POSITION IN GSM COORDINATES: X(2.4); Y(-29.7); Z(-10.6) Page 5

HR	RN	MAGNETIC FIELD (GSM COORD.)		FIELD (GSM COORD.)		PHI		PLASMA		PHI		PHI		PRESS		EPSLHS		BSXU
		Bx	By	Bx	By	PHI	SIGMA	PHI	T/1000	PHI	T/1000	PHI	T/1000	PHI	T/1000	PHI	T/1000	
1	5	6.4	5.0	-0.7	2.2	0.6	353	393	6.9	78.	-1.3	0.9	0.9	17.7	0.2	0.2	854.0	
1	10	6.0	5.6	-0.6	1.8	0.5	352	392	6.7	81.	0.4	0.0	0.0	17.3	0.2	0.2	746.7	
1	15	5.8	5.5	-0.4	1.8	0.3	356	393	6.7	75.	1.2	1.3	1.3	17.4	0.0	0.0	689.1	
1	20	5.8	5.6	0.4	2.6	0.6	4.	413	6.8	82.	0.6	2.0	2.0	18.6	0.0	0.0	749.8	
1	25	6.2	5.6	0.3	2.6	0.3	3.	391	7.0	78.	0.4	0.7	0.7	17.8	0.0	0.0	999.9	
1	30	6.0	5.4	0.4	2.5	0.6	5.	392	6.6	64.	1.1	2.2	2.2	17.0	0.0	0.0	980.2	
1	35	5.7	5.4	-0.1	1.7	0.2	359	391	6.0	72.	1.3	1.6	1.6	17.6	0.0	0.0	555.3	
1	40	5.7	5.4	0.0	1.5	0.8	0.	389	7.4	83.	1.3	2.4	2.4	18.6	0.0	0.0	564.2	
1	45	5.7	5.2	0.4	1.7	1.1	4.	389	7.4	83.	1.3	2.4	2.4	18.6	0.0	0.0	577.2	
1	50	4.7	4.2	-0.4	1.9	0.8	354	378	6.7	112.	2.4	1.2	1.2	16.1	0.0	0.0	700.4	
2	0	4.7	4.4	-0.4	2.3	0.6	355	375	6.3	43.	2.1	1.7	1.7	14.8	0.0	0.0	670.5	
2	5	5.0	4.4	-0.2	2.4	0.5	3.	384	7.7	78.	0.8	0.8	0.8	19.4	0.0	0.0	861.0	
2	10	5.3	4.7	-0.2	2.4	0.2	358	384	7.7	82.	1.1	1.8	1.8	19.0	0.0	0.0	936.5	
2	15	5.3	4.7	-0.2	2.4	0.2	356	383	7.1	99.	1.4	1.7	1.7	18.0	0.0	0.0	931.1	
2	20	5.3	4.9	-0.6	2.3	0.4	353	387	6.4	75.	1.5	2.0	2.0	17.4	0.0	0.0	876.6	
2	25	5.4	4.9	0.3	2.1	0.3	5.	386	6.7	80.	1.6	2.2	2.2	16.6	0.1	0.1	878.1	
2	30	4.8	4.8	0.1	2.1	0.4	1.	397	5.1	59.	1.3	1.1	1.1	13.5	0.0	0.0	788.1	
2	35	5.2	5.0	-0.4	1.5	0.3	355	397	5.2	60.	0.4	1.2	1.2	13.7	0.0	0.0	822.4	
2	40	5.1	4.0	-0.4	1.4	0.3	356	398	5.4	64.	0.4	2.1	2.1	14.2	0.1	0.1	541.1	
2	45	5.0	4.8	-0.2	1.4	0.2	356	392	5.7	89.	0.8	0.5	0.5	14.6	0.0	0.0	542.4	
2	50	4.8	4.8	-0.2	1.3	0.1	357	395	5.4	73.	0.7	0.2	0.2	14.1	0.0	0.0	481.1	
3	0	4.8	4.6	-0.1	1.3	0.2	359	394	5.5	79.	0.3	0.6	0.6	14.4	0.0	0.0	506.1	
3	5	4.7	4.5	0.1	1.1	0.2	7.	391	5.5	90.	0.2	1.8	1.8	14.0	0.0	0.0	410.8	
3	10	4.4	4.3	0.5	1.0	0.2	8.	388	5.7	103.	-0.1	1.8	1.8	14.5	0.2	0.2	329.5	
3	15	4.3	4.1	0.6	1.1	0.2	8.	382	6.1	125.	-0.2	0.3	0.3	14.3	0.7	0.7	411.0	
3	20	4.3	4.1	0.7	1.1	0.0	10.	379	6.6	147.	-0.8	0.5	0.5	15.8	1.0	1.0	411.0	
3	25	4.2	4.1	0.7	0.0	0.2	6.	389	5.9	136.	-1.0	0.5	0.5	15.0	1.2	1.2	355.7	
3	30	4.2	4.1	0.3	0.0	0.1	5.	384	5.5	114.	-0.8	0.2	0.2	15.4	0.4	0.4	364.1	
3	35	4.1	4.0	0.4	1.0	0.1	5.	385	5.4	114.	-0.3	0.6	0.6	12.4	0.1	0.1	359.1	
3	40	4.1	3.9	0.4	1.0	0.3	6.	385	5.2	110.	-0.3	0.6	0.6	12.9	0.1	0.1	379.3	
3	45	4.1	3.8	0.6	1.1	0.2	9.	380	5.5	99.	0.5	0.3	0.3	12.0	0.2	0.2	392.5	
3	50	4.1	3.8	0.6	1.4	0.2	10.	380	5.7	103.	0.1	0.3	0.3	12.0	0.5	0.5	442.0	
4	0	3.7	3.5	-0.0	1.2	0.4	360	360	6.1	125.	-0.8	0.3	0.3	14.0	0.0	0.0	486.2	
4	5	4.0	3.6	-0.0	1.1	0.2	360	359	6.1	125.	-0.8	0.3	0.3	14.0	0.0	0.0	454.8	
4	10	4.0	3.6	-0.0	1.1	0.2	359	359	6.6	147.	-1.0	0.5	0.5	15.8	0.0	0.0	451.4	
4	15	4.0	3.6	-0.0	1.1	0.2	356	356	6.6	136.	-1.0	0.5	0.5	15.8	0.0	0.0	486.8	
4	20	4.3	3.9	-0.0	1.1	0.2	357	357	6.6	136.	-1.0	0.5	0.5	15.8	0.0	0.0	675.5	
4	25	4.3	3.9	-0.0	1.1	0.2	359	359	6.6	136.	-1.0	0.5	0.5	15.8	0.0	0.0	675.5	
4	30	4.3	3.7	-0.0	1.1	0.2	359	359	6.6	136.	-1.0	0.5	0.5	15.8	0.0	0.0	672.8	
4	35	4.1	4.1	-0.1	1.7	0.1	359	359	6.6	136.	-1.0	0.5	0.5	15.8	0.0	0.0	672.8	

ORIGINAL PAGE IS
OF POOR QUALITY

4 36	4.0	3.7	0.1	1.7	0.1	1.1	390.	4.6	86.	-0.1	-0.5	11.8	0.0	668.4
4 35	4.1	3.7	0.1	1.6	0.1	1.5	390.	4.6	86.	-0.1	-0.5	11.8	0.0	712.0
4 40	4.1	3.7	0.1	1.5	0.4	1.0	390.	4.6	86.	-0.1	-0.5	11.8	0.0	650.4
4 45	3.6	3.2	0.2	1.2	0.2	3	390.	4.6	86.	-0.1	-0.5	11.8	0.0	602.0
4 50	3.1	2.9	0.2	1.1	0.2	0	390.	4.6	86.	-0.1	-0.5	11.8	0.0	492.3
4 55	3.5	3.3	0.2	1.0	0.3	357.	390.	4.6	86.	-0.1	-0.5	11.8	0.0	426.7
5 0	3.0	3.3	0.2	1.2	0.3	4	360.	6.2	51.	1.1	0.4	14.1	0.0	729.0
5 5	3.0	2.0	0.2	1.3	0.2	5	360.	6.2	51.	1.1	0.4	14.1	0.0	480.0
5 10	3.2	2.0	0.2	1.3	0.2	6	371.	6.1	46.	1.0	1.5	14.1	0.0	461.3
5 15	3.1	2.0	0.2	1.3	0.2	4	371.	6.1	46.	1.0	1.5	14.1	0.0	500.1
5 20	3.2	2.1	0.0	0.7	0.3	360.	372.	5.6	51.	0.9	0.5	12.9	0.0	491.4
5 25	3.3	2.1	0.1	0.7	0.3	2	372.	5.6	51.	0.9	0.5	12.9	0.0	365.0
5 30	3.3	2.8	0.1	0.5	0.4	3	372.	5.6	51.	0.9	0.5	12.9	0.0	265.2
5 35	3.3	3.0	0.2	0.8	0.4	4	372.	5.6	51.	0.9	0.5	12.9	0.0	296.5
5 40	3.2	3.0	0.2	0.8	0.2	4	372.	5.6	51.	0.9	0.5	12.9	0.0	336.5
5 45	3.0	3.0	0.2	0.7	0.2	360.	372.	5.6	51.	0.9	0.5	12.9	0.0	268.2

APR. 13, 1977 IMP-J POSITION IN GSM COORDINATES: X(5.3); Y(-30.0); Z(-5.8) Page 6

HR	PH	BPMACH	Bx	By	MagNETIC FIELD (GSM COORD.)	PHI	U	N	PLASMA T/1000	PHI	THETA	PRESS 1009	EPSSLN 100-16	BZZU
5 50	2.8	2.7	0.1	0.7	0.2	359.	392.	6.9	63.	1.3	-0.1	17.8	0.0	282.3
5 55	2.0	2.7	0.1	0.8	0.4	359.	392.	7.5	65.	2.3	0.4	17.8	0.0	301.6
6 35	2.8	2.7	0.1	0.7	0.2	359.	392.	6.9	63.	1.3	-0.1	17.8	0.0	282.3
6 40	2.8	2.7	0.1	0.8	0.4	359.	392.	7.5	65.	2.3	0.4	17.8	0.0	301.6
6 45	2.5	2.8	0.1	1.2	0.4	36.	392.	7.0	64.	1.5	1.2	18.5	0.0	187.7
6 50	2.6	2.8	0.1	1.6	0.4	27.	395.	7.2	64.	1.2	0.3	18.5	0.0	462.4
6 55	2.9	2.3	0.9	1.6	0.4	33.	393.	7.3	64.	1.2	0.3	19.8	0.0	644.0
7 0	2.7	1.6	1.1	1.9	0.4	33.	395.	7.6	63.	1.3	0.2	19.8	0.0	543.8
7 5	2.4	2.0	0.5	2.6	0.5	28.	396.	7.7	63.	1.2	0.0	19.1	0.0	733.2
7 10	2.2	1.5	0.2	2.7	0.7	9.	390.	7.7	63.	1.0	0.0	20.4	0.0	125.7
7 15	2.0	0.7	0.5	2.7	0.7	324.	396.	7.3	64.	0.7	0.2	19.2	0.0	170.2
7 20	2.7	0.6	0.6	2.5	0.6	310.	396.	7.3	64.	0.7	0.2	21.1	0.0	178.2
7 25	2.7	0.9	0.6	3.1	0.9	12.	395.	7.6	62.	0.9	1.0	19.8	0.0	373.4
7 30	2.7	1.9	1.3	2.8	0.5	33.	397.	7.4	64.	1.4	0.5	19.4	0.0	1230.0
7 35	3.0	2.1	0.2	3.2	0.9	6.	395.	7.2	64.	0.6	1.5	19.9	0.0	139.1
7 40	3.6	1.8	0.8	3.0	0.4	336.	395.	7.4	64.	0.3	0.4	18.2	0.0	186.5
7 45	3.8	2.4	0.8	3.0	0.4	337.	395.	7.3	64.	0.4	0.0	19.2	0.0	117.4
7 50	3.8	2.4	1.0	2.8	0.4	337.	393.	7.3	64.	0.4	0.0	19.0	0.0	1202.8
7 55	3.7	2.0	0.5	2.1	0.4	351.	393.	7.2	67.	0.8	0.7	18.6	0.0	182.5
8 0	3.7	2.4	0.5	2.1	0.7	329.	392.	7.2	67.	0.8	0.7	18.6	0.0	182.5
8 5	3.6	2.1	1.4	1.7	1.0	307.	392.	7.1	61.	0.5	0.2	18.1	0.0	310.2
8 10	3.6	2.1	1.4	1.3	1.4	312.	393.	7.3	63.	0.8	1.4	18.9	0.0	339.9
8 15	3.9	2.1	2.4	1.9	1.8	300.	381.	7.7	63.	0.8	1.6	20.0	0.0	664.2
8 20	4.3	1.6	2.5	0.8	1.8	296.	393.	7.7	63.	0.4	0.7	18.7	0.0	325.0
8 25	3.7	1.8	2.6	0.4	1.6	305.	393.	6.9	62.	1.1	2.3	17.8	0.0	330.1
8 30	3.7	1.3	2.6	0.2	1.6	308.	391.	7.6	63.	1.0	1.2	16.4	0.0	151.0
8 35	3.7	1.0	2.2	1.1	1.1	310.	394.	7.6	65.	0.5	0.4	19.4	0.0	444.7
8 40	3.6	1.0	2.2	1.1	1.7	307.	394.	7.8	64.	1.5	1.7	19.1	0.0	556.6
8 45	3.0	2.6	2.7	1.6	1.6	314.	395.	7.8	64.	0.9	2.3	20.4	0.0	440.2
8 50	3.0	2.6	2.7	1.6	1.6	316.	395.	6.9	63.	2.0	3.0	17.8	0.0	423.0
8 55	3.3	2.3	2.4	0.3	1.6	323.	388.	7.0	63.	1.0	3.0	17.8	0.0	43.0
9 0	3.2	2.0	1.4	0.0	1.4	323.	388.	7.4	64.	3.1	1.4	18.3	0.0	49.7
9 5	3.2	2.0	1.4	0.0	1.1	335.	388.	6.5	76.	3.1	0.6	16.8	0.0	84.3
9 10	3.0	2.6	0.7	0.2	0.9	350.	385.	7.7	78.	0.3	0.7	15.7	0.0	27.6
9 15	3.0	2.6	0.7	0.2	0.6	355.	385.	8.1	93.	0.4	1.6	19.1	0.0	96.3
9 20	3.4	2.7	1.6	0.1	1.0	349.	382.	6.9	74.	0.5	2.0	16.8	0.0	51.3
9 25	3.4	2.7	1.1	0.1	0.9	322.	377.	6.9	80.	1.5	0.4	17.8	0.0	46.3

ORIGINAL PAGE IS
OF POOR QUALITY

HR	MN	BRAGN	Bx	By	Hz	SIGMA	PHI	U	M	T/1000	PLASMA	PHI	THETA	PRESS	EPSPINE	BZZU
9	30	3	7	3	3	0.2	3	387	8.6	69	1.0	2.0	21.6	0.0	984.9	
9	35	4.5	3.7	0.2	2.5	0.2	3	385	8.7	70	0.7	1.4	21.6	0.0	977.8	
9	40	3.8	3.6	0.3	2.5	0.1	4	384	8.7	75	0.8	2.4	21.4	0.0	980.0	
9	45	4.4	3.5	-0.1	2.7	0.2	388	8.2	9.2	70	1.0	2.7	22.0	0.0	1040.1	
9	50	3.0	3.8	0.5	2.6	0.3	388	8.4	9.4	94	0.8	1.7	20.7	0.0	1002.3	
10	0	3.8	3.6	0.2	2.0	0.8	39	378	8.1	64	0.22	2.1	19.1	3.0	737.4	
10	5	3.7	3.7	0.3	1.7	0.9	340	376	8.1	57	-1.58	2.1	18.9	1.6	621.9	
10	10	4.0	3.9	0.6	1.9	0.4	388	388	6.8	7.5	1.00	0.8	17.3	1.8	747.6	
10	15	4.1	3.9	0.5	1.7	1.2	344	388	6.8	82	-2.8	0.5	17.1	1.5	690.0	
10	20	4.3	3.5	0.9	1.8	1.0	327	397	5.0	65	-2.2	0.7	17.2	1.3	674.5	
10	25	4.3	3.7	1.0	1.8	1.0	265	404	5.1	58	-1.9	1.8	14.0	13.6	732.7	
10	30	4.2	3.9	1.4	1.4	1.0	319	416	5.6	56	-0.3	-1.0	16.1	24.0	562.8	
10	35	4.5	3.3	1.0	1.2	1.0	310	410	4.6	54	1.0	-1.0	12.9	29.0	491.0	
10	40	4.7	2.5	0.4	0.4	1.0	298	408	5.7	51	2.3	-2.4	15.8	46.4	179.3	
10	45	5.3	2.6	0.5	0.1	1.0	297	415	5.7	57	2.3	-4.0	16.6	50.5	37.5	
10	50	5.0	4.3	1.5	0.1	1.0	300	426	5.6	67	0.5	-1.0	17.0	48.0	196.3	
11	0	5.1	3.2	1.3	0.6	1.0	298	416	5.8	65	2.5	1.6	16.0	66.3	-353.0	
11	5	5.2	3.2	1.4	0.4	2.0	298	423	5.9	70	2.0	-1.4	17.4	-174.4	-174.4	
11	10	5.1	3.2	1.4	0.3	1.0	292	417	6.8	68	2.0	-1.7	19.7	55.5	139.6	
11	15	5.0	3.2	1.1	0.4	1.4	292	423	6.8	79	2.0	-0.9	17.5	37.7	177.0	
11	20	4.6	3.4	0.8	0.8	1.1	316	412	5.3	65	3.1	-0.9	15.0	28.2	309.1	
11	25	5.0	3.7	0.6	0.4	1.0	321	409	5.1	46	4.2	-3.1	14.2	30.0	153.8	
11	30	5.1	3.6	0.8	0.6	1.1	321	414	5.6	51	5.0	-0.8	16.2	29.3	262.5	
11	35	4.6	3.6	1.0	0.8	1.0	326	411	6.5	70	2.3	-1.5	18.4	10.4	817.2	
11	40	4.5	3.7	1.7	0.7	1.0	326	420	6.0	64	2.3	-1.0	19.6	8.8	711.2	
11	45	4.6	3.6	1.7	0.8	1.0	322	420	7.0	68	0.6	-1.3	20.7	5.1	699.0	
11	50	4.7	3.7	1.8	0.7	1.2	322	418	6.0	78	1.0	-1.3	17.1	33.7	51.0	
11	55	4.7	3.5	2.0	0.6	1.4	321	419	5.8	74	0.7	-2.0	16.0	43.0	-231.8	
11	0	4.5	3.5	1.4	0.6	1.4	318	415	6.0	74	1.7	-2.0	16.0	55.0	-231.8	
11	5	4.8	3.8	1.4	1.4	1.3	315	422	6.2	88	3.0	-2.1	18.5	88.0	-608.0	

APR. 13, 1977 IMP-J POSITION IN GSM COORDINATES: X(8.4) Y(-28.9) Z(-4.0) Page 7

ORIGINAL PAGE IS
OF POOR QUALITY

13 45	4.7	2.3	-3.1	-1.9	1.6	307.	436.	7.5	82.	2.5	-3.3	23.3	93.7	-855.9
13 50	4.1	3.3	-1.6	1.3	1.1	335.	423.	7.3	133.	1.2	-2.4	22.0	4.1	583.8
13 55	4.2	3.5	-1.4	1.8	0.6	343.	424.	7.3	129.	0.2	-2.5	21.0	0.7	783.3
14 0	4.2	3.8	-1.4	1.0	0.6	349.	425.	7.5	137.	0.2	-1.7	22.6	6.5	412.7
14 5	4.5	4.3	-0.9	0.8	0.4	347.	425.	7.8	147.	0.2	-3.0	22.6	0.0	329.0
14 10	4.4	4.3	-0.9	0.6	0.3	349.	425.	8.4	155.	0.2	-3.1	25.1	7.4	254.0
14 15	4.0	3.7	-1.2	0.5	0.5	343.	425.	7.8	157.	0.4	-3.6	23.3	15.2	220.8
14 20	4.4	4.0	-1.2	0.6	0.7	348.	425.	6.8	164.	0.3	-3.6	23.3	10.1	230.7
14 25	4.4	4.0	-1.2	0.7	0.7	343.	425.	7.6	131.	0.6	-1.9	21.0	13.5	314.0
14 30	4.1	3.7	-1.4	0.6	1.0	339.	424.	7.3	137.	1.1	-3.5	21.8	8.5	234.3
14 35	3.0	2.9	-1.9	0.5	1.1	328.	424.	6.1	98.	0.8	-4.0	18.2	14.1	290.6
14 40	3.0	2.7	-2.2	0.3	1.3	327.	424.	6.9	99.	1.6	-1.0	19.8	25.2	116.8
14 45	4.2	1.6	-2.1	-0.5	2.1	298.	418.	7.8	68.	1.4	-1.0	22.0	34.5	-288.6
14 50	3.3	0.2	-2.9	-1.4	0.6	286.	418.	7.5	93.	1.7	-2.0	21.8	45.5	-565.0
15 15	3.9	2.9	-1.6	0.6	1.7	331.	415.	6.7	81.	0.4	-0.4	19.3	9.5	261.2
15 20	3.5	2.8	-1.4	0.6	1.1	334.	415.	7.0	64.	0.8	-0.3	20.0	8.2	249.9
15 25	3.9	3.1	-1.8	1.2	0.7	330.	414.	6.6	68.	0.0	-1.0	18.0	5.5	513.7
15 30	3.8	3.0	-1.7	1.1	0.8	330.	415.	6.3	85.	0.0	-1.5	18.0	6.0	457.0
15 35	3.8	3.2	-1.8	1.0	0.3	330.	413.	6.7	56.	1.1	-2.5	19.0	8.2	489.1
15 40	4.2	3.5	-1.9	0.1	0.1	331.	415.	6.7	84.	1.0	-1.5	19.3	0.1	459.0
15 45	4.1	3.5	-1.8	1.3	0.2	333.	415.	7.4	150.	1.0	-1.3	21.3	5.9	538.5
15 50	4.2	3.6	-1.6	1.3	0.2	336.	415.	6.7	85.	1.0	-1.1	19.3	4.6	549.3
15 55	4.1	3.6	-1.4	1.2	0.1	338.	415.	6.1	49.	1.1	-0.7	17.5	4.6	498.2
16 0	4.0	3.6	-1.6	1.1	0.2	336.	415.	6.2	62.	1.0	-1.1	17.9	6.3	449.8

APR. 13, 1977 IMP-J POSITION IN GSM COORDINATES: X(11.3); Y(-25.3); Z(-11.0) Page 8

HR	MN	BMAGN	Bx	BY	Bz	COORD.)	PHI	U	M	N	T/1000	PLASMA	PHI	THETA	PRESS	EPSLM	BxTU
						(GSM						100-16			100-16		
16 5	4.0	3.4	-1.7	0.9	1.2	333.	414.	6.2	63.	0.7	-1.4	17.6	5.8	17.6	5.8	588.2	
16 10	4.1	3.9	-0.9	1.5	0.9	347.	412.	6.0	48.	0.8	-0.2	17.1	2.9	17.1	2.9	352.1	
16 15	4.4	3.7	-1.5	1.7	0.5	338.	413.	5.9	54.	0.9	-0.8	17.4	2.6	17.4	2.6	698.4	
16 20	4.3	3.8	-1.5	1.4	0.1	339.	413.	5.9	52.	0.9	-0.1	16.9	3.5	16.9	3.5	587.8	
16 25	4.2	3.7	-1.6	1.2	0.3	337.	413.	5.9	51.	1.0	-0.5	16.7	5.4	16.7	5.4	510.3	
16 30	4.1	3.5	-1.9	1.2	0.3	332.	415.	6.5	55.	1.3	3.4	18.7	7.2	18.7	7.2	509.2	
16 35	3.7	3.0	-1.6	1.3	0.6	333.	412.	6.7	55.	1.1	1.5	18.0	3.5	18.0	3.5	551.0	
16 40	4.1	3.8	-1.4	1.3	0.3	338.	413.	5.9	54.	0.7	0.2	16.7	4.9	16.7	4.9	471.7	
16 45	4.2	3.8	-1.4	1.1	0.2	340.	413.	5.9	51.	0.7	0.2	16.9	3.9	16.9	3.9	523.9	
16 50	4.0	3.6	-1.3	1.3	0.3	339.	411.	6.6	53.	1.1	-0.4	18.5	9.6	18.5	9.6	322.6	
16 55	3.9	3.5	-1.6	0.8	0.5	336.	412.	6.1	52.	0.8	-2.4	17.4	3.2	17.4	3.2	311.7	
17 0	3.5	3.1	-1.7	0.8	0.7	336.	413.	6.3	50.	0.5	-0.9	18.0	7.7	18.0	7.7	267.0	
17 5	3.4	3.1	-1.4	0.7	0.5	336.	408.	6.5	64.	0.6	-4.0	19.8	0.1	19.8	0.1	611.0	
17 10	3.3	3.1	-0.8	1.3	2.3	336.	407.	7.2	64.	1.3	-2.4	19.8	1.4	19.8	1.4	520.3	
17 15	3.2	3.2	-1.2	1.3	0.7	337.	410.	8.6	75.	0.1	-0.3	24.1	1.4	24.1	1.4	520.3	
17 20	3.9	3.2	-1.6	0.2	1.0	334.	416.	5.4	60.	0.4	3.6	15.8	3.7	15.8	3.7	551.5	
17 25	4.1	3.3	-1.5	0.1	1.0	335.	416.	5.4	71.	0.8	0.4	17.4	2.7	17.4	2.7	378.0	
17 30	3.8	3.3	-1.5	0.0	1.0	335.	418.	5.7	70.	0.6	1.7	15.0	1.1	15.0	1.1	378.0	
17 35	3.7	3.1	-1.5	0.2	0.7	334.	408.	4.8	82.	2.0	-0.3	19.3	19.3	19.3	19.3	65.3	
17 40	4.3	3.9	-1.8	0.4	0.7	338.	410.	6.5	82.	2.0	-0.3	18.4	24.8	18.4	24.8	104.4	
17 45	4.6	4.2	-2.0	0.4	0.7	336.	407.	7.0	58.	2.0	-3.0	23.8	28.0	23.8	28.0	144.8	
17 50	5.4	4.2	-2.0	0.6	0.5	337.	406.	8.7	67.	1.3	-2.8	23.8	30.1	23.8	30.1	243.5	
17 55	4.0	3.9	-1.4	0.6	0.4	339.	409.	9.1	79.	1.1	-2.7	24.4	11.7	24.4	11.7	239.6	
18 0	4.2	3.9	-1.4	0.9	0.3	340.	409.	7.2	70.	0.1	-1.1	20.2	17.6	20.2	17.6	373.3	
18 5	3.7	3.7	-1.7	0.4	0.7	332.	416.	6.5	67.	0.4	-0.3	18.0	10.1	18.0	10.1	280.3	
18 10	3.8	3.7	-1.5	0.4	0.7	335.	417.	6.5	75.	0.4	-0.3	16.4	15.1	16.4	15.1	152.8	
18 15	4.1	3.5	-1.6	0.2	1.0	336.	407.	6.4	70.	0.4	-0.4	17.7	23.3	17.7	23.3	182.7	

ORIGINAL PAGE IS
OF POOR QUALITY

18 20	4.0	3.8	-0.3	0.8	0.5	347.	485.	7.4	79.	0.2	0.7	20.4	4.0	345.7
18 25	4.1	3.7	-1.0	0.6	0.6	346.	484.	7.2	79.	-0.1	-2.1	19.7	6.4	261.0
18 30	4.0	3.7	-1.0	0.4	0.7	346.	484.	6.0	79.	-0.3	-0.0	16.7	12.6	141.8
18 35	4.0	3.8	-0.7	0.8	0.8	350.	487.	6.5	61.	0.0	0.0	15.0	31.4	17.0
18 40	3.8	3.7	-0.5	0.2	1.1	351.	488.	5.7	65.	-2.0	0.0	15.0	44.8	8.0
18 45	4.0	3.7	-0.3	0.1	1.1	355.	485.	8.1	65.	-0.3	-0.1	16.7	55.0	-58.1
18 50	3.6	3.7	-0.5	0.2	0.9	352.	484.	6.0	62.	-0.3	1.0	16.4	44.7	-88.1
18 55	3.8	3.6	-0.4	0.2	0.8	353.	486.	6.1	65.	0.1	1.1	16.8	53.2	-77.1
19 0	3.7	3.5	-0.1	0.1	0.8	353.	485.	6.2	73.	-0.7	1.0	16.0	41.8	-47.8
19 5	4.2	4.1	-0.1	0.1	0.7	350.	487.	7.6	65.	0.7	1.3	21.0	0.2	54.1
19 10	4.3	4.2	0.2	0.2	0.6	359.	486.	7.3	58.	-0.3	1.4	20.8	144.0	-116.0
19 15	4.5	4.4	0.2	0.7	0.5	3	485.	7.6	58.	0.6	0.1	20.8	3.7	8.1
19 20	4.3	4.3	0.6	0.5	0.4	0	485.	7.4	63.	1.7	0.6	20.2	41.0	-6.0
19 25	4.4	4.3	0.6	0.3	0.4	0	485.	7.6	67.	1.7	1.5	20.8	150.4	-14.0
19 30	4.0	4.0	0.5	0.6	0.6	0	481.	8.4	78.	0.7	1.0	22.6	39.8	113.7
19 35	3.7	3.7	0.3	0.3	0.4	4.	397.	9.6	82.	0.0	-0.0	22.3	1.3	113.3
19 40	3.8	3.7	0.3	0.1	0.4	355.	489.	8.4	78.	0.8	-0.0	22.3	13.6	48.2
19 45	3.5	3.4	0.4	0.4	0.4	346.	398.	8.2	84.	0.7	1.2	24.4	27.0	-23.0
19 50	3.2	3.0	-0.1	0.9	0.8	338.	398.	9.3	77.	0.3	1.2	22.0	29.1	-13.2
19 55	3.3	2.6	-1.7	0.1	0.8	332.	398.	9.5	75.	2.0	1.6	18.4	20.0	-30.4
20 0	3.3	3.5	-1.0	1.0	0.8	328.	398.	8.0	81.	0.2	-0.4	25.2	5.0	55.5
20 5	3.7	3.5	-1.3	0.8	0.8	328.	484.	7.4	83.	3.0	2.3	29.1	47.6	-315.7
20 10	4.5	3.6	-2.5	0.6	0.8	325.	484.	7.3	84.	3.7	1.4	19.6	57.2	-225.8
20 15	5.3	3.9	-3.3	0.9	0.9	326.	399.	9.6	81.	3.2	0.8	25.6	90.3	-406.2
20 20	5.2	4.4	-2.2	1.3	0.5	334.	387.	11.2	95.	2.6	-0.7	28.6	196.5	-196.5
20 25	4.0	4.5	-1.8	0.8	0.4	338.	394.	10.1	96.	1.5	1.8	25.7	17.2	304.2
20 30	4.8	4.3	-2.5	0.7	0.2	333.	388.	9.4	89.	2.0	1.5	23.7	34.6	160.7
20 35	4.0	3.0	-2.5	0.4	1.0	321.	388.	10.5	91.	2.0	2.0	25.0	40.1	-160.7
20 40	3.3	2.6	-1.8	0.8	0.8	325.	385.	11.7	103.	1.1	1.4	29.0	20.1	-13.2
20 45	3.6	3.1	-1.5	0.4	1.0	334.	386.	10.5	92.	0.3	0.5	26.1	12.0	162.3

APR. 13, 1977 IMP-J POSITION IN GSM COORDINATES: X (13.0); Y (-19.3); Z (-17.3) Page 9

HR	PH	IMAGH	Bx	By	FIELD	Bz	SIGMA	PHI	U	N	T/1000	PLASMA	PHI	THETA	PRESS	EPCLN	BZU
20 50	4.2	3.5	-1.0	0.8	-1.0	0.8	0.0	332.	196.	10.3	94.	0.4	0.4	1.3	26.2	11.5	323.5
20 55	4.3	3.6	-2.1	0.6	-1.7	0.8	0.3	330.	188.	10.1	96.	0.8	0.8	1.7	25.6	17.7	244.6
21 0	4.2	3.7	-1.7	0.8	-1.0	0.7	0.7	335.	380.	10.1	98.	-0.7	-0.7	1.9	25.5	11.1	300.3
21 5	3.5	3.1	-1.5	0.2	-1.0	0.3	0.3	334.	386.	10.5	86.	1.4	1.4	2.0	26.1	18.6	62.2
21 10	4.2	3.6	-1.9	0.8	-1.4	0.8	0.8	332.	385.	10.4	88.	1.2	1.2	2.0	25.7	28.6	38.0
21 15	3.2	2.6	-1.4	0.2	-1.0	0.2	1.0	332.	387.	10.9	93.	1.6	1.6	2.0	27.3	21.6	-76.5
21 20	2.9	1.3	-1.6	1.7	-1.3	1.2	0.9	327.	384.	9.6	92.	1.5	1.5	2.5	26.3	29.7	-258.9
21 25	3.4	1.5	-2.1	1.5	-2.1	1.5	1.7	309.	387.	10.5	73.	1.5	1.5	2.5	26.3	40.0	-645.3
21 30	3.4	3.5	-2.3	0.6	-2.3	0.6	0.6	327.	389.	12.7	92.	1.8	1.8	1.4	30.6	15.4	-553.2
21 35	4.4	3.5	-2.5	0.8	-2.5	0.8	0.5	325.									339.9
21 40	4.4	3.5	-2.5	0.8	-2.5	0.8	0.5	325.									339.9
22 15	1.0	0.0	-0.8	0.2	-0.8	0.2	0.6	268.	391.	13.3	68.	-0.2	-0.2	-2.7	34.0	0.7	93.8
22 20	1.9	0.4	-0.9	0.2	-1.1	0.5	293.	400.	14.7	84.	84.	0.9	0.9	0.7	39.3	3.3	-133.8
22 25	1.9	-0.6	-1.1	0.2	-1.5	244.	399.	13.1	72.	309.	72.	0.6	0.6	1.6	34.8	2.3	71.3
22 30	2.3	-0.6	-1.0	0.5	-1.3	253.	402.	13.4	71.	362.	71.	0.6	0.6	2.3	36.2	5.2	183.7
22 35	1.8	-0.3	-1.6	0.4	-0.7	261.	400.	15.2	62.	406.	62.	1.2	1.2	1.6	40.6	3.1	176.2
22 40	2.1	-0.1	-1.0	0.7	-0.3	267.	399.	15.5	64.	404.	64.	0.5	0.5	4.1	41.8	3.6	285.7
22 45	2.4	-0.4	-1.0	0.7	-0.3	258.	398.	15.8	63.	411.	63.	1.1	1.1	0.5	41.8	2.1	467.4
22 50	3.0	-0.7	-2.7	1.5	-0.7	256.	398.	14.8	62.	408.	62.	0.7	0.7	0.7	39.6	0.8	255.3
22 55	3.2	-0.6	-3.0	0.7	-0.5	256.	408.	14.9	64.	408.	64.	1.2	1.2	1.1	39.6	1.0	288.3
23 0	3.7	0.6	-3.2	1.3	-1.3	286.	401.	13.8	69.	401.	69.	0.9	0.9	1.1	37.2	9.9	588.7

ORIGINAL PAGE IS
OF POOR QUALITY

23	5	5.1	2.8	-2.7	2.6	0.5	311.	466.	11.6	69.	0.2	1.3	31.9	7.3	1053.2
23	10	4.6	-2.4	-2.6	1.1	2.4	257.	395.	12.1	74.	0.6	1.6	31.5	15.4	437.3
23	15	5.3	-4.2	-1.6	-2.7	0.8	212.	304.	11.8	74.	0.4	1.4	29.4	113.8	552.5
23	20	5.6	-4.0	-2.8	-2.1	0.8	198.	400.	11.9	78.	0.3	1.4	29.6	139.0	817.1
23	25	5.3	-3.9	-2.8	-2.1	0.8	236.	396.	11.3	78.	0.3	1.4	29.6	139.0	817.1
23	30	4.8	-3.7	-1.7	-1.5	0.9	235.	411.	11.5	81.	0.5	1.2	30.9	106.2	586.4
23	35	4.8	-3.7	1.7	-1.5	2.3	155.	411.	11.0	77.	-0.6	0.5	31.0	106.9	814.1
23	40	6.2	-4.2	4.4	-2.3	0.4	136.	410.	10.7	69.	-0.8	0.4	30.0	145.8	888.5
23	45	6.2	-3.9	3.9	-2.3	0.4	129.	413.	10.9	70.	-1.0	0.1	31.0	166.5	952.5
23	50	6.3	-3.9	3.9	-2.5	1.6	135.	416.	10.9	73.	-1.5	0.3	31.5	184.1	1055.4
23	55	5.7	-3.7	3.7	-2.9	0.4	138.	417.	11.9	71.	-2.0	-0.8	34.6	185.6	1188.9

APR. 14, 1977 IMP-J POSITION IN GSM COORDINATES: X(15.4); Y(-17.0); Z(-17.9) Page 10

HR	PHI	BRAO	Bz	BY	FIELD	COORD.	PHI	U	N	T/1000	PLASMA	PHI	THETA	PRESS	EP	PLAZ	Bz
														1000	1000	1000	
0	0	5.7	3.6	1.5	-4.1	0.5	157.	416.	11.7	65.	-2.4	-0.1	32.8	250.4	1716.1		
0	5	5.6	3.4	1.6	-4.1	0.4	155.	415.	11.6	65.	-2.1	-0.1	32.4	237.6	1697.3		
0	10	5.1	3.2	1.6	-4.8	0.6	160.	413.	11.5	70.	-1.9	-0.6	32.8	205.4	1578.8		
0	15	5.4	3.2	0.9	-4.2	0.6	163.	414.	11.1	57.	-2.1	-1.4	31.8	234.3	1756.7		
0	20	5.3	3.0	1.3	-4.1	0.8	156.	414.	11.3	55.	-1.7	-1.6	32.3	212.5	1698.5		
0	25	4.0	2.6	2.0	-3.7	1.2	161.	408.	12.4	72.	-1.9	0.8	34.5	113.0	1084.6		
0	30	5.6	2.4	2.1	-3.7	1.3	148.	406.	9.6	67.	-1.2	2.4	26.5	210.4	1408.3		
0	35	5.1	2.8	2.4	-3.3	1.4	138.	426.	9.4	77.	-8.4	-0.7	28.5	167.7	1385.9		
0	40	4.5	2.9	-0.7	-2.8	2.8	193.	419.	12.8	80.	-0.7	1.5	37.5	136.3	1176.5		
0	45	4.5	3.3	0.9	-2.4	1.8	195.	415.	13.0	70.	-1.2	1.7	37.4	132.1	976.3		
0	50	3.7	1.8	0.5	-2.4	1.3	164.	414.	14.1	71.	-1.1	1.5	40.4	173.8	988.3		
0	55	3.7	1.2	0.1	-2.8	1.7	179.	411.	13.4	70.	-0.8	1.8	37.8	110.1	1166.1		
1	0	3.4	2.2	0.2	-2.1	0.5	176.	417.	14.6	70.	-0.8	1.8	42.4	175.2	866.0		
1	5	3.4	2.2	0.2	-2.1	0.5	185.	415.	14.0	70.	-1.4	1.9	39.2	86.1	1000.0		
1	10	3.4	2.0	0.5	-2.7	0.5	194.	411.	13.9	74.	-1.4	1.9	39.2	91.6	1097.5		
1	15	3.4	2.9	0.1	-1.7	0.2	178.	416.	14.0	65.	-0.6	1.8	40.5	95.7	703.7		
1	20	3.2	2.7	0.4	-1.7	0.2	189.	415.	13.9	67.	-1.0	2.0	40.0	84.7	707.3		
1	25	3.3	2.8	0.3	-1.4	0.7	185.	415.	13.7	66.	-0.8	1.8	39.4	82.4	591.8		
1	30	3.0	2.8	0.3	-1.0	0.3	174.	415.	14.1	66.	-0.0	2.1	40.6	70.5	428.2		
1	35	3.0	2.7	0.8	-1.1	0.3	164.	416.	14.0	75.	-0.2	2.1	40.5	62.6	455.0		
1	40	3.0	2.2	0.8	-0.3	0.3	184.	416.	13.1	68.	-0.0	2.2	37.9	65.0	107.4		
1	45	3.0	2.0	0.1	-0.3	0.3	173.	414.	13.1	67.	-0.2	2.4	37.5	71.8	112.0		
1	50	3.4	3.4	0.0	-0.3	0.2	180.	415.	12.8	71.	-0.1	2.9	36.8	93.2	108.2		
1	55	3.6	3.5	0.3	0.1	0.2	178.	417.	12.6	81.	0.5	2.6	36.6	11.3	22.5		
2	0	3.7	3.2	0.3	0.6	1.1	185.	421.	13.6	100.	0.9	2.6	40.3	0.4	241.1		
2	5	3.7	3.2	0.3	1.6	0.7	186.	417.	13.1	100.	-0.1	2.2	38.0	0.0	663.0		
2	10	3.6	2.4	1.0	2.3	0.6	203.	411.	13.1	74.	-0.8	3.7	33.6	0.2	947.3		
2	15	3.6	2.1	1.0	2.4	0.7	203.	409.	12.3	74.	-0.6	3.8	34.4	0.3	902.6		
2	20	3.6	1.6	1.2	2.1	1.1	235.	412.	12.0	73.	-1.0	3.4	32.8	2.3	884.1		
2	25	3.6	1.2	1.1	-0.5	1.4	213.	419.	12.0	66.	-1.6	3.4	32.8	38.2	225.3		
2	30	4.0	1.0	1.0	-0.4	0.4	223.	414.	11.8	65.	-0.8	3.6	32.8	0.5	1258.5		
2	35	3.6	1.0	1.0	-0.4	0.4	227.	415.	11.9	64.	-0.8	3.6	32.5	1.9	1006.4		
2	40	3.7	1.2	1.0	-0.4	0.4	221.	417.	12.1	67.	-1.3	3.6	32.5	1.7	886.0		
2	45	3.7	1.2	0.9	-0.4	0.5	198.	418.	12.1	69.	-1.6	3.4	32.3	0.0	848.7		
2	50	4.0	1.3	0.1	-0.4	0.6	179.	414.	11.5	69.	-1.3	3.4	32.3	0.0	961.9		
2	55	4.1	1.3	0.3	-0.4	1.4	175.	414.	14.0	60.	-1.6	2.5	40.7	0.0	717.6		
3	0	4.4	1.3	0.3	-0.4	0.9	205.	396.	13.0	57.	-1.6	2.4	34.0	0.0	325.9		
3	5	4.6	1.7	0.4	-0.2	0.6	202.	390.	12.6	51.	-2.0	2.4	34.5	46.8	104.2		
3	10	4.6	1.7	0.4	0.4	0.2	201.	390.	15.1	50.	-2.0	1.8	32.2	36.1	161.1		
3	15	4.6	1.5	0.4	0.5	0.5	201.	398.	12.4	51.	-2.0	2.4	32.2	32.0	200.2		
3	20	4.6	1.5	0.4	0.5	0.5	282.	404.	13.8	51.	-2.4	2.2	32.6	25.5	342.7		
3	25	4.6	1.5	0.4	0.5	0.5	282.	404.	13.2	51.	-2.4	2.2	32.6	25.5	342.7		
3	30	4.6	1.5	0.4	0.5	0.5	278.	404.	13.2	51.	-2.4	2.2	32.6	25.5	342.7		

ORIGINAL PAGE IS
OF POOR QUALITY

8	30	6.2	1.5	4.4	-4.0	0.5	71.	378.	11.8	48.	-3.4	-1.1	26.7	199.6	-1515.4
8	35	6.0	1.4	4.0	-3.1	0.3	74.	378.	10.0	48.	-4.4	-1.7	26.6	199.7	-1180.4
8	40	5.6	1.4	4.0	-3.5	0.5	74.	377.	11.2	34.	-4.8	-2.2	26.6	199.7	-928.6
8	45	5.1	1.3	4.0	-0.3	0.9	75.	377.	13.4	34.	-4.4	-1.1	26.7	199.8	-125.3
8	50	5.0	1.6	4.7	-0.5	0.7	71.	374.	11.2	32.	-3.7	-3.1	26.2	200.0	-191.9
8	55	4.5	0.9	4.2	0.6	2.1	80.	375.	12.0	33.	-4.5	-1.0	26.6	200.3	-206.9
9	0	4.3	0.6	3.6	-2.5	0.9	237.	379.	14.0	42.	-5.1	-3.6	30.3	17.8	-968.4
9	5	3.0	-0.7	-1.1	-2.5	0.4	251.	378.	13.8	35.	-5.1	-1.2	33.6	58.2	-781.8
9	10	3.4	-1.1	-3.2	-1.8	0.3	251.	377.	13.0	32.	-5.1	-0.3	33.4	58.2	-678.9
9	15	3.4	-1.1	-3.2	-1.8	0.3	251.	376.	13.6	32.	-5.1	-2.6	31.4	61.4	-637.0
9	20	3.7	-0.5	-2.6	-2.0	0.7	254.	375.	13.7	30.	-4.9	-2.9	31.0	65.1	-741.4
9	25	3.7	-0.5	-2.6	-2.0	0.7	254.	375.	13.8	30.	-4.9	-1.9	32.4	65.1	-695.5
9	30	3.9	-1.0	-3.3	-1.9	0.2	252.	375.	13.8	30.	-4.8	-2.5	32.4	65.1	-695.5
9	35	4.0	-1.2	-3.6	-0.9	0.5	251.	375.	13.4	28.	-4.8	-3.0	36.6	43.6	-328.8
9	40	4.0	-1.3	-3.6	-0.3	0.3	250.	374.	13.1	28.	-4.8	-3.0	36.6	43.6	-328.8
9	45	3.9	-1.1	-3.7	-0.6	0.3	253.	375.	14.3	30.	-5.0	-3.0	33.2	61.8	-995.4
9	50	3.1	-0.5	-1.4	-2.7	0.5	258.	373.	14.3	30.	-5.0	-3.0	33.2	61.8	-995.4
9	55	2.5	-0.7	-2.2	-1.5	1.0	252.	374.	15.6	28.	-5.2	-3.8	36.4	34.4	-568.0
10	0	2.5	-1.0	-2.2	-0.8	0.4	245.	375.	15.1	28.	-5.2	-1.0	37.8	21.5	-340.8
10	5	2.3	-0.2	-0.4	-1.8	1.3	56.	371.	14.7	32.	-4.5	-3.7	33.8	25.0	-682.4

APR. 14, 1977 IMP-J POSITION IN GSM COORDINATES: X (19.6); Y (-15.7); Z (-13.6) Page 12

HR	MN	BMAGN	MAGNETIC Bx	FIELD By	(GSM Bz	COORD. SIGMA	PHI	U	N	T/1000	PLASMA	PHI	THETA	PRESSI 1009	EPSLNE 100-18	BzU
10	10	2.7	0.2	-0.9	-1.1	2.2	280.	372.	15.2	31.	-4.2	-3.5	35.1	12.6	-416.8	
10	15	3.5	-0.4	-2.3	-1.1	0.7	253.	373.	15.4	28.	-4.2	-2.0	35.8	25.0	-19.3	
10	20	2.4	1.3	-2.3	-1.7	1.1	340.	370.	14.2	30.	-4.1	-3.7	32.5	47.7	-634.7	
10	25	3.5	1.5	-3.1	-0.5	0.5	295.	369.	13.0	21.	-4.5	-2.6	31.6	31.9	-236.6	
10	30	3.6	0.7	-3.4	-0.7	0.7	282.	372.	14.6	28.	-5.0	-2.0	33.7	34.1	-277.6	
10	35	3.4	0.5	-3.2	0.4	0.8	289.	371.	14.2	31.	-4.6	-3.6	32.6	15.0	157.3	
10	40	3.4	0.0	-3.2	-0.0	1.1	271.	373.	13.6	33.	-5.0	-2.1	32.5	19.9	329.2	
10	45	3.8	-1.4	-3.5	0.6	0.2	248.	375.	14.0	30.	-4.8	-3.2	32.0	18.2	-16.9	
10	50	3.8	-1.6	-3.4	0.5	0.2	245.	376.	13.7	32.	-4.6	-2.8	32.3	19.5	200.3	
10	55	3.0	-0.6	-3.7	0.3	0.0	250.	374.	13.1	31.	-4.5	-2.7	30.6	22.2	100.3	
11	5	4.0	0.9	-3.9	-0.4	0.4	282.	372.	11.4	35.	-4.6	-4.3	26.7	35.9	-155.9	
11	10	3.5	0.6	-3.3	-0.8	0.5	280.	370.	12.9	36.	-4.8	-4.3	27.5	31.1	-318.1	
11	15	3.7	0.5	-3.5	-0.7	0.6	277.	382.	12.9	31.	-4.4	-2.7	31.4	35.9	-269.9	
11	20	3.6	0.0	-3.3	-1.0	0.4	256.	373.	14.1	30.	-4.4	-1.8	32.8	38.2	-382.4	
11	25	2.4	1.4	-0.4	-0.8	1.7	15.	370.	14.5	30.	-3.2	-3.2	33.3	19.3	-313.2	
11	30	2.7	2.2	1.3	-0.7	0.4	31.	369.	14.0	30.	-3.8	-2.5	31.8	22.7	-246.9	
11	35	2.7	2.2	1.3	-0.7	0.6	31.	368.	14.4	30.	-3.8	-2.4	32.6	26.1	-137.4	
11	40	3.3	1.5	-2.5	-0.7	0.7	53.	370.	13.6	35.	-3.5	-1.3	31.1	39.5	-349.0	
11	45	3.5	1.9	-3.1	-0.9	0.3	64.	370.	12.7	38.	-3.6	-1.0	28.9	37.0	-32.1	
11	50	3.6	2.2	-3.0	-0.7	0.3	57.	368.	12.8	35.	-3.6	-3.2	28.9	35.8	-25.8	
11	55	3.5	2.2	-2.6	-1.0	0.5	51.	369.	13.9	36.	-3.9	-3.1	29.3	38.9	-28.5	
12	5	3.5	2.2	-2.4	-0.9	0.4	42.	367.	14.7	38.	-3.9	-3.1	31.6	41.5	-365.4	
12	10	3.7	2.5	-2.4	-0.4	2.3	30.	367.	14.8	38.	-4.2	-2.6	33.3	36.1	-346.4	
12	15	2.8	2.5	-0.5	0.2	1.0	30.	365.	11.6	33.	-3.5	-6.0	25.8	21.0	-15.1	
12	20	2.8	2.5	-0.6	0.4	1.0	351.	363.	12.3	44.	-3.5	-4.8	27.1	40.6	-140.8	
12	25	3.4	0.6	-0.7	-0.6	1.2	340.	354.	15.0	38.	-3.9	-4.8	35.2	65.7	-230.3	
12	30	3.7	0.2	-0.2	-0.6	1.0	340.	353.	15.0	38.	-3.9	-4.8	35.2	65.7	-230.3	
12	35	3.7	0.4	-0.2	-0.4	0.9	357.	352.	13.4	45.	-3.1	-0.7	29.3	69.2	-149.6	
12	40	3.6	0.0	-0.1	-1.0	1.3	357.	358.	13.1	43.	-3.1	-1.7	29.3	79.2	-149.6	
12	45	3.6	0.2	-0.4	-1.0	1.0	357.	358.	13.1	43.	-3.1	-1.7	29.3	79.2	-149.6	
12	50	3.4	0.2	-1.0	-1.2	1.5	337.	362.	14.9	32.	-4.3	-3.2	32.5	58.0	-335.3	
12	55	4.3	1.4	-1.4	-1.2	1.2	337.	365.	16.0	34.	-4.3	-2.8	34.4	59.1	-442.4	

ORIGINAL PAGE IS
OF POOR QUALITY

HR	MIN	BHAGN	Bx	By	Bz	MAGNETIC FIELD (GSM COORD.)	U	M	T/1000	PLASMA	PHI	THETA	PRESS	EPSLNZ	8xU
13	0	4	2	3	1	1.6	338	15.5	35	3.4	-3.4	-4.1	33.5	64.3	-372.0
13	1	4	2	3	1	1.4	346	14.4	38	-4.7	-3.0	-3.0	31.2	57.6	-319.0
13	2	4	2	3	1	1.4	344	16.8	38	-4.7	-4.0	-4.0	30.0	43.7	-182.1
13	3	4	2	3	1	1.2	352	17.1	39	-4.0	-3.3	-3.3	28.4	58.0	-270.1
13	4	4	2	3	1	1.3	354	18.2	42	-4.0	-3.0	-3.0	28.4	58.0	-270.1
13	5	4	2	3	1	1.2	354	19.0	42	-4.0	-3.0	-3.0	28.4	58.0	-270.1
13	6	4	2	3	1	1.2	355	13.4	38	-4.1	-4.0	-4.0	28.5	51.6	-240.3
13	7	4	2	3	1	1.6	348	13.1	39	-4.0	-3.0	-3.0	27.6	33.7	-149.4
13	8	4	2	3	1	1.4	348	13.8	35	-3.6	-3.3	-3.3	29.0	42.1	-142.1
13	9	4	2	3	1	1.4	352	13.8	35	-3.6	-3.3	-3.3	29.0	42.1	-142.1
13	10	4	2	3	1	1.2	355	12.6	31	-3.2	-3.2	-3.2	31.2	51.0	-112.3
13	11	4	2	3	1	1.1	347	12.6	31	-3.2	-3.2	-3.2	31.2	51.0	-112.3
13	12	4	2	3	1	0.9	346	18.0	38	-3.8	-3.8	-3.8	33.7	41.8	-169.5
13	13	4	2	3	1	0.9	346	18.0	38	-3.8	-3.8	-3.8	33.7	41.8	-169.5
13	14	4	2	3	1	1.0	347	16.5	31	-3.7	-3.5	-3.5	33.7	42.0	-100.7
13	15	4	2	3	1	1.2	348	15.9	35	-3.4	-3.3	-3.3	33.7	42.0	-100.7
13	16	4	2	3	1	1.1	347	14.1	33	-3.0	-3.0	-3.0	29.7	57.3	-229.1
13	17	4	2	3	1	1.1	346	17.6	39	-3.0	-3.0	-3.0	29.7	57.3	-229.1
13	18	4	2	3	1	1.1	348	12.5	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	19	4	2	3	1	0.9	348	12.5	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	20	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	21	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	22	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	23	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	24	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	25	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	26	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	27	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	28	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	29	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	30	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	31	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	32	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	33	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	34	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	35	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	36	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	37	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	38	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	39	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	40	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	41	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	42	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	43	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	44	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	45	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	46	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	47	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	48	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	49	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0
13	50	4	2	3	1	0.9	351	12.4	30	-1.6	-1.6	-1.6	26.9	67.8	-299.0

APR. 14, 1977 IMP-J POSITION IN GSM COORDINATES: X(21.1); Y(-10.2); Z(-16.3) Page 13

HR	MIN	BHAGN	Bx	By	Bz	MAGNETIC FIELD (GSM COORD.)	U	M	T/1000	PLASMA	PHI	THETA	PRESS	EPSLNZ	8xU
14	55	3	4	2	3	0.7	351	15.1	31	-3.8	-3.8	-3.8	33.5	15.1	18.5
15	5	3	2	2	8	1.2	354	14.1	32	-3.7	-5.7	-5.7	28.3	14.5	0.6
15	10	3	2	3	0	1.2	354	12.7	30	-2.3	-4.5	-4.5	25.3	9.1	92.8
15	15	3	1	2	3	1.0	348	14.3	36	-2.3	-4.7	-4.7	25.6	9.1	60.2
15	15	3	1	2	3	0.8	348	14.1	32	-3.5	-4.8	-4.8	25.7	5.3	97.3
15	20	3	5	3	2	1.1	350	17.0	33	-3.3	-5.3	-5.3	35.4	0.0	246.5
15	25	3	5	3	2	0.9	352	16.8	37	-3.3	-5.8	-5.8	35.0	0.4	200.7
15	30	3	5	3	1	1.0	344	14.9	35	-3.9	-5.0	-5.0	31.2	11.8	59.6
15	35	3	6	3	3	0.7	344	17.9	37	-3.9	-5.6	-5.6	38.3	24.3	20.3
15	40	3	3	3	0	0.7	341	18.4	41	-3.8	-5.5	-5.5	38.9	35.5	165.1
15	45	3	3	3	0	1.0	342	17.7	38	-2.5	-5.4	-5.4	30.3	113.1	132.2
15	50	4	1	3	4	0.6	339	17.3	36	-1.6	-4.5	-4.5	36.2	30.4	132.2
15	55	4	1	3	4	0.6	331	19.5	34	-2.0	-6.8	-6.8	46.1	63.1	368.2
16	0	4	1	3	4	0.6	324	21.0	38	-2.0	-6.8	-6.8	46.1	78.6	537.1
16	5	4	1	3	4	0.5	320	21.6	35	-2.1	-6.0	-6.0	46.2	92.8	782.5
16	10	4	5	1	3	1.5	321	20.5	32	-2.2	-6.0	-6.0	46.2	132.5	1342.7
16	15	4	0	2	1	1.2	340	20.7	36	-2.1	-5.3	-5.3	47.0	60.8	1098.7
16	20	3	2	2	2	1.2	322	21.2	32	-2.1	-4.1	-4.1	46.4	72.0	1027.0
16	25	3	2	2	2	1.1	281	22.6	32	-2.6	-5.2	-5.2	44.7	72.0	962.6
16	30	4	1	2	1	1.0	317	20.9	38	-1.0	-3.2	-3.2	44.7	33.8	672.0
16	35	3	5	2	1	1.2	266	19.9	36	-3.0	-3.8	-3.8	43.3	21.6	391.1
16	40	4	1	1	0	1.2	274	19.0	39	-3.3	-4.2	-4.2	46.8	56.0	814.9
16	45	4	1	1	0	0.5	240	20.7	39	-2.3	-6.0	-6.0	45.7	110.0	1324.1
16	50	3	2	1	0	0.6	206	20.7	32	-2.5	-6.2	-6.2	46.1	120.0	1437.6
16	55	3	2	1	0	1.4	116	20.4	32	-2.5	-6.2	-6.2	46.1	18.5	1152.8
17	0	4	5	0	1	0.7	305	21.0	34	-1.1	-5.0	-5.0	46.5	142.1	1573.9
17	5	3	8	0	1	1.1	301	19.0	41	-2.1	-4.2	-4.2	41.6	12.1	51.1
17	10	4	0	2	1	1.5	237	17.7	46	-2.1	-3.5	-3.5	39.2	10.2	413.9
17	15	3	2	2	1	1.1	237	19.6	41	-2.2	-4.2	-4.2	43.6	62.4	1031.0
17	20	2	2	1	0	1.4	252	18.2	42	-2.5	-5.3	-5.3	41.6	25.9	961.7
17	25	2	2	1	0	0.9	228	19.2	42	-2.1	-5.5	-5.5	44.1	25.4	633.7

ORIGINAL PAGE IS
OF POOR QUALITY

17 39	1.8	-0.9	-0.7	-1.3	0.6	216.	374.	18.7	44.	-8.6	-5.7	43.7	29.4	-194.7
17 55	4.1	-1.9	-2.6	-2.5	0.6	234.	373.	16.7	38.	-1.6	-4.2	38.8	89.6	-332.9
18 5	4.2	-1.9	-2.6	-2.6	0.6	234.	376.	16.3	46.	-1.7	-3.4	38.3	94.4	-379.6
18 15	4.1	-2.1	-2.8	-2.6	0.6	233.	375.	16.3	45.	-1.8	-3.0	38.3	81.7	-321.2
18 15	4.4	-1.5	-2.8	-2.6	0.4	242.	374.	17.6	43.	-2.0	-3.4	41.1	87.3	-366.8
18 25	4.4	-1.9	-2.5	-2.4	2.5	296.							112.9	-125.5
18 25	5.1	2.4	-2.6	2.9	2.9	311.							5.8	349.9
18 35	4.9	0.0	-2.6	-0.7	1.3	271.							59.0	310.0
18 35	5.1	-0.6	-2.5	1.2	2.0	263.							24.2	-322.3
18 45	5.0	2.2	1.7	2.2	1.7	322.							2.2	1056.5
18 45	5.0	2.8	2.0	1.3	6.	272.							0.0	1571.0
18 55	5.3	0.1	-2.8	-2.7	2.5	282.							108.6	-1971.1
18 55	5.7	1.1	-2.5	-2.5	0.8	282.							133.7	-994.4
19 0	5.9	1.1	-2.5	-1.8	1.1	290.							118.9	-725.9
20 10	5.2	4.2	1.8	2.7	0.7	337.	387.	10.0	150.	3.1	-4.0	25.0	2.3	896.1
20 15	5.4	4.6	-1.8	2.7	1.5	339.	359.	10.5	173.	4.1	-5.1	26.5	4.9	658.3
20 20	5.7	4.2	3.8	-0.1	0.5	318.	387.	10.0	112.	3.9	-3.1	25.0	59.5	35.5
20 25	5.8	4.4	-2.4	0.7	0.3	317.	366.	10.2	118.	3.6	-3.5	25.4	68.8	-48.0
20 30	6.0	4.4	-2.0	-0.7	0.8	318.	385.	10.5	156.	3.6	-3.0	26.0	92.2	-354.0
20 35	5.4	3.9	-2.9	-1.9	1.4	323.	382.	9.3	151.	4.6	-4.8	22.6	126.1	-739.9
20 42	6.1	3.7	-2.1	-2.5	0.8	312.	381.	10.7	115.	5.0	-2.4	27.3	167.2	-866.9
20 45	6.0	3.9	-2.1	-1.8	0.8	313.	390.	10.5	116.	5.0	-1.4	26.7	136.1	-705.2
20 50	6.2	3.9	-2.5	-1.5	0.3	311.	391.	10.6	113.	5.1	-1.5	27.1	130.3	-597.5

APR. 14, 1977 IMP-J POSITION IN GSM COORDINATES: X (22.4); Y (0.5); Z (-17.6) Page 14

HR	MN	MAGN	Bx	BY	FIELD	Bx	BY	PHI	PLASMA	PHI	THETA	PRESS	EPSLNE	BxU
					(GSM			T/1000				1009	10-16	
					COORD.)									
21 20	6.2	3.0	-2.0	-3.8	0.3	324.	395.	9.7	193.	5.0	-2.7	24.1	239.9	-171.3
21 25	6.4	3.5	-2.7	-4.5	0.5	322.	387.	9.5	92.	4.3	-4.1	23.7	269.5	-179.6
21 30	6.3	3.5	-2.6	-4.6	0.2	322.	388.	9.4	95.	3.8	-5.2	23.7	270.1	-172.9
21 40	6.5	2.6	-2.6	-4.9	0.7	317.	408.	9.2	94.	-1.5	-4.4	25.7	278.8	-1996.1
21 45	6.0	3.4	-1.8	-4.6	0.5	322.	388.	9.4	85.	4.3	-4.6	23.6	302.8	-2146.7
21 50	5.4	1.8	-4.0	-4.6	0.9	332.	388.	9.4	89.	4.9	-4.1	23.6	257.6	-1778.4
21 55	5.8	2.6	-1.4	-4.0	0.9	337.	387.	10.0	85.	3.7	-4.5	23.5	216.3	-1915.5
22 0	6.1	2.8	-1.5	-5.2	1.1	331.	387.	10.1	88.	3.7	-3.3	25.3	237.0	-1855.5
22 5	6.0	2.8	-2.1	-4.9	0.6	323.	419.	8.6	93.	4.0	-4.1	25.2	301.0	-2188.9
22 10	5.9	2.9	-1.1	-5.1	1.0	335.	390.	9.3	79.	3.6	-2.9	23.7	259.8	-1911.0
22 15	5.9	2.6	-0.6	-5.7	0.7	34.	391.	9.3	83.	3.9	-3.5	24.0	248.1	-1988.6
22 20	5.8	2.6	-1.2	-4.4	1.5	335.	390.	9.1	75.	3.8	-4.1	23.8	262.6	-2232.4
22 25	5.8	4.6	-2.8	-4.5	1.7	329.	387.	9.0	91.	3.3	-3.3	23.2	205.8	-1700.4
22 30	6.3	5.3	-2.0	-1.3	0.9	331.	370.	8.3	106.	3.6	-5.5	23.5	132.2	-593.2
22 35	6.7	5.7	-2.1	-1.4	0.3	329.	371.	8.8	110.	2.8	-4.6	20.7	24.5	-493.2
22 40	6.7	5.2	-2.4	-0.8	0.7	326.	371.	8.7	73.	3.3	-4.4	20.7	25.1	539.8
22 45	6.6	5.2	-2.7	-0.5	0.7	327.	372.	8.7	57.	3.8	-2.0	20.0	39.3	398.8
22 50	6.6	5.4	-2.7	-0.2	0.6	326.	372.	8.7	78.	3.2	-5.5	20.1	54.0	171.4
22 55	6.4	5.2	-3.7	-0.2	0.3	325.	379.	9.3	119.	3.2	-6.0	22.2	72.1	84.8
23 0	6.2	5.0	-3.7	-0.1	0.7	324.	373.	8.4	76.	3.1	-6.0	20.3	68.5	71.8
23 5	6.2	4.8	-3.6	-0.2	0.4	324.	371.	8.5	62.	2.1	-4.2	19.6	82.3	29.7
23 10	6.0	4.8	-0.2	-0.7	0.7	324.	372.	8.9	84.	2.6	-2.2	20.7	174.4	-105.5
23 15	4.6	2.3	-2.1	-2.0	1.6	318.	392.	10.4	86.	3.8	-4.6	26.7	117.1	-1145.5
23 20	4.7	1.0	-2.0	-2.0	0.8	308.	394.	10.3	82.	3.8	-5.2	26.9	134.1	-1535.0
23 25	4.3	-0.1	-0.5	-4.2	0.7	265.	392.	10.1	77.	3.8	-4.3	25.9	128.9	-1643.4
23 30	4.6	-0.6	-0.2	-4.5	0.5	166.	392.	9.8	70.	3.8	-4.3	25.1	164.0	-1776.2

23 35 4.1 -0.6 0.7 -4.0 0.8 132. 303. 12.2 75. 3.7 -5.2 28.3 189.3 -162.0
 23 40 3.6 -1.4 1.3 -2.9 0.8 135. 387. 10.6 88. 3.8 -4.5 28.5 84.3 -117.8
 23 45 4.1 -1.5 2.7 -2.7 0.5 119. 386. 10.2 73. 2.8 -4.1 25.3 95.3 -105.7
 23 50 3.6 -1.3 3.0 -1.4 0.8 114. 391. 10.6 79. 3.9 -4.0 25.5 49.8 -546.8
 23 55 3.3 -1.2 2.8 -1.0 0.4 112. 398. 9.3 97. 2.6 -2.6 23.6 38.1 -305.6

APR. 15, 1977 IMP-J POSITION IN GSM COORDINATES: X(22.8); Y(2.7); Z(-17.1) Page 15

HR	PH	MAGN	Bx	FIELD	(GSM	COORD.)	PHI	U	N	PLASMA	PHI	THETA	PRESSZ	EPSLNZ	BxXU
			Bz	By	By	By	1000			T/1000		1009	100-16		
0	15	5.4	-2.5	2.6	-3.9	0.6	134.	385.	11.9	69.	2.8	-3.1	22.0	184.0	-1503.5
0	20	5.5	-1.9	2.2	-4.7	0.4	132.	386.	12.4	64.	2.0	-4.2	22.6	211.0	-1782.9
0	25	5.3	-2.4	2.5	-4.0	0.5	134.	389.	10.4	65.	2.0	-1.3	25.1	182.7	-1515.1
0	30	5.6	-1.9	2.1	-4.8	0.7	132.	376.	10.8	64.	1.8	-2.1	25.5	210.8	-1787.5
0	35	5.7	-1.4	1.5	-5.3	0.3	132.	372.	10.7	62.	1.1	-1.7	24.7	227.7	-1958.7
0	40	5.4	-0.1	1.0	-5.2	0.4	275.	366.	10.3	50.	0.8	-0.7	23.0	185.8	-1882.2
0	45	4.6	1.2	-1.2	-4.1	1.6	359.	371.	11.3	74.	0.6	-1.2	26.0	137.2	-1255.1
0	50	4.6	0.4	1.2	-3.2	1.7	73.	375.	11.7	61.	1.5	-1.5	27.5	87.8	-1208.3
0	55	5.8	-1.1	3.0	-4.8	0.5	111.	372.	10.2	62.	0.7	-0.2	26.6	215.4	-1814.9
1	0	5.2	1.4	0.2	-4.7	1.0	5.	371.	12.0	59.	0.6	-1.1	27.6	188.7	-1737.7
1	5	5.2	1.4	0.7	-5.2	0.4	12.	371.	11.5	57.	1.1	-1.1	26.4	215.2	-1927.0
1	10	5.6	1.1	0.7	-5.4	0.9	328.	376.	12.7	74.	1.8	-2.3	29.2	191.4	-1862.7
1	15	5.6	1.1	0.7	-5.4	0.9	333.	377.	12.7	81.	1.3	-1.8	28.1	217.4	-2020.8
1	20	5.4	0.5	0.6	-5.3	0.6	49.	381.	11.6	79.	0.8	-2.2	28.1	217.4	-2020.8
1	25	5.4	-0.3	0.4	-5.2	0.6	232.	381.	12.8	72.	1.1	-0.8	29.3	208.0	-1985.4
1	30	5.4	-0.3	0.4	-5.2	0.6	12.	376.	12.4	76.	1.5	-1.5	29.3	217.4	-1970.9
1	35	5.4	1.3	0.1	-5.2	0.5	5.	378.	12.4	77.	1.8	-2.4	30.5	220.9	-1957.2
1	40	5.4	1.3	1.3	-5.2	0.9	51.	381.	12.6	81.	1.0	-2.4	30.5	220.9	-1957.2
1	45	4.9	2.3	-1.4	-4.2	1.2	329.	382.	13.4	101.	3.4	-3.3	32.6	164.3	-1409.1
1	50	5.0	1.8	-1.6	-4.2	1.0	319.	386.	13.5	95.	2.9	-3.2	32.6	168.5	-1505.5
1	55	4.9	1.4	0.9	-3.7	0.6	297.	378.	12.0	86.	2.6	-1.8	33.4	144.8	-1404.0
2	0	4.6	2.2	-0.8	-3.6	1.8	340.	379.	12.1	100.	2.6	-0.7	29.0	132.1	-1346.9
2	5	4.4	1.9	1.1	-3.7	0.6	30.	374.	13.1	93.	3.1	-3.2	30.6	132.1	-1346.9
2	10	4.7	2.1	2.0	-3.3	0.6	36.	374.	12.5	86.	2.7	-3.5	29.6	142.1	-1236.9
2	15	5.2	2.1	-1.5	-3.3	0.8	324.	375.	12.6	86.	1.2	-1.7	29.6	145.8	-1417.4
2	20	5.6	3.4	0.5	-4.3	0.5	337.	372.	12.5	73.	0.8	-0.4	28.0	221.0	-1581.8
2	25	5.6	3.4	0.4	-4.3	0.5	351.	375.	12.8	78.	1.0	-3.8	30.1	217.0	-1772.0
2	30	5.5	2.6	-0.4	-4.4	1.1	37.	374.	13.9	83.	2.5	-3.8	30.1	241.1	-1628.0
2	35	5.5	2.6	1.9	-4.4	1.1	37.	374.	13.9	83.	2.5	-3.8	30.1	241.1	-1628.0
2	40	4.9	2.3	0.9	-4.2	0.8	271.	375.	13.3	88.	1.3	-2.2	31.2	173.3	-1558.1
2	45	5.1	2.3	-1.1	-3.8	2.0	203.	374.	12.1	79.	1.0	-2.8	29.3	158.8	-1417.9
2	50	5.4	1.5	1.1	-4.2	0.9	287.	374.	11.6	74.	0.3	-1.2	28.5	170.5	-1561.5
2	55	5.4	1.5	1.1	-4.2	0.9	312.	371.	12.4	83.	1.2	-2.2	28.5	161.0	-1264.3
3	0	5.6	2.3	3.3	-3.8	0.8	305.	372.	11.9	80.	0.4	-3.1	27.5	176.6	-1407.1
3	5	5.7	3.1	3.7	-3.8	0.8	310.	372.	11.9	80.	0.4	-3.1	27.5	176.6	-1407.1
3	10	6.1	2.0	4.1	-3.4	0.6	305.	371.	11.9	85.	-0.3	-3.7	27.4	183.6	-1265.9
3	15	6.2	3.3	4.1	-3.4	0.7	308.	370.	12.1	85.	-0.3	-3.4	28.3	164.8	-1054.7
3	20	6.2	3.3	4.2	-3.4	0.7	308.	371.	12.3	78.	0.1	-4.7	29.0	185.1	-1357.7
3	25	6.0	3.5	3.6	-3.7	0.9	323.	373.	13.2	75.	0.5	-4.7	30.8	228.2	-1713.5
3	30	6.1	3.5	3.6	-3.7	0.9	323.	373.	13.2	75.	0.5	-4.7	30.8	228.2	-1713.5
3	35	6.4	3.3	3.9	-3.6	1.2	319.	374.	13.1	76.	0.2	-4.6	30.9	213.5	-1458.6
3	40	6.4	3.3	3.9	-3.6	1.2	319.	374.	13.1	76.	0.2	-4.6	30.9	213.5	-1458.6
3	45	6.3	1.8	5.1	-3.2	0.6	288.	376.	13.4	80.	-0.1	-4.6	32.0	161.2	-1196.6
3	50	6.2	1.8	5.1	-3.2	0.6	288.	376.	13.4	80.	-0.1	-4.6	32.0	161.2	-1196.6
3	55	6.4	2.4	-5.7	-2.1	0.4	284.	378.	12.8	76.	-0.5	-4.1	32.9	174.4	-1795.7
4	0	6.4	2.4	-5.7	-2.1	0.4	284.	378.	12.8	76.	-0.5	-4.1	32.9	174.4	-1795.7
4	5	6.5	3.6	-5.4	-0.9	0.2	295.	374.	12.3	70.	-0.6	-4.0	28.9	197.1	-334.1
4	10	6.5	3.6	-5.4	-0.9	0.2	295.	374.	12.3	70.	-0.6	-4.0	28.9	197.1	-334.1
4	15	6.5	3.6	-5.4	-0.9	0.2	304.	367.	11.1	76.	-1.0	-3.3	25.0	70.5	-71.1
4	20	6.5	3.6	-5.4	-0.9	0.2	304.	367.	11.1	76.	-1.0	-3.3	25.0	70.5	-71.1