



#552

IMP-J
73-078A-01F/02E
5 MINUTE RESOLUTION IMP-J IMF&PLASMA, FOR IMS

IMP-J
73-078A-01J/02H/10G
5 MINUTE RESOLUTION IMP-J IMF&PLASMS PARMS,UCLA



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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

<http://nssdc.gsfc.nasa.gov/nmc/>

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

- a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
<http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/>

- b. Core Catalog Materials

IMP-J

5-MIN. IMF + PLASMA FOR IMS TAPE

73-078A-01F, 02E SPHE-00091

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED ONE 9-TRACK, 1600 BPI TAPE WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPE WAS CREATED ON AN IBM 3081 COMPUTER AND WAS RESTORED ON THE MRS SYSTEM. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBER AND TIME SPAN IS AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR005275	DS005275	D048998	1	04/11/77 - 05/21/80

REQ. AGENT
LSM

RAND NO.
V0153

ACQ. AGENT
HKH

IMP J

5 MINUTE RESOLUTION MERGED IMP J IMF AND PLASMA DATA

73-078A-01F

73-078A-02E

This data set ~~entirely~~ consists of 1 data tape. The tape characteristics are as follows: 1600 bpi, 9 track, binary, with 1 file of data. The tape was created on the IBM 3081 machine. The time span, D and C number are as listed below.

<u>D#</u>	<u>C#</u>	<u>Time Span</u>
D-48998	C-22543	04/12/77 - 05/23/80

APPENDIX A

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, ASCII tape created on an IBM 3081 computer. The tape format is fixed block with a logical record length of 44 words (222 bytes), blocked 17 logical records per physical record. The physical record length is 7480 words (3,774 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=222, BLKSIZE=3774

Format of logical data record:

word	type	data
1.	I*2	Year (77, 78, 79, 80)
2.	I*3	DDay (Jan 1 = Day 0)
3.	I*4	Minute of day at start of average (0, 5... 1435)
4.	I*3	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*2	Number of 15.36 s IMF values in <u>B</u> average
6.	I*2	Number of points in plasma parameter averages
7.	I*7	$\left. \begin{array}{l} X_{GSM} \\ Y_{GSM} \\ Z_{GSM} \end{array} \right\}$ IMP-J position, km
8.	I*7	
9.	I*7	
10.	I*2	λ_s Geomagnetic Latitude of Sun (degree)
11.	F4.1	$\langle B \rangle$ nT
12.	F5.1	$\langle B_{X_{GSM}} \rangle$ nT

APPENDIX A (continued)

word	type	data
13.	F5.1	$\langle B_{Y_{GSM}} \rangle$ nT
14.	F5.1	$\langle B_{Z_{GSM}} \rangle$ nT
15.	F4.1	$(\langle B_X \rangle^2 + \langle B_Y \rangle^2 + \langle B_Z \rangle^2)^{1/2}$
16.	F5.1	$\theta_{B_{GSM}}$ degrees (from $\langle B_X \rangle$, $\langle B_Y \rangle$, $\langle B_Z \rangle$)
17.	F5.1	$\phi_{B_{GSM}}$ degrees (from $\langle B_X \rangle$, $\langle B_Y \rangle$)
18.	F4.1	σ_{B_X}
19.	F4.1	σ_{B_Y}
20.	F4.1	σ_{B_Z}
		} nT, in generation of 5-min averages from 15.36 s values
21.	F4.1	$\{ \langle \sigma_x^2 + \sigma_y^2 + \sigma_z^2 \rangle \}^{1/2}$ these σ 's arise in the generation of 15.36 s averages from 1.28s values
22.	F4.1	Maximum value of any of the σ 's contributing to word 21
23.	I*4	V, km/s (bulk flow speed)
24.	I*4	σ_v , km/s
25.	F5.1	N, cm^{-3} (proton density)
26.	F5.1	σ_N , cm^{-3}
27.	I*3	W, km/s (thermal speed)
28.	I*3	σ_w , km/s
29.	F5.1	ϕ_v , degrees, flow azimuth (+ from west)
30.	F5.1	σ_ϕ , degrees
31.	F5.1	θ_v , degrees, flow latitude (+ from south)
32.	F5.1	σ_θ , degrees
33.	I*7	Y_{GSE} (IMP-J position, km)
34.	I*7	Z_{GSE} (IMP-J position, km)

APPENDIX A (concluded)

word	type	data
35.	F5.1	< B_{YGSE} > nT
36.	F5.1	< B_{zGSE} > nT
37.	I*8	X
38.	I*8	Y
39.	I*8	Z
<p>km, in GSE, point of intersection between IMF line through IMP-J, and the bow shock (see footnote)</p>		
40.	I*8	Distance (km) along B between IMP-J and bow shock intersection point
41.	F4.1	Angle (in degrees) between B and bow shock normal at intersection
42.	I*6	$B_z * V$ (nT x km/s)
43.	E10.3	\mathcal{E} (ergs/s) = $2 \times 10^{14} \times V \times B^2 \times \sin^4 (1/2 \tan^{-1} \left(\frac{ B_{YGSM} }{B_{zGSM}} \right))$
44.	E10.3	$1.67 \times 10^{-14} \times N \times V^2$, dynamic pressure in dynes/cm ²

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 37-40 = -999 and word 41 = 99.9 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.)

B34520-000A

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.)

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 $\sim 1-2$ 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: $\text{Theta (deg)} = 0.25 + 1.125 * T$, 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/cm², 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.

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

APPENDIX A

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 _{XGSM} > nT

APPENDIX A (continued)

word	type	data
13.	R*4	$\langle B_{Y_{GSM}} \rangle$ nT
14.	R*4	$\langle B_{Z_{GSM}} \rangle$ 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, 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)

APPENDIX A (concluded)

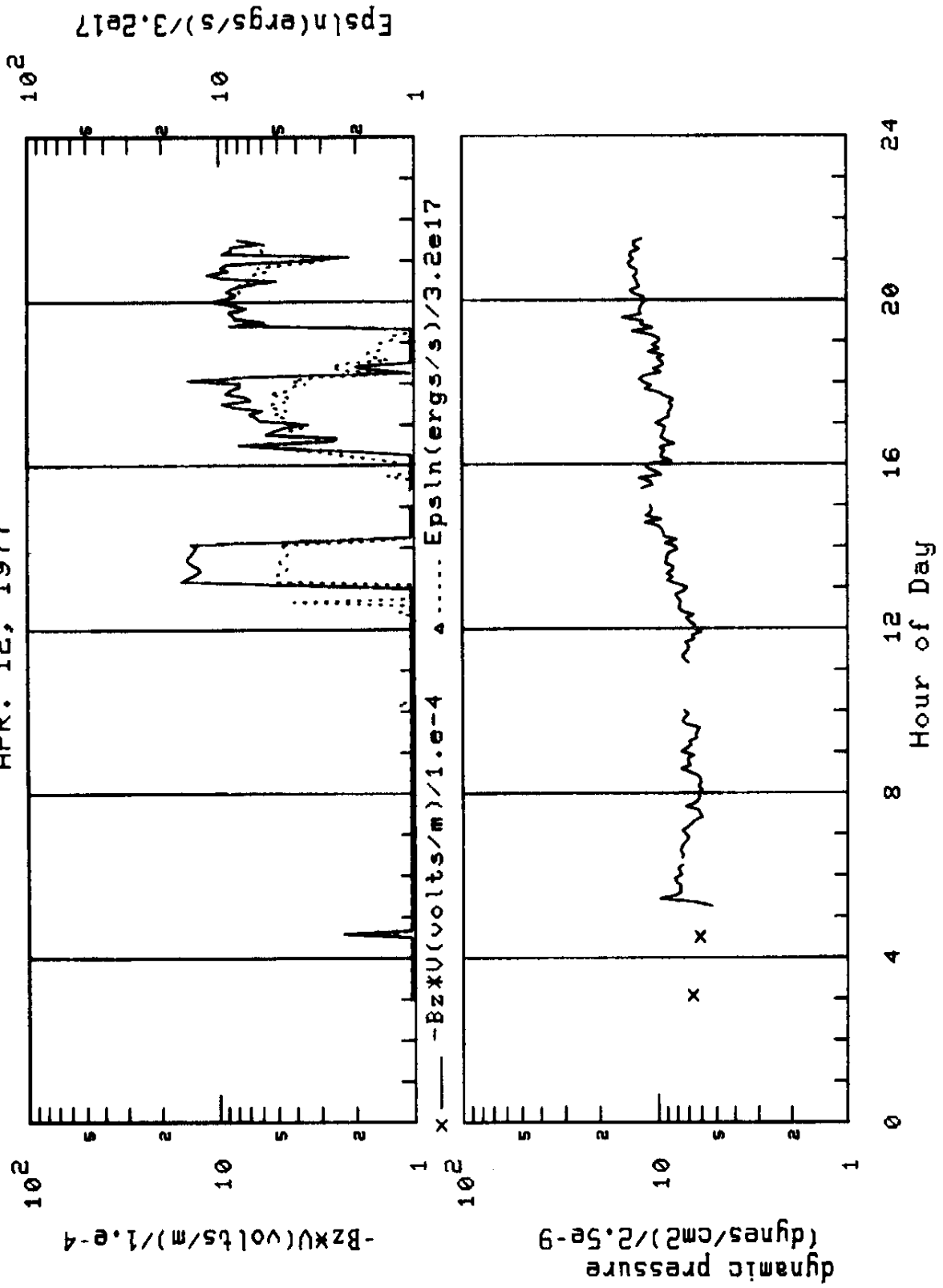
word	type	data
35.	R*4	< B _{YGSE} > nT
36.	R*4	< B _{ZGSE} > nT
37.	R*4	X
38.	R*4	Y
39.	R*4	Z
		} km, in GSE, point of intersection between IMF line through IMP-J, and the bow shock (see footnote)
40.	R*4	Distance (km) along <u>B</u> between IMP-J and bow shock intersection point
41.	R*4	Angle (in degrees) between \hat{B} and bow shock normal at intersection
42.	R*4	B _Z *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

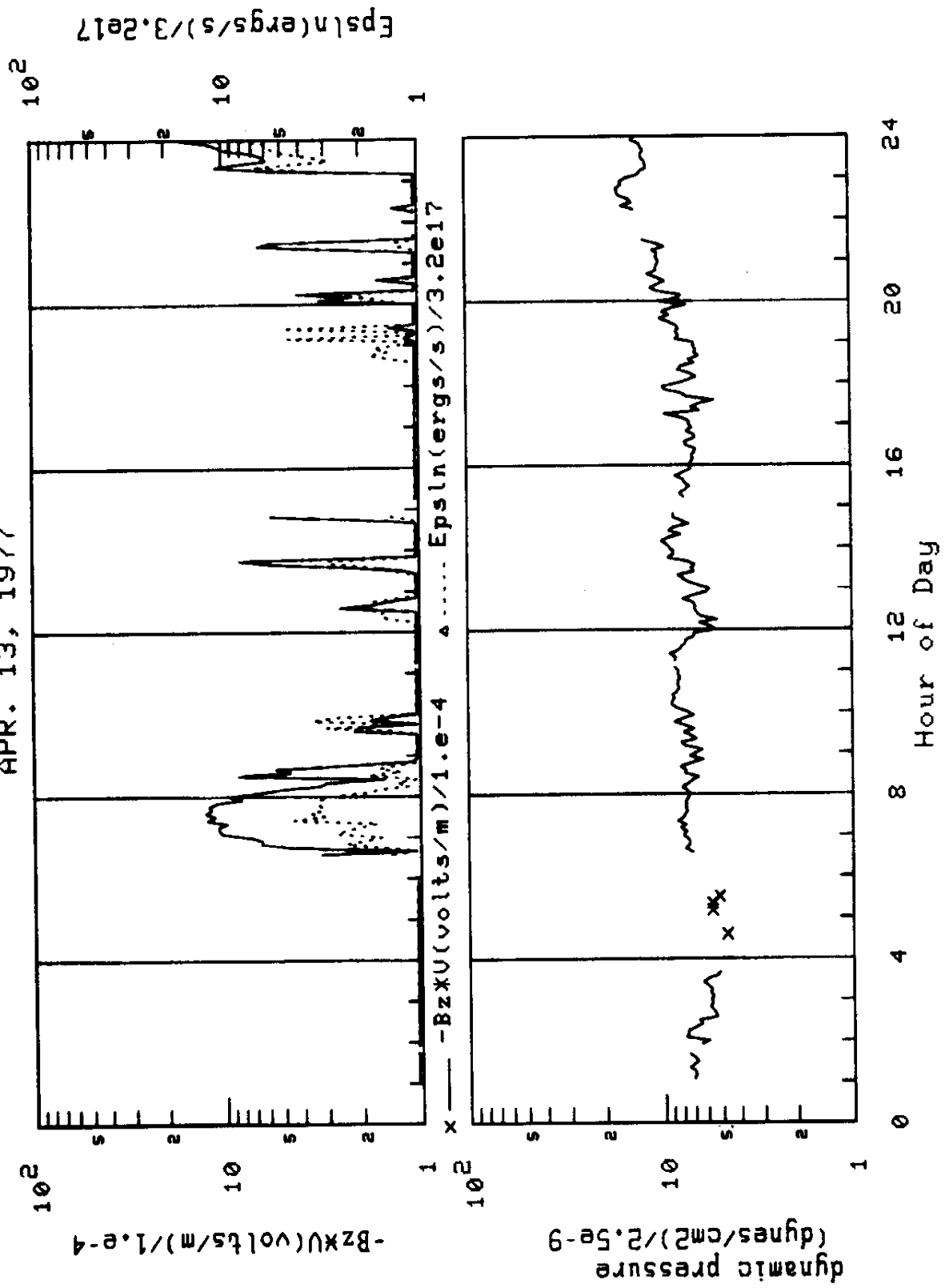
In words 42 and 43, V = 400 is used for records with no plasma data.

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.)

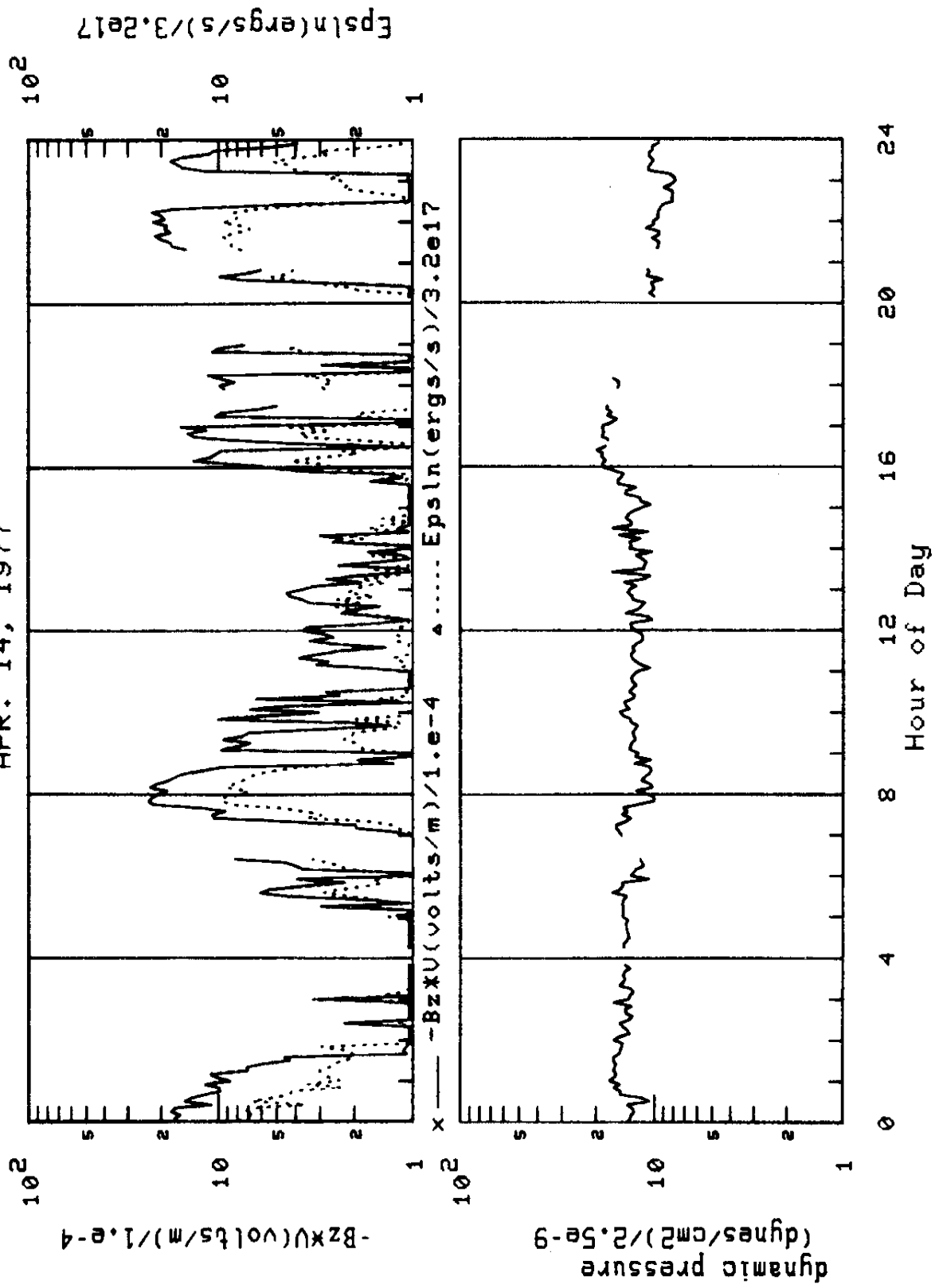
APR. 12, 1977



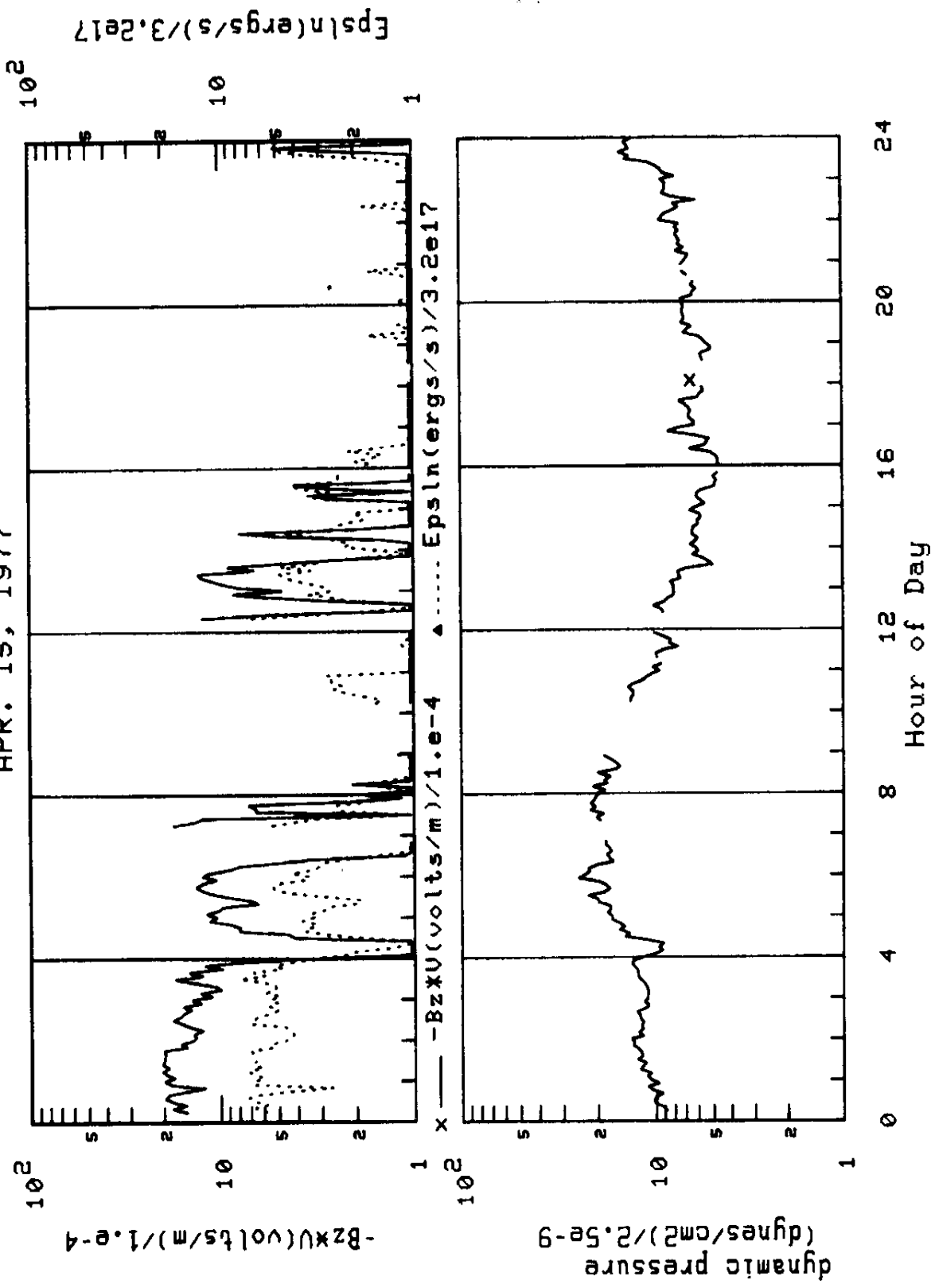
APR. 13, 1977



APR. 14, 1977



APR. 15, 1977



APR. 12, 1977

IMP-J POSITION IN GSM COORDINATES: X(-11.1); Y(-32.9); Z(1.8) Page 1

HR	MN	--- MAGNETIC FIELD (GSM COORD.) ---				PHI	----- PLASMA -----				PRESSx 10e9	EPSLNx 10e-16	BxVU	
		Bx	By	Bz	SIGMA		U	N	T/1000	PHI				THETA
33	3.0	2.7	1.8	1.9	1.1	33.	416.	5.7	53.	0.3	1.8	16.6	2.1	778.7
359.	4.0	3.3	-0.1	2.7	0.3	359.							0.0	1078.2
352.	4.0	3.3	-0.5	2.5	0.3	352.							0.0	1009.2
353.	4.0	3.4	-0.4	2.4	0.4	353.							0.0	965.7
350.	4.0	3.0	-0.7	1.5	0.8	350.							0.3	595.7
342.	4.0	4.1	-1.3	1.5	1.5	342.							0.6	584.8
312.	4.0	3.4	-2.0	1.3	1.8	312.							0.5	530.3
335.	4.0	3.3	-1.8	1.4	1.6	335.							3.8	553.0
342.	4.6	3.8	-1.3	1.1	1.9	342.							3.8	452.8
341.	4.9	4.2	-1.5	1.0	1.3	341.							7.2	419.2
338.	4.7	3.9	-1.6	0.8	1.4	338.							10.3	334.5
336.	4.3	3.4	-1.5	0.8	1.2	336.							8.6	321.1
343.	4.0	4.0	-1.3	1.5	1.3	343.							2.1	618.7
346.	5.7	5.0	-1.7	0.9	1.1	346.							1.3	801.2
344.	4.2	3.6	-1.0	0.9	1.5	344.							3.3	352.7
343.	4.1	3.4	-1.0	1.1	1.6	343.							2.3	425.9
347.	4.0	3.5	-0.8	0.6	1.5	347.							4.0	246.7
334.	4.0	3.0	-1.4	0.4	1.6	334.	422.	5.1	122.	-2.7	-0.7	15.3	12.6	174.1
327.	4.0	3.1	-0.6	1.2	1.2	327.							44.0	-231.7
349.	3.0	3.0	-0.8	2.0	2.0	349.							0.2	505.4
5.	4.0	4.1	-0.3	2.4	0.5	5.							0.0	947.0
353.	4.6	4.3	-0.5	1.4	0.8	353.							0.2	558.8
338.	4.3	3.7	-1.5	1.1	0.8	338.							5.7	447.0
351.	5.5	5.1	-0.8	1.6	0.7	351.							0.5	652.1
352.	3.3	3.4	-0.5	1.1	1.4	352.							0.8	437.5
344.	3.0	3.0	-0.7	0.4	1.5	344.							0.8	173.1
323.	3.3	3.1	-1.4	0.4	1.7	323.	414.	4.6	67.	-1.5	0.1	13.3	6.2	182.4
350.	3.6	3.3	-0.6	0.5	1.4	350.	417.	5.5	68.	-1.3	-0.2	16.0	3.5	189.2
359.	4.3	4.1	-0.0	1.3	0.5	359.	418.	8.4	170.	-0.8	0.3	24.6	0.0	526.3
15.	4.4	3.6	1.0	0.2	0.6	15.	422.	6.0	114.	0.4	0.1	20.5	0.2	976.1
19.	4.6	3.6	1.3	0.2	0.2	19.	417.	6.6	73.	0.5	0.2	19.1	0.5	1038.1
21.	4.4	3.5	1.0	0.1	0.1	21.	417.	6.6	78.	0.4	1.4	19.3	0.6	1015.0
22.	4.4	3.3	1.4	0.1	0.1	22.	425.	5.4	94.	0.4	0.4	19.2	0.6	1088.3
15.	4.4	3.3	0.9	0.7	0.7	15.	423.	6.8	100.	-0.0	1.1	20.3	0.1	1027.0
7.	4.4	3.3	0.4	0.4	0.4	7.	423.	6.0	100.	0.1	1.5	20.5	0.0	1111.6
27.	4.3	3.0	1.5	0.6	0.6	27.	423.	6.3	97.	0.4	0.4	19.0	0.8	1094.1
14.	4.0	3.4	0.8	0.3	0.3	14.	424.	6.4	107.	0.4	2.0	19.3	0.1	1026.8
12.	4.0	3.3	0.7	0.1	0.1	12.	423.	6.6	105.	0.5	1.0	19.7	0.1	1003.6
19.	4.4	3.0	1.1	0.4	0.4	19.	424.	6.2	101.	0.5	1.6	18.7	0.3	1043.5
25.	4.4	3.3	1.3	0.3	0.3	25.							0.3	1103.0
18.	4.4	3.3	1.1	0.2	0.2	18.	421.	6.4	105.	0.4	0.0	18.8	0.3	1048.1
20.	4.4	3.3	1.1	0.2	0.2	20.	420.	6.3	105.	0.3	0.2	18.6	0.3	1117.2
17.	4.4	3.4	0.4	0.4	0.4	17.	420.	6.5	113.	0.4	-0.3	19.2	0.3	966.2
19.	4.4	3.5	0.4	0.3	0.3	19.	420.	6.5	118.	0.4	0.0	19.1	0.8	840.0
16.	4.4	3.3	1.0	0.4	0.4	16.	424.	6.1	103.	0.1	2.3	18.5	0.2	1020.8
18.	4.4	3.4	0.4	0.3	0.3	18.	420.	6.1	112.	0.3	-0.4	18.0	0.4	952.8
21.	4.4	3.3	1.1	0.3	0.3	21.	417.	6.0	118.	-0.2	-0.6	17.4	0.2	1116.1
26.	4.4	3.7	0.0	0.0	0.0	26.	421.	6.1	95.	-0.0	-0.5	18.1	0.3	1208.8
34.	4.4	3.5	1.5	0.1	0.1	34.	418.	6.4	95.	0.3	-0.0	18.8	0.7	1156.5
33.	4.4	3.7	0.0	0.2	0.2	33.	417.	6.1	75.	0.0	1.3	17.6	1.0	1109.3
32.	4.4	3.0	1.1	0.2	0.2	32.	416.	5.8	73.	0.1	-0.2	16.8	1.4	1056.2
32.	4.4	3.1	1.1	0.1	0.1	32.	416.	5.6	64.	0.1	0.7	16.2	2.4	909.1
31.	4.4	3.5	0.1	0.2	0.2	31.	415.	5.1	40.	0.4	0.4	14.8	7.1	632.2
30.	4.4	3.5	0.0	0.2	0.2	30.	415.	5.3	48.	0.1	1.3	15.2	4.7	716.0

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7 35	4.4	3.4	2.1	1.9	0.2	32.	414.	5.4	51.	0.1	0.8	15.4	4.6	767.8
7 40	4.4	3.8	1.1	2.0	0.3	16.	414.	5.3	49.	0.8	2.0	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

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HR	MN	--- MAGNETIC FIELD (GSM COORD.)					PLASMA					PRESS 10e8	EPSLN 10e-16	DzTU
		BRAGH	Bx	By	Bz	SIGMA	PHI	U	N	T/1000	PHI			
7 50	3.0	3.3	0.1	1.3	0.5	358.	413.	5.4	53.	0.0	-0.4	15.4	0.0	546.0
7 55	4.0	3.3	0.1	1.3	0.5	32.	414.	5.3	51.	0.3	0.1	16.3	0.0	332.8
8 00	4.4	3.3	0.1	1.3	0.5	16.	413.	5.4	54.	0.3	0.6	16.5	0.5	836.4
8 05	4.6	3.3	0.1	1.4	0.6	16.	416.	5.4	55.	0.3	-0.1	14.9	0.7	1063.5
8 10	4.6	3.3	0.1	1.4	0.6	19.	414.	5.4	56.	0.3	-0.5	15.5	0.3	1122.3
8 15	4.4	3.3	0.1	1.4	0.6	19.	417.	5.4	57.	0.3	0.0	15.0	0.3	1155.7
8 20	4.4	3.3	0.1	1.4	0.6	24.	417.	5.4	58.	0.3	1.7	15.1	1.0	1015.7
8 25	4.4	3.3	0.1	1.4	0.6	24.	414.	5.4	45.	0.5	0.7	15.5	0.7	972.8
8 30	4.3	3.3	0.1	1.4	0.6	24.	412.	5.4	48.	1.4	2.9	17.1	0.8	985.2
8 35	4.1	3.3	0.1	1.4	0.6	24.	415.	5.4	48.	1.6	4.7	18.1	0.5	1198.2
8 40	4.3	3.3	0.1	1.4	0.6	27.	412.	5.4	51.	0.5	1.2	17.1	1.2	1152.7
8 45	4.4	3.3	0.1	1.4	0.6	27.	410.	5.4	52.	1.1	2.0	17.5	0.7	1089.3
8 50	4.4	3.3	0.1	1.4	0.6	27.	417.	5.4	56.	1.1	-0.7	17.5	0.8	1108.0
8 55	4.4	3.3	0.1	1.4	0.6	25.	409.	5.4	52.	1.0	0.4	16.4	0.8	1115.9
9 00	4.4	3.3	0.1	1.4	0.6	25.	425.	5.4	54.	0.8	3.5	19.0	0.5	1254.3
9 05	4.4	3.3	0.1	1.4	0.6	25.	410.	5.4	52.	1.4	1.0	17.8	0.5	1166.7
9 10	4.4	3.3	0.1	1.4	0.6	24.	408.	5.4	52.	1.4	0.8	16.0	0.8	1009.3
9 15	4.4	3.3	0.1	1.4	0.6	24.	409.	5.4	52.	1.1	2.0	17.3	0.9	1005.5
9 20	4.4	3.3	0.1	1.4	0.6	21.	410.	5.4	49.	0.9	1.0	15.8	1.1	941.8
9 25	4.4	3.3	0.1	1.4	0.6	15.	408.	5.4	53.	0.9	1.6	16.0	1.6	632.8
9 30	4.4	3.3	0.1	1.4	0.6	14.	410.	5.4	47.	0.9	1.4	15.7	0.9	702.1
9 35	4.4	3.3	0.1	1.4	0.6	7.	411.	5.4	46.	-0.1	1.5	15.3	0.1	595.3
9 40	4.4	3.3	0.1	1.4	0.6	16.	408.	5.4	54.	1.2	1.8	18.1	0.3	977.3
9 45	4.4	3.3	0.1	1.4	0.6	8.	407.	5.4	54.	0.8	1.7	18.7	0.1	744.2
9 50	4.4	3.3	0.1	1.4	0.6	12.	408.	5.4	54.	0.8	1.9	18.2	0.3	788.4
9 55	4.4	3.3	0.1	1.4	0.6	15.	408.	5.4	54.	1.4	1.2	17.5	1.8	587.0
10 00	4.4	3.3	0.1	1.4	0.6	13.	438.	5.4	54.	1.6	-0.8	18.3	11.2	239.7
10 05	4.4	3.3	0.1	1.4	0.6	10.							2.2	380.3
10 10	4.4	3.3	0.1	1.4	0.6	17.							38.6	19.1
10 15	4.4	3.3	0.1	1.4	0.6	17.							12.8	258.2
10 20	4.4	3.3	0.1	1.4	0.6	15.							26.3	842.2
10 25	4.4	3.3	0.1	1.4	0.6	11.							26.3	57.3
10 30	4.4	3.3	0.1	1.4	0.6	4.							2.1	125.3
10 35	4.4	3.3	0.1	1.4	0.6	17.							10.2	232.8
10 40	4.4	3.3	0.1	1.4	0.6	22.							9.3	322.4
10 45	4.4	3.3	0.1	1.4	0.6	34.							14.5	307.4
10 50	4.4	3.3	0.1	1.4	0.6	58.							21.4	432.1
10 55	4.4	3.3	0.1	1.4	0.6	60.							13.0	659.1
11 00	4.4	3.3	0.1	1.4	0.6	61.							9.7	778.1
11 05	4.4	3.3	0.1	1.4	0.6	33.							2.1	705.0
11 10	4.4	3.3	0.1	1.4	0.6	17.	409.	6.2	54.	1.0	1.7	17.4	1.4	704.8
11 15	4.4	3.3	0.1	1.4	0.6	14.	408.	6.2	66.	1.2	1.6	18.9	0.9	668.1
11 20	4.4	3.3	0.1	1.4	0.6	10.	405.	6.2	71.	1.0	0.3	18.7	0.2	667.6
11 25	4.4	3.3	0.1	1.4	0.6	4.	407.	6.2	72.	0.7	2.0	18.1	0.0	633.5
11 30	4.4	3.3	0.1	1.4	0.6	359.	409.	6.2	63.	0.7	1.0	17.4	0.0	476.1
11 35	4.4	3.3	0.1	1.4	0.6	2.	407.	6.3	71.	0.9	0.6	17.4	0.0	503.3
11 40	4.4	3.3	0.1	1.4	0.6	11.	405.	6.3	69.	1.1	1.6	18.1	0.4	500.5
11 45	4.4	3.3	0.1	1.4	0.6	11.	410.	6.3	79.	0.5	-0.9	16.2	0.3	772.7
11 50	5.1	4.3	1.7	1.8	0.0	22.	411.	6.0	63.	0.7	0.3	16.6	4.2	719.9

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11	55	4.4	4.4	1.0	0.0	0.0	12.0	414.0	5.2	73.0	-0.1	0.2	15.0	2.0	813.2
12	55	4.4	4.4	0.1	0.0	0.0	12.0	410.0	5.2	71.0	-0.7	1.0	16.4	0.5	839.5
12	55	4.4	4.4	0.7	0.0	0.0	8.0	417.0	5.5	105.0	-0.9	0.5	16.1	0.1	920.2
12	55	4.4	4.1	0.3	0.0	0.0	4.0	411.0	6.1	72.0	-0.3	1.6	17.2	0.0	1000.0
12	55	4.4	4.0	0.1	0.0	0.0	1.0	412.0	6.3	61.0	-0.1	1.2	17.0	0.0	1132.1
12	55	4.4	4.0	1.4	0.0	0.0	17.0	407.0	5.9	60.0	0.4	2.5	16.3	6.5	495.2
12	55	3.4	3.4	1.0	0.0	0.0	30.0	409.0	6.7	63.0	1.3	0.3	18.8	37.0	-78.6
12	55	3.4	3.4	0.1	0.0	0.0	23.0	405.0	7.0	68.0	0.6	-1.1	19.5	32.3	-26.2

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HR	MIN	MAGNETIC FIELD (GSM COORD.)			SIGMA	PHI	PLASMA				PRESS 10e9	EPSLNx 10e-16	BzXU	
		Bx	By	Bz			U	N	T/1000	PHI				THETA
12	35	4.2	4.1	1.0	0.7	14.0	407.0	7.0	75.0	0.4	-0.7	19.3	25.0	67.3
12	40	4.4	4.4	-0.1	0.2	358.0	406.0	6.9	75.0	-0.3	-0.2	19.1	129.9	-72.1
12	45	4.4	4.4	-0.7	0.4	351.0	409.0	7.1	76.0	-1.0	1.2	19.8	20.1	81.2
12	50	4.4	4.4	0.0	0.8	338.0	411.0	7.2	68.0	-2.1	2.2	20.2	12.5	276.1
12	55	4.4	4.0	-1.5	1.0	329.0	420.0	6.3	86.0	-3.0	1.4	18.4	16.9	223.3
13	00	4.4	4.0	-1.9	1.3	317.0	413.0	6.2	72.0	-1.2	1.2	17.7	11.2	128.5
13	05	4.4	4.0	-1.7	2.1	308.0	418.0	6.0	87.0	-1.3	-1.0	20.1	27.1	-432.8
13	10	4.4	4.0	-1.0	0.6	252.0	420.0	7.6	75.0	-0.5	-0.3	22.3	150.0	-1544.2
13	15	4.4	4.0	-1.1	0.6	238.0	425.0	7.0	71.0	-0.7	-0.9	21.0	153.7	-1441.8
13	20	4.4	4.0	-1.1	0.6	219.0	424.0	7.5	75.0	-0.7	1.2	22.5	158.7	-1317.1
13	25	4.4	4.0	-1.4	0.6	231.0	426.0	6.9	69.0	-0.7	-1.5	21.0	143.3	-1242.6
13	30	4.4	4.0	-1.3	0.5	239.0	424.0	6.9	75.0	-0.8	-0.3	20.7	139.6	-1260.5
13	35	4.4	4.0	-1.7	0.7	230.0	424.0	7.6	73.0	-1.1	-0.4	22.0	151.3	-1368.5
13	40	4.4	4.0	-1.3	0.5	230.0	423.0	7.5	72.0	-0.4	-0.8	22.5	153.6	-1448.4
13	45	4.4	4.0	-1.4	0.4	244.0	416.0	7.8	66.0	-0.8	-0.0	22.5	145.3	-1433.3
13	50	4.4	4.0	-1.4	0.4	246.0	416.0	7.6	64.0	-1.1	1.3	22.1	139.8	-1377.0
13	55	4.4	4.0	-1.3	0.4	274.0	409.0	7.1	58.0	-1.8	-1.5	19.9	137.9	-1334.9
14	00	4.4	4.0	-1.4	0.4	284.0	411.0	7.2	57.0	-1.6	0.2	20.3	143.4	-1284.8
14	05	4.4	4.0	-1.4	0.4	288.0	416.0	7.9	60.0	-1.6	1.5	22.0	154.0	-1378.2
14	10	4.4	4.0	-1.7	2.0	318.0	428.0	6.5	54.0	-1.2	1.2	20.0	48.3	-287.6
14	15	4.4	4.0	-1.7	2.0	351.0	413.0	8.2	48.0	0.1	1.6	23.3	0.1	1228.2
14	20	4.4	4.0	-1.1	0.0	348.0	413.0	8.4	47.0	-0.1	1.8	23.4	0.3	1131.4
14	25	4.4	4.0	-1.7	0.0	343.0	414.0	8.6	46.0	0.1	1.9	23.8	1.5	1023.9
14	30	4.4	4.0	-1.5	0.0	342.0	414.0	8.6	49.0	-0.3	2.0	24.7	2.8	917.7
14	35	4.4	4.0	-1.7	0.0	334.0	415.0	10.1	60.0	-0.7	2.6	29.0	6.8	984.7
14	40	4.4	4.0	-1.7	0.0	326.0	414.0	8.3	53.0	-0.2	2.4	23.9	14.9	690.9
14	45	4.4	4.0	-1.7	0.0	334.0	413.0	10.1	54.0	-0.1	2.3	28.8	10.6	932.5
14	50	4.4	4.0	-1.5	0.0	342.0	414.0	9.5	53.0	0.7	2.1	27.2	3.7	976.5
14	55	4.4	4.0	-1.5	0.0	344.0	414.0	9.4	54.0	0.7	2.7	26.8	1.6	1030.4
15	00	4.4	4.0	-1.1	0.0	338.0	413.0	9.6	49.0	0.8	2.2	27.4	4.6	1010.9
15	05	4.4	4.0	-1.4	0.0	340.0	411.0	10.7	53.0	-2.2	0.0	30.0	12.2	880.6
15	10	4.4	4.0	-1.5	0.0	341.0	410.0	9.5	55.0	-1.6	0.8	26.6	13.5	631.5
15	15	4.4	4.0	-1.4	0.0	341.0	411.0	9.7	63.0	-1.8	1.5	27.3	17.4	571.6
15	20	4.4	4.0	-1.4	0.0	340.0	412.0	10.0	58.0	-2.0	2.0	24.0	24.2	595.8
15	25	4.4	4.0	-1.6	0.0	336.0	407.0	8.8	73.0	-1.2	2.1	23.0	43.3	242.9
15	30	4.4	4.0	-1.4	0.0	345.0	408.0	8.8	63.0	-0.8	2.1	25.0	8.7	789.1
15	35	4.4	4.0	-1.4	0.0	342.0	408.0	10.0	54.0	-1.0	1.3	28.4	4.4	964.3
15	40	4.4	4.0	-1.1	0.0	340.0	408.0	10.0	54.0	-1.0	1.3	28.4	8.9	869.1
15	45	4.4	4.0	-1.1	0.0	340.0	410.0	10.0	54.0	-1.0	1.3	28.4	39.6	271.1
16	00	4.4	4.0	-1.1	0.0	340.0	411.0	7.5	70.0	-2.2	2.8	21.0	49.9	182.6
16	05	4.4	4.0	-1.1	0.0	330.0	407.0	8.6	83.0	-2.7	1.5	23.0	72.1	-0.4
16	10	4.4	4.0	-1.1	0.0	329.0	409.0	8.5	83.0	-2.1	2.4	23.9	93.8	-198.2
16	15	4.4	4.0	-1.0	0.0	324.0	410.0	8.2	68.0	-1.4	2.4	23.1	93.8	-198.2
16	20	4.4	4.0	-1.1	0.0	319.0	406.0	8.8	78.0	-0.2	2.0	24.2	141.4	-445.0

16 30	7.0	4.8	-4.3	-1.9	1.2	318.	405.	7.4	61.	-1.7	3.7	20.4	181.3	-779.3
16 35	5.7	5.0	-4.4	-0.6	1.6	321.	405.	8.2	62.	-1.3	3.1	22.7	112.7	-859.8
16 40	4.4	4.3	-4.3	-0.6	1.3	320.	400.	9.0	74.	-1.2	1.5	24.0	26.0	-847.6
16 45	6.5	4.0	-3.6	-1.4	1.2	324.	405.	8.8	64.	-1.1	3.0	23.6	146.3	-585.8
16 50	6.5	4.0	-3.7	-1.3	1.0	323.	402.	8.3	78.	-0.9	3.5	23.2	141.5	-516.3
16 55	4.3	4.3	-4.2	-1.1	1.3	316.	407.	8.3	59.	-1.2	3.4	22.9	119.5	-463.1
17 00	6.2	4.2	-3.3	-0.9	1.3	326.	397.	9.7	79.	-0.6	2.1	25.4	109.0	-348.3
17 05	6.1	4.9	-3.7	-1.5	1.1	331.	401.	8.8	81.	-2.0	1.6	23.6	152.0	-614.0
17 10	6.0	4.7	-3.0	-1.6	1.1	327.	404.	8.0	56.	-1.6	2.8	21.8	144.2	-631.0
17 15	4.9	4.9	-3.4	0.9	0.9	326.	403.	8.1	63.	-2.4	3.3	22.0	162.9	-682.7
17 20	6.2	4.7	-3.3	-1.5	1.0	325.	403.	7.9	58.	-1.0	3.1	21.5	141.5	-582.7
17 25	6.0	4.4	-3.3	-2.1	1.0	323.	401.	7.8	56.	-1.3	2.1	21.0	162.0	-822.8
17 30	6.2	4.2	-3.6	-2.4	1.2	319.	396.	8.3	59.	-0.0	2.3	21.7	172.6	-953.5

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

HR	PH	--- MAGNETIC FIELD (GSM COORD.) ---					--- PLASMA ---					PRESS# 1000	EPSLN# 100-16	BxZU
		B _{MAGN}	B _x	B _y	B _z	SIGMA	PHI	U	N	T/1000	PHI			
17 35	6.1	4.1	-3.8	-1.7	1.3	317.	399.	7.8	75.	-0.8	2.0	20.7	136.4	-681.5
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	28.9	137.8	-863.5
17 55	6.1	3.5	-4.0	-1.9	1.6	311.	406.	9.8	53.	-2.6	3.5	26.9	133.2	-774.1
18 00	5.7	2.5	-4.3	-1.9	2.0	300.	403.	10.9	62.	-1.0	0.9	29.6	112.6	-770.6
18 05	4.6	0.1	-2.8	-3.5	1.2	269.	410.	11.0	72.	-1.8	1.8	30.9	132.0	-1440.5
18 10	5.1	3.1	-3.9	-1.7	2.1	316.	418.	10.4	71.	-2.6	3.2	29.2	98.4	-705.5
18 15	5.8	4.7	-3.0	-0.6	1.0	327.	403.	8.8	61.	-2.1	2.1	23.9	40.1	-258.2
18 20	5.8	4.2	-3.4	-0.4	1.5	321.	402.	9.7	80.	-1.9	2.9	26.3	73.5	-160.3
18 25	5.9	4.5	-3.3	-0.5	1.1	324.	396.	8.9	64.	-0.9	1.9	23.4	83.0	-199.5
18 30	5.3	5.2	-3.1	0.0	1.0	329.	397.	8.0	64.	-2.3	1.5	23.5	72.7	3.2
18 35	5.3	5.4	-3.2	0.7	0.8	333.	395.	9.6	66.	-2.5	2.2	25.1	42.8	272.2
18 40	5.2	5.7	-3.2	0.6	0.8	333.	400.	8.7	55.	-1.2	2.8	23.2	53.0	230.5
18 45	5.7	5.2	-3.7	0.3	1.2	333.	400.	10.4	53.	-1.7	2.8	27.8	54.6	126.9
18 50	5.7	4.8	-3.7	0.3	0.9	330.	396.	9.3	64.	-3.1	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	45.1	213.1
19 00	5.0	4.8	-3.8	0.3	0.7	330.	395.	9.4	66.	-2.0	2.2	24.6	47.2	123.0
19 05	5.8	5.5	-3.4	0.5	0.9	334.	396.	9.4	69.	-2.4	2.0	24.6	40.5	193.8
19 10	5.5	5.7	-3.0	0.9	0.5	333.	395.	10.4	67.	-1.9	2.1	27.1	41.9	336.7
19 15	5.3	5.5	-3.4	1.4	0.6	336.	389.	13.3	77.	-1.4	1.1	33.6	32.0	552.6
19 20	5.9	5.5	-3.3	1.4	0.6	336.	354.	10.2	70.	-1.0	2.7	26.4	27.1	355.0
19 25	5.4	4.0	-0.0	-2.2	3.0	180.	403.	11.2	71.	-1.1	2.6	30.4	165.4	-872.2
19 30	5.4	1.7	-1.4	-1.4	0.2	163.	420.	10.1	54.	-0.3	1.7	29.8	214.2	-583.5
19 35	5.2	1.5	-1.9	-0.9	0.3	165.	425.	12.5	107.	-0.8	1.4	37.7	260.1	-802.4
19 40	5.1	1.5	-1.5	-0.4	0.3	165.	418.	10.4	48.	-0.7	2.4	30.3	248.5	-840.2
19 45	5.0	1.2	-2.1	-0.3	0.3	167.	417.	10.7	52.	-0.7	1.8	31.1	255.9	-881.7
19 50	5.6	1.2	-1.7	0.4	0.4	168.	418.	10.5	52.	-1.7	1.7	30.6	246.1	-716.1
19 55	5.1	1.3	-2.0	0.4	0.4	167.	417.	10.3	52.	-1.1	1.9	29.9	261.2	-846.3
20 00	5.3	0.6	-2.6	0.3	0.3	174.	419.	9.8	49.	-1.4	1.4	28.7	321.2	-1104.9
20 05	5.0	0.5	-2.1	0.3	0.3	175.	418.	10.1	55.	-1.5	1.8	29.5	293.8	-894.9
20 10	5.1	0.6	-1.9	0.3	0.3	173.	421.	11.2	76.	-1.7	0.8	33.2	243.5	-815.4
20 15	5.4	0.1	-1.9	0.7	1.2	182.	423.	11.5	77.	-1.0	0.2	34.4	245.8	-902.8
20 20	5.6	0.2	-2.0	0.2	0.2	186.	418.	10.6	58.	-2.0	1.7	30.9	259.1	-843.6
20 25	5.5	0.7	-1.7	0.3	0.3	187.	419.	10.8	65.	-1.8	1.2	31.7	246.0	-786.5
20 30	5.3	0.3	-1.2	0.9	0.9	186.	422.	10.8	72.	-1.4	1.6	32.1	223.0	-582.9
20 35	5.5	0.7	-1.4	2.3	1.0	196.	422.	11.1	67.	-2.1	1.0	33.0	214.0	-862.4

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20	5.5	5.5	-1.0	-2.7	0.3	202.	421.	10.7	82.	-1.0	1.0	31.7	217.2	-1137.3
20	5.5	5.5	-1.0	-2.7	0.3	207.	420.	10.8	82.	-1.0	1.2	31.8	178.7	-890.2
20	5.5	5.5	-1.0	-2.7	0.3	203.	424.	11.5	78.	-2.3	1.7	34.5	198.0	-971.9
20	5.5	5.5	-1.0	-2.7	0.3	210.	422.	11.8	82.	-2.0	1.7	35.1	143.0	-590.0
21	5.5	5.5	-1.0	-2.7	0.3	212.	419.	11.3	84.	-2.0	2.0	33.1	98.5	-354.7
21	5.5	5.5	-1.0	-2.7	0.3	224.	421.	11.7	80.	-2.0	2.0	34.6	75.0	-215.3
21	5.5	5.5	-1.0	-2.7	0.3	203.	419.	11.7	81.	-2.4	1.0	34.3	184.4	-955.6
21	5.5	5.5	-1.0	-2.7	0.3	202.	414.	10.8	82.	-1.0	2.3	30.9	188.5	-858.6
21	5.5	5.5	-1.0	-2.7	0.3	202.	416.	11.4	48.	-1.0	1.8	32.9	197.2	-859.5
21	5.5	5.5	-1.0	-2.7	0.3	195.	416.	11.6	49.	-2.0	1.7	33.2	184.4	-866.7
21	5.5	5.5	-1.0	-2.7	0.3	182.	415.	10.4	53.	-1.8	2.4	28.0	238.1	-796.1

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

HR	MN	MAGNETIC FIELD (GSM COORD.)				PLASMA				PRESS	EPSLN	Bxx			
		Bx	By	Bz	SIGMA	PHI	U	N	T/1000				PHI	THETA	10e9
1	5	6.4	5.9	-0.7	2.2	0.6	353.	393.	6.9	78.	-1.3	0.9	17.7	0.2	854.0
1	10	5.8	5.6	-0.6	1.9	0.5	353.	392.	6.7	81.	0.4	-0.0	17.3	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	17.4	0.0	689.1
1	20	5.8	5.5	0.4	1.8	0.6	4.	403.	6.8	82.	0.6	2.0	18.6	0.0	740.8
1	25	5.8	5.6	0.3	2.6	0.3	3.	391.	7.0	70.	0.4	0.7	17.8	0.0	999.9
1	30	5.8	5.4	0.4	2.5	0.6	5.	392.	6.6	64.	1.1	2.2	17.0	0.0	980.2
1	35	5.7	5.4	-0.1	1.7	0.2	359.	391.	6.9	72.	1.3	1.6	17.6	0.0	655.3
1	40	5.7	5.4	0.0	1.5	0.8	0.	389.	7.4	83.	1.3	2.4	18.6	0.0	564.2
1	45	5.7	5.2	0.4	1.7	1.1	4.							0.0	677.2
1	55	4.7	4.3	-0.4	1.9	0.5	354.	378.	6.7	112.	2.4	1.2	16.1	0.0	700.4
1	00	4.7	4.2	-0.3	1.8	0.8	355.	375.	6.3	43.	2.1	1.7	14.8	0.0	670.5
1	05	4.7	4.4	-0.4	2.3	0.6	355.	375.	6.3	106.	0.9	0.8	19.4	0.0	861.0
1	10	4.7	4.7	-0.4	2.4	0.5	3.	384.	7.7	78.	0.8	-1.1	19.0	0.0	936.5
1	15	4.7	4.7	-0.4	2.4	0.4	358.	384.	7.7	82.	1.4	1.8	18.9	0.0	821.1
1	20	4.7	4.7	-0.3	2.4	0.2	356.	383.	7.1	90.	1.3	1.3	17.4	0.0	936.6
1	25	4.9	4.9	-0.3	2.3	0.4	353.	387.	6.4	75.	1.5	2.0	16.1	0.1	876.2
1	30	4.8	4.8	0.0	2.1	0.3	5.	386.	6.7	80.	1.6	2.2	16.6	0.0	798.1
1	35	4.8	4.8	-0.1	2.1	0.4	1.	397.	5.1	50.	1.3	1.1	13.5	0.0	822.4
1	40	4.8	4.8	-0.4	1.5	0.3	355.	397.	5.2	60.	0.4	-1.2	13.7	0.1	589.7
1	45	4.8	4.8	-0.4	1.3	0.3	356.	398.	5.4	64.	0.4	2.1	14.2	0.1	521.1
1	50	4.8	4.8	-0.3	1.4	0.2	356.	392.	5.7	80.	0.8	-0.2	14.6	0.0	542.4
1	55	4.8	4.8	-0.2	1.2	0.1	357.	395.	5.4	73.	0.8	-0.2	14.1	0.0	481.1
1	00	4.7	4.7	-0.1	1.3	0.2	359.	394.	5.5	79.	0.3	4.0	14.4	0.0	506.1
1	05	4.7	4.7	0.1	1.1	0.2	1.	391.	5.5	90.	0.2	2.1	14.0	0.0	410.8
1	10	4.4	4.3	0.5	0.8	0.2	7.	388.	5.7	100.	-0.1	1.8	14.5	0.8	329.5
1	15	4.4	4.4	0.6	1.0	0.2	8.	386.	5.7	110.	-0.2	0.4	14.3	0.7	379.0
1	20	4.3	4.1	0.7	1.1	0.1	10.	382.	6.1	125.	-0.8	0.2	14.0	1.0	411.4
1	25	4.4	4.1	0.7	0.9	0.1	9.	379.	6.8	147.	-1.0	0.2	15.8	1.2	355.3
1	30	4.4	4.1	0.5	0.8	0.2	9.	389.	5.0	136.	-4.8	0.4	15.0	0.4	354.1
1	35	4.4	4.1	0.4	0.9	0.1	5.	384.	5.4	114.	-0.3	-0.1	13.4	0.1	359.1
1	40	4.4	4.4	0.4	1.0	0.3	6.	385.	5.2	110.	-0.3	0.6	12.0	0.1	379.3
1	45	4.4	4.4	0.6	0.9	0.2	0.						0.0	0.0	392.5
1	50	4.4	4.4	0.6	1.1	0.2	0.						0.0	0.0	442.0
1	55	4.4	4.4	0.6	1.4	0.3	10.						0.0	0.0	558.0
1	00	4.4	4.4	0.3	1.2	0.4	5.						0.0	0.0	486.2
1	05	4.4	4.4	0.0	1.1	0.2	360.						0.0	0.0	454.8
1	10	4.4	4.4	0.0	1.1	0.2	360.						0.0	0.0	451.4
1	15	4.4	4.4	0.0	1.1	0.2	360.						0.0	0.0	486.8
1	20	4.4	4.4	0.0	1.1	0.2	367.						0.0	0.0	675.5
1	25	4.4	4.4	0.0	1.7	0.1	359.						0.0	0.0	672.0

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9 30	3.3	3.3	-1.1	-0.2	0.0	338.	383.	8.0	84.	0.8	2.0	19.5	31.0	-66.9
9 35	3.3	3.7	-1.1	-0.2	0.0	339.	381.	7.1	79.	-0.5	0.5	17.2	45.2	-215.8
9 40	3.3	3.8	-0.0	-0.0	1.1	357.	384.	7.9	111.	-0.4	2.9	19.4	34.7	-803.8
9 45	4.3	4.1	1.1	0.0	0.0	15.	384.	8.9	89.	0.8	1.4	21.8	32.5	14.5
9 50	3.9	3.6	-0.2	-0.4	0.7	0.	388.	7.8	87.	-0.4	1.4	19.7	111.3	-179.0
9 55	3.7	3.6	-0.4	-0.5	0.6	357.	385.	7.0	90.	0.1	0.8	17.3	28.8	-144.2
10 00	3.7	3.7	0.0	0.0	0.6	4.	385.	7.0	84.	-0.5	2.3	18.7	18.8	17.0
10 05	4.0	4.4	0.0	0.0	0.5	7.	386.	8.4	84.	0.1	1.1	21.0	27.3	11.1
10 10	4.1	4.4	0.0	1.1	0.4	8.	384.	9.1	88.	0.4	1.9	22.5	0.6	381.1
10 15	4.4	4.3	1.0	0.0	0.4	14.	385.	9.1	79.	0.5	1.9	22.5	0.1	931.9
10 20	4.3	3.9	1.0	0.4	0.3	15.	386.	8.8	70.	0.9	2.0	21.8	0.2	881.0
10 25	4.3	3.7	0.7	0.0	0.3	11.	394.	8.6	76.	1.0	2.1	22.2	0.1	831.5
10 30	4.2	3.9	0.4	1.5	0.5	8.	384.	8.6	78.	0.6	2.1	21.1	0.0	582.5
10 35	4.5	3.7	1.6	0.0	0.7	23.	387.	8.3	69.	0.2	1.8	20.7	1.8	772.7
10 40	4.7	3.5	1.9	0.0	0.2	28.	388.	8.3	64.	-0.4	2.4	21.0	2.1	810.5
10 45	4.6	3.7	1.8	0.0	0.2	28.	387.	8.4	65.	0.4	1.9	20.9	2.4	811.6
10 50	4.7	3.7	1.8	0.0	0.1	27.	387.	8.1	66.	0.7	1.9	20.4	2.2	865.8
10 55	4.7	3.5	2.0	0.0	0.3	30.	389.	8.3	68.	0.7	2.0	20.9	2.6	899.8
11 00	4.5	3.5	1.5	0.0	0.0	23.	387.	8.3	66.	1.0	2.1	20.8	1.2	858.2

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

HR	MN	--- MAGNETIC FIELD (GSM COORD.)			PLASMA			PRESS		EPSLN		BzXU		
		SMAGN	Bx	By	Bz	SIGMA	PHI	U	N	T/1000	PHI		THETA	10e9
11 5	4.5	3.7	0.2	2.5	0.2	3.	387.	8.6	69.	1.0	2.0	21.6	0.0	984.9
11 15	4.5	3.6	0.4	2.5	0.0	6.	385.	8.7	70.	0.7	1.4	21.6	0.0	977.8
11 20	4.5	3.6	0.3	2.6	0.1	4.	384.	8.7	75.	0.8	2.4	21.4	0.0	980.9
11 25	4.4	3.5	-0.1	2.7	0.2	358.	386.	9.2	70.	1.0	2.2	22.9	0.0	1040.1
11 30	4.5	3.7	0.0	2.6	0.3	8.	388.	8.2	94.	0.8	1.7	20.7	0.0	1002.3
11 35	4.2	2.8	2.3	2.0	0.8	39.	378.	8.4	64.	0.2	2.0	20.0	3.9	737.4
11 40	4.3	3.6	-1.3	1.7	0.9	340.	376.	8.1	57.	-1.5	2.1	19.1	1.6	621.9
11 45	4.7	4.1	-1.3	1.9	0.4	340.	388.	7.5	100.	-1.8	2.1	18.9	1.8	747.6
11 50	5.0	4.3	-1.2	2.0	0.7	344.	389.	6.8	86.	-2.8	0.8	17.3	1.1	781.7
11 55	5.1	4.4	-1.2	1.8	1.2	344.	388.	6.8	82.	-1.8	0.5	17.1	1.5	690.9
12 00	5.5	4.2	-2.7	1.7	1.0	327.	397.	5.0	65.	-2.2	0.7	13.2	12.0	674.5
12 05	5.7	4.3	-2.9	1.8	1.0	326.	404.	5.1	58.	-1.9	-1.8	14.0	13.6	732.7
12 10	5.5	3.9	-3.4	1.4	1.0	319.	416.	5.6	56.	-0.3	-1.0	16.1	24.0	562.8
12 15	5.6	3.9	-3.9	1.2	1.5	310.	410.	4.6	54.	1.0	-1.0	12.9	29.0	491.0
12 20	5.7	3.5	-4.6	0.4	1.9	298.	408.	5.7	51.	2.3	-2.4	15.8	46.4	179.3
12 25	5.3	3.3	-4.5	0.1	1.5	297.	415.	5.8	57.	2.3	-4.0	16.6	50.5	37.5
12 30	5.7	3.6	-4.3	0.5	1.9	300.	426.	5.6	67.	0.5	-1.0	17.0	48.0	196.3
12 35	5.2	3.3	-4.3	0.6	1.3	298.	416.	5.8	65.	2.0	-1.6	16.9	66.3	-253.0
12 40	5.1	2.2	-4.0	-0.4	2.0	299.	423.	5.8	70.	2.5	-1.4	17.4	54.3	-174.4
12 45	5.1	4.4	-4.4	-0.3	1.6	292.	417.	6.8	68.	2.9	-1.7	19.7	55.5	-139.6
12 50	4.9	3.2	-4.1	0.4	1.4	299.	423.	5.9	79.	2.9	-0.0	17.5	37.7	177.0
12 55	5.0	3.4	-3.3	0.8	1.1	316.	412.	5.3	65.	3.1	-0.9	15.0	28.2	309.1
13 00	4.6	3.4	-2.8	0.4	1.0	321.	409.	5.1	46.	4.2	-3.1	14.2	30.0	153.8
13 05	4.6	3.7	-3.0	0.6	1.1	321.	414.	5.8	121.	5.0	0.6	16.2	29.3	262.5
13 10	5.1	3.6	-3.0	0.8	0.8	320.	411.	6.5	70.	2.5	-1.5	18.4	10.4	817.0
13 15	4.9	3.7	-2.5	1.7	1.0	326.	412.	6.9	76.	2.3	-1.5	19.8	8.8	711.2
13 20	4.6	3.5	-2.0	1.7	0.9	332.	420.	7.0	104.	1.3	-1.9	20.7	5.1	699.0
13 25	4.5	3.3	-2.6	0.1	1.2	322.	418.	5.9	78.	0.6	-1.3	17.1	33.7	51.9
13 30	4.5	3.2	-2.6	-0.3	1.4	321.	419.	6.0	70.	3.1	-1.4	17.6	43.9	-121.6
13 35	4.7	3.2	-2.8	-0.6	1.4	318.	416.	5.8	74.	1.7	-2.0	16.9	55.0	-231.8
13 40	4.8	3.0	-3.1	-1.4	1.3	315.	422.	6.2	88.	3.0	2.1	18.5	88.0	-600.0

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13 45	4.7	2.3	-3.1	-1.0	1.6	307.	432.	7.5	82.	2.5	-3.3	23.3	93.7	-825.0
13 50	4.1	3.3	-1.6	1.3	1.1	335.	423.	7.3	133.	1.3	-2.4	22.0	4.1	553.8
13 55	4.4	3.8	-1.1	1.8	0.8	343.	424.	7.3	129.	0.2	-2.5	21.8	0.7	783.3
14 00	4.4	3.8	-1.4	1.0	0.6	346.	426.	7.5	137.	-0.1	-1.7	22.8	6.5	412.7
14 05	4.5	4.3	-1.0	0.8	0.4	347.	426.	7.8	147.	-0.2	-2.0	23.6	5.0	330.0
14 10	4.4	4.3	-0.9	0.6	0.3	349.	424.	8.4	155.	-0.2	-3.1	25.1	7.4	254.8
14 15	4.4	4.1	-1.3	0.5	0.5	343.	423.	7.8	157.	-0.4	-3.8	23.3	15.2	224.8
14 20	4.0	3.7	-1.2	0.6	0.7	342.	420.	6.8	86.	-0.3	-3.6	20.0	10.1	239.7
14 25	4.4	4.0	-1.2	0.7	0.7	343.	425.	7.8	131.	-0.6	-1.9	22.0	8.3	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	13.5	234.3
14 35	3.9	3.9	-1.9	0.8	1.3	328.	422.	6.1	98.	-0.8	-4.0	18.2	14.1	299.6
14 40	4.2	3.3	-2.2	0.3	1.1	327.	415.	6.9	99.	1.6	-1.9	19.8	25.2	116.8
14 45	4.2	1.6	-3.1	-0.3	2.1	298.	410.	7.8	68.	1.4	-1.9	22.8	34.5	-308.6
14 50	3.3	0.8	-2.0	-1.4	0.6	286.	418.	7.5	93.	1.7	-2.0	21.8	45.5	-565.8
15 15	3.9	2.9	-1.6	0.6	1.7	331.	415.	6.7	81.	0.4	-0.4	19.3	0.5	261.2
15 20	3.9	2.9	-1.4	0.6	1.1	334.	414.	7.0	64.	0.8	-2.3	20.0	8.2	249.9
15 25	3.1	3.1	-1.8	1.2	0.7	330.	414.	6.6	68.	0.9	-1.9	18.9	5.5	513.7
15 30	3.8	3.0	-1.7	1.1	0.8	330.	415.	6.3	85.	0.9	-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	488.1
15 40	4.2	3.5	-1.9	1.1	0.1	331.	415.	6.7	84.	1.0	-1.5	19.3	9.1	460.0
15 45	4.1	3.5	-1.8	1.3	0.2	331.	416.	7.4	150.	1.0	-1.3	21.3	5.0	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	4.0	540.3
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	490.2
16 00	4.0	3.6	-1.6	1.1	0.2	336.	415.	6.2	82.	1.0	-1.1	17.0	6.3	449.8

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IMP-J POSITION IN GSM COORDINATES: X(11.3); Y(-25.3); Z(-11.0) Page 8

HR	MIN	--- MAGNETIC FIELD (GSM COORD.) ---					--- PLASMA ---				PRESS# 10e9	EPSLN# 10e-16	BzXU	
		B _{MAGN}	B _x	B _y	B _z	SIGMA	PHI	U	N	T/1000				PHI
16 05	4.0	3.4	-1.7	1.2	0.2	333.	414.	6.2	63.	0.7	-1.4	17.6	5.8	508.2
16 10	4.1	3.9	-0.9	0.9	0.6	347.	412.	6.0	48.	0.8	-0.2	17.1	2.0	359.1
16 15	4.4	3.7	-1.5	1.7	0.5	338.	413.	6.1	54.	0.9	-0.8	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	587.8
16 25	4.2	3.7	-1.6	1.2	0.3	337.	413.	5.9	51.	0.8	-0.5	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	509.2
16 35	3.7	3.0	-1.6	1.3	0.6	333.	412.	6.7	55.	1.1	1.5	18.9	3.5	551.9
16 40	4.1	3.6	-1.4	1.3	0.3	338.	413.	5.9	54.	1.2	0.7	16.7	3.6	547.1
16 45	4.2	3.8	-1.4	1.1	0.2	340.	413.	5.9	51.	0.7	0.2	16.9	4.9	474.7
16 50	4.0	3.6	-1.3	1.3	0.3	339.	411.	6.6	53.	1.1	-0.4	18.5	3.2	529.0
16 55	3.9	3.5	-1.6	0.8	0.5	336.	412.	6.1	52.	0.8	-2.4	17.4	9.5	321.6
17 00	4.4	3.9	-1.7	0.8	0.7	336.	413.	6.3	50.	0.5	-0.9	18.0	13.7	318.7
17 05	3.5	3.1	-1.4	0.7	0.5	336.	408.	6.5	64.	0.6	-4.0	18.0	7.7	267.0
17 10	3.4	2.8	-0.8	1.5	2.3	336.	407.	7.2	64.	1.3	-2.4	19.8	0.1	611.0
17 15	3.3	2.7	-1.2	1.3	0.7	337.	410.	8.6	76.	-0.1	-0.3	24.1	1.4	529.3
17 20	3.8	3.2	-1.6	-0.2	1.0	334.	416.	5.4	60.	0.4	-2.1	15.8	32.0	-63.5
17 25	4.1	3.5	-1.6	0.1	1.0	336.	410.	5.2	71.	0.8	-0.6	17.4	27.7	31.8
17 30	3.8	3.3	-1.5	0.0	1.0	335.	408.	5.7	70.	0.6	1.7	15.8	24.8	17.8
17 35	3.7	3.1	-1.5	0.2	0.9	334.	408.	4.8	82.	2.1	0.7	13.3	19.3	65.3
17 40	4.3	3.9	-1.5	0.3	0.7	338.	410.	6.5	62.	2.0	-0.3	18.4	24.8	104.5
17 45	4.6	4.2	-1.8	0.4	0.7	336.	407.	7.0	58.	2.0	-3.0	19.4	28.0	142.8
17 50	5.4	4.9	-2.0	0.6	0.5	337.	406.	8.7	67.	1.3	-2.8	23.8	30.1	243.5
17 55	4.0	3.7	-1.4	0.6	0.4	339.	400.	9.1	79.	1.1	-2.7	24.4	11.7	239.6
18 00	4.2	3.9	-1.4	0.9	0.3	340.	409.	7.2	70.	-0.1	-1.1	20.2	7.6	373.3
18 05	3.7	3.1	-1.7	0.7	0.7	332.	406.	6.5	67.	0.4	-1.3	18.0	10.1	280.3
18 10	3.8	3.3	-1.5	0.4	0.7	336.	410.	5.8	75.	-0.3	-0.5	16.4	15.8	153.8
18 15	4.1	3.5	-1.6	0.2	1.0	338.	407.	6.4	79.	-0.4	-1.9	17.7	23.3	82.7

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18	4.0	3.3	-1.0	0.8	0.8	347.	405.	7.4	79.	0.2	0.7	20.4	4.0	305.7
18	4.1	3.3	-1.1	0.8	0.6	346.	404.	7.2	79.	0.1	-2.1	19.7	6.4	261.0
18	4.4	3.3	-1.0	0.8	0.7	346.	403.	6.0	58.	-0.3	-0.9	16.7	12.6	143.8
18	4.4	3.3	-1.0	0.8	0.8	350.	407.	6.5	61.	-0.3	0.8	18.0	31.4	-7.9
18	4.6	3.3	-1.0	0.8	1.1	351.	408.	6.7	65.	-2.0	0.8	15.0	44.8	-86.0
18	4.7	3.3	-1.0	0.8	0.9	355.	405.	6.1	62.	-0.3	-0.1	16.7	55.0	-58.1
18	4.8	3.3	-1.0	0.8	0.8	352.	404.	6.0	62.	-0.3	1.0	16.4	44.7	-80.1
18	4.9	3.3	-1.0	0.8	0.8	353.	406.	6.1	65.	0.1	1.1	16.8	53.2	-77.1
18	4.9	3.3	-1.0	0.8	0.8	353.	405.	6.2	73.	-0.7	1.0	16.0	41.0	-47.8
18	4.9	3.3	-1.0	0.8	0.8	359.	407.	7.6	65.	-0.1	1.3	21.0	0.2	56.1
18	4.9	3.3	-1.0	0.8	0.7	359.	406.	7.3	55.	-0.3	1.4	20.1	144.0	-116.0
18	4.9	3.3	-1.0	0.8	0.5	3.	405.	7.6	59.	0.6	0.1	20.8	3.7	87.1
18	4.9	3.3	-1.0	0.8	0.4	3.	405.	7.4	63.	0.1	0.6	20.2	41.0	-6.0
18	4.9	3.3	-1.0	0.8	0.4	6.	405.	7.6	64.	1.3	1.5	20.8	152.4	-140.5
18	4.9	3.3	-1.0	0.8	0.6	7.	401.	8.4	76.	0.7	1.0	22.6	30.8	3.7
18	4.9	3.3	-1.0	0.8	0.3	4.	397.	9.6	82.	0.9	-0.0	22.2	1.3	110.3
18	4.9	3.3	-1.0	0.8	0.4	355.	400.	8.4	78.	0.8	-1.1	22.3	13.6	40.2
18	4.9	3.3	-1.0	0.8	0.4	346.	398.	8.2	84.	0.7	1.2	24.4	27.0	-23.0
18	4.9	3.3	-1.0	0.8	0.8	332.	398.	8.3	77.	0.3	-1.2	22.0	20.1	-13.2
18	4.9	3.3	-1.0	0.8	0.8	327.	399.	6.9	76.	2.0	-1.6	18.4	20.0	-35.4
18	4.9	3.3	-1.0	0.8	1.0	332.	398.	9.5	81.	2.2	-0.4	25.2	5.8	551.5
18	4.9	3.3	-1.0	0.8	0.8	328.	404.	7.4	69.	3.0	2.3	20.1	47.6	-315.7
18	4.9	3.3	-1.0	0.8	0.8	325.	402.	7.3	84.	3.7	1.4	19.6	57.2	-225.8
18	4.9	3.3	-1.0	0.8	0.8	320.	399.	8.6	81.	3.2	0.8	25.5	20.3	-400.0
18	4.9	3.3	-1.0	0.8	1.3	334.	387.	11.2	95.	2.6	-0.7	28.0	28.6	100.5
18	4.9	3.3	-1.0	0.8	0.4	338.	390.	10.1	95.	1.5	1.8	25.7	17.2	304.2
18	4.9	3.3	-1.0	0.8	0.2	333.	388.	9.4	89.	1.9	1.5	23.7	34.6	100.7
18	4.9	3.3	-1.0	0.8	1.0	321.	384.	10.5	91.	2.0	2.0	25.0	40.1	-160.0
18	4.9	3.3	-1.0	0.8	0.8	325.	385.	11.7	103.	1.1	1.4	20.0	20.1	-13.2
18	4.9	3.3	-1.0	0.8	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(13.9); Y(-19.3); Z(-17.3) Page 9

HR	MIN	MAGNETIC FIELD (GSM COORD.)				SIGMA	PHI	PLASMA				PRESS* 10 ⁻⁹	EPSLN* 10 ⁻¹⁶	BxZU	
		B _{MAGN}	B _x	B _y	B _z			U	N	T/1000	PHI				THETA
20	50	4.2	3.5	-1.0	0.8	0.8	332.	390.	10.3	94.	0.4	1.3	26.2	11.5	323.5
20	55	4.3	3.6	-2.1	0.6	0.3	330.	388.	10.2	96.	0.8	1.7	25.6	17.7	244.6
21	0	4.4	3.7	-1.7	0.8	0.7	335.	389.	10.1	98.	-0.7	1.9	25.9	11.1	300.3
21	5	4.4	3.7	-1.5	0.8	0.3	334.	386.	10.5	86.	1.4	2.0	26.1	18.6	62.2
21	10	4.2	3.6	-1.9	0.1	0.8	332.	385.	10.4	88.	1.2	2.5	25.7	28.6	38.0
21	15	4.2	3.6	-1.4	-0.2	1.0	332.	387.	10.0	93.	1.6	2.0	27.3	21.6	-76.5
21	20	3.1	2.3	-1.4	-0.7	1.3	327.	384.	9.6	92.	1.6	1.0	23.6	29.7	-258.9
21	25	2.9	1.3	-1.6	-1.7	1.2	309.	387.	10.5	73.	1.5	2.5	25.3	40.0	-645.3
21	30	4.4	3.1	-2.1	-1.5	1.7	306.	380.	12.7	92.	1.8	1.4	20.6	41.5	-553.2
21	35	4.4	3.1	-2.1	0.9	0.6	327.						15.4	352.3	
21	40	4.4	3.1	-2.1	0.9	0.5	325.						17.7	339.9	
22	15	1.0	-0.0	-0.8	0.2	0.6	268.	391.	13.3	68.	-0.2	-2.7	34.0	0.7	93.8
22	20	1.0	-0.4	-0.9	-0.3	1.5	293.	400.	14.7	84.	0.9	0.7	30.3	3.7	-133.8
22	25	1.9	-0.6	-1.1	0.2	1.5	244.	399.	13.1	72.	0.2	1.6	34.8	0.3	71.3
22	30	2.3	-0.6	-1.0	0.5	1.0	253.	402.	13.4	71.	0.6	2.3	26.2	5.2	183.7
22	35	1.1	-0.3	-1.6	0.4	0.7	261.	400.	15.2	62.	1.2	1.6	40.6	0.1	176.2
22	40	-0.1	-1.1	-1.0	0.7	0.9	267.	395.	15.5	64.	0.4	0.9	41.2	0.6	285.7
22	45	-0.4	-1.0	-1.0	1.1	0.9	258.	398.	15.8	63.	1.1	0.5	41.8	0.1	467.4
22	50	0.7	-2.7	-3.0	0.7	0.5	256.	398.	14.8	62.	0.6	-0.7	39.2	0.8	255.3
22	55	3.2	-0.7	-3.0	0.7	0.5	256.	400.	14.9	64.	1.2	1.1	39.8	11.0	286.3
23	0	3.7	0.6	-3.2	1.3	1.3	280.	402.	13.8	65.	0.9	1.1	37.2	9.0	508.7

311.	406.	11.6	66.	0.2	1.3	31.0	7.3	1053.2
267.	395.	12.1	74.	0.6	0.8	31.5	15.4	437.3
212.	394.	11.2	74.	1.0	1.0	29.0	113.8	-553.5
155.	400.	11.0	78.	0.4	1.4	29.4	213.8	-1074.1
232.	401.	11.5	81.	0.3	1.2	29.6	138.0	-819.1
155.	411.	11.0	77.	-0.5	0.5	30.9	89.2	-586.4
135.	410.	10.7	69.	-0.5	0.4	31.0	106.9	-614.1
129.	413.	10.9	70.	-1.0	0.1	30.0	145.8	-622.6
135.	416.	10.9	73.	-1.5	0.3	31.5	184.1	-1055.4
135.	417.	11.0	71.	-2.0	-0.8	34.6	185.6	-1122.0

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

HR	MN	MAGNETIC FIELD (GSM COORD.)					PLASMA				PRESS	EPSLN	BzXU		
		BRAGN	Bx	By	Bz	SIGMA	PHI	U	N	T/1000				PHI	THETA
00	00	5.7	-3.6	1.5	-4.1	0.5	157.	416.	11.7	66.	-2.4	-0.1	33.8	250.4	-1716.1
00	05	5.6	-3.4	1.6	-4.1	0.4	155.	415.	11.6	65.	-2.1	-0.1	33.4	237.6	-1697.3
00	10	5.5	-3.3	1.7	-4.0	0.6	160.	413.	11.5	70.	-1.9	-0.6	32.8	205.4	-1578.8
00	15	5.4	-3.2	1.8	-3.8	0.6	163.	414.	11.1	57.	-2.1	-1.4	31.8	234.3	-1756.7
00	20	5.3	-3.1	1.9	-3.7	0.8	156.	414.	11.3	55.	-1.7	-1.6	32.3	212.5	-1698.5
00	25	5.2	-3.0	2.0	-3.5	1.2	161.	408.	12.4	72.	-1.9	0.8	34.5	113.0	-1084.6
00	30	5.1	-2.9	2.1	-3.3	1.3	148.	406.	9.6	67.	-1.2	2.4	26.5	210.4	-1498.3
00	35	5.0	-2.8	2.2	-3.1	1.4	139.	426.	9.4	77.	-2.4	-0.7	28.5	167.7	-1385.9
00	40	4.9	-2.7	2.3	-2.9	2.2	193.	419.	12.8	80.	-0.7	1.5	37.5	136.3	-1177.5
00	45	4.8	-2.6	2.4	-2.7	1.8	195.	415.	13.0	70.	-1.2	1.7	37.4	132.1	-976.3
00	50	4.7	-2.5	2.5	-2.5	1.3	154.	414.	14.1	71.	-1.1	1.5	40.4	73.2	-588.3
00	55	4.6	-2.4	2.6	-2.3	0.7	179.	411.	13.4	70.	-0.6	2.2	37.8	110.1	-1166.1
01	00	4.5	-2.3	2.7	-2.1	0.5	176.	417.	14.6	70.	-0.8	1.8	42.4	75.2	-866.0
01	05	4.4	-2.2	2.8	-1.9	1.0	186.	415.	14.0	70.	-1.0	1.8	40.3	86.1	-1009.0
01	10	4.3	-2.1	2.9	-1.7	0.5	194.	411.	13.9	74.	-1.4	1.8	39.2	91.6	-1007.5
01	15	4.2	-2.0	3.0	-1.5	0.5	178.	416.	14.0	65.	-0.6	1.8	40.5	95.7	-793.7
01	20	4.1	-1.9	3.1	-1.3	0.7	189.	415.	13.9	67.	-1.0	2.0	40.0	84.7	-787.3
01	25	4.0	-1.8	3.2	-1.1	0.7	185.	415.	13.7	66.	-0.8	1.8	39.4	82.4	-591.8
01	30	3.9	-1.7	3.3	-0.9	0.3	174.	415.	14.1	66.	-0.6	2.1	40.6	70.5	-428.2
01	35	3.8	-1.6	3.4	-0.7	0.3	164.	416.	14.0	75.	-0.2	2.0	40.5	62.6	-455.9
01	40	3.7	-1.5	3.5	-0.5	0.7	184.	416.	13.1	68.	-0.9	2.2	37.9	65.0	-107.4
01	45	3.6	-1.4	3.6	-0.3	0.3	178.	414.	13.1	67.	-0.2	2.4	37.5	71.8	-112.0
01	50	3.5	-1.3	3.7	-0.1	0.3	180.	415.	12.8	71.	-0.1	2.0	36.8	93.2	-189.2
01	55	3.4	-1.2	3.8	0.1	0.6	178.	417.	12.6	81.	0.5	2.6	36.6	11.3	22.5
02	00	3.3	-1.1	3.9	0.3	1.1	186.	421.	13.6	100.	0.9	2.6	40.3	0.4	241.1
02	05	3.2	-1.0	4.0	0.5	0.7	185.	417.	13.1	81.	-0.1	2.2	38.0	0.0	683.0
02	10	3.1	-0.9	4.1	0.7	0.6	203.	411.	11.9	74.	-0.8	3.7	33.6	0.2	947.3
02	15	3.0	-0.8	4.2	0.9	0.7	210.	409.	12.3	74.	-0.6	3.8	34.4	0.3	922.6
02	20	2.9	-0.7	4.3	1.1	1.4	235.	412.	12.8	73.	-1.0	3.4	36.3	2.3	824.1
02	25	2.8	-0.6	4.4	1.4	1.4	213.	419.	12.9	66.	-1.6	3.4	37.8	38.2	-225.3
02	30	2.7	-0.5	4.5	1.7	0.4	223.	414.	11.8	65.	-0.8	3.6	33.3	0.0	1258.5
02	35	2.6	-0.4	4.6	2.0	0.4	227.	415.	11.3	64.	-0.8	3.0	32.5	1.0	1006.4
02	40	2.5	-0.3	4.7	2.3	0.4	221.	417.	12.1	67.	-1.3	3.0	36.1	1.7	886.0
02	45	2.4	-0.2	4.8	2.6	0.5	198.	418.	12.1	67.	-1.6	3.6	35.3	0.2	848.7
02	50	2.3	-0.1	4.9	2.9	0.6	179.	414.	11.5	69.	-0.9	3.4	32.9	0.0	961.9
02	55	2.2	0.0	5.0	3.2	1.4	175.	417.	14.0	60.	-1.6	2.4	40.7	0.0	717.6
03	00	2.1	0.1	5.1	3.5	0.9	205.	395.	13.0	57.	-2.8	2.5	34.0	54.0	-325.9
03	05	2.0	0.2	5.2	3.8	1.4	202.	399.	12.6	51.	-2.9	2.4	33.5	46.2	-94.2
03	10	1.9	0.3	5.3	4.1	2.1	201.	399.	12.1	50.	-3.0	2.2	32.5	36.1	161.1
03	15	1.8	0.4	5.4	4.4	2.9	200.	398.	11.6	51.	-3.0	2.0	32.0	28.0	200.2
03	20	1.7	0.5	5.5	4.7	4.4	200.	404.	13.8	56.	-3.4	1.8	37.5	24.4	343.7
03	25	1.6	0.6	5.6	5.0	6.2	278.	404.	13.2	53.	-3.4	1.2	36.0	24.4	135.9

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17	30	1.8	-0.9	-0.7	-1.3	0.6	216.	374.	18.7	44.	-2.6	-5.7	43.7	20.4	-404.7
17	55	4.1	-1.0	-	-	0.6	234.	373.	16.7	38.	-1.6	-4.2	38.8	20.6	-332.0
18	00	4.1	-1.0	-	-	0.6	234.	376.	16.2	46.	-1.7	-3.4	38.0	24.4	-379.8
18	05	4.1	-1.0	-	-	0.6	233.	375.	16.3	45.	-1.8	-2.0	38.3	21.7	-321.2
18	10	4.1	-1.0	-	-	0.4	242.	374.	17.6	43.	-2.0	-2.4	41.1	27.3	-386.8
18	15	4.4	-1.1	-	-	0.7	236.						113.0	-1125.6	
18	20	4.0	-1.1	-	-	3.5	306.						8.2	549.0	
18	25	5.1	-2.4	-	-	2.0	311.						5.8	210.0	
18	30	4.0	-0.0	-	-	1.3	271.						50.0	-222.3	
18	35	5.1	-0.0	-	-	2.0	263.						24.0	485.6	
18	40	4.0	-0.0	-	-	1.7	322.						2.2	1028.5	
18	45	5.7	-0.0	-	-	1.3	272.						0.0	1571.0	
18	50	5.3	-1.1	-	-	2.0	282.						108.6	-1071.1	
18	55	5.9	-1.8	-	-	1.1	290.						133.7	-994.4	
19	00	5.9	-1.8	-	-	1.1	290.						118.9	-725.9	
20	05	5.2	4.2	-1.1	2.3	0.7	337.	387.	10.0	120.	3.1	-4.0	25.0	2.3	895.1
20	10	5.4	4.4	-1.1	1.7	1.5	330.	389.	10.5	143.	4.1	-5.1	26.5	4.0	658.3
20	15	5.7	4.4	-1.3	0.8	0.7	318.	387.	10.0	112.	3.0	-3.1	25.0	59.5	36.5
20	20	5.8	4.4	-0.1	0.5	0.5	317.	388.	10.2	118.	3.6	-3.5	25.4	68.8	-48.0
20	25	6.0	4.4	-3.0	-0.1	0.8	318.	385.	10.5	126.	3.6	-3.0	25.0	92.2	-254.0
20	30	5.4	4.4	-1.7	1.4	1.4	323.	382.	9.3	131.	4.6	-4.8	22.6	125.1	-732.0
20	35	6.1	3.7	-4.1	-2.0	0.8	312.	391.	10.7	115.	5.0	-2.4	27.3	167.2	-926.0
20	40	6.0	3.0	-4.1	-1.5	0.8	313.	390.	10.5	116.	5.0	-1.4	26.7	136.1	-706.2
20	45	6.2	3.0	-4.1	-1.5	0.3	311.	391.	10.8	113.	5.1	-1.5	27.1	130.3	-597.5

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

HR	RN	MAGNETIC FIELD (GSM COORD.)				SIGMA	PHI	PLASMA				PRESSX 1009	EPSLNx 10-16	BxZU	
		BMAGN	Bx	By	Bz			U	N	T/1000	PHI				THETA
20	00	6.2	3.0	-2.0	-3.8	0.3	324.	386.	9.7	109.	5.0	-2.7	24.1	239.0	-1471.3
20	05	6.4	3.3	-2.2	-4.5	0.5	322.	387.	9.5	92.	4.3	-4.1	23.7	260.5	-1749.6
20	10	6.3	3.3	-2.7	-4.8	0.2	322.	388.	9.4	94.	3.8	-5.2	23.7	270.1	-1772.0
20	15	6.5	3.6	-2.6	-4.9	0.7	317.	402.	9.2	95.	-1.5	-4.4	25.7	278.8	-1996.1
20	20	6.5	3.6	-2.6	-4.9	0.5	322.	388.	9.4	85.	4.3	-4.6	23.6	302.8	-2146.7
20	25	6.0	3.4	-1.8	-4.5	0.9	332.	388.	9.4	89.	4.0	-4.1	23.6	257.6	-1778.4
20	30	6.4	3.8	-0.8	-4.0	0.9	337.	389.	10.9	85.	3.7	-4.5	27.5	216.3	-1915.6
20	35	6.8	4.0	-1.5	-4.8	1.1	331.	387.	10.1	88.	3.7	-3.3	25.3	237.0	-1855.5
20	40	6.1	4.1	-1.4	-4.5	0.2	333.	419.	8.6	93.	4.0	-4.1	25.2	301.0	-2188.0
20	45	6.0	4.0	-1.1	-4.0	0.2	323.	390.	9.3	79.	3.6	-2.0	23.7	250.8	-1911.0
20	50	6.0	4.0	-1.1	-4.0	1.0	335.	390.	9.4	82.	3.3	-3.5	24.0	248.1	-1988.6
20	55	6.0	4.0	-1.1	-4.0	0.7	335.	391.	9.3	75.	3.3	-4.1	23.8	262.6	-2232.4
20	00	6.0	4.0	-1.1	-4.0	1.5	335.	390.	9.1	91.	3.3	-3.3	23.8	265.8	-1700.4
20	05	6.0	4.0	-1.1	-4.0	1.7	329.	387.	9.0	106.	3.6	-5.5	22.8	132.2	-593.2
20	10	6.0	4.0	-1.1	-4.0	0.0	331.	379.	8.3	110.	2.8	-4.6	20.0	24.5	493.7
20	15	6.0	4.0	-1.1	-4.0	0.3	329.	371.	8.8	73.	2.3	-4.4	20.3	25.1	530.8
20	20	6.0	4.0	-1.1	-4.0	0.3	325.	371.	8.7	57.	3.8	-2.0	20.0	39.3	308.6
20	25	6.0	4.0	-1.1	-4.0	0.7	327.	372.	8.7	78.	3.3	-5.5	20.1	54.0	171.4
20	30	6.0	4.0	-1.1	-4.0	0.3	328.	373.	8.3	119.	3.2	-6.0	22.2	72.1	84.8
20	35	6.0	4.0	-1.1	-4.0	0.3	325.	373.	8.7	76.	3.1	-4.0	20.3	65.5	71.8
20	40	6.0	4.0	-1.1	-4.0	0.3	324.	371.	8.4	65.	1.3	-6.8	19.4	62.7	20.7
20	45	6.0	4.0	-1.1	-4.0	0.4	324.	371.	8.5	62.	2.1	-4.2	19.6	82.0	-105.5
20	50	6.0	4.0	-1.1	-4.0	0.7	324.	372.	8.9	84.	3.6	-2.2	20.7	74.4	-86.6
20	55	6.0	4.0	-1.1	-4.0	1.6	318.	392.	10.4	86.	3.8	-4.6	26.7	117.1	-1145.5
20	00	6.0	4.0	-1.1	-4.0	0.6	308.	394.	10.3	82.	3.8	-5.2	26.7	134.1	-1535.0
20	05	6.0	4.0	-1.1	-4.0	0.7	255.	392.	10.1	77.	3.8	-4.8	25.0	138.0	-1643.4
20	10	6.0	4.0	-1.1	-4.0	0.5	166.	392.	9.8	70.	3.8	-4.3	25.1	164.0	-1775.2

2323	38	4.1	-0.6	0.7	-4.0	0.6	132.	393.	10.2	75.	3.7	-5.2	26.3	129.3	-1562.0
2323	40	3.8	-1.4	0.8	-2.9	0.8	135.	387.	10.0	85.	3.8	-4.9	26.5	84.3	-1117.8
2323	41	4.1	-1.7	0.6	-2.7	0.6	119.	386.	10.2	73.	2.8	-4.1	25.4	95.3	-1051.7
2323	42	3.6	-1.3	0.8	-1.4	0.8	114.	391.	10.0	78.	3.9	-4.0	25.5	49.8	-546.8
2323	43	3.3	-1.2	0.8	-1.0	0.4	112.	390.	9.3	99.	2.6	-2.6	23.6	36.1	-392.6

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

HR	MN	MAGNETIC FIELD (GSM COORD.)			PHI	PLASMA			PHI	THETA	PRESSX 10e9	EPSLNX 10e-16	SxXU		
		Bx	By	Bz		U	N	T/1000							
0	15	5.4	-2.5	22.0	-3.0	0.6	134.	385.	8.9	60.	2.8	-3.1	22.0	184.0	-1503.5
0	20	5.5	-1.9	22.2	-4.7	0.4	132.	389.	9.4	64.	2.0	-4.2	22.6	211.0	-1782.0
0	25	5.3	-2.4	22.5	-4.0	0.5	134.	380.	10.4	66.	2.0	-1.3	25.1	182.7	-1515.1
0	30	5.6	-1.0	22.1	-4.8	0.7	132.	378.	10.8	64.	1.8	-2.1	25.5	210.8	-1787.5
0	35	5.7	-1.4	21.5	-5.3	0.8	132.	372.	10.7	63.	1.1	-1.7	24.7	227.7	-1958.7
0	40	5.4	0.1	-1.0	-4.2	1.4	375.	366.	10.3	55.	0.8	-0.7	23.0	198.8	-1888.2
0	45	4.6	1.2	-0.7	-4.1	1.6	323.	371.	11.3	74.	0.6	-1.2	26.0	137.2	-1525.1
0	50	4.6	0.4	1.2	-3.2	3.2	73.	375.	11.7	61.	1.5	-1.5	27.5	83.8	-1208.3
0	55	5.8	-1.1	3.0	-4.8	0.5	111.	378.	10.2	59.	1.5	-2.0	24.1	215.4	-1814.9
1	00	5.5	0.2	1.1	-5.3	1.8	79.	372.	11.5	62.	0.7	0.2	26.6	214.7	-1975.5
1	05	5.4	1.0	0.2	-4.7	1.0	5.	371.	12.0	59.	0.6	-1.1	27.6	188.7	-1737.7
1	10	5.4	1.1	0.3	-4.8	0.4	12.	371.	11.5	57.	1.1	-1.1	26.4	215.2	-1927.0
1	15	5.6	-0.3	-0.7	-4.4	0.9	323.	376.	12.7	74.	1.8	-2.3	30.0	228.1	-2017.5
1	20	5.4	0.0	-0.5	-4.0	2.1	333.	377.	12.3	81.	1.3	-1.8	29.2	191.4	-1862.7
1	25	5.3	-0.6	-0.6	-5.3	0.6	40.	381.	11.6	79.	0.8	-2.2	28.1	217.4	-2020.8
1	30	5.3	-0.3	-0.4	-5.0	0.6	232.	381.	12.8	72.	1.1	-0.8	31.0	208.0	-1985.4
1	35	4.4	1.1	0.2	-5.0	1.2	12.	376.	12.4	76.	1.5	-1.5	29.3	214.7	-1970.0
1	40	4.4	1.1	0.2	-5.0	0.5	5.	378.	12.4	77.	1.8	-2.8	29.6	214.7	-1957.2
1	45	4.4	1.1	0.2	-5.0	1.2	51.	381.	12.6	81.	1.8	-2.4	30.5	220.9	-1980.0
1	50	4.4	1.1	0.3	-5.0	1.2	329.	382.	13.4	101.	3.4	-4.3	32.7	164.3	-1499.1
1	55	4.4	-1.4	-1.6	-4.0	1.0	310.	380.	13.5	95.	3.6	-3.2	32.6	168.5	-1606.5
2	00	4.4	0.0	-0.8	-3.7	0.8	297.	378.	14.0	88.	2.0	-1.8	33.4	144.8	-1404.0
2	05	4.4	0.0	-0.8	-3.6	1.8	340.	379.	12.1	100.	2.6	-0.7	29.0	133.1	-1346.9
2	10	4.4	1.1	0.0	-3.7	0.6	30.	374.	13.1	93.	3.1	-3.2	30.6	133.3	-1379.0
2	15	4.4	1.1	0.0	-3.3	0.6	36.	374.	12.5	80.	2.7	-3.5	29.2	142.1	-1236.9
2	20	4.4	-1.1	-0.3	-3.3	0.3	324.	375.	12.6	85.	1.2	-1.7	29.6	145.8	-1417.4
2	25	4.4	-1.4	-4.3	-3.7	1.1	337.	372.	12.5	73.	0.8	-0.4	28.9	221.4	-1581.8
2	30	4.4	-0.4	-4.7	-4.3	1.1	351.	375.	12.8	78.	1.0	-3.8	30.1	217.0	-1772.0
2	35	4.4	1.1	-4.4	-4.4	1.1	37.	374.	12.9	83.	2.5	-4.3	30.1	201.2	-1628.0
2	40	4.4	0.0	-4.4	-4.4	0.8	21.	375.	13.3	88.	1.3	-2.2	31.2	172.3	-1558.1
2	45	4.4	1.1	-4.3	-4.4	0.8	297.	374.	12.1	79.	1.0	-2.8	28.3	158.8	-1417.9
2	50	4.4	-1.1	-4.3	-4.4	0.0	297.	374.	11.6	74.	-0.3	-2.7	27.1	176.5	-1561.6
2	55	4.4	-1.1	-3.3	-3.7	0.7	312.	371.	12.4	83.	0.1	-1.2	29.5	161.0	-1284.3
3	00	4.4	-1.1	-3.3	-3.7	0.8	305.	372.	11.9	78.	0.4	-3.1	27.5	176.5	-1407.1
3	05	4.4	-1.1	-3.3	-3.7	0.0	310.	372.	11.9	80.	-0.1	-1.3	27.5	156.0	-1102.2
3	10	4.4	-1.1	-3.3	-3.7	0.0	305.	371.	11.9	76.	-0.4	-3.7	27.4	182.6	-1265.0
3	15	4.4	-1.1	-3.3	-3.7	0.3	307.	370.	12.1	85.	-0.3	-2.4	27.7	183.7	-990.2
3	20	4.4	-1.1	-3.3	-3.7	1.7	302.	371.	12.3	78.	0.1	-4.4	28.3	164.8	-1054.7
3	25	4.4	-1.1	-3.3	-3.7	0.0	302.	373.	12.8	78.	0.6	-4.7	29.0	186.1	-1367.7
3	30	4.4	-1.1	-3.3	-3.7	0.0	310.	373.	13.2	76.	0.0	-4.7	30.7	252.2	-1713.5
3	35	4.4	-1.1	-3.3	-3.7	0.4	310.	374.	13.2	76.	0.0	-4.6	30.8	186.2	-1242.8
3	40	4.4	-1.1	-3.3	-3.7	1.2	306.	376.	13.1	79.	0.3	-4.2	30.0	213.7	-1459.6
3	45	4.4	-1.1	-3.3	-3.7	0.6	288.	378.	13.4	80.	-0.1	-4.6	30.0	151.5	-973.3
3	50	4.4	-1.1	-3.3	-3.7	0.7	281.	376.	14.0	72.	-0.4	-5.5	33.1	164.2	-1196.6
3	55	4.4	-1.1	-3.3	-3.7	0.4	284.	378.	13.8	76.	-0.5	-4.1	32.9	131.9	-795.3
4	00	4.4	-1.1	-3.3	-3.7	1.6	295.	374.	12.3	70.	-0.8	-4.0	28.7	97.1	-334.4
4	05	4.4	-1.1	-3.3	-3.7	0.0	304.	367.	11.1	76.	-0.0	-3.4	25.0	70.5	71.4
4	10	4.4	-1.1	-3.3	-3.7	0.3	304.	366.	10.3	73.	-1.0	-3.3	23.0	62.5	211.1

C-15

(20120)	C156B165	442CB087	4525DA1C	4480CA51	45176F51	4253D52E	C3678093	501C0F44	3A5B691C	00000000
(20160)	00000050	0000008F	00000302	00000970	00001012	00000000	C426FC07	4520D724	451DC24D	421AF5DE
(20200)	4162835F	41130A89	C1214F6F	C15A8EB9	416259B4	C24309B9	4312BC6E	403402A4	403A8D42	40185A02
(20240)	40349BE6	463939ED	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(20280)	00000000	00000000	4525D129	451D6583	C12205F8	C15A4AC0	44122F11	4527B06F	44C7416A	45127486
(20320)	4252F406	C38D7F01	502768E3	00000000	00000000	00000050	0000008F	00000307	00000072	00000012
(20360)	00000001	C4287CF8	452D0C679	451D0CB5	42182E64	4161B12B	4112B23F	C11C9B39	C15B5932	41618813
(20400)	C2457D23	4312F2AE	40306D04	404140DC	401CE578	4029AFE6	40106D61	4312E000	00000000	41CE6666
(20440)	00000000	4212B333	00000000	41280000	00000000	C0E03890	00000000	452E14E8	451D6319	C11D8CAD
(20480)	C15B0C34	441B0861	4527696D	448D68BA	451603B5	42546299	C36BC338	501D8D41	3A546348	00000000
(20520)	00000050	0000008F	0000030C	00000081	00000014	00000000	C429B0EC	452DB8E3	451DF2A6	421B5B0F
(20560)	4161D5C0	41145AB7	C118A5C6	C15C2E04	4161909C	C246DFEC	431358CE	40271B73	405FEEBF	402CE0AB
(20600)	402E90FD	402673D2	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(20640)	00000000	00000000	452E19AC	451D5C36	C119D348	C15BDB51	4424A181	4527E3AE	44744E38	451776C0
(20680)	4256A2AA	C3907E66	5027E47A	00000000	00000000	00000050	0000008F	00000311	00000091	00000013
(20720)	00000001	C42B7ECA	452DA284	451E14E6	42189D1C	415F8C99	41179531	C11FD71F	C156CCFC	415F6AA3
(20760)	C24176DD	43132869	401F7142	404010DE	401AB885	402E238C	3F928955	43133000	00000000	41C80000
(20800)	00000000	42118000	00000000	41266666	00000000	414FBF86	00000000	452E1851	451D5F20	C1212E1D
(20840)	C1564C24	442F51E8	45261BED	44899F0B	4516F70C	4255428D	C36817D2	501C7A75	3A548050	00000000
(20880)	00000050	0000008F	00000316	00000094	00000013	00000000	C42CFFA3	452D8F38	451E32A7	421BD340
(20920)	4163A28D	411A89A1	C11E39AC	C15AFA29	416378CE	C2422635	43137486	402E5D32	403AA383	404F65D2
(20960)	4030FD17	40193092	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(21000)	00000000	00000000	452E1A2E	451D5CC6	C11FE0E6	C15A6940	4438ECE2	4526732E	447A8DA1	4517E088
(21040)	42573A97	C38E26E0	5028C021	00000000	00000000	00000050	0000008F	0000031B	000000C8	00000014
(21080)	00000003	C42E337D	452D7F26	451E483C	421BFDF3	416C5F08	4122A680	C118D323	C16368E8	416C2986
(21120)	C242CA87	43144618	402D1B58	4053941C	40167E94	4034501D	4014566C	4312D000	4120CC0C	41A99999
(21160)	40958106	42101999	40228F5C	009DF386	411147AE	40A25E00	4128A3D7	452E2034	451D53B9	C11AEABF
(21200)	C162DD21	C33E7000	C33E7000	C33E7000	C33E7000	C33E7000	C374E258	50250CFB	3A44E22C	00000000
(21240)	00000050	0000008F	00000320	000000CC	00000013	00000004	C4300137	452D65FD	451E7165	421C3CF1
(21280)	416B5366	4121A646	C11212CC	C163FD1A	416B092D	C24517CB	43148C26	4032EBE8	406BB763	40165698
(21320)	402C98AD	4010AF3E	4312E000	4137851E	41B33333	40A3D70A	42104CCC	402B851E	C0389374	40599999
(21360)	4126C9C4	41333333	452E10FB	451D57BE	C11478CE	C1638679	C33E7000	C33E7000	C33E7000	C33E7000
(21400)	C33E7000	C375F494	5024EAA9	3A494456	00000000	00000050	0000008F	00000325	000000F0	00000014
(21440)	00000004	C43181F2	452D500C	451E9259	421C706F	416A70A9	4121232C	C0A0A52A	C163D843	4169A09A
(21480)	C246DFC1	4315724C	40147704	40B5959E	401BC8EE	40459E88	403B72F6	4312D000	4115C28F	41B66666
(21520)	40608312	42109999	402C49BA	C0BE353F	40F3B645	C04407A0	40E51E88	452E1EED	451D5699	C0CBAD6C
(21560)	C16389A7	C33E7000	C33E7000	C33E7000	C33E7000	C33E7000	C3756546	5024435A	3A4A150E	00000000
(21600)	00000050	0000008F	0000032A	000000DA	00000013	00000005	C432B5B2	452D3DD0	451EAD73	421C98F3
(21640)	416AF32E	411FB2C1	402CD46C	C165DFB0	416ABA67	C248A72B	4150D249	404151E4	40419349	4019D880
(21680)	403CBBE0	401316D1	4312F000	4119C28F	41B4CC0C	40743958	42108000	403A9FBE	C1180A3D	40CA3D70
(21720)	40EF2BA0	40F60418	452E253B	451D4CE6	BF44DE60	C165E973	C33E7000	C33E7000	C33E7000	C33E7000
(21760)	C33E7000	C37893C1	5025680D	3A4A6956	00000000	00000050	0000008F	0000032F	000000E4	00000014
(21800)	00000002	C4348346	452D2186	451ED750	421CD48F	416F2B04	4125E284	C111C5F1	C16644DC	416E7FE0
(21840)	C243BF03	4314EDE0	403FC145	40B08315	40164564	403FE8C2	40129D17	4312C000	41159999	419F3333
(21880)	4048F5C2	41FE6666	407CED91	C05851EB	412F5C28	403BF860	41130A3D	452E2250	451D51A8	C1152C6C
(21920)	C1659E93	C33E7000	C33E7000	C33E7000	C33E7000	C33E7000	C377D8B1	50272164	3A403807	00000000
(21960)	00000050	0000008F	00000334	000000E6	00000014	00000003	C43603E0	452D08F0	451EFB49	4210C524
(22000)	416DE664	41248C4C	C11200F3	C165FA0F	416DD06F	C24438E8	4314DC66	401FBE3C	401F3AE1	401923BE
(22040)	4036597A	3F8DF26C	4312D000	41166666	41BB3333	406F9DB2	41F99999	402D9168	C0B6872B	403CED91
(22080)	4114B549	412547AE	452E23DC	451D4F6D	C115BA9B	C1653F9A	C33E7000	C33E7000	C33E7000	C33E7000
(22120)	C33E7000	C377E703	5026C1E2	3A4C0022	00000000	00000050	0000008F	00000339	000000D2	00000013
(22160)	00000001	C4373785	452CF4A2	451F18C2	421D2B44	416E8B4F	412EDBB3	C11C05AB	C15FAA10	416E25E5
(22200)	C23C491A	431491EA	40434336	406F4837	403B500F	4033E0AE	3FA49111	43132000	00000000	41B33333
(22240)	00000000	42100000	00000000	C0A2D0E5	00000000	416FBF86	00000000	452E29E6	451D4640	C11FD316
(22280)	C15E77A9	C33E7000	C33E7000	C33E7000	C33E7000	C33E7000	C3725947	5026A51E	3A4B387C	00000000
(22320)	00000050	0000008F	0000033E	000000C1	00000014	00000002	C43904EF	452CD520	451F4617	421D6332
(22360)	416EF805	413285F6	C11F8EE1	C15D0A89	416E7A1D	C2395EE2	43148029	4046C4F9	407D69DF	4044E070
(22400)	403513C4	4016F555	4312F000	418351EB	41AB3333	401E353F	41F80000	4016FD21	C12428F5	4033F7CE
(22440)	412EC9C4	4142B851	452E2639	451D4BB6	C1239269	C15B94EA	C33E7000	C33E7000	C33E7000	C33E7000
(22480)	C33E7000	C36E1F78	5025FFBD	3A4675DE	00000000					

FILE	INPUT RECS.	DATA INPUT	RECORDS	MAX. SIZE	READ PERM	ERROR ZERO	SUMMARY B	SHORT UNDEF.	INPUT #RECS.	RETRIES TOTAL#
1	909	910		27000	0	0	0	0	0	0

EOJ

DUMP STOPPED AFTER FILE 1

OF PERMANENT READ ERRORS 0

IMP-J

73-078A-01J, 02H, 10G SPHE-00298

5 MINUTE IMF & PLASMA PARMS, UCLA

THIS DATA SET CONSISTS 6 TAPES. THE TAPES ARE 9-TRACK, 6250 BPI, WRITTEN IN ASCII. THE TAPES WERE CREATED ON THE IBM. THE TIME SPANS, AS WELL AS THEIR D AND C NUMBERS ARE LISTED BELOW:

D#	C#	TIME SPAN
---	---	-----
D-79344	C-27166	10/30/73-12/31/76
D-82660	C-27881	01/01/77-12/31/79
D-86835	C-29385	01/01/80-12/31/83
D-86836	C-29386	01/01/84-12/31/86
D-86837	C-29387	01/01/87-12/31/89
D-86838	C-29388	01/01/90-07/21/91

DATA = imp8_5min_77_79.ffd
CDATE = 92 297 OCT 23 17:26:06
RECL = 360
NCOLS = 26
NROWS = 240774
OPSYS = SUN/UNIX

UPDATE = 92 297 OCT 23 17:40:24

#	NAME	UNITS	SOURCE	FORMAT
001	TIME	YR MON DY HR MN SC MS		6I3.2,I4.3
002	BX GSM	nT	IMP-8	G13.5
003	BY GSM	nT	IMP-8	G13.5
004	BZ GSM	nT	IMP-8	G13.5
005	BT	nT	IMP-8	G13.5
006	X GSM	RE	IMP-8	G13.5
007	Y GSM	RE	IMP-8	G13.5
008	Z GSM	RE	IMP-8	G13.5
009	BY GSE	nT	IMP-8	G13.5
010	BZ GSE	nT	IMP-8	G13.5
011	Y GSE	RE	IMP-8	G13.5
012	Z GSE	RE	IMP-8	G13.5
013	Np	N/CM^3	IMP-8 (LANL)	G13.5
014	Vp	KM/SEC	IMP-8 (LANL)	G13.5
015	AZIMUTH	DEGREE	IMP-8 (LANL)	G13.5
016	Tpar (MAX)	K	IMP-8 (LANL)	G13.5
017	Tper (MIN)	K	IMP-8 (LANL)	G13.5
018	ALFRAC		IMP-8 (LANL)	G13.5
019	DP	nP	IMP-8 (LANL)	G13.5
020	Np	N/CM^3	IMP-8 (MIT)	G13.5
021	Vp	KM/SEC	IMP-8 (MIT)	G13.5
022	AZIMUTH	DEGREE	IMP-8 (MIT)	G13.5
023	LAT	DEGREE	IMP-8 (MIT)	G13.5
024	Temp	K	IMP-8 (MIT)	G13.5
025	ALFRAC		IMP-8 (MIT)	G13.5
026	DP	nP	IMP-8 (MIT)	G13.5

ABSTRACT

FIRST TIME = 77 001 JAN 1 00:00:00.000
LAST TIME = 79 365 DEC 31 23:55:00.000
OWNER = UCLA/IGPP
MISSING DATA FLAG = 1.000000E+34
AVERAGE INTERVAL = 00:05:00.000

Data Source: Institute of Geophysics and Planetary Physics, UCLA
Temp=60.5*(Thermal Speed)^2
ALFRAC=ratio of alpha current to proton peak current
DP(Dynamic Pressure)=1.6726E-6*Np*Vp^2
END

D-86836
 01/01/84-12/31/86
 73-08A-01J,02H,10A

IXE IPLIST BS

INPUT PARAMETERS ARE: AS SR=1=3 1 1

TAPE NO. 1 FILE NO. 1
 RECCRD 1 LENGTH 792
 DATA = imp8_emir_84_86.ffo

UPDATE = 92 297 OCT 23 19:14:29

CDATE = 92 297 OCT 23 19:05:43

RECL = 36

26

NCOLS =

NRROWS = 151765

OPSYS = SUN/UNIX

SOURCE

FORMAT

NAME

UNIT

1.I4.3

001 TIME.

YR MON DY HR MN SC MS

613.

2 BX GSM

nT

IMP-8

G13.5

-8

G13.5

003 BX GSM

nT

IMP

4 BZ GSM

nT

IMP-8

G13.5

5 BT

nT

IMP-8

G13.5

G13.5

6 X GSM

RE

IMP-8

007 Y GSM

RE

IMP-8

G13.5

RE IMF-8 G13.5

G13.5

009 BY GSE nT IMP-8

11 E2 GSE nT IMP-8 G13.5

IMP-8 G13.5 011 Y GSE RE

12 Z GSE RE IMP-8 G13.

013 Np N/CM03 IMP-8 (LANL) G13.5

-8 (LANL) G13.5 014 Vp KM/SEC IMP

015 AZIMUTH DEGREE IMP-8 (LANL) G13.5

TAPE NO. 1 FILE NO. 1
RECORD 2 LENGTH 792
016 Tpar(MAX) K IMP-8 (LANL) G13.5

G13.5 017 Tper(MIN) K IMP-8 (LANL)

018 ALERAC IMP-8 (LANL) G13.5

rP IMP-8 (LANL) G13.5 019 DP

G13.5 020 Np N/CM03 IMP-8 (MIT)

021 Vp KM/SEC IMP-8 (MIT) G13.5

RE IMP-8 (MIT) G13.5 022 AZIMUTH DEGR

023 LAT DEGREE IMP-8 (MIT) G13.

024 Temp K IMP-8 (MIT) G13.5

**** JOB DONE.

REC LFS

AVF IN 1
SKP IN 2
EXTPLIST BS

INFLT PARAMETERS ARE: AS SR=1=1 1 1

TAPE NO. 1

FILE NO. 1

RECORD 1

LENGTH 5048

86 12 31 14 55	.110	-9.7948	5.6701	-3.4851	8.8269	.19229	-35.871
-3.8269	5.2772	-3.3722	-10.475	-4.2421	.11000E+35	.11000E+35	.11000E+35
E+35	.1	E+35	.1	E+35	.1	E+35	.1
1.110	93.08	.8041	E+35	2.4799	86 12 31 15 00 00 00 00	-5.3492	
6.3126	-2.6232	8.7557	.10486	-35.529	-3.6525	6.3533	-2.5247
-35.465	-4.2164	.1	E+35	.1	1000E+35	.1	1000E+35
1.1100E+35	.1	E+35	13.9	305.	4.24	4.64	51939.
2.4457		86 12 31 15 05 00 00 00	-5.9674	6.2275	-3.4171		.659 E-
.2598	-35.802	-7.792	8.1263	-3.3471	-35.456	-4.1897	.11
E+35	.1	E+35	.1	E+35	.1	E+35	.1
.10000E+35	.10000E+35	.10000E+35	.1	1000E+35	.1	1000E+35	.1
13.1	-1.912	E.7121	-1.3332	8.9341	.35196	-35.477	86 12 31
5.7161	-3.2911	-35.446	-4.1644	.1	E+35	.1	1000E+35
E+35	.1	E+35	.1	E+35	.1	E+35	.1
55179.	.10185E-01	2.3383		13.3	324.21	7.6811	6.7311
-4.77	3.3426	4.1291	-35.432	-4.0265	2.8512	-4.7666	-35
.439	-4.1795	.1	E+35	.1	E+35	.1	1000E+35
.1	E+35	.1	E+35	.1	E+35	.1	1000E+35
1+05	86 12 31 15 20 00 00 00	-0.4.18	5.0684	-3.5488	9.1695	.534	
7	-35.780	-4.3485	5.4411	-8.6902	-35.417	-4.1788	.10000E+35
.1	E+35	.1	E+35	.1	E+35	.1	E+35
-35	.1	1000E+35	.1	1000E+35	.1	1000E+35	.1
1.08	-6.8748	3.2425	-3.4217	9.1601	.5676	-35.37	-4.4172
1.08	-3.4744	-35.412	-4.011	.1	E+35	.1	1000E+35
0	.1	E+35	.1	E+35	.1	E+35	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
116	3.2823	.62252	-35.338	-4.5618	3.4900	-3.6065	-35.402
-4.307		E+35	.1	E+35	.1	E+35	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
15.3 7	-4.6966	3.0144	-3.2427	-35.393	-4.0061	.10000E+35	.1
.1	E+35	.1	E+35	.1	E+35	.1	E+35
E+35	.1	E+35	.1	E+35	.1	E+35	.1
817	4.8275E-11	-3.7963	9.1134	.73769	-35.273	-4.8467	-8.2732E-11
-3.7963	-35.382	-3.9766	.1	1000E+35	.1	1000E+35	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
.1	E+35	.1	E+35	.1	E+35	.1	E+35
1.08	7.8947	-35.243	-4.0755	-1.27956	-3.7239	-35.373	-3.9513
.1	E+35	.1	E+35	.1	E+35	.1	E+35
E+35	.1	E+35	.1	E+35	.1	E+35	.1
86 12 31 15 55 00 00 00	-8.4175	-1.53	E-01	-3.5883	9.1551	.83609	-35.015
-0.3319	-1.1348	-3.5837	-05.364	-3.9285	.10000E+35	.10000E+35	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
.1	E+35	.1	E+35	.1	E+35	.1	E+35
.87151	-3.4 41	9.1057	.809 7	-35.183	-5.2245	.74336	-3.4352
-35.354	-3.5 27	.1	E+35	.1	E+35	.1	E+35
E+35	.1	E+35	.1	E+35	.1	E+35	.1
.1	E+35	.1	E+35	.1	E+35	.1	E+35
4.2885	-3.841	-3.041	.9403	-3.3813	-34.285	-2.1883	.1
E+35	.1	E+35	.1	E+35	.1	E+35	.1
.1	E+35	.1	E+35	.1	E+35	.1	E+35