



489

ISEE 3

ONE MINUTE AVERAGE DATA
HOURLY & DAILY MAGNETIC FIELD AVERAGES
ICE MAGNETOMETER HIGH RESOLUTION DATA

78-079A-02D
78-079A-02K
78-079A-00E
78-079A-02N

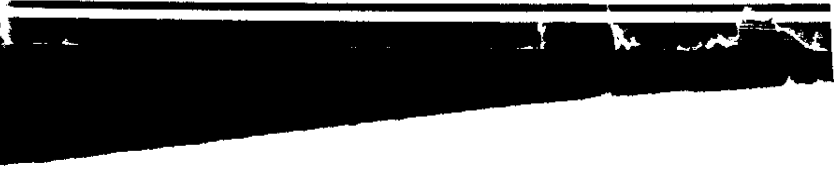


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1. INTRODUCTION:

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

ISEE 3

1-MIN, 1-H, 1-D AVGD, MAGNETOMETER

78-079A-02D, 00E

SPHE-00673 XXNO-00176

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY THERE WERE 41 9-TRACK, 1600 BPI TAPES AND 9 9-TRACK. 6250 BPI TAPES, WRITTEN IN ASC II. THERE ARE 14 RESTORED TAPES. THE TAPES WERE CREATED ON AN IBM 360 COMPUTER. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR02086	DS02086	D44126	1	08/13/78 - 10/27/78
		D44127	2	10/28/78 - 12/31/78
		D47395	3	01/01/79 - 03/01/79
		D47396	4	03/02/79 - 05/03/79
		D45311	5-6	03/22/79 - 04/01/79
		D47397	7	05/04/79 - 06/28/79
		D56058	8	06/29/79 - 08/30/79
DR02087	DS02087	D56059	1	08/31/79 - 11/01/79
		D56060	2	11/02/79 - 12/31/79
		D62497	3	01/01/80 - 03/03/80
		D62498	4	03/04/80 - 05/05/80
		D62499	5	05/06/80 - 06/30/80
		D62500	6	07/01/80 - 09/01/80
DR02088	DS02088	D62501	1	09/02/80 - 11/03/80
		D62502	2	11/04/80 - 12/31/80
		D62503	3	01/01/81 - 03/04/81
		D62504	4	03/05/81 - 05/06/81
		D62505	5	05/07/81 - 07/01/81
		D62506	6	07/02/81 - 09/02/81
DR02089	DS02089	D62507	1	09/03/81 - 11/04/81
		D62508	2	11/05/81 - 12/31/81
		D65710	3	01/01/82 - 03/04/82
		D65711	4	03/05/82 - 05/06/82
		D65712	5	05/07/82 - 07/01/82
		D65713	6	07/02/82 - 12/21/82

DR#	DS#	D#	FILES	TIME SPAN
DR02090	DS02090	D65714	1	11/01/83 - 12/31/83
		D75483	2	01/01/84 - 03/03/84
		D75484	3	03/04/84 - 05/05/84
		D75485	4	05/06/84 - 06/30/84
		D75486	5	07/01/84 - 09/01/84
		D75487	6	09/02/84 - 11/03/84
DR02091	DS02091	D75488	1	11/04/84 - 12/29/84
		D75489	2	01/01/85 - 03/04/85
		D75490	3	03/05/85 - 05/06/85
		D75491	4	05/07/85 - 07/01/85
		D75492	5	07/02/85 - 09/02/85
		D75493	6	09/03/85 - 11/04/85
DR02404	DS02404	D74597	1-2	09/10/85 - 09/12/85 **
DR02092	DS02092	D75494	1	11/05/85 - 12/31/85
		D77806	2	01/01/86 - 03/04/86
		D77807	3	03/05/86 - 05/06/86
DR02093	DS02093	D79776	1-4	05/07/86 - 12/31/86
DR02094	DS02094	D79839	1-3	01/01/87 - 07/01/87
DR02095	DS02095	D79840	1-99	07/02/87 - 12/31/87
DR03704	DS03704	D86008	1-3	01/01/88 - 07/01/88
		D86009	4-6	07/01/88 - 12/31/88
DR03705	DS03705	D86010	1-3	01/01/89 - 07/02/89
		D86011	4-6	07/02/89 - 12/31/89
DR03706	DS03706	D86012	1-3	01/01/90 - 07/01/90
		D86013	4-6	07/02/90 - 12/31/90

**FILE 1 CONTAINS 78-079A-02D DATA AND FILE 2 CONTAINS
78-079A-00E

** DATA WITH TIMESPAN 07/28/82 -10/31/82 HAVE BEEN ADDED TO THE END OF DR02095

Documentation for NSSDC data set 78-079A-02D

78-079A-02D

ISEE-3 PI: Ed Smith

JET PROPULSION LABORATORY

January 16, 1979

TO: Distribution

FROM: Joyce Wolf

SUBJECT: TAPE FORMAT: Vector Helium Magnetometer Data Averages

The tapes are 9-track, 6250 BPI, odd parity, written in ASCII format.

Each file contains an integral number of days of data. There are 50 blocks (physical records) per day. The first block is a header record 240 bytes long. Each of the remaining 49 blocks is 7200 bytes long, and consists of 30 logical records of 240 bytes. The 1440 logical records of blocks 2-49 contain averages for the 1440 minutes of the day. In block 50, the first 24 logical records contain hour averages; the 25th contains day averages, and the last 5 contain blanks.

Each logical data record contains 15 quantities in the format (8E15.6, 15X, 7E15.6). The first quantity is the number of milliseconds for which data exists in the period over which the average was taken; the next 14 are the data averages in the coordinate system identified in the text portion of the header record, as follows:

- | | |
|------------------------------|---|
| 1. $\langle B_x \rangle$ | 8. $\langle B_y B_z \rangle$ |
| 2. $\langle B_y \rangle$ | 9. $\langle B_z^2 \rangle$ |
| 3. $\langle B_z \rangle$ | 10. $\langle \cos \alpha \rangle = \langle B_x / B \rangle$ |
| 4. $\langle B_x^2 \rangle$ | 11. $\langle \cos \beta \rangle = \langle B_y / B \rangle$ |
| 5. $\langle B_x B_y \rangle$ | 12. $\langle \cos \gamma \rangle = \langle B_z / B \rangle$ |
| 6. $\langle B_x B_z \rangle$ | 13. $\langle B \rangle$ |
| 7. $\langle B_y^2 \rangle$ | 14. $\langle B ^2 \rangle$ |

JW:ydj

Attachments

ATTACHMENT #1

Structure of Header Record

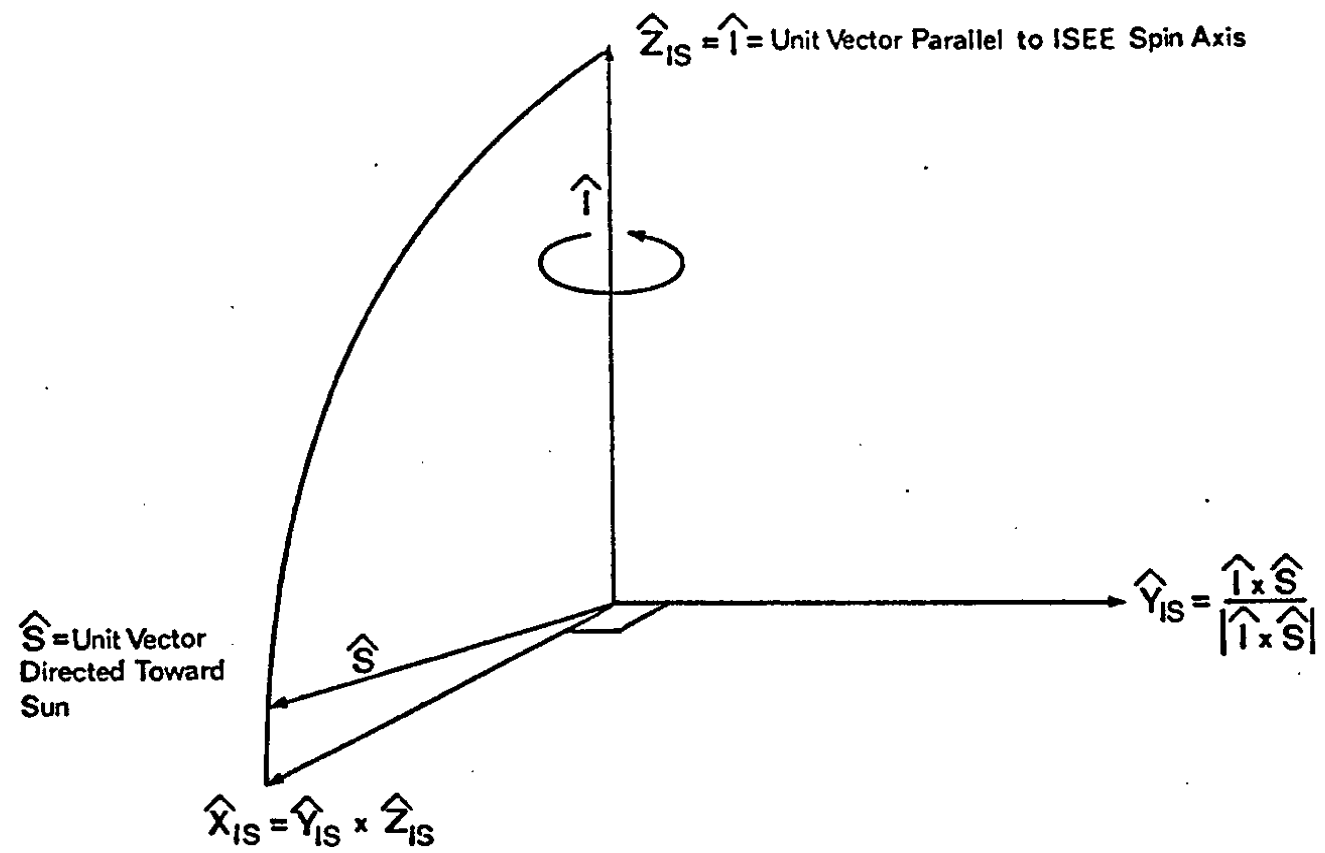
Variable	Format	Meaning
IYR	3X,I2	Last two digits of year
IDAY	2X,I3	Day of year
ISC	4X,A1	Spacecraft Identifier (F = Pioneer 10, G = Pioneer 11, 3 = ISEE-3)
TRAJ(I), I=1,6	15X,6E15.6	Trajectory parameters May be filled with zeros.
TEXT(I), I=1,30	30A4	Identifying text

For the Pioneer spacecraft, the trajectory parameters have the following meanings:

- TRAJ (1) = Distance of spacecraft from sun (km.).
- TRAJ (2) = Heliocentric celestial latitude of spacecraft (deg.).
- TRAJ (3) = Heliocentric celestial longitude of spacecraft (deg.).
- TRAJ (4) = Distance of Earth from sun (km.).
- TRAJ (5) = Heliocentric celestial latitude of Earth (deg.).
- TRAJ (6) = Heliocentric celestial longitude of Earth (deg.).

For the ISEE-3 spacecraft, the trajectory parameters are as follows:

- TRAJ (1) = Geocentric solar ecliptic (GSE) x-coordinate of spacecraft position at start of day's data. (meters)
- TRAJ (2) = GSE y-coordinate of spacecraft position. (meters)
- TRAJ (3) = GSE z-coordinate of spacecraft position. (meters)
- TRAJ (4) = TRAJ (5) = TRAJ (6) = 0.



IS Coordinate System

\$NOP
\$NOP
\$NOP ***** RO-2 *****
\$EXE TPLIST BS

INPUT PARAMETERS ARE: AS SR=1=1 1

TAPE NO. 1 FILE NO. 1
RECORD 1 LENGTH 240
180 127 3 0.127070E 10 -0.567406E 08 -0.100917E 09 0.000000E 00 0.0000
00E 00 0.000000E 001,S COORDINATES 800806 2.8
AVEDT 800830

***** JOB DONE.
\$EXE TPLIST BS

INPUT PARAMETERS ARE: AS SR=2751=1 1

TAPE NO. 1 FILE NO. 1
RECORD 2751 LENGTH 240
180 182 3 0.149288E 10 0.625725E 09 0.486652E 08 0.000000E 00 0.0000
00E 00 0.000000E 001,S COORDINATES 800620 2.8
AVEDT 801004

***** JOB DONE.
\$WEO LPS

ISEE-3

28-079A-02D

D-62499 C-23960

5/6/80-6/30/80

\$NOP *****GARY-IN*****
\$EXE TPLIST BS

INPUT PARAMETERS ARE: AS SR=1=5 1 1 1

TAPE NO. 1985 FILE NO. 1
RECORD 253 LENGTH 24

00E+00 .00000E+00 I,S COORDINATES 86 116 3.0 AVRUN 3.52 860116
AVEDT 860124

ISEE-3
D-74597
9/10/85-09/12/85

TAPE NO. 1 FILE NO. 1
RECORD 2 LENGTH 7200

.599730E+05	-.400700E+01	.587217E+01	.112541E+01	.163325E+02	-.233340E+02	-.4604
79E+01	.34649 E+02	.650876E+01	.187474E+01	-.551772E+00	.807401E+00	
.154776E+00	.726959E+01	.528562E+02	.603062E+05	-.190525E+01	.672094E+01	-.132617E
+01	.401481E+01	-.127973E+02	.190024E+01	.452138E+02		-.876991E+01 .3
91834E+01	-.261499E+00	.922056E+00	-.181546E+00	.728963E+01	.531470E+02	.599730E+05
-.141087E+01	.683590E+01	-.2006 4E+01	.289836E+01	-.956469E+01	.223174E+01	.4677
40E+02	-.136710E+02	.473967E+01	-.191576E+00	.926736E+00	-.271857E+00	
.737606E+01	.544121E+02	.599730E+05	-.284676E+01	.657028E+01	-.827110E+00	.850208E
+01	-.185677E+ 2	.153236E+01	.432377E+02	-.574071E+01	.259906E+01	-.3
85912E+00	.891468E+00	-.112952E+00	.737112E+01	.543389E+02	.599730E+05	-.208332E+01
.669255E+01	-.188760E+01	.435686E+01	-.139411E+02	.391638E+01	.447959E+02	
-.126297E+02	.360257E+01	-.286875E+00	.921449E+00	-.259865E+00	.726302E+01	
.527553E+02	.599730E+05	-.239723E+01	.636986E+01	-.190672E+01	.580194E+01	-.152523E
+02	.455320E+ 1	.405865E+02	-.121434E+02	.367418E+01	-.338864E+00	.9
00285E+00	-.269476E+00	.707527E+01	.500628E+02	.599730E+05	-.256646E+01	.633347E+01
-.182287E+01	.663054E+01	-.162465E+02	.464513E+01	.401183E+02		-.1154
57E+02	.33763 E+01	-.362537E+00	.894593E+00	-.257424E+00	.707974E+01	.501251E+02
.599730E+05	-.249980E+01	.636985E+01	-.152070E+01	.629456E+01	-.159052E+02	.382179E
+01	.405862E+02		-.967404E+01	.235133E+01	-.356232E+00	.907898E+00 -.2
16669E+00	.701633E+01	.492322E+02	.599730E+05	-.268020E+01	.632605E+01	-.130105E+01
.745925E+01	-.168297E+02	.339858E+01	.400821E+02		-.831142E+01	.1845
09E+01	-.382083E+00	.900025E+00	-.184687E+00	.702699E+01	.493866E+02	.599730E+05
-.413546E+01	.569727E+01	-.891000E-01	.175496E+02	-.232914E+02	-.132093E+00	.326535E
+02	-.805265E+00	.649805E+00	-.579602E+00	.799127E+00	-.129054E-01	.7
13072E+01	.508529E+02	.599730E+05	-.435616E+01	.545000E+01	.214053E+00	.193472E+02
-.234372E+02	-.115936E+01	.299618E+02		.974966E+00	.217575E+00	-.6183
92E+00	.775089E+00	.300536E-01	.703704E+01	.495266E+02	.599730E+05	-.366929E+01
.538447E+01	.134114E-01	.135013E+02	-.215711E+02	-.689436E-01	.346423E+02	
.756636E-01	.122277E+00	-.528159E+00	.847033E+00	.183813E-02	.694719E+01	.4
82660E+02	.599730E+05	-.367598E+01	.582843E+01	.573348E-01	.135532E+02	-.214049E+02
-.221131E+00	.339933E+02		.312924E+00	.624389E-01	-.532834E+00	.8447
66E+00	.857815E-02	.689927E+01	.476093E+02	.599730E+05	-.335482E+01	.600334 E+01
-.225793E+00	.112888E+02	-.201245E+02	.736803E+00	.360500E+02		-.136666E
+01	.105270E+00	-.487055E+00	.871599E+00	-.327441E-01	.688780E+01	.474441E+02 .6
03062E+05	-.311478E+01	.614357E+01	-.405335E+00	.971330E+01	-.191311E+02	.125639E+01
.377475E+02		-.249350E+01	.182539E+00	-.451271E+00	.890076E+00	-.5870
27E-01	.690228E+01	.476434E+02	.599730E+05	-.387700E+01	.558786E+01	-.448101E-01
.153575E+02	-.214340E+02	.793464E-02	.313895E+02		-.368099E+00	.100012E
+00	-.566830E+0	.816185E+00	-.636217E-02	.684430E+01	.468470E+02	.599730E+05 -.4
19108E+01	.541035E+01	-.242240E+00	.176762E+02	-.226022E+02	.959521E+00	.293246E+02
	-.134880E+01	.104744E+00	-.610611E+00	.788372E+00	-.353120E-01	.6863
09E+01	.471056E+02	.599730E+05	-.349950E+01	.578824E+01	-.722523E+00	.122681E+02
-.202440E+02	.251799E+01	.335121E+02		-.418795E+01	.540293E+00	-.514207E
+00	.850478E+00	-.106146E+00	.680582E+01	.463204E+02	.599730E+05	-.348248E+01 .5
74411E+01	-.899477E+00	.121681E+02	-.199820E+02	.310791E+01	.330086E+02	
-.518124E+01	.842227E+00	-.513414E+00	.846753E+00	-.132515E+00	.678357E+01	.4601
88E+02	.59973 E+05	-.375707E+01	.559462E+01	-.105230E+01	.141247E+02	-.210147E+02
.395232E+01	.313036E+02		-.588855E+01	.111514E+01	-.550709E+00	.820072E
+00	-.154216E+ 0	.682217E+01	.465435E+02	.599730E+05	-.382198E+01	.548269E+01 -.1
19971E+01	.146339E+02	-.209377E+02	.458511E+01	.300736E+02		-.657601E+01
.145276E+01	-.562542E+00	.806998E+00	-.176567E+00	.679401E+01	.461604E+02	.5997
30E+05	-.441172E+01	.519330E+01	-.899566E+00	.194883E+02	-.229059E+02	.394510E+01
.269798E+02		-.466753E+01	.871097E+00	-.641150E+00	.754900E+00	-.130985E

78-079A-00E

REQ. AGENT

GWM

RAND NO.

ACQ. AGENT

HKH

ISEE 3

ISEE 3 TRAJECTORY DATA

78-079A-00E

This data set consists of 1 tape(s). These tape(s) are 9 track, 1600 bpi, ascii with 2 file(s) of data. The time span D and C numbers are as follows:

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
* D-74597	C-26246	09/10/85 - 09/12/85

* The Trajectory data can be found on File 2 only.

Documentation For Giacobini Zinner Data

Rec'd March 12, 1987

HKH

78-079A-00E

TO: ICE Investigators
FROM: Joyce Wolf (JPLSP::JWOLF)
SUBJ: ICE Trajectory for Giacobini-Zinner Encounter

ICE trajectory information from the "SAVE TAPE" produced by the JPL Navigation Section after the Giacobini-Zinner encounter is in an ASCII file with the following format:

Record 1 is a header record containing the 6-character names of the 114 data items in the format (114(2X,A6)).

Records after the first record contain 114 data items in the format (2D24.16, 2I12, 111D24.16). Note that the third data item (VIGDAT) is actually two integer words. Each record has 2736 bytes.

There is one record per hour. Body 1 is Giacobini-Zinner; Body 2 is Venus. The parameter FERP has the value 22.0, so parameters 35-62 use the ecliptic of date as the reference plane. Parameters 68 and 69, in the coordinate system fixed in Body 1, do not contain meaningful data.

7P-079A-00E

(Revised 6/1/84)

<u>Item</u> <u>Number</u>	<u>Description</u>	<u>Character Header</u> <u>Record Name</u>
1	Double precision time in seconds (ET) past 0 ^h , Jan 1, 1950	ETSP50
2	DP Julian Date, Days	JULDAT
3	Gregorian Calendar Date (2 integer words which represent the vigesimal date)	VIGDAT
4	Time from launch, sec	TFLANC
5	Time from injection, sec	TFINJE
6	ET - UTC, sec	ETMUTC
7	DPTRAJ Alarm word corresponding to this epoch	DALARM

Item Number	Description	Character Header Record Name
<u>Geocentric</u> (Spacefixed Earth true equator of date system)		
8.	Range rate of probe, km/sec	RANGRP
9.	Magnitude of velocity vector, km/sec	MAGVEL
10.	Inertial path angle, deg	INPATH
11.	Inertial azimuth angle, deg	INAZIM
12.	Earth-probe range, km	REARPR
13.	Declination of probe, deg	DECPRO
14.	Right ascension of probe, deg	RTASCP
15.	Earth-Sun range, km	REARSU
16.	Declination of Sun, deg	DECSUN
17.	Right ascension of Sun, deg	RTASCS
18.	Earth-Moon range, km	REARMO
19.	Declination of Moon, deg	DECMOO
20.	Right ascension of Moon, deg	RTASCM
<u>Heliocentric</u> (Spacefixed Earth true orbital of date system)		
21.	Range to probe, km	HRANGP
22.	Probe inertial velocity, km/sec	HMAGVP
23.	Probe inertial path angle, deg	HINPTH
24.	Celestial latitude of probe, deg	CELLTP
25.	Celestial longitude of Earth, deg	CELLNP
26.	Celestial latitude of Earth, deg	CELLTE
27.	Celestial longitude of Earth, deg	CELLNE
28.	X component of S/C in Sun-Earth line, km	XSCSEL
29.	Y component of S/C in Sun-Earth line, km	YSCSEL
30.	Z component of S/C in Sun-Earth line, km	ZSCSEL
31.	Sun-probe distance in Sun-Earth X-Y plane, km	SPSEXY
32.	Longitude of S/C in Sun-Earth line system, deg	LNPSEL
33.	Integrating central body number	ICBODY
34.	Flag for equinox and reference plane for items 35 through 62	FERPFL

NOTES

FERP = 11. means Earth mean equator of 1950.0
 FERP = 12. means Earth mean orbit of 1950.0
 FERP = 21. means Earth true equator of date
 FERP = 22. means Earth true orbit of date

Item Number	Description	Character Header Record Name
<u>Space-fixed FERP Coordinate System</u>		
35.	X component of geocentric $\vec{F}$ of S/C, km	XPQSFF
36.	Y component of geocentric $\vec{F}$ of S/C, km	YPQSFF
37.	Z component of geocentric $\vec{F}$ of S/C, km	ZPQSFF
38.	X component of geocentric $\dot{\vec{F}}$ of S/C, km/sec	DXPQSF
39.	Y component of geocentric $\dot{\vec{F}}$ of S/C, km/sec	DYPQSF
40.	Z component of geocentric $\dot{\vec{F}}$ of S/C, km/sec	DZPQSF
41.	X component of heliocentric $\vec{F}$ of S/C, km	XPHSFF
42.	Y component of heliocentric $\vec{F}$ of S/C, km	YPHSFF
43.	Z component of heliocentric $\vec{F}$ of S/C, km	ZPHSFF
44.	X component of heliocentric $\dot{\vec{F}}$ of S/C, km/sec	DXPHSF
45.	Y component of heliocentric $\dot{\vec{F}}$ of S/C, km/sec	DYPHSF
46.	Z component of heliocentric $\dot{\vec{F}}$ of S/C, km/sec	DZPHSF
47.	X component of body 1 - S/C $\vec{F}$, km	XP1SFF
48.	Y component of body 1 - S/C $\vec{F}$, km	YP1SFF
49.	Z component of body 1 - S/C $\vec{F}$, km	ZP1SFF
50.	X component of body 1 - S/C $\dot{\vec{F}}$, km/sec	DXP1SF
51.	Y component of body 1 - S/C $\dot{\vec{F}}$, km/sec	DYP1SF
52.	Z component of body 1 - S/C $\dot{\vec{F}}$, km/sec	DZP1SF
53.	X component of body 2 - S/C $\vec{F}$, km	XP2SFF
54.	Y component of body 2 - S/C $\vec{F}$, km	YP2SFF
55.	Z component of body 2 - S/C $\vec{F}$, km	ZP2SFF
56.	X component of body 2 - S/C $\dot{\vec{F}}$, km/sec	DXP2SF
57.	Y component of body 2 - S/C $\dot{\vec{F}}$, km/sec	DYP2SF
58.	Z component of body 2 - S/C $\dot{\vec{F}}$, km/sec	DZP2SF
59.	Body 1 - S/C range, km	B1MAGR
60.	Body 1 - S/C velocity, km/sec	B1MAGV
61.	Body 2 - S/C range, km	B2MAGR
62.	Body 2 - S/C velocity, km/sec	B2MAGV

Body-Fixed Coordinate SystemsEarth

63.	Latitude of probe, deg	EALATP
64.	Longitude of probe, deg	EALONP
65.	Velocity of probe relative to body, km/sec	EAVELP
66.	Body fixed path angle of probe, deg	EAPTHP
67.	Body fixed azimuth angle of probe, deg	EAAZIP

Body 1

68.	Latitude of probe, deg	B1LATP
69.	Longitude of probe, deg	B1LONP
70.	Velocity of probe relative to body, km/sec	B1VELP
71.	Body fixed path angle of probe, deg	B1PTHP
72.	Body fixed azimuth angle of probe, deg	B1AZIP

Item
Number

Description

Character Header
Record Name

Body 2

73.	Latitude of probe, deg	B2LATP
74.	Longitude of probe, deg	B2LONP
75.	Velocity of probe relative to body, km/sec	B2VELP
76.	Body fixed path angle of probe, deg	B2PTHP
77.	Body fixed azimuth angle of probe, deg	B2AZIP

NOTE

If body 1 or body 2 has no defined
body-fixed coordinate system,
corresponding values will be zero.

Angle Group (all angles in deg)

78.	Earth-probe-body 1 angle	EPB1AN
79.	Earth-probe-body 2 angle	EPB2AN
80.	Earth-probe-Sun angle	EPSUAN
81.	Earth-probe-Moon angle	EPMOAN
82.	Canopus-probe-Earth angle	CPEANG
83.	Canopus-probe-Sun angle	CPSANG
84.	Moon-probe-Sun angle	MOPSAN
85.	Body 1-probe-body 2 angle	B1PB2A
86.	Moon-Earth-probe angle	MOEPAN
87.	Sun-Earth-probe angle	SEPANG
88.	Earth-Sun-probe angle	ESPANG
89.	Sun-probe-body 1 angle	SPB1AN
90.	Sun-probe-body 2 angle	SPB2AN
91.	Body 1-Earth-probe angle	B1EPAN

Angle Group (all angles in deg)

92. Body 2-Earth-probe angle

B2EPAN

Cone and Clock SetSun-Probe-Canopus System, deg

93.	Cone angle of Earth	CONECE
94.	Clock angle of Earth	CLCKCE
95.	Cone angle of body 1	CONEC1
96.	Clock angle of body 1	CLCKC1
97.	Cone angle of body 2	CONEC2
98.	Clock angle of body 2	CLCKC2

Item

NumberDescription

Character Header

Record NameSun-Probe-Earth System

99.	Body 1 cone angle	CONEE1
100.	Body 1 clock angle	CLCKE1
101.	Body 2 cone angle	CONEE2
102.	Body 2 clock angle	CLCKE2
103.	Canopus cone angle	CONEEC
104.	Canopus clock angle	CLCKEC

Sun-Probe-Body 1 System

105.	Earth cone angle	CONE1E
106.	Earth clock angle	CLCK1E
107.	Body 2 cone angle	CONE12
108.	Body 2 clock angle	CLCK12
109.	Canopus cone angle	CONE1C
110.	Canopus clock angle	CLCK1C

Miscellaneous

111.	Physical central body number	PCBODY
112.	Body number of input body 1 (SPBOD(1))	BODY01
113.	a) Body number of input body 2 (SPBOD(2))	BODY02
	b) Body number of satellite if PERIAP = 3 or 4	

114. Flag for periapsis

PERIAP

PERIAP = { 0. for closest approach
1. for periapsis to PCB
2. for apoapsis to PCB
3. for periapsis to satellite in 113 b).
4. for apoapsis to satellite in 113 b).

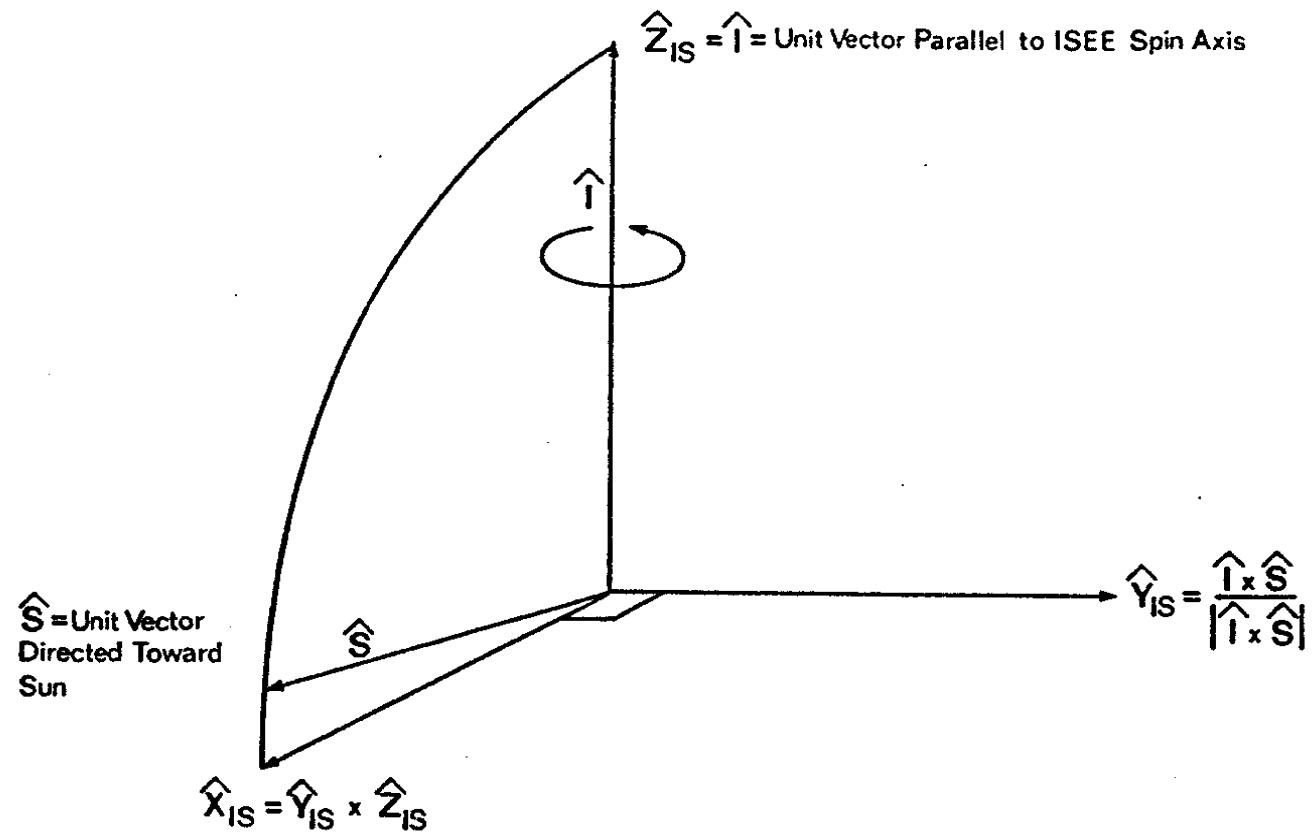
Future Fixed SAVE Tape Output

115 through 175 Space for expansion of fixed portion of SAVE
tape

Programmable Variables

176 through 375 Programmable variables specified in 1st Print List
given in the input SAPLIS, and whose names are
specified in the input PRGVAR(1,1).

376 through 575 Programmable variables specified in 2nd Print List
given in the input SAPLIS, and whose names are
specified in the input PRGVAR(1,2).



IS Coordinate System

```

548.7E+07 .647444E+00 .549892E+01 .104594E+01 .405509E+01 .369748E+01 .217995E+01
.306479E+02 .552190E+01 .287753E+01 .926906E-01 .898739E+00 .1658
41E+00 .612039E+01 .375806E+02 .358505E+07 .524592E+00 .499239E+01 .499736E+00
.388397E+01 .145399E+01 .124184E+01 .254403E+02 .214398E+01 .719580E
+00 .111075E+00 .909915E+00 .967059E-01 .547089E+01 .300439E+02 .356573E+07 -.2
12166E+01 .431074E+01 -.903155E+00 .722061E+01 -.858768E+01 .266145E+01 .190966E+02
-.378495E+01 .15143E+01 -.399891E+00 .819199E+00 -.172527E+00 .5269
77E+01 .278313E+02 .358039E+07 -.108086E+01 .471250E+01 -.111297E+01 .345600E+01
-.442076E+01 .178638E+01 .226780E+02 -.540073E+01 .327973E+01 -.198345E
+00 .871740E+00 -.192116E+00 .540689E+01 .294137E+02 .336915E+07 -.358893E+01 .3
87029E+01 -.115941E+01 .132548E+02 -.116580E+02 .436014E+01 .126556E+02
-.379792E+01 .160327E+01 -.683711E+00 .584611E+00 -.228572E+00 .524460E+01 .2751
36E+02 .357839E+07 -.188972E+01 .350995E+01 -.174588E+01 .787992E+01 -.709629E+01
.489149E+01 .125659E+02 -.616185E+01 .330489E+01 -.376783E+00 .722402E
+00 -.361045E+00 .485503E+01 .237507E+02 .359971E+07 .315266E+01 .279325E+01 -.3
25850E+00 .108249E+02 .866039E+01 -.686281E+00 .815002E+01 -.875341E+00
.616716E+00 .705723E+00 .640364E+00 -.856382E-01 .439437E+01 .195917E+02 .3554
40E+07 .160539E+01 .276309E+01 .658969E+00 .953257E+01 .486225E+01 .262816E+01
.941481E+01 .192574E+01 .126353E+01 .294740E+00 .631898E+00 .135134E
+00 .444235E+01 .202109E+02 .359971E+07 -.377964E+01 .183529E+00 -.146264E+01 .1
43423E+02 -.688777E+00 .545318E+01 .349062E+00 -.176479E+00 .251486E+01
-.912203E+00 .447218E-01 -.350961E+00 .414511E+01 .172062E+02 .356040E+07 -.4171
84E+01 -.570269E-01 .337397E+00 .174910E+02 .301890E+00 -.128668E+01 .105379E+00
.793394E-01 .674545E+00 -.977417E+00 -.102569E-01 .835273E-01 .426651E
+01 .182709E+02 .849961E+08 -.140538E+00 .337621E+01 -.176690E-02 .652599E+01 .2
19636E+01 .286897E+00 .163137E+02 -.672683E+00 .468216E+01 -.681584E-01
.617121E+00 .128903E-01 .515786E+01 .275219E+02

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78-079A-00E

```

***** JOB DONE.
$EXE TPLIST BS

```

INPUT PARAMETERS ARE: AS SR=1=5 1 1 2

```

TAPE NO. 1 FILE NO. 2
RECORD 1 LENGTH 2736
ETSP50 JULDAT VIGDAT TFLANC TFINJE ETMUTC DALARM RANGRP MAGVEL INPATH INAZIM REARPR D
ECPRO RTASCP REARSU DECSUN RTASCS REARMO DECM00 RTASCM HRANGP HMAGVP HINPTH CELLTP CELL
NP CELLTE CELLNE XSCSEL YSCSEL ZSCSEL SPSEXY LNPSEL ICBODY FERPFL XPGSFF YPGSFF ZPGSFF
DXPGSF DYPGSF DZPGSF XPHSFF YPHSFF ZPHSFF DXPHSF DYPHSF DZPHSF XP1SFF YP1SFF ZP1SFF DX
P1SF DYP1SF DZP1SF XP2SFF YP2SFF ZP2SFF DXP2SF DYP2SF B1MAGV B2MAGV B2MAG
V EALATP EALONP EAVELP EAPTHP EAAZIP B1LATP B1LONP B1VELP B1PTHP B1AZIP B2LATP B2LONP
B2VELP B2PTHP B2AZIP EPB1AN EPB2AN EPSUAN EPMOAN CPEANG CPSANG MOPSAN B1PB2A MOEPAN SEP
ANG ESPANG SPB1AN SPB2AN B1EPAN B2EPAN CONECE CLCKCE COVEC1 CLCKC1 CONEC2 CLCKC2 CONEE1
CLCKE1 CONEE2 CLCKE2 CONEEC CLCKEC CONE1E CLCK1E CONE12 CLCK12 CONE1C CLCK1C PCBODY B
ODY01 BODY02 PERIAP

```

78-079A-00E

TAPE NO.	1	FILE NO.	2
RECORD	2	LENGTH	2736
0.1126310400000000D+10	0.2446318500000000D+07	1985090010	0 0.1194398171091974D+06 0
.1194398171091974D+06	0.5518287408290100D+02	0.0000000000000000D+00	-0.1873206957858534D+01 0.13
26447806241172D+2	-0.8118437039082780D+01	0.8885114541095586D+02	0.7077917304095456D+08 0.23203
06472209972D+02	0.8743256220986750D+02	0.1506400482067892D+09	0.5042759061644669D+01 0.16825901
98767936D+03	0.3895114960013619D+06	0.2713619736190465D+02	0.1075556392392136D+03 0.15443786978
11464D+09	0.2851407747966015D+02	-0.3693064531194424D+00	-0.1004844572538144D+00 0.14028563781737
28D+02	-0.8958137485890998D-04	0.3472358741466048D+03	0.1378577236823927D+09 0.6961487113819487D
+08 -0.2708506228735272D+06	0.1544376322742563D+09	0.2679268963513251D+02	0.0000000000000000D+00
0.2200000000000000D+02	0.2914116685983704D+07	0.7071863988914259D+08	-0.2706150986736324D+06 -0
.1319749666352348D+02	-0.1330839662354631D+01	0.3630004092196118D-01	0.1498315298746080D+09 0.37
43654521871462D+08	-0.2708506228735272D+06	-0.7090069917081768D+01	0.2761851253475201D+02 0.35895
05119583751D-01	0.1576881169109863D+06	0.5603702569763273D+06	-0.2552688251042562D+07 -0.11899008
36348862D+01	-0.4427933606993291D+01	0.2022656231706377D+02	0.1454847937815587D+09 -0.70140355199
00551D+08	-0.1504621670020607D+07	0.282520199017133D+02	0.2638797536507949D+02 -0.20066682736179
73D+01	0.2618224145127644D+07	0.2473972717261123D+02	0.1615173533890314D+09 0.3854560815473392D
+02 0.2320306472209972D+02	0.9868940674535751D+02	0.473069545776464D+04	-0.2268733140875817D-01
0.2700031887968917D+03	-0.6326067719094914D+02	0.1864583926172805D+03	0.2471259885619904D+02 -0
.570592594513592 D+02	0.2702207215497341D+03	0.7940564720648138D+00	0.3499257167711141D+03 0.85
41588344627997D+2	0.9299545680653692D+01	0.9124945566213436D+02	0.7728796324184049D+02 0.11337
62562388522D+03	0.7361152154440980D+02	0.1011492955092064D+00	0.6680872292395918D+02 0.84751610
19743731D+02	0.7351396785655030D+02	0.9169688534331628D+02	0.1860975418775656D+02 0.79595614677
93859D+02	0.2679286377755161D+02	0.8356811921152210D+02	0.3976959214831163D+02 0.20835512390620
57D+01	0.4770887076769167D+02	0.7361152154440980D+02	0.6734432698888164D+02 0.8356811921152210D
+02 0.1459436387823589D+03	0.3976959214831163D+02	0.2464318930420294D+03	0.8356811921152210D+02
0.7859931179347722D+02	0.3976959214831163D+02	0.1790875660531478D+03	0.8475161019743731D+02 0
.2926556730111184D+03	0.7361152154440980D+02	0.2814006882065228D+03	0.3976959214831163D+02 0.10
04882542596705D+03	0.8475161019743731D+02	0.2140563612176411D+03	0.0000000000000000D+00 0.000000
000000000000D+00	0.0000000000000000D+00	0.0000000000000000D+00	

TAPE NO.	1	FILE NO.	2
RECORD	3	LENGTH	2736
0.1126314000000000D+10	0.2446318541666667D+07	1985090010	10000000 0.1230398171091974D+06 0
.1230398171091974D+06	0.5518287359207273D+02	0.0000000000000000D+00	-0.1874001159437959D+01 0.13
26431499837853D+2	-0.8122002848124317D+01	0.8886756493590427D+02	0.7077242806592345D+08 0.23203
82653919800D+02	0.8747419133051428D+02	0.1506384656183566D+09	0.5026980234690207D+01 0.16829647
25159064D+03	0.3892844818020422D+06	0.2709088814897053D+02	0.1081518250269499D+03 0.15443720619
17097D+09	0.2851420118422592D+02	-0.3714788068677687D+00	-0.1004369244081114D+00 0.14066646135583
91D+02	-0.9013037659740125D-04	0.3472763817719759D+03	0.1378600781250066D+09 0.6960873670470681D
+08 -0.2707213374521248D+06	0.1544369689104850D+09	0.2679026436360799D+02	0.0000000000000000D+00
0.2200000000000000D+02	0.2866607743192837D+07	0.7071383155081687D+08	-0.2704843723256942D+06 -0
.1319635910879715D+02	-0.1340459135596198D+01	0.3632569660579596D-01	0.1498059706422191D+09 0.37
53596310474405D+8	-0.2707213374521248D+06	-0.7109503106882750D+01	0.2761364415954343D+02 0.35930
18019382262D-01	0.1534046211533833D+06	0.5444296114169140D+06	-0.2479872633657128D+07 -0.11898193
55477765D+01	-0.4427980338033337D+01	0.2022689019804844D+02	0.1455856524876641D+09 -0.70045293125
66183D+08	-0.1511844760873798D+07	0.280740494074989D+02	0.2642428578320299D+02 -0.20061595105523
20D+01	0.2543568667561950D+07	0.2174005224334277D+02	0.1615667384516372D+09 0.3855751919728893D
+02 0.2320382653919800D+02	0.8368996670546541D+02	0.4730216555493295D+04	-0.2269924828758879D-01
0.2700031434797955D+03	-0.6325647540834098D+02	0.1841053311024045D+03	0.2450860786007759D+02 -0
.578413281316768D+02	0.2702342202592930D+03	0.7917098203403703D+00	0.3500333497527485D+03 0.85
44383222411390D+2	0.9294494447051960D+01	0.9124875270336777D+02	0.7728896166249232D+02 0.11336
86062493064D+03	0.7361170899106774D+02	0.1036273742849492D+00	0.6680781831422206D+02 0.84736777
48675301D+02	0.7351161259185147D+02	0.9168054953016904D+02	0.1909310178185023D+02 0.79597852651
50430D+02	0.2679043835742796D+02	0.8355586401512707D+02	0.3976179454328287D+02 0.20239129829247
18D+01	0.4772073311360654D+02	0.7361170899106774D+02	0.6734754561832690D+02 0.8355586401512707D

78-079A-02K

1

ISEE 3

1-H & 1-D FIELD AVGS (FROM -02D)

78-079A-02K SPHE-00354

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY TWO 9-TRACK, 1600 BPI TAPES WRITTEN IN ASCII. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON THE MODCOMP COMPUTER AND WERE RESTORED ON AN IBM 9021 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR006133	DS006133	D063111	1	08/13/78 - 12/31/81
		D066233	2	01/01/82 - 12/31/90

REQ. AGENT

PAR
SAR

RAND NO.

V0291

ACQ. AGENT

JHK
JHK

ISEE 3

HOURLY AND DAILY MAGNETIC FIELD AVERAGES

78-079A-02K

This data set consists of 2 9-track, 1600 BPI, ASCII tapes. D-63111 was created on the MODCOMP IV computer and D-66233 was created on the CLASSIC computer. Both tapes were created at NSSDC by extracting the hourly and daily averages from the 25 experimenter supplied tapes contained in data set 78-079A-02D. D-63111 was extracted from the first 20 tapes, while D-66233 was extracted from the last 5 tapes. The D and C numbers along with the time spans are as follows:

<u>D#</u>	<u>C#</u>	<u>FILES</u>	<u>TIME SPAN</u>
D-63111	C-24012	1	08/13/78 - 12/31/81
D-66233	C-24786	1	01/01/82 - 12/31/83

4NOP
4NOP *** LIST OF ISSUES *****
4PXE TPLIST NO

INPUT PARAMETERS ARE: AS FL=1=1

```
TAPE NO. 1 FILE NO. 1
RECORD 1 LENGTH 7440
78 225 3 0.000000E 00 0.000000E 00 0.000000E 00 0.000000E 00 0.0000
00E 00 0.000000E 00I,S COORDINATES 79 725 2.5
TRAJCDR MERGED AVSS 0.321424E+07 -0.279051E+01 0.625129E+01 -0.182354E
+01 0.146395E+02 -0.168833E+02 0.425541E+01 0.417760E+02 -0.902204E+01 0.1
35941E+02 -0.324588E+00 0.748397E+00 -0.219513E+00 0.834646E+01 0.704098E+02 0.359606E+07
-0.346206E+01 0.439308E+01 -0.195782E+01 0.144038E+02 -0.140758E+02 0.579841E+01 0.2168
06E+02 -0.747317E+01 0.125603E+02 -0.502240E+00 0.631033E+00 -0.269199E+00
0.696282E+01 0.486449E+02 0.359590E+07 -0.447367E+01 0.493279E+01 -0.420233E-01 0.208213E
+02 -0.215109E+02 -0.178966E+00 0.282486E+02 -0.547438E+00 0.195448E+01 -0.6
47410E+00 0.712525E+00 -0.660734E-02 0.691392E+01 0.480245E+02 0.335500E+07 -0.399293E+01
0.222390E+01 0.419136E+01 0.169761E+02 -0.936471E+01 -0.158252E+02 0.769476E+01
0.764273E+01 0.195266E+00 -0.599396E+00 0.328309E+00 0.641597E+00 0.662882E+01
0.441976E+02 0.360006E+07 -0.216913E+01 0.299508E+01 0.303545E+01 0.746998E+01 -0.532893E
+01 -0.752653E+01 0.124307E+02 0.600468E+01 0.153798E+02 -0.368291E+00 0.5
92735E+00 0.514415E+00 0.593694E+01 0.352805E+02 0.321207E+07 -0.443803E+01 0.322115E+01
0.110806E+01 0.202833E+02 -0.188398E+02 -0.513838E+01 0.119165E+02 0.2492
21E+01 0.337671E+01 -0.746032E+00 0.540079E+00 0.186903E+00 0.594887E+01 0.355765E+02
0.360006E+07 -0.227124E+01 0.385035E+01 0.125121E+01 0.885806E+01 -0.647617E+01 -0.610590E
+01 0.173109E+02 0.174635E+01 0.737716E+01 -0.392358E+00 0.667090E+00 0.2
13796E+00 0.578939E+01 0.335463E+02 0.350044E+07 -0.343208E+01 0.230868E+01 0.332226E+01
0.132234E+02 -0.754434E+01 -0.128733E+02 0.698077E+01 0.665701E+01 0.1241
75E+02 -0.601855E+00 0.404074E+00 0.562057E+00 0.571010E+01 0.326218E+02 0.195147E+07 -
0.337306E+01 0.462151E+01 0.123363E+00 0.117206E+02 -0.153735E+02 -0.696661E+00 0.215601E
+02 0.214547E+00 0.167287E+01 -0.571727E+00 0.781263E+00 0.231117E-01 0.5
90997E+01 0.549536E+02 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.125411E+07 -0.840502E+00 0.418480E+01 -0.195175E+01 0.281015E+01 -0.388261E+01
0.513736E+00 0.186552E+02 -0.781370E+01 0.585954E+01 -0.160609E+00 0.8028
19E+00 -0.369015E+00 0.522349E+01 0.273249E+02 0.353309E+07 -0.232435E+01 0.291754E+01
0.583777E+00 0.637985E+01 -0.726130E+01 -0.220140E+01 0.950187E+01 0.476543E
+00 0.117324E+02 -0.443777E+00 0.557110E+00 0.108778E+00 0.524892E+01 0.276142E+02 0.3
17659E+07 -0.326973E+00 0.228808E+01 0.313155E+01 0.227323E+01 -0.174775E+01 0.204630E+00
0.847977E+01 0.482618E+01 0.122948E+02 -0.714310E-01 0.481328E+00 0.6482
38E+00 0.479844E+01 0.230478E+00 0.269697E+07 -0.220485E+01 0.344259E+01 0.588204E+00
0.585997E+01 -0.812082E+01 -0.943849E+00 0.141451E+02 0.466271E+00 0.483720E
+01 -0.438903E+00 0.684360E+00 0.129913E+00 0.496985E+01 0.248422E+02 0.359989E+07 -0.1
66088E+01 0.259221E+01 -0.127474E+01 0.374434E+01 -0.388805E+01 0.330753E+01 0.812926E+01
-0.213890E+01 0.893983E+01 -0.370532E+00 0.579411E+00 -0.260178E+00 0.4545
05E+01 0.288134E+02 0.360023E+07 -0.275997E+01 0.246944E+00 -0.103754E+01 0.862015E+01 -
0.176507E+01 0.389268E+01 0.484623E+01 -0.331949E+01 0.648943E+01 -0.613307E
+00 -0.303256E-02 -0.183278E+00 0.441840E+01 0.199558E+02 0.347612E+07 -0.166272E+01 0.1
29886E+01 0.203522E+01 0.384612E+01 -0.171376E+01 -0.332605E+01 0.621397E+01
0.138383E+01 0.680624E+01 -0.411006E+00 0.308266E+00 0.488189E+00 0.408536E+01 0.1686
43E+02 0.360006E+07 -0.250285E+01 0.310306E+01 0.472142E+00 0.736073E+01 -0.727385E+01 -
0.582013E+00 0.105433E+02 0.134526E+01 0.348218E+01 -0.540859E+00 0.670315E
+00 0.107148E+00 0.460884E+01 0.213762E+02 0.360006E+07 -0.251075E+01 0.865053E+00 -0.2
30482E+01 0.706829E+01 -0.213872E+01 0.542161E+01 0.498189E+01 -0.274399E+01
0.699917E+01 -0.579339E+00 0.171549E+00 -0.533416E+00 0.434276E+01 0.190494E+02 0.3599
89E+07 -0.164972E+01 -0.174608E+01 -0.848280E+00 0.371092E+01 0.256759E+01 0.117128E+01
0.459926E+01 0.901606E+00 0.483759E+01 -0.463663E+00 -0.478966E+00 -0.225624E
+00 0.360044E+01 0.131477E+02 0.335817E+07 -0.301836E+01 0.615836E+00 0.176013E+01 0.9
35691E+01 -0.144056E+01 -0.326267E+01 0.297786E+01 0.157613E+01 0.366113E+01
-0.754442E+00 0.161856E+00 0.489543E+00 0.399249E+01 0.159956E+02 0.359290E+07 -0.2832
05E+01 0.116007E+01 0.851426E-01 0.892235E+01 -0.267248E+01 -0.103595E+01 0.301726E+01
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ISEC-3
HOURLY & DAILY AVE'S
78-079A-02K

8/13/78-12/31/81

(Created from the
20 tapes in -02A)

1 FILE

[illegible]

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63548E+01 -.374510E+00 .308774E+02 .319986E+01 .239229E+01 .147281E+00
.913149E+00 .126495E+00 .600484E+01 .360844E+02 .664105E+08 .718868E+00 .6005
99E+00 .140867E+01 .242675E+02 -.145125E+02 .124005E+02 .325678E+02
-.495443E+01 .185722E+02 -.190754E-01 .254016E+00 .124755E+00 .804928E+01 .754074E
+02

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***** JOB DONE.
\$WEO LPS

\$NOP
\$NOP
\$NOP ***** SO-1 *****
\$EXEC TPLIST BS

INPUT PARAMETERS ARE: AS FL=1=1 1

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	AVEDT 820430		AVRUN 3.51
+00	.615720E+01	.124158E+02	.774898E+00
27349E+01	.375557E+00	.893534E+00	.325272E-01
.120804E+01	.570860E+01	-.120476E+01	.186773E+01
32E+02	-.649317E+01	.291500E+01	.197661E+00
.612876E+01	.375759E+02	.732829E+06	.875761E+00
+00	.474678E+01	-.143242E+01	.294185E+02
51199E+00	.939235E+00	-.284997E+00	.576049E+01
.566294E+01	-.104198E+01	.713398E+00	-.179525E+01
-.586206E+01	.169128E+01	-.545433E-01	.964019E+00
.345208E+02	.188913E+07	-.381737E+01	.442671E+01
+02	-.420176E+01	.207066E+02	.393029E+01
19595E+00	.162724E+00	.616168E+01	.379880E+02
.674404E+00	.334629E+02	-.133019E+02	-.372601E+01
58E+01	.117466E+01	-.907973E+00	.366462E+00
.360000E+07	-.470371E+01	.308928E+01	.891771E+00
+01	.116031E+02	.157355E+01	.196844E+01
44938E+00	.608382E+01	.370821E+02	.360000E+07
.362730E+02	-.366612E+01	-.230099E+01	.759960E+00
10E+00	-.982940E+00	.997785E-01	.629129E-01
-.518748E+01	.276113E+01	-.109086E+01	.274677E+02
+01	-.291761E+01	.240048E+01	-.834074E+00
22231E+01	.387212E+02	.000000E+00	.000000E+00
.000000E+00	.000000E+00	.000000E+00	.000000E+00
00E+00	.000000E+00	.000000E+00	.000000E+00
.000000E+00	.000000E+00	.000000E+00	.000000E+00
.000000E+00	.000000E+00	.000000E+00	.000000E+00
00000E+00	.102353E+07	-.538245E+01	.279250E+01
.155926E+01	.887491E+01	-.232765E+00	.183135E+01
15E+00	-.299330E-01	.632696E+01	.400480E+02
-.194389E+01	.287324E+02	-.462805E+01	.878011E+01
+00	.828511E+01	-.831562E+00	.124401E+00
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35E+00	.677436E+01	.459085E+02	.259580E+07
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+02	-.778381E+00	-.773169E-01	-.533208E+00
26797E+01	.497179E-02	-.318206E+01	.395991E+02
.21E+01	.521727E+02	.311472E+07	-.624680E+01
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+00	-.189315E+00	-.322024E+00	.708938E+01
26295E+00	.466446E+00	.464140E+02	.426560E+01
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.000000E+00	.000000E+00	.000000E+00	.000000E+00
+00	.000000E+00	.000000E+00	.000000E+00
47610E+01	.233393E+02	-.167413E+02	-.335453E+01
.790004E+01	-.640892E+00	.580523E+00	.197959E+00
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+00	-.220216E+02	-.517030E+01	.307611E+02
03364E+02	-.569953E+00	.710320E+00	.218144E+00
90E+01	.610807E+01	.172749E+01	.141418E+02

Line 3
Hourly & Daily Data
78-079A-00K
1/1/82 - 12/31/83

(Created per 5 steps,
D-65710-14 in
- '000')

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01198E+02	-.315189E+01	.330458E+02		.682966E+01	.862321E+01	-.481453E+00
	.748646E+00	.175303E+00	.751293E+01	.564478E+02	.570722E+08	-.388684E+01
72E+01	-.384642E+00	.225400E+02	-.734000E+01	.219829E+01	.175053E+02	.3053
	.242502E+01	.540404E+01	-.571047E+00	.457313E+00	-.616078E-01	.671313E+01
+02						.454493E

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	.000000E+00	.000000E+00	.0000
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	.574986E+01	-.151921E+01	-.285561E+01
55E+01		.386853E+01	.918605E+01
	.677192E+01	.471986E+02	.357884E+07
+02	-.961379E+01	-.275116E+02	.376599E+01
40209E+00	-.149334E+00	-.435927E+00	.854249E+01
	-.156966E+01	-.263315E+01	.281606E+02
	.470658E+01	.142231E+02	.517102E+00
	.513275E+02	.357534E+07	.298715E+01
+00	-.181126E+02	.142650E+02	.859482E+01
52931E+00	-.688427E+00	.741954E+01	.586953E+02
	-.458590E+01	.973475E+01	-.821214E+01
23E+02	.220813E+02	.463601E+00	-.472796E+00
	.287417E+07	.420871E+01	-.301509E+01
+02	.939823E+01		.101870E+02
42627E+00	.625773E+01	.398716E+02	.255148E+07
	.696123E+01	-.103483E+02	-.129842E+02
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+02		.825421E+01	.112644E+02
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40E+00	-.640532E+00	-.628904E+00	.662593E+01
	-.462444E+01	-.420794E+01	.382113E+01
	.194204E+02	.180285E+02	.271186E+00
33038E+02	.186380E+07	.199289E+01	-.273353E+01
	-.103499E+02	.960143E+01	
61E+00	-.807217E+00	.648975E+01	.425303E+02
	-.955461E+00	.406570E+01	-.920882E+00
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11906E+07	.247865E+01	-.217869E+01	-.151952E+01
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61E+00	.405247E+01	.172605E+02	.220415E+07
	.726134E+01	-.607142E+01	-.676398E+01
+02	.443723E+00	-.489902E+00	-.493366E+00
31290E+01	-.144894E+01	-.467594E+01	.220167E+01
		.798685E+01	.232944E+02
82E+01	.291928E+02	.350338E+07	-.108848E+01
	.125979E+01	.206641E+01	.260928E+01
+00	-.358774E+00	-.498400E+00	.344719E+01

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.695471E+01	.623002E+01	.581395E+00	-.607672E+00	-.452757E+00	.527727E+01	.2849					
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-.121184E+02	.232855E+02		.159936E+02	.113875E+02	.529951E+00	-.696078E					
+00	-.469220E+00	.687502E+01	.484770E+02	.360000E+07	.306558E+01	-.470640E+01	-.5				
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.306145E+02	.381864E+00	-.587645E+00	-.667381E+00	.803577E+01	.646612E+02	.3578					
84E+07	-.220531E+01	.149809E+01	-.432628E+01	.129672E+02	-.142914E+02	.348795E+01					
.183779E+02		.225348E+01	.250480E+02	-.259451E+00	.141035E+00	-.642432E					
+00	.739428E+01	.563930E+02	.357751E+07	-.332577E+01	.421993E+01	-.412187E+01	.1				
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-.368484E+00	.469126E+00	-.482379E+00	.877350E+01	.773116E+02	.360000E+07	-.5696					
83E+01	.650106E+01	-.473538E+01	.331618E+02	-.366606E+02	.270037E+02	.446164E+02					
	-.287378E+02	.251839E+02	-.562568E+00	.640078E+00	-.468740E+00	.101371E					
+02	.102962E+03	.309691E+06	-.712017E+01	.795077E+01	-.225242E+01	.509725E+02	-.5				
64082E+02	.159061E+02	.634145E+02		-.178549E+02	.566264E+01	-.649940E+00					
.725634E+00	-.205466E+00	.109566E+02	.120050E+03	.735556E+08	.203393E+01	-.1530					
82E+01	-.347990E+01	.160542E+02	-.980553E+01	-.689166E+01	.136209E+02						
.618026E+01	.163952E+02	.358520E+00	-.287949E+00	-.525007E+00	.646425E+01	.460703E					
+02											

***** JOB DONE.
\$WEO LPS

78-079A-02N

REQ. AGENT

BMW

ACQ. AGENT

SUMANT

ISEE - 3

ICE MAGNETOMETER HIGH RESOLUTION DATA

78-079A-02N SPHE-00203

This data set consists of 1 9-track tape, 5 files, ASCII, 6250 BPI, magnetic tape. The tape was created on a IBM 360 computer. The D and C numbers, number of files, and time spans are as follows:

D# --	C# --	FILES -----	TIME SPAN -----
D-79138	C-26995	5	9/10/85 - 9/14/85

I. BACKGROUND

On September 11, 1985, the International Cometary Explorer (ICE; originally called ISEE-3) spacecraft made in situ measurements of particles, fields and waves as it traversed the plasma tail of comet Giacobini-Zinner (G-Z). The time of closest approach was approximately 11:02 UT and occurred at a tailward distance of 7,800 km. The spacecraft was inside the bow wave for roughly 3 hours and in the main tail for about 10 min (Brandt et al., 1985; Brandt et al., 1988, and references therein).

This data set (NSSDC ID# 78-079A-02N) contains magnetic field data obtained during the comet encounter, for the period 10-14 September, 1985. Ephemeris data giving hourly values of the ICE spacecraft trajectory relative to Earth, Sun and G-Z are in NSSDC data set 78-079A-00E. Note that the deviation of the spacecraft from uniform linear motion was negligible during the encounter, so that interpolation of the trajectory is straightforward.

These magnetic field data were obtained by the Jet Propulsion Laboratory (JPL) Vector Helium Magnetometer (Frandsen et al., 1978) which provided three orthogonal vector measurements every 1/3 sec during the G-Z encounter.

The first scientific results from the ICE encounter with comet Giacobini-Zinner have appeared in Science (vol. 232, 1986), and further findings of the mission are contained in the March and April 1986 issues of Geophysical Research Letters, and in many other sources (e.g., McFadden et al., 1987; McComas et al., 1987, and references therein; Richardson et al., 1988).

References:

Bame, S.J., J.R. Asbridge, H.E. Felthaus, J.P. Glore, H.L. Hawk, and J. Chavez, ISEE-C solar wind plasma experiment, IEEE Trans. Geosci. Electron., GE-16, 160-162, 1978.

Brandt, J.C., M.B. Niedner, and T. von Rosenvinge, "The ICE Project," Adv. Space Res., v.5, 3-16, 1985.

Brandt, J.C., R.W. Farquhar, S.P. Maran, M.B. Niedner, Jr., and T.T. von Rosenvinge, "The International Cometary Explorer" in "Exploration of Halley's Comet. Based on the 20th ESLAB Symposium, held in Heidelberg, F.R.G., 27-31 October 1986," p. 969-980. M. Grewing, F. Praderie, R. Reinhard (Editors). Springer-Verlag, Berlin, F.R.G. 23+984 pp. ISBN 3-540-17344-7 (F.R.G.). ISBN 0-387-17344-7 (USA), 1988.

Frandsen, A.M.A., B.V. Connor, J. van Amersfoort, and E.J. Smith, The ISEE-C vector Helium magnetometer, IEEE Trans. Geosci. Electron., GE-16, 195-198, 1978.

McComas, D.J., J.T. Gosling, S.J. Bame, J.A. Slavin, E.J. Smith, and J.L. Steinberg, The Giacobini-Zinner magnetotail: Tail configuration and current sheet, J. Geophys. Res., v.92, 1139-1152, 1987.

McFadden, L.A., M.F. A'Hearn, P.D. Feldman, H. Bohnhardt, J. Rahe, M.C. Festou, J.C. Brandt, S.P. Maran, M.B. Niedner, A.M. Smith, and D.G. Schleicher, Ultraviolet spectrophotometry of comet Giacobini-Zinner during the ICE encounter, Icarus, v.69, 329-337, 1987.

Richardson, I.G., S.W.H. Cowley, R.J. Hynds, P.W. Daly, T.R. Sanderson, and K-P. Wenzel, Properties of energetic water-group ions in the extended pick-up region of comet Giacobini-Zinner, Planet. Space Sci., vol. 36, no. 12, 1429-1450, 1988.

II. MAGNETIC FIELD DATA

These data were obtained from the JPL magnetometer experiment on ICE (Principal Investigator: E.J. Smith; data provided by J. Wolf). The instrument produces three, high-accuracy, triaxial measurements per second of the magnetic field strength in 8 ranges, i.e., ± 4 nT (lowest full range), 14, 42, 144, 640, 4000, 22000, and 140000 nT (highest full range) and a sensitivity of $1/256$ of each full range, in a 0-3 Hz pass band. During the G-Z encounter the instrument range was switched automatically between the 4 lowest ranges depending on the field intensity, giving sensitivities of 0.015, 0.051, 0.17 and 0.57 nT respectively.

The data are on one 6250 bpi tape and there is one ASCII data file for each day (Sept. 10-14, 1985). The time of closest approach was at 11:01 UT on Sept. 11, 1985; the inbound and outbound shocks were about 09:25 and 12:20. The data are in 52-byte logical records, and each such logical record contains the year, day-of-year (day 1 is Jan. 1), hours, minutes, seconds, Bx, By, Bz, and Bmagnitude in the format (I2, I4, 2I3, F6.2, 4F8.3, 2X). Thus, each logical record has the following structure:

Item	Bytes	Quantity	Format
1	1-2	Year (e.g., 85)	I2
2	3-6	Day of year	I4
3	7-9	Hour	I3
4	10-12	Minute	I3
5	13-18	Seconds	F6.2
6	19-26	Bx	F8.3
7	27-34	By	F8.3
8	35-42	Bz	F8.3
9	43-50	Bmag	F8.3
10	50-52	blank	2X

The time is UT and the magnetic field values are in nanoteslas.

Example: the first 2 logical records of the first day's data are as follows:

YR	DAY	H	M	SEC	Bx	By	Bz	Bmag
>85	253	0	0	.04	-3.684	6.139	1.808	7.385

>85 253 0 0 .38 -3.598 6.156 2.001 7.406 <

The time resolution is 1/3 second from the start of Day 253 until Day 255, 18:38. At that time the bit rate dropped from 1024 to 512 bps, and the time resolution decreased to 2/3 sec. The data coverage and approximate file sizes are as follows:

File 1:	1985 Sept. 10, Day 253	91%	12.2 MBytes
File 2:	1985 Sept. 11, Day 254	99%	13.3 MBytes
File 3:	1985 Sept. 12, Day 255	98%	11.8 MBytes
File 4:	1985 Sept. 13, Day 256	95%	6.4 MBytes
File 5:	1985 Sept. 14, Day 257	83%	5.6 MBytes

The coordinate system for the magnetic field components is the I,S coordinate system, defined by the JPL group before launch. I is the unit vector in the direction of the ICE spin axis (positive in the northward direction), and S is the unit vector from the spacecraft to the Sun. The z-axis is equal to I, the y-axis to the normalized cross-product $I \times S$, and the x-axis to $Y \times Z$. The I,S coordinate system is approximately the same as the Solar Ecliptic (SE) system since the spacecraft z-axis is maintained within half a degree of perpendicular to the Ecliptic plane. (SE is defined the same way as GSE, but with the spacecraft [point of observation] substituted for Earth).

While the JPL reduction program eliminates most noise spikes, there is a small number that do appear in these data. JPL does not hand-edit the high resolution data, since there is such a volume of it. Users should check for noise spikes when doing averaging or other analyses. There is no special flag for "bad" or missing data. A scan of the 5 days of high resolution data at JPL revealed the following noise spikes:

Time	Field magnitude
----	-----
Day 253, 10:11:59.84	47.25
Day 254, 03:51:28.21	59.17
04:05:17.84	56.19
10:10:55.31	59.68
11:06:13.15	128.07
12:04:23.92	62.73
Day 255, 09:07:17.48	57.75
09:07:17.82	185.49
Day 256, 07:35:54.94	57.58
21:08:09.00	23.83
23:01:15.94	35.20
Day 257, 10:08:07.77	46.06
20:03:15.75	51.07

The following information (and the table of noise spikes given above) has been provided by J. Wolf (JPL), after examining plots of the magnetic field data during the comet encounter: The highest legitimate value of Bmagnitude is 59.21 at 11:01:01.29 on Day 254, at the time of closest approach to the comet. On Day 254, one should eliminate points with Bmagnitude greater than 40 from 09:00 to 11:00 and from 11:10 to 13:00. During the interval 11:00 to 11:10, points with Bmagnitude greater than 60 should be eliminated. For the rest of this 5 day interval, one should eliminate points with Bmagnitude greater than 20 nT.

Dec. 12, 1988

TO: Sumant Krishnaswamy, NSSDC

Recd 12/21/88

FROM: Joyce Wolf, JPL

SUBJ: ICE Magnetometer High Resolution Data (ASCII Tape)

Enclosed is one magnetic tape, 6250 bpi density, that contains ICE magnetometer high resolution data for the Giacobini-Zinner encounter, Sept. 10 - 14, 1985.

There is one file for each day. Each block contains 100 logical records of 52 bytes each, except for the last block of a file, which usually contains fewer than 100 logical records. Each logical record contains year, day of year (day 1 is Jan. 1), hours, minutes, seconds, Bx, By, Bz, Bmagnitude in the format (I2, I4, 2I3, F6.2, 4F8.3, 2X).

The coordinate system for the B vector is I,S (see attached diagram). This is approximately the same as Solar Ecliptic, since the spacecraft Z-axis is maintained within half a degree of perpendicular to the Ecliptic.

Trajectory data for the ICE spacecraft relative to Comet Giacobini-Zinner was submitted to the NSSDC sometime ago, along with the magnetometer one-minute averages for the comet encounter.

$\frac{1}{3}$ sec resolution

(Bmag is computed from B_x, B_y, B_z ; see IEEE article)

JPLSP::JWOLF (SPAN)

818-354-7361

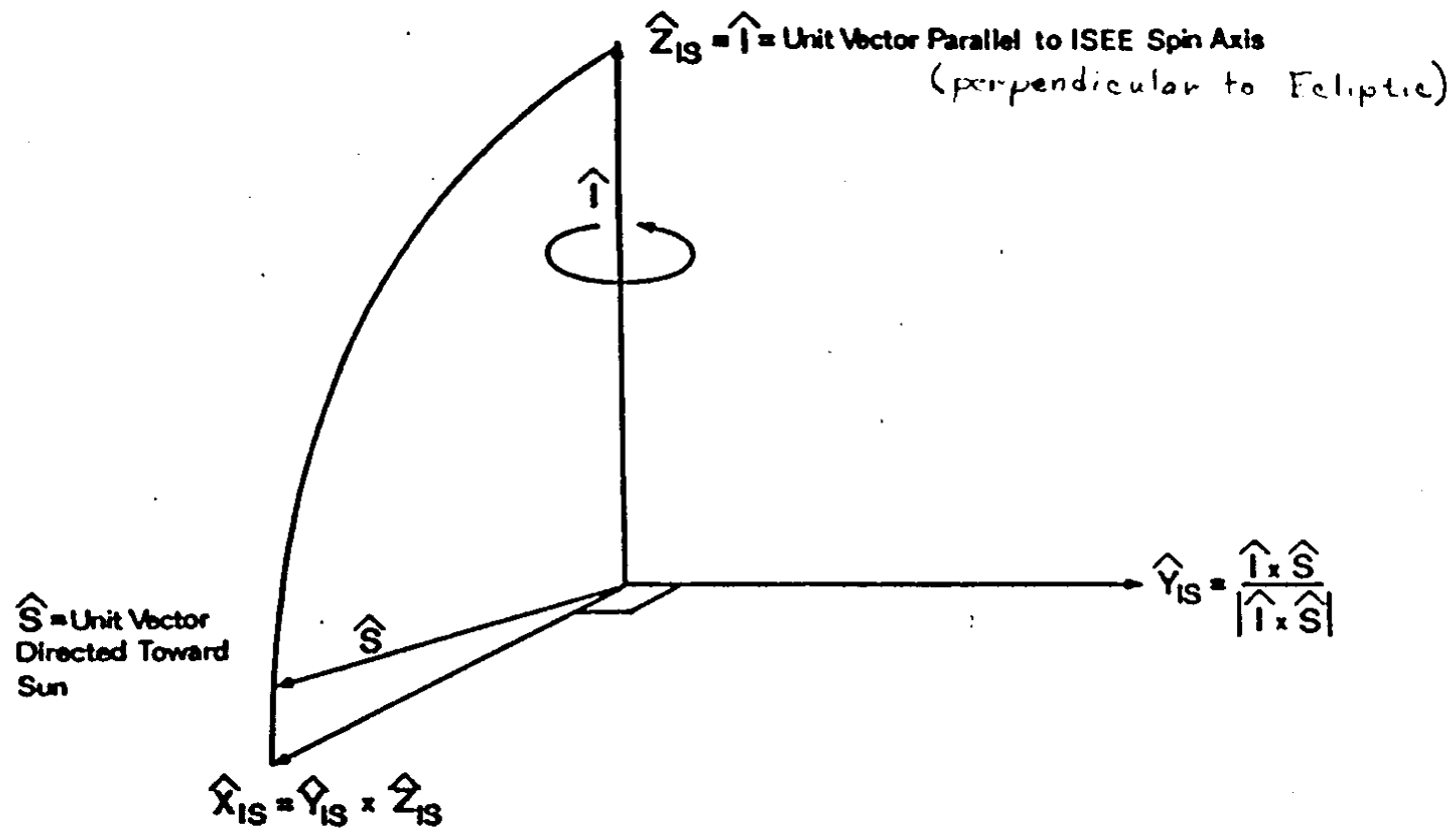
FTS 792-7361

NSSDC Data Set ID # 78-079A-02N

"0.33 SEC B-FIELD DATA G-Z ENCNTN"

[JPL Trajectory data, G-Z encounter: 78-079A-00E; 9/10/85-9/12/85, 1 tape
1-m, hourly, daily ave. B-fld data: 78-079A-02D; 8/13/78-12/31/85; 40 tapes]

178-0114-02N
P-2543



IS Coordinate System

12-DEC-88 11:22:57

ICE HighRes ASCII

Start of file number 1

Block 1 (length 5200 bytes) starts:

```

1: 38352032 35332020 30202030 2020202E 30342020 2D332E36 38342020 20362E31
33: 33392020 20312E38 30382020 20372E33 38352020 38352032 35332020 30202030
65: 2020202E 33382020 2D332E35 39382020 20362E31 35362020 20322E30 30312020
97: 20372E34 30362020 38352032 35332020 30202030 2020202E 37312020 2D332E35
# file number      1

```

End of file number 1

File contained 2349 blocks, shortest block 3224 bytes, longest block 5200 bytes

>85	253	0	0	.04	-3.684	6.10
>39	1.808	7.385	85	253	0	0
>	.38	-3.598	6.156	2.001	<	
> 7.406	85	253	0	0	.71	-3.50

Start of file number 2

Block 1 (length 5200 bytes) starts:

```

1: 38352032 35342020 30202030 2020202E 31322020 20202E31 32332020 20382E30
33: 38352020 20382E32 34322020 31312E35 34362020 38352032 35342020 30202030
45: 2020202E 34362020 20202E31 30312020 20382E31 31322020 20382E33 32332020
97: 31312E36 32332020 38352032 35342020 30202030 2020202E 37382020 20202E31
# file number      2

```

End of file number 2

```
File contained 2566 blocks, shortest block 3016 bytes, longest block 5200 bytes
```

```

>85 254 0 0 .12 ~.123 8.00
>85 8.242 11.546 85 254 0 00
> .46 -.101 8.112 8.323 0
>11.623 85 254 0 0 .78 -.10

```

Start of file number 3

Block 1 (length 5200 bytes) starts:

```

1: 38352032 35352020 30202030 2020202E 32372020 2D342E32 30362020 20332E32
33: 33382020 20322E34 38322020 20352E38 36302020 38352032 35352020 30202030
65: 2020202E 36302020 2D342E32 35392020 20332E32 32322020 20322E34 36342020
97: 20352E38 38372020 38352032 35352020 30202030 2020202E 39332020 2D342E32
# file number 3

```

End of file number 3

File contained 2264 blocks, shortest block 260 bytes, longest block 5200 bytes

```

>85 255 0 0 .27 -4.206 3.20
>38 2.482 5.860 85 255 0 0
> .60 -4.259 3.232 2.464 0
> 5.887 85 255 0 0 .93 -4.20

```

Start of file number 4

Block 1 (length 5200 bytes) starts:

```

1: 38352032 35362020 30202030 2020202E 36302020 2D342E37 38342020 202D2E36
33: 32332020 202D2E31 37322020 20342E38 32382020 28352032 35362020 30202030
65: 2020312E 32372020 2D342E37 33362020 202D2E36 30322020 202D2E31 36362020
97: 20342E37 37372020 38352032 35362020 30202030 2020312E 39332020 2D342E37
# file number      4

```

End of file number 4

File contained 1226 blocks, shortest block 2340 bytes, longest block 5200 bytes

>85	256	0	0	.60	-4.784	-.60
>23	-	172	4	828	85	256
>	1.27	-4.736	-	.602	-	166
>	4.777	85	256	0	0	1.93

Start of file number 5

Block 1 (length 5200 bytes) starts:

```

1: 38B352032 35372020 30202030 2035322E 39362020 20202E36 31382020 20332E36
33: 30302020 20312E34 31302020 20332E39 31362020 38352032 35372020 30202030
65: 2035332E 36332020 20202E36 35392020 20332E36 30362020 20312E37 35312020
97: 20342E30 36322020 38352032 35372020 30202030 2035342E 33302020 20202E36
# file number 5

```

End of file number 5

File contained 1079 blocks, shortest block 2288 bytes, longest block 5200 bytes

>85 257	0	0	52.96	-	.618	3.60
>00	1.410	3.916	85 257	0	0	0
> 53.63	-	.659	3.606	1.751	-	-
> 4.062	85 257	0	0	54.30	-	.60

Y8-079A-02 ✓ P. 39.3

IS66-3 ZLC Magnetometer High Resolution DATA

78-079A-02N

N-79138 C-26995 5 Files

9/10/85 → 9/14/85

\$JOB 23:34:1F

\$ASS IN HTD

\$NOP

\$NOP

\$NOP

\$NOP ===== LIST OF WOLF-IN =====

SEXE TPLIST BS

INPUT PARAMETERS ARE: AS FL=1=1 5 1 1

***** ERROR CONDITION 8610 ON RECORD 001 ON TAPE 1 IN FILE 1

TAPE NO.	1	FILE NO.	1
RECORD	2351	LENGTH	3224
85 253 23 59 39.80	.194	7.685	8.217 11.252 85 253 23 59 39.81 .465 7.468 8.194 11.
096 85 253 23 59 41.12	.158	7.688	8.153 11.207 85 253 23 59 41.12 .427 7.499 8.262
11.240 85 253 23 59 40.81	.247	7.509	8.387 11.260 85 253 23 59 41.12 .262 7.487
8.182 11.094 85 253 23 59 41.50	.211	7.665	8.111 11.162 85 253 23 59 41.81 .240 7.7
10 8.419 11.419 85 253 23 59 42.12	.314	7.747	8.333 11.287 85 253 23 59 42.44 .316
7.901 8.375 11.518 85 253 23 59 40.81	.286	8.202	8.111 11.643 85 253 23 59 43.12
.244 8.161 8.207 11.577 85 253 23 59 43.44	.126	8.012	8.364 11.583 85 253 23 59 43.8
1 .101 7.865 8.385 11.495 85 253 23 59 44.12	.087	7.865	8.229 11.383 85 253 23 59
44.44 .137 7.827 8.319 11.427 85 253 23 59 44.81	.258	7.936	8.261 11.457 85 253
23 59 45.12 .242 7.993 8.410 11.605 85 253 23 59 45.44	.196	8.096	8.429 11.689 85
253 23 59 45.81 .257 8.114 8.463 11.727 85 253 23 59 46.12	.245	8.082	8.418 11.67
2 85 253 23 59 46.44 .113 8.135 8.159 11.501 85 253 23 59 46.81	.018	8.016	8.177
11.451 85 253 23 59 47.12 .084 8.052 8.123 11.438 85 253 23 59 47.44	.185	8.074	8.
259 11.351 85 253 23 59 47.81 .272 8.135 8.207 11.558 85 253 23 59 48.12	.227	8.158	
8.151 11.534 85 253 23 59 48.44 .191 8.169 8.074 11.628 85 253 23 59 48.81	.067		
8.127 8.207 11.559 85 253 23 59 49.12 .064 8.202 8.163 11.572 85 253 23 59 49.44	-.0		
01 8.315 8.058 11.579 85 253 23 59 49.81 -.050 8.297 7.917 11.468 85 253 23 59 50.12			
.016 8.213 8.116 11.477 85 253 23 59 50.44 .274 8.243 8.099 11.356 85 253 23 59 5			
0.81 .062 8.151 8.047 11.454 85 253 23 59 51.12 .041 8.325 8.044 11.577 85 253 23			
59 51.44 .071 8.304 8.015 11.541 85 253 23 59 51.81 .026 8.370 8.003 11.581 85 2			
53 23 59 52.12 -.194 8.286 8.112 11.526 85 253 23 59 52.44 -.162 8.365 8.062 11.619			
85 253 23 59 52.81 -.119 8.265 8.023 11.519 85 253 23 59 53.13 .017 8.219 8.120 11			
.553 85 253 23 59 53.44 .010 8.218 8.045 11.500 85 253 23 59 53.81 .118 8.366 7.83			
7 11.464 85 253 23 59 54.12 .113 8.414 7.939 11.562 85 253 23 59 54.44 .231 8.296			
8.223 11.683 85 253 23 59 54.81 .204 8.379 8.263 11.777 85 253 23 59 55.12 .221 8.			
283 8.115 11.798 85 253 23 59 55.44 .221 8.274 8.113 11.590 85 253 23 59 55.81 .319			
8.046 8.128 11.442 85 253 23 59 56.12 .225 8.167 7.965 11.339 85 253 23 59 56.44			
.334 7.953 8.047 11.319 85 253 23 59 56.81 .374 7.937 8.103 11.493 85 253 23 59 57.			
12 .475 8.112 8.145 11.435 85 253 23 59 57.44 .428 8.138 8.221 11.575 85 253 23 5			
9 57.81 .423 8.235 8.055 11.527 85 253 23 59 58.12 .236 8.251 8.170 11.614 85 253			
23 59 58.44 .054 8.215 8.170 11.584 85 253 23 59 58.81 .177 8.246 8.180 11.617 8			
5 253 23 59 59.12 -.023 8.066 7.964 11.335 85 253 23 59 59.44 .042 8.055 8.197 11.4			
92 85 253 23 59 59.81 -.046 8.114 8.244 11.588			

TAPE NO.	1	FILE NO.	2
RECORD	1	LENGTH	5203
85 254 0 0 .12 -.123 8.185 8.242 11.546 85 254 0 0 .46 -.101 8.112 8.323 11.			
623 85 254 0 0 .78 -.131 8.126 8.266 11.592 85 254 0 0 .112 -.7 8.179 8.227			
11.603 85 254 0 0 1.46 .301 8.370 7.961 11.483 85 254 0 0 1.78 -.092 8.628			
7.521 11.713 85 254 0 0 2.12 .008 8.340 7.905 11.494 85 254 0 0 2.45 .186 7.9			
54 8.197 11.423 85 254 0 0 2.78 -.113 8.315 8.137 11.634 85 254 0 0 3.12 .028			
8.206 8.086 11.520 85 254 0 0 3.45 -.149 8.152 8.065 11.584 85 254 0 0 3.78 -			
.051 8.494 8.062 11.712 85 254 0 0 4.12 -.041 8.576 8.024 11.744 85 254 0 0 4.4			
5 .035 8.584 8.119 11.747 85 254 0 0 4.78 .014 8.531 8.026 11.712 85 254 0 0			

5.12	.118	8.495	8.911	11.677	85 254	5.45	.27	8.391	8.335	11.621	85 254		
0.9	5.78	.253	8.311	8.085	11.598	85 254	0	6.12	.325	8.270	8.138	11.607	85
254	0	6.45	.281	8.242	8.114	11.571	85 254	0	4.78	.142	8.328	8.089	11.55
5	85 254	0	7.12	.188	8.435	7.921	11.573	85 254	0	7.45	.021	8.471	7.763
11.498	85 254	0	7.78	.186	8.673	7.517	11.477	85 254	0	8.12	.124	8.478	7.
804	11.494	85 254	0	8.45	.272	8.544	7.826	11.589	85 254	0	8.78	.129	8.513
7.562	11.402	85 254	0	9.12	.138	8.766	7.343	11.580	85 254	0	9.45	.105	
8.752	7.549	11.358	85 254	0	9.78	.168	8.725	7.495	11.507	85 254	0	10.12	.2
12	8.745	7.613	11.596	85 254	0	10.45	.219	8.858	7.452	11.578	85 254	0	10.78
.172	8.886	7.404	11.567	85 254	0	11.12	.203	8.812	7.333	11.494	85 254	0	1
1.45	.513	8.922	7.251	11.509	85 254	0	11.78	.552	8.875	7.302	11.506	85 254	0
0.12.11	.467	8.938	7.317	11.554	85 254	0	12.45	.515	8.827	7.394	11.535	85 2	
54	0	12.78	.516	8.831	7.495	11.595	85 254	0	13.11	.483	8.777	7.562	11.594
85 254	0	13.45	.440	8.759	7.609	11.611	85 254	0	13.78	.477	8.723	7.561	11
.554	85 254	0	14.11	.46	8.727	7.491	11.537	85 254	0	14.45	.242	8.811	7.35
2	11.469	85 254	0	14.78	.164	8.749	7.607	11.595	85 254	0	15.11	.161	8.761
7.611	11.605	85 254	0	15.45	.014	8.846	7.443	11.551	85 254	0	15.78	.067	8.
855	7.499	11.587	85 254	0	16.11	.111	8.727	7.671	11.601	85 254	0	16.45	.107
8.714	7.668	11.638	85 254	0	16.78	.117	8.521	7.827	11.570	85 254	0	17.11	
.015	8.586	7.813	11.692	85 254	0	17.45	.052	8.525	7.818	11.567	85 254	0	17.
78	.308	8.516	7.759	11.529	85 254	0	18.11	.031	8.504	7.918	11.619	85 254	0
0.18.45	-.057	8.495	7.957	11.649	85 254	0	18.78	-.118	8.479	7.756	11.491	85 254	
0	19.11	-.095	8.379	8.037	11.611	85 254	0	19.45	-.069	8.418	8.036	11.638	8
5 254	0	19.78	-.219	8.418	7.823	11.535	85 254	0	20.11	-.162	8.483	7.815	11.5
28	85 254	0	20.45	-.048	8.412	7.817	11.484	85 254	0	20.77	-.093	8.398	7.911
11.538	85 254	0	21.11	-.118	8.406	8.018	11.617	85 254	0	21.45	-.105	8.147	8
.109	11.495	85 254	0	21.77	-.074	8.255	8.066	11.571	85 254	0	22.11	-.063	9.01
0	8.244	11.494	85 254	0	22.45	.055	8.131	8.245	11.580	85 254	0	22.77	.073
8.207	8.093	11.526	85 254	0	23.11	.085	8.188	8.171	11.567	85 254	0	23.45	-.0
042	8.049	8.285	11.551	85 254	0	23.77	.042	8.072	8.118	11.448	85 254	0	24.11
.109	8.245	8.268	11.539	85 254	0	24.45	.114	8.439	8.011	11.512	85 254	0	
24.77	-.053	8.045	8.272	11.539	85 254	0	25.11	-.058	8.172	8.195	11.572	85 254	
0	25.45	.087	8.149	8.301	11.532	85 254	0	25.77	.056	8.314	8.146	11.640	85
254	0	26.11	.047	8.307	7.563	11.517	85 254	0	26.45	.013	8.236	8.127	11.571
85 254	0	26.77	.073	8.205	8.167	11.577	85 254	0	27.11	.002	8.224	8.220	1
1.627	85 254	0	27.44	-.051	8.242	8.158	11.597	85 254	0	27.77	-.051	8.218	8.2
74	11.669	85 254	0	28.11	-.059	8.083	8.249	11.549	85 254	0	28.44	.010	8.184
8.252	11.622	85 254	0	28.77	.001	8.188	8.202	11.585	85 254	0	29.11	-.148	8
.265	8.068	11.551	85 254	0	29.44	.058	8.104	8.231	11.551	85 254	0	29.77	.13
3	8.182	8.113	11.523	85 254	0	30.11	.086	8.243	8.218	11.640	85 254	0	30.44
.079	8.335	8.002	11.555	85 254	0	30.77	-.025	8.373	8.172	11.659	85 254	0	31
.11	.080	8.357	8.044	11.603	85 254	0	31.44	.420	8.692	7.581	11.617	85 254	0
0	31.77	.357	8.603	7.577	11.469	85 254	0	32.11	.305	8.441	7.599	11.360	85 25
4	0	32.44	.344	8.661	7.344	11.360	85 254	0	32.77	.374	8.697	7.435	11.448
85 254	0	33.11	.327	8.752	7.332	11.359							

TAPE NO.	1	FILE NO.	2							
RECORD	2566	LENGTH	3 16							
85 254 23 59 40.54	-3.950	2.377	2.484	5.482	85 254 23 59 41.25	-4.066	2.868	2.513	5.	
620	85 254 23 59 41.62	-4.144	2.766	2.605	5.593	85 254 23 59 41.94	-4.182	2.732	2.618	
5.565	85 254 23 59 42.25	-4.233	2.614	2.748	5.683	85 254 23 59 42.62	-4.279	2.775		
2.522	5.691	85 254 23 59 42.94	-4.032	3.141	2.491	5.663	85 254 23 59 43.25	-4.092	2.8	
74	2.436	5.562	85 254 23 59 43.62	-4.335	2.701	5.621	5.696	85 254 23 59 43.94	-4.036	
2.785	2.643	5.717	85 254 23 59 44.25	-4.180	2.754	2.763	5.624	85 254 23 59 44.62	-4	
.153	2.827	2.604	5.659	85 254 23 59 44.94	-4.172	2.844	2.564	5.663	85 254 23 59 45.2	
5	-4.068	2.832	2.697	5.653	85 254 23 59 45.62	-4.107	2.693	2.775	5.643	85 254 23 59
45.94	-4.191	2.721	2.748	5.742	85 254 23 59 46.25	-4.213	2.811	2.697	5.731	85 254
23 59 46.62	-4.184	2.850	2.780	5.795	85 254 23 59 46.94	-4.075	3.087	2.849	5.853	85
254 23 59 47.25	-3.837	3.170	2.821	5.721	85 254 23 59 47.62	-3.937	2.863	2.761	5.59	
7	85 254 23 59 47.94	-3.957	2.75	3.87	5.699	85 254 23 59 48.33	-3.985	2.970	3.064	
5.838	85 254 23 59 48.62	-3.793	3.101	3.989	5.739	85 254 23 59 48.94	-3.808	3.110	2.	
904	5.710	85 254 23 59 49.25	-3.769	3.060	3.058	5.738	85 254 23 59 49.62	-3.708	3.127	
3.036	5.722	85 254 23 59 49.94	-3.656	3.290	3.105	5.763	85 254 23 59 50.25	-3.680		
3.066	2.979	5.640	85 254 23 59 50.62	-3.751	3.339	2.918	5.826	85 254 23 59 51.34	-3.7	
84	3.128	2.928	5.717	85 254 23 59 51.25	-3.586	3.276	2.855	5.634	85 254 23 59 51.62	
-3.565	3.339	3.146	5.818	85 254 23 59 51.94	-3.416	3.117	2.955	5.538	85 254 23 59 5	

2.25 -3.373 3.293 3.159 5.675 85 254 23 59 52.62 -3.309 3.408 3.136 5.692 85 254 23
58 52.94 -3.304 3.291 3.263 5.691 85 254 23 59 53.25 -3.266 3.297 3.238 5.659 85 2
54 23 59 53.62 -3.316 3.396 3.12 5.627 85 254 23 59 53.94 -3.374 3.397 3.983 5.641
85 254 23 59 54.25 -3.459 3.337 3.162 3.699 85 254 23 59 54.62 -3.357 3.121 3.246 5
.617 85 254 23 59 54.94 -3.291 3.145 3.419 5.644 85 254 23 59 55.25 -3.288 3.111 3.41
8 5.648 85 254 23 59 55.62 -3.44 3.088 3.503 3.781 85 254 23 59 55.94 -3.364 3.277
3.368 5.777 85 254 23 59 56.25 -3.414 3.241 3.343 5.774 85 254 23 59 56.62 -3.435 3
118 3.386 5.725 85 254 23 59 56.94 -3.317 3.216 3.397 5.735 85 254 23 59 57.25 -3.294
3.179 3.475 5.693 85 254 23 59 57.62 -3.423 3.008 3.555 5.780 85 254 23 59 57.94 -
3.594 3.112 3.265 5.765 85 254 23 59 58.25 -3.894 3.207 2.654 5.792 85 254 23 59 58.
62 -3.787 3.458 2.625 5.761 85 254 23 59 58.94 -3.772 3.387 2.993 5.694 85 254 23 5
9 59.25 -3.873 3.438 2.584 5.779 85 254 23 59 59.62 -4.146 3.392 2.654 5.929 85 254
23 59 59.94 -4.135 3.178 2.517 5.786

TAPE NO. 1 FILE NO. 5
RECORD 1 LENGTH 5200
85 255 0 0 .27 -4.206 3.238 2.482 5.861 85 255 0 0 .60 -4.255 3.232 2.464 5.
887 85 255 0 0 .93 -4.047 3.211 2.437 5.850 85 255 0 0 1.27 -4.651 3.161 2.181
5.582 85 255 0 0 1.64 -4.623 3.167 2.422 5.664 85 255 0 0 1.93 -3.939 3.222
2.753 5.765 85 255 0 0 2.27 -3.851 3.146 2.671 5.644 85 255 0 0 2.60 -3.994 3.0
35 2.553 5.629 85 255 0 0 2.93 -4.158 3.004 2.713 5.803 85 255 0 0 3.27 -4.253
3.126 2.738 5.947 85 255 0 0 3.60 -4.218 3.211 2.452 5.845 85 255 0 0 3.93 -4
.113 3.140 2.383 5.697 85 255 0 0 4.26 -4.205 3.147 2.338 5.749 85 255 0 0 4.6
0 -4.173 3.177 2.217 5.694 85 255 0 0 4.93 -4.184 3.135 2.185 5.667 85 255 0 0
5.26 -4.164 3.023 2.575 5.750 85 255 0 0 5.50 -4.072 2.888 2.354 5.607 85 255
0 0 5.93 -4.150 2.763 2.557 5.603 85 255 0 0 6.26 -4.114 2.793 2.477 5.555 85
255 0 0 6.60 -4.188 2.771 2.560 5.636 85 255 0 0 6.93 -4.118 2.716 2.794 5.66
9 85 255 0 0 7.26 -3.962 2.755 3.061 5.735 85 255 0 0 7.60 -4.125 2.712 2.956
5.685 85 255 0 0 7.93 -4.005 2.659 3.124 5.733 85 255 0 0 8.26 -3.871 3.006 3.
246 5.878 85 255 0 0 8.60 -3.786 3.085 3.229 5.855 85 255 0 0 8.93 -3.939 3.011
3.377 5.835 85 255 0 0 9.26 -4.027 3.057 2.944 5.850 85 255 0 0 9.60 -3.862
3.127 2.978 5.793 85 255 0 0 9.93 -3.770 3.294 3.106 5.780 85 255 0 0 10.26 -3.5
57 3.092 3.267 5.735 85 255 0 0 10.60 -3.397 3.347 3.146 5.713 85 255 0 0 10.92
-3.496 3.334 3.066 5.722 85 255 0 0 11.26 -3.533 2.814 3.301 5.694 85 255 0 0 1
1.60 -3.732 2.634 3.441 5.674 85 255 0 0 11.92 -3.805 2.895 3.365 5.865 85 255 0
12.26 -3.756 2.878 3.337 5.772 85 255 0 0 12.64 -3.698 2.896 3.494 5.854 85 2
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85 255 0 0 13.60 -3.711 2.704 3.411 5.720 85 255 0 0 13.92 -3.879 2.529 3.543 5
.831 85 255 0 0 14.26 -3.988 3.274 3.419 5.846 85 255 0 0 14.59 -4.249 2.160 3.75
4 6.133 85 255 0 0 14.92 -4.399 2.393 3.228 5.958 85 255 0 0 15.26 -4.465 2.193
3.192 5.926 85 255 0 0 15.59 -4.575 2.154 2.911 5.835 85 255 0 0 15.92 -4.684 2.
209 3.147 6.008 85 255 0 0 16.26 -4.542 2.305 2.959 5.893 85 255 0 0 16.59 -4.360
2.393 3.107 5.864 85 255 0 0 16.92 -4.323 2.372 3.185 5.871 85 255 0 0 17.26 -
4.384 2.095 3.208 5.824 85 255 0 0 17.59 -4.394 1.873 3.281 5.684 85 255 0 0 17.
92 -4.564 1.787 3.320 5.757 85 255 0 0 18.26 -4.693 1.601 2.720 5.656 85 255 0
0 18.59 -4.924 1.549 2.747 5.847 85 255 0 0 18.92 -4.967 1.586 2.521 5.828 85 255
0 0 19.26 -4.938 1.886 2.493 5.844 85 255 0 0 19.59 -4.821 1.814 2.490 5.721 8
5 255 0 0 19.92 -4.883 1.555 2.833 5.857 85 255 0 0 20.26 -4.975 1.478 2.749 5.8
73 85 255 0 0 20.59 -4.978 1.465 2.875 5.932 85 255 0 0 20.92 -4.716 1.653 2.916
5.786 85 255 0 0 21.26 -4.625 1.559 2.979 5.718 85 255 0 0 21.59 -4.567 1.387 3
.213 5.754 85 255 0 0 21.92 -4.598 1.332 3.087 5.697 85 255 0 0 22.26 -4.833 1.29
1 3.036 5.836 85 255 0 0 22.59 -4.916 1.670 3.015 5.996 85 255 0 0 22.92 -4.971
2.027 2.677 5.999 85 255 0 0 23.26 -4.854 2.224 2.692 5.979 85 255 0 0 23.59 -4.
614 2.491 2.973 6.028 85 255 0 0 23.92 -4.434 2.626 2.863 5.855 85 255 0 0 24.26
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24.92 -3.356 3.782 2.951 5.855 85 255 0 0 25.26 -3.746 4.552 2.855 5.817 85 255
0 0 25.59 -2.853 4.272 2.629 5.771 85 255 0 0 25.92 -2.778 4.236 2.545 5.669 85
255 0 0 26.25 -2.874 3.561 2.777 5.627 85 255 0 0 26.59 -2.981 3.803 3.022 5.699
85 255 0 0 26.92 -2.954 3.843 3.234 5.827 85 255 0 0 27.25 -2.923 3.999 3.207
5.901 85 255 0 0 27.59 -2.946 4.119 3.063 5.860 85 255 0 0 27.92 -2.961 3.976 3.0
04 5.766 85 255 0 0 28.26 -2.750 3.918 3.112 5.714 85 255 0 0 28.59 -2.831 4.169
2.890 5.805 85 255 0 0 28.92 -2.514 4.293 2.896 5.714 85 255 0 0 29.25 -3.084 3
.815 2.677 5.588 85 255 0 0 29.59 -3.278 3.876 3.657 5.730 85 255 0 0 29.92 -3.54
0 3.621 2.659 5.695 85 255 0 0 30.25 -3.790 3.435 2.469 5.680 85 255 0 0 30.59
-3.898 2.754 2.444 5.383 85 255 0 0 30.92 -4.332 2.394 2.833 5.698 85 255 0 0 31
.25 -4.564 2.102 2.645 5.678 85 255 0 0 31.59 -4.641 1.654 2.490 5.521 85 255 0