

#156

IMP D + E

HOURLY AVRG B FIELD VECTORS

66-058A-03B

67-070A-03B

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

HOURLY AVG B FIELD VECTORS ON TAPE

66-058A-03B

67-070A-03B

These data sets have been restored. There was originally one 7-track, 800 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 a 6600 computer and the restored tape was created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D number are as follows:

DR#	DS#	D#	FILES	TIME SPAN
-----	-----	-----	-----	-----
DR005413	DS005413	D007065	1	07/23/67 - 12/15/68

REQ AGENT
VJP

RAND NO.
RC2561

ACQ. AGENT
JHK

IMP D + E

HOURLY AVRG B FIELD VECTORS

66-058A-03B

67-070A-03B

This data set catalog consists of 1 Explorer 33 and 35 Hourly Averaged B Field Vectors data tape. The tape is 800 BPI, EBCDIC, 7 track, 1 File and was made on the IBM 360/75.

The time spans are as follow:

D-07065

C-05587

IMP-D

1/01/67 - 12/31/69

IMP-E

7/23/67 - 12/31/69

Explorer 33 and 35 Ames Magnetometer Data Description

Hourly averaged interplanetary magnetic field data from the Ames magnetometers on Explorer 33 (Data Set D) and Explorer 35 (Data Set E) for the years 1967, 1968, and 1969 have been placed on magnetic tape in chronological order as EBCDIC card images. The tapes are binary, 7-track, EBCDIC, RECFM=FB, LRECL=80, BLKSIZE=10240 (must use TRTCH=C).

The identification of the contents of each field is as follows:

WORD	FORMAT	IDENTIFICATION
1	I3	Day number of year (January 1 is day 0).
2	I6	The Universal Time hour, minute and second when last telemetry sequence in that hourly average begins (2 characters each).
3	F5.1	Hourly average magnetic field in gammas.
4	F6.1	Hourly average field latitude in degrees (S.E.*).
5	F6.1	Hourly average field longitude in degrees (S.E.).
6	F6.1	Hourly average field Y component in gammas (S.E.).
7	F6.1	Hourly average field Z component in gammas (S.E.).
8	F6.1	Hourly average field latitude in degrees (S.M.*).
9	F6.1	Hourly average field longitude in degrees (S.M.).
10	F6.1	Hourly average field X component in gammas (S.M.).
11	F6.1	Hourly average field Y component in gammas (S.M.).
12	F6.1	Hourly average field Z component in gammas (S.M.).
13	I4	Number of individual vector sample available during hour.
14	F5.1	a) Hourly average magnetic field normal to the earth-sun line in gammas (for data prior to 1969). b) The year (1969 = 69.0) for data after 1968.
15	A3	a) Data group number ID-44D for Explorer 33, IE-22E for Explorer 35 (for data prior to 1969). b) 0D for Explorer 33, 0E for Explorer 35 (for data after 1968).

* S.E. is for solar equatorial coordinate system.

** S.M. is for solar magnetospheric coordinate system.

The solar equatorial coordinate system has the positive X direction towards the sun along the Earth-sun line. The positive Z direction has a northward sense and is in the plane of both the X axis and the sun's spin axis. The Y axis completes a right-handed, orthogonal coordinate system, X Y Z.

The definition of the solar magnetospheric coordinate system is the same as that of the solar equatorial system except that the positive Z direction is northward, parallel to the plane of the X axis and Earth's magnetic dipole, and normal to the X axis.

A description common to the Explorer 33 and Explorer 35 magnetometers is found in the article by Sonett et al. (pp. 461-484) in "Physics of the Magnetosphere", edited by R. L. Carovillano et al., D. Reidel Publishing Co., Dordrecht-Holland, 1968, and also in J. Geophys. Res. 73, 943-959, 1968. The above reference also describe the Explorer 33 orbit. The Explorer 35 orbit is described in Science 158, 1040-1042, 1967.

67-0704-03B

Explorers 33 and 35 Area Magnetometer Data Identification

by Ir. P. J. Fougere

Only average interplanetary magnetic field data from the magnetometers on Explorer 33 and Explorer 35 for the years 1964-1965 have been placed on magnetic tape as BCD card images. The format for I3, I6, F5.1, F6.1, I4, F6.1, A3. The identification of the contents of each field or BCD word is as follows:

Field	Format	Identification
I3	I3	Day number of year (January 1 is day 1).
I6	I6	The Universal Time hour, minute and second of the last telemetry sequence in that hourly average begins (2 col each).
F5.1	F5.1	Hourly average magnetic field magnitude in gauss.
F6.1	F6.1	Hourly average field latitude in degrees (solar).
F6.1	F6.1	Hourly average field longitude in degrees (solar).
F6.1	F6.1	Hourly average field Y component in gauss (solar).
F6.1	F6.1	Hourly average field Z component in gauss (solar).
F6.1	F6.1	Hourly average field latitude in degrees (earth).
F6.1	F6.1	Hourly average field longitude in degrees (earth).
F6.1	F6.1	Hourly average field X component in gauss (earth).
F6.1	F6.1	Hourly average field Y component in gauss (earth).
F6.1	F6.1	Hourly average field Z component in gauss (earth).
I4	I4	Number of individual vector samples averaged during hour.
F5.1	F5.1	Hourly average magnetic field normal to the earth-sun line in gauss.
A3	A3	Data group number 1-D to 44-D for Explorer 33, 1-E to 22-E for Explorer 35.

*S. for solar equatorial coordinate system.

**E. for solar magnetospheric coordinate system.

The solar equatorial coordinate system has the positive X axis pointing towards the sun along the earth-sun line. The positive Z direction is towards the earth and is in the plane of both the X axis and the Y axis. The Y axis completes a right-handed, orthogonal coordinate system X, Y, Z.

The definition of the solar magnetospheric coordinate system is the same as that of the solar ecliptic system except that the positive Z direction is defined, parallel to the plane of the X axis and Earth's magnetic dipole, and normal to the Y axis.

A description common to the Explorer 33 and Explorer 35 magnetometers is found in the article by Sonett et al., "Configuration and Reconnection of the Geomagnetic Tail," Physics of the Magnetosphere, edited by R. L. Carovillain et al., D. Reidel Publishing Co., Dordrecht-Holland, 461-484, 1967. The article is also in J. Geophys. Res., 75, 843-858, 1968. The above references also describe the Explorer 33 orbit. The Explorer 33 orbit is described in Science, 158, 1040-1042, 1967.

Hourly Average Interplanetary Magnetic Field Data: 1967-1968

by M. C. C. Johnson

Hourly average interplanetary magnetic field data were compiled from the Ames magnetometer aboard Explorer 33 and Explorer 35 spacecraft. Only interplanetary data appear; i.e., hourly averages do not include any data taken in the earth's magnetic tail or anywhere else behind the earth's bow shock and also do not include data taken in the diamagnetic solar wind cavity behind the moon. There are gaps in the data because of these conditions. Explorer 33 data were used where possible; for those time periods where Explorer 33 was behind the earth's bow shock an attempt was made to supplement the data with data from Explorer 35. The latter is characteristically blocked out approximately 2 hours out of every 11.5 because it passes through the diamagnetic cavity once each orbit.

The magnetic tape as produced by the CDC 5600 was blocked according to a format called (in CDC terminology) "STRIPP standard." It may be necessary to recopy this tape on a CDC machine to produce an unblocked BMD tape generally compatible with any machine. The latter format is called "STRANGER" in CDC terminology.

When the number of individual vector samples is given as greater than 1000, the averages given are actually 3-hour averages for the preceding 3 hours (rather than for the preceding 1 hour) from the time given. This occurred mainly for some of the records for days 82-83 and 82-84 of the year 1968.

Due to the method of editing used, in perhaps 15 cases hourly averages for the same hour and the same spacecraft are compared in two different data sets. In a similar number of cases there are Explorer 33 and Explorer 35 records covering the same day and hour. The Ames group appreciated the assistance of Ronald L. Roseberry of the University of California, Los Angeles, for calling these points to our attention.

The following tabulation indicates the times covered by each data set.

1000

Year 1947			Year 1948		
Begin Time Day-Hour	Termination Day-Hour	Group Number	Begin Time Day-Hour	End Time Day-Hour	Group Number
01-00	04-00	1-D	001-01	032-07	23-D
01-00	10-00	2-D	01-00	036-03	24-D
02-25	05-15	3-D	017-07	041-03	25-D
02-17	14-01	4-D	142-23	043-02	25-D
03-10	09-10	5-D	044-07	046-20	26-D
00-03	73-00	6-D	046-10	047-10	27-D
07-23	00-00	7-D	048-10	048-10	28-D
14-05	107-04	8-D	052-10	053-10	29-D
013-00	120-10	9-D	054-10	068-18	30-D
008-00	132-00	10-D	071-06	086-16	31-D
140-00	100-13	11-D	089-21	104-09	32-D
170-00	153-05	11-D	108-00	123-07	33-D
133-07	158-00	11-D	130-05	142-03	34-D
150-11	180-14	12-D	140-10	150-03	35-D
134-00	184-00	11-D	150-05	160-10	35-D
134-17	135-05	12-D	172-15	179-02	36-D
155-08	155-11	12-D	194-06	194-16	37-D
157-08	157-00	12-D	254-08	254-15	38-D
1E → 146-05	100-20	13-D	255-01	258-00	38-D
2E { 237-05	237-17	14-D	265-10	265-23	39-D
2E { 258-17	239-10	14-D	266-23	273-23	39-D
2E { 240-17	241-10	15-D	281-17	297-17	40-D
2E { 242-10	243-03	15-D	303-03	321-10	41-D
3E → 250-23	260-10	16-D	321-13	321-17	42-D
3E → 208-06	281-11	17-D	321-21	322-02	42-D
4E → 291-12	281-15	17-D	322-03	322-05	42-D
5E → 286-01	300-15	18-D	322-16	322-22	42-D
5E → 307-01	322-24	19-D	336-18	346-07	43-D
6E → 326-02	342-02	20-D	340-15	360-24	44-D
7E → 344-21	360-21	21-D			
363-00	*014-21	22-D			

*Year 1968

Table 1. Summary of data

Date	1977		1978		Group Number
	Start Time Day-Month	End Time Day-Month	Start Time Day-Month	End Time Day-Month	
1-1	22-5-77	1-1	180-15	187-17	8-E
1-2	25-5-77	1-1	188-16	194-17	9-E
1-3	26-5-77	1-1	198-17	200-17	10-E
1-4	27-5-77	1-1	206-18	211-18	11-E
1-5	28-5-77	1-1	216-19	218-19	12-E
1-6	29-5-77	1-1	225-19	226-19	13-E
1-7	30-5-77	1-1	232-19	239-19	14-E
1-8			245-19	252-21	15-E
1-9			258-17	265-14	16-E
1-10			266-00	276-00	17-E
1-11			284-11	284-02	18-E
1-12			294-00	297-00	19-E
1-13			307-10	301-22	20-E
1-14			321-01	326-17	21-E
1-15			346-00	349-19	22-E

[illegible]

