

#675

ISFE 1 & 2  
4SECOND AVERAGED ELECTRON AND PROTON DATA  
77-102A-10H/77-102B-08F

4SEC RESOLVED B-FLD DATA (12-s AVG)  
77-102A-04T/77-102B-04P

---

## Table of Contents

1. Introduction
2. Errata/Change Log
3. LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM
4. Catalog Materials
  - a. Associated Documents
  - b. Core Catalog Materials

---

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

REQ. AGENT

RAND NO.

ACQ. AGENT

-----  
RLR-----  
SK

ISEE-1

4 SEC AVG ELECTRON AND PROTON DATA

77-102A-10H SPMS-00296

This data set catalog consists of 19 tapes for ISEE-1. The tapes are 6250 bpi, 9-track, binary, with an ASCII header file for each data file. The D and C numbers, time spans, and number of files are as follows:

77-102A-10H ISEE-1:  
-----

D#	C#	FILES	TIME SPANS
---	---	-----	-----
D-82300	C-27941	100	10/23/77 - 12/25/77
D-82301	C-27942	104	12/27/77 - 02/26/78
D-82302	C-27953	082	02/26/78 - 04/26/78
D-82303	C-27943	110	04/26/78 - 07/02/78
D-82304	C-27944	104	07/02/78 - 09/13/78
D-82305	C-27945	106	09/13/78 - 12/10/78
D-82306	C-27946	106	12/10/78 - 02/21/79
D-82307	C-27947	088	02/21/79 - 04/29/79
D-82308	C-27948	108	04/29/79 - 07/08/79
D-82309	C-27949	094	07/08/79 - 09/16/79
D-82310	C-27950	100	09/16/79 - 11/25/79
D-82311	C-27951	094	11/25/79 - 01/30/80
D-82312	C-27952	022	01/30/80 - 02/19/80
D-84356	C-28844	030	10/27/82 - 11/27/82
D-84357	C-28845	090	02/23/83 - 06/09/83
D-84358	C-28846	072	06/12/83 - 09/03/83
D-84359	C-28847	056	09/04/83 - 11/22/83
D-84360	C-28848	018	11/23/83 - 12/27/83
D-79073	C-27160	110	03/30/86 - 06/17/86

REQ. AGENT

RAND NO.

ACQ. AGENT

RLR

SK

ISEE-2

## 4 SEC AVG ELECTRON AND PROTON DATA

77-102B-08F SPMS-00179

This data set catalog consists of 20 tapes for ISEE-2. The tapes are 6250 bpi, 9-track, Binary, with an ASCII header file for each data file. The D and C numbers, time spans, and number of files are as follows:

77-102B-08F ISEE-2:

D#	C#	FILES	TIME SPANS
--	--	----	-----
D-82313	C-27994	106	10/22/77 - 12/28/77
D-82314	C-27995	108	12/28/77 - 02/26/78
D-82315	C-27996	106	02/26/78 - 04/27/78
D-82316	C-27997	110	04/27/78 - 07/01/78
D-82318	C-27999	088	07/02/78 - 09/13/78
D-82317	C-27998	092	09/13/78 - 12/10/78
D-82320	C-28001	108	12/10/78 - 02/21/79
D-82319	C-28000	114	02/21/79 - 04/29/79
D-82321	C-28002	106	04/29/79 - 07/08/79
D-82322	C-28003	104	07/08/79 - 09/16/79
D-82325	C-28006	098	09/16/79 - 11/25/79
D-82324	C-28005	100	11/25/79 - 01/29/80
D-82323	C-28004	036	01/30/80 - 02/19/80
D-84361	C-28849	036	10/24/82 - 11/27/82
D-84362	C-28850	082	11/28/82 - 02/22/83
D-79070	C-27161	120	02/21/83 - 06/11/83
D-79071	C-27162	086	06/12/83 - 09/01/83
D-84363	C-28851	056	09/04/83 - 12/13/83
D-85875	C-28939	6	12/13/83 - 12/27/83
D-79072	C-27163	110	03/28/86 - 06/17/86

ATTN: Ralph Post  
RE: isee archive tapes

23-Nov-88

These four tapes contain isee data from the Berkeley/Toulouse high time resolution energetic particle experiments. They are in a FLAT format with the particulars as described in the accompanying letter to Sumant Krishnaswamy and the sample header file.

The tapes cover the time periods:

28-Mar-86 to 17-Jun-86 for isee 1 and 2;  
21-Feb-83 to 1-Sep-83 for isee 2.


If you have questions, my phone number is 206-543-9055.

Michael McCarthy



9. **spin pr** is the spacecraft spin period as determined from the sun sensor.
10. Units for flux are  $\text{cm}^{-2}\text{-sec}^{-1}\text{-keV}^{-1}\text{-ster}^{-1}$ .

Sincerely,

  
Michael McCarthy

---

Instrument Paper:

Anderson et al., IEEE Trans. Geosci. Electronics,  
GE-16, No. 3, July 1978, 213-216.

UNIVERSITY OF WASHINGTON  
SEATTLE, WASHINGTON 98195

Space Sciences Division  
Geophysics Program, AK-50  
(206) 543-0208 or 543-8020

September 26, 1991

Sumant Krishnaswamy  
NSSDC Project  
7601 Ora Glen Drive  
Suite 300  
Greenbelt, MD 20770

Dear Dr. Krishnaswamy:

I have just sent the ISEE archive tapes for period II (which is from October 15, 1982 to December 25, 1983). Ralph should receive them shortly. Each tape has a summary page containing the starting and stopping times of every file. There are eight tapes in one box: five from isee 1 and three from isee 2.

This concludes the archive shipments except for two flat tapes. The two tapes yet to be delivered are tapes correspond to the following dates:

isee 1: 28 Nov 1982 (332) - 22 Feb 1983 (053)  
isee 2: 23 Nov 1983 (327) - 27 Dec 1983 (361).

All the data for these tapes has been processed, we are just having some problem putting it on the tapes. I will get them out as soon as I can.

If you have any questions please call me at (206) 543-0208.

77-102A-10H  
77-102B-08F - DD84361-63

Sincerely,

Jeffery Ross

62-7505

cc; Dr. Robert O. Wales  
Dr. Keith Ogilvie  
Dr. Mary Mellott  
Dr. Tom Armstrong

Recvd  
10/1/91

Michael P. McCarthy  
Research Associate  
[206]543-9055

14-October-1988

Sumant Krishnaswamy  
Code 633  
NSSDC  
NASA/GSFC  
Greenbelt, MD 20771

RE: Format of archive tapes

These data are from the high time resolution particle detectors from Berkeley/Toulouse. These detectors were installed on both ISEE-1 and ISEE-2. Dr. Kinsey Anderson was PI for this experiment. Data tapes (6250 bpi) contain about 110 files arranged in pairs of a header file and its associated data file. The header files are ASCII and the data files contain binary data in a format described in the header file. These are FLAT files.

The header file is terse in its description of the data fields and some additional information will be given here.

1. **time** is the time at the end of the 4 second averaging period.
2. **otnn** refers to the open solid state telescopes which collect both protons and electrons.
  - a. **nn = 12** means  $16 \text{ keV} < \text{energy} < 280 \text{ keV}$ .
  - b. **nn = 60** means  $84 \text{ keV} < \text{energy} < 280 \text{ keV}$ .
  - c. **nn = 200** means (electron) energies greater than 200 keV.
3. **ftnn** refers to the solid state telescopes with a foil cover. These collect only electrons.
  - a. **nn = 8** means  $19 \text{ keV} < \text{energy} < 280 \text{ keV}$ .
  - b. **nn = 60** means  $84 \text{ keV} < \text{energy} < 280 \text{ keV}$ .
4. **ne** refers to electrostatic analyzers collecting electrons. When  $n = 2$ , the energy range is approximately 1.4-1.6 keV. When  $n = 6$ , the energy range is approximately 4.5-6.0 keV.
5. **np** refers to electrostatic analyzers collecting protons. The energy ranges are similar to those for the electrons.
6. **coin** refers to counts of very energetic particles which penetrate the first solid state detector in the open telescopes. This includes electrons of energy greater than 300 keV and protons of energy greater than 1 MeV.
7. **sc angle** refers to the spacecraft spin angle as determined by the sun sensor.  $0^\circ$  means the sun sensor is looking at the sun.
8. **{x, y, z} pos** is the spacecraft coordinates in the GSE coordinate system.

L

CDATE = Sat Apr 9 08:59:15 1988  
 RECL = 68  
 NCOLS = 16  
 NROWS = 30115  
 BF = 50  
 FILL = -1.00000

#	NAME	UNITS	SOURCE	TYPE	LOC
001	time	seconds	ISEE 2	T	0
002	ot12	flux	ISEE 2	R	8
003	ot60	flux	ISEE 2	R	12
004	ft8	flux	ISEE 2	R	16
005	ft60	flux	ISEE 2	R	20
006	2e	flux	ISEE 2	R	24
007	6e	flux	ISEE 2	R	28
008	2p	flux	ISEE 2	R	32
009	6p	flux	ISEE 2	R	36
010	ot200	flux	ISEE 2	R	40
011	coin	flux	ISEE 2	R	44
012	sc ang	degrees	ISEE 2	R	48
013	x pos	Km	ISEE 2	I	52
014	y pos	Km	ISEE 2	I	56
015	z pos	Km	ISEE 2	I	60
016	spin pr	Msecs	ISEE 2	R	64

*This is double precision  
floating point with  
a time origine*

*00:00:00 GMT  
on Jan 1 1965.*

## ABSTRACT

start time: 1986 Mar 28 ( 87) 12:49:20.100  
 stop time: 1986 Mar 29 ( 88) 22:17:02.210  
 average period: 4.000 seconds  
 data format: IEEE

EOF

Sample header file listing

NOTE FOR VAX USERS, ON READING DATA IN NON-VAX REPRESENTATIONS

February, 1994

H K. Hills

On the current VAX operating system, there is a conversion feature that allows the Fortran programmer to insert CONVERT=(one of several valid keyword values) into the OPEN statement, and then the data that are read in through that file with an unformatted Fortran READ statement are converted from the specified representation to VAX representation during the read process. For more details, use the system HELP file for FORTRAN/CONVERT.

Information on IEEE floating point format  
 =====

	Single Prec.	Double Prec.
sign	bit 31	bit 63
exponent	bits 30-23 bias 127	bits 62-52 bias 1023
fraction	bits 22-0	bits 51-0

Fortran real and double precision numbers are composed of the following parts:

- \* a one bit sign. 1 ==> negative number.
- \* a biased exponent. The exponent is eight bits for a real number and is eleven bits for a double precision number. The values of all ones and all zeros are reserved.
- \* a normalized significand, with the high order 1 bit implicit. The fraction is 23 bits for a real number and 52 bits for a double precision number. A real or double is represented by the form:

$$2^{*(\text{exponent} - \text{bias})} * 1.f$$

where f is the bits in the mantissa.

zero is represented by an exponent of zero and a fraction of zero.

Some further examples of IEEE numbers follow:

+1.0	3f800000	3ff0000000000000
-1.0	bf800000	bff0000000000000
+2.0	40000000	4000000000000000
+3.0	40400000	4008000000000000

From: NCF::KAYSER "Susan E. Kayser GSFC (301) 288-9326" 26-JUL-1989 11:0

To: SUMANT

CC:

Obj: Subroutines to convert IEEE --> VAX

K-1

C\*\*\*\*\*  
C

C PROGRAM: IEEE\_VAX VERSION: 89.5 PROJECT: NSSDC

C ENGLISH NAME: IEEE to VAX

C LANGUAGE: FORTRAN77 for VAX 8650

C PURPOSE: To convert between IEEE and VAX formats

C METHOD: IEEE integers are like IBM integers: to convert to VAX,  
C you need only rearrange the bytes. E.g., in a VAX dump, a 4-byte  
C word can be represented as DCBA, where A is the earliest address  
C and D is the last. For IEEE and IBM, A is the most significant  
C byte and D the least (so normal reading is ABCD); for the VAX:

C		IEEE (IBM)	VAX
C	I*4	DCBA	ABCD
C	I*2	BA	AB

C For floating point numbers, the bytes must be rearranged:

C	R*4	DCBA	CDAB
C	R*8	HGFE DCBA	GHEF CDAB

C and also the contents of the bytes changed.

C R\*4: A real number is represented as  $2^{*n} * (b_0/2^{*0} + b_1/2^{*1} + b_2/2^{*2} \dots)$  where the  $b_i$  are either 0 or 1, and  $n$  is the  
C largest power of 2 less than the number. For example:

C  $3 = 2 * (1 + 1/2)$                        $5 = 2^{*2} * (1 + 1/2^{*2})$

C and the first term in the () is always 1. For IEEE as for the  
C VAX, bit 31 (msb) is the sign bit (1 for negative number), the 8  
C bits 30-23 are for the exponent, and the remaining bits 22-0 (lsb)  
C are the fraction. The exponent has a bias, which is 127 for IEEE,  
C i.e. the 8 exponent bits =  $n + 127$ . The fraction has the first 1  
C implicit. E.g., for 3, bit 31 is 0, bits 30-23 are 1000 0000, and  
C the mantissa is 1000..., or 0100 0000 0100 0000... or 404000000;  
C for 5, the exponent is  $2+127 = 1000 0001$  and the mantissa is 01  
C (omitting the initial 1), or 0100 0000 1010 0000... or 40A00000.  
C The number 0 is represented as 00000000 for IEEE and VAX.

C The VAX has a bias of 128--but also seems to define the exponent  
C as the first power of two larger than the number, which means that  
C the VAX exponent is effectively 2 greater than the IEEE exponent.  
C The fraction's highest (implicit 1) term is then 1/2, and the  
C mantissa will be identical to that of IEEE.

C R\*8: The IEEE representation has bit 63 (msb) for the sign,  
C the next 11 bits 62-52 for the exponent, with a bias of 1023, and  
C the remaining 52 bits 51-0 (lsb) for the fraction (high-order 1  
C omitted). The VAX has bit 63 for the sign, the next 8 bits 62-55  
C for the exponent, with a bias of 128, and the remaining 55 bits  
C 54-0 for the fraction. Thus the bias must be changed, the  
C exponent shrunk to 8 bits (which means that very large exponents  
C cannot be represented in VAX), and 3 0-bits tacked on as the lsb.

C The procedure for R\*4 conversion is a modification of a  
C program sent by George Pitt which adds 1 to the exponent and then  
C reorders the bytes.

C The procedure of R\*8 conversion reorders the bytes so that the

most significant byte is at the start of the longword (ABCD), uses the bit-manipulation VAX functions IAND, IOR, and ISHFT to make the conversion, and rearranges the bytes into the Vax order CDAB.

CALLS:

IE\_VAX8....INVERT4 R\*8 conversion IEEE-->VAX
....NUFLIP4
IE\_VAX4....IFLIP4 R\*4 conversion IEEE-->VAX
INVERT4 I\*4 conversion IEEE-->VAX (DCBA-->ABCD)
IFLIP4 (DCBA-->CDAB)
NUFLIP4 (ABCD-->CDAB)
VAX2LCL R\*4 conversion VAX-->IEEE

COMMONS: VARIABLES CHANGED:
none

CALLING SEQUENCE:

SUBROUTINES IE\_VAX8 and IE\_VAX4 (N,IARRAY,JARRAY)
SUBROUTINE vax2lcl (N,IARRAY)
N: Number of items to be converted
IARRAY: Incoming array (IEEE format) of N items (consecutive)
JARRAY: Output array, converted to VAX format
FUNCTIONS INVERT4,IFLIP4,NUFLIP4 (INT)
INT: Input 4-byte word

VARIABLES:

BYTES(4): 4 bytes equivalenced to the 4-byte word ICONV or INT
FILL: Output when conversion produces bad value
ICONV: Holds most significant 4 bytes to be converted
ICONV2: For R\*8, holds least significant 4 bytes
IOFF: Hex Adjustment to change IEEE bias to VAX bias
ISIG: Holds significand of ICONV (everything but sign)
ISIGN: Holds sign bit
IWORD: Temporary storage for a 4 byte word

ERROR HANDLING:

For REAL conversion, the resulting exponents are checked to be sure they do not exceed valid limits. If they do, an error message is written, and the output is replaced by FILL.

PDL:

DESIGN AND CODING: S. Kayser -SAR- May, 1989
IE\_VAX4 is based on a routine sent by George Pitt.

MODIFIED:

C\*\*\*\*\*1\*\*\*\*\*2\*\*\*\*\*3\*\*\*\*\*4\*\*\*\*\*5\*\*\*\*\*6\*\*\*\*\*7\*

SUBROUTINE IE\_VAX8(N,IARRAY,JARRAY)

C..Convert from Pyramid IEEE double to Vax floating point R\*8 format
C..Original word is unchanged.

DIMENSION IARRAY(1),JARRAY(1)
INTEGER ISIGN,ISIG,IOFF/'37E00000'X/
INTEGER ICONV,ICONV2,IWORD
REAL\*8 FILL/-1.D9/

DO 100 I = 1,N
ICONV = IARRAY(2\*I-1)
ICONV2 = IARRAY(2\*I)
IF (ICONV.NE.0 .OR. ICONV2.NE.0) THEN
ICONV = INVERT4(ICONV)
ISIGN = IAND(ICONV,'80000000'X) ! Pick up sign bit
ISIG = IAND(ICONV,'7FFFFFFF'X) ! Pick up significand



ISIG = ISIG - IOFF ! Change exp bias

IF (ISIG .LT. '00800000'X) THEN

WRITE(31,1110) ICONV,ICONV

FORMAT(' IE VAX8: out-of-bounds',I10,Z10)

JARRAY(2\*I-1) = FILL

GO TO 100

ENDIF

IF (ISIG .GT. '75800000'X) THEN

WRITE(31,1110) ICONV,ICONV

JARRAY(2\*I-1) = FILL

GO TO 100

ENDIF

ICONV = ISIG \* 8

! Shift 3 bits

ICONV = IOR(ICONV,ISIGN)

! Put sign bit back

C..High order word still needs 3 bits transferred from low order

IF (ICONV2 .NE. 0) THEN

IWORD = IAND(ICONV2,'E0'X)

! Pick up 3 msb

IWORD = ISHFT(IWORD,-5)

ICONV = IOR(ICONV,IWORD)

! Transfer 3 bits

ICONV2 = INVERT4(ICONV2)

ICONV2 = ISHFT(ICONV2,3)

! Shift 3 bits

ICONV2 = NUFLIP4(ICONV2)

END IF

ICONV = NUFLIP4(ICONV)

END IF

JARRAY(2\*I-1) = ICONV

JARRAY(2\*I) = ICONV2

100 CONTINUE

RETURN

END

FUNCTION INVERT4(INT)

C..Reverses order of bytes in I\*4 word (or R\*4). DCBA --> ABCD

C..Original word is unchanged.

BYTE BYTES(4), OBYTES(4)

EQUIVALENCE (BYTES,INEW), (OBYTES,IOUTA)

INEW = INT

OBYTES(1) = BYTES(4)

OBYTES(2) = BYTES(3)

OBYTES(3) = BYTES(2)

OBYTES(4) = BYTES(1)

INVERT4 = IOUTA

RETURN

END

FUNCTION IFLIP4(INT)

C..Flips order of bytes by pairs in I\*4 word (or R\*4). DCBA --> CDAB

C..Original word is unchanged.

BYTE BYTES(4), OBYTES(4)

EQUIVALENCE (BYTES,INEW), (OBYTES,IOUTA)

INEW = INT

OBYTES(1) = BYTES(2)

OBYTES(2) = BYTES(1)

OBYTES(3) = BYTES(4)

OBYTES(4) = BYTES(3)

IFLIP4 = IOUTA

RETURN

END

FUNCTION NUFLIP4(INT)

C..Reorders bytes in I\*4 word (or R\*4). ABCD --> CDAB

C..Original word is unchanged.

BYTE BYTES(4), OBYTES(4)

```

EQUIVALENCE (BYTES, INEW), (OBYTES, IOUTA)
INEW = INT
OBYTES(1) = BYTES(3)
OBYTES(2) = BYTES(4)
OBYTES(3) = BYTES(1)
OBYTES(4) = BYTES(2)
NUFLIP4= IOUTA
RETURN
END

```

C-----

```

SUBROUTINE IE_VAX4(N, IARRAY, JARRAY)

```

C..Convert from Pyramid IEEE single to Vax floating point f format  
C..Modified by S. Kayser, to use FLIP4.

```

DIMENSION IARRAY(N), JARRAY(N)
BYTE BYTES(4)
INTEGER ICONV, IWORD
EQUIVALENCE (ICONV, BYTES)
DATA FILL/ -1.E9/
DO 100 I = 1, N

```

```

    ICONV = IARRAY(I)
    IF (ICONV .NE. 0) THEN
        IWORD = BYTES(1) + 1           ! Changes exponent bias
        IF (IWORD .GT. 255) THEN
            WRITE(31, 1100) ICONV, ICONV
            FORMAT(' IE_VAX4: out-of-bounds', I10, Z10)
            JARRAY(I) = FILL
            GO TO 100

```

1110

```

        ENDIF
        BYTES(1) = IWORD
        ICONV = IFLIP4(ICONV)
    ENDIF
    JARRAY(I) = ICONV

```

```

100 CONTINUE
RETURN
END

```

C-----

C..converts from vax f format to IEEE (UNIX point of view)

```

subroutine vax2lcl(n, iarray)
dimension iarray(n)
character*1 conv(4), ccc
integer iconv
equivalence (iconv, conv)

```

c Convert from vax floating point f format to pyramid IEEE single

```

do 10 i=1, n
    iconv=iarray(i)
    if (iconv.ne.0) then
        ccc=conv(1)
        iii=ichar(conv(2))-1
        if (iii.lt.0) then
            write(0, 100) iconv
            format(' vax2lcl: overflow int in =', i10)
            call exit(1)
        endif
        conv(1)=char(iii)
        conv(2)=ccc
        ccc=conv(3)
        conv(3)=conv(4)
        conv(4)=ccc
        iarray(i)=iconv
    endif

```

100

10 continue  
return  
end

K-5

DUMP OF TAPE D1OUT

D

INPUT TAPE D1OUT ON HT0  
DATA INPUT H9 NF=110 SR=2 1 1 SR=110 LAST 1

FILE INPUT DATA RECORDS MAX. READ ERROR SUMMARY INPUT RETRIES  
RECS. INPUT SIZE PERM ZERO B SHCRT UNDEF. #RECS. TOTAL#  
30 30 72 0 0 0 0 0 0 0

FILE RECORD LENGTH 3400BYTES

Table with columns: FILE, RECORD, LENGTH, 3400BYTES. Rows contain hexadecimal data for file 1, records 1-212. Includes handwritten annotations like 'D99FF3B64' and '1120'.

Handwritten notes and scribbles on the right side of the page, including the number '1120' and various marks.



( 1160)	E 18 20C4	4807EB6B	4789BF3C	45092281	45F6CBF6	488733CD	4836F632	47D91DAD	46031CF3	4065940F
( 1200)	4453F1B9	43B12844	FFFED9CD	00C17022	000C1E47	453E0870	41C42E9F	E3AF1A9F	47EA66C0	47477239
( 1240)	45FDE771	461312DA	48B8A4F	48341EE4	47D7194A	46209819	4037A9A5	4417CC42	42DEF13E	FFFED9CD
( 1280)	00017022	00001E47	453E0870	41C42E9F	E5AF1A9F	47E9A9E7	47449392	4642851A	466424BB	48B54DCB
( 1320)	4838AA93	47E0736F	46365128	3FB7A9A5	448C5769	435CF230	FFFED9BE	00017028	00001E50	453E0870
( 1360)	41C42E9F	E7AF1A9F	4877E8E8	47EC9DE2	45DEDFFD	4601DAF2	48B45ACA	4838AA93	47E0736F	461748CA
( 1400)	4037A9A5	443D0805	43A7466C	FFFED9BE	00017028	00001E59	453E0870	41C42E9F	E9AF1A9F	47EFEF1E
( 1440)	47500E2D	45FAF40D	461147B1	48B7AD4E	483B81E1	47D9D974	460C6C42	40A0B471	445F6691	42B04D98
( 1480)	FFFED9BE	00017028	00001E59	453E0870	41C42E9F	EBAE147A	47E47FFE	473ED646	463C957E	465FD6C1
( 1520)	48ACC2C2	4839C07F	47DC38B8	461ED602	4065940F	44DF5691	4348CE2C	FFFED9BE	00017028	00001E50
( 1560)	453E0870	41C42E9F	EDAE147A	4807EB6B	4786E096	45D26742	45F6144D	48ADB5C2	48341FE4	47DD8454
( 1600)	46247925	4009BF3C	4423411C	439DD83E	FFFED980	0001702E	00001E59	453E0A64	41C42E9F	EFAF147A
( 1640)	47F311B9	475E676E	45DCF529	46031C5B	48AEA8C4	4838191C	47E0C152	461A633A	40A0B471	4428FB88
( 1680)	428A97B0	FFFED980	0001702E	00001E59	453E0A64	41C42E9F	F1AE147A	47E74424	473BF79F	4635E604
( 1720)	46429ED9	48AEA8C4	483B81E1	47E9FC86	461FD17D	4037A9A5	448C5769	4336E0E0	FFFED980	0001702E
( 1760)	00001E59	453E0A64	41C42E9F	F3AE147A	48018E98	477ECBF6	45D6E66E	45FE546B	48AD3C42	48341FE4
( 1800)	47E41E50	46215EB5	4037A9A5	442EB5F5	43943AF4	FFFED980	0001702E	00001E59	453E0A64	41C42E9F
( 1840)	F5AD0E56	47FB8D7D	4776C8F6	45C169D4	45EA99B2	48AEA8C4	4838AA93	47DEFBE2	46301C49	40A0B471
( 1880)	441D86AF	4245C3D0	FFFED9A1	00017033	00001E62	453E0870	41C42E9F	F7AD0E56	47E800FD	473ED646
( 1920)	46287B54	4648E18D	48B10846	4839C07F	47EFDABB	46279394	4009BF3C	44C87CDF	43230AE8	FFFED9A1
( 1960)	00017033	00001E62	453E0870	41C42E9F	F5AD0E56	47FE227E	476424BB	45FF3DB0	461A3F7A	48B2EE48
( 2000)	4836F632	47FB9724	461D7DA9	4037A9A5	44487CDF	438A526E	FFFED9A1	00017033	00001E62	453E0870
( 2040)	41C42E9F	FBAD0E56	47FF3DBC	47812348	45DB2FBD	45F27DFC	48AEA8C4	483DC7B8	47F5B8F0	463FA077
( 2080)	4037A9A5	443D0805	41F1F680	FFFED9A1	00017033	00001E62	453E0870	41C42E9F	FDAC0831	47FA3789
( 2120)	47477239	46198E16	46363A52	48B10846	4832FBF9	47EE632D	463336B8	3F37A9A5	44A3411C	43103918
( 2160)	FFFED992	00017039	00001E6B	453E0870	41C42E9F	FFAC0831	47F54845	4758AA20	460B811E	461D1E20
( 2200)	48AF9BC5	483AF06B	47EAB84D	462AAE04	3FB7A9A5	4453F1B9	4380E986	FFFED992	00017039	00001E6B
( 2240)	453E0870	41C42EA0	01AC0831	480481FE	4785BF3C	45DAC583	45FC8543	48B1FB48	483A5EF4	47F15248
( 2280)	4641F44A	4037A9A5	4417CC42	4136DB40	FFFED992	00017039	00001E6B	453E0870	41C42EA0	03AC0831
( 2320)	47EAC52D	47449392	460F5D9C	4627E111	48B01545	483AF06B	47F09681	46247925	4037A9A5	44869CFC
( 2360)	42FA0F50	FFFED992	00017039	00001E6B	453E0870	41C42EA0	05ABC20C	47EFEF1E	474D2F87	461A8ECE
( 2400)	46335BAB	48B01545	483A5EF4	47EC2FD9	46301C49	4009BF3C	44765C45	436E08D8	FFFED983	0001703F
( 2440)	00001E74	453E0A64	41C42EA0	07AB020C	480671B8	4789BF3C	45BEAB8D	45DE676E	48B274C8	48341EE4
( 2480)	47E940BF	462C3B3C	4065940F	443D0805	43AFD070	FFFED983	0001703F	00001E74	453E0A64	41C42EA0
( 2520)	05AB020C	47EB2399	47477239	4605273C	4615F180	48B10846	483A5EF4	47EF1EF4	462C3B3C	4065940F
( 2560)	4428FB88	42D26BD0	FFFED983	0001703F	00001E74	453E0A64	41C42EA0	0BAB020C	47EB2399	47477239
( 2600)	462428CA	46449392	48B01545	4835D347	47EAB84D	46406713	4009BF3C	44B47062	435ACAF0	FFFED983
( 2640)	0001703F	00001E74	453E0A64	41C42EA0	0DA9FBE7	47FCDB98	47925B30	45E6D732	453D66F2	48B4CAF3
( 2680)	483845E0	47E30BE1	462EBCE6	40B7A9A5	00000000	43A5B70C	FFFED97E	00017045	00001E7D	453E0A64
( 2720)	41C42EA0	0FA9FBE7	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2760)	00000000	00000000	42AA0640	FFFED975	00017045	00001E7D	453E0A64			

FILE	INPUT RECS.	DATA RECORDS INPUT	MAX. SIZE	READ ERROR SUMMARY				INPUT RETRIES	
				PERM	ZERO	B	SHORT	UNDEF.	# RECS. TOTAL#
110	420	421	3400	0	0	0	0	0	0

EOJ DUMP STOPPED AFTER FILE 110 # OF PERMANENT READ ERRORS 0

START TIME 05/15/89 10:45:26 STOP TIME 05/15/89 10:51:16

\$\$  
 \$ASS IN HT1  
 \$EXE TPNRCF BS

REQ. AGENT

RAND NO.

ACQ. AGENT

-----  
RLR

-----  
ISEE-1

-----  
SK

4 SECOND RESOLVED B-FIELD DATA (12-S AVG)

77-102A-04T SPMS-00304

*I<sup>13</sup>* This data set catalog consists of 5 tapes for ISEE-1. The tapes are 6250 bpi, 9-track, unlabeled, multifiled, binary, created on the IBM 360. The records are of fixed length with 24 bytes per record and ~~1000~~ <sup>180</sup> records per block. The data format for each logical record is as follows:

I*2 FOUR DIGIT YEAR	(IBM FORMAT)
I*2 DAY OF YEAR (001=JAN 1)	(IBM FORMAT)
I*4 MILLISECONDS OF DAY	(IBM FORMAT)
R*4 BX SC, BY SC, BZ SC, BT	(IBM FORMAT).

The D and C numbers, time spans, and number of files are as follows:

77-102A-04T ISEE-1:

<u>D#</u>	<u>C#</u>	<u>FILES</u>	<u>ORBITS</u>	<u>TIME SPANS</u>
D-80100	C-27689	60	741 - 800	08/26/82 - 01/16/83
D-80101	C-27690	60	801 - 860	01/16/83 - 06/09/83
D-80102	C-27691	60	861 - 920	06/09/83 - 10/30/83
D-80103	C-27692	30	921 - 950	10/30/83 - 01/10/84
D-80104	C-27693	60	1271 - 1330	02/13/86 - 07/06/86

REQ. AGENT

RAND NO.

ACQ. AGENT

-----  
RLR

-----  
ISEE-2

-----  
SK

4 SECOND RESOLVED B-FIELD DATA (12-S AVG)

77-102B-04P SPMS-00184

This data set catalog consists of 5 tapes for ISEE-2. The tapes are 6250 bpi, 9-track, unlabeled, multifiled, binary, created on the IBM 360. The records are of fixed length with 24 bytes per record and 1000 records per block. The data format for each logical record is as follows:

I\*2 FOUR DIGIT YEAR (IBM FORMAT)  
I\*2 DAY OF YEAR (001=JAN 1) (IBM FORMAT)  
I\*4 MILLISECONDS OF DAY (IBM FORMAT)  
R\*4 BX SC, BY SC, BZ SC, BT (IBM FORMAT).

The D and C numbers, time spans, and number of files are as follows:

77-102B-04P ISEE-2:  
-----

<u>D#</u>	<u>C#</u>	<u>FILES</u>	<u>ORBITS</u>	<u>TIME SPANS</u>
D-80105	C-27694	60	741 - 800	08/26/82 - 01/16/83
D-80106	C-27695	60	801 - 860	01/16/83 - 06/09/83
D-80107	C-27696	60	861 - 920	06/09/83 - 10/30/83
D-80108	C-27697	30	921 - 950	10/30/83 - 01/10/84
D-80109	C-27698	60	1271 - 1330	02/13/86 - 07/06/86



12/22/89

### ISEE MAGNETOMETER FOUR SECOND DATA TAPE DESCRIPTION

This letter describes the format used by the ISEE-1 and ISEE-2 magnetometer group for the submission of its four second data on magnetic tape to the National Space Science Data Center (NSSDC).

The overall description is that the data is stored as IBM integer and floating point numbers, and written onto standard 1/2 inch 6250-bpi 9-track magnetic tapes. The logical record length will be fixed for all tapes at 24 bytes. The physical blocksize for all tapes will be fixed at 2,400 bytes. Each physical block contains 100 logical records. Each magnetic tape contains 30 or 60 files of data separated by a single end-of-file mark. The end-of-data is indicated by two successive end-of-file marks at the end of the 30th or 60th data file.

Each tape file contains magnetometer data in spacecraft coordinates from one of the spacecraft for one orbit, an orbit being measured from perigee to perigee. Each magnetic tape contains 30 or 60 orbits of data. The data provided are 12 second overlapping data averages of the highest resolution data, recorded every four seconds.

The external labels on the magnetic tape contain the following information: Name of the spacecraft and experiment; start and stop dates of the data on the tape; the density (6250-bpi) and number of tracks (9) at which the tape was recorded; the physical blocksize and the logical record length used in writing the tape; an estimate of the amount of tape used; the production date of the tape; and a name and telephone number of the individual responsible for the tape.

All data is stored in standard IBM/360 format for the recording of integer and floating point data values. The data fill value (flag value) for magnetometer values is +1.0e34. There are no fill values for the time values. There are no significant time gaps in the data, that is, times with fill values have been generated to fill all time gaps in the data. The format of each logical record is:

INTEGER\*2 Four digit year for the data point  
INTEGER\*2 Three digit day of year for the data point (001 - Jan. 1)  
INTEGER\*4 Milliseconds of the day for the data point (0 - midnight)  
REAL\*4 BX magnetometer value in spacecraft coordinates for this time  
REAL\*4 BY magnetometer value in spacecraft coordinates for this time  
REAL\*4 BZ magnetometer value in spacecraft coordinates for this time  
REAL\*4 BT magnetometer value for this time

The last physical block of each tape file may contain more than one copy of the last logical record so that all physical blocks are the same size.

Questions concerning these data tapes may be directed to:

Harry Herbert or Muriel Kniffin  
University of California at Los Angeles  
Institute of Geophysics and Planetary Physics  
5833 Slichter Hall

Los Angeles, California 90024-1567  
(213)206-6073

213-825-9030 Harry Herbert

SPAN: BRUNET::HARRY or BRUNET::MURIEL

DUMP OF TAPE IOLT1

D-80100  
C-27689

INPUT TAPE IOUT1 ON HT1  
DATA INPUT HS NF 6U SR 1 1 1 SR 6J LAST 1

8/26/82  
6:31:04.00

- 1/16/83

15:58:59.23

FILE	1	RECORD	LENGTH	2400BYTES
( 0 )	078E00EE	01663840	5D1ED09C	078E00EE
( 48 )	5D1ED09C	5D1ED09C	078E00EE	01662780
( 80 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 120 )	078E00EE	01665660	5D1ED09C	5D1ED09C
( 160 )	5D1ED09C	5D1ED09C	078E00EE	016675A0
( 200 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 240 )	078E00EE	0166A480	5D1ED09C	5D1ED09C
( 280 )	5D1ED09C	5D1ED09C	078E00EE	0166C3C0
( 320 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 360 )	078E00EE	0166F2A0	5D1ED09C	5D1ED09C
( 400 )	5D1ED09C	5D1ED09C	078E00EE	016711E0
( 440 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 480 )	078E00EE	016740C0	5D1ED09C	5D1ED09C
( 520 )	5D1ED09C	5D1ED09C	078E00EE	01676000
( 560 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 600 )	078E00EE	01678EE0	5D1ED09C	5D1ED09C
( 640 )	5D1ED09C	5D1ED09C	078E00EE	0167AE20
( 680 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 720 )	078E00EE	0167DD00	5D1ED09C	5D1ED09C
( 760 )	5D1ED09C	5D1ED09C	078E00EE	0167FC40
( 800 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 840 )	078E00EE	01682820	5D1ED09C	5D1ED09C
( 880 )	5D1ED09C	5D1ED09C	078E00EE	01684A60
( 920 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 960 )	078E00EE	01687940	5D1ED09C	5D1ED09C
( 1000 )	5D1ED09C	5D1ED09C	078E00EE	01689880
( 1040 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1080 )	078E00EE	0168C760	5D1ED09C	5D1ED09C
( 1120 )	5D1ED09C	5D1ED09C	078E00EE	0168E6A0
( 1160 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1200 )	078E00EE	01691580	5D1ED09C	5D1ED09C
( 1240 )	5D1ED09C	5D1ED09C	078E00EE	016934C0
( 1280 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1320 )	078E00EE	016963A0	5D1ED09C	5D1ED09C
( 1360 )	5D1ED09C	5D1ED09C	078E00EE	016982E0
( 1400 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1440 )	078E00EE	0169B1C0	5D1ED09C	5D1ED09C
( 1480 )	5D1ED09C	5D1ED09C	078E00EE	0169D100
( 1520 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1560 )	078E00EE	0169FFE0	5D1ED09C	5D1ED09C
( 1600 )	5D1ED09C	5D1ED09C	078E00EE	016A1F20
( 1640 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1680 )	078E00EE	016A4E00	5D1ED09C	5D1ED09C
( 1720 )	5D1ED09C	5D1ED09C	078E00EE	016A6D40
( 1760 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1800 )	078E00EE	016A9C20	5D1ED09C	5D1ED09C
( 1840 )	5D1ED09C	5D1ED09C	078E00EE	016ABB60
( 1880 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 1920 )	078E00EE	016AEA40	5D1ED09C	5D1ED09C
( 1960 )	5D1ED09C	5D1ED09C	078E00EE	016B0980
( 2000 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 2040 )	078E00EE	016B3860	5D1ED09C	5D1ED09C
( 2080 )	5D1ED09C	5D1ED09C	078E00EE	016B57A0
( 2120 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 2160 )	078E00EE	016B8680	5D1ED09C	5D1ED09C
( 2200 )	5D1ED09C	5D1ED09C	078E00EE	016BA5C0
( 2240 )	5D1ED09C	5D1ED09C	5D1ED09C	078E00EE
( 2280 )	078E00EE	016BD4A0	5D1ED09C	5D1ED09C



( 2320) 5D1ED09C 5D1ED09C 07BF0010 036DFA9C 5D1ED09C 5D1ED09C 5D1ED09C 5D1ED09C 07BF0010 036DFA9C  
( 2360) 5D1ED09C 5D1ED09C 5D1ED09C 5D1ED09C 07BF0010 036DFA9C 5D1ED09C 5D1ED09C 5D1ED09C 5D1ED09C

1983/1/16 15:58:59.23

FILE	INPUT	DATA RECORDS	MAX.	READ ERROR SUMMARY				INPUT RETRIES	
	RECS.	INPUT	SIZE	PERM	ZERO B	SHORT	UNDEF.	#RECS.	TOTAL#
60	522	523	2400	0	0	0	0	0	0

EOJ DUMP STOPPED AFTER FILE 6 # OF PERMANENT READ ERRORS 0

START TIME 03/29/90 16:11:00 STOP TIME 03/29/90 16:16:14

D79073 - File2.dat

PRINTED IN U.S.A.