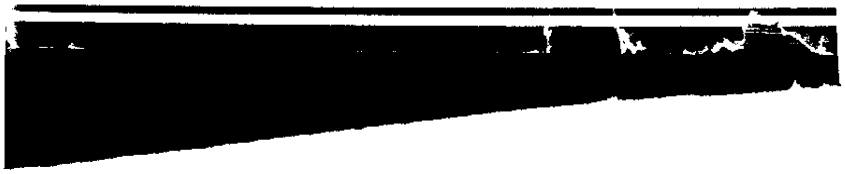
489

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



ISEE 3

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

78-079A-02K

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

ISEE 3

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

78-079A-02D, 00E

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	1-3	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

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

JW:yJj

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.).

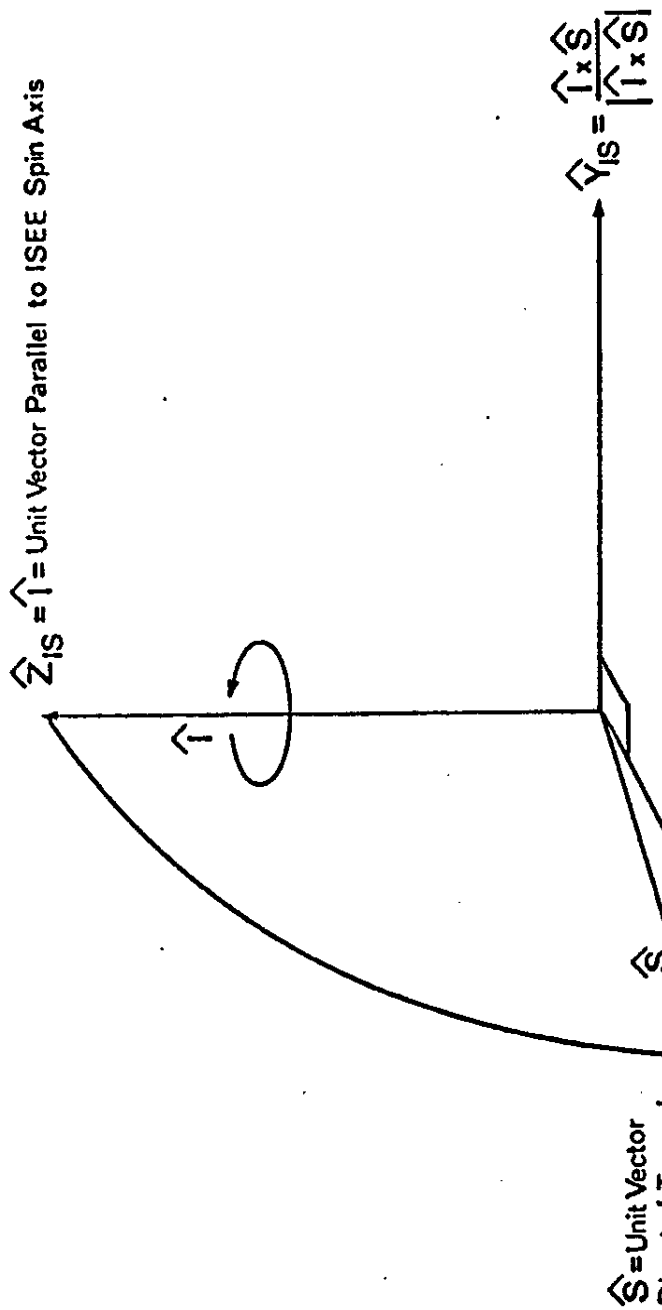
For the ISEE-3 spacecraft, the trajectory parameters are as follows:

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-3 **************
$EXE TPLIST BS

 INPUT PARAMETERS ARE:   AS SR=1=1 1

 TAPE NO.    1              FILE NO.    1
 RECORD    1                LENGTH    240
  80  127     3                    0.127070E 10   -0.567406E 08   -0.100917E 09    0.000000E 00    0.0000
00E 00    0.000000E 00I,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
  80  182     3                    0.149288E 10    0.625725E 09    0.486652E 08    0.000000E 00    0.0000
00F 00    0.000000E 00I,S COORDINATES 800820   2.8
              AVEDT 801004

***** JOB DONE.
$WEO LPS
```

ISEE-3
78-079A-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 9/10/85  FILE NO.   1
 RECORD    1             LENGTH    240
   85  253   3                .127761E+11   -.696160E+11   -.268084E+09    .000000E+00    .0000
00E+00     .000000E+00I,S COORDINATES 86 116  3.0          AVRUN 3.52         860116
           AVEDT 860124


 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    .330858E+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    .476090E+02    .599730E+05   -.335482E+01    .600334E+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+00    .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    .251709E+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
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ISEE-3
D-74597
9/10/85-09/12/85

```
+00     .687988E+ 1     .473393E+02     .599730E+05    -.461390E+01     .493390E+01    -.107053E+01     .2
13626E+02    -.226655E+02     .502064E+01     .245070E+02                                -.511991E+01     .136470E+01
     -.671640E+00     .717576E+00    -.156247E+00     .687226E+01     .472343E+02     .599730E+05    -.4928
45E+01     .468499E+01    -.615505E+01     .242992E+02    -.230835E+02     .304316E+01     .219573E+02
                -.286724E+01     .519653E+00    -.720604E+00     .685062E+00    -.899009E-01     .683911E
+01     .467762E+02     .599730E+05    -.506112E+01     .465921E+01    -.109073E+00     .256396E+02    -.2
35676E+02     .534801E+00     .217197E+02                               -.514943E+00     .937271E-01    -.734640E+00
     .676508E+00    -.159675E-01     .688825E+01     .474530E+02     .599730E+05    -.497139E+01     .4844
52E+01     .100462E+00     .247494E+02    -.240596E+02    -.516477E+00     .234922E+02
     .473904E+00     .437846E-01    -.715368E+00     .697309E+00     .143818E-01     .694845E+01     .482854E
+02     .603062E+05    -.431398E+01     .516256E+01    -.114363E+00     .186709E+02    -.222287E+02     .4
53466E+00     .266865E+02                               -.615826E+00     .659586E-01    -.640050E+00     .756063E+00
    -.170551E-01     .673947E+01     .454234E+02     .599730E+05    -.454922E+01     .495713E+01     .1311
82E+00     .207058E+02    -.225409E+02    -.608508E+00     .245865E+02                                .636108E+00
     .499710E-01    -.675637E+00     .736155E+00     .195222E-01     .673354E+01     .453423E+02     .599730E
+05    -.474756E+01     .483208E+01     .290050E+00     .225524E+02    -.229309E+02    -.138962E+01     .2
33651E+02                               .139053E+01     .138947E+00    -.699621E+00     .712041E+00     .426640E-01
     .678610E+01     .460566E+02     .599730E+05    -.442657E+01     .518682E+01    -.610415E-01     .1960
32E+02    -.229577E+02     .263687E+00     .269082E+02                               -.315646E+00     .374320E-01
-.648811E+00     .760285E+00    -.905191E-02     .682235E+01     .465488E+02

 TAPE NO.   1              FILE NO.   1
 RECORD   3                LENGTH   7200
     .599730E+05    -.447743E+01     .522786E+01    -.127703E+00     .200606E+02    -.233983E+02     .5660
02E+00     .273419E+02                               -.674978E+00     .427278E-01    -.650061E+00     .758994E+00
-.184956E-01     .688779E+01     .474451E+02     .599730E+05    -.479677E+01     .487233E+01     .120066E
+00     .230258E+02    -.233567E+02    -.585849E+00     .237570E+02                                .576297E+00     .3
15584E-01    -.701093E+00     .712118E+00     .175304E-01     .684194E+01     .468144E+02     .599730E+05
     -.461556E+01     .496153E+01     .100790E+00     .213856E+02    -.228471E+02    -.508709E+00     .2465
43E+02                               .471871E+00     .522220E-01    -.679628E+00     .731048E+00     .146910E-01
     .678884E+01     .460921E+02     .599730E+05    -.432217E+01     .502050E+01     .149097E+00     .187948E
+02    -.216067E+02    -.743769E+00     .252858E+02                                .665336E+00     .124175E+00    -.6
50057E+00     .755177E+00     .223864E-01     .664846E+01     .442048E+02     .599730E+05    -.448377E+01
     .492152E+01     .334759E+00     .231178E+02    -.220575E+02    -.150486E+01     .242310E+02
                .16447 E+01     .122163E+00    -.672357E+00     .738045E+00     .501789E-01     .666851E+01
     .444711E+02     .599730E+05    -.450455E+01     .493028E+01     .263793E+00     .203004E+02    -.222028E
+02    -.118711E+01     .243144E+02                               .130024E+01     .763693E-01    -.673817E+00     .7
37525E+00     .394792E-01     .668499E+01     .446911E+02     .599730E+05    -.421123E+01     .497291E+01
     .149374E+00     .177804E+02    -.209354E+02    -.631625E+00     .247413E+02                                .7409
27E+00     .324353E-01    -.645427E+00     .762718E+00     .229051E-01     .652192E+01     .425542E+02
     .599730E+05    -.360570E+01     .549259E+01    -.136613E+00     .131013E+02    -.197403E+02     .418067E
+00     .302216E+02                               -.789495E+00     .113885E+00    -.547207E+00     .833426E+00    -.2
09290E-01     .659004E+01     .434368E+02     .603062E+05    -.368898E+01     .558714E+01    -.275426E+00
     .136163E+02    -.206094E+02     .101577E+01     .312188E+02                               -.153903E+01     .8227
83E-01    -.550412E+00     .833694E+00    -.410939E-01     .670183E+01     .449174E+02     .599730E+05
-.380533E+01     .558989E+01    -.210723E+00     .144911E+02    -.212710E+02     .800844E+00    -.312490E
+02                               -.117645E+01     .547200E-01    -.562280E+00     .826112E+00    -.311758E-01     .6
76686E+01     .457948E+02     .599730E+05    -.404225E+01     .557789E+01    -.642997E-02     .163444E+02
    -.225457E+02     .247211E-01     .311152E+02                               -.360160E-01     .952052E-02    -.5867
02E+00     .809609E+00    -.945762E-03     .688967E+01     .474692E+02     .599730E+05    -.403302E+01
     .549578E+01    -.623394E-01     .162683E+02    -.221644E+02     .253618E+00     .302077E+02
          -.341420E+00     .138718E-01    -.591527E+00     .806051E+00    -.913481E-02     .681808E+01     .4
64899E+02     .599730E+05    -.412988E+01     .547040E+01    -.150026E-01     .170713E+02    -.225887E+02
     .720935E-01     .299315E+02                               -.786563E-01     .187095E-01    -.602246E+00     .7978
57E+00    -.211538E-02     .685676E+01     .470216E+02     .599730E+05    -.419107E+01     .529908E+01
     .115011E+00     .175952E+02    -.222138E+02    -.505831E+00     .280964E+02                                .624306E
+00     .108547E+00    -.619343E+00     .783380E+00     .163807E-01     .676550E+01     .458002E+02     .5
99730E+05    -.414305E+01     .518651E+01     .397489E+00     .172164E+02    -.214982E+02    -.169111E+01
     .269375E+02                               .206589E+01     .213999E+00    -.622207E+00     .779303E+00     .5904
29E-01     .665676E+01     .443679E+02     .599730E+05    -.355809E+01     .543572E+01    -.200648E+00
     .126783E+02    -.193433E+02     .706658E+00     .295671E+02                               -.109078E+01     .695243E
-01    -.547114E+00     .835833E+00    -.319461E-01     .650334E+01     .423150E+02     .599730E+05    -.3
02834E+01     .538057E+01    -.272911E+00     .930531E+01    -.162608E+02     .760939E+00     .289875E+02
                -.149379E+01     .122548E+00    -.488388E+00     .868640E+00    -.442329E-01     .6195
63E+01     .384155E+02     .599730E+05    -.262424E+01     .559635E+01    -.526309E+00     .691321E+01
-.146944E+02     .137916E+01     .313383E+02                               -.294177E+01     .304716E+00    -.422577E
```

78-079A-00E

REQ. AGENT	RAND NO.	ACQ. AGENT
GWM		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:

D#	C#	TIME SPAN
* 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)

Item Number	Description	Character Header Record Name
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
Geocentric (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
Heliocentric (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	Ecliptic Plane of Date	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
	Space-fixed FERP Coordinate System	
35.	X component of geocentric $\bar{r}$ of S/C, km	XPGSFF
36.	Y component of geocentric $\bar{r}$ of S/C, km	YPGSFF
37.	Z component of geocentric $\bar{r}$ of S/C, km	ZPGSFF
38.	X component of geocentric $\dot{\bar{r}}$ of S/C, km/sec	DXPGSF
39.	Y component of geocentric $\dot{\bar{r}}$ of S/C, km/sec	DYPGSF
40.	Z component of geocentric $\dot{\bar{r}}$ of S/C, km/sec	DZPGSF
41.	X component of heliocentric $\bar{r}$ of S/C, km	XPHSFF
42.	Y component of heliocentric $\bar{r}$ of S/C, km	YPHSFF
43.	Z component of heliocentric $\bar{r}$ of S/C, km	ZPHSFF
44.	X component of heliocentric $\dot{\bar{r}}$ of S/C, km/sec	DXPHSF
45.	Y component of heliocentric $\dot{\bar{r}}$ of S/C, km/sec	DYPHSF
46.	Z component of heliocentric $\dot{\bar{r}}$ of S/C, km/sec	DZPHSF
47.	X component of body 1 - S/C $\bar{r}$, km	XP1SFF
48.	Y component of body 1 - S/C $\bar{r}$, km	YP1SFF
49.	Z component of body 1 - S/C $\bar{r}$, km	ZP1SFF
50.	X component of body 1 - S/C $\dot{\bar{r}}$, km/sec	DXP1SF
51.	Y component of body 1 - S/C $\dot{\bar{r}}$, km/sec	DYP1SF
52.	Z component of body 1 - S/C $\dot{\bar{r}}$, km/sec	DZP1SF
53.	X component of body 2 - S/C $\bar{r}$, km	XP2SFF
54.	Y component of body 2 - S/C $\bar{r}$, km	YP2SFF
55.	Z component of body 2 - S/C $\bar{r}$, km	ZP2SFF
56.	X component of body 2 - S/C $\dot{\bar{r}}$, km/sec	DXP2SF
57.	Y component of body 2 - S/C $\dot{\bar{r}}$, km/sec	DYP2SF
58.	Z component of body 2 - S/C $\dot{\bar{r}}$, 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 Systems

Earth

Item Number	Description	Character Header Record Name
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

Item Number	Description	Character Header Record Name
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

Body 2

Item Number	Description	Character Header Record Name
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 Set

Sun-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 Number	Description	Character Header Record Name
	Sun-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).

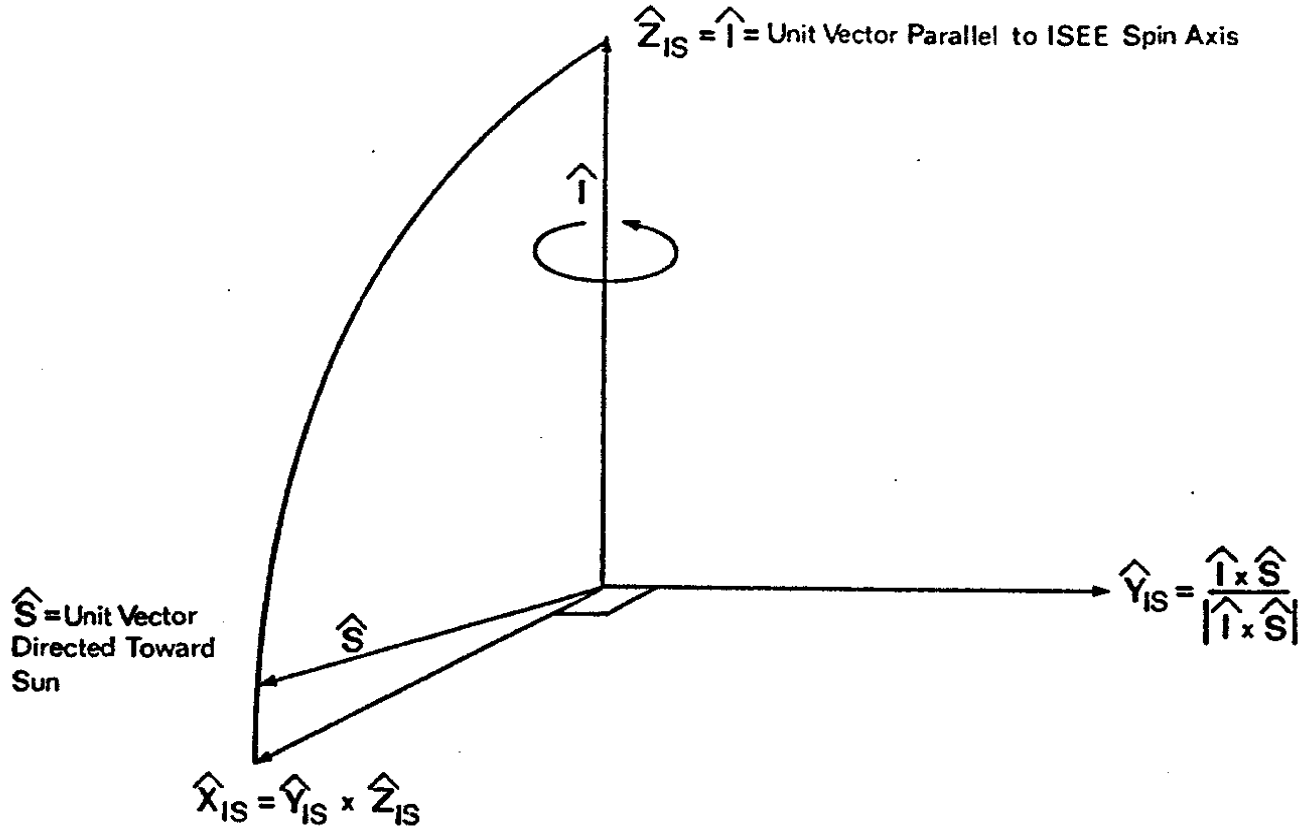
Future Fixed SAVE Tape Output

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(i,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(i,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     .1514 3E+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
```

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  DECMOO  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  DZP2SF  B1MAGR  B1MAGV  B2MAGR  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  CONEC1  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
264478062411720+ 2 -0.8118437039082780D+01 0.8885114541095586D+02 0.7077917304095456D+08 0.23203
064722099720+02 0.8743256220986750D+02 0.1506400482067892D+09 0.5042759061644669D+01 0.16825901
9876793 6D+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
4365452187146 2D+08 -0.2708506228735272D+06 -0.7090069917081768D+01 0.2761851253475201D+02 0.35895
051195837510-01 0.1576881169109863D+06 0.5603702569763273D+06 -0.2552688251042562D+07 -0.11899008
36348862D+01 -0.4427933606993291D+01 0.2022656231706377D+02 0.1454847937815587D+09 -0.7014035519 9
00551D+08 -0.1504621670020607D+07 0.2802520199017133D+02 0.2638797536507949D+02 -0.2006668736179
73D+01 0.2618224145127644D+07 0.2073972717261123D+02 0.1615170533890314D+09 0.3854560815473392D
+02 0.2320306472209972D+02 0.9868940674535751D+02 0.4730695457776464D+04 -0.2268733140875817D-01
0.2700031887966917D+03 -0.6326067719094914D+02 0.1864583926172805D+03 0.2471259885619904D+02 -0
.5705925945135 92 D+02 0.2702207215497341D+03 0.7940564720648138D+00 0.3499257167711141D+03 0.85
4158834462799 7D+ 2 0.9299545680653692D+01 0.9124945566213436D+02 0.7728796324184049D+02 0.11337
625623885220+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 0.2679286377765161D+02 0.8356811921152210D+02 0.3976959214831163D+02 0.2083551239062 0
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
0488254259670 5D+03 0.8475161019743731D+02 0.2140563612176411D+03 0.0000000000000000D+00 0.00000
000000000D+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
264314998378530+ 2 -0.8122002848124317D+01 0.8886756493590427D+02 0.7077242806592345D+08 0.23203
826539198000D+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
170970+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
535963104744 5D+ 8 -0.2707213374521248D+06 -0.7109503106882750D+01 0.2761364415954343D+02 0.35930
180193822620-01 0.1534046211533833D+06 0.5444296114169140D+06 -0.2479872033657128D+07 -0.11898193
554777650+01 -0.4427980338033337D+01 0.2022689019804844D+02 0.1455856524876641D+09 -0.7004529312 5
66183D+08 -0.1511844760873798D+07 0.2804940740749890+02 0.2642428578320299D+02 -0.2006159510562 3
200+01 0.2543568667561950+07 0.2074005224334277D+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
.5780413281316768D+02 0.2702342202592930D+03 0.7917098203403703D+00 0.3500333497527485D+03 0.85
443832241139 0D+ 2 0.9294494447051960+01 0.9124875270336777D+02 0.7728896166249232D+02 0.11336
860624930640+03 0.7361170899106774D+02 0.1036273742849492D+00 0.6680781831422206D+02 0.84736777
486753010+02 0.7351161259185147D+02 0.9168054953016904D+02 0.1909310178185023D+02 0.79597852651
5043 0+02 0.2679043835742796D+02 0.8355586401512707D+02 0.3976179454328287D+02 0.2023912982924 7
180+01 0.4772073311360654D+02 0.7361170899106774D+02 0.6734754561832690D+02 0.8355586401512707D

78-079A-02K

REQ. AGENT	RAND NO.	ACQ. AGENT
PAR	V0291	JHK
SAR		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:

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

```
1NOP
3NOP *** LIST OF ISEE3 ******
3EXE TPLIST NS

INPUT PARAMETERS ARE:  AS FL=1=1

 TAPE NO.    1              FILE NO.    1
 RECORD    1                LENGTH    7440
   78  225    3                    0.0000000E 00   0.0000000E 00   0.0000000E 00   0.0000000E 00   0.0000
00E 00   0.0000000E 00I,S COORDINATES 79 725  2.5
  TRAJCOR                        MERGED AVGS     0.321424E+07  -0.279051E+01   0.625129E+01  -0.182354E
+01   0.146395E+02  -0.168833E+02   0.475941E+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
0.656282E+01   0.486449E+02   0.359590E+07  -0.447367E+01   0.493279E+01  -0.420233E-01   0.208213E
+02  -0.215159E+02  -0.178966E+00   0.252486E+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
02735E+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  -0.138398E+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   0.385830E+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  -0.108763E+02   0.698077E+01                0.665701E+01   0.1241
75E+02  -0.601585E+00   0.404074E+00   0.582057E+00   0.571010E+01   0.326218E+02   0.195147E+07  -
0.337304E+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
          0.1254116E+07  -0.8405025E+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
0.584777E+00   0.677085E+01  -0.726139E+01  -0.220140E+01   0.950187E+01                0.476543E
+00   0.117324E+02  -0.443777E+00   0.587110E+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+02   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   0.684866E+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
35E+01   0.208134E+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   0.200522E+01   0.384612E+01  -0.171376E+01  -0.332605E+01   0.621357E+01
   0.138383E+01   0.680624E+01  -0.411006E+00   0.308266E+00   0.488189E+00   0.408536E+01   0.1686
63E+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   0.460384E+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  -0.174662E+01  -0.848280E+00   0.371092E+01   0.256759E+01   0.117128E+01
0.459926E+01                0.901696E+00   0.483759E+01  -0.463663E+00  -0.478966E+00  -0.225624E
+00   0.360424E+01   0.131477E+02   0.335817E+07  -0.301836E+01   0.615836E+00   0.176013E+01   0.9
35691E+01  -0.144056E+01  -0.538267E+01   0.297796E+01                0.157613E+01   0.366113E+01
  -0.754442E+00   0.161856E+00   0.439543E+00   0.399249E+01   0.159956E+02   0.359290E+07  -0.2832
05E+01   0.116307E+01   0.851424E+00   0.892235E+01  -0.267248E+01  -0.103595E+01   0.301726E+01
```

ISEE-3
HOURLY & DAILY AVG'S
78-079A-02K

8/13/78 – 12/31/81

(created from the 20 tapes in -02D)

1 FILE

```
                -0.321773E+00   0.208[illegible]E+01  -0.756633E+00   0.307108E+00   0.169117E-01   0.373269E
+01   0.140243E+02   0.359989E+07  -0.198881E+01   0.125381E+01  -0.194374E+01   0.483688E+01  -0.2
73058E+01   0.214311E+01   0.283102E+01                  -0.160542E+01   0.512883E+01  -0.551997E+00
   0.341276E+00  -0.563308E+00   0.355515E+01   0.127967E+02   0.723131E+08  -0.261563E+01   0.2472
75E+01   0.433362E+00   0.936121E+01  -0.678068E+01  -0.148496E+01   0.115403E+02
0.243805E+00   0.796112E+01  -0.506[illegible]1E+00   0.427342E+00   0.740319E-01   0.521109E+01   0.288627E
+02
```

```
 TAPE NO.    1              FILE NO.    1
 RECORD    1237             LENGTH    7440
   81  365     3                    .156833E+10    .444498E+09    .926921E+08    .000000E+00    .0000
00E+00    .000000E+00I,S COORDINATES 820326  2.9          AVRUN 3.51
                AVEDT 820329                    .360000E+07    .382143E+01   -.904236E+01    .346362E
+01    .152801E+02   -.343846E+02    .134079E+02    .820042E+02                   -.309323E+02    .1
32676E+02    .363013E+00   -.860704E+00    .328908E+00    .105107E+02    .110552E+03    .356868E+07
    .436961E+01   -.101347E+02    .529009E+01    .210865E+02   -.444498E+02    .250203E+02    .1062
43E+03                  -.539805E+02    .358652E+02    .348066E+00   -.818308E+00    .401913E+00
 .126601E+02    .163195E+03    .897753E+06    .752685E+01   -.894944E+01    .485007E+01    .579216E
+02   -.657436E+02    .376474E+02    .851295E+02                   -.358721E+02    .455263E+02    .5
50905E+00   -.659857E+00    .338618E+00    .137055E+02    .188577E+03    .352603E+07    .895389E+01
   -.368459E+01    .320922E+01    .830497E+02   -.339707E+02    .265456E+02    .390958E+02
         -.225685E+02    .304275E+02    .728892E+00   -.282816E+00    .250411E+00    .123138E+02
 .152573E+03    .359983E+07    .700035E+01   -.349873E+01    .762782E+01    .528355E+02   -.217786E
+02    .482556E+02    .222759E+02                   -.321206E+02    .708694E+02    .582804E+00   -.2
85042E+00    .626621E+00    .120688E+02    .145981E+03    .358050E+07    .669069E+01    .226464E+00
    .824233E+01    .468522E+02   -.915773E+00    .539233E+02    .188430E+02                    .6302
48E+01    .727292E+02    .571713E+00    .105222E-01    .695219E+00    .117519E+02    .138424E+03
 .360000E+07    .407044E+01   -.857[illegible]7E+01   -.390288E+01    .210998E+02   -.354802E+02   -.914232E
+01    .785212E+02                    .354632E+02    .304995E+02    .364338E+00   -.745816E+00   -.3
29712E+00    .113535E+02    .130120E+03    .358101E+07   -.706489E+01    .181799E+01   -.469963E+01
    .529613E+02   -.100604E+02    .314596E+02    .121307E+02                   -.973872E+01    .2398
36E+02   -.744644E+00    .197659E+00   -.502288E+00    .942847E+01    .890755E+02    .335145E+07
-.754081E+01    .514699E+01   -.267742E+01    .572742E+02   -.385411E+02    .201041E+02    .272923E
+02                  -.133131E+02    .817596E+01   -.782950E+00    .535069E+00   -.279109E+00    .9
62371E+01    .527424E+02    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
    .000000E+00    .000000E+00    .000000E+00                    .000000E+00    .000000E+00    .0000
00E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
 .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
       .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .0
00000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
    .000000E+00    .000000E+00                    .000000E+00    .000000E+00    .000000E+00    .0000
00E+00    .000000E+00    .000000E+00    .000000E+00    .301843E+07   -.117896E+01    .234384E+00
-.105480E+01    .180845E+01   -.217159E+00    .128321E+01    .612549E+00                   -.235009E
+00    .187983E+01   -.600219E+00    .125381E+00   -.515440E+00    .195417E+01    .430083E+01    .3
45556E+07   -.243213E+01    .195549E+01   -.592242E+00    .961619E+01   -.618442E+01    .191228E+01
    .627410E+01                   -.366270E+00    .972308E+00   -.484514E+00    .566852E+00   -.1907
17E+00    .365837E+01    .168626E+02    .355685E+07    .678814E+00    .474476E+01    .167959E+01
 .831343E+01    .335189E+01    .417318E+01    .229523E+02                    .769528E+01    .512617E
+01    .917231E-01    .791584E+00    .276623E+00    .601318E+01    .363919E+02    .357167E+07   -.3
61847E+01    .492899E+01    .122524E+01    .158872E+02   -.171089E+02   -.366211E+01    .248300E+02
                    .621668E+01    .247216E+01   -.549183E+00    .749787E+00    .186339E+00    .6568
15E+01    .431895E+02    .360000E+07    .714602E+00    .406657E+01    .251369E+01    .112250E+02
-.108932E+01    .814946E+01    .193285E+02                    .842695E+01    .109520E+02    .140001E
+00    .629713E+00    .402028E+00    .637856E+01    .415055E+02    .302077E+07    .285553E+01    .4
```

```
764[illegible]E+01    .191474E+01    .999242E+01    .125290E+02    .557466E+01    .232542E+02
    .896051E+01    .536798E+01    .464255E+00    .764728E+00    .298490E+00    .617229E+01    .3861
46E+02    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
 .000000E+00    .000000E+00                    .000000E+00    .000000E+00    .000000E+00    .000000E
+00    .000000E+00    .000000E+00    .000000E+00    .250317E+07   -.747514E+00    .554846E+01   -.2
00539E+01    .326599E+01   -.430561E+01    .489886E+00    .309518E+02                   -.107999E+02
    .517312E+01   -.116955E+00    .884775E+00   -.319424E+00    .627449E+01    .393909E+02    .3600
00E+07   -.291129E+01    .421489E+01   -.805086E+00    .154785E+02   -.121455E+02   -.960315E+00
 .181626E+02                   -.327653E+01    .275932E+01   -.490006E+00    .700068E+00   -.129666E
+00    .603049E+01    .364005E+02    .359733E+07   -.163886E+01    .376937E+01    .227057E+01    .7
75188E+01   -.754123E+01   -.644225E+00    .149765E+02                    .776689E+01    .852502E+01
   -.282823E+00    .674004E+00    .415889E+00    .558479E+01    .312534E+02    .358850E+07   -.1926
43E+01    .428227E+01    .182544E+01    .655141E+01   -.816584E+01   -.219090E+01    .188381E+02
                .744519E+01    .473245E+01   -.358549E+00    .780742E+00    .331071E+00    .548493E
+01    .301220E+02    .359300E+07    .906585E+00    .549163E+01    .740829E+00    .281471E+01    .5
63548E+01   -.376510E+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
```

```
***** JOB DONE.
$WEO LPS
```

$$

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

INPUT PARAMETERS ARE:  AS FL=1=1 1

 TAPE NO.    1              FILE NO.    1
 RECORD    1                LENGTH    7440
   82     1     3                    .157544E+10    .422761E+09    .950384E+08    .000000E+00    .0000
00E+00    .000000E+00I,S COORDINATES 820421  2.9          AVRUN 3.51
            AVEDT 820430                          .353802E+07    .231756E+01    .553327E+01    .198534E
+00    .615720E+01    .124158E+02    .774898E+00    .308850E+02                          .857929E+00    .1
27349E+01    .375557E+00    .893534E+00    .325272E-01    .618920E+01    .383157E+02    .346189E+07
    .120804E+01    .570860E+01    -.120476E+01    .186773E+01    .669553E+01    -.180510E+01    .3279
32E+02                    -.649317E+01    .291500E+01    .197661E+00    .930890E+00    -.198200E+00
 .612876E+01    .375759E+02    .732829E+06    .875761E+00    .541332E+01    -.162827E+01    .925164E
+00    .474678E+01    -.143242E+01    .294185E+02                    -.866714E+01    .289169E+01    .1
51199E+00    .939235E+00    -.284997E+00    .576049E+01    .332354E+02    .250617E+07    -.323296E+00
    .566294E+01    -.104198E+01    .713398E+00    -.179525E+01    -.228845E-02    .321160E+02
        -.586206E+01    .169128E+01    -.545433E-01    .964019E+00    -.177317E+00    .587464E+01
 .345208E+02    .188913E+07    -.381737E+01    .442671E+01    .100643E+01    .153444E+02    -.160372E
+02    -.420176E+01    .207066E+02                    .393029E+01    .193699E+01    -.618687E+00    .7
19595E+00    .162724E+00    .616168E+01    .379880E+02    .359983E+07    -.577193E+01    .233073E+01
    .674404E+00    .334629E+02    -.133019E+02    -.372601E+01    .579073E+01                    .1718
58E+01    .117466E+01    -.907973E+00    .366462E+00    .106700E+00    .635586E+01    .404283E+02
 .360000E+07    -.470371E+01    .308928E+01    .891771E+00    .235105E+02    -.131759E+02    -.517725E
+01    .116031E+02                    .157355E+01    .196844E+01    -.770399E+00    .509381E+00    .1
44938E+00    .608382E+01    .370821E+02    .360000E+07    -.602213E+01    .611521E+00    .383696E+00
    .362730E+02    -.366612E+01    -.230099E+01    .759960E+00                    .813377E-01    .5076
10E+00    -.982940E+00    .997785E-01    .629129E-01    .612671E+01    .375406E+02    .318719E+07
-.518748E+01    .276113E+01    -.109086E+01    .274677E+02    -.135653E+02    .557797E+01    .885300E
+01                    -.291761E+01    .240048E+01    -.834074E+00    .443272E+00    -.175170E+00    .6
22231E+01    .387212E+02    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
    .000000E+00    .000000E+00    .000000E+00                    .000000E+00    .000000E+00    .0000
00E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
 .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
        .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .0
00000E+00    .102353E+07    -.538245E+01    .279250E+01    -.197054E+00    .293418E+02    -.149164E+02
    .155926E+01    .887491E+01                    -.232765E+00    .183135E+01    -.850251E+00    .4403
15E+00    -.299330E-01    .632696E+01    .400480E+02    .139636E+07    -.529662E+01    .778641E+00
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+00    .828511E+01    -.831562E+00    .124401E+00    -.302350E+00    .638151E+01    .407473E+02    .3
60000E+07    -.470841E+01    -.164800E+01    -.404151E+01    .229774E+02    .658949E+01    .185485E+02
    .579428E+01                    .780789E+01    .171368E+02    -.695667E+00    -.242238E+00    -.5961
35E+00    .677436E+01    .459085E+02    .259580E+07    -.534166E+01    -.550840E+00    -.366463E+01
 .293570E+02    .184646E+01    .188757E+02    .348822E+01                    .246690E+01    .144125E
+02    -.778381E+00    -.773169E-01    -.533208E+00    .687284E+01    .472577E+02    .137870E+07    -.6
26797E+01    .497179E-02    -.318206E+01    .395991E+02    .287775E+00    .194279E+02    .119354E+01
                -.974656E+00    .113800E+02    -.868105E+00    -.820190E-03    -.439995E+00    .7221
21E+01    .521727E+02    .311472E+07    -.624680E+01    -.134655E+01    -.228177E+01    .397849E+02
 .792058E+01    .132550E+02    .290152E+01                    .365223E+01    .758967E+01    -.880736E
+00    -.189315E+00    -.322024E+00    .708938E+01    .502760E+02    .952062E+06    -.681147E+01    -.6
26295E+00    .466446E+00    .464140E+02    .426560E+01    -.315232E+01    .585386E+00
    -.187445E+00    .560207E+00    -.987814E+00    -.905008E-01    .680242E-01    .689545E+01    .4755
96E+02    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00    .000000E+00
 .000000E+00    .000000E+00                    .000000E+00    .000000E+00    .000000E+00    .000000E
+00    .000000E+00    .000000E+00    .000000E+00    .256514E+07    -.455345E+01    .420534E+01    .1
47610E+01    .233393E+02    -.167413E+02    -.335453E+01    .203272E+02                    .952935E+01
    .790004E+01    -.640892E+00    .580523E+00    .197959E+00    .717669E+01    .515665E+02    .3576
01E+07    -.552645E+01    .387637E+01    -.779658E+00    .322118E+02    -.191491E+02    .632271E+01
 .193785E+02                    -.734783E-01    .411756E+01    -.741383E+00    .518214E+00    -.105800E
+00    .746330E+01    .557079E+02    .359616E+07    -.432457E+01    .540978E+01    .167063E+01    .2
03364E+02    -.220216E+02    -.517030E+01    .307611E+02                    .108997E+02    .672546E+01
    -.569953E+00    .710320E+00    .218144E+00    .760375E+01    .578230E+02    .359017E+07    -.3537
90E+01    .610807E+01    .172749E+01    .141418E+02    -.212942E+02    -.510934E+01    .379091E+02
```

Case 3
Hourly & Daily Outputs
TP-0799-02K
1/1/82 - 12/31/83

(created from STAGE3, D-6570-14 (1) - 020')

```
                .100182E+02    .575347E+01    -.465324E+00     .803388E+00     .227042E+00     .760274E
+01     .578044E+02     .356851E+07    -.361692E+01     .562589E+01     .131614E+01     .147788E+02    -.2
01198E+02    -.315189E+01     .330458E+02                                    .682966E+01     .862321E+01    -.481453E+00
     .748646E+00     .175303E+00     .751293E+01     .564478E+02     .570722E+08    -.388684E+01     .3053
72E+01    -.384642E+00     .225400E+02    -.734000E+01     .219829E+01     .175053E+02
 .242502E+01     .540404E+01    -.571047E+00     .457313E+00    -.616078E-01     .671313E+01     .454493E
+02


 TAPE NO.   1              FILE NO.   1
 RECORD   312              LENGTH   7440
   83  365    3                        .113899E+10    -.302893E+09     .144593E+09     .000000E+00     .0000
00E+00     .000000E+00I,S COORDINATES 840405  3.0          AVRUN 3.51
              AVEDT 840412                          .355502E+07     .414075E+01    -.784616E+00    -.215699E
+01     .194361E+02    -.354143E+01    -.103680E+02     .978445E+00                                    .189822E+01     .7
21522E+01     .823917E+00    -.164286E+00    -.380720E+00     .499250E+01     .276297E+02     .350000E+07
     .574986E+01    -.151921E+01    -.285561E+01     .345140E+02    -.925682E+01    -.164864E+02     .3498
55E+01                          .386853E+01     .918605E+01     .844920E+00    -.220827E+00    -.425823E+00
 .677192E+01     .471986E+02     .357884E+07     .730538E+01    -.130110E+01    -.369604E+01     .565912E
+02    -.961379E+01    -.275116E+02     .376599E+01                                    .555551E+01     .149475E+02     .8
40209E+00    -.149334E+00    -.435927E+00     .854249E+01     .753046E+02     .359450E+07     .358713E+01
    -.156966E+01    -.263315E+01     .281606E+02     .224535E+01    -.966781E+01     .894376E+01
          .470658E+01     .142231E+02     .517102E+00    -.216637E+00    -.358414E+00     .700029E+01
 .513275E+02     .357634E+07     .298715E+01    -.208788E+01    -.497968E+01     .170834E+02     .762867E
+00    -.181126E+02     .142650E+02                                    .859482E+01     .273470E+02     .369627E+00    -.3
52931E+00    -.688427E+00     .741954E+01     .586953E+02     .359950E+07     .291350E+01    -.305380E+01
    -.458590E+01     .973475E+01    -.821214E+01    -.127284E+02     .101332E+02                                    .1462
23E+02     .220813E+02     .463601E+00    -.472796E+00    -.709043E+00     .642271E+01     .419493E+02
 .287417E+07     .420871E+01    -.301509E+01    -.334048E+01     .190171E+02    -.128509E+02    -.139308E
+02     .939823E+01                          .101870E+02     .114563E+02     .660791E+00    -.483596E+00    -.5
42627E+00     .625773E+01     .398716E+02     .255148E+07     .254539E+01    -.406754E+01    -.518172E+01
     .696123E+01    -.103483E+02    -.129842E+02     .167468E+02                                    .209464E+02     .2708
45E+02     .357383E+00    -.570955E+00    -.726878E+00     .712588E+01     .507926E+02     .360000E+07
 .353738E+01    -.359025E+01    -.244077E+01     .144537E+02    -.128366E+02    -.664504E+01     .139058E
+02                    .825421E+01     .112644E+02     .566849E+00    -.573025E+00    -.386625E+00     .6
27095E+01     .396239E+02     .839780E+06     .263159E+01    -.422885E+01    -.418055E+01     .704432E+01
    -.111573E+02    -.108898E+02     .181623E+02                                    .171940E+02     .187421E+02     .3976
40E+00    -.640532E+00    -.628904E+00     .662593E+01     .439487E+02     .251433E+07     .177890E+01
-.462444E+01    -.420794E+01     .382113E+01    -.819376E+01    -.709474E+01     .214541E+02
          .194204E+02     .180285E+02     .271186E+02    -.702912E+00    -.639018E+00     .657972E+01     .4
33038E+02     .186380E+07     .199289E+01    -.273353E+01    -.519955E+01     .519185E+01    -.582459E+01
    -.103499E+02     .960143E+01                          .133489E+02     .277370E+02     .298194E+00    -.4142
61E+00    -.807217E+00     .648975E+01     .425303E+02     .353553E+07     .157345E+01    -.460768E+00
-.955461E+00     .406570E+01    -.920882E+00    -.827628E+00     .668814E+00                                    .883159E
+00     .318549E+01     .717227E+00    -.176629E+00    -.248354E+00     .256798E+01     .792001E+01     .3
11906E+07     .247865E+01    -.217869E+01    -.151952E+01     .700714E+01    -.466078E+01    -.364930E+01
     .666456E+01                          .412869E+01     .358874E+01     .632357E+00    -.522036E+00    -.3523
61E+00     .405247E+01     .172605E+02     .220415E+07     .242062E+01    -.262768E+01    -.267993E+01
 .726134E+01    -.607142E+01    -.676398E+01     .909186E+01                                    .516063E+01     .125692E
+02     .443723E+00    -.489902E+00    -.493366E+00     .535935E+01     .289224E+02     .359983E+07     .1
31290E+01    -.144894E+01    -.467594E+01     .220167E+01    -.180676E+01    -.610166E+01     .369666E+01
                    .798685E+01     .232944E+02     .255177E+00    -.240194E+00    -.867780E+00     .5315
82E+01     .291928E+02     .350338E+07    -.108848E+01    -.127423E+01    -.210685E+01     .273413E+01
 .125979E+01     .206641E+01     .260928E+01                                    .349992E+01     .834885E+01    -.335542E
+00    -.358774E+00    -.498400E+00     .344719E+01     .136923E+02     .359983E+07     .309938E+01    -.3
```

```
26599E+01    -.232531E+01     .102193E+02    -.109007E+02    -.687302E+01     .120412E+02
     .695471E+01     .623002E+01     .581395E+00    -.607672E+00    -.452757E+00     .527727E+01     .2849
06E+02     .358000E+07     .363787E+01    -.476797E+01    -.326927E+01     .138040E+02    -.177258E+02
-.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
36985E+01     .108666E+02    -.154307E+02    -.150418E+02     .231801E+02                     .239874E+02
     .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     .348785E+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
71472E+02    -.222733E+02     .784192E+01     .346557E+02                    -.641645E+01     .255088E+02
    -.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	ACQ. AGENT
BMW	SUMANT

ISEE - 3

ICE MAGNETOMETER HIGH RESOLUTION DATA

78-079A-02N

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

Documentation on NSSDC data set 78-079A-02N, "0.33 SEC B-FIELD DATA, G-Z ENCNTR", (ISEE-3/ICE).
Compiled by S. Krishnaswamy, 3/89.

For distribution with 78-079A-02N

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. Felthauser, 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 Amersfoot, 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 x S, and the x-axis to Y x 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.

==========

Letter for distribution with 78-079A-02N

P 1 of 3

Dec. 12, 1988

Recd 12/21/88

TO: Sumant Krishnaswamy, NSSDC

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.

1/3 sec resolution

(B_{mag} is computed from B_x, B_y, B_z; see IEEE article)

JPLSP::JWOLF (SPAN)

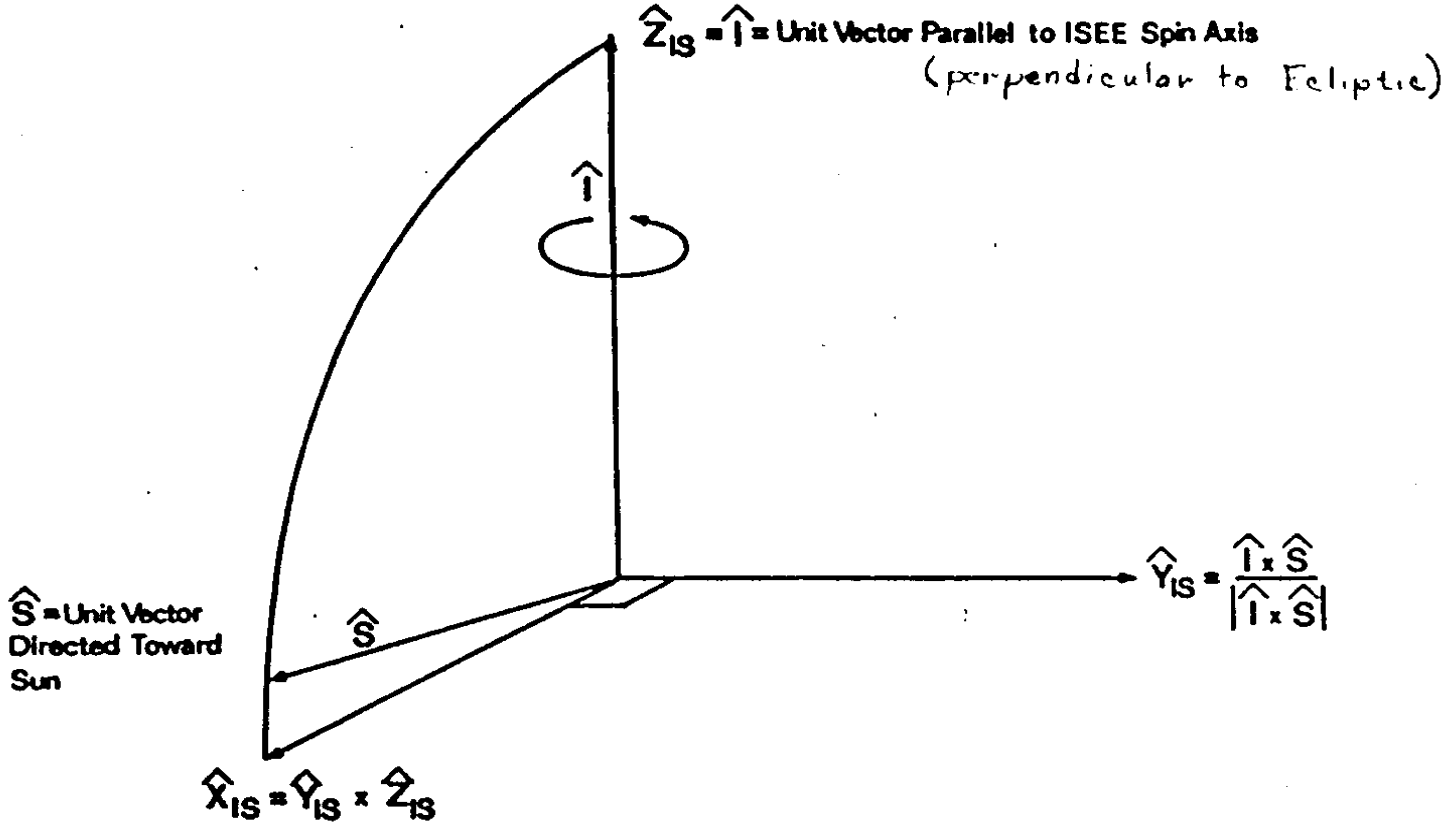
818-354-7361

FTS 792-7361

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

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

[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]



IS Coordinate System

Found 12/21/88

p. 39.3 N28-0794-02N/ N28-0794-02N

```
MTANAL - Tape analysis utility                                  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
End of file number       1
File contained  2349 blocks, shortest block  3224 bytes, longest block  5200 bytes
-------------------------------------------------------------------------------

Start of file number     2
Block 1  (length  5200 bytes)  starts:
       1:  38352032 35342020 30202030 2020202E 31322020 202D2E31 32332020 20382E30
      33:  38352020 20382E32 34322020 31312E35 34362020 38352032 35342020 30202030
      65:  2020202E 34362020 202D2E31 30312020 20382E31 31322020 20382E33 32332020
      97:  31312E36 32332020 38352032 35342020 30202030 2020202E 37382020 202D2E31
End of file number       2
File contained  2566 blocks, shortest block  3016 bytes, longest block  5200 bytes
-------------------------------------------------------------------------------

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 33322020 20322E34 36342020
      97:  20352E38 38372020 38352032 35352020 30202030 2020202E 39332020 2D342E32
End of file number       3
File contained  2264 blocks, shortest block   260 bytes, longest block  5200 bytes
-------------------------------------------------------------------------------

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 38352032 35362020 30202030
      65:  2020312E 32372020 2D342E37 33362020 202D2E36 30322020 202D2E31 36362020
      97:  20342E37 37372020 38352032 35362020 30202030 2020312E 39332020 2D342E37
End of file number       4
File contained  1226 blocks, shortest block  2340 bytes, longest block  5200 bytes
-------------------------------------------------------------------------------

Start of file number     5
Block 1  (length  5200 bytes)  starts:
       1:  38352032 35372020 30202030 2035322E 39362020 202D2E36 31382020 20332E36
      33:  30302020 20312E34 31302020 20332E39 31362020 38352032 35372020 30202030
      65:  2035332E 36332020 202D2E36 35392020 20332E36 30362020 20312E37 35312020
      97:  20342E30 36322020 38352032 35372020 30202030 2035342E 33302020 202D2E36
End of file number       5
File contained  1079 blocks, shortest block  2288 bytes, longest block  5200 bytes
-------------------------------------------------------------------------------
```

```
>85 253  0  0   .04  -3.684   6.1<
>39   1.808   7.385  85 253  0  0<
>   .38  -3.598   6.156   2.001  <
> 7.406  85 253  0  0   .71  -3.5<

>85 254  0  0   .12   -.123   8.0<
>85   8.242  11.546  85 254  0  0<
>   .46   -.101   8.112   8.323  <
>11.623  85 254  0  0   .78   -.1<

>85 255  0  0   .27  -4.206   3.2<
>38   2.482   5.860  85 255  0  0<
>   .60  -4.259   3.232   2.464  <
> 5.887  85 255  0  0   .93  -4.2<

>85 256  0  0   .60  -4.784   -.6<
>23   -.172   4.828  85 256  0  0<
>  1.27  -4.736   -.602   -.166  <
> 4.777  85 256  0  0  1.93  -4.7<

>85 257  0  0 52.96   -.618   3.6<
>00   1.410   3.916  85 257  0  0<
> 53.63   -.659   3.606   1.751  <
> 4.062  85 257  0  0 54.30   -.6<
```

ISEE-3 ICE Magnetometer High Resolution DATA

78-079A-02N

D-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 ==============================
$EXE TPLIST BS

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

 ***** ERROR CONDITION  86.0 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   8.017  11.252  85 253 23 59 39.81    .465   7.468   8.194  11.
 096  85 253 23 59 40.12    .158   7.688   8.153  11.207  85 253 23 59 40.44    .427   7.499   8.362
   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   8.203  11.287  85 253 23 59 42.44    .316
  7.901   8.375  11.518  85 253 23 59 42.81    .286   8.202   8.[illegible]  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   7.863   8.385  11.495  85 253 23 59 44.12    .087   7.865   8.225  11.383  85 253 23 59
  44.44    .137   7.827   8.315  11.42[illegible]  85 253 23 59 44.81    .[illegible]   7.936   8.261  11.467  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   8.1[illegible]   8.159  11.501  85 253 23 59 46.81    .[illegible]18   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
   8.15[illegible]  11.534  85 253 23 59 48.44    .191   8.169   8.[illegible]74  11.[illegible]28  85 253 23 59 48.81    .067
 8.127   8.207  11.55[illegible]  85 253 23 59 49.12    .06[illegible]   8.202   8.16[illegible]  11.572  85 253 23 59 49.44    -.0
 01   8.315   8.[illegible]88  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.[illegible]16  11.477  85 253 23 59 50.44    .[illegible]74   8.[illegible]43   8.[illegible]99  11.[illegible]56  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    .[illegible]71   8.304   8.[illegible]15  11.[illegible]41  85 253 23 59 51.81    .[illegible]26   8.[illegible]70   8.[illegible]03  11.[illegible]81  85 2
 53 23 59 52.12    -.[illegible]94   8.286   8.[illegible]12  11.526  85 253 23 59 52.[illegible]4    -.162   8.[illegible]65   8.[illegible]62  11.619
 85 253 23 59 52.81    -.119   8.265   8.[illegible]23  11.519  85 253 23 59 53.13    .[illegible]17   8.219   8.[illegible]29  11
 .553  85 253 23 59 53.44    .[illegible]10   8.[illegible]18   8.[illegible]48  11.500  85 253 23 59 53.81    .118   8.[illegible]65   7.83
 7  11.464  85 253 23 59 54.12    .113   8.[illegible]14   7.[illegible]39  11.[illegible]69  85 253 23 59 54.44    .231   8.[illegible]96
  8.223  11.683  85 253 23 59 54.81    .[illegible]04   8.[illegible]79   8.[illegible]63  11.[illegible]77  85 253 23 59 55.12    .[illegible]21   8.
 [illegible]83   8.[illegible]15  11.[illegible]98  85 253 23 59 55.44    .221   8.274   8.113  11.[illegible]59  85 253 23 59 55.81    .[illegible]39
   8.[illegible]46   8.128  11.442  85 253 23 59 56.12    .225   8.[illegible]67   7.[illegible]65  11.339  85 253 23 59 56.44
 .334   7.953   8.[illegible]47  11.319  85 253 23 59 56.81    .[illegible]76   7.937   8.[illegible]03  11.[illegible]93  85 253 23 59 57.
 12    .475   8.[illegible]12   8.145  11.435  85 253 23 59 57.44    .428   8.138   8.221  11.[illegible]75  85 [illegible]53 23 5
 9 57.81    .423   8.235   8.[illegible]55  11.527  85 253 23 59 58.12    .[illegible]36   8.251   8.[illegible]70  11.614  85 253
  23 59 58.44    .054   8.215   8.[illegible]70  11.[illegible]86  85 253 23 59 58.81    .177   8.[illegible]46   8.[illegible]80  11.617  8
 5 253 23 59 59.12    -.[illegible]03   8.[illegible]66   7.[illegible]64  11.[illegible]38  85 [illegible]57 23 59 59.44    .[illegible]42   8.[illegible]55   8.[illegible]97  11.4
 92  85 253 23 59 59.81    -.046   8.1[illegible]4   8.244  11.588

  TAPE NO.   1              FILE NO.   2
  RECORD   1                LENGTH   5208
 85 254  0  0   .12    -.123   8.[illegible]85   8.242  11.546  85 254  0  0   .46    -.[illegible]01   8.112   8.323  11.
 623  85 254  0  0   .78    -.131   8.[illegible]26   8.[illegible]66  11.592  85 254  0  0  1.12    -.[illegible]7   8.178   8.227
   11.[illegible]00  85 254  0  0  1.46    .[illegible]01   8.[illegible]70   7.[illegible]61  11.483  85 254  0  0  1.78    -.092   8.628
 7.521  11.713  85 254  0  0  2.12    .[illegible]08   8.[illegible]40   7.[illegible]09  11.494  85 254  0  0  2.45    .[illegible]86   7.[illegible]
 54   8.197  11.423  85 254  0  0  2.78    -.13   8.315   8.[illegible]97  11.634  85 254  0  0  3.12    .[illegible]08
  8.[illegible]06   8.[illegible]86  11.520  85 254  0  0  3.45    -.[illegible]49   8.[illegible]52   8.[illegible]66  11.684  85 254  0  0  3.78    -
 .051   8.494   8.062  11.712  85 254  0  0  4.12    -.041   8.576   8.[illegible]24  11.744  85 254  0  0  4.4
 5    .[illegible]35   8.584   8.[illegible]19  11.747  85 254  0  0  4.78    .[illegible]14   8.[illegible]30   8.[illegible]26  11.[illegible]13  85 [illegible]54  0  0
```

5.12 .118 8.495 8.011 11.677 85 254 0 5.45 .217 8.591 8.036 11.625 85 254
0 0 5.78 .253 8.311 8.085 11.598 85 254 0 0 6.12 .325 8.270 8.138 11.607 85
254 0 0 6.45 .281 8.242 8.116 11.571 85 254 0 0 6.78 .142 8.328 8.089 11.55
5 85 254 0 0 7.12 .188 8.435 7.921 11.573 85 254 0 0 7.45 .021 8.471 7.763
11.490 85 254 0 0 7.78 .186 8.677 7.917 11.477 85 254 0 0 8.12 .124 8.478 7.
804 11.494 85 254 0 0 8.45 .272 8.544 7.826 11.589 85 254 0 0 8.78 .129 8.533
7.562 11.402 85 254 0 0 9.12 .138 8.766 7.365 11.480 85 254 0 0 9.45 .105
8.752 7.549 11.558 85 254 0 0 9.78 .168 8.729 7.495 11.507 85 254 0 0 10.12 .2
12 8.745 7.613 11.596 85 254 0 0 10.45 .219 8.858 7.452 11.578 85 254 0 0 10.78
.172 8.886 7.404 11.567 85 254 0 0 11.12 .203 8.852 7.333 11.496 85 254 0 0 1
1.45 .513 8.922 7.251 11.509 85 254 0 0 11.78 .552 8.875 7.300 11.506 85 254 0
0 12.11 .467 8.938 7.307 11.554 85 254 0 0 12.45 .515 8.827 7.394 11.526 85 2
54 0 0 12.78 .506 8.831 7.496 11.595 85 254 0 0 13.11 .453 8.777 7.562 11.594
85 254 0 0 13.45 .440 8.759 7.609 11.611 85 254 0 0 13.78 .477 8.723 7.561 11
.554 85 254 0 0 14.11 .446 8.727 7.493 11.567 85 254 0 0 14.45 .242 8.810 7.35
2 11.469 85 254 0 0 14.78 .164 8.749 7.607 11.595 85 254 0 0 15.11 .065 8.761
7.611 11.605 85 254 0 0 15.45 .014 8.848 7.443 11.561 85 254 0 0 15.78 .067 8.
855 7.499 11.607 85 254 0 0 16.11 .111 8.727 7.671 11.620 85 254 0 0 16.45 .107
8.714 7.668 11.638 85 254 0 0 16.78 -.017 8.521 7.827 11.570 85 254 0 0 17.11
.015 8.586 7.803 11.602 85 254 0 0 17.45 .052 8.525 7.818 11.567 85 254 0 0 17.
78 .000 8.516 7.759 11.527 85 254 0 0 18.11 -.031 8.504 7.918 11.619 85 254 0
0 18.45 -.057 8.495 7.957 11.640 85 254 0 0 18.78 -.018 8.479 7.756 11.491 85 254
0 0 19.11 -.095 8.379 8.037 11.611 85 254 0 0 19.45 -.069 8.418 8.036 11.638 8
5 254 0 0 19.78 -.220 8.418 7.887 11.535 85 254 0 0 20.11 -.162 8.483 7.818 11.5
28 85 254 0 0 20.45 -.048 8.412 7.817 11.484 85 254 0 0 20.77 -.093 8.398 7.911
11.538 85 254 0 0 21.11 -.118 8.406 8.018 11.617 85 254 0 0 21.45 -.105 8.147 8
.109 11.495 85 254 0 0 21.77 -.074 8.295 8.066 11.571 85 254 0 0 22.11 -.063 8.01
3 8.244 11.494 85 254 0 0 22.45 .055 8.131 8.245 11.580 85 254 0 0 22.77 .073
8.207 8.093 11.526 85 254 0 0 23.11 .085 8.188 8.171 11.567 85 254 0 0 23.45 -.
042 8.049 8.285 11.551 85 254 0 0 23.77 .042 8.072 8.118 11.448 85 254 0 0 24.11
.109 8.249 8.068 11.539 85 254 0 0 24.45 .114 8.159 8.011 11.512 85 254 0 0
24.77 -.053 8.045 8.272 11.539 85 254 0 0 25.11 -.058 8.172 8.195 11.572 85 254
0 0 25.45 .007 8.149 8.301 11.632 85 254 0 0 25.77 .056 8.314 8.146 11.640 85
254 0 0 26.11 .047 8.307 7.963 11.507 85 254 0 0 26.45 .013 8.236 8.127 11.576
85 254 0 0 26.77 .073 8.205 8.167 11.577 85 254 0 0 27.11 .002 8.324 8.220 1
1.627 85 254 0 0 27.44 -.051 8.242 8.158 11.597 85 254 0 0 27.77 -.051 8.268 8.2
74 11.669 85 254 0 0 28.11 -.059 8.083 8.249 11.545 85 254 0 0 28.44 .010 8.184
8.252 11.622 85 254 0 0 28.77 .001 8.188 8.202 11.589 85 254 0 0 29.11 -.148 8
.265 8.068 11.551 85 254 0 0 29.44 .056 8.104 8.231 11.551 85 254 0 0 29.77 .13
3 8.182 8.113 11.523 85 254 0 0 30.11 .086 8.243 8.218 11.640 85 254 0 0 30.44
.079 8.335 8.002 11.555 85 254 0 0 30.77 -.025 8.370 8.172 11.699 85 254 0 0 31
.11 .080 8.357 8.044 11.600 85 254 0 0 31.44 .420 8.692 7.681 11.607 85 254 0
0 31.77 .357 8.603 7.877 11.469 85 254 0 0 32.11 .305 8.441 7.599 11.360 85 25
4 0 0 32.44 .344 8.661 7.344 11.360 85 254 0 0 32.77 .374 8.697 7.435 11.448
85 254 0 0 33.11 .327 8.752 7.332 11.389

TAPE NO. 1 FILE NO. 2
RECORD 2566 LENGTH 3 16

85 254 23 59 40.94 -3.956 2.877 2.484 5.482 85 254 23 59 41.25 -4.056 2.868 2.613 5.
620 85 254 23 59 41.62 -4.114 2.766 2.605 5.593 85 254 23 59 41.94 -4.082 2.730 2.618
5.566 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 -4.332 3.100 2.491 5.663 85 254 23 59 43.25 -4.362 2.8
74 2.436 5.562 85 254 23 59 43.62 -4.335 2.701 2.521 5.696 85 254 23 59 43.94 -4.236
2.785 2.643 5.717 85 254 23 59 44.25 -4.180 2.754 2.563 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 2.779 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 2.755 3.187 5.699 85 254 23 59 48.25 -3.985 2.975 3.060
5.838 85 254 23 59 48.62 -3.793 3.101 2.989 5.799 85 254 23 59 48.94 -3.808 3.110 2.
904 5.710 85 254 23 59 49.25 -3.769 3.050 3.038 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 3.100 5.763 85 254 23 59 50.25 -3.681
3.066 2.979 5.640 85 254 23 59 50.62 -3.750 3.339 2.916 5.836 85 254 23 59 51.94 -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 5.810 85 254 23 59 51.94 -3.476 3.017 2.955 5.538 85 254 23 59 5

```
2.25  -3.373   3.293   3.159   5.67[illegible] 85 254 23 59 52.62  -3.309   3.408   3.136   5.692  85 254 23
59 52.94  -3.304   3.290   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.[illegible]2   5.627  85 254 23 59 53.9[illegible]  -3.374   3.397   3.988   5.641
 85 254 23 59 54.25  -3.459   3.337   3.162   5.699  85 254 23 59 54.62  -3.357   3.121   3.246   5
.617  85 254 23 59 54.94  -3.201   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  -3.4[illegible]   3.188   3.513   5.78[illegible]  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  -3.405   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.[illegible]79   3.475   5.693  85 254 23 59 57.62  -3.423   3.[illegible]08   3.[illegible]55   5.780  85 254 23 59 57.94  -
3.59[illegible]   3.112   3.265   5.765  85 254 23 59 58.25  -3.85[illegible]   3.2[illegible]   2.854   5.75[illegible]  85 254 23 59 58.
62  -3.787   3.458   2.625   5.761  85 254 23 59 58.94  -3.772   [illegible].387   2.593   5.694  85 254 23 5
9 59.25  -3.873   3.438   2.564   5.779  85 254 23 59 59.62  -4.[illegible]46   3.392   2.654   5.929  85 254
 23 59 59.94  -4.135   3.178   2.507   5.786

TAPE NO.  1              FILE NO.  3
RECORD  1                LENGTH  5230
85 255  0  0  .27  -4.206   3.238   2.482   5.861  85 255  0  0  .[illegible]  -4.259   3.232   2.464   5.
887  85 255  0  0  .93  -4.247   3.201   2.437   5.850  85 255  0  0 1.27  -4.[illegible]51   3.161   2.181
   5.582  85 255  0  0 1.6[illegible]  -4.[illegible]27   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   2.653   5.629  85 255  0  0  2.93  -4.1[illegible]8   3.004   2.713   5.803  85 255  0  0  3.27  -4.253
  3.128   2.738   5.947  85 255  0  0  3.60  -4.218   3.211   2.[illegible]60   5.845  85 255  0  0  3.93  -4
.113   3.140   2.383   5.697  85 255  0  0  4.26  -4.265   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   2.186   5.667  85 255  0  0
  5.26  -4.164   3.020   2.570   5.750  85 255  0  0  5.[illegible]  -4.[illegible]72   2.888   2.554   5.637  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   2.56[illegible]   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.[illegible]25   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  -3.870   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.[illegible]77   5.838  85 255  0  0  9.26  -4.027   3.057   2.944   5.[illegible]60  85 255  0  0  9.60  -3.862
3.127   2.978   5.793  85 255  0  0  9.93  -3.770   3.09[illegible]   3.126   5.78[illegible]  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
-3.49[illegible]   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   2.534   3.441   5.674  85 255  0  0 11.92  -3.805   2.89[illegible]   3.369   5.86[illegible]  85 255  0
  0 12.26  -3.756   2.878   3.307   5.772  85 255  0  0 12.6[illegible]  -3.698   2.896   3.494   5.854  85 2
55  0  0 12.92  -3.696   2.940   3.457   5.859  85 255  0  0 13.[illegible]6  -3.714   2.917   3.371   5.798
 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   3.27[illegible]   3.619   5.849  85 255  0  0 14.59  -4.249   3.[illegible]80   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  -4.485   2.193
  3.192   5.926  85 255  0  0 15.59  -4.[illegible]75   2.154   2.911   5.835  85 255  0  0 15.92  -4.684   2.
209   3.[illegible]47   6.[illegible]08  85 255  0  0 16.26  -4.542   2.309   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.[illegible]99   3.208   5.824  85 255  0  0 17.59  -4.394   1.873   3.281   5.[illegible]84  85 255  0  0 17.
92  -4.564   1.787   3.[illegible]20   5.757  85 255  0  0 18.26  -4.693   1.601   2.726   5.656  85 255  0
0 18.59  -4.924   1.549   2.747   5.847  85 255  0  0 18.92  -4.[illegible]67   1.586   2.521   5.808  85 255
  0  0 19.26  -4.938   1.886   2.493   5.844  85 255  0  0 19.[illegible]  -4.821   1.814   2.490   5.721  8
5 255  0  0 19.92  -4.883   1.559   2.[illegible]37   5.857  85 255  0  0 20.26  -4.975   1.478   2.749   5.8
73  85 255  0  0 20.[illegible]9  -4.978   1.469   2.87[illegible]   5.932  85 255  0  0 21.92  -4.716   1.[illegible]83   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
0   3.[illegible]06   5.836  85 255  0  0 22.59  -4.91[illegible]   1.670   3.[illegible]1[illegible]   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   2.867   5.[illegible]95  85 255  0  0 24.26
  -4.[illegible]97   2.998   2.831   5.812  85 255  0  0 24.59  -3.861   3.196   3.178   5.935  85 255  0  0
24.92  -3.356   3.782   2.951   5.855  85 255  0  0 25.25  -3.[illegible]46   4.[illegible]50   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   3.961   2.777   5.627  85 255  0  0 26.59  -2.981   3.803   3.[illegible]22   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.[illegible]19   3.063   5.860  85 255  0  0 27.92  -2.961   3.976   3.0
04   5.766  85 255  0  0 28.25  -2.7[illegible]0   3.918   3.112   5.714  85 255  0  0 28.59  -2.831   4.169
  2.890   5.[illegible]19  85 255  0  0 28.92  -2.514   4.253   2.[illegible]92   5.714  85 255  0  0 29.25  -3.[illegible]84   3
.815   2.677   5.588  85 255  0  0 29.59  -3.278   3.876   3.657   5.737  85 255  0  0 29.92  -3.5[illegible]
0   3.621   2.659   5.695  85 255  0  0 30.25  -3.79[illegible]   3.435   2.469   5.680  85 255  0  0 30.59
-3.898   2.794   2.444   5.383  85 255  0  0 30.92  -4.332   2.[illegible]94   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
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