DATA SET CATALOG #7

Explorer 14 Trapped Particles

62-051A-03A	10 Tapes
62-051A-03B	8 Tapes
62-051A-03C	2 Tapes

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1. INTRODUCTION:

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

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

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

2. ERRATA/CHANGE LOG:

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

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

Version	Date	Person	Page	Description of Change
01				
02				

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

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

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

4. CATALOG MATERIALS:

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

b. Core Catalog Materials

EXPLORER 14

ANTON 213, 302 GM COUNTING RATES

62-051A-03A

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY THERE WERE TEN 7-TRACK, 556 BPI TAPES WRITTEN IN BCD. THERE ARE TWO RESTORED TAPES. THE DR AND DS TAPES ARE 9-TRACK, 6250 BPI WRITTEN IN EBCDIC. THE ORIGINAL TAPES WERE CREATED ON A 7094 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR01993	DS01933	D00158	1	10/02/62 - 10/28/62
		D00159	2	10/28/62 - 11/27/62
		D00160	3	11/27/62 - 12/25/62
		D00161	4	12/26/62 - 02/15/63
		D00162	5	02/15/63 - 04/21/63
DR01994	DS01994	D00163	1	04/21/63 - 05/17/63
		D00164	2	05/17/63 - 06/10/63
		D00165	3	06/10/63 - 07/04/63
		D00166	4	07/04/63 - 07/29/63
		D00167	5	07/29/63 - 08/11/63

EXPLORER 14

ANTON 213, 302 GM COUNT RATE & EPHEMERIS

COMPACTED GM TUBE COUNT RATES AND ORBITS

L-ORDERED ELECTRON COUNT RATES TAPE

62-051A-03B

62-051A-03C

62-051A-03D

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED 11 7-TRACK, 556 BPI TAPES WRITTEN IN BCD. THERE ARE FIVE RESTORED TAPES. THE FIRST THREE TAPES ARE DATA SET 62-051A-03B, FILES 1 AND 2 ON THE FOURTH TAPE ARE DATA SET 62-051A-03B AND FILES 3-6 ARE DATA SET 62-051A-03C AND FILES 1-4 ON THE FIFTH TAPE ARE DATA SET 62-051A-03C AND FILES 5-8 ARE 62-051A-03D. THE DR AND DS TAPES ARE 9-TRACK, 6250 BPI AND WRITTEN IN EBCDIC. THE ORIGINAL TAPES WERE CREATED ON A 7094 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR02012	DS02012	D00168	1	10/02/62 - 11/12/62 (03B)
		D00169	2	11/12/62 - 12/23/62 (03B)
DR01995	DS01995	D00170	1	12/23/62 - 02/11/63 (03B)
		D00171	2	02/11/63 - 03/15/63 (a) (03B)
DR01996	DS01996	D00172	1	03/15/63 - 04/16/63 (03B)
		D00173	2	04/16/63 - 05/19/63 (03B)
DR01997	DS01997	D00174	1	05/19/63 - 06/25/63 (03B)
		D00175	2	06/25/63 - 08/11/63 (b) (03B)
		D05500	3-6	10/02/63 - 02/15/63 (03C)
DR02013	DS02013	D05501	1-4	02/15/63 - 08/11/63 (c) (03C)
		D05520	5-8	10/02/62 - 08/11/63 (03D)

(a) READ ERRORS OCCURRED ON RECORDS 8344 AND 8649 OF FILE 2
(b) READ ERROR OCCURRED ON RECORD 27582 OF FILE 3

(c) READ ERROR OCCURRED ON RECORD 783 OF FILE 1

62-051A-03A

EXPLORER 14, Trapped particles, 556 BPI, 7 track, BCD

D# *	C#	FILES	START	STOP	PARTIAL DUMPS
D-00158	C-00070	1	10/02/62	10/28/62	NO
D-00159	C-00071	1	10/28/62	11/27/62	NO
D-00160	C-00072	1	11/27/62	12/25/62	NO
D-00161	C-00073	1	12/26/62	02/15/63	NO
D-00162	C-00074	1	02/15/63	04/21/63	NO
D-00163	C-00075	1	04/21/63	05/17/63	NO
D-00164	C-00076	1	05/17/63	06/10/63	NO
D-00165	C-00077	1	06/10/63	07/04/63	NO
D-00166	C-00078	1	07/24/63	07/29/63	NO
D-00167	C-00079	1	07/29/63	08/11/63	NO

* 6/22/73 - These 'D' tapes have been sent to the Federal Records Center. Only the 'C' tapes remain in the Data set. PAR.

62-051A-03B

D-00168		1	10/02/62	11/12/62	YES
D-00169	(Tapes too	1	11/12/62	12/23/62	YES
D-00170	long to	1	12/23/62	02/11/63	YES
D-00171	dupe)	1	02/11/63	03/15/63	YES
D-00172		1	03/15/63	04/16/63	YES
D-00173		1	04/16/63	05/19/63	YES
D-00174		1	05/19/63	06/25/63	YES
D-00175	C-00080	1	06/25/63	08/11/63	YES

62-051A-03C

D-05500	C-00094	4	10/02/62	03/15/63	YES
D-05501	C-00095	4	03/15/63	08/11/63	YES

Enclosed are partial dumps and formats pertaining to Explorer 14, Trapped Particles, also included are outputs generated from a program "Expl 14" which reads data taken from these tapes and determines time gaps in data gatherings (see document A6.03.011).

NOTE: As a result of data set 'B' tapes being too long to dupe, data set 'C' will become its backup.

62-051A-03A

8 June, 1967

MEMO

TO: Dr. L. A. Frank

FROM: H. Kiel

D 00158-167

Explorer XIV (GAMMA 1) Data Format
For Master Sort File
of
S-3A Basic Data (no orbit)

NOTE. The data is packed at 556 BPI 7 channels, in BCD mode, 120 characters per logical record with 10 records in each physical block. The data was created and copied on an IBM 7094 digital computer.

FOR. Using the convention that the first character is character number 1.

START 10/2/62 STOP 8/11/63

Record Position	Format Code	Description
1,2		a) Tapes
3-6	SUI Tp. No.	b) Data Tapes from GSFC
7-	Anal Tp. No.	c) Station Tapes from Minitrack
10 11	STN	d) Nasa Station numbers
12	Y	e) 2=1962, 3=1963
13,14	MO	f) MONTH
16,16	U.T. DD	g) DAY
17,18	HH	h) HOUR
19,20	MI	i) MINUTE
21,22	SS	j) SECOND
23	Q	k) Data Quality Digit: 0=no error, 1=bad character, 2=time error, 3=1+2
24	NI	l) 1 read noise
25	N2	m) 2 read noise
26	DR	n) Detector Redundency 0=Yes 1=No
27	CR	o) Clock Redundency 0=Yes 1=No
28 29	CF	p) Barker Confidence Flag
30	Det.1,2,3,4,	q) Detector ID = A,B,C,D
31-36		r) Check 1st

Record Position	Format Code	Description	
37-42		S Clock 2nd	
43-48		T 213(A) 1st	I = 1
49-54		U 213(A) 2nd	
55-60		V 213(B) 1st	I = 2
61-66		W 213(B) 2nd	
67-72		X 213(C) 1st	I = 3
73-78	TV when I = 4	Y 213(C) 2nd	
79-84		Z 302(D) 1st	I = 4
85-90	TV when I ≠ 4	Z1 302(D) 2nd	
91-120	BCD	Z2 Blanks or Zeroes	

TV is the time validity flag. Following are the digits which may appear in positions 78 or 90 depending upon I (See 213 2nd and 302 2nd above):

0. Time guaranteed as accurate to within 1 second
1. Time corrected to within one second
2. Time guaranteed as accurate to within 6 seconds
3. Time corrected to within 6 seconds
4. Time guaranteed as accurate to within 1 minute
5. Time corrected to within 1 minute
6. Time checked as more than 1 minute in error
7. No time check attempted
8. No time check possible

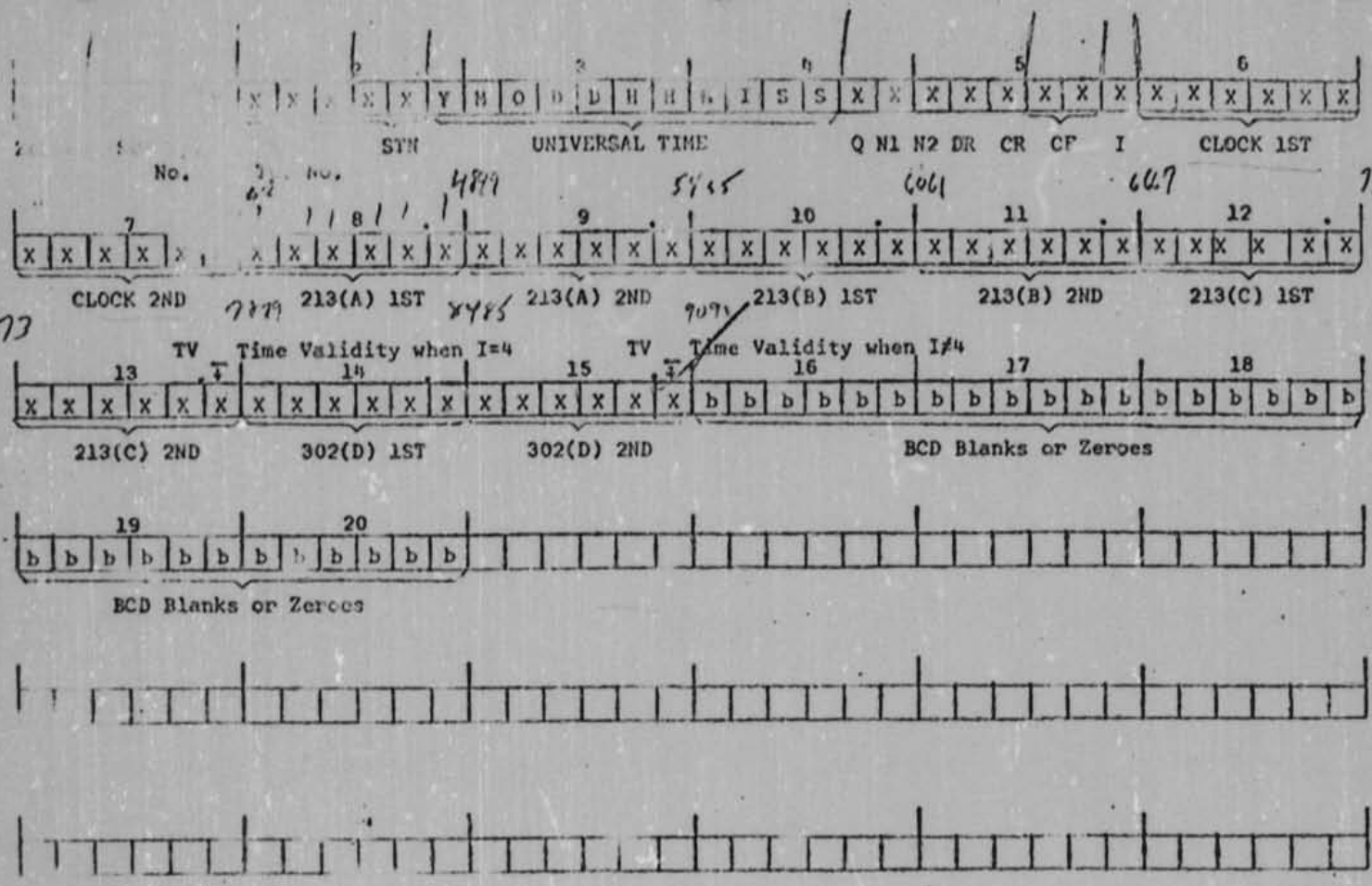
...y one detector reads out for a given frame of data and at ... point in time. It is transmitted twice for that point in time ... redundency check compares the two readouts to see if they agree. If they agree the detector reading is generated only in the "first" position for that detector. If they do not agree both the "first" and "second", or redundency, readouts appear in the frame. The s... is ...e for the satellite clock.

... de... ...n readouts are in counts per sampling interval where ...e interval is 10.24 seconds.

Th... data quality characters, Q, N1 and N2, the time validity (TV) indicator and the barker confidence flag are further explained in the NASA-GSFC publication number X-565-62-195 (October 1962) and the ...endum to the above (November 1962).

Th... time span of the data contained on these reels is:

2 October, 1962
to
11 August, 1963



. = decimal point assumed

Leading zeroes are not suppressed.
In some of the data bb = 00 in BCD.

FILE NAME S-3A (Explorer 18) Basic Data PROGRAM NAME S-3A Master Sort File PROGRAMMER Eisenberg

DATE _____ RECORD LENGTH 20 Words MODE BCD CODE BCD DENSITY 556

ADDITIONAL INFORMATION: 20 words (120 characters) per logical record - 10 records per block

PAGE _____

62-051A-03B

OFFICIAL FILE COPY-NSSDC

DC 0056

Sta

Sta

12 June, 1967

MEMO

TO: Dr. L. A. Frank

FROM: H. Kiel

Explorer XIV (GAMMA 1) Data Format
For Science File
of
S-3A Data Merged with Orbit

D00168-175

NOTE: The data is packed at 556 BPI, 7 channels, in BCD mode, 120 characters per logical record with 01 record in each physical block. The data was created and copied on an IBM 7044 digital computer.

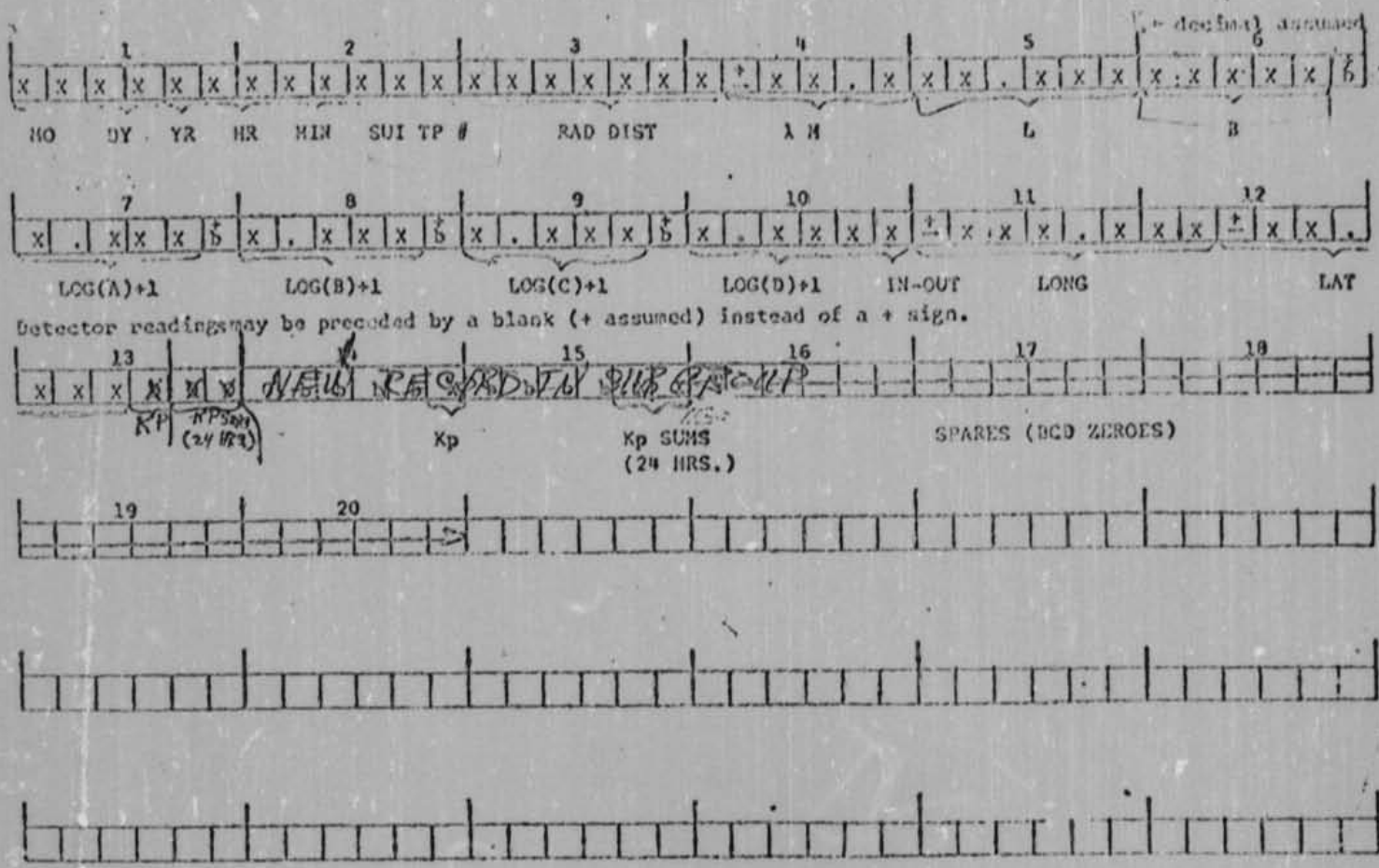
FORMAT: Using the convention that the first character is character number 1.

Record Positions	Format Code	Description	Units
THESIS RECORDS			START 10/2/62 STOP 8/11/63
1,2	MO	TIME OF THIS RECORD	
3,4	DY		
5	YR		
6,7	HR		
8,9	MIN		
10-12	SUI TP #	SUI TAPE NUMBER	
13-19	RAD DIST	RADIAL DISTANCE	KILOMETERS
20-24	λ M	MAGNETIC LATITUDE	DEGREES
25-30	L	McILWAIN L PARAMETER	EARTH RADII
31-35	B	FIELD STRENGTH	GAMMA
36	+/b	PLUS SIGN OR BLANK	
37-41	LOG(A)+1	213A	LOG(CTS/SEC)+1
42	+/b	PLUS OR BLANK	
43-47	LOG(B)+1	213B	LOG(CTS/SEC)+1

Record Positions	Format Code	Description	Units
48	+/b	PLUS SIGN OR BLANK	
49-53	LOG(C)+1	213C	LOG(CTS/SEC)+1
54	+/b	PLUS SIGN OR BLANK	
55-59	LOG(D)+1	302	LOG(CTS/SEC)+1
60	IN-OUT	IN-BOUND, OUT-BOUND FLAG*	
61-68	LONG	GEOCENTRIC LONGITUDE	DEGREES
69-75	LAT	GEOCENTRIC LATITUDE	DEGREES
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
76	Kp	3 HOUR INDICES Kp	
[illegible]	[illegible]	[illegible]	
77-78	Kp SUMS	3 HOUR INDICES Kp SUMMED OVER 24 HOURS	
[illegible]	[illegible]	[illegible]	

The time span of the data contained on these reels is:
2 October, 1962
to
11 August, 1963

* IN-OUT = 9 , IF RADIAL DISTANCE < 7000 OR > 104,000
= 8 , IF OUT-BOUND
= 7 , IF IN-BOUND



Detector readings may be preceded by a blank (+ assumed) instead of a + sign.

NOTE: Leading zeroes may or may not be suppressed in specific fields.

FILE NAME S-3A LINEAR MERGE PROGRAM NAME S-3A LINEAR MERGE PROGRAMMER BULGREN

DATE RECORD LENGTH 20 WORDS MODE BCD CODE BCD DENSITY 556

ADDITIONAL INFORMATION:

PAGE

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA 52240

Department of Physics and Astronomy
Area Code 319 353-3513

16 August 1966

Dr. James I. Vette
Aerospace Corporation
P. O. Box 95085
Los Angeles, California

Dear Jim:

The unidirectional geometric factors for the Explorer 14 G.M. tubes that you requested are

1) 213 A ---- 2×10^{-3} cm^2-sr

2) 213 C ---- 3×10^{-3} cm^2-sr

3) 213 B ---- (spectrum dependent)
$J_o(E > 230$ keV), $(cm^2\text{-sec})^{-1}$,
electrons, Spectrum $\sim E^{-n}$ $(J(> E))$

$n = 0$ ----- 2×10^{-3} cm^2-sr

$n = 1$ ----- 8×10^{-4} cm^2-sr

$n = 2$ ----- 3×10^{-4} cm^2-sr

$n = 3$ ----- 1×10^{-4} cm^2-sr.

With best wishes,

Sincerely yours,

Lou

L. A. Frank

LAF/klm

March 15, 1968

MEMORANDUM

EXPLORER XIV (GAMMA 1) DATA FORMAT

FOR DATA SET CATALOGS

AT NSSDC, NASA, GODDARD SPACE FLIGHT CENTER

NOTE: The data is packed at 556 BPI, 7 channels, in BCD mode, 78 characters per logical record with 10 records in each physical block. The data were copied on an IBM 7094 digital computer.

62-051A-03C

FORMAT: Using the convention that the first character is character number 1.

Record Positions	Format Code	Description	Units
1,2	I2	MO	
3,4	I2	DY	
5	I1	YR	
6,7	I2	HR	
8,9	I2	MIN	
10-12	I3	SUI TP # SUI TAPE NUMBER	
13-19	I7	RAD DIST RADIAL DISTANCE	KILOMETERS
20-24	F5.1	λM MAGNETIC LATITUDE	DEGREES
25-30	F6.3	L McILWAIN L PARAMETER	EARTH RADII
31-35	F5.5	B FIELD STRENGTH	GAMMA
36	IX	PLUS SIGN OR BLANK	
37-41	F5.3	LOG(A)+1 213A	LOG(CTS/SEC)+1
42	IX	PLUS SIGN OR BLANK	
43-47	F5.3	LOG(B)+1 213B	LOG(CTS/SEC)+1

Record Positions	Format Code	Description	Units
48	1X	PLUS SIGN OR BLANK	
49-53	F5.3	LOG(C)+1 213C	LOG(CTS/SEC)+1
54	1X	PLUS SIGN OR BLANK	
55-59	F5.3	LOG(D)+1 302	LOG(CTS/SEC)+1
60	I1	IN-OUT IN-BOUND, OUT-BOUND FLAG*	
61-68	F8.3	LONG GEOCENTRIC LONGITUDE	DEGREES
69-75	F7.3	LAT GEOCENTRIC LATITUDE	DEGREES
76	I1	Kp 3 HOUR INDICES Kp	
77,78	I2	Kp SUMS 3 HOUR INDICES Kp SUMMED OVER 24 HOURS	

The time span-ordered by date- of the data contained on these reels is:

2 October 1962

to

11 August 1963

A record is packed 10 logical records to one(1) physical record in the logical record format indicated above for a total of 780 characters. Characters of BCD NINES have been used as needed, to complete the last physical record for each file. There are FOUR (4) files on each of two (2) tapes with an END-OF-FILE MARK written at the end of each file and a double END-OF-FILE MARK written at the end of valid data on each tape.

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*IN-OUT = 9 , IF RADIAL DISTANCE <7000 OR >104,000
= 8 , IF OUT-BOUND
= 7 , IF IN-BOUND

PROGRAM DOCUMENTATION

"EXPL 14"
EXPLORER 14
(1962 BETA GAMMA 1)
CHARGED PARTICLE

Programmer: Richard H. Lundstrom

Date: 12 December 1967

Prepared by:

Wolf Research & Development Corporation
Bladensburg, Maryland

Prepared for:

National Space Science Data Center
Space Sciences Directorate
GSFC
NASA

Under Contract NAS 5-8060

I. ABSTRACT

This program reads data taken from Explorer 14 and determines time gaps in data gatherings. It also computes the "B" and "L" values in a matrix, minimum and maximum values of longitude, latitude, and detectors, and reformats the records to a 10 logical to 1 physical packed status.

II. IDENTIFICATION

A. Source Language

Fortran IV as defined in IBM 7090/7094 IBSYS operating system manuals C28-6390.

B. Requred Peripheral Equipment

1. One (1) tape unit for data input, tape unit A-5.
2. One (1) tape unit for data output, tape unit A-6.
3. One (1) tape unit for simulated card reader, tape unit A-2.
4. One (1) tape unit for simulated printer, tape unit A-3.

C. Computer

IBM 7094/II

D. Operating System

February 14, 1966, Goddard Space Flight System Tape.

E. Subroutines Required and not available from the Operating System.

1. "SETHD", writes the heading for the program. No arguments.
2. "HEADER", page ejects and writes a heading each time the routine is called. No arguments.

3. "Call MATBL (K, Y, Z)"

"K" indicates a, 1 all arrays are initialized,
0 value is used to update elements,
-1 the matrix is printed

Produces a matrix of "B" and "L" values

4. "Call INBCD (A, IP, IE, NW)"

"A" indicates input array.
"IP" indicates a, 0 no parity error,
1 a parity error.
"IE" indicates a, 0 no end-of-file,
1 an end-of-file.
"NW" indicates the number of words read.
1 reads in a variable length BCD record.

5. "Call CVTNUM (1, A, 2, B, (1), -4, 2, B (2))

"1" indicates where conversion will start,
the first character of array "A".
"A" indicates array that data is taken from.
"E" indicates that the first two characters are
taken and put in B(1), then 4 characters in
array "A" are skipped and then two
characters are put in B(2), etc.

Converts BCD Alphanumeric numbers to fixed and floating point.

6. "Call ERR (NKEY)"

"NKEY" indicates a, 0 no illegal character has been
encountered, 1 an illegal character has been
encountered and a message is printed out.

Prints error message.

7. "Call TIMCHG (N1, N2, N3, N4, A1, A2)

"N1" indicates fixed point month input.
"N2" indicates fixed point day input.
"N3" indicates fixed point year input.
"N4" indicates fixed point hour input.
"A1" indicates floating point minute input.
"A2" indicates floating point returned answer.

Converts time to a single number in minutes.

8. "Call MAXVAL (LKEY, I1, I2, I3, I4, A1, A2, A3, A4, A5, A6, A7)

"LKEY" indicates a, 1 initialize and compare,
2 compare,
-0 update, initialize and compare,
-1 compare, update, print.

"I1" indicates fixed point month input.
"I2" indicates fixed point day input.
"I3" indicates fixed point year input.
"I4" indicates fixed point radial distance.
"A1" indicates floating point magnetic latitude.
"A2" indicates floating point detector "A".
"A3" indicates floating point detector "B".
"A4" indicates floating point detector "C".
"A5" indicates floating point detector "D".
"A6" indicates floating point geocentric longitude.
"A7" indicates floating point geocentric latitude.

Produces a table of minimum and maximum values.

9. "Call OUTBCD (A, NW)

"A" indicates output array.
"NW" indicates number of words to write from array "A".

Writes a variable length output array of words.

10. "Call REWBCD" rewinds input tape

"A-5". No arguments required.

11. "Call PACK (1, A2, IN, A1, 75, -8, 1)

"1" indicates the first character of array "A2".
"A2" indicates array from which data is being transferred.
"IN" indicates number of characters, being transferred.
"A1" indicates array to which data is being transferred.
"75" indicates number of characters in "A2" to transfer.
"-8" indicates number of characters to skip in "A2"
"1" indicates number of characters in "A2" to transfer. etc, up to "IN" number of characters.

III. DESCRIPTION

62-001A-03D EXPLORER-14 (1962 BETA GAMMA 1) CHARGED PARTICLE EXPERIMENT

THIS PROGRAM READS DATA TAKEN FROM EXPLORER 14 AND CHECKS TIME DATA WAS OBTAINED. IF A 15 MINUTE TIME GAP HAS ELAPSED BETWEEN DATA GATHERINGS THEN A MESSAGE IS PRINTED OUT WITH THE LOCATION OF THE FIRST AND LAST RECORD IN THE GROUP BEFORE THE 15 MINUTE TIME GAP WAS DISCOVERED, DATE OF RECORD, TIME IN HOURS AND MINUTES THAT RECORD WAS READ AND FINALLY THE 'B' AND 'L' OF THE FIRST AND LAST RECORD IN THE GROUP.

THE 'B' AND 'L' VALUES ARE THEN RECORDED IN A MATRIX WITH 50 VALUES OF 'L' RANGING FROM 0.0 TO 6.0 (INCREMENTED BY 0.1) AND 20 VALUES OF 'B' RANGING FROM 0 TO 100K (INCREMENTED BY 1K FROM ZERO TO 10K, 5K FROM 10 TO 50K AND 25K FROM 50 TO 100K), AND 100 VALUES OF 'L' RANGING FROM 6.0 TO 10.0 (INCREMENTED BY 0.1) AND 20 VALUES OF 'B' RANGING FROM ZERO TO 2000 (INCREMENTED BY 100S).

FINALLY, A TABLE OF MINIMUM AND MAXIMUM VALUES OF RADIAL DISTANCE, AND MAXIMUM VALUES OF MAGNETIC LATITUDE, DETECTORS 'A', 'B', 'C' AND 'D', AND LONGITUDE AND LATITUDE ARE GIVEN FOR EACH DAY OF FLIGHT. THE RECORDS READ IN ARE PACKED TO 78 CHARACTERS PER RECORD AND WRITTEN OUT ON A NEW TAPE IN A 10 TO 1 (130 WORD) PACKED FORMAT.

IV. PROGRAM SETUP

A. Input Requirements

1. Tape (s)

   a. Tape Unit A-5
      (1) Magnetic tapes from NSSDC Data Set 62-051A-03B. Tapes numbered D00168 through D00175.
      (2) Even Parity (BCD)
      (3) Density - High (556 BPI)
      (4) Label - None
      (5) Format - 120 Characters, 20 words per logical record, 1 logical record is equal to 1 physical record.

2. Card (s)

   a. Data cards one (1) and two (2) in this order describe:
      (1) The number of tapes, other than tape one (1) to be merged on new magnetic tape.
      (2) The magnetic tape numbers in their processing order, other than tape one (1) to be merged on new magnetic tape.
   b. Data cards for "SETHD" and "HEADER" routines last card in all these subsets must be blank.

B. Output Descriptions

1. Tape (s)

   a. Tape Unit A-6
      (1) Magnetic Tapes for NSSDC Data Set 62-051A-03B. Tapes numbered D00250 and D00251. D00250 contains D00168 through D00171 merged; and D00251 contains D00172 through D00175 merged.
      (2) Even Parity (BCD)
      (3) Density - High (556 BPI)
      (4) Label - None
      (5) Format - 78 Characters, 13 words per logical record, 10 logical records per physical record.

2. Card (s)

   None

3. Printed Output

   a. Online

(1) "Operator, mount tape X-xxx on A-5 and hit start."

b. Off Line

(1) See listing, figure 5

4. Error Messages

a. "Subgroup xxxx of record xxxx as shown above, has one or more alpha characters in it.".

5. Stop Message

a. None

C. Control Card (s)

1. Format for control cards is shown in standard deck setup. See deck setup, figures 1 and 2.

D. Run Time Estimate.

Thirty (30) minutes for a 4 tape merge.

E. Run Request Card.

Input A-5, Output A-3 and A-6.

F. Restrictions

None

V. Program Maintenance

A. Symbol list and description

See Figure 3

B. Flow Chart

See Figure 4

C. Program Listing

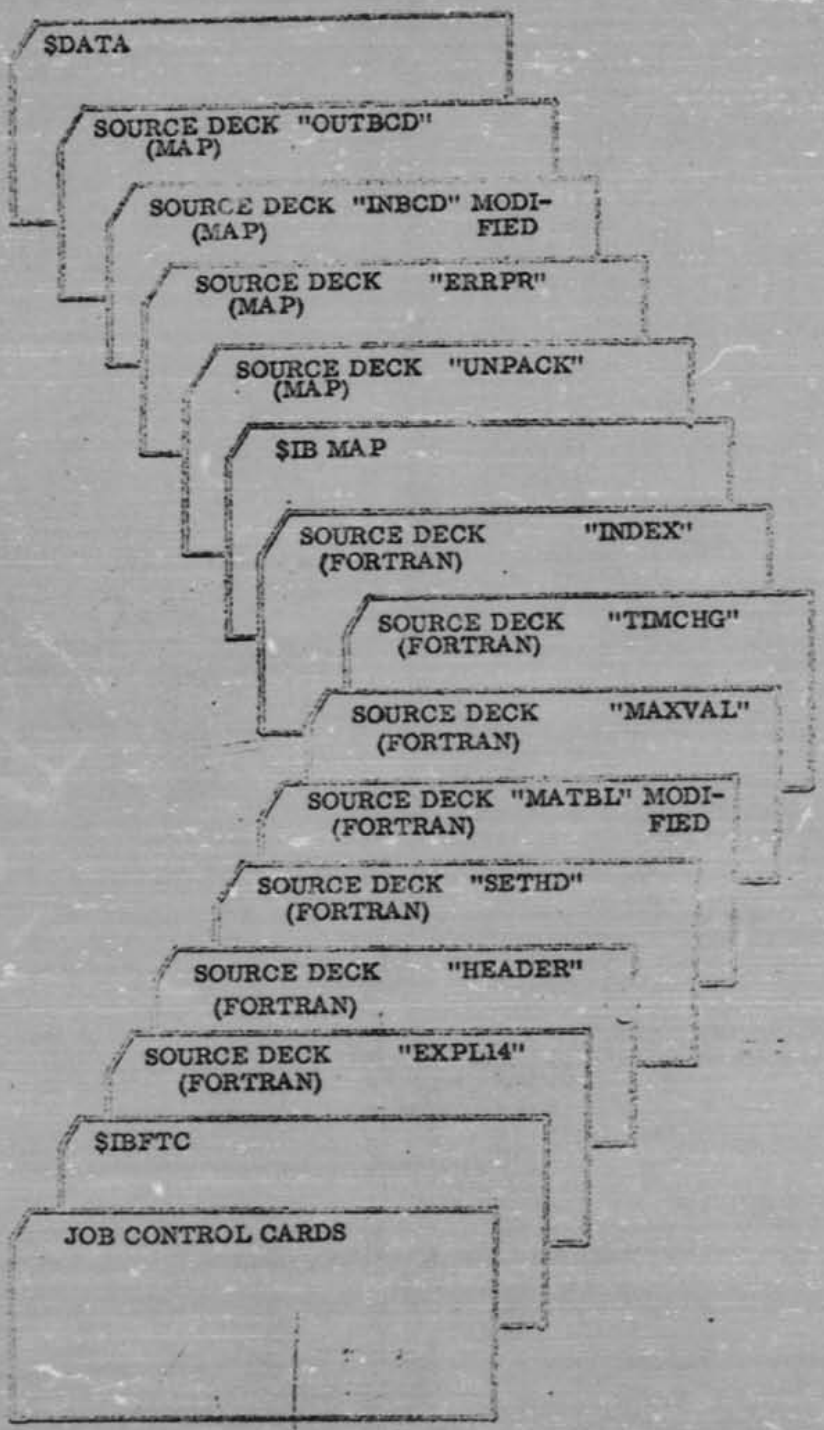
See Figure 5

D. Program History

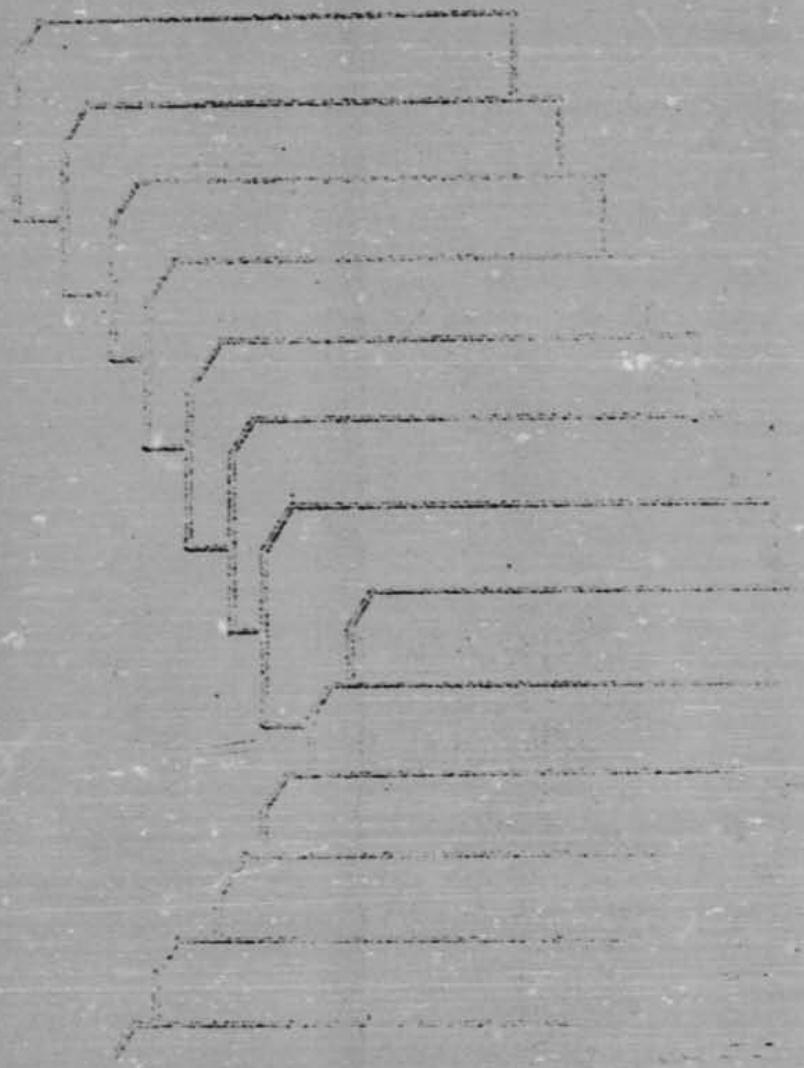
None

Figure 1

SOURCE
DECK SETUP



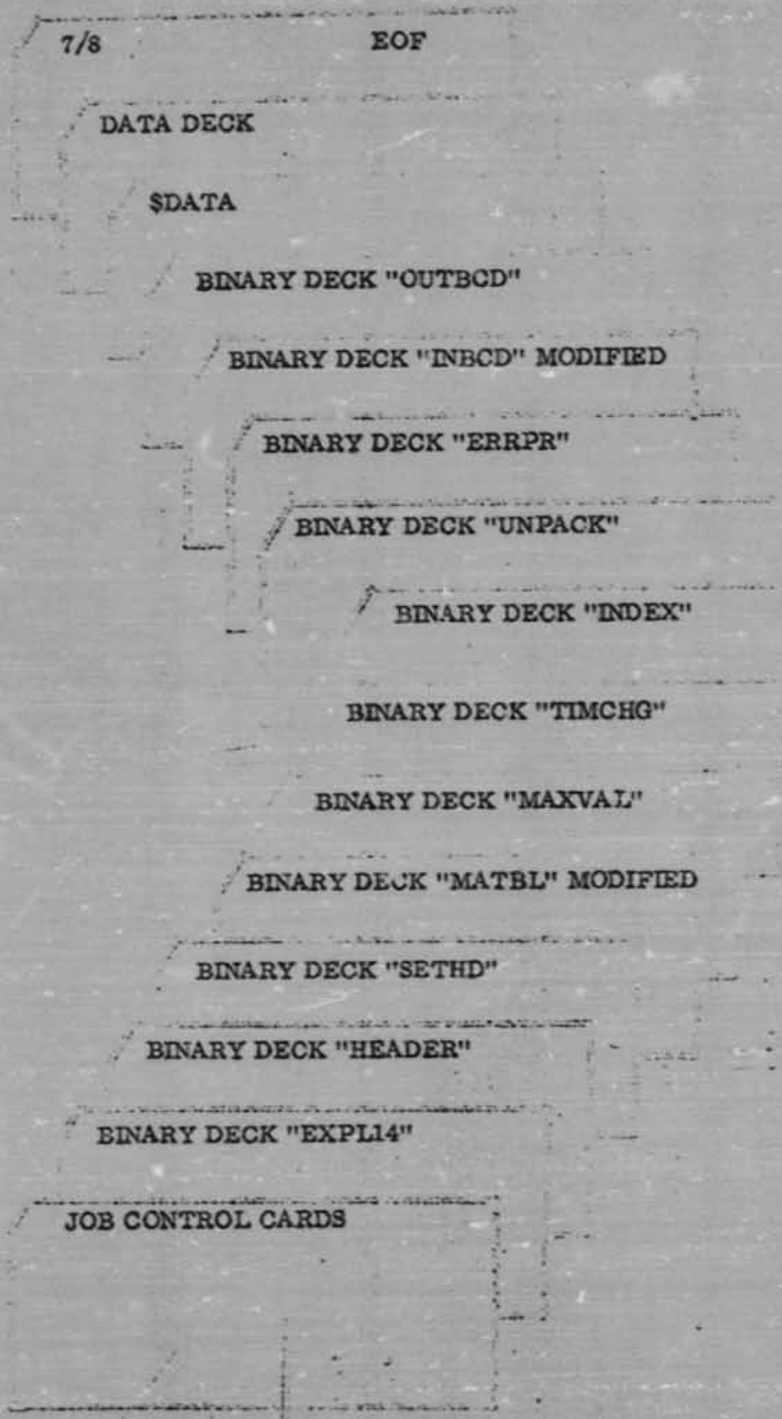
SOURCE
DECK SETUP



7/8 EOF

DATA CARDS

OBJECT
DECK SETUP



SYMBOL LIST AND DESCRIPTION

"A1"	Output array.
"A2"	Input array.
"A3"	Working array, equivalenced to "IA3".
"IA3"	Working array, equivalenced to "A3".
"B1"	Count holder array for Physical Record count.
"B2"	Count holder array for Logical Record count.
"TEMP1"	Temporary storage array.
"TEMP2"	Temporary storage array.
"NTAPC"	Array containing tape numbers to be used.
"AA"	Data statement array containing message telling location of filler records.
"AB"	Data statement array containing message telling location of filler records.
"AC"	Data statement array containing message telling location of filler records.
"NINE"	Variable continuing all nines.
"LINE"	Line counter for "MAXVAL" subroutine, initialized in main program.
"IT"	Index variable for "MAXVAL" subroutine, initialized in main program.
"IW"	Index variable for array containing tape numbers to be used.
"NEWTAP"	Variable containing the number of tapes to be used in the program.
"IK"	Index variable for array containing tape numbers to be used.
"KEY"	Variable telling "MATBL" subroutine which routine to perform.
"INO"	Variable used as an initialization determiner for "MAXVAL" subroutine.
"I2"	Index variable for count holder array.

"N1"	Variable used to determine first time through run.
"ITP1"	Logical Record counter for 15 minute record time gap routine.
"ITP2"	Logical Record counter for 15 minute record time gap routine.
"KOUNT1"	Packed physical record counter.
"KOUNT2"	Packed logical record counter.
"NLINE"	Line counter for main program.
"N"	Character counter used in packing records with nines in input array.
"I"	Index variable used to control main "Do - Loop".
"IP"	Parity-Error indicator.
"IE"	End-of-File indicator.
"NW"	Variable containing number of words in record.
"I1"	Index variable used to pack record with nines in input array.
"K"	Index variable used to pack record with nines in output array.
"J"	Index variable used to pack record with nines in output array.
"J1"	Index variable for packed record counter.
"J2"	Index variable for packed record counter.
"NKEY"	Variable returned from "ERRPR" subroutine indicating whether or not an illegal character has been encountered.
"I1"	Index variable used to transfer records to temporary storage.
"LKEY"	Variable telling "MAXVAL" subroutine which routine to perform.
"N2"	Index variable used to transfer record to temporary storage.
"N4"	Index variable used to write records out of temporary storage.

"N5"	Index variable used to write records out of temporary storage.
"II"	Index variable used to transfer records to temporary storage.
"Y"	Index variable used to write out message locating filler records.
"IZ"	Index variable used to write out message locating filler records.
"ITEM1"	Variable equivalenced to first word of "TEMP2".
"ITEM2"	Variable equivalenced to second word of "TEMP2".
"ITEM3"	Variable equivalenced to third word of "TEMP2".

March 15, 1968

MEMORANDUM

EXPLORER XIV (GAMMA 1) DATA FORMAT

FOR DATA SET CATALOGS

AT NSSDC, NASA, GODDARD SPACE FLIGHT CENTER

NOTE: The data is packed at 556 BPI, 7 channels, in BCD mode, 78 characters per logical record with 10 records in each physical block. The data were copied on an IBM 7094 digital computer.

FORMAT: Using the convention that the first character is character number 1.

Record Positions	Format Code	Description	Units
1,2	I2	MO	
3,4	I2	DY	
5	I1	YR	
6,7	I2	HR	
8,9	I2	MIN	
10-12	I3	SUI TP # SUI TAPE NUMBER	
13-19	I7	RAD DIST RADIAL DISTANCE	KILOMETERS
20-24	F5.1	λM MAGNETIC LATITUDE	DEGREES
25-30	F6.3	L McILWAIN L PARAMETER	EARTH RADII
31-35	F5.5	B FIELD STRENGTH	GAMMA
36	IX	PLUS SIGN OR BLANK	
37-41	F5.3	LOG(A)+1 213A	LOG(CTS/SEC)+1
42	IX	PLUS SIGN OR BLANK	
43-47	F5.3	LOG(B)+1 213B	LOG(CTS/SEC)+1

Record Positions	Format Code	Description	Units
48	1X	PLUS SIGN OR BLANK	
49-53	F5.3	LOG(C)+1 213C	LOG(CTS/SEC)+1
54	1X	PLUS SIGN OR BLANK	
55-59	F5.3	LOG(D)+1 302	LOG(CTS/SEC)+1
60	I1	IN-OUT IN-BOUND, OUT-BOUND FLAG*	
61-68	F8.3	LONG GEOCENTRIC LONGITUDE	DEGREES
69-75	F7.3	LAT GEOCENTRIC LATITUDE	DEGREES
76	I1	Kp 3 HOUR INDICES Kp	
77,78	I2	Kp SUMS 3 HOUR INDICES Kp SUMMED OVER 24 HOURS	

The time span-ordered by date-of the data contained on these reels is:

2 October 1962

to

11 August 1963

A record is packed 10 logical records to one(1) physical record in the logical record format indicated above for a total of 780 characters. Characters of BCD NINES have been used, as needed, to complete the last physical record for each file. There are FOUR (4) files on each of two (2) tapes with an END-OF-FILE MARK written at the end of each file and a double END-OF-FILE MARK written at the end of valid data on each tape.

*IN-OUT = 9 , IF RADIAL DISTANCE <7000 OR >104,000
= 8 , IF OUT-BOUND
= 7 , IF IN-BOUND

March 15, 1968

MEMORANDUM

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FOR DATA SET CATALOGS

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49-53	F5.3	LOG(C)+1 213C	LOG(CTS/SEC)+1
54	1X	PLUS SIGN OR BLANK	
55-59	F5.3	LOG(D)+1 302	LOG(CTS/SEC)+1
60	I1	IN-OUT IN-BOUND, OUT-BOUND FLAG*	
61-68	F8.3	LONG GEOCENTRIC LONGITUDE	DEGREES
69-75	F7.3	LAT GEOCENTRIC LATITUDE	DEGREES
76	I1	Kp 3 HOUR INDICES Kp	
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DATA USERS' NOTE

NSSDC 68-17

EXPLORER 14 (1962 BETA GAMMA 1)

TRAPPED PARTICLE RADIATION EXPERIMENT

SEPTEMBER 1968

NATIONAL SPACE SCIENCE DATA CENTER

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • GODDARD SPACE FLIGHT CENTER, GREENBELT, MD.

DATA USERS' NOTE
NSSDC 68-17

EXPLORER 14 (1962 BETA GAMMA 1)
TRAPPED PARTICLE RADIATION EXPERIMENT

EXPERIMENTERS

J. A. Van Allen
L. A. Frank

SEPTEMBER 1968

FOREWORD

This *Data Users' Note* is specifically designed to help potential data users decide if they can make use of the data obtained in the Explorer 14 (1962 Beta Gamma 1) trapped particle radiation experiment. Once a data user decides that he requires the data, it will serve as the unifying element – the key – in the actual use of the data available at the National Space Science Data Center (NSSDC). To achieve these goals, the *Note* briefly describes the experiment, including the instrumentation and measurements, the telemetry, and the operational experience. All available details are then provided on the actual reduction techniques and format of recorded data. For those desiring more details, names and addresses of the experimenters are provided to facilitate direct contact. As a further aid, detailed references (and bibliography) are also included. When available, NASA accession numbers* are given. The primary purpose of these references is to identify the sources containing complete information concerning the subject under discussion. Most of these references are physically available at NSSDC – those that are not are readily obtainable.

Inquiries concerning the availability of data should be directed to:

National Space Science Data Center
Code 601
Goddard Space Flight Center
Greenbelt, Maryland 20771

Area Code – 301 982-6695

*For example, N64-2243 is an accession number for an article reported in the *Scientific and Technical Aerospace Reports* (STAR), and A63-5921 refers to an entry in the *International Aerospace Abstracts* (IAA).

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EXPLORER 14 (1962 BETA GAMMA 1)

TRAPPED PARTICLE RADIATION EXPERIMENT

BACKGROUND

Explorer 14 was launched from the Atlantic Missile Range on October 2, 1962. The satellite's orbit had an apogee of 98 533 km, a perigee of 281 km, an inclination of 33°, and a period of 36.4 hr. The trapped particle radiation experiment, designed by scientists at the University of Iowa, was one of several aboard the Explorer 14 satellite. (See figure 1.)[1]

No.	Experiment	Experimenter(s)	Affiliation*
01	Proton Analyzer	M. Bader	ARC**
		J. Wolfe	ARC**
02	Magnetometer	L. Cahill	NHU***
03	Trapped Particle Radiation	J. A. Van Allen	SUI†
		L. A. Frank	SUI†
04	Cosmic-Ray	F. B. McDonald	GSFC
05	Ion-Electron Scintillator	L. R. Davis	GSFC
		J. Williamson	GSFC

*At time of experiment.
**Ames Research Center.
***University of New Hampshire.
†State University of Iowa. (Now called University of Iowa.)

Figure 1—Explorer 14 Experiments

The design of the experiment depended heavily on the findings of Explorer 12. The objective of the investigation was to obtain definitive values of the absolute intensities of geomagnetically trapped electrons and protons, particularly in the outer zone, on comprehensive spatial and temporal bases. The experiment was also designed to study the physical phenomena at and near the boundary of the magnetosphere.[2]

EXPERIMENTERS

J. A. Van Allen	University of Iowa
L. A. Frank	University of Iowa

EXPERIMENT

Instrumentation and Measurements

The detector component of the trapped radiation experiment consisted of an array of three thin-windowed Anton type 213 Geiger-Mueller (GM) tubes. The detector array was designed to distinguish protons $E \geq 500$ kev, electrons $E \geq 40$ kev, and electrons $E \geq 230$ kev within the earth's magnetosphere and to measure their intensities separately. The omnidirectional 302 GM detector was intended as a general monitor of energetic charged particles for comparison with measurements obtained by the 302 detectors on earlier satellites. The 302 detector also provided a higher energy point on the integral electron spectrum. For a summary of the detector characteristics see figure 2.

The 213 GM detectors were collimated tubes with 1.2 mg/cm^2-thick mica windows. The tube designated 213A had a full-look angle of 30° and a unidirectional geometric factor of 2×10^{-3} cm^2 ster. The 213B detector was identical except that 48 mg/cm^2-thick aluminum was placed over the mica window. Detector 213C was constructed with a sweeping magnet in the collimator, a full-look angle of 10°, and a geometric factor of 3×10^{-3} cm^2 ster. The geometric factor of the 213B detector was spectrum dependent. For the spectrum $\sim E^{-n}$ ($J(>E)$), the geometric factor varied with the values of n as follows:

$n = 0 \cdots\cdots 2 \times 10^{-3}$ cm^2 ster

$n = 1 \cdots\cdots 8 \times 10^{-4}$ cm^2 ster

$n = 2 \cdots\cdots 3 \times 10^{-4}$ cm^2 ster

$n = 3 \cdots\cdots 10^{-4}$ cm^2 ster.

Calculations of GM tube efficiencies as functions of the spectral index n are fully discussed in reference 3.

The particle thresholds for the detectors are given in figure 2. From a knowledge of the threshold levels, it could be determined whether the response of the 213A was due primarily to electrons in energy range of 40 to 200 kev or protons in the energy range of 0.5 to 4.5 Mev. The 213C has the same proton threshold as 213A, but the sweeping magnet excluded electrons $E < 200$ kev. The axes of detectors 213A, 213B, and 213C were mutually parallel and directed perpendicular to the payload spin axis. Although sensitive to soft solar X rays, detectors 213A and 213C were directed away from the sun during most of the period of observations.[2-4]

The efficiency of the 213A detector for detecting electrons was measured with a laboratory electron gun. It was demonstrated that the efficiency rises from $\sim 10^{-3}$ count per electron at 30 kev to approximately unity at 50 kev. In view of the very large intensities ($\sim 10^{10}$ (cm^2 sec)$^{-1}$) of 1- to 10-kev electrons in the transition region, the laboratory calibration of 213A was extended down to 5 kev in order to determine its efficiency for non-penetrating electrons

Omnidirectional				Directional		
Detector	Shielding	Penetrating Particles	Geometric Factor, G, (cm^2)	Shielding	Penetrating Particles	Geometric Factor, g, (cm^2 -ster)
213A			0.2	1.2 mg/cm^2 mica	Protons $\geq$500 kev Electrons $\geq$40 kev	2×10^{-3}
213B	Side shielding: 4.4 gm/cm^2 Pb 0.55 gm/cm^2 Mg	Protons $\geq$70 Mev Electrons $\geq$10 Mev	0.2	48 mg/cm^2 Al	Protons $\geq$4.5 Mev Electrons $\geq$230 kev	Spectrum dependent
213C			0.2	1.2 mg/cm^2 mica plus sweeping magnet	Protons $\geq$500 kev Electrons $\geq$200 kev	3×10^{-3}
302	265 mg/cm^2 Mg 400 mg/cm^2 stainless steel	Protons $\geq$23 Mev Electrons $\gtrsim$1.6 Mev	0.6	–	–	–

Figure 2–Characteristics of the University of Iowa Detectors on Explorer 14

via the intermediate bremsstrahlung process. Figure 3 summarizes the omnidirectional intensities and energy fluxes of various energies which are necessary to produce a 213A rate of 10 counts $(sec)^{-1}$. The corresponding responses for the 302 GM tube via the bremsstrahlung process are also included in figure 3. They are negligible in comparison to the cosmic-ray background rate of ~2 counts $(sec)^{-1}$ for the electron intensities and energies given there.[4]

Electron Energy (kev)	J_e $(cm^2\ sec)^{-1}$	F ergs $(cm^2\ sec)^{-1}$	Corresponding 302 GM Tube Response Counts $(sec)^{-1}$
5	10^{13}	8×10^4	–
10	10^{12}	2×10^4	–
15	10^{11}	3×10^3	2×10^{-1}
20	10^9	3×10^1	2×10^{-2}
30	5×10^7	3	5×10^{-3}
40	5×10^4	3×10^{-3}	5×10^{-4}

Figure 3–Omnidirectional Intensities of Monoenergetic Electrons Corresponding to a 213A Response of 10 Counts $(Sec)^{-1}$

Whereas the counting efficiency of detector 213A for electrons was relatively steep at 40 kev, the 213B detector with the aluminum shield had a slowly rising curve in comparison. The curve had an experimental 1/e value at 230 kev determined with a high-luminosity β-ray spectrometer and a Sr^{90} source. The 302 electron response curve was slowly rising because of electron straggling. For a given trial electron differential energy spectrum of the form E^{-n}, the efficiencies of 213B and 302 were evaluated from their respective response curves as a function of energy. Within a factor of 2, the unidirectional geometric factor ϵg for the 213B detector is 6.0×10^{-4} cm^2 ster if its threshold is taken to be 230 kev for most outer zone electron spectrums. For the 302, the omnidirectional geometric factor ϵG_0 is 0.1 cm^2 if its threshold is taken to be 1.6 Mev, both results being for a range of 2 to 5 for n.[1]

The detectors were individually calibrated to determine the true counting rate, R, as a function of the apparent (observed) counting rate, r. An intense source of X rays from a laboratory dc X-ray machine was used to obtain a standard overlapping inverse-square-law series of calibrations. The omnidirectional intensities of particles were approximated with reasonable accuracy by multiplying the spin-averaged directional intensities by 10. For the known angular distributions of particles in the outer radiation zone and for intensities within the linear part of the r vs R characteristic curves of the detectors this factor is good within a factor of 2. If the maximum intensity encountered during the spin-scan drives a detector into the nonlinear region of its r vs R curve, and if simultaneously the spin axis is not parallel to the local geomagnetic field vector, the apparent spin-averaged unidirectional intensity tends to be low. This error is significant only when the observed counting rates are greater than 3×10^3 per sec.

For differential electron spectrums in the form E^{-3} to E^{-5} in the region of 1 to 3 Mev, the omnidirectional factor of the 302 GM tube for counting electrons is 0.1 cm^2 for electrons with energy greater than 1.6 Mev. Such spectral forms are apparently appropriate to at least the central part of the outer zone. The energy dependence of the electron efficiency of the 213B detector was determined with Sr^{90} and Tl^{204} sources in a laboratory magnetic spectrometer of adjustable field strength. The resulting eg for a spectrum of the above form can be stated in simplified form as 6×10^{-4} cm^2 ster for electrons of energy greater than 230 kev.[2]

Telemetry

Each detector was sampled for 10.24 sec, and the accumulated counts were transmitted redundantly every 76.8 sec. A binary clock increased by one count each 76.8 sec and was used to validate the time assigned to the raw data.

The data were sent from the tracking stations to GSFC, where they were decommutated and placed on magnetic tapes. GSFC supplied coordinates as a function of universal time as supplementary data which were merged with the telemetered data at the Iowa Laboratories.[1,2]

Operational Experience

Satisfactory operation of the trapped particle radiation experiment and reception of the data continued from October 2, 1962, to August 8, 1963, when modulation of the telemetry signal ceased. Data transmission was interrupted during the period January 9-27, 1963, when improper operation of the spacecraft occurred. The orbit frequently traversed the outer radiation zone at geomagnetic latitudes of 15° or less during the first 5 months of operation.

The spacecraft was intended to be spin-stabilized (~10 rpm) with the axes of the Iowa detectors perpendicular to the spin axis. At launch the angle between the line directed along the spin axis and the line from the satellite was 150°. During November and December, the angular motion of the spacecraft was characterized by a precession half-angle of ~35° and a precession rate of ~15 rpm. Later the precession motion diminished; on February 28, 1963, it was nearly absent (<10°), and the angle between the spin-axis and the satellite-sun line was about 25°.[1,2]

Major events affecting the Explorer 14 data included three Soviet high-altitude nuclear blasts on October 22, 28, and November 1. Also occurring during the lifetime of the experiment were a magnetic disturbance beginning on December 17 and a sudden commencement on February 9. A more complete discussion of the operational experience can be found in reference 2.

DATA

Reduction Techniques

The experiment data tapes and comprehensive ephemerides were supplied to Iowa by Goddard Space Flight Center. The decommutated data and the ephemerides were merged using a computer at the University of Iowa. Counts taken over a 10.24-sec period were computed in counts per second, yielding an average count rate. The count rates are given in log (cts/sec) + 1 on the tape, the one being added to obviate zero values.

Timespan of Data

The Data Center has on hand the data obtained during the approximately 10-month lifetime of the satellite. The magnetic tapes cover the period from October 2, 1962, to August 11, 1963.

Format of Available Data

The Data Center has on hand 12 magnetic tapes containing Explorer 14 trapped radiation data. Of these, 10 tapes constitute Data Set A (Master File) and two tapes constitute Data Set B (Science File). The 10 Master File tapes contain only the time, count rates of the detectors, and validity flags. The Science File tapes contain the data on the Master File tapes merged with ephemeris data. The data packed on these two tapes were originally provided to the Data Center on eight tapes.

A computer program has been prepared to read the Science File tapes. The program, as well as the data sorted from the tapes, can be studied at the Data Center. The program determines data gaps – progressive or regressive – of 15 min or longer. If a 15-min gap elapsed between data collections, a message is printed out giving the location on the tape of the first and last record in the group before the 15-min gap was discovered. The date of the record, the time in hours and minutes, and the B and L values of the first and last record are also given.

The program also provided for recording the number of data points within B and L bands. The bands are defined by 50 values of L ranging from 0.0 to 6.0 (incremented by 0.1) and 20 values of B ranging from 0 to 100 000 (incremented by 1000 from 0 to 10 000, 5000 from 10 000 to 50 000, and 25 000 from 50 000 to 100 000). The results are printed out in a one-page matrix. Another matrix has 100 values of L ranging from 6.0 to 16.0 (incremented by 0.1) and 20 values of B ranging from 0 to 2000 (incremented by 100).

Another tabulation provided for in the program includes the following:

Maximum and minimum values of radial distance
Maximum values of magnetic latitude
Count rates for detectors A, B, C, and D
Longitude and latitude for each day of flight

The following format is a guide to the use of the two Science File tapes.

NOTE: The data are packed at 556 bpi, 7 channels, in BCD mode, 78 characters per logical record with 10 records in each physical block. The data were copied on an IBM 7094 digital computer.

FORMAT: Using the convention that the first character is character number 1:

Record Positions	Format Code	Description	Units
1,2	I2	MO	UT
3,4	I2	DY	UT
5	I1	YR	UT
6,7	I2	HR	UT
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REFERENCES

1. Frank, L. A., J. A. Van Allen, and H. K. Hills, "A Study of Charged Particles in the Earth's Outer Radiation Zone with Explorer 14," *J. Geophys. Res., 69,* 2171-2191, 1964.

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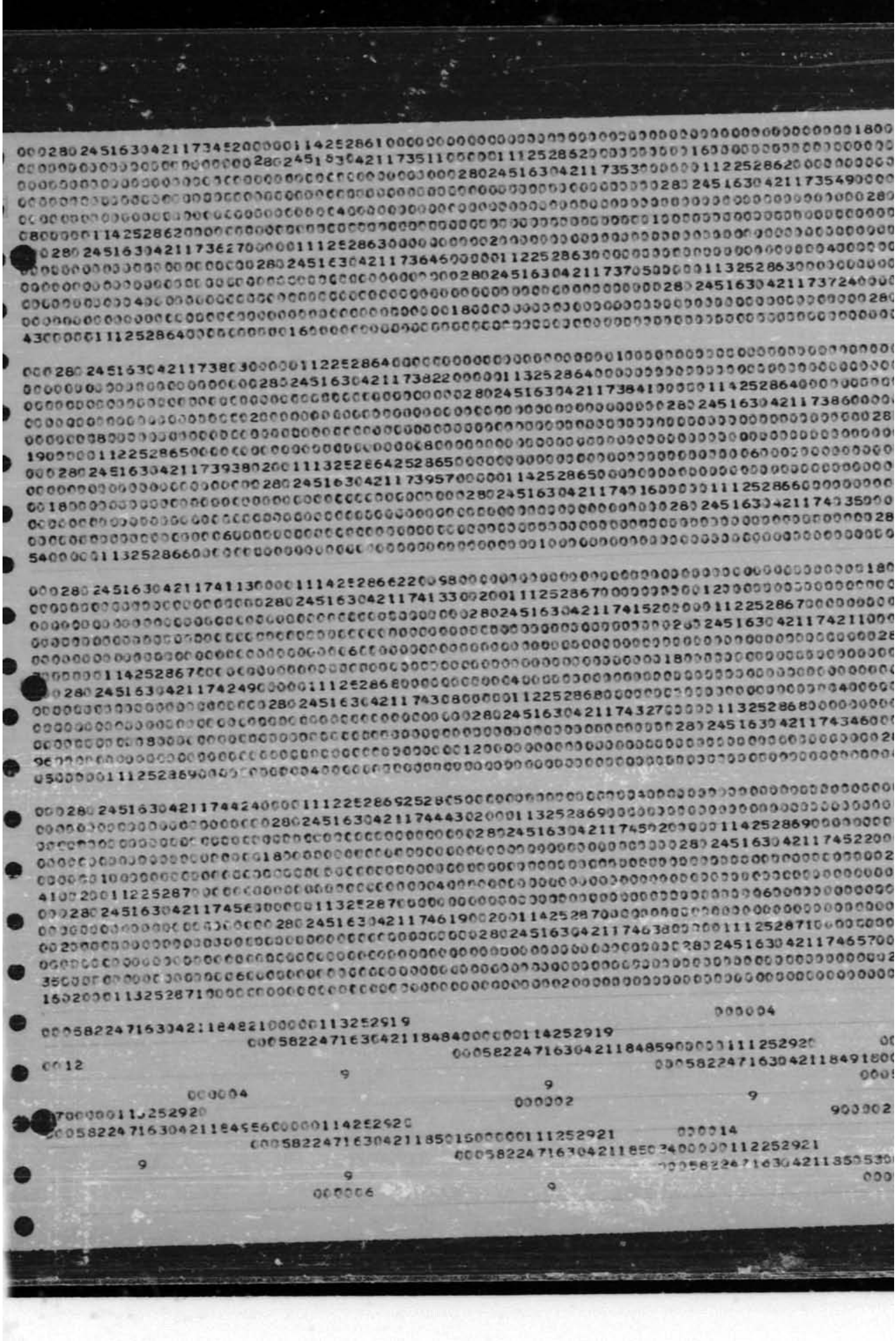
Owens, H. D., and L. A. Frank, "Electron Omnidirectional Intensity Contours in the Earth's Outer Radiation Zone at the Magnetic Equator," U. of Iowa, 67-40, July 1967.



C-75 (D-163)

62-051A-03A

556 BCD

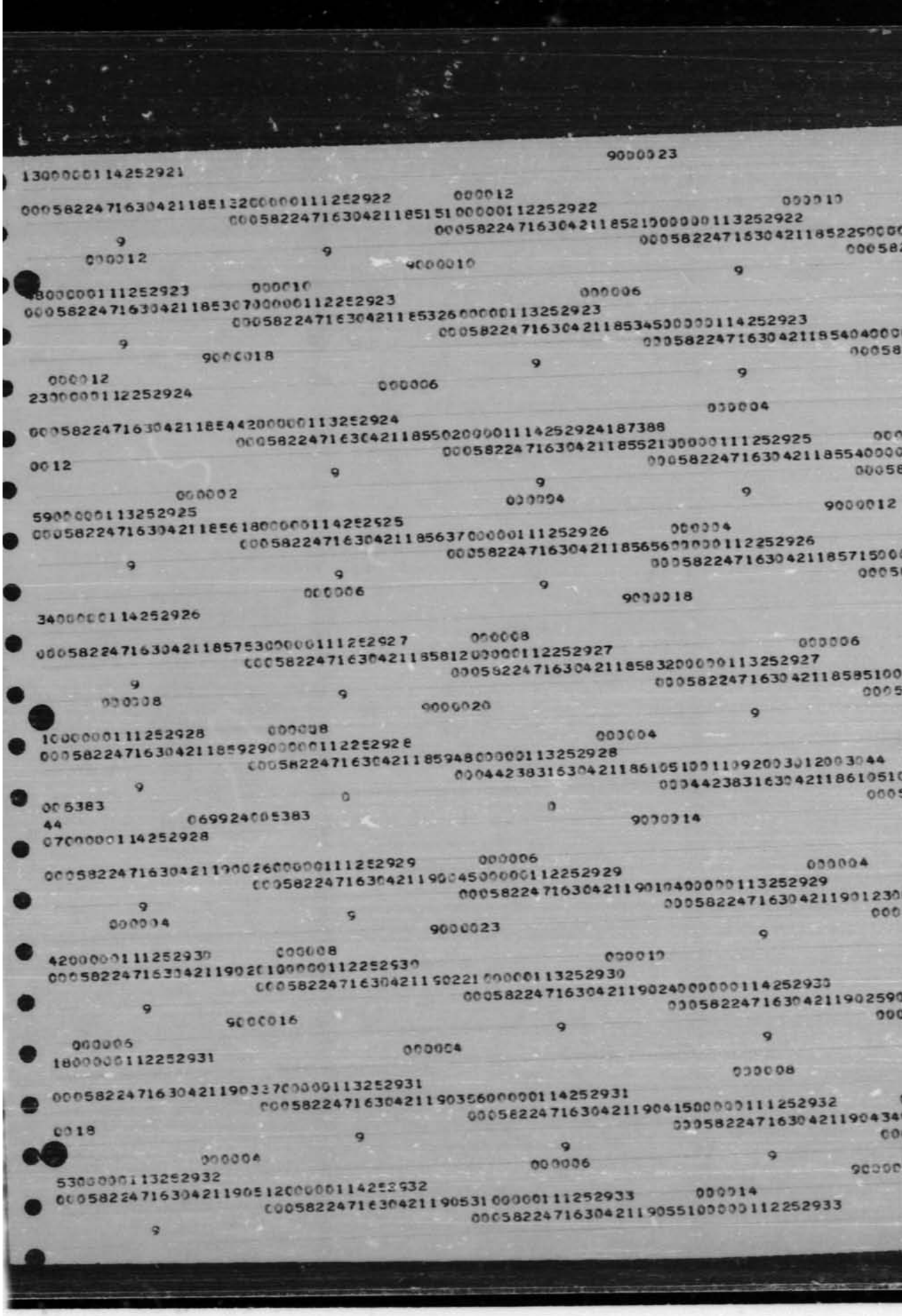
REC 1, LENGTH 1200

REC 2, LENGTH 1200

REC 3, LENGTH 1200

REC 4, LENGTH 1200

REC 5, LENGTH 1200



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6                          000006

34500000114252923
 00058224716304211854040000011125292
                   000582247163042111854

           9
                          9               REC      7, LENGTH  1200
         000004                          900
7388
552100000111252925      000014
 00058224716304211855400000011225292
                   000582247163042111855

           9
                 9000012
       000004                           000006
5656000000112252926
 00058224716304211857150000011325292
                   000582247163042111857
000018
                          9               REC      8, LENGTH  1200
               000006
58320000113252927
 00058224716304211858510000011425292
                   000582247163042111859

           9                 9
004                         000002
                                        065924
8610510011092003012003044
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                   000582247163042111900
9000014
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           9                 9
010                         000004

90240000000114252930
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                   000582247163042111903
           9
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         000008                          900
190415000000111252932     000004
 00058224716304211904340000011225293
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                 9000016
       000014                           000006
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                                 000582247163042111906
00018

                                           9              REC     11. LENGTH  1200
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 000582247163042119074500000114252934
                                 000582247163042111908
           9
4                                          9
                                        000002
25000000114252938
 000582247163042119131500000111252939
                                 000582247163042111913
           9

        000006                             9              REC     12. LENGTH  1200
                                                     900
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 000582247163042119144500000112252940
                                 000582247163042111915
           9
                        9000016
   000018
50100000112252941                                000008
 000582247163042119162000000113252941
                                 000582247163042111916
00018

                                           9              REC     13. LENGTH  1200
                    000004
73700000113252942
 000582247163042119175600000114252942
                                 000582247163042111918
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4                                          9
                                        000010
91200000114252943
 000582247163042119193100000111252944
                                 000582247163042111919
           9

        000006                             9              REC     14. LENGTH  1200
                                                     900
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 000582247163042119210700000112252945
                                 000582247163042111921
           9
                        9000016
   000010
22300000112252946                                000004
 000582247163042119224200000113252946
                                 000582247163042111923
00016

                                           9              REC     15. LENGTH  1200
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8000000000000000000000000000000000000000000
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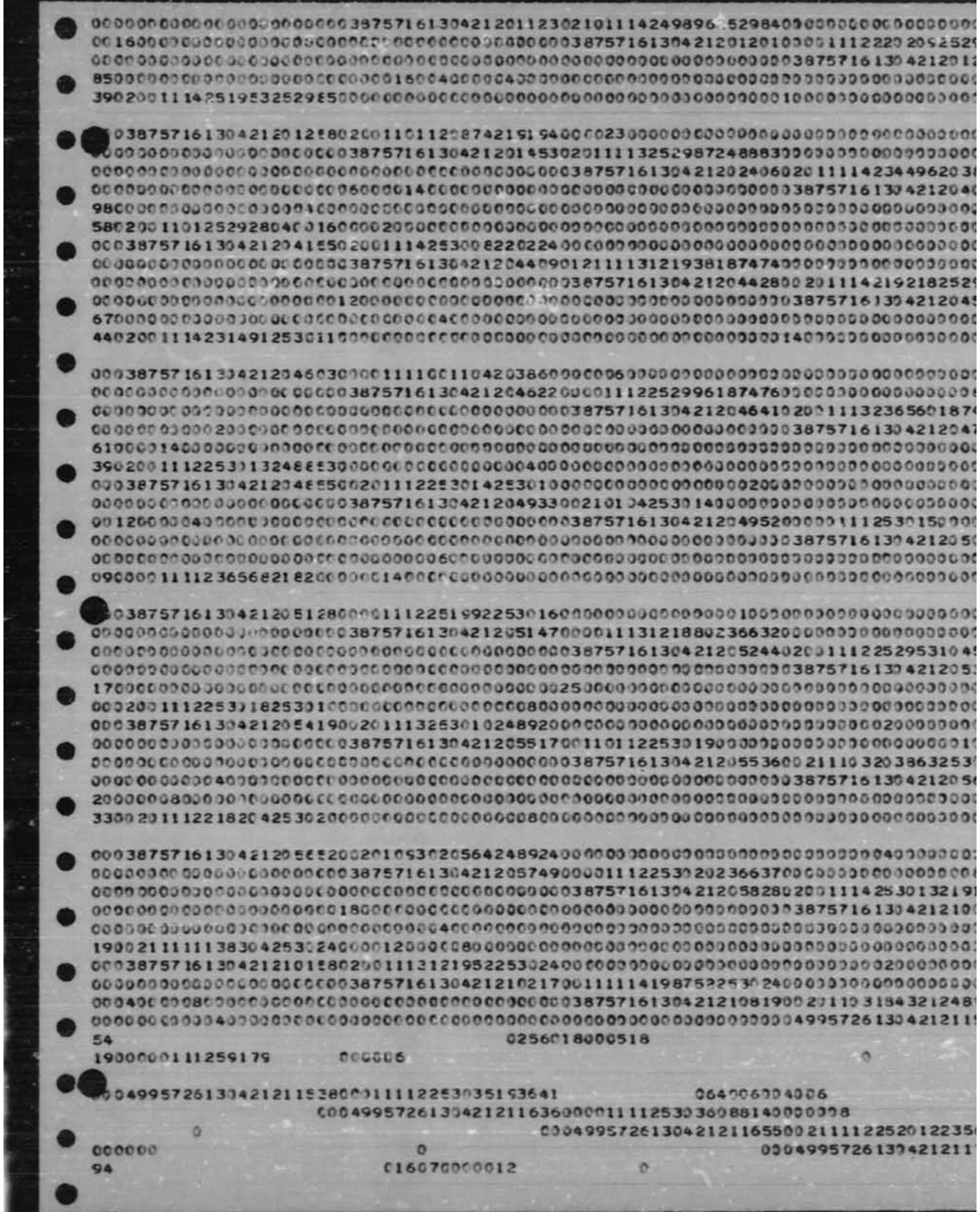

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0000000000000000000000000000000000   REC     16. LENGTH  1200
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5716130421204000002011121331502529
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1114219218252994000000000000000000
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0000000000000000000000000000000000   REC     17. LENGTH  1200
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1113236560187476000000000000000000
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0000000000000000038757161304212047
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0000000000000000000000000000000000
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5716130421205030002001132530150000
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0000000000000000000000000000000000   REC     18. LENGTH  1200
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0000020000000000000000000000000000
0000000000000100000080000000000000
1103203863253018000000000000000000
5716130421205614002111112489202530
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0000040000000000000000000000000000   REC     19. LENGTH  1200
0000000000000800000000000000000000
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1103184321248932000000000000000000
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78
111225201223562 8                 132000
5726130421211714000111132530362500
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EXPLORER 14, TRAPPED PARTICLES 10/02/62 – 11/12/62 D-00168

1002223090054 18411-36.0 4.582 17756 6 64.20165.0788 41.704-32.5140000 3
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1002223100054 18688-36.1 4.666 170364.55863.58564.16965.0378 42.287-32.5800000 3
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1002223110054 18963-36.3 4.750 163564.58463.54064.14464.9798 42.847-32.6390000 3
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1002223130054 19511-36.6 4.915 151064.57763.46964.09064.9358 43.901-32.7380000 3
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1002223150054 20053-36.9 5.076 139864.54063.33463.99464.8318 44.874-32.8140000 3
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1002223170054 20590-37.1 5.234 129864.5286 63.93564.7918 45.771-32.8700000 3
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1002223180054 20856-37.2 5.311 125164.52063.19963.88764.7518 46.193-32.8910000 3
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1002223190054 21121-37.3 5.388 120764.51063.12563.82864.7098 46.599-32.9080000 3
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1002223200054 21385-37.4 5.464 116564.48663.05963.77364.6418 46.989-32.9220000 3
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1002223220054 21908-37.5 5.613 108764.45462.96363.7156 8 47.722-32.9380000 3
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1002223230054 22168-37.6 5.687 10516 62.85163.62664.4828 48.068-32.9420000
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1002223270054 23195-37.8 5.972 9226 62.65663.4766 8 49.316-32.9310000
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1002223280054 23449-37.9 6.041 8936 62.64163.44964.2268 49.597-32.9220000
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1002223310054 24202-38.0 6.245 814 64.32562.50763.32164.0878 50.373-32.8850000
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1002223320054 24451-38.0 6.311 790 64.25262.41863.27264.0198 50.611-32.8690000
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1002223330054 24699-38.1 6.377 767 64.22262.32063.18463.9358 50.839-32.8520000
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1002223400054 26400-38.2 6.817 631 6 62.96763.4418 52.178-32.6960000
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1002223420054 26877-38.2 6.936 598 64.08361.77062.80262.9708 52.488-32.6420000
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1002223440054 27349-38.2 7.054 568 6 62.58562.8238 52.768-32.5850000
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1002223450054 27583-38.2 7.111 554 63.8786 62.43662.6698 52.898-32.5560000
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1002223460054 27816-38.2 7.168 540 63.6556 62.22562.5678 53.021-32.5260000
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1002223490054 28511-38.1 7.336 502 63.6306 61.90362.2308 53.352-32.4320000

D-00168 Partial dump

G2-051A-038

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.901-32.7380000	3	330000000000	REC	4. LENGTH	120
.874-32.8140000	3	330000000000	REC	5. LENGTH	120
.771-32.8700000	3	330000000000	REC	6. LENGTH	120
.193-32.8910000	3	330000000000	REC	7. LENGTH	120
.599-32.9080000	3	330000000000	REC	8. LENGTH	120
.989-32.9220000	3	330000000000	REC	9. LENGTH	120
.722-32.9380000	3	330000000000	REC	10. LENGTH	120
.068-32.9420000	3	330000000000	REC	11. LENGTH	120
.316-32.9310000	3	330000000000	REC	12. LENGTH	120
.597-32.9220000	3	330000000000	REC	13. LENGTH	120
.373-32.8850000	3	330000000000	REC	14. LENGTH	120
.611-32.8690000	3	330000000000	REC	15. LENGTH	120
.839-32.8520000	3	330000000000	REC	16. LENGTH	120
.178-32.6960000	3	330000000000	REC	17. LENGTH	120
.488-32.6420000	3	330000000000	REC	18. LENGTH	120
.768-32.5850000	3	330000000000	REC	19. LENGTH	120
.898-32.5560000	3	330000000000	REC	20. LENGTH	120
.021-32.5260000	3	330000000000	REC	21. LENGTH	120
.352-32.4320000	3	330000000000	REC	22. LENGTH	120

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1003200020054 31419-37.8 8.006  37463.0576 .77961.1466      8  54.223-31.9890000
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1003200340054 31853-37.6 8.102  35962.9836 .30261.32261.5448  54.287-31.9180000
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1003200060054 32283-37.7 8.196  34562.9186 .60361.14661.3618  54.336-31.8460000
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1003200090054 32922-37.6 8.333  32562.8396      61.1466      8  54.380-31.7370000
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1003200110054 33344-37.6 8.423  31262.8396      6 .90461.2048  54.392-31.6640000
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1003200120054 33554-37.5 8.467  30662.8116 .7796 .90461.3018  54.393-31.6280000
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1003200130054 33763-37.5 8.511  30162.8116 .904 1.00061.3228  54.390-31.5910000
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1003200150054 34179-37.4 8.598  29062.8286 .6036 .9046      8  54.375-31.5180000
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1003200160054 34386-37.4 8.640  28462.9596 .60361.2046      8  54.363-31.4820000
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.095-32.0960000	3	330000000000	REC	24. LENGTH	120
.223-31.9890000	1	190000000000	REC	25. LENGTH	120
.287-31.9180000	1	190000000000	REC	26. LENGTH	120
.336-31.8460000	1	190000000000	REC	27. LENGTH	120
.380-31.7370000	1	190000000000	REC	28. LENGTH	120
.392-31.6640000	1	190000000000	REC	29. LENGTH	120
.393-31.6280000	1	190000000000	REC	30. LENGTH	120
.390-31.5910000	1	190000000000	REC	31. LENGTH	120
.375-31.5180000	1	190000000000	REC	32. LENGTH	120
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)0000000000000000000
1112204320087104336 -7.616.793     7&1.544        &      &1.3019  -2.104-12.3960000
)0000000000000000000
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1200 wells

1200 logged

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22.844-13.6560000	2	070000000000	REC	2. LENGTH	120
006.444-12.8300000	2	070000000000	REC	3. LENGTH	120
003.209-12.6660000	2	070000000000	REC	4. LENGTH	120
-0.718-12.4670000	2	070000000000	REC	5. LENGTH	120
-0.949-12.4550000	2	070000000000	REC	6. LENGTH	120
-1.411-12.4310000	2	070000000000	REC	7. LENGTH	120
-1.873-12.4080000	2	070000000000	REC	8. LENGTH	120
-2.104-12.3960000	2	070000000000	REC	9. LENGTH	120
-2.566-12.3720000	2	070000000000	REC	10. LENGTH	120

1200 logical

EXPLORER 14, TRAPPED PARTICLES 06/25/63 - 08/11/63

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OOOCCCCCCCCCCCCCCCCC

0625316250370071698-03.111.361CC022& .904& .603& .6036I.2558-059.447-14.7030000
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0625316270370071899-03.011.391CC021& .904& .779& .9046I.4918-059.864-14.6410000
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0625316280370071999-03.011.406CC021& .779 .779& .9046I.3618-060.072-14.6100000
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0625316470370073862-02.211.683CC020& .7796I.000& .6036 8-064.061-14.0360000
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0625316480370073958-02.211.697CC020 .302& & .7796I.3018-064.271-14.0070000
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0625316510370074243-02.211.740CC020 1.000& .603& .7796I.3228-064.905-13.9200000
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0625316520370074339-02.111.755CCC1961.000 & .3026I.3228-065.117-13.8900000
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0625316550370074622-02.011.797CC019& .9046I.000& .7796 8-065.752-13.8030000

19882

-3 D-00175 partial dump 62-05A-03B

59.030-14.7650000	2	240000000000	REC	1, LENGTH	120
59.238-14.7340000	2	240000000000	REC	2, LENGTH	120
59.447-14.7030000	2	240000000000	REC	3, LENGTH	120
59.864-14.6410000	2	240000000000	REC	4, LENGTH	120
60.072-14.6100000	2	240000000000	REC	5, LENGTH	120
60.281-14.5790000	2	240000000000	REC	6, LENGTH	120
60.490-14.5480000	2	240000000000	REC	7, LENGTH	120
60.908-14.4860000	2	240000000000	REC	8, LENGTH	120
61.117-14.4560000	2	240000000000	REC	9, LENGTH	120
61.327-14.4260000	2	240000000000	REC	10, LENGTH	120
61.537-14.3960000	2	240000000000	REC	11, LENGTH	120
61.957-14.3350000	2	240000000000	REC	12, LENGTH	120
62.166-14.3050000	2	240000000000	REC	13, LENGTH	120
-062.376-14.2750000	2	240000000000	REC	14, LENGTH	120
-062.796-14.2150000	2	240000000000	REC	15, LENGTH	120
-063.007-14.1850000	2	240000000000	REC	16, LENGTH	120
-063.850-14.0660000	2	240000000000	REC	17, LENGTH	120
-064.061-14.0360000	2	240000000000	REC	18, LENGTH	120
-064.271-14.0070000	2	240000000000	REC	19, LENGTH	120
-064.905-13.9200000	2	240000000000	REC	20, LENGTH	120
-065.117-13.8900000	2	240000000000	REC	21, LENGTH	120
-065.752-13.8030000	2	240000000000	REC	22, LENGTH	120

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062531656037007471[illegible]-02.011.81100019  .779  .7796 .77961.3618-065.964-13.7740000    2
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0625316570370074811-01.911.82600019 61.0006       1.00061.2558-066.176-13.7450000    2
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0625317020370075278-01.811.89600019 6        6 .6036 .90461.2558-067.238-13.6010000    2
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0625317040370075463-01.811.92400019 6 .9046 .7796 .9046       8-067.663-13.5450000    2
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0625317060370075647-01.711.95200019 61.0796 .77961.07961.2048-068.085-13.4890000    2
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0625317070370075740-01.611.96600018 6 .904   .6036 .60361.3978-068.302-13.4600000    2
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0625317090370075923-01.611.99400018 6 .77961.0006 .60361.2048-068.728-13.4040000    2
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0625317110370076105-01.612.02200018 6 .9046       6 .6036       8-069.155-13.3480000    2
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0625317120370076197-01.512.03600018 6 .7796 .6036 .77961.3018-069.369-13.3200000    2
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0625317150370076468-01.512.07700018 6       6       6 .6036       8-070.010-13.2360000    2
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0625317160370076558-01.512.09100018 6             6      61.4918-070.224-13.2090000    2
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58-066.176-13.7450000	2	240000000000	REC	24. LENGTH	120
8-066.388-13.7160000	2	240000000000	REC	25. LENGTH	120
78-066.813-13.6580000	2	240000000000	REC	26. LENGTH	120
58-067.238-13.6010000	2	240000000000	REC	27. LENGTH	120
8-067.663-13.5450000	2	240000000000	REC	28. LENGTH	120
48-068.083-13.4890000	2	240000000000	REC	29. LENGTH	120
78-068.302-13.4600000	2	240000000000	REC	30. LENGTH	120
48-068.728-13.4040000	2	240000000000	REC	31. LENGTH	120
8-069.155-13.3480000	2	240000000000	REC	32. LENGTH	120
18-069.369-13.3200000	2	240000000000	REC	33. LENGTH	120
8-070.010-13.2360000	2	240000000000	REC	34. LENGTH	120
18-070.224-13.2090000	2	240000000000	REC	35. LENGTH	120
18-071.081-13.0990000	2	240000000000	REC	36. LENGTH	120
8-071.295-13.0720000	2	240000000000	REC	37. LENGTH	120
58-071.939-12.9900000	2	240000000000	REC	38. LENGTH	120

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0811309260517027802 25.405.38400480 4.291 2.836 3.534 4.8277 069.316 34.5340000
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7 069.316	34.5240000	1	07000C000000	REC	2. LENGTH	120
7 069.460	34.6690000	1	07000C000000	REC	3. LENGTH	120
7 069.612	34.8040000	1	07000C000000	REC	4. LENGTH	120
7 069.940	35.0780000	1	07000C000000	REC	5. LENGTH	120
7 070.116	35.2160000	1	07000C000000	REC	6. LENGTH	120
7 070.302	35.3540000	1	07000C0C0000	REC	7. LENGTH	120
7 070.700	35.6340000	1	07000C000000	REC	8. LENGTH	120
7 070.913	35.7750000	1	07000C0CC000	REC	9. LENGTH	120
7 071.137	3E.9170000	1	07000C000000	REC	10. LENGTH	120

Explorer 14, Trapped Particle, 10/02/62 - 3/15/63, D-05500, C-0009

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5406&4.144&4.9798  42.847-32.6393331002223130054 19511-36.6 4.915 1510&4.577&3.
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054 20590-37.1 5.234 1298&4.528&              &3.935&4.7918  45.771-32.870333100222318
251&4.520&3.199&3.887&4.7518  46.193-32.8913331002223190054 21121-37.3 5.388 1
4.7098  46.599-32.9083331002223200054 21385-37.4 5.464 1165&4.486&3.059&3.773&
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054 24699-38.1 6.377  767&4.222&2.320&3.184&3.9358  50.839-32.85233310022234000
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2.9708  52.488-32.6423331002223440054 27349-38.2 7.054  568&       &       &2.585&2
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.1 7.336  502&3.630&        &1.903&2.2308  53.352-32.4323331002223500054 28740-38.
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151056 4.5776 3.4696 4.0906 4.9358 43.9
456 4.8318 44.874-32.814333100222317 0
033331002223180054 20856-37.2 5.311 1
1-37.3 5.388 12076 4.5106 3.1256 3.8286
6 3.0596 3.7736 4.6418 46.989-32.9223
47.722-32.938333

62-051A-03C

.068-32.9423331002223270054 23196-37 REC 2. LENGTH 780
80054 23449-37.9 6.041 8936 52.
8146 4.3256 2.5076 3.3216 4.0878 50.3
256 4.0198 50.611-32.8593331002223330
233331002223400054 26400-38.2 6.817
7-38.2 6.936 5986 4.0836 1.7706 2.8026
6 2.5856 2.8238 52.768-32.5853
52.898-32.556333

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3996 3.2296 .7796 1.5446 8 54.0
6 8 54.223-31.9891191003200040
1191003200060054 32283-37.7 8.196
-37.6 8.333 3256 2.8396 61.1466
6 6 .9046 1.2048 54.392-31.6641
4.393-31.628119

390-31.5911191003200150054 34179-37 REC 4. LENGTH 780
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2796 2.9816 .6036 .9046 8 54.3
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-36.9 9.084 2356 2.7476 61.2046
6 .7796 .9046 1.2048 53.952-31.0091
3.844-30.937119

491-30.7241191003200430054 39692-36 REC 5. LENGTH 780
0054 39881-36.1 9.696 1806 2.7206 .
1766 6 .9046 .7796 1.1468 52.8
6 .9048 52.665-30.3401191003200490
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-35.8 9.954 1616 2.4896 .7796 .9046
6 .3026 1.2046 1.0798 52.221-30.1691
2.033-30.102119

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1456 2.2746 .7796 .7796 8 51.5
61.1468 51.434-29.9021191003201040
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-35.010.370 1346 6 .3026 .9046
6 .7796 8 50.678-29.6711
.451-29.610119

34-29.5781191003201140054 45229-34 REC 7. LENGTH 780
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1186 6 .603 1.0006 1.1468 49.6
1.2048 49.498-29.3571191003201200
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34.110.819 1106 6 .9046 .7796
.6036 .7796 1.1468 48.742-29.1721
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47-29.0811191003201300054 47887-33 REC 8. LENGTH 780

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77-28.9321191003201330054 48373-33.611.058 98E1.462E .302E .904E1.2558 47.542-28
054 48694-33.411.103 96E1.591E E .603E1.2048 47.266-28.8441191003201370054 4
94E1.653E .603E 1.0008 46.986-28.7851191003201390054 49332-33.211.193 92E1
1.0008 46.706-28.7271191003201400054 49489-33.211.215 91E1.431E .603E .779E1.146
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606   83&1.832& .603& .603&1.1468  45.2
.204&1.2048  45.102-28.4141191003201520
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1659-32.411.506   79&     & .603& .779&
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.302&      8  42.948-28.0321191003202060
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1039-31.511.806   69&1.690& .779& .603&
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  41.663-27.822119

41.339-27.7701191003202150054 54763-31  REC     11. LENGTH   780
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603&1.3018  40.182-27.5921191003202230
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1603-30.512.106   59&1.301&      & .779&
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  38.663-27.368119

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129   56&1.146& .904& .302& .9048  37.6
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406253182103700820 -00.212.929000156
0.112.965000146  .9046 1.000  1.0006 1.4318-084.9
.6036 .9046 1.3228-085.189-11.43122406253182 60
408-11.407224062531828037008255 8-00.113.01200
037008263 4-00.113.024000146 1.0796 .6036 1.0796
0014  .9046  .7796  .9046 1.3228-086.287-11.3102
6     8-086.726-11.262224

.3618-087.165-11.2142240625318350370083092 00  REC      9. LENGTH   780
406253183703700832 43 00.013.119000146 .7796 1.
0.013.130000146 .9046 .779 1.0006 1.3228-088.0
.9046 .9046 1.3978-088.266-11.0962240625318410
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0810303230581061468-27.212.09700045 2.574 1.146 1.544 2.1938 087.057-16.52411308
.012.13300043 2.372 1.204 1.255 2.1768 086.481-16.39411308103032705170611958-27.0
000 1.397 2.0898 086.289-16.35111308103032905810622 00-26.812.16800043 0.000 1.14
02-16.26611308103033005810623 21-26.812.17900043 2.646 1.079 1.146 2.1988 085.709
517062443-26.712.19100042 2.245 1.079 1.204 2.1768 085.515-16.18111308103033058
042 0.000 0.000 1.079 0.0008 085.128-16.09711308103033405170628 04-26.512.2250004
2.1498 084.933-16.05511308103033505170629 23-26.512.23600041 1.204 0.778 1.204 0.
130810303360581063043-26.412.24800040 0.000 1.000 1.204 2.1178 084.544-15.971113

0810303380581063280-26.312.27000040 1.397 0.000 1.146 0.0008 084.154-15.8891130
.212.28100040 1.322 0.778 1.079 0.0008 083.958-15.84811308103034005810635 17-26.2
000 1.079 0.0008 083.762-15.80711308103034205810637 54-26.112.31500039 1.397 1.00
71-15.72511308103034305810638 71-26.012.32600039 1.431 0.000 1.079 0.0008 083.174
581063988-25.912.33700039 0.000 0.000 1.000 2.1108 082.977-15.64411308103034505
039 1.361 1.000 1.255 0.0008 082.780-15.60411308103034705810643 39-25.812.3700003
0.0008 082.387-15.52311308103034805810644 55-25.712.38100038 0.000 1.079 3.671 0.
130810303550581065261-25.312.45500037 1.431 0.903 1.079 0.0008 080.801-15.208113

0810304010581065943-24.912.51600035 1.361 1.000 1.079 0.0008 079.603-14.97611308
.712.54400035 1.361 1.000 1.204 0.0008 079.007-14.85811308103041005810669 47-24.
000 1.204 2.0688 077.807-14.62811308103042705810687 32-23.312.76200030 1.361 1.00
52-14.01011308103043005810691 10-23.112.78900030 1.301 1.000 1.146 0.0008 073.737
581069216-23.012.79800029 1.544 0.000 0.602 1.9918 073.532-13.37011308103043205
029 1.301 1.079 1.146 0.0008 073.327-13.83511308103043505810696 35-22.812.8310002
2.0568 072.702-13.73011308103065604380823 16-13.713.76400015 0.000 0.000 0.903 0.
130811305180517029330 24.605.60100403 0.000 2.800 3.450 4.7117 068.503 33.61810

0811309200517028898 24.805.54000423 4.257 2.837 3.602 4.7567 068.702 33.87510700
.005.51000433 4.341 2.877 3.583 4.7747 068.811 34.00510708113092205170284 62 25.
791 3.955 4.7937 068.927 34.13610708113092405170280 23 25.305.41600467 4.347 2.9
79 34.40110708113092505170278 02 25.405.38400480 4.291 2.836 3.534 4.8277 069.31
517027581 25.505.35200492 4.362 0.000 3.665 4.8587 069.460 34.66910708113092705
505 4.277 2.787 3.530 4.8677 069.612 34.80410708113092905170269 11 25.905.25500 5
4.8827 069.940 35.07810708113093005170266 86 26.005.22300548 4.230 2.754 3.575 4
07081130931051702646 1 26.105.19000563 4.384 3.056 3.718 4.8937 070.302 35.35410

0811309330517026007 26.305.12300595 4.101 2.763 3.663 4.9347 070.700 35.63410 70
.405.08900613 4.333 3.033 3.716 4.8907 070.913 35.77510708113093505170255 49 26.
075 3.740 4.9457 071.137 35.91710799999999999999999999999999999999999999999999999
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57-16.52811308103032605810618 36-27  REC      1. LENGTH   780
5170619 58-27.012.14400043 3.000 1.
043 0.000 1.146 1.146 0.0008 085.9
2.1988 085.709-16.2241130810303310
1308103033305810626 84-26.612.21300
26.512.22500041 1.612 1.322 1.146
0.778 1.204 0.0008 084.739-16.0131
.544-15.971113

54-15.889113081030339058106339 9-26  REC      2. LENGTH   780
581063517-26.212.29200040 1.462 1.
039 1.397 1.000 1.146 0.0008 083.3
0.0008 083.174-15.6851130810303440
1308103034505810641 05-25.912.34800
25.812.37000038 1.361 1.079 1.204
1.079 3.671 0.0008 082.189-15.4831
.801-15.208113

03-14.976113081030404058106628 0-24  REC      3. LENGTH   780
581066947-24.412.60200034 1.462 0.
030 1.361 1.000 1.000 0.0008 074.3
0.0008 073.737-13.9051130810304310
1308103043205810693 21-23.012.80600
22.812.83100029 1.255 1.079 1.322
0.000 0.903 0.0008 042.565-09.5891
.503 33.618107

702 33.875107081130921051702868 0 25  REC      4. LENGTH   780
0517028462 25.105.47900444 4.281 2.
467 4.347 2.936 3.641 4.8177 069.1
4.8277 069.316 34.534107081130926 0
1070811309270517027359 25.605.32000
25.905.25500533 4.378 3.048 3.701
2.754 3.575 4.8997 070.116 35.2161
.302 35.354107

700 35.634107081130934051702577 8 26  REC      5. LENGTH   780
0517025549 26.605.05500631 4.324 3.
999999999999999999999999999999999999
999999999999999999999999999999999999
999999999999999999999999999999999999
999999999999999999999999999999999999
999999999999999999999999999999999999
999999999999999
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THIS PROGRAM READS DATA TAKEN FROM EXPLORER 14
OF 15 MINUTES. IF A 15 MINUTE TIME GAP HAS ELAPSED BETW
THEN A MESSAGE IS PRINTED OUT WITH THE LOCATION OF THE
THE GROUP BEFORE THE 15 MINUTE TIME GAP WAS DISCOVERED.
IN HOURS AND MINUTES THAT RECORD WAS READ AND FINALLY TI
THE FIRST AND LAST RECORD IN THE GROUP.

THE 'B' AND 'L' VALUES ARE THEN RECORDED IN A MA
OF 'L' RANGING FROM 0.0 TO 6.0 (INCREMENTED BY 0.1) AND
RANGING FROM 0 TO 100K (INCREMENTED BY 1K FROM ZERO TO
TO 50K AND 25K FROM 50 TO 100K). AND 100 VALUES OF 'L' R
16.0 (INCREMENTED BY 0.1) AND 20 VALUES OF 'B' RANGING F
(INCREMENTED BY 100S).

FINALLY, A TABLE OF MINIMUM AND MAXIMUM VALUES O
AND MAXIMUM VALUES OF MAGNETIC LATITUDE, DETECTORS 'A',
AND LONGITUDE AND LATITUDE ARE GIVEN FOR EACH DAY OF FL
READ IN ARE PACKED TO 78 CHARACTERS PER LOGICAL RECORD A
TAPE IN A 10 LOGICAL TO 1 PHYSICAL (130 WORD) PACKED FOR

ARTICLE EXPERIMENT, FILE NUMBER 1 OF NSSDC MAGNETIC TAPE NUMBER D-05500

DATA TAKEN FROM EXPLORER 14 AND DETERMINES DATA GAPS
TE TIME GAP HAS ELAPSED BETWEEN DATA GATHERINGS
UT WITH THE LOCATION OF THE FIRST AND LAST RECORD IN
UTE TIME GAP WAS DISCOVERED, DATE OF RECORD, TIME
ECORD WAS READ AND FINALLY THE 'B' AND 'L' OF
N THE GROUP.

UES ARE THEN RECORDED IN A MATRIX WITH 50 VALUES
.0 (INCREMENTED BY 0.1) AND 20 VALUES OF 'B'
REMENTED BY 1K FROM ZERO TO 10K, 5K FROM 10
0K), AND 100 VALUES OF 'L' RANGING FROM 6.0 TO
ND 20 VALUES OF 'B' RANGING FROM ZERO TO 2000

MINIMUM AND MAXIMUM VALUES OF RADIAL DISTANCE,
IC LATITUDE, DETECTORS 'A', 'B', 'C' AND 'D',
RE GIVEN FOR EACH DAY OF FLIGHT. THE RECORDS
RACTERS PER LOGICAL RECORD AND WRITTEN OUT ON A NEW
YSICAL (130 WORD) PACKED FORMAT.

62-051A-03H EXPLORER-14 (1962 BETA GAMMA 1) CHARGED PARTICLE EXPERIMENT. PA

RECORD NO.	B	L	DTD.	GMT.	RECORD NO.	B	FI
1	1775.	4.58	10/ 2/62	2309	169	30.	
170	27.	13.46	10/ 3/62	431	582	7.	
583	7.	17.13	10/ 3/62	1550	628	8.	
625	8.	17.99	10/ 3/62	1904	629	8.	
630	8.	18.05	10/ 3/62	1921	630	8.	
631	9.	18.09	10/ 3/62	1937	634	9.	
635	10.	18.13	10/ 3/62	2119	646	10.	
647	11.	17.38	10/ 3/62	2318	655	12.	
656	12.	16.77	10/ 4/62	9	708	14.	
709	15.	14.97	10/ 4/62	157	1061	6635.	
1062	19993.	1.39	10/ 4/62	1058	1663	10.	
1664	9.	19.26	10/ 5/62	308	1700	8.	
1701	8.	18.03	10/ 5/62	500	1701	8.	
1702	8.	17.87	10/ 5/62	516	1707	8.	
1708	7.	17.35	10/ 5/62	611	1708	7.	
1709	7.	16.70	10/ 5/62	731	1714	7.	
1715	7.	16.41	10/ 5/62	814	1725	8.	
1726	8.	16.05	10/ 5/62	910	1728	8.	
1729	8.	15.92	10/ 5/62	932	2018	29.	
2019	41.	9.09	10/ 5/62	1856	2203	39034.	
2204	6601.	2.09	10/ 5/62	2333	2367	34.	
2368	28.	12.75	10/ 6/62	506	2600	9.	
2601	8.	16.80	10/ 6/62	1443	2615	8.	
2616	8.	17.31	10/ 6/62	1608	2642	8.	
2643	8.	17.85	10/ 6/62	1737	2648	8.	
2649	8.	18.38	10/ 6/62	1913	2665	8.	
2666	9.	18.58	10/ 6/62	2007	2671	9.	
2672	9.	18.64	10/ 6/62	2105	2690	9.	
2691	10.	18.50	10/ 6/62	2202	2717	10.	
2718	11.	17.89	10/ 6/62	2324	3110	200.	
3111	296.	5.18	10/ 7/62	1001	3147	5445.	
3148	31150.	1.26	10/ 7/62	1131	4398	80.	
4399	186.	5.51	10/ 8/62	2203	4506	561.	
4507	374.	6.84	10/ 9/62	138	5069	8.	
5070	8.	17.09	10/ 9/62	1532	5070	8.	
5071	8.	17.21	10/ 9/62	1548	5126	8.	
5127	8.	18.18	10/ 9/62	1755	5127	8.	
5128	8.	18.36	10/ 9/62	1820	5133	8.	
5134	8.	18.70	10/ 9/62	1913	5164	9.	
5165	9.	19.03	10/ 9/62	2031	5254	10.	
5255	11.	17.70	10/10/62	21	5737	4155.	
5738	20394.	1.46	10/10/62	1239	6167	13.	
6168	11.	19.79	10/11/62	54	6245	9.	
6246	8.	18.38	10/11/62	347	6249	8.	
6250	8.	18.16	10/11/62	413	6251	8.	
6252	8.	17.88	10/11/62	447	6271	8.	
6272	8.	17.49	10/11/62	539	6374	7.	
6375	7.	16.45	10/11/62	859	6448	8.	
6449	8.	15.78	10/11/62	1127	6684	17.	
6685	15.	11.87	10/11/62	1807	6686	20.	

D-05506

ARTICLE RECORD NO.	EXPERIMENT, FILE NUMBER B	L	1 OF NSSDC MAGNETIC TAPE NUMBER DTD.	START TIME	STOP TIME	TIME GAP
169	30.	13.30	10/ 3/62	411	431	20
582	7.	17.05	10/ 3/62	1532	1550	18
628	8.	17.44	10/ 3/62	1656	1904	128
629	8.	17.99	10/ 3/62	1904	1921	17
630	8.	18.05	10/ 3/62	1921	1937	16
634	9.	18.15	10/ 3/62	2006	2119	73
646	10.	18.07	10/ 3/62	2141	2318	97
655	12.	17.01	10/ 3/62	2350	9	19
708	14.	15.27	10/ 4/62	141	157	16
1061	6635.	2.17	10/ 4/62	1024	1058	34
1663	10.	20.23	10/ 5/62	133	308	95
1700	8.	18.30	10/ 5/62	434	500	26
1701	8.	18.03	10/ 5/62	500	516	16
1707	8.	17.79	10/ 5/62	524	611	47
1708	7.	17.35	10/ 5/62	611	731	80
1714	7.	16.55	10/ 5/62	753	814	21
1725	8.	16.17	10/ 5/62	851	910	19
1728	8.	16.03	10/ 5/62	913	932	19
2018	29.	10.17	10/ 5/62	1802	1856	54
2203	39034.	1.49	10/ 5/62	2311	2333	22
2367	34.	12.38	10/ 6/62	431	506	35
2600	9.	15.59	10/ 6/62	1118	1443	205
2615	8.	16.98	10/ 6/62	1514	1608	54
2642	8.	17.63	10/ 6/62	1700	1737	37
2648	8.	17.90	10/ 6/62	1745	1913	88
2665	8.	18.50	10/ 6/62	1941	2007	26
2671	9.	18.61	10/ 6/62	2020	2105	45
2690	9.	18.58	10/ 6/62	2140	2202	22
2717	10.	18.14	10/ 6/62	2258	2324	26
3110	200.	5.75	10/ 7/62	942	1001	19
3147	5445.	2.39	10/ 7/62	1112	1131	19
4398	80.	7.34	10/ 8/62	2100	2203	63
4506	561.	6.03	10/ 9/62	121	138	17
5069	8.	16.96	10/ 9/62	1514	1532	18
5070	8.	17.09	10/ 9/62	1532	1548	16
5126	8.	17.99	10/ 9/62	1730	1755	25
5127	8.	18.18	10/ 9/62	1755	1820	25
5133	8.	18.41	10/ 9/62	1828	1913	45
164	9.	18.97	10/ 9/62	2011	2031	20
254	10.	18.47	10/ 9/62	2315	21	66
737	4155.	2.76	10/10/62	1158	1239	41
167	13.	20.03	10/10/62	2343	54	71
245	9.	18.52	10/11/62	331	347	16
249	8.	18.35	10/11/62	351	413	22
251	8.	18.15	10/11/62	415	447	32
271	8.	17.60	10/11/62	523	539	16
374	7.	16.52	10/11/62	841	859	18
48	8.	15.92	10/11/62	1105	1127	22
84	17.	12.41	10/11/62	1728	1807	39
86	20.	11.81	10/11/62	1811	1827	16

62-051A-03B EXPLORER-14 (1962 BETA GAMMA 1) CHARGED PARTICLE EXPERIMENT, FILE NU
MATRIX OF VALUES OF B AND L FOR THIS T
B GIVEN IN GAMMA = 10 TO THE MINUS 5 G

B RANGE / L RANGE	0 -1K	-2K	-3K	-4K	-5K	-6K	-7K	-8K	-9K	-10K	-15K	-20K
1.0-1.1	0	0	0	0	0	0	0	0	0	0	0	0
1.1-1.2	0	0	0	0	0	0	0	0	0	0	0	0
1.2-1.3	0	0	0	0	0	0	0	0	0	0	0	0
1.3-1.4	0	0	0	0	0	0	0	0	0	0	2	2
1.4-1.5	0	0	0	0	0	0	0	0	0	0	3	3
1.5-1.6	0	0	0	0	0	0	0	0	2	2	2	3
1.6-1.7	0	0	0	0	0	0	0	5	1	0	2	2
1.7-1.8	0	0	0	0	0	0	2	5	1	1	2	3
1.8-1.9	0	0	0	0	0	2	3	3	1	1	5	3
1.9-2.0	0	0	0	0	0	6	2	0	1	0	7	1
2.0-2.1	0	0	0	0	4	4	3	1	2	2	5	2
2.1-2.2	0	0	0	0	8	3	4	3	2	3	5	3
2.2-2.3	0	0	0	3	5	4	2	1	1	2	7	0
2.3-2.4	0	0	0	12	7	4	2	3	0	1	2	3
2.4-2.5	0	0	3	13	6	4	2	3	1	3	5	2
2.5-2.6	0	0	12	13	3	1	6	4	2	3	1	3
2.6-2.7	0	0	19	6	1	4	3	4	2	2	5	1
2.7-2.8	0	7	17	3	4	4	3	3	2	1	1	0
2.8-2.9	0	9	19	6	6	4	2	0	0	1	0	2
2.9-3.0	0	14	8	5	3	4	2	0	1	0	1	3
3.0-3.1	0	24	11	7	4	2	0	4	0	0	3	1
3.1-3.2	0	24	9	6	3	0	3	2	2	1	4	0
3.2-3.3	1	28	7	4	3	3	3	1	1	0	2	0
3.3-3.4	7	21	10	5	3	1	2	2	0	2	2	0
3.4-3.5	13	17	5	5	3	4	4	2	0	0	0	0
3.5-3.6	18	24	11	4	6	4	2	1	0	0	0	0
3.6-3.7	18	20	8	5	5	5	0	0	0	0	0	0
3.7-3.8	20	26	9	7	3	1	0	0	0	0	0	0
3.8-3.9	25	18	11	4	0	1	0	0	0	0	0	0
3.9-4.0	30	21	17	3	3	0	0	0	0	0	0	0
4.0-4.1	39	19	5	3	3	0	0	0	0	0	0	0
4.1-4.2	39	25	6	1	3	0	0	0	0	0	0	0
4.2-4.3	40	21	3	3	0	0	0	0	0	0	0	0
4.3-4.4	48	15	4	2	0	0	0	0	0	0	0	0
4.4-4.5	49	15	4	2	0	0	0	0	0	0	0	0
4.5-4.6	58	12	3	2	0	0	0	0	0	0	0	0
4.6-4.7	56	9	3	2	0	0	0	0	0	0	0	0
4.7-4.8	62	10	2	3	0	0	0	0	0	0	0	0
4.8-4.9	67	6	2	2	0	0	0	0	0	0	0	0
4.9-5.0	74	7	3	0	0	0	0	0	0	0	0	0
5.0-5.1	76	7	6	0	0	0	0	0	0	0	0	0
5.1-5.2	74	4	5	0	0	0	0	0	0	0	0	0
5.2-5.3	72	10	2	0	0	0	0	0	0	0	0	0
5.3-5.4	74	5	0	0	0	0	0	0	0	0	0	0
5.4-5.5	80	7	3	0	0	0	0	0	0	0	0	0
5.5-5.6	83	6	3	0	0	0	0	0	0	0	0	0
5.6-5.7	78	5	2	0	0	0	0	0	0	0	0	0
5.7-5.8	76	10	2	0	0	0	0	0	0	0	0	0
5.8-5.9	83	7	0	0	0	0	0	0	0	0	0	0
5.9-6.0	88	6	0	0	0	0	0	0	0	0	0	0

5509

E EXPERIMENT, FILE NUMBER 1 OF NSSDC MAGNETIC TAPE NUMBER D-0[redacted]
F B AND L FOR THIS TAPE
10 TO THE MINUS 5 GAUSS

-10K	-15K	-20K	-25K	-30K	-35K	-40K	-45K	-50K	-75K	-100K
0	0	0	0	1	3	4	0	0	0	0
0	0	0	0	3	1	0	0	0	0	0
0	0	0	2	2	2	0	0	0	0	0
0	2	2	4	0	0	0	0	0	0	0
0	3	3	3	0	2	1	0	0	0	0
2	2	3	0	0	1	2	0	0	0	0
0	2	2	0	2	0	0	0	0	0	0
1	2	3	1	0	4	2	0	0	0	0
1	5	3	2	2	3	0	0	0	0	0
0	7	1	1	2	1	0	0	0	0	0
2	5	2	1	2	0	0	0	0	0	0
3	5	3	3	1	1	0	0	0	0	0
2	7	0	2	1	0	0	0	0	0	0
1	2	3	1	2	0	0	0	0	0	0
3	5	2	2	0	0	0	0	0	0	0
3	1	3	2	0	0	0	0	0	0	0
2	5	1	1	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0
1	0	2	0	0	0	0	0	0	0	0
0	1	3	0	0	0	0	0	0	0	0
0	3	1	0	0	0	0	0	0	0	0
1	4	0	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0

THE TABLE OF MAXIMUM AND MINIMUM VALUES FOR THIS TAPE OF EXPLORER 14 (GAM

DATE	RADIAL DISTANCE MAXIMUM	RADIAL DISTANCE MINIMUM	MAGNETIC LATITUDE MAXIMUM	DETECTOR 'A' MAX. CTS/SEC	DETECTOR 'B' MAX. CTS/SEC
10/ 2/62	4307.62	4184.11	-36.00	3.837E 03	3.846E 02
10/ 3/62	70952.85	4318.53	-7.30	2.218E 03	2.004E 02
10/ 4/62	70922.56	581.12	26.00	7.211E 03	6.823E 03
10/ 5/62	81035.31	166.80	40.00	4.710E 04	4.764E 02
10/ 6/62	21048.29	814.85	-7.90	4.036E 03	2.249E 02
10/ 7/62	3976.32	66.64	29.60	1.282E 04	3.126E 02
10/ 8/62	91046.80	972.65	37.40	7.551E 03	1.503E 02
10/ 9/62	81048.10	368.33	17.80	1.514E 04	1.816E 03
10/10/62	70517.73	982.74	32.10	1.138E 04	3.548E 02
10/11/62	71048.53	4905.26	9.80	9.638E 03	5.794E 02
10/12/62	81048.40	769.60	34.40	1.140E 04	6.966E 03
10/13/62	70856.06	990.56	36.10	6.516E 03	2.917E 02
10/14/62	91027.00	1774.79	-0.50	7.638E 03	2.559E 04
10/15/62	71031.22	482.72	18.20	1.159E 04	8.730E 03
10/16/62	41011.22	3124.04	39.00	1.030E 04	2.249E 02
10/17/62	51048.37	2818.83	-1.10	2.618E 03	2.000E 02
10/18/62	61048.31	5504.22	17.10	9.226E 03	2.118E 03
10/19/62	61024.05	992.23	41.50	1.291E 04	1.219E 02
10/20/62	91003.37	497.48	-1.60	3.006E 03	3.097E 00
10/21/62	81039.88	492.76	15.80	9.528E 03	1.361E 03
10/22/62	81029.75	86.16	43.30	8.831E 03	4.775E 04
10/23/62	91047.82	1831.12	-2.20	1.426E 03	1.600E 00
10/24/62	41047.44	273.86	10.70	1.007E 04	3.767E 03
10/25/62	41030.91	149.04	44.60	1.057E 04	2.858E 02
10/26/62	90923.26	934.44	-2.80	2.679E 03	1.600E 00

EXPLORER 14 (GAMMA 1) ARE AS FOLLOWS.

CR X. C	DETECTOR 'B' MAX. CTS/SEC	DETECTOR 'C' MAX. CTS/SEC	DETECTOR 'D' MAX. CTS/SEC	MAXIMUN GEOCENTRIC LONGITUDE	LATITUDE
03	3.846E 02	1.589E 03	1.197E 04	54.095	-32.096
03	2.004E 02	2.504E 04	1.279E 04	179.619	-10.492
03	6.823E 03	1.303E 04	1.658E 04	179.292	29.793
04	4.764E 02	1.694E 03	1.66CE 04	179.623	33.018
03	2.249E 02	8.831E 02	1.324E 04	173.543	-10.845
04	3.126E 02	2.118E 03	1.574E 04	179.602	29.133
03	1.503E 02	1.837E 03	1.400E 04	179.170	33.089
04	1.816E 03	2.188E 03	5.420E 03	169.681	6.044
04	3.548E 02	1.315E 03	1.072E 04	179.229	27.290
03	5.794E 02	2.158E 03	1.600E 04	179.216	18.915
04	6.966E 03	9.840E 03	1.652E 04	179.676	33.058
03	2.917E 02	1.130E 03	1.202E 04	179.953	30.588
03	2.559E 04	6.516E 03	1.637E 04	179.560	9.943
04	8.730E 03	1.057E 04	1.648E 04	177.373	27.441
04	2.249E 02	3.192E 03	1.247E 04	165.686	32.129
03	2.000E 02	1.279E 04	2.065E 03	179.724	5.340
03	2.118E 03	6.486E 03	1.618E 04	179.236	27.807
04	1.219E 02	7.551E 02	9.554E 03	150.585	33.221
03	3.097E 00	3.420E 01	3.105E 01	174.400	2.486
03	1.361E 03	5.781E 03	1.626E 04	179.546	27.465
03	4.775E 04	2.992E 03	1.641E 04	135.186	33.361
03	1.600E 00	1.019E 01	8.790E 00	166.782	0.434
04	3.767E 03	8.551E 03	1.629E 04	179.532	22.037
04	2.858E 02	1.343E 03	1.545E 04	120.008	33.319
03	1.600E 00	2.805E 01	2.805E 01	175.063	-1.181

SUBGROUP 6 OF RECORD 2786
WAS FOUND TO HAVE A PARITY ERROR, AND THEREFORE A SERIES OF NINES HAS BEEN WRITT

SUBGROUP 7 OF RECORD 2786
WAS FOUND TO HAVE A PARITY ERROR, AND THEREFORE A SERIES OF NINES HAS BEEN WRITT

SUBGROUP 8 OF RECORD 2786
WAS FOUND TO HAVE A PARITY ERROR, AND THEREFORE A SERIES OF NINES HAS BEEN WRITT

SUBGROUP 9 OF RECORD 2786
WAS FOUND TO HAVE A PARITY ERROR, AND THEREFORE A SERIES OF NINES HAS BEEN WRITT

SUBGROUP 10 OF RECORD 2786
WAS FOUND TO HAVE A PARITY ERROR, AND THEREFORE A SERIES OF NINES HAS BEEN WRITT

E A SERIES OF NINES HAS BEEN WRITTEN IN THIS SUBGROUP

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E A SERIES OF NINES HAS BEEN WRITTEN IN THIS SUBGROUP

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