#280

OSO 7

1-60 KEV CELESTIAL X-RAY

71-083A-04A

Table of Contents

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

OSO 7

1-50 KEV CELESTIAL X-RAY DATA TAPES

71-083A-04A ASXR-00004

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY 66 9-TRACK, 800 BPI TAPES. THERE ARE 10 RESTORED TAPES. THE DR AND DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 360 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPAN ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR002430	DS002430	D015566	1	10/02/71 - 10/10/71
		D015567	2	10/10/71 - 10/18/71
		D015568	3	10/18/71 - 10/27/71
		D015570	4	10/26/71 - 11/03/71
		D015569	5	11/03/71 - 11/11/71
		D015571	6	11/11/71 - 11/19/71
		D015572	7	11/19/71 - 11/27/71
DR002431	DS002431	D015573	1	11/27/71 - 12/05/71
		D015574	2	12/05/71 - 12/13/71
		D015575	3	12/13/71 - 12/21/71
		D015576	4	12/21/71 - 12/29/71
		D015577	5	12/29/71 - 01/06/72
		D015578	6	01/06/72 - 01/14/72
		D015579	7	01/14/72 - 01/22/72
DR002432	DS002432	D015580	1	01/22/72 - 01/30/72
		D015581	2	01/30/72 - 02/07/72
		D015582	3	02/07/72 - 02/15/72
		D015583	4	02/16/72 - 02/23/72
		D015584	5	02/23/72 - 03/02/72
		D015585	6	03/02/72 - 03/10/72
		D015586	7	03/10/72 - 03/18/72

DR#	DS#	D#	FILES	TIME SPAN
DR002433	DS002433	D015587	1	03/18/72 - 03/26/72
		D015588	2	03/26/72 - 04/03/72
		D015589	3	04/03/72 - 04/11/72
		D015590	4	04/11/72 - 04/19/72
		D015591	5	04/19/72 - 04/27/72
		D015592	6	04/27/72 - 05/05/72
		D015593	7	05/05/72 - 05/13/72
DR002434	DS002434	D015594	1	05/15/72 - 05/21/72
		D015595	2	05/21/72 - 05/29/72
		D015596	3	05/30/72 - 06/06/72
		D015597	4	06/06/72 - 06/14/72
		D015598	5	06/14/72 - 06/22/72
		D015599	6	06/22/72 - 06/30/72
		D015600	7	06/30/72 - 07/08/72
DR002435	DS002435	D015601	1	07/08/72 - 07/16/72
		D015602	2	07/16/72 - 07/24/72
		D015603	3	07/24/72 - 08/01/72
		D015604	4	08/01/72 - 08/09/72
		D015605	5	08/09/72 - 08/17/72
		D015606	6	08/18/72 - 08/25/72
		D015607	7	08/25/72 - 09/02/72
DR002505	DS002505	D015608	1	09/02/72 - 09/10/72
		D015609	2	09/10/72 - 09/18/72
		D015610	3	09/26/72 - 10/04/72
		D015611	4	10/04/72 - 10/12/72
		D015612	5	10/12/72 - 10/20/72
		D015613	6	10/20/72 - 10/28/72
		D015614	7	10/28/72 - 11/05/72
DR002506	DS002506	D015615	1	11/05/72 - 11/13/72
		D015616	2	11/13/72 - 11/21/72
		D015617	3	11/21/72 - 11/26/72
		D015618	4	11/29/72 - 12/07/72
		D015619	5	12/07/72 - 12/15/72
		D015620	6	12/15/72 - 12/23/72
		D015621	7	12/23/72 - 12/31/72
DR002507	DS002507	D015622	1	01/01/73 - 01/08/73
		D015623	2	01/08/73 - 01/16/73
		D015624	3	01/16/73 - 01/24/73
		D015625	4	01/24/73 - 02/01/73
		D015626	5	02/09/73 - 02/17/73
		D015627	6	02/17/73 - 02/25/73
		D015628	7	02/25/73 - 03/05/73
DR002508	DS002508	D015629	1	04/14/73 - 04/22/73
		D015630	2	04/22/73 - 04/30/73
		D015631	3	05/16/73 - 05/24/73

OSO 7
1-60KEV Celestial X-Ray Data Tapes
71-083A-04A

This data set catalog has been restored. There were originally 66 9-Track , 800 BPI tapes. There are now 10 9-Track, 6250 BPI tapes. The original tapes were created on a 360 computer. The DR and DS numbers along with the total number of files and time span are as follows:

DR#	DS#	FILES	TIME SPAN
02430	02430	7	10/02/71 - 11/27/71
02431	02431	7	11/27/71 - 01/22/72
02432	02432	7	01/22/72 - 03/18/72
02433	02433	7	03/18/72 - 05/13/72
02434	02434	7	05/15/72 - 07/08/72
02435	02435	7	07/08/72 - 09/02/72
02505	02505	7	09/02/72 - 11/05/72
02506	02506	7	11/05/72 - 13/31/72
02507	02507	7	01/01/73 - 03/05/73
02508	02508	3	04/14/73 - 05/24/73

ACQ. AGENT	RAND NO.	ACQ. AGENT
VJP	RC1354	TNK

OSO-7

1-60 KEV CELESTIAL X-RAY DATA

71-083A-04A

This data set catalogue consists of 66 OSO-7 1-60 KEV Celestial X-Ray Data. The tapes are 9 track, 1 file, Binary tapes written in IBM 360 record format VBS at 800 BPI. Each physical record consists of 3604 bytes, and blocked 7 logical records per physical record.

D#	C#	TIME SPAN
D-15566	C-12353	10/02/71 - 10/10/71
D-15567	C-12354	10/10/71 - 10/18/71
D-15568	C-12355	10/18/71 - 10/26/71
D-15569	C-12356	11/03/71 - 11/11/71
D-15570	C-12357	10/26/71 - 11/03/71
D-15571	C-12358	11/11/71 - 11/19/71
D-15572	C-12359	11/19/71 - 11/27/71
D-15573	C-12360	11/27/71 - 12/05/71
D-15574	C-12361	12/05/71 - 12/13/71
D-15575	C-12362	12/13/71 - 12/21/71
D-15576	C-12363	12/21/71 - 12/29/71
D-15577	C-12364	12/29/71 - 1/06/72
D-15578	C-12365	1/06/72 - 1/14/72
D-15579	C-12366	1/14/72 - 1/22/72
D-15580	C-12367	1/22/72 - 1/30/72
D-15581	C-12368	1/30/72 - 2/07/72
D-15582	C-12369	2/07/72 - 2/15/72
D-15583	C-12370	2/16/72 - 2/23/72
D-15584	C-12371	2/23/72 - 3/02/72

D#	C#	TIME SPAN
D-15585	C-12372	3/02/72 - 3/10/72
D-15586	C-12373	3/10/72 - 3/18/72
D-15587	C-12374	3/18/72 - 3/26/72
D-15588	C-12449	3/26/72 - 4/03/72
D-15589	C-12450	4/03/72 - 4/11/72
D-15590	C-12451	4/11/72 - 4/19/72
D-15591	C-12452	4/19/72 - 4/27/72
D-15592	C-12453	4/27/72 - 5/05/72
D-15593	C-12454	5/05/72 - 5/13/72
D-15594	C-12455	5/13/72 - 5/21/72
D-15595	C-12456	5/21/72 - 5/29/72
D-15596	C-12457	5/30/72 - 6/06/72
D-15597	C-12458	6/06/72 - 6/14/72
D-15598	C-12459	6/14/72 - 6/22/72
D-15599	C-12460	6/22/72 - 6/30/72
D-15600	C-12461	6/30/72 - 7/08/72
D-15601	C-12462	7/08/72 - 7/16/72
D-15602	C-12463	7/16/72 - 7/24/72
D-15603	C-12464	7/24/72 - 8/01/72
D-15604	C-12465	8/01/72 - 8/09/72
D-15605	C-12466	8/09/72 - 8/17/72
D-15606	C-12467	8/18/72 - 8/25/72
D-15607	C-12468	8/25/72 - 9/02/72
D-15608	C-12469	9/02/72 - 9/10/72
D-15609	C-12470	9/10/72 - 9/18/72
D-15610	C-12567	9/26/72 - 10/04/72
D-15611	C-12568	10/04/72 - 10/12/72
D-15612	C-12569	10/12/72 - 10/20/72
D-15613	C-12570	10/20/72 - 10/28/72

D#	C#	TIME SPAN
D-15614	C-12571	10/28/72 - 11/05/72
D-15615	C-12572	11/05/72 - 11/13/72
D-15616	C-12573	11/13/72 - 11/21/72
D-15617	C-12574	11/21/72 - 11/29/72
D-15618	C-12575	11/29/72 - 12/07/72
D-15619	C-12576	12/07/72 - 12/15/72
D-15620	C-12577	12/15/72 - 12/23/72
D-15621	C-12578	12/23/72 - 12/31/72
D-15622	C-12579	1/01/73 - 1/08/73
D-15623	C-12580	1/08/73 - 1/16/73
D-15624	C-12581	1/16/73 - 1/24/73
D-15625	C-12582	1/24/72 - 2/01/73
D-15626	C-12583	2/09/73 - 2/17/73
D-15627	C-12584	2/17/73 - 2/25/73
D-15628	C-12585	2/25/73 - 3/05/73
D-15629	C-12586	4/14/73 - 4/22/73
D-15630	C-12587	4/22/73 - 4/30/73
D-15631	C-12588	5/16/73 - 5/24/73

Data Reduction

MIT receives from GSFC a Pulse Code Modulation (PCM) data tape of several files. Each file contains about one orbit, or 90 minutes of data. Each file has a label record, several orbital data records and the experimenter's data records.

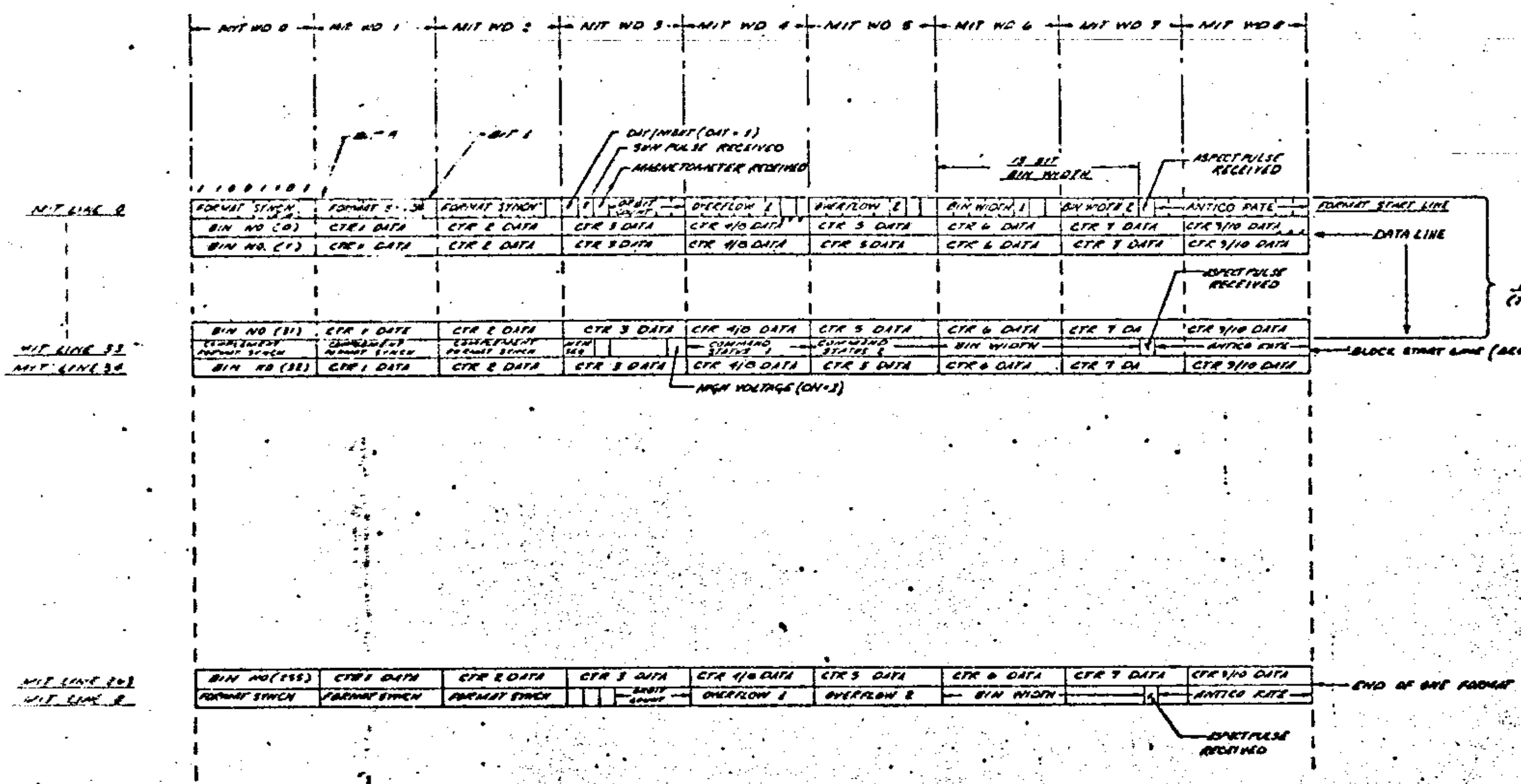
The label and orbital records are read in a straightforward manner and the information is stored for later use in writing the output tape. Orbital data taken at 1 minute intervals are stored in an array for interpolation to the exact time of the start of the MIT format.

One experimenter's data record contains 2 subcommutation cycles of data. The data in these records are reduced in units of one subcommutation cycle. Each subcom cycle is comprised of 8 digital main frames of a) the 4 MIT main frame words, b) the wheel, sail and digital subcom words, and c) quality flags. The subcom cycle contains 15.36 seconds of data. Just over 12 subcom cycles contribute to 1 MIT format which is 190.08 seconds of data. The MIT format is shown on drawing 107-800007.

The format is composed of 264 lines of nine 8-bit words each. The 264 lines are broken into eight data blocks, each of which is, in turn, composed of either a format start line or a block start line and thirty-two data lines. The beginning line of the block is used to transmit synchronization and experiment status information. The following thirty-two lines are used to transmit data. Each data line begins with the number of the bin from which the data about to be read out were accumulated. In sequence, but without identification, the contents of the submemories associated

with that bin and each of the eight measurement chains whose outputs have been accumulated are read out. That this sequencing is being performed is verified by the first three bits of MIT word 3 of every block start line. The bin number is transferred directly from the Readout Location Register, giving a positive indication of the memory location during readout.

The experimenter's data records are read, subcom by subcom. The place in the MIT format is determined from the identification of a block or format sync (words 1-3 of lines 0, 33, 66 ... 231) or a sequence of 3 consecutive bin numbers. The data are sorted word by word into format/block start lines and accumulated counts per bin, per counter.



NOTE:

IN NUMERICAL QUANTITIES MOST SIGNIFICANT BIT IS AT LEFT AND IS THE BIT SHIFTED OUT FIRST TO S/C

FORMAT REQUIRES 130.68 SEC

NOTES:

* COMMAND STATUS WORD

1 ST WORD

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

BIT NO.

1. HIGH VOLTAGE PROTECTION OFF = 1
2. CALIBRATE OFF = 1
3. AUTO-CAL ENFORCING = 1
4. COUNTER 3 OFF = 1
5. COUNTER 10 OFF = 1
6. COUNTER 1 OFF
7. COUNTER 2 OFF
8. COUNTER 3 OFF = 1
9. COUNTER 4 OFF = 1
10. COUNTER 5 OFF = 1
11. COUNTER 6 OFF = 1
12. COUNTER 7 OFF = 1
13. COUNTER 8 OFF = 1
14. ANTICO OFF = 1
15. RISE TIME ANTICO OFF = 1
16. HIGH LEVEL DISC. OFF = 1

** FORMAT SYNCH = 11011101

L_{MS} L_{LS}

*** DATA FROM COUNTERS 4/9 ARE ACCUMULATED ON EVEN NUMBERED ORBITS
DATA FROM COUNTERS 8/10 ARE ACCUMULATED ON ODD NUMBERED ORBITS

CALIBRATION IS AUTOMATICALLY PERFORMED EVERY 32 ORBITS

RELEASED

LIST OF MATERIALS

CENTER FOR SPACE RESEARCH
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MIT 038-H DATA FORMAT

D

107-80C007

The OSO-7 MIT X-Ray Experiment Master Event Tapes are unlabeled, single file, 9-track, binary tapes blocked in records of 3616 bytes written in IBM 360 record format VBS at 800 bpi. Each physical record consists of 7 logical records.

Since the records are of variable length, each physical record begins with a 4-byte segment descriptor word (SDW). Each logical record within the physical record begins with a 4-byte block descriptor word (BDW).

The data are stored on the tape in units of 1 MIT telemetry format (190.08 seconds). Each format has a logical label record of 500 bytes and 8 logical data records of 512 bytes (1 logical record for each of the 8 counters). Each Master Event Tape begins with the label record of an MIT format.

Since 9 logical records are given for an MIT format, the position of the label record within a physical record varies in a pattern which repeats every 7 MIT formats. E.g., physical records (1,10,19...) begin with the label record for formats (1,8,15...).

In short, read with DCB=(RECFM=VBS,LRECL=516,BLKSIZE=3616, DEN=2).

Each master event tape to OSO776 (day 876.) contains 8 days of data with the exception of OSO701 which has 8.4 days of data. After the tape recorder broke (day 869.) we recover only 1/4 of the usual data. Tapes OSO776 ff. each contain 30 days of data.

REC 1. LENGTH 3604

D-15566

10/02/71 - 10/10/71

0307/275

0E14000001F80000D6E2D6F7F1F2F7F5431113AD8D3BDF0F2431113B8EBA9E87C6431113B2EDD76B549C11000000000000
000042330000C0FD29B8C022B4AEBFF7C29A41184F8EC1141AAC412D4EAD3F41056C404F08E2C0F375E94036BCBDC078A3FD
40D80E4EC0FD2DDCC022C2B8BFF1835E403C78F4C0D6DE23C08274504311563FC21E267343239 85AC41738574338507DC3D8
F46E4113C6B6403A7C8442B6C4A0421B795F43122198C220735C43241EC8C416DDA4C31F4019C3E829CC4114494B40362ACF
42BE8580421A26554312F400C2214176432447E2C4158969C3758308C3ED744F4114D82440333B2342C3B8E04218013FFFFF
000050085000147000000000010100600014007700C700870000FC19FC19FC19FC1910E910E910E910E9FC19FC19FC19FC19
00000000000000FFFFFFFFFFFF4DD44090400040000000089F0FE00FFFFFB07F00FFFFFFFFFFFF88CC570094004F504F54
305351540E815C1C4C2E1D5A06E063540EFA5C1CA2128DA00DA074501D3A400B05184DFFF20086501D6F5C1B48171C23F5D0
98501DB4400B8B001C62F970AA501C02460BDB034C9BFE00BB501C345C1A1A034CCBE2400000000000000000000000000000
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000000000000000002040000FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19FC19
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