#307

OSO-7

GAMMA RAY

71-083A-06A 19 tapes

71-083A-06B 1 tape

71-083A-06C 48 tapes

See 71-083A-06

OSO 7

GAMMA RAY DATA

71-083A-06A

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED 19 9-TRACK, 800 BPI TAPES WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE. 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 THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR02338	DS02338	D14297	1-4	09/30/71 - 10/28/71
		D14298	5-8	10/28/71 - 11/23/71
		D14299	9-11	11/23/71 - 12/20/71
		D14300	12-14	12/20/71 - 01/18/72
		D14301	15-16	01/18/72 - 02/15/72
		D14302	17-19	02/16/72 - 03/15/72
		D14303	20-21	03/16/72 - 04/09/72
		D14304	22-24	04/09/72 - 05/06/72
		D14305	25-26	05/06/72 - 05/31/72
		D14306	27-29	05/31/72 - 06/25/72
		D14307	30-31	06/25/72 - 07/20/72
		D14308	32-33	07/20/72 - 08/03/72
		D14309	34-36	08/03/72 - 08/22/72
		D14310	37-38	08/30/72 - 09/10/72
		D14311	39-40	09/10/72 - 10/06/72
		D14312	41-44	10/07/72 - 10/29/72
		D14313	45-48	10/29/72 - 11/17/72
		D14314	49-51	11/21/72 - 12/15/72
		D14315	52	12/15/72 - 12/27/72

See 71-083A-06C

OSO-7

GAMMA-RAY EXP. RESPONSE FUNCTION

71-083A-06B

THIS DATA SET HAS BEEN RESTORED. THERE WAS ORIGINALLY ONE 9-TRACK, 800 BPI TAPE. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THERE IS NO TIMESPAN AVAILBLE FOR THIS DATASET. THE TAPE WAS CREATED ON IBM 7096 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPAN ARE AS FOLLOWS:

DR#	DS#	DD#	FILES
DR03426	DS03426	DD 14316	1

OSO-7

GAMMA-RAY (0.3-9.1) MEV DATA

71-083A-06C

THIS DATA SET HAS BEEN RESTORED. THEY WERE ORIGINALLY 48 9-TRACK, 800 BPI TAPES. THESE TAPES HAVE BEEN STACKED ONTO 7 9-TRACK, 6250 BPI TAPES. THE TAPES WERE CREATED ON AN IBM 360 COMPUTER. THREE OF THE ORIGINAL 48 TAPES WERE BAD, BOTH COPIES. THE DR AND DS NUMBERS, ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR02784	DS02784	D14317	1	10/03/71 - 10/13/71
		D14319	2	10/23/71 - 11/01/71
		D14320	3	11/02/71 - 11/09/71
		D14321	4	11/09/71 - 11/19/71
		D14322	5	11/20/71 - 11/30/71
		D14323	6	11/30/71 - 12/09/71
		D14324	7	12/10/71 - 12/19/71
		D14325	8-9	12/20/71 - 12/28/71
DR02785	DS02785	D14326	1	12/28/71 - 01/18/72
		D14327	2	01/08/72 - 01/18/72
		D14328	3-4	01/18/72 - 01/27/72
		D14329	5-6	01/28/72 - 02/06/72
		D14331	7-8	02/15/72 - 02/26/72
		D14332	9	02/26/72 - 03/10/72
		D14333	10	03/10/72 - 03/16/72
DR02788	DS02788	D14334	1-3	03/21/72 - 04/01/72
		D14335	4	04/01/72 - 04/13/72
		D14336	5-7	04/13/72 - 04/23/72
		D14337	8-9	04/23/72 - 05/03/72
		D14338	10	05/03/72 - 05/15/72
		D14339	11-12	05/16/72 - 05/25/72
DR02791	DS02791	D14340	1	05/25/72 - 06/04/72
		D14341	2-3	06/04/72 - 06/14/72
		D14342	4-5	06/14/72 - 06/23/72
		D14343	6	06/24/72 - 07/01/72
		D14344	7	07/01/72 - 07/09/72
		D14345	8	07/09/72 - 07/20/72
DR02792	DS02792	D14346	1-2	07/20/72 - 07/31/72
		D14347	3	07/31/72 - 08/07/72
		D14348	4	08/07/72 - 08/14/72
		D14350	5	08/27/72 - 09/04/72
		D14351	6-7	09/04/72 - 09/10/72
		D14352	8	09/10/72 - 09/17/72

71-083A-06C

DR#	DS#	D#	FILES	TIME SPAN
DR02808	DS02808	D14353	1-2	09/18/72 - 09/27/72
		D14354	3-4	09/27/72 - 10/07/72
		D14355	5	10/05/72 - 10/15/72
		D14356	6	10/15/72 - 10/21/72
		D14357	7	10/21/72 - 10/30/72
DR02809	DS02809	D14358	1-2	10/30/72 - 11/09/72
		D14359	3-4	11/09/72 - 11/16/72
		D14360	5-6	11/17/72 - 11/26/72
		D14361	7	11/26/72 - 12/06/72
		D14362	8	12/06/72 - 12/17/72
		D14363	9	12/17/72 - 12/25/72
		D14364	10	12/25/72 - 12/25/72

REQ. AGENT	RAND NO.	ACQ. AGENT
MLR	RC0366	TNK

OSO-7

GAMMA-RAY DATA

71-083A-06A, B & C

This catalog consists of one OSO 7 Response Function tape (06B), 19 OSO 7 X-Ray data tapes (06A) and 48 OSO 7 Gamma Ray data tapes (06C). The tapes are 800 BPI, Binary, 9-track. Thye were created on an IBM 360 computer. The Response Function tape contains one file. The remaining tapes are multi-filed. The time spans are as follows:

71-083A-06C

D#	C#	TIME SPAN
D-14317	C-15297	10/03/71 - 10/13/71
D-14318	C-15298	10/13/71 - 10/22/71
D-14319	C-15299	10/23/71 - 11/01/71
D-14320	C-15300	11/02/71 - 11/09/71
D-14321	C-15301	11/09/71 - 11/19/71
D-14322	C-15302	11/20/71 - 11/30/71
D-14323	C-15303	11/30/71 - 12/09/71
D-14324	C-15304	12/10/71 - 12/19/71
D-14325	C-15487	12/20/71 - 12/29/71
D-14326	C-15488	12/28/71 - 01/08/72
D-14327	C-15489	01/08/72 - 01/18/72
D-14328	C-15490	01/18/72 - 01/27/72
D-14329	C-15491	01/28/72 - 02/06/72
D-14330	C-15492	02/07/72 - 02/15/72
D-14431	C-15493	02/15/72 - 02/26/72
D-14332	C-15494	02/26/72 - 03/10/72

D#	C#	TIME SPAN
D-14333	C-15495	3/10/72 - 3/16/72
D-14334	C-15496	3/21/72 - 4/01/72
D-14335	C-15497	4/01/72 - 4/13/72
D-14336	C-15498	4/13/72 - 4/23/72
D-14337	C-15499	4/23/72 - 5/03/72
D-14338	C-15500	5/03/72 - 5/15/72
D-14339	C-15501	5/16/72 - 5/25/72
D-14340	C-15502	5/25/72 - 6/04/72
D-14341	C-15503	6/04/72 - 6/14/72
D-14342	C-15504	6/14/72 - 6/23/72
D-14343	C-15505	6/24/72 - 7/01/72
D-14344	C-15506	7/01/72 - 7/09/72
D-14345	C-15507	7/09/72 - 7/20/72
D-14346	C-15508	7/20/72 - 7/31/72
D-14347	C-15509	7/31/72 - 8/07/72
D-14348	C-15510	8/07/72 - 8/14/72
D-14349	C-15511	8/15/72 - 8/27/72
D-14350	C-15512	8/27/72 - 9/04/72
D-14351	C-15513	9/04/72 - 9/10/72
D-14352	C-15514	9/10/72 - 9/17/72
D-14353	C-15515	9/18/72 - 9/27/72
D-14354	C-15516	9/27/72 - 10/07/72
D-14355	C-15517	10/08/72 - 10/15/72
D-14356	C-15518	10/15/72 - 10/21/72
D-14357	C-15519	10/21/72 - 10/30/72
D-14358	C-15520	10/30/72 - 11/09/72
D-14359	C-15521	11/09/72 - 11/16/72
D-14360	C-15522	11/17/72 - 11/26/72

D#	C#	TIME SPAN
D-14361	C-15523	11/26/72 - 12/06/72
D-14362	C-15524	12/06/72 - 12/17/72
D-14363	C-15525	12/17/72 - 12/25/72
D-14364	C-15526	12/25/72 - 12/25/72

71-083A-06B

D-14316	C-15546	

71-083A-06A

D-14297	C-15527	9/30/71 - 10/28/71
D-14298	C-15528	10/28/71 - 11/23/71
D-14299	C-15529	11/23/71 - 12/20/71
D-14300	C-15530	12/20/71 - 1/18/72
D-14301	C-15531	1/18/72 - 2/15/72
D-14302	C-15532	2/16/72 - 3/15/72
D-14303	C-15533	3/16/72 - 4/09/72
D-14304	C-15534	4/09/72 - 5/06/72
D-14305	C-15535	5/06/72 - 5/31/72
D-14306	C-15536	5/31/72 - 6/25/72
D-14307	C-15537	6/25/72 - 7/20/72
D-14308	C-15538	7/20/72 - 8/03/72
D-14309	C-15539	8/03/72 - 8/22/72
D-14310	C-15540	8/30/72 - 9/10/72
D-14311	C-15541	9/10/72 - 10/06/72
D-14312	C-15542	10/07/72 - 10/29/72
D-14313	C-15543	10/29/72 - 11/17/72
D-14314	C-15544	11/21/72 - 12/15/72
D-14315	C-15545	12/15/72 - 12/27/72

FEB 8 1974

UNIVERSITY OF NEW HAMPSHIRE
DURHAM, NEW HAMPSHIRE 03824

COLLEGE OF TECHNOLOGY
Department of Physics
DeMeritt Hall

71-083A-06, OSO-7

4 February 1974

Dr. Thomas Kelsall, Code 601
Data Acquisition Group
Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Dr. Kelsall:

I have completed copying our PASS-III parameter tapes, X-ray data tapes, and response function tape and have sent them along with all unused tapes. In addition, I have sent a tape containing the source modules of our programs and a copy of our program file and data file on disk.

The following attachments describe the formats of the tapes sent as well as the contents of each tape. I hope that you will find the descriptions clear and complete.

I am also sending a listing of all the source programs contained in the tape labeled SOURCE.

Please feel free to call me if you have any questions.

Yours truly,

Susan J. Croteau

Susan J. Croteau
Computer Programmer

Attachments

71-083A-06, OSO-7, Chupp/U of New Hampshire

Gamma-Ray Data

71-083A-06A/C

Pass-III parameter tape format:

RECFM=FB, LRECL=3540, BLKSIZE=3540

9 Track, 800 BPI BINARY

In the following format description the first letter of each variable identifies its type in the following manner:

A-G=32-bit floating point

H =16-bit integer

I-N=32-bit integer

O-T=32-bit floating point

U =64-bit floating point

V-Z=32-bit floating point

The format is as follows:

TIME

IYRB, IMOB, IDAB, JULB, IHRB, IMINB, SECB — Begin time is the accumulation time of the spectrum.

IYRE, IMOE, IDAE, JULE, IHRE, IMINE, SECE — End time is the accumulation time for the next scan--should be 184.32 seconds greater than begin time.

STATUS

HSOBK	'1'=SOLAR '2'=BACKGROUND
HDANT	'1'=DAY '2'=NIGHT
HNMALT	'1'=NORMAL '2'=ALTERNATE
HSCAN	'1'=FULL '2'=INTERMEDIATE '3'=SHORT
HLCAL	ELECTRONIC CALIBRATION '1'=ON '2'=OFF
HRCAL	RADIATION CALIBRATION
HMGYRO	'1'=MAGNETOMETER '2'=GYRO
HSTAT	12-bit status word. This is status at accumulation and corresponds to main frame data.

POSITION INFORMATION	RIGID	Vertical cutoff rigidity at time of midpoint
	BGAUS	B and L magnetic coordinates
	ERMSIL	B and L magnetic coordinates
	XLAT	Latitude
	XLONG	Longitude
	XALT	Altitude
VARIABLE OBJECTS	RASAT	Satellite right ascension
	DECSAT	Satellite declination
	RASUN	Sun right ascension
	DECSUN	Sun declination
CELESTIAL COORDINATES	RASQD	If solar: Right ascension sun quad. If bkgrd: Right ascension bkgrd quad.
	DECSQD	If solar: Declination sun quadrant If bkgrd: Declination bkgrd quadrant
	RASPIN	Right ascension spin axis
	DECSPN	Declination spin axis
EARTH COORDINATES	THESUN	If solar: Theta sun quadrant If bkgrd: Theta bkgrd quadrant
	PHISUN	If solar: Phi sun quadrant If bkgrd: Phi bkgrd quadrant
	THETAS	Theta spin axis
	PHIS	Phi spin axis
	SESANG	Satellite-earth-sun angle = RASAT-RASUN
	AHORIZ	Horizon angle $= \tan^{-1}\left(\frac{\text{radius earth}}{R\oplus + \text{Alt}}\right) * \left(\frac{180}{\pi}\right)$
	RATE(1)	BACKGROUND=Total X-ray counts in channel 1 $= \frac{\Sigma I - 29}{\Sigma II - 24}$
	RATE(2)	SOLAR=Total X-ray counts in channel 1 $= \frac{\Sigma I - 23}{\Sigma II - 22}$

VAN ALLEN PARAMETERS	IYRVPK(14) IMOVPK(14) IDAVPK(14) JULVPK(14) IHRVPK(14) IMNVPK(14) SECVPK(14)	Time of Van Allen peaks
	FLUX (14)	Flux
	FLXINT(14)	Integrated flux

UTAPE	Tape volume serial number
IFILE	Decomm run number
ICYRDA	Run date: year and day of year
ICRHRM	Run date: hours and minutes
MONE1	Output from gain shift - 1st channel
MTWO2	Output from gain shift - last channel
TLIVE	TCLOCK=Clock time*1/390.625*8 TLIVE=TCLOCK-TDEAD
TDEAD	Dead time=DEADTIME*.001515 (+24.90 if fold over present)
CHAN(700)	Gain-shifted spectrum
HBITER	Bit error indicator ='0' if no bit errors present ='1' if at least 1 bit error found
HFOLD	Indicates dead time fold over ='0' if no fold over present ='1' if rigidity≤60 and dead time<10.0. When HFOLD=1, the dead time has been adjusted by addition of 24.90 to the original value.
HRATE	$=\frac{A+B}{D+E}$ where A=channel 151-155 B=channel 161-165 D=channel 144-148 E=channel 168-172
HAVRTE	$=\frac{HRATE}{HDIV}$ (No. of entries) There is one average for solar quadrants and one average for background quadrants

HDIV	The number of scans for which rates are included to calculate HAVRTE. Starts over after every time gap and after every calibration.
HFLGS	Number of flagged main frame data words
HQUAL	Quality indicator. Indicates quality of gain shift
HATT	='0' if attitude data is available ='1' if no attitude data available
HORB	='0' if orbit data is available ='1' if no orbit data available
HPRM	='0' if SUNRA and SUNDEC are valid ='1' if SUNRA and SUNDEC not valid
HIO	Number of I/O error major frames in section
HEXTRA(9)	Extra words to be used at a later date

Pass-III parameter tapes:

		Year	Month	Day	Hour	Minute	Second						
PARM01	File 1:	71	10	03	09	15	10.3-	71	10	13	00	27	12.0
PARM02	File 1:	71	10	13	00	36	24.3-	71	10	22	21	04	52.1
PARM03	File 1:	71	10	23	10	23	31.1-	71	11	01	17	45	38.0
PARM04	File 1:	71	11	02	03	55	07.0-	71	11	09	13	57	26.0
PARM05	File 1:	71	11	09	14	06	38.7-	71	11	19	23	53	46.1
PARM06	File 1:	71	11	20	00	02	58.6-	71	11	30	01	20	11.7
PARM07	File 1:	71	11	30	01	29	24.2-	71	12	09	21	51	45.0
PARM08	File 1:	71	12	10	11	16	33.0-	71	12	19	18	13	22.1
PARM09	File 1:	71	12	20	05	59	52.2-	71	12	24	02	15	11.0
	File 2:	71	12	24	03	10	39.0-	71	12	28	13	21	19.4
PARM10	File 1:	71	12	28	13	39	45.1-	72	01	08	00	09	53.2
PARM11	File 1:	72	01	08	00	19	6.0-	72	01	18	00	16	27.0
PARM12	File 1:	72	01	18	00	25	39.2-	72	01	22	00	40	35.1
	File 2:	72	01	22	12	30	09.4-	72	01	27	23	52	19.3
PARM13	File 1:	72	01	28	09	48	14.4-	72	02	03	09	46	04.5
	File 2:	72	02	03	09	55	17.0-	72	02	06	18	39	28.1
PARM14	File 1:	72	02	07	02	38	56.9-	72	02	15	22	08	06.4
PARM15	File 1:	72	02	15	22	08	06.4-	82	02	16	21	38	02.8
	File 2:	72	02	16	21	38	02.8-	72	02	26	00	11	24.1
PARM16	File 1:	72	02	26	00	20	36.6-	72	03	10	00	53	43.4
PARM17	File 1:	72	03	10	01	02	55.9-	72	03	16	21	27	53.0
	File 2:	72	03	17	08	26	47.4-	72	03	20	19	29	11.7
PARM18	File 1:	72	03	21	07	00	20.2-	72	03	25	03	12	33.0
	File 2:	72	03	25	03	24	51.6-	72	03	30	03	49	38.4
	File 3:	72	03	30	03	58	51.7-	72	04	01	13	43	48.6
PARM19	File 1:	72	04	01	23	45	52.2-	72	04	13	01	03	44.1
PARM20	File 1:	72	04	13	01	16	01.0-	72	04	14	08	42	04.8
	File 2:	72	04	14	18	28	46.8-	72	04	20	06	06	16.7
	File 3:	72	04	20	15	31	28.4-	72	04	23	00	27	16.6
PARM21	File 1:	72	04	23	00	36	29.1-	72	04	27	19	13	23.0
	File 2:	72	04	27	19	35	39.3-	72	05	03	17	32	12.5
PARM22	File 1:	72	05	03	17	39	47.1-	72	05	15	17	32	17.1
PARM23A	File 1:	72	05	16	04	29	38.4-	72	05	21	01	00	58.0
	File 2:	72	05	21	01	34	44.7-	72	05	25	11	33	18.3

PARM23B	File 1:	72 05 25 21 01 34.5-72 06 04 04 35 58.4
PARM24	File 1:	72 06 04 13 05 52.6-72 06 05 14 39 58.1
	File 2:	72 06 05 15 37 02.9-72 06 14 11 37 11.7
PARM25	File 1:	72 06 14 11 34 07.3 72 06 20 09 54 37.1
	File 2:	72 06 20 09 56 40.9-72 06 23 22 40 26.6
PARM26	File 1:	72 06 24 00 03 22.4-72 07 01 23 50 10.1
PARM27	File 1:	72 07 01 23 59 22.6-72 07 09 01 20 45.6
PARM28	File 1:	72 07 09 01 26 08.1-72 07 20 01 15 41.8
PARM29	File 1:	72 07 20 01 27 58.6-72 07 24 17 10 33.4
	File 2:	72 07 24 17 22 50.3-72 07 31 00 46 01.7
PARM30	File 1:	72 07 31 00 55 14.1-72 08 07 00 59 49.2
PARM31	File 1:	72 08 07 01 12 06.0-72 08 14 16 28 59.8
PARM32	File 1:	72 08 15 00 55 50.0-72 08 17 09 57 46.6
	File 2:	72 08 17 10 06 59.2-72 08 27 00 17 37.3
PARM33	File 1:	72 08 27 00 29 52.2-72 09 04 00 01 22.0
PARM34	File 1:	72 09 04 00 10 34.5-72 09 05 00 45 01.5
	File 2:	72 09 05 01 00 22.7-72 09 10 11 21 05.0
PARM35	File 1:	72 09 10 11 34 26.2-72 09 17 21 49 13.2
PARM36	File 1:	72 09 18 06 09 55.7-72 09 22 01 45 18.3
	File 2:	72 09 22 05 54 07.2-72 09 27 09 01 42.6
PARM37	File 1:	72 09 27 09 10 55.1-72 10 05 01 04 55.3
	File 2:	72 10 05 01 20 16.9-72 10 07 17 22 48.9
PARM38	File 1:	72 10 08 01 34 17.5-72 10 15 00 03 40.2
PARM39	File 1:	72 10 15 00 12 52.7-72 10 21 01 15 11.2
PARM40	File 1:	72 10 21 01 24 23.7-72 10 30 00 07 22.0
PARM41	File 1:	72 10 30 00 16 34.6-72 11 06 17 02 34.8
	File 2:	72 11 06 17 24 05.0-72 11 09 00 26 14.5
PARM42	File 1:	72 11 09 05 21 07.6-72 11 13 09 04 56.4
	File 2:	72 11 13 09 17 13.2-72 11 16 22 53 12.9
PARM43	File 1:	72 11 17 01 11 26.4-72 11 24 10 51 28.7
	File 2:	72 11 24 11 00 41.5-72 11 26 23 49 56.8
PARM44	File 1:	72 11 26 23 59 24.3-72 12 06 01 09 34.9
PARM45	File 1:	72 12 06 01 18 47.4-72 12 17 00 58 23.2
PARM46	File 1:	72 12 17 01 07 35.7-72 12 25 02 51 11.7
PARM47	File 1:	72 12 25 02 51 11.7-72 12 25 23 10 41.3

71-083A-06, OSO-7, Chupp/U of New Hampshire

X-Ray Data

X-ray # 1-4
71-083A-06 A/C

Xray data tape format

This is a 9-track tape containing interpreted X-ray values. For missing major frames, a filler of -1's is used. The time parameter reflects real time.

The logical record length is 76 characters and the block size is 1520 characters.

Here is a list of the parameters on the x-ray tape. (All parameters are 16-bit integers except for numbers 7, 8, 25, 26, 27, and 28 which are 32-bit floating point words.)

1. YEAR of 1st major frame (15.36 sec of data)
2. YEAR of 2nd major frame
3. DAY OF YEAR of 1st major frame
4. DAY OF YEAR of 2nd major frame
5. HOUR OF DATA of 1st major frame
6. HOUR OF DATA of 2nd major frame
7. MINUTES OF DATA of 1st major frame
8. MINUTES OF DATA of 2nd major frame
9. SECONDS OF DATA of 1st major frame
10. SECONDS OF DATA OF 2nd major frame
11. STATUS WORD of 12 bits in half word of 1st major frame
12. SOLAR 7.5-15
13. SOLAR 15-30
14. SOLAR 30-60
15. SOLAR 60-120
16. BACKGROUND 7.5-15
17. BACKGROUND 15-30
18. BACKGROUND 30-60
19. BACKGROUND 60-120
20. SOLAR QUADRANT TIME of 1st major frame
21. SOLAR QUADRANT TIME of 2nd major frame
22. BACKGROUND QUADRANT TIME of 1st major frame
23. BACKGROUND QUADRANT TIME of 2nd major frame
24. STATUS WORD of 12 bits in half word of 2nd major frame
25. SPIN RATE of 1st major frame
26. SPIN RATE of 2nd major frame
27. AZIMUTH ENCODER TIME of 1st major frame

28. AZIMUTH ENCODER TIME of 2nd major frame
29. ELECTRONIC CALIBRATION 1-on, 2-off, 0-no major frame
30. RADIATION CALIBRATION 1-on, 2-off, 0-no major frame
31. DAY/NIGHT INDICATOR 1-day, 2-night, 0-no status
32. EXTRA WORD

XRAY data tapes:

XRAY01	File 1:	71	10	07	16	17	00-71	10	13	23	52	00
	File 2:	71	09	30	14	06	00-71	10	07	14	33	00
	File 3:	71	10	13	23	58	00-71	10	20	22	30	00
	File 4:	71	10	20	22	37	00-71	10	28	11	36	00
XRAY02	File 1:	71	10	28	11	42	00-71	11	04	10	11	00
	File 2:	71	11	04	10	17	00-71	11	10	20	09	00
	File 3:	71	11	10	20	15	00-71	11	16	21	01	00
	File 4:	71	11	16	21	08	00-71	11	23	10	04	00
XRAY03	File 1:	71	11	23	10	10	00-71	12	07	23	47	00
	File 2:	71	12	07	23	53	00-71	12	14	23	53	00
	File 3:	71	12	14	23	59	00-71	12	20	23	00	00
XRAY04	File 1:	71	12	20	23	07	00-71	12	27	21	01	00
	File 2:	71	12	27	21	07	00-71	01	01	21	53	00
	File 3:	72	01	01	22	33	00-72	01	18	13	40	00
XRAY05	File 1:	72	01	18	13	47	00-72	02	01	08	33	00
	File 2:	72	02	01	10	17	00-72	02	15	23	16	00
XRAY06	File 1:	72	02	16	00	49	00-72	02	19	23	41	00
	File 2:	72	02	19	23	49	00-72	03	01	03	51	00
	File 3:	72	03	01	03	58	00-72	03	15	23	47	00
XRAY07	File 1:	72	03	16	00	[illegible]	00-72	03	24	01	35	00
	File 2:	72	03	24	01	42	00-72	04	09	22	32	00
XRAY08	File 1:	72	04	09	22	38	00-72	04	12	02	58	00
	File 2:	72	04	11	22	43	00-72	04	22	09	09	00
	File 3:	72	04	22	09	17	00-72	05	06	23	27	00
XRAY09	File 1:	72	05	06	23	33	00-72	05	18	23	24	00
	File 2:	72	05	19	00	57	00-72	05	31	10	07	00
XRAY10	File 1:	72	05	31	10	14	00-72	06	13	22	46	00
	File 2:	72	06	13	22	52	00-72	06	24	20	18	00
	File 3:	72	06	24	20	24	00-72	06	25	22	44	00
XRAY11	File 1:	72	06	25	22	51	00-72	07	08	21	24	00
	File 2:	72	07	08	22	56	00-72	07	20	21	18	00
XRAY12	File 1:	72	07	20	21	24	00-72	07	24	17	13	00
	File 2:	72	07	24	17	24	00-72	08	03	21	28	00
XRAY13	File 1:	72	08	03	21	35	00-72	08	17	10	02	00
	File 2:	72	08	17	10	09	00-72	08	22	18	00	00
	File 3:	72	08	22	18	06	00-72	08	30	22	37	00
XRAY14	File 1:	72	08	30	22	43	00-72	09	06	14	53	00
	File 2:	72	09	06	16	25	00-72	09	10	02	00	00

X-Ray 44-4

XRAY15	File 1:	72 09 10 02 06 00-72 09 25 06 29 00
	File 2:	72 09 25 06 36 00-72 10 06 21 31 00
XRAY16	File 1:	72 10 06 21 37 00-72 10 08 15 12 00
	File 2:	72 10 08 15 19 00-72 10 21 12 56 00
	File 3:	72 10 21 13 02 00-72 10 24 16 46 00
	File 4:	72 10 24 16 52 00-72 10 29 17 10 00
XRAY17	File 1:	72 10 29 17 16 00-72 11 01 11 03 00
	File 2:	72 11 01 11 09 00-72 11 07 22 27 00
	File 3:	72 11 07 22 33 00-72 11 09 20 36 00
	File 4:	72 11 09 20 42 00-72 11 19 07 29 00
XRAY18	File 1:	72 11 19 07 35 00-72 11 24 10 57 00
	File 2:	72 11 24 11 04 00-72 11 30 13 37 00
	File 3:	72 11 30 13 44 00-72 12 15 21 12 00
XRAY19	File 1:	72 12 15 21 18 00-72 12 31 21 39 00

71-083A-06, OSO-7, Chupp/U of New Hampshire

γ-Ray Response Function

Gamma-ray Response Function

71-083A-06B

Response Function Tape (9 TRK, 800 BPI)

Five 7-track magnetic tapes generated at BBRC and containing the calibration data were merged into a single 9-track tape at the UNH Computation Center. Data sets on this tape were compared with the log book records and the erroneous records were corrected.

Since the gain of the system changed by about 7% during the calibration period, gamma ray lines 1.460 MeV (K^{40}) and 2.615 MeV (Th^{228}) observed in the background spectra were used to determine gain as a function of time over the 5-day period. Background data averaged over 10-minute intervals distributed throughout the calibration period was used to determine n_0 and c. The value for n_0, averaged over the entire calibration period, was then used to determine c for individual graphs; linear interpolation was used to find c for intermediate times.

After determining c for each data set, the spectra were then smoothed and gain corrected to a standard c ($=0.444 \times 10^{-4}$) in the manner described by Higbie, et al. (1973).

Data sets with the same elevation (θ) and azimuth (ϕ) angles were added together and average spectra for each set of θ and ϕ determined. Sodium spectra were treated differently from the other three sources. In the case of the Na^{24} spectra, room background was first subtracted from the source spectra. This was done to remove background contribution due to natural radioactivity (mainly K^{40} and Th^{228}).

The room background corrected spectra were then corrected for the activity difference between the two Na^{24} sources and for the decay in the counting rate due to short half-life (15 hours) of the Na^{29} source. [Two series of runs were made separately with the two sources listed in Higbie, et al. (1973). Source No. 2 spectra were amplified by a constant factor 0.85]

The runs with the shadow cone 'in' were then subtracted from the corresponding spectra with the shadow cone 'out'. This provided a rough correction for the effect of scattering and room background corrected for Sn^{113}, Cs^{137}, and Zn^{65} sources.

Final spectra for the different values of θ and ϕ are on tape CALTP (RECFM=FB, LRECL=1680, BLKSIZE=1680). All variables on this tape are 32-bit words. The format is as follows:

Word No.

1	:	Source number	(integer)
2	:	Elevation angle (θ)	(integer)
3	:	Azimuth angle (ϕ)	(integer)
4	:	First channel (M_1)	(integer)

	5	: Last channel (M_2)	(integer)
For sources 1-3	6	: Sum of counts in the original source spectrum	(floating point)
	7	: Sum of counts in the original background spectrum	(floating point)
	8	: Sum of counts in the smoothed gain-shifted source spectrum from M_1 to M_2	(floating point)
	9	: Sum of counts in the smoothed gain-shifted background spectrum from M_1 to M_2	(floating point)
	10-20	: Counters and extra words used to check the accuracy of operations performed on spectrum	(floating point)
	21-420	: Spectrum (400 ch.)	(floating point)

71-083A-06, OSO-7, Chupp/U of New Hampshire

Source Tape #1-1

Source Program Tape

Source Program Tape (9 TRK, 800 BPI)

This tape was created using the following data control block:

DCB=(RECFM=FB, LRECL=80, BLKSIZE=800)

Each record on the tape is a card image. Each program on the tape is preceded by two blank cards and a - PUNCH card which are not part of the program and are to be ignored.

The name of the source program tape is SOURCE.

Object #1-1

Object Program Tape

Object Program Tape (9 TRK, 800 BPI)

The name of this tape is OBJECT.

The data control block and data set name for each file are as follows:

File 1 : DCB=(RECFM=FB, LRECL=80, BLKSIZE=800),
DSN=USER.T548.SUBLIB

File 2 : DCB=(RECFM=VS, LRECL=X, BLKSIZE=800),
DSN=USER.T548.VADATA

Both data sets are files on disk and were copied from disk onto tape using IEHMOVE. The first is a program library, the second is a data table created from data supplied by NASA (E. G. Stassinopolous).

These data sets may be copied onto disk using IEHMOVE with the following job control language:

```
//        EXEC   PGM=IEHMOVE
//SYSPRINT  DD  SYSOUT=A
//SYSUT1  DD UNIT=SYSDA,SPACE=(TRK,120,,CONTIG)
//DISK  DD  UNIT=SYSDA,DISP=OLD,VOL=SER=DISK
//TAPE  DD  UNIT=2400,DISP=OLD,VOL=SER=OBJECT
//SYSIN DD *

          COL.                                                  COL.
          16                                                     72

COPY   DSNAME=USER.T548.SUBLIB,FROM=2400=(OBJECT,1),            X
          TO=2314=DISK
COPY   DSNAME=USER.T548.VADATA,FROM=2400=(OBJECT,2),            X
          TO=2314=DISK
/*
```

```
0047004701 2D012D000B000B002A002A4222AB02423207 2B000000350003000300070039000600050005 00C100C100C100C1   REC      1. LENGTH   1520
00004132C04B4132BDBE000000003FB8F5C20000000041674140004700470 12D012D000B000B002B002B4156353F4214BF7C
000000570002000200040041000700080005 00C100C100C100004132BEC44132BFCB40881EB841104AE100000000416 7
41400047004701 2D012D000B000B002B002B42241BA5423377CE040E00550004000300060004A00060004000400C100C100C1
00C1040E4132C0D14132C0D1411813D73F2B851F000000000002414000470047012D012D000B000B002C002C416D3F7C4216
3020040E00510007000200060046000800060002 00C100C100C100C1040E4132C0164132C0D1407F3D7140FBD70A00000000
00024140004700470 12D012D000B000B002C002C42258C494234E872040E0035000300020006004200050002000500C100C1
00C100C1040E4132C0D14132C0D14117851FBF63D70B000000000002414000470047012D012D000B000B002D002D418449BA
4217A0C40C0E0041000600040007004D0004000200020 0C100C100C100C10C0E4132C0F54132C0E3407647AE40F2CCCD0000
0000000241400047004701 2D012D000B000B002D002D4226FCED423659160C0E005A0009000300030037000B0003000300C1
00C100C100C10C0E4132C0D14132C0D14116F51FBFF47AE200000000000241400047004701 2D012D000B000B002E002E419B
53F742191168 0C0E0048000500050006004400080006000300C100C100C100C10C0E4132C0D14132C0C8406D333340E9B852
000000000002414000470047012D012D000B000B002E002E42286D914237C9BA040F0036000500020002003800040003000 2
00C100C100C100C1040F4132C0BF4132C0D4116633 3C0186666000000000002414000470047012D012D000B000B002F002F
41B25E35421A820C040F0045000200040008003F0007000500050 0C100C100C100C1040F4132C0D34132C0A84064147B40E0
8F5C000000000002414 0C0470047012D012D000B000B002F002F4229DE3542393A5E040F0038000600010004004800060001
000400C100C100C100C1040F4132C0D14132C0E04115D000C021999A000000000002414000470047012D012D000B000B0030
003041C96872421BF2B00C0C003E000100090002003200020003000600C100C100C100C10C0C4132C0C84132C11F405AE148
40D751EB000000000002414000470047012D012D000B000B003000302284ED9423AAB020C0C0037000300020006003E0001
0006000400C100C100C100C10C0C4132C0FA4132C0F841153C29411D0033300000000000241400047004701 2D012D000B000B
003100314 1E072B0421D63530C0C0043000200020004003C000500070002 00C100C100C100C10C0C4132C1054132C10C4051
999A40CE0A3D000000000002414000470047012D012D000B000B00310032422CBF7C401BA5E3040C0034000200030002 0031
000600020005 00C100C100C100C1040C4132C0DF4132C0E84114A7AE411C6E140000000000002414000470047012D012D000B
000B00320032 41F77CED421ED3F7040C0030000200070003038006000200040 0C100C100C100C1040C4132C0F14132C141
40483D7140C4AE140000000000002414000470047012D012D000B000B00320033422E30204118C49B040C0039000100030004
0031000600000002 00C100C100C100C1040C4132C0F64132C0FB411411EC4118D852000000000002414000470047012D012D
000B000B00330033421 0E8724220449B0C0D0035000100070002003F000B0005000200C100C100C100C10C0D4132C1034132
C0F1403EE14840BB47AE000000000002414000470047012D012D000B000B00330034422FA0C4412FCED90C0D003200030002
000100390004000900010 0C100C100C100C10C0D4132C0EE4132C0F741137B85411841EC000000000002414000470047012D
012D000B000B00340034421259164221B53F0C0D003C0004000200000002F00090002000100C100C100C100C10C0D4132C18B
4132C0E840357AE140B1E1480000000000024140
0047004701 2D012D000B000B00340035423111684146D916040C002A0003000400020039000A0003000200C100C100C100C1   REC      2. LENGTH   1520
040C4132C0D14132C1D74112E51F411AAB850000000000002414000470047012D012D000B000B00350035421 3C9BA422325E3
040C00380000000000002002A00090006000200C100C100C100C1040C4132C0D14132C141402C0A3D40A870A400000000002
41400047004701 2D012D000B000B00350036423282 0C415DE353040C002D0006000200020003E0004000500030 0C100C100C1
00C1040C4132C0D14132C12341124E14411A147B000000000002414000470047012D012D000B000B00360036421 53A5E4224
96870C0D002C000000030006002E0007000500040 0C100C100C100C10C0D4132C0D14132C1414022999A409F0A3D00000000
0002414000470047012D012D000B000B00360037423 3F2B04174ED910C0D0036000300040006003400050006000400C100C1
00C100C10C0D4132C0D14132C1D74111B70A41197D710000000000002414000470047012D012D000B000B00370037421 6AB02
4226072B0C0D002B00C400020002003800060004000100C100C100C100C10C0D4132C0D14132C141401928F64095999A0000
0000000241400047004701 2D012D000B000B00370038423563534 18EF7CE040C0030000500060004003C0008000100060 0C1
00C100C100C1040C4132C0D14132C0D141112000411 8E66600000000000241400047004701 2D012D000B000B00380038421 8
1BA5422777CE040C002F0003000600000034000C0006000400C100C100C100C1040C4132C0D14132C1413FFC28F6408C28F6
000000000002414000470047012D012D000B000B00380039423 6D3F741A3020C040C0036000400010004003200090002 0002
00C100C100C100C1040C4132C0D14132C1D7411088F641185000000000000002414000470047012D012D000B000B00390039
42198C494228E8720C0E002C0003000200030033000500060006 00C100C100C100C10C0E4132C0D14132C1413F651EB84082
C28F000000000002414000470047012D012D000B000B0039003A4238449B41BA0C490C0E0032000900010000003500060009
000500C100C100C100C10C0E4132C0D14132C0D140FF28F64117B99A000000000002414000470047012D012D000B000B003A
003A421AFCED422A59160C0E0030000200010001003700030004000100C100C100C100C10C0E4132C0D14132C0D1BF3147AF
40795C290000000000002414000470047012D012D000B000B003A003B4239B53F41D11687040D0021000200010002003E0008
0001000800C100C100C100C1040D4132C1414132C0D140F5C28F4117233300000000002414000470047012D012D000B000B
003B003B421C6D91422BC9BA040D0020000400010003003100010004000400C100C100C100C1040D4132C1544132C1D7BFC7
0A3E406FF5C300000000002414000470047012D012D000B000C003B0000423B25E341E820C4040D0027000100040002 0025
0006000600040 0C100C100C100C1040D4132C0164132C1D740EC666641168CCD000000000002414000470047012D012D000C
000C000000000421DDE35422D3A5E0C0E002D0008000400040003F0005000400060 0C100C100C100C10C0E4132C0D14132C0D1
C015D70A4066999A000000000002414000470047012D012D000C000C000100014096872B41FF2B020C0E002E00010001 0001
0032000300070005 00C100C100C100C10C0E4132C0D14132C0D140E30A3D4115F7AE000000000002414000470047012D012D
000C000C00010001421F4ED9422EAB020C0E0043000800040004003800080005000200C100C100C100C10C0E4132C0D14132
C109C01F3333405D3D710000000000002414000470047012D012D000C000C000200024120728042116353040E0C3100020003
000100400006000300040 0C100C100C100C1040E4132C1414132C0D140D9AE1441156 1EC000000000002414000470047012D
012D000C000C000200024220BF7C42301BA5040E0046000200060003003100060005000200C100C100C100C1040E4132C0D1
4132C0D1000000000000C000000000000000024140
0047004701 2D012D000C000C000300034 1377CED4212D3F7040E002A0005000200050 03E0006000600020 0C100C100C100C1   REC      3. LENGTH   1520
040E4132C0D14132C0D1000000000000000000000000000024140004700470 12D012D000C000C000300034222302042318C49
0C2F002F0005000500000 4C0004000300060 0C100C100C100C10C2F4132C11B4132C1A000000000000000000000000000001
```

ØSØ7
Gamma-Ray (7.5-120 KEV) Data
71-083A-06A
D-14298 X-Ray 2
10/28/71 — 11/23/71
C-15528

```
040D413570C3413570C840B951EB4069CCCD000CCCCCCCCC02E2D7004700470147014700C8000800C400044227ABC242370728
040D001C0002000200C2C024000300050002008B7C0B700B700B7C40D413570AA41357084401A47AEC000000000000000002
E2D7004700470147014700C8000800050C0541A6353F4219BF7C040D0019000600040000001E0007000600040008700B7C0B7
00B7040D4135705F4135703A000000000000000000000000002E2D7004700470147014700C8000800050005422918A54238
77CE0C2F002E0009000500030002F0007000600040008700B700B700B70C2F41357083413570F4000000000000000000000000
0001E2D7004700470147014700080008000600064 1BD3F7C421B30200C2F02C8000100050004001E0006000400010 0B700B7
00B700B70C2F4135703A4135703A000000000000000000000000001E2D7004700470147014700080008000600064 22A8C49
4239E8720C2F02A8000700070005002700020004000400 8B700B700B700B70C2F4135703A4135703A000000000000000000000
00000001E2D7004700470147014700080008000700074 1D449BA421CA0C4046EC00B000100060002000600000002000000B7
00B700B700B7046E41357035413570 1D000000000000000000000000010001E2D7004700470147014700080008000700074 22B
FCED423B5916046E000EC002000200020000A0002000200000B700B700B700B7046E41356FDF41356FA2000000000000000000
000000010001E2D7004700470147014700080008000800841EB53F7421E1168046E0009000100030002000500030002000 2
00B700B700B700B7046E41356FC341356F9300000000000000000000000010001E2D7004700470147014700080008000800 09
422D6D9140C9BA5E0C6C001000000000300030010000100040000CB700B700B700B70C6C41356FAB41356F46000000000000
000000000001000 1E2D7004700470147014700080008000900094210 25E3421F820C0C6C001A0002000400000001B00020007
000100B700B700B700B70C6C41356F2941356F1E000000000000000000000000010001E2D7004700470147014700080008000 9
000A422EDE354123A5E30C6C002500020002000100C22C002000070001 00B700B700B700B70C6C41356F1441356EFB00000000
000000000000000010001E2D7004700470147014700CECCC8000A000A421196874220F2B0042C0330000D0004000300 7E0007
0001000700B700B700B700B7042C41356EC041356E890000000000000000000000000001E2D7004700470147014700080008
000A000B42304ED9413AB020042C037000CD0002000100 7E0005C0060003C0B700B700B700B7042C41356EAD41356E700000
000000000000000000000001E2D7004700470147014700080008000B000B4213072B4222635304 2C0370001500040002 00AA
00040005000500B700E7CCB700B7042C41356E8041356E1700000000000000000000000000001E2D7004700470147014700 08
0008000B000C4231BF7C4151BA5E0C2E03700C0A0005000500AE0C0400040006 00B700B700B700B70C2E41356ECA41356E0C
000000000000000000000001E2D7004700470147014700080008000C000C421477CE4223D3F70C2E0370000D00060006
0CAA0008000300070 0B700B700B700B700B70C2E41356E0C41356DDE0000000000000000000000000001E2D7004700470147014 7
0008000800C000D423330204168C49B0C2E03B0000F000B0008000920006000E000A00B700B700B700B70C2E41356D9D4135
6D5A000000000000000000000000000001E2D7004700470147014700080008000D000D4215E8724225449B042F0330001D000E
001A00A6000F000B0018C0B70CB700B700B7042F41356D6F41356D2F000000000000000000000000000001E2D7004700470147
014700C8000800 0D000E4234A0C4417FCED9042F0370001A00230037000A6001400 2A0030000B700B700B700B7042F41356D6C
41356D5B000000000000000000000000000001E2D7
0047004701470147001470008000800E000E4217591642 26B53F042F0330002F0032005800AA0026002F005500B700B700B700B7  REC      4, LENGTH   1520
042F41356CF441356CDE000000000000000000000000000001E2D7004700470147014700080008000E000F423611684196D916
0C2C02F0003900620086CCAE0043005000660 0B700B700B700B70C2C41356CC641356CA4000000000000000000000000000001
E2D7004700470147014700C0080008000F000F4218C9EA422825E30C2C0330005E006E00AA00A6004B006E00BA00B700B700B7
00B70C2C41356C8941356CA500000000000000000000000000001E2D7004700470147014700080008000F0010423782 0C41AD
E3530C2C02D80055008A00B600B20041007E00D600B700B700B700B70C2C41356C6F41356C350000000000000000000000000
0001E2D7004700470147014700080008001000100421A3A5E4229968704 2D02F0006A009A00CA00C60066008E00CA00B700B7
00B700B7042D41356C4941356BF800000000000000000000000000001E2D7004700470147014700080008001000114238F2B0
41C4ED91042D02F0006200C8E00DA00BA0062009200DE00B700B700B700B7042D41356BF541356BC100000000000000000000
00000001E2D7004700470147014700080008001100114 21BAB02422B072B042D02C8006A008E00AE00B2005C007E00BE00B7
00B700B700B7042D41356BB241356B9600000000000000000000000000001E2D7004700470147014700080008001100124 23A
635341DBF7CE0C2F0330006600860096 0CB6005F0082009E00B700B700B700B70C2F41356B6241356B3900000000000000000
000000000001E2D7004700470147014700080008001200124 21D1BA5422C77CE0C2F02F0005300760 0A600B60050007E0092
00B700B700B700B70C2F41356B5641356AD900000000000000000000000000001E2D7004700470147014700080008001200 13
423BD3F741F3020C0C2F2C2B005C0054008A00D60051007200 9E00B700B700B700B70C2F41356AF741356B1000000000000
0000000000000001E2D7004700470147014700080008001300 13421E8C49422DE872042E0330062006E00BA00D20044007A
009E00B700B700B700B7042E41356AB641356AAD000000000000000000000000000001E2D7004700470147014700080008001 4
0014411449BA4210A0C4042E02C80057007E00AA00C60044007A00B200B700B700B700B7042E41356A7F41356A2300000000
0000000000000000001E2D7004700470147014700C8000800140014421FFCED422F5916042E02C8007600 8600CE00D20053
008200D600B700B700B700B7042E41356A7341356A650000000000000000000000000001E2D7004700470147014700080008
0015000 15412B53F7421211680C2F02F00072009600F800BA004E008600CA00B700B700B700B70C2F41356A2D413569ED0000
0000000000000000000000001E2D7004700470147014700080008001500154 2216D914230C9BA0C2F02C8005B009E00E800BE
0076009E00F800B700B700B700B70C2F41356A0141356 9C7000000000000000000000000000001E2D7004700470147014700 08
0008001600164 1425E354213820C0C2F0330008E00BE013800D2007E00C2013800B700B700B700B70C2F413569ED41356988
0000000000000000000000000001E2D7004700470147014700080008001600164222DE3542323A5E042D02F0008E00C60138
00DA008200BA012800B700B700B700B7042D4135697641356963000000000000000000000000001E2D7004700470147014 7
0008000800170017415968724214F2B0042D02F00076009A012800E8007600DA014800B700B700B700B7042D413569384135
68D600000000000000000000000000001E2D7004700470147014700C0800080017001742244ED94233AB02042D02C8008A00D2
0148010800720 0D601180 0B700B700B700B7042D4135689941356518000000000000000000000000000001E2D7004700470147
0147000800080018001841707280421663530C2F02F0008A00E801D800F8008E00F8025800B700B700B700B70C2F41356899
4135691800000000000000000000000000001E2D7
0047004701470000000 8C000001800004225BF7C000000000C2F03700128FFFFFFFF0158FFFFFFFFFFFF00B7FFFF00B7FFFF  REC      5, LENGTH    76
0C2F413568FDC1100000000C0000C110000000000000000001E2D7
```