Data Set Catalog #126

OSO-4

Reduced Proton Electron

67-100A-04A 11 tapes

OSO-4

PROTON & ELECTRON COUNT RATE TAPES

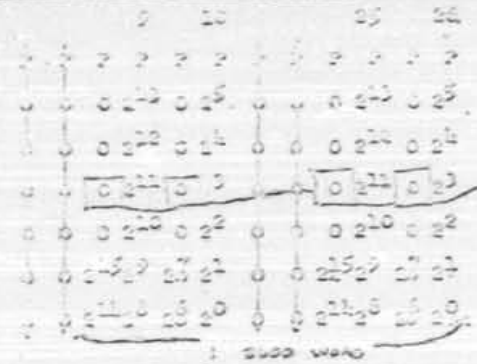
67-100A-04A

This data set consists of 11 Experimenter generated 7-track 556 BPI, Binary, multi-file tapes generated on a CDC 3600 computer. Data from one orbit fills one tape file which itself has a maximum of 18 records. The time period October 23, 1967 to December 30, 1967 is covered by these tapes with essentially 100 percent completeness

D#	C#	START	STOP	# OF FILES
D-06061	C-05116	10/23/67	10/25/67	106
D-06069	C-05117	10/25/67	10/31/67	104
D-06065	C-05118	10/31/67	11/07/67	105
D-06068	C-05119	11/07/67	11/14/67	100
D-06067	C-05120	11/14/67	11/20/67	104
D-06070	C-05121	11/20/67	11/27/67	99
D-06060	C-05122	11/27/67	12/04/67	97
D-06062	C-05123	12/04/67	12/10/67	102
D-06063	C-05124	12/10/67	12/17/67	101
D-06064	C-05125	12/17/67	12/24/67	97
D-06066	C-05126	12/24/67	12/30/67	97

[illegible]

[illegible] Data Reduction Format, Tape 1 [illegible]



UPDATED 2/14/[illegible]

			9		18				25		26
P	P	P	P	P	P	P	P	P	P	P	P
0	0	0	2^{13}	0	2^{5}	0	0	0	2^{13}	0	2^{5}
0	0	0	2^{12}	0	2^{4}	0	0	0	2^{12}	0	2^{4}
0	0	0	2^{11}	0	2^{3}	0	0	0	2^{11}	0	2^{3}
0	0	0	2^{10}	0	2^{2}	0	0	0	2^{10}	0	2^{2}
0	0	2^{15}	2^{9}	2^{7}	2^{1}	0	0	2^{15}	2^{9}	2^{7}	2^{1}
0	0	2^{14}	2^{8}	2^{6}	2^{0}	0	0	2^{14}	2^{8}	2^{6}	2^{0}

DATA IS QUESTIONABLE IF 2 APPEARS IN THIS 10TH BIT POSITION

Tape Motion

1 2500 WORD

Main Frame Data Word

1 TAPE [illegible] = 6 [illegible] BITS = 2 [illegible]

1. A file will consist of one ground station readout. Exception— the start of each data tape consists of a label followed by an end of file.
2. Each file will start with a label. This will be a 48 bit field repeated [illegible] times, may be filled out with zeros. Total label length will be [illegible] characters. The label will include our experiment number (43).

Format:

char.	meaning	char.	meaning
1-5	Satellite i.d.	31	Unprocessible code
6,7	Year		1 = unprocessible
8-10	Station i.d.		0 = processible
11-14	Station tape number	32-36	End time [illegible] unprocessible file (sec. of day)
15,16	Station file number		
17,18	Buffer file number	37-38	Experiment i.d. (43)
19-21	Day of year	39-42	zeros
22-24	Real time frame period	43-44	Edit file number
	[illegible] milliseconds per frame	45-46	Edit tape number
25	Time accuracy code		
	1 = 100 msec uncertainty		
	2 = 2500 msec uncertainty		
26-30	Start time of data (sec. of day)		

Then 96 identical lines
Last line same as above except
37-42 Blank (42 zeros)
43-46 May have different numbers

Record gap.

Data for the complete pass follows.

Approximately 100 orbits will be on a tape. ≈ 105 files

End of tape will be signified by two end of file marks.

[illegible] No.	NAME	Description	Units
1	TDC	Time	Day count
2	TMD	Time	Milliseconds of day
3	SPVX	Satellite position vector	X-component (km)
4	SPVY	Satellite position vector	Y-component (km)
5	SPVZ	Satellite position vector	Z-component (km)
6	RASPV	Right ascension of satellite position vector	Degrees
7	DCPV	Declination of satellite position vector	Degrees
8	VVX	Velocity vector	X-component (km/sec)
9	VVY	Velocity vector	Y-component (km/sec)
10	VVZ	Velocity vector	Z-component (km/sec)
11	RAVV	Right ascension of velocity vector	Degrees
12	DVV	Declination of velocity vector	Degrees
13	GLAT	Geodetic latitude	Degrees
14	GLONG	Geodetic longitude	Degrees
15	GALT	Geodetic altitude	Kilometers
16	USVX	Unit solar vector	X-component
17	USVY	Unit solar vector	Y-component
18	USVZ	Unit solar vector	Z-component
19	RASV	Right ascension of unit solar vector	Degrees
20	DUSV	Declination of unit solar vector	Degrees
21	TL	McIlwain's "L" parameter	Earth radii
22	TB	Magnetic field strength	Gauss
23	UMVX	Unit magnetic vector	X-component
24	UMVY	Unit magnetic vector	Y-component
25	UMVZ	Unit magnetic vector	Z-component
26	RAMV	Right ascension of magnetic vector	Degrees
27	DUMV	Declination of magnetic vector	Degrees
28	PA	Pitch angle	Radians
29	RA	Roll angle: Smoothed value using roll angles with less than 2° roll angle error	Radians
30	AA	Aspect angle (between roll axis and aspect reference axis)	Radians
31	DELTA	Time increment (Δt) since digital subcommutator word number one	Milliseconds
32	RAX	Roll-axis orientation	X-component
33	RAY	Roll-axis orientation	Y-component

INDEX OF PARAMETERS ON OSO-D EPHEMERIS TAPES.

TABLE I