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Data for September 1993

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Number 595

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CONTENTS

PART I (PROMPT REPORTS) Page

PART II (COMPREHENSIVE REPORTS) Page

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	JUL 93	AUG	SEP	OCT	NOV	DEC	JAN 94	FEB
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	589A 43	590A 41	591A 45	592A 50	593A 47	594A 49	595A 43	
A.2aa	International Provisional Sunspot Numbers	588A 25	589A 25	590A 23	591A 25	592A 23	593A 26	594A 27	595A 25
A.2c	American Sunspot Numbers	588A 25	589A 25	590A 23	591A 25	592A 23	593A 26	594A 27	595A 25
A.3a	Mt. Wilson Magnetograms	589A 43	590A 41	591A 45	592A 50	593A 47	594A 49	595A 43	
A.3b	Sunspot Mag Class and Regions	589A 90	590A 88	591A 91	592A 98	593A 77	594A 96	595A 90	
A.3c	Kitt Peak Magnetograms	589A 43	590A 41	591A 45	592A 50	593A 47	594A 49	595A 43	
A.3d	Mean Solar Magnetic Field (Stanford)	588A 35	589A 33	590A 31	591A 35	592A 33	593A 37	594A 39	595A 33
A.3e	Stanford Magnetograms	589A 43	590A 41	591A 45	592A 50	593A 47	594A 49	595A 43	
A.4	H-alpha Filtergrams	589A 43	590A 41	591A 45	592A 50	593A 47	594A 49	595A 43	
A.6c	Stanford Solar Mag Field Synoptic Maps	589A 36	590A 34	591A 38	592A 36	593A 40	594A 42	595A 36	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps	589A 42	590A 40	591A 44	592A 48	593A 46	594A 48	595A 42	
A.6e	Mass Ejections (Proxy data) from the Sun	593B 31	594B 25	595B 24					
A.6f	Active Prominences and Filaments	593B 32	594B 26	595B 25					
A.6g	Sac Peak Coronal Line Synoptic Maps	589A 38	590A 36	591A 40	592A 40	593A 42	594A 44	595A 38	
A.7h	Coronal Line Emission (Sac Peak)	589A 43	590A 41	591A 45	592A 50	593A 43	594A 49	595A 43	
A.8aa	2800 MHz- Solar Flux (Penticton)	588A 25	589A 25	590A 23	591A 25	592A 23	593A 26	594A 27	595A 25
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	588A 25	589A 25	590A 23	591A 25	592A 23	593A 26	594A 27	595A 25
A.8g	Adjusted Daily Solar Fluxes (Learmonth)	588A 25	589A 25	590A 23	591A 25	592A 23	593A 26	594A 27	595A 25
A.10g	Nancay Radioheliograph - 164 MHz	589A114	590A105	591A102	592A115	593A108	594A114	595A116	
A.11g	Solar X-ray GOES (graphs/event table)	593B 22	594B 16	595B 16					
A.11k	Solar UV NOAA-9	May 86-Dec 88 in 566B 84							
A.11l	Solar UV NIMBUS7	Nov 78-Oct 84 in 542B 82							
A.11n	Solar YOHKOH Soft X-ray Images	589A 74	590A 72	591A 75	592A 81	593A 77	594A 80	595A 74	
A.12e	Solar Particles (IMP H & J)	Dec 88-Oct 89 in 570B 92							
A.12g	Solar Particles (GOES-7)	588A 4	589A 4	590A 4	591A 4	592A 4	593A 4	594A 4	595A 4
A.12h	Interplanetary Particles (SAMPEX)	Jul-Dec 92 in 595B 36							
A.13e	Solar Plasma (IMP H & J)	Jan 93 in 587B 41							
A.16b	NIMBUS Solar Irradiance	Nov 78-Jun 92 in 577B 56							
A.16c	ERBS, NOAA-9 & -10 Solar Irradiance	1989 in 551B 78; ERBS Oct 84-Jul 93 in 593B 43							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989 in 548A154							
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	588A 28	589A 28	590A 26	591A 28	592A 26	593A 29	594A 30	595A 28
C.1ba	H-alpha Flare Groups	593B 4	594B 4	595B 4					
C.1d	Flare Patrol Obsevations	588A 32	589A 31	590A 29	591A 33	592A 30	———	———	———
C.1d	Flare Patrol Obsevations	593B 12	594B 10	595B 9					
C.3	Radio Bursts Fixed Frequency	593B 14	594B 12	595B 11					
C.3	Radio Bursts Fixed Frequency Selected	588A 33	589A 32	590A 30	591A 34	592A 31	593A 36	594A 37	595A 31
C.4f	Radio Bursts Spectral (Sagamore Hill)	589A107	590A102	591A 99	592A109	593A103	594A109	595A105	
C.4k	Radio Bursts Spectral (Learmonth)	589A107	590A102	591A 99	592A109	593A103	594A109	595A105	
C.4l	Radio Bursts Spectral (Palehua)	589A107	590A102	591A 99	592A109	593A103	594A109	595A105	
C.4m	Radio Bursts Spectral (Ondrejov)	589A107	590A102		592A109	593A103	594A109	595A105	
C.4n	Radio Bursts Spectral (Potsdam)	589A107				593A103	594A109	595A105	
C.4o	Radio Bursts Spectral (San Vito)	589A107	590A102	591A 99	592A109	593A103	594A109	595A105	
C.4p	Radio Bursts Spectral (IZMIRAN)	589A107	590A102	591A 99	592A109	593A103	594A109	595A105	
C.6	Sudden Ionospheric Disturbances	589A104	590A 99	591A 96	592A106	593A100	594A105	595A101	
D.	GEOMAGNETIC EVENTS								
D.1a	Geomagnetic Indices	589A121	590A112	592A143	592A122	593A115	594A120	595A123	
D.1ba	27-day Chart of Kp Indices	589A123	590A114	591A111	592A124	593A117	594A122	595A125	
D.1cb	Monthly Mean aa Indices	589A124	590A115	592A125	593A118	593A118	594A123	595A126	
D.1d	Principal Magnetic Storms	589A125	590A116	591A113	592A128	593A120	594A125	595A128	
D.1f	Sudden Commencements/Flare Effects	Jul-Oct 92 in 583A140						595A129	
D.1g	Equatorial Indices Dst	**Jan-Feb 88 in 590A118**; May-Jul 93 in 592A144							
D.1i	Polar Cap (PC) Index	See UAG	Report	for early	data.	593A119	594A124	595A127	
F.	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	589A115	590A106	591A103	592A120	593A109	594A115	595A117	
F.1b	Cosmic Ray Neutron Cts (Climax)	589A115	590A106	591A103	592A120	593A109	594A115	595A117	
F.1h	Cosmic Ray Neutron Cts (Thule)	589A115	590A106	591A103	592A120	593A109	594A115	595A117	
F.1i	Cosmic Ray Neutron Cts (Kiel)								
F.1j	Cosmic Ray Neutron Cts (Tokyo)	589A115	590A106	591A103	592A120	593A109	594A115	595A117	
F.1n	Cosmic Ray Neutron Cts (Beijing)	589A115	590A106	591A103	592A120	593A109	594A115	595A117	
F.1b	Cosmic Ray Neutron Cts (Haleakala)	592A135	590A106	591A103	592A120	593A109	594A115	595A117	
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	588A 20	589A 20	590A 19	591A 20	592A 19	593A 20	594A 20	595A 18

The entry "589A 43" under Jul 1993, for example, means that the sunspot drawings for Jul 1993 appear in SOLAR-GEOPHYSICAL DATA No. 589, Part I, and that they begin on page 43. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

Comprehensive Reports — Number 595 Part II

DATA FOR SEPTEMBER 1993

Hα SOLAR FLARES

SEPTEMBER 1993

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	KANZ	02	0535E	0539	0551	N19	W55	7577	08	29.1	16D	SF		2	C				
0002	SVTO	04	0543	0543	0603	N10	E34	7576	09	6.8	20	SF		3	E		17		F
0003		04	07141	07171	0744	N10	E32	7576	09	6.7	30	SF	B 4.6				38		F
	LARI	04	0714	0718	0746	N10	E30	7576	09	6.5	32	SF			P				
	SVTO	04	0715	0717	0742	N10	E34	7576	09	6.8	27	SF	B 4.6	3	E		38		F
0004		04	14283	14344	1445	N10	E30	7576	09	6.8	17	SF	B 3.2				16		FH
	HOLL	04	1428	1436	1449	N09	E29	7576	09	6.8	21	SF	B 3.2	3	E		21		FH
	SVTO	04	1431	1434	1440D	N11	E30	7576	09	6.9	9D	SF		3	E		15		FH
	RAMY	04	1434E	1438	1441	N10	E30	7576	09	6.9	7D	SF		3	E		11		F
0005	HOLL	04	1623	1623	1644	N06	W63	7573	08	31.0	21	SF	B 1.5	3	E		10		
0006		04	1843	18442	1905	N09	E28	7576	09	6.9	22	SN	C 1.6				76		F
	RAMY	04	1842E	1844	1845D	N09	E28	7576	09	6.9	3D	SF		3	E		77		F
	HOLL	04	1843	1846	1905	N09	E27	7576	09	6.8	22	SN	C 1.6	3	E		75		F
0007		04	2316	23162	2323	N10	E29	7576	09	7.1	7	SF	B 2.8				27	0.6	D
	MITK	04	2316	2316	2320	N08	E29	7576	09	7.1	4	SN			C	2316	48	0.6	D
	HOLL	04	2316	2318	2324	N10	E29	7576	09	7.1	8	SF	B 2.8	3	E		19		
	LEAR	04	2316	2319U	2325	N11	E29	7576	09	7.1	9	SF		3	E		15		
0008		05	0035	0036	0042	N08	E24	7576	09	6.8	7	SF	B 5.3				20		
	HOLL	05	0035	0036	0040	N08	E24	7576	09	6.8	5	SF		3	E		20		
	LEAR	05	0035	0036	0043	N08	E24	7576	09	6.8	8	SF	B 5.3	3	E		21		
0009		05	1145	11533	1204	N08	E18	7576	09	6.8	19	SF	B 3.8				19		FH
	SVTO	05	1143E	1156	1208	N09	E18	7576	09	6.8	25D	SF	B 3.8	3	E		23		F
	RAMY	05	1145	1153	1159	N08	E18	7576	09	6.8	14	SF		3	E		15		FH
		05	2356		2400	No Flare Patrol													
		06	0000		0000	No Flare Patrol													
0010		06	11312	11322	1142	N08	E05	7576	09	6.8	11	SF	B 1.1				49	0.8	
	SVTO	06	1131	1134	1142	N09	E05	7576	09	6.8	11	SF	B 1.1	3	E		14		
	CATA	06	1132	1132	1141D	N08	E04	7576	09	6.8	9D	SN		1	C	1132	84	0.8	
	KANZ	06	1133	1133	1141	N07	E05	7576	09	6.8	8	SF		2	C				
0011		06	1633	1633	1643	N08	E02	7576	09	6.8	10	SF					13		F
	HOLL	06	1633	1633	1641	N08	E02	7576	09	6.8	8	SF		3	E		13		F
	KANZ	06	1633	1633	1645	N08	E02	7576	09	6.8	12	SF		2	C				
		06	2038		2246	No Flare Patrol													
		07	1330		1338	No Flare Patrol													
0012	HOLL	07	1820	1823	1825	N09	W13	7576	09	6.8	5	SF	B 1.8	3	E		14		
		07	2210		2302	No Flare Patrol													
0013	ISTA	08	0712		0721	S11	W22		09	6.6	9	SN			P				G
0014	HOLL	08	1344	1344	1349	N10	W43	7579	09	5.3	5	SF		3	E		12		
		08	1902		2017	No Flare Patrol													
		08	2113		2120	No Flare Patrol													
		08	2126		2152	No Flare Patrol													
		08	2234		2248	No Flare Patrol													
		09	0039		0312	No Flare Patrol													
		09	1921		1944	No Flare Patrol													
		09	2133		2136	No Flare Patrol													
		10	0003		0020	No Flare Patrol													
		10	1140		1144	No Flare Patrol													
		10	1150		1159	No Flare Patrol													
		10	1202		1607	No Flare Patrol													
		10	1624		1636	No Flare Patrol													
		10	1701		1732	No Flare Patrol													
		10	1800		2044	No Flare Patrol													
		10	2049		2056	No Flare Patrol													

Hα SOLAR FLARES

SEPTEMBER 1993

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		10	2136		2141	No Flare Patrol													
		10	2152		2204	No Flare Patrol													
		10	2214		2224	No Flare Patrol													
		11	2234		2238	No Flare Patrol													
		12	2148		2245	No Flare Patrol													
		13	1944		1955	No Flare Patrol													
		13	2130		2241	No Flare Patrol													
		14	0000		0000	No Flare Patrol													
		14	1932		1938	No Flare Patrol													
0015	KANZ	15	0900	0904	0912	S11	E73	7581	09	20.9	12	SF		2	C				
0016		16	17381	17425	1844	S12	E54	7581	09	20.8	66	2N	C 6.3				216		FH
	HOLL	16	1738	1742	1844	S12	E55	7581	09	20.9	66	2N	C 6.3	3	E		275		FH
	RAMY	16	1739	1747	1803D	S11	E54	7581	09	20.8	24D	1F		3	E		156		FH
		16	1940		1950	No Flare Patrol													
		16	2119		2147	No Flare Patrol													
		16	2153		2157	No Flare Patrol													
		16	2334		2340	No Flare Patrol													
0017	HOLL	16	2359	2401	2405D	S12	E50	7581	09	20.8	6D	SF		3	E		16		
0018	CATA	17	0638E	0640	0700	S22	W03	7583	09	17.0	22D	SN		2	C	0640	112	1.3	
0019	SVTO	17	1154	1157	1202	S10	E43	7581	09	20.7	8	SF		3	E		12		F
		17	2347		2400	No Flare Patrol													
		18	0000		0000	No Flare Patrol													
0020	LEAR	18	0911	0914	0918	S14	E33	7581	09	20.9	7	SF	B 7.5	3	E		25		
0021	RAMY	18	1622	1624	1627	S13	E29	7581	09	20.9	5	SF	B 4.3	3	E		32		F
0022		21	13561	13575	1412	S12	W12	7581	09	20.7	16	SF	B 1.5				24		FH
	SVTO	21	1356	1357	1411	S11	W12	7581	09	20.7	15	SF	B 1.5	3	E		28		F
	KANZ	21	1357	1357	1417	S12	W11	7581	09	20.7	20	SF		2	C				
	HOLL	21	1357	1402	1407	S12	W12	7581	09	20.7	10	SF		2	E		19		FH
		21	1857		2241	No Flare Patrol													
		21	2301		2309	No Flare Patrol													
		22	1640		1741	No Flare Patrol													
		22	1949		2134	No Flare Patrol													
		22	2153		2219	No Flare Patrol													
0023	LEAR	23	0440	0442	0449	S12	W35	7581	09	20.5	9	SF	B 4.7	3	E		17		F
0024	WATU	23	0444E	0444	0453	S11	E34		09	25.7	9D	SN			C	0444	30	0.4	D
0025		23	06144	06146	0626	S06	E22	7585	09	24.9	12	SF					11		F
	KANZ	23	0614	0614	0626	S08	E22	7585	09	24.9	12	SF		2	C				
	SVTO	23	0618	0620	0626	S05	E21	7585	09	24.8	8	SF		3	E		11		F
		23	1123		1137	No Flare Patrol													
		23	1144		1149	No Flare Patrol													
0026	SVTO	23	1331E	1337U	1346	S07	E19	7585	09	25.0	15D	SF	B 1.5	3	E		31		F
0027	SVTO	23	1347	1352	1405	S08	E18	7585	09	24.9	18	SF	B 1.2	3	E		26		F
0028	RAMY	23	1446	1458	1517	S07	E20	7585	09	25.1	31	SF	B 1.9	4	E		11		F
0029		23	1454*	1527*	1550	S07	E19	7585	09	25.0	56	SF	C 1.0				29		EF
	SVTO	23	1454	1529	1555	S08	E18	7585	09	25.0	61	SF		3	E		34		FE
	RAMY	23	1524	1527	1545	S07	E19	7585	09	25.1	21	SF	C 1.0	4	E		23		F
	RAMY	23	1546	1546	1550	S07	E19	7585	09	25.1	4	SF		4	E		31		F
		23	2035		2116	No Flare Patrol													
		23	2125		2232	No Flare Patrol													
		23	2241		2245	No Flare Patrol													

Hα SOLAR FLARES

SEPTEMBER 1993

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0030	LEAR	23	2316	2319	2327	S06	E14	7585	09	25.0	11	SF	B 6.6	3	E		21		
0031	HOLL	23	2347	2348	2354	S07	E12	7585	09	24.9	7	SF		3	E		12		
0032	LEAR	24	0029	0030	0034	S09	E13	7585	09	25.0	5	SF	B 3.3	3	E		17		
0033	LEAR	24	0202	0207	0215	S05	E11	7585	09	24.9	13	SF		3	E		20		
0034		24	02278	02305	0240	S08	E12	7585	09	25.0	13	SF	B 2.6				14	0.1	D
	WATU	24	0227	0230	0232	S09	E13	7585	09	25.1	5	SF			P	0230	10	0.1	D
	LEAR	24	0235	0235	0247	S07	E10	7585	09	24.8	12	SF	B 2.6	3	E		17		
0035		24	0514	05165	0535	S06	E10	7585	09	25.0	21	SN	C 1.6				47	0.7	DEF
	LEAR	24	0514	0516	0533	S06	E10	7585	09	25.0	19	SF	C 1.6	3	E		44		FE
	SVTO	24	0519E	0521	0538	S04	E10	7585	09	25.0	19D	SN		2	E		32		
	TACH	24	0523E		0533	S07	E10	7585	09	25.0	10D	SB		2	C	0523	66	0.7	D
0036		24	0648*	0655*	0726	S07	E08	7585	09	24.9	38	1N	B 9.6				215	3.3	DF
	KANZ	24	0648	0700	0740	S07	E08	7585	09	24.9	52	SF		2	C				
	LEAR	24	0651	0714	0723	S07	E07	7585	09	24.8	32	SF	B 9.6	3	E		35		F
	TACH	24	0655	0655	0721	S07	E09	7585	09	25.0	26	SN		2	C	0655	102	1.1	D
	ATHN	24	0715	0716	0720	S08	E06	7585	09	24.7	5	2N		3	V	0716	509	5.5	
0037	KANZ	24	0800	0800	0804	S08	E08	7585	09	24.9	4	SF		2	C				
		24	1317		1331	No Flare Patrol													
		24	1537		1553	No Flare Patrol													
		24	1618		1625	No Flare Patrol													
		24	1627		1643	No Flare Patrol													
0038	HOLL	24	1656	1658	1711	S07	E00	7585	09	24.7	15	SF		2	E		47		F
		24	1756		2033	No Flare Patrol													
		24	2038		2228	No Flare Patrol													
0039	LEAR	25	0501	0501	0504	S09	W04	7585	09	24.9	3	SF		4	E		11		
0040		25	06101	0613	0622	N20	E16	7588	09	26.5	12	SF					26	0.4	DF
	TACH	25	0610	0613	0628	N21	E16	7588	09	26.5	18	SF		2	C	0613	41	0.4	D
	LEAR	25	0611	0613	0617	N20	E17	7588	09	26.5	6	SF		4	E		12		F
		25	1226		1244	No Flare Patrol													
		25	1430		1437	No Flare Patrol													
		25	1455		1456	No Flare Patrol													
		25	1914		1923	No Flare Patrol													
		25	1954		2012	No Flare Patrol													
		25	2031		2224	No Flare Patrol													
0041	SVTO	26	0722	0725	0742	S06	W21	7585	09	24.7	20	SF		3	E		21		F
0042		26	08138	0823	0836	S06	W22	7585	09	24.7	23	SF					30		F
	LEAR	26	0813	0823	0836	S06	W23	7585	09	24.6	23	SF		3	E		20		
	SVTO	26	0821	0823	0837	S06	W22	7585	09	24.7	16	SF		3	E		41		F
0043		26	0839*	08479	0918	S07	W21	7585	09	24.8	39	SF					28		F
	LEAR	26	0839	0847	0858	S07	W20	7585	09	24.9	19	SF		3	E		21		F
	SVTO	26	0850	0856	0937	S07	W22	7585	09	24.7	47	SF		3	E		35		F
0044	CATA	26	1029	1036	1043	N07	E90		10	3.2	14	1F		1	C	1036	67		
0045	RAMY	26	1726	1726	1730	N15	E90	7590	10	3.5	4	SF	C 3.4	3	E		46		
0046	LEAR	27	0013	0015	0022	S06	W31	7585	09	24.7	9	SF	C 7.6	4	E		45		F
0047	LEAR	27	0112	0113	0125	S06	W31	7585	09	24.7	13	SF		3	E		11		F
0048	LEAR	27	0135	0137	0144	N13	E90	7590	10	3.8	9	SF	C 3.3	3	E		66		
0049	LEAR	27	0403	0403	0407	N12	E90	7590	10	3.9	4	SF		3	E		14		

SEPTEMBER 1993

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0050	SVTO	27	1049	1052	1057	N11	E80	7590	10	3.5	8	SF	C	5.7	3	E		17		
0051	CATA	27	1220	1220	1227	N08	E90	7590	10	4.3	7	1N			1	C	1220	56		
0052	SVTO	27	1226	1229	1231	N13	E81	7590	10	3.6	5	SF			3	E		12		
0053	SVTO	27	1353	1358	1411	N12	E79	7590	10	3.5	18	SN	C	4.0	3	E		30		F
		27	1355		1359	No Flare Patrol														
		27	1535		1655	No Flare Patrol														
		27	1729		1755	No Flare Patrol														
		27	1757		1805	No Flare Patrol														
0054	HOLL	27	1833	1834	1841D	N12	E79	7590	10	3.7	8D	SN	C	2.5	3	E		91		F
		27	1842		2116	No Flare Patrol														
0055	HOLL	27	2129	2130	2141	N12	E77	7590	10	3.7	12	SF	C	2.3	3	E		26		F
0056		27	2232*	2247	2324	N12	E76	7590	10	3.7	52	SN	M	1.8				54		F
	HOLL	27	2232	2247	2333	N12	E76	7590	10	3.7	61	SN	M	1.8	3	E		73		F
	LEAR	27	2245	2249U	2315	N12	E76	7590	10	3.7	30	SN			2	E		35		F
0057	LEAR	28	0158	0158	0201	N12	E74	7590	10	3.6	3	SF	C	1.1	3	E		18		
0058	LEAR	28	0257	0306	0320	N12	E73	7590	10	3.6	23	SF	C	6.7	3	E		40		F
0059	HTPR	28	1413E	1426	1452	S05	W53	7585	09	24.6	39D	1F				C	1426	160	2.8	DK
0060	SVTO	28	1433	1435	1438	N12	E70	7590	10	3.9	5	SF			3	E		26		F
		28	1621		1629	No Flare Patrol														
		28	1644		2138	No Flare Patrol														
0061	LEAR	29	0545E	0545U	0550	N11	E65	7590	10	4.1	.5D	SF	B	7.5	3	E		21		
0062		29	0728	0729	0736	N14	E56	7590	10	3.5	8	1N	B	8.7				24		DF
	ISTA	29	0728		0733	N14	E57	7590	10	3.6	5	1N				P				D
	SVTO	29	0728	0729	0738	N15	E56	7590	10	3.5	10	SF	B	8.7	3	E		24		F
0063	ISTA	29	0800		0808	N10	E67	7590	10	4.4	8	1N				P				D
0064		29	0828	0828	0831	N11	E58	7590	10	3.7	3	SF	B	8.7				20		DF
	ISTA	29	0828		0830	N09	E59	7590	10	3.8	2	1N				P				D
	LEAR	29	0828	0828	0831	N11	E57	7590	10	3.6	3	SF			3	E		19		
	SVTO	29	0828	0828	0832	N12	E58	7590	10	3.7	4	SF	B	8.7	3	E		20		F
0065		29	09107	09171	0922	N12	E58	7590	10	3.7	12	SF	C	1.0				24		F
	LEAR	29	0910	0918	0924	N11	E57	7590	10	3.7	14	SF	C	1.0	3	E		33		
	SVTO	29	0917	0917	0921	N12	E58	7590	10	3.7	4	SF			3	E		16		F
0066	HTPR	29	1507	1512	1519	N12	E56	7590	10	3.8	12	SF				C	1512	90	1.7	
0067	HOLL	29	2159	2201	2205	N07	E55	7590	10	4.0	6	SF	C	1.2	3	E		20		H
0068		29	2317	23173	2329	N06	E54	7590	10	4.0	12	SF	C	1.0				28	0.8	E
	MITK	29	2317	2317	2338	N04	E54	7590	10	4.0	21	SN				C	2317	47	0.8	E
	HOLL	29	2317	2319	2324	N07	E54	7590	10	4.0	7	SF	C	1.0	3	E		25		
	LEAR	29	2317	2320	2326	N07	E55	7590	10	4.1	9	SF			3	E		13		
0069		30	01177	01213	0132	N06	E54	7590	10	4.1	15	SN	C	1.4				78	1.6	D
	WATU	30	0117	0121	0121D	N06	E54	7590	10	4.1	4D	SN				P	0121	40	0.7	D
	MITK	30	0119	0122	0131	N04	E53	7590	10	4.0	12	1B				C	0122	151	2.5	
	LEAR	30	0124	0124	0132	N07	E54	7590	10	4.1	8	SF	C	1.4	3	E		43		
0070	CATA	30	0716E	0725	0746	S17	E90	7592	10	7.1	30D	SN			1	C	0725	39		
0071	KANZ	30	0807	0815	0819	N07	E50	7590	10	4.1	12	SF			2	C				

Hα SOLAR FLARES

SEPTEMBER 1993

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0072	CATA	30	0840	0901	0905D	S17	E90	7592	10	7.2	25D	1N			1	C	0901	56		
0073		30	09223	09232	0934	N14	E41	7590	10	3.5	12	SF	C	1.0				34		EF
	SVTO	30	0922	0923	0934D	N16	E40	7590	10	3.4	12D	SF			2	E		41		FE
	LEAR	30	0923	0925	0934	N13	E42	7590	10	3.6	11	SF	C	1.0	3	E		26		F
	KANZ	30	0925		0925D	N12	E42	7590	10	3.5	11D	SF			2	C				
0074		30	1036	10361	1050	N16	E36	7590	10	3.2	14	SB	C	1.2				66	0.7	EF
	CATA	30	1036E	1036	1050	N14	E36	7590	10	3.2	14D	SB			1	C	1036	56	0.7	
	SVTO	30	1036	1037	1051	N17	E36	7590	10	3.2	15	SN	C	1.2	2	E		76		FE
0075	CATA	30	1036E	1115	1115D	S17	E90	7592	10	7.3	39D	1N			1	C	1115	84		
0076	KANZ	30	1048E		1056	N08	E52		10	4.3	8D	SF			2	C				
0077	CATA	30	1225E	1240	1240D	S17	E90	7592	10	7.3	15D	1N			1	C	1240	67		
0078		30	1337	1337	1348	N12	E41	7590	10	3.6	11	SF	C	1.0				17		FH
	KANZ	30	1337	1337	1349	N11	E41	7590	10	3.6	12	SF			2	C				
	SVTO	30	1337	1338U	1348	N13	E41	7590	10	3.7	11	SF	C	1.0	3	E		17		FH
0079		30	15203	15232	1535	N09	E48	7590	10	4.2	15	SF	C	1.7				22		E
	HOLL	30	1520	1524	1536	N09	E47	7590	10	4.2	16	SF			3	E		20		E
	RAMY	30	1521	1525	1535	N10	E47	7590	10	4.2	14	SN	C	1.7	3	E		25		E
	KANZ	30	1523	1523	1535	N09	E49	7590	10	4.3	12	SF			2	C				
0080	SVTO	30	1521	1525	1534	N12	E39	7590	10	3.6	13	SF			3	E		15		E
		30	1638		1849	No Flare Patrol														
		30	1853		1942	No Flare Patrol														
		30	1953		2101	No Flare Patrol														
0081	HOLL	30	2121	2124	2136	S17	E83	7592	10	7.2	15	SF			3	E		48		
0082	LEAR	30	2243	2243	2302	N09	E43	7590	10	4.2	19	SF	C	1.7	3	E		18		F

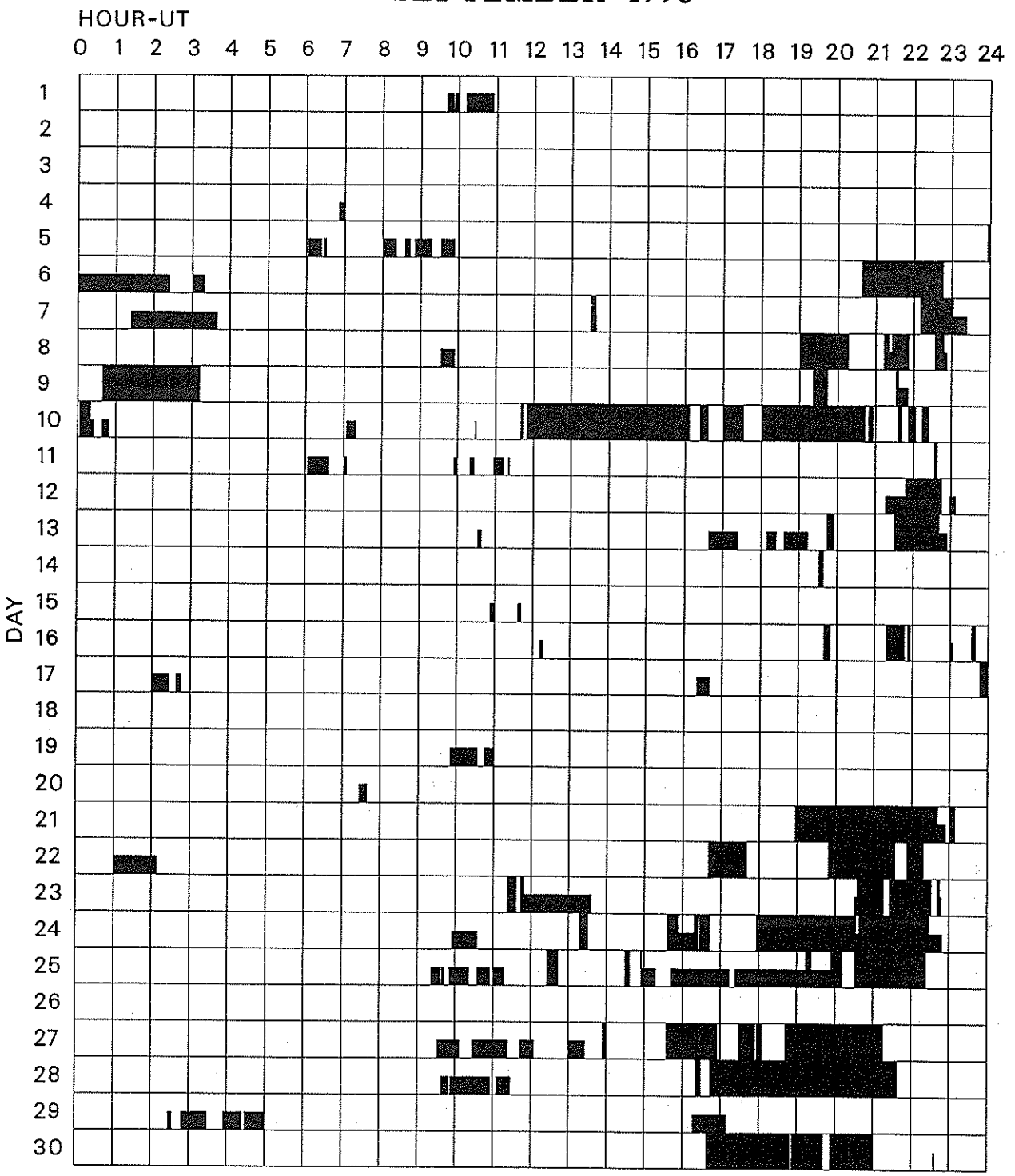
"Remarks"

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows Helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase; important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Observation Type: C=Cinematographic, E=Electronic, P=Photographic, V=Visual

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

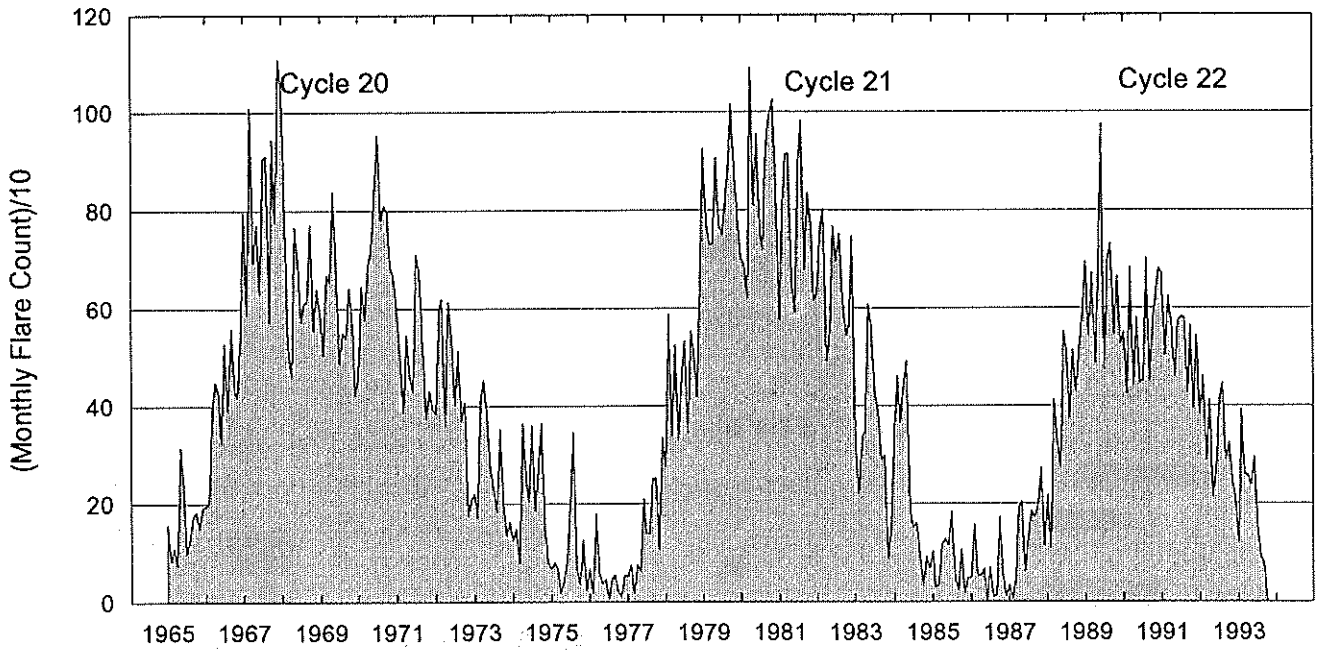
SEPTEMBER 1993



Times of no flare patrol, shown here as shaded areas, combine reports from the stations listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind (neither visual nor cinematographic); portions of a panel with only the bottom half shaded mark times of only visual patrol.

Athens
Bucharest
Catania
Haute Province
Holloman
Istanbul
Kanzelhoehe
Larissa
Learmonth
Mitaka
Ramey
San Vito
Tashkent
Voroshilov
Watukosek

Monthly Counts of Grouped Solar Flares



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	158	85	110	74	315	231	99	127	173	184	150	193	1899
1966	194	205	390	449	429	323	528	391	558	432	417	543	4859
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	551	502	375	513	429	518	587	4816
1989	695	544	672	488	691	977	474	699	733	547	665	526	7711
1990	550	424	684	442	580	445	454	703	449	574	623	682	6610
1991	672	503	625	570	458	574	582	581	425	565	396	544	6495
1992	380	462	287	412	214	271	413	447	287	325	248	206	3952
1993	121	392	358	262	237	296	154	92	82				1994

Monthly totals for the last 6 months may change significantly, as more stations submit their reports. The term 'grouped' means observations of the same event by different sites were lumped together and counted as one.
NOTE: Counts for 1993 were updated to reflect the addition of Catania data.

SOLAR RADIO EMISSION
Outstanding Occurrences

SEPTEMBER 1993

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	410	PALE	8	S	0258.0	0258.0	1.0	75.0			QL=4 ST=3 TYP=3
	245	LEAR	8	S	0604.0	0605.0	2.0	23.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0605.0	0605.0	1.0	69.0			QL=4 ST=2 TYP=3
04	204	IZMI	41	F	0713.5	0714.5	7.0	92.0			
	127	TORN	4	S/F	0714.8	0716.2	2.3	100.0	30.0		
	33	UPIC	4	S/F	0716.5	0716.7	1.5				
	245	PALE	4	S/F	1841.0	1842.0	4.0	160.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1841.0	1841.0	3.0	140.0			QL=4 ST=2 TYP=3
	2800	PENT	3	S	1841.2	1843.8	5.0	29.6	8.0		
	245	PALE	8	S	2054.0	2054.0	1.0	66.0			QL=4 ST=3 TYP=3
05	245	LEAR	4	S/F	0030.0	0034.0	5.0	90.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0034.0	0035.0	1.0	26.0			QL=4 ST=2 TYP=3
	610	LEAR	4	S/F	0034.0	0036.0	3.0	15.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0034.0	0035.0	1.0	87.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0034.0	0036.0	2.0	17.0			QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0034.6	0036.4	2.5	15.0			O
	410	PALE	8	S	0035.0	0035.0	U	27.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1143.5	1149.8	7.0	32.0			
06	204	IZMI	41	F	1128.0	1132.0	6.0	29.0			
	260	ONDR	45	C	1128.5	1131.0	5.0	50.0			
	33	UPIC	45	C	1130.8	1131.0	3.0				
07	245	LEAR	8	S	0127.0	0128.0	2.0	600.0			QL=/ ST=/ TYP=5
	410	LEAR	4	S/F	0127.0	0128.0	1353.0	240.0			QL=4 ST=1 TYP=3
	260	ONDR	8	S	1004.0	1004.1	1.0	60.0			
	245	PALE	8	S	1818.0	1819.0	2.0	140.0			QL=4 ST=3 TYP=3
	245	SGMR	8	S	1819.0	1820.0	2.0	100.0			QL=4 ST=3 TYP=3
08	260	ONDR	41	F	0935.0	0936.0	40.0	45.0			
11	33	UPIC	2	S/F	0654.3	0654.6	0.7				
12	33	UPIC	2	S/F	0739.0	0739.2	1.0				
	245	SGMR	8	S	1211.0	1212.0	2.0	76.0			QL=4 ST=2 TYP=3
14	245	LEAR	8	S	0427.0	0427.0	1.0	150.0			QL=4 ST=2 TYP=3
	33	UPIC	2	S/F	0657.6	0658.2	1.2				
	204	IZMI	7	C	1012.0	1012.2	1.0	75.0			
	245	SVTO	4	S/F	1126.0	1126.0	754.0	51.0			QL=4 ST=1 TYP=3
	410	SVTO	4	S/F	1126.0	1126.0	754.0	87.0			QL=4 ST=1 TYP=3
15	204	IZMI	42	SER	0750.0	0758.0	11.0	31.0			
	204	IZMI	41	F	1133.5	1134.0	16.0	30.0			
16	204	IZMI	41	F	1123.0	1125.0	3.5	43.0			
	2800	PENT	4	S/F	1734.4	1739.9	16.8	32.9	10.0		
	245	PALE	4	S/F	1738.0	1742.0	5.0	44.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	1738.0	1740.0	3.0	20.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	1738.0	1740.0	5.0	19.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	1738.0	1740.0	5.0	37.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1739.0	1739.0	10.0	38.0			QL=2 ST=2 TYP=3
	1415	SGMR	4	S/F	1739.0	1739.0	10.0	31.0			QL=4 ST=2 TYP=3
	2800	PENT	29	PBI	1751.3	1751.5	200.0	7.8	3.0		
17	204	IZMI	7	C	0848.0	0848.7	7.0	14.0			
18	2800	PENT	4	S/F	1610.5	1611.0	2.3	11.8	2.0		
	610	SGMR	8	S	1611.0	1611.0	U	100.0			QL=4 ST=2 TYP=3
22	245	LEAR	8	S	0723.0	0723.0	U	55.0			QL=4 ST=2 TYP=3
24	260	ONDR	44	NS	0830.0E	0935.0	210.0D	30.0			
25	127	TORN	43	NS	0750.0		310.0		2.0		V=0
	260	ONDR	44	NS	0830.0E		210.0D	35.0			
	245	LEAR	8	S	0244.0	0244.0	1.0	340.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

SEPTEMBER 1993

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	245	PALE	8	S	0320.0	0321.0	1.0	180.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0321.0	0321.0	U	150.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0647.0	0648.5	2.0	70.0			
26	245	LEAR	43	NS	0325.0	0326.0	60.0	56.0			QL=4 ST=3 TYP=1
	260	ONDR	44	NS	0830.0E	1029.5	210.0D	190.0			
	204	IZMI	43	NS	0845.0		135.0D		10.0		
	245	SVTO	43	NS	0934.0	0934.0	86.0	100.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1254.0	0000.0	666.0				QL=4 ST=3 TYP=1
	245	SGMR	43	NS	1321.0	1324.0	13.0	69.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1354.0	0000.0	606.0				QL=4 ST=3 TYP=1
	245	SGMR	43	NS	1448.0	1512.0	28.0	230.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1555.0	1646.0	377.0	250.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	2244.0	0734.0	680.0	190.0			QL=4 ST=2 TYP=1
	610	LEAR	4	S/F	0109.0	0111.0	5.0	130.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0109.0	0111.0	7.0	350.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0109.0	0111.0	8.0	300.0			QL=4 ST=2 TYP=3
	1415	LEAR	4	S/F	0109.0	0110.0	9.0	140.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0109.0	0111.0	3.0	190.0			QL=4 ST=2 TYP=3
	2800	HIRA	4	S/F	0109.6	0111.1	10.0	280.0	100.0		O
	500	HIRA	46	C	0109.7	0110.8	7.5	25.0	5.0		O
	410	LEAR	4	S/F	0110.0	0111.0	5.0	220.0			QL=4 ST=2 TYP=3
	15400	LEAR	8	S	0110.0	0111.0	2.0	98.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0110.0	0112.0	8.0	600.0			QL=4 ST=2 TYP=6
	2840	PEKG	45	C	0111.9	0113.5	13.0	350.0			
	2800	HIRA	1	S	0141.8	0142.7	3.0	10.0	7.0		O
	33	UPIC	3	S	0704.1	0704.3	0.4				
	245	LEAR	8	S	0934.0	0934.0	1.0	85.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1022.0	1022.0	1.0	90.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1254.0	1254.0	U	57.0			QL=4 ST=2 TYP=3
	33	UPIC	2	S/F	1636.5	1636.8	0.7				
	2800	PENT	24	R	2117.0	2319.0	220.0D	11.1	8.0		
27	245	SVTO	43	NS	0538.0	0734.0	639.0	250.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D		15.0		
	260	ONDR	44	NS	0830.0E	0952.0	210.0D	170.0			
	127	TORN	43	NS	1110.0		86.0		1.0		V=0
	245	SGMR	43	NS	1123.0	1145.0	23.0	110.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1256.0	1553.0	215.0	140.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1750.0	1836.0	166.0	350.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	1908.0	1914.0	44.0	100.0			QL=4 ST=3 TYP=1
	500	HIRA	42	SER	0001.5	0004.2	3.5	15.0			O
	2800	HIRA	20	GRF	0010.0	0013.0	14.0	3.0	1.0		O
	2800	HIRA	20	GRF	0106.2	0110.5	50.0	5.0	2.0		O
	204	IZMI	41	F	0927.0	0927.5	1.5	300.0			
	410	SVTO	8	S	0951.0	0953.0	2.0	150.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0952.0	0953.0	1.0	91.0			QL=2 ST=3 TYP=3
	127	TORN	7	C	1027.8	1029.1	1.8	30.0	10.0		
	19600	BERN	4	S/F	1202.1	1208.6	38.1	9.8			
	8400	BERN	47	GB	1203.2	1208.4	38.2	55.6			
	11800	BERN	46	C	1204.1	1208.6	40.1	18.9			
	3000	ONDR	48	C	1207.0	1208.0	1.0	200.0			
	2695	SGMR	4	S/F	1207.0	1208.0	7.0	310.0			QL=2 ST=2 TYP=3
	610	SGMR	8	S	1207.0	1209.0	2.0	270.0			QL=4 ST=2 TYP=3
	410	SGMR	49	GB	1207.0	1208.0	2.0	650.0			QL=4 ST=2 TYP=6
	4995	SGMR	4	S/F	1207.0	1208.0	8.0	310.0			QL=4 ST=2 TYP=3
	1415	SGMR	4	S/F	1207.0	1208.0	7.0	290.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	1207.0	1208.0	2.0	650.0			QL=4 ST=2 TYP=6
	1415	SVTO	4	S/F	1207.0	1208.0	5.0	300.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	1207.0	1208.0	5.0	160.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1207.0	1208.0	5.0	280.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	1207.0	1208.0	5.0	340.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1207.0	1208.0	5.0	400.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1207.0	1208.0	2.0	260.0			QL=2 ST=2 TYP=3
	245	SVTO	49	GB	1207.0	1212.0	7.0	60000.0			QL=4 ST=3 TYP=7
	15400	SGMR	4	S/F	1207.0	1208.0	11.0	130.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1207.0	1208.0	10.0	230.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1207.0	1212.0	11.0	48000.0			QL=4 ST=3 TYP=6
	536	ONDR	45	C	1207.5	1209.5	8.0	162.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

SEPTEMBER 1993

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	808	ONDR	45	C	1207.5	1209.5	10.0				
	245	SVTO	8	S	1208.0	1208.0	1.0	340.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1211.0	1212.0	7.0	48000.0			QL=4 ST=2 TYP=6
	127	TORN	47	GB	1213.5	1216.0U	4.2	1000.0D	360.0D		
	33	UPIC	2	S/F	1535.5	1535.8	0.8				
	245	PALE	8	S	1759.0	1759.0	U	130.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2035.0	2035.0	2.0	82.0			QL=4 ST=2 TYP=3
28	245	SVTO	43	NS	0526.0	0651.0	233.0	110.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0620.0E		520.0D		3.0		V=1
	204	IZMI	44	NS	0700.0E		300.0D		20.0		
	260	ONDR	44	NS	0830.0E	1008.0	210.0D	320.0			
	245	SGMR	43	NS	1121.0	1229.0	113.0	160.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1427.0	1802.0	437.0	320.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	1639.0	1802.0	429.0	450.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	2244.0	0734.0	680.0	190.0			QL=4 ST=2 TYP=1
	410	LEAR	4	S/F	0300.0	0301.0	7.0	79.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0344.0	0345.0	1.0	85.0			QL=2 ST=3 TYP=3
	245	PALE	8	S	0344.0	0345.0	1.0	130.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0345.0	0348.0	7.0	63.0			QL=4 ST=3 TYP=3
	410	PALE	4	S/F	0345.0	0348.0	7.0	39.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0527.0	0527.0	U	63.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0619.0	0620.0	1.0	54.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0659.0	0659.0	1.0	120.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0659.0	0659.0	1.0	53.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0845.0	0846.0	1.0	46.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0845.0	0846.0	1.0	360.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0845.0	0845.0	1.0	42.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0845.0	0846.0	1.0	400.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	0845.0	0846.0	1.0	42.0			QL=4 ST=3 TYP=3
	245	SVTO	8	S	0845.0	0845.0	1.0	63.0			QL=2 ST=2 TYP=3
	3013	IZMI	7	C	0845.5	0846.0	2.0	5.0	3.0		
	536	ONDR	8	S	0845.5	0845.7	2.0	162.0			
	245	LEAR	8	S	0954.0	0954.0	1.0	170.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0954.0	0954.0	1.0	230.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0954.0	0954.3	1.0	280.0			
	204	IZMI	42	SER	1005.0	1007.0	5.0	500.0			
	3013	IZMI	7	C	1005.5	1007.8	4.0	3.0			
	127	TORN	4	S/F	1005.6	1007.0U	3.2	270.0D	120.0		
	245	SVTO	4	S/F	1006.0	1006.0	3.0	450.0			QL=4 ST=2 TYP=3
	33	UPIC	46	C	1006.6	1007.5	2.2				
	410	SVTO	8	S	1101.0	1101.0	1.0	51.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1101.0	1101.0	1.0	72.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	1812.0	1812.0	1.0	95.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1812.0	1812.0	2.0	99.0			QL=4 ST=2 TYP=3
	2800	HIRA	1	S	2312.5	2313.0	2.0	5.0	3.0		0
	500	HIRA	46	C	2312.5	2312.9	1.5	30.0	5.0		0
	610	PALE	8	S	2313.0	2313.0	U	150.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2313.0	2313.0	U	40.0			QL=4 ST=2 TYP=3
29	245	PALE	43	NS	0042.0	0051.0	204.0	83.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0048.0	0739.0	557.0	110.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0620.0E		520.0D		10.0		V=2
	245	SVTO	43	NS	0627.0	0627.0	72.0	130.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D		30.0		
	260	ONDR	44	NS	0830.0E	0924.0	210.0D	127.0			
	245	SVTO	43	NS	1246.0	1340.0	54.0	72.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1715.0	1715.0	54.0	66.0			QL=4 ST=3 TYP=1
	245	LEAR	8	S	0018.0	0018.0	U	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0023.0	0023.0	U	77.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0024.0	0024.0	1.0	45.0			QL=4 ST=2 TYP=3
	2800	HIRA	20	GRF	0407.5	0411.0	18.0	7.0	2.0		0
	33	UPIC	46	C	0544.5	0545.5	2.4				
	204	IZMI	41	F	0722.0	0723.0	2.5	250.0			
	204	IZMI	41	F	0943.0	0944.0	4.0	180.0			
	410	SGMR	20	GRF	1619.0	1703.0	88.0	32.0			QL=4 ST=2 TYP=2
	245	PALE	8	S	1716.0	1717.0	1.0	63.0			QL=2 ST=2 TYP=3
	245	PALE	4	S/F	1943.0	1945.0	4.0	84.0			QL=2 ST=2 TYP=3
	245	SGMR	4	S/F	1943.0	1945.0	5.0	69.0			QL=4 ST=2 TYP=3

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

SEPTEMBER 1993

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	245	SGMR	4	S/F	1957.0	1959.0	3.0	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1959.0	1959.0	1.0	110.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1959.0	1959.0	1.0	110.0			QL=4 ST=3 TYP=3
	245	PALE	8	S	2108.0	2108.0	1.0	64.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2115.0	2115.0	U	45.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2121.0	2121.0	1.0	42.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2128.0	2128.0	U	69.0			QL=2 ST=2 TYP=3
	2800	PENT	1	S	2158.7	2159.9	3.2	9.3	2.0		
	610	PALE	8	S	2159.0	2159.0	1.0	77.0			QL=4 ST=2 TYP=3
	610	SGMR	4	S/F	2159.0	2159.0	4.0	74.0			QL=2 ST=3 TYP=3
	2840	PEKG	5	S	2241.0	2242.0	3.0	21.9			
	245	LEAR	49	GB	2314.0	2315.0	1.0	1600.0			QL=2 ST=2 TYP=6
	245	LEAR	8	S	2314.0	2316.0	2.0	600.0			QL=/ ST=/ TYP=5
	245	PALE	49	GB	2315.0	2315.0	U	2300.0			QL=4 ST=3 TYP=6
30	245	PALE	43	NS	0216.0	0216.0	93.0	72.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0423.0	0423.0	43.0	68.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0620.0E		520.0D		30.0		V=2
	245	LEAR	43	NS	0640.0	0716.0	205.0	220.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	0655.0	1546.0	557.0	690.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D		120.0		
	260	ONDR	44	NS	0830.0E		210.0D				
	33	UPIC	43	NS	0905.5	1206.7	375.0				
	245	SGMR	43	NS	1100.0	1929.0U	780.0	690.0			QL=4 ST=1 TYP=1
	245	SGMR	43	NS	1100.0	1941.0U	780.0	760.0			QL=4 ST=1 TYP=1
	245	SGMR	43	NS	1100.0	1941.0U	780.0	760.0			QL=4 ST=1 TYP=1
	245	SGMR	43	NS	1100.0	1125.0U	780.0	620.0			QL=4 ST=1 TYP=1
	245	PALE	43	NS	1641.0	1929.0	683.0	700.0			QL=4 ST=2 TYP=1
	410	PALE	43	NS	1940.0	2028.0	104.0	120.0			QL=4 ST=2 TYP=1
	410	SGMR	43	NS	1942.0	2028.0	92.0	120.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0005.0	0005.0	1.0	120.0			QL=2 ST=2 TYP=3
	410	LEAR	8	S	0005.0	0005.0	1.0	95.0			QL=4 ST=3 TYP=3
	410	PALE	8	S	0005.0	0006.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0005.0	0005.0	1.0	150.0			QL=4 ST=3 TYP=3
	245	LEAR	8	S	0155.0	0155.0	1.0	250.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0155.0	0155.0	1.0	420.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0204.0	0204.0	1.0	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0538.0	0538.0	U	54.0			QL=4 ST=3 TYP=3
	245	LEAR	4	S/F	0628.0	0633.0	8.0	160.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0628.0	0633.0	21.0	200.0			QL=2 ST=2 TYP=5
	245	SVTO	4	S/F	0812.0	0814.0	3.0	180.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	0813.0	0813.0	2.0	85.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0813.0	0813.0	1.0	120.0			QL=2 ST=2 TYP=3
	536	ONDR	8	S	0904.0	0906.0	4.0	135.0			
	245	SVTO	4	S/F	0951.0	0952.0	5.0	280.0			QL=2 ST=2 TYP=3
	610	SVTO	8	S	0952.0	0952.0	U	190.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	0952.0	0952.0	U	300.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1011.0	1013.0	4.0	300.0			
	3013	IZMI	42	SER	1035.5	1036.0	13.0	8.0			
	536	ONDR	45	C	1040.5	1041.0	5.0	330.0			
	245	SVTO	49	GB	1042.0	1043.0	1.0	530.0			QL=2 ST=2 TYP=6
	610	SVTO	8	S	1042.0	1042.0	2.0	130.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	1042.0	1043.0	1.0	150.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1121.0	1121.5	2.0	1000.0			
	410	SGMR	49	GB	1323.0	1324.0	2.0	1400.0			QL=4 ST=2 TYP=6
	410	SVTO	49	GB	1323.0	1323.0	2.0	690.0			QL=4 ST=3 TYP=6
	2800	PENT	2	S/F	1517.8	1519.5	5.0	8.9	3.0		
	410	SVTO	4	S/F	1519.0	1519.0	3.0	160.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1519.0	1520.0	1.0	96.0			QL=2 ST=2 TYP=3
	245	PALE	49	GB	1725.0	1728.0	3.0	530.0			QL=2 ST=2 TYP=6
	410	PALE	8	S	1728.0	1728.0	U	51.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1728.0	1728.0	U	450.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1728.0	1728.0	U	44.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	1907.0	1907.0	U	190.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1907.0	1907.0	U	210.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1907.0	1907.0	1.0	200.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1907.0	1907.0	1.0	190.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1941.0	1941.0	U	730.0			QL=2 ST=2 TYP=6
	500	HIRA	46	C	2240.6	2241.1	2.0	185.0	50.0		WL

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

SEPTEMBER 1993

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	2800	PENT	3	S	2240.8	2241.7	5.7	37.5	11.0		
	410	LEAR	8	S	2241.0	2241.0	1.0	960.0			QL=/ ST=/ TYP=5
	610	LEAR	8	S	2241.0	2241.0	1.0	120.0			QL=4 ST=2 TYP=3
	410	LEAR	49	GB	2241.0	2241.0	1.0	960.0			QL=4 ST=2 TYP=6
	15400	PALE	8	S	2241.0	2241.0	1.0	46.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	2241.0	2241.0	1.0	42.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	2241.0	2241.0	2.0	66.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	2241.0	2241.0	1.0	34.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	2241.0	2241.0	1.0	51.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	2241.0	2241.0	1.0	150.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	2241.0	2241.0	1.0	1700.0			QL=4 ST=2 TYP=6
	245	PALE	49	GB	2241.0	2241.0	1.0	690.0			QL=2 ST=2 TYP=6
	245	LEAR	49	GB	2241.0	2245.0	29.0	2000.0			QL=4 ST=2 TYP=7
	245	LEAR	49	GB	2241.0	2245.0	30.0				QL=/ ST=/ TYP=6
	2800	HIRA	3	S	2241.0	2241.3	2.5	26.0	13.0		WL
	2695	LEAR	8	S	2242.0	2243.0	1.0	110.0			QL=2 ST=3 TYP=3
	245	PALE	49	GB	2244.0	2245.0	1.0	2500.0			QL=2 ST=3 TYP=6
	245	PALE	49	GB	2244.0	2245.0	1.0	2500.0			QL=4 ST=2 TYP=6
	245	PALE	49	GB	2309.0	2309.0	U	1300.0			QL=2 ST=3 TYP=6

Reports are received routinely from the following observatories:

BERN = Berne	HUMN = Humain	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	IZMI = IZMIRAN	PEKG = Peking	TORN = Torun
CUBA = Havana	KISV = Kislovodsk	PALE = Palehua	TRST = Trieste
GORK = Gorky	KRAK = Krakow	PENT = Penticton	TYKW = Toyokawa
HIRA = Hiraiso	LEAR = Learmonth	POTS = Potsdam	UPIC = Upice
HUAN = Huancayo	NOBE = Nobeyama	SGMR = Sagamore Hill	

Explanation of Type Code:

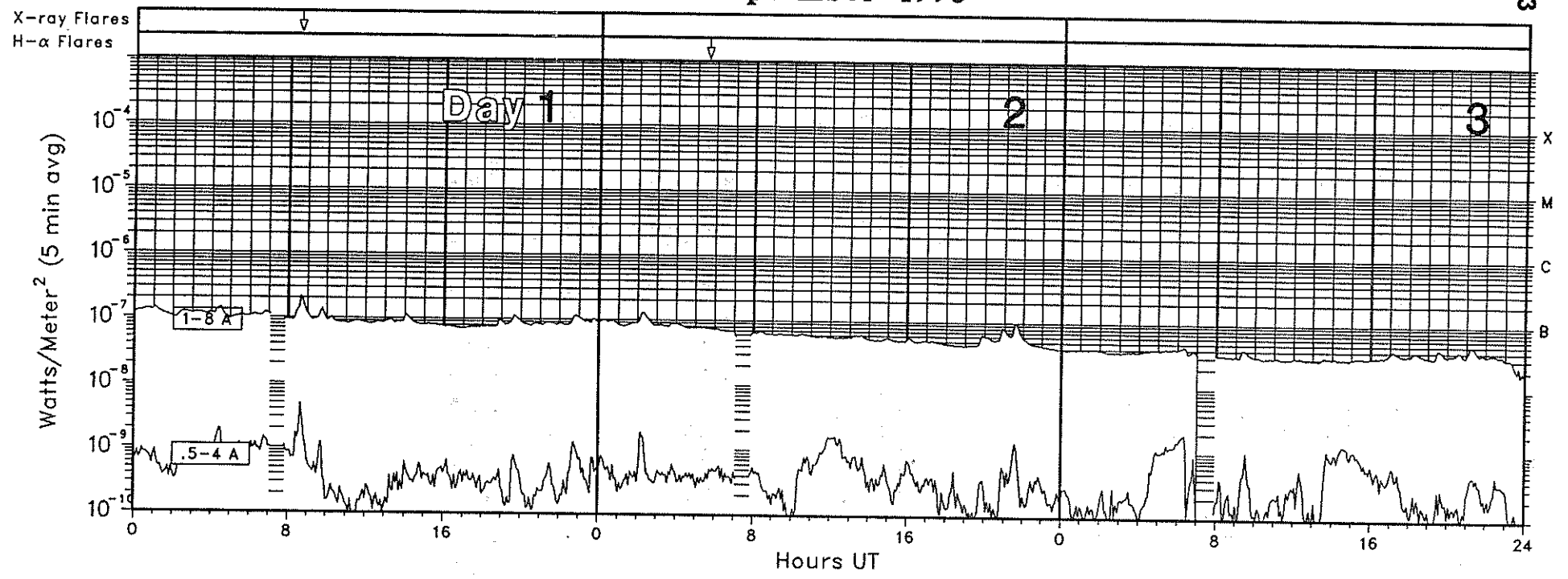
1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precusor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major

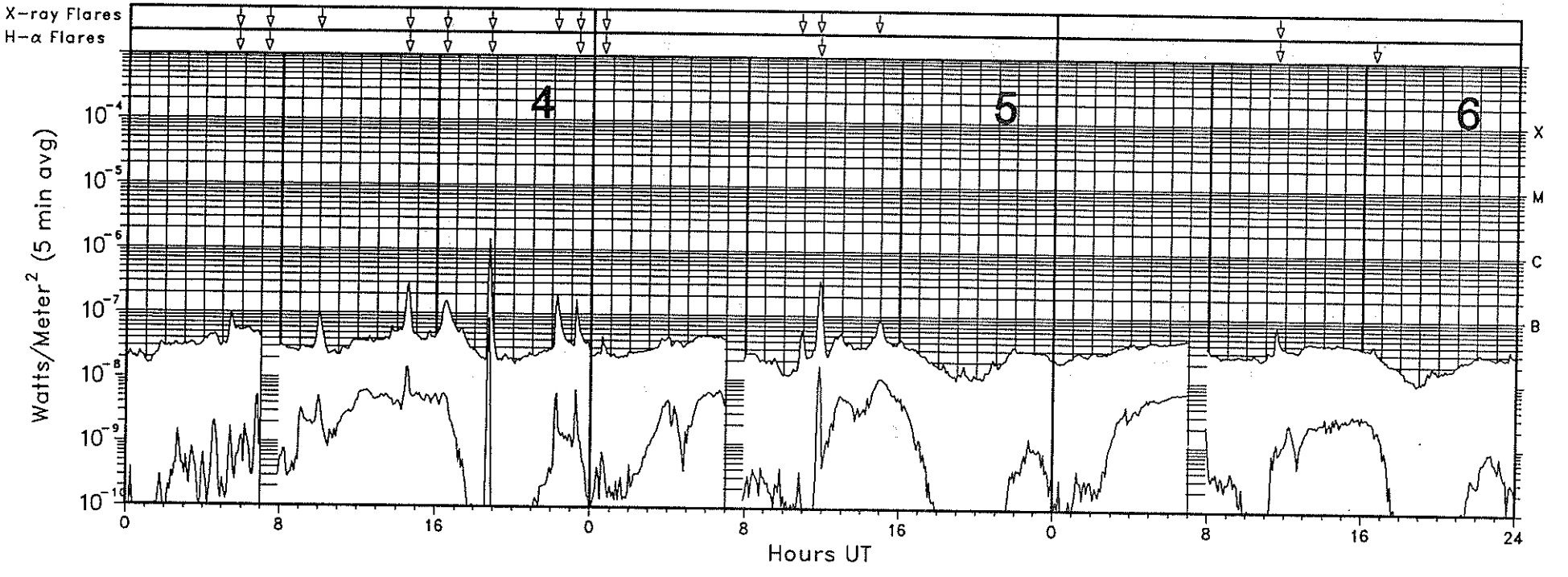
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; Hiraiso, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

GOES-7 X-RAY DETECTOR

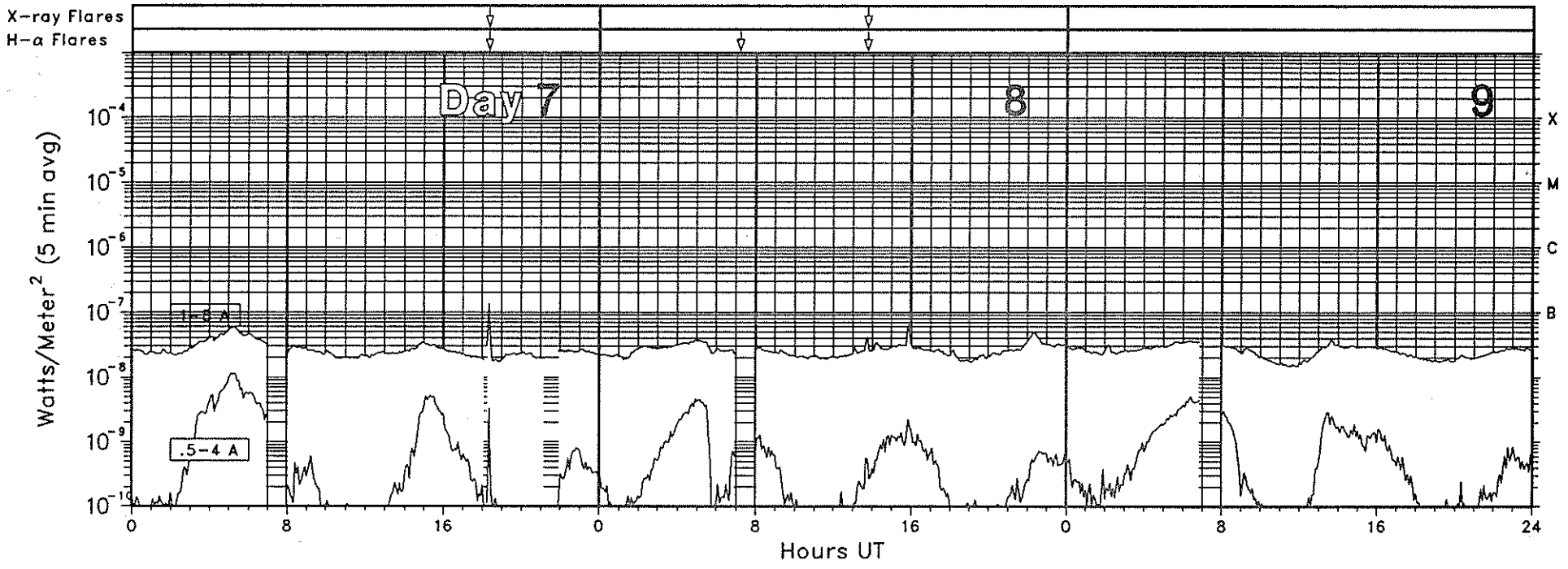
September 1993

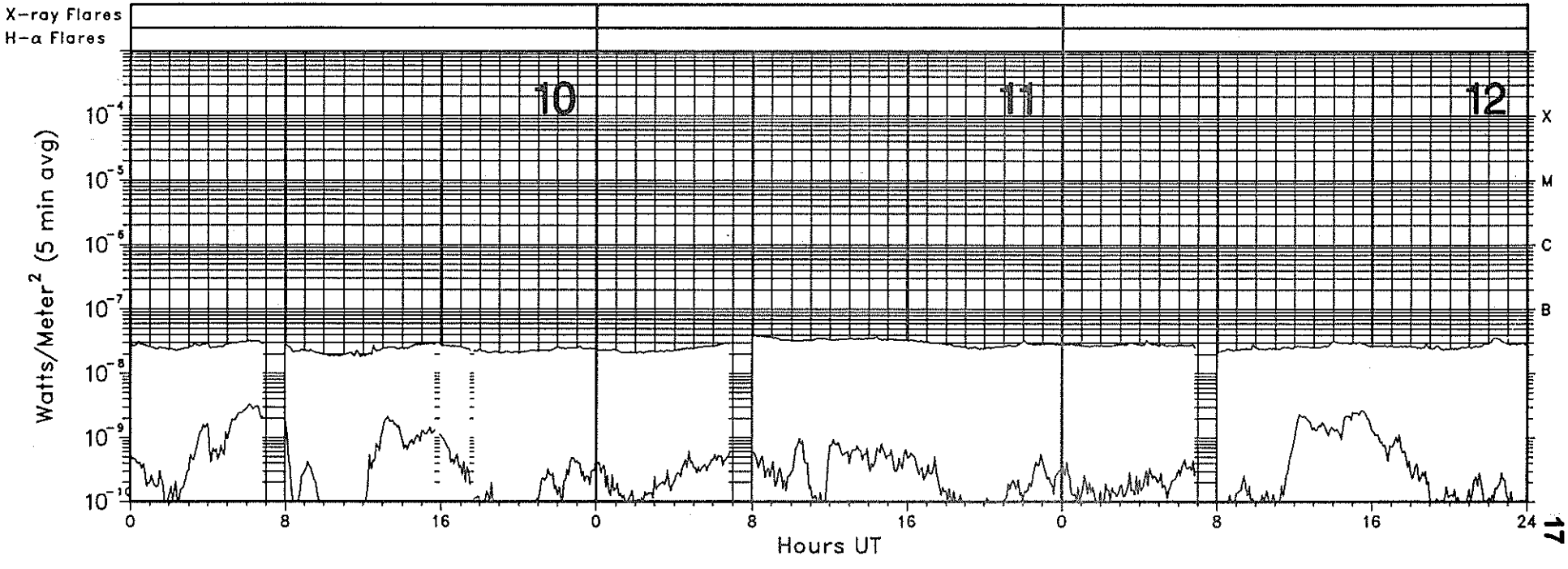




GOES-7 X-RAY DETECTOR

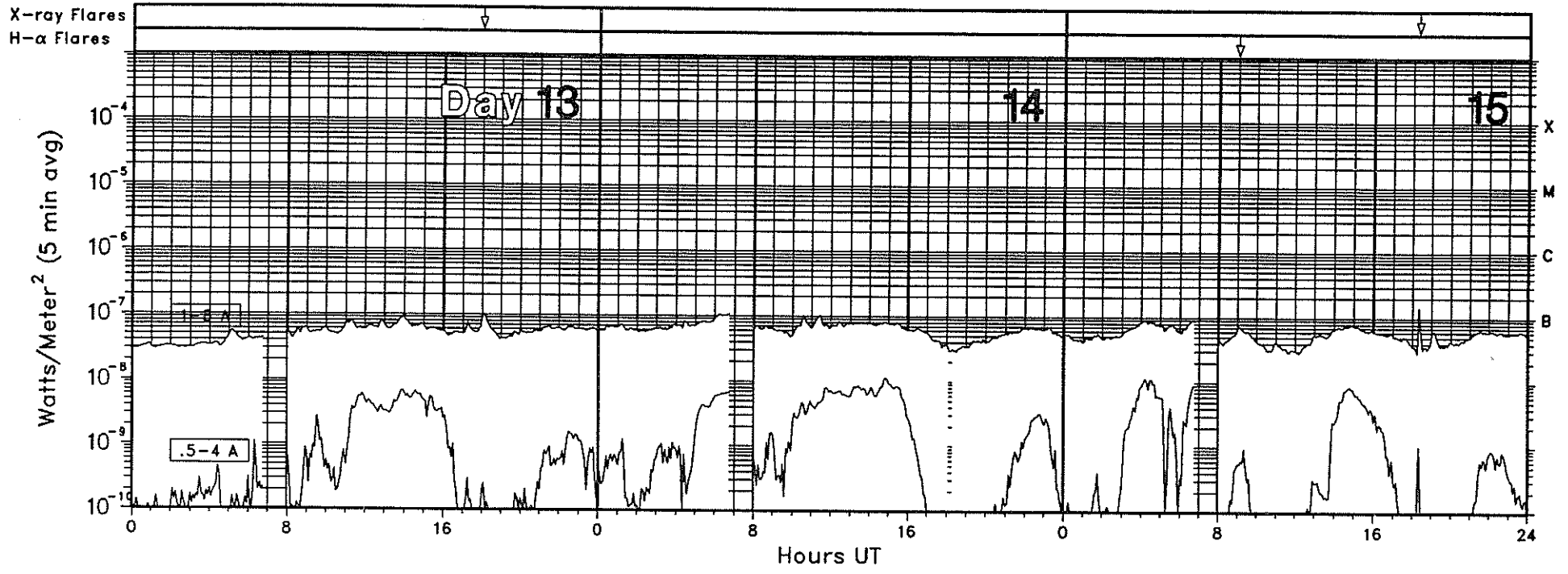
September 1993

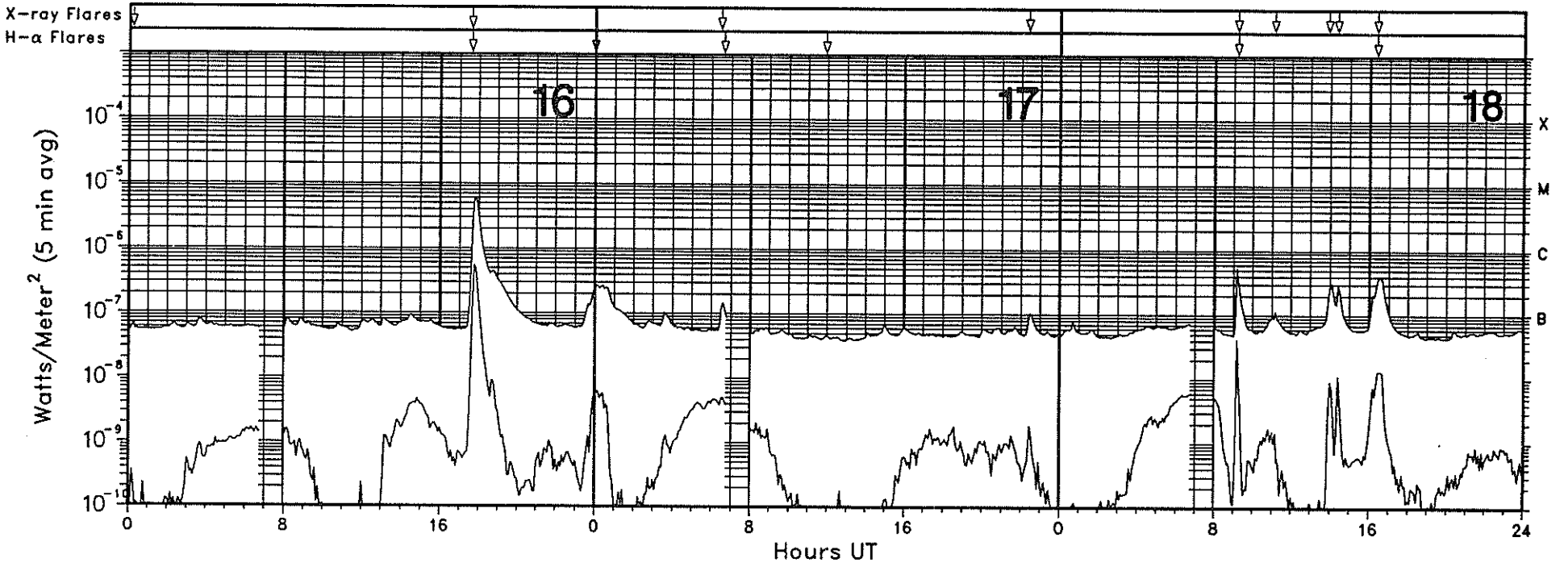




GOES-7 X-RAY DETECTOR

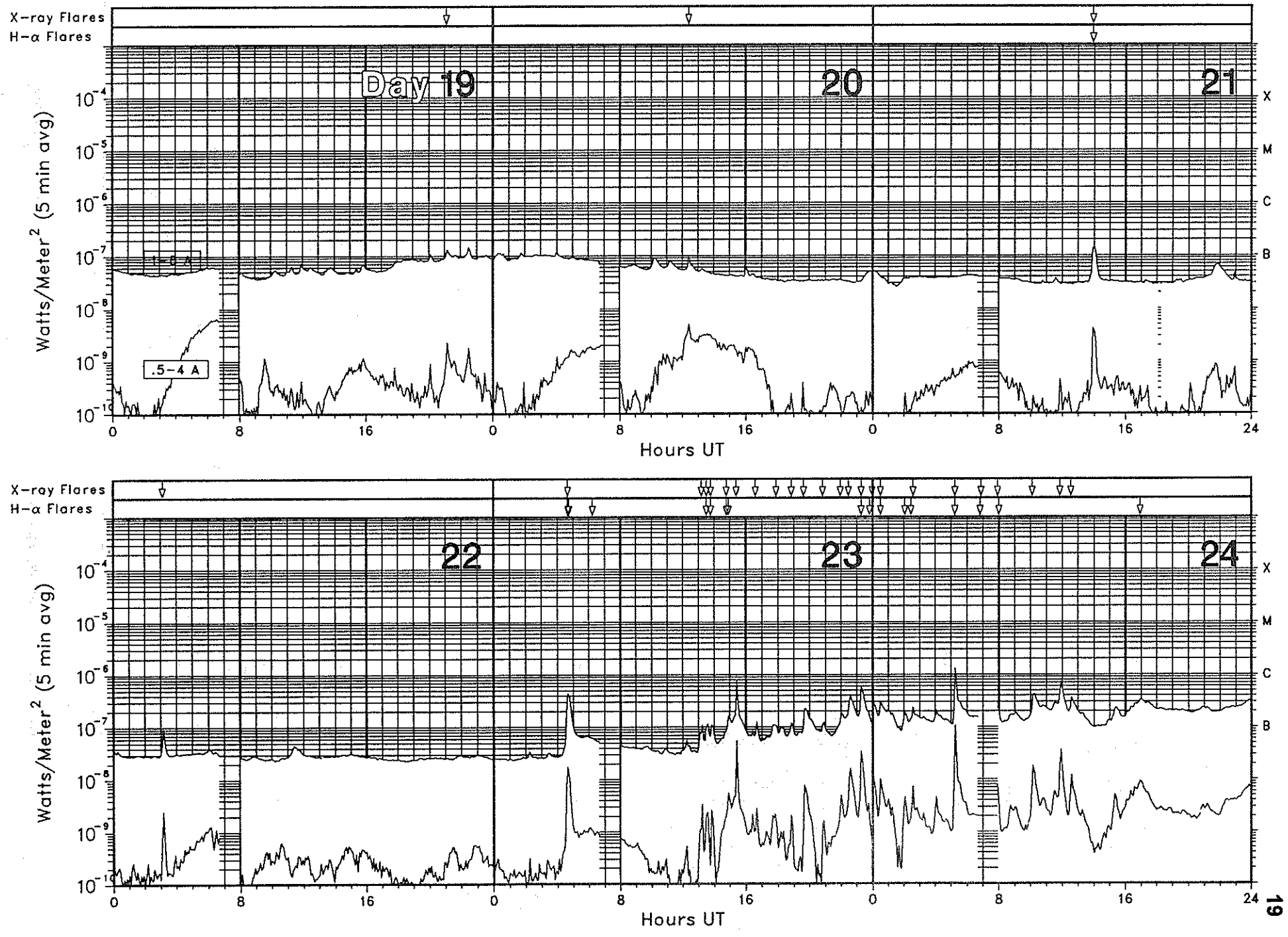
September 1993





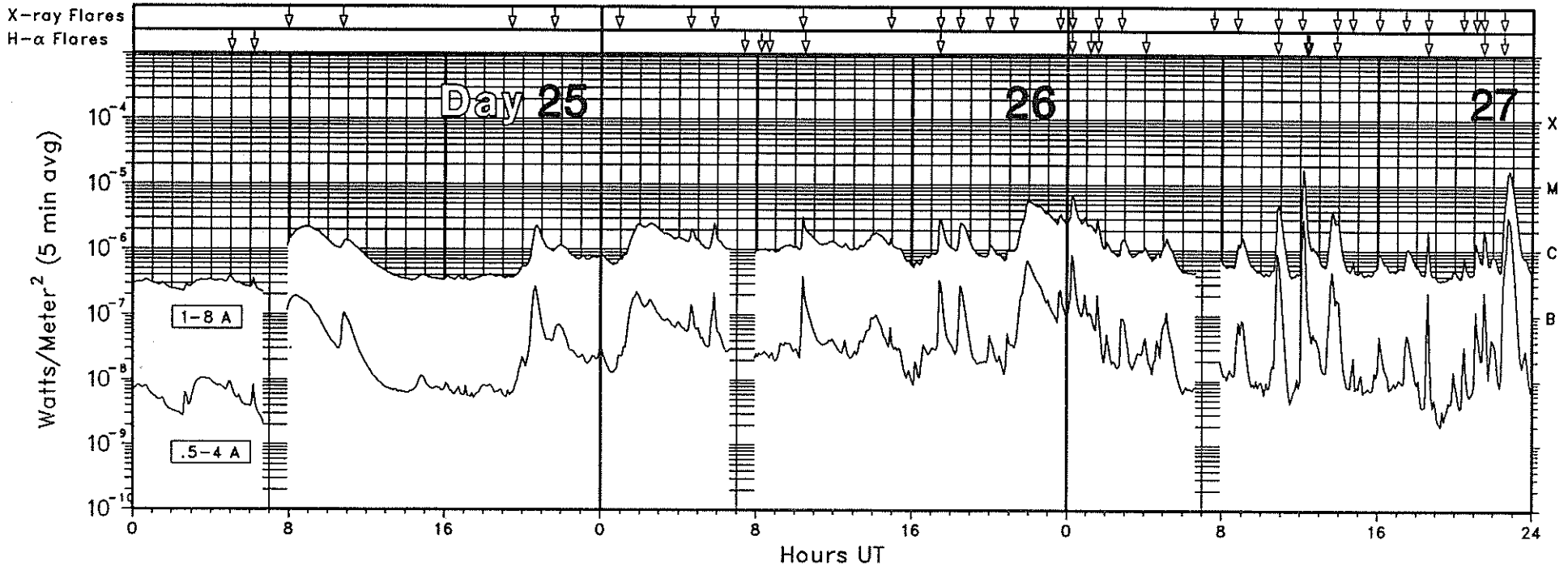
GOES-7 X-RAY DETECTOR

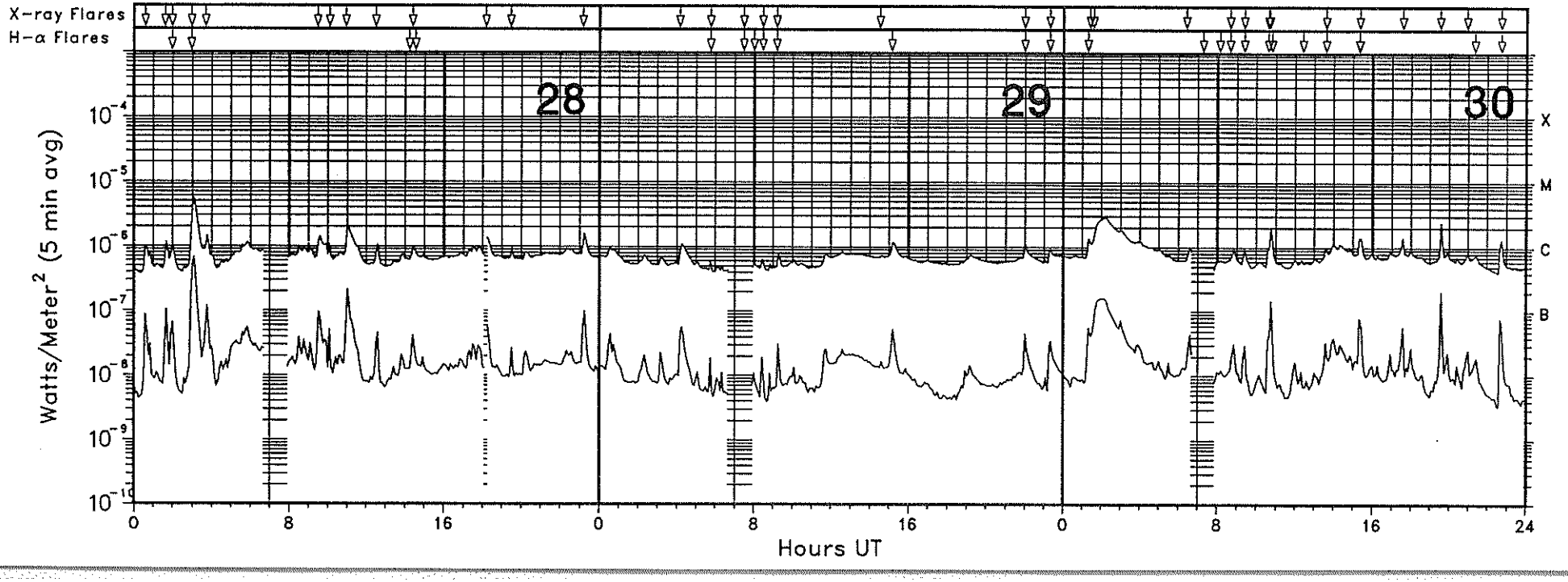
September 1993



GOES-7 X-RAY DETECTOR

September 1993





GOES S O L A R X-RAY F L A R E S

Preliminary Listing

September 1993

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
01	0836	0842	0849				B2.2	
04	0543	0543	0603	N10	E34	SF		7576
04	0715	0717	0742	N10	E34	SF	B4.6	7576
04	0957	1001	1007				B1.1	
04	1428	1436	1449	N09	E29	SF	B3.2	7576
04	1623	1623	1644	N06	W63	SF	B1.5	7573
04	1843	1846	1905	N09	E27	SN	C1.6	7576
04	2209	2216	2221				B2.2	
04	2316	2318	2324	N10	E29	SF	B2.8	7576
05	0035	0036	0043	N08	E24	SF	B5.3	7576
05	1045	1056	1105				B6.0	
05	1143	1156	1208	N09	E18	SF	B3.8	7576
05	1444	1458	1509				B8.8	
06	1131	1134	1142	N09	E05	SF	B1.1	7576
07	1820	1823	1825	N09	W13	SF	B1.8	7576
08	1344	1344	1349	N10	W43	SF		7579
13	1800	1806	1816				B1.0	
15	1818	1822	1825				B2.2	
16	0012	0015	0017				B1.0	
16	1738U	1742	1844	S12	E55	2N	C6.3	7581
17	0628	0634	0643				B1.5	
17	2223	2229	2237				B1.1	
18	0911	0914	0918	S14	E33	SF	B7.5	7581
18	1107	1110	1113				B1.3	
18	1354	1405	1413				B3.2	
18	1422	1428	1432				B3.3	
18	1622	1624	1627	S13	E29	SF	B4.3	7581
19	2106	2110	2118				B1.3	
20	1223	1226	1229				B1.0	
21	1356	1357	1411	S11	W12	SF	B1.5	7581
22	0308	0311	0315				B1.0	
23	0440	0442	0449	S12	W35	SF	B4.7	7581
23	1312	1316	1319				B1.2	
23	1331U	1337	1346	S07	E19	SF	B1.5	7585
23	1347	1352	1405	S08	E18	SF	B1.2	7585
23	1446	1458	1517	S07	E20	SF	B1.9	7585
23	1524	1527	1545	S07	E19	SF	C1.0	7585
23	1636	1643	1646				B1.3	
23	1752	1754	1757				B1.8	
23	1850	1854	1857				B1.3	
23	1937	1943	1956				B2.6	
23	2049	2054	2059				B1.4	
23	2157	2203	2212				B1.9	
23	2227	2237	2247				B4.0	
23	2316	2319	2327	S06	E14	SF	B6.6	7585
23	2358	0002	0014				B3.6	
24	0029	0030	0034	S09	E13	SF	B3.3	7585
24	0235	0235	0247	S07	E10	SF	B2.6	7585
24	0514	0516	0533	S06	E10	SF	C1.6	7585
24	0651	0714	0723	S07	E07	SF	B9.6	7585
24	0755	0759	0802				B2.9	
24	1006	1015	1027				B4.4	
24	1150	1157	1203				B7.6	
24	1232	1237	1243				B3.7	
25	0756	0858	1014				C2.1	
25	1044	1101	1112				C1.3	
25	1925	2049	2108				C2.2	
25	2137	2200	2210				C1.1	
26	0054	0237	0420				C2.5	
26	0435	0443	0448				C2.2	
26	0548	0553	0556				C2.7	
26	1021	1027	1032				C3.4	
26	1453	1456	1458				C1.6	
26	1726	1726	1730	N15	E90	SF	C3.4	
26	1826	1831	1851				C2.6	
26	1956	2004	2017				C1.2	
26	2110	2159	2310				C5.6	
26	2335	2339	2344				C4.1	
27	0013	0015	0022	S06	W31	SF	C7.6	7585
27	0135	0137	0144	N13	E90	SF	C3.3	7500
27	0248	0300	0309				C1.5	
27	0734	0738	0743				C1.2	
27	0846	0905	0915				C1.5	
27	1049	1052	1057	N11	E80	SF	C5.7	7590
27	1204	1212	1218				M1.8	
27	1353	1358	1411	N12	E79	SN	C4.0	7590
27	1441	1445	1448				B7.7	
27	1603	1607	1611				C1.0	
27	1725	1736	1747				C1.0	
27	1833	1834	1841	N12	E79	SN	C2.5	7590
27	2025	2031	2036				B8.5	
27	2104	2107	2113				C1.5	
27	2129	2130	2141	N12	E77	SF	C2.3	7590
27	2232	2247	2333	N12	E76	SN	M1.8	7590
28	0034	0038	0043				C1.2	
28	0136	0141	0147				C1.2	
28	0158	0158	0201	N12	E74	SF	C1.1	7590
28	0257	0306	0320	N12	E73	SF	C6.7	7590
28	0341	0347	0352				C1.5	
28	0928	0935	0946				C1.4	
28	1005	1008	1010				C1.8	
28	1056	1103	1116				C2.1	
28	1229	1236	1239				C1.1	
28	1423	1426	1430				C1.0	
28	1810	1816	1823				C1.5	
28	1927	1931	1935				B9.8	
28	2310	2316	2322				C1.6	
29	0409	0417	0431				C1.0	
29	0545U	0545	0550	N11	E65	SF	B7.5	7590
29	0728	0729	0738	N15	E56	SF	B8.7	7590
29	0828	0828	0832	N12	E58	SF	B8.7	7590
29	0910	0918	0924	N11	E57	SF	C1.0	7590

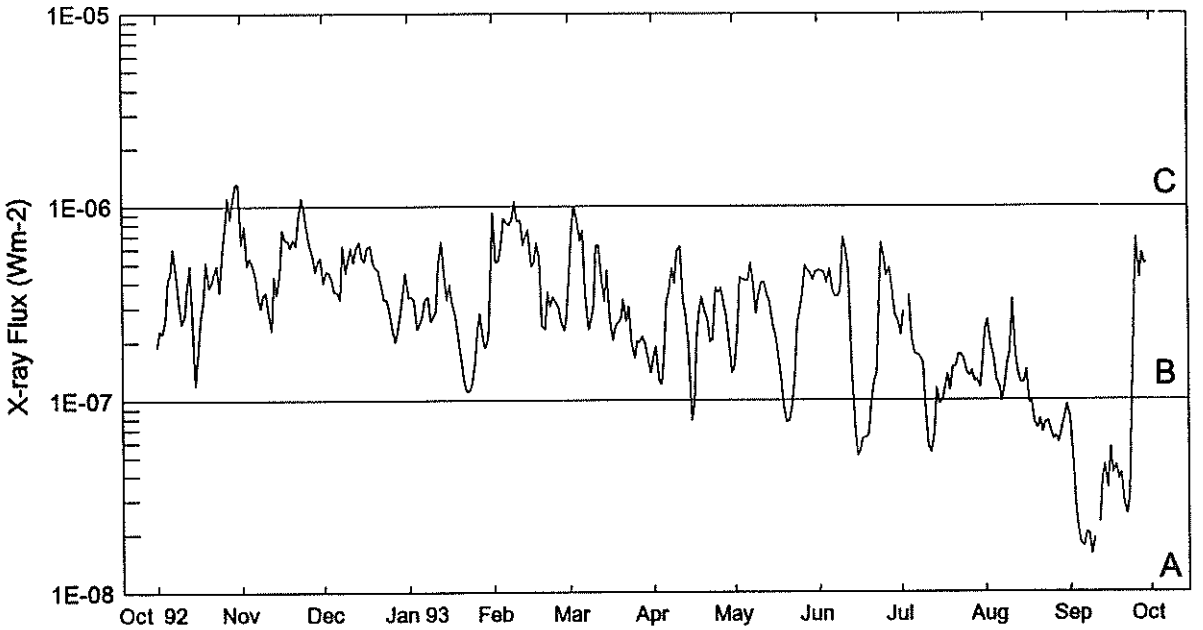
GOES S O L A R X-RAY F L A R E S
Preliminary Listing

September 1993

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp	Opt	Xray	NOAA/ USAF Region
29	1431	1520	1529					C1.0	
29	2159	2201	2205	N07	E55		SF	C1.2	7590
29	2317	2319	2324	N07	E54		SF	C1.0	7590
30	0124	0124	0132	N07	E54		SF	C1.4	7590
30	0135	0214	0239					C2.9	
30	0625	0636	0643					C1.0	
30	0840	0851	0857					B9.6	
30	0923	0925	0934	N13	E42		SF	C1.0	7590
30	1036	1037	1051	N17	E36		SN	C1.2	7590
30	1041	1047	1051					C2.1	
30	1337U	1338	1348	N13	E41		SF	C1.0	7590
30	1521	1525	1535	N10	E47		SN	C1.7	7590
30	1734	1737	1739					C1.7	
30	1932	1936	1940					C2.9	
30	2056	2101	2103					B9.3	
30	2243	2243	2302	N09	E43		SF	C1.7	7590

EDITOR's NOTE: Please note that whenever optical flares are given, the times given are times of the optical flares and not the times of the X-ray flares. These data are taken directly from the NOAA SEL "Preliminary Report and Forecast of Solar Geophysical Data" weekly report.

Preliminary GOES Satellite Daily X-Ray Background
Oct 92 - Sep 93



Day	Oct 92	Nov	Dec	Jan 93	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	B1.9	B6.3	B4.0	B3.3	B9.2	B4.5	B1.6	B1.4	B4.6	B2.1	B2.3	A8.0
2	B2.3	B7.9	B4.6	B3.4	B5.1	B7.6	B1.9	B2.2	B4.5	B2.8	B2.5	A5.1
3	B2.2	B4.9	B4.5	B3.3	B5.1	C1.0	B1.2	B4.2	B4.5	---	B1.9	A2.8
4	B2.6	B5.4	B4.2	B2.3	B6.3	B8.2	B1.2	B4.1	B3.9	B3.4	B1.6	A2.1
5	B4.2	B5.0	B3.6	B2.4	B8.6	B6.5	B1.7	B4.1	B4.7	B2.0	B1.2	A1.7
6	B4.4	B4.3	B3.6	B2.7	B8.1	B7.4	B3.2	B4.0	B3.6	B1.7	B1.1	A1.7
7	B6.0	B3.4	B3.3	B3.3	B7.9	B3.5	B3.6	B5.0	B3.4	B1.7	A9.8	A2.0
8	B4.3	B3.0	B6.2	B3.4	B8.5	B2.3	B4.7	B4.0	B3.4	B1.6	B1.1	A2.0
9	B3.2	B3.5	B4.5	B2.5	C1.0	B2.6	B3.9	B2.7	B3.5	B1.5	B1.5	A1.5
10	B2.5	B3.6	B5.1	B2.7	B8.2	B3.0	B5.8	B3.4	B6.8	A8.5	B1.7	A1.9
11	B2.7	B2.7	B6.1	B2.8	B8.4	B6.2	B6.1	B4.0	B5.9	A5.7	B3.3	---
12	B3.6	B2.3	B5.1	B4.9	B6.2	B6.2	B3.2	B4.0	B4.7	A5.3	B1.7	A2.2
13	B4.9	B4.3	B6.1	B6.5	B6.8	B4.0	B2.7	B3.4	B1.3	A6.6	B1.3	A3.8
14	B2.5	B3.5	B6.5	B4.4	B7.5	B3.2	B1.9	B3.2	A7.2	B1.1	B1.2	A4.5
15	B1.2	B4.5	B5.4	B3.2	B4.8	B4.6	A7.8	B2.4	A5.1	A9.5	B1.2	A3.4
16	B1.8	B7.5	B5.2	B3.9	B5.0	B2.6	A9.5	B2.1	A5.4	A9.9	B1.4	A5.6
17	B2.7	B6.7	B6.1	B3.1	B6.4	B2.0	B2.0	B1.7	A6.3	B1.1	A9.6	A4.1
18	B3.2	B6.6	B6.2	B2.7	B5.4	B2.3	B2.8	B1.2	A6.3	B1.3	A9.9	A4.5
19	B5.1	B6.1	B5.1	B2.1	B2.4	B2.5	B3.3	A9.5	A6.5	B1.1	A7.6	A3.8
20	B3.8	B6.7	B4.8	B1.7	B2.3	B2.6	B2.8	A7.6	A9.5	B1.4	A7.1	A4.1
21	B4.0	B6.2	B4.7	B1.2	B3.6	B3.2	B2.6	A7.7	B1.2	B1.5	A7.9	A2.9
22	B4.5	B8.5	B4.0	B1.1	B3.0	B2.5	B1.9	A9.0	B1.4	B1.7	A6.7	A2.5
23	B4.9	C1.1	B3.3	B1.1	B3.4	B3.0	B2.0	B1.3	B3.0	B1.7	A7.5	A3.2
24	B3.6	B9.6	B3.3	B1.1	B3.2	B1.9	B3.7	B2.4	B6.4	B1.6	A7.7	B1.0
25	B5.9	B7.5	B2.9	B1.5	B3.0	B1.6	B3.5	B2.8	B5.5	B1.4	A6.8	B3.0
26	B7.7	B6.3	B2.4	B2.2	B2.5	B2.0	B3.7	B3.3	B4.3	B1.3	A6.2	B6.8
27	C1.1	B5.5	B2.0	B2.8	B2.2	B1.9	B3.1	B4.9	B4.7	B1.4	A6.4	B4.2
28	B8.6	B4.6	B2.3	B2.1	B2.5	B2.1	B2.7	B4.6	B3.6	B1.2	A6.0	B5.7
29	C1.1	B5.2	B2.8	B1.8		B1.9	B1.9	B4.4	B2.7	B1.2	A7.1	B4.9
30	C1.3	B5.4	B3.8	B2.0		B1.6	B1.3	B4.1	B2.5	B1.1	A8.1	B5.0
31	C1.3		B4.5	B4.2		B1.3		B4.5		B1.6	A9.4	

MASS EJECTIONS FROM THE SUN--PROXY DATA*

September 1993

Site	Mo	Day	Observed UT Start	Max	End	Location RA°	R/Ro	Freq or Wavelength	Kind of Event
PALE	Sep	04	1847.0		1858.0				II 1600km/s
PALE	Sep	26	0112.0		0112.0				II 2300km/s
LEAR	Sep	26	0128.0		0134.0				II 1300km/s
LEAR	Sep	26	0134.0		0415.0				IV
POTS	Sep	27	1207.1		1219 U			40-800	II,IIIG,H,HARM,P,DCIM

QUALIFIERS ON START, MAX AND END TIMES
- E = event began before the tabulated time
- U = uncertain time

TYPE OF EVENT
- A = eruptive active region prominence
- CB = coronal cloud bubble
- D = coronal depletions
- E = coronal enhancement
- EL = coronal expanding loop
- II = Type II radio burst
- IVm = moving Type IV radio burst
- Q = eruptive quiescent prominence
- R = coronal ray or streamer
- S = flare-surge if there is a known flare association
- SP = flare-spray if there is a known flare association
- ** = movement may be caused by ionospheric refraction

REPORTING STATIONS
- IZMI = Izmiran
- KHAR = Kharkov
- LEAR = Learmonth
- ONDR = Ondrejov
- POTS = Potsdam
- SGMR = Sagamore Hill
- SVTO = San Vito
- WROC = Wroclaw

*Please be advised that this list is made up of proxy data--not actual measurements of coronal mass ejections (CMEs). The list was requested by the IAU Commission 10 in 1979. See page 46 in the July 1987 supplement to Solar-Geophysical Data for more information.

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	APR	0015E	0953	N18	W90	08	25.2	1		6	6	E	LEAR	7574	
01	ASR	0530E	0933	N02	W90	08	25.6			9	9	E	SVTO	7568	
01	BSL	0656	0705	S81	W90	08	24.0	1-				C	CATA		
01	BSL	0724	0743	N07	W90	08	25.7	1-				C	CATA		
01	ASR	0730E	0953	N07	W90	08	25.7			7	7	E	LEAR	7568	
01	BSL	0733	0743	S67	E90	09	9.4	1-				C	CATA		
01	ADF	0755E	0953	N27	W29	08	30.2	1	09	6	8	E	LEAR	7572	
01	BSL	1000E	1010D	S06	W90	08	25.8	1-				C	CATA		
01	DSD	1047E	1828	N23	W29	08	30.3		02	9	9	E	RAMY	7572	
01	AFS	1050E	1828	N12	E67	09	6.5		02	9	9	E	RAMY	7576	
01	DSD	1050E	1828	N12	E76	09	7.2		02	9	9	E	RAMY	7576	
01	DSD	1051E	1828	N10	E48	09	5.0		02	9	9	E	RAMY		
01	ADF	1053E	1828	N06	W19	08	31.0	1	05	9	9	E	RAMY	7573	
01	BSL	1125	1130	N52	E90	09	9.1	1-				C	CATA		
01	BSL	1135	1141D	N22	E90	09	8.4	1-				C	CATA		
01	APR	1140E	1828	S25	W90	08	25.6	1		9	9	E	RAMY		
01	ASR	1600E	1828	N06	W90	08	26.0			9	9	E	RAMY	7568	
01	DSD	1616E	1950D	S09	W05	09	1.3		01	9	9	E	HOLL	7575	
01	DSD	1702E	1950D	N08	E77	09	7.5		04	9	9	E	HOLL	7576	
02	ADF	0040E	0958	N28	W35	08	30.4	1	12	5	5	E	LEAR	7572	
02	AFS	0530E	0958	N20	W57	08	29.0		02	9	9	E	LEAR		
02	DSD	0615E	1503D	N16	W56	08	29.1		02	9	9	E	SVTO		
02	DSD	0645E	0830D	N21	W58	08	28.9		03	9	9	E	LEAR		
02	DSD	0809E	1700	N13	E60	09	6.9		01	9	9	E	SVTO	7576	
02	ADF	0845E	0958	N09	W30	08	31.1	1	07	9	8	E	LEAR	7573	
02	BSL	0900	0905	S62	E90	09	10.3	1-				C	CATA		
02	DSD	1126E	2134	N20	W57	08	29.2		02	9	9	E	RAMY	7577	
02	SSB	1143		411	W35	09	1.6			0	0	E	RAMY		
02	ADF	1207E	1700	N06	W32	08	31.1	1	06	9	9	E	SVTO	7573	
02	AFS	1217E	1700	N16	W60	08	29.1		01	7	7	E	SVTO		
02	DSD	1350E	1800D	N10	E56	09	6.8		02	9	9	E	HOLL	7576	
02	ADF	1950E	2355D	N08	W36	08	31.1	1	07	9	9	E	HOLL	7573	
03	DSF	0024U	1354U	N19	W64	08	29.2	2	05	0	0	E	HOLL		
03	ADF	0040E	1000	N28	W35	08	31.3	1	12	5	5	E	LEAR	7572	
03	ADF	0320E	1000	N09	W42	08	31.0	1	05	9	8	E	LEAR	7573	
03	ADF	0523E	1622	N06	W42	08	31.1	1	05	9	9	E	SVTO	7573	
03	ADF	0548E	1000	N11	E50	09	7.0	1	10	9	9	E	LEAR	7576	
03	DSD	0620E	1152D	N15	W72	08	28.9		01	9	9	E	SVTO	7577	
03	AFS	0735E	1622	N11	E49	09	7.0		02	9	9	E	SVTO	7576	
03	BSL	0925	0941D	S58	E90	09	11.2	1-				C	CATA		
03	DSD	1157E	2130	N10	E48	09	7.1		02	9	9	E	RAMY	7576	
03	AFS	1202E	2130	N18	W73	08	29.0		02	9	9	E	RAMY	7577	
03	DSD	1206E	2050D	N20	W59	08	30.1		04	9	9	E	RAMY	7572	
03	ADF	1413E	2130	N05	W49	08	31.0	1	05	8	7	E	RAMY	7573	
03	ADF	1439E	0108	N09	E50	09	7.4	1	06	8	9	E	HOLL	7576	
03	DSD	1554E	1630	N23	W59	08	30.2		04	9	9	E	HOLL	7572	
03	DSD	1643E	1742	N09	E41	09	6.8		04	9	9	E	HOLL	7576	
03	DSD	1643E	1742	N23	W59	08	30.2		05	9	9	E	HOLL	7572	
03	DSD	1832E	2130	N09	E42	09	6.9		04	9	9	E	RAMY	7576	
03	AFS	1832E	2130	N20	W64	08	30.0		02	9	9	E	RAMY	7572	
04	DSD	0516E	0555D	N10	E36	09	6.9		03	9	9	E	SVTO	7576	
04	DSD	0530E	0838D	N10	E34	09	6.8		01	9	9	E	SVTO	7576	
04	ADF	0550E	0959	N08	W58	08	31.0	1	04	6	9	E	LEAR	7573	
04	EPL	0725E	0800D	N35	W90	08	28.2	1				C	CATA		
04	AFS	0809E	1420D	S30	W32	09	1.8		03	9	9	E	SVTO		
04	AFS	0810E	1420D	N11	E35	09	7.0		01	9	9	E	SVTO	7576	
04	DSD	0810E	1420D	N12	E31	09	6.7		02	9	9	E	SVTO	7576	
04	AFS	0910E	0959	S28	W37	09	1.5		02	9	9	E	LEAR		
04	DSD	0937E	0959	N08	E34	09	6.9		02	9	9	E	LEAR	7576	
04	BSL	0945E	1005D	S49	W90	08	27.9	1-				C	CATA		
04	ADF	1040E	1623D	N23	W67	08	30.4	1	05	9	9	E	RAMY	7572	
04	AFS	1048E	2148	S29	W34	09	1.8		03	9	9	E	RAMY	7578	
04	AFS	1058E	2148	S11	E30	09	6.7		01	9	9	E	RAMY	7576	
04	DSD	1059E	1628D	S28	W36	09	1.6		02	9	9	E	RAMY		
04	DSD	1059E	2148	N10	E33	09	6.9		02	9	9	E	RAMY	7576	
04	AFS	1325E	0118	S38	W40	09	1.3		01	9	9	E	HOLL		
04	DSD	1435E	1530D	N11	E29	09	6.8		01	9	9	E	SVTO	7576	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
04	DSD	1436E	1452D	N09	E29	09	6.8		01	9	9	E	HOLL	7576	Flare Associated
05	BSL	0715	0720D	S04	E90	09	12.0	1-				C	CATA		
05	BSL	0746E	0800	S83	E90	09	13.7	1-				C	CATA		
05	BSL	0756	0800D	N15	E90	09	12.1	1-				C	CATA		
05	DSD	0803E	1607	N10	E18	09	6.7		02	9	9	E	SVTO	7576	
05	DSD	0808E	1607	N05	W69	08	31.2		02	9	9	E	SVTO	7573	
05	AFS	0810E	1607	S30	W46	09	1.7		02	9	9	E	SVTO	7578	
05	AFS	1114E	1659	N08	E18	09	6.8		02	9	9	E	RAMY	7576	
05	DSD	1114E	1659	N11	E20	09	7.0		03	8	8	E	RAMY	7576	
05	AFS	1117E	1659	S29	W51	09	1.5		02	9	9	E	RAMY	7578	
05	DSD	1145	1214D	N08	E18	09	6.8		03	9	9	E	RAMY	7576	Flare Associated
05	DSD	1430E	1607	N12	E18	09	7.0		02	9	9	E	SVTO	7576	
05	ADF	1630E	2000D	N08	W76	08	31.0	1	14	9	9	E	HOLL	7573	
06	ADF	0520E	0606D	N09	E11	09	7.0	1	05	9	9	E	SVTO	7576	
06	BSL	0655	0702	S25	W90	08	30.4	1-				C	CATA		
06	AFS	0703E	1358D	S02	E07	09	6.8		02	9	9	E	SVTO		
06	DSD	0703E	1658	N08	E07	09	6.8		03	9	9	E	SVTO	7576	
06	AFS	0703E	1658	N12	E24	09	8.1		03	9	9	E	SVTO	7576	
06	AFS	0715E	0905D	S02	E06	09	6.7		02	9	9	E	LEAR		
06	BSL	0743	0804D	S45	E90	09	13.8	1-				C	CATA		
06	ASR	0753E	1658	N06	W90	08	30.7			9	9	E	SVTO	7573	
06	BSL	0911E	0949D	N32	E90	09	13.5	1-				C	CATA		
06	BSL	0911E	0949D	S45	E90	09	13.8	1-				C	CATA		
06	BSL	0945	0949D	S27	E90	09	13.4	1-				C	CATA		
06	AFS	1038E	1935	N10	E12	09	7.3		01	7	7	E	RAMY	7576	
06	DSD	1038E	1935	N12	E07	09	7.0		02	9	9	E	RAMY	7576	
06	AFS	1045E	1935	S30	W64	09	1.4		02	8	8	E	RAMY	7578	
06	DSD	1050E	1935	N09	E04	09	6.7		02	9	9	E	RAMY	7576	
06	DSD	1057E	1420D	S01	E04	09	6.7		01	9	9	E	RAMY		
06	BSL	1108E	1140D	S46	E90	09	14.0	1-				C	CATA		
06	APR	1115E	1623D	S33	W90	08	30.4	1		9	8	E	RAMY		
06	DSD	1359E	1515D	N11	E04	09	6.9		02	9	9	E	SVTO	7576	
06	APR	1453E	1658	S40	W90	08	30.4	1		5	5	E	SVTO		
06	ASR	1535E	1935	S07	W90	08	31.0			9	9	E	RAMY		
07	DSD	0539E	0552D	N09	W04	09	6.9		02	9	9	E	SVTO	7576	
07	AFS	0620E	0950D	N09	E00	09	7.3		02	9	6	E	SVTO	7576	
07	BSL	0656	0701	N46	W90	08	30.9	1-				C	CATA		
07	BSL	0910	0935	S79	E90	09	15.7	1-				C	CATA		
07	DSD	0950E	1329D	N09	W02	09	7.2		02	9	9	E	SVTO	7576	
07	APR	1040E	1445D	S20	W90	08	31.6	1		8	7	E	RAMY		
07	AFS	1041E	1822	S29	W90	08	31.4		02	9	9	E	RAMY	7578	
07	AFS	1043E	1822	N06	W70	09	2.2		02	9	9	E	RAMY		
07	ADF	1045E	1445D	N09	W01	09	7.4	1	03	9	9	E	RAMY	7576	
07	AFS	1045E	1822	N09	W08	09	6.8		01	8	8	E	RAMY	7576	
07	APR	1057E	1822	S12	E90	09	14.2	1		9	9	E	RAMY		
07	AFS	1329E	1634	N09	W03	09	7.3		02	9	9	E	SVTO	7576	
07	DSD	1445E	1822	N08	W11	09	6.8		02	9	9	E	RAMY	7576	
07	DSD	1605E	1634	N09	W13	09	6.7		02	9	9	E	SVTO	7576	
07	AFS	2009E	0043	N09	W14	09	6.8		01	9	9	E	HOLL	7576	
08	AFS	0144E	0509D	N10	W18	09	6.7		02	9	9	E	LEAR	7576	
08	APR	0500	1100	N04	E90	09	14.9						ATHN		
08	AFS	0822E	1436D	N09	W13	09	7.4		01	9	9	E	SVTO	7576	
08	BSL	0846	0850D	N50	W90	08	31.7	1-				C	CATA		
08	DSD	0921E	1314D	N09	W15	09	7.3		01	9	9	E	SVTO	7576	
08	BSL	1032	1032D	N79	W90	08	31.1	1-				C	CATA		
08	DSD	1042E	1622D	N15	E43	09	11.7		02	9	9	E	RAMY		
08	AFS	1044E	2125	N10	E70	09	13.7		02	9	9	E	RAMY		
08	DSD	1050E	2125	N10	W19	09	7.0		02	9	9	E	RAMY	7576	
08	DSD	1055E	1448D	S29	W68	09	3.1		03	9	9	E	RAMY	7578	
08	BSL	1126E	1131D	N36	W90	09	1.2	1-				C	CATA		
08	DSD	1309E	1858	N11	W42	09	5.4		02	9	9	E	HOLL	7579	
08	DSD	1310E	1627	N07	W42	09	5.4		02	9	9	E	SVTO		
08	DSD	1354E	2125	N08	W42	09	5.4		03	9	9	E	RAMY	7579	
08	AFS	1413E	1627	N02	E13	09	9.6		02	9	9	E	SVTO		
08	AFS	1450E	2125	N01	E12	09	9.5		01	9	9	E	RAMY		
08	AFS	1550E	2233	N10	W19	09	7.2		02	9	9	E	HOLL	7576	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
08	DSD	1555E	1627	N10	W19	09	7.2		03	9	9	E	SVTO	7576	
08	AFS	1650E	0038	N09	W44	09	5.4		02	9	9	E	HOLL	7579	
08	DSD	1855E	0038	N10	W21	09	7.2		03	8	5	E	HOLL	7576	
08	AFS	2310E	0325D	N11	W48	09	5.3		01	9	9	E	LEAR	7579	
09	BSL	0727E	0741D	N72	E90	09	17.5	1-				C	CATA		
09	DSD	0833E	1158D	N07	W56	09	5.2		01	9	9	E	SVTO	7579	
09	DSD	0910E	1000	N11	W29	09	7.2		02	9	9	E	LEAR	7576	
09	BSL	0927E	0939	S60	E90	09	17.3	1-				C	CATA		
09	BSL	0931	0944	N25	E90	09	16.4	1-				C	CATA		
09	DSD	0935E	1158D	N10	W28	09	7.3		01	9	9	E	SVTO	7576	
09	AFS	1026E	1620	N02	E01	09	9.5		01	9	9	E	SVTO		
09	AFS	1048E	2157	N10	W34	09	6.9		01	9	9	E	RAMY	7576	
09	AFS	1050E	2157	N07	W54	09	5.4		01	8	7	E	RAMY	7579	
09	AFS	1052E	2157	N02	E01	09	9.5		01	6	6	E	RAMY		
09	SSB	1057		311	W27	09	8.6			0	0	E	RAMY		334 W50
09	DSD	1158E	1620	N09	E58	09	13.8		02	9	9	E	SVTO		
09	DSD	1226E	1620	N05	W63	09	4.8		03	9	9	E	SVTO		
09	AFS	1817E	2157	N10	W31	09	7.4		01	8	8	E	RAMY	7576	
10	DSD	0155E	0235D	N02	W07	09	9.5		02	9	9	E	LEAR		
10	BSL	0730	0740	N11	W90	09	3.5	1-				C	CATA		
10	DSD	0756E	0854D	N01	W11	09	9.5		01	5	8	E	SVTO		
10	DSF	0843U	2300U	N20	W15	09	9.2	2	20	0	0	E	LEAR		
10	DSD	0854E	1007D	N01	W12	09	9.5		02	9	9	E	SVTO		
10	BSL	0930	0959D	S62	E90	09	18.4	1-				C	CATA		
10	BSL	0943	0949	N17	W90	09	3.6	1-				C	CATA		
10	BSL	0943	0949	N52	W90	09	2.7	1-				C	CATA		
10	BSL	0949	0959D	S35	E90	09	17.6	1-				C	CATA		
10	DSD	1050E	1345D	N16	E48	09	14.1		01	9	9	E	RAMY		
10	ADF	1050E	2058D	N09	E42	09	13.6	1	11	9	9	E	RAMY		
10	AFS	1100E	2058D	S19	E02	09	10.6		01	9	9	E	RAMY		
10	AFS	1114E	2058D	N03	W04	09	10.2		01	8	8	E	RAMY		
10	BSL	1120	1131	N85	W90	09	2.1	1-				C	CATA		
10	BSL	1120	1139D	N19	W90	09	3.6	1-				C	CATA		
10	DSD	1121E	1435D	N10	W40	09	7.5		02	9	9	E	RAMY	7576	
10	SSB	1349		319	W50	09	9.0			0	0	E	RAMY		
10	AFS	1651E	0020D	N05	W08	09	10.1		01	8	8	E	HOLL		
11	DSF	0324U	2300U	N45	E01	09	11.2	2	23	0	0	E	LEAR		
11	ADF	0820E	0927	N15	E30	09	13.6	1	07	7	6	E	LEAR		
11	ADF	0918E	1414	N12	E30	09	13.6	1	04	9	9	E	SVTO		
11	ADF	1046E	1433D	N12	E30	09	13.7	1	05	9	9	E	RAMY		
11	DSF	1336U	2300U	N42	W07	09	11.0	2	23	0	0	E	SVTO		
11	SSB	1508		313	W58	09	10.5			0	0	E	HOLL		
12	AFS	0517E	1628	N03	W29	09	10.0		01	9	9	E	SVTO		
12	BSL	0635	0641	S58	E90	09	20.1	1-				C	CATA		
12	DSD	0808E	0938D	N09	W68	09	7.2		03	9	9	E	SVTO	7576	
12	DSD	0811E	0938D	N06	W32	09	9.9		02	9	9	E	SVTO		
12	APR	0900	0915	N10	E90	09	19.1						ATHN		
12	BSL	0908E	0930	S59	E90	09	20.3	1-				C	CATA		
12	BSL	0952	0955	N87	W90	09	4.0	1-				C	CATA		
12	AFS	1124E	2147	N03	W32	09	10.1		01	7	7	E	RAMY		
12	SSB	1440		243	W01	09	15.8			0	0	E	RAMY		
12	ADF	1450E	2147	S14	E19	09	14.0	1	19	9	9	E	RAMY		
12	DSD	1536E	1628	N02	W36	09	10.0		01	9	9	E	SVTO		
12	DSD	1608E	2147	N02	W36	09	10.0		01	9	9	E	RAMY		
12	DSD	1627E	1659D	S13	W37	09	9.9		01	9	9	E	RAMY		
12	ADF	2340E	0557D	S10	W08	09	12.4	1	20	9	9	E	LEAR		
13	AFS	0535E	1645	N03	W43	09	10.0		01	9	9	E	SVTO		
13	AFS	0631E	1645	N07	W06	09	12.8		01	9	9	E	SVTO		
13	AFS	0805E	0937D	S09	E42	09	16.5		02	9	9	E	SVTO		
13	AFS	0830E	1000	N07	W06	09	12.9		01	9	9	E	LEAR		
13	AFS	0939E	1645	N10	W10	09	12.6		01	9	9	E	SVTO		
13	BSL	0948	0955	N67	W90	09	5.3	1-				C	CATA		
13	BSL	0955	1000	N04	W90	09	6.7	1-				C	CATA		
13	BSL	0955	1000	N27	W90	09	6.4	1-				C	CATA		
13	BSL	1121	1131	N72	W90	09	5.2	1-				C	CATA		

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
13	AFS	1122E	2129	S12	W49	09	9.8		01	8	8	E	RAMY		
13	AFS	1123E	2129	N04	W47	09	10.0		01	7	7	E	RAMY		
13	DSD	1125E	2129	N12	E02	09	13.6		01	9	9	E	RAMY		
13	DSD	1128E	1621D	N13	E65	09	18.4		01	9	9	E	RAMY		
13	ADF	1134E	2129	S15	E05	09	13.9	1	24	9	9	E	RAMY		
13	SSB	1352		245	W15	09	17.0			0	0	E	RAMY		
13	ASR	1352E	1615D	N08	W90	09	6.8			7	8	E	RAMY	7576	
13	DSF	2312U	1427U	N17	E16	09	15.2		08	0	0	E	HOLL		
13	DSF	2312U	1427U	N21	E00	09	14.0		13	0	0	E	HOLL		
13	AFS	2350E	0815D	N19	W52	09	10.0		02	9	9	E	LEAR		
14	AFS	0007E	0053	N16	W50	09	10.2		01	9	9	E	HOLL		
14	AFS	0255E	0855D	N09	W29	09	11.9		01	9	9	E	LEAR		
14	ASR	0256E	1001	S14	E90	09	20.9			9	9	E	LEAR		
14	ASR	0310E	1001	N15	W90	09	7.3			7	7	E	LEAR		
14	ASR	0524E	1034D	S08	E90	09	21.0			9	9	E	SVTO		
14	DSD	0552E	0859D	N09	W10	09	13.5		01	9	9	E	SVTO		
14	BSL	0705	0750	S15	E90	09	21.1	1				C	CATA		
14	BSL	0725	0740	N10	E90	09	21.1	1-				C	CATA		
14	DSF	0856U	2349U	N05	W26	09	12.4	2	10	0	0	E	LEAR		
14	BSL	0910E	0955D	S04	E90	09	21.1	1				C	CATA		
14	BSL	0920	0931	N70	E90	09	22.6	1-				C	CATA		
14	BSL	1103E	1105D	S04	E90	09	21.2	1				C	CATA		
14	BSL	1117E	1142D	S04	E90	09	21.2	1				C	CATA		
14	DSF	1142U	0622U	N15	E25	09	16.4	1				C	CATA		
14	DSF	1427U	1939U	N13	W14	09	13.5		09	0	0	E	HOLL		
14	AFS	1625E	2215	S03	E04	09	15.0		02	9	9	E	HOLL		
15	AFS	0245E	0840D	S13	E75	09	20.8		02	9	9	E	LEAR	7581	
15	BSL	0930	0945	S67	E90	09	23.5	1-				C	CATA		
15	BSL	0951	1001	S66	W90	09	7.3	1				C	CATA		
15	BSL	1101E	1110	S65	W90	09	7.4	1-				C	CATA		
15	AFS	1120E	1657D	N14	W66	09	10.5		01	7	7	E	RAMY		
15	AFS	1125E	1454D	N08	W47	09	11.9		01	8	8	E	RAMY		
15	DSD	1127E	1801D	N09	W24	09	13.7		01	9	9	E	RAMY	7582	
15	AFS	1130E	2143	S13	E70	09	20.8		02	9	9	E	RAMY	7581	
15	DSD	1131E	2143	S12	E71	09	20.8		03	9	9	E	RAMY	7581	
15	APR	1338E	1801D	N26	E90	09	22.6	1		9	9	E	RAMY		
15	AFS	1346E	1632	N08	E65	09	20.4		02	9	9	E	SVTO	7581	
15	DSF	1402U	1308U	S11	W47	09	12.0		14	0	0	E	HOLL		
15	DSD	1532E	1620D	S13	E66	09	20.6		02	9	9	E	HOLL	7581	
15	DSD	1534E	1632	N10	E68	09	20.7		03	9	9	E	SVTO	7581	
15	DSF	1559U	0553U	S14	W34	09	13.1	2	23	0	0	E	SVTO		
15	DSD	2002E	2315D	N12	W26	09	13.9		04	9	9	E	HOLL	7582	
15	DSD	2120E	2143	N11	W30	09	13.6		01	9	9	E	RAMY	7582	
15	AFS	2315E	0103	S04	E07	09	16.5		01	7	7	E	HOLL		
16	APR	0500	1100	N10	E90	09	23.0						ATHN		
16	DSD	0625E	0954D	S09	E65	09	21.1		03	9	9	E	SVTO	7581	
16	AFS	0625E	1635	N11	W32	09	13.8		01	6	6	E	SVTO	7582	
16	BSL	0626	0641	N89	E90	09	24.7	1-				C	CATA		
16	BSL	0631	0645	N67	E90	09	24.4	1-				C	CATA		
16	AFS	0654E	0845D	S20	E15	09	17.4		02	9	9	E	LEAR		
16	AFS	0715E	1002	N12	W35	09	13.7		03	9	9	E	LEAR	7582	
16	DSD	0758E	0840D	S11	E58	09	20.7		02	9	9	E	LEAR	7581	
16	DSD	0827E	0910D	S08	E63	09	21.1		02	9	9	E	LEAR	7581	
16	BSL	0902E	0926D	S54	E90	09	24.1	1-				C	CATA		
16	BSL	0920	0931	N01	E90	09	23.1	1-				C	CATA		
16	BSL	1101E	1112	S56	E90	09	24.3	1-				C	CATA		
16	BSL	1101E	1112	S69	E90	09	24.6	1-				C	CATA		
16	BSL	1101E	1140D	N31	W90	09	9.3	1-				C	CATA		
16	AFS	1102E	1653	N04	E07	09	17.0		01	9	9	E	SVTO		
16	AFS	1102E	1653	S09	E56	09	20.7		01	9	9	E	SVTO	7581	
16	AFS	1113E	2007	S11	E53	09	20.4		01	7	7	E	RAMY	7581	
16	AFS	1125E	2007	N04	E05	09	16.8		01	9	9	E	RAMY		
16	BSL	1135	1140	S84	W90	09	8.1	1-				C	CATA		
16	DSF	1136U	0620U	S10	W34	09	13.9	1				C	CATA		
16	DSD	1159E	1532D	S20	E10	09	17.3		01	9	9	E	RAMY	7583	
16	ADF	1205E	1653	S10	E63	09	21.2	1	06	9	9	E	SVTO	7581	
16	ADF	1255E	1735D	S05	E61	09	21.1	1	07	9	9	E	RAMY	7581	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
16	DSD	1255E	2007	S06	E59	09	20.9		04	9	9	E	RAMY	7581	
16	ADF	1320E	0056	S13	E58	09	20.9	2	07	9	9	E	HOLL	7581	
16	APR	1515E	1635	N36	E90	09	23.9	1		4	4	E	SVTO		
16	AFS	1534E	1635	S21	E11	09	17.5		02	9	9	E	SVTO	7583	
16	AFS	1605E	2007	S20	E10	09	17.4		01	9	9	E	RAMY	7583	
16	DSF	1725U	1745U	S05	E61	09	21.3	3	07	0	0	E	RAMY	7581	
16	DSD	1739	2007	S10	E55	09	20.9		06	9	9	E	RAMY	7581	Flare Associated
16	DSD	1745E	1818	S14	E55	09	20.9		09	9	9	E	HOLL	7581	Flare Associated
16	DSD	2036E	2307	S12	E50	09	20.6		03	9	9	E	HOLL	7581	
17	AFS	0020E	0530D	S20	E04	09	17.3		01	9	9	E	LEAR	7583	
17	ADF	0335E	0952	S21	E03	09	17.4	1	04	9	9	E	LEAR	7583	
17	AFS	0534E	1640	S13	E50	09	21.0		02	9	9	E	SVTO	7581	
17	DSD	0538E	1640	N08	W46	09	13.8		02	9	9	E	SVTO	7583	
17	AFS	0549E	1640	N02	W03	09	17.0		01	9	9	E	SVTO		
17	BSL	0725	0735	S14	W90	09	10.5	1-				C	CATA		
17	AFS	0725E	0952	S13	E45	09	20.7		02	9	9	E	LEAR	7581	
17	BSL	0907E	1000D	S57	E90	09	25.2	1-				C	CATA		
17	DSD	0935E	1101D	S08	E44	09	20.7		01	9	9	E	SVTO	7581	
17	DSD	0935E	1640	S11	E46	09	20.9		03	9	9	E	SVTO	7581	
17	ADF	1040E	1640	S12	E46	09	20.9	1	04	9	9	E	SVTO	7581	
17	APR	1103E	1926	N14	W90	09	10.6	1		8	7	E	RAMY		
17	BSL	1108E	1128	N68	W90	09	9.3	1-				C	CATA		
17	AFS	1108E	1926	S12	E42	09	20.6		02	9	9	E	RAMY	7581	
17	DSD	1110E	1926	S12	E43	09	20.7		03	9	9	E	RAMY	7581	
17	AFS	1130E	1926	S03	W12	09	16.6		02	9	9	E	RAMY		
17	ADF	1203E	1926	S14	E42	09	20.7	1	05	9	9	E	RAMY	7581	
17	DSD	1443E	1925D	S21	W02	09	17.4		02	9	9	E	RAMY	7583	
17	AFS	1509E	0030	S13	E41	09	20.7		02	9	9	E	HOLL	7581	
17	ADF	1509E	1632D	S15	E39	09	20.6	2	03	9	9	E	HOLL	7581	
17	AFS	1525E	1640	S07	W15	09	16.5		02	9	9	E	SVTO		
17	DSD	1736E	1926	N06	W13	09	16.8		01	9	9	E	RAMY		
17	AFS	2232E	0030	S03	W19	09	16.5		02	9	9	E	HOLL		
18	AFS	0025E	0730D	N00	W21	09	16.4		03	6	9	E	LEAR		
18	AFS	0453E	1635	S13	E33	09	20.7		03	9	9	E	SVTO	7581	
18	AFS	0529E	1635	S04	W23	09	16.5		03	9	9	E	SVTO	7584	
18	DSD	0532E	1635	S25	W15	09	17.1		01	9	9	E	SVTO	7583	
18	BSL	0640	0648	S89	W90	09	9.8	1-				C	CATA		
18	BSL	0705	0725	N75	W90	09	10.0	1-				C	CATA		
18	BSL	0750	0755	N83	E90	09	26.7	1-				C	CATA		
18	ADF	0750E	1635	S12	E35	09	21.0	1	03	9	9	E	SVTO	7581	
18	BSL	0917	0925	S79	W90	09	10.0	1-				C	CATA		
18	ADF	1039E	2104	S07	E36	09	21.1	1	06	9	9	E	RAMY	7581	
18	DSD	1039E	2104	S12	E30	09	20.7		02	9	9	E	RAMY	7581	
18	DSD	1118E	2104	N09	E41	09	21.5		03	9	9	E	RAMY		
18	AFS	1618E	2104	S04	W29	09	16.5		01	7	7	E	RAMY	7584	
18	ADF	1631E	1955D	S15	W27	09	16.6	1	05	9	9	E	HOLL	7581	
19	AFS	0526E	1626	S03	W37	09	16.5		03	9	9	E	SVTO	7584	
19	AFS	0609E	1626	S13	E20	09	20.8		02	9	9	E	SVTO	7581	
19	DSD	0719E	1255D	S12	E18	09	20.7		01	9	9	E	SVTO	7581	
19	ADF	0845E	1002	S18	E16	09	20.6	1	05	7	8	E	LEAR	7581	
19	AFS	1058E	1610D	N12	W70	09	14.2		02	9	9	E	RAMY	7582	
19	AFS	1100E	1617D	S03	W56	09	15.3		01	9	9	E	RAMY		
19	ASR	1104E	1617D	S08	W90	09	12.7			9	9	E	RAMY		
19	APR	1104E	2122D	N24	E90	09	26.4	1		8	9	E	RAMY		
19	BSL	1110	1115D	N61	E90	09	27.4	1-				C	CATA		
19	SSB	1110		170	W18	09	24.8			0	0	E	RAMY		
19	BSL	1136	1145D	S89	E90	09	27.9	1-				C	CATA		
19	DSF	1140U	0628U	N55	W05	09	19.0	1				C	CATA		
19	ADF	1230E	2149	N16	E37	09	22.3	1	10	9	9	E	RAMY		
19	ASR	1353E	1610D	S06	W90	09	12.8			9	9	E	HOLL		
19	APR	1442E	1617D	S30	E90	09	26.7	1		9	9	E	RAMY		
19	AFS	1443E	2149	S03	W41	09	16.5		01	7	7	E	RAMY	7584	
19	SSB	1835		194	W46	09	27.6			0	0	E	HOLL		
20	APR	0305E	0705D	S04	W90	09	13.4	1		9	9	E	LEAR		
20	BSL	0635E	0646	N82	W90	09	11.9	1-				C	CATA		
20	BSL	0635E	0650D	S05	W90	09	13.5	1-				C	CATA		

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
20	BSL	0719E	0721	S05	W90	09	13.6	1-				C	CATA		
20	BSL	0731E	0732D	S14	W90	09	13.5	1-				C	CATA		
20	BSL	0845E	0845D	N08	E90	09	27.1	1-				C	CATA		
20	DSD	0926E	1043D	S13	E10	09	21.1		02	9	9	E	SVTO	7581	
20	AFS	0927E	1615	S04	W53	09	16.4		01	5	5	E	SVTO	7584	
20	DSD	0937E	1043D	S16	E05	09	20.8		02	9	9	E	SVTO	7581	
20	BSL	1036E	1036D	N46	E90	09	27.9	1-				C	CATA		
20	ADF	1045E	1615	S13	E04	09	20.7	1	03	9	9	E	SVTO	7581	
20	SSB	1052		161	W22	09	25.1			0	0	E	SVTO		
20	AFS	1058E	2120	S03	W52	09	16.6		02	9	9	E	RAMY	7584	
20	ADF	1100E	2120	N17	E23	09	22.2	1	11	9	9	E	RAMY		
20	AFS	1106E	1615	S24	W41	09	17.3		02	7	8	E	SVTO	7583	
20	BSL	1112	1121	N57	W90	09	12.6	1-				C	CATA		
20	AFS	1116E	2120	S13	E04	09	20.8		01	7	7	E	RAMY	7581	
20	BSL	1143	1143D	N42	E90	09	27.9	1-				C	CATA		
20	ADF	1254E	2120	S14	E05	09	20.9	1	05	9	9	E	RAMY	7581	
20	ADF	1429E	0056	S12	E00	09	20.6	1	05	9	9	E	HOLL	7581	
20	DSD	1712E	2120	S08	E62	09	25.4		01	9	9	E	RAMY		
20	SSB	1833		171	W37	09	26.5			0	0	E	HOLL		
21	DSD	0550E	0948D	S06	E53	09	25.2		01	9	9	E	SVTO		
21	AFS	1048E	1856	S08	E51	09	25.3		01	8	8	E	RAMY	7585	
21	ADF	1050E	1856	N12	E05	09	21.8	1	05	9	9	E	RAMY		
21	DSD	1051E	1856	N13	E04	09	21.7		02	9	9	E	RAMY		
21	DSD	1054E	1856	S17	W09	09	20.8		03	9	9	E	RAMY	7581	
21	DSD	1104E	1551D	S05	W74	09	15.9		02	9	9	E	RAMY	7584	
21	AFS	1107E	1622	S11	W05	09	21.1		01	9	9	E	SVTO	7581	
21	DSD	1124E	1622	S08	E51	09	25.3		01	9	9	E	SVTO	7585	
21	BSL	1142	1144D	S88	E90	09	29.9	1-				C	CATA		
21	APR	1220E	1557D	S17	E90	09	28.3	1		8	8	E	RAMY		
21	ADF	1255E	1622	S13	W10	09	20.8	1	03	9	9	E	SVTO	7581	
21	DSD	1406E	1417D	S14	W10	09	20.8		03	9	9	E	HOLL	7581	Flare Associated
21	APR	1508E	1622	S17	E90	09	28.5	1		5	5	E	SVTO		
21	ADF	1635E	0054	S10	W09	09	21.0	1	05	6	6	E	HOLL	7581	
21	ADF	1801E	1856	S13	W08	09	21.1	1	04	9	9	E	RAMY	7581	
21	DSF	1848U	1145U	N20	E10	09	22.5	2	08	0	0	E	RAMY		
22	DSD	0630E	1233D	S09	W18	09	20.9		01	9	9	E	SVTO	7581	
22	DSD	0811E	1433D	S07	E33	09	24.8		01	9	9	E	SVTO	7585	
22	BSL	0855E	0928D	N41	E90	09	29.7	1				C	CATA		
22	BSL	0922	0928D	S73	W90	09	14.1	1-				C	CATA		
22	BSL	1002E	1004D	S75	W90	09	14.1	1-				C	CATA		
22	BSL	1029	1041	S75	W90	09	14.1	1-				C	CATA		
22	BSL	1029	1041D	S68	E90	09	30.6	1-				C	CATA		
22	BSL	1036	1041D	S71	W90	09	14.2	1-				C	CATA		
22	ADF	1102E	1830	N14	W04	09	22.1	1	09	9	9	E	RAMY		
22	SSB	1109		115	W03	09	23.6			0	0	E	RAMY		188 W76
22	SSB	1227		116	W05	09	23.7			0	0	E	SVTO		
22	AFS	1240E	1830	S02	E22	09	24.2		01	8	6	E	RAMY		
22	DSD	1314E	1515D	S02	W81	09	16.5		03	9	9	E	SVTO	7584	
23	ADF	0115E	1002	S10	W29	09	20.9	1	13	9	8	E	LEAR	7581	
23	DSD	0150E	0220D	S08	E26	09	25.0		02	9	9	E	LEAR	7585	
23	AFS	0220E	1002	S07	E24	09	24.9		03	9	9	E	LEAR	7585	
23	DSD	0519E	1420D	S05	E23	09	24.9		02	9	9	E	SVTO	7585	
23	AFS	0519E	1630	S06	E22	09	24.9		02	9	9	E	SVTO	7585	
23	ADF	0950E	0000	S11	W33	09	20.9	1	04	9	8	E	SVTO	7581	
23	ADF	0950E	1630	S11	W33	09	20.9	1	04	9	8	E	SVTO	7581	
23	DSD	1048E	1630	S06	E19	09	24.9		01	9	9	E	SVTO	7585	
23	BSL	1055E	1104	S60	E90	10	1.4	1-				C	CATA		
23	DSF	1132U	0859U	N39	E21	09	25.2	1				C	CATA		
23	AFS	1154E	2034	S06	E20	09	25.0		03	9	9	E	RAMY	7585	
23	ASR	1342E	1630	S14	W90	09	16.8			9	9	E	SVTO		
23	DSD	1435E	1630	S08	E17	09	24.9		02	9	9	E	SVTO	7585	
23	AFS	1510E	0022	S08	E15	09	24.7		02	9	9	E	HOLL	7585	
23	DSD	1511E	1630	S08	E19	09	25.0		02	9	9	E	SVTO	7585	
23	DSD	1556E	2034	S07	E16	09	24.9		02	9	9	E	RAMY	7585	
23	AFS	1645E	1805D	S20	W24	09	21.9		01	9	9	E	HOLL		
23	AFS	1700E	1840D	S19	W22	09	22.0		01	8	8	E	RAMY		
23	DSD	1812E	2324D	S08	E12	09	24.6		02	9	9	E	HOLL	7585	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
23	SSB	1948		456	W02	09	19.6			0	0	E	RAMY		
23	AFS	2315E	1001	S05	E10	09	24.7		06	9	9	E	LEAR	7585	
24	AFS	0528E	1617	S06	E08	09	24.8		05	9	9	E	SVTO	7585	
24	DSD	0605E	0735D	S06	E08	09	24.8		03	9	9	E	LEAR	7585	
24	BSL	0915	0919D	S34	W90	09	17.2	1-				C	CATA		
24	DSD	1047E	1617	S06	E02	09	24.6		04	9	9	E	SVTO	7585	
24	DSD	1407E	1617	S09	E09	09	25.3		01	9	9	E	SVTO	7585	
24	DSD	1418E	1617	S05	E03	09	24.8		03	9	9	E	SVTO	7585	
24	DSD	1546E	2252	S06	E00	09	24.6		01	9	9	E	HOLL	7585	
24	AFS	1546E	2253	S05	E03	09	24.9		04	9	9	E	HOLL	7585	
24	AFS	1556E	2252	N12	W08	09	24.1		01	9	9	E	HOLL		
24	AFS	2034E	2037	S07	E02	09	25.0		02	9	9	E	RAMY	7585	
24	DSD	2034E	2037	S09	E01	09	24.9		02	9	9	E	RAMY	7585	
24	AFS	2325E	0345D	N04	W23	09	23.2		01	8	9	E	LEAR		
24	AFS	2325E	1005	S06	E00	09	25.0		06	9	9	E	LEAR	7585	
25	DSD	0055E	1005	N19	E21	09	26.6		01	9	9	E	LEAR		
25	AFS	0055E	1005	N21	E18	09	26.4		01	9	9	E	LEAR		
25	DSD	0137E	0305D	S17	W61	09	20.4		03	9	9	E	LEAR	7581	
25	DSD	0157E	0900D	S05	W06	09	24.6		03	9	9	E	LEAR	7585	
25	AFS	0545E	1005	N04	W26	09	23.3		01	9	9	E	LEAR		
25	AFS	0545E	1005	S10	W07	09	24.7		02	9	9	E	LEAR	7585	
25	DSD	0632E	1523D	S06	W10	09	24.5		03	9	9	E	SVTO	7585	
25	AFS	0635E	1626	S06	W10	09	24.5		02	9	9	E	SVTO	7585	
25	AFS	0637E	1626	N04	W26	09	23.3		02	9	9	E	SVTO	7587	
25	AFS	0640E	1626	N21	E16	09	26.5		02	9	9	E	SVTO	7588	
25	SSB	0745		113	W38	09	26.4			0	0	E	SVTO		
25	DSD	0759E	1529D	N22	E16	09	26.6		02	9	9	E	SVTO	7588	
25	BSL	1023E	1031D	S47	W90	09	17.9	1-				C	CATA		
25	BSL	1056E	1102D	S47	W90	09	17.9	1-				C	CATA		
25	AFS	1115E	1722	S07	W08	09	24.9		02	9	9	E	RAMY	7585	
25	DSD	1118E	1722	S10	W08	09	24.9		02	9	9	E	RAMY	7585	
25	BSL	1121E	1146D	S47	W90	09	17.9	1-				C	CATA		
25	AFS	1125E	1722	N03	W28	09	23.4		03	9	9	E	RAMY		
25	ASR	1132E	1722	N18	E90	10	2.3			9	9	E	RAMY		
25	DSF	1144U	0702U	N47	W01	09	25.4	1				C	CATA		
25	AFS	1458E	0047	S06	W11	09	24.8		02	9	9	E	HOLL	7585	
25	ADF	1536E	1626	S17	W68	09	20.5	2	09	8	8	E	SVTO	7581	
25	AFS	1640E	0047	N21	E10	09	26.5		01	9	9	E	HOLL	7588	
25	SSB	1650		118	W49	09	27.2			0	0	E	HOLL		
25	ADF	1650E	2314D	S16	W68	09	20.5	1	03	9	9	E	HOLL	7581	
25	AFS	1843E	0047	S10	E35	09	28.4		01	9	9	E	HOLL		
25	AFS	2318E	1000	N07	E21	09	27.5		03	9	9	E	LEAR	7588	
25	DSD	2320E	0006D	S04	W12	09	25.1		06	9	9	E	LEAR	7585	
25	AFS	2320E	1000	S05	W17	09	24.7		03	9	9	E	LEAR	7585	
26	ASR	0248E	0415D	N07	E90	10	2.8			8	6	E	LEAR		
26	ASR	0435E	1000	N08	E90	10	2.9			6	6	E	LEAR		
26	ASR	0552E	1508	N12	E90	10	3.0			9	9	E	SVTO		
26	AFS	0625E	1508	S05	W21	09	24.7		02	9	9	E	SVTO	7585	
26	ASR	0633E	1440	N09	E90	10	3.0			9	9	E	SVTO	7590	
26	AFS	0637E	1440	N19	W10	09	25.5		02	9	9	E	SVTO	7588	
26	DSD	0639E	1440	N20	W13	09	25.3		02	9	9	E	SVTO	7588	
26	AFS	0641E	1440	S06	W34	09	23.7		02	9	9	E	SVTO	7585	
26	AFS	0659E	1508	N20	E03	09	26.5		01	9	9	E	SVTO	7588	
26	BSL	0704E	0716	N14	E90	10	3.1	1-				C	CATA		
26	EPL	0704E	0826D	N10	E90	10	3.0	1				C	CATA		
26	BSL	0723	0730D	N15	E90	10	3.1	1-				C	CATA		
26	BSL	0743E	0750D	N15	E90	10	3.1	1-				C	CATA		
26	DSF	0745U	2300U	S10	E15	09	27.4	1	07	0	0	E	LEAR		
26	BSL	0801E	0826	N14	E90	10	3.1	1-				C	CATA		
26	AFS	0910E	1508	N18	W15	09	25.2		01	9	9	E	SVTO		
26	BSL	0911E	0927	N01	W90	09	19.7	1-				C	CATA		
26	BSL	0938	1051	N14	E90	10	3.2	1-				C	CATA		
26	AFS	0956E	1508	N02	W41	09	23.3		02	9	9	E	SVTO	7587	
26	DSD	0957E	1117D	S18	E52	09	30.4		01	9	9	E	SVTO		
26	AFS	0959E	1508	S10	E26	09	28.4		02	9	9	E	SVTO		
26	BSL	1057	1136D	S01	E90	10	3.2	1				C	CATA		
26	BSL	1100	1136D	N14	E90	10	3.3	1-				C	CATA		

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
26	ADF	1115E	1636D	S03	W13	09	25.5	1	04	9	9	E	RAMY	7585	
26	DSD	1115E	2142	S07	W23	09	24.7		03	9	9	E	RAMY	7585	
26	DSD	1115E	2142	S08	W26	09	24.5		02	9	9	E	RAMY	7585	
26	AFS	1120E	2142	N20	E00	09	26.5		02	8	8	E	RAMY	7588	
26	AFS	1125E	1700D	N18	W16	09	25.2		01	9	9	E	RAMY		
26	AFS	1126E	2142	N09	W25	09	24.6		02	7	7	E	RAMY		
26	APR	1129E	2117D	N12	E90	10	3.2	1		9	9	E	RAMY		
26	ASR	1129E	2117D	N14	E90	10	3.3			9	9	E	RAMY		
26	AFS	1142E	1508	N05	W35	09	23.9		01	9	9	E	SVTO		
26	BSL	1146E	1216D	N13	E90	10	3.3	1-				C	CATA		
26	BSL	1209	1216D	N67	W90	09	18.4	1-				C	CATA		
26	BSL	1234E	1246	N15	E90	10	3.3	1-				C	CATA		
26	BSL	1234E	1251D	N12	E90	10	3.3	1-				C	CATA		
26	BSL	1246	1251D	S62	E90	10	4.5	1-				C	CATA		
26	AFS	1354E	2215D	S05	W23	09	24.8		02	9	9	E	HOLL	7585	
26	ASR	1507E	1535D	S28	W90	09	19.6			9	9	E	SVTO	7581	
26	DSD	1529E	1609D	S08	W30	09	24.4		05	9	9	E	HOLL	7585	
26	DSD	1535E	1605D	S08	W30	09	24.4		03	9	9	E	SVTO	7585	
26	AFS	1636E	2142	S06	W26	09	24.7		02	9	9	E	RAMY	7585	
26	DSD	2215E	0010	S08	W32	09	24.5		02	8	8	E	HOLL	7585	
26	ASR	2255E	0955	N09	E90	10	3.7			9	9	E	LEAR		
26	AFS	2255E	0955	S06	W28	09	24.8		03	9	9	E	LEAR	7585	
26	AFS	2345E	0955	N21	W07	09	26.4		01	5	7	E	LEAR	7588	
27	ASR	0005E	0955	N08	E90	10	3.7			9	6	E	LEAR		
27	BSL	0648E	0655	N70	E90	10	5.5	1-				C	CATA		
27	BSL	0648E	0712D	N16	E90	10	4.1	1-				C	CATA		
27	BSL	0700	0712D	S89	W90	09	18.9	1-				C	CATA		
27	BSL	0708	0712D	N10	E90	10	4.0	1-				C	CATA		
27	BSL	0726E	0726D	N10	E90	10	4.1	1-				C	CATA		
27	BSL	0748E	0748D	N10	E90	10	4.1	1-				C	CATA		
27	BSL	0758E	0758D	N10	E90	10	4.1	1-				C	CATA		
27	BSL	0809E	0809D	N10	E90	10	4.1	1-				C	CATA		
27	BSL	0912	0930D	N10	E90	10	4.1	1-				C	CATA		
27	BSL	1125E	1132	S54	E90	10	5.2	1-				C	CATA		
27	BSL	1125E	1142D	N11	E90	10	4.2	1-				C	CATA		
27	BSL	1206E	1227	N13	E90	10	4.3	1-				C	CATA		
27	BSL	1210	1242D	N05	E90	10	4.2	1-				C	CATA		
27	BSL	1212E	1221	N14	E90	10	4.3			9	9	E	SVTO		
27	BSL	1216	1227	N11	E90	10	4.3	1-				C	CATA		
27	BSL	1227	1242	N13	W90	09	20.7	1-				C	CATA		
27	BSL	1240	1242D	N12	E90	10	4.3	1-				C	CATA		
27	DSF	1251U	0648U	S06	E06	09	28.0	1				C	CATA		
27	ASR	1330E	1724D	N13	E82	10	3.7			9	9	E	RAMY	7590	
27	DSD	1330E	1728	N13	E73	10	3.1		03	9	9	E	RAMY	7590	
27	AFS	1330E	1728	N15	E77	10	3.4		02	9	9	E	RAMY	7590	
27	AFS	1342E	1728	S06	W37	09	24.8		02	9	9	E	RAMY	7585	
27	APR	1353E	1728	S16	W90	09	20.7	1		9	9	E	RAMY	7581	
27	ASR	1355E	0046	N11	E82	10	3.7			9	9	E	HOLL		
27	APR	1530E	0046	S18	W90	09	20.8	1		9	9	E	HOLL	7581	
27	AFS	1815E	0046	N06	E64	10	2.5		02	9	9	E	HOLL		
27	AFS	2325E	1000	S06	W42	09	24.8		04	9	9	E	LEAR	7585	
27	AFS	2328E	1000	N12	E76	10	3.7		03	8	7	E	LEAR	7590	
28	AFS	0642E	1438	S06	W46	09	24.8		02	9	9	E	SVTO	7585	
28	BSL	0725	0725D	S12	W90	09	21.5	1-				C	CATA		
28	BSL	0801	0810	S80	E90	10	6.7	1-				C	CATA		
28	AFS	1043E	1643	N14	E65	10	3.3		02	8	7	E	RAMY	7590	
28	DSD	1057E	1643	N17	E64	10	3.3		03	9	9	E	RAMY	7590	
28	AFS	1057E	1643	S08	W47	09	24.9		02	9	9	E	RAMY	7585	
28	AFS	1104E	1643	N19	W25	09	26.5		01	7	7	E	RAMY	7588	
28	AFS	1117E	1643D	N07	E55	10	2.6		02	9	9	E	RAMY	7591	
28	DSD	1254E	1438	N10	E78	10	4.4		01	9	9	E	SVTO	7590	
28	AFS	1330E	0044	N12	E65	10	3.4		03	7	7	E	HOLL	7590	
28	AFS	1404E	1438	N14	E66	10	3.6		02	9	9	E	SVTO	7590	
28	DSD	1619E	1643D	N19	W26	09	26.7		01	9	9	E	RAMY	7588	
29	DSD	0110E	0200D	N08	E62	10	3.7		03	9	9	E	LEAR	7590	
29	DSD	0159E	0632D	N20	W31	09	26.7		01	9	9	E	LEAR	7588	
29	BSD	0547E	0555D	N12	E67	10	4.3		03	9	9	E	SVTO	7590	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1993

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
29	BSD	0624E	0626	N14	E66	10	4.2		06	9	9	E	SVTO	7590	
29	DSD	0626	0645D	N14	E66	10	4.2		12	9	9	E	SVTO	7590	
29	DSD	0630E	0650D	N15	E80	10	5.3		13	9	9	E	LEAR	7590	Flare Associated
29	AFS	0652E	1145	S07	W60	09	24.8		02	9	9	E	SVTO	7585	
29	AFS	0810E	1145	N14	E57	10	3.6		02	9	9	E	SVTO	7590	
29	AFS	0820E	1145	N21	W37	09	26.5		02	9	9	E	SVTO	7588	
29	ADF	0905E	1037D	N23	E63	10	4.2	3	05	9	9	E	SVTO		
29	AFS	1119E	1726	N18	W38	09	26.6		01	7	7	E	RAMY	7588	
29	DSD	1119E	1726	N18	W39	09	26.5		01	9	9	E	RAMY	7588	
29	AFS	1123E	1726	S09	W59	09	25.0		02	9	9	E	RAMY	7585	
29	ADF	1124E	1726	S07	W61	09	24.9	1	05	9	9	E	RAMY	7585	
29	DSD	1127E	1726	S12	W62	09	24.8		02	9	9	E	RAMY	7585	
29	ADF	1136E	1726	N08	E59	10	3.9	1	04	9	9	E	RAMY	7590	
29	AFS	1140E	1726	N15	E53	10	3.5		02	9	9	E	RAMY	7590	
29	APR	1141E	1726	S09	W90	09	22.7	1		7	8	E	RAMY		
29	ASR	1143E	1726	N26	W90	09	22.5			7	7	E	RAMY		
29	DSD	1222E	1726	N12	E50	10	3.3		03	9	9	E	RAMY	7590	
29	DSD	1333E	1540D	N12	E61	10	4.2		02	9	9	E	HOLL	7590	
29	BSD	1530E	1620D	N20	E49	10	3.4		05	9	9	E	HOLL	7590	
29	ADF	1540E	2045D	N16	E48	10	3.3	1	07	9	9	E	HOLL	7590	
29	DSD	2024E	2119D	N07	E57	10	4.1		03	9	9	E	HOLL	7590	
29	BSD	2200E	2213D	N07	E55	10	4.0		02	9	9	E	HOLL	7590	Flare Associated
29	AFS	2245E	1002	N13	E47	10	3.5		02	9	9	E	LEAR	7590	
30	DSD	0145E	0415D	N06	E54	10	4.1		03	9	9	E	LEAR	7590	
30	AFS	0532E	1615	N14	E44	10	3.5		03	9	9	E	SVTO	7590	
30	DSD	0635E	0955D	N08	E49	10	3.9		03	9	9	E	LEAR	7590	
30	BSL	0720	0736	S89	W90	09	21.9	1-				C	CATA		
30	ASR	0820E	1615	S11	E77	10	6.1			9	9	E	SVTO		
30	DSD	0843E	1615	N10	E47	10	3.9		03	9	9	E	SVTO	7590	
30	AFS	0854E	1615	S12	W26	09	28.4		01	9	9	E	SVTO		
30	DSD	0900E	0930D	S12	W27	09	28.3		01	9	9	E	LEAR		
30	BSL	1037E	1056	S15	E90	10	7.2	1-				C	CATA		
30	BSL	1037E	1112	S16	E90	10	7.3	1				C	CATA		
30	DSD	1057E	1637	S09	W72	09	25.0		02	9	9	E	RAMY	7585	
30	DSD	1059E	1637	N08	E38	10	3.3		05	9	9	E	RAMY	7590	
30	DSD	1059E	1637	N09	E48	10	4.1		01	9	9	E	RAMY	7590	
30	AFS	1059E	1637	N10	E49	10	4.1		02	9	9	E	RAMY	7590	
30	AFS	1059E	1637	N14	E40	10	3.5		01	9	9	E	RAMY	7590	
30	DSD	1107E	1637	N19	W68	09	25.3		01	9	9	E	RAMY	7589	
30	ASR	1114E	1637	S12	E88	10	7.1			9	9	E	RAMY	7592	
30	DSD	1203E	1615	N19	W52	09	26.5		01	9	9	E	SVTO	7588	
30	DSD	1217E	1615	N18	W71	09	25.1		01	9	9	E	SVTO	7589	
30	BSL	1225E	1240	S14	E90	10	7.3	1-				C	CATA		
30	ASR	1326E	0043	S14	E90	10	7.4			9	9	E	HOLL		
30	DSD	1326E	2112D	N10	E35	10	3.2		08	9	9	E	HOLL	7590	
30	DSD	1337E	1615	N09	E40	10	3.6		05	9	9	E	SVTO	7590	
30	ADF	1620E	1637	N16	E33	10	3.2	1	04	9	9	E	RAMY	7590	
30	DSD	2115E	2251D	N19	W77	09	25.0		05	9	9	E	HOLL	7589	
30	ASR	2237E	0145D	S17	E90	10	7.8			9	8	E	LEAR	7592	

CONTENTS

Comprehensive Reports Number 595 Part II

MISCELLANEOUS DATA

Notes on Interplanetary Fluxes of Energetic Particles from SAMPEX.

Fluxes of energetic electrons, protons, helium nuclei, and heavy ions with $Z \geq 6$ are derived from measurements made on the Solar, Anomalous, and Magnetospheric Particle Explorer (SAMPEX). SAMPEX, the first of NASA's Small Explorer series of spacecraft, carries a complement of instruments designed to measure heavy ion composition from ~0.4 to 300 MeV/nuc, proton intensity from ~2 to 50 MeV, and electron intensity from ~0.5 to 30 MeV. SAMPEX was launched in July, 1992 into an 82° inclination orbit with an altitude of 520 x 670 km.

SAMPEX carries four instruments designed to detect energetic particles. The Heavy Ion Large-area Telescope (HILT), built by the Max Planck Institut (Garching) and the Aerospace Corp., is a gas proportional counter, silicon solid-state detector, and scintillating crystal detector system that measures particle energy loss (ΔE) and total energy. The Low-energy Ion Composition Analyzer (LICA), built by the University of Maryland, uses microchannel plates and silicon detectors to measure time-of-flight and total energy. The Mass Spectrometer Telescope (MAST) and the Proton Electron Telescope (PET), built by Caltech and Goddard Space Flight Center, are all-silicon detector stacks which measure ΔE - total energy. The instruments and spacecraft are more fully described in IEEE Transactions on Remote Sensing, volume 31, issue 3, 1993.

SAMPEX has access to interplanetary fluxes of solar energetic particles and galactic cosmic rays over the polar portions of its orbit. The intensities displayed here are obtained by averaging selected counting rates (time resolution of 6 seconds) over two polar cap passes, one north and one south, of one orbit, giving a ~90 minute average with a typical duty cycle of ~20%. For the proton, helium, and heavy ion fluxes, the polar cap was defined by averaging data above 70° invariant latitude. For the electron intensity and the 3.2 - 11 MeV proton intensity, the polar cap was defined by averaging above 78° invariant latitude in order to avoid contributions from particles in the radiation belts. Note that because some orbits do not reach 78° latitude, there are periodic gaps in the electron and 3.2 - 11 MeV proton data.

These plots each show one calendar month. Plots for the last 6 months of 1992 are included in the initial submission. Plots for the first and last halves of 1993 will be submitted in the near future. Following this, it is intended to submit plots on a monthly basis for the duration of the SAMPEX mission. Further notes will accompany any significant changes in the plots due to operational changes of the instruments.

To derive these particle fluxes, the instrument count rates were divided by the appropriate energy interval (in MeV or MeV/nuc) and the effective geometry factor (in cm^2 sr). Each point represents one or more complete orbits. When fluxes are low enough so that fewer than 25 counts are accumulated in a given rate, a point may represent more than one orbit. A horizontal bar indicates the appropriate time interval. The first onset of high intensities is always plotted as an independent point. When an instrument is off or data are not available from an orbit, no point is plotted. Vertical error bars represent statistical uncertainties only.

The user of these data should be warned that while an effort has been made to ensure that the absolute flux levels displayed here are correct, there may be instrumental background that affects the lowest measured flux levels, and instrumental dead-time effects at the very highest flux levels reported here (see also discussion below). As a result, these data are appropriate for identifying the occurrence and magnitude of solar and interplanetary particle events, but caution should be exercised in any quantitative application of the plotted fluxes.

There are several instrumental and spacecraft operations issues that affect the availability of data. Data from the HILT instrument are not available before day 232 of

1992. Because of its large geometry factor, HILT is not able to operate at the time of the peak flux of the largest solar particle events (e.g. November 1992). Data from the LICA are not available before day 195, between day 203 and day 272 of 1992, and are sporadic on days 276 to 304 of 1992. Operation of MAST and PET often includes periodic turnoffs for periods of 12 or 24 hours.

• The **2 - 6 MeV electron** flux is derived from the PET ELO rate, based on coincidences between the front two 2-mm-thick silicon detectors with pulse height restrictions designed to select electrons exclusively. There is possible background from radiation belt electrons when on some orbits the > 78° invariant latitude selection does not exclude them.

• The **3.2 - 11 MeV proton** flux is derived from the HILT PCFE rate, based on measurements in a gas proportional counter which responds to all ions, and to electrons with a much smaller efficiency. Galactic cosmic ray ions cause a residual background rate of the order of 5×10^{-3} $(cm^2\ sr\ sec\ MeV)^{-1}$. At flux levels greater than about 10^{-3} $(cm^2\ sr\ sec\ MeV)^1$, the flux level is dominated by protons rather than heavy ions. There is possible background from radiation belt electrons when on some orbits the > 78° invariant latitude selection does not exclude them.

• The **5 - 10 MeV proton** flux is derived from the MAST M12 rate, based on coincidences between the front two 115 μm silicon detectors. This rate responds to helium and heavy nuclei as well as to protons, which results in a residual background level of ~a few $\times 10^{-3}$ $(cm^2\ sr\ sec\ MeV)^{-1}$. At flux levels greater than about 5×10^{-3} $(cm^2\ sr\ sec\ MeV)^{-1}$, the flux level is dominated by protons.

• The **19 - 28 MeV proton** flux is derived from the PET PLO rate, based on coincidences between the front two 2-mm silicon detectors with pulse height restrictions designed to select protons exclusively.

• The **0.5 - 6.6 MeV/nuc helium** flux is derived from the LICA LOPRI rate. This rate responds to lower-energy heavy ions ($Z \geq 3$) as well as to helium. In some types of solar energetic particle events, these heavy ions may compose up to 50% of the "helium" flux. There is some saturation at peak intensities in the large solar energetic particle event in October-November 1992. The plotted intensity has not been corrected for this effect.

• The **8 - 15 MeV/nuc helium** flux is derived from the MAST Z2 rate, which responds only to helium nuclei.

• The **0.5 - 8.2 MeV/nuc heavy ion** flux is derived from the LICA HIPRI rate, which responds only to nuclei with $Z \geq 3$ and is typically dominated by C, N, and O. The quoted energy range is for oxygen nuclei.

• The **8.2 - 42 MeV/nuc heavy ion** flux is derived from the HILT HiZ1 rate, which responds primarily to nuclei with $Z \geq 6$ and is typically dominated by C, N, and O. High proton intensities, such as those encountered in the South Atlantic Anomaly or in large solar particle events can cause background. This rate is not plotted during periods of such high intensity. The quoted energy range is for oxygen nuclei.

• The **18 - 50 MeV/nuc heavy ion** flux is derived from the combination of the MAST HIZR1, HIZR2, and HIZR3 rates, which respond only to nuclei with $Z \geq 3$ and are typically dominated by C, N, and O. The quoted energy range is for oxygen nuclei.

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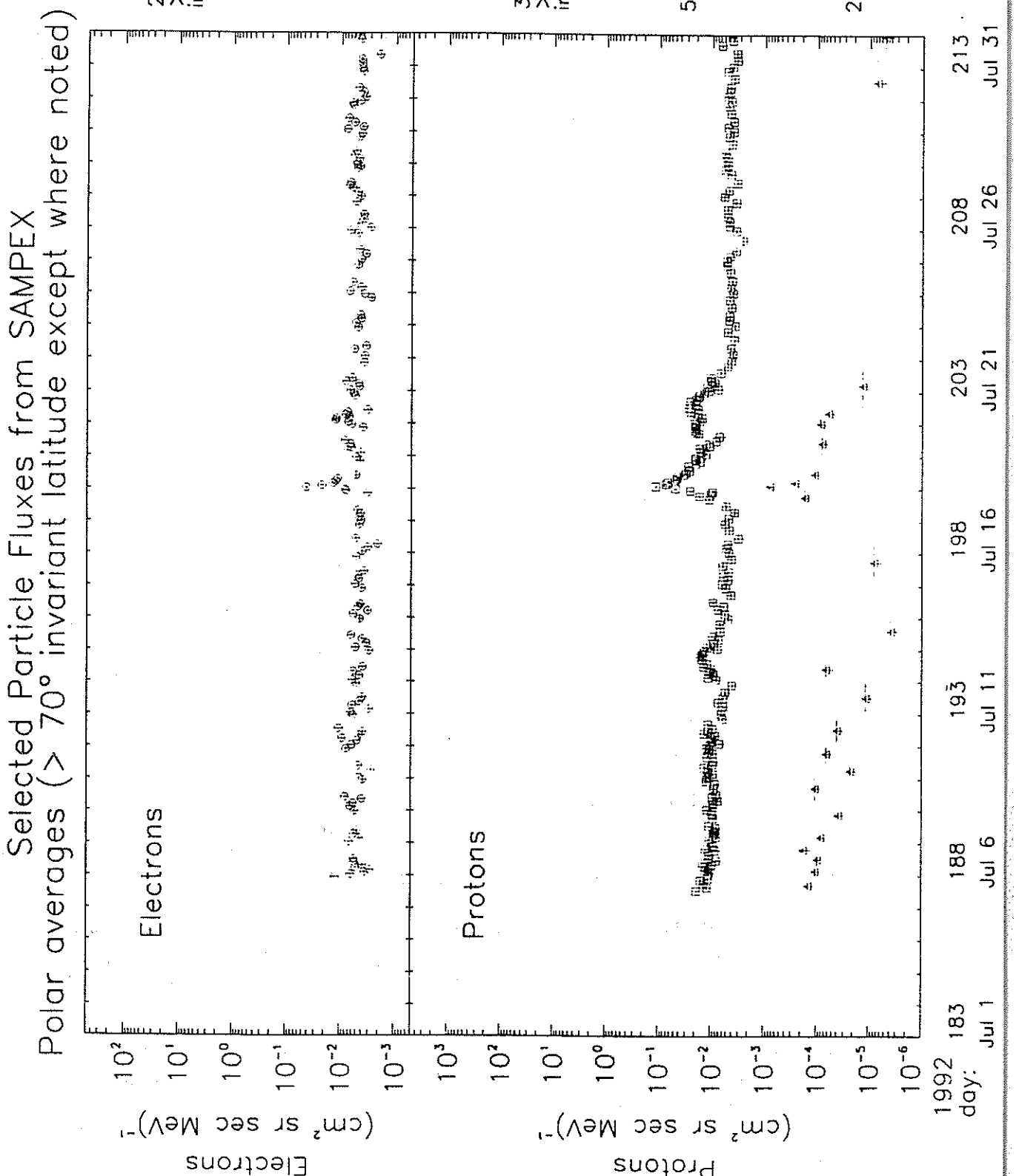
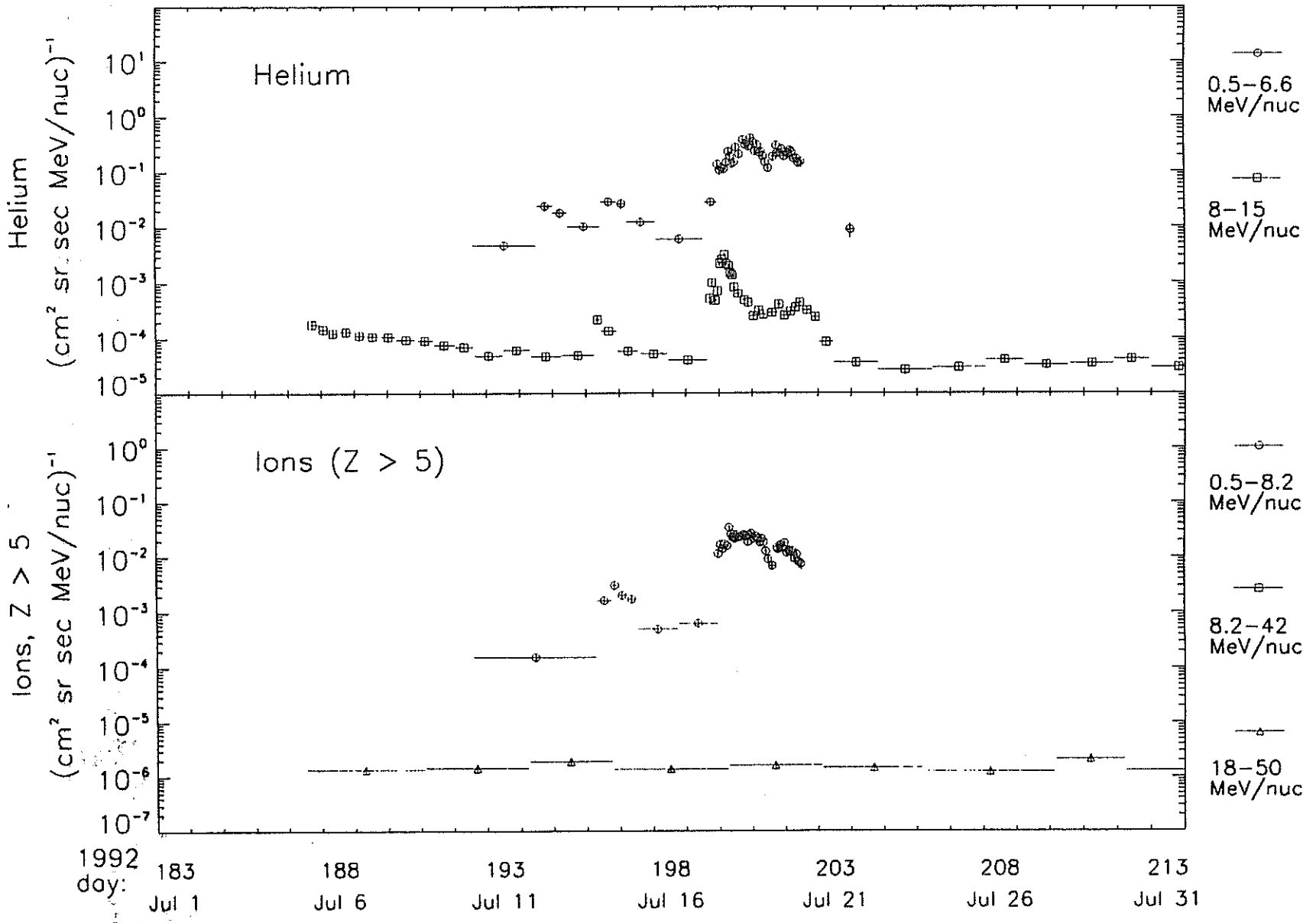
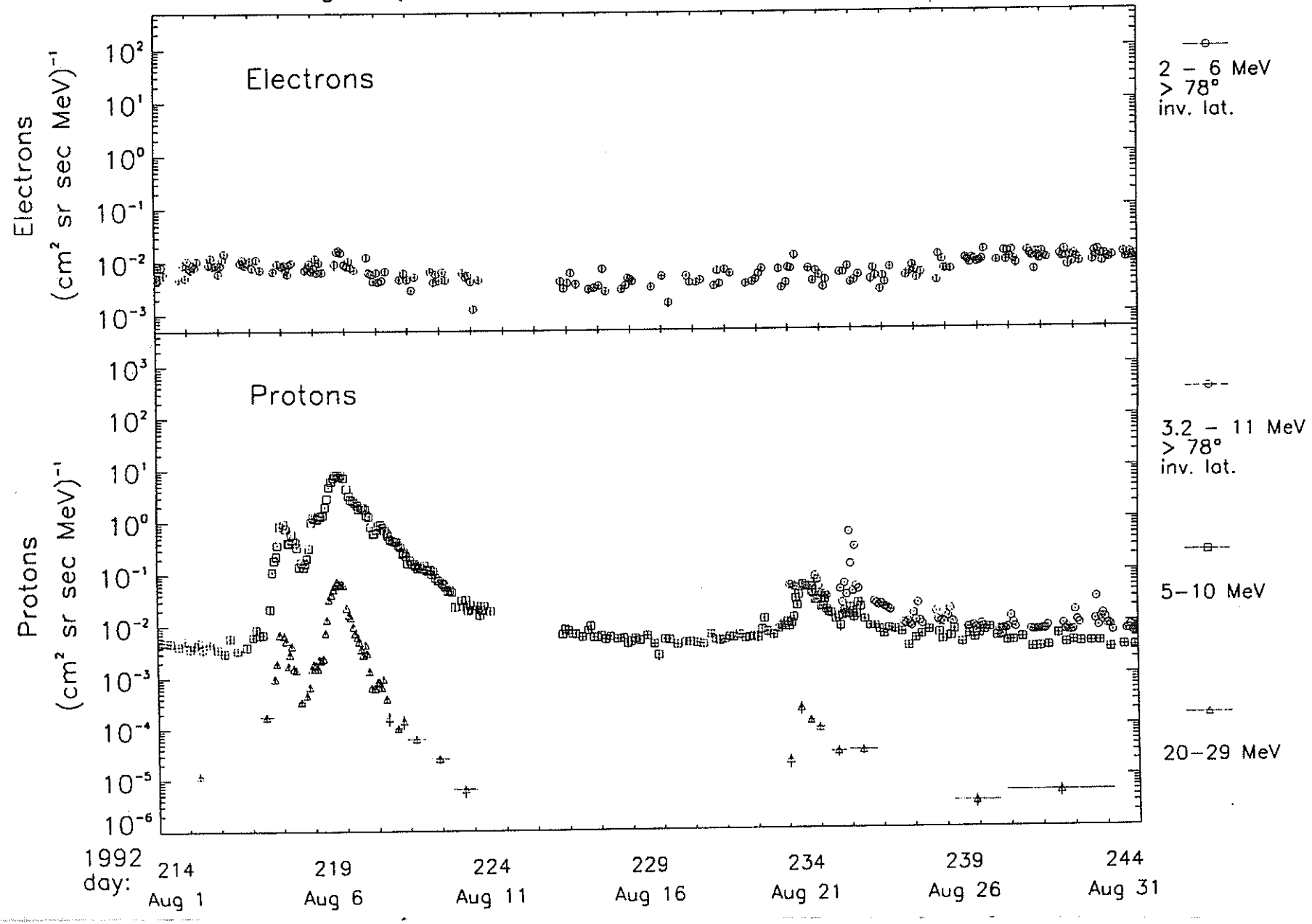
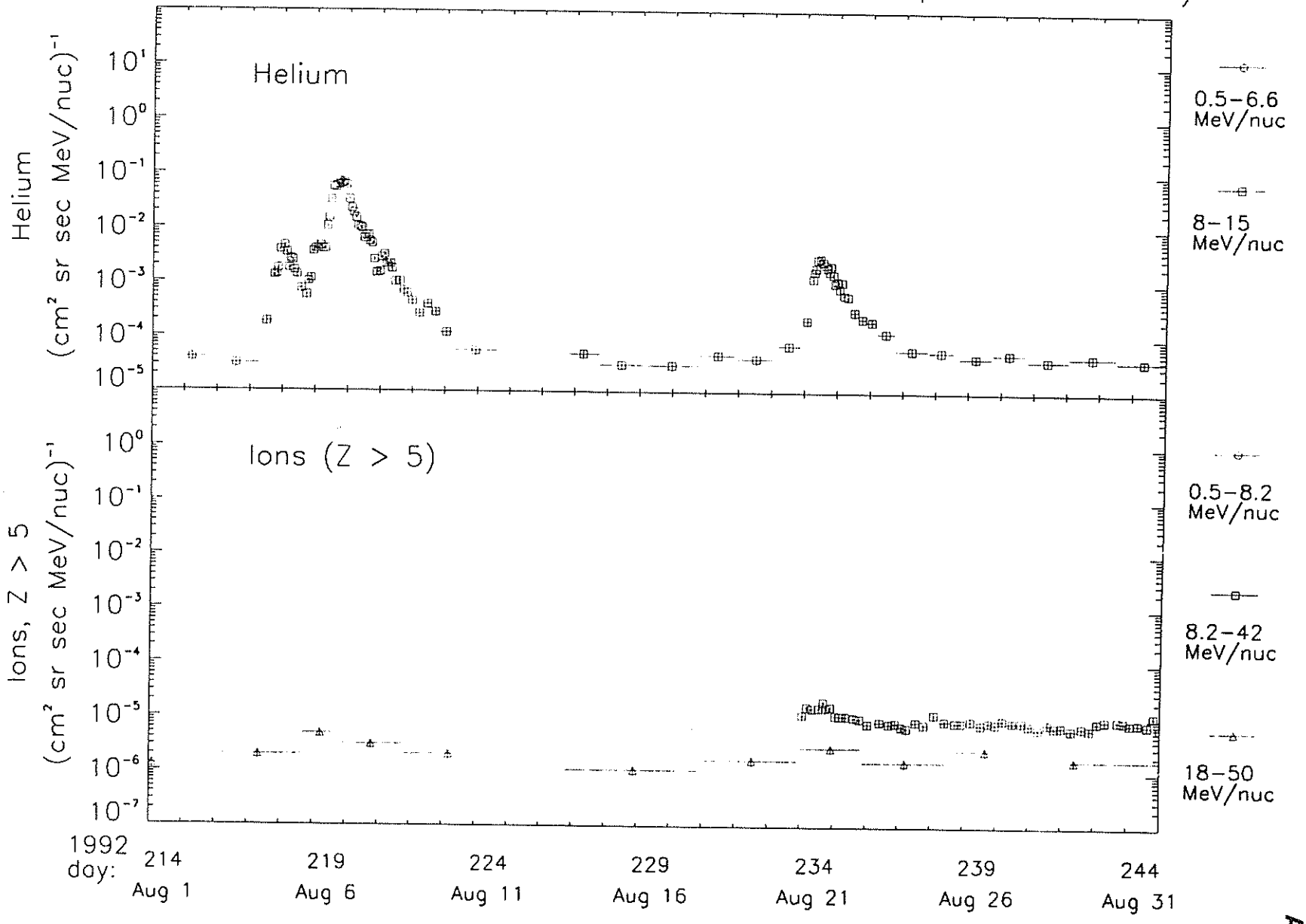

Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
2 – 6 MeV
> 78°
inv. lat.
3.2 – 11 MeV
> 78°
inv. lat.
5–10 MeV
20–29 MeV
Electrons
Protons
(cm² sr sec MeV)⁻¹
Electrons
Protons
1992
day:
183
Jul 1
188
Jul 6
193
Jul 11
198
Jul 16
203
Jul 21
208
Jul 26
213
Jul 31


Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Helium
Helium (cm² sr sec MeV/nuc)⁻¹
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
0.5–6.6 MeV/nuc
8–15 MeV/nuc
Ions (Z > 5)
Ions, Z > 5 (cm² sr sec MeV/nuc)⁻¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻⁷
0.5–8.2 MeV/nuc
8.2–42 MeV/nuc
18–50 MeV/nuc
1992 day:
183 Jul 1
188 Jul 6
193 Jul 11
198 Jul 16
203 Jul 21
208 Jul 26
213 Jul 31

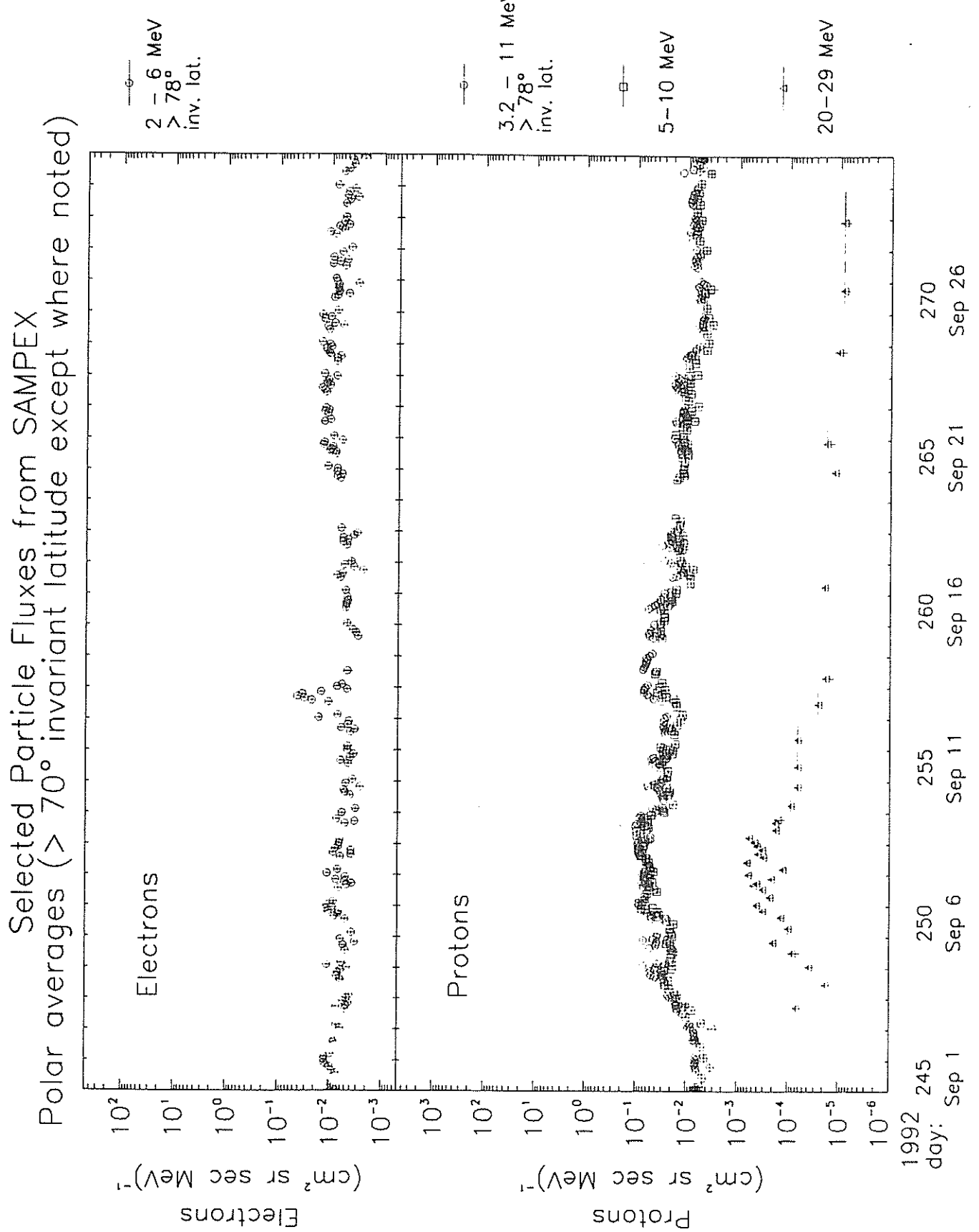
Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)

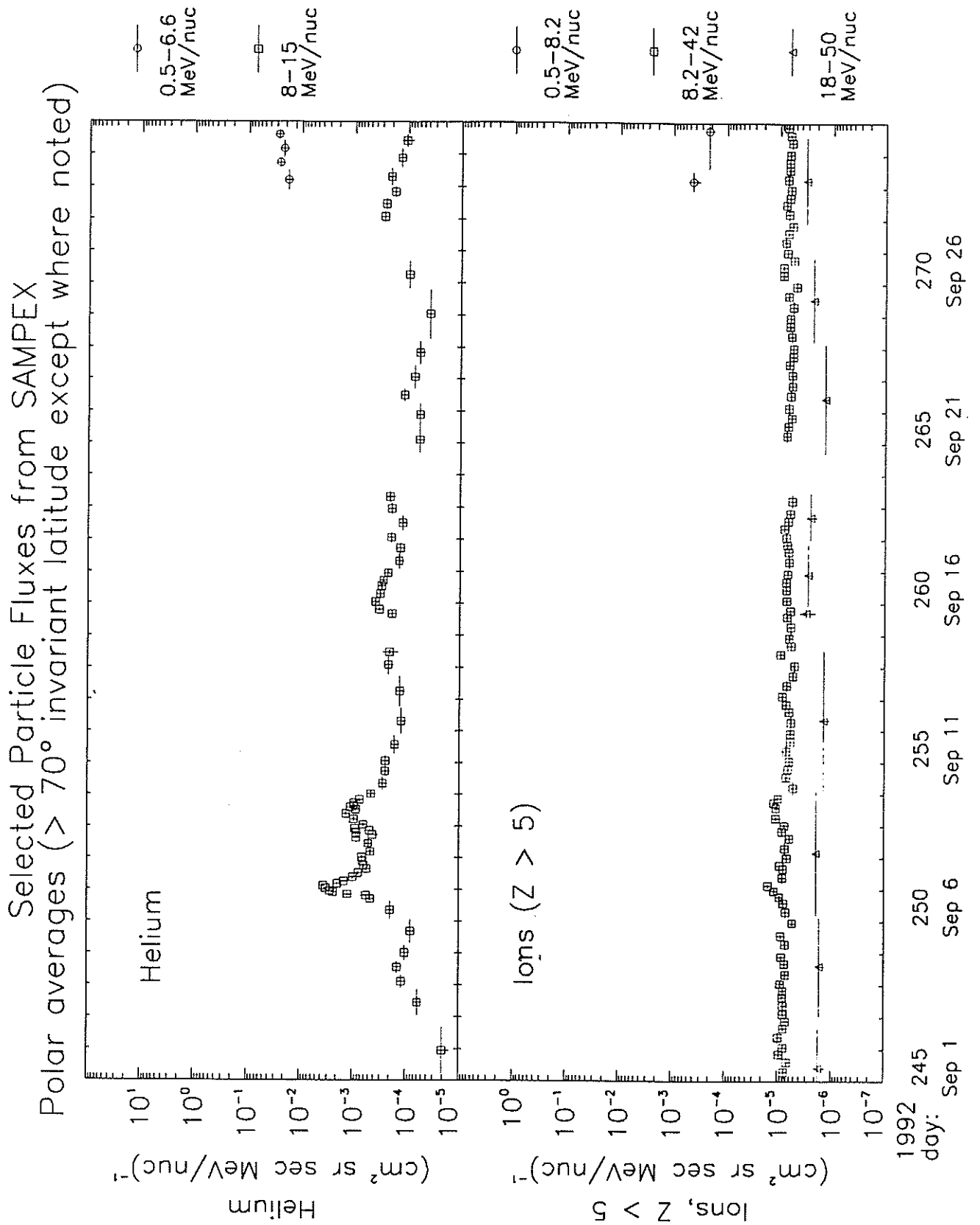


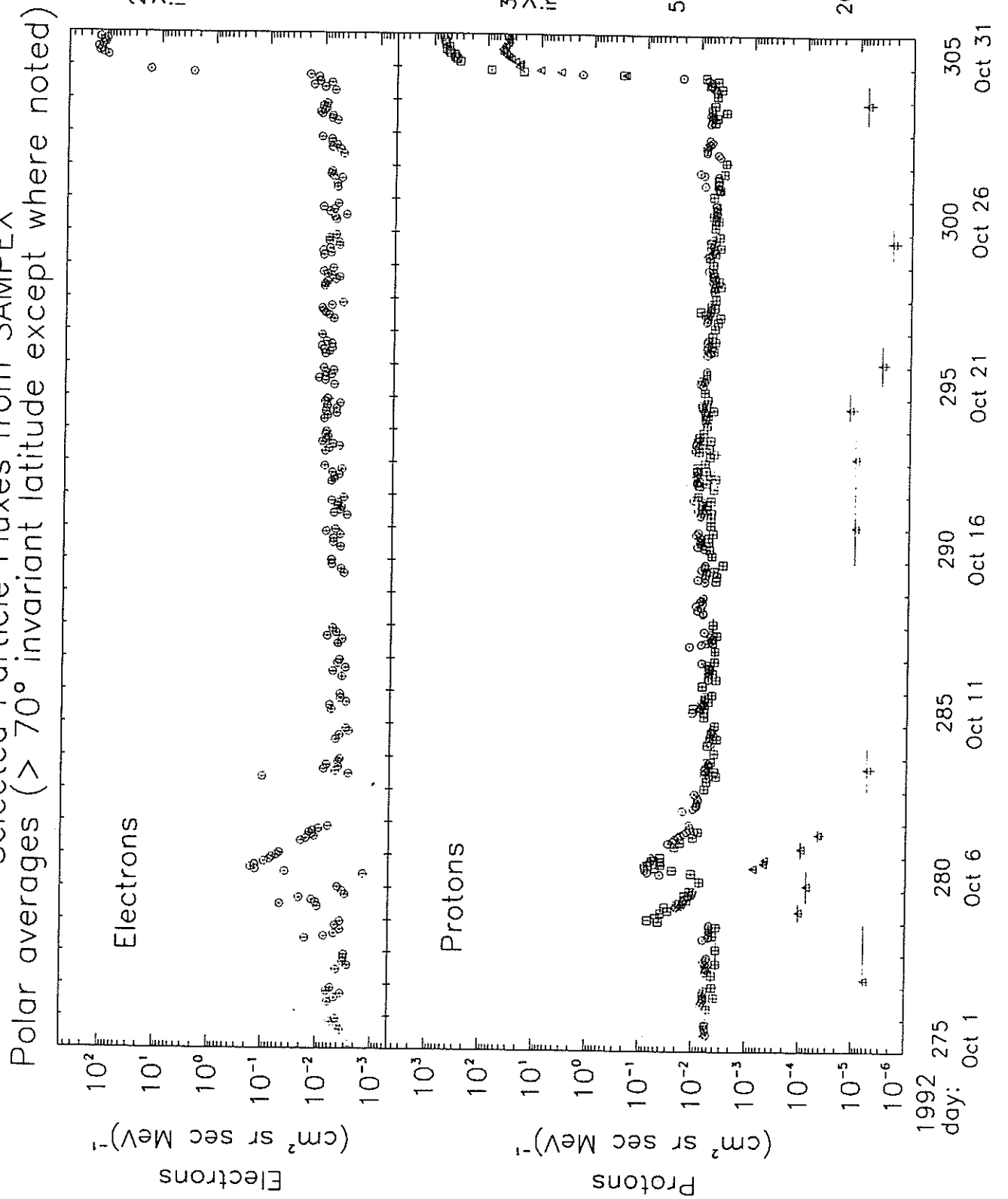
Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)

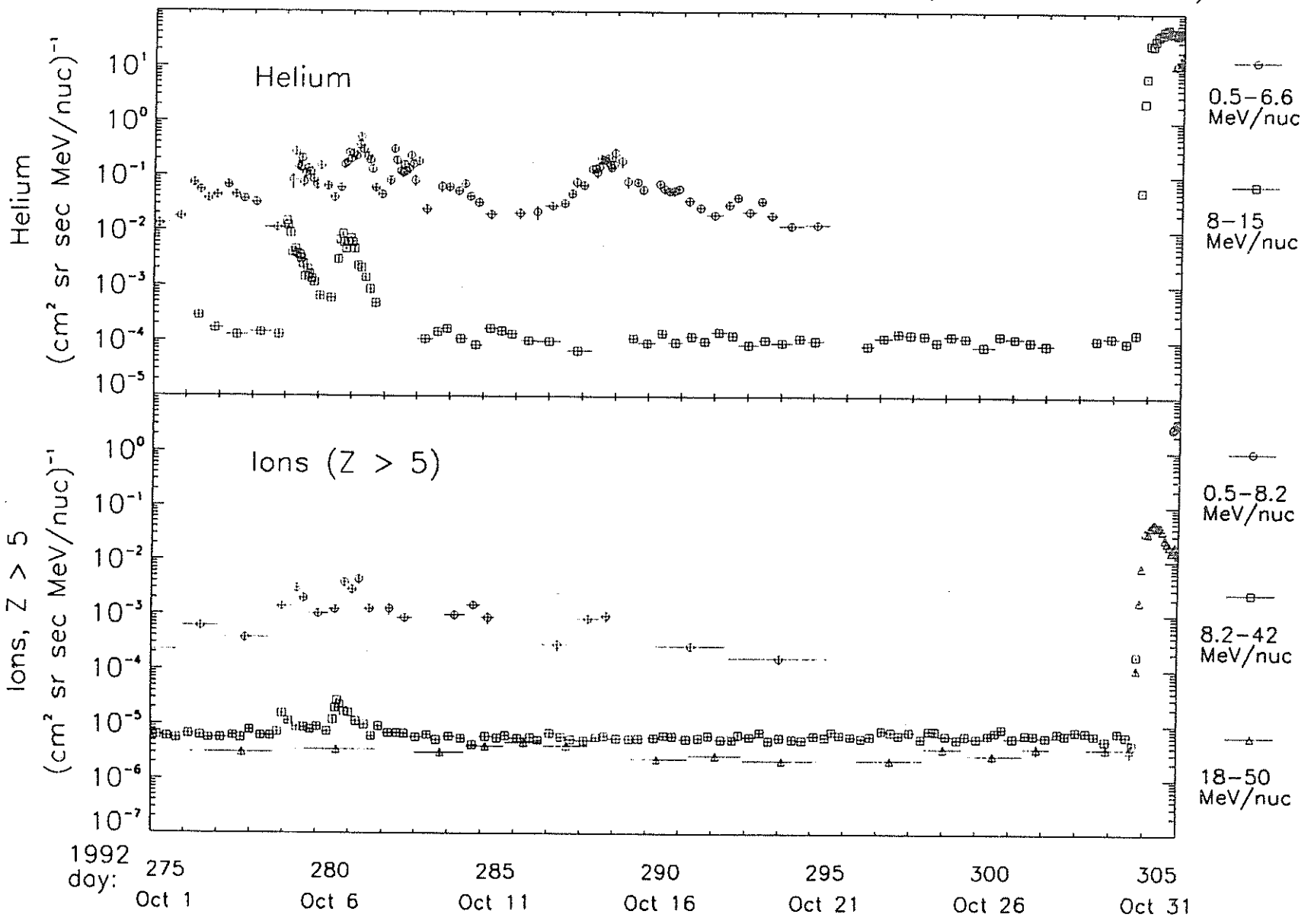


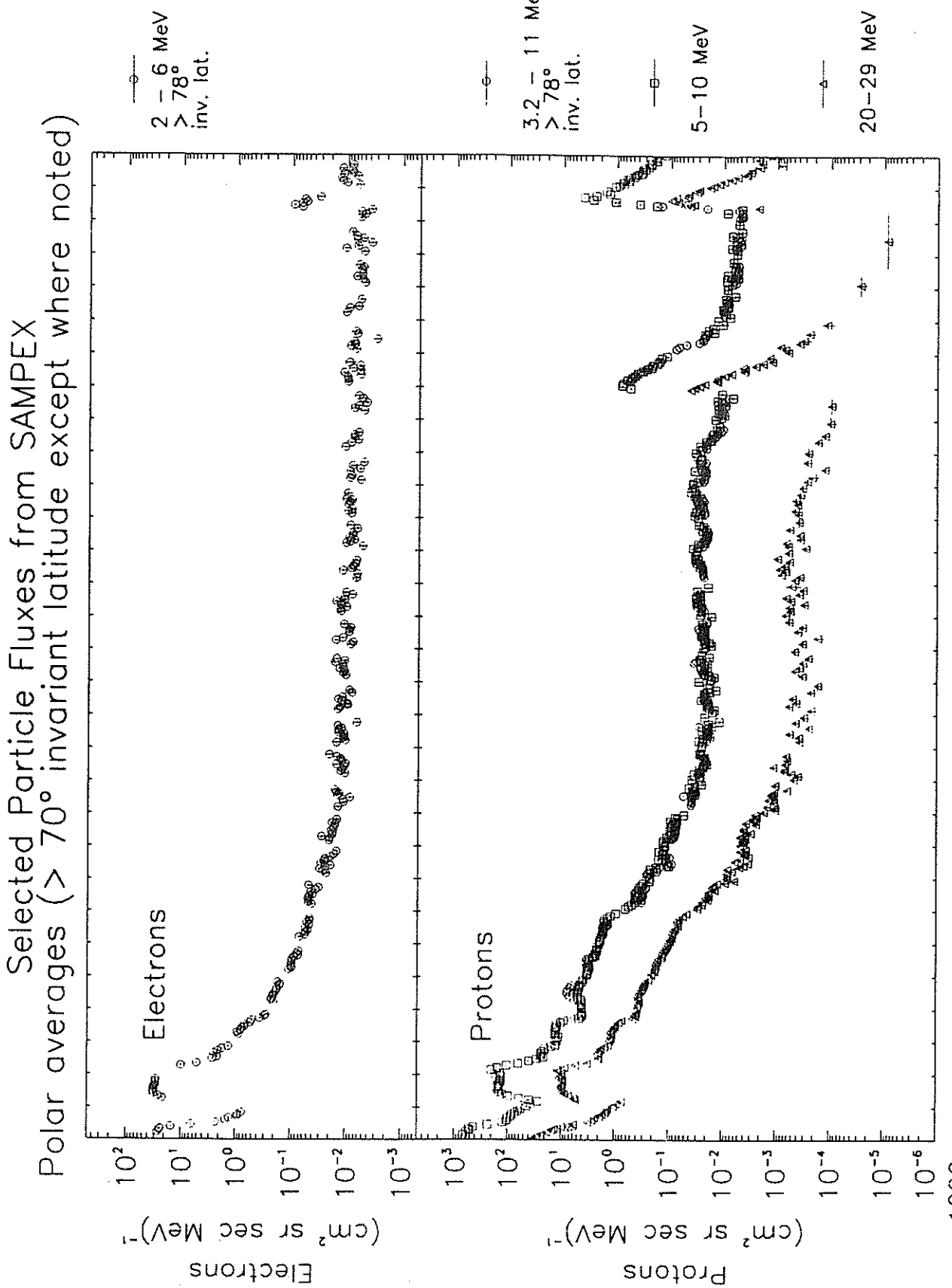
41
Misc
Aug 92

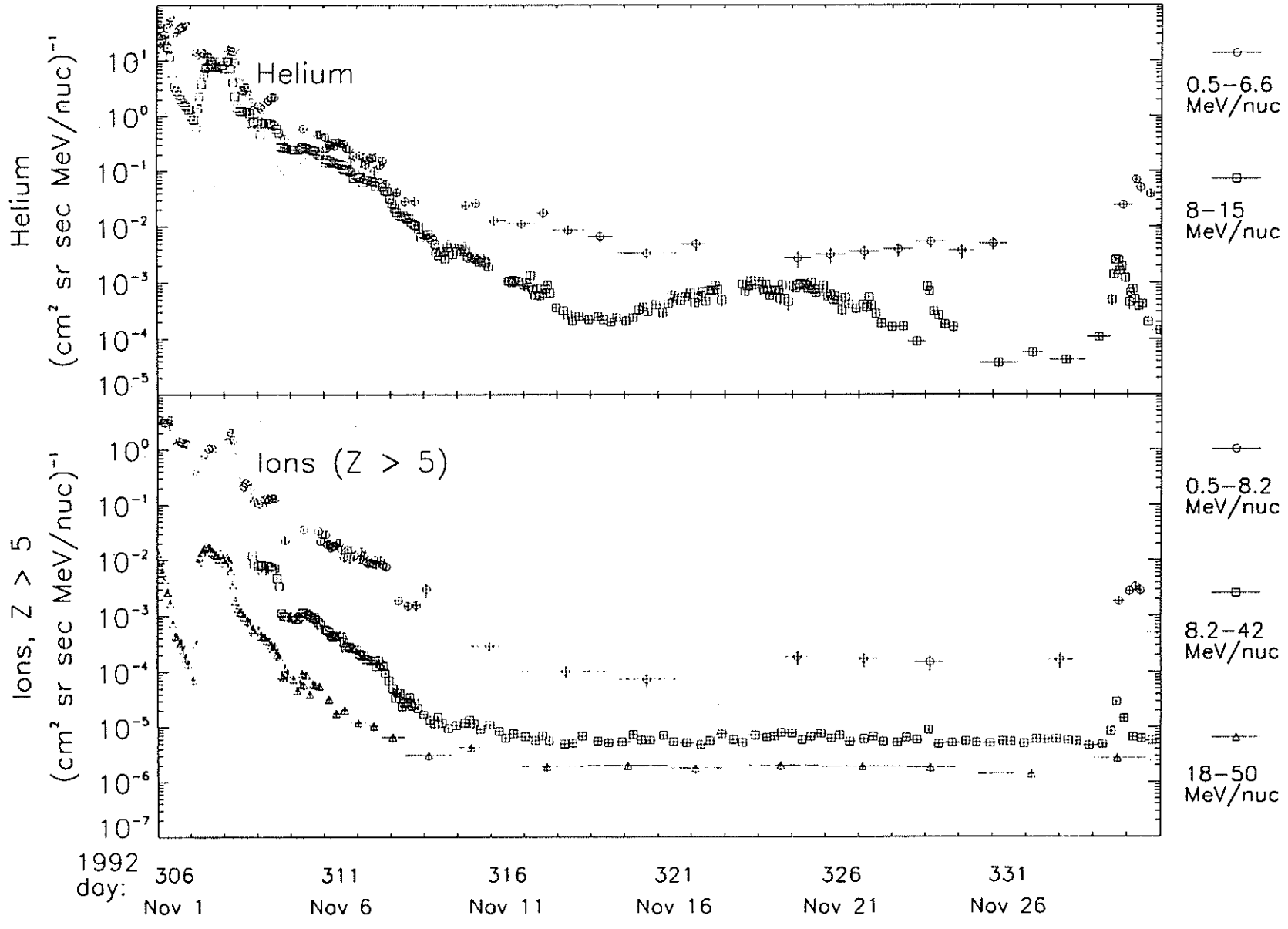

Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Electrons
Protons
2 – 6 MeV
> 78°
inv. lat.
3.2 – 11 MeV
> 78°
inv. lat.
5–10 MeV
20–29 MeV
Electrons
(cm² sr sec MeV)⁻¹
Protons
(cm² sr sec MeV)⁻¹
1992
day: 245 250 255 260 265 270
Sep 1 Sep 6 Sep 11 Sep 16 Sep 21 Sep 26

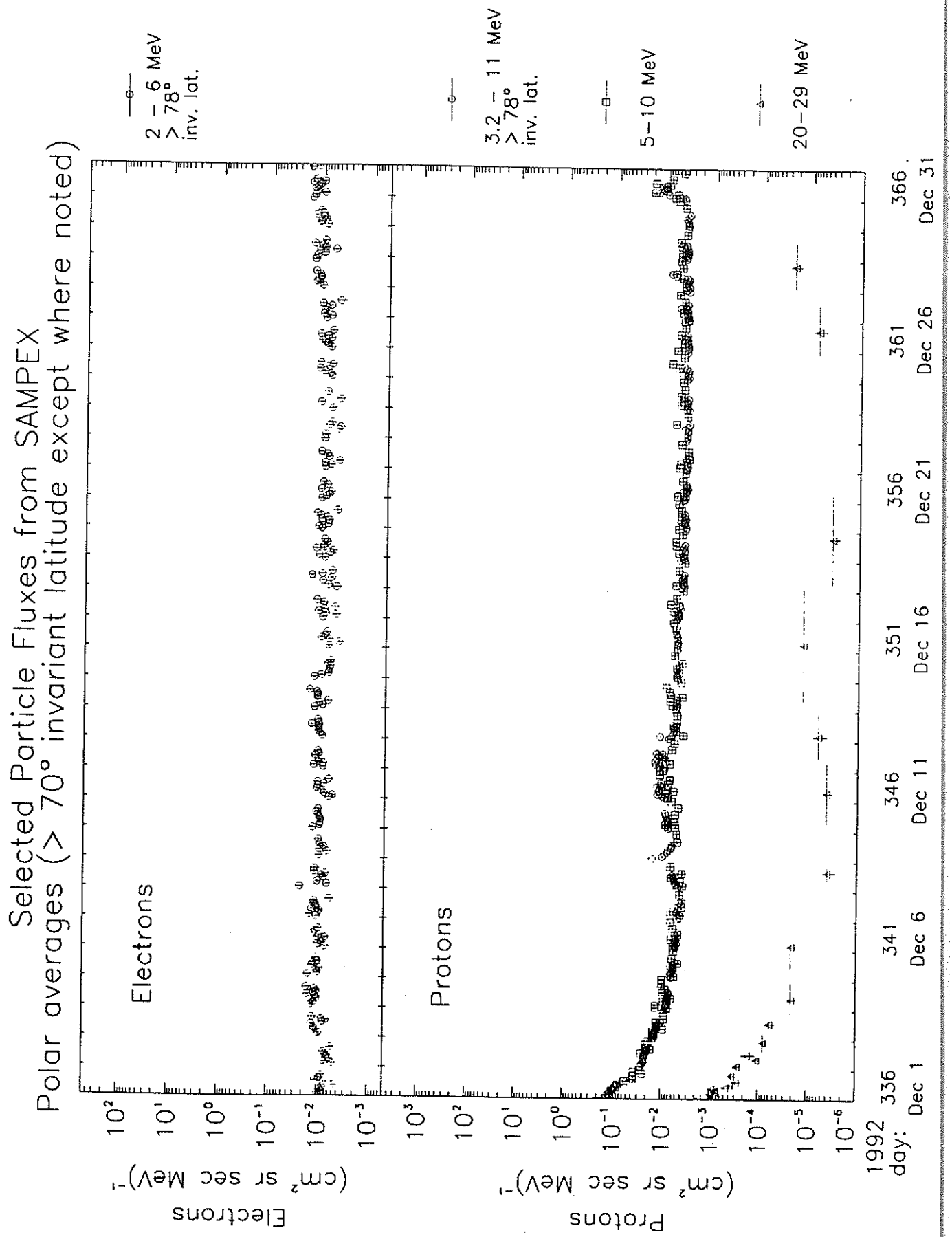

Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Helium
Ions (Z > 5)
0.5–6.6 MeV/nuc
8–15 MeV/nuc
0.5–8.2 MeV/nuc
8.2–42 MeV/nuc
18–50 MeV/nuc
Helium (cm² sr sec MeV/nuc)⁻¹
Ions, Z > 5 (cm² sr sec MeV/nuc)⁻¹
1992 day: 245 Sep 1
250 Sep 6
255 Sep 11
260 Sep 16
265 Sep 21
270 Sep 26


Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Electrons
Protons
2 – 6 MeV
> 78°
inv. lat.
3.2 – 11 MeV
> 78°
inv. lat.
5–10 MeV
20–29 MeV
Electrons
(cm² sr sec MeV)⁻¹
Protons
(cm² sr sec MeV)⁻¹
1992
day:
275
Oct 1
280
Oct 6
285
Oct 11
290
Oct 16
295
Oct 21
300
Oct 26
305
Oct 31

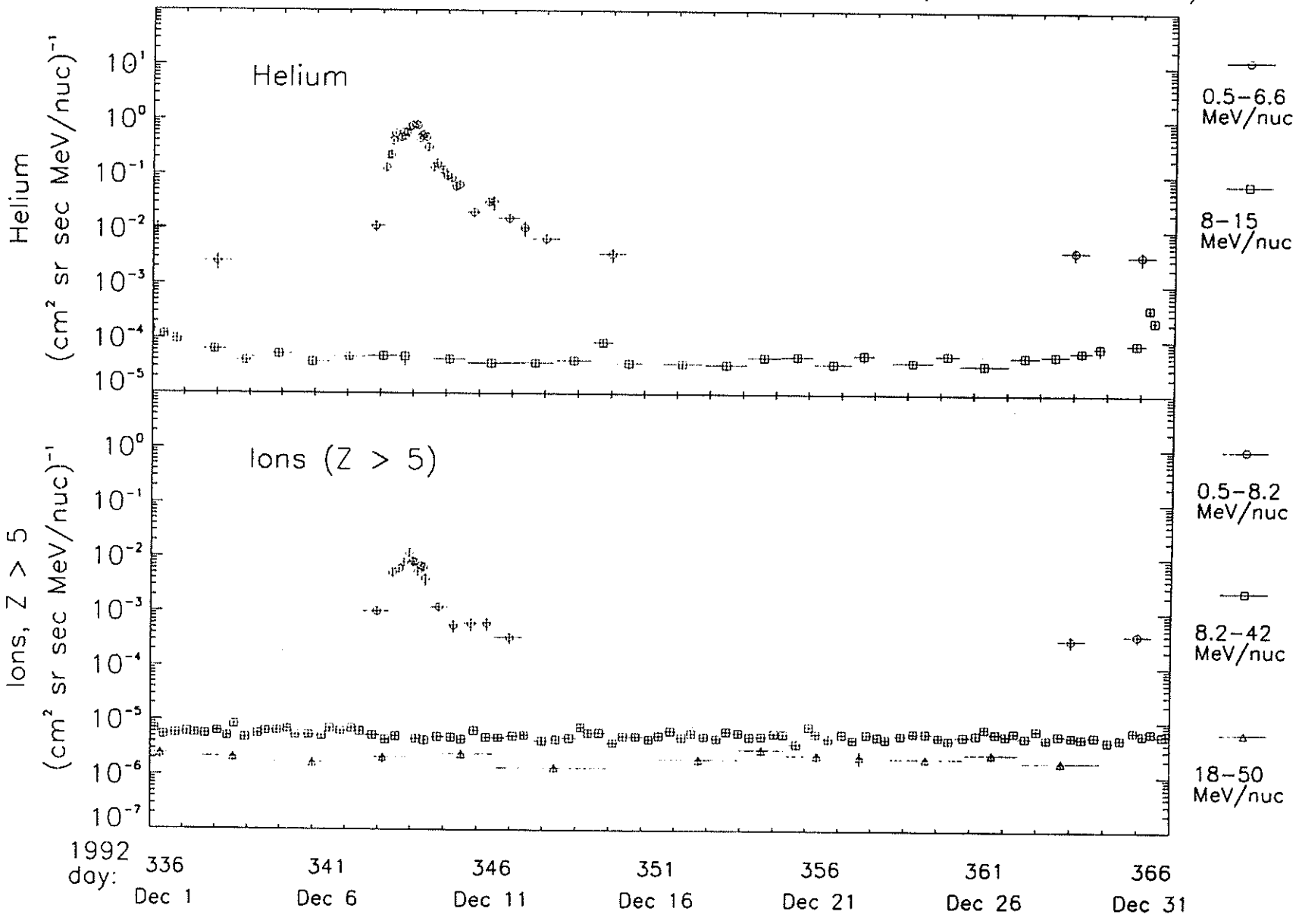

Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Helium
Helium (cm² sr sec MeV/nuc)⁻¹
Ions (Z > 5)
Ions, Z > 5 (cm² sr sec MeV/nuc)⁻¹
0.5–6.6 MeV/nuc
8–15 MeV/nuc
0.5–8.2 MeV/nuc
8.2–42 MeV/nuc
18–50 MeV/nuc
1992 day: 275 280 285 290 295 300 305
Oct 1 Oct 6 Oct 11 Oct 16 Oct 21 Oct 26 Oct 31


Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
2 – 6 MeV
> 78°
inv. lat.
3.2 – 11 MeV
> 78°
inv. lat.
5–10 MeV
20–29 MeV
Electrons
Protons
(cm² sr sec MeV)⁻¹
1992
day: 306 311 316 321 326 331
Nov 1 Nov 6 Nov 11 Nov 16 Nov 21 Nov 26


Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
Helium
Helium
(cm² sr sec MeV/nuc)⁻¹
Ions (Z > 5)
Ions, Z > 5
(cm² sr sec MeV/nuc)⁻¹
0.5–6.6 MeV/nuc
8–15 MeV/nuc
0.5–8.2 MeV/nuc
8.2–42 MeV/nuc
18–50 MeV/nuc
1992 day:
306 Nov 1
311 Nov 6
316 Nov 11
321 Nov 16
326 Nov 21
331 Nov 26


Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)
2 – 6 MeV
> 78°
inv. lat.
3.2 – 11 MeV
> 78°
inv. lat.
5–10 MeV
20–29 MeV
Electrons
Protons
Electrons
(cm² sr sec MeV)⁻¹
Protons
(cm² sr sec MeV)⁻¹
1992
day: 336 341 346 351 356 361 366
Dec 1 Dec 6 Dec 11 Dec 16 Dec 21 Dec 26 Dec 31

Selected Particle Fluxes from SAMPEX
Polar averages (> 70° invariant latitude except where noted)



WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."