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Data for January 1989

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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 539

(Issued in Two Parts)

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C O N T E N T S

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PART II (COMPREHENSIVE REPORTS)

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Hα SOLAR FLARES

JANUARY 1989

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	LEAR	01	0001E	0007	0019	N20	W58	5290	12	27.7	18D	SF	C	8.1	3	E		78		
0002		01	04116	0422*	0448	S18	W06	5303	12	31.7	37	1N				C		113	1.3	
	YUNN	01	0411	0422	0447	S17	W05	5303	12	31.8	36	SN				C		126	1.3	
	LEAR	01	0417	0442	0450	S18	W07	5303	12	31.6	33	1F			3	E		100		
0003		01	06084	06182	0657	S20	W53	5292	12	28.3	49	1N	M	1.4				154	4.1	F
	YUNN	01	0608	0618	0632D	S20	W53	5292	12	28.3	24D	1B				p		236	4.1	F
	LEAR	01	0612	0620	0657	S21	W53	5292	12	28.3	45	SF	M	1.4	3	E		71		F
0004	YUNN	01	0612	0614	0618	N21	W58	5290	12	27.9	6	SN				C		79	1.7	
0005	YUNN	01	0620	0622	0626	S17	W07	5303	12	31.7	6	SN				C		189	2.0	
0006	LEAR	01	0709	0709	0715	N20	W62	5290	12	27.6	6	SF			3	E		16		
0007		01	1052*	11033	1116	S18	W12	5303	12	31.5	24	SN	C	6.7				62		
	SVTO	01	1052	1103	1116	S19	W11	5303	12	31.6	24	SN	C	6.7	3	E		62		
	KANZ	01	1102	1106	1117	S18	W12	5303	12	31.5	15	SN				V				
0008		01	1232	1219*	1236	N20	W65	5290	12	27.6	4	SF						20		F
	RAMY	01	1206E	1219	1236D	N21	W67	5290	12	27.5	30D	SF			2	E		20		F
	KANZ	01	1232	1232	1236	N20	W63	5290	12	27.8	4	SF				V				
0009		01	13202	13211	1326	S18	W13	5303	12	31.6	6	SF						14		
	RAMY	01	1320	1321	1326	S19	W13	5303	12	31.6	6	SF			4	E		14		
	KANZ	01	1322	1322	1326	S18	W13	5303	12	31.6	4	SF				V				
0010		01	1321*	1336*	1414	N21	W64	5290	12	27.7	53	SF	C	8.1				79		FK
	SVTO	01	1321	1337	1423	N20	W63	5290	12	27.8	62	SF	C	8.1	3	E		68		F
	RAMY	01	1327	1336	1421	N20	W64	5290	12	27.8	54	SF			4	E		91		F
	RAMY	01	1327	1349	1421	N20	W64	5290	12	27.8	54	SF				E		77		K
	KANZ	01	1335	1338	1353	N23	W66	5290	12	27.6	18	SF				V				
0011	SVTO	01	1336	1336	1343	S20	W55	5292	12	28.4	7	SF			3	E		18		F
0012	RAMY	01	1406	1410	1429	S16	W27	5297	12	30.6	23	SF			4	E		31		H
0013		01	1434*	15151	1533	N21	W69	5290	12	27.4	59	SN	C	8.3				83		EF
	RAMY	01	1434	1516	1532D	N21	W70	5290	12	27.3	58D	1N	C	8.3	4	E		142		FE
	HOLL	01	1437E	1438U	1456	N20	W70	5290	12	27.3	19D	SF			1	E		23		
	HOLL	01	1506	1515	1610	N22	W67	5290	12	27.6	64	SN			2	E		84		F
0014	HOLL	01	1627	1631	1722	S22	W62	5292	12	28.0	55	SN	C	7.1	3	E		50		F
0015	RAMY	01	1740	1744	1752	S16	W29	5297	12	30.6	12	SF			3	E		16		F
0016		01	1802	1805	1848	S18	W14	5303	12	31.7	46	SF	C	2.8				41		F
	RAMY	01	1802	1805	1822D	S18	W14	5303	12	31.7	20D	SF	C	2.8	3	E		45		F
	HOLL	01	1802	1805	1848	S19	W15	5303	12	31.6	46	SF	C	2.8	3	E		37		F
0017		01	18252	18301	1854	S20	W60	5292	12	28.3	29	SN	C	6.3				72		EF
	RAMY	01	1818E	1832U	1851	S21	W60	5292	12	28.3	33D	SN			2	E		81		FE
	PALE	01	1825	1831	1853	S20	W61	5292	12	28.2	28	SF	C	6.3	3	E		71		F
	HOLL	01	1827	1830	1859	S20	W60	5292	12	28.3	32	SN	C	6.3	3	E		65		F
0018		01	19141	1915	1932	S18	W61	5292	12	28.2	18	SF						20		
	HOLL	01	1914	1915	1932	S18	W60	5292	12	28.3	18	SF			3	E		23		
	RAMY	01	1914	1915	1933	S18	W60	5292	12	28.3	19	SF			3	E		18		
	PALE	01	1915	1915	1931	S18	W62	5292	12	28.2	16	SF			3	E		20		
0019	RAMY	01	1933	1939	1950	S19	W16	5303	12	31.6	17	SF	C	3.5	3	E		59		F
0020		01	20212	20321	2050	S19	W62	5292	12	28.2	29	SF	C	3.7				26		
	RAMY	01	2021	2032	2052	S19	W59	5292	12	28.4	31	SF	C	3.7	3	E		31		
	HOLL	01	2022	2032	2054	S19	W65	5292	12	28.0	32	SF			3	E		25		
	PALE	01	2023	2033	2044	S18	W62	5292	12	28.2	21	SF			3	E		22		
0021	HOLL	01	2256	2257	2311	S22	W59	5292	12	28.5	15	SF			3	E		88		F

Hα S O L A R F L A R E S

JANUARY 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0022	HOLL	01	2307	2310	2317	N20	W72	5290	12	27.5	10	SF		3	E		38		
0023		01	2321	2322	2328	S20	W62	5292	12	28.3	7	SF					58		F
	LEAR	01	2321	2322	2326	S20	W64	5292	12	28.2	5	SF		3	E		30		F
	HOLL	01	2321	2322	2330	S19	W60	5292	12	28.5	9	SF		3	E		86		F
0024		01	2343	2347	2412	S20	W64	5292	12	28.2	29	SN	C 8.1				81		F
	LEAR	01	2343	2347	2409	S21	W65	5292	12	28.1	26	SF	C 8.1	3	E		74		F
	PALE	01	2346E	2347U	2416	S20	W64	5292	12	28.2	30D	SN	C 8.1	3	E		88		F
0025	YUNN	02	0210	0213	0246	S19	W20	5303	12	31.6	36	SN			C		94	1.1	
0026	LEAR	02	0346	0350	0356	N20	W74	5290	12	27.6	10	SF	C 3.1	3	E		28		
0027		02	08174	0817*	0841	S21	W72	5292	12	27.9	24	SF	C 4.6				15		
	KANZ	02	0817	0817	0820	S20	W71	5292	12	28.0	3	SF			V				
	SVTO	02	0821	0840	0902	S22	W72	5292	12	27.9	41	SF	C 4.6	2	E		15		
0028		02	09219	09335	1054	S18	W30	5303	12	31.1	93	1N	C 8.5				151	2.8	EH
	SVTO	02	0921	0934	1143	S19	W30	5303	12	31.1	142	SN	C 8.5	3	E		90		
	KANZ	02	0925	0935	1053	S17	W30	5303	12	31.1	88	1F			V				
	LEAR	02	0926	0933	1024	S18	W30	5303	12	31.1	58	SF	C 8.5	3	E		60		
	KHAR	02	0926	0933	1034	S17	W30	5303	12	31.1	68	1N		2	P	0932	200	2.5	EH
	CATA	02	0930	0938	0955D	S18	W31	5303	12	31.0	25D	1B		2	P	0938	253	3.1	
0029	KANZ	02	1026	1034	1049	N20	W76	5290	12	27.7	23	SF			V				
0030		02	1017*	10472	1055	S18	W68	5292	12	28.3	38	SF	M 1.1				49		
	SVTO	02	1017	1047	1057	S17	W64	5292	12	28.7	40	SF	M 1.1	3	E		49		
	KANZ	02	1041	1049	1053	S19	W71	5292	12	28.1	12	SF			V				
0031		02	12441	12462	1252	S18	W69	5292	12	28.4	8	SF					33		
	SVTO	02	1244	1246	1252	S17	W65	5292	12	28.7	8	SF		3	E		33		
	KANZ	02	1245	1248	1252	S20	W73	5292	12	28.0	7	SF			V				
		02	1446		1500	No Flare Patrol													
0032	RAMY	02	1535	1537	1553	S20	W73	5292	12	28.2	18	SF	C 3.6	4	E		74		
0033	RAMY	02	1540	1546	1550	N29	E83	5307	01	9.1	10	SF		4	E		82		
0034	RAMY	02	1630	1631	1637	S19	W75	5292	12	28.1	7	SF		4	E		26		
0035	RAMY	02	1645	1646	1712	S18	W08	5301	01	2.1	27	SF		3	E		12		F
0036	RAMY	02	1702	1702	1709	S20	W67	5292	12	28.7	7	SF		3	E		12		
0037	RAMY	02	1715	1722	1733	S20	W67	5292	12	28.7	18	SF	C 4.6	3	E		67		F
0038	RAMY	02	1731	1732	1741	S18	W29	5303	12	31.5	10	SF		3	E		16		
0039		02	1745	17461	1803	S16	W42	5297	12	30.6	18	SF					22		F
	RAMY	02	1745	1746	1803	S15	W42	5297	12	30.6	18	SF		3	E		21		F
	PALE	02	1745E	1747	1818D	S16	W43	5297	12	30.6	33D	SF		3	E		22		F
0040	RAMY	02	1804E	1804	1812	S19	W28	5303	12	31.6	8D	SF		4	E		30		
0041	PALE	02	1930	1930	1943	S17	W28	5303	12	31.7	13	SF		3	E		13		
		02	2043		2106	No Flare Patrol													
		02	2117		2141	No Flare Patrol													
		02	2146		2217	No Flare Patrol													
		02	2310		2317	No Flare Patrol													
0042	PALE	03	0024	0025	0032	S17	W33	5303	12	31.5	8	SF		3	E		21		
0043		03	03013	03052	0318	S18	W35	5303	12	31.5	17	1F	C 5.9				116	2.4	F
	YUNN	03	0301	0306	0315	S15	W35	5303	12	31.5	14	1N			C		189	2.4	
	PALE	03	0304	0307	0317	S19	W37	5303	12	31.3	13	SF	C 5.9	3	E		44		F
	PEKG	03	0305E	0305	0321	S19	W34	5303	12	31.5	16D	2F			V				

Hα SOLAR FLARES

JANUARY 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0044		03	0802*	08242	0835	S18	W36	5303	12	31.6	33	SN					110	1.4	E
	HTPR	03	0758E		0835D	S20	W43	5303	12	31.0	37D	SN			C	0802	80	1.1	E
	HTPR	03	0802	0826	0835	S20	W35	5303	12	31.6	33	SN			C	0826	120	1.4	
	KANZ	03	0820	0824	0828D	S19	W33	5303	12	31.8	8D	SF			C				
	ABST	03	0826E	0826U	0835	S15	W35	5303	12	31.7	9D	SF			P	0826	131	1.6	E
0045	HTPR	03	0833	0844	0852	N15	W90	5290	12	27.6	19	SN			C	0844	20		
0046	HTPR	03	0916	0923	0945	S17	W46	5303	12	31.0	29	SB			C	0923	120	1.7	E
0047	HTPR	03	0923	0932	0956	S20	W38	5303	12	31.5	33	SN			C	0932	100	1.3	EI
0048	HTPR	03	0927	0937	1022	S20	W20	5301	01	1.9	55	SN			C	0937	50	0.5	EI
0049	HTPR	03	1052	1056	1100	S19	W39	5303	12	31.5	8	SF			C	1056	60	0.8	
0050	HTPR	03	1057	1115	1130	S24	W72	5292	12	29.0	33	SF			C	1115	40		
0051		03	11213	11245	1139	S19	W35	5303	12	31.8	18	SN	C 7.2				106	1.7	E
	HTPR	03	1121	1129	1140	S20	W35	5303	12	31.8	19	SB			C	1129	140	1.7	E
	RAMY	03	1124E	1124U	1138	S18	W35	5303	12	31.8	14D	SF	C 7.2	1	E		71		
	KANZ	03	1124	1124	1139	S19	W35	5303	12	31.8	15	SN			V				
0052		03	11395	11434	1200	N24	E71	5307	01	9.0	21	SN	M 1.0				83		E
	KANZ	03	1139	1147	1155	N24	E73	5307	01	9.1	16	SN			V				
	RAMY	03	1142	1143	1154	N24	E70	5307	01	8.9	12	SF	M 1.0	2	E		46		
	HTPR	03	1144	1147	1210	N24	E70	5307	01	8.9	26	1B			C	1147	120		E
0053		03	1150*	1154*	1231	S19	W39	5303	12	31.5	41	SF					68	1.0	EFI
	HTPR	03	1150	1154	1247	S20	W40	5303	12	31.4	57	SN			C	1154	80	1.0	EI
	KANZ	03	1213	1217	1226	S18	W39	5303	12	31.5	13	SF			V				
	RAMY	03	1215E	1216U	1221	S18	W39	5303	12	31.5	6D	SF		2	E		55		F
0054	RAMY	03	1222	1223	1229	S42	W85	5300	12	27.6	7	SF		3	E		20		
0055		03	1234	12342	1257	S19	W76	5292	12	28.8	23	SF					35		
	RAMY	03	1234	1234	1253	S19	W77	5292	12	28.7	19	SF		3	E		35		
	KANZ	03	1234	1236	1301	S19	W74	5292	12	29.0	27	SF			V				
0056		03	13413	13462	1355	S17	W54	5297	12	30.6	14	SN	M 1.1				72	1.3	EI
	HTPR	03	1341	1348	1400	S18	W52	5297	12	30.7	19	SB			C	1348	80	1.3	EI
	KANZ	03	1342	1347	1351	S18	W53	5297	12	30.6	9	SF			V				
	KANZ	03	1342	1347	1355	S16	W57	5297	12	30.3	13	SF			V				
	RAMY	03	1344	1346	1410D	S15	W53	5297	12	30.6	26D	SF	M 1.1	3	E		64		
0057	HTPR	03	1430	1433	1455	S19	W39	5303	12	31.6	25	SN			C	1433	80	1.0	EI
0058	RAMY	03	1450	1454	1507	S18	W59	5297	12	30.2	17	SF		3	E		21		F
0059	RAMY	03	1705	1708	1718D	S20	W78	5292	12	28.8	13D	SF		3	E		27		
0060	PALE	03	1738E	1738U	1748	N24	E67	5307	01	8.9	10D	SF	M 1.5	3	E		29		
0061	PALE	03	1818	1843	1847	S17	W46	5303	12	31.3	29	SF		3	E		44		
0062	PALE	03	1850	1931	1938	S17	W45	5303	12	31.4	48	SF		3	E		15		F
0063		03	1923	19251	2008	S18	W22	5301	01	2.1	45	SF					40		F
	RAMY	03	1923E	1925	2007	S18	W23	5301	01	2.0	44D	SF		2	E		34		
	PALE	03	1923	1926	2010	S19	W22	5301	01	2.1	47	SF		3	E		46		F
0064	PALE	03	2054	2056	2105	N09	E59	5305	01	8.3	11	SF		3	E		11		
0065	PALE	04	0013	0014	0022	S18	W85	5292	12	28.6	9	SF		3	E		40		
0066	PALE	04	0050	0050	0102	N24	E64	5307	01	9.0	12	SF	C 3.5	3	E		25		F
0067		04	0758E	0810U	0835	S20	W50	5303	12	31.5	37D	SN					84	1.3	EI
	YUNN	04	0758E	0810U	0830	S20	W51	5303	12	31.4	32D	SN			P	0810	47	0.8	E
	HTPR	04	0805E		0840	S20	W48	5303	12	31.7	35D	SN			C	0822	120	1.8	EI

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Opt	Imp	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0068	HTPR	04	0805E		0840	S22	W90	5292	12	28.5	35D	SN				C	0826	20		
0069		04	1115*	1120*	1145	S18	W54	5303	12	31.3	30	SF						40	0.6	EFI
	HTPR	04	1115	1120	1134	S19	W58	5303	12	31.0	19	SF				C	1120	20	0.4	E
	KANZ	04	1120	1123	1135	S17	W60	5303	12	31.0	15	SF				V				
	RAMY	04	1130	1132	1152	S18	W49	5303	12	31.7	22	SF			2	E		41		F
	HTPR	04	1130	1147	1159	S19	W47	5303	12	31.9	29	SF				C	1147	60	0.8	EI
0070	KANZ	04	1147	1147	1151	S20	W34	5301	01	1.9	4	SF				V				
0071	HTPR	04	1447	1454	1520	S19	W50	5303	12	31.8	33	SN				C	1454	80	1.3	EI
0072	RAMY	04	1603	1753	1928	S20	W60	5303	12	31.1	205	1N	M	4.7	3	E		173		EF
0073	PALE	04	1807E	1820U	2005	S20	W58	5303	12	31.3	118D	1N			3	E		160		F
		04	2220		2225	No Flare Patrol														
0074	YUNN	05	0133	0134	0209	S21	W62	5303	12	31.3	36	SN				P		31	0.7	
0075	YUNN	05	0416	0420	0428D	S22	E69	5310	01	10.5	12D	SN				P		16		
0076	LEAR	05	0635	0635	0644	S19	E59	5309	01	9.8	9	SF			4	E		28		
0077	KAND	05	0839		0900	N09	E43	5305	01	8.6	21	SN				P	0850	42	0.6	D
0078	ISTA	05	0846		0856	N15	E44	5306	01	8.7	10	SF								G
0079		05	09493	09524	1032	S18	E57	5309	01	9.7	43	SN	C	3.2				68		ET
	SVTO	05	0949	0952	1043	S17	E58	5309	01	9.8	54	SF			3	E		74		
	KAND	05	0950	0953	1020	S19	E57	5309	01	9.7	30	SB				P	0953	104		ET
	LEAR	05	0951	0956	1007D	S19	E57	5309	01	9.8	16D	SF	C	3.2	3	E		26		
	KANZ	05	0952	0952U	0952D	S19	E57	5309	01	9.8	16D	SF				V				
0080	HTPR	05	1059E		1132	N24	E48	5307	01	9.2	33D	SF				C	1118	40	0.6	E
0081	HTPR	05	1059E		1110	S20	W65	5303	12	31.5	11D	SN				C	1059	60	1.3	E
0082		05	11545	11584	1227	S18	E57	5309	01	9.8	33	SN						106	2.4	EFT
	HTPR	05	1154	1158	1230	S18	E62	5309	01	10.2	36	1B				C	1158	140	2.9	E
	KAND	05	1155	1159	1225	S17	E56	5309	01	9.7	30	SB				P	1159	104	1.8	FT
	KANZ	05	1158	1202	1235	S20	E55	5309	01	9.7	37	SF				V				
	SVTO	05	1159	1202U	1202D	S18	E58	5309	01	9.9	3D	SN			2	E		99		
	RAMY	05	1203E	1209U	1219	S18	E56	5309	01	9.8	16D	SN			2	E		79		
0083	RAMY	05	1203E	1203U	1209	S20	W66	5303	12	31.4	6D	SF			2	E		34		
		05	1521		1545	No Flare Patrol														
0084	RAMY	05	1808	1811U	1823	S19	W68	5303	12	31.6	15	SF	C	4.6	3	E		28		
0085		05	21233	21251	2148	S18	W54	5301	01	1.8	25	SN	C	5.7				89		E
	HOLL	05	2123	2125	2200	S18	W55	5301	01	1.7	37	1N	C	5.7	3	E		101		
	RAMY	05	2124	2126	2141	S19	W54	5301	01	1.8	17	SN	C	5.7	3	E		97		E
	PALE	05	2126	2126U	2143	S18	W53	5301	01	1.8	17	SN	C	5.7	3	E		68		
0086	PALE	06	0040	0040	0048	S29	E50	5310A	01	9.9	8	SF			3	E		10		
0087		06	00575	00587	0123	S22	E56	5309	01	10.3	26	SF						30		F
	LEAR	06	0057	0058	0113	S21	E57	5309	01	10.4	16	SF			4	E		22		
	PALE	06	0102	0105	0133	S22	E56	5309	01	10.3	31	SF			3	E		37		F
0088	YUNN	06	0344	0350	0357D	S20	W58	5301	01	1.7	13D	SN				P		31	0.6	
0089	KAND	06	0800	0801	0810	S19	W62	5301	01	1.6	10	SF				P	0801	21	0.4	D
0090	KAND	06	0845	0847	0855	S20	W85	5303	12	31.0	10	SN				P	0847	62		D
0091	KAND	06	1014	1016	1021	N10	E29	5305	01	8.6	7	SF				P	1016	42	0.5	D

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP	Mo	Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0092	SVTO	06	1041	1046	1049	S13	E63	5311	01	11	2	8	SF			3	E		14		
0093	SVTO	06	1046	1046	1054	S31	E86	5312	01	13	2	8	SF			3	E		10		
0094	SVTO	06	1105E	1109U	1109D	S19	W61	5301	01		1.8	4D	SF			2	E		21		F
0095	KANZ	06	1132	1132	1136	S17	W60	5301	01		1.9	4	SF				C				
		06	1301		1308	No Flare Patrol															
		06	1324		1330	No Flare Patrol															
		06	1608		1618	No Flare Patrol															
		06	1631		1655	No Flare Patrol															
		06	1703		1722	No Flare Patrol															
		06	1732		1748	No Flare Patrol															
0096		06	1759	1810U	1856	S34	E78	5312	01	13	.0	57	1N	M	8.9				112		EF
	RAMY	06	1753E	1812U	1846D	S31	E78	5312	01	12	.9	53D	1N	M	8.9	2	E		127		FE
	PALE	06	1759	1810U	1856	S36	E78	5312	01	13	.0	57	SN	M	8.9	2	E		98		F
0097	RAMY	06	1800	1801U	1813	S15	E59	5311	01	11	.2	13	SF			2	E		26		
0098	RAMY	06	1819E	1821	1835	S18	W66	5301	01		1.7	16D	SF			2	E		15		
		06	1858		1911	No Flare Patrol															
0099		06	1910E	1920	1938	S16	W66	5301	01		1.8	28D	SN	M	1.2				74		F
	PALE	06	1910E	1925U	1945	S16	W66	5301	01		1.8	35D	SN	M	1.2	2	E		98		F
	RAMY	06	1914E	1920	1932	S17	W66	5301	01		1.8	18D	SN	M	1.2	2	E		49		F
0100	RAMY	06	1925	1930	1934	S15	E61	5311	01	11	.4	9	SF			3	E		18		F
0101	RAMY	06	1949	1950	2006	S33	E83	5312	01	13	.4	17	SN	C	6.5	3	E		47		
0102	PALE	06	2011	2016	2058	S17	W67	5301	01		1.7	47	SF			3	E		92		
		06	2035		2047	No Flare Patrol															
0103	PALE	06	2100	2110U	2119	S16	W68	5301	01		1.7	19	SF			2	E		40		
		06	2108		2217	No Flare Patrol															
0104	PALE	06	2135	2138	2144	S16	W69	5301	01		1.7	9	SF			2	E		42		
0105	PALE	06	2218	2219	2226	N09	E17	5305	01		8.2	8	SF			3	E		18		F
0106	HOLL	06	2256E	2259U	2310	S18	E42	5309	01	10	.1	14D	SF			3	E		36		
0107		06	2319	2321	2330	S18	W69	5301	01		1.7	11	SF						46		H
	HOLL	06	2259E	2322U	2331D	S18	W69	5301	01		1.7	32D	SF			3	E		66		H
	LEAR	06	2319	2321	2330	S17	W69	5301	01		1.7	11	SF			4	E		26		
0108	YUNN	07	0051	0053	0202	S17	W69	5301	01		1.8	71	SN				C		79		
0109		07	0109	01073	0114	N26	E30	5307	01		9.4	5	SN						44	0.9	
	YUNN	07	0106E	0107	0116	N26	E31	5307	01		9.4	10D	SN				P		63	0.9	
	PALE	07	0109	0110	0113	N27	E28	5307	01		9.2	4	SF			3	E		25		
0110	YUNN	07	0132E	0132	0145	N10	E17	5305	01		8.3	13D	SN				P		63	0.7	
0111	LEAR	07	0236	0236	0242	S19	W74	5301	01		1.5	6	SF	C	8.9	3	E		28		
0112	LEAR	07	0406	0406	0415	N10	E17	5305	01		8.4	9	SF			4	E		22		
0113		07	0412	0413*	0430	S34	E78	5312	01	13	.4	18	1F	X	1.1				68		
	LEAR	07	0412	0413	0416	S34	E77	5312	01	13	.3	4	SF			3	E		16		
	LEAR	07	0412	0436	0444	S34	E80	5312	01	13	.5	32	1F	X	1.1	3	E		119		
0114	LEAR	07	0432	0440	0454	S18	W75	5301	01		1.5	22	SF			3	E		22		
		07	0514		0528	No Flare Patrol															

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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
0115	ABST	07	0720	0721	0725	S21	E35	5309	01	10.0	5	SF			C	0721	87	1.2	D
0116	ABST	07	0722	0726	0735	N30	E35	5313	01	10.0	13	SF			C	0726	131	2.0	D
0117	LEAR	07	0744	0801	0813	S19	W75	5301	01	1.6	29	SF	C 8.6	4	E		50		
0118	LEAR	07	0822	0831	0839	S19	W75	5301	01	1.6	17	SF		3	E		25		
0119	CATA	07	1040	1040	1046	N08	E03	5305	01	7.7	6	SN		2	C	1040	56	0.6	
		07	1101		1135	No Flare Patrol													
0120	RAMY	07	1154	1204	1235	S14	E48	5311	01	11.1	41	SF		4	E		51		FH
0121	SVTO	07	1224	1235	1253	S20	W76	5301	01	1.7	29	1F		2	E		154		
0122	RAMY	07	1306	1331	1401	S19	W79	5301	01	1.5	55	SF	M 1.8	4	E		41		F
0123		07	1430	1431*	1500	S20	W78	5301	01	1.6	30	SF					44		F
	RAMY	07	1430	1431	1454	S19	W78	5301	01	1.6	24	SF		4	E		28		F
	HOLL	07	1445E	1458	1505	S20	W77	5301	01	1.7	20D	SF		2	E		59		
0124	HOLL	07	1517	1518	1527	S20	W78	5301	01	1.7	10	SF		2	E		32		
0125	RAMY	07	1529	1529	1537	S29	E69	5312	01	13.0	8	SF		4	E		11		
0126		07	16271	1628	1639	N27	E20	5307	01	9.2	12	SF					46		F
	HOLL	07	1627	1628	1644	N27	E20	5307	01	9.2	17	SF		3	E		60		
	RAMY	07	1628	1628	1634	N27	E20	5307	01	9.2	6	SF		4	E		32		F
0127		07	1700	1701	1710	S20	W79	5301	01	1.7	10	SF	M 1.3				23		
	RAMY	07	1700	1701	1710	S19	W81	5301	01	1.5	10	SF	M 1.3	3	E		16		
	HOLL	07	1700	1701	1710	S20	W77	5301	01	1.8	10	SF	M 1.3	3	E		30		
0128		07	1714	17151	1720	S12	E46	5311	01	11.2	6	SF					25		
	RAMY	07	1714	1715	1719	S12	E46	5311	01	11.2	5	SF		3	E		18		
	HOLL	07	1714	1716	1720	S12	E46	5311	01	11.2	6	SF		3	E		32		
0129	RAMY	07	1714	1728	1744	S18	W77	5301	01	1.8	30	SF		3	E		26		
0130		07	1810*	1814*	1847	S18	W78	5301	01	1.8	37	SF	M 1.1				57		
	HOLL	07	1810	1814	1819	S18	W82	5301	01	1.5	9	SF	M 1.1	3	E		40		
	HOLL	07	1821	1824	1901	S18	W77	5301	01	1.9	40	SN		3	E		88		
	RAMY	07	1822E	1825U	1901	S19	W78	5301	01	1.8	39D	SF		2	E		74		
	PALE	07	1824E	1827	1908D	S18	W77	5301	01	1.9	44D	SF		3	E		25		
0131		07	18281	1830	1838	S34	E71	5312	01	13.4	10	SF	M 1.2				28		
	RAMY	07	1828	1830	1839	S33	E71	5312	01	13.4	11	SF	M 1.2	2	E		32		
	HOLL	07	1829	1830	1838	S34	E71	5312	01	13.4	9	SF	M 1.2	3	E		24		
0132	HOLL	07	1844	1846	1852	S16	E30	5309	01	10.0	8	SF		3	E		14		
0133		07	1849*	1917*	2011	S34	E68	5312	01	13.2	82	SF	M 1.3				35		F
	RAMY	07	1849	1945U	2024	S33	E72	5312	01	13.5	95	SF		2	E		62		F
	PALE	07	1905E	1940	2017	S35	E66	5312	01	13.1	72D	SF	M 1.3	3	E		27		F
	HOLL	07	1908	1917	1952	S33	E67	5312	01	13.1	44	SF		3	E		15		
0134	PALE	07	1929E	1934U	1959D	S16	W87	5303	01	1.2	30D	SN		3	E		35		
0135		07	1932	19415	1957	S18	W82	5301	01	1.6	25	SN					59		K
	RAMY	07	1918E	1947U	2012D	S19	W83	5301	01	1.5	54D	SF		2	E		90		
	HOLL	07	1932	1941	1957	S18	W82	5301	01	1.6	25	SF		3	E		36		
	HOLL	07	1932	1946	1957	S18	W82	5301	01	1.6	25	SB			E		50		K
0136	HOLL	07	2125	2126	2207	N28	E35	5315	01	10.6	42	SF		3	E		24		F
		08	0012		0034	No Flare Patrol													
0137	YUNN	08	0040E	0043U	0043D	S19	W83	5301	01	1.7	3D	SN			P	0043	47		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0138	YUNN	08	0040E	0226	0306	S19	W89	5303	01	1.2	146D	SN				C		63		AK
		08	0059		0100	No Flare Patrol														
0139	ABST	08	0532	0533	0536D	S33	E74	5312	01	14.1	4D	1N				C	0533	87		DV
0140	LEAR	08	0545	0546	0553	S17	W80	5301	01	2.2	8	SF			3	E		23		
0141	ABST	08	0545	0546	0600	S34	E60	5312	01	13.0	15	1N				C	0546	174	3.8	EV
0142	ABST	08	0546	0547	0605	S15	E20	5309	01	9.7	19	SN				C	0547	87	0.9	DV
0143	ABST	08	0757	0758	0802	S34	E55	5312	01	12.7	5	SN				C	0758	87	1.7	DV
0144		08	0828	08281	0849	S15	E43	5311	01	11.6	21	SN	C	9.6				100	2.4	EFV
	SVTO	08	0827E	0828	0856	S14	E43	5311	01	11.6	29D	SN			2	E		60		F
	LEAR	08	0828	0828	0844	S15	E42	5311	01	11.5	16	SN	C	9.6	3	E		65		F
	ABST	08	0828	0829	0846	S15	E44	5311	01	11.7	18	1N				C	0829	174	2.4	EV
0145	SVTO	08	0832	0833	0847	N27	E28	5313	01	10.5	15	SF			3	E		24		
0146	SVTO	08	0851	0851	0900	N27	E09	5307	01	9.1	9	SF			3	E		23		
		08	1026		1032	No Flare Patrol														
0147		08	1227	1239*	1329	S32	E58	5312	01	13.1	62	1N	M	7.5				150	6.2	EFKU
	SVTO	08	1227	1239	1320D	S30	E58	5312	01	13.1	53D	1N			2	E		120		UF
	RAMY	08	1228E	1247	1335	S33	E58	5312	01	13.1	67D	1B	M	7.5	4	E		101		UF
	RAMY	08	1228E	1253	1335	S33	E58	5312	01	13.1	67D	1B	M	7.5		E		96		K
	CATA	08	1231E	1241	1242D	S33	E59	5312	01	13.2	11D	2B			1	P	1241	281	6.2	
	KANZ	08	1235E	1249	1317	S32	E59	5312	01	13.2	42D	SF				C				E
		08	1447		1453	No Flare Patrol														
0148		08	1502	1509	1551	S27	E17	5310	01	9.9	49	SF	M	1.1				66		F
	RAMY	08	1502	1509	1558	S27	E17	5310	01	9.9	56	SF	M	1.1	3	E		86		F
	HOLL	08	1511E	1513U	1544	S27	E17	5310	01	9.9	33D	SF			2	E		47		F
0149	RAMY	08	1510	1516	1643	N27	E25	5315	01	10.6	93	SF			3	E		16		F
0150	RAMY	08	1539	1541U	1549D	N19	E89	5317	01	15.4	10D	SF			2	E				
0151	RAMY	08	1751E	1753U	1805	S18	E13	5309	01	9.7	14D	SF			2	E		33		F
0152		08	18125	18152	1830	N27	E06	5307	01	9.2	18	SF						18		F
	HOLL	08	1812	1815	1832	N27	E06	5307	01	9.2	20	SF			3	E		24		
	RAMY	08	1817	1817	1827	N27	E06	5307	01	9.2	10	SF			3	E		11		F
0153		08	18575	19079	1931	S35	E63	5312	01	13.8	34	SF	M	1.5				46		F
	PALE	08	1857	1909	1938	S35	E63	5312	01	13.8	41	SF	M	1.5	3	E		50		F
	HOLL	08	1902	1907	1925	S35	E62	5312	01	13.7	23	SF			3	E		37		F
	RAMY	08	1902	1916	1929	S34	E64	5312	01	13.9	27	SF			3	E		51		F
0154	HOLL	08	2019	2019	2022	S22	E21	5309	01	10.5	3	SF			3	E		23		F
0155		08	2142*	2245	2302	S34	E54	5312	01	13.2	80	SF						31		F
	PALE	08	2142	2245	2303	S35	E53	5312	01	13.1	81	SF			3	E		29		F
	HOLL	08	2230	2245	2300	S34	E55	5312	01	13.3	30	SF			3	E		33		
0156		08	2325*	2336*	2404	S33	E55	5312	01	13.3	39	SN	M	4.9				41		EFU
	HOLL	08	2325	2336	2400D	S34	E53	5312	01	13.2	35D	SN	M	4.9	3	E		50		UF
	PALE	08	2330	2350	2413	S32	E57	5312	01	13.5	43	SN			3	E		57		FE
	LEAR	08	2335	2337	2356	S33	E54	5312	01	13.3	21	SF			3	E		16		F
0157		09	0100	0109	0220	N29	E20	5313	01	10.6	80	2B	M	3.2				400	5.1	FGU
	PALE	09	0100	0109	0217	N29	E21	5313	01	10.7	77	2N	M	3.2	3	E		408		UF
	YUNN	09	0119E	0120U	0222	N29	E19	5313	01	10.5	63D	1B				P	0120	393	5.1	G
0158	YUNN	09	0253	0306U	0306D	S17	E37	5311	01	11.9	13D	SN				P	0306	24	0.3	

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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
		09	0447		0453	No Flare Patrol														
0159	LEAR	09	0458E	0515U	0535	S30	E47	5325A	01	12.9	37D	SN	M	2.0	3	E		64		FU
0160		09	0632	0647	0856	S16	E28	5311	01	11.4	144	1N	M	2.1				146	3.1	EF
	LEAR	09	0632	0647	0856	S15	E26	5311	01	11.2	144	SF	M	2.1	3	E		32		F
	ABST	09	0704E	0704U	0712D	S16	E30	5311	01	11.6	8D	1N				P	0704	261	3.1	E
0161	YUNN	09	0734	0735	0743	S29	E48	5325A	01	13.1	9	SN				P		16	0.3	
0162		09	0745	0750*	0906	S14	E25	5311	01	11.2	81	SN						140	1.9	EF
	YUNN	09	0734E	0800U	0856D	S14	E25	5311	01	11.2	82D	SB				P	0800	157	1.8	
	CATA	09	0736E	0750	0840D	S15	E26	5311	01	11.3	64D	SB			1	P	0750	169	2.0	
	SVTO	09	0745	0815	0915	S14	E24	5311	01	11.1	90	SF			3	E		94		F
	KANZ	09	0754E	0755	0858	S15	E26	5311	01	11.3	64D	SF				C				E
0163	YUNN	09	0743	0751	0818	S29	E33	5325A	01	11.9	35	SN				C		31	0.4	G
0164		09	07523	07551	0808	S31	E51	5312	01	13.3	16	SN						31	0.5	
	YUNN	09	0752	0755	0810	S30	E49	5312	01	13.2	18	SN				C		31	0.5	
	LEAR	09	0755	0756	0805	S32	E53	5312	01	13.5	10	SF			3	E		31		
0165	CATA	09	0856	0856	0900	S31	E80	5316	01	15.7	4	1F			1	C	0856	56		
0166	KANZ	09	1322	1325	1329	S17	E06	5309	01	10.0	7	SF				V				
0167	KANZ	09	1354	1354	1358D	N13	W13	5305	01	8.6	4D	SF				V				
0168	RAMY	09	1539	1541U	1549D	N19	E89	5322A	01	16.4	10D	SF			2	E				
0169	RAMY	09	1546E	1547U	1553	N13	W13	5305	01	8.7	7D	SF			2	E		25		F
0170		09	1616	1620	1704	S32	E43	5312	01	13.1	48	SF	M	1.3				28		F
	RAMY	09	1542E	1623U	1737	S31	E44	5312	01	13.1	115D	SF	M	1.3	2	E		42		F
	HOLL	09	1616	1620	1632	S32	E42	5312	01	13.0	16	SF			3	E		13		F
0171	HOLL	09	1822	1828	1844	S31	E68	5316	01	15.1	22	SF			3	E		58		F
0172		09	19145	1921*	2101	S32	E44	5312	01	13.3	107	1B	M	8.3				153		KUY
	PALE	09	1914	1921	2120	S32	E45	5312	01	13.4	126	1B	M	8.3	3	E		150		YU
	HOLL	09	1914	1922	2052	S33	E43	5312	01	13.2	98	1B	M	8.3	3	E		177		UY
	HOLL	09	1914	1946	2052	S33	E43	5312	01	13.2	98	1B	M	8.3		E		128		K
	RAMY	09	1919	1923U	2105D	S32	E43	5312	01	13.2	106D	1B	M	8.3	3	E		157		Y
0173	HOLL	09	2254	2257	2312	N15	W17	5306	01	8.7	18	SF			3	E		16		
0174		10	0021*	0041*	0208	S30	E38	5325A	01	13.0	107	1N	M	3.0				89	1.4	FK
	LEAR	10	0021	0041	0127	S29	E40	5325A	01	13.1	66	1N	M	3.0	3	E		120		FK
	YUNN	10	0048E	0048U	0048D	S31	E39	5325A	01	13.1	66D	SB				P	0048	31	0.5	
	YUNN	10	0048E	0200	0225	S30	E36	5325A	01	12.9	97D	1B				C		157	2.2	
	PALE	10	0148	0155	0233	S31	E37	5325A	01	13.0	45	SF			3	E		49		F
0175	YUNN	10	0238	0243	0351D	S32	E41	5312	01	13.3	73D	SN				P		47	0.7	
0176	LEAR	10	0444	0446	0500	N25	E40	5325	01	13.3	16	SF			4	E		31		
0177	LEAR	10	0445	0452	0501	S29	E36	5325A	01	13.0	16	SF			3	E		41		F
0178	LEAR	10	0446	0446	0508	S25	W03	5310	01	10.0	22	SF			4	E		38		
0179	LEAR	10	0549	0552	0608	S31	E61	5316	01	15.0	19	1F	M	1.4	4	E		133		F
0180		10	0622	06259	0719	S35	E42	5312	01	13.6	57	SB	M	3.6				112	2.0	EF
	LEAR	10	0622	0625	0648	S35	E43	5312	01	13.7	26	SN	M	3.6	3	E		97		FE
	YUNN	10	0627E	0634	0750	S35	E41	5312	01	13.5	83D	SB				P		126	2.0	
0181	LEAR	10	0720	0722	0726	S30	E36	5325A	01	13.1	6	SF			4	E		29		

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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
0182		10	0818	0821	0824	S29	E34	5325A	01	13.0	6	SN					30	0.6	E
	YUNN	10	0815E	0815U	0823	S29	E34	5325A	01	13.0	8D	SN			P	0815	47	0.6	E
	LEAR	10	0818	0821	0824	S29	E33	5325A	01	12.9	6	SF		3	E		13		
0183	LEAR	10	0832	0833	0843	S14	E14	5311	01	11.4	11	SF		4	E		18		
0184		10	1017	1018	1026	N34	E05	5315	01	10.8	9	SF					15		
	SVTO	10	1017	1018	1029	N34	E04	5315	01	10.7	12	SF		3	E		15		
	KANZ	10	1019E	1019U	1023	N34	E06	5315	01	10.9	4D	SF			V				
0185	SVTO	10	1125	1130	1141	S27	E31	5325A	01	12.9	16	SF		3	E		35		
0186	SVTO	10	1342	1345	1400	S29	E33	5325A	01	13.1	18	SF		3	E		35		F
0187	SVTO	10	1356	1403	1417	S27	W09	5310	01	9.9	21	SF		3	E		13		
0188	RAMY	10	1505E	1506U	1527D	S33	E35	5312	01	13.4	22D	SF		2	E		33		F
0189		10	1529	1548	1630D	N30	E00	5315	01	10.6	61D	SF					98		F
	HOLL	10	1529	1548	1612D	N30	W01	5315	01	10.6	43D	SF		3	E		99		F
	RAMY	10	1541E	1550U	1630D	N31	E02	5315	01	10.8	49D	SF		2	E		97		F
0190	RAMY	10	1541E	1626	1640D	S34	E37	5312	01	13.6	59D	SF		2	E		42		F
		10	1613		1624	No Flare Patrol													
0191		10	1746	1753*	1831	S35	E37	5312	01	13.7	45	SN	M 2.6				91		FKU
	RAMY	10	1733E	1755U	1915D	S34	E37	5312	01	13.7	102D	1F	M 2.6	2	E		132		UF
	HOLL	10	1746	1753	1831	S35	E37	5312	01	13.7	45	SN	M 2.6	3	E		67		UF
	HOLL	10	1746	1805	1831	S35	E37	5312	01	13.7	45	SN			E		78		K
	PALE	10	1752E	1756	1824D	S35	E36	5312	01	13.6	32D	SN		3	E		88		UF
0192		10	18552	1904	2021	N31	W01	5315	01	10.7	86	SF	M 1.6				80		F
	PALE	10	1855	1904	2008D	N32	W01	5315	01	10.7	73D	SF	M 1.6	3	E		74		F
	RAMY	10	1855	1910U	2010D	N32	W01	5315	01	10.7	75D	SF	M 1.6	2	E		72		F
	HOLL	10	1857	1910U	2021	N30	W02	5315	01	10.6	84	SF		3	E		93		F
0193	PALE	10	1925	1927	1936	S32	E29	5312	01	13.1	11	SF		3	E		23		F
0194		10	20203	2026*	2126	S31	E30	5312	01	13.2	66	1B	X 1.4				207		FKUY
	RAMY	10	2020	2026	2138D	S30	E29	5312	01	13.1	78D	1B	X 1.4	2	E		236		YF
	RAMY	10	2020	2048	2138D	S30	E29	5312	01	13.1	78D	1B	X 1.4		E		196		K
	PALE	10	2022E	2029U	2146D	S32	E33	5312	01	13.5	84D	1B	X 1.4	3	E		243		YF
	HOLL	10	2023	2031	2126	S31	E30	5312	01	13.2	63	1B	X 1.4	3	E		196		YU
	HOLL	10	2023	2046	2126	S31	E30	5312	01	13.2	63	1B			E		166		K
0195	HOLL	10	2110	2113	2132	N27	E69	5318	01	16.2	22	SF		3	E		36		
0196	HOLL	10	2111	2112	2119	N17	E87	5321	01	17.5	8	SF		3	E		20		
0197	HOLL	10	2303	2312	2326	S15	E06	5311	01	11.4	23	SF		3	E		28		
0198		10	23114	2315	2320	S32	E32	5312	01	13.5	9	SF					24		F
	LEAR	10	2311	2315	2321	S31	E34	5312	01	13.6	10	SF		3	E		29		
	HOLL	10	2315	2315	2320	S33	E29	5312	01	13.3	5	SF		3	E		18		F
0199	LEAR	10	2336	2339	2358	S32	E32	5312	01	13.5	22	SF		3	E		29		
0200	LEAR	11	0030	0032	0045	S31	E34	5312	01	13.7	15	SF	M 2.1	3	E		52		F
0201		11	0050	0052	0137	S34	E34	5312	01	13.7	47	SN					32		EF
	MITK	11	0050	0052	0137	S34	E34	5312	01	13.7	47	SN			C	0052			E
	PALE	11	0100E	0100U	0148D	S33	E35	5312	01	13.8	48D	SF		2	E		32		F
0202	YUNN	11	0241	0245	0253	S17	W01	5311	01	11.0	12	SN			C		31	0.3	
0203	LEAR	11	0244	0244	0252	N19	E66	5317	01	16.1	8	SF		3	E		13		
0204	LEAR	11	0257	0300	0314	N20	E68	5317	01	16.3	17	SF	C 7.6	3	E		16		

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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
0205		11	0428*	04444	0623	N32	W08	5315	01	10.5	115	2N					467	6.7	BFGU
	LEAR	11	0428	0448	0614	N32	W07	5315	01	10.6	106	2N		4	E		296		
	YUNN	11	0440	0444	0638	N33	W07	5315	01	10.6	118	1B			P		393	5.1	
	MITK	11	0444E		0452D	N32	W09	5315	01	10.5	8D	2N			P	0451	540	7.0	F
	TACH	11	0513E		0618	N33	W07	5315	01	10.7	65D	2N		2	C	0513	638	8.0	BUG
0206	LEAR	11	0445	0446	0452	S32	E32	5312	01	13.7	7	SF	M 1.0	4	E		21		
0207		11	0626*	0635*	0705	S32	E29	5312	01	13.6	39	1N	M 1.9				328	5.3	FKU
	YUNN	11	0626	0635	0635D	S28	E30	5312	01	13.6	9D	SB			C		63	0.8	
	YUNN	11	0626	0648	0700	S36	E29	5312	01	13.6	34	1B			C		157	2.2	FK
	LEAR	11	0635	0650	0705	S34	E28	5312	01	13.5	30	SF	M 1.9	3	E		74		F
	TACH	11	0636	0649U	0710	S32	E28	5312	01	13.5	34	3F		2	C	0649	1020	12.8	FU
0208		11	10403	10432	1050	S34	E27	5312	01	13.6	10	SN					104	1.3	EFIT
	KAND	11	1040	1045	1050	S33	E27	5312	01	13.6	10	SN			P	1045	104	1.3	EFIT
	KANZ	11	1043	1043	1050	S34	E27	5312	01	13.6	7	SF			V				
0209	KANZ	11	1134	1134	1137	S31	E45	5316	01	15.0	3	SF			V				
0210	CATA	11	1208	1210	1219	N19	E90	5321	01	18.4	11	1N		2	C	1210	56		
0211		11	1225	1225	1246	N30	E62	5318	01	16.4	21	SF					125		ELT
	KAND	11	1225		1255	N32	E62	5318	01	16.4	30	SF			P	1225	125		ELT
	KANZ	11	1225	1225	1236	N27	E63	5318	01	16.4	11	SF			V				
0212	KAND	11	1242		1309	N20	E90	5321	01	18.4	27	SN			P				A
0213		11	13131	1314	1324	S32	E28	5312	01	13.8	11	SN					83	1.0	ET
	KAND	11	1313	1314	1320	S31	E29	5312	01	13.8	7	SB			P	1314	83	1.0	ET
	KANZ	11	1314	1314	1329	S33	E27	5312	01	13.7	15	SF			V				
		11	1403		1406	No Flare Patrol													
0214	HOLL	11	1517	1519	1616	N19	E61	5317	01	16.3	59	SF		3	E		30		
0215	HOLL	11	1523	1525	1607	N28	E51	5318	01	15.6	44	SF		3	E		39		
0216	HOLL	11	1529	1530	1625	S33	E28	5312	01	13.9	56	SN		3	E		69		EF
0217	HOLL	11	1536	1537	1544	N19	E85	5321	01	18.1	8	SF		3	E		15		
0218	HOLL	11	1555	1556	1601	S14	W04	5311	01	11.4	6	SF		3	E		47		
0219	HOLL	11	1617	1635	1651	N20	E61	5317	01	16.3	34	SF		3	E		71		
0220	HOLL	11	1628	1628	1640	S16	W28	5309	01	9.6	12	SF		3	E		11		
0221	HOLL	11	1641	1646	1656	S34	E20	5312	01	13.3	15	SF		3	E		27		
0222	HOLL	11	1745	1825	1846	S33	E20	5312	01	13.3	61	SF	C 5.6	3	E		52		EF
0223	HOLL	11	1942	1944	1955	N19	E84	5321	01	18.2	13	SN	C 5.7	3	E		72		
0224	HOLL	11	1952	1952	2004	N20	E53	5317	01	15.9	12	SF		3	E		18		
0225		11	2036	2037*	2048	S33	E21	5312	01	13.5	12	SF	C 7.4				26		
	HOLL	11	2036	2037	2041	S32	E21	5312	01	13.5	5	SF		3	E		26		
	HOLL	11	2047E	2049	2056	S34	E21	5312	01	13.5	9D	SF	C 7.4	3	E		26		
0226	HOLL	11	2129	2131	2150	N28	E53	5318	01	16.0	21	SF	C 5.3	3	E		52		
0227	HOLL	11	2247E	2255	2331	N19	E58	5317	01	16.4	44D	1N		3	E		125		F
0228	HOLL	11	2252	2254	2312	N19	E70	5321	01	17.3	20	SF		3	E		41		
0229	HOLL	11	2336	2337	2406D	N18	E73	5321	01	17.5	30D	SF		3	E		32		

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0230		12	0027	0028	0042	S28	E17	5312	01	13.3	15	SN					28	0.4	
	YUNN	12	0023E	0027U	0043	S27	E17	5312	01	13.3	20D	SN			P	0027	31	0.4	
	LEAR	12	0027	0028	0041	S28	E17	5312	01	13.3	14	SF		4	E		26		
0231		12	00437	00563	0116	S34	E23	5312	01	13.9	33	SN					32	0.3	
	YUNN	12	0043	0056	0120	S34	E23	5312	01	13.9	37	SB			C		24	0.3	
	LEAR	12	0050	0059	0113	S34	E23	5312	01	13.9	23	SF		4	E		41		
0232	YUNN	12	0123	0138	0202	N22	E45	5316B	01	15.5	39	SN			C		94	1.5	
0233	LEAR	12	0202	0202	0207	N19	E76	5321	01	17.9	5	SF		4	E		18		
0234	YUNN	12	0248E	0248U	0257	S35	E21	5312	01	13.8	9D	SN			P	0248	24	0.3	
0235		12	0417	0423	0504	S34	E18	5312	01	13.6	47	1N	M 1.4				114	1.0	E
	LEAR	12	0417	0423	0457	S34	E19	5312	01	13.7	40	1N	M 1.4	4	E		150		E
	YUNN	12	0432E	0441U	0512	S34	E17	5312	01	13.5	40D	SN			P	0441	79	1.0	
0236	LEAR	12	0521	0525	0533	N20	E51	5317	01	16.1	12	SF		4	E		31		F
0237		12	06303	06385	0705	S29	E17	5312	01	13.6	35	SN	C 4.7				71	0.9	F
	YUNN	12	0630	0638	0714	S28	E19	5312	01	13.7	44	SN			C		79	0.9	
	LEAR	12	0633	0643	0656	S30	E15	5312	01	13.4	23	SF	C 4.7	3	E		63		F
0238	LEAR	12	0635	0635	0642	N27	W38	5307	01	9.3	7	SF		3	E		11		
0239		12	0738*	07446	0806	S32	E18	5312	01	13.7	28	SN					94	1.9	F
	YUNN	12	0738	0744	0811	S32	E20	5312	01	13.9	33	SN			C		157	1.9	
	LEAR	12	0750	0750	0802	S32	E16	5312	01	13.6	12	SF		3	E		31		F
0240		12	08257	08296	0857	S32	E15	5312	01	13.5	32	SN	C 4.2				37	0.6	F
	YUNN	12	0825	0829	0829D	S31	E15	5312	01	13.5	4D	SN			P		47	0.6	
	LEAR	12	0832	0835	0857	S33	E15	5312	01	13.5	25	SF	C 4.2	4	E		27		F
0241		12	1019*	1026*	1104	S33	E18	5312	01	13.8	45	SF							
	KANZ	12	1019	1026	1049	S31	E15	5312	01	13.6	30	SF			V				
	KANZ	12	1030	1038	1118	S35	E21	5312	01	14.1	48	SF			V				
0242		12	12172	12193	1226	S32	E06	5312	01	13.0	9	SN					42	0.5	DEIT
	KAND	12	1217	1222	1222D	S32	E06	5312	01	13.0	5D	SN			P	1222	42	0.5	DIT
	KANZ	12	1219	1219	1226	S32	E06	5312	01	13.0	7	SF			V				E
0243	KANZ	12	1237	1241	1247	S25	E55	5320	01	16.8	10	SF			V				
0244	RAMY	12	1435	1435	1501	N29	W44	5307	01	9.1	26	SF		3	E		24		
		12	1616		1625	No Flare Patrol													
0245	RAMY	12	1646	1646	1650	S30	E02	5311A	01	12.8	4	SF		4	E		28		
		12	1658		1733	No Flare Patrol													
0246		12	1739	1745U	1857D	S16	W12	5311	01	11.8	78D	1N	C 8.7				140		F
	RAMY	12	1728E	1752U	1821D	S15	W12	5311	01	11.8	53D	1F	C 8.7	1	E		122		F
	HOLL	12	1739	1745U	1857D	S16	W12	5311	01	11.8	78D	1N	C 8.7	3	E		158		
		12	1926		2128	No Flare Patrol													
0247	HOLL	12	2029E	2029U	2218	N20	E44	5317	01	16.2	109D	1N	M 4.7	2	E		267		U
		12	2141		2148	No Flare Patrol													
		12	2155		2159	No Flare Patrol													
0248	HOLL	12	2220	2227	2236	S27	W39	5310	01	9.9	16	SF		3	E		26		
0249	HOLL	12	2303	2306	2319	N28	W25	5315	01	11.0	16	SF		3	E		11		
0250	LEAR	13	0003	0008	0126	S30	E03	5312	01	13.2	83	SF	M 1.5	4	E		58		F

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0251	LEAR	13	0040	0046	0051	N13	W59	5305	01	8.6	11	SF			4	E		40		H
0252	LEAR	13	0135	0204	0232	S31	E10	5312	01	13.8	57	SF			4	E		46		F
0253		13	0155	0202	0221	S32	E31	5316	01	15.5	26	SF						98	1.3	EF
	LEAR	13	0155	0202	0224	S33	E30	5316	01	15.5	29	SF			4	E		98		F
	PURP	13	0156E	0156U	0218	S32	E32	5316	01	15.6	22D	SF				C	0156	97	1.3	E
0254	LEAR	13	0351	0355	0416	S34	E06	5312	01	13.6	25	1N	M	2.1	4	E		156		EF
0255	LEAR	13	0358	0400	0422	N29	E39	5318	01	16.2	24	SF			4	E		58		H
0256	LEAR	13	0452	0455	0513	N27	W51	5307	01	9.2	21	SF			4	E		39		
0257		13	08292	0835*	1018	S31	W07	5312	01	12.8	109	1N						313	3.6	ET
	KHAR	13	0829	0834U	0842D	S32	W07	5312	01	12.8	13D	1F			2	V	0834			E
	CATA	13	0831	0835	0856D	S31	W06	5312	01	12.9	25D	1B			2	P	0835	365	4.2	T
	KANZ	13	0831	0847	1018	S32	W09	5312	01	12.6	107	SN				V				
	ABST	13	0833E	0833U	0840D	S30	W05	5312	01	13.0	7D	1N				P	0833	261	3.1	E
0258	LEAR	13	0912	0912	0920	S16	W21	5311	01	11.8	8	SF			4	E		24		
0259		13	0829*	0956*	1137	S31	W02	5312	01	13.2	188	1B	X	2.3				406	5.7	EFIKOTU
	LEAR	13	0829	1018	1045D	S31	W05	5312	01	12.9	136D	2B	X	2.3	4	E		243		UF
	HTPR	13	0927E		1540D	S32	W02	5312	01	13.2	373D	2B				C	1028	600	6.6	EFIKT
	SVTO	13	0932E	1029U	1410D	S29	W03	5312	01	13.2	278D	2B			2	E		283		UF
	KANZ	13	0937	1018	1053	S30	W04	5312	01	13.1	76	1N				V				
	CATA	13	0942E	0956	1122	S31	W06	5312	01	12.9	100D	2B			2	P	0956	506	5.9	T
	KHAR	13	1000	1019U	1048U	S32	W06	5312	01	12.9	48U	1N			2	P	1016	400	4.6	EIO
	KANZ	13	1053	1101	1153	S32	E01	5312	01	13.5	60	SN				V				EF
	KANZ	13	1053	1116U	1219	S33	E07	5312	01	14.0	86	SN				V				
0260	SVTO	13	1200	1200	1212	S31	W47	5310	01	9.8	12	SF			2	E		17		
0261		13	1208*	1224*	1408	S32	W03	5312	01	13.3	120	1B						481	5.6	EFIKTU
	KANZ	13	1208	1229	1427D	S33	W02	5312	01	13.3	139D	SN				V				EF
	HTPR	13	1219	1240	1440	S32	W04	5312	01	13.2	141	1B				C	1240	400	4.5	EIT
	ISTA	13	1220	1224	1335	S32	W03	5312	01	13.3	75	2B								FKU
	CATA	13	1225	1238	1245D	S32	W04	5312	01	13.2	20D	2B			2	P	1238	562	6.6	T
0262		13	12541	12541	1302	S32	E21	5316	01	15.2	8	1N						128	2.3	EFHV
	ISTA	13	1254	1254	1300	S32	E20	5316	01	15.1	6	1N								FH
	KANZ	13	1254	1254	1301	S31	E19	5316	01	15.0	7	SF				V				
	HTPR	13	1254	1255	1300	S31	E21	5316	01	15.2	6	1B				C	1255	180	2.3	EV
	SVTO	13	1255	1255	1306	S33	E23	5316	01	15.4	11	SF			2	E		75		
0263	HTPR	13	1433	1434	1442	N20	E30	5317	01	15.9	9	SF				C	1434	50	0.6	E
		13	1541		1617	No Flare Patrol														
0264	RAMY	13	1618E	1742	1859	S30	W07	5312	01	13.1	161D	1N	M	6.1	3	E		151		EF
0265	RAMY	13	1643	1652	1729	N17	E52	5321	01	17.6	46	SF			3	E		31		F
0266	RAMY	13	1804	1811	1848	N21	E31	5317	01	16.1	44	SF			3	E		51		F
0267	RAMY	13	1845	1926	2027	N18	E55	5321	01	18.0	102	1F	M	1.4	3	E		156		
0268		13	1859	2047*	2126	S31	W10	5312	01	13.0	147	1N						78		FK
	RAMY	13	1859	2047	2126	S31	W10	5312	01	13.0	147	1N			3	E		114		F
	RAMY	13	1859	2116	2126	S31	W10	5312	01	13.0	147	1N				E		42		K
0269	RAMY	13	1913	2038	2133	N23	E30	5317	01	16.1	140	SF			3	E		40		
0270	RAMY	13	2025	2052	2133	S31	E15	5316	01	15.0	68	SF			3	E		43		F
0271	RAMY	13	2027	2114	2135D	N18	E53	5321	01	17.9	68D	1N	M	1.6	3	E		164		
		13	2103		2110	No Flare Patrol														

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0272	RAMY	13	2118	2121	2131	S15	W31	5311	01	11.5	13	SF			3	E		36		
		13	2136		2159	No Flare Patrol														
0273		13	2246	2325	2306	S33	W08	5312	01	13.3	20	SF						59		FU
	HOLL	13	2203E	2206U	2408D	S32	W09	5312	01	13.2	125D	1N			2	E		104		UF
	LEAR	13	2209E	2209U	2220	S34	W04	5312	01	13.6	11D	SF			2	E		38		
	LEAR	13	2246	2325	2352	S32	W10	5312	01	13.1	66	SF			3	E		35		F
0274	HOLL	13	2253E	2254	2312	N20	E28	5317	01	16.1	19D	SF			2	E		11		F
0275		13	23036	2309*	2328	N17	E51	5321	01	17.8	25	SF						25		F
	HOLL	13	2303	2309	2329	N17	E53	5321	01	18.0	26	SF			2	E		39		F
	LEAR	13	2309	2319	2326	N17	E49	5321	01	17.7	17	SF			3	E		11		
0276	LEAR	13	2334	2334	2345	N17	E49	5321	01	17.7	11	SF			3	E		14		
0277	LEAR	14	0024	0035	0038	N27	E32	5318	01	16.5	14	SF			3	E		21		F
0278	PURP	14	0101	0103	0104	S30	W11	5312	01	13.2	3	SF				C	0103	56	0.7	D
0279	LEAR	14	0106	0125	0142	N21	E27	5317	01	16.1	36	SF			3	E		20		F
0280	LEAR	14	0158	0201	0208	S32	E11	5316	01	14.9	10	SF			4	E		20		F
0281		14	01587	02071	0228	N12	W79	5305	01	8.1	30	1F						210		EFHY
	PURP	14	0158	0207	0224D	N11	W81	5305	01	8.0	26D	1F				C	0207	179		E
	VORO	14	0159	0208	0229	N14	W80	5305	01	8.0	30	2N			2	C	0208	323		EY
	LEAR	14	0205	0207	0227	N12	W75	5305	01	8.4	22	1F			4	E		128		FH
0282		14	02131	02154	0224	N28	E29	5318	01	16.3	11	SF	M	1.0				34	0.7	EFT
	VORO	14	0213	0219	0226	N29	E29	5318	01	16.4	13	SF			2	C	0219	54	0.7	ET
	LEAR	14	0214	0215	0222	N26	E29	5318	01	16.3	8	SF	M	1.0	4	E		15		F
0283		14	02172	02255	0244	S33	W10	5312	01	13.3	27	SF						83	1.1	EFIJT
	VORO	14	0217	0225	0246	S33	W11	5312	01	13.2	29	SF			2	C	0225	143	1.7	EIJT
	LEAR	14	0219	0230	0246	S34	W10	5312	01	13.3	27	SF			4	E		61		F
	PURP	14	0227E	0228U	0239	S33	W09	5312	01	13.4	12D	SF				C	0228	45	0.5	E
0284		14	02457	02545	0307	S16	W31	5311	01	11.8	22	SF						108	1.8	EFGT
	PURP	14	0245	0259	0306	S16	W28	5311	01	12.0	21	SF				C	0259	73	0.9	GE
	LEAR	14	0252	0254	0308	S15	W32	5311	01	11.7	16	SF			4	E		28		F
	VORO	14	0252U	0258	0301D	S16	W32	5311	01	11.7	9U	1F			2	C	0258	224	2.7	ET
0285		14	0253*	0258*	0424	S32	W12	5312	01	13.2	91	1N	M	6.2				198	3.0	EFIJKTU
	VORO	14	0252U	0258	0301D	S31	W15	5312	01	12.9	9U	SF			2	C	0258	116	1.4	EIJT
	PURP	14	0253	0259	0305	S31	W16	5312	01	12.8	12	SF				C	0259	93	1.1	E
	LEAR	14	0254	0333	0354	S31	W17	5312	01	12.8	60	1N	M	6.2	4	E		119		FE
	LEAR	14	0254	0414	0459	S32	W10	5312	01	13.3	125	2B	X	2.1	3	E		285		UF
	LEAR	14	0254	0419	0459	S32	W10	5312	01	13.3	125	2B	X	2.1		E		161		K
	PURP	14	0302	0318	0321	S32	W11	5312	01	13.2	19	SF				C	0318	69	0.8	E
	PURP	14	0433E	0444U	0515	S33	W10	5312	01	13.4	42D	2B				C	0444	717	8.5	
	LEAR	14	0501	0505	0519	S31	W10	5312	01	13.4	18	SF			3	E		26		F
0286	CATA	14	0750	0750	0756	N22	E24	5316B	01	16.2	6	SN			2	C	0750	56	0.7	
0287	CATA	14	0805	0805	0812	N16	E41	5321	01	17.4	7	SN			2	C	0805	56	0.8	
0288	CATA	14	0925	0925	0936	S15	E40	5320	01	17.4	11	SN			2	C	0925	28	0.4	
0289	SVTO	14	0942E	1002	1025	N17	E43	5321	01	17.7	43D	SF			3	E		83		F
0290	KANZ	14	0944	0948	0955	S31	W09	5312	01	13.7	11	SF				V				
0291		14	10183	10216	1032	N26	W70	5307	01	9.0	14	SN						33	0.5	E
	HTPR	14	1018	1027	1030	N27	W65	5307	01	9.4	12	SF				C	1027	20	0.5	E
	SVTO	14	1019	1021	1033	N25	W73	5307	01	8.8	14	SF			3	E		23		
	KANZ	14	1019	1022	1034	N27	W71	5307	01	8.9	15	SF				V				
	CATA	14	1021	1021	1030	N26	W72	5307	01	8.8	9	SB			2	C	1021	56		

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0292	HTPR	14	1040	1046	1053	N18	E45	5321	01	17.9	13	SF			C	1046	50	0.7	E
0293		14	11337	1141*	1229	N30	E27	5318	01	16.6	56	SN					101	1.7	EF
	HTPR	14	1133	1148	1235	N29	E30	5318	01	16.8	62	SN			C	1148	100	1.1	E
	CATA	14	1136	1141	1149D	N31	E27	5318	01	16.6	13D	SB		2	P	1141	84	1.2	
	KANZ	14	1136	1147	1223	N30	E27	5318	01	16.6	47	SF			V				
	RAMY	14	1140	1149	1205D	N28	E27	5318	01	16.6	25D	SF		2	E		66		F
	ABST	14	1151E	1154	1210D	N30	E25	5318	01	16.4	19D	SN			P	1154	131	1.7	E
	SVTO	14	1202E	1202U	1229	N30	E25	5318	01	16.5	27D	SF		3	E		30		
	CATA	14	1211E	1216	1245D	N30	E26	5318	01	16.5	34D	1B		2	P	1217	197	2.8	
0294		14	13514	13532	1411	S31	W23	5311A	01	12.8	20	SN	M 1.1				39	0.9	EF
	HTPR	14	1351	1353	1410	S33	W26	5311A	01	12.5	19	SB			C	1353	80	0.9	E
	RAMY	14	1353	1353	1418	S30	W22	5311A	01	12.8	25	SF	M 1.1	4	E		22		FE
	SVTO	14	1353	1355	1406	S31	W22	5311A	01	12.8	13	SF	M 1.1	3	E		16		F
	KANZ	14	1355	1355	1405D	S30	W23	5311A	01	12.8	10D	SF			V				E
0295		14	15313	1538	1548	N22	E20	5316B	01	16.2	17	SF					16		
	HOLL	14	1531	1538	1550	N22	E20	5316B	01	16.2	19	SF		3	E		19		
	RAMY	14	1534	1538	1545	N23	E21	5316B	01	16.3	11	SF		3	E		12		
0296		14	1552	15531	1603	N22	E20	5317	01	16.2	11	SF					20		F
	HOLL	14	1552	1553	1607	N22	E20	5317	01	16.2	15	SF		3	E		20		
	RAMY	14	1552	1554	1559	N21	E20	5317	01	16.2	7	SF		4	E		19		F
0297		14	1606	16103	1621	S36	W13	5312	01	13.6	15	SF					15		F
	HOLL	14	1606	1610	1621	S36	W14	5312	01	13.5	15	SF		3	E		11		
	RAMY	14	1606	1613	1621	S36	W12	5312	01	13.7	15	SF		3	E		19		F
0298	HOLL	14	1638	1639	1644	N22	E20	5317	01	16.2	6	SF		3	E		16		
0299	HOLL	14	1718E	1719	1733	N22	E20	5317	01	16.2	15D	SF		3	E		28		
0300		14	1718	17231	1751	S17	W44	5311	01	11.4	33	SF					49		
	HOLL	14	1718E	1723	1754	S17	W43	5311	01	11.4	36D	SF		4	E		48		
	RAMY	14	1718	1724	1748	S17	W45	5311	01	11.3	30	SF		3	E		50		
0301		14	17573	1801	1826	N22	E18	5317	01	16.1	29	SF					40		F
	HOLL	14	1757	1801	1845	N22	E16	5317	01	16.0	48	SF		4	E		60		F
	RAMY	14	1800	1801	1808	N22	E19	5317	01	16.2	8	SF		3	E		21		F
0302		14	1808	18081	1817	S32	E03	5316	01	15.0	9	SF					26		F
	RAMY	14	1808	1808	1816	S32	E03	5316	01	15.0	8	SF		3	E		22		F
	HOLL	14	1808	1809	1818	S32	E03	5316	01	15.0	10	SF		4	E		29		
0303		14	1818*	18532	1917	N16	E42	5321	01	17.9	59	SF					84		F
	RAMY	14	1818	1853	1933D	N17	E42	5321	01	17.9	75D	SF		2	E		93		
	PALE	14	1851	1855	1917	N16	E43	5321	01	18.0	26	SF		3	E		74		F
0304	RAMY	14	1856	1904	1914	S21	E32	5320	01	17.2	18	SF		3	E		11		
0305		14	1940	19441	2112	N17	E43	5321	01	18.1	92	1N	C 8.3				115		FU
	RAMY	14	1940	1944	2110D	N18	E42	5321	01	18.0	90D	1N	C 8.3	2	E		104		UF
	HOLL	14	1940	1944	2112	N17	E42	5321	01	18.0	92	1N	C 8.3	4	E		114		UF
	PALE	14	1940	1945	2112	N17	E44	5321	01	18.2	92	1N	C 8.3	3	E		128		F
0306		14	2044	2110	2127	N21	E17	5317	01	16.2	43	SF					21		F
	RAMY	14	2044	2054U	2104D	N20	E16	5317	01	16.1	20D	SF		2	E		15		
	HOLL	14	2044	2110	2127	N22	E17	5317	01	16.2	43	SF		3	E		26		
	RAMY	14	2109E	2110U	2123D	N22	E18	5317	01	16.3	14D	SF		2	E		21		F
0307	RAMY	14	2118E	2145U	2148D	S31	W24	5312	01	13.0	30D	SF	M 2.4	2	E		48		F
0308	PALE	14	2145	2239	2309	S29	W26	5312	01	12.9	84	1B	X 1.1	3	E		108		F
0309	LEAR	14	2232	2245	2359	S31	W26	5312	01	12.9	87	SN		3	E		82		FU

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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
0310		14	2253	2254	2307	S32	W01	5316	01	14.9	14	SF					37		FH
	PALE	14	2253	2254	2304	S31	W02	5316	01	14.8	11	SF		3	E		22		
	LEAR	14	2253	2254	2308	S32	W01	5316	01	14.9	15	SF		3	E		34		FH
	HOLL	14	2253	2254	2310	S32	W01	5316	01	14.9	17	SF		3	E		54		
0311		14	2342*	2409*	2442	S15	W46	5311	01	11.5	60	1F					201	7.9	EFT
	LEAR	14	2342	2407U	2435	S14	W46	5311	01	11.5	53	1F		3	E		110		F
	PALE	14	2357	2409	2417	S15	W46	5311	01	11.5	20	SF		3	E		19		
	VORO	15	0017E	0020	0113	S17	W46	5311	01	11.5	56D	2F		2	C	0020	475	7.9	ET
0312		14	2345*	2349*	2523	S32	W20	5312	01	13.4	98	SF					62	1.6	DIJKTZ
	PALE	14	2345	2349	2521	S32	W20	5312	01	13.4	96	SF		3	E		22		
	PALE	14	2345	2454	2521	S32	W20	5312	01	13.4	96	SF			E		25		K
	VORO	15	0017E	0043	0159	S31	W20	5312	01	13.4	102D	SN		2	C	0043	90	1.1	DIJTZ
	PURP	15	0036E	0036U	0108	S31	W21	5312	01	13.4	32D	SN			C	0036	163	2.0	D
	LEAR	15	0043	0045	0107	S32	W20	5312	01	13.4	24	SF		3	E		12		
0313	PALE	15	0027	0027	0035	N16	E39	5321	01	18.0	8	SF		3	E		10		
0314		15	00381	00421	0104	S18	W50	5311	01	11.2	26	1F					173	3.6	ET
	PURP	15	0036E	0036U	0036D	S17	W52	5311	01	11.1	26D	1N			P	0036	215	3.6	E
	LEAR	15	0038	0043	0056	S17	W48	5311	01	11.4	18	SF		3	E		71		
	VORO	15	0039	0042	0113	S19	W49	5311	01	11.3	34	1F		2	C	0042	233	3.6	ET
0315	VORO	15	0038	0042	0050	N22	E16	5317	01	16.2	12	SF		2	C	0042	143	1.7	DIJT
0316	LEAR	15	0108	0116	0124	S31	W21	5312	01	13.4	16	SF		3	E		12		
0317	VORO	15	0157	0159	0204	S34	W24	5312	01	13.2	7	SF		2	C	0159	125	1.6	DIJT
0318	VORO	15	0159	0216	0237	N22	E03	5317	01	15.3	38	1F		2	C	0216	215	2.4	EIJKT
0319	VORO	15	0213	0216	0220	S35	W26	5312	01	13.0	7	SF		2	C	0216	99	1.3	DIJT
0320		15	0329	0333*	0551	S31	W23	5312	01	13.3	142	SN					162	2.1	FK
	YUNN	15	0329	0333	0333D	S29	W20	5312	01	13.6	4D	SN			P		16	0.2	
	YUNN	15	0329	0416	0416D	S32	W24	5312	01	13.2	47D	SN			P		157	2.0	
	YUNN	15	0329	0501	0551	S32	W26	5312	01	13.1	142	1N			P		314	4.0	FK
0321	YUNN	15	0338	0350	0402	N21	E10	5317	01	15.9	24	SN			C		63	0.7	
0322	YUNN	15	0406	0412	0419	N22	E13	5317	01	16.2	13	SN			C		79	0.9	
0323		15	05382	05412	0616	N30	E15	5318	01	16.4	38	1N					141	2.5	F
	YUNN	15	0538	0543	0607	N30	E18	5318	01	16.6	29	1B			P		189	2.5	
	LEAR	15	0540	0541	0625	N29	E12	5318	01	16.2	45	SF		3	E		93		F
0324	YUNN	15	0559	0616	0657	S31	W31	5312	01	12.8	58	SN			P		79	1.1	
0325		15	0633*	06488	0720	N22	W01	5317	01	15.2	47	1N					207	3.4	E
	YUNN	15	0633	0648	0727	N22	W02	5317	01	15.1	54	1N			C		236	2.7	
	ABST	15	0638	0649	0725	N24	W01	5317	01	15.2	47	1N			C	0649	348	4.1	E
	LEAR	15	0647	0656	0708	N21	E01	5317	01	15.3	21	SF		3	E		36		
0326		15	0745*	0748*	0812	S32	W30	5312	01	12.9	27	SN	M 1.0				64	1.2	DF
	ABST	15	0745	0748	0755	S34	W25	5312	01	13.3	10	SN			C	0748	131	1.5	D
	YUNN	15	0754	0756	0844	S32	W32	5312	01	12.8	50	SN			C		63	0.9	
	ABST	15	0756	0759	0810	S33	W31	5312	01	12.9	14	SN			C	0759	87	1.2	D
	LEAR	15	0758	0759	0806	S31	W31	5312	01	12.9	8	SF	M 1.0	4	E		12		F
	SVTO	15	0801E	0802U	0807	S32	W31	5312	01	12.9	6D	SF		1	E		25		
0327		15	09076	09112	0956	N24	E05	5317	01	15.8	49	SN					84	1.0	EF
	KANZ	15	0907	0911	0956	N24	E03	5317	01	15.6	49	SN			V				EF
	CATA	15	0913	0913	0915D	N25	E07	5317	01	15.9	2D	SN		2	P	0913	84	1.0	
0328		15	09094	09121	0950	N26	E02	5316A	01	15.5	41	1N					216	2.6	E
	ABST	15	0909	0912	0950	N25	E04	5316A	01	15.7	41	1N			C	0912	348	4.3	E
	CATA	15	0913	0913	0915D	N26	E01	5316A	01	15.5	2D	SN		2	P	0913	84	1.0	

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0329	KANZ	15	1028	1032	1048	S33	W28	5312	01	13.2	20	SF			V				
0330	KANZ	15	1129	1133	1140	S31	W32	5312	01	12.9	11	SF			V				
0331		15	1150	1150	1157	S32	W29	5312	01	13.2	7	SF	C 7.0				39		F
	KANZ	15	1150	1150	1156	S31	W32	5312	01	13.0	6	SF			V				
	SVTO	15	1151E	1151U	1158	S32	W26	5312	01	13.4	7D	SF	C 7.0	2	E		39		F
0332		15	1238*	1255*	1328	S32	W30	5312	01	13.1	50	SF	M 1.0				71		F
	RAMY	15	1238	1300	1341	S31	W30	5312	01	13.1	63	SF	M 1.0	3	E		71		F
	KANZ	15	1244	1255	1306	S31	W35	5312	01	12.8	22	SF			V				
	KANZ	15	1302	1306	1336	S35	W26	5312	01	13.5	34	SF			V				
0333		15	1251*	1251*	1326	N22	E04	5317	01	15.8	35	SF					30		F
	KANZ	15	1251	1251	1255	N22	W03	5317	01	15.3	4	SF			V				
	RAMY	15	1304	1305	1332	N21	E05	5317	01	15.9	28	SF		3	E		27		F
	KANZ	15	1306	1310	1336	N24	E09	5317	01	16.2	30	SF			V				
	SVTO	15	1310E	1312U	1340	N22	E07	5317	01	16.1	30D	SF		2	E		32		F
0334		15	13162	13166	1329	S32	W08	5316	01	14.9	13	SF					11		
	RAMY	15	1316	1316	1329	S32	W08	5316	01	14.9	13	SF		3	E		11		
	KANZ	15	1318	1322	1329	S33	W08	5316	01	14.9	11	SF			V				
0335	HOLL	15	1505	1533U	1604	S32	W10	5316	01	14.8	59	SF		3	E		59		F
0336		15	1515*	1534*	1633	S31	W34	5312	01	12.9	78	1N	M 4.5				108		F
	HOLL	15	1515	1550	1703	S31	W37	5312	01	12.7	108	1B		3	E		184		F
	RAMY	15	1532	1534	1544	S32	W29	5312	01	13.3	12	SF		3	E		13		F
	RAMY	15	1546	1550	1651	S31	W36	5312	01	12.8	65	1B	M 4.5	3	E		126		F
0337	RAMY	15	1638	1642	1707	N22	E07	5317	01	16.2	29	SF		3	E		27		F
0338	HOLL	15	1841	1842	1849	S33	W29	5312	01	13.5	8	SF		3	E		13		F
0339		15	1931*	1935*	2028	S32	W31	5312	01	13.3	57	SF					47		EF
	RAMY	15	1930E	2011U	2113D	S31	W30	5312	01	13.4	103D	SF		3	E		33		F
	HOLL	15	1931	1935	1944	S32	W31	5312	01	13.3	13	SF		3	E		16		F
	PALE	15	1932	1951	2002	S32	W31	5312	01	13.3	30	SF		3	E		33		
	HOLL	15	2005	2039	2101	S32	W31	5312	01	13.4	56	SN		3	E		84		F
	PALE	15	2005	2039	2105	S31	W34	5312	01	13.1	60	SN		3	E		70		FE
0340		15	2159*	22184	2236	N19	E29	5321	01	18.1	37	SF					79		F
	PALE	15	2159	2218	2233	N20	E30	5321	01	18.2	34	SF		3	E		85		F
	HOLL	15	2218	2222	2239	N18	E28	5321	01	18.1	21	SF		3	E		73		
0341	PALE	15	2233	2235	2252	N30	E10	5318	01	16.7	19	SF		3	E		19		
0342	LEAR	15	2313	2426	2449	N21	E02	5317	01	16.1	96	SF		3	E		45		F
0343	LEAR	15	2315	2321	2341	S30	W36	5312	01	13.1	26	SF	C 5.9	3	E		42		
0344	HOLL	15	2334	2335	2335D	S21	E17	5320	01	17.3	1D	SF		3	E		22		
0345		16	01322	01351	0145	S32	W11	5316	01	15.2	13	SF					62	1.6	EIJT
	VORO	16	0132	0135	0146D	S33	W15	5316	01	14.9	14D	SF		2	C	0135	134	1.6	EIJT
	LEAR	16	0134	0136	0145	S32	W09	5316	01	15.3	11	SF		3	E		27		
	PALE	16	0134	0136	0145	S32	W10	5316	01	15.3	11	SF		3	E		26		
0346		16	01441	0148	0156	S16	W60	5311	01	11.5	12	SF					26		F
	LEAR	16	0144	0148	0202	S17	W61	5311	01	11.4	18	SF		3	E		31		F
	PALE	16	0145	0148	0151	S14	W59	5311	01	11.6	6	SF		3	E		20		
0347		16	02074	02104	0220	S16	W60	5311	01	11.5	13	SF					64	2.0	EJT
	LEAR	16	0207	0210	0219	S16	W60	5311	01	11.5	12	SF		3	E		28		
	VORO	16	0211	0214	0222	S17	W61	5311	01	11.4	11	SF		2	C	0214	99	2.0	EJT

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0348		16	0215*	0220*	0234	N21	W10	5317	01	15.3	19	SF						46	0.9	DIJT
	LEAR	16	0215	0220	0227	N22	W11	5317	01	15.2	12	SF			3	E		11		
	PALE	16	0217	0220	0228	N23	W11	5317	01	15.2	11	SF			3	E		14		
	VORO	16	0223	0231	0240	N21	W11	5317	01	15.2	17	SN			2	C	0232	125	1.4	DIJT
	VORO	16	0229	0231	0242	N19	W08	5317	01	15.5	13	SF			2	C	0231	36	0.4	DIJT
0349	VORO	16	0220	0227	0242	N28	E07	5318	01	16.6	22	SF			2	C	0227	45	0.6	DIJT
0350		16	0230*	0238*	0249	S16	W60	5311	01	11.5	19	SF						32	0.7	DJT
	LEAR	16	0230	0238	0249	S16	W63	5311	01	11.3	19	SF			3	E		29		
	VORO	16	0243	0252	0253D	S17	W58	5311	01	11.7	10D	SF			2	C	0252	36	0.7	DJT
0351		16	02349	0234*	0242	S31	W43	5312	01	12.7	8	SF						45	1.1	EFIJT
	LEAR	16	0234	0234	0241	S31	W43	5312	01	12.7	7	SF			3	E		30		F
	PALE	16	0235E	0237	0243	S30	W45	5312	01	12.6	8D	SF			2	E		34		
	VORO	16	0243	0246	0253D	S32	W42	5312	01	12.8	10D	SF			2	C	0246	72	1.1	EIJT
0352		16	03077	0309*	0355	S31	W40	5312	01	13.0	48	1N	M	1.7				238	3.7	EFK
	LEAR	16	0307	0325	0328D	S31	W40	5312	01	13.0	21D	2B			3	E		319		
	LEAR	16	0307	0350	0405	S31	W40	5312	01	13.0	58	2B	M	1.7	3	E		280		FK
	MITK	16	0308	0309	0317	S31	W40	5312	01	13.0	9	SN				C	0309			
	MITK	16	0314	0327	0422	S30	W38	5312	01	13.1	68	1B				C	0327	250	3.7	E
	PALE	16	0324E	0327U	0331D	S31	W43	5312	01	12.7	7D	1F			2	E		102		F
0353		16	03151	03271	0354	N18	E22	5321	01	17.8	39	SN						66		EFH
	MITK	16	0315	0327	0354	N19	E23	5321	01	17.9	39	SB				C	0327			E
	LEAR	16	0316	0328	0353	N19	E23	5321	01	17.9	37	SF			3	E		99		H
	PALE	16	0324E	0330U	0331D	N17	E20	5321	01	17.7	7D	SF			2	E		32		F
0354	YUNN	16	0514	0519	0541	S31	W17	5316	01	14.9	27	SN				C		31	0.4	
0355		16	05119	0519*	0540	S30	W38	5312	01	13.2	29	SN						50	0.9	EF
	YUNN	16	0511	0519	0552	S32	W35	5312	01	13.4	41	SN				C		63	0.9	
	MITK	16	0520	0521	0531	S31	W44	5312	01	12.7	11	SB				C	0521			E
	LEAR	16	0520	0529	0536	S28	W36	5312	01	13.4	16	SF			4	E		36		F
0356	YUNN	16	0614	0616	0621	N23	W14	5317	01	15.2	7	SN				C		47	0.6	
0357		16	06169	0626*	0659	S31	W37	5312	01	13.3	43	1B	M	1.4				119	2.0	EFK
	LEAR	16	0616	0630	0659	S31	W37	5312	01	13.3	43	1N	M	1.4	4	E		140		F
	LEAR	16	0616	0638	0659	S31	W37	5312	01	13.3	43	1N				E		60		K
	YUNN	16	0625	0627	0647D	S31	W38	5312	01	13.3	22D	1B				P		189	2.7	
	PURP	16	0626E	0626	0641D	S31	W37	5312	01	13.3	15D	SB				C	0627	86	1.2	E
0358	YUNN	16	0639	0641	0647D	S20	W65	5311	01	11.3	8D	SN				P		31	0.8	
		16	0649		0659	No Flare Patrol														
0359	YUNN	16	0721	0736	0809	S25	W32	5312	01	13.8	48	SN				P		110	1.4	
0360		16	07231	0729	0742	S16	W66	5311	01	11.3	19	1N						88		
	LEAR	16	0723	0729	0749	S16	W64	5311	01	11.4	26	SF			4	E		51		
	YUNN	16	0724	0729	0736	S16	W68	5311	01	11.1	12	1N				C		126		
0361		16	0729	0736*	0808	N20	E22	5321	01	18.0	39	1F						208	4.3	
	YUNN	16	0729	0736	0754	N21	E22	5321	01	18.0	25	1F				C		346	4.3	
	LEAR	16	0729	0800	0821	N19	E23	5321	01	18.1	52	SF			4	E		70		
0362		16	0825	0833*	0945	S30	W37	5312	01	13.4	80	SN	M	2.1				87	1.5	FK
	LEAR	16	0825	0833	1006	S30	W37	5312	01	13.4	101	1F	M	2.1	4	E		124		F
	LEAR	16	0825	0932	1006	S30	W37	5312	01	13.4	101	1B				E		39		K
	SVTO	16	0830E	0830U	0918D	S30	W35	5312	01	13.6	48D	SF			2	E		68		F
	YUNN	16	0833E	0843U	0902	S28	W39	5312	01	13.3	29D	SB				P	0843	126	1.8	
	YUNN	16	0904E	0906	0924D	S31	W39	5312	01	13.3	20D	SN				P		79	1.2	
0363	YUNN	16	0852	0900	0914	N29	E87	5324	01	23.2	22					P				AG
0364	ABST	16	1008E	1018U	1032D	S31	W41	5312	01	13.2	24D	1N				P	1018	175	3.1	E
		16	1036		1044	No Flare Patrol														

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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
0365	RAMY	16	1138E	1140U	1219D	S20	W05	5322	01	16.1	41D	SF			2	E		45		
0366		16	1100	1108	1245	S31	W40	5312	01	13.3	105	1N						271	8.1	FT
	CATA	16	1100	1108	1202	S30	W42	5312	01	13.1	62	2B			2	C	1108	534	8.1	T
	SVTO	16	1151E	1158U	1337D	S32	W39	5312	01	13.4	106D	1F			2	E		174		F
	RAMY	16	1156E	1214U	1328	S31	W39	5312	01	13.4	92D	1F			2	E		105		F
0367		16	15042	15072	1657	S32	W42	5312	01	13.3	113	SF	M	1.8				33		F
	RAMY	16	1504	1507	1651	S32	W42	5312	01	13.3	107	SF	M	1.8	3	E		25		F
	HOLL	16	1506	1509	1703	S32	W42	5312	01	13.3	117	SF			3	E		41		F
0368		16	1617*	1630*	1700	S20	E06	5320	01	17.1	43	SF						48		F
	HOLL	16	1617	1630	1703	S20	E08	5320	01	17.3	46	SF			3	E		66		F
	RAMY	16	1647	1647	1656	S21	E05	5320	01	17.1	9	SF			3	E		29		
0369		16	16412	16481	1729	S16	W68	5311	01	11.5	48	SF						94		F
	RAMY	16	1641	1648	1729	S16	W68	5311	01	11.5	48	SF			3	E		91		F
	HOLL	16	1643	1649	1729	S16	W67	5311	01	11.6	46	SF			3	E		98		F
0370		16	1703	17141	1756	N19	E18	5321	01	18.1	53	1F						94		F
	RAMY	16	1703	1714	1757	N19	E18	5321	01	18.1	54	SF			3	E		88		F
	HOLL	16	1703	1715	1755	N19	E17	5321	01	18.0	52	1F			4	E		101		F
0371		16	1756	17561	1810	S36	W36	5312	01	13.8	14	SN	C	6.6				42		EF
	RAMY	16	1756	1756	1812	S36	W36	5312	01	13.8	16	SN	C	6.6	3	E		39		F
	HOLL	16	1756	1757	1808	S36	W36	5312	01	13.8	12	SN	C	6.6	4	E		44		FE
		16	1910		2030	No Flare Patrol														
0372	HOLL	16	1949	1950	1956	S36	W37	5312	01	13.8	7	SF			4	E		20		FH
0373	HOLL	16	1959	2005	2034	S30	W49	5312	01	13.0	35	SF			4	E		25		FH
0374	HOLL	16	2026	2038	2107	N21	W09	5317	01	16.2	41	SF			4	E		39		F
		16	2047		2054	No Flare Patrol														
		16	2111		2310	No Flare Patrol														
		16	2334		2342	No Flare Patrol														
0375	VORO	17	0011E	0014	0059	S32	W44	5312	01	13.5	48D	SN			2	C	0014	108	1.6	DIJTZ
0376	VORO	17	0041	0044	0053	S30	W56	5312	01	12.6	12	1F			2	C	0044	116	2.2	EIJT
0377	YUNN	17	0142	0146	0204	S30	W54	5312	01	12.8	22	SN				C		31	0.6	
0378	VORO	17	0219	0221	0229D	N21	W12	5317	01	16.2	10D	SN			2	C	0221	72	0.8	EIJT
0379	YUNN	17	0355	0358	0417	S19	E02	5320	01	17.3	22	SN				C		79	0.8	
0380		17	0501*	0502*	0515	N18	E08	5321	01	17.8	14	SN						47	0.5	
	YUNN	17	0501	0502	0506	N18	E08	5321	01	17.8	5	SN				C		47	0.5	
	YUNN	17	0512	0514	0524	N18	E08	5321	01	17.8	12	SN				C		47	0.5	
0381	YUNN	17	0508	0514	0540	N21	W15	5317	01	16.1	32	SN				C		79	0.9	
0382		17	0533*	0538*	0630	N19	E10	5321	01	18.0	57	1B						390	4.5	EFLOUY
	YUNN	17	0533	0540	0603	N21	E10	5321	01	18.0	30	2B				C		865	10.0	FO
	MITK	17	0534	0538	0546D	N19	E09	5321	01	17.9	12D	1B				P	0538	270	3.1	E
	TACH	17	0535	0545	0653	N17	E07	5321	01	17.8	78	1B			3	C	0545	301	3.4	FULY
	YUNN	17	0559	0616	0635	N19	E12	5321	01	18.2	36	SN				P		126	1.6	F
0383	YUNN	17	0632	0640	0650	S20	E00	5320	01	17.3	18	SN				C		189	2.0	
0384	ISTA	17	0819E	0825	0921	S32	W48	5312	01	13.5	62D	1F								EF

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0385		17	08324	08342	0854	S19	W01	5320	01	17.3	22	1N						138	1.8	EF
	YUNN	17	0831E	0831U	0900	S19	W01	5320	01	17.3	29D	SN				P	0831	189	2.0	E
	KANZ	17	0832	0836	0853	S19	W02	5320	01	17.2	21	SN				V				E
	LEAR	17	0833	0834	0852	S19	W02	5320	01	17.2	19	SF			3	E		85		F
	ISTA	17	0833	0835	0856	S20	W01	5320	01	17.3	23	2B								
	CATA	17	0836	0836	0851	S20	W01	5320	01	17.3	15	SB			1	C	0836	141	1.5	
0386		17	08365	08368	0846	N24	W17	5317	01	16.0	10	SN						53	0.8	EF
	CATA	17	0836	0836	0847	N24	W15	5317	01	16.2	11	SB			1	C	0836	56	0.7	
	ISTA	17	0837	0837	0847	N25	W15	5317	01	16.2	10	1N								F
	LEAR	17	0837	0838	0843	N20	W17	5317	01	16.0	6	SF			3	E		26		
	KANZ	17	0839	0839	0841	N23	W18	5317	01	16.0	2	SN				V				
	YUNN	17	0840	0844	0848	N25	W18	5317	01	16.0	8	SF				C		63	0.8	E
	CATA	17	0841	0841	0847	N24	W19	5317	01	15.9	6	SB			1	C	0841	68	0.8	
0387	LEAR	17	0910	0913	0922	S29	W58	5312	01	12.8	12	SF			3	E		22		
0388		17	09191	09191	0930	S18	W02	5320	01	17.2	11	SF						17		E
	LEAR	17	0919	0919	0929	S18	W03	5320	01	17.1	10	SF			3	E		17		
	KANZ	17	0920	0920	0931	S19	W02	5320	01	17.2	11	SF				V				E
0389	KAND	17	1054	1055	1100	S30	W59	5312	01	12.8	6	SF				P	1055	42	0.9	DT
0390	ISTA	17	1122E	1123	1146	N24	W14	5317	01	16.4	24D	1N								F
0391		17	11332	11353	1206	S20	W01	5320	01	17.4	33	1B						210	2.2	EF
	KAND	17	1133	1135	1210	S20	W02	5320	01	17.3	37	SB				P	1135	166	1.7	E
	ISTA	17	1133	1136	1159	S22	E02	5320	01	17.6	26	2B								F
	KANZ	17	1134	1138	1204	S19	W02	5320	01	17.3	30	SN				V				E
	CATA	17	1135	1135	1211	S20	W02	5320	01	17.3	36	1B			1	C	1135	253	2.7	
0392		17	11572	11582	1207	S36	W46	5312	01	13.8	10	SN						84	1.4	F
	CATA	17	1157	1200	1207	S36	W46	5312	01	13.8	10	SB			1	C	1200	84	1.4	
	KANZ	17	1158	1158	1204	S36	W46	5312	01	13.8	6	SF				V				
	ISTA	17	1159		1209	S36	W45	5312	01	13.9	10	1N								F
0393	RAMY	17	1219E	1219U	1238D	N16	E05	5321	01	17.9	19D	SF			3	E		30		
0394		17	12192	12234	1244	N29	W12	5318	01	16.6	25	SF						13		
	KANZ	17	1219	1223	1242	N28	W11	5318	01	16.6	23	SF				V				
	RAMY	17	1221	1227	1246	N30	W12	5318	01	16.6	25	SF			3	E		13		
0395		17	12341	12353	1242	N22	W20	5317	01	16.0	8	SN						112	1.4	
	KANZ	17	1234	1238	1242	N22	W20	5317	01	16.0	8	SF				V				
	CATA	17	1235	1235	1240D	N21	W21	5317	01	15.9	5D	SB			1	P	1235	112	1.4	
0396		17	14103	14132	1419	S30	W61	5312	01	12.8	9	SN	C	4.6				26	0.8	E
	HTPR	17	1410	1415	1420	S30	W61	5312	01	12.8	10	SN				C	1415	40	0.8	E
	RAMY	17	1413	1413	1418	S29	W61	5312	01	12.8	5	SF	C	4.6	3	E		13		
0397		17	14165	1422	1445	N20	W21	5317	01	16.0	29	SN						34	0.5	E
	HTPR	17	1416		1439D	N20	W23	5317	01	15.8	23D	SN				C	1422	50	0.5	E
	RAMY	17	1421	1422	1445	N20	W19	5317	01	16.1	24	SF			3	E		18		
0398	HOLL	17	1645	1650	1659	N27	W13	5318	01	16.7	14	SF			3	E		24		
0399	HOLL	17	1652	1656	1700	N21	W21	5317	01	16.1	8	SF			3	E		16		F
0400	HOLL	17	1743	1754	1807	N28	W13	5318	01	16.7	24	SF			3	E		14		
0401	HOLL	17	1809	1827	1908	S20	W07	5320	01	17.2	59	SF			3	E		65		F
0402	HOLL	17	1853	1853	1904	N21	W22	5317	01	16.1	11	SF			3	E		10		F
0403	HOLL	17	1931	1935	1959	N21	W22	5317	01	16.1	28	SF			3	E		37		F
0404	HOLL	17	1946	1947	1959	S21	W10	5320	01	17.0	13	SF			3	E		19		
0405	HOLL	17	2016	2017	2023	S29	W65	5312	01	12.7	7	SF			3	E		26		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP	Mo	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
0406	RAMY	17	2038	2040	2107	N21	W23	5317		01	16.1	29	SF			3	E		17		F
0407		17	2108*	2122	2128	N20	W23	5317		01	16.1	20	SF						20		F
	RAMY	17	2108	2110U	2148D	N20	W23	5317		01	16.1	40D	SF			2	E		22		F
	HOLL	17	2120	2122	2128	N20	W23	5317		01	16.1	8	SF			3	E		18		
0408	HOLL	17	2157	2159	2204	S21	W11	5320		01	17.1	7	SF			3	E		22		
0409	HOLL	17	2200	2201	2203	S32	W57	5312		01	13.4	3	SF	C	4.2	3	E		20		
0410	VORO	18	0015	0021	0028	N25	W43	5327		01	14.7	13	SN			2	C	0021	36	0.6	DIJT
0411		18	00162	0022	0034	S32	W62	5312		01	13.1	18	SN						50	1.5	DEIJT
	VORO	18	0016	0022	0039	S35	W60	5312		01	13.2	23	SN			2	C	0022	72	1.5	EIJT
	VORO	18	0018	0022	0028	S30	W64	5312		01	13.0	10	SN			2	C	0022	27		DIJT
0412	VORO	18	0036	0041	0120	N26	W32	5317		01	15.5	44	SF			2	C	0041	143	2.0	EIJT
0413	VORO	18	0106	0108	0115	N28	W17	5317		01	16.7	9	SF			2	C	0108	54	0.7	DIJT
0414	VORO	18	0155	0200	0247	N27	W18	5317		01	16.7	52	SF			2	C	0200	116	1.4	EIJT
0415	VORO	18	0208	0217	0229	N23	W33	5317		01	15.5	21	SF			2	C	0217	54	0.6	DIJT
0416		18	0508	0509	0528	S30	W68	5312		01	12.9	20	SN	C	9.6				38		
	LEAR	18	0508	0509	0512D	S30	W67	5312		01	12.9	4D	SF	C	9.6	1	E		30		
	YUNN	18	0511E	0511U	0528	S30	W68	5312		01	12.9	17D	SN				P	0511	47		
0417		18	06064	0637*	0817	S31	W67	5312		01	13.0	131	1N	X	1.4				186		EFIKT
	YUNN	18	0606	0637	0637D	S31	W70	5312		01	12.7	31D	SB				C		79		
	YUNN	18	0606	0733	0902D	S32	W68	5312		01	12.9	176D	1B				P		189		FK
	MITK	18	0610		0646D	S32	W68	5312		01	12.9	36D	1B				C	0641	220		E
	LEAR	18	0702E	0707U	0713D	S30	W65	5312		01	13.2	11D	1F	X	1.4	1	E		102		F
	KAND	18	0732E		0817	S33	W67	5312		01	13.0	45D	1B				P	0732	291		EIT
	CATA	18	0732E	0732	0732D	S31	W67	5312		01	13.0	45D	2B			2	P	0732	365		
	LEAR	18	0805E	0819U	0823D	S31	W62	5312		01	13.4	18D	SF			1	E		56		F
		18	0649		0701	No Flare Patrol															
		18	0714		0729	No Flare Patrol															
0418	LEAR	18	0807E	0819U	0822	N28	W34	5317		01	15.7	15D	SF			1	E		36		
0419		18	08496	0900	0937	S29	W67	5312		01	13.1	48	SN	M	9.0				135		EFIT
	KANZ	18	0849	0852U	0935	S27	W68	5312		01	13.1	46	SN				C				
	LEAR	18	0851E	0912U	0952	S30	W68	5312		01	13.0	61D	1N	M	9.0	2	E		187		F
	KAND	18	0855	0900	0925	S30	W64	5312		01	13.3	30	SB				P	0900	83		EIT
0420	KANZ	18	1031	1035	1039	N28	W24	5317		01	16.6	8	SF				V				
0421	KANZ	18	1140	1140	1146	S17	W32			01	16.0	6	SF				V				
0422		18	12383	12411	1322	N16	W10	5321		01	17.8	44	SN						56	0.6	
	KANZ	18	1238	1242	1322	N16	W10	5321		01	17.8	44	SF				V				
	CATA	18	1241	1241	1241D	N16	W11	5321		01	17.7	44D	SB			2	P	1241	56	0.6	
		18	1405		1449	No Flare Patrol															
0423	HOLL	18	1615E	1621	1640	S23	W21	5320		01	17.0	25D	SF			3	E		49		
0424	HOLL	18	1717	1727	1746	S32	W66	5312		01	13.5	29	SF			3	E		22		F
0425	HOLL	18	1757	1838	1908	S31	W72	5312		01	13.1	71	SF			3	E		54		F
0426	HOLL	18	1804	1815	2030	N26	W23	5317		01	17.0	146	3B	M	9.6	3	E		714		UY
0427	HOLL	18	1813	1815	1833	N18	W15	5321		01	17.6	20	SF			3	E		16		
0428	HOLL	18	1844E	1849	1852	N35	W10			01	18.0	8D	SF			3	E		20		F

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0429	LEAR	19	0108	0108	0215	S28	E78		01	25.1	67	SF			4	E		14		
0430		19	01232	01254	0222	S31	W52	5316	01	14.9	59	1F						110	3.2	EFIJT
	VORO	19	0123	0125	0137D	S31	W54	5316	01	14.8	14D	1F			2	C	0125	179	3.2	EIJT
	LEAR	19	0125	0129	0222	S31	W51	5316	01	15.0	57	SF			4	E		40		F
0431	YUNN	19	0236	0258	0345	N20	W42	5317	01	15.9	69	1N				C		157	2.4	E
0432	YUNN	19	0410	0412	0418	N23	W19	5321	01	17.7	8	SF				C		31	0.4	
0433	YUNN	19	0912E	0912U	0916	S36	W73	5312	01	13.5	4D	SN				P	0912	31		
0434		19	09367	0940	1015	N20	W42	5317	01	16.2	39	SF	C	6.2				51		FU
	KANZ	19	0936	0940	1015	N20	W44	5317	01	16.0	39	SF				V				
	SVTO	19	0943	0957U	1014D	N19	W41	5317	01	16.3	31D	SF	C	6.2	2	E		51		UF
		19	1414		1420	No Flare Patrol														
		19	1422		1428	No Flare Patrol														
0435	HOLL	19	1552	1553	1600	N21	E12	5323	01	20.6	8	SF			3	E		22		
0436	HOLL	19	1713	1717	1725	N23	W27	5321	01	17.6	12	SF			3	E		15		
0437	HOLL	19	1935	1936	1945	N31	W68	5327	01	14.4	10	SF			3	E		31		
0438		19	1955	1957	2049	N20	W48	5317	01	16.1	54	SF						56		F
	RAMY	19	1953E	1956U	1956D	N21	W48	5317	01	16.1	3D	SF			2	E		66		F
	HOLL	19	1955	1957	2049	N19	W48	5317	01	16.2	54	SF			4	E		47		F
0439	HOLL	19	2242	2253	2301	N20	E05	5328	01	20.3	19	SF			4	E		22		F
0440		20	01181	01243	0210	S20	W50	5320	01	16.2	52	1N						128	2.0	EGJT
	YUNN	20	0118	0124	0207	S19	W50	5320	01	16.2	49	SB				P		31	0.5	G
	VORO	20	0119	0127	0214	S21	W51	5320	01	16.1	55	1F			1	C	0127	224	3.6	EJT
0441	VORO	20	0229	0231	0239	S20	W37	5320	01	17.3	10	1F			1	C	0231	179	2.3	EJT
0442	LEAR	20	0503	0505	0516	S35	W87	5312	01	13.2	13	SF			4	E		32		
		20	0730		0744	No Flare Patrol														
0443	KHAR	20	0754E		0805U	N26	W47	5317	01	16.7	11U	SF			2	P	0754			DL
0444	KHAR	20	0754E		0812	N17	E90	5329	01	27.2	18D	SF			2	P	0807			DH
0445		20	0920	0920	0934	N20	W54	5317	01	16.2	14	SN						40	0.7	E
	HTPR	20	0913E		0935	N20	W53	5317	01	16.3	22D	SN				C	0921	40	0.7	E
	KANZ	20	0920	0920	0933	N19	W54	5317	01	16.3	13	SF				V				
0446	KHAR	20	0958		1020	N14	E90	5329	01	27.2	22	SF			2	V	0958			DH
0447	KANZ	20	1140	1144	1148	N30	W46		01	16.9	8	SF				V				
0448		20	1432	14322	1447	N19	W57	5317	01	16.2	15	SF	C	5.5				54		F
	RAMY	20	1422E	1432	1446	N19	W58	5317	01	16.2	24D	SF	C	5.5	2	E		61		F
	HOLL	20	1432	1434	1448	N20	W60	5317	01	16.0	16	SF			2	E		48		F
	KANZ	20	1440E		1447D	N19	W54	5317	01	16.5	7D	SF				C				
0449		20	15064	1512*	1648	N20	W58	5317	01	16.2	102	SN						100		EFK
	HOLL	20	1506	1513	1710	N20	W57	5317	01	16.3	124	SN			3	E		88		FE
	HOLL	20	1506	1528	1710	N20	W57	5317	01	16.3	124	SN				E		181		K
	RAMY	20	1510	1512	1627	N19	W60	5317	01	16.0	77	SN			3	E		45		FE
	RAMY	20	1510	1525	1627	N19	W60	5317	01	16.0	77	SN				E		86		K
0450		20	1528*	1529*	1637	N19	W36	5321	01	17.9	69	1F						113		F
	RAMY	20	1528	1529	1540	N19	W37	5321	01	17.8	12	SF			3	E		18		
	HOLL	20	1528	1550	1701	N18	W34	5321	01	18.0	93	1F			3	E		178		F
	RAMY	20	1541	1550	1711	N19	W37	5321	01	17.8	90	1F			3	E		142		F

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0451	RAMY	20	1839	1842	1851	N21	W60	5317	01	16.2	12	SF			3	E		16		
0452	HOLL	20	1930	1948	2034	N16	E77	5329	01	26.6	64	SF			3	E		39		F
0453	HOLL	20	1945	1950	1955	N20	W59	5317	01	16.3	10	SF			3	E		25		
0454	HOLL	20	2049	2049	2059	N20	W64	5317	01	16.0	10	SF			3	E		14		
0455	HOLL	20	2339	2344	2403	S17	E72		01	26.4	24	SF			3	E		57		F
0456	HOLL	20	2340	2346	2406	N20	E75	5329	01	26.7	26	SF			3	E		29		F
		21	0015		0019	No Flare Patrol														
0457	LEAR	21	0026	0057	0144	N18	E71	5329	01	26.4	78	1F			3	E		102		
0458	LEAR	21	0030	0045	0104	N20	W62	5317	01	16.3	34	SF			3	E		44		
0459	LEAR	21	0342	0342	0359	N19	E71	5329	01	26.6	17	SF			3	E		25		
0460	LEAR	21	0439	0451	0523	N17	E63	5329	01	26.0	44	SF			4	E		41		
0461		21	0530	0540	0557	N29	W57		01	16.8	27	SF						70		EI
	LEAR	21	0530	0540	0549	N29	W56		01	16.8	19	SF			4	E		54		
	MITK	21	0530	0540	0605	N29	W56		01	16.8	35	SN				C	0540			E
	ABST	21	0557E	0557U	0610D	N29	W60		01	16.5	13D	SF				P	0557	87		EI
0462		21	05378	05572	0608	N18	E73	5329	01	26.8	31	1N	C	9.7				116		EK
	LEAR	21	0537	0559	0611	N17	E66	5329	01	26.2	34	SF	C	9.7	4	E		89		
	MITK	21	0545	0557	0605	N20	E75	5329	01	27.0	20	1N				C	0557	110		E
	ABST	21	0557E	0557U	0609	N18	E78	5329	01	27.2	12D	1N				P	0557	148		EK
0463	ABST	21	0751	0752	0758	N20	W73	5317	01	15.7	7	1N				C	0752	131		EV
0464	ISTA	21	0951E		1003	N17	E70	5329	01	26.7	12D	1N								E
		21	1011		1032	No Flare Patrol														
0465	RAMY	21	1222	1334	1505	N17	E64	5329	01	26.4	163	SF			3	E		75		FH
0466	HOLL	21	1553	1555	1602	N14	E69	5329	01	26.9	9	SF			3	E		16		
0467		21	16101	1615	1640	N18	W75	5317	01	16.0	30	SF						48		FH
	RAMY	21	1610	1615	1641	N18	W75	5317	01	16.0	31	SF			3	E		39		FH
	HOLL	21	1611	1615	1638	N18	W75	5317	01	16.0	27	SF			3	E		56		FH
0468		21	16162	1618*	1654	N27	W65	5317	01	16.6	38	SF						52		F
	RAMY	21	1616	1618	1642	N26	W64	5317	01	16.7	26	SF			3	E		20		
	HOLL	21	1618	1628	1707	N28	W66	5317	01	16.5	49	SF			3	E		85		F
0469		21	1619*	1640	1656	N18	E64	5329	01	26.5	37	SF						26		F
	HOLL	21	1619	1640	1657	N18	E65	5329	01	26.6	38	SF			3	E		29		F
	RAMY	21	1633	1640	1654	N17	E64	5329	01	26.5	21	SF			3	E		23		
0470		21	1801	1812	1820	N18	E66	5329	01	26.8	19	SF						22		
	HOLL	21	1801	1812	1821	N19	E68	5329	01	26.9	20	SF			3	E		18		
	RAMY	21	1812E	1813U	1818	N18	E65	5329	01	26.7	6D	SF			2	E		27		
0471		21	1923	19231	1936	N26	W78	5317	01	15.7	13	SF						18		F
	HOLL	21	1923	1923	1935	N26	W79	5317	01	15.7	12	SF			3	E		13		F
	PALE	21	1923	1924	1936	N25	W76	5317	01	15.9	13	SF			3	E		23		
0472		21	1958	1958	2010	N20	W74	5317	01	16.2	12	SF						34		
	HOLL	21	1958	1958	2006	N20	W73	5317	01	16.2	8	SF			3	E		39		
	RAMY	21	1958	1958	2013	N19	W75	5317	01	16.1	15	SF			2	E		28		
0473		21	2105	2119	2201D	N24	W68	5317	01	16.6	56D	SF						64		F
	PALE	21	2105	2119	2201D	N21	W70	5317	01	16.5	56D	SF			3	E		49		F
	RAMY	21	2123E	2123U	2127D	N27	W67	5317	01	16.7	4D	SF			2	E		78		

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0474	VORO	22	0052	0053	0058	N13	E62	5329	01	26.7	6	SF		2	C	0053	72	1.5	D
0475		22	02044	02141	0255	N15	E62	5329	01	26.8	51	1F					83	2.5	DEF
	MITK	22	0204	0214	0333	N17	E62	5329	01	26.8	89	1N			C	0214	90		E
	LEAR	22	0207	0215	0240	N16	E61	5329	01	26.7	33	SF		3	E		43		F
	VORO	22	0208	0214	0232	N13	E62	5329	01	26.8	24	1F		2	C	0214	116	2.5	D
0476	ABST	22	0710	0712	0715	N16	E61	5329	01	26.9	5	SN			C	0712	87	1.9	D
0477	ABST	22	0728	0733	0750	N18	E60	5329	01	26.9	22	SN			C	0733	61	1.3	D
0478		22	0829	08366	0856	N16	E57	5329	01	26.7	27	1B					141	2.9	F
	ISTA	22	0829	0836	0851	N15	E57	5329	01	26.7	22	1N							F
	CATA	22	0830E	0842	0902	N16	E57	5329	01	26.7	32D	1B		1	P	0842	141	2.9	
0479		22	09471	0952	1029	N17	E54	5329	01	26.5	42	1B					125	2.2	EFZ
	ISTA	22	0947		1029	N16	E56	5329	01	26.6	42	2B							F
	KANZ	22	0948	0952	1029D	N16	E55	5329	01	26.6	41D	SN			C				E
	KAND	22	1005E		1015D	N19	E51	5329	01	26.3	10D	1B			P	1005	125	2.2	EZ
0480	KAND	22	1005E		1015D	S17	W65	5332	01	17.5	10D	SN			P	1005	42		D
		22	1036		1043	No Flare Patrol													
0481	RAMY	22	1215E	1218U	1221	S15	W68	5332	01	17.4	6D	SF		2	E		30		
0482		22	1229	12333	1308	N19	E29	5324	01	24.7	39	SN					112	2.2	FU
	RAMY	22	1227E	1230U	1310	N22	E29	5324	01	24.7	43D	SF		2	E		54		UF
	KANZ	22	1229	1233	1307	N17	E28	5324	01	24.6	38	SF			V				
	CATA	22	1234E	1236	1240D	N18	E30	5324	01	24.8	6D	1B		2	P	1236	169	2.2	
0483	KANZ	22	1300	1307	1319	N16	W49	5331	01	18.8	19	SF			V				
0484	RAMY	22	1323E	1326	1342	N16	E53	5329	01	26.6	19D	SF		3	E		65		F
0485	RAMY	22	1343	1348	1355	N20	W88	5317	01	15.8	12	SN		3	E		78		
0486	RAMY	22	1344	1359	1428	N17	E51	5329	01	26.4	44	SF		3	E		34		F
0487	RAMY	22	1346	1356	1404	S16	W69	5332	01	17.3	18	SF		3	E		19		
0488	RAMY	22	1533	1541	1554	N16	E51	5329	01	26.5	21	SF		3	E		20		F
0489	RAMY	22	1556	1613	1641	N16	E51	5329	01	26.5	45	SF		3	E		36		
0490		22	1725	1734	1754	N14	E53	5329	01	26.7	29	SF					32		
	HOLL	22	1725	1734	1753	N13	E53	5329	01	26.7	28	SF		3	E		37		
	RAMY	22	1725	1734	1754	N14	E53	5329	01	26.7	29	SF		3	E		28		
0491	RAMY	22	1812	1813	1817	N22	W83	5317	01	16.4	5	SF		3	E		15		
0492	HOLL	22	1834	1835	1841	N16	W68	5321	01	17.6	7	SF		3	E		13		
0493		22	18532	1903	1915	S19	E82	5330	01	29.0	22	SF	C 9.6				42		F
	PALE	22	1853	1903	1915	S19	E81	5330	01	29.0	22	SF	C 9.6	2	E		46		F
	HOLL	22	1855	1859U	1908D	S19	E82	5330	01	29.0	13D	SF	C 9.6	3	E		39		
		22	1921		1927	No Flare Patrol													
		22	2010		2022	No Flare Patrol													
0494		22	2055	2057	2104	N16	E45	5329	01	26.3	9	SN	C 5.9				72		EF
	PALE	22	2055	2057	2102	N16	E46	5329	01	26.4	7	SB	C 5.9	2	E		80		F
	RAMY	22	2055E	2058U	2127D	N15	E45	5329	01	26.3	32D	1N	C 5.9	2	E		100		
	HOLL	22	2055	2059U	2105	N16	E45	5329	01	26.3	10	SN	C 5.9	2	E		35		FE
0495	PALE	22	2211	2214	2229	N16	E46	5329	01	26.4	18	SN	C 9.2	3	E		60		EF
		22	2221		2225	No Flare Patrol													

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0496	PALE	22	2300	2303	2306	S19	E67	5330	01	28.1	6	SF			3	E		13		
0497		22	23507	24021	2414	N17	E45	5329	01	26.4	24	SN	C	5.1				66		EF
	HOLL	22	2343E	2403	2416D	N16	E45	5329	01	26.4	33D	SN			2	E		72		F
	PALE	22	2350	2402	2414	N17	E45	5329	01	26.4	24	SN	C	5.1	3	E		62		FE
	LEAR	22	2357	2403	2413	N17	E44	5329	01	26.3	16	SF	C	5.1	3	E		63		
0498		23	00541	0103*	0226	N15	E48	5329	01	26.7	92	2N	M	1.6				265	6.8	EF
	PALE	23	0054	0103	0219	N15	E48	5329	01	26.7	85	1N	M	1.6	3	E		120		FE
	LEAR	23	0055	0203	0228	N15	E47	5329	01	26.6	93	1F	M	1.2	3	E		122		F
	YUNN	23	0153E	0220U	0238D	N16	E49	5329	01	26.8	45D	2N				P	0220	472	8.0	F
	PURP	23	0216E	0221	0231	N15	E47	5329	01	26.6	15D	2N				C	0221	347	5.7	E
0499	LEAR	23	0256	0309	0317	N18	W31	5323	01	20.8	21	SF			3	E		21		
0500		23	03043	03091	0314	N16	E45	5329	01	26.5	10	SF						39		
	PALE	23	0304	0310	0315	N17	E47	5329	01	26.7	11	SF			3	E		46		
	LEAR	23	0307	0309	0313	N16	E43	5329	01	26.4	6	SF			3	E		32		
0501	LEAR	23	0440	0441	0445	N16	E41	5329	01	26.3	5	SF			3	E		20		
0502	LEAR	23	0546	0546	0553	N16	W64	5331	01	18.4	7	SF			3	E		22		
0503	YUNN	23	0605	0635U	0645D	N21	W26	5323	01	21.3	40D	SN				P	0635	79	1.0	
0504		23	0617*	06356	0712	N16	E44	5329	01	26.6	55	1N	C	4.5				276	5.3	EFIJ
	YUNN	23	0617	0635	0654D	N17	E45	5329	01	26.7	37D	2B				P		472	7.6	F
	LEAR	23	0628	0637	0725	N15	E43	5329	01	26.5	57	SF	C	4.5	3	E		95		
	ABST	23	0629	0641	0705	N15	E43	5329	01	26.5	36	1N				C	0641	148	2.2	E
	TACH	23	0637	0641	0705	N17	E46	5329	01	26.8	28	2N			2	C	0641	388	6.0	FIJ
0505		23	07305	07374	0802	N20	E54	5329	01	27.4	32	SN						85	1.7	DIT
	ABST	23	0730	0741	0814	N21	E55	5329	01	27.5	44	SN				C	0741	87	1.7	D
	YUNN	23	0733	0738	0750D	N19	E54	5329	01	27.4	17D	1N				P		126	2.5	
	KAND	23	0735	0737	0755	N20	E52	5329	01	27.3	20	SN				P	0737	42	0.8	DIT
	KANZ	23	0738E	0741U	0757	N20	E55	5329	01	27.5	19D	SF				C				
0506		23	0749	0753*	0810	N18	E40	5329	01	26.4	21	1N						148	2.2	F
	ABST	23	0749	0753	0805D	N19	E41	5329	01	26.4	16D	1N				P	0753	148	2.2	F
	KANZ	23	0749	0806	0810	N16	E38	5329	01	26.2	21	SN				C				
0507	LEAR	23	0758	0801	0810	N17	W73	5321	01	17.8	12	SF			3	E		37		
0508		23	09462	09506	1008	N17	W65	5331	01	18.5	22	SF						52		E
	KANZ	23	0946	0953	1007	N17	W68	5331	01	18.2	21	SF				V				
	KAND	23	0947	0950	1010	N18	W64	5331	01	18.5	23	SN				P	0950	83		E
	LEAR	23	0948	0956	1008	N16	W63	5331	01	18.6	20	SF			3	E		20		
0509	ISTA	23	1150		1200	S40	E27	5337A	01	25.7	10	1F								EG
0510	RAMY	23	1302	1302	1308	N14	E46	5329	01	27.0	6	SF			3	E		21		
0511		23	1613	1613	1623	N14	E46	5329	01	27.1	10	SF	C	3.3				25		E
	HOLL	23	1613	1613	1622	N15	E47	5329	01	27.2	9	SF	C	3.3	3	E		23		
	RAMY	23	1613	1613	1624	N14	E46	5329	01	27.1	11	SF	C	3.3	4	E		27		E
0512	HOLL	23	1833	1840	1844	S22	E71	5330	01	29.2	11	SF			3	E		16		
0513		23	18534	1912	1953	N14	E38	5329	01	26.6	60	SN	C	5.3				77		F
	RAMY	23	1853	1912	1943D	N15	E37	5329	01	26.6	50D	SF	C	5.3	3	E		64		F
	HOLL	23	1857	1912	1953	N14	E39	5329	01	26.7	56	SN	C	5.3	3	E		90		F
0514	HOLL	23	2032E	2038U	2053D	S14	E69	5330	01	29.1	21D	SN			3	E		41		F
		23	2054		2226	No Flare Patrol														
0515		23	2233E	2242U	2435	N18	E33	5329	01	26.4	122D	1N						258	6.1	FU
	HOLL	23	2233E	2242U	2340D	N18	E33	5329	01	26.4	67D	SF			2	E		65		UF
	MITK	23	2314E		2435	N18	E33	5329	01	26.5	81D	2N				C	2314	450	6.1	F

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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
0516		24	04213	04352	0447	N15	E35	5329	01	26.8	26	SN	C	3.9				85	1.7	EF
	MITK	24	0421	0436	0455	N15	E35	5329	01	26.8	34	SB				C	0436			E
	LEAR	24	0424	0435	0446	N16	E35	5329	01	26.8	22	SF	C	3.9	3	E		45		F
	PURP	24	0433E	0437	0440	N15	E34	5329	01	26.8	7D	SN				C	0437	125	1.7	E
0517	LEAR	24	0542	0551	0557	N20	E32	5329	01	26.7	15	SF			3	E		41		F
0518		24	0750E	0750U	0825	S18	E48	5330	01	28.0	35D	1F						171	3.2	BEFIU
	SVTO	24	0750E	0750U	0828D	S18	E48	5330	01	28.0	38D	SF			2	E		92		F
	HTPR	24	0803E		0825	S17	E48	5330	01	28.0	22D	1F				C	0809	250	3.2	BEIU
0519	SVTO	24	0818E	0819U	0830D	N13	E37	5329	01	27.1	12D	SF	C	3.5	2	E		26		
0520		24	0830*	0858	0917	N22	W05	5324	01	24.0	47	SF						116	3.2	EFI
	HTPR	24	0830		1013D	N22	W02	5324	01	24.2	103D	1F				C	0905	300	3.2	EI
	SVTO	24	0854E	0858	0946D	N22	W07	5324	01	23.8	52D	SF			3	E		30		F
	LEAR	24	0855	0858	0917	N22	W06	5324	01	23.9	22	SF			3	E		19		
0521		24	10053	1014*	1159	N24	W05	5324	01	24.0	114	SF	C	6.7				110	3.3	BEFH
	LEAR	24	1005	1014	1035	N24	W03	5324	01	24.2	30	SF	C	6.7	3	E		47		FH
	SVTO	24	1007	1020	1154	N22	W07	5324	01	23.9	107	SF	C	6.7	3	E		45		F
	KANZ	24	1008	1046	1246	N25	W03	5324	01	24.2	158	1F				V				F
	HTPR	24	1017E		1240	N23	W07	5324	01	23.9	143D	1N				C	1022	300	3.3	BE
	RAMY	24	1139E	1139U	1225D	N24	W06	5324	01	24.0	46D	SF			2	E		48		F
0522	HTPR	24	1017E		1240	N27	W01	5333	01	24.3	143D	1N				C	1100	220	2.4	B
0523	KANZ	24	1202	1202	1205	N20	W40	5323	01	21.4	3	SF				V				
0524		24	14506	14551	1501	N14	E25	5329	01	26.5	11	SF						42	0.5	E
	HTPR	24	1450	1455	1500	N14	E24	5329	01	26.4	10	SF				C	1455	50	0.5	E
	HOLL	24	1456	1456	1502	N14	E26	5329	01	26.6	6	SF			3	E		33		
0525	HOLL	24	1536	1551	1606	N15	E29	5329	01	26.8	30	SF	C	5.2	3	E		56		F
0526	HOLL	24	1711	1733	1800	N17	E23	5329	01	26.5	49	SF	C	4.7	3	E		86		
0527	HOLL	24	1754	1754	1758	S22	E62	5330	01	29.5	4	SF			3	E		14		
0528		24	1720*	1808	1851	N16	E26	5329	01	26.7	91	1N	M	1.1				153		EF
	RAMY	24	1720	1810U	1848	N15	E25	5329	01	26.6	88	1N	M	1.1	2	E		146		FE
	PALE	24	1730E	1808	1851	N15	E26	5329	01	26.7	81D	1N	M	1.1	3	E		110		FE
	HOLL	24	1801	1808	1854	N17	E28	5329	01	26.9	53	1B			3	E		203		FE
0529		24	18117	1821	1830	S18	E60	5330	01	29.3	19	SF						18		F
	HOLL	24	1811	1821	1825	S17	E61	5330	01	29.4	14	SF			3	E		18		F
	RAMY	24	1818	1821	1834	S18	E60	5330	01	29.3	16	SF			3	E		18		
0530		24	18542	18571	1916	N16	E24	5329	01	26.6	22	SF						36		F
	PALE	24	1854	1858	1925	N16	E21	5329	01	26.4	31	SF			3	E		39		F
	RAMY	24	1856	1857	1907	N17	E26	5329	01	26.8	11	SF			3	E		34		F
0531	PALE	24	1931	1931	1953	S19	E56	5330	01	29.1	22	SF			3	E		14		E
0532	PALE	24	2131	2133	2136	S25	E90	5334	01	31.9	5	SF			3	E		29		
0533	PALE	24	2158	2203	2217	S19	E56	5330	01	29.2	19	SF			3	E		35		F
0534		24	2243*	2305*	2411	N17	E22	5329	01	26.6	88	SF	M	1.2				143	3.6	EF
	PALE	24	2243	2305	2412	N17	E23	5329	01	26.7	89	SF	M	1.2	3	E		80		F
	LEAR	24	2306	2316	2416	N17	E23	5329	01	26.7	70	SF	M	1.2	3	E		48		F
	MITK	24	2316E	2321	2405	N18	E20	5329	01	26.5	49D	1N				C	2321	300	3.6	E
0535	PALE	24	2333	2334	2413	S22	E64	5330	01	29.9	40	SF			3	E		34		
0536	YUNN	25	0256	0300	0309D	N18	E22	5329	01	26.8	13D	SN				P		94	1.1	E
0537	PURP	25	0540E	0543	0555	N17	E17	5329	01	26.5	15D	SN				C	0543	76	0.9	E

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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
0538	SVTO	25	0712E	0714U	0725	S24	E90	5334	02	1.2	13D	SF	C 8.0	2	E				
0539		25	10087	1008	1018	S22	E90	5334	02	1.3	10	SF							DH
	KANZ	25	1008	1008	1011	S22	E89	5334	02	1.3	3	SF			V				
	KHAR	25	1015		1025	S22	E90	5334	02	1.3	10	SF		2	V	1020			DH
0540	KHAR	25	1040	1042	1049	S21	E90	5334	02	1.3	9	SF		2	V	1042			E
0541		25	10564	10586	1113	N20	W67	5323	01	20.3	17	1N					107		EHK
	KHAR	25	1056	1058	1107	N20	W68	5323	01	20.2	11	SN		2	P	1100	80		H
	HTPR	25	1056	1059	1115	N20	W67	5323	01	20.3	19	1N			C	1059	120		EK
	HTPR	25	1056	1104	1115	N20	W67	5323	01	20.3	19	1N			C	1059	120		K
	KANZ	25	1100	1100	1114	N21	W67	5323	01	20.3	14	SF			V				
0542	KHAR	25	1102	1106	1112	S22	E90	5334	02	1.4	10	SN		2	V	1106			H
0543		25	12331	12373	1259	N20	W53	5323	01	21.5	26	SF					59		F
	RAMY	25	1233	1240	1259	N20	W52	5323	01	21.5	26	SF		4	E		59		F
	KANZ	25	1234	1237	1248D	N21	W54	5323	01	21.4	14D	SF			V				
0544		25	12401	12432	1255	N16	E12	5329	01	26.4	15	SF					17		F
	RAMY	25	1240	1243	1255	N15	E15	5329	01	26.7	15	SF		4	E		17		F
	KANZ	25	1241	1245	1248D	N16	E10	5329	01	26.3	7D	SF			V				
0545		25	1318	1318	1327	N14	E13	5329	01	26.5	9	SF					18		
	KANZ	25	1318	1318	1327	N16	E09	5329	01	26.2	9	SF			V				
	SVTO	25	1320E	1321U	1327	N12	E17	5329	01	26.8	7D	SF		2	E		18		
0546	HTPR	25	1344	1345	1350	N24	E12	5329	01	26.5	6	SF			C	1345	80	0.8	
0547		25	1405*	1420	1453	S21	E52	5330	01	29.6	48	SN	C 4.0				59	1.4	EF
	HTPR	25	1405	1420	1518	S20	E50	5330	01	29.4	73	SB			C	1420	70	1.4	E
	SVTO	25	1418	1420	1440	S20	E53	5330	01	29.6	22	SF	C 4.0	2	E		45		F
	KANZ	25	1420	1420	1432D	S22	E55	5330	01	29.8	12D	SF			V				
	HOLL	25	1420E	1421U	1440	S22	E52	5330	01	29.6	20D	SF	C 4.0	2	E		63		F
0548		25	14497	1453*	1553	S20	E48	5330	01	29.3	64	SN	M 2.1				86	1.5	EF
	KANZ	25	1449	1453	1457D	S20	E49	5330	01	29.4	8D	SN			V				
	RAMY	25	1449	1455	1616	S20	E43	5330	01	28.9	87	SN	M 2.1	4	E		81		FE
	HTPR	25	1454		1558D	S20	E55	5330	01	29.8	64D	1N			C	1501	160	2.7	E
	HTPR	25	1456	1510	1530	S19	E45	5330	01	29.0	34	SB			C	1510	20	0.3	
	SVTO	25	1502E	1503U	1525D	S20	E50	5330	01	29.4	23D	SN		2	E		85		F
0549		25	14558	15021	1522	N17	E12	5329	01	26.5	27	SF					62		F
	HOLL	25	1455	1502	1520	N17	E11	5329	01	26.4	25	SF		3	E		65		F
	RAMY	25	1503	1503	1524	N17	E12	5329	01	26.5	21	SF		4	E		60		F
0550	RAMY	25	1529	1531	1539	N17	E13	5329	01	26.6	10	SF		4	E		11		F
0551	RAMY	25	1717	1718	1726	S22	E86	5334	02	1.3	9	SF		4	E		12		
0552	RAMY	25	1840	1841	1844	S22	E85	5334	02	1.3	4	SF		3	E		13		
0553	HOLL	25	1844	1850U	1903	S18	E43	5330	01	29.0	19	SF		3	E		68		
0554		25	18521	1900	1918	N13	E18	5329	01	27.1	26	SF					34		F
	PALE	25	1852	1900	1922	N13	E18	5329	01	27.1	30	SF		3	E		32		F
	HOLL	25	1853	1854U	1914	N13	E18	5329	01	27.1	21	SF		3	E		37		F
0555		25	1924E	1942U	1955	S20	E78	5334	01	31.8	31D	SF					30		
	RAMY	25	1924E	1942U	1951D	S21	E76	5334	01	31.6	27D	SF		2	E		33		
	HOLL	25	1931E	1942U	1955	S20	E80	5334	01	31.9	24D	SF		3	E		28		
0556		25	19597	2006*	2032	S20	E84	5334	02	1.2	33	SF					20		
	HOLL	25	1959	2026	2034	S20	E87	5334	02	1.5	35	SF		3	E		25		
	PALE	25	2006	2006	2031	S20	E82	5334	02	1.1	25	SF		3	E		16		
0557	HOLL	25	2022	2023	2038	N19	W61	5323	01	21.2	16	SF		3	E		23		

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0558	PALE	25	2101	2112	2135	N19	E11	5329	01	26.7	34	SF	C	3.7	3	E		23		
0559		25	22048	22084	2222	S20	E78	5334	01	31.9	18	SF						24		
	HOLL	25	2204	2208	2222	S21	E75	5334	01	31.7	18	SF			3	E		20		
	PALE	25	2212	2212	2500D	S20	E81	5334	02	1.1	168D	SF			3	E		28		
0560		25	2326*	2347*	2454	N17	E08	5329	01	26.6	88	SF	C	4.6				76		F
	HOLL	25	2326	2347	2418D	N17	E09	5329	01	26.7	52D	SF			2	E		89		
	LEAR	25	2340	2403	2444	N16	E05	5329	01	26.4	64	SF			3	E		94		F
	PALE	25	2347E	2347	2504	N17	E09	5329	01	26.7	77D	SF	C	4.6	3	E		45		F
0561		26	01315	01353	0145	N17	E06	5329	01	26.5	14	SF						27	0.4	EF
	LEAR	26	0131	0138	0151	N17	E08	5329	01	26.7	20	SF			3	E		21		F
	PURP	26	0133	0135	0140	N17	E04	5329	01	26.4	7	SN				C	0135	34	0.4	E
	PALE	26	0136	0137	0144	N17	E06	5329	01	26.5	8	SF			3	E		26		
0562	PALE	26	0210	0210	0224	S22	E74	5334	01	31.8	14	SF	C	2.3	3	E		33		
0563	PALE	26	0254	0317	0323	N17	E07	5329	01	26.6	29	SF			3	E		48		
0564		26	0419	0438*	0604	N18	E04	5329	01	26.5	105	2B	M	2.8				566	8.5	EFIZ
	LEAR	26	0419	0438	0550	N17	E03	5329	01	26.4	91	2N	M	2.8	4	E		386		ZF
	TACH	26	0514E	0529	0618	N18	E06	5329	01	26.7	64D	2B			2	C	0529	745	8.5	EI
0565	TACH	26	0644		0648	N16	W03	5329	01	26.0	4	SB			2	C	0648	41	0.4	DL
0566		26	08101	0813	0827	N19	E03	5329	01	26.6	17	SF						52	0.6	D
	KANZ	26	0810	0813	0828	N18	E03	5329	01	26.6	18	SF				V				
	ABST	26	0811	0813	0826	N20	E03	5329	01	26.6	15	SF				C	0813	52	0.6	D
0567	KANZ	26	0842	0842	0852	N16	W02	5329	01	26.2	10	SF				V				
0568	HTPR	26	1228	1231	1240	N18	W67	5323	01	21.4	12	SF				C	1231	40		
0569	HTPR	26	1317	1319	1331	S20	E40	5330	01	29.6	14	SF				C	1319	60	0.8	E
0570		26	1410*	14128	1439	N16	W01	5329	01	26.5	29	SN	M	1.2				176	4.0	EFI
	SVTO	26	1408E	1410U	1440	N15	W03	5329	01	26.4	32D	SN	M	1.2	3	E		85		F
	HTPR	26	1410	1418	1445	N18	W01	5329	01	26.5	35	1N				C	1418	400	4.0	EI
	KANZ	26	1412	1412	1437	N17	W04	5329	01	26.3	25	SN				V				
	HOLL	26	1418E	1423U	1443	N17	E01	5329	01	26.7	25D	SF	M	1.2	2	E		43		F
	KANZ	26	1420	1420	1432	N15	E02	5329	01	26.7	12	SF				V				
0571		26	1412*	14226	1459	S20	E33	5330	01	29.1	47	SN						22	0.4	
	HTPR	26	1412	1422	1515	S20	E34	5330	01	29.2	63	SN				C	1422	30	0.4	
	KANZ	26	1424	1432U	1450	S20	E32	5330	01	29.0	26	SN				V				
	HOLL	26	1426	1428	1452	S21	E33	5330	01	29.1	26	SF			2	E		15		
0572	HOLL	26	1648	1652	1710	N18	W02	5329	01	26.5	22	SN	C	4.4	3	E		51		F
0573	HOLL	26	1724	1726	1734	N18	W68	5323	01	21.5	10	SF			3	E		32		
0574		26	1747*	18114	1845	N17	W02	5329	01	26.6	58	SN	C	4.2				61		FK
	HOLL	26	1747	1754U	1856	N18	W02	5329	01	26.6	69	SN			3	E		51		F
	HOLL	26	1747	1815	1856	N18	W02	5329	01	26.6	69	SN				E		96		K
	PALE	26	1810	1811	1824	N16	W02	5329	01	26.6	14	SF	C	4.2	3	E		35		
0575		26	1933	1935	1958	S20	E30	5330	01	29.1	25	SF						24		F
	HOLL	26	1933	1935	1958	S18	E28	5330	01	28.9	25	SF			3	E		22		F
	RAMY	26	1940E	1943U	2015D	S21	E32	5330	01	29.3	35D	SF			2	E		27		
0576	HOLL	26	1949	2006	2014	N16	E04	5329	01	27.1	25	SF			4	E		32		
0577	HOLL	26	2033	2044	2047	N17	W04	5329	01	26.5	14	SF			3	E		12		
0578		26	2115*	21363	2149	S22	E74	5334	02	1.6	34	SF	C	2.9				22		
	HOLL	26	2115	2136	2155	S22	E76	5334	02	1.7	40	SF			3	E		35		
	RAMY	26	2139	2139	2143	S22	E72	5334	02	1.4	4	SF	C	2.9	3	E		10		

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0579		26	2305*	2306*	2349	N16	W09	5329	01	26.3	44	SF					24		F
	PALE	26	2305	2306	2309	N17	W09	5329	01	26.3	4	SF		3	E		15		F
	HOLL	26	2305	2324U	2342	N15	W11	5329	01	26.1	37	SF		3	E		25		
	LEAR	26	2319	2326	2436	N16	W09	5329	01	26.3	77	SF		3	E		36		F
	PALE	26	2342	2343	2348	N17	W07	5329	01	26.4	6	SF		3	E		14		F
	HOLL	26	2353	2354	2419D	N15	W11	5329	01	26.2	26D	SF		3	E		29		F
0580		26	23501	2351*	2430	S22	E73	5334	02	1.6	40	1N	M 3.2				135		EF
	HOLL	26	2350	2351	2419D	S22	E76	5334	02	1.8	29D	SN	M 3.2	3	E		90		E
	LEAR	26	2350	2353	2426	S22	E74	5334	02	1.7	36	1F	M 3.2	3	E		109		
	MITK	26	2351	2411	2422	S20	E70	5334	02	1.3	31	1N			C	2411	130		E
	PALE	27	0008E	0011U	0042	S24	E71	5334	02	1.5	34D	1N		3	E		212		F
0581	PALE	27	0021	0022	0033	N17	W06	5329	01	26.5	12	SF		3	E		47		F
0582	PALE	27	0203	0204	0207	S21	E68	5334	02	1.3	4	SF		3	E		17		
0583		27	0216*	0234*	0258	N17	W08	5329	01	26.5	42	SF	C 3.4				88	2.7	F
	LEAR	27	0216	0234	0248	N16	W09	5329	01	26.4	32	SF	C 3.4	4	E		40		
	PALE	27	0229	0237	0246	N17	W07	5329	01	26.6	17	SF	C 3.4	3	E		54		F
	YUNN	27	0243E	0247U	0300	N17	W11	5329	01	26.3	17D	1N			P	0247	241	2.7	
	PALE	27	0247	0248	0320	N17	W07	5329	01	26.6	33	SF		3	E		18		
0584	YUNN	27	0256E	0256U	0308	S22	E71	5334	02	1.6	12D	SN			P	0256	24		
0585		27	0313*	03286	0401	S20	E32	5330	01	29.6	48	1N	M 1.6				228	4.6	FK
	YUNN	27	0313	0328	0413	S19	E31	5330	01	29.5	60	1B			P		402	5.0	
	MITK	27	0313	0330	0418D	S20	E33	5330	01	29.6	65D	1N			C	0330	330	4.1	
	PALE	27	0326	0330	0355	S20	E31	5330	01	29.5	29	1B	M 1.6	3	E		147		F
	LEAR	27	0327	0330	0358	S21	E32	5330	01	29.6	31	1N	M 1.6	4	E		162		F
	LEAR	27	0327	0334	0358	S21	E32	5330	01	29.6	31	1N			E		97		K
		27	0452		0502	No Flare Patrol													
		27	0515		0527	No Flare Patrol													
0586	LEAR	27	0536	0548	0606	N16	W11	5329	01	26.4	30	SF		3	E		47		F
0587		27	07052	07093	0723	N16	W12	5329	01	26.4	18	SN					43	0.6	E
	LEAR	27	0705	0709	0718	N16	W12	5329	01	26.4	13	SF		3	E		38		
	YUNN	27	0707	0712	0728	N17	W12	5329	01	26.4	21	SN			C		48	0.6	E
0588		27	07247	07283	0739	S15	W37	5335	01	24.5	15	SF					82	1.7	EF
	YUNN	27	0724	0728	0743	S16	W37	5335	01	24.5	19	SN			C		129	1.7	E
	LEAR	27	0730	0730	0736	S15	W38	5335	01	24.4	6	SF		3	E		34		F
	KANZ	27	0731	0731	0739	S14	W37	5335	01	24.5	8	SF			C				
0589	LEAR	27	0935	0937	0951	S20	E67	5334	02	1.5	16	SF		3	E		22		
0590		27	11232	11251	1135	S20	E64	5334	02	1.4	12	SF					30		
	HTPR	27	1123	1126	1136	S20	E65	5334	02	1.4	13	SF			C	1126	30		
	KANZ	27	1125	1125	1134	S20	E63	5334	02	1.3	9	SF			V				
0591		27	12132	12133	1222	N21	W85	5323	01	21.0	9	SF					16		
	RAMY	27	1213	1213	1216	N25	W85	5323	01	20.9	3	SF		3	E		16		
	KANZ	27	1213	1216	1224	N19	W81	5323	01	21.3	11	SF							
	SVTO	27	1215	1215	1225	N20	W89	5323	01	20.7	10	SF		3	E		17		
0592		27	12222	12242	1236	N16	W14	5329	01	26.4	14	SF	C 2.5				24		
	SVTO	27	1222	1226	1241	N16	W14	5329	01	26.4	19	SN	C 2.5	3	E		23		
	RAMY	27	1223	1226	1329D	N16	W12	5329	01	26.6	66D	SF	C 2.5	3	E		25		
	KANZ	27	1224	1224	1232	N17	W15	5329	01	26.4	8	SF							
0593	RAMY	27	1341	1355	1415D	N17	W15	5329	01	26.4	34D	SF		3	E		23		
0594		27	14434	1450	1454	N14	W24	5329	01	25.8	11	SN					130	1.4	E
	HTPR	27	1443	1450	1453	N14	W24	5329	01	25.8	10	SN			C	1450	130	1.4	E
	KANZ	27	1447	1450	1454	N14	W24	5329	01	25.8	7	SF							
0595	RAMY	27	1516	1520	1543	N17	W14	5329	01	26.6	27	1B	M 1.0	3	E		122		F

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0596	RAMY	27	1546	1557	1616	S18	E15	5330	01	28.8	30	SF			3	E		37		F
0597	RAMY	27	1638	1646	1652	N17	W17	5329	01	26.4	14	SF			3	E		29		
0598		27	19082	19143	2102	S19	E17	5330	01	29.1	114	2B	X	1.1				210		F
	RAMY	27	1908	1917	2046D	S19	E17	5330	01	29.1	98D	2B	X	1.1	4	E		251		F
	PALE	27	1910	1914	2102	S19	E17	5330	01	29.1	112	1B			3	E		168		F
0599	HOLL	27	2107E	2108U	2116D	N17	W17	5329	01	26.6	9D	SF			2	E		30		
0600	HOLL	27	2107E	2107U	2152	S20	E18	5330	01	29.2	45D	2F			1	E		337		F
		27	2127		2130	No Flare Patrol														
0601	HOLL	27	2152	2153	2208D	N17	W18	5329	01	26.5	16D	SN	C	6.8	3	E		93		EF
		27	2209		2233	No Flare Patrol														
0602		28	02484	02555	0309	N16	W23	5329	01	26.4	21	SN						44	0.5	DIJT
	YUNN	28	0248	0300	0317	N17	W23	5329	01	26.4	29	SN				P		24	0.3	
	VORO	28	0252	0255	0301	N15	W23	5329	01	26.4	9	SF			2	C	0255	63	0.7	DIJT
0603	LEAR	28	0625	0626	0637	S21	E16	5330	01	29.5	12	SF			3	E		26		
0604	LEAR	28	0634	0634	0637	N19	W21	5329	01	26.7	3	SF			3	E		26		
0605		28	0803	0803	0808	N18	W22	5329	01	26.7	5	SF						12		
	KANZ	28	0803	0803	0807	N19	W22	5329	01	26.6	4	SF								
	LEAR	28	0803	0803	0810	N18	W22	5329	01	26.7	7	SF			3	E		12		
0606		28	08066	08141	0850	S22	E54	5334	02	1.5	44	1N	C	9.8				129	2.5	DEFT
	LEAR	28	0806	0814	0847	S23	E53	5334	02	1.4	41	1N	C	9.8	3	E		142		F
	KANZ	28	0807	0815	0852	S22	E53	5334	02	1.4	45	SN								
	SVTO	28	0807	0815	0859	S21	E54	5334	02	1.5	52	SN	C	9.8	3	E		83		
	ABST	28	0812	0815	0831D	S21	E54	5334	02	1.5	19D	1N				P	0815	131	2.3	D
	HTPR	28	0816E		0840	S23	E55	5334	02	1.6	24D	1N				C	0816	160	2.7	ET
0607		28	08457	08562	0920	S20	E15	5330	01	29.5	35	SN	C	4.1				68	0.8	EF
	HTPR	28	0845	0858	0930	S20	E15	5330	01	29.5	45	SN				C	0858	80	0.8	E
	SVTO	28	0851	0857	0915	S19	E15	5330	01	29.5	24	SN	C	4.1	3	E		59		
	KANZ	28	0852	0856	0918	S19	E15	5330	01	29.5	26	SN								
	LEAR	28	0852	0857	0918	S20	E15	5330	01	29.5	26	SN	C	4.1	3	E		65		F
0608		28	1155*	1211*	1336	N16	W25	5329	01	26.6	101	1N	C	3.8				440	7.7	EFIS
	HTPR	28	1155	1303	1400	N15	W25	5329	01	26.6	125	2N				C	1303	700	7.7	EIS
	KANZ	28	1159	1211	1242	N16	W27	5329	01	26.4	43	SN								
	RAMY	28	1159E	1304	1353D	N15	W26	5329	01	26.5	114D	1N	C	3.8	3	E		179		FE
	KANZ	28	1242	1253	1407	N19	W23	5329	01	26.8	85	1N								
0609		28	13302	1332	1346	S20	W12	5336	01	27.6	16	SF						40	0.6	F
	RAMY	28	1330	1332	1342	S20	W11	5336	01	27.7	12	SF			3	E		20		F
	HTPR	28	1330	1332	1345	S20	W12	5336	01	27.6	15	SN				C	1332	60	0.6	
	KANZ	28	1332	1332	1351	S19	W13	5336	01	27.6	19	SF								
0610	HTPR	28	1410	1425	1516	S19	W24	5337	01	26.7	66	SN				C	1425	120	1.3	EI
0611		28	14117	14153	1432	S18	W11	5336	01	27.7	21	SF						60		F
	KANZ	28	1411	1415	1437	S18	W09	5336	01	27.9	26	SF								
	KANZ	28	1418	1418	1426	S17	W14	5336	01	27.5	8	SF								
	RAMY	28	1434E	1434U	1500D	S19	W11	5336	01	27.8	26D	SF			2	E		60		F
0612		28	15073	15201	1533	N14	W22	5329	01	27.0	26	SF						126	2.0	EF
	HOLL	28	1507	1521	1538	N14	W24	5329	01	26.8	31	SF			3	E		53		F
	HTPR	28	1510	1520	1528	N15	W21	5329	01	27.0	18	SF				C	1520	200	2.0	E
0613		28	1555	1555	1621	N16	W28	5329	01	26.5	26	SN	C	3.6				39		F
	HOLL	28	1555	1555	1621	N16	W29	5329	01	26.5	26	SN	C	3.6	3	E		44		F
	RAMY	28	1557E	1557U	1631D	N15	W27	5329	01	26.6	34D	SF	C	3.6	2	E		34		

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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
0614		28	1753	1754	1834	N14	W26	5329	01	26.8	41	SN	C 5.0				46		EF
	HOLL	28	1753	1754	1834	N14	W25	5329	01	26.8	41	SN	C 5.0	3	E		49		FE
	RAMY	28	1755E	1755U	1848D	N15	W26	5329	01	26.8	53D	SN	C 5.0	2	E		42		F
0615	HOLL	28	1813	1813	1836	S23	E49	5334	02	1.5	23	SF		3	E		24		H
0616	PALE	28	1835E	1835U	1859D	S21	W10	5336	01	28.0	24D	SF		3	E		21		F
		28	2114		2122	No Flare Patrol													
		28	2132		2137	No Flare Patrol													
0617	HOLL	28	2138E	2144	2206D	S22	E49	5334	02	1.7	28D	1B	M 1.7	3	E		197		FH
		28	2207		2231	No Flare Patrol													
0618		28	2312*	24104	2452	N14	W28	5329	01	26.8	100	1N					168	3.1	EFIJT
	HOLL	28	2312	2321U	2337D	N16	W32	5329	01	26.5	25D	SF		3	E		30		F
	LEAR	28	2312	2414	2454	N14	W26	5329	01	27.0	102	1F		3	E		131		F
	VORO	29	0001	0010	0055	N14	W26	5329	01	27.0	54	1N		2	C	0010	323	3.9	EIJT
	MITK	29	0001	0011	0047	N14	W26	5329	01	27.0	46	1N			C	0011	190	2.3	E
0619	VORO	29	0133	0136	0151	N15	W35	5329	01	26.4	18	SF		2	C	0136	72	0.9	DJT
		29	0635		0713	No Flare Patrol													
0620	KANZ	29	1025	1025	1029	S20	E02	5330	01	29.6	4	SF							
0621		29	1047	1110	1214	S19	W04	5330	01	29.1	87	SF	M 1.0				94		EF
	KANZ	29	1047	1110	1216	S19	W03	5330	01	29.2	89	1F							EF
	SVTO	29	1050E	1053U	1108D	S18	W05	5330	01	29.1	18D	SN		1	E		90		F
	RAMY	29	1140E	1143U	1211	S20	W04	5330	01	29.2	31D	SF	M 1.0	2	E		98		F
		29	1058		1139	No Flare Patrol													
0622		29	12191	1226	1248	S24	E38	5334	02	1.4	29	SF	C 4.1				43		
	KANZ	29	1219	1226	1247	S23	E38	5334	02	1.4	28	SF							
	RAMY	29	1220	1226	1250	S24	E38	5334	02	1.4	30	SF	C 4.1	3	E		43		
0623		29	12581	13106	1328	S22	E38	5334	02	1.5	30	SF	C 7.5				67		
	RAMY	29	1258	1316	1327	S23	E38	5334	02	1.5	29	SF	C 7.5	2	E		67		
	KANZ	29	1259	1310	1330	S22	E38	5334	02	1.5	31	SF							
0624		29	15324	15411	1549	S24	E36	5334	02	1.4	17	SF					34		F
	RAMY	29	1532	1541	1556D	S24	E36	5334	02	1.4	24D	SF		3	E		26		
	HOLL	29	1536	1542	1549	S23	E37	5334	02	1.5	13	SF		3	E		42		F
0625	HOLL	29	1559	1559	1607	S23	E36	5334	02	1.4	8	SF		3	E		12		
0626		29	16032	1607	1612	N17	W36	5329	01	26.9	9	SF	C 2.8				32		
	HOLL	29	1603	1607	1613	N17	W36	5329	01	26.9	10	SF	C 2.8	3	E		39		
	RAMY	29	1605	1607	1612	N17	W35	5329	01	27.0	7	SF	C 2.8	3	E		26		
0627		29	1715	17181	1726	N17	W34	5329	01	27.1	11	SF					15		
	HOLL	29	1715	1718	1730	N17	W34	5329	01	27.1	15	SF		3	E		18		
	RAMY	29	1715	1719	1723	N17	W33	5329	01	27.2	8	SF		3	E		12		
0628	HOLL	29	1733	1735	1738	S23	E35	5334	02	1.4	5	SF		3	E		16		H
0629		29	1739*	1759	1814	N18	W38	5329	01	26.8	35	SF					56		F
	HOLL	29	1739	1759	1825	N17	W42	5329	01	26.5	46	SF		3	E		91		F
	PALE	29	1758	1759	1802	N19	W33	5329	01	27.2	4	SF		3	E		21		
0630		29	18318	1840*	1900	S22	W24	5336	01	27.9	29	SF					31		F
	HOLL	29	1831	1858	1909	S22	W24	5336	01	27.9	38	SF		3	E		52		
	RAMY	29	1833	1834U	1907	S22	W24	5336	01	27.9	34	SF		2	E		28		F
	PALE	29	1839	1840	1844	S21	W23	5336	01	28.0	5	SF		3	E		12		F

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0631		29	1945	19466	2001	N17	W37	5329	01	27.0	16	SF						18		FH
	PALE	29	1945	1946	1957	N19	W35	5329	01	27.1	12	SF			3	E		24		F
	RAMY	29	1945	1948	2001	N15	W39	5329	01	26.9	16	SF			4	E		17		FH
	HOLL	29	1945	1952	2004	N17	W36	5329	01	27.1	19	SF			3	E		12		H
0632		29	2008*	2021*	2048	N17	W37	5329	01	27.0	40	SF	C	1.8				37		FH
	PALE	29	2008	2021	2034	N19	W36	5329	01	27.1	26	SF			3	E		48		F
	HOLL	29	2015	2022	2039	N14	W40	5329	01	26.8	24	SF			3	E		31		FH
	RAMY	29	2018E	2049U	2054	N15	W38	5329	01	27.0	36D	SF			1	E		32		F
	PALE	29	2038	2043	2101	N19	W36	5329	01	27.1	23	SF	C	1.8	3	E		40		FH
	HOLL	29	2040	2047	2054	N17	W36	5329	01	27.1	14	SF	C	1.8	3	E		36		FH
0633	PALE	29	2150	2152	2203	S20	W04	5330	01	29.6	13	SF			3	E		18		
0634		29	2133*	2136*	2203	N16	W37	5329	01	27.1	30	SF						25		F
	RAMY	29	2133	2136	2203D	N15	W37	5329	01	27.1	30D	SF			2	E		39		F
	PALE	29	2201	2201	2203	N17	W37	5329	01	27.1	2	SF			3	E		11		
0635		29	2218	2219	2236	S21	E30	5334	02	1.2	18	SF						34		F
	HOLL	29	2218	2219	2233	S21	E31	5334	02	1.3	15	SF			3	E		35		F
	PALE	29	2218	2219	2240	S21	E29	5334	02	1.1	22	SF			3	E		34		F
0636		29	2304	23051	2310	N18	W40	5329	01	26.9	6	SN	C	2.1				59		EF
	PALE	29	2304	2305	2310	N19	W40	5329	01	26.9	6	SN	C	2.1	3	E		65		
	HOLL	29	2304	2306	2310	N17	W40	5329	01	26.9	6	SN	C	2.1	3	E		53		FE
0637		29	23252	23332	2348	N17	W40	5329	01	26.9	23	1N	C	4.3				106		EF
	PALE	29	2325	2333	2346	N18	W43	5329	01	26.7	21	1N	C	4.3	3	E		122		F
	LEAR	29	2327	2334	2345	N17	W38	5329	01	27.1	18	SN	C	4.3	3	E		61		
	HOLL	29	2327	2335	2354	N17	W38	5329	01	27.1	27	1N	C	4.3	3	E		135		FE
0638		29	23321	23372	2400	S18	W23	5336	01	28.2	28	SF						38		F
	PALE	29	2332	2339	2359	S17	W22	5336	01	28.3	27	SF			3	E		36		F
	HOLL	29	2332	2339	2402	S19	W24	5336	01	28.1	30	SF			3	E		51		F
	LEAR	29	2333	2337	2337D	S18	W23	5336	01	28.2	4D	SF			3	E		27		
0639	PALE	30	0008	0008	0013	N20	W37	5329	01	27.2	5	SF			3	E		11		F
0640		30	00412	00461	0103	N16	W46	5329	01	26.5	22	SF						44		F
	PALE	30	0041	0046	0106	N16	W45	5329	01	26.6	25	SF			3	E		55		F
	LEAR	30	0043	0047	0100	N15	W46	5329	01	26.5	17	SF			3	E		32		F
0641		30	0039	00517	0125	S20	W08	5330	01	29.4	46	1N						169	2.2	DEFIJT
	PALE	30	0039	0053U	0127	S20	W05	5330	01	29.6	48	1F			3	E		104		F
	MITK	30	0049E	0051	0106	S19	W05	5330	01	29.6	17D	SN				C	0051			E
	VORO	30	0054E	0058	0134	S18	W15	5330	01	28.9	40D	SF			2	C	0058	99	1.1	DJT
	VORO	30	0054E	0058	0134	S22	W07	5330	01	29.5	40D	1N			2	C	0058	305	3.2	EIJT
0642		30	00431	01009	0138	S22	E31	5334	02	1.4	55	1B	M	2.9				175	2.6	EFHIJTUW
	PALE	30	0043	0108	0137	S23	E29	5334	02	1.3	54	1B	M	2.9	3	E		133		UE
	LEAR	30	0044	0100	0139	S22	E31	5334	02	1.4	55	1N	M	2.9	3	E		162		F
	MITK	30	0049E	0108	0138	S23	E32	5334	02	1.5	49D	1B				C	0108	180	2.3	EH
	VORO	30	0054E	0109	0139	S22	E32	5334	02	1.5	45D	1B			2	C	0110	224	2.8	EIJTW
0643	PALE	30	0108	0111	0113	N18	W38	5329	01	27.1	5	SF			3	E		25		F
0644	PALE	30	0124	0126	0128	S18	W25	5336	01	28.1	4	SF			3	E		18		F
0645	PALE	30	0127	0128	0130	N17	W46	5329	01	26.6	3	SF			3	E		14		F
0646		30	0152	02003	0218	N25	W74		01	24.3	26	SF						50		U
	LEAR	30	0152	0200	0214	N25	W73		01	24.4	22	SF			3	E		51		U
	PALE	30	0152	0203	0221	N25	W74		01	24.3	29	SF			3	E		50		U
0647		30	01517	0203	0224	N23	W82		01	23.7	33	SF	C	9.5				68		
	PALE	30	0151	0203	0226	N23	W82		01	23.7	35	SF	C	9.5	3	E		88		
	LEAR	30	0158	0203	0223	N23	W82		01	23.8	25	SF			3	E		49		

Hα SOLAR FLARES

JANUARY 1989

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
0648		30	02269	02338	0256	N17	W40	5329	01	27.1	30	SF						43	0.7	EFIJT
	VORO	30	0226	0233	0246	N17	W41	5329	01	27.0	20	SF			2	C	0233	63	0.9	EIJT
	YUNN	30	0226	0235	0247	N17	W42	5329	01	26.9	21	SN				C		32	0.5	
	LEAR	30	0230	0240	0300	N16	W40	5329	01	27.1	30	SF			3	E		31		
	PALE	30	0235	0241	0309	N19	W39	5329	01	27.1	34	SF			3	E		46		F
0649		30	03305	03532	0412	N16	W40	5329	01	27.1	42	1B	M	1.3				178		DFH
	LEAR	30	0330	0353	0412	N16	W39	5329	01	27.2	42	1B	M	1.3	3	E		178		FH
	MITK	30	0335	0355	0411	N16	W40	5329	01	27.1	36	SN				C	0355			DH
0650		30	0721	07232	0733	N19	W48	5329	01	26.6	12	SF						12		
	LEAR	30	0721	0723	0732	N19	W49	5329	01	26.6	11	SF			3	E		12		
	KANZ	30	0721	0725	0734	N19	W47	5329	01	26.7	13	SF				C				
0651		30	08023	08041	0812	S19	W28	5336	01	28.2	10	SF	C	2.0				81	1.5	F
	YUNN	30	0802	0804	0811	S19	W27	5336	01	28.3	9	SN				C		129	1.5	
	SVTO	30	0803	0804	0813	S18	W31	5336	01	28.0	10	SF	C	2.0	2	E		44		F
	LEAR	30	0803	0804	0814	S19	W26	5336	01	28.3	11	SF	C	2.0	3	E		70		F
	KANZ	30	0805	0805	0809	S19	W26	5336	01	28.3	4	SF				C				
0652	SVTO	30	1028	1034	1044	S18	W32	5336	01	28.0	16	SF			3	E		21		F
0653		30	10553	10553	1103	N16	W46	5329	01	27.0	8	SF						12		
	SVTO	30	1055	1055	1104	N15	W47	5329	01	26.9	9	SF			3	E		12		
	KANZ	30	1058	1058	1102	N17	W45	5329	01	27.0	4	SF				V				
0654		30	12241	12272	1245	N16	W46	5329	01	27.0	21	2N	C	9.6				280		H
	SVTO	30	1224	1227	1246	N15	W46	5329	01	27.0	22	2N	C	9.6	3	E		280		H
	KANZ	30	1225	1229	1244	N18	W45	5329	01	27.1	19	1N				V				
0655	KANZ	30	1321	1325	1342	S20	W12	5330	01	29.6	21	SF				V				
0656	HOLL	30	1551	1554	1558	S23	E23	5334	02	1.4	7	SF			3	E		14		
0657	HOLL	30	1622	1626	1701	S23	E21	5334	02	1.3	39	SF			3	E		18		
0658	HOLL	30	1633	1640	1702	S19	W32	5336	01	28.2	29	SF	C	1.4	3	E		64		
0659	PALE	30	1738E	1741	1759D	N16	W52	5329	01	26.8	21D	SN			3	E		89		F
0660	HOLL	30	1901	1902	1921	S21	E20	5334	02	1.3	20	SF			3	E		12		F
0661	RAMY	30	1930	1932	1948	S24	E21	5334	02	1.4	18	SF			3	E		19		F
0662		30	19386	19413	1955	S20	W20	5330	01	29.3	17	SF						48		F
	RAMY	30	1938	1941	2001	S20	W20	5330	01	29.3	23	SF			3	E		37		F
	PALE	30	1944	1944	1949	S19	W19	5330	01	29.4	5	SF			3	E		59		F
0663	HOLL	30	1942	1958	2002	S18	W37	5336	01	28.0	20	SF			3	E		14		
0664		30	20001	20021	2012	N16	W49	5329	01	27.1	12	SF						44		E
	RAMY	30	2000	2002	2008	N16	W48	5329	01	27.2	8	SF			4	E		42		
	HOLL	30	2001	2003	2017	N17	W50	5329	01	27.0	16	SF			3	E		45		E
0665		30	2040*	2103*	2134	N15	W54	5329	01	26.8	54	1N	M	2.1				133		F
	RAMY	30	2040	2103	2150D	N14	W53	5329	01	26.8	70D	1B	M	2.1	4	E		244		F
	HOLL	30	2058	2103	2152	N14	W54	5329	01	26.8	54	1B	M	2.1	3	E		198		F
	PALE	30	2103	2103	2121	N15	W54	5329	01	26.8	18	SF	M	2.1	3	E		45		F
	PALE	30	2122	2125	2128	N16	W53	5329	01	26.9	6	SF			3	E		44		
0666	HOLL	30	2111	2112	2120	S19	W22	5330	01	29.2	9	SF			3	E		13		
0667		30	2232	2232	2240	N18	W54	5329	01	26.8	8	SF						14		
	PALE	30	2232	2232	2240	N18	W55	5329	01	26.7	8	SF			3	E		10		
	HOLL	30	2232E	2234U	2239	N17	W52	5329	01	27.0	7D	SF			3	E		17		
0668		30	2248	2308*	2349	S23	E18	5334	02	1.3	61	SF						27		FK
	HOLL	30	2248	2308	2349	S23	E18	5334	02	1.3	61	SF			3	E		36		F
	PALE	30	2248	2309	2350	S23	E17	5334	02	1.2	62	SF			3	E		30		F
	HOLL	30	2248	2331	2349	S23	E18	5334	02	1.3	61	SF				E		16		K

Hα SOLAR FLARES

JANUARY 1989

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0669	HOLL	30	2302	2302	2319	N15	W57	5329	01	26.6	17	SF	C	2.8	3	E		12		
0670		30	23072	23301	2353	S18	W40	5336	01	27.9	46	SF						38		F
	PALE	30	2307	2330	2355	S18	W40	5336	01	27.9	48	SF			3	E		42		F
	HOLL	30	2309	2331	2351	S17	W40	5336	01	27.9	42	SF			3	E		34		F
0671		30	23551	2358	2412	N18	W52	5329	01	27.0	17	1N	C	6.1				112		EFH
	LEAR	30	2355	2358	2419	N17	W53	5329	01	27.0	24	1N	C	6.1	3	E		126		H
	PALE	30	2356	2358	2404	N18	W52	5329	01	27.0	8	SN	C	6.1	3	E		99		FE
0672		31	0118	0127	0151	S24	E12	5334	02	1.0	33	1N	M	1.0				71		F
	LEAR	31	0118	0127	0151	S25	E14	5334	02	1.1	33	1N	M	1.0	3	E		102		F
	PALE	31	0126E	0156U	0204D	S24	E10	5334	01	31.8	38D	SF			3	E		40		F
0673	PALE	31	0306	0308	0355	S24	E12	5334	02	1.0	49	1N	M	1.0	3	E		126		EF
0674		31	03454	03541	0405	S21	W21	5330	01	29.5	20	SF	C	2.9				62	0.4	FU
	YUNN	31	0345	0354U	0354D	S21	W21	5330	01	29.5	9D	SN				P	0354	32	0.4	
	LEAR	31	0347	0355	0405	S21	W21	5330	01	29.5	18	SF	C	2.9	3	E		82		UF
	PALE	31	0349	0354	0410D	S20	W22	5330	01	29.5	21D	SF	C	2.9	3	E		71		F
0675	PURP	31	0441	0442	0446	S23	E15	5334	02	1.3	5	SN				C	0442	25	0.3	E
0676	LEAR	31	0522	0526	0535	S21	W22	5330	01	29.5	13	SF	C	2.4	3	E		43		F
0677		31	08203	0822*	0845	N21	W59	5329	01	26.8	25	SN						59	2.0	E
	HTPR	31	0820	0823	0828	N23	W58	5329	01	26.9	8	SN				C	0823	100	2.0	E
	ISTA	31	0822		0953	N25	W60	5329	01	26.7	91	1N								E
	LEAR	31	0822	0822	0827	N23	W56	5329	01	27.0	5	SF			3	E		35		
	SVTO	31	0822	0822	0828	N17	W61	5329	01	26.7	6	SF			3	E		44		
	KANZ	31	0823	0823	0827	N22	W55	5329	01	27.1	4	SF				C				
	CATA	31	0922E	0923	0935D	N18	W66	5329	01	26.4	13D	SN			1	P	0923	56		
0678		31	10106	10142	1022	S22	W24	5330	01	29.6	12	SN						78	1.2	EFHI
	KAND	31	1010	1016	1025	S23	W23	5330	01	29.6	15	SN				P	1016	104	1.2	EI
	ISTA	31	1011		1019	S20	W25	5330	01	29.5	8	1N								F
	SVTO	31	1013	1014	1020	S23	W24	5330	01	29.6	7	SF			3	E		17		FH
	CATA	31	1016	1016	1024	S23	W23	5330	01	29.6	8	SN			1	C	1016	112	1.3	
0679		31	10233	1023	1043	S22	E12	5334	02	1.3	20	1N								F
	KANZ	31	1023	1023	1043	S23	E10	5334	02	1.2	20	SF				V				
	ISTA	31	1026		1036D	S22	E13	5334	02	1.4	10D	2B								F
0680		31	1107*	12087	1342	S22	E07	5334	02	1.0	155	2N						540	8.2	EFIZ
	SVTO	31	1107	1212	1446	S20	E08	5334	02	1.1	219	2B			3	E		470		ZF
	RAMY	31	1136E	1137U	1152	S23	W04	5334	01	31.2	16D	1F			1	E		119		F
	KANZ	31	1203	1209	1411	S21	E09	5334	02	1.2	128	2N				V				EF
	HTPR	31	1203	1215	1400	S22	E11	5334	02	1.3	117	2N				C	1215	700	7.0	EI
	CATA	31	1208	1208	1252D	S22	E09	5334	02	1.2	44D	2B			2	P	1208	871	9.5	
0681		31	12001	12004	1230	S21	W27	5330	01	29.4	30	1N						222	3.3	EFH
	CATA	31	1200	1200	1225	S22	W26	5330	01	29.5	25	1B			2	C	1200	225	2.7	
	KANZ	31	1200	1203	1226	S21	W26	5330	01	29.5	26	1N				V				EF
	SVTO	31	1200	1204	1236	S22	W25	5330	01	29.6	36	1N			3	E		159		FH
	HTPR	31	1201	1202	1230	S20	W28	5330	01	29.3	29	1N				C	1202	350	3.9	E
	RAMY	31	1201E	1202U	1231	S20	W28	5330	01	29.3	30D	1B			2	E		155		F
0682	RAMY	31	1608	1616	1639	S24	E09	5334	02	1.4	31	SF	C	2.8	4	E		39		FH
0683	RAMY	31	1643	1656	1703	S22	E07	5334	02	1.2	20	SF	C	3.5	4	E		75		FH
		31	1723		1728	No Flare Patrol														
0684		31	1732	1735	1857	S22	E08	5334	02	1.3	85	1N						116		EF
	RAMY	31	1732	1735	1857	S23	E08	5334	02	1.3	85	1N			4	E		117		FE
	HOLL	31	1735E	1801U	1850D	S22	E07	5334	02	1.3	75D	1F			2	E		115		
0685		31	1734	1741	1800	N16	W68	5329	01	26.6	26	1N	M	1.3				119		EF
	RAMY	31	1734	1741	1800	N15	W65	5329	01	26.8	26	1N	M	1.3	4	E		149		FE
	PALE	31	1738E	1741	1759D	N16	W72	5329	01	26.3	21D	SN			3	E		89		F

Hα SOLAR FLARES

JANUARY 1989

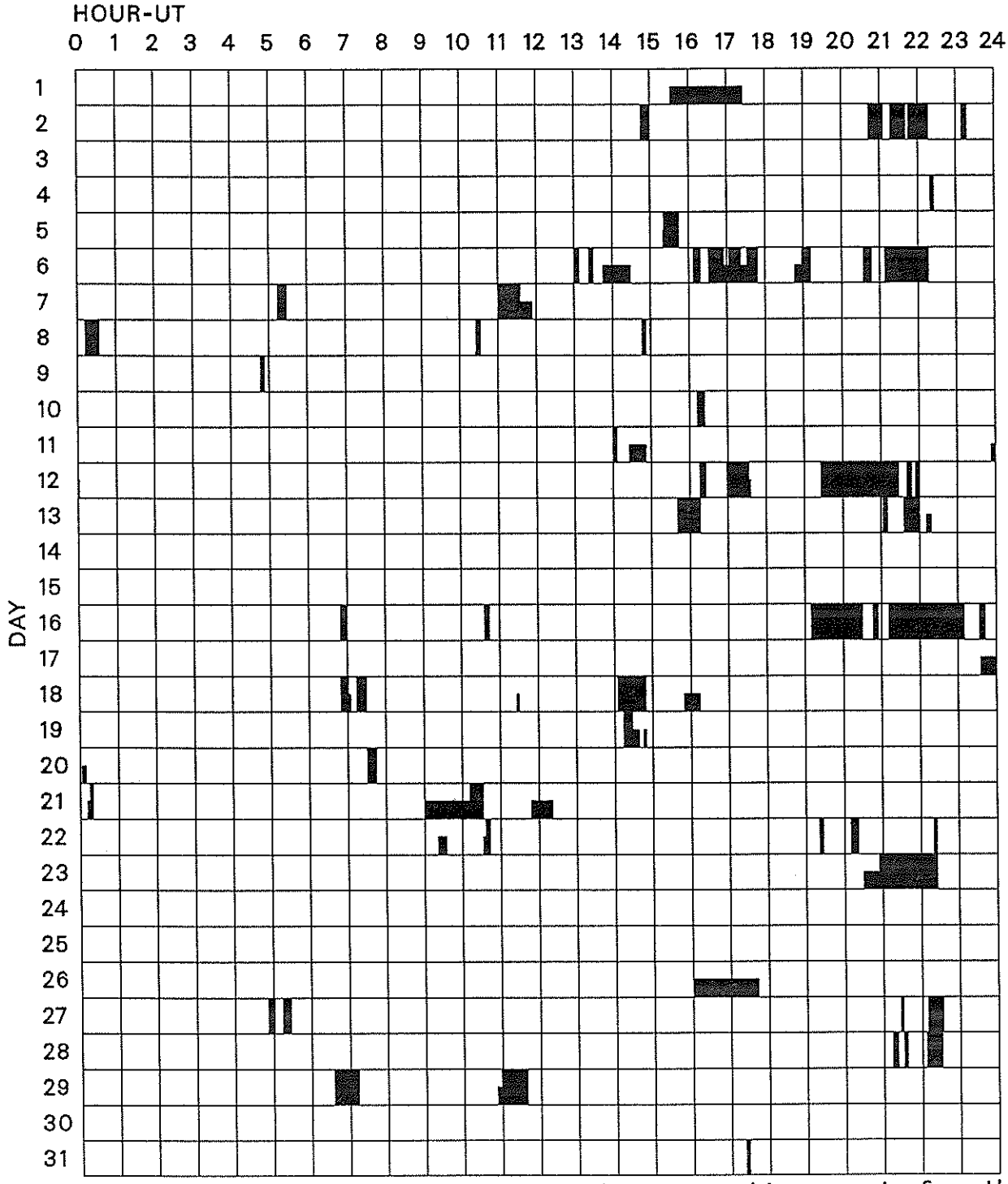
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0686		31	1845*	1845*	1858	N19	W64	5329	01	26.9	13	SF	C 4.2				36		F
	PALE	31	1845	1845	1851	N23	W63	5329	01	26.9	6	SF		3	E		24		
	HOLL	31	1845	1846	1850	N20	W62	5329	01	27.0	5	SF		3	E		42		
	RAMY	31	1845	1846	1852	N21	W63	5329	01	26.9	7	SF		4	E		50		
	RAMY	31	1857	1858	1912	N15	W66	5329	01	26.8	15	SF	C 4.2	3	E		34		F
	PALE	31	1858	1859	1906	N16	W66	5329	01	26.8	8	SF	C 4.2	3	E		28		
0687	PALE	31	2002	2010	2028	N17	W78	5329	01	25.9	26	SF	C 2.4	3	E		36		F
0688		31	20511	2052	2104	S22	E06	5334	02	1.3	13	SN	C 3.4				46		F
	HOLL	31	2051	2052	2101	S22	E05	5334	02	1.2	10	SN	C 3.4	3	E		61		F
	PALE	31	2052	2052	2106	S23	E06	5334	02	1.3	14	SF		3	E		31		F
0689		31	21025	21201	2140	S23	E06	5334	02	1.3	38	1N	M 1.1				100		EF
	HOLL	31	2102	2121	2139	S23	E06	5334	02	1.3	37	1N	M 1.1	3	E		125		FE
	PALE	31	2107	2120	2140	S23	E05	5334	02	1.3	33	SN	M 1.1	3	E		76		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.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

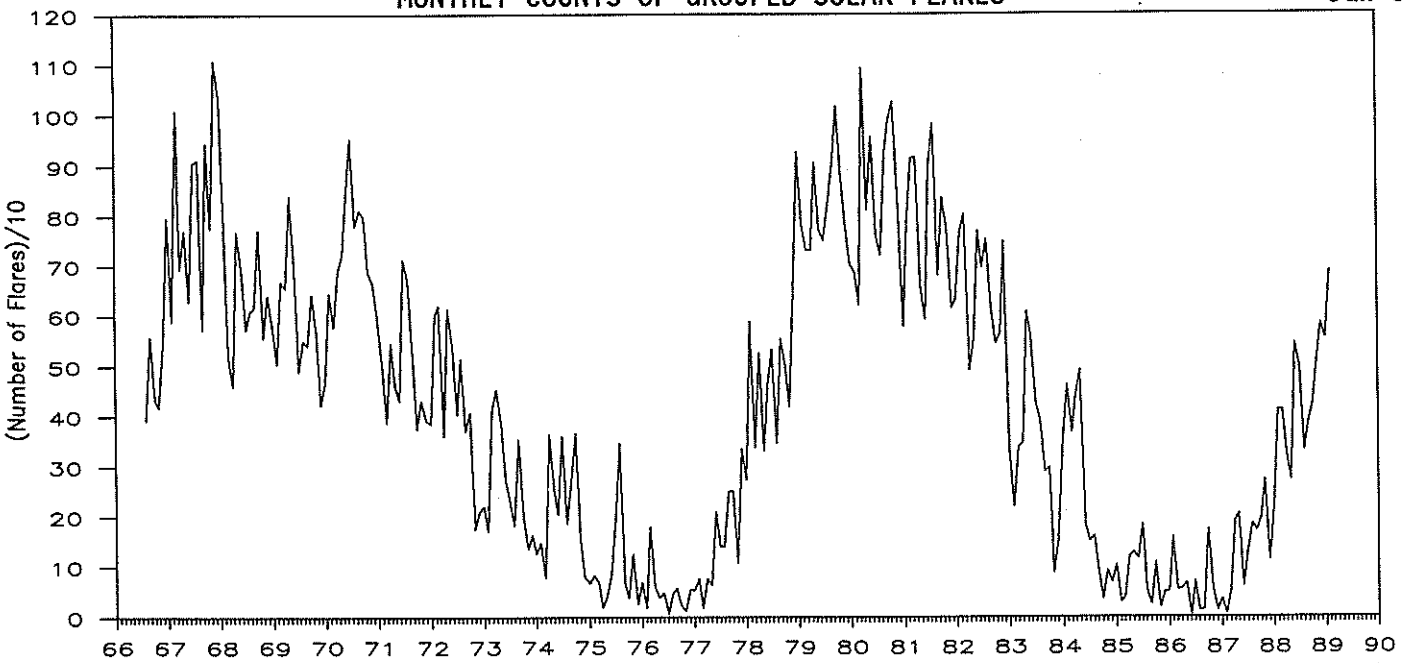
JANUARY 1989



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

Abastumani	Holloman	Kanzelhoehe	Palehua	San Vito
Bucharest	Hurbanovo	Kharkov	Peking	Tashkent
Catania	Istanbul	Learmonth	Purple Mt.	Voroshilov
Haute Provence	Kandilli	Mitaka	Ramey	Yunnan

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
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	171	198	273	114	1626
1988	217	412	412	328	272	544	499	331	390	421	508	584	4918
1989	689												689

*Flare counts are preliminary from July 1982 to present. In particular, the monthly totals for the last 6 months may change significantly, as more sites submit their reports. The term "grouped" means that observations of the same event by different stations have been lumped together and counted as one.

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

JANUARY 1989

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
01	200	GORK	44	NS	0606.0E		180.0D		5.0		
	100	GORK	44	NS	0608.0E		319.0D		5.0		
	245	SVTO	44	NS	0636.0E	1412.0	512.0D	56.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0636.0E	1257.0	512.0D	16.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	44	NS	0720.0E		420.0D		50.0		V=1
	245	SGMR	43	NS	1238.0	1421.0	497.0D	91.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0617.0	580.0D	74.0	32.0		SR
	100	HIRA	44	NS	2147.0E	0523.0	580.0D	130.0	37.0		
	245	LEAR	43	NS	2201.0	0629.0	772.0D	54.0			QL=1 ST=2 TYP=1
	245	LEAR	44	NS	2202.0E	1024.0	771.0D	210.0			QL=1 ST=2 TYP=1
	500	HIRA	42	SER	0408.1	0413.6	6.5	9.0			WR
	15000	KISV	25	R	0604.0	0631.4	356.0	22.0			
	9300	KISV	25	R	0604.0	0631.4	356.0	22.0			
	5900	KISV	22	GRF	0606.0	0658.5	93.5	17.0			
	5900	KISV	2	S/F	0615.5	0617.7	6.8	26.0			
	15000	KISV	45	C	0616.8	0617.6	1.4	10.0			
	9300	KISV	45	C	0616.8	0617.6	1.4	10.0			
	9300	KISV	45	C	0616.8	0617.7		10.0			
	15000	KISV	45	C	0616.8	0617.7		10.0			
	100	GORK	41	F	0720.8	0725.1		500.0			
	200	GORK	41	F	0730.4	0740.1		144.0			
	200	GORK	41	F	0730.4	0731.1	10.6	130.0			
	9100	GORK	1	S	0736.5	0736.9	2.2	17.5			
	15000	KISV	2	S/F	0736.6	0736.9	1.0	5.0			
	9300	KISV	2	S/F	0736.7	0736.9	3.0	20.0			
	5900	KISV	2	S/F	0736.8	0736.9	2.8	10.0			
	950	GORK	21	GRF	0828.9	0837.0	11.5	1.7			
	950	GORK	2	S/F	0829.5	0829.9	0.9	5.0			
	950	GORK	2	S/F	0831.5	0831.8	0.5	3.4			
	650	GORK	4	S/F	0835.4	0836.1	1.2	8.0			
	950	GORK	2	S/F	0835.5	0836.0	1.0	14.6			
	9100	GORK	21	GRF	0847.1	1105.3	157.0	8.5			
	5900	KISV	23	GRF	0855.3	0859.6	59.0	12.0			
	9300	KISV	2	S/F	0858.7	0859.6	3.0	15.0			
	9100	GORK	1	S	0859.0	0859.6	1.8	10.0			
	650	GORK	23	GRF	0904.1	0912.7	12.6	2.3			
	950	GORK	21	GRF	0906.7E	0906.7	8.2D	5.0			
	100	GORK	8	S	0907.8	0909.0	1.2	150.0			
	950	GORK	2	S/F	0907.9	0908.0	0.6	4.4			
	950	GORK	2	S/F	0908.8	0909.1	1.1	3.5			
	650	GORK	40	F	0913.2	0914.0	2.8	1.7			
	9300	KISV	22	GRF	1046.6	1112.3	65.0	15.0			
	5900	KISV	23	GRF	1059.8	1101.0	13.0	6.0			
	5900	KISV	2	S/F	1111.3	1111.9	2.4	3.0			
	5900	KISV	22	GRF	1138.0	1140.8	13.0	6.0			
	3200	BERN	3	S	1332.0	1336.0	10.0	5.0			
	8400	BERN	3	S	1332.0	1336.0	10.0	57.0			
	5200	BERN	3	S	1332.0	1336.0	10.0	21.0			
	2800	OTTA	22	GRF	1604.0	1628.0	120.0	9.5	4.0		
	2800	OTTA	4	S/F	1628.0	1631.0	14.0	21.0	10.0		
02	245	PALE	44	NS	0037.0E	0303.0	187.0D	140.0			QL=1 ST=2 TYP=1
	100	GORK	44	NS	0616.0E		314.0D		20.0		
	200	GORK	44	NS	0618.0E		180.0D		5.0		
	410	SVTO	44	NS	0636.0E	0908.0	513.0D	61.0			QL=1 ST=3 TYP=1
	245	SVTO	44	NS	0636.0E	0908.0	513.0D	61.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	80.0			
	127	TORN	44	NS	0720.0E		420.0D		510.0		V=1
	430	KRAK	43	NS	0851.5	1000.0		71.0			
	430	KRAK	43	NS	0851.5	0926.4	273.0	56.0	13.0		
	410	LEAR	43	NS	0900.0	1023.0	113.0	670.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E	1023.2	273.0D	102.0			
	810	KRAK	43	NS	0954.0	1044.2	95.5	24.0	2.0		
	245	SGMR	43	NS	1238.0	1514.0	498.0D	97.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	2245.0	580.0D	21.0	7.0		MR
	245	LEAR	44	NS	2203.0E	2358.0	771.0D	96.0			QL=1 ST=2 TYP=1
	500	HIRA	8	S	0036.5	0036.6	0.8	106.0			O
	950	GORK	2	S/F	0657.8	0658.5	1.6	6.0			

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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	650	GORK	2	S/F	0658.1	0659.1	2.2	2.3			
	100	GORK	41	F	0721.9	0725.2	30.0	420.0			
	100	GORK	41	F	0721.9	0747.5		260.0			
	9300	KISV	2	S/F	0722.3	0723.4	5.0	3.0			
	5900	KISV	45	C	0722.5	0723.7	7.0	5.0			
	5900	KISV	45	C	0722.5	0722.8		3.0			
	9100	GORK	21	GRF	0735.2	1034.0	240.0D	38.0			
	5900	KISV	42	SER	0812.9	0818.0		2.0			
	5900	KISV	42	SER	0812.9	0815.7		2.0			
	5900	KISV	42	SER	0812.9	0813.8	6.0	1.0			
	5900	KISV	2	S/F	0833.7	0834.5	2.3	5.0			
	9300	KISV	45	C	0834.0	0834.1		1.0			
	9300	KISV	45	C	0834.0	0834.8	1.5	4.0			
	5900	KISV	2	S/F	0849.2	0849.4	0.8	2.0			
	9300	KISV	22	GRF	0855.0	0910.0	19.0	4.0			
	5900	KISV	46	C	0855.3	0857.3		5.0			
	5900	KISV	46	C	0855.3	0901.3		3.0			
	5900	KISV	46	C	0855.3	0856.9	7.3	6.0			
	950	GORK	23	GRF	0902.3		147.7				
	536	ONDR	42	SER	0910.0E	0946.0U	209.0D				
	610	LEAR	49	GB	0920.0E	0946.0	32.0D	990.0			QL=1 ST=2 TYP=7
	3200	BERN	4	S/F	0920.0	0927.3	22.0	46.0			
	5200	BERN	4	S/F	0920.0	0927.3	22.0	35.0			
	650	GORK	47	GB	0920.1	0946.0		880.0			
	650	GORK	47	GB	0920.1	0943.0		840.0			
	650	GORK	47	GB	0920.1	0937.4	31.2	700.0			
	650	GORK	47	GB	0920.1	0940.7		840.0			
	9300	KISV	45	C	0920.4	0927.4		21.0			
	950	GORK	46	C	0920.4	0932.6		59.0			
	950	GORK	46	C	0920.4	0922.6	13.1	43.0			
	950	GORK	46	C	0920.4	0927.7		22.6			
	9300	KISV	45	C	0920.4	0931.8	30.2	24.0			
	810	KRAK	46	C	0920.5	0941.0		210.0D			
	810	KRAK	46	C	0920.5	0940.2	32.5	210.0D	24.0		
	810	KRAK	46	C	0920.5	0940.6		210.0D			
	3100	CRIM	21	GRF	0920.6	0930.5	28.0	30.0	10.0		
	5900	KISV	45	C	0921.0	0927.5	23.5	30.0			
	5900	KISV	45	C	0921.0	0931.8		26.0			
	3013	IZMI	5	S	0921.3	0927.5	14.0	35.0	20.0		
	245	LEAR	4	S/F	0922.0E	0925.0	12.0D	150.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0922.0E	0927.0	18.0D	64.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0926.0E	0931.0	11.0D	28.0			QL=1 ST=2 TYP=5
	3100	CRIM	1	S	0926.4	0927.5	3.0	17.0	6.0		
	9100	GORK	1	S	0926.6	0927.5	2.1	8.5			
	950	GORK	4	S/F	0933.5	0941.0	13.5	113.0			
	245	SVTO	8	S	0935.0E	0936.0	2.0D	65.0			QL=1 ST=2 TYP=3
	410	SVTO	49	GB	0935.0E	0950.0	18.0D	1000.0			QL=1 ST=2 TYP=7
	430	KRAK	49	GB	0935.0	0949.0U		200.0D			
	430	KRAK	49	GB	0935.0	0950.5U		200.0D			
	430	KRAK	49	GB	0935.0	0945.5U	17.5	200.0D	160.0D		
	410	LEAR	49	GB	0936.0E	0951.0	17.0D	1400.0			QL=1 ST=2 TYP=7
	5900	KISV	2	S/F	1005.1	1006.2	5.0	9.0			
	9300	KISV	2	S/F	1005.2	1006.1	1.3	4.0			
	650	GORK	40	F	1015.1	1101.2		60.0			
	650	GORK	40	F	1015.1	1038.3		32.0			
	650	GORK	40	F	1015.1	1023.6	59.9	44.0			
	410	SVTO	49	GB	1016.0E	1023.0	10.0D	650.0			QL=1 ST=2 TYP=7
	430	KRAK	46	C	1016.0	1019.3U	48.5	200.0D	50.0		
	430	KRAK	46	C	1016.0	1023.4U		200.0D			
	5900	KISV	45	C	1022.2	1034.0	92.0	25.0			
	5900	KISV	45	C	1022.2	1040.7		22.0			
	9300	KISV	22	GRF	1022.7	1033.9	53.5	21.0			
	245	SVTO	8	S	1023.0E	1024.0	1.0D	210.0			QL=1 ST=2 TYP=3
	15000	KISV	22	GRF	1023.1	1046.1	62.0	19.0			
	410	SVTO	4	S/F	1028.0E	1028.0	5.0D	200.0			QL=1 ST=2 TYP=3
	100	GORK	47	GB	1039.0	1044.0		570.0			
	100	GORK	47	GB	1039.0	1041.5	7.0	2170.0			
	650	GORK	4	S/F	1127.0	1127.4	2.5	38.0			
	950	GORK	4	S/F	1127.0	1127.6	3.0	25.0			

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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	2800	OTTA	24	R	1330.0	1500.0		21.6			
	2800	OTTA	4	S/F	1850.0	1918.8	90.0	276.4	138.0		
	8800	SGMR	4	S/F	1858.0E	1918.0	30.0D	370.0			QL=1 ST=2 TYP=5
	4995	SGMR	4	S/F	1859.0E	1918.0	29.0D	370.0			QL=1 ST=2 TYP=5
	2695	SGMR	4	S/F	1909.0E	1911.0	9.0D	240.0			QL=1 ST=2 TYP=3
	15400	SGMR	4	S/F	1916.0E	1918.0	3.0D	130.0			QL=1 ST=2 TYP=3
	1415	SGMR	8	S	1918.0E	1918.0	1.0D	57.0			QL=1 ST=2 TYP=3
	2695	SGMR	20	GRF	1930.0E	1938.0	22.0D	120.0			QL=1 ST=2 TYP=2
	4995	SGMR	20	GRF	1930.0E	1938.0	22.0D	130.0			QL=1 ST=2 TYP=2
	8800	SGMR	20	GRF	1930.0E	1932.0	22.0D	99.0			QL=1 ST=2 TYP=2
	610	SGMR	20	GRF	1938.0E	1944.0	14.0D	55.0			QL=1 ST=2 TYP=2
	1415	SGMR	4	S/F	1938.0E	1942.0	14.0D	58.0			QL=1 ST=2 TYP=5
	245	SGMR	49	GB	2007.0E	2007.0	U	600.0			QL=1 ST=3 TYP=6
	2695	LEAR	8	S	2307.0E	2308.0	1.0D	26.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	2308.0E	2308.0	U	150.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2308.0E	2308.0	1.0D	100.0			QL=1 ST=2 TYP=3
03	100	GORK	44	NS	0614.0E		316.0D		5.0		
	200	GORK	44	NS	0615.0E		180.0D		5.0		
	245	SVTO	43	NS	0637.0	1217.0	513.0D	120.0			QL=1 ST=2 TYP=1
	127	TORN	44	NS	0720.0E	1014.1	420.0D	400.0	30.0		V=1
	260	ONDR	44	NS	0850.0E	1013.9	285.0D	125.0			
	410	SVTO	44	NS	1213.0E	1221.0	177.0D	79.0			QL=1 ST=3 TYP=1
	245	LEAR	44	NS	2203.0E	0624.0	771.0D	53.0			QL=1 ST=2 TYP=1
	200	HIRA	46	C	0048.2	0049.0	2.2	232.0			WR
	100	HIRA	46	C	0048.2	0049.3	2.3	740.0			
	245	LEAR	8	S	0049.0E	0049.0	1.0D	170.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0049.0E	0049.0	1.0D	260.0			QL=1 ST=2 TYP=3
	200	HIRA	42	SER	0414.3	0414.5	10.6	60.0			WR
	9100	GORK	21	GRF	0740.8	1032.1	229.0D	17.0			
	5900	KISV	45	C	0924.3	0927.1	12.0	8.0			
	5900	KISV	45	C	0924.3	0925.3		7.0			
	9300	KISV	45	C	0924.5	0927.0		9.0			
	9300	KISV	45	C	0924.5	0925.2	8.4	10.0			
	9100	GORK	2	S/F	0924.5	0925.3	3.3	9.4			
	536	ONDR	40	F	0937.0E	1128.3	237.0D	137.0U			
	100	GORK	41	F	0939.5	0940.3		200.0			
	100	GORK	41	F	0939.5	0939.9	1.7	150.0			
	3013	IZMI	5	S	1011.3	1014.0	3.7	13.0	7.0		
	5900	KISV	2	S/F	1012.3	1013.8	5.0	17.0			
	2695	LEAR	8	S	1013.0E	1014.0	1.0D	27.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	1013.0E	1014.0	1.0D	29.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	1013.0E	1013.0	1.0D	280.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1013.0E	1013.0	1.0D	310.0			QL=1 ST=2 TYP=3
	100	GORK	41	F	1013.0	1108.6		470.0			
	9300	KISV	2	S/F	1013.0	1013.7	4.0	11.0			
	100	GORK	41	F	1013.0	1104.8		260.0			
	100	GORK	41	F	1013.0	1016.8		730.0			
	100	GORK	41	F	1013.0	1037.8		50.0			
	100	GORK	41	F	1013.0	1013.8	52.0	620.0			
	100	GORK	41	F	1013.0	1024.9		200.0			
	9100	GORK	1	S	1013.0	1013.9	1.5	7.7			
	204	IZMI	41	F	1013.2	1013.8	3.8	450.0			
	3100	CRIM	1	S	1013.3	1014.0	1.5	14.0	5.0		
	950	GORK	6	S	1013.3	1014.0	1.9	12.0			
	810	KRAK	2	S/F	1013.5	1013.7	1.3	16.0	4.0		
	430	KRAK	2	S/F	1013.5	1013.9	0.8	25.0	2.0		
	650	GORK	4	S/F	1013.6	1013.9	0.9	48.0			
	5900	KISV	22	GRF	1054.0	1057.3	17.0	7.0			
	3100	CRIM	1	S	1054.0	1057.7	10.0	6.0	2.0		
	5900	KISV	2	S/F	1125.0	1125.5	1.0	14.0			
	9300	KISV	2	S/F	1125.0	1125.5	1.0	14.0			
	9100	GORK	2	S/F	1125.1	1125.7	3.1	8.5			
	9300	KISV	2	S/F	1126.9	1127.7	7.0	10.0			
	5900	KISV	2	S/F	1126.9	1127.7	3.0	6.0			
	33	UPIC	8	S	1129.7	1129.8	0.3				
	5900	KISV	4	S/F	1143.6	1145.0	8.0	47.0			
	9300	KISV	4	S/F	1143.7	1145.6	6.7	45.0			
	3100	CRIM	3	S	1144.1	1146.0	4.7	20.0	7.0		

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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
03	5200	BERN	4	S/F	1144.3	1145.4	4.0	55.0			
	11800	BERN	4	S/F	1144.3	1145.4	4.0	33.0			
	8400	BERN	4	S/F	1144.3	1145.4	4.0	60.0			
	3200	BERN	4	S/F	1144.3	1145.5	4.0	38.0			
	15000	KISV	2	S/F	1145.3	1145.6	1.5	10.0			
	430	KRAK	41	F	1213.5	1216.3	6.5	38.0	4.0		
	410	SVTO	8	S	1218.0E	1218.0	1.0D	290.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1734.0E	1734.0	1.0D	62.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1924.0E	1924.0	U	76.0			QL=1 ST=2 TYP=3
	200	HIRA	24	R	2149.0E	2838.0	580.0D	18.0	2.0		WR
04	200	GORK	44	NS	0618.0E		180.0D		5.0		
	245	SVTO	44	NS	0637.0E	0830.0	514.0D	46.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	43	NS	0742.0	1319.5	378.0	200.0	30.0		V=1
	100	GORK	43	NS	0809.0		264.0		5.0		
	260	ONDR	44	NS	0842.0E	0944.3	293.0D	738.0			
	245	SGMR	44	NS	1238.0E	1310.0	142.0D	64.0			QL=1 ST=2 TYP=1
	2840	PEKG	1	S	0412.0	0412.8	2.0	3.1			
	9100	GORK	20	GRF	0749.7	0844.8	191.0	13.0			
	650	GORK	21	GRF	0750.8	0806.2	23.3	4.0			
	950	GORK	40	F	0751.0	0755.9	29.0	6.7			
	650	GORK	46	C	0754.0	0756.0		14.0			
	650	GORK	46	C	0754.0	0754.3	3.2	11.0			
	100	GORK	8	S	0800.0	0800.3	1.1	120.0			
	9300	KISV	2	S/F	0804.4	0806.6	6.0	14.0			
	3100	CRIM	1	S	0805.3	0806.6	6.0	11.0	4.0		
	204	IZMI	8	S	1022.0	1022.1	0.1	90.0	85.0		
	536	ONDR	8	S	1144.6	1144.7	0.3	78.0			
	536	ONDR	8	S	1224.1	1224.2	0.2	149.0			
	810	KRAK	41	F	1306.5	1312.3	11.2	17.0	3.0		
	810	KRAK	41	F	1306.5	1314.9		16.0			
	245	SGMR	8	S	1309.0E	1309.0	U	190.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1309.0E	1309.0	U	97.0			QL=1 ST=2 TYP=3
	430	KRAK	2	S/F	1310.5	1312.5	2.5	11.0	1.0		
	430	KRAK	8	S	1314.9	1315.0	0.1	19.0			
	810	KRAK	8	S	1321.9	1322.0	0.1	7.0			
	810	KRAK	8	S	1336.0	1336.1	0.1	9.0			
	2800	OTTA	4	S/F	1448.0	1452.0	10.0	14.4	7.0		
	2800	OTTA	4	S/F	1602.0	1613.0	33.0	22.2	9.0		
	2800	OTTA	22	GRF	1652.0	1725.0	171.0	28.4	9.0		
	245	SGMR	8	S	1717.0E	1717.0	U	110.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1724.0E	1724.0	U	70.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1738.0	1758.0	32.0	453.0	180.0		
	4995	PALE	4	S/F	1748.0E	1757.0	26.0D	400.0			QL=1 ST=2 TYP=5
	410	SGMR	20	GRF	1750.0E	1756.0	8.0D	150.0			QL=1 ST=2 TYP=2
	2695	PALE	20	GRF	1750.0E	1757.0	12.0D	300.0			QL=1 ST=2 TYP=2
	410	PALE	8	S	1750.0E	1756.0	12.0D	130.0			QL=1 ST=2 TYP=3
	2695	SGMR	20	GRF	1750.0E	1757.0	12.0D	290.0			QL=1 ST=2 TYP=2
	4995	SGMR	20	GRF	1750.0E	1757.0	13.0D	360.0			QL=1 ST=2 TYP=2
	245	SGMR	4	S/F	1751.0E	1757.0	13.0D	370.0			QL=1 ST=2 TYP=5
	8800	PALE	4	S/F	1752.0E	1757.0	9.0D	140.0			QL=1 ST=2 TYP=5
	610	SGMR	4	S/F	1752.0E	1754.0	7.0D	140.0			QL=1 ST=2 TYP=3
	1415	SGMR	4	S/F	1752.0E	1757.0	6.0D	82.0			QL=1 ST=2 TYP=5
	245	PALE	4	S/F	1752.0E	1757.0	12.0D	320.0			QL=1 ST=2 TYP=3
	8800	SGMR	20	GRF	1752.0E	1817.0	25.0D	230.0			QL=1 ST=3 TYP=2
	1415	PALE	4	S/F	1753.0E	1757.0	5.0D	82.0			QL=1 ST=2 TYP=5
	15400	SGMR	20	GRF	1753.0E	1757.0	6.0D	73.0			QL=1 ST=3 TYP=2
	610	PALE	4	S/F	1754.0E	1754.0	3.0D	78.0			QL=1 ST=2 TYP=3
05	200	GORK	44	NS	0615.0E		180.0D		5.0		
	260	ONDR	44	NS	0842.0E	1154.0U	296.0D				
	245	SVTO	44	NS	0942.0E	1220.0	330.0D	130.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0946.0E	1004.0	326.0D	33.0			QL=1 ST=2 TYP=1
	127	TORN	43	NS	0949.0		221.0		45.0		V=1
	204	IZMI	43	NS	0955.0		125.0	15.0			
	245	LEAR	44	NS	1008.0E	1032.0	46.0D	32.0			QL=1 ST=2 TYP=1
	245	SGMR	44	NS	1238.0E	1326.0	501.0D	66.0			QL=1 ST=3 TYP=1
	200	HIRA	44	NS	2149.0E	0014.0	580.0D	8.0	1.0		O

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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
05	245	LEAR	44	NS	2205.0E	0826.0	769.0D	100.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	2245.0E	2309.0	301.0D	60.0			QL=1 ST=2 TYP=1
	5900	KISV	2	S/F	0634.6	0635.2	1.2	6.0			
	9300	KISV	2	S/F	0634.6	0635.2	2.5	11.0			
	650	GORK	2	S/F	0719.6	0722.4	4.7	5.6			
	200	GORK	4	S/F	0720.0	0722.5	3.0	16.0			
	200	GORK	4	S/F	0838.9	0841.7	3.3	17.0			
	100	GORK	8	S	0851.7	0852.0	0.7	90.0			
	536	ONDR	40	F	0910.0E	1154.3	268.0D	140.0			
	410	LEAR	8	S	0914.0E	0914.0	U	140.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	0914.0E	0914.0	U	150.0			QL=1 ST=2 TYP=3
	245	LEAR	4	S/F	0948.0E	0950.0	3.0D	44.0			QL=1 ST=2 TYP=3
	650	GORK	23	GRF	0948.5E	1026.6	101.0D	16.0			
	204	IZMI	41	F	0948.9	0951.0	3.0	130.0			
	950	GORK	23	GRF	0948.9	1018.0	52.5	6.0			
	245	SVTO	8	S	0949.0E	0950.0	2.0D	50.0			QL=1 ST=2 TYP=3
	127	TORN	47	GB	0949.0	0950.0	3.0	1800.0	180.0		UNCERTAIN
	100	GORK	41	F	0949.0	0955.1		180.0			
	100	GORK	41	F	0949.0	1024.6		110.0			
	100	GORK	41	F	0949.0	1004.8		120.0			
	100	GORK	41	F	0949.0	1033.8		140.0			
	100	GORK	41	F	0949.0	0950.8	46.0	470.0			
	5900	KISV	4	S/F	0949.5	0950.8	7.5	53.0			
	9300	KISV	4	S/F	0949.8	0950.8	8.6	61.0			
	9100	GORK	4	S/F	0949.9	0950.8	1.9	59.0			
	9100	GORK	29	PBI	0949.9	0951.8	27.2	9.0			
	2950	GORK	1	S	0950.0	0951.0	2.6	6.5			
	15400	LEAR	8	S	0950.0E	0950.0	1.0D	25.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0950.0E	0950.0	1.0D	52.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0950.0E	0950.0	U	56.0			QL=1 ST=2 TYP=3
	3100	CRIM	1	S	0950.0	0950.9	1.5	6.0	2.0		
	15000	KISV	2	S/F	0950.3	0950.8	2.9	23.0			
	650	GORK	4	S/F	0950.4	0950.6	0.8	15.0			
	650	GORK	40	F	0954.6	1011.0		20.0			
	650	GORK	40	F	0954.6	1005.0	40.2	130.0			
	650	GORK	40	F	0954.6	1007.4		18.0			
	650	GORK	40	F	0954.6	1013.8		20.0			
	950	GORK	46	C	0956.3	0958.5		37.0			
	950	GORK	46	C	0956.3	0957.5	3.4	13.0			
	950	GORK	4	S/F	1002.0	1007.7	10.0	98.0			
	610	LEAR	8	S	1004.0E	1004.0	1.0D	80.0			QL=1 ST=2 TYP=3
	410	LEAR	8	S	1004.0E	1004.0	2.0D	41.0			QL=1 ST=2 TYP=3
	204	IZMI	8	S	1004.5	1004.6	0.2	157.0	150.0		
	245	LEAR	8	S	1005.0E	1005.0	2.0D	100.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1005.0E	1005.0	1.0D	110.0			QL=1 ST=2 TYP=3
	950	GORK	4	S/F	1013.3	1014.1	0.8	90.0			
	950	GORK	2	S/F	1018.4	1018.8	1.2	13.0			
	245	SVTO	8	S	1028.0E	1028.0	U	220.0			QL=1 ST=2 TYP=3
	950	GORK	2	S/F	1033.5	1033.8	1.2	9.6			
	100	GORK	46	C	1102.2	1102.5	0.7	7400.0			
	950	GORK	2	S/F	1102.2	1102.5	0.5	8.5			
	100	GORK	46	C	1102.2	1102.6		1060.0			
	650	GORK	2	S/F	1102.3	1102.5	0.6	6.5			
	100	GORK	46	C	1129.6	1129.8	0.7	200.0			
	5900	KISV	2	S/F	1142.0	1144.1	6.0	19.0			
	3100	CRIM	1	S	1142.3	1143.3	5.3	18.0	6.0		
	9300	KISV	2	S/F	1142.5	1144.2	3.5	11.0			
	245	SVTO	8	S	1143.0E	1144.0	1.0D	360.0			QL=1 ST=2 TYP=3
	3013	IZMI	5	S	1143.6	1144.4	2.4	19.0	15.0		
	204	IZMI	41	F	1144.0	1153.7	15.0	600.0			
	245	SVTO	49	GB	1152.0E	1153.0	1.0D	820.0			QL=1 ST=2 TYP=6
	245	SVTO	8	S	1156.0E	1157.0	2.0D	170.0			QL=1 ST=2 TYP=3
	2800	OTTA	1	S	1655.0	1655.6	2.3	15.1	4.0		
	245	SGMR	8	S	1704.0E	1704.0	U	470.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	2305.0E	2305.0	U	140.0			QL=1 ST=2 TYP=3
	500	HIRA	41	F	2306.0	2306.6	1.1	56.0			O
06	204	IZMI	43	NS	0700.0		300.0	15.0			
	127	TORN	43	NS	0820.0		340.0		13.0		V=0

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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
06	260	ONDR	44	NS	0841.0E	1131.0	298.0D	115.0			
	245	LEAR	4	S/F	0055.0E	0058.0	3.0D	260.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0058.0E	0058.0	U	370.0			QL=1 ST=2 TYP=3
	500	HIRA	2	S/F	0347.5	0348.0	1.2	7.0			0
	35000	NOBE	20	GRF	0411.5	0420.2	40.0	50.0			0
	17000	NOBE	7	C	0500.6	0506.2	7.8	883.0			5R
	17000	NOBE	29	PBI	0500.6	0512.7	30.0	26.0			0
	8800	LEAR	49	GB	0504.0E	0506.0	4.0D	530.0			QL=1 ST=2 TYP=6
	35000	NOBE	7	C	0504.4	0506.0	3.0	307.0			
	15400	LEAR	49	GB	0505.0E	0506.0	6.0D	940.0			QL=1 ST=2 TYP=6
	2695	LEAR	8	S	0505.0E	0506.0	2.0D	45.0			QL=1 ST=2 TYP=3
	2840	PEKG	3	S	0508.0	0509.0	3.0	50.1			
	200	HIRA	46	C	0633.2	0636.0	13.9	38.0			0
	650	GORK	21	GRF	0809.2	0819.3	36.2	9.3			
	650	GORK	2	S/F	0816.7	0817.0	0.6	5.6			
	430	KRAK	8	S	0816.7	0817.0	0.5	6.0			
	430	KRAK	8	S	0826.3	0826.5	0.5	14.0			
	650	GORK	4	S/F	0826.4	0826.4	0.6	11.0			
	536	ONDR	40	F	0950.0	1224.1	190.0	66.0			
	9100	GORK	22	GRF	0954.5	1003.6	54.8	7.7			
	100	GORK	46	C	1004.0	1005.1		160.0			
	100	GORK	46	C	1004.0	1004.8	0.7	170.0			
	9300	KISV	2	S/F	1007.2	1007.6	0.8	5.0			
	5900	KISV	2	S/F	1007.2	1007.7	0.8	1.0			
	5900	KISV	45	C	1114.5	1115.6	2.3	7.0			
	5900	KISV	45	C	1114.5	1115.8		6.0			
	9300	KISV	45	C	1114.8	1115.6	4.0	15.0			
	9300	KISV	45	C	1114.8	1115.8		14.0			
	15000	KISV	45	C	1115.3	1115.6	0.7	7.0			
	15000	KISV	45	C	1115.3	1115.8		5.0			
	100	GORK	8	S	1119.5	1119.8	0.7	2500.0			
	810	KRAK	8	S	1140.5	1140.8	0.5	11.0			
	9300	KISV	2	S/F	1153.3	1154.9	6.1	6.0			
	430	KRAK	8	S	1208.1	1208.1	0.1	72.0			
	430	KRAK	8	S	1328.5	1328.6	0.2	10.0			
	2800	OTTA	4	S/F	1753.0	1800.0	28.0	29.9	12.0		
	15400	PALE	4	S/F	1753.0E	1759.0	28.0D	280.0			QL=1 ST=2 TYP=5
	8800	PALE	4	S/F	1755.0E	1800.0	17.0D	280.0			QL=1 ST=2 TYP=5
	8800	SGMR	4	S/F	1755.0E	1759.0	14.0D	260.0			QL=1 ST=2 TYP=5
	15400	SGMR	4	S/F	1755.0E	1759.0	13.0D	220.0			QL=1 ST=2 TYP=5
	1415	PALE	8	S	1756.0E	1756.0	1.0D	51.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	1756.0E	1756.0	1.0D	69.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1759.0E	1802.0	6.0D	84.0			QL=1 ST=2 TYP=5
07	200	HIRA	43	NS	0100.0	0618.5	400.0D	13.0	4.0		WR
	245	LEAR	44	NS	0557.0E	1017.0	298.0D	79.0			QL=1 ST=2 TYP=1
	200	GORK	44	NS	0606.0E		180.0D	180.0D	5.0		
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	43	NS	0742.0		398.0D		30.0		V=1
	260	ONDR	44	NS	0850.0E	1156.4	291.0D	150.0			
	100	GORK	43	NS	1040.0		56.0D		5.0		
	245	SGMR	44	NS	1238.0E	1357.0	682.0D	13.0			QL=1 ST=3 TYP=1
	245	PALE	44	NS	2026.0E	2128.0	421.0D	71.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	2235.0	200.0D	70.0	15.0		
	200	HIRA	44	NS	2150.0E	2243.0	590.0D	13.0	4.0		WL
	245	LEAR	43	NS	2206.0	0658.0	769.0D	46.0			QL=1 ST=2 TYP=1
	200	HIRA	42	SER	0003.6	0018.1	15.8	15.0			0
	500	HIRA	41	F	0010.3	0011.0	1.7	40.0			0
	1415	PALE	8	S	0011.0E	0011.0	1.0D	74.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	0017.0E	0018.0	4.0D	130.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0111.0E	0111.0	2.0D	17.0			QL=1 ST=3 TYP=3
	410	LEAR	49	GB	0111.0E	0111.0	2.0D	560.0			QL=1 ST=2 TYP=6
	610	LEAR	8	S	0111.0E	0111.0	2.0D	1.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	0111.0E	0111.0	U	230.0			QL=1 ST=2 TYP=3
	200	HIRA	42	SER	0137.6	0142.6	8.0	396.0			0
	245	LEAR	49	GB	0141.0E	0142.0	4.0D	700.0			QL=1 ST=3 TYP=6
	500	HIRA	46	C	0141.1	0142.8	6.0	32.0	14.0		0
	610	LEAR	4	S/F	0142.0E	0143.0	3.0D	21.0			QL=1 ST=2 TYP=3
	410	LEAR	4	S/F	0142.0E	0142.0	3.0D	46.0			QL=1 ST=2 TYP=3

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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
07	2695	LEAR	8	S	0142.0E	0143.0	1.0D	19.0			QL=1 ST=2 TYP=3
	245	PALE	49	GB	0142.0E	0143.0	4.0D	1100.0			QL=1 ST=2 TYP=6
	2840	PEKG	5	S	0401.0	0405.0	8.0	11.0			
	17000	NOBE	20	GRF	0411.5	0420.2	40.0	57.0			O
	245	LEAR	8	S	0532.0E	0532.0	U	340.0			QL=1 ST=2 TYP=3
	500	HIRA	41	F	0556.1	0600.0	11.9	54.0			O
	200	HIRA	41	F	0556.5	0559.0U	83.0D	9.0			O SUNSET
	9100	GORK	21	GRF	0721.5	1025.9	258.0	26.7			
	100	GORK	8	S	0725.4	0725.6	0.5	350.0			
	650	GORK	21	GRF	0730.0	0927.8	243.0D	9.0			
	15000	KISV	23	GRF	0746.4	0749.4	12.3	15.0			
	5900	KISV	23	GRF	0747.5	0749.8	12.5	8.0			
	9300	KISV	23	GRF	0748.7	0749.5	17.3	10.0			
	9100	GORK	1	S	0749.1	0749.6	1.4	11.0			
	15000	KISV	22	GRF	0832.2	0837.0	15.5	9.0			
	9300	KISV	22	GRF	0832.4	0836.9	12.4	8.0			
	5900	KISV	2	S/F	0925.9	0928.0	4.3	4.0			
	5900	KISV	22	GRF	0936.0	1017.3	74.7	14.0			
	9300	KISV	22	GRF	0951.0	0955.2	21.3	7.0			
	100	GORK	41	F	1000.7	1017.7		1050.0			
	100	GORK	41	F	1000.7	1000.8	17.5	230.0			
	9300	KISV	22	GRF	1016.2	1032.3	55.8	13.0			
	204	IZMI	5	S	1017.3	1017.7	1.0	1100.0	400.0		
	650	GORK	4	S/F	1017.6	1017.9	0.5	10.0			
	430	KRAK	42	SER	1124.5	1210.0	68.5	16.0			
	9300	KISV	22	GRF	1151.0	1157.2		8.0			
	5900	KISV	22	GRF	1151.0	1158.2		10.0			
	8400	BERN	4	S/F	1251.0	1254.0	20.0	33.0			
	5200	BERN	4	S/F	1251.0	1254.0	20.0	20.0			
	11800	BERN	4	S/F	1251.0	1254.0	20.0	32.0			
	245	PALE	8	S	2106.0E	2106.0	1.0D	210.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2129.0E	2129.0	1.0D	290.0			QL=1 ST=2 TYP=3
08	100	GORK	44	NS	0600.0E		136.0D		10.0		
	200	GORK	43	NS	0606.0		180.0D		5.0		
	127	TORN	43	NS	0736.0	1253.3	416.0	300.0	17.0		V=0
	260	ONDR	44	NS	0850.0E	1249.5	290.0D	33.0			
	245	SGMR	43	NS	1238.0	1436.0	504.0D	25.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E		590.0D		4.0		
	245	LEAR	44	NS	2340.0E	0844.0	675.0D	650.0			QL=1 ST=2 TYP=1
	2840	PEKG	1	S	0309.0	0311.4	6.0	8.7			
	2840	PEKG	1	S	0323.0	0325.9	8.0	5.3			
	100	GORK	41	F	0613.7	0627.0		470.0			
	100	GORK	41	F	0613.7	0614.0	15.0	350.0			
	100	GORK	41	F	0613.7	0619.8		140.0			
	15000	KISV	2	S/F	0621.3	0622.4	2.5	4.0			
	650	GORK	20	GRF	0630.8E	0818.0	152.8D	13.0			
	5900	KISV	2	S/F	0645.7	0646.4	2.0	10.0			
	9300	KISV	2	S/F	0645.8	0646.3	2.0	8.0			
	9100	GORK	21	GRF	0655.3	1108.8	270.0D	31.0			
	9300	KISV	2	S/F	0716.4	0719.4	3.0	5.0			
	5900	KISV	2	S/F	0718.8	0719.4	2.8	2.0			
	15000	KISV	2	S/F	0724.0	0724.3	0.9	7.0			
	5900	KISV	2	S/F	0724.2	0724.6	0.7	1.0			
	15000	KISV	2	S/F	0728.3	0729.3	1.7	7.0			
	9300	KISV	2	S/F	0739.3	0740.3	7.5	5.0			
	15000	KISV	23	GRF	0739.4	0740.2	11.3	7.0			
	2950	GORK	21	GRF	0821.1	0851.5	51.0	7.4			
	3013	IZMI	5	S	0827.0	0828.0	2.0	15.0	10.0		
	9300	KISV	29	PBI	0827.0	0830.0	19.0	7.0			
	15000	KISV	29	PBI	0827.0	0836.0	29.0	10.0			
	5900	KISV	29	PBI	0827.0	0830.3	21.5	5.0			
	5900	KISV	4	S/F	0827.0	0827.7	3.0	34.0			
	9300	KISV	2	S/F	0827.0	0827.7	2.8	25.0			
	15000	KISV	2	S/F	0827.0	0827.8	2.3	7.0			
	9100	GORK	1	S	0827.1	0827.7	2.9	22.6			
	2950	GORK	3	S	0827.2	0827.7	2.0	16.7			
	3100	CRIM	1	S	0827.3	0828.3	2.7	14.0	5.0		
	5900	KISV	2	S/F	0849.8	0851.0	2.6	4.0			

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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
08	5900	KISV	45	C	0906.0	0913.1	9.2	7.0			
	9300	KISV	46	C	0906.0	0907.2		6.0			
	5900	KISV	45	C	0906.0	0907.2		5.0			
	9300	KISV	46	C	0906.0	0914.2		7.0			
	9300	KISV	46	C	0906.0	0912.8	12.0	11.0			
	15000	KISV	46	C	0911.5	0917.2		4.0			
	15000	KISV	46	C	0911.5	0914.4		5.0			
	15000	KISV	46	C	0911.5	0912.6	60.0	9.0			
	430	KRAK	8	S	0933.2	0933.2	0.5	14.0			
	15000	KISV	2	S/F	0958.7	0959.2	4.6	14.0			
	9300	KISV	2	S/F	0958.7	0959.4	7.3	11.0			
	430	KRAK	8	S	1030.0	1030.0	0.1	8.0			
	15000	KISV	2	S/F	1035.3	1035.7	1.9	5.0			
	9300	KISV	2	S/F	1048.6	1053.6	7.4	5.0			
	650	GORK	2	S/F	1049.3	1049.3	1.0	7.0			
	15000	KISV	2	S/F	1053.3	1053.8	3.7	7.0			
	15400	SVTO	8	S	1204.0E	1205.0	2.0D	52.0			QL=1 ST=2 TYP=3
	536	ONDR	41	F	1212.0	1237.4	44.0	16.0			
	3200	BERN	46	C	1232.0	1238.0	30.0	96.0			
	19600	BERN	46	C	1232.0	1238.0	30.0	120.0			
	8400	BERN	46	C	1232.0	1238.0	30.0	192.0			
	5200	BERN	46	C	1232.0	1238.0	30.0	240.0			
	11800	BERN	46	C	1232.0	1238.0	30.0	170.0			
	4995	SVTO	4	S/F	1232.0E	1253.0	31.0D	270.0			QL=1 ST=2 TYP=5
	8800	SVTO	4	S/F	1232.0E	1252.0	31.0D	240.0			QL=1 ST=2 TYP=5
	810	KRAK	27	RF	1232.5	1259.0		37.0			
	810	KRAK	27	RF	1232.5	1236.6	28.0	26.0	7.0		
	1415	SVTO	4	S/F	1233.0E	1239.0	17.0D	59.0			QL=1 ST=2 TYP=3
	15400	SVTO	4	S/F	1233.0E	1253.0	30.0D	180.0			QL=1 ST=2 TYP=5
	2695	SVTO	4	S/F	1233.0E	1239.0	30.0D	140.0			QL=1 ST=2 TYP=5
	4995	SGMR	4	S/F	1236.0E	1240.0	5.0D	160.0			QL=1 ST=2 TYP=5
	430	KRAK	27	RF	1236.0	1238.0	24.5D	16.0	3.0		
	2695	SGMR	4	S/F	1237.0E	1240.0	4.0D	120.0			QL=1 ST=2 TYP=5
	1415	SGMR	8	S	1240.0E	1240.0	1.0D	52.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1251.0E	1253.0	5.0D	240.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1251.0E	1253.0	4.0D	100.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1252.0E	1253.0	3.0D	170.0			QL=1 ST=2 TYP=3
	810	KRAK	42	SER	1315.8	1316.4	5.7	11.0			
	2695	LEAR	4	S/F	2331.0E	2338.0	8.0D	23.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	2331.0E	2340.0	10.0D	180.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	2331.0E	2340.0	10.0D	270.0			QL=1 ST=2 TYP=3
	35000	NOBE	7	C	2339.0	2340.0	5.0	69.0			0
	8800	PALE	4	S/F	2339.0E	2340.0	4.0D	160.0			QL=1 ST=2 TYP=3
	15400	PALE	4	S/F	2339.0E	2340.0	21.0D	300.0			QL=1 ST=1 TYP=3
	17000	NOBE	7	C	2339.6	2340.0	20.0	249.0			29L
	4995	PALE	8	S	2341.0E	2342.0	2.0D	69.0			QL=1 ST=2 TYP=3
09	410	LEAR	43	NS	0547.0	0705.0	308.0	270.0			QL=1 ST=2 TYP=1
	610	LEAR	43	NS	0547.0	0705.0	308.0	130.0			QL=1 ST=2 TYP=1
	200	GORK	44	NS	0610.0E		180.0D		65.0		
	650	GORK	44	NS	0624.0E		317.3D		6.0		
	410	SVTO	44	NS	0636.0E	0706.0	373.0D	300.0			QL=1 ST=2 TYP=1
	245	SVTO	43	NS	0636.0	0844.0	520.0D	850.0			QL=1 ST=2 TYP=1
	100	GORK	44	NS	0650.0E		304.0D		100.0		
	204	IZMI	43	NS	0700.0		300.0	150.0			
	127	TORN	44	NS	0720.0E		420.0D		730.0		V=1
	430	KRAK	44	NS	0751.5E	0819.0	280.5D	130.0	42.0		
	810	KRAK	44	NS	0751.5E	0819.0	288.5D	50.0U	25.0U		
	260	ONDR	44	NS	0840.0E		300.0D				
	245	SGMR	43	NS	1237.0	1329.0	506.0D	340.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1730.0E	0232.0	619.0D	220.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	0233.0	590.0D	38.0	25.0		ML
	245	LEAR	44	NS	2207.0E	0839.0	768.0D	350.0			QL=1 ST=2 TYP=1
	2695	LEAR	4	S/F	0107.0E	0109.0	6.0D	130.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	0108.0E	0109.0	1.0D	16.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0108.0E	0110.0	2.0D	69.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0108.0E	0109.0	1.0D	120.0			QL=1 ST=2 TYP=3
	200	HIRA	24	R	0434.0		180.0D		55.0U		SUNSET
	500	HIRA	24	R	0514.0	0657.0	140.0D	136.0	57.0		SL SUNSET

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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
09	9300	KISV	2	S/F	0601.2	0602.5	5.0	12.0			
	5900	KISV	2	S/F	0601.8	0602.5	6.3	4.0			
	15000	KISV	2	S/F	0602.0	0602.5	3.3	8.0			
	950	GORK	40	F	0621.0E	0655.4	324.0D	109.0			
	5900	KISV	23	GRF	0627.2	0724.8	207.0	38.0			
	5900	KISV	2	S/F	0637.3	0638.8	4.7	7.0			
	9300	KISV	23	GRF	0637.5	0713.3	202.0	31.0			
	9300	KISV	2	S/F	0637.8	0638.8	7.5	26.0			
	15000	KISV	23	GRF	0637.9	0716.5	158.0	35.0			
	15000	KISV	2	S/F	0637.9	0638.7	7.5	39.0			
	17000	NOBE	7	C	0638.1	0638.6	2.5	34.0			23L
	9100	GORK	2	S/F	0638.1	0638.8	2.9	17.6			
	9100	GORK	23	GRF	0707.2	0839.8	274.0	41.0			
	9300	KISV	2	S/F	0736.4	0737.9	8.9	22.0			
	9100	GORK	1	S	0736.9	0737.9	2.8	16.0			
	5900	KISV	2	S/F	0737.0	0738.0	5.7	8.0			
	15000	KISV	2	S/F	0737.0	0739.1	3.4	11.0			
	9300	KISV	4	S/F	0752.8	0756.2	9.5	47.0			
	15000	KISV	2	S/F	0752.9	0756.1	7.1	38.0			
	2695	LEAR	8	S	0753.0E	0754.0	1.0D	23.0			QL=1 ST=2 TYP=3
	3100	CRIM	1	S	0753.1	0754.0	4.8	17.0	6.0		
	2950	GORK	3	S	0753.3	0754.0	3.3	22.0			
	5900	KISV	2	S/F	0753.3	0756.2	9.1	18.0			
	3013	IZMI	5	S	0753.5	0754.0	1.5	9.0	4.0		
	410	LEAR	4	S/F	0755.0E	0755.0	3.0D	62.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0755.0E	0756.0	1.0D	27.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0755.0E	0756.0	1.0D	37.0			QL=1 ST=2 TYP=3
	9100	GORK	3	S	0755.4	0756.1	3.4	40.0			
	2950	GORK	21	GRF	0813.7U	0821.0	123.0D	29.0			
	9300	KISV	2	S/F	0816.3	0816.6	2.8	7.0			
	15000	KISV	2	S/F	0816.4	0816.7	3.3	15.0			
	3100	CRIM	1	S	0817.1	0818.4	2.5	6.0	2.0		
	2950	GORK	1	S	0817.4	0818.1	2.1	6.3	3.0		
	9300	KISV	2	S/F	0825.6	0829.4	6.8	15.0			
	15000	KISV	2	S/F	0826.4	0829.3	7.4	16.0			
	9100	GORK	2	S/F	0829.0	0829.4	2.2	9.0			
	2950	GORK	20	GRF	0924.4	1040.3	76.0	10.6			
	536	ONDR	41	F	0930.0D	1146.0	250.0D	144.0			
	15000	KISV	2	S/F	0943.6	0944.0	2.5	25.0			
	5900	KISV	2	S/F	1004.8	1008.0	6.3	14.0			
	9300	KISV	4	S/F	1004.9	1008.0	7.2	52.0			
	15400	LEAR	4	S/F	1005.0E	1008.0	3.0D	54.0			QL=1 ST=2 TYP=3
	15000	KISV	4	S/F	1005.6	1008.2	6.5	52.0			
	19600	BERN	3	S	1007.0	1008.0	3.0	52.0			
	8400	BERN	3	S	1007.0	1008.0	3.0	30.0			
	11800	BERN	3	S	1007.0	1008.0	3.0	39.0			
	9100	GORK	3	S	1007.1	1008.0	3.3	42.0			
	9300	KISV	23	GRF	1030.5	1031.3	23.0	9.0			
	9300	KISV	23	GRF	1030.5	1035.5		8.0			
	5900	KISV	2	S/F	1031.1	1031.6	1.2	2.0			
	5900	KISV	22	GRF	1036.9	1040.7	26.3	5.0			
	9300	KISV	2	S/F	1055.3	1055.9	3.0	6.0			
	15000	KISV	45	C	1105.2	1106.1	8.0	9.0			
	15000	KISV	45	C	1105.2	1109.3		7.0			
	9300	KISV	2	S/F	1125.6	1125.8	0.7	9.0			
	15000	KISV	2	S/F	1125.6	1125.8	1.3	13.0			
	5900	KISV	1	S	1142.7	1142.8	0.5	4.0			
	15400	SGMR	8	S	1601.0E	1601.0	U	78.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1811.0E	1811.0	1.0D	380.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	1811.0E	1811.0	1.0D	160.0			QL=1 ST=2 TYP=3
	2800	OTTA	28	PRE	1822.4	1824.2	51.6	31.1	9.0		
	610	SGMR	8	S	1824.0E	1824.0	U	150.0			QL=1 ST=2 TYP=3
	2800	OTTA	47	GB	1914.0	1921.2	16.5	628.0	314.0		
	8800	SGMR	49	GB	1914.0E	1920.0	14.0D	840.0			QL=1 ST=2 TYP=7
	4995	SGMR	4	S/F	1915.0E	1920.0	13.0D	500.0			QL=1 ST=2 TYP=3
	4995	PALE	4	S/F	1916.0E	1921.0	21.0D	380.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	1918.0E	1921.0	19.0D	430.0			QL=1 ST=2 TYP=3
	15400	PALE	49	GB	1918.0E	1920.0	19.0D	840.0			QL=1 ST=2 TYP=6
	2695	SGMR	4	S/F	1918.0E	1921.0	10.0D	450.0			QL=1 ST=2 TYP=3

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

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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
09	15400	SGMR	49	GB	1918.0E	1920.0	10.0D	830.0			QL=1 ST=2 TYP=6
	1415	SGMR	4	S/F	1919.0E	1921.0	7.0D	240.0			QL=1 ST=2 TYP=3
	1415	PALE	4	S/F	1919.0E	1921.0	18.0D	200.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	1927.0E	1927.0	10.0D	130.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1928.0E	1928.0	1.0D	55.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1928.0E	1938.0	13.0D	160.0			QL=1 ST=2 TYP=5
	15400	SGMR	20	GRF	1928.0E	1938.0	17.0D	120.0			QL=1 ST=2 TYP=2
	8800	SGMR	20	GRF	1928.0E	1938.0	21.0D	190.0			QL=1 ST=2 TYP=2
	2800	OTTA	29	PBI	1930.5	1930.5	210.0D	42.2	21.0		
	2800	OTTA	4	S/F	1931.0	1938.2	13.0	64.8	26.0		
10	200	GORK	44	NS	0615.0E		180.0D		15.0		
	100	GORK	44	NS	0615.0E		243.0D		15.0		
	245	SVTO	44	NS	0636.0E	0839.0	521.0D	400.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	50.0			
	127	TORN	44	NS	0720.0E	1346.1	420.0D	1200.0	180.0		V=1
	260	ONDR	44	NS	0840.0E	1032.0	300.0D	75.0			
	245	SGMR	43	NS	1237.0	1305.0	508.0D	79.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1730.0E	1758.0	620.0D	90.0			QL=1 ST=2 TYP=1
	15400	LEAR	4	S/F	0023.0E	0024.0	11.0D	62.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0023.0E	0024.0	10.0D	88.0			QL=1 ST=2 TYP=3
	17000	NOBE	7	C	0023.8	0024.7	50.0	43.0			25L
	500	HIRA	4	S/F	0023.8	0024.9	7.5	5.0	3.0		0
	2695	LEAR	20	GRF	0024.0E	0029.0	7.0D	49.0			QL=1 ST=2 TYP=2
	245	LEAR	4	S/F	0025.0E	0029.0	5.0D	50.0			QL=1 ST=2 TYP=5
	500	HIRA	46	C	0124.5	0135.0		9.0			WL
	500	HIRA	46	C	0124.5	0233.0	103.0	24.0	4.0		ML
	2840	PEKG	20	GRF	0448.0	0451.0	12.0	2.0			
	2840	PEKG	45	C	0548.0	0551.7	7.0	22.0			
	3100	CRIM	21	GRF	0616.0	0625.0	174.0	21.0	7.0		
	2950	GORK	4	S/F	0618.5	0623.0	7.6	47.0			
	5900	KISV	46	C	0619.7	0629.6		43.0			
	5900	KISV	46	C	0619.7	0626.7		29.0			
	5900	KISV	46	C	0619.7	0623.7	26.5	44.0			
	5900	KISV	23	GRF	0619.7	0729.7	169.5	32.0			
	15000	KISV	45	C	0620.0	0629.5		90.0			
	15000	KISV	29	PBI	0620.0	0633.5	37.5	46.0			
	2840	PEKG	45	C	0620.0	0622.6	8.0	27.5			
	15000	KISV	45	C	0620.0	0623.7	12.5	94.0			
	9300	KISV	46	C	0620.2	0623.2	23.0	108.0			
	9300	KISV	46	C	0620.2	0629.6		57.0			
	9300	KISV	46	C	0620.2	0626.7		70.0			
	9300	KISV	23	GRF	0620.2	0718.9	135.5	32.0			
	35000	NOBE	7	C	0620.9	0623.0	16.0	39.0			0
	17000	NOBE	7	C	0620.9	0623.0	25.0	78.0			0
	15400	LEAR	4	S/F	0621.0E	0623.0	15.0D	89.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0622.0E	0623.0	11.0D	79.0			QL=1 ST=2 TYP=3
	9100	GORK	23	GRF	0622.1	0734.2	302.0	34.0			
	9100	GORK	46	C	0622.2	0623.1	11.0	88.0			
	9100	GORK	46	C	0622.2	0629.4			44.0		
	9100	GORK	46	C	0622.2	0626.6		54.0			
	3100	CRIM	45	C	0622.3	0624.3		12.0			
	3100	CRIM	45	C	0622.3	0622.9	2.5	14.0	5.0		
	2950	GORK	20	GRF	0629.2	0722.5	206.0	26.0			
	100	GORK	8	S	0645.5	0645.7	0.4	250.0			
	15000	KISV	2	S/F	0654.4	0655.3	4.0	10.0			
	9300	KISV	2	S/F	0654.9	0656.0	3.5	5.0			
	9300	KISV	2	S/F	0706.2	0707.3	4.0	6.0			
	15000	KISV	22	GRF	0716.2	0718.6	15.5	15.0			
	15000	KISV	45	C	0732.1	0743.2		17.0			
	15000	KISV	45	C	0732.1	0734.5	15.0	21.0			
	9300	KISV	22	GRF	0732.3	0734.5	15.3	12.0			
	15000	KISV	2	S/F	0753.0	0753.8	3.0	9.0			
	9300	KISV	2	S/F	0753.6	0753.9	3.5	7.0			
	15000	KISV	2	S/F	0808.6	0809.2	2.7	15.0			
	9300	KISV	2	S/F	0808.6	0809.2	3.0	7.0			
	245	SVTO	8	S	0810.0E	0811.0	1.0D	230.0			QL=1 ST=2 TYP=3
	5900	KISV	22	GRF	0812.1	0817.7	15.0	5.0			
	15000	KISV	2	S/F	0842.2	0842.4	0.6	10.0			

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Outstanding Occurrences

JANUARY 1989

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
10	9300	KISV	2	S/F	0913.7	0914.8	3.0	9.0			
	5900	KISV	2	S/F	0914.5	0914.8	1.3	3.0			
	15000	KISV	2	S/F	0914.6	0914.8	0.6	7.0			
	100	GORK	8	S	0915.7	0915.9	0.4	440.0			
	5900	KISV	23	GRF	0918.0	0927.3		6.0			
	5900	KISV	23	GRF	0918.0	0935.4	23.0	7.0			
	9300	KISV	23	GRF	0921.5	0927.5		14.0			
	9300	KISV	23	GRF	0921.5	0937.8	35.0	14.0			
	15000	KISV	23	GRF	0926.9	0927.4		14.0			
	15000	KISV	23	GRF	0926.9	0937.7	30.0	35.0			
	9300	KISV	2	S/F	1101.1	1103.3	5.5	8.0			
	15000	KISV	2	S/F	1101.3	1103.2	5.0	29.0			
	536	ONDR	8	S	1130.0	1130.5	1.0	35.0			
	245	SGMR	8	S	1311.0E	1312.0	2.0D	250.0			QL=1 ST=2 TYP=3
	430	KRAK	8	S	1351.0	1351.1	0.3	8.0			
	2800	OTTA	40	F	1501.0	1501.5	4.3	8.0	2.0		
	15400	SGMR	8	S	1607.0E	1607.0	U	61.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1607.0E	1607.0	U	54.0			QL=1 ST=3 TYP=3
	4995	PALE	4	S/F	1732.0E	1734.0	3.0D	71.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	1734.0E	1734.0	1.0D	67.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1745.0	1900.0	150.0	12.4	6.0		
	15400	SGMR	4	S/F	1745.0E	1748.0	3.0D	92.0			QL=1 ST=3 TYP=3
	8800	SGMR	4	S/F	1745.0E	1745.0	3.0D	120.0			QL=1 ST=2 TYP=3
	15400	PALE	8	S	1747.0E	1748.0	1.0D	120.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	1747.0E	1747.0	1.0D	75.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1747.0E	1748.0	1.0D	63.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1752.0E	1752.0	U	52.0			QL=1 ST=2 TYP=3
	2800	OTTA	47	GB	2021.7	2025.9	31.0	1736.0	521.0		
	15400	PALE	49	GB	2022.0E	2025.0	21.0D	3300.0			QL=1 ST=2 TYP=7
	1415	PALE	49	GB	2023.0E	2026.0	11.0D	950.0			QL=1 ST=2 TYP=7
	2695	PALE	49	GB	2023.0E	2025.0	17.0D	1400.0			QL=1 ST=2 TYP=7
	1415	SGMR	49	GB	2023.0E	2025.0	13.0D	1200.0			QL=1 ST=2 TYP=7
	8800	SGMR	49	GB	2023.0E	2025.0	17.0D	2200.0			QL=1 ST=2 TYP=7
	8800	PALE	49	GB	2023.0E	2025.0	20.0D	1500.0			QL=1 ST=2 TYP=7
	610	PALE	49	GB	2024.0E	2026.0	7.0D	120.0			QL=1 ST=2 TYP=7
	410	PALE	49	GB	2024.0E	2027.0	4.0D	20000.0			QL=1 ST=2 TYP=7
	410	SGMR	49	GB	2024.0E	2027.0	4.0D	11000.0			QL=1 ST=2 TYP=7
	4995	PALE	49	GB	2024.0E	2025.0	14.0D	1100.0			QL=1 ST=2 TYP=7
	2695	SGMR	49	GB	2024.0E	2025.0	14.0D	1300.0			QL=1 ST=2 TYP=7
	4995	SGMR	49	GB	2024.0E	2025.0	16.0D	1400.0			QL=1 ST=2 TYP=7
	610	SGMR	49	GB	2025.0E	2027.0	4.0D	470.0			QL=1 ST=2 TYP=7
	245	PALE	49	GB	2026.0E	2028.0	3.0D	43000.0			QL=1 ST=2 TYP=7
	245	SGMR	49	GB	2026.0E	2028.0	3.0D	35000.0			QL=1 ST=2 TYP=7
	15400	PALE	8	S	2142.0E	2142.0	U	120.0			QL=1 ST=3 TYP=3
	17000	NOBE	1	S	2249.9	2250.5	1.5	16.0			0
11	245	LEAR	43	NS	0347.0	0726.0	428.0	110.0			QL=1 ST=2 TYP=1
	410	LEAR	44	NS	0431.0E	0515.0	131.0D	55.0			QL=1 ST=3 TYP=1
	200	GORK	44	NS	0621.0E		160.0D		5.0		
	245	SVTO	44	NS	0635.0E	0720.0	265.0D	72.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		120.0	15.0			
	260	ONDR	44	NS	0840.0E	1239.6	300.0D	152.0			
	500	HIRA	4	S/F	0055.1	0055.3	1.1	12.0			O
	500	HIRA	21	GRF	0344.0		155.0		8.0		
	15400	LEAR	8	S	0349.0E	0349.0	U	70.0			QL=1 ST=2 TYP=3
	17000	NOBE	7	C	0349.1	0349.4	0.7	84.0			6L
	15400	LEAR	8	S	0445.0E	0445.0	1.0D	70.0			QL=1 ST=2 TYP=3
	17000	NOBE	7	C	0445.2	0445.6	0.8	70.0			12R
	245	LEAR	8	S	0447.0E	0447.0	U	130.0			QL=1 ST=2 TYP=3
	100	HIRA	48	C	0447.5		7.9	1000.0D	540.0D		
	245	LEAR	4	S/F	0505.0E	0513.0	12.0D	70.0			QL=1 ST=2 TYP=3
	410	LEAR	4	S/F	0505.0E	0515.0	15.0D	56.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	0506.6	0532.3		63.0			WL
	200	HIRA	46	C	0506.6	0514.5	31.0	90.0	28.0		WL
	500	HIRA	46	C	0507.6	0509.2		45.0			O
	500	HIRA	46	C	0507.6	0514.5	29.0	51.0	17.0		O
	100	HIRA	46	C	0507.9	0515.2	30.4	220.0	40.0		
	610	LEAR	4	S/F	0508.0E	0515.0	14.0D	59.0			QL=1 ST=2 TYP=3
	9300	KISV	28	PRE	0611.8	0627.7	16.0	14.0			

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

JANUARY 1989

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
11	5900	KISV	23	GRF	0625.1	0646.0		25.0			
	9300	KISV	23	GRF	0628.2	0649.0	237.0	28.0			
	15000	KISV	45	C	0629.0	0632.4		21.0			
	15000	KISV	45	C	0629.0	0629.5	6.0	36.0			
	9100	GORK	23	GRF	0635.0	0646.9	307.0	40.0			
	9300	KISV	2	S/F	0636.7	0637.3	2.5	7.0			
	5900	KISV	2	S/F	0636.8	0637.6	4.0	8.0			
	15000	KISV	2	S/F	0648.5	0649.0	2.0	7.0			
	15000	KISV	2	S/F	0704.2	0705.5	3.7	15.0			
	9300	KISV	45	C	0708.7	0712.6	5.5	6.0			
	9300	KISV	45	C	0708.7	0709.8		5.0			
	5900	KISV	2	S/F	0708.9	0709.8	6.2	5.0			
	2950	GORK	29	PBI	0740.0	0741.9	7.9	7.4			
	15000	KISV	2	S/F	0759.8	0800.1	1.3	9.0			
	15000	KISV	46	C	0826.0	0828.1		8.0			
	15000	KISV	46	C	0826.0	0826.1		11.0			
	15000	KISV	46	C	0826.0	0832.2	10.0	16.0			
	9100	GORK	2	S/F	0857.4	0858.2	1.8	14.6			
	15000	KISV	3	S	0857.9	0858.2	3.2	77.0			
	9300	KISV	2	S/F	0857.9	0858.2	3.4	14.0			
	15000	KISV	2	S/F	0916.5	0917.0	2.0	11.0			
	9300	KISV	45	C	0951.0	0952.2	15.5	14.0			
	9300	KISV	45	C	0951.0	1000.5		12.0			
	5900	KISV	45	C	0951.2	1001.0		8.0			
	5900	KISV	45	C	0951.2	0952.1	15.0	13.0			
	15000	KISV	2	S/F	0952.0	0952.3	1.0	8.0			
	15000	KISV	2	S/F	1039.6	1040.1	3.0	37.0			
	9100	GORK	3	S	1039.6	1040.2	2.2	54.0	25.0		
	3100	CRIM	1	S	1039.7	1040.2	5.5	24.0	8.0		
	2950	GORK	3	S	1039.7	1040.3	2.0	31.0			
	3013	IZMI	5	S	1040.0	1040.5	2.0	30.0	15.0		
	5900	KISV	1	S	1132.1	1132.6	1.2	11.0			
	9300	KISV	2	S/F	1132.1	1132.6	1.2	14.0			
	9100	GORK	2	S/F	1132.1	1132.7	1.5	15.0			
	8800	SVTO	8	S	1155.0E	1156.0	1.0D	72.0			QL=1 ST=2 TYP=3
	5900	KISV	4	S/F	1155.3	1156.2	5.3	41.0			
	19600	BERN	3	S	1155.4	1156.3	2.5	39.0			
	11800	BERN	3	S	1155.4	1156.3	2.5	60.0			
	8400	BERN	3	S	1155.4	1156.3	2.5	57.0			
	9300	KISV	4	S/F	1155.4	1156.4	5.3	76.0			
	15000	KISV	4	S/F	1155.5	1156.5	5.1	67.0			
	15400	SVTO	8	S	1156.0E	1156.0	U	65.0			QL=1 ST=2 TYP=3
	536	ONDR	8	S	1159.5	1200.5	1.0	26.0			
	2800	OTTA	22	GRF	1505.0	1531.0	250.0	20.9	8.0		
	2800	OTTA	3	S	1814.5	1815.0	8.0	16.1	3.0		
	2695	PENT	3	S	2127.0	2129.5	6.8	28.5	8.0		
	2695	PENT	3	S	2226.7	2229.8	8.7	49.8	15.0		
	15400	LEAR	20	GRF	2245.0E	2255.0	15.0D	78.0			QL=1 ST=2 TYP=2
	8800	LEAR	4	S/F	2248.0E	2255.0	12.0D	85.0			QL=1 ST=2 TYP=3
	500	HIRA	46	C	2248.0	2255.2	11.0	4.0			O
	2695	LEAR	4	S/F	2249.0E	2255.0	13.0D	58.0			QL=1 ST=2 TYP=3
	2695	PENT	4	S/F	2252.4	2255.3	7.3	32.5	10.0		
12	15400	LEAR	8	S	0112.0E	0112.0	U	55.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	0112.3	0112.5	0.7	55.0			20R
	17000	NOBE	1	S	0318.1	0318.2	0.5	22.0			25R
	2840	PEKG	45	C	0416.0	0422.7	7.5	53.3			
	8800	LEAR	4	S/F	0421.0E	0423.0	5.0D	100.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0421.0E	0423.0	7.0D	91.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0421.0E	0423.0	5.0D	59.0			QL=1 ST=2 TYP=3
	35000	NOBE	7	C	0421.1	0426.6	7.0	80.0			O
	17000	NOBE	7	C	0421.1	0426.6	12.0	77.0			20R
	2840	PEKG	29	PBI	0423.5		16.5	13.7			
	15000	KISV	2	S/F	0625.2	0625.7	1.1	6.0			
	9300	KISV	2	S/F	0630.2	0631.4	3.7	6.0			
	9300	KISV	23	GRF	0638.5	0721.1	52.1	17.0			
	9300	KISV	45	C	0638.5	0640.7		15.0			
	9300	KISV	45	C	0638.5	0639.7	6.8	29.0			
	5900	KISV	45	C	0638.9	0640.0	8.3	30.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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
12	5900	KISV	23	GRF	0638.9	0736.7	58.0	18.0			
	5900	KISV	45	C	0638.9	0640.8		23.0			
	9100	GORK	2	S/F	0639.2	0640.0	5.2	26.0			
	15000	KISV	2	S/F	0639.2	0639.9	6.0	10.0			
	3100	CRIM	1	S	0639.7	0639.9	1.0	15.0	5.0		
	9100	GORK	21	GRF	0712.0E	0950.6	288.0D	35.0			
	15000	KISV	22	GRF	0714.0	0723.2	15.3	16.0			
	9300	KISV	22	GRF	0747.3	0804.1	27.5	10.0			
	5900	KISV	4	S/F	0748.9	0749.9	1.7	64.0			
	2950	GORK	21	GRF	0749.4	0758.0	52.0	8.5			
	3013	IZMI	5	S	0749.5	0750.0	1.0	22.0	18.0		
	2950	GORK	1	S	0749.5	0749.8	1.1	17.0			
	3100	CRIM	1	S	0749.5	0749.9	1.2	14.0	5.0		
	9300	KISV	2	S/F	0749.5	0749.9	1.0	12.0			
	9300	KISV	45	C	0751.1	0756.3	11.4	17.0			
	9300	KISV	45	C	0751.1	0752.7		11.0			
	5900	KISV	22	GRF	0751.5	0756.1	12.0	14.0			
	15000	KISV	45	C	0819.6	0823.0		11.0			
	15000	KISV	45	C	0819.6	0826.0	10.5	14.0			
	810	KRAK	42	SER	0824.4	0824.5	1.7	6.0			
	8800	LEAR	8	S	0834.0E	0834.0	1.0D	21.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0834.0E	0835.0	1.0D	74.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	0834.0E	0835.0	1.0D	60.0			QL=1 ST=2 TYP=3
	15000	KISV	4	S/F	0834.3	0834.8	3.3	182.0			
	9100	GORK	2	S/F	0834.3	0834.9	1.8	26.0			
	260	ONDR	41	F	0840.0E	0844.5	300.0D	8.0			
	204	IZMI	5	S	0844.0	0844.5	1.0	58.0	50.0		
	15000	KISV	2	S/F	0942.1	0942.3	0.5	7.0			
	15000	KISV	4	S/F	0949.0	0950.4	7.5	97.0			
	15400	LEAR	8	S	0950.0E	0950.0	U	63.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	0950.0E	0950.0	U	68.0			QL=1 ST=2 TYP=3
	2950	GORK	20	GRF	0959.5	1019.0	119.0	13.6			
	9300	KISV	45	C	1004.2	1004.3	0.7	5.0			
	9300	KISV	45	C	1004.2	1004.5		5.0			
	5900	KISV	2	S/F	1007.1	1008.3	2.8	3.0			
	9300	KISV	2	S/F	1013.9	1014.8	1.9	5.0			
	15000	KISV	22	GRF	1017.4	1028.7	19.5	16.0			
	15000	KISV	46	C	1018.0	1019.1		16.0			
	15000	KISV	46	C	1018.0	1018.6		10.0			
	15000	KISV	46	C	1018.0	1021.7	6.6	27.0			
	5900	KISV	2	S/F	1019.9	1020.8	3.1	4.0			
	15000	KISV	23	GRF	1038.8	1040.8	14.5	55.0			
	15000	KISV	45	C	1051.9	1052.2	1.1	13.0			
	15000	KISV	45	C	1051.9	1052.8		8.0			
	536	ONDR	8	S	1153.0	1154.5	1.5	51.0			
	9300	KISV	21	GRF	1202.1	1218.1	49.1	22.0			
	2800	OTTA	4	S/F	2011.4	2021.0	48.0	250.4	75.0		
	8800	PALE	20	GRF	2014.0E	2020.0	21.0D	170.0			QL=1 ST=2 TYP=2
	4995	PALE	20	GRF	2014.0E	2020.0	21.0D	230.0			QL=1 ST=2 TYP=2
	2695	PALE	4	S/F	2014.0E	2018.0	22.0D	240.0			QL=1 ST=2 TYP=3
	2695	SGMR	20	GRF	2014.0E	2022.0	22.0D	250.0			QL=1 ST=2 TYP=2
	4995	SGMR	20	GRF	2015.0E	2020.0	16.0D	280.0			QL=1 ST=2 TYP=2
	1415	PALE	20	GRF	2018.0E	2024.0	7.0D	110.0			QL=1 ST=2 TYP=2
	1415	SGMR	20	GRF	2018.0E	2024.0	8.0D	140.0			QL=1 ST=2 TYP=2
	15400	PALE	20	GRF	2019.0E	2025.0	9.0D	77.0			QL=1 ST=2 TYP=2
	8800	SGMR	8	S	2021.0E	2022.0	1.0D	100.0			QL=1 ST=2 TYP=3
	610	SGMR	4	S/F	2021.0E	2031.0	19.0D	100.0			QL=1 ST=2 TYP=5
	610	PALE	8	S	2031.0E	2031.0	U	68.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2034.0E	2036.0	2.0D	74.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	2035.0E	2036.0	1.0D	71.0			QL=1 ST=2 TYP=3
	100	HIRA	27	RF	2150.0E		25.0D		30.0		
	200	HIRA	27	RF	2150.0E		130.0D		5.0		MR
	15400	LEAR	8	S	2251.0E	2251.0	1.0D	57.0			QL=1 ST=3 TYP=3
	15400	PALE	8	S	2251.0E	2251.0	1.0D	79.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	2251.4	2251.9	2.5	82.0			17R
	17000	NOBE	21	GRF	2354.0	2406.6	50.0	36.0			0
13	200	GORK	44	NS	0618.0E		180.0D		5.0		
	127	TORN	43	NS	0740.0		380.0		60.0		V=1

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

JANUARY 1989

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
13	260	ONDR	44	NS	0937.2E	1010.0	252.4D				
	204	IZMI	43	NS	1020.0		100.0	30.0			
	200	GORK	44	NS	1030.0E		100.0D		5.0		
	410	SVTO	44	NS	1039.0E	1243.0	281.0D	380.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	1039.0E	1159.0	281.0D	55.0			QL=1 ST=2 TYP=1
	610	SGMR	43	NS	1236.0	1434.0	512.0D	230.0			QL=1 ST=2 TYP=1
	410	SGMR	43	NS	1236.0	1435.0	512.0D	61.0			QL=1 ST=2 TYP=1
	245	SGMR	43	NS	1236.0	1338.0	512.0D	24.0			QL=1 ST=2 TYP=1
	8800	LEAR	4	S/F	0004.0E	0008.0	9.0D	77.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0006.0E	0008.0	3.0D	140.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0006.0E	0008.0	3.0D	110.0			QL=1 ST=2 TYP=3
	500	HIRA	41	F	0006.1	0007.3	3.7	9.0			0
	17000	NOBE	1	S	0006.4	0008.2	4.0	113.0			0
	15400	PALE	8	S	0007.0E	0008.0	1.0D	160.0			QL=1 ST=2 TYP=3
	35000	NOBE	7	C	0350.0	0354.8	10.0	100.0			0
	17000	NOBE	7	C	0350.0	0354.8	12.0	157.0			0
	80000	NOBE	7	C	0352.3	0354.8	9.0	14.0			12R
	8800	LEAR	4	S/F	0353.0E	0354.0	7.0D	290.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0353.0E	0354.0	7.0D	150.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0353.0E	0354.0	7.0D	190.0			QL=1 ST=2 TYP=3
	500	HIRA	46	C	0357.3	0358.6	3.0	55.0			0
	245	LEAR	8	S	0405.0E	0405.0	U	90.0			QL=1 ST=2 TYP=3
	500	HIRA	46	C	0557.5	0558.3	1.1	7.0			0
	5900	KISV	22	GRF	0625.0	0650.4	38.5	12.0			
	9300	KISV	23	GRF	0625.8	0629.4	38.0	15.0			
	9300	KISV	23	GRF	0625.8	0647.9		13.0			
	9300	KISV	2	S/F	0630.9	0631.9	3.0	9.0			
	5900	KISV	2	S/F	0631.5	0632.0	1.7	6.0			
	15000	KISV	2	S/F	0631.6	0632.0	1.5	6.0			
	9100	GORK	22	GRF	0638.1	0710.1	82.0	287.0			
	5900	KISV	22	GRF	0704.4	0707.1	12.0	8.0			
	9300	KISV	22	GRF	0706.5	0722.7	17.6	6.0			
	204	IZMI	5	S	0707.0	0707.3	1.0	20.0	15.0		
	9300	KISV	2	S/F	0720.3	0720.9	2.3	4.0			
	9300	KISV	23	GRF	0806.2	0841.0	47.9	31.0			
	15000	KISV	22	GRF	0806.2	0811.1	21.3	17.0			
	9300	KISV	23	GRF	0806.2	0818.2		21.0			
	9300	KISV	2	S/F	0806.2	0807.3	2.3	4.0			
	9100	GORK	21	GRF	0810.9	1027.3	151.0	93.0			
	15000	KISV	2	S/F	0815.7	0816.4	3.4	8.0			
	2950	GORK	21	GRF	0824.0	1100.0	200.0	50.0			
	9100	GORK	4	S/F	0828.7	0832.6	7.8	154.0D			
	9300	KISV	29	PBI	0828.8	0837.0	25.0	19.0			
	9300	KISV	4	S/F	0828.8	0832.6	8.0	105.0D			
	8800	LEAR	4	S/F	0829.0E	0832.0	5.0D	160.0			QL=1 ST=2 TYP=3
	15000	KISV	4	S/F	0829.0	0832.5	5.6	186.0			
	15000	KISV	29	PBI	0829.0	0834.7	20.0	41.0			
	5900	KISV	4	S/F	0829.2	0832.5	5.6	83.0			
	5900	KISV	29	PBI	0829.2	0834.8	8.5	49.0			
	3100	CRIM	1	S	0830.0	0832.0	3.5	6.0	2.0		
	8800	SVTO	4	S/F	0830.0E	0832.0	3.0D	160.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0831.0E	0832.0	2.0D	110.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	0831.0E	0832.0	2.0D	120.0			QL=1 ST=2 TYP=3
	5900	KISV	28	PRE	0846.0	1010.0	84.0	89.0			
	950	GORK	8	S	0846.7	0847.0	0.4	36.0			
	9300	KISV	28	PRE	0856.2	0937.3		65.0			
	9300	KISV	28	PRE	0856.2	1003.8	70.5	79.0			
	5900	KISV	22	GRF	0857.5	0939.2	54.0	21.0			
	15000	KISV	45	C	0859.8	0900.2		7.0			
	15000	KISV	45	C	0859.8	0901.8	3.4	9.0			
	9300	KISV	2	S/F	0901.4	0901.8	1.6	10.0			
	15000	KISV	46	C	0916.7	0921.5		19.0			
	9300	KISV	2	S/F	0916.7	0917.7	5.0	19.0			
	15000	KISV	46	C	0916.7	0917.7	9.5	19.0			
	3100	CRIM	25	R	0917.0	0937.0		6.0			
	600	HUMN	4	S/F	0947.0	0947.5	2.1	109.0	20.0		
	3100	CRIM	28	PRE	0958.5	1009.0	19.6	20.0	7.0		
	950	GORK	23	GRF	1000.0		120.0D				
	536	ONDR	41	F	1000.0	1200.0U	210.0D				

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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
13	5900	KISV	46	C	1000.0	1002.7	6.7	10.0			
	15000	KISV	28	PRE	1000.4	1009.5	9.1	27.0			
	9100	GORK	47	GB	1007.0	1013.0	18.7	1900.0			
	2695	LEAR	49	GB	1008.0E	1012.0	17.0D	730.0			QL=1 ST=2 TYP=7
	4995	SVTO	49	GB	1009.0E	1012.0	29.0D	810.0			QL=1 ST=2 TYP=7
	650	GORK	23	GRF	1009.4	1125.2	119.0D	16.0			
	15000	KISV	29	PBI	1009.5	1013.3	41.0	133.0			
	15000	KISV	47	GB	1009.5	1012.9	5.1	1964.0			
	9300	KISV	47	GB	1009.8	1013.1	12.9	2015.0			
	9300	KISV	29	PBI	1009.8	1022.8	179.2	145.0			
	2950	GORK	47	GB	1010.0	1013.0	11.8	771.0			
	3013	IZMI	45	C	1010.0	1013.0	13.0	460.0	350.0		
	15400	LEAR	49	GB	1010.0E	1012.0	14.0D	1800.0			QL=1 ST=2 TYP=6
	8800	LEAR	49	GB	1010.0E	1013.0	13.0D	1500.0			QL=1 ST=2 TYP=6
	3100	CRIM	45	C	1010.0	1013.0	20.0	126.5			
	2695	SVTO	49	GB	1010.0E	1012.0	28.0D	720.0			QL=1 ST=2 TYP=7
	8800	SVTO	49	GB	1010.0E	1012.0	27.0D	1600.0			QL=1 ST=2 TYP=7
	15400	SVTO	49	GB	1010.0E	1012.0	28.0D	2000.0			QL=1 ST=2 TYP=7
	5900	KISV	29	PBI	1010.0	1023.1	135.0	80.0			
	5900	KISV	47	GB	1010.0	1014.3	13.1	1434.0			
	3100	CRIM	45	C	1010.0	1017.7		167.0	55.7		
	3100	CRIM	45	C	1010.0	1013.9		162.2			
	810	KRAK	49	GB	1010.7	1140.0		450.0			
	810	KRAK	49	GB	1010.7	1152.0U		230.0D			
	810	KRAK	49	GB	1010.7	1019.0U	161.7	200.0D	60.0D		
	810	KRAK	49	GB	1010.7	1138.5U		230.0D			
	600	HUMN	49	GB	1010.7	1013.8	67.2	395.0	55.0		
	8400	BERN	47	GB	1011.0	1013.0	14.0	1200.0			
	11800	BERN	47	GB	1011.0	1013.0	14.0	1370.0			
	35000	BERN	47	GB	1011.0	1013.0	14.0	1540.0			
	19600	BERN	47	GB	1011.0	1013.0	14.0	1880.0			
	5200	BERN	47	GB	1011.0	1013.0	14.0	514.0			
	50000	BERN	47	GB	1011.0	1013.0	14.0	790.0			
	3200	BERN	47	GB	1011.0	1013.0	14.0	274.0			
	410	LEAR	4	S/F	1011.0E	1015.0	12.0D	190.0			QL=1 ST=2 TYP=5
	610	SVTO	49	GB	1011.0E	1019.0	11.0D	950.0			QL=1 ST=2 TYP=7
	1415	SVTO	49	GB	1011.0E	1018.0	27.0D	1600.0			QL=1 ST=2 TYP=7
	650	GORK	47	GB	1011.3	1019.3		950.0			
	650	GORK	47	GB	1011.3	1013.3	15.7	560.0			
	650	GORK	47	GB	1011.3	1016.4		580.0			
	430	KRAK	49	GB	1011.5	1113.0U		210.0D			
	430	KRAK	49	GB	1011.5	1230.0U		210.0D			
	430	KRAK	49	GB	1011.5	1213.0U		210.0D			
	430	KRAK	49	GB	1011.5	1220.0U		210.0D			
	430	KRAK	49	GB	1011.5	1151.0U		210.0D			
	430	KRAK	49	GB	1011.5	1205.0U		210.0D			
	430	KRAK	49	GB	1011.5	1243.0U		210.0D			
	430	KRAK	49	GB	1011.5	1051.2U		210.0D			
	430	KRAK	49	GB	1011.5	1015.3	222.7	210.0D	100.0D		
	430	KRAK	49	GB	1011.5	1139.5U		570.0D			
	204	IZMI	41	F	1012.0	1016.0	9.0	250.0			
	245	LEAR	4	S/F	1012.0E	1017.0	13.0D	380.0			QL=1 ST=2 TYP=5
	610	LEAR	49	GB	1012.0E	1017.0	14.0D	540.0			QL=1 ST=2 TYP=7
	950	GORK	47	GB	1012.0	1018.0U	14.8	20000.0D			
	410	SVTO	4	S/F	1013.0E	1015.0	25.0D	430.0			QL=1 ST=2 TYP=3
	245	SVTO	4	S/F	1013.0E	1018.0	25.0D	410.0			QL=1 ST=2 TYP=3
	127	TORN	47	GB	1013.0	1018.1	7.5	1200.0	100.0		
	100	GORK	41	F	1015.7	1028.0		230.0			
	100	GORK	41	F	1015.7	1018.4	13.0	4100.0			
	33	UPIC	46	C	1019.5	1020.6	7.2				
	15000	KISV	2	S/F	1026.9	1027.3	0.7	16.0			
	410	LEAR	4	S/F	1038.0E	1040.0	3.0D	160.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	1039.0E	1040.0	2.0D	150.0			QL=1 ST=2 TYP=3
	15000	KISV	2	S/F	1041.7	1042.0	2.2	37.0			
	9300	KISV	2	S/F	1041.7	1042.0	2.2	12.0			
	2695	LEAR	4	S/F	1044.0E	1044.0	7.0D	31.0			QL=1 ST=2 TYP=3
	410	LEAR	4	S/F	1044.0E	1048.0	6.0D	47.0			QL=1 ST=2 TYP=3
	650	GORK	46	C	1044.2	1048.1		200.0			
	650	GORK	46	C	1044.2	1047.1	4.4	47.0			

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

JANUARY 1989

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
13	245	LEAR	4	S/F	1046.0E	1049.0	4.0D	41.0			QL=1 ST=2 TYP=5
	610	LEAR	8	S	1048.0E	1048.0	U	57.0			QL=1 ST=2 TYP=3
	5900	KISV	22	GRF	1050.0	1100.5	50.0	20.0			
	3100	CRIM	20	GRF	1051.5	1059.3	17.0	10.0	3.0		
	410	SVTO	49	GB	1055.0E	1056.0	10.0D	820.0			QL=1 ST=2 TYP=6
	9300	KISV	23	GRF	1056.3	1056.9	9.7	15.0			
	15000	KISV	4	S/F	1056.3	1056.9	2.2	146.0			
	650	GORK	47	GB	1056.4	1109.3		180.0			
	650	GORK	47	GB	1056.4	1101.6	18.6	260.0			
	950	GORK	46	C	1058.8	1100.7	3.8	247.0			
	950	GORK	46	C	1058.8	1101.8		329.0			
	1415	SVTO	8	S	1100.0E	1101.0	2.0D	250.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1101.0E	1101.0	1.0D	80.0			QL=1 ST=2 TYP=3
	410	SVTO	4	S/F	1112.0E	1113.0	7.0D	450.0			QL=1 ST=3 TYP=3
	610	SVTO	4	S/F	1112.0E	1113.0	7.0D	450.0			QL=1 ST=2 TYP=3
	600	HUMN	49	GB	1121.0	1149.7	156.8	1503.0	311.0		
	245	SVTO	49	GB	1130.0E	1137.0	20.0D	32000.0			QL=1 ST=2 TYP=7
	410	SVTO	49	GB	1130.0E	1137.0	40.0D	3200.0			QL=1 ST=2 TYP=6
	650	GORK	47	GB	1130.2	1152.0		8800.0			
	650	GORK	47	GB	1130.2	1159.0U		5700.0D			
	650	GORK	47	GB	1130.2	1139.2		1500.0			
	650	GORK	47	GB	1130.2	1201.6		6900.0			
	650	GORK	47	GB	1130.2	1130.9	39.0D	600.0			
	950	GORK	46	C	1131.0	1134.0	12.2	450.0			
	1415	SVTO	49	GB	1131.0E	1138.0	19.0D	650.0			QL=1 ST=2 TYP=6
	950	GORK	46	C	1131.0	1137.4		450.0			
	3100	CRIM	20	GRF	1131.0	1132.7	14.0	12.0	4.0		
	610	SVTO	49	GB	1147.0E	1151.0	23.0D	13000.0			QL=1 ST=2 TYP=6
	950	GORK	46	C	1148.7	1152.2	11.2	658.0			
	950	GORK	46	C	1148.7	1155.4		411.0			
	5900	KISV	28	PRE	1158.7	1221.0	22.3	13.0			
	9300	KISV	28	PRE	1158.7	1221.0	22.2	13.0			
	15000	KISV	28	PRE	1217.5	1221.3	3.8	6.0			
	410	SVTO	49	GB	1221.0E	1232.0	19.0D	3200.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	1221.0E	1226.0	16.0D	530.0			QL=1 ST=2 TYP=7
	9300	KISV	47	GB	1221.0	1226.7	10.0	573.0			
	5900	KISV	47	GB	1221.0	1226.7	13.9	460.0			
	15000	KISV	47	GB	1221.3	1223.6	10.3	576.0			
	15000	KISV	29	PBI	1221.3	1231.7	43.0	69.0			
	3100	CRIM	45	C	1221.4	1223.4	10.0	44.0			
	3100	CRIM	45	C	1221.4	1226.5		58.0	20.0		
	3100	CRIM	45	C	1221.4	1227.6		51.0			
	11800	BERN	47	GB	1222.0	1226.0	9.0	485.0			
	15400	SVTO	4	S/F	1222.0E	1226.0	16.0D	450.0			QL=1 ST=2 TYP=5
	2695	SVTO	4	S/F	1222.0E	1226.0	15.0D	81.0			QL=1 ST=2 TYP=5
	4995	SVTO	4	S/F	1222.0E	1226.0	15.0D	260.0			QL=1 ST=3 TYP=5
	3200	BERN	47	GB	1222.0	1226.4	9.0	48.0			
	8400	BERN	47	GB	1222.0	1226.4	9.0	368.0			
	5200	BERN	47	GB	1222.0	1226.4	9.0	145.0			
	19600	BERN	47	GB	1222.0	1226.4	9.0	368.0			
	35000	BERN	47	GB	1222.0	1226.4	9.0	340.0			
	50000	BERN	47	GB	1222.0	1226.4	9.0	174.0			
	1415	SVTO	4	S/F	1226.0E	1226.0	11.0D	69.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1230.0E	1230.0	U	53.0			QL=1 ST=2 TYP=3
	9300	KISV	22	GRF	1235.7	1239.2	19.9	35.0			
	4995	SGMR	8	S	1236.0E	1236.0	U	64.0			QL=1 ST=2 TYP=3
	610	SGMR	4	S/F	1236.0E	1236.0	3.0D	80.0			QL=1 ST=2 TYP=3
	410	SGMR	49	GB	1236.0E	1236.0	13.0D	1200.0			QL=1 ST=2 TYP=6
	810	KRAK	29	PBI	1252.4	1349.5	102.3	25.0	10.0		
	610	SGMR	4	S/F	1306.0E	1309.0	4.0D	110.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1411.0E	1411.0	1.0D	120.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1411.0E	1411.0	1.0D	80.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	1411.0E	1412.0	2.0D	280.0			QL=1 ST=2 TYP=3
	410	SGMR	49	GB	1411.0E	1412.0	17.0D	920.0			QL=1 ST=2 TYP=6
	610	SGMR	4	S/F	1413.0E	1413.0	17.0D	240.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1420.0E	1421.0	2.0D	130.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	1420.0E	1421.0	2.0D	83.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1527.0E	1527.0	1.0D	85.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1537.0E	1538.0	1.0D	81.0			QL=1 ST=2 TYP=3

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

JANUARY 1989

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
13	15400	SGMR	8	S	1613.0E	1614.0	1.0D	65.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1640.0	1715.0	90.0	85.5	17.0		
	15400	SGMR	8	S	1651.0E	1651.0	U	74.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1658.0E	1711.0	14.0D	64.0			QL=1 ST=2 TYP=3
	15400	SGMR	4	S/F	1658.0E	1714.0	25.0D	150.0			QL=1 ST=2 TYP=5
	8800	SGMR	4	S/F	1658.0E	1715.0	28.0D	220.0			QL=1 ST=2 TYP=5
	2695	PENT	4	S/F	2111.0	2113.5	9.0	57.2	21.0		
	610	PALE	8	S	2115.0E	2115.0	1.0D	310.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	2115.0E	2115.0	1.0D	57.0			QL=1 ST=2 TYP=3
	100	HIRA	41	F	2243.6	2245.5	3.0	170.0			
	200	HIRA	41	F	2243.9	2243.9	5.3	240.0			WL
	410	LEAR	4	S/F	2245.0E	2246.0	3.0D	110.0			QL=1 ST=2 TYP=3
	610	LEAR	4	S/F	2245.0E	2247.0	4.0D	220.0			QL=1 ST=2 TYP=3
	500	HIRA	46	C	2245.2	2247.1	5.2	463.0	87.0		SL
	410	PALE	8	S	2246.0E	2247.0	1.0D	94.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2246.0E	2247.0	2.0D	140.0			QL=1 ST=2 TYP=3
14	245	LEAR	44	NS	0446.0E	0505.0	370.0D	45.0			QL=1 ST=2 TYP=1
	100	GORK	44	NS	0554.0E			104.0	5.0		
	200	GORK	44	NS	0600.0E			180.0D	5.0		
	410	SVTO	44	NS	0634.0E	0638.0	527.0D	24.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0634.0E	1210.0	527.0D	65.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	44	NS	0720.0E		360.0D		8.0		V=1
	260	ONDR	44	NS	0840.0E	1320.6	300.0D	120.0			
	17000	NOBE	1	S	0117.4	0117.6	0.5	20.0			0
	17000	NOBE	1	S	0146.4	0146.7	2.5	25.0			0
	17000	NOBE	21	GRF	0212.8	0230.0	210.0	30.0			0
	8800	LEAR	8	S	0216.0E	0217.0	2.0D	61.0			QL=1 ST=3 TYP=3
	15400	PALE	8	S	0216.0E	0217.0	1.0D	160.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0216.0E	0217.0	11.0D	190.0			QL=1 ST=3 TYP=3
	35000	NOBE	1	S	0216.4	0217.2	2.0	65.0			19L
	17000	NOBE	7	C	0216.4	0217.2	2.6	155.0			19L
	80000	NOBE	1	S	0216.4	0217.2	2.0	13.0			
	8800	LEAR	8	S	0308.0E	0309.0	2.0D	270.0			QL=1 ST=3 TYP=3
	15400	LEAR	8	S	0308.0E	0309.0	2.0D	290.0			QL=1 ST=3 TYP=3
	4995	PALE	8	S	0308.0E	0309.0	1.0D	120.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0308.0E	0309.0	2.0D	310.0			QL=1 ST=2 TYP=3
	35000	NOBE	1	S	0308.1	0309.1	2.0	95.0			12L
	17000	NOBE	7	C	0308.1	0309.1	3.5	240.0			12L
	80000	NOBE	1	S	0308.1	0309.1	2.0	11.0			
	2695	LEAR	8	S	0309.0E	0309.0	U	30.0			QL=1 ST=3 TYP=3
	35000	NOBE	1	S	0323.9	0326.0	13.0	100.0			0
	80000	NOBE	1	S	0323.9	0326.0	13.0	13.0			
	17000	NOBE	7	C	0323.9	0326.0	20.0	240.0			0
	15400	PALE	8	S	0325.0E	0326.0	2.0D	230.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0325.0E	0326.0	2.0D	170.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	0326.0E	0326.0	U	61.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0358.0E	0359.0	3.0D	220.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0358.0E	0359.0	2.0D	130.0			QL=1 ST=2 TYP=3
	35000	NOBE	7	C	0358.3	0411.5	60.0	165.0			12L
	17000	NOBE	7	C	0358.3	0411.5	60.0	325.0			17L
	80000	NOBE	20	GRF	0358.3	0421.6	60.0	70.0			
	15400	LEAR	4	S/F	0403.0E	0411.0	43.0D	380.0			QL=1 ST=2 TYP=5
	8800	LEAR	4	S/F	0407.0E	0411.0	28.0D	350.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0409.0E	0410.0	3.0D	50.0			QL=1 ST=2 TYP=3
	500	HIRA	27	RF	0415.2	0445.0	85.0	7.0	4.0		WR
	200	HIRA	41	F	0415.2	0418.2	13.2	17.0			ML
	100	HIRA	41	F	0415.8	0422.8	8.6	405.0			
	200	HIRA	24	R	0430.0	0451.0	185.0D	34.0	24.0		MR SUNSET
	100	HIRA	24	R	0435.0	0458.0	170.0D	35.0	12.0		
	200	HIRA	8	S	0451.5	0451.7	0.9	510.0			0
	500	HIRA	45	C	0452.3	0452.7	1.1	213.0			SR
	100	GORK	41	F	0558.3	0627.0		160.0			
	100	GORK	41	F	0558.3	0603.0	29.0	170.0			
	15000	KISV	2	S/F	0604.7	0605.1	0.7	11.0			
	9300	KISV	2	S/F	0609.2	0609.6	1.3	14.0			
	9100	GORK	23	GRF	0617.2	1111.6	316.0D	52.0			
	9300	KISV	45	C	0620.5	0621.0	1.8	11.0			

S O L A R R A D I O E M I S S I O N
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JANUARY 1989

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
14	9300	KISV	45	C	0620.5	0622.1		5.0			
	200	GORK	4	S/F	0624.0	0628.6	7.0	120.0			
	15000	KISV	2	S/F	0626.8	0628.7	3.7	16.0			
	5900	KISV	2	S/F	0631.1	0633.1	3.0	10.0			
	9300	KISV	46	C	0631.6	0633.0	2.4	10.0			
	9300	KISV	46	C	0631.6	0632.3		5.0			
	9300	KISV	46	C	0631.6	0631.8		5.0			
	100	GORK	46	C	0654.0	0655.0		110.0			
	100	GORK	46	C	0654.0	0654.5	2.0	110.0			
	15000	KISV	2	S/F	0731.3	0732.4	5.0	24.0			
	9100	GORK	1	S	0741.4	0742.7	4.0	10.4			
	9300	KISV	2	S/F	0742.3	0742.4	1.4	9.0			
	15000	KISV	2	S/F	0742.3	0742.7	2.2	53.0			
	9100	GORK	1	S	0754.6	0756.0	3.5	12.0			
	5900	KISV	2	S/F	0755.6	0756.0	1.0	5.0			
	9300	KISV	45	C	0755.6	0755.7		11.0			
	9300	KISV	45	C	0755.6	0755.9	1.1	11.0			
	5900	KISV	2	S/F	0804.4	0805.0	1.0	15.0			
	2950	GORK	1	S	0804.5	0805.0	1.5	15.3			
	9300	KISV	2	S/F	0804.6	0805.0	0.9	10.0			
	950	GORK	8	S	0804.6E	0804.8	1.9D	77.0			
	650	GORK	4	S/F	0804.7	0804.9	0.8	21.0			
	3100	CRIM	1	S	0804.8	0805.0	0.7	18.0	6.0		
	15000	KISV	2	S/F	0814.6	0815.2	2.0	13.0			
	100	GORK	46	C	0833.9	0834.2	0.6	110.0			
	100	GORK	46	C	0833.9	0834.5		110.0			
	5900	KISV	2	S/F	0834.3	0835.0	0.9	4.0			
	650	GORK	20	GRF	0840.5	0845.8	8.2	14.0	7.0		
	950	GORK	1	S	0841.5	0845.8	6.7	7.9			
	200	GORK	3	S	0842.0	0843.3U	3.3	24.0D			
	9300	KISV	45	C	0842.5	0945.1		18.0			
	2950	GORK	20	GRF	0843.0	0912.0	56.0	9.4			
	9100	GORK	2	S/F	0856.3	0856.9	2.8	13.8			
	5900	KISV	2	S/F	0856.4	0856.8	1.7	13.0			
	9300	KISV	2	S/F	0856.4	0856.9	2.5	15.0			
	15000	KISV	2	S/F	0856.5	0857.0	1.3	9.0			
	15000	KISV	2	S/F	0911.8	0913.8	4.1	11.0			
	5900	KISV	22	GRF	0923.0	0929.7	34.0	15.0			
	9300	KISV	2	S/F	0925.2	0926.6	2.1	9.0			
	15000	KISV	2	S/F	0925.8	0926.7	1.7	5.0			
	9300	KISV	45	C	0942.5	0943.7	5.9	18.0			
	9100	GORK	2	S/F	0942.6	0945.0	4.3	14.7			
	9300	KISV	22	GRF	1056.2	1135.0	55.0	15.0			
	15000	KISV	22	GRF	1057.6	1128.0	52.7	13.0			
	15000	KISV	46	C	1130.0	1134.0		15.0			
	15000	KISV	46	C	1130.0	1130.5		12.0			
	15000	KISV	46	C	1130.0	1135.6	11.9	38.0			
	9300	KISV	2	S/F	1135.5	1135.7	1.9	10.0			
	15000	KISV	2	S/F	1158.2	1158.6	0.7	9.0			
	536	ONDR	42	SER	1217.5	1218.4	2.0	155.0			
	410	SGMR	8	S	1320.0E	1320.0	1.0D	340.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	1320.0E	1320.0	U	390.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1320.0E	1320.0	1.0D	130.0			QL=1 ST=2 TYP=3
	430	KRAK	8	S	1320.5	1320.5	0.5	140.0			
	810	KRAK	8	S	1320.5	1320.5	0.1	7.0			
	2800	OTTA	3	S	1352.0	1353.0	3.2	45.5	13.0		
	8800	SGMR	8	S	1352.0E	1352.0	2.0D	440.0			QL=1 ST=2 TYP=3
	15400	SGMR	49	GB	1352.0E	1352.0	2.0D	610.0			QL=1 ST=2 TYP=6
	8800	SVTO	4	S/F	1352.0E	1352.0	5.0D	440.0			QL=1 ST=2 TYP=3
	4995	SVTO	4	S/F	1352.0E	1352.0	5.0D	230.0			QL=1 ST=2 TYP=3
	15400	SVTO	49	GB	1352.0E	1352.0	1.0D	640.0			QL=1 ST=2 TYP=6
	11800	BERN	47	GB	1352.1	1352.4	1.8	427.0			
	35000	BERN	47	GB	1352.1	1352.4	1.8	488.0			
	50000	BERN	47	GB	1352.1	1352.4	1.8	305.0			
	19600	BERN	47	GB	1352.1	1352.4	1.8	695.0			
	3200	BERN	47	GB	1352.1	1352.5	1.8	44.0			
	8400	BERN	47	GB	1352.1	1352.5	1.8	305.0			
	5200	BERN	47	GB	1352.1	1352.5	1.8	183.0			
	245	SGMR	8	S	1519.0E	1520.0	1.0D	110.0			QL=1 ST=2 TYP=3

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JANUARY 1989

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
14	610	SGMR	8	S	1607.0E	1607.0	1.0D	130.0			QL=1 ST=2 TYP=3
	15400	PALE	8	S	1743.0E	1743.0	1.0D	120.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1743.0E	1743.0	1.0D	73.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1939.8	1943.0	11.0	48.7	14.0		
	4995	SGMR	4	S/F	1941.0E	1942.0	4.0D	79.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	2228.0E	2233.0	48.0D	180.0			QL=1 ST=2 TYP=5
15	200	HIRA	43	NS	0445.0	0648.0	170.0D	3.0	2.0		WR
	200	GORK	43	NS	0606.0		180.0D		5.0		
	410	SVTO	44	NS	0634.0E	1420.0	1046.0D	45.0			QL=1 ST=1 TYP=1
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	43	NS	0742.0		378.0		7.0		V=1
	260	ONDR	44	NS	0840.0E	1149.0	310.0D				
	245	SGMR	43	NS	1235.0	1452.0	516.0D	95.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1731.0E	1847.0	622.0D	130.0			QL=1 ST=2 TYP=1
	245	LEAR	44	NS	2211.0E	0255.0	765.0D	130.0			QL=1 ST=2 TYP=1
	500	HIRA	42	SER	0412.8	0415.0	6.5	158.0			O
	2840	PEKG	1	S	0414.0	0414.6	2.0	13.1			
	17000	NOBE	20	GRF	0442.5	0505.4	65.0	34.0			O
	35000	NOBE	20	GRF	0502.3	0505.4	45.0	21.0			O
	5900	KISV	22	GRF	0600.0	1047.2	360.0	31.0			
	9300	KISV	22	GRF	0600.0	0816.7	360.0	36.0			
	5900	KISV	1	S	0607.0	0607.7	1.0	9.0			
	2840	PEKG	5	S	0611.0	0612.8	15.0	20.3			
	410	LEAR	8	S	0613.0E	0614.0	1.0D	86.0			QL=1 ST=2 TYP=3
	9300	KISV	46	C	0613.4	0620.2	22.3	49.0			
	9300	KISV	46	C	0613.4	0614.5		36.0			
	9300	KISV	46	C	0613.4	0627.7		19.0			
	15000	KISV	45	C	0613.5	0620.2	11.5	40.0			
	15000	KISV	45	C	0613.5	0614.4		21.0			
	5900	KISV	2	S/F	0613.5	0614.5	2.2	26.0			
	500	HIRA	46	C	0613.8	0620.0	10.3	38.0	4.0		O
	200	HIRA	46	C	0613.9	0613.9	1.3	35.0			O
	8800	LEAR	8	S	0614.0E	0614.0	U	45.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0614.0E	0614.0	1.0D	240.0			QL=1 ST=2 TYP=3
	950	GORK	1	S	0614.0	0614.5	2.6	8.6			
	650	GORK	1	S	0614.0	0614.8	1.3	2.0			
	5900	KISV	2	S/F	0618.7	0620.2	4.4	28.0			
	8800	LEAR	8	S	0619.0E	0620.0	2.0D	55.0			QL=1 ST=2 TYP=3
	950	GORK	1	S	0619.0	0620.2	2.7	13.5			
	650	GORK	4	S/F	0619.1	0620.2	2.0	17.0			
	410	LEAR	8	S	0620.0E	0620.0	U	98.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0620.0E	0620.0	1.0D	44.0			QL=1 ST=2 TYP=3
	9100	GORK	23	GRF	0638.0	0831.8	304.0	50.0			
	650	GORK	2	S/F	0651.0	0652.3	2.1	7.0			
	15000	KISV	22	GRF	0730.4	0734.7	13.3	13.0			
	9300	KISV	2	S/F	0733.7	0734.3	2.1	5.0			
	15000	KISV	22	GRF	0752.7	0923.7	127.3	35.0			
	9300	KISV	4	S/F	0753.5	0755.4	5.2	88.0			
	5900	KISV	2	S/F	0753.8	0755.4	3.0	24.0			
	15000	KISV	4	S/F	0754.3	0755.3	4.6	206.0			
	9100	GORK	3	S	0754.4	0755.4	4.0	75.0			
	8800	LEAR	8	S	0755.0E	0755.0	1.0D	86.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0755.0E	0755.0	1.0D	130.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0755.0E	0755.0	1.0D	90.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	0755.0E	0755.0	1.0D	110.0			QL=1 ST=3 TYP=3
	2950	GORK	20	GRF	0811.3	0908.0	152.0	17.6			
	15000	KISV	2	S/F	0827.8	0828.7	6.4	13.0			
	5900	KISV	22	GRF	0828.5	0946.8	97.5	13.0			
	9300	KISV	2	S/F	0830.4	0831.7	3.7	8.0			
	15000	KISV	1	S	0850.3	0850.6	0.7	11.0			
	9300	KISV	46	C	0856.4	0905.0	21.5	92.0			
	9300	KISV	46	C	0856.4	0908.1		24.0			
	9300	KISV	46	C	0856.4	0858.2		13.0			
	15000	KISV	45	C	0903.3	0908.0		30.0			
	15000	KISV	45	C	0903.3	0904.9	99.0	75.0			
	8800	LEAR	8	S	0904.0E	0905.0	1.0D	50.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0904.0E	0905.0	1.0D	64.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0904.0E	0904.0	1.0D	77.0			QL=1 ST=2 TYP=3

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Outstanding Occurrences

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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
15	9100	GORK	4	S/F	0904.0	0904.9	5.0	68.0			
	5900	KISV	2	S/F	0904.3	0905.0	5.3	27.0			
	15000	KISV	45	C	0921.0	0921.5		13.0			
	15000	KISV	45	C	0921.0	0922.8	5.8	20.0			
	15000	KISV	2	S/F	0928.9	0929.8	4.0	23.0			
	9300	KISV	2	S/F	0959.2	0959.3	0.2	9.0			
	15000	KISV	22	GRF	1018.0	1024.7		19.0			
	15000	KISV	22	GRF	1018.0	1034.7	25.0	28.0			
	9100	GORK	2	S/F	1023.5	1024.8	2.9	15.0			
	9300	KISV	2	S/F	1023.8	1024.7	3.3	11.0			
	204	IZMI	5	S	1041.3	1041.5	0.3	150.0	120.0		
	15000	KISV	25	R	1049.9	1142.8	70.0	22.0			
	2950	GORK	20	GRF	1051.5	1100.0	16.0	12.2			
	5900	KISV	23	GRF	1055.0	1056.0	19.0	6.0			
	9300	KISV	2	S/F	1102.3	1103.1	3.7	25.0			
	9100	GORK	2	S/F	1102.3	1102.9	2.5	28.7			
	15000	KISV	4	S/F	1102.4	1103.2	5.1	83.0			
	5900	KISV	25	R	1121.0U	1133.0	39.0D	15.0			
	9300	KISV	45	C	1124.7	1126.6	11.9	118.0			
	9300	KISV	45	C	1124.7	1132.7		20.0			
	15000	KISV	45	C	1125.4	1126.6	9.1	125.0D			
	15000	KISV	45	C	1125.4	1128.9		68.0			
	9100	GORK	4	S/F	1125.7	1126.7	3.7	113.0			
	8800	SVTO	8	S	1126.0E	1126.0	1.0D	98.0			QL=1 ST=2 TYP=3
	5900	KISV	4	S/F	1126.0E	1126.8	4.0U	74.0			
	5200	BERN	4	S/F	1126.1	1126.4	1.5	30.0			
	8400	BERN	4	S/F	1126.1	1126.4	1.5	72.0			
	11800	BERN	4	S/F	1126.1	1126.4	1.5	60.0			
	3013	IZMI	5	S	1126.4	1126.8	0.8	5.0	2.5		
	430	KRAK	42	SER	1142.4	1149.0	9.0	230.0D			
	9300	KISV	45	C	1145.0	1146.2		17.0			
	810	KRAK	41	F	1145.0	1146.2	3.8	10.0	2.0		
	5900	KISV	46	C	1145.0	1146.3		23.0			
	5900	KISV	46	C	1145.0	1147.7		14.0			
	5900	KISV	46	C	1145.0	1149.7	14.2	47.0			
	9300	KISV	45	C	1145.0	1149.7	13.0	55.0			
	3100	CRIM	1	S	1145.1	1146.2	1.3	14.0	5.0		
	15000	KISV	21	GRF	1145.1	1149.7	13.4	37.0			
	3013	IZMI	40	F	1145.4	1149.8	5.0	18.0			
	204	IZMI	41	F	1145.8	1149.0	5.0	230.0			
	245	SVTO	8	S	1146.0E	1146.0	U	130.0			QL=1 ST=2 TYP=3
	410	SVTO	49	GB	1148.0E	1148.0	1.0D	770.0			QL=1 ST=2 TYP=6
	245	SVTO	49	GB	1148.0E	1149.0	1.0D	580.0			QL=1 ST=2 TYP=6
	536	ONDR	41	F	1148.5	1149.7	2.6	101.0			
	3100	CRIM	1	S	1148.7	1149.8	1.5	14.0	5.0		
	810	KRAK	2	S/F	1148.8	1150.0	3.0	23.0	5.0		
	245	SGMR	8	S	1423.0E	1423.0	U	140.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1546.0	1551.0	25.3	182.5	55.0		
	1415	SGMR	8	S	1546.0E	1546.0	1.0D	69.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1546.0E	1546.0	1.0D	230.0			QL=1 ST=2 TYP=3
	8800	SGMR	49	GB	1546.0E	1546.0	1.0D	540.0			QL=1 ST=2 TYP=6
	410	SGMR	49	GB	1546.0E	1546.0	U	530.0			QL=1 ST=2 TYP=6
	245	SGMR	49	GB	1546.0E	1546.0	U	1300.0			QL=1 ST=2 TYP=6
	15400	SGMR	49	GB	1546.0E	1546.0	1.0D	670.0			QL=1 ST=2 TYP=6
	2695	SGMR	8	S	1546.0E	1546.0	1.0D	95.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1549.0E	1550.0	3.0D	270.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1549.0E	1550.0	3.0D	170.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1549.0E	1550.0	3.0D	220.0			QL=1 ST=2 TYP=3
	15400	SGMR	4	S/F	1549.0E	1550.0	3.0D	300.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1550.0E	1550.0	1.0D	100.0			QL=1 ST=2 TYP=3
	1415	SGMR	8	S	1550.0E	1550.0	2.0D	100.0			QL=1 ST=2 TYP=3
	15400	PALE	8	S	1820.0E	1820.0	1.0D	93.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1820.0E	1820.0	1.0D	110.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1824.0E	1826.0	2.0D	71.0			QL=1 ST=2 TYP=3
	15400	PALE	8	S	2005.0E	2006.0	1.0D	68.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	2005.0E	2006.0	1.0D	66.0			QL=1 ST=2 TYP=3
	610	LEAR	49	GB	2320.0E	2320.0	2.0D	530.0			QL=1 ST=2 TYP=6
	8800	LEAR	8	S	2320.0E	2321.0	2.0D	80.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2320.0E	2320.0	2.0D	350.0			QL=1 ST=3 TYP=3

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

JANUARY 1989

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
15	8800	PALE	4	S/F	2320.0E	2321.0	3.0D	92.0			QL=1 ST=3 TYP=3
	15400	LEAR	8	S	2321.0E	2321.0	U	35.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	2321.0E	2321.0	1.0D	92.0			QL=1 ST=2 TYP=3
16	200	HIRA	44	NS	0100.0E	0100.0	400.0D	75.0	34.0		SR
	100	HIRA	44	NS	0100.0E	0100.0	400.0D	230.0	87.0		
	245	SVTO	44	NS	0633.0E	0803.0	531.0D	120.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0633.0E	0853.0	531.0D	30.0			QL=1 ST=2 TYP=1
	200	GORK	44	NS	0700.0E		120.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	45.0			
	127	TORN	44	NS	0720.0E		380.0D		100.0		V=1
	260	ONDR	44	NS	0840.0E	1151.6	310.0D	32.0			
	245	SGMR	43	NS	1234.0	1403.0	518.0D	74.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	0449.0	590.0D	13.0	9.0		MR
	100	HIRA	44	NS	2150.0E	0028.0	590.0D	54.0	20.0		
	245	PALE	8	S	0255.0E	0255.0	U	180.0			QL=1 ST=2 TYP=3
	100	HIRA	42	SER	0305.9	0307.1	17.8	560.0			
	17000	NOBE	7	C	0317.7	0318.3	2.4	72.0			14R
	17000	NOBE	21	GRF	0317.7	0339.8	50.0	34.0			0
	35000	NOBE	1	S	0318.0	0318.3	0.5	20.0			0
	15400	PALE	4	S/F	0322.0E	0325.0	4.0D	220.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0322.0E	0325.0	4.0D	150.0			QL=1 ST=2 TYP=3
	35000	NOBE	1	S	0324.8	0325.2	2.0	80.0			10R
	17000	NOBE	7	C	0324.8	0325.2	2.0	257.0			25R
	2695	LEAR	8	S	0325.0E	0325.0	1.0D	52.0			QL=1 ST=2 TYP=3
	610	LEAR	49	GB	0325.0E	0325.0	U	840.0			QL=1 ST=2 TYP=6
	4995	PALE	8	S	0325.0E	0325.0	U	65.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0325.0E	0325.0	1.0D	51.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	0325.0E	0325.0	1.0D	370.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0325.0E	0325.0	17.0D	190.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0325.0E	0325.0	17.0D	240.0			QL=1 ST=2 TYP=3
	500	HIRA	8	S	0325.5	0325.6	0.8	324.0			0
	8800	LEAR	8	S	0453.0E	0453.0	1.0D	76.0			QL=1 ST=2 TYP=3
	17000	NOBE	7	C	0519.1	0520.0	7.0	30.0			7R
	410	LEAR	8	S	0520.0E	0521.0	1.0D	140.0			QL=1 ST=2 TYP=3
	9300	KISV	22	GRF	0549.4	0553.2	17.5	14.0			
	410	LEAR	8	S	0610.0E	0610.0	U	59.0			QL=1 ST=2 TYP=3
	15000	KISV	2	S/F	0613.7	0614.5	2.7	13.0			
	9300	KISV	2	S/F	0614.1	0614.6	1.0	5.0			
	15000	KISV	4	S/F	0620.3	0622.9	6.8	469.0			
	15400	LEAR	4	S/F	0621.0E	0622.0	6.0D	440.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0621.0E	0622.0	6.0D	190.0			QL=1 ST=2 TYP=3
	9300	KISV	4	S/F	0621.0	0622.9	12.7	193.0			
	9100	GORK	23	GRF	0621.2U		58.0D				
	35000	NOBE	7	C	0621.3	0622.8	5.0	284.0			20R
	17000	NOBE	7	C	0621.3	0622.8	16.0	396.0			16R
	5900	KISV	45	C	0621.6	0622.8	2.0	52.0			
	9100	GORK	4	S/F	0621.6	0622.9	3.0	228.0			
	5900	KISV	45	C	0621.6	0621.9		33.0			
	950	GORK	22	GRF	0624.0E	0642.7	51.0D	7.0			
	15000	KISV	42	SER	0637.3	0638.1	7.0	19.0			
	15000	KISV	42	SER	0637.3	0642.8		14.0			
	9300	KISV	2	S/F	0642.7	0642.8	0.4	8.0			
	15000	KISV	2	S/F	0659.6	0702.0	2.9	14.0			
	2950	GORK	21	GRF	0703.0	1100.0	280.0D	43.0			
	15000	KISV	23	GRF	0745.0	0747.4	73.0	43.0			
	9100	GORK	1	S	0746.8	0747.3	1.8	19.0			
	5900	KISV	42	SER	0746.9	0749.0		7.0			
	5900	KISV	42	SER	0746.9	0747.3	4.6	11.0			
	5900	KISV	42	SER	0746.9	0750.4		4.0			
	5900	KISV	42	SER	0746.9	0750.9		3.0			
	9300	KISV	22	GRF	0747.1	0752.9	29.0	19.0			
	9100	GORK	21	GRF	0748.0E	1057.7	237.0D	98.0			
	9300	KISV	22	GRF	0821.3	0838.7	37.0	29.0			
	9100	GORK	4	S/F	0829.7	0832.4	5.7	57.0			
	5900	KISV	23	GRF	0829.8	0832.5	21.5	36.0			
	9300	KISV	4	S/F	0829.9	0832.4	4.5	59.0			
	15400	LEAR	4	S/F	0830.0E	0832.0	5.0D	130.0			QL=1 ST=2 TYP=3
	15000	KISV	4	S/F	0830.1	0832.4	4.3	126.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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
16	8800	LEAR	8	S	0831.0E	0832.0	2.0D	56.0			QL=1 ST=2 TYP=3
	5900	KISV	2	S/F	0853.0	0853.6	2.0	5.0			
	15000	KISV	2	S/F	0902.5	0902.7	0.8	5.0			
	9300	KISV	23	GRF	0903.4	0916.0	79.0	34.0			
	9300	KISV	23	GRF	0903.4	0907.1		16.0			
	15000	KISV	23	GRF	0904.3	0916.2	55.0	28.0			
	950	GORK	45	C	0905.2	0906.3		22.0			
	950	GORK	45	C	0905.2	0905.6	1.4	21.0			
	950	GORK	30	PBI	0905.2	0906.6	11.3	6.6			
	650	GORK	45	C	0905.4E	0912.0		6.0			
	650	GORK	45	C	0905.4E	0906.3		8.5			
	650	GORK	45	C	0905.4E	0908.6		5.0			
	650	GORK	45	C	0905.4E	0905.7	12.6D	13.0			
	650	GORK	45	C	0905.4E	0909.9		5.8			
	5900	KISV	23	GRF	0905.6	0907.2		14.0			
	5900	KISV	23	GRF	0905.6	0920.4	73.5	21.0			
	5900	KISV	2	S/F	0913.6	0914.6	3.7	14.0			
	950	GORK	22	GRF	0925.9	0933.6	21.7	3.6			
	100	GORK	41	F	0926.0	0944.3		350.0			
	100	GORK	41	F	0926.0	0933.3		230.0			
	100	GORK	41	F	0926.0	0926.5	19.6	140.0			
	9300	KISV	2	S/F	0944.5	0946.1	4.8	11.0			
	15000	KISV	2	S/F	0945.0	0945.8	3.0	14.0			
	5900	KISV	2	S/F	0945.3	0946.2	2.3	8.0			
	9300	KISV	4	S/F	1000.1	1002.2	7.4	108.0			
	9300	KISV	29	PBI	1000.1	1007.5	11.0	15.0			
	5900	KISV	4	S/F	1000.4	1002.6	4.5	88.0			
	5900	KISV	29	PBI	1000.4	1004.9	7.0	17.0			
	15000	KISV	4	S/F	1000.5	1002.2	7.0	128.0			
	15000	KISV	29	PBI	1000.5	1007.4	19.0	24.0			
	2950	GORK	1	S	1000.5	1002.7	4.3	21.0			
	3013	IZMI	5	S	1001.0	1002.0	3.0	38.0	28.0		
	15400	LEAR	8	S	1001.0E	1002.0	2.0D	79.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	1001.0E	1002.0	1.0D	110.0			QL=1 ST=2 TYP=3
	4995	SVTO	8	S	1001.0E	1002.0	2.0D	85.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1001.0E	1002.0	1.0D	91.0			QL=1 ST=2 TYP=3
	9100	GORK	4	S/F	1001.4E	1002.2	7.6D	275.0			
	5900	KISV	2	S/F	1012.6	1014.4	3.7	10.0			
	9100	GORK	2	S/F	1012.7	1013.7	2.5	13.7			
	15000	KISV	45	C	1012.8	1014.4		14.0			
	15000	KISV	45	C	1012.8	1013.9	3.7	15.0			
	9300	KISV	45	C	1012.9	1014.4		10.0			
	9300	KISV	45	C	1012.9	1013.8	3.2	12.0			
	33	UPIC	46	C	1024.4	1025.2	7.6				
	15000	KISV	45	C	1031.2	1032.4	4.5	11.0			
	15000	KISV	45	C	1031.2	1034.7		9.0			
	810	KRAK	8	S	1040.8	1040.8	0.3	9.0			
	5900	KISV	23	GRF	1042.7	1105.3	60.7	40.0			
	15000	KISV	23	GRF	1043.0U	1100.2	62.0U	60.0			
	9300	KISV	23	GRF	1047.9	1105.3	58.5	48.0			
	15000	KISV	45	C	1048.4	1049.4	5.5	19.0			
	15000	KISV	45	C	1048.4	1051.8		12.0			
	5900	KISV	2	S/F	1054.0	1057.7	8.3	26.0			
	9300	KISV	2	S/F	1057.1	1100.2	5.7	12.0			
	15000	KISV	2	S/F	1120.8	1122.7	5.0	26.0			
	536	ONDR	8	S	1127.2	1127.4	1.0	124.0			
	15000	KISV	2	S/F	1148.9	1151.6	4.3	8.0			
	5900	KISV	2	S/F	1201.3	1202.7	4.0	19.0			
	15400	SGMR	4	S/F	1504.0E	1514.0	12.0D	120.0			QL=1 ST=2 TYP=5
	4995	PALE	8	S	1754.0E	1756.0	2.0D	92.0			QL=1 ST=2 TYP=3
	1415	PALE	4	S/F	1754.0E	1756.0	3.0D	65.0			QL=1 ST=2 TYP=3
	410	PALE	49	GB	1755.0E	1755.0	3.0D	1500.0			QL=1 ST=2 TYP=6
	2695	PALE	8	S	1755.0E	1756.0	2.0D	82.0			QL=1 ST=2 TYP=3
	245	PALE	49	GB	1755.0E	1756.0	1.0D	840.0			QL=1 ST=2 TYP=6
	610	PALE	8	S	1755.0E	1756.0	2.0D	70.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1755.0E	1756.0	1.0D	91.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1755.0E	1755.0	1.0D	200.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1755.0E	1755.0	1.0D	180.0			QL=1 ST=2 TYP=3
	410	SGMR	49	GB	1755.0E	1755.0	1.0D	1800.0			QL=1 ST=2 TYP=6

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

JANUARY 1989

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
16	1415	SGMR	4	S/F	1755.0E	1756.0	365.0D	80.0			QL=1 ST=1 TYP=3
	2800	OTTA	4	S/F	1755.5	1756.0	18.0	99.6	30.0		
	610	SGMR	4	S/F	1756.0E	1756.0	4.0D	140.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	2215.0E	2216.0	3.0D	360.0			QL=1 ST=2 TYP=3
	15400	LEAR	49	GB	2215.0E	2216.0	3.0D	960.0			QL=1 ST=2 TYP=6
	2695	PALE	8	S	2216.0E	2217.0	1.0D	62.0			QL=1 ST=2 TYP=3
17	245	LEAR	44	NS	0304.0E	0455.0	472.0D	30.0			QL=1 ST=2 TYP=1
	100	GORK	44	NS	0609.0E		345.0D		10.0		
	410	SVTO	43	NS	0633.0	0843.0	532.0D	45.0			QL=1 ST=2 TYP=1
	245	SVTO	43	NS	0633.0	1340.0	532.0D	56.0			QL=1 ST=2 TYP=1
	127	TORN	44	NS	0820.0E		370.0D		18.0		V=1
	260	ONDR	44	NS	0840.0E	1246.1	310.0D	22.0			
	204	IZMI	43	NS	0920.0		160.0	15.0			
	245	SGMR	43	NS	1234.0	1613.0	519.0D	280.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	0106.0	590.0D	280.0	52.0		
	200	HIRA	44	NS	2150.0E	0100.0	590.0D	81.0	44.0		WR
	245	LEAR	43	NS	2213.0	2312.0	763.0D	43.0			QL=1 ST=2 TYP=1
	17000	NOBE	1	S	0011.9	0012.2	1.0	21.0			0
	9100	GORK	3	S	0620.6	0621.5	2.1	127.0			
	17000	NOBE	1	S	0620.6	0621.6	4.0	73.0			23R
	9100	GORK	30	PBI	0620.6	0622.7	330.0	29.0			
	15000	KISV	4	S/F	0620.8	0621.7	5.4	111.0			
	9300	KISV	4	S/F	0621.0	0621.8	7.4	144.0			
	204	IZMI	5	S	0717.8	0718.2	0.9	86.0	30.0		
	810	KRAK	8	S	0812.5	0812.5	0.1	6.0			
	9100	GORK	4	S/F	0813.7	0816.9	3.6	49.0			
	15400	LEAR	8	S	0816.0E	0817.0	1.0D	79.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0816.0E	0816.0	1.0D	42.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	0816.0E	0816.0	1.0D	92.0			QL=1 ST=2 TYP=3
	9300	KISV	4	S/F	0816.6	0817.0	5.3	51.0			
	2950	GORK	21	GRF	0831.5	0839.0	17.5	9.5			
	9100	GORK	3	S	0835.9	0836.8	5.5	82.0			
	15400	LEAR	4	S/F	0836.0E	0836.0	3.0D	47.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0836.0E	0836.0	5.0D	94.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0836.0E	0836.0	1.0D	90.0			QL=1 ST=2 TYP=3
	4995	SVTO	8	S	0836.0E	0836.0	1.0D	110.0			QL=1 ST=2 TYP=3
	9300	KISV	29	PBI	0836.0	0842.5	12.3	315.0			
	9300	KISV	4	S/F	0836.0	0836.9	6.5	113.0			
	3200	BERN	3	S	0836.1	0837.0	3.0	32.0			
	3100	CRIM	1	S	0836.1	0837.0	3.0	27.8	9.0		
	8400	BERN	3	S	0836.1	0836.5	3.0	71.0			
	11800	BERN	3	S	0836.1	0836.5	3.0	52.0			
	5200	BERN	3	S	0836.1	0836.5	3.0	78.0			
	3013	IZMI	5	S	0836.3	0837.0	4.0	43.0	30.0		
	2950	GORK	3	S	0836.3	0836.5	2.8	48.0			
	9300	KISV	1	S	0930.2	0930.4	2.0	39.0			
	9100	GORK	2	S/F	0930.2	0930.5	1.8	35.0			
	9300	KISV	45	C	1005.0	1009.7	7.0	20.0			
	9300	KISV	45	C	1005.0	1005.9		19.0			
	9100	GORK	45	C	1005.2	1009.8		14.0			
	9100	GORK	45	C	1005.2	1005.9	5.5	18.0			
	9100	GORK	1	S	1017.0	1018.5	3.4	8.8			
	9300	KISV	22	GRF	1128.9	1130.6	11.7	7.0			
	536	ONDR	41	F	1138.3	1206.3	70.6	136.0			
	430	KRAK	8	S	1157.7	1157.7	0.5	200.0D			
	4995	SGMR	8	S	1411.0E	1411.0	1.0D	84.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1411.0E	1411.0	1.0D	63.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	1411.0E	1411.0	U	70.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1411.0E	1411.0	U	66.0			QL=1 ST=2 TYP=3
	4995	SVTO	8	S	1411.0E	1411.0	U	51.0			QL=1 ST=2 TYP=3
	35000	BERN	3	S	1411.0	1411.3	1.2	68.0			
	19600	BERN	3	S	1411.0	1411.3	1.2	59.0			
	8400	BERN	3	S	1411.1	1411.3	1.2	51.0			
	11800	BERN	3	S	1411.1	1411.3	1.2	54.0			
	5200	BERN	3	S	1411.2	1411.3	1.2	30.0			
	610	PALE	8	S	2009.0E	2009.0	U	140.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	2010.0E	2010.0	U	15.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2140.0E	2141.0	1.0D	79.0			QL=1 ST=2 TYP=3

SOLAR RADIO EMISSION
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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
17	17000	NOBE	1	S	2240.7	2240.9	2.0	30.0			0
	100	HIRA	46	C	2315.2	2317.4	5.4	550.0	210.0		
18	100	GORK	44	NS	0612.0E		232.0D		10.0		
	200	GORK	44	NS	0615.0E		180.0D		25.0		
	410	SVTO	44	NS	0632.0E	0707.0	318.0D	40.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0632.0E	0809.0	534.0D	120.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	30.0			
	127	TORN	44	NS	0700.0E		430.0D		45.0		V=1
	260	ONDR	44	NS	0840.0E	1007.0	320.0D	17.0			
	245	SGMR	43	NS	1233.0	1304.0	327.0D	22.0			QL=1 ST=2 TYP=1
	245	SGMR	43	NS	1848.0	1853.0	138.0D	140.0			QL=1 ST=3 TYP=1
	17000	NOBE	1	S	0021.0	0021.3	3.0	34.0			0
	17000	NOBE	1	S	0021.0	0021.3	1.0	32.0			0
	4995	SVTO	4	S/F	0057.0E	0858.0	481.0D	55.0			QL=1 ST=2 TYP=3
	9100	GORK	30	PBI	0551.0E	0703.0	289.0D	228.0			
	9100	GORK	47	GB	0551.0E	0636.1	72.0D	1290.0			
	2950	GORK	47	GB	0603.0E	0654.0	60.0D	455.0			
	2950	GORK	29	PBI	0603.0E	0703.0	276.0D	59.0			
	9300	KISV	47	GB	0606.5	0620.3	60.0	430.0			
	17000	NOBE	46	C	0607.2	0636.8	73.0D	1560.0			8R
	15400	LEAR	49	GB	0611.0E	0636.0	59.0D	1900.0			QL=1 ST=2 TYP=7
	35000	NOBE	7	C	0614.4	0636.8	60.0	1100.0			17R
	245	LEAR	4	S/F	0615.0E	0615.0	1065.0D	77.0			QL=1 ST=1 TYP=3
	650	GORK	23	GRF	0618.2E	0812.9	120.4D	6.0			
	3100	CRIM	45	C	0619.0	0654.0		240.0			
	3100	CRIM	45	C	0619.0	0637.0	47.7	147.0			
	2695	LEAR	4	S/F	0619.0E	0700.0	51.0D	270.0			QL=1 ST=3 TYP=3
	3100	CRIM	45	C	0619.0	0659.6		256.0	85.0		
	500	HIRA	46	C	0619.1	0620.3	75.0D	49.0U	7.0U		O SUNSET
	500	HIRA	46	C	0619.1	0651.5		25.0			O
	9300	KISV	45	C	0622.1	0623.7	3.0	200.0			
	9300	KISV	45	C	0622.1	0622.8		135.0			
	9300	KISV	4	S/F	0627.2	0627.8	2.4	135.0			
	100	GORK	41	F	0629.1	0630.0	4.0	90.0			
	100	GORK	41	F	0629.1	0632.2		160.0			
	100	GORK	41	F	0629.1	0631.6		110.0			
	100	GORK	41	F	0629.1	0632.9		150.0			
	950	GORK	23	GRF	0630.5	0646.7	62.5	23.0			
	9300	KISV	47	GB	0630.5	0636.9	11.5	1094.0D			
	650	GORK	46	C	0631.2	0716.6		67.0			
	650	GORK	46	C	0631.2	0651.7	54.5	48.0			
	8800	SVTO	8	S	0636.0E	0636.0	2.0D	120.0			QL=1 ST=2 TYP=3
	4995	SVTO	49	GB	0636.0E	0654.0	40.0D	550.0			QL=1 ST=2 TYP=7
	2695	SVTO	4	S/F	0636.0E	0654.0	40.0D	400.0			QL=1 ST=2 TYP=3
	80000	NOBE	1	S	0636.4	0636.8	2.0	42.0			
	950	GORK	4	S/F	0636.7	0637.2	0.8	9.2			
	9300	KISV	29	PBI	0642.6	0706.2	80.0	169.0			
	9300	KISV	47	GB	0642.6	0650.3		576.0			
	9300	KISV	47	GB	0642.6	0659.4		562.0			
	9300	KISV	47	GB	0642.6	0653.5	23.5	629.0			
	1415	SVTO	4	S/F	0643.0E	0659.0	20.0D	180.0			QL=1 ST=2 TYP=5
	950	GORK	4	S/F	0647.7	0651.5	7.8	35.0			
	15400	SVTO	49	GB	0648.0E	0650.0	61.0D	570.0			QL=1 ST=2 TYP=6
	950	GORK	46	C	0658.7	0701.1		46.0			
	950	GORK	46	C	0658.7	0659.2	3.7	85.0			
	100	GORK	41	F	0707.1	0714.0		400.0			
	100	GORK	41	F	0707.1	0710.5		1220.0			
	100	GORK	41	F	0707.1	0709.7		780.0			
	100	GORK	41	F	0707.1	0707.7	10.6	1660.0			
	950	GORK	4	S/F	0714.4	0716.5	4.2	100.0			
	950	GORK	46	C	0726.7	0728.0	5.9	38.0			
	950	GORK	46	C	0726.7	0730.5		85.0			
	15400	SVTO	8	S	0846.0E	0847.0	2.0D	150.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0846.0E	0847.0	2.0D	120.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0846.0E	0847.0	31.0D	85.0			QL=1 ST=2 TYP=3
	9100	GORK	4	S/F	0846.7	0847.0	2.1	102.0			
	9300	KISV	22	GRF	0846.8	0858.0	84.0	76.0			
	650	GORK	2	S/F	0847.8	0848.3	3.8	2.3			

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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
18	15400	SVTO	20	GRF	0850.0E	0857.0	35.0D	94.0			QL=1 ST=2 TYP=2
	8800	SVTO	20	GRF	0853.0E	0914.0	64.0D	86.0			QL=1 ST=2 TYP=2
	4995	SVTO	8	S	0857.0E	0858.0	1.0D	55.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	1007.0E	1007.0	U	77.0			QL=1 ST=2 TYP=3
	536	ONDR	40	F	1042.3	1042.5	0.7	80.0			
	536	ONDR	40	F	1243.1	1243.4	1.3	99.0			
	2800	OTTA	47	GB	1804.0	1829.5	25.5	1473.0	590.0		
	1415	PALE	4	S/F	1806.0E	1810.0	6.0D	480.0			QL=1 ST=3 TYP=3
	610	PALE	4	S/F	1807.0E	1811.0	12.0D	120.0			QL=1 ST=3 TYP=3
	8800	PALE	49	GB	1808.0E	1811.0	21.0D	1300.0			QL=1 ST=3 TYP=6
	4995	PALE	49	GB	1808.0E	1811.0	21.0D	1200.0			QL=1 ST=3 TYP=6
	2695	PALE	49	GB	1808.0E	1809.0	21.0D	1500.0			QL=1 ST=3 TYP=6
	15400	PALE	49	GB	1808.0E	1811.0	21.0D	830.0			QL=3 ST=3 TYP=6
	245	SGMR	8	S	1809.0E	1809.0	U	110.0			QL=1 ST=2 TYP=3
	410	PALE	4	S/F	1809.0E	1816.0	10.0D	110.0			QL=1 ST=3 TYP=3
	15400	SGMR	49	GB	1809.0E	1812.0	15.0D	780.0			QL=1 ST=2 TYP=6
	245	PALE	8	S	1811.0E	1812.0	1.0D	170.0			QL=1 ST=3 TYP=3
	610	SGMR	4	S/F	1811.0E	1812.0	6.0D	150.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1813.0E	1813.0	U	73.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1824.0E	1824.0	1.0D	77.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	1824.0E	1824.0	1.0D	64.0			QL=1 ST=2 TYP=3
	15400	SGMR	4	S/F	1824.0E	1824.0	10.0D	130.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1829.5	1832.0	30.0	93.1	46.0		
	2800	OTTA	4	S/F	1845.0	1847.0	8.3	68.8	20.0		
	2695	SGMR	8	S	1846.0E	1846.0	2.0D	59.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1847.0E	1847.0	1.0D	84.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	2343.5	2343.8	1.5	36.0			0
19	245	SGMR	43	NS	1232.0	1533.0	524.0D	79.0			QL=1 ST=2 TYP=1
	200	HIRA	46	C	0116.6	0122.4	9.5	4.0			0
	500	HIRA	46	C	0117.1	0122.8	7.5	12.0			0
	17000	NOBE	1	S	0254.9	0255.5	4.0	40.0			7L
	9100	GORK	2	S/F	0653.2	0657.8	6.3	6.0			
	5900	KISV	23	GRF	0730.1	0743.4	35.0	19.0			
	9300	KISV	23	GRF	0730.2	0743.3	26.0	12.0			
	2950	GORK	1	S	0738.5	0742.0	6.2	5.7			
	9100	GORK	22	GRF	0738.6	0743.2	10.1	9.5			
	9100	GORK	22	GRF	0819.9	0823.6	9.4	10.3			
	9300	KISV	2	S/F	0821.5	0821.8	1.2	9.0			
	5900	KISV	2	S/F	0821.7	0821.8	1.0	3.0			
	5900	KISV	2	S/F	0823.3	0823.8	4.2	5.0			
	9300	KISV	2	S/F	0823.4	0823.6	2.9	9.0			
	260	ONDR	41	F	0840.0E	1116.4	320.0D	7.0			
	810	KRAK	8	S	0850.5	0850.6	0.2	6.0			
	9100	GORK	22	GRF	0902.8	0938.8	135.0	33.0			
	5900	KISV	2	S/F	0903.0	0903.7	3.5	6.0			
	9300	KISV	2	S/F	0903.2	0905.3	2.9	5.0			
	9300	KISV	2	S/F	0912.5	0914.7	4.3	14.0			
	5900	KISV	2	S/F	0912.7	0914.8	5.1	10.0			
	15000	KISV	23	GRF	0913.8	0917.4	14.4	16.0			
	2695	LEAR	4	S/F	0916.0E	0936.0	48.0D	190.0			QL=1 ST=2 TYP=5
	9300	KISV	2	S/F	0920.0	0920.6	1.9	14.0			
	15000	KISV	2	S/F	0920.3	0920.5	1.7	12.0			
	5900	KISV	23	GRF	0932.6	0939.0	22.7	26.0			
	5900	KISV	45	C	0932.6	0934.8		7.0			
	5900	KISV	45	C	0932.6	0933.8	3.4	12.0			
	9300	KISV	23	GRF	0933.6	0939.3	94.4	26.0			
	15000	KISV	22	GRF	0933.8	0944.2	44.2	22.0			
	8800	LEAR	4	S/F	0937.0E	0939.0	863.0D	24.0			QL=1 ST=1 TYP=3
	536	ONDR	8	S	1005.1	1005.3	0.5	27.0			
	430	KRAK	27	RF	1030.2	1039.1	10.5	9.0	3.0		
	9300	KISV	2	S/F	1038.5	1040.1	8.5	11.0			
	15000	KISV	2	S/F	1039.8	1040.2	1.7	10.0			
	430	KRAK	7	C	1139.0	1140.5	4.8	11.0	5.0		
	430	KRAK	4	S/F	1149.0	1154.5	9.0	58.0	28.0		
	2800	OTTA	1	S	1745.0	1750.0	8.0	5.9	1.0		
	2800	OTTA	20	GRF	1952.0	1957.0	31.0	12.5	4.0		
20	500	HIRA	42	SER	0527.1	0529.0	30.5	14.0			0

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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
20	200	HIRA	46	C	0555.8	0556.4	3.3	610.0	105.0		O
	245	LEAR	8	S	0556.0E	0557.0	1.0D	240.0			QL=1 ST=2 TYP=3
	100	HIRA	42	SER	0556.1	0557.2	7.4	245.0			
	9300	KISV	2	S/F	0805.2	0807.2	8.2	16.0			
	5900	KISV	2	S/F	0805.3U	0807.3	7.9D	15.0			
	9100	GORK	2	S/F	0806.3	0807.3	6.3	15.6			
	3100	CRIM	1	S	0806.5	0807.1	2.0	1.8	0.6		
	810	KRAK	42	SER	0814.0	0817.1	3.5	10.0			
	9100	GORK	20	GRF	0824.8U	0919.5	124.0D	20.0			
	5900	KISV	23	GRF	0833.0	0835.4		4.0			
	5900	KISV	23	GRF	0833.0	0837.5	13.8	6.0			
	810	KRAK	8	S	0833.8	0833.8	0.2	9.0			
	9300	KISV	22	GRF	0837.1	0838.2	11.4	5.0			
	3100	CRIM	26	FAL	0852.0	1110.0		7.0			
	5900	KISV	45	C	0910.5	0916.0	19.2	10.0			
	5900	KISV	45	C	0910.5	0918.2	19.2	14.0			
	9300	KISV	45	C	0911.1	0930.0		10.0			
	9300	KISV	45	C	0911.1	0912.8	24.3	12.0			
	15000	KISV	22	GRF	0912.0	0912.7	23.0	10.0			
	260	ONDR	41	F	0953.0	1117.8	247.0	6.0			
	9300	KISV	2	S/F	1039.3	1039.8	3.0	7.0			
	536	ONDR	47	GB	1111.0	1221.4	120.1	151.0			
	810	KRAK	8	S	1202.0	1202.0	0.2	13.0			
	810	KRAK	8	S	1251.5	1251.5	0.2	6.0			
	2800	OTTA	22	GRF	1400.0	1526.0	300.0	41.5	20.0		
	4995	SGMR	4	S/F	1524.0E	1526.0	8.0D	71.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1525.0E	1526.0	1.0D	60.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1551.0E	1551.0	2.0D	340.0			QL=1 ST=2 TYP=3
	15400	SGMR	49	GB	1551.0E	1551.0	2.0D	640.0			QL=1 ST=2 TYP=6
	15400	PALE	8	S	1954.0E	1954.0	U	53.0			QL=1 ST=2 TYP=3
21	260	ONDR	44	NS	0830.0E	1322.5	330.0D	5.0			
	200	HIRA	44	NS	2150.0E	0100.0	590.0D	4.0	2.0		O
	2840	PEKG	45	C	0520.0	0530.7	16.0	15.2			
	200	HIRA	42	SER	0536.6	0537.4	3.0	67.0			O
	5900	KISV	2	S/F	0602.2	0603.1	6.0	6.0			
	3100	CRIM	26	FAL	0726.0	1140.0		12.0			
	430	KRAK	8	S	0908.0	0908.1	0.2	6.0			
	5900	KISV	20	GRF	0939.8	1002.3	34.0	13.0			
	15000	KISV	20	GRF	0953.8	1002.5	13.8	10.0			
	9300	KISV	20	GRF	0955.6	0959.7	11.6	10.0			
	810	KRAK	8	S	1034.9	1035.1	0.2	9.0			
	536	ONDR	8	S	1133.0	1133.4	1.2	52.0			
	430	KRAK	8	S	1247.4	1247.5	0.2	25.0			
	2800	OTTA	22	GRF	1426.0	1557.0	395.0	14.3	7.0		
	2800	OTTA	4	S/F	1610.0	1617.0	22.0	10.8	3.0		
	2800	OTTA	4	S/F	1939.0	1942.0	12.0	14.8	4.0		
	2695	PENT	4	S/F	2108.0	2117.0	24.0	26.0	7.0		
22	410	SVTO	44	NS	0047.0E	0954.0	643.0D	14.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	15.0			
	260	ONDR	44	NS	0830.0E	1256.4	330.0D				
	245	SVTO	44	NS	0947.0E	0954.0	8.0D	14.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0947.0E	0954.0	103.0D	14.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0951.0E	1440.0	340.0D	110.0			QL=1 ST=3 TYP=1
	127	TORN	43	NS	0956.0		244.0				V=1
	245	LEAR	44	NS	1007.0E	1013.0	48.0D	52.0			QL=1 ST=3 TYP=1
	245	SGMR	43	NS	1230.0	1449.0	530.0D	130.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1740.0E	0129.0	618.0D	210.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	0128.0	590.0D	23.0	13.0		O
	245	LEAR	43	NS	2215.0	0600.0	760.0D	280.0			QL=1 ST=2 TYP=1
	410	LEAR	44	NS	2233.0E	1020.0	742.0D	48.0			QL=1 ST=2 TYP=1
	245	LEAR	8	S	0010.0E	0010.0	U	81.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0010.0E	0010.0	U	110.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0129.0E	0130.0	1.0D	90.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0129.0E	0130.0	1.0D	140.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0237.0E	0237.0	U	60.0			QL=1 ST=2 TYP=3
	200	HIRA	42	SER	0303.6	0356.0	53.0	310.0			O
	100	HIRA	42	SER	0311.9	0354.8	44.9	220.0			

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JANUARY 1989

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
22	245	LEAR	8	S	0312.0E	0312.0	U	52.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0312.0E	0312.0	1.0D	70.0			QL=1 ST=2 TYP=3
	410	LEAR	8	S	0324.0E	0325.0	1.0D	93.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	0324.0E	0325.0	1.0D	83.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0338.0E	0338.0	1.0D	50.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0355.0E	0356.0	2.0D	95.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	0453.0	0453.7	1.5	540.0			O
	100	HIRA	46	C	0453.1		2.6	1000.0D	340.0D		
	500	HIRA	46	C	0453.2	0454.2	1.5	17.0			O
	410	LEAR	8	S	0454.0E	0454.0	1.0D	99.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0454.0E	0454.0	1.0D	400.0			QL=1 ST=2 TYP=3
	200	HIRA	42	SER	0545.1	0615.8	30.6	305.0			O
	9300	KISV	45	C	0614.5	0619.2	18.5	6.0			
	9300	KISV	45	C	0614.5	0625.5		5.0			
	245	LEAR	8	S	0615.0E	0616.0	1.0D	110.0			QL=1 ST=2 TYP=3
	5900	KISV	45	C	0616.0	0617.5	13.4	5.0			
	5900	KISV	45	C	0616.0	0625.6		4.0			
	15000	KISV	2	S/F	0616.6	0619.3	3.1	3.0			
	9300	KISV	2	S/F	0710.6	0710.9	0.9	4.0			
	5900	KISV	2	S/F	0710.7	0711.0	1.0	2.0			
	9300	KISV	23	GRF	0712.0	0735.2	60.0	9.0			
	950	GORK	2	S/F	0712.0	0712.4	0.6	6.0			
	204	IZMI	5	S	0721.3	0721.6	0.4	100.0	38.0		
	9300	KISV	45	C	0724.9	0730.2	9.6	11.0			
	9300	KISV	45	C	0724.9	0726.5		11.0			
	5900	KISV	45	C	0725.0	0730.4	11.6	9.0			
	9100	GORK	20	GRF	0725.0	0730.4	54.0	13.0			
	5900	KISV	45	C	0725.0	0726.5		7.0			
	5900	KISV	29	PBI	0725.0	0736.6	25.2	4.0			
	15000	KISV	29	PBI	0725.7	0733.0	31.7	6.0			
	15000	KISV	45	C	0725.7	0730.1	8.0	9.0			
	15000	KISV	45	C	0725.7	0726.3		7.0			
	9300	KISV	2	S/F	0753.0	0753.8	2.7	5.0			
	15000	KISV	24	R	0820.0	0849.7	70.0	24.0			
	9300	KISV	23	GRF	0823.5	0854.5	71.0	19.0			
	9100	GORK	21	GRF	0824.3	0956.7	226.0D	59.0			
	2950	GORK	20	GRF	0824.5	0828.5	67.0	12.8			
	3100	CRIM	21	GRF	0824.5	0834.6	43.0	6.0	2.0		
	5900	KISV	23	GRF	0825.0	0902.1	53.0	12.0			
	5900	KISV	45	C	0825.0	0831.3		9.0			
	5900	KISV	45	C	0825.0	0828.7	11.7	17.0			
	9300	KISV	45	C	0826.8	0831.2		6.0			
	9300	KISV	45	C	0826.8	0828.6	10.2	7.0			
	3100	CRIM	1	S	0828.3	0828.8	1.0	3.0	1.0		
	5900	KISV	2	S/F	0838.8	0839.5	4.2	3.0			
	430	KRAK	8	S	0849.0	0849.0	0.1	51.0			
	5900	KISV	2	S/F	0853.8	0854.5	0.7	4.0			
	5900	KISV	23	GRF	0935.0	0956.7	112.5	63.0			
	9300	KISV	23	GRF	0937.9	0955.7	118.1	62.0			
	2950	GORK	21	GRF	0939.0	0956.0	115.0	30.0			
	3100	CRIM	45	C	0942.5	0949.4	10.0	47.0	16.0		
	3100	CRIM	30	PBI	0942.5	0952.4	89.9	21.0	7.0		
	3100	CRIM	45	C	0942.5	0950.5		44.0			
	3013	IZMI	5	S	0943.0	0949.0	15.0	68.0	58.0		
	15000	KISV	23	GRF	0943.0	0956.2	87.7	38.0			
	9300	KISV	4	S/F	0945.8	0949.1	9.9	101.0			
	9100	GORK	4	S/F	0946.2	0949.0	10.5	83.0			
	15000	KISV	2	S/F	0946.4	0949.2	3.3	28.0			
	5900	KISV	4	S/F	0946.4	0949.4	9.8	111.0			
	950	GORK	23	GRF	0946.5	0957.0	34.5	5.5			
	650	GORK	23	GRF	0946.9	1000.0	34.1	5.0			
	8800	LEAR	4	S/F	0947.0E	0950.0	853.0D	75.0			QL=1 ST=1 TYP=3
	950	GORK	46	C	0947.5	0950.5		13.0			
	950	GORK	46	C	0947.5	0954.7		15.5			
	950	GORK	46	C	0947.5	0948.7	8.0	21.0			
	2695	LEAR	4	S/F	0948.0E	0949.0	7.0D	77.0			QL=1 ST=2 TYP=3
	15400	SVTO	4	S/F	0948.0E	0948.0	11.0D	59.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0948.0E	0950.0	11.0D	98.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0948.0E	0949.0	11.0D	63.0			QL=1 ST=2 TYP=3

S O L A R R A D I O E M I S S I O N
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JANUARY 1989

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
22	4995	SVTO	4	S/F	0948.0E	0949.0	852.0D	120.0			QL=1 ST=1 TYP=3
	2950	GORK	45	C	0948.0	0949.2	7.2	45.0			
	2950	GORK	45	C	0948.0	0950.5		40.0			
	810	KRAK	42	SER	0948.0	0948.5	33.0	200.0			
	430	KRAK	42	SER	0948.3	0950.5	51.0	18.0			
	650	GORK	46	C	0948.6	0954.6		4.0			
	650	GORK	46	C	0948.6	0949.7	6.5	22.0			
	3100	CRIM	1	S	0953.1	0954.7	2.0	6.0	2.0		
	950	GORK	45	C	1004.1	1005.5		8.0			
	950	GORK	45	C	1004.1	1004.5	1.8	4.4			
	650	GORK	1	S	1005.1	1005.4	0.6	4.0			
	9300	KISV	2	S/F	1102.7	1104.7	6.0	22.0			
	5900	KISV	2	S/F	1102.7	1104.7	3.6	6.0			
	9100	GORK	1	S	1104.0	1104.6	2.3	15.5			
	810	KRAK	8	S	1154.0	1154.3	0.2	16.0			
	3100	CRIM	1	S	1250.0	1251.3	2.0	14.0	5.0		
	430	KRAK	42	SER	1252.0	1252.2	6.5	8.0			
	3100	CRIM	3	S	1252.0	1254.3	3.5	26.0	9.0		
	245	SVTO	4	S/F	1254.0E	1255.0	3.0D	190.0			QL=1 ST=2 TYP=3
	245	SGMR	49	GB	1255.0E	1255.0	2.0D	500.0			QL=1 ST=2 TYP=6
	127	TORN	47	GB	1255.0	1301.2	8.0	1400.0	50.0		
	536	ONDR	45	C	1255.7	1304.1	14.3	104.0			
	810	KRAK	7	C	1255.8	1256.8	1.5	19.0	5.0		
	33	UPIC	45	C	1256.3	1256.4	1.2				
	810	KRAK	45	C	1259.6	1304.2		74.0			
	810	KRAK	45	C	1259.6	1301.2	7.0	56.0	17.0		
	430	KRAK	45	C	1300.5	1301.0	5.5	49.0	21.0		
	430	KRAK	45	C	1300.5	1303.6		86.0			
	610	SGMR	8	S	1301.0E	1301.0	U	91.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1301.0E	1301.0	U	170.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1301.0E	1301.0	U	110.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1303.0E	1304.0	1.0D	63.0			QL=1 ST=3 TYP=3
	410	SGMR	8	S	1303.0E	1304.0	1.0D	79.0			QL=1 ST=3 TYP=3
	610	SGMR	8	S	1304.0E	1304.0	U	86.0			QL=1 ST=3 TYP=3
	4995	SVTO	8	S	1304.0E	1304.0	2.0D	52.0			QL=1 ST=2 TYP=3
	430	KRAK	8	S	1308.0	1308.2	0.4	33.0			
	810	KRAK	2	S/F	1321.7	1321.8	0.6	9.0	3.0		
	2800	OTTA	20	GRF	1410.5	1500.0	157.0	10.5	5.0		
	245	SGMR	8	S	1440.0E	1441.0	2.0D	190.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2051.0E	2052.0	1.0D	230.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2150.0E	2150.0	1.0D	110.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2208.0E	2208.0	1.0D	140.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2305.0E	2306.0	1.0D	370.0			QL=1 ST=2 TYP=3
23	200	GORK	44	NS	0600.0E		240.0D		5.0		
	245	SVTO	44	NS	0629.0E	1307.0	543.0D	410.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0629.0E	1129.0	543.0D	46.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	30.0			
	100	GORK	43	NS	0713.5		62.0		10.0		
	127	TORN	43	NS	0720.0		400.0		10.0		V=1
	260	ONDR	44	NS	0830.0E	0335.3	340.0D	97.0			
	430	KRAK	43	NS	0949.5	1110.4	251.5	39.0	9.0		
	245	SGMR	44	NS	1229.0E	1523.0	532.0D	380.0			QL=1 ST=3 TYP=1
	410	SGMR	44	NS	1229.0E	1526.0	532.0D	130.0			QL=1 ST=3 TYP=1
	245	PALE	44	NS	1730.0E	2152.0	600.0D	310.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	2241.0	590.0D	82.0	17.0		ML
	245	LEAR	44	NS	2217.0E	1039.0	103.0D	210.0			QL=1 ST=1 TYP=1
	100	HIRA	46	C	0402.0	0402.6	4.3	970.0	120.0		
	5900	KISV	2	S/F	0627.0	0628.3	2.8	5.0			
	9300	KISV	2	S/F	0627.2	0628.4	3.0	5.0			
	3100	CRIM	1	S	0633.5	0635.4	3.0	12.0	4.0		
	2950	GORK	3	S	0633.6	0635.5	8.8	25.0			
	5900	KISV	23	GRF	0634.0	0648.6	47.8	8.0			
	5900	KISV	2	S/F	0634.0	0635.7	5.5	14.0			
	9300	KISV	23	GRF	0634.1	0704.4	39.9	12.0			
	9300	KISV	2	S/F	0634.6	0635.6	6.8	7.0			
	2695	LEAR	8	S	0635.0E	0635.0	U	19.0			QL=1 ST=2 TYP=3
	100	GORK	41	F	0651.4	0701.5		115.0			
	100	GORK	41	F	0651.4	0656.7	14.5	530.0			

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

JANUARY 1989

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
23	9100	GORK	20	GRF	0652.0	0656.7	8.7	9.0			
	9300	KISV	46	C	0654.3	0657.1		7.0			
	9300	KISV	46	C	0654.3	0658.6		6.0			
	9300	KISV	46	C	0654.3	0656.6	6.6	11.0			
	5900	KISV	46	C	0654.4	0657.2		4.0			
	5900	KISV	46	C	0654.4	0658.5		4.0			
	5900	KISV	46	C	0654.4	0656.7	7.7	5.0			
	127	TORN	27	RF	0725.5	0806.0	45.0	500.0	85.0		
	9100	GORK	22	GRF	0744.0	0749.2	25.0	11.3			
	9300	KISV	45	C	0747.0	0749.4	9.0	9.0			
	9300	KISV	45	C	0747.0	0747.7		5.0			
	5900	KISV	45	C	0747.2	0751.6	7.8	6.0			
	5900	KISV	45	C	0747.2	0747.7		5.0			
	430	KRAK	42	SER	0805.8	0817.1	103.7	15.0			
	9300	KISV	2	S/F	0855.8	0857.0	2.8	4.0			
	5900	KISV	2	S/F	0856.5	0857.2	9.8	2.0			
	5900	KISV	2	S/F	0923.1	0923.7	2.2	3.0			
	9300	KISV	2	S/F	0923.4	0923.7	2.5	7.0			
	9100	GORK	1	S	0923.5	0923.6	3.5	7.0			
	15000	KISV	2	S/F	0923.5	0923.7	2.1	4.0			
	9300	KISV	22	GRF	0937.2	0943.4	13.0	4.0			
	5900	KISV	23	GRF	0937.3	0951.1	40.5	7.0			
	536	ONDR	27	RF	0950.0	1137.2	310.0	144.0			
	5900	KISV	2	S/F	0959.2	0959.9	1.4	2.0			
	9100	GORK	20	GRF	1015.0	1036.5	36.0	8.0			
	650	GORK	2	S/F	1023.3	1023.7	0.6	13.0			
	950	GORK	4	S/F	1023.4	1023.5	0.7	73.0			
	810	KRAK	8	S	1028.4	1028.5	0.5	46.0			
	9300	KISV	2	S/F	1151.1	1152.5	5.6	6.0			
	5900	KISV	2	S/F	1151.3	1152.8	7.6	4.0			
	2800	OTTA	24	R	1335.0	1450.0		16.2	8.0		
	2800	OTTA	1	S	1608.7	1611.0	4.5	9.9	3.0		
	245	PALE	8	S	1741.0E	1741.0	U	93.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1844.0E	1844.0	U	200.0			QL=1 ST=3 TYP=3
	410	PALE	8	S	1844.0E	1844.0	U	200.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1844.0E	1844.0	U	260.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2121.0E	2121.0	2.0D	230.0			QL=1 ST=2 TYP=6
	245	PALE	49	GB	2151.0E	2153.0	2.0D	570.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2332.0E	2332.0	1.0D	170.0			
24	410	LEAR	44	NS	0533.0E	0547.0	322.0D	41.0			QL=1 ST=1 TYP=1
	100	GORK	44	NS	0554.0E		366.0D		5.0		
	200	GORK	44	NS	0600.0E		360.0D		5.0		
	245	SVTO	43	NS	0628.0	0958.0	545.0D	170.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	45.0			
	127	TORN	43	NS	0720.0		370.0		4.0		V=1
	410	SVTO	44	NS	0809.0E	0819.0	444.0D	61.0			QL=1 ST=2 TYP=1
	430	KRAK	44	NS	0817.0E	1155.0	343.0D	37.0	1.0		
	260	ONDR	44	NS	0820.0E	0954.5	350.0D	71.0			
	245	SGMR	44	NS	1229.0E	1840.0	533.0D	150.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1736.0E	2220.0	624.0D	350.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	0356.0	460.0D	74.0	17.0		
	200	HIRA	44	NS	2150.0E	0100.0	590.0D	118.0	36.0		ML
	245	LEAR	44	NS	2217.0E	0741.0	758.0D	400.0			QL=1 ST=2 TYP=1
	9300	KISV	2	S/F	0549.1	0550.0	1.3	19.0			
	5900	KISV	2	S/F	0549.2	0550.0	1.2	19.0			
	5900	KISV	22	GRF	0606.7	0611.3	21.0	7.0			
	9100	GORK	1	S	0633.7	0634.3	1.0	13.0			
	5900	KISV	2	S/F	0700.1	0700.8	1.4	2.0			
	100	GORK	41	F	0749.2	0750.1		300.0			
	100	GORK	41	F	0749.2	0749.6	1.5	200.0			
	5900	KISV	23	GRF	0757.7	0817.3	45.3	9.0			
	9300	KISV	23	GRF	0758.4	0817.2	60.5	9.0			
	3100	CRIM	25	R	0801.0	0812.0		6.0			
	5900	KISV	4	S/F	0808.5	0809.9	4.8	53.0			
	127	TORN	4	S/F	0808.7	0809.6	3.3	1300.0	660.0		
	100	GORK	41	F	0808.8	0815.4		360.0			
	100	GORK	41	F	0808.8	0809.8	14.2	1750.0			
	100	GORK	41	F	0808.8	0822.9		180.0			

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Outstanding Occurrences

JANUARY 1989

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
24	2950	GORK	3	S	0809.0	0810.0	3.0	55.0			
	3013	IZMI	5	S	0809.0	0810.0	2.0	45.0	25.0		
	2695	SVTO	4	S/F	0809.0E	0809.0	3.0D	56.0			QL=1 ST=2 TYP=3
	4995	SVTO	4	S/F	0809.0E	0809.0	3.0D	71.0			QL=1 ST=2 TYP=3
	3100	CRIM	3	S	0809.0	0809.9	3.0	39.5	13.0		
	15000	KISV	29	PBI	0809.4	0810.6	8.4	5.0			
	9300	KISV	4	S/F	0809.4	0809.9	4.0	57.0			
	15000	KISV	2	S/F	0809.4	0809.9	1.2	21.0			
	9100	GORK	29	PBI	0809.5	0810.4	12.1	10.4			
	9100	GORK	1	S	0809.5	0809.9	1.4	38.0			
	650	GORK	2	S/F	0926.3	0927.0	3.2	4.0			
	9300	KISV	23	GRF	1007.5	1033.1	95.0	15.0			
	5900	KISV	23	GRF	1008.2	1035.5	102.5	12.0			
	9100	GORK	21	GRF	1009.4	1023.0	91.0	16.4			
	2950	GORK	20	GRF	1010.0	1109.0	87.0	12.1			
	9300	KISV	2	S/F	1012.9	1013.4	5.0	8.0			
	950	GORK	23	GRF	1020.3	1035.6	45.7	6.5			
	650	GORK	23	GRF	1020.4	1054.0	48.6	5.0			
	536	ONDR	47	GB	1030.0	1034.0	24.4	37.0			
	810	KRAK	27	RF	1030.2	1033.4	6.0	5.0	2.0		
	5900	KISV	4	S/F	1030.9	1031.7	3.7	38.0			
	9300	KISV	4	S/F	1031.2	1031.6	1.3	34.0			
	9100	GORK	1	S	1031.4	1031.6	1.9	32.0			
	15000	KISV	2	S/F	1031.5	1031.6	3.5	6.0			
	950	GORK	2	S/F	1031.7	1033.5	2.7	6.5			
	650	GORK	45	C	1031.7	1035.7		6.0			
	650	GORK	45	C	1031.7	1033.8	4.8	5.0			
	5900	KISV	2	S/F	1119.1	1119.4	1.0	6.0			
	9300	KISV	2	S/F	1122.0	1122.8	3.2	8.0			
	5900	KISV	2	S/F	1122.2	1123.0	1.2	13.0			
	5900	KISV	29	PBI	1122.2	1123.4	6.7	5.0			
	100	GORK	41	F	1147.7	1153.5		360.0			
	100	GORK	41	F	1147.7	1148.5	6.4	100.0			
	100	GORK	41	F	1147.7	1150.8		180.0			
	100	GORK	41	F	1147.7	1153.8		300.0			
	3100	CRIM	1	S	1214.1	1214.4	3.0	4.0	1.0		
	810	KRAK	8	S	1231.0	1231.3	0.5	7.0			
	245	SGMR	8	S	1233.0E	1234.0	1.0D	200.0			QL=1 ST=2 TYP=3
	810	KRAK	4	S/F	1337.7	1339.3	3.7	30.0	13.0		
	2800	OTTA	1	S	1806.5	1807.5	2.0	9.3	4.0		
	8800	PALE	8	S	1807.0E	1807.0	1.0D	95.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	1807.0E	1807.0	U	76.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1807.0E	1807.0	1.0D	87.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1807.0E	1807.0	U	83.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	2118.0E	2119.0	1.0D	80.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	2118.0E	2118.0	1.0D	64.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2148.0E	2148.0	U	100.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	2152.0E	2152.0	3.0D	240.0			QL=1 ST=3 TYP=3
	245	PALE	4	S/F	2157.0E	2201.0	4.0D	320.0			QL=1 ST=3 TYP=5
	245	PALE	4	S/F	2204.0E	2205.0	3.0D	280.0			QL=1 ST=3 TYP=3
25	410	LEAR	44	NS	0105.0E	0324.0	503.0D	30.0			QL=1 ST=2 TYP=1
	200	GORK	44	NS	0548.0E		190.0D		25.0		
	100	GORK	44	NS	0548.0E		372.0D		5.0		
	245	SVTO	44	NS	0627.0E	0742.0	548.0D	420.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0627.0E	0629.0	548.0D	13.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	60.0			
	127	TORN	43	NS	0708.0	1008.0	340.0	500.0	20.0		V=2
	260	ONDR	44	NS	0820.0E	1007.6	350.0D				
	245	SGMR	43	NS	1228.0	1343.0	536.0D	340.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1729.0E	2001.0	631.0D	290.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1736.0E	2220.0	624.0D	350.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	0056.0	580.0D	210.0	35.0		
	200	HIRA	44	NS	2150.0E	0308.0	590.0D	120.0	43.0		MR
	410	LEAR	44	NS	2218.0E	0845.0	757.0D	74.0			QL=1 ST=2 TYP=1
	245	LEAR	44	NS	2218.0E	0034.0	757.0D	310.0			QL=1 ST=2 TYP=1
	245	LEAR	8	S	0011.0E	0011.0	1.0D	280.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0044.0E	0044.0	U	240.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0354.0E	0354.0	1.0D	370.0			QL=1 ST=2 TYP=3

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

JANUARY 1989

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	LEAR	8	S	0504.0E	0504.0	1.0D	51.0			QL=1 ST=2 TYP=3
	3100	CRIM	25	R	0635.0	0648.0		7.6			
	200	GORK	41	F	0651.3	0652.0	19.3	160.0			
	200	GORK	41	F	0651.3	0658.2		120.0			
	200	GORK	41	F	0651.3	0708.8		240.0			
	200	GORK	41	F	0651.3	0709.9		200.0			
	950	GORK	2	S/F	0653.3	0653.9	0.7	7.6			
	410	SVTO	8	S	0658.0E	0659.0	1.0D	54.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	0658.0E	0659.0	1.0D	250.0			QL=1 ST=2 TYP=3
	100	GORK	41	F	0707.7	0710.3		230.0			
	100	GORK	41	F	0707.7	0708.8	3.7	470.0			
	245	LEAR	8	S	0708.0E	0710.0	2.0D	300.0			QL=1 ST=2 TYP=3
	650	GORK	46	C	0708.8	0710.1	4.2	13.0			
	650	GORK	46	C	0708.8	0711.2		90.0			
	2950	GORK	21	GRF	0709.0	0710.7	22.8	8.2			
	5900	KISV	4	S/F	0709.5	0711.2	3.2	36.0			
	950	GORK	5	S	0710.3	0711.3	2.6	10.0			
	3013	IZMI	5	S	0710.5	0711.5	3.5	25.0	20.0		
	3100	CRIM	3	S	0710.6	0711.2	2.5	24.0	8.0		
	9100	GORK	1	S	0710.7	0711.3	1.8	19.0			
	9300	KISV	2	S/F	0710.8	0711.3	1.4	19.0			
	2950	GORK	3	S	0710.8	0711.4	2.0	30.0			
	2695	LEAR	8	S	0711.0E	0711.0	1.0D	44.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	0711.0E	0711.0	U	66.0			QL=1 ST=2 TYP=3
	950	GORK	4	S/F	0739.0	0739.3	0.6	45.0			
	200	GORK	4	S/F	0745.0	0747.0	12.7	220.0			
	100	GORK	41	F	0746.8	0757.0		400.0			
	100	GORK	41	F	0746.8	0753.2		290.0			
	100	GORK	41	F	0746.8	0748.4	10.4	100.0			
	650	GORK	45	C	0749.5	0750.5	5.4	1.5			
	950	GORK	45	C	0750.0	0751.0	5.8	1.6			
	950	GORK	45	C	0750.0	0753.5		1.6			
	5900	KISV	2	S/F	0751.7	0753.1	3.8	4.0			
	2950	GORK	1	S	0752.8	0753.1	1.4	4.9	2.0		
	3100	CRIM	1	S	0753.0	0753.5	1.0	3.5	1.0		
	100	GORK	46	C	0900.0	0902.2		110.0			
	100	GORK	46	C	0900.0	0900.3	2.5	170.0			
	245	LEAR	49	GB	0909.0E	0909.0	U	620.0			QL=1 ST=2 TYP=6
	410	LEAR	8	S	0909.0E	0909.0	U	190.0			QL=1 ST=2 TYP=3
	245	SVTO	49	GB	0909.0E	0909.0	U	720.0			QL=1 ST=2 TYP=6
	410	SVTO	8	S	0909.0E	0909.0	U	150.0			QL=1 ST=2 TYP=3
	430	KRAK	8	S	0909.2	0909.2	0.5	130.0			
	2950	GORK	1	S	0909.3	0909.5	0.5	3.3	1.5		
	100	GORK	41	F	0948.0	0948.2	5.2	400.0			
	100	GORK	41	F	0948.0	0952.7		140.0			
	536	ONDR	42	SER	1000.0	1007.3	10.3	61.0			
	430	KRAK	2	S/F	1006.7	1007.3	1.0	32.0	12.0		
	245	LEAR	49	GB	1007.0E	1007.0	1.0D	600.0			QL=1 ST=2 TYP=6
	245	SVTO	49	GB	1007.0E	1007.0	U	700.0			QL=1 ST=2 TYP=6
	2950	GORK	1	S	1007.3	1007.8	1.3	4.9	2.0		
	3100	CRIM	1	S	1007.5	1007.8	1.0	3.0	1.0		
	950	GORK	2	S/F	1007.9E	1008.2	0.8D	3.6			
	5900	KISV	45	C	1024.2	1029.6	8.0	8.0			
	5900	KISV	45	C	1024.2	1025.9		4.0			
	430	KRAK	7	C	1040.8	1041.0	1.5	9.0	2.0		
	950	GORK	45	C	1056.4	1057.3		4.5			
	950	GORK	45	C	1056.4	1056.8	1.4	7.5			
	536	ONDR	42	SER	1100.0	1114.8	28.0	47.0			
	5900	KISV	2	S/F	1104.0	1104.7	2.0	11.0			
	950	GORK	2	S/F	1104.1	1104.5	0.7	17.0			
	650	GORK	4	S/F	1104.4	1105.6	1.4	12.0			
	2950	GORK	1	S	1104.4	1104.6	0.8	14.8	7.0		
	9100	GORK	1	S	1104.4	1104.7	0.6	5.0			
	100	GORK	41	F	1130.0	1138.4		350.0			
	100	GORK	41	F	1130.0	1130.7	9.0	110.0			
	810	KRAK	8	S	1137.2	1137.2	0.2	8.0			
	950	GORK	4	S/F	1138.0	1139.0	2.4	25.0			
	430	KRAK	8	S	1138.4	1138.5	0.2	6.0			
	650	GORK	46	C	1138.5	1139.5		31.0			

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

JANUARY 1989

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	810	KRAK	2	S/F	1138.5	1139.5	1.8	17.0	5.0		
	650	GORK	46	C	1138.5	1138.6	3.0	42.0			
	5900	KISV	22	GRF	1146.0	1147.7	12.4	5.0			
	536	ONDR	42	SER	1207.0	1217.3	73.0				
	536	ONDR	42	SER	1251.0	1302.8	26.0	142.0			
	245	SVTO	8	S	1313.0E	1314.0	2.0D	95.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1314.0E	1314.0	1.0D	170.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1335.0E	1335.0	U	110.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1337.0E	1338.0	1.0D	120.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1400.0	1607.0	267.0	20.0	10.0		
	8800	SGMR	4	S/F	1416.0E	1418.0	7.0D	120.0			QL=1 ST=3 TYP=3
	2800	OTTA	4	S/F	1416.5	1418.8	6.0	73.5	36.0		
	4995	SGMR	4	S/F	1417.0E	1418.0	4.0D	140.0			QL=1 ST=3 TYP=3
	4995	SVTO	4	S/F	1417.0E	1418.0	3.0D	100.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1417.0E	1418.0	3.0D	110.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1418.0E	1419.0	1.0D	67.0			QL=1 ST=3 TYP=3
	2695	SGMR	8	S	1418.0E	1418.0	1.0D	68.0			QL=1 ST=3 TYP=3
	15400	SVTO	8	S	1418.0E	1419.0	1.0D	64.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1448.9	1455.8	13.3	321.1	96.0		
	4995	SGMR	4	S/F	1453.0E	1455.0	9.0D	440.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1453.0E	1454.0	4.0D	360.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1453.0E	1455.0	8.0D	300.0			QL=1 ST=2 TYP=3
	4995	SVTO	20	GRF	1453.0E	1454.0	8.0D	340.0			QL=1 ST=2 TYP=2
	8800	SVTO	4	S/F	1453.0E	1454.0	4.0D	350.0			QL=1 ST=2 TYP=3
	1415	SVTO	20	GRF	1453.0E	1455.0	6.0D	280.0			QL=1 ST=2 TYP=2
	1415	SGMR	4	S/F	1454.0E	1455.0	4.0D	140.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1454.0E	1454.0	1.0D	96.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	1454.0E	1454.0	2.0D	230.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1512.2	1512.2	33.0	28.7	14.0		
	2800	OTTA	1	S	1730.2	1731.0	3.3	5.7	2.0		
	245	PALE	8	S	1731.0E	1731.0	U	100.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1734.8	1739.2	9.1	44.4	22.0		
	245	SGMR	4	S/F	1737.0E	1739.0	3.0D	200.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	1738.0E	1739.0	2.0D	84.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1738.0E	1739.0	2.0D	100.0			QL=1 ST=2 TYP=3
	410	SGMR	4	S/F	1738.0E	1739.0	382.0D	140.0			QL=1 ST=1 TYP=3
	245	PALE	4	S/F	1801.0E	1804.0	3.0D	110.0			QL=1 ST=2 TYP=3
	245	SGMR	4	S/F	1959.0E	2001.0	3.0D	380.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2049.0E	2050.0	1.0D	390.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	2050.0E	2050.0	U	480.0			QL=1 ST=3 TYP=3
	410	SGMR	8	S	2052.0E	2053.0	1.0D	96.0			QL=1 ST=3 TYP=3
26	100	GORK	44	NS	0551.0E		369.0D		10.0		
	200	GORK	44	NS	0554.0E		200.0D		15.0		
	410	SVTO	44	NS	0627.0E	1252.0	549.0D	51.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0627.0E	1103.0	549.0D	240.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	60.0			
	127	TORN	43	NS	0716.0	1228.3	404.0	800.0	210.0		V=2
	260	ONDR	44	NS	0820.0E	0833.8	350.0D	86.0			
	245	SGMR	43	NS	1227.0	2001.0	538.0D	500.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	2309.0	590.0D	790.0	587.0		
	200	HIRA	44	NS	2150.0E	2256.0	590.0D	128.0	66.0		WR
	410	LEAR	44	NS	2219.0E	0004.0	755.0D	51.0			QL=1 ST=2 TYP=1
	245	LEAR	44	NS	2219.0E	0436.0	755.0D	230.0			QL=1 ST=2 TYP=1
	245	PALE	8	S	0019.0E	0020.0	1.0D	160.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0034.0E	0035.0	1.0D	370.0			QL=1 ST=3 TYP=3
	245	PALE	4	S/F	0304.0E	0305.0	4.0D	310.0			QL=1 ST=2 TYP=3
	100	HIRA	41	F	0348.8	0352.2	4.6	305.0			
	8800	LEAR	4	S/F	0427.0E	0445.0	58.0D	120.0			QL=1 ST=2 TYP=5
	2695	LEAR	20	GRF	0427.0E	0445.0	58.0D	67.0			QL=1 ST=2 TYP=2
	15400	LEAR	20	GRF	0430.0E	0445.0	55.0D	63.0			QL=1 ST=2 TYP=2
	100	HIRA	42	SER	0602.0	0636.3	45.0	620.0			
	2950	GORK	23	GRF	0622.7	0633.2	24.1	14.1			
	9100	GORK	23	GRF	0626.7	0633.3	32.1	18.0			
	950	GORK	21	GRF	0630.2	0634.4	13.7	3.0			
	2840	PEKG	46	C	0631.0	0638.1	11.0	30.5			
	950	GORK	2	S/F	0632.0	0637.3	5.3	16.0			
	100	GORK	41	F	0632.2	0637.5		420.0			
	100	GORK	41	F	0632.2	0645.5		200.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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
26	100	GORK	41	F	0632.2	0636.6		470.0			
	100	GORK	41	F	0632.2	0632.8	14.0	260.0			
	650	GORK	46	C	0632.3	0633.1	6.6	3.3			
	650	GORK	46	C	0632.3	0637.3		15.0			
	5900	KISV	45	C	0632.5	0633.0		13.0			
	9300	KISV	45	C	0632.5	0633.0		17.0			
	5900	KISV	45	C	0632.5	0637.2	7.2	36.0			
	9300	KISV	45	C	0632.5	0637.2	8.0	59.0			
	3100	CRIM	45	C	0632.5	0636.7		14.6			
	3100	CRIM	45	C	0632.5	0637.7		23.4	8.0		
	950	GORK	1	S	0632.7	0633.0	1.0	4.0			
	9100	GORK	4	S/F	0635.7	0637.3	4.1	51.0			
	15400	LEAR	8	S	0636.0E	0637.0	1.0D	60.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0636.0E	0637.0	1.0D	53.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	0636.0	0637.3	4.0	43.0			22R
	2950	GORK	3	S	0636.9	0637.3	1.5	17.7	8.0		
	2695	LEAR	8	S	0637.0E	0637.0	U	38.0			QL=1 ST=2 TYP=3
	410	LEAR	8	S	0637.0E	0637.0	U	57.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	0637.0E	0637.0	U	18.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	0637.0E	0637.0	U	90.0			QL=1 ST=2 TYP=3
	100	GORK	46	C	0803.3	0803.5	0.8	1570.0			
	100	GORK	46	C	0803.3	0803.8		160.0			
	5900	KISV	23	GRF	0808.1	0824.3	23.6	6.0			
	5900	KISV	23	GRF	0808.1	0810.7		6.0			
	410	LEAR	8	S	0824.0E	0824.0	U	270.0			QL=1 ST=2 TYP=3
	430	KRAK	8	S	0824.0	0824.1	0.5	200.0			
	100	GORK	41	F	0826.4	0830.4		1050.0			
	100	GORK	41	F	0826.4	0826.5	4.2	260.0			
	9300	KISV	2	S/F	0830.0	0830.5	0.9	4.0			
	15000	KISV	2	S/F	0836.3	0836.7	1.7	3.0			
	430	KRAK	8	S	0845.0	0845.0	0.1	110.0			
	200	GORK	41	F	0845.0	0847.3	20.7	230.0D			
	200	GORK	41	F	0845.0	0852.7		230.0D			
	200	GORK	41	F	0845.0	0902.9		230.0D			
	15000	KISV	2	S/F	0846.3	0847.0	1.0	4.0			
	15000	KISV	22	GRF	0914.4	0939.5	29.7	5.0			
	5900	KISV	22	GRF	0933.2	0946.7	16.1	4.0			
	9300	KISV	22	GRF	0933.6	0943.5	19.9	8.0			
	5900	KISV	2	S/F	0952.2	0957.5	9.1	10.0			
	9300	KISV	2	S/F	0956.6	0957.4	9.6	22.0			
	15000	KISV	2	S/F	0957.2	0957.6	4.0	18.0			
	430	KRAK	8	S	0958.8	0958.8	0.1	77.0			
	127	TORN	8	S	1002.6	1003.5	1.5	500.0	250.0		
	100	GORK	8	S	1012.0	1012.1	0.2	520.0			
	5900	KISV	2	S/F	1012.0	1012.4	1.5	3.0			
	100	GORK	8	S	1025.7	1025.8	0.5	800.0			
	5900	KISV	22	GRF	1039.5	1041.3	32.5	5.0			
	9300	KISV	2	S/F	1059.6	1100.3	2.2	5.0			
	15000	KISV	2	S/F	1059.8	1100.3	2.0	4.0			
	536	ONDR	42	SER	1112.4	1122.8	17.0	23.0			
	15000	KISV	22	GRF	1113.8	1139.4	30.4	10.0			
	9300	KISV	22	GRF	1118.8	1135.8	25.2	8.0			
	430	KRAK	8	S	1125.5	1125.5	0.2	220.0D			
	5900	KISV	2	S/F	1126.7	1127.0	1.3	4.0			
	200	GORK	3	S	1128.0	1130.5	4.6	260.0			
	536	ONDR	42	SER	1137.5	1147.5	46.5	38.0			
	245	SVTO	49	GB	1220.0E	1221.0	1.0D	690.0			QL=1 ST=2 TYP=6
	245	SVTO	49	GB	1221.0E	1221.0	U	650.0			QL=1 ST=3 TYP=6
	810	KRAK	8	S	1237.0	1237.2	0.3	7.0			
	536	ONDR	42	SER	1250.0	1315.2	34.0	45.0			
	15400	SGMR	49	GB	1411.0E	1411.0	3.0D	710.0			QL=1 ST=2 TYP=6
	8800	SGMR	49	GB	1411.0E	1411.0	3.0D	750.0			QL=1 ST=2 TYP=6
	4995	SGMR	8	S	1411.0E	1411.0	2.0D	190.0			QL=1 ST=2 TYP=3
	4995	SVTO	8	S	1411.0E	1411.0	1.0D	160.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	1411.0E	1411.0	2.0D	750.0			QL=1 ST=2 TYP=6
	15400	SVTO	49	GB	1411.0E	1411.0	1.0D	740.0			QL=1 ST=2 TYP=6
	245	SGMR	49	GB	1440.0E	1443.0	3.0D	600.0			QL=1 ST=3 TYP=6
	245	SVTO	8	S	1441.0E	1441.0	2.0D	250.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1552.0E	1552.0	U	380.0			QL=1 ST=2 TYP=3

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

JANUARY 1989

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
26	2800	OTTA	2	S/F	1558.0	1601.0	7.5	19.7	6.0		
	245	SGMR	8	S	1724.0E	1724.0	U	440.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1921.0E	1923.0	2.0D	390.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	1923.0E	1923.0	U	100.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	1923.0E	1923.0	U	91.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1923.0E	1923.0	U	130.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1923.0E	1923.0	U	470.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	1923.0E	1923.0	U	79.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1941.0E	1941.0	2.0D	240.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	1952.0E	2001.0	17.0D	350.0			QL=1 ST=2 TYP=5
	245	LEAR	49	GB	2307.0E	2309.0	3.0D	530.0			QL=1 ST=2 TYP=6
	245	PALE	49	GB	2309.0E	2309.0	1.0D	940.0			QL=1 ST=2 TYP=6
	610	LEAR	8	S	2349.0E	2350.0	1.0D	35.0			QL=1 ST=2 TYP=3
	15400	PALE	4	S/F	2349.0E	2350.0	3.0D	350.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	2349.0E	2350.0	3.0D	300.0			QL=1 ST=2 TYP=3
	4995	PALE	4	S/F	2349.0E	2350.0	4.0D	310.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	2349.0E	2350.0	13.0D	310.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	2349.0E	2351.0	13.0D	380.0			QL=1 ST=2 TYP=3
	35000	NOBE	7	C	2349.6	2350.8	8.0	263.0			4R
	17000	NOBE	7	C	2349.6	2350.8	9.0	300.0			13R
	500	HIRA	42	SER	2349.8	2402.4	16.0	56.0			O
	15400	LEAR	8	S	2350.0E	2350.0	2.0D	320.0			QL=1 ST=2 TYP=3
	1415	PALE	4	S/F	2350.0E	2351.0	4.0D	150.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	2350.0E	2351.0	5.0D	310.0			QL=1 ST=2 TYP=3
27	100	GORK		NS	0554.0E		366.0D		60.0		
	200	GORK	44	NS	0557.0E			180.0D	5.0		
	410	SVTO	43	NS	0626.0	0710.0	551.0D	35.0			QL=1 ST=2 TYP=1
	245	SVTO	43	NS	0626.0	1140.0	551.0D	160.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	30.0			
	127	TORN	44	NS	0700.0E		480.0D		590.0		V=2
	260	ONDR	44	NS	0820.0E	1157.3	360.0D				
	245	SGMR	43	NS	1226.0	1927.0	540.0D	230.0			QL=1 ST=2 TYP=1
	245	PALE	44	NS	1729.0E	2138.0	633.0D	130.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	0516.0	590.0D	45.0	24.0		MR
	100	HIRA	44	NS	2150.0E	0513.0	590.0D	54.0	23.0		
	245	LEAR	44	NS	2219.0E	0805.0	755.0D	320.0			QL=1 ST=2 TYP=1
	500	HIRA	42	SER	0204.0	0251.6	50.0	19.0			O
	245	PALE	4	S/F	0222.0E	0223.0	3.0D	210.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0223.0E	0223.0	U	180.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0245.0E	0245.0	U	130.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0251.0E	0251.0	U	340.0			QL=1 ST=2 TYP=3
	245	PALE	49	GB	0251.0E	0251.0	U	560.0			QL=1 ST=2 TYP=6
	610	LEAR	8	S	0328.0E	0328.0	1.0D	49.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0328.0E	0329.0	3.0D	89.0			QL=1 ST=2 TYP=3
	2840	PEKG	3	S	0328.0E	0329.7	4.5D	98.7D			
	35000	NOBE	1	S	0328.7	0329.8	3.0	23.0			O
	17000	NOBE	1	S	0328.7	0329.8	4.0	42.0			7L
	8800	LEAR	8	S	0329.0E	0329.0	1.0D	77.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0329.0E	0329.0	2.0D	49.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0329.0E	0329.0	1.0D	72.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	0329.0E	0329.0	1.0D	150.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0329.0E	0329.0	1.0D	68.0			QL=1 ST=2 TYP=3
	2840	PEKG	30	PBI	0332.5		56.5	14.6			
	2840	PEKG	1	S	0333.6	0333.9	1.0	0.5			
	2840	PEKG	1	S	0424.5	0425.1	1.4	0.1			
	200	HIRA	8	S	0436.0	0436.4	0.5	1150.0			O
	2840	PEKG	20	GRF	0451.9	0455.0	7.5	1.4			
	200	HIRA	42	SER	0452.5	0453.5	43.0	185.0			O
	5900	KISV	2	S/F	0607.0	0607.6	4.7	4.0			
	9300	KISV	2	S/F	0607.1	0607.6	4.7	6.0			
	200	GORK	41	F	0613.0	0614.0	8.6	52.0			
	200	GORK	41	F	0613.0	0620.1		99.0			
	9300	KISV	45	C	0629.5	0631.7		6.0			
	9300	KISV	45	C	0629.5	0629.8	6.7	17.0			
	5900	KISV	2	S/F	0629.5	0629.9	0.8	2.0			
	200	GORK	3	S	0709.7	0709.8	0.5	129.0			
	100	GORK	8	S	0709.7	0709.8	0.3	2800.0			
	5900	KISV	2	S/F	0710.2	0711.4	2.6	4.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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	5900	KISV	2	S/F	0718.5	0719.0	1.5	4.0			
	200	GORK	3	S	0721.6	0721.8	0.6	91.0			
	9300	KISV	2	S/F	0736.3	0736.9	2.8	4.0			
	204	IZMI	41	F	0746.0	0749.0	4.0	280.0			
	200	GORK	4	S/F	0746.9	0748.9	2.7	207.0			
	245	LEAR	49	GB	0747.0E	0749.0	2.0D	850.0			QL=1 ST=2 TYP=6
	5900	KISV	22	GRF	0747.7	0749.4	18.4	4.0			
	245	SVTO	49	GB	0748.0E	0749.0	1.0D	900.0			QL=1 ST=2 TYP=6
	9300	KISV	22	GRF	0748.6	0749.6	39.0	5.0			
	5900	KISV	22	GRF	0831.1	0834.1	10.0	4.0			
	9300	KISV	23	GRF	0831.9	0845.9	34.7	14.0			
	9300	KISV	2	S/F	0839.5	0840.1	2.2	24.0			
	5900	KISV	2	S/F	0839.6	0840.2	1.5	19.0			
	9100	GORK	2	S/F	0839.7	0840.1	2.2	20.0			
	15000	KISV	2	S/F	0839.8	0840.2	1.9	6.0			
	5900	KISV	22	GRF	0854.6	0858.8	16.6	7.0			
	9300	KISV	2	S/F	0917.2	0917.5	0.8	4.0			
	9300	KISV	22	GRF	0937.6	0940.4	48.4	8.0			
	15000	KISV	2	S/F	0937.9	0938.3	1.1	9.0			
	245	LEAR	8	S	1020.0E	1022.0	2.0D	130.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	1021.0E	1022.0	1.0D	55.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1022.0E	1022.0	U	190.0			QL=1 ST=2 TYP=3
	430	KRAK	42	SER	1022.0	1039.2	19.5	27.0			
	204	IZMI	41	F	1022.0	1022.5	3.0	460.0			
	33	UPIC	8	S	1022.1	1022.2	0.2				
	100	GORK	46	C	1022.2	1022.7		580.0			
	100	GORK	46	C	1022.2	1022.8	0.8	1500.0			
	100	GORK	41	F	1038.8	1039.3		370.0			
	100	GORK	41	F	1038.8	1039.4		290.0			
	100	GORK	41	F	1038.8	1038.9	0.7	1500.0			
	810	KRAK	8	S	1039.0	1039.2	0.3	4.0			
	536	ONDR	42	SER	1106.0	1119.8	22.5	24.0			
	200	GORK	41	F	1136.0	1143.1		250.0			
	200	GORK	41	F	1136.0	1136.3	7.7	153.0			
	200	GORK	41	F	1136.0	1140.5		250.0			
	536	ONDR	42	SER	1136.2	1149.4	30.0	110.0			
	430	KRAK	42	SER	1136.5	1140.2	28.5	13.0			
	204	IZMI	42	SER	1140.0	1157.5	20.0	630.0			
	200	GORK	4	S/F	1155.7	1157.6	3.7	250.0			
	410	SVTO	8	S	1157.0E	1157.0	U	50.0			QL=1 ST=2 TYP=3
	245	SVTO	49	GB	1157.0E	1157.0	U	540.0			QL=1 ST=2 TYP=6
	100	GORK	41	F	1157.0	1159.3		400.0			
	100	GORK	41	F	1157.0	1157.6	2.7	1400.0			
	33	UPIC	8	S	1157.5	1157.6	0.3				
	3100	CRIM	1	S	1222.4	1223.2	1.0	4.0	1.4		
	2800	OTTA	3	S	1520.0	1520.6	2.8	26.5	8.0		
	4995	SGMR	8	S	1520.0E	1520.0	U	240.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1520.0E	1520.0	U	190.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1732.0E	1732.0	U	120.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1909.0	1913.8	10.4	279.3	84.0		
	2695	PALE	4	S/F	1910.0E	1913.0	6.0D	260.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	1910.0E	1912.0	2.0D	190.0			QL=1 ST=2 TYP=5
	4995	PALE	4	S/F	1910.0E	1913.0	6.0D	380.0			QL=1 ST=2 TYP=3
	610	SGMR	4	S/F	1910.0E	1912.0	3.0D	240.0			QL=1 ST=2 TYP=3
	4995	SGMR	4	S/F	1910.0E	1913.0	8.0D	450.0			QL=1 ST=2 TYP=3
	15400	PALE	4	S/F	1912.0E	1913.0	8.0D	280.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	1912.0E	1913.0	3.0D	460.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1912.0E	1913.0	4.0D	500.0			QL=1 ST=2 TYP=3
	1415	PALE	8	S	1913.0E	1913.0	2.0D	78.0			QL=1 ST=2 TYP=3
	1415	SGMR	8	S	1913.0E	1913.0	2.0D	88.0			QL=1 ST=2 TYP=3
	15400	SGMR	8	S	1913.0E	1913.0	2.0D	270.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1919.4	2020.0	180.0	28.2	14.0		
	245	PALE	8	S	1927.0E	1927.0	U	170.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	2010.0E	2011.0	1.0D	230.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	2011.0E	2011.0	U	54.0			QL=1 ST=2 TYP=3
	4995	PALE	8	S	2148.0E	2148.0	U	150.0			QL=1 ST=2 TYP=3
	500	HIRA	4	S/F	2223.1	2224.3	1.8	11.0			O
	245	PALE	8	S	2307.0E	2308.0	1.0D	200.0			QL=1 ST=2 TYP=3

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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
28	200	GORK	44	NS	0551.0E		180.0D		20.0		
	100	GORK	44	NS	0551.0E		369.0D		10.0		
	245	SVTO	43	NS	0625.0	0752.0	553.0D	210.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	45.0			
	127	TORN	44	NS	0700.0E		480.0D		90.0		V=2
	260	ONDR	44	NS	0820.0E	1307.3	360.0D	89.0			
	245	SGMR	43	NS	1225.0	1307.0	543.0D	230.0			QL=1 ST=2 TYP=1
	100	HIRA	44	NS	2150.0E	2209.0	480.0D	74.0	12.0		
	200	HIRA	44	NS	2150.0E	2240.0	590.0D	20.0	9.0		WR
	245	LEAR	44	NS	2300.0E	0749.0	714.0D	70.0			QL=1 ST=2 TYP=1
	245	LEAR	8	S	0026.0E	0026.0	U	170.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0026.0E	0026.0	1.0D	190.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0554.0E	0554.0	U	150.0			QL=1 ST=2 TYP=3
	200	GORK	41	F	0605.1	0614.0	19.1	190.0			
	200	GORK	41	F	0605.1	0623.9		180.0			
	9300	KISV	23	GRF	0608.0	0613.6	34.0	6.0			
	5900	KISV	23	GRF	0609.3	0613.6	26.9	5.0			
	9300	KISV	45	C	0618.8	0621.0		4.0			
	9300	KISV	45	C	0618.8	0619.9	4.0	11.0			
	5900	KISV	45	C	0619.9	0625.3	8.2	8.0			
	5900	KISV	45	C	0619.9	0620.7		5.0			
	950	GORK	30	PBI	0620.1	0621.0	13.1	3.6			
	950	GORK	3	S	0620.1	0620.6	0.8	7.0			
	15000	KISV	2	S/F	0620.9	0621.2	0.8	3.0			
	9300	KISV	2	S/F	0623.0	0625.2	5.0	6.0			
	950	GORK	1	S	0624.9	0625.0	0.9	3.0			
	9100	GORK	2	S/F	0632.8	0633.1	1.9	24.0			
	9300	KISV	1	S	0633.0	0633.2	3.8	28.0			
	15000	KISV	1	S	0633.1	0633.3	1.9	23.0			
	5900	KISV	1	S	0633.1	0633.3	1.9	10.0			
	9300	KISV	2	S/F	0715.2	0716.3	3.5	5.0			
	9100	GORK	1	S	0715.8	0716.0	0.9	5.0			
	245	SVTO	8	S	0721.0E	0721.0	U	360.0			QL=1 ST=2 TYP=3
	100	GORK	41	F	0751.0	0752.4	23.3	1060.0			
	100	GORK	41	F	0751.0	0813.5		1880.0			
	245	LEAR	8	S	0752.0E	0752.0	1.0D	160.0			QL=1 ST=2 TYP=3
	410	LEAR	8	S	0752.0E	0752.0	1.0D	24.0			QL=1 ST=2 TYP=3
	650	GORK	4	S/F	0752.7	0753.1	0.5	5.0			
	5900	KISV	1	S	0752.7	0752.9	2.7	7.0			
	950	GORK	2	S/F	0752.8	0752.9	1.8	6.6			
	9100	GORK	21	GRF	0802.2	0817.1	158.0	20.0			
	3100	CRIM	3	S	0804.0	0814.0	14.3	99.0	33.0		
	245	SVTO	8	S	0805.0E	0805.0	1.0D	470.0			QL=1 ST=2 TYP=3
	200	GORK	41	F	0805.2	0806.2	8.7	2700.0			
	200	GORK	41	F	0805.2	0812.9		550.0			
	430	KRAK	2	S/F	0805.3	0805.8	1.5	24.0	4.0		
	9300	KISV	28	PRE	0805.4	0806.7	5.1	4.0			
	204	IZMI	42	SER	0805.5	0806.0	10.0	1600.0			
	810	KRAK	1	S	0805.7	0806.3	1.7	7.0	4.0		
	5900	KISV	28	PRE	0805.8	0806.7	4.7	4.0			
	810	KRAK	4	S/F	0805.9	0806.3	9.5	200.0	38.0		
	950	GORK	28	PRE	0806.3E	0806.3U	2.6D	11.6			
	650	GORK	4	S/F	0806.3E	0806.5	1.2D	9.0			
	430	KRAK	45	C	0809.5	0813.5	12.7	160.0	21.0		
	430	KRAK	45	C	0809.5	0817.8		25.0			
	950	GORK	29	PBI	0809.6	0815.0	9.0	40.0			
	950	GORK	4	S/F	0809.6	0813.3	5.3	225.0			
	610	LEAR	4	S/F	0810.0E	0814.0	4.0D	230.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0810.0E	0813.0	8.0D	160.0			QL=1 ST=2 TYP=3
	650	GORK	4	S/F	0810.0	0814.0	12.4	270.0			
	9300	KISV	4	S/F	0810.5	0814.0	7.5	111.0D			
	5900	KISV	4	S/F	0810.5	0814.0	5.3	151.0			
	9300	KISV	30	PBI	0810.5	0818.0	30.0	13.0			
	5900	KISV	30	PBI	0810.5	0815.3	34.7	33.0			
	410	LEAR	4	S/F	0811.0E	0813.0	3.0D	120.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0811.0E	0813.0	7.0D	150.0			QL=1 ST=2 TYP=3
	245	SVTO	4	S/F	0811.0E	0811.0	3.0D	95.0			QL=1 ST=2 TYP=3
	610	SVTO	4	S/F	0811.0E	0813.0	3.0D	170.0			QL=1 ST=2 TYP=3
	2950	GORK	21	GRF	0811.1	0816.1	38.0	29.0			

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

JANUARY 1989

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
28	15000	KISV	4	S/F	0811.2	0814.1	5.6	58.0			
	15000	KISV	29	PBI	0811.2	0817.4	12.4	2.0			
	33	UPIC	46	C	0811.5	0813.0	4.0				
	3013	IZMI	5	S	0812.0	0814.0	5.0	118.0	95.0		
	2695	LEAR	4	S/F	0812.0E	0813.0	5.0D	170.0			QL=1 ST=2 TYP=3
	15400	LEAR	4	S/F	0812.0E	0813.0	3.0D	75.0			QL=1 ST=2 TYP=3
	1415	SVTO	4	S/F	0812.0E	0813.0	6.0D	170.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0812.0E	0813.0	6.0D	160.0			QL=1 ST=2 TYP=3
	4995	SVTO	4	S/F	0812.0E	0813.0	6.0D	160.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0812.0E	0813.0	6.0D	150.0			QL=1 ST=2 TYP=3
	410	SVTO	4	S/F	0812.0E	0813.0	6.0D	130.0			QL=1 ST=2 TYP=3
	9100	GORK	4	S/F	0812.0	0813.7	4.4	148.0			
	2950	GORK	4	S/F	0812.5	0813.9	6.7	157.0			
	15400	SVTO	8	S	0813.0E	0813.0	1.0D	61.0			QL=1 ST=2 TYP=3
	430	KRAK	2	S/F	0828.2	0829.0	2.0	27.0	7.0		
	5900	KISV	2	S/F	0829.2	0829.8	1.8	2.0			
	9300	KISV	2	S/F	0829.4	0829.8	1.4	4.0			
	9300	KISV	2	S/F	0836.3	0837.0	3.5	3.0			
	5900	KISV	2	S/F	0841.4	0841.6	0.9	2.0			
	810	KRAK	42	SER	0849.7	0853.0	5.0	65.0			
	650	GORK	40	F	0850.0	0851.1	3.0	10.0			
	650	GORK	40	F	0850.0	0853.8		29.0			
	2950	GORK	20	GRF	0852.0	0854.7	18.0	10.6	5.0		
	5900	KISV	22	GRF	0852.2	0855.2	12.8	8.0			
	950	GORK	4	S/F	0852.2	0852.8	4.5	21.0			
	9300	KISV	22	GRF	0852.6	0855.1	12.8	8.0			
	810	KRAK	42	SER	1009.8	1025.7	16.7	26.0			
	9300	KISV	2	S/F	1028.8	1029.6	3.0	6.0			
	5900	KISV	2	S/F	1029.2	1029.5	1.1	4.0			
	204	IZMI	5	S	1119.0	1119.5	1.0	500.0	250.0		
	5900	KISV	2	S/F	1123.6	1124.7	5.1	6.0			
	536	ONDR	42	SER	1141.0	1151.7	55.0	116.0			
	430	KRAK	8	S	1143.2E	1143.2U	0.4D	9.0			
	9300	KISV	24	R	1157.0	1209.0		11.0			
	5900	KISV	24	R	1157.0	1205.8		10.0			
	810	KRAK	41	F	1247.2	1248.7U	4.8	14.0	4.0		
	430	KRAK	41	F	1249.9E	1254.4	5.5D	6.0	3.0		
	810	KRAK	27	RF	1252.0	1305.0U	25.0	8.0	3.0		
	410	SVTO	4	S/F	1256.0E	1259.0	4.0D	58.0			QL=1 ST=2 TYP=3
	3100	CRIM	3	S	1257.0	1300.8	6.3	57.0	19.0		
	2695	SVTO	4	S/F	1259.0E	1300.0	5.0D	80.0			QL=1 ST=2 TYP=3
	4995	SVTO	4	S/F	1259.0E	1300.0	5.0D	84.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1300.0E	1301.0	2.0D	64.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1300.0E	1301.0	2.0D	90.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1300.0E	1300.0	1.0D	66.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1411.7E	1411.7	40.0D	21.9	6.0		
	127	TORN	47	GB	1414.2	1416.0U	2.7	9600.0	4800.0		UNCERTAIN
	410	SGMR	8	S	1417.0E	1417.0	1.0D	310.0			QL=1 ST=2 TYP=3
	245	SVTO	8	S	1417.0E	1417.0	U	90.0			QL=1 ST=2 TYP=3
	410	SVTO	8	S	1417.0E	1417.0	1.0D	400.0			QL=1 ST=2 TYP=3
	4995	SGMR	8	S	1554.0E	1555.0	1.0D	62.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1554.0E	1555.0	1.0D	61.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1554.7	1554.9	3.0	23.0	7.0		
	2800	OTTA	4	S/F	1752.1	1754.0	4.8	16.2	5.0		
	610	PALE	8	S	1814.0E	1814.0	U	110.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	1814.0E	1814.0	U	90.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	1814.0E	1814.0	U	170.0			QL=1 ST=2 TYP=3
	2695	PENT	4	S/F	2139.0	2141.0	10.0	240.2	72.0		
	4995	PALE	4	S/F	2139.0E	2140.0	3.0D	290.0			QL=1 ST=2 TYP=3
	1415	PALE	4	S/F	2139.0E	2140.0	3.0D	130.0			QL=1 ST=2 TYP=3
	610	PALE	49	GB	2139.0E	2139.0	2.0D	960.0			QL=1 ST=2 TYP=6
	2695	PALE	4	S/F	2139.0E	2141.0	3.0D	350.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	2139.0E	2139.0	3.0D	250.0			QL=1 ST=2 TYP=3
	15400	PALE	4	S/F	2139.0E	2139.0	3.0D	220.0			QL=1 ST=2 TYP=3
	410	PALE	49	GB	2139.0E	2139.0	141.0D	610.0			QL=1 ST=1 TYP=6
	200	HIRA	46	C	2142.2E	2144.3	2.2D	430.0U			O SUNRISE
	100	HIRA	46	C	2143.9	2144.7	2.0	950.0			
	245	PALE	8	S	2147.0E	2147.0	1.0D	86.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	2152.0E	2153.0	1.0D	69.0			QL=1 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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
28	500	HIRA	46	C	2153.5E	2155.4	2.5D	112.0			WR SUNRISE
	245	PALE	8	S	2155.0E	2155.0	U	79.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2155.0E	2155.0	1.0D	91.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	2155.0E	2155.0	1.0D	100.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	2209.0E	2209.0	3.0D	120.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	2300.0	2300.6	2.0	570.0			O
29	100	GORK	44	NS	0547.0E		373.0D		5.0		
	200	GORK	44	NS	0600.0E		360.0D		5.0		
	245	SVTO	44	NS	0624.0E	0854.0	346.0D	59.0			QL=1 ST=2 TYP=1
	127	TORN	43	NS	0720.0		460.0		1.0		V=0
	260	ONDR	44	NS	0810.0E	0903.2	370.0D	48.0			
	245	SGMR	44	NS	1224.0E	1545.0	545.0D	240.0			QL=1 ST=2 TYP=1
	410	SGMR	44	NS	1532.0E	1538.0	357.0D	34.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	0300.0	590.0D	9.0	4.0		WR
	245	PALE	8	S	0035.0E	0035.0	1.0D	78.0			QL=1 ST=2 TYP=3
	9300	KISV	2	S/F	0626.2	0626.7	1.1	4.0			
	5900	KISV	2	S/F	0626.3	0627.6	3.7	2.0			
	5900	KISV	45	C	0636.3	0637.4	4.8	6.0			
	5900	KISV	45	C	0636.3	0638.5		3.0			
	9300	KISV	45	C	0636.6	0637.4	3.4	7.0			
	9300	KISV	45	C	0636.6	0638.5		4.0			
	15000	KISV	2	S/F	0746.7	0747.6	2.4	3.0			
	9300	KISV	2	S/F	0746.9	0748.5	2.6	4.0			
	3100	CRIM	21	GRF	0748.0	0810.0	36.0	4.5	1.5		
	245	SVTO	8	S	0749.0E	0749.0	1.0D	85.0			QL=1 ST=2 TYP=3
	9300	KISV	2	S/F	0803.1	0804.1	8.9	11.0			
	5900	KISV	2	S/F	0803.4	0804.1	8.6	18.0			
	3100	CRIM	1	S	0803.6	0804.1	1.5	3.4	1.0		
	9100	GORK	1	S	0803.7	0804.1	2.2	8.6			
	15000	KISV	2	S/F	0803.8	0804.3	2.8	3.0			
	5900	KISV	22	GRF	0824.2	0839.2	25.9	7.0			
	204	IZMI	42	SER	0900.0	0904.0	11.0	300.0			
	5900	KISV	2	S/F	0942.7	0943.0	0.6	2.0			
	9300	KISV	2	S/F	0950.3	0951.4	2.7	5.0			
	5900	KISV	1	S	1023.7	1024.4	1.5	22.0			
	9300	KISV	1	S	1023.9	1024.4	0.6	7.0			
	9300	KISV	2	S/F	1027.3	1028.6	3.0	4.0			
	5900	KISV	2	S/F	1028.2	1028.6	1.6	3.0			
	9100	GORK	2	S/F	1033.5	1034.3	2.1	13.6			
	5900	KISV	2	S/F	1033.7	1034.4	3.9	6.0			
	950	GORK	40	F	1040.4	1049.0	20.6	2.0			
	15000	KISV	23	GRF	1041.4	1112.8	34.1	18.0			
	9300	KISV	23	GRF	1043.7	1054.3	66.8	13.0			
	650	GORK	21	GRF	1044.4	1049.4	8.8	2.0			
	9300	KISV	45	C	1044.6	1048.0		28.0			
	9300	KISV	45	C	1044.6	1048.5	9.4	29.0			
	5900	KISV	45	C	1044.7	1048.0	18.3	71.0			
	5900	KISV	45	C	1044.7	1045.8		26.0			
	9100	GORK	21	GRF	1045.0	1048.4	5.5	12.0			
	2950	GORK	45	C	1045.5	1048.0	4.7	30.0			
	2950	GORK	45	C	1045.5	1049.1		27.0			
	2950	GORK	29	PBI	1045.5	1050.1	64.0	18.0			
	3100	CRIM	3	S	1046.0	1048.0	6.0	18.2	6.0		
	3100	CRIM	30	PBI	1046.0	1052.0	41.0	8.0	3.0		
	3013	IZMI	5	S	1046.0	1048.5	5.0	34.0	20.0		
	4995	SVTO	8	S	1047.0E	1047.0	1.0D	61.0			QL=1 ST=2 TYP=3
	536	ONDR	48	C	1047.0	1048.2	1.8	69.0			
	9100	GORK	2	S/F	1047.2	1048.4	2.2	18.8			
	15000	KISV	2	S/F	1047.3	1048.5	9.3	13.0			
	650	GORK	46	C	1047.6	1048.1		9.0			
	650	GORK	46	C	1047.6	1047.8	0.6	6.0			
	5900	KISV	2	S/F	1125.6	1126.8	2.7	3.0			
	9300	KISV	2	S/F	1125.8	1126.9	3.0	8.0			
	9100	GORK	1	S	1130.2	1131.0	2.1	16.0			
	5900	KISV	1	S	1130.3	1131.2	2.9	24.0			
	3100	CRIM	1	S	1130.3	1130.9	1.0	2.2	1.0		
	9300	KISV	2	S/F	1130.5	1131.2	2.5	14.0			
	15000	KISV	2	S/F	1130.7	1131.1	3.1	8.0			

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

JANUARY 1989

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	810	KRAK	1	S	1215.0	1215.0	0.7	9.0	4.0		
	430	KRAK	42	SER	1219.3	1224.5	8.0	34.0			
	536	ONDR	48	C	1223.9	1225.0	3.0	35.0			
	430	KRAK	42	SER	1241.7	1247.5	7.5	37.0			
	536	ONDR	42	SER	1242.2	1247.5	6.0	56.0			
	810	KRAK	2	S/F	1244.3	1245.5	1.2	16.0	5.0		
	15400	PALE	8	S	1739.0E	1739.0	U	82.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1755.0E	1756.0	2.0D	390.0			QL=1 ST=2 TYP=3
	245	SGMR	8	S	1755.0E	1755.0	1.0D	460.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	1944.0E	1944.0	U	440.0			QL=1 ST=2 TYP=3
	245	SGMR	49	GB	1944.0E	1944.0	U	610.0			QL=1 ST=3 TYP=6
	245	PALE	8	S	1948.0E	1948.0	U	160.0			QL=1 ST=2 TYP=3
	245	PALE	49	GB	2014.0E	2014.0	U	1700.0			QL=1 ST=2 TYP=6
	245	SGMR	49	GB	2014.0E	2014.0	U	1200.0			QL=1 ST=2 TYP=6
	245	PALE	8	S	2019.0E	2021.0	2.0D	420.0			QL=1 ST=2 TYP=3
	245	SGMR	49	GB	2021.0E	2021.0	U	520.0			QL=1 ST=2 TYP=6
	610	PALE	8	S	2041.0E	2042.0	2.0D	85.0			QL=1 ST=2 TYP=3
	245	PALE	4	S/F	2041.0E	2042.0	4.0D	80.0			QL=1 ST=2 TYP=3
	245	SGMR	4	S/F	2041.0E	2042.0	3.0D	80.0			QL=1 ST=2 TYP=3
	1415	PALE	8	S	2042.0E	2042.0	1.0D	83.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	2042.0E	2042.0	1.0D	170.0			QL=1 ST=2 TYP=3
	1415	SGMR	8	S	2042.0E	2042.0	U	90.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	2042.0E	2042.0	2.0D	72.0			QL=1 ST=2 TYP=3
	410	SGMR	8	S	2042.0E	2042.0	2.0D	190.0			QL=1 ST=2 TYP=3
	245	SGMR	4	S/F	2044.0E	2047.0	5.0D	260.0			QL=1 ST=2 TYP=5
	245	PALE	8	S	2047.0E	2047.0	U	260.0			QL=1 ST=2 TYP=3
	610	SGMR	8	S	2047.0E	2047.0	U	52.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	2243.5	2244.8	3.2	45.0			O
	500	HIRA	41	F	2243.7	2244.8	4.0	21.0			WL
	15400	LEAR	8	S	2303.0E	2303.0	U	18.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	2304.0E	2305.0	1.0D	260.0			QL=1 ST=2 TYP=3
	500	HIRA	8	S	2304.4	2305.0	0.7	115.0			O
	410	LEAR	8	S	2305.0E	2305.0	U	43.0			QL=1 ST=2 TYP=3
	410	LEAR	4	S/F	2325.0E	2331.0	6.0D	200.0			QL=1 ST=2 TYP=5
	100	HIRA	41	F	2325.0	2330.7	11.0	1000.0D			
	500	HIRA	41	F	2325.3	2327.5	10.8	420.0			WL
	410	PALE	8	S	2326.0E	2328.0	2.0D	200.0			QL=1 ST=2 TYP=5
	200	HIRA	41	F	2326.6	2328.1	8.8	380.0			O
	8800	LEAR	8	S	2327.0E	2327.0	1.0D	20.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	2327.0E	2327.0	1.0D	120.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2327.0E	2327.0	1.0D	160.0			QL=1 ST=2 TYP=5
	245	LEAR	4	S/F	2328.0E	2328.0	6.0D	400.0			QL=1 ST=2 TYP=3
	245	PALE	49	GB	2328.0E	2328.0	3.0D	690.0			QL=1 ST=2 TYP=7
30	200	GORK	44	NS	0606.0E		180.0D		5.0		
	245	SVTO	44	NS	0623.0E	1319.0	558.0D	29.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	43	NS	0720.0		400.0				V=1
	260	ONDR	44	NS	0810.0E	1227.5	370.0D				
	245	SGMR	43	NS	1223.0	1319.0	548.0D	67.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2150.0E	2315.0	600.0D	7.0	3.0		MR
	15400	LEAR	4	S/F	0057.0E	0106.0	17.0D	390.0			QL=1 ST=2 TYP=5
	610	LEAR	8	S	0058.0E	0058.0	U	15.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0058.0E	0106.0	13.0D	94.0			QL=1 ST=2 TYP=5
	8800	LEAR	4	S/F	0058.0E	0102.0	16.0D	360.0			QL=1 ST=2 TYP=5
	8800	PALE	4	S/F	0058.0E	0102.0	11.0D	340.0			QL=1 ST=2 TYP=3
	4995	PALE	4	S/F	0058.0E	0102.0	10.0D	160.0			QL=1 ST=2 TYP=5
	35000	NOBE	7	C	0058.1	0103.1	20.0	148.0			6L
	80000	NOBE	7	C	0058.1	0103.4	20.0	38.0			
	17000	NOBE	7	C	0058.1	0106.5	25.0	355.0			5L
	500	HIRA	46	C	0058.8	0106.7	14.5	124.0	19.0		WR
	245	LEAR	8	S	0100.0E	0101.0	1.0D	14.0			QL=1 ST=2 TYP=3
	15400	PALE	4	S/F	0100.0E	0106.0	9.0D	370.0			QL=1 ST=2 TYP=5
	2695	PALE	4	S/F	0102.0E	0106.0	5.0D	90.0			QL=1 ST=2 TYP=3
	410	LEAR	4	S/F	0103.0E	0104.0	5.0D	120.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	0103.0E	0104.0	1.0D	180.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	0103.0	0110.8	9.2	860.0	74.0		WR
	1415	PALE	8	S	0106.0E	0106.0	1.0D	63.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	0106.0E	0106.0	1.0D	210.0			QL=1 ST=2 TYP=3

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

JANUARY 1989

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	245	PALE	4	S/F	0106.0E	0107.0	4.0D	160.0			QL=1 ST=2 TYP=3
	100	HIRA	46	C	0109.1	0110.8	4.8	970.0	480.0		
	200	HIRA	29	PBI	0111.6	0150.4	79.0	25.0	13.0		WL
	500	HIRA	46	C	0202.0	0206.8	9.5	6.0			WL
	245	PALE	8	S	0207.0E	0207.0	U	57.0			QL=1 ST=2 TYP=3
	100	HIRA	42	SER	0227.0	0236.3	31.7	930.0			
	245	PALE	8	S	0228.0E	0228.0	1.0D	110.0			QL=1 ST=2 TYP=3
	500	HIRA	42	SER	0330.5	0353.3	24.0	235.0			SL
	100	HIRA	42	SER	0332.3	0350.5U	33.6	1000.0D			
	610	LEAR	4	S/F	0333.0E	0338.0	5.0D	55.0			QL=1 ST=2 TYP=3
	200	HIRA	41	F	0333.0	0336.3	6.7	120.0			O
	410	LEAR	4	S/F	0335.0E	0338.0	3.0D	50.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0336.0E	0336.0	U	82.0			QL=1 ST=2 TYP=3
	245	PALE	8	S	0336.0E	0336.0	U	140.0			QL=1 ST=2 TYP=3
	245	LEAR	49	GB	0348.0E	0350.0	5.0D	1800.0			QL=1 ST=2 TYP=6
	410	LEAR	4	S/F	0348.0E	0350.0	5.0D	81.0			QL=1 ST=2 TYP=3
	200	HIRA	46	C	0348.2	0349.8	5.1	3500.0	355.0		O
	8800	LEAR	4	S/F	0350.0E	0352.0	3.0D	59.0			QL=1 ST=2 TYP=3
	610	LEAR	4	S/F	0350.0E	0353.0	4.0D	500.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	0350.0E	0350.0	1.0D	100.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	0351.0E	0353.0	2.0D	480.0			QL=1 ST=2 TYP=3
	15400	LEAR	8	S	0352.0E	0352.0	U	31.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	0352.2	0352.4	3.0	27.0			10R
	650	GORK	1	S	0616.6	0618.4	1.8	2.6			
	950	GORK	2	S/F	0617.2	0617.5	1.1	3.8			
	3100	CRIM	20	GRF	0801.0	0803.0	14.0	2.8	1.0		
	15000	KISV	2	S/F	0802.0	0804.5	5.2	6.0			
	9300	KISV	2	S/F	0802.2	0802.7	5.0	4.0			
	5900	KISV	2	S/F	0802.3	0802.8	4.9	7.0			
	810	KRAK	1	S	0825.5	0825.8	0.6	8.0	3.0		
	5900	KISV	45	C	0853.4	0854.5		2.0			
	5900	KISV	45	C	0853.4	0853.8	3.4	4.0			
	9300	KISV	2	S/F	0913.0	0913.5	1.5	7.0			
	15000	KISV	2	S/F	0913.1	0913.5	0.6	7.0			
	245	SVTO	8	S	0943.0E	0944.0	2.0D	55.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0944.0E	0944.0	1.0D	56.0			QL=1 ST=2 TYP=3
	100	GORK	8	S	0944.1	0944.6	0.8	200.0			
	810	KRAK	8	S	1008.3	1008.3	0.5	16.0			
	810	KRAK	41	F	1013.3	1019.2	7.5	12.0	4.0		
	950	GORK	46	C	1016.4	1019.0		13.5			
	950	GORK	46	C	1016.4	1018.3	4.2	19.0			
	650	GORK	1	S	1016.7	1018.7	3.8	3.0			
	430	KRAK	8	S	1026.5	1026.8	0.6	21.0			
	430	KRAK	8	S	1031.0	1031.2	0.3	12.0			
	650	GORK	4	S/F	1051.8	1055.6	4.9	65.0			
	950	GORK	46	C	1054.4	1055.0	3.4	11.0			
	950	GORK	46	C	1054.4	1055.6		15.0			
	536	ONDR	41	F	1054.5	1055.4	1.8	128.0			
	100	GORK	8	S	1054.7	1055.0	0.7	115.0			
	9100	GORK	22	GRF	1055.0	1055.4	9.0	7.5			
	2950	GORK	3	S	1055.0	1055.4	2.8	21.0	9.0		
	3100	CRIM	1	S	1055.0	1055.5	3.0	13.5	4.0		
	3013	IZMI	5	S	1055.0	1055.5	2.0	16.0	8.0		
	5900	KISV	2	S/F	1055.1	1055.5	3.3	20.0			
	9300	KISV	2	S/F	1055.2	1055.5	2.2	6.0			
	810	KRAK	4	S/F	1225.8	1226.5	5.0	132.0	16.0		
	536	ONDR	45	C	1225.8	1226.5	4.7	186.0			
	15400	SGMR	8	S	1226.0E	1227.0	1.0D	130.0			QL=1 ST=3 TYP=3
	610	SGMR	8	S	1226.0E	1226.0	2.0D	93.0			QL=1 ST=3 TYP=3
	4995	SVTO	8	S	1226.0E	1227.0	1.0D	190.0			QL=1 ST=2 TYP=3
	3100	CRIM	3	S	1226.1	1227.2	5.0	79.0	26.0		
	430	KRAK	4	S/F	1226.5	1227.0U	4.5	24.0D	11.0D		
	8800	SGMR	8	S	1227.0E	1227.0	U	210.0			QL=1 ST=3 TYP=3
	4995	SGMR	8	S	1227.0E	1227.0	U	260.0			QL=1 ST=3 TYP=3
	1415	SGMR	8	S	1227.0E	1227.0	U	16.0			QL=1 ST=3 TYP=3
	410	SGMR	8	S	1227.0E	1227.0	U	480.0			QL=1 ST=3 TYP=3
	2695	SGMR	8	S	1227.0E	1227.0	U	200.0			QL=1 ST=3 TYP=3
	245	SGMR	49	GB	1227.0E	1227.0	U	23000.0			QL=1 ST=3 TYP=6
	8800	SVTO	8	S	1227.0E	1227.0	U	250.0			QL=1 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

JANUARY 1989

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	2695	SVTO	8	S	1227.0E	1227.0	U	110.0			QL=1 ST=2 TYP=3
	15400	SVTO	8	S	1227.0E	1227.0	U	160.0			QL=1 ST=2 TYP=3
	410	SVTO	49	GB	1227.0E	1227.0	U	850.0			QL=1 ST=2 TYP=6
	245	SVTO	49	GB	1227.0E	1227.0	U	17000.0			QL=1 ST=2 TYP=6
	1415	SVTO	8	S	1227.0E	1227.0	U	100.0			QL=1 ST=2 TYP=3
	245	SGMR	49	GB	1626.0E	1626.0	U	640.0			QL=1 ST=2 TYP=6
	610	PALE	8	S	2001.0E	2001.0	U	120.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	2058.0	2101.3	5.5	42.5	12.0		
	15400	PALE	8	S	2101.0E	2101.0	U	85.0			QL=1 ST=2 TYP=3
	245	LEAR	4	S/F	2355.0E	2357.0	4.0D	170.0			QL=1 ST=2 TYP=5
	245	PALE	4	S/F	2355.0E	2357.0	4.0D	240.0			QL=1 ST=2 TYP=5
	410	LEAR	4	S/F	2356.0E	2357.0	5.0D	260.0			QL=1 ST=2 TYP=3
	610	LEAR	8	S	2356.0E	2357.0	2.0D	220.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	2357.0E	2357.0	2.0D	29.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	2357.0E	2357.0	1.0D	390.0			QL=1 ST=2 TYP=3
	610	PALE	8	S	2357.0E	2357.0	U	140.0			QL=1 ST=2 TYP=3
	500	HIRA	46	C	2357.0	2357.5	3.5	420.0			O
31	200	GORK	44	NS	0605.0E		180.0D		15.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	260	ONDR	44	NS	0810.0E	1217.6	350.0D	25.0			
	127	TORN	43	NS	1000.0		300.0		1.0		V=1
	245	SGMR	43	NS	1222.0	1331.0	550.0D	66.0			QL=1 ST=2 TYP=1
	8800	LEAR	4	S/F	0303.0E	0306.0	7.0D	67.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0306.0E	0306.0	1.0D	77.0			QL=1 ST=2 TYP=3
	17000	NOBE	1	S	0306.7	0306.9	1.0	35.0			14R
	9100	GORK	1	S	0604.3	0604.4	1.4	10.3			
	9300	KISV	2	S/F	0652.4	0652.6	1.4	9.0			
	5900	KISV	23	GRF	0702.6	0707.2	31.0	4.0			
	5900	KISV	23	GRF	0702.6	0725.7		4.0			
	5900	KISV	2	S/F	0734.9	0738.3	5.8	3.0			
	5900	KISV	22	GRF	0742.0	0752.3	30.3	3.0			
	5900	KISV	2	S/F	0821.2	0822.0	2.0	3.0			
	5900	KISV	23	GRF	0900.0	0917.2		6.0			
	5900	KISV	23	GRF	0900.0	0901.2	35.0	6.0			
	5900	KISV	22	GRF	1010.9	1023.0	22.4	6.0			
	9100	GORK	20	GRF	1021.4	1022.4	9.7	6.8			
	9300	KISV	22	GRF	1022.0	1023.0	16.3	7.0			
	5900	KISV	2	S/F	1118.1	1118.7	2.7	5.0			
	9300	KISV	22	GRF	1145.1	1146.4	12.2	5.0			
	5900	KISV	47	GB	1158.5	1204.1	15.7	67.5			
	3100	CRIM	45	C	1159.5	1201.0	17.0	62.9			
	9300	KISV	47	GB	1159.5	1204.0	16.5	519.0			
	3100	CRIM	29	PBI	1159.5	1218.0	30.0	26.7			
	3100	CRIM	45	C	1159.5	1204.1		174.4	58.0		
	3100	CRIM	45	C	1159.5	1213.1		83.9			
	2950	GORK	46	C	1159.6	1201.0	17.0	80.0			
	2950	GORK	46	C	1159.6	1213.2		116.0			
	2950	GORK	46	C	1159.6	1208.2		80.0			
	2950	GORK	46	C	1159.6	1204.3		270.0			
	2950	GORK	29	PBI	1159.6	1216.5	18.0D	38.0			
	9100	GORK	29	PBI	1159.7	1217.0	17.3D	46.0			
	9100	GORK	46	C	1159.7	1212.9		360.0			
	9100	GORK	46	C	1159.7	1203.9	17.2	440.0			
	15000	KISV	45	C	1159.8	1205.0		171.0			
	15000	KISV	45	C	1159.8	1204.7	14.8	237.0			
	4995	SVTO	4	S/F	1200.0E	1204.0	24.0D	420.0			QL=1 ST=2 TYP=5
	2695	SVTO	4	S/F	1200.0E	1204.0	24.0D	260.0			QL=1 ST=2 TYP=5
	8800	SVTO	4	S/F	1202.0E	1203.0	22.0D	410.0			QL=1 ST=2 TYP=5
	15400	SVTO	4	S/F	1203.0E	1212.0	21.0D	230.0			QL=1 ST=2 TYP=5
	810	KRAK	46	C	1204.0	1215.5		33.0			
	810	KRAK	46	C	1204.0	1204.5	15.5	76.0	6.0		
	950	GORK	46	C	1204.7	1213.0	13.1	53.0			
	950	GORK	46	C	1204.7	1215.3		56.0			
	5900	KISV	4	S/F	1207.9	1208.2	1.4	76.0			
	9300	KISV	4	S/F	1207.9	1208.2	1.2	47.0			
	536	ONDR	47	GB	1210.0	1215.9	10.0	74.0			
	5900	KISV	46	C	1210.3	1212.1		177.0			
	5900	KISV	46	C	1210.3	1211.3		104.0			

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

JANUARY 1989

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
31	5900	KISV	29	PBI	1210.3	1214.3	15.2	83.0			
	5900	KISV	46	C	1210.3	1212.8	3.9	234.0			
	9300	KISV	29	PBI	1210.4	1216.0	59.0	53.0			
	9300	KISV	46	C	1210.4	1212.2		298.0			
	9300	KISV	46	C	1210.4	1211.3		195.0			
	9300	KISV	46	C	1210.4	1212.8	4.0	388.0			
	15000	KISV	46	C	1210.7	1212.2		141.0			
	15000	KISV	46	C	1210.7	1211.3		102.0			
	15000	KISV	29	PBI	1210.7	1214.7	19.5	75.0			
	15000	KISV	46	C	1210.7	1212.8	3.7	179.0			
	650	GORK	46	C	1211.0	1216.0		53.0			
	650	GORK	46	C	1211.0	1213.3	8.0	11.0			
	1415	SVTO	4	S/F	1212.0E	1213.0	12.0D	71.0			QL=1 ST=2 TYP=3
	430	KRAK	45	C	1212.3	1212.3	5.0	36.0	6.0		
	430	KRAK	45	C	1212.3	1215.3		27.0			
	127	TORN	47	GB	1233.0U	1234.7U	4.7D	1400.0	720.0		
	2800	OTTA	4	S/F	1732.4	1733.8	7.8	16.2	5.0		
	4995	SGMR	8	S	1733.0E	1733.0	1.0D	100.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1733.0E	1733.0	1.0D	94.0			QL=1 ST=2 TYP=3
	17000	NOBE	7	C	2307.5	2307.7	25.0	37.0			0

Reports are received routinely from the following observatories:

BERN = Berne	IZMI = IZMIRAN	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	KISK = Kislovodsk	OTTA = Ottawa	SYDN = Sydney
GORK = Gorky	KRAK = Krakow	PALE = Palehua	TORN = Torun
HIRA = Hiraiso	LEAR = Learmonth	PENT = Penticton	TRST = Trieste
HUAN = Huancayo	NOBE = Nobeyama	POTS = Potsdam	TYKW = Toyokawa
		SGMR = Sagamore Hill	UPIC = Upice

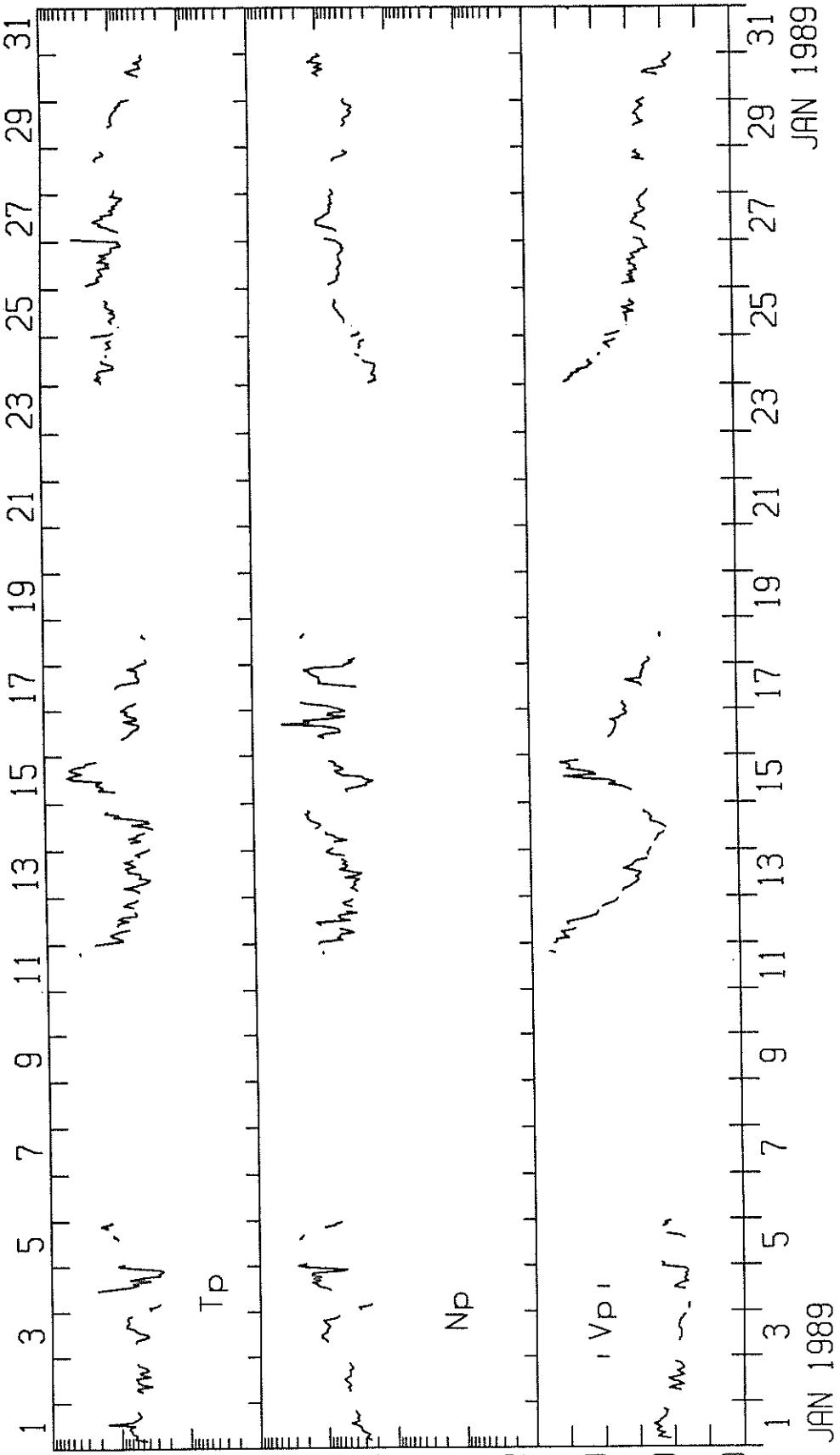
Explanation of Type Code:

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

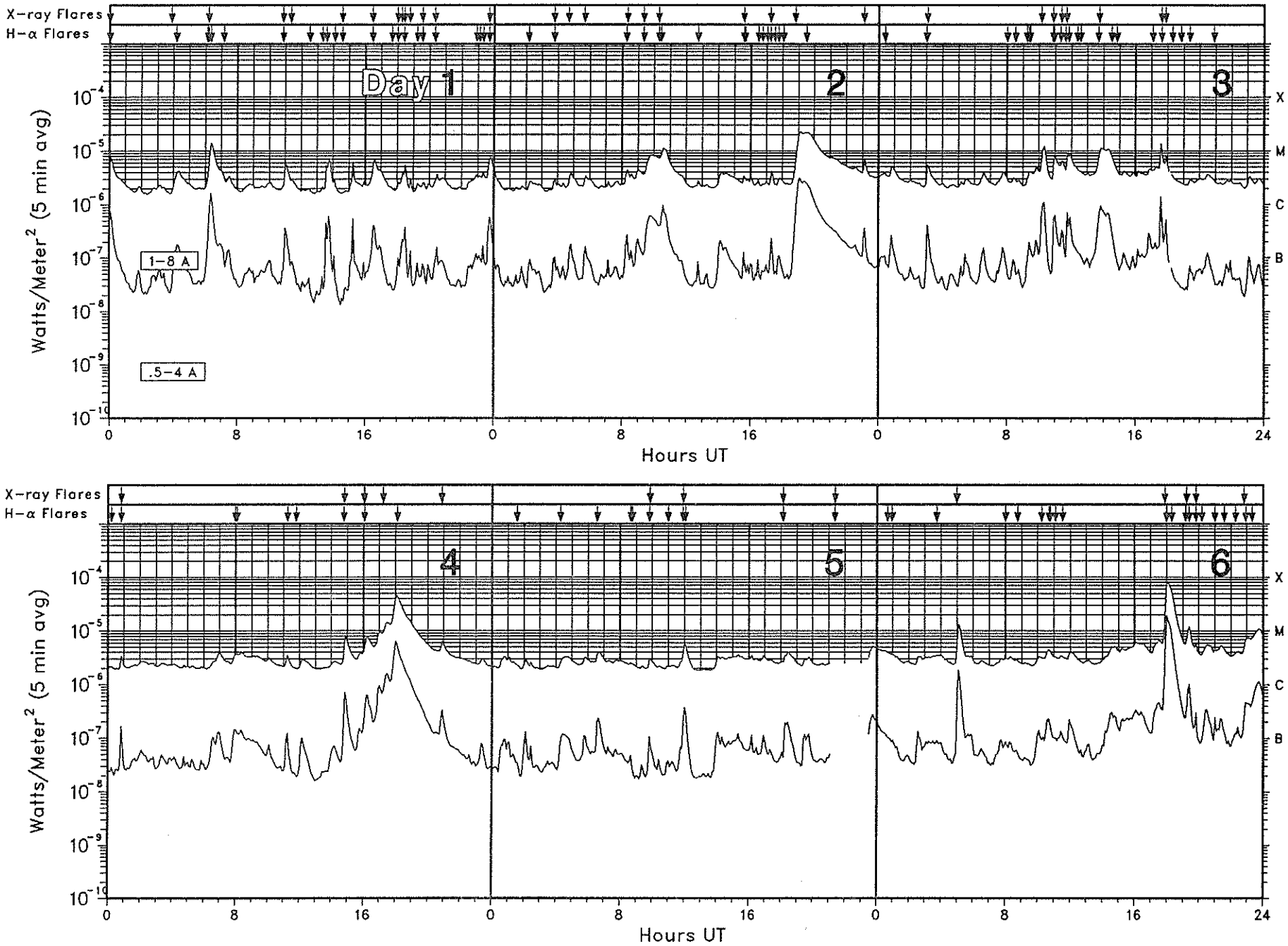
RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Ottawa, Canada 2800 MHz; Hiraiso, Japan 500 and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

IMP 8 SOLAR WIND PLASMA
JANUARY 1989



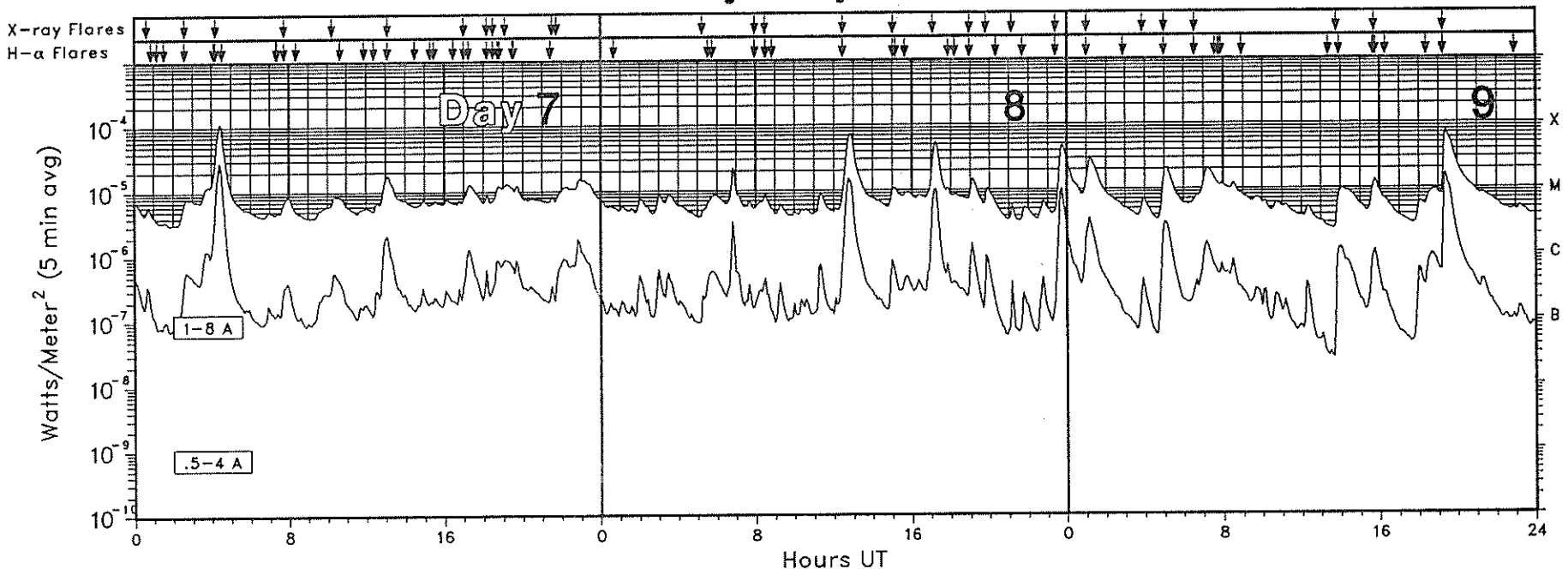
GOES-7 X-RAY DETECTOR

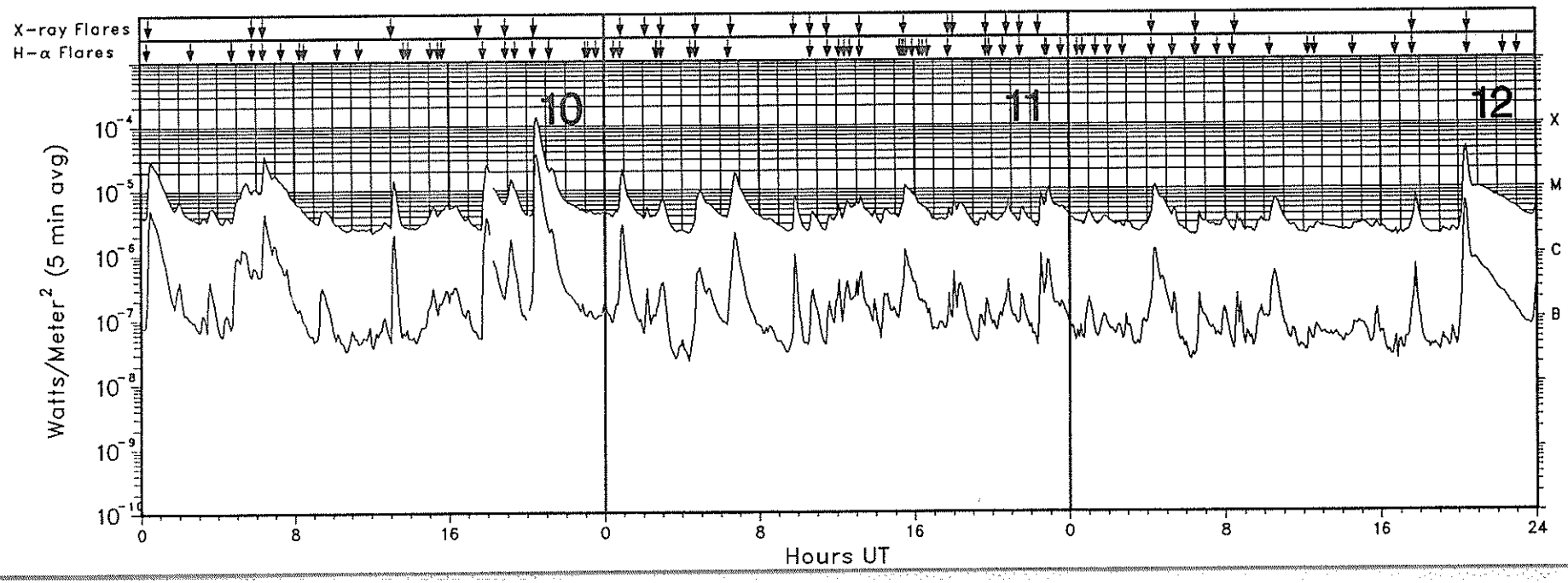
January 1989



GOES-7 X-RAY DETECTOR

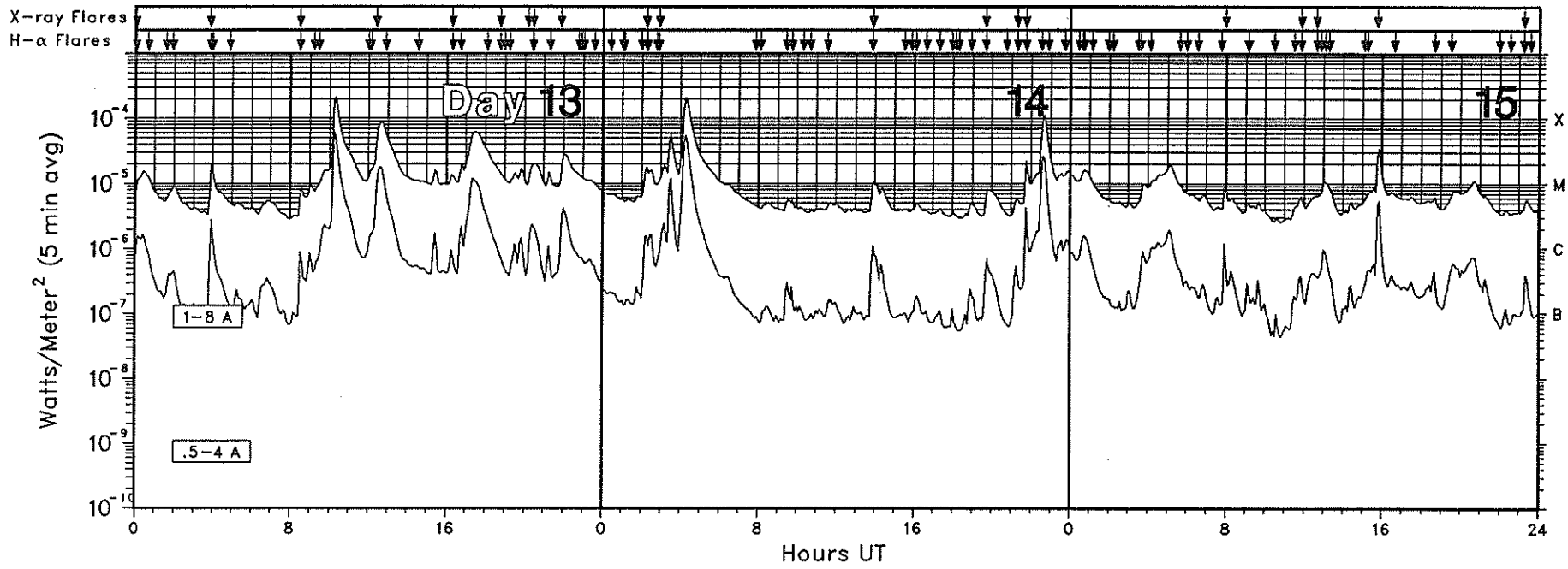
January 1989

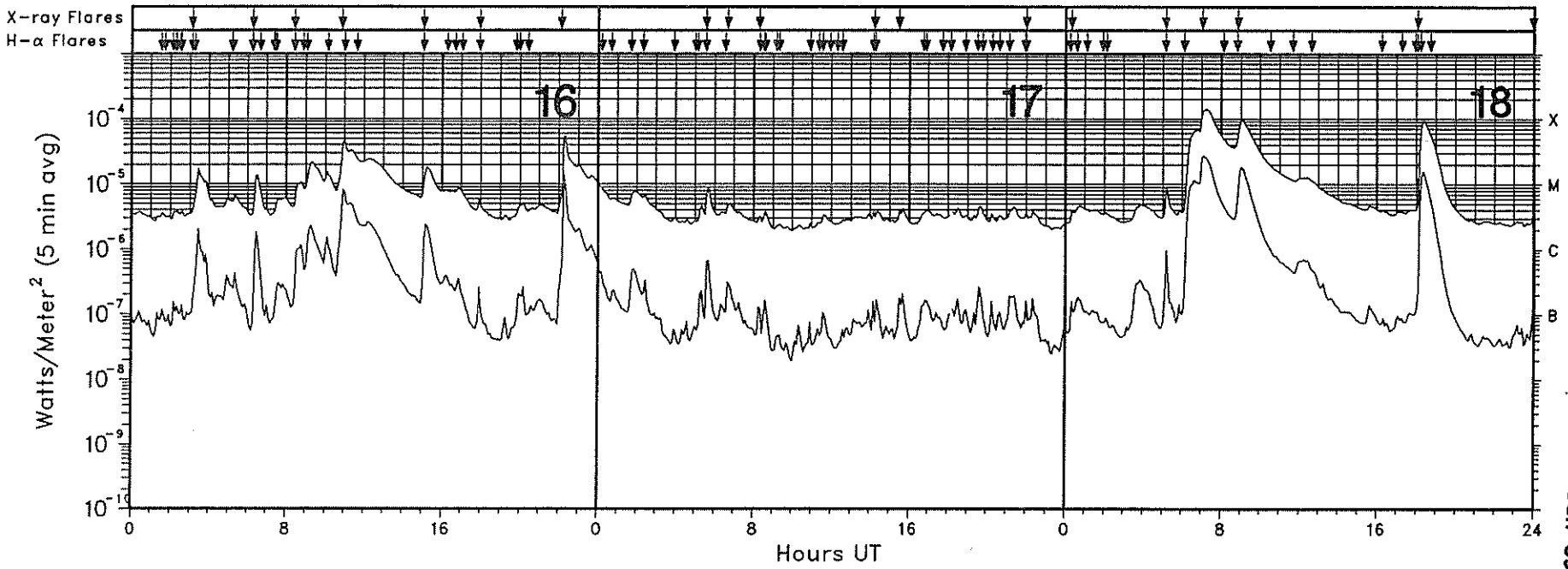




GOES-7 X-RAY DETECTOR

January 1989



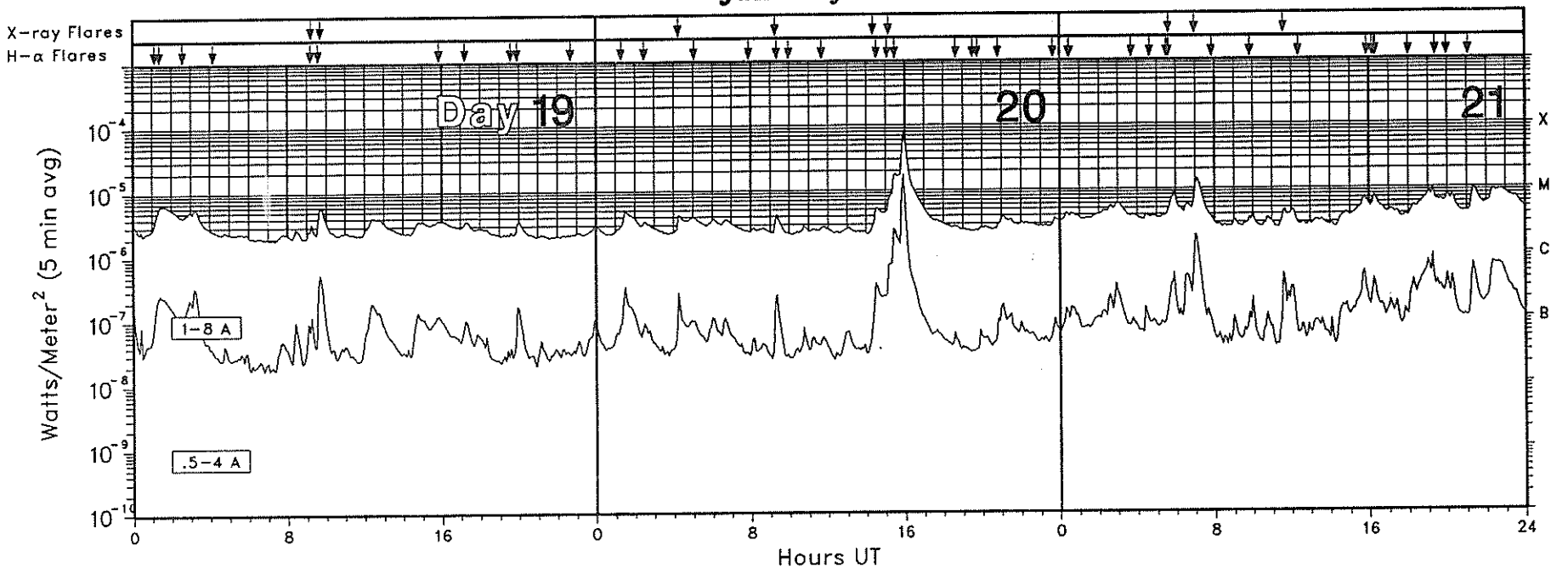


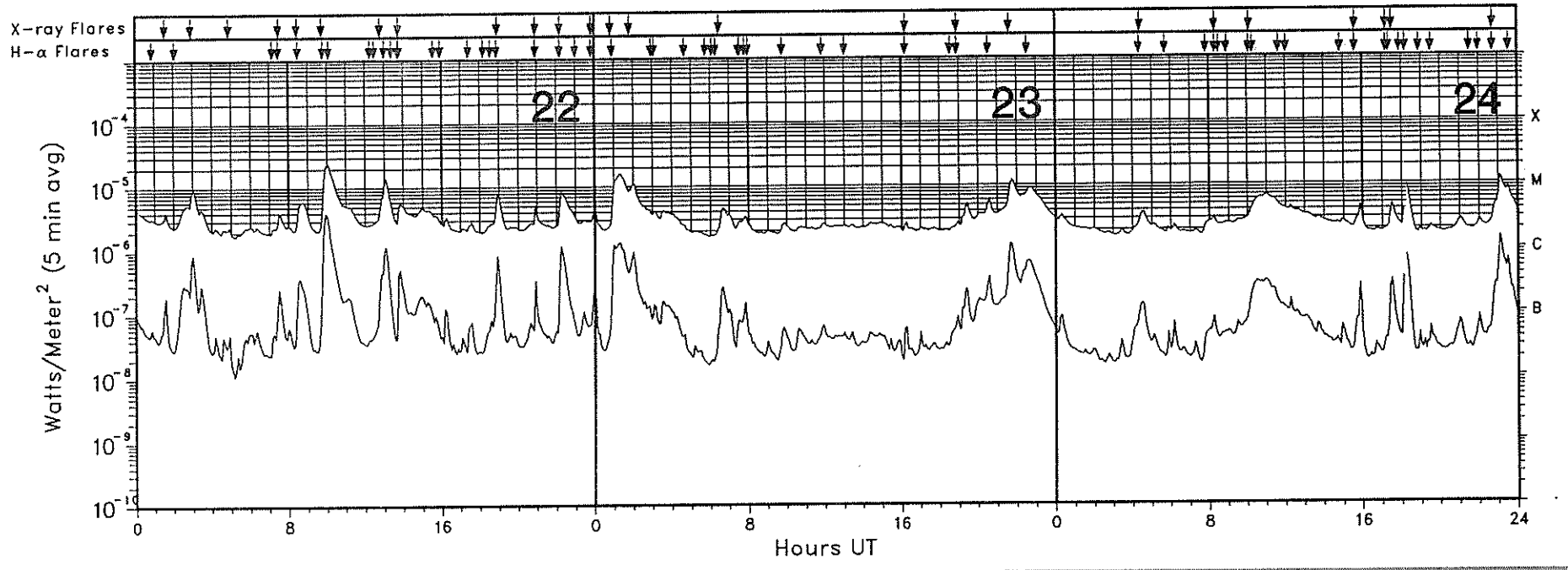
85
Jan 89

GOES-7 X-RAY DETECTOR

January 1989

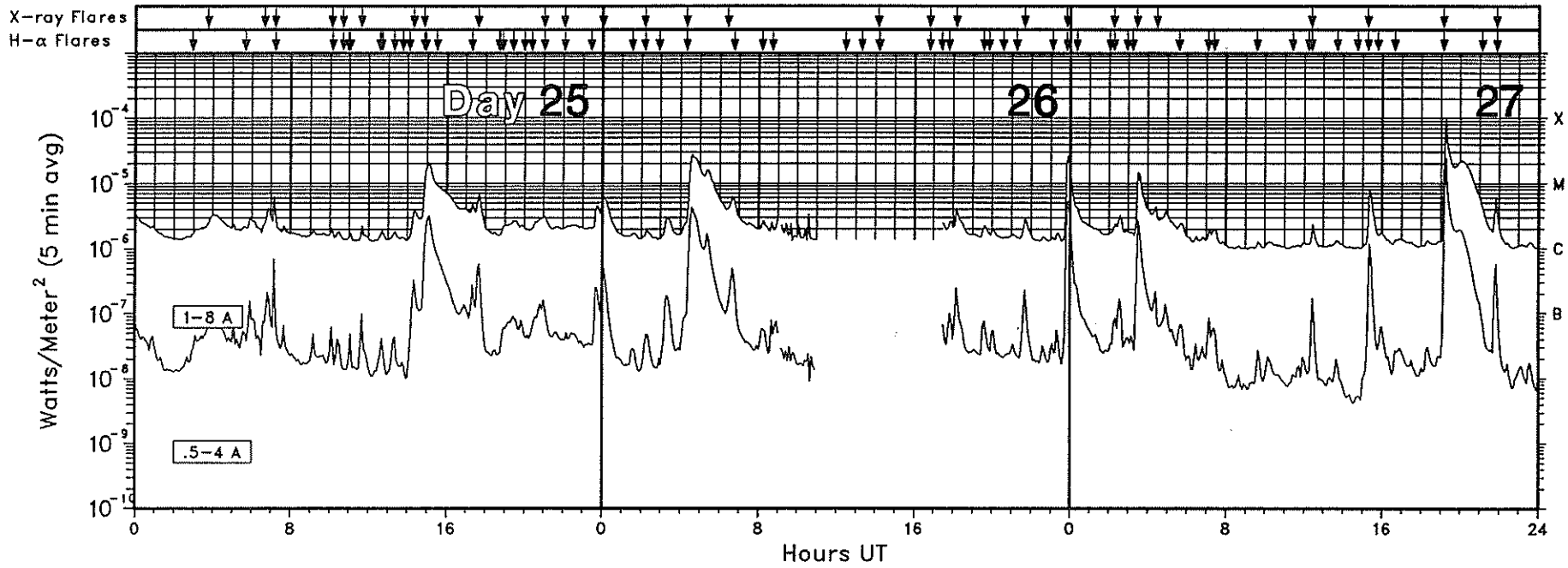
86 Jan 89

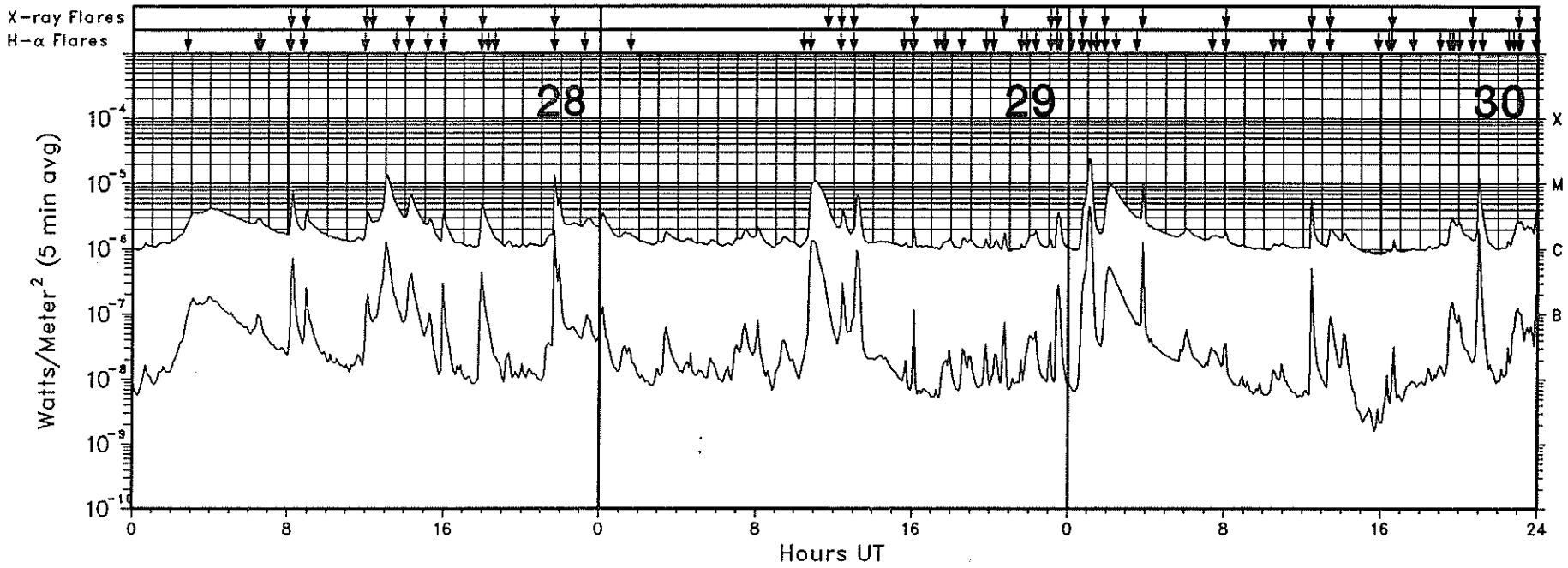




GOES-7 X-RAY DETECTOR

January 1989





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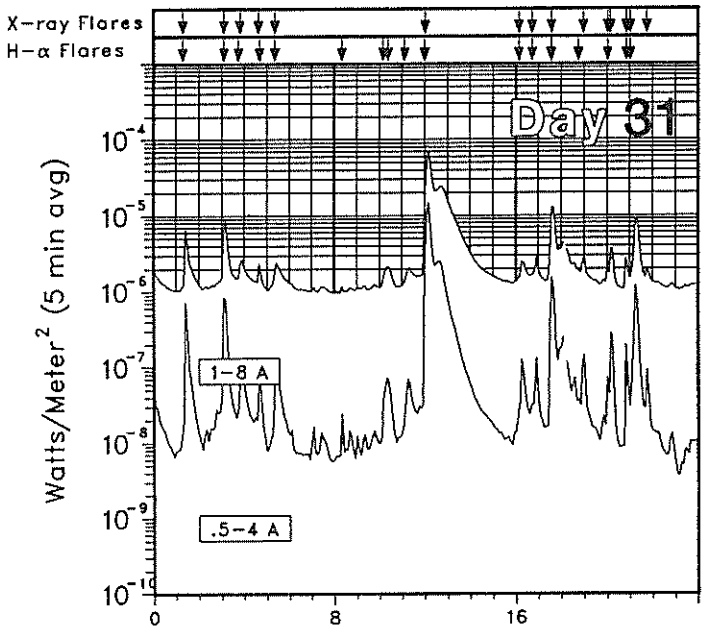
Jan 89

GOES-7 X-RAY DETECTOR

January 1989



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

January 1989

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
01	0001	0007	0019D	N20	W58	SF	C8.1	5290
01	0353	0420	0500	S12	W90		C3.1	5295
01	0612E	0620	0657D	S21	W53	SF	M1.4	5292
01	1052E	1103	1116D	S19	W11	SN	C6.7	5303
01	1121E	1337	1423D	N20	W63	SF	C8.1	5290
01	1434E	1516	1532	N21	W70	1N	C8.3	5290
01	1627E	1631	1722D	S22	W62	SN	C7.1	5292
01	1802E	1805	1848D	S19	W15	SF	C2.8	5303
01	1817	1821	1824				C4.8	
01	1827E	1830	1959D	S20	W60	SN	C6.3	5292
01	1847	1852	1855				C3.4	
01	1933E	1939	1950D	S19	W16	SF	C3.5	5303
01	2021E	2032	2052D	S19	W59	SF	C3.7	5292
01	2343E	2347	0009D	S21	W65	SF	C8.1	5292
02	0346E	0350	0356D	N20	W74	SF	C3.1	5290
02	0440	0451	0507				C4.1	
02	0541	0545	0555				C3.4	
02	0821E	0840	0902D	S22	W72	SF	C4.6	5292
02	0921E	0934	1143D	S19	W30	SN	C8.5	5303
02	1017E	1047	1057D	S17	W64	SF	M1.1	5292
02	1535E	1537	1553D	S20	W73	SF	C3.6	5292
02	1715E	1722	1733D	S20	W67	SF	C4.6	5292
02	1848	1910	2209				M2.2	
02	2306	2311	2315				C8.1	
03	0304E	0307	0317D	S19	W37	SF	C5.9	5303
03	1010	1023	1035				M1.2	
03	1054	1101	1114				C8.6	
03	1124	1124U	1138D	S18	W35	SF	C7.2	5303
03	1142E	1143	1154D	N24	E70	SF	M1.0	5307
03	1344E	1346	1410	S15	W53	SF	M1.1	5297
03	1738	1738U	1748D	N24	E67	SF	M1.5	5307
03	1753	1756	1809				C8.5	
04	0050E	0050	0102D	N24	E64	SF	C3.5	5307
04	1448	1456	1504				C9.0	
04	1602	1615	1639				C8.4	
04	1603E	1753	1928D	S20	W60	1N	M4.7	5303
04	1713	1729	1741				M1.4	
04	2052	2057	2104				C6.6	
05	0951E	0956	1007	S19	E57	SF	C3.2	5309
05	1156	1205	1212				C5.9	
05	1808D	1811U	1823D	S19	W68	SF	C4.6	5303
05	2124E	2126	2141D	S19	W54	SN	C5.7	5301
06	0459	0508	0526				M1.4	
06	1753	1812U	1846	S31	E78	1N	M8.9	5312
06	1914	1920	1932D	S17	W66	SN	M1.2	5301
06	1949E	1950	2006D	S33	E83	SN	C6.5	5312
06	2250	2343	2420				M1.1	
07	0038	0046	0057				C6.6	
07	0236E	0236	0242D	S19	W74	SF	C8.9	5301
07	0412E	0436	0444D	S34	E80	1F	X1.1	5312
07	0744E	0801	0813D	S19	W75	SF	C8.6	5301
07	1015	1025	1100				C9.0	
07	1306E	1331	1401D	S19	W79	SF	M1.8	5301
07	1700E	1728	1744D	S20	W77	SF	M1.3	5301
07	1810E	1814	1908	S18	W77	SF	M1.1	5301
07	1829E	1830	1838D	S34	E71	SF	M1.2	5312
07	1905	1940	2017D	S35	E66	SF	M1.3	5312
07	2129E	2130	2137D	N11	E04	SF	C8.6	5305
07	2144	2257	2359				M1.6	
08	0514E	0517	0619	S28	E62	SF	C6.6	5312
08	0757E	0758	0802D	S34	E55	SN	M2.4	5312
08	0828E	0828	0844D	S15	E42	SN	C9.6	5311
08	1228	1247	1335D	S33	E58	1B	M7.5	5312
08	1502E	1509	1558D	S27	E17	SF	M1.1	5310
08	1704	1717	1901				M5.6	
08	1857E	1909	1938D	S35	E63	SF	M1.5	5312
08	1948	1955	2019				M1.1	
08	2109	2114	2118				C6.1	
08	2325E	2336	2400D	S34	E53	SN	M4.9	5312
09	0100E	0109	0217D	N29	E21	2N	M3.2	5315
09	0352	0358	0409				C7.3	
09	0458	0515U	0535D	S30	E47	SN	M2.0	5312
09	0632E	0647	0856D	S15	E26	SF	M2.1	5311
09	1347	1409	1515				M1.0	
09	1542	1623U	1737D	S31	E44	SF	M1.3	5312
09	1914E	1921	2120D	S32	E45	1B	M8.3	5312
10	0026	0028	0130D	S32	E41	1N	M3.0	5312
10	0549E	0552	0608D	S31	E61	1F	M1.4	5316
10	0622E	0625	0648D	S35	E43	SN	M3.6	5312
10	1304	1312	1328				M1.5	
10	1733	1755U	1915	S34	E37	1F	M2.6	5312
10	1855E	1904	2008	N32	W01	SF	M1.6	5315
10	2023E	2031	2126D	S31	E30	1B	X1.4	5312
11	0051E	0053	0107D	S34	E33	SF	M2.1	5312
11	0207	0212	0218				C5.8	
11	0257E	0300	0314D	N20	E68	SF	C7.6	5317
11	0445E	0446	0452D	S32	E32	SF	M1.0	5312
11	0635E	0650	0705D	S34	E28	SF	M1.9	5312
11	0950	0954	1004				M1.2	
11	1040	1046	1055				C5.0	
11	1131	1209	1214				C6.5	
11	1312	1316	1320				C8.7	
11	1528	1533	1639				M1.2	
11	1745E	1825	1846D	S33	E20	SF	C5.6	5312
11	1800	1803	1807				C8.1	
11	1942E	1944	1955D	N19	E84	SN	C5.7	5321
11	2047	2049	2056D	S34	E21	SF	C7.4	5312
11	2129E	2131	2150D	N28	E53	SF	C5.3	5318
11	2225E	2249	2310D	N21	E50	1B	C8.9	5317
12	0417E	0423	0457D	S34	E19	1N	M1.4	5312
12	0633E	0643	0656D	S30	E15	SF	C4.7	5312
12	0832E	0835	0857D	S33	E15	SF	C4.2	5312
12	1739E	1745U	1857	S16	W12	1N	C8.7	5311
12	2029	2029U	2218D	N20	E44	1N	M4.7	5317
13	0003E	0008	0126D	S30	E03	SF	M1.5	5312
13	0351E	0355	0416D	S34	E06	1N	M2.1	5312
13	0829E	1018	1045D	S31	W05	2B	X2.3	5312
13	1225	1242	1527				M9.2	
13	1618	1742	1859D	S30	W07	1N	M6.1	5312
13	1845E	1926	2027D	N18	E55	1F	M1.4	5321
13	2010	2015	2110				M2.0	
13	2027E	2114	2135	N18	E53	1N	M1.6	5321
13	2152	2206	0206				M2.8	
14	0215E	0333	0354D	S31	W13	2B	M6.2	5312
14	0214E	0215	0222D	N26	E29	SF	M1.0	5318
14	0254E	0414	0519D	S32	W10	2B	X2.1	5312
14	1353E	1353	1418D	S30	W22	SF	M1.1	5312
14	1940E	1945	2112D	N17	E44	1N	C8.3	5321

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

Preliminary Listing

January 1989

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp	Opt	Xray	NOAA/ USAF Region
14	2118	2145U	2148	S31	W24		SF	M2.4	5312
14	2145E	2239	2309D	S29	W26		1B	X1.1	5312
15	0758E	0759	0806D	S31	W31		SF	M1.0	5312
15	1151	1151U	1158D	S32	W26		SF	C7.0	5312
15	1238E	1300	1341D	S31	W30		SF	M1.0	5312
15	1546E	1550	1651D	S31	W36		1B	M4.5	5312
15	2315E	2321	2341D	S30	W36		SF	C5.9	5312
16	0307E	0350	0405D	S31	W40		2B	M1.7	5312
16	0616E	0630	0659D	S31	W37		1N	M1.4	5312
16	0825E	0833	1006D	S30	W37		1F	M2.1	5312
16	1051	1101	1504					M5.1	
16	1504E	1507	1651D	S32	W42		SF	M1.8	5312
16	1756E	1757	1808D	S36	W36		SN	C6.6	5312
16	2207	2218	0002D	S30	W51		1B	M7.2	5312
17	0533E	0540	0552D	N18	E10		1B	C9.4	5321
17	0640	0644	0647					C5.7	
17	0817	0820	0825					C3.5	
17	1413E	1413	1418D	S29	W61		SF	C4.6	5312
17	1529	1532	1536					C4.2	
17	2200E	2201	2203D	S32	W57		SF	C4.2	5312
18	0020	0052	0147					C5.2	
18	0508E	0509	0512	S30	W67		SF	C9.6	5312
18	0702	0707U	0713	S30	W65		1F	X1.4	5312
18	0851	0912U	0952D	S30	W68		1N	M9.0	5312
18	1804E	1815	2030D	N26	W23		3B	M9.6	5317
18	2358	0002	0009					C3.9	
19	0913	0917	0921					C3.5	
19	0943E	0957U	1014	N19	W41		SF	C6.2	5317
20	0414	0419	0437					C4.4	
20	0916	0921	0931					C4.3	
20	1422	1432	1446D	N19	W58		SF	C5.5	5317
20	1510	1558	1706					M8.4	5312
21	0537E	0559	0611D	N17	E66		SF	C9.7	5329
21	0658	0709	0737					M1.4	
21	1136	1140	1146					C5.4	
22	0133	0137	0141					C4.3	
22	0255	0303	0318					M1.0	
22	0453E	0456	0503D	N18	W42		SN	C3.6	5331
22	0729	0735	0742					C4.0	
22	0826	0849	0901					C6.1	
22	0944	1002	1119					M2.4	
22	1247	1305	1325					M1.5	
22	1345	1352	1410					C6.0	
22	1855E	1859U	1908	S19	E82		SF	C9.6	5330
22	2055E	2057	2102D	N16	E46		SB	C5.9	5329
22	2211E	2214	2229U	N16	E46		SN	C9.2	5329
22	2350E	0002	0014D	N17	E45		SN	C5.1	5329
23	0050E	0103	0148D	N16	E47		1N	M1.6	5329
23	0148E	0205	0230	N16	E46		1F	M1.2	5329
23	0628E	0637	0725D	N15	E43		SF	C4.5	5329
23	1613E	1613	1624D	N14	E46		SF	C3.3	5329
23	1853E	1912	1943	N15	E37		SF	C5.3	5329
23	2137	2148	2328					M1.2	
24	0424E	0435	0446D	N16	E35		SF	C3.9	5329
24	0818	0819U	0830	N13	E37		SF	C3.5	5329
24	1007E	1020	1154D	N22	W07		SF	C6.7	5324
24	1536E	1551	1606D	N15	E29		SF	C5.2	5329
24	1711E	1733	1800D	N17	E23		SF	C4.7	5329
24	1730	1808	1851D	N15	E26		1N	M1.1	5329
24	2243E	2305	0012D	N17	E23		SF	M1.2	5329
25	0345	0401	0431					C3.3	
25	0639E	0656	0715D	N25	E18		SF	C4.4	5329
25	0712	0714U	0725D	S24	E90		SF	C8.0	5334
25	1006	1009	1012					C2.4	
25	1040E	1042	1049D	S21	E90		SF	C6.7	5334
25	1137	1141	1144					C2.8	
25	1418E	1420	1434D	S21	E56		SF	C4.0	5330
25	1449E	1455	1616D	S20	E43		SN	M2.1	5330
25	1736	1741	1747					C7.2	
25	2101E	2112	2135D	N19	E11		SF	C3.7	5329
25	2203E	2347	0018	N17	E09		SF	C4.6	5329
26	0001	0008	0018					C6.3	
26	0210E	0210	0224D	S22	E74		SF	C2.3	5334
26	0419E	0438	0550D	N17	E03		2N	M2.8	5329
26	0625	0642	0709					C6.4	
26	1408	1410U	1440D	N15	W03		SN	M1.2	5329
26	1648E	1652	1710D	N18	W02		SN	C4.4	5329
26	1810E	1811	1824D	N16	W02		SF	C4.2	5329
26	2139E	2139	2143D	S22	E72		SF	C2.9	5334
26	2350E	2351	0019	S22	E74		1N	M3.2	5334
27	0216E	0234	0248D	N16	W09		SF	C3.4	5329
27	0327E	0330	0358D	S21	E32		1N	M1.6	5330
27	0428		0430	N18	W10		SF	C5.3	5329
27	1222E	1226	1241D	N16	W14		SN	C2.5	5329
27	1516E	1520	1543D	N17	W14		1B	M1.0	5329
27	1908E	1917	2046	S19	E17		2B	X1.1	5330
27	2152E	2153	2208	N17	W18		SN	C6.8	5329
28	0807E	0815	0859D	S21	E54		SN	C9.8	5334
28	0852E	0857	0918D	S20	E15		SN	C4.1	5330
28	1159	1207	1217	N15	W26		1N	C3.8	5329
28	1217	1304	1353	N15	W26		1N	M1.4	5329
28	1411	1422	1427					C7.5	
28	1555E	1555	1621D	N16	W29		SN	C3.6	5329
28	1755	1758U	1835D	N14	W25		SB	C5.0	5329
28	2138	2144	2206	S22	E49		1B	M1.7	5334
29	1140E	1143U	1211D	S20	W04		SF	M1.0	5330
29	1220E	1226	1250D	S24	E38		SF	C4.1	5334
29	1258E	1316	1327D	S23	E38		SF	C7.5	5334
29	1603E	1607	1613D	N17	W36		SF	C2.8	5329
29	2040E	2047	2054D	N17	W36		SF	C1.8	5329
29	2304E	2305	2310D	N19	W40		SN	C2.1	5329
29	2325E	2333	2346D	N18	W43		1N	C4.3	5329
30	0043E	0108	0137D	S23	E29		1B	M2.9	5334
30	0151E	0203	0226D	N23	W82		SF	C9.5	5324
30	0347E	0352	0405D	N17	W42		1B	M1.3	5329
30	0803E	0804	0814D	S19	W26		SF	C2.0	5336
30	1224E	1227	1246D	N15	W46		2N	C9.6	5329
30	1321	1326	1344					C2.1	
30	1633E	1640	1702D	S19	W32		SF	C1.4	5336
30	2040E	2103	2150	N14	W53		1B	M2.1	5329
30	2302E	2302	2319D	N15	W57		SF	C2.8	5329
30	2356E	2358	0004D	N18	W52		SN	C6.1	5329
31	0118E	0127	0151D	S25	E14		1N	M1.0	5334
31	0306E	0308	0355D	S24	E12		1N	M1.0	5334
31	0349E	0354	0410	S20	W22		SF	C2.9	5330

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

Preliminary Listing

January 1989

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp	Opt	Xray	NOAA/ USAF Region
31	0438E	0441	0449	S20	W31	SF		C2.9	5330
31	0522E	0526	0535D	S21	W22	SF		C2.4	5330
31	1201	1209	1413D	S23	E08	2B		M7.5	5334
31	1608E	1616	1639D	S24	E09	SF		C2.8	5334
31	1643E	1656	1703D	S22	E07	SF		C3.5	5334
31	1734E	1741	1800D	N15	W65	1N		M1.3	5329
31	1858E	1859	1906D	N16	W66	SF		C4.2	5329
31	2002E	2010	2028D	N17	W78	SF		C2.4	5329
31	2009	2013	2020					C4.3	
31	2051E	2052	2101D	S22	E05	SN		C3.4	5334
31	2101E	2121	2139D	S23	E06	1N		M1.1	5334
31	2145	2149	2152					C2.2	

Preliminary GOES Satellite Data
Daily Average X-ray Background
February 1988 - January 1989

Day	1988 Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1989 Jan
1	B2.5	B1.0	B4.4	B1.9	B7.5	B8.4	B9.4	B6.9	C1.0	B5.7	B4.6	C1.7
2	B2.5	A8.5	B3.5	B2.6	B6.6	B7.1	B9.8	B6.5	C1.2	B6.1	B4.7	C2.1
3	B1.9	B1.1	B3.7	B3.7	B7.1	B9.7	C1.1	B6.9	C1.3	B5.2	B4.4	C2.2
4	B1.5	B1.8	B3.5	B5.1	B9.5	B6.3	B8.6	B6.7	C1.0	B5.0	B4.5	C2.0
5	B1.7	B1.6	B4.2	B4.1	B6.0	B6.4	B8.3	B6.4	B8.7	B4.6	B5.7	C1.9
6	B1.5	B1.4	B4.3	B2.9	B4.8	B6.5	B7.9	B6.1	C1.0	B5.8	B6.2	C2.4
7	B2.4	B1.6	B3.8	B3.1	B5.6	B6.8	B8.2	B6.9	B7.4	B5.5	B6.6	C4.7
8	B1.8	B1.6	B3.9	B2.5	B5.2	B7.0	C1.1	B5.5	B5.3	B5.5	B7.4	C4.6
9	B1.8	B1.6	B3.2	B1.8	B6.4	B7.7	C1.0	B4.8	B5.0	B9.2	B7.8	C3.4
10	B1.5	B1.8	B3.1	B1.6	B4.9	B9.1	C1.0	B3.2	B4.7	B9.8	C1.0	C2.5
11	B1.6	B2.8	B4.5	B1.6	B4.3	B7.7	B6.7	B2.7	B4.9	B9.8	C1.3	C3.1
12	B1.8	B3.4	B5.5	B1.5	B3.7	B4.9	B5.1	B2.8	B5.4	B6.3	C1.2	C2.3
13	B1.8	B3.4	B4.4	B1.4	B3.0	B5.3	B3.9	B2.4	B5.4	B8.9	C1.1	C5.0
14	B1.5	B2.5	B6.0	B1.3	B2.8	B5.0	B3.1	B2.3	B4.7	C1.3	C1.4	C3.8
15	B1.4	B6.0	B7.4	B1.1	B3.3	B4.7	B3.2	B2.6	B5.9	B7.9	C2.1	C2.9
16	B1.2	B6.9	B9.2	B1.3	B3.7	B5.5	B3.0	B3.0	B7.8	C1.4	C1.7	C3.1
17	B1.2	B4.6	B5.3	B2.0	B3.6	B4.8	B3.2	B3.6	C1.2	C1.0	C2.0	C2.1
18	B1.6	B3.0	B3.9	B3.2	B4.0	B6.7	B2.8	B5.3	B8.0	B8.1	C1.3	C2.8
19	B1.4	B3.3	B5.5	B2.9	B2.6	B9.2	B2.7	B4.8	B8.3	B8.4	C1.9	C2.0
20	B1.2	B4.4	B5.1	B3.2	B2.6	B4.5	B2.7	B6.9	B6.8	B6.6	C2.2	C2.3
21	B1.3	B3.8	B4.7	B4.1	B3.5	B6.5	B2.8	B7.2	B7.3	C1.1	C2.3	C2.7
22	A9.9	B3.7	B3.1	B5.8	B4.6	B7.2	B2.7	C1.0	B8.2	B8.3	C1.8	C2.1
23	B1.0	B6.0	B2.2	B8.8	B9.8	B6.1	B7.4	B8.8	B8.0	B5.1	C2.3	C1.9
24	A9.0	B6.8	B2.6	B4.5	C1.2	B6.7	B7.7	B8.1	B6.6	B5.3	C2.1	C1.8
25	A9.0	B6.1	B2.0	B5.3	---	B7.7	B7.3	B8.5	B6.0	B5.7	C1.5	C1.4
26	B9.5	B4.5	B1.5	B3.8	C2.7	B8.0	B7.4	B6.2	B5.3	B7.2	C1.3	C1.3
27	B1.0	B4.0	B1.1	B3.7	C1.1	B8.9	B8.1	B7.3	B6.7	B7.5	C1.9	C1.3
28	B1.2	B3.5	B1.1	B5.0	C1.6	B9.4	B7.3	B6.0	B7.3	B4.2	C1.4	C1.1
29	B2.0	B3.5	B1.1	B7.2	C1.5	B9.9	B9.2	B6.0	B8.4	B4.3	B8.7	C1.1
30		B3.3	B1.6	B8.0	B8.1	B7.8	B9.4	B8.4	B8.0	B4.1	C1.0	C8.9
31		B4.2		B8.5		B9.4	B8.9		B6.7			C1.0

MASS EJECTIONS FROM THE SUN

JANUARY 1989

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
LEAR	Jan 01	0622.0		0623.0			Meter	II
KHAR	Jan 02	0926	0930 U	0938 D	247	0.52	H-alpha	S
LEAR	Jan 06	0641.0		0646.0			Meter	II
SGMR	Jan 06	1801.0		2400.0			Meter	II
PALE	Jan 10	2033.0		2054.0			Meter	II
SGMR	Jan 12	2029.0		2047.0			Meter	II
PALE	Jan 12	2129.0		2146.0			Meter	II
KHAR	Jan 13	0920 E		0935 D	172	0.42	H-alpha	S
KHAR	Jan 13	0928 E		0945	068	0.88	H-alpha	S
KHAR	Jan 13	0931 E		0938	186	0.44	H-alpha	S
WEIS	Jan 13	1012.9		1249			800-300 MHz	IV Decimeter
WEIS	Jan 13	1015.0		1015.7			420-290 MHz	II
LEAR	Jan 13	1016.0		1029.0			Meter	II
WEIS	Jan 13	1018.0		1026.6			120- 30 MHz	II Herringbone
LEAR	Jan 14	0413.0		0431.0			Meter	IV
LEAR	Jan 14	0431.0		0446.0			Meter	II
LEAR	Jan 16	0902.0		0923.0			Meter	II
LEAR	Jan 18	0028.0		0050.0			Meter	II
PALE	Jan 18	0031.0		0044.0			Meter	II
LEAR	Jan 18	0050.0		0530.0			Meter	IV
SGMR	Jan 18	1819.0		1827.0			Meter	II
KHAR	Jan 20	0913 E		0922	303	1.00-1.06	H-alpha	S
KHAR	Jan 20	0958 E		1035 D	077	1.00	H-alpha	S
LEAR	Jan 21	0038.0		0044.0			Meter	II
WEIS	Jan 24	1344.1		1347.3			140- 30 MHz	II Herringbone
SGMR	Jan 24	1358.0		1405.0			Meter	II
KHAR	Jan 25	1010 E	1018 U	1032 D	112	1.00-1.10	H-alpha	S
KHAR	Jan 25	1058 E		1108 D	296	0.91	H-alpha	S
KHAR	Jan 25	1102 E	1110 U	1125 D	112	1.00-1.10	H-alpha	S
WEIS	Jan 28	1413.6		1420.7			140- 30 MHz	II Herringbone
SGMR	Jan 28	1414.0		1420.0			Meter	II
LEAR	Jan 30	0105.0		0333.0			Meter	IV
PALE	Jan 30	0155.0		0204.0			Meter	II
LEAR	Jan 30	0155.0		0205.0			Meter	II
LEAR	Jan 30	0406.0		0407.0			Meter	II
SVTO	Jan 31	1211.0		1216.0			Meter; dekameter	II
WEIS	Jan 31	1211.8		1214.2			150-120 MHz	II

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

REPORTING STATIONS
- KHAR = Kharkov
- LEAR = Learmonth
- PALE = Palehua
- SGMR = Sagamore Hill
- SVTO = San Vito
- WEIS = Weissenau

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

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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	EPL	0345E	0452D	S12	W90	12	25.5			9	9	E	LEAR	5295	
01	ADF	0753E	1503D	S13	W46	12	28.9	1	18	9	9	E	SVTO	5292	
01	AFS	0801E	1503D	S15	W22	12	30.8		02	9	9	E	SVTO	5297	
01	BSL	0803	0817	N29	E90	01	8.4	1-				C	CATA		
01	AFS	0805E	1503D	N19	W49	12	28.7		03	9	9	E	SVTO	5296	
01	AFS	0808E	1503D	S18	W08	12	31.7		03	9	9	E	SVTO	5303	
01	ASR	0910E	1031D	N11	E90	01	8.1			9	9	E	LEAR		
01	BSL	0958E	1005D	N09	E90	01	8.2	1				C	CATA		
01	BSL	0958E	1005D	N10	E90	01	8.2	1-				C	CATA		
01	ASR	1215E	2052D	N10	E90	01	8.3			9	9	E	RAMY		
01	DSD	1230E	2052D	S18	E05	01	1.9		02	9	9	E	RAMY	5301	
01	AFS	1232E	2052D	N16	W50	12	28.8		04	9	9	E	RAMY	5296	
01	AFS	1305E	2052D	S18	W13	12	31.5		02	9	9	E	RAMY	5303	
01	ADF	1312E	2052D	S11	W49	12	29.0	1	17	9	9	E	RAMY	5292	
01	DSD	1312E	2052D	S19	W65	12	27.7		02	9	9	E	RAMY	5292	
01	AFS	1312E	2052D	S20	W57	12	28.3		04	8	9	E	RAMY	5292	
01	DSD	1320E	2033D	S14	W27	12	30.6		02	9	9	E	RAMY	5297	
01	AFS	1320E	2052D	S16	W26	12	30.7		03	8	8	E	RAMY	5297	
01	DSD	1324E	2030D	N24	W71	12	27.2		03	9	9	E	RAMY	5290	
01	DSD	1324E	2052D	N20	W69	12	27.4		03	9	9	E	RAMY	5290	
01	ASR	1903E	0344D	N09	E88	01	8.4			9	9	E	PALE		
01	AFS	1904E	1906D	S18	W16	12	31.6		03	9	9	E	PALE	5303	
01	AFS	1911E	0344D	N17	W54	12	28.8		02	9	9	E	PALE	5296	
01	ADF	1923E	0344D	S16	W56	12	28.7	1	09	9	9	E	PALE	5292	
01	ASR	1930E	2052D	N24	E90	01	8.8			9	9	E	RAMY	5304	
01	SDF	2000E	2205D	S29	W52	12	28.8		12	0	0	E	HOLL	5292	
01	BSD	2000E	2052D	N21	W74	12	27.2		02	9	9	E	RAMY	5290	
01	ASR	2038E	2040D	N24	E87	01	8.6			9	9	E	PALE		
01	APR	2220E	2229	S14	W90	12	26.2	2		9	9	E	HOLL	5295	
01	APR	2220	2320D	S13	W90	12	26.2	2		9	9	E	PALE	5295	
01	EPL	2229E	2305	S14	W90	12	26.2	2		9	9	E	HOLL	5295	
01	AFS	2330E	1034D	S21	W63	12	28.2		03	9	9	E	LEAR	5292	
01	AFS	2331E	1034D	N16	W55	12	28.9		03	9	9	E	LEAR	5296	
01	AFS	2334E	1034D	S15	W31	12	30.7		04	9	9	E	LEAR	5297	
02	APR	0202E	1034D	S32	W90	12	26.0	2		7	8	E	LEAR		
02	ASR	0410E	1034D	N29	E90	01	9.2			9	8	E	LEAR		
02	AFS	0753E	1445D	S19	W05	01	1.9		03	9	9	E	SVTO	5301	
02	ADF	0804E	1445D	S13	W61	12	28.8	1	12	9	9	E	SVTO	5292	
02	AFS	0804E	1445D	S20	W66	12	28.4		05	9	9	E	SVTO	5292	
02	ADF	0804E	1445D	S24	W76	12	27.6	1	05	9	9	E	SVTO	5292	
02	BSL	0815	0820	N30	E90	01	9.4	1-				C	CATA		
02	DSD	0926	0938	S15	W30	12	31.1	1				V	KHAR		
02	ASR	1314E	1445D	N90	E31	01	5.4			9	9	E	SVTO	5304	
02	AFS	1335E	1848D	N15	W65	12	28.7		03	9	9	E	RAMY	5296	
02	ASR	1335E	1848D	N20	W90	12	26.8			9	9	E	RAMY	5290	
02	AFS	1342E	1738D	S21	W71	12	28.2		03	9	9	E	RAMY	5292	
02	ADF	1342E	1848D	S13	W62	12	29.0	1	18	9	9	E	RAMY	5292	
02	AFS	1354E	1848D	S18	W26	12	31.6		02	9	9	E	RAMY	5303	
02	ASR	1427E	1848D	N26	E90	01	9.6			9	9	E	RAMY		
02	AFS	1432E	1848D	N10	E72	01	8.0		03	9	9	E	RAMY	5305	
02	AFS	1436E	1848D	S18	W08	01	2.0		03	9	9	E	RAMY	5301	
02	AFS	1745E	1848D	S15	W42	12	30.6		03	9	9	E	RAMY	5297	
02	ASR	1822E	0353D	N20	W90	12	27.0			9	9	E	PALE	5290	
02	AFS	1826E	0000D	S16	W44	12	30.5		03	9	9	E	PALE	5297	
02	AFS	1826E	0253D	S17	W30	12	31.5		02	9	9	E	PALE	5303	
02	ASR	1826E	1924D	N25	E86	01	9.4			9	9	E	PALE		
02	LPS	1914	1915	N23	W89	12	27.0			9	9	E	PALE	5290	
02	DSD	1919E	0129D	S18	W78	12	28.0		03	9	9	E	PALE	5292	
02	ASR	1928E	0127D	N25	E86	01	9.5			9	9	E	PALE	5207	
02	AFS	1928E	0200D	S18	W12	01	1.9		03	7	7	E	PALE	5305	
02	SDF	2144E	2144D	N22	W25	01	1.0		10	0	0	E	PALE		
02	ASR	2218E	0342D	S19	W88	12	27.3			9	9	E	PALE	5292	
03	ASR	0015E	1010D	N29	E82	01	9.4			9	9	E	LEAR	5307	
03	APR	0017E	1010D	S22	W82	12	27.8			9	9	E	LEAR	5290	
03	ASR	0115E	1010D	S19	W82	12	27.9			9	9	E	LEAR	5290	
03	DSD	0130E	0210D	N10	E70	01	8.3		02	8	8	E	PALE	5305	
03	AFS	0300E	0353D	N09	E68	01	8.2		02	9	9	E	PALE	5305	
03	AFS	0300E	0353D	S13	W12	01	2.2		01	9	9	E	PALE		

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
03	ASR	0830E	1010D	S20	E84	01	9.8			9	9	E	LEAR		
03	ASR	1142E	1735D	N24	E71	01	9.0			9	9	E	RAMY	5307	
03	ASR	1229E	2041D	S19	W89	12	27.8			9	9	E	RAMY	5292	
03	ASR	1326E	2041D	N22	W90	12	27.7			9	9	E	RAMY	5290	
03	SDF	1345E	1440D	S16	W42	12	31.4		05	0	0	E	RAMY	5303	
03	AFS	1510E	2041D	N10	E63	01	8.4		04	9	9	E	RAMY	5305	
03	ASR	1755E	0335D	N21	W90	12	27.9			9	9	E	PALE	5296	
03	ASR	1755E	0335D	S17	W90	12	28.0			9	9	E	PALE	5292	
03	DSD	1755E	2133D	S18	W39	12	31.8		03	9	9	E	PALE	5303	
03	AFS	1826E	0253D	S17	W30	01	1.5		02	9	9	E	PALE	5303	
03	SDF	2003E	2003D	S09	W31	01	1.5		12	0	0	E	PALE		
03	AFS	2025E	0335D	S17	W26	01	1.9		02	9	9	E	PALE	5301	
03	ASR	2310E	1031D	N17	W84	12	28.7			9	6	E	LEAR	5296	
03	AFS	2310E	1031D	S18	W26	01	2.0		02	9	9	E	LEAR	5301	
03	AFS	2310E	1031D	S18	W45	12	31.5		02	9	8	E	LEAR	5303	
03	ASR	2310E	1031D	S20	W87	12	28.4			9	9	E	LEAR	5292	
04	DSD	0030E	0222D	S18	W48	12	31.4		04	9	9	E	PALE	5303	
04	SSB	0200		204	W37	01	4.4			0	0	E	PALE		
04	AFS	0222E	0335D	N09	E55	01	8.2		03	9	9	E	PALE	5305	
04	ASR	0335E	1031D	S32	E90	01	11.3			9	9	E	LEAR		
04	ASR	0347E	1031D	N27	E82	01	10.5			9	9	E	LEAR		
04	ASR	0355E	1031D	N23	W89	12	28.4			9	9	E	LEAR	5298	
04	APR	0357E	1031D	N27	W90	12	28.2	2		9	9	E	LEAR	5298	
04	ASR	0822E	1428D	S30	E90	01	11.4			9	9	E	SVTO		
04	AFS	0905E	1252D	S19	W52	12	31.4		02	9	9	E	SVTO	5303	
04	AFS	0907E	1252D	S19	W32	01	1.9		03	9	9	E	SVTO	5301	
04	ASR	0909E	1252D	N15	W90	12	28.7			9	9	E	SVTO	5296	
04	APR	0924E	1252D	S19	W90	12	28.6			9	9	E	SVTO	5292	
04	ASR	0927E	1252D	S44	W90	12	28.0			9	9	E	SVTO	5300	
04	ASR	1119E	1252D	S21	W90	12	28.7			9	9	E	SVTO	5292	
04	AFS	1201E	2122D	S18	W34	01	1.9		04	9	9	E	RAMY	5301	
04	AFS	1201E	2122D	S19	W52	12	31.5		03	9	9	E	RAMY	5303	
04	ASR	1213E	1920D	N18	W90	12	28.7			9	9	E	RAMY	5296	
04	APR	1213E	2122D	S17	W90	12	28.8			9	9	E	RAMY	5292	
04	ASR	1213E	2122D	S42	W90	12	28.2			9	9	E	RAMY	5300	
04	BSD	1248E	1252D	S16	W73	12	30.1		02	9	9	E	SVTO	5297	
04	ADF	1319E	2122D	S20	W51	12	31.6	1	12	9	9	E	RAMY	5303	
04	ASR	1536E	1639D	N37	E89	01	11.8			9	9	E	RAMY		
04	AFS	1639E	2122D	N10	E48	01	8.3		02	9	9	E	RAMY	5305	
04	AFS	2104E	0349D	S16	W39	01	1.9		03	7	7	E	PALE	5301	
04	AFS	2114E	0349D	S17	W58	12	31.5		03	9	9	E	PALE	5303	
04	AFS	2120E	0349D	N09	E45	01	8.3		03	9	9	E	PALE	5305	
04	ASR	2130E	0349D	S41	W90	12	28.6			9	9	E	PALE	5300	
04	APR	2300E	0349D	S10	W90	12	29.3	1		9	9	E	PALE	5292	
05	ASR	0029E	0532D	S17	E87	01	11.6			9	9	E	LEAR		
05	ASR	0031E	1031D	S43	W84	12	29.2			9	9	E	LEAR	5300	
05	AFS	0038E	1031D	N10	E43	01	8.2		03	9	9	E	LEAR	5305	
05	AFS	0040E	0535D	N27	E55	01	9.3		03	9	9	E	LEAR	5307	
05	AFS	0041E	1031D	S18	W40	01	2.0		01	9	9	E	LEAR	5301	
05	ASR	0050E	1031D	N38	E81	01	11.6			9	9	E	LEAR		
05	ASR	0315E	1031D	S31	E86	01	11.9			9	9	E	LEAR		
05	ASR	0330E	0558D	S43	W88	12	29.0			9	9	E	LEAR	5300	
05	ASR	0822E	1428D	S30	E90	01	12.4			9	9	E	SVTO		
05	ASR	1301E	2148D	S32	E90	01	12.7			9	9	E	RAMY		
05	ASR	1311E	2044D	N30	E90	01	12.6			9	9	E	RAMY		
05	AFS	1311E	2148D	S19	W67	12	31.4		02	9	9	E	RAMY	5303	
05	ADF	1311E	2148D	S21	W64	12	31.6	1	08	9	9	E	RAMY	5303	
05	AFS	1321E	2148D	S17	W48	01	1.9		02	9	9	E	RAMY	5301	
05	ASR	1327E	2148D	S17	W83	12	30.3			9	9	E	RAMY	5297	
05	DSD	1342E	1552D	S12	W43	01	2.3		03	9	9	E	RAMY	5308	
05	ASR	1836E	0000D	S32	E09	01	6.5			9	9	E	HOLL		
05	ASR	1844E	0000D	S15	W90	12	30.1			9	9	E	HOLL	5297	
05	AFS	1848E	0000D	S17	W51	01	1.9	1	05	9	8	E	HOLL	5301	
05	ASR	2020E	0346D	S32	E89	01	12.9			9	9	E	PALE		
05	ASR	2214E	2317D	N38	E90	01	13.2			6	9	E	HOLL		
05	AFS	2308E	0000D	N22	E19	01	7.4		01	9	9	E	HOLL	5304	
05	ASR	2320E	0758D	S14	W90	12	30.3			9	9	E	LEAR	5297	
05	ASR	2320E	1034D	S32	E90	01	13.1			9	9	E	LEAR		

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
05	ASR	2347E	2350D	N18	E90	01	12.8			9	9	E	PALE		
05	ASR	2358E	0346D	S14	W90	12	30.3			8	9	E	PALE	5297	
06	AFS	0107E	0346D	S22	E55	01	10.3		02	9	9	E	PALE	5309	
06	BSL	0906E	0906D	N88	W90	12	29.1	1-				C	CATA		
06	ADF	1008E	1424D	S17	W82	12	31.2	1	08	9	9	E	SVTO	5303	
06	ADF	1014E	1424D	S16	E52	01	10.4	1	05	9	9	E	SVTO	5309	
06	ASR	1025E	1424D	S31	E86	01	13.2			9	9	E	SVTO		
06	AFS	1032E	1424D	N28	E34	01	9.1		01	9	9	E	SVTO	5307	
06	ADF	1101E	1424D	S15	E63	01	11.2	1	03	9	9	E	SVTO	5311	
06	AFS	1102E	1424D	S12	E71	01	11.8		01	9	9	E	SVTO	5311	
06	ADF	1108E	1424D	N41	E65	01	11.8	1	04	9	9	E	SVTO		
06	ADF	1312E	1701D	S17	W69	01	1.3	1	09	9	9	E	RAMY	5303	
06	ADF	1312E	2107D	S16	E46	01	10.0	2	12	9	9	E	RAMY	5309	
06	ASR	1312E	2107D	S30	E87	01	13.4			9	9	E	RAMY	5312	
06	ASR	1510E	0001D	S34	E90	01	13.8			9	9	E	HOLL	5312	
06	ADF	1731E	2107D	S20	E46	01	10.2	1	06	9	9	E	RAMY	5309	
06	ADF	1755E	2107D	N37	E58	01	11.4	1	25	9	9	E	RAMY		
06	ASR	1925E	0343D	S35	E90	01	14.0			9	9	E	PALE	5312	
06	AFS	2000E	2107D	N27	E30	01	9.2		02	9	9	E	RAMY	5307	
06	ASR	2249E	1053D	S19	W90	12	31.1			8	7	E	LEAR	5303	
06	ASR	2300E	0001D	S22	W90	12	31.0			9	9	E	HOLL	5303	
06	ADF	2303E	0001D	S17	E41	01	10.1	1	07	9	9	E	HOLL	5309	
06	AFS	2306E	1053D	S26	E37	01	9.8		03	9	7	E	LEAR	5310	
06	ASR	2312E	1053D	S34	E84	01	13.7			9	9	E	LEAR	5312	
06	AFS	2315E	0001D	S19	W69	01	1.7		01	9	9	E	HOLL	5301	
06	DSD	2315E	2349D	S20	W72	01	1.5		03	9	9	E	HOLL	5301	Flare Associated
06	ADF	2356E	1053D	N11	E17	01	8.3		14	9	9	E	LEAR	5305	
07	BSD	0237	0259D	S18	W74	01	1.5		07	9	9	E	LEAR	5301	
07	BSL	0755E	0822D	S36	E90	01	14.5	1				C	ABST		
07	BSL	0843E	0950D	S35	E90	01	14.6	2				C	CATA		
07	BSL	0848	0905D	S74	W90	12	30.2	1-				C	CATA		
07	BSL	1025E	1102D	S38	E90	01	14.7	1				C	CATA		
07	EPL	1025E	1102D	S52	E90	01	15.1	2				C	CATA		
07	BSL	1035	1102D	S22	W90	12	31.5	1				C	CATA		
07	ASR	1156E	2049D	S20	W90	12	31.6			9	9	E	RAMY	5303	
07	ADF	1156E	2049D	S23	W71	01	2.0	1	05	9	9	E	RAMY	5301	
07	ADF	1212E	2049D	N10	E10	01	8.2	1	15	9	9	E	RAMY	5305	
07	DSD	1215E	2049D	S15	E47	01	11.1		05	9	9	E	RAMY	5311	Flare Associated
07	AFS	1215E	2049D	S15	E57	01	11.8		03	9	9	E	RAMY	5311	
07	SDF	1219E	0829D	S45	E38	01	10.7		18	0	0	E	SVTO		
07	DSD	1238E	1947D	S33	E78	01	13.7		03	9	9	E	RAMY	5312	
07	ASR	1238E	2028D	S34	E90	01	14.7			9	9	E	RAMY	5312	
07	ADF	1249E	2049D	N36	E43	01	11.0	1	19	9	9	E	RAMY		
07	ASR	1523E	2206D	S21	W90	12	31.7			9	9	E	HOLL	5303	
07	APR	1530E	0002D	S29	E90	01	14.7	1		9	9	E	HOLL		
07	DSD	1550E	2056D	N13	E45	01	11.0		03	9	9	E	HOLL	5311	
07	APR	1600E	2049D	S26	E90	01	14.6			9	9	E	RAMY	5312	
07	ASR	1653E	2049D	S19	W81	01	1.5			9	9	E	RAMY	5301	
07	DSD	1748E	2025D	S20	W79	01	1.7		03	9	9	E	RAMY	5301	
07	ASR	1840E	0002D	S19	W80	01	1.7			9	9	E	HOLL	5301	
07	ASR	2000E	0334D	S16	W87	01	1.2			9	9	E	PALE	5301	
07	DSD	2000E	0334D	S17	E43	01	11.1		04	9	9	E	PALE	5311	
07	SDF	2049E	1156D	S24	E13	01	8.9		14	0	0	E	RAMY		
07	SDF	2049E	1156D	S62	E56	01	12.8		35	0	0	E	RAMY		
07	BSL	2258E	0520	S17	W87	01	1.3			9	9	E	LEAR	5301	
08	BSL	0304E	0530D	N33	E90	01	15.3			9	9	E	LEAR		
08	EPL	0306E	0309D	N31	E90	01	15.2			9	9	E	PALE		
08	ASR	0530E	1025D	N33	E90	01	15.4			9	9	E	LEAR		
08	BSL	0732E	0842D	N30	E90	01	15.4	1				C	ABST		
08	BSL	0746E	0848D	S30	E90	01	15.4	1				C	ABST		
08	ADF	0820E	1025D	S12	E35	01	11.0	1	05	9	9	E	LEAR	5311	
08	ASR	0840E	1441D	S20	W90	01	1.5			9	9	E	SVTO	5301	
08	ADF	0908E	1441D	S11	E36	01	11.1	1	08	9	9	E	SVTO	5311	
08	AFS	0908E	1441D	S13	E43	01	11.6		02	9	9	E	SVTO	5311	
08	BSL	1040	1050	N27	E90	01	15.4	1-				C	CATA		
08	BSL	1040	1100	S21	W90	01	1.5	1				C	CATA		
08	BSL	1100	1105D	N28	E90	01	15.5	1-				C	CATA		

JANUARY 1989

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	ASR	1205E	1441D	N28	E90	01	15.5			9	9	E	SVTO		
08	APR	1206E	1441D	S27	E88	01	15.4	1		9	9	E	SVTO		
08	APR	1206E	1441D	S27	E88	01	15.4	1		9	9	E	SVTO		
08	APR	1207E	1441D	N23	E89	01	15.4	1		9	9	E	SVTO		
08	BSL	1223E	1240D	N27	E90	01	15.5	1-				C	CATA		
08	ASR	1228E	2113D	S19	W90	01	1.6			9	9	E	RAMY	5301	
08	ADF	1253E	2113D	N10	W04	01	8.2	1	15	9	9	E	RAMY	5305	
08	APR	1303E	2113D	S30	E90	01	15.6	1		9	9	E	RAMY		
08	AFS	1322E	1712D	S27	E17	01	9.9		03	9	9	E	RAMY	5310	
08	ADF	1328E	1712D	S14	E29	01	10.7	1	07	9	9	E	RAMY	5311	
08	ADF	1328E	2113D	S14	E33	01	11.0	1	08	9	9	E	RAMY	5311	
08	AFS	1328E	2113D	S15	E42	01	11.7		05	9	9	E	RAMY	5311	
08	ADF	1335E	2113D	N30	E25	01	10.5	1	30	9	9	E	RAMY	5315	
08	APR	1358E	2113D	N21	E90	01	15.5	1		9	9	E	RAMY		
08	ASR	1358E	2113D	N25	E90	01	15.5			8	8	E	RAMY		
08	ASR	1625E	0000D	S19	W90	01	1.8			9	9	E	HOLL	5301	
08	AFS	1654E	2113D	N09	W11	01	7.9		03	9	9	E	RAMY	5305	
08	ADF	1654E	2113D	N14	E04	01	9.0	1	06	7	9	E	RAMY	5305	
08	APR	1810E	2113D	N35	E90	01	15.9	1		7	8	E	RAMY		
08	APR	1830E	0000D	N21	E90	01	15.7	1		9	9	E	HOLL		
08	ASR	1830E	2325D	N21	E90	01	15.7			9	9	E	HOLL		
08	ADF	1832E	0354D	N13	W10	01	8.0	1	10	9	9	E	PALE	5305	
08	APR	1910E	0354D	N16	E90	01	15.6	1		9	9	E	PALE		
08	ASR	1910E	0354D	S17	W90	01	1.9			9	9	E	PALE	5301	
08	ADF	1915E	0000D	S14	E29	01	11.0	1	03	9	9	E	HOLL	5311	
08	APR	1918E	0000D	S28	E90	01	15.8	1		7	8	E	HOLL		
08	SSB	1950		106	W01	01	9.3			0	0	E	PALE		
08	SSB	2038		104	W03	01	9.1			0	0	E	HOLL		
08	SSB	2100		107	W01	01	9.4			0	0	E	RAMY		
08	SDF	2113E	1220D	S16	E09	01	9.6		05	0	0	E	RAMY	5309	
08	SDF	2146E	1931D	S01	W02	01	8.7		04	0	0	E	PALE		
08	SDF	2146E	2146D	S28	W03	01	8.7		10	0	0	E	PALE		
08	SDF	2146E	2146D	S50	W31	01	6.3		09	0	0	E	PALE		
08	ASR	2240E	1054D	S19	W90	01	2.1			9	9	E	LEAR	5301	
08	ASR	2242E	1054D	N22	E88	01	15.7			9	9	E	LEAR		
08	ASR	2242E	1054D	N36	E85	01	15.8			9	9	E	LEAR		
08	AFS	2243E	1054D	S14	E35	01	11.6		02	9	9	E	LEAR	5311	
08	ASR	2245E	1054D	S27	E89	01	15.9			9	9	E	LEAR		
08	ADF	2330E	0700D	N13	W13	01	8.0	1	07	9	9	E	LEAR	5305	
09	ADF	0120E	0720D	N28	E24	01	10.9	1	07	9	9	E	LEAR	5315	
09	ADF	0125E	0354D	N30	E13	01	10.1	1	07	9	9	E	PALE	5315	
09	DSD	0125E	0354D	N30	E20	01	10.6		05	9	9	E	PALE	5315	Flare Associated
09	BSL	0705E	0749	N22	E90	01	16.2			9	9	E	LEAR		
09	BSL	0737E	0757	N24	E90	01	16.3	2				C	CATA		
09	ASR	0800E	1447D	S21	W90	01	2.4			9	9	E	SVTO	5301	
09	ASR	0801E	1447D	N20	E90	01	16.2			9	9	E	SVTO		
09	BSL	0820	0830D	S23	W90	01	2.4	1				C	CATA		
09	ASR	0826E	1447D	N29	E88	01	16.2			9	9	E	SVTO		
09	ADF	0911E	1447D	S27	E45	01	12.9	1	06	9	9	E	SVTO	5312	
09	BSL	1126E	1130	N40	W90	01	2.1	1-				C	CATA		
09	BSL	1138	1147	S15	E90	01	16.3	1-				C	CATA		
09	BSL	1151	1211	S19	W90	01	2.6	1				C	CATA		
09	ADF	1207E	2145D	S17	E03	01	9.7	1	07	9	9	E	RAMY	5309	
09	ADF	1210E	2035D	S15	E17	01	10.8	1	04	9	9	E	RAMY	5311	
09	ADF	1215E	2145D	N40	E32	01	12.1	1	20	9	9	E	RAMY	5315	
09	ASR	1232E	2145D	S18	W90	01	2.7			9	9	E	RAMY	5301	
09	ADF	1236E	2145D	S29	E75	01	15.4	2	06	7	5	E	RAMY	5316	
09	ASR	1248E	2145D	N26	E87	01	16.3			9	9	E	RAMY		
09	ASR	1519E	0004D	S21	W90	01	2.7			9	9	E	HOLL	5301	
09	ADF	1534E	0004D	N34	E17	01	11.0		04	9	9	E	HOLL	5315	
09	ASR	1543E	0004D	N18	E90	01	16.5	1		9	9	E	HOLL		
09	LPS	1937	2052	S33	E41	01	13.1			9	9	E	HOLL	5312	Flare Associated
09	LPS	1940E	2105D	S32	E42	01	13.1			9	9	E	RAMY	5312	Flare Associated
09	LPS	1948E	1949D	S33	E41	01	13.1			9	9	E	PALE	5312	Flare Associated
09	ASR	2014E	0330D	S19	W90	01	3.0			9	9	E	PALE	5301	
09	AFS	2230E	0758D	N09	W19	01	8.5		02	9	9	E	LEAR	5305	
09	AFS	2230E	1043D	N26	W08	01	9.3		03	9	9	E	LEAR	5307	
09	AFS	2234E	1043D	S32	E67	01	15.2		02	9	9	E	LEAR	5316	
09	AFS	2240E	1043D	S13	E19	01	11.4		03	9	9	E	LEAR	5311	

ACTIVE PROMINENCES AND FILAMENTS

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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
09	APR	2245E	1043D	N36	E77	01	16.1	2		9	9	E	LEAR		
09	AFS	2320E	0801D	S29	E00	01	10.0		04	9	9	E	LEAR	5309	
09	DSD	2330E	0345D	S15	E19	01	11.4		04	9	9	E	LEAR	5311	
09	ADF	2330E	0700D	N13	W13	01	9.0	1	07	9	9	E	LEAR	5305	
10	ADF	0749E	1223D	S16	E15	01	11.5	1	04	9	9	E	SVTO	5311	
10	ADF	0826E	1500D	N20	W37	01	7.5	1	05	9	9	E	SVTO	5304	
10	ADF	0855E	1500D	N15	W35	01	7.7	1	07	9	9	E	SVTO	5305	
10	AFS	1010E	1500D	S61	E18	01	12.0		03	9	9	E	SVTO		
10	ASR	1011E	1043D	N20	E90	01	17.3			9	9	E	LEAR	5317	
10	ADF	1020E	1500D	N29	E41	01	13.6	1	05	9	9	E	SVTO		
10	BSL	1101	1115	N59	W90	01	2.6	1-				C	CATA		
10	ASR	1150E	1204D	N21	E90	01	17.4			9	9	E	SVTO	5317	
10	ADF	1223E	1500D	N26	W07	01	10.0	1	05	9	9	E	SVTO	5315	
10	BSL	1230	1237D	N20	E90	01	17.4	1				C	CATA		
10	ADF	1230E	2148D	S35	E46	01	14.2	1	04	9	9	E	RAMY	5312	
10	ADF	1303E	1648D	S38	E65	01	15.8	1	04	9	9	E	RAMY	5316	
10	ASR	1330E	2148D	N17	E90	01	17.4			9	9	E	RAMY		
10	ADF	1531E	0005D	N34	E04	01	11.0	1	08	9	9	E	HOLL	5315	
10	ASR	1546E	0005D	N18	E90	01	17.5			9	9	E	HOLL		
10	ADF	1648E	2148D	S30	E65	01	15.8	2	12	9	9	E	RAMY	5316	
10	ADF	1648E	2148D	S33	E60	01	15.5	2	03	9	9	E	RAMY	5316	
10	ADF	1722E	2148D	N34	E04	01	11.0	1	06	9	9	E	RAMY	5315	
10	DSD	1735E	2148D	N10	W41	01	7.6		02	9	9	E	RAMY	5305	
10	ADF	1800E	1223D	N33	E04	01	11.1	1	07	9	9	E	SVTO	5315	
10	ASR	1808E	0211D	N14	E88	01	17.4			9	9	E	PALE		
10	ADF	1808E	0211D	S26	E51	01	14.7	1	12	9	9	E	PALE	5316	
10	LPS	2052E	2126D	S31	E30	01	13.2			7	9	E	HOLL	5312	Flare Associated
10	LPS	2055E	2320D	S30	E32	01	13.4			7	7	E	PALE	5312	Flare Associated
10	LPS	2057E	2148D	S31	E29	01	13.2			8	9	E	RAMY	5312	Flare Associated
10	ADF	2100E	0005D	S34	E61	01	15.7	1	04	9	9	E	HOLL	5316	
10	APR	2102E	2148D	N35	E90	01	18.1	1		9	9	E	RAMY		
10	APR	2114E	0005D	N41	E90	01	18.2	1		9	9	E	HOLL		
10	APR	2235E	1043D	N15	W90	01	4.1			9	9	E	LEAR	5314	
10	AFS	2237E	1043D	N27	W23	01	9.1		03	9	9	E	LEAR	5307	
10	ASR	2240E	1043D	N18	E88	01	17.6			9	9	E	LEAR		
10	AFS	2245E	1043D	S19	E53	01	15.0		01	9	9	E	LEAR	5319	
10	ADF	2247E	0833D	S35	W02	01	10.8	2	10	9	9	E	LEAR	5315	
10	AFS	2257E	1043D	S25	W13	01	9.9		02	9	9	E	LEAR	5310	
10	AFS	2300E	1043D	S32	E56	01	15.4		02	9	9	E	LEAR	5316	
11	BSL	0852E	0900	N22	E90	01	18.3	1				C	CATA		
11	BSL	0923	0930D	N22	E90	01	18.3	1-				C	CATA		
11	BSL	1058E	1112D	N25	W90	01	4.5	1				C	ABST		
11	BSL	1058E	1112D	N44	E90	01	18.9	1				C	ABST		
11	BSL	1130	1137	N38	W90	01	4.2	1-				C	CATA		
11	APR	1536E	0006D	N42	E90	01	19.0	1		8	9	E	HOLL		
11	DSD	1542E	1716D	S37	E33	01	14.3		03	9	9	E	HOLL	5312	Flare Associated
11	DSD	1549E	1716D	S34	E22	01	13.4		02	9	9	E	HOLL	5312	Flare Associated
11	DSD	1557E	1745D	N12	W41	01	8.6		04	9	9	E	HOLL	5305	
11	AFS	1710E	0006D	S26	W24	01	9.8		02	9	9	E	HOLL	5310	
11	AFS	1745E	0006D	N12	W42	01	8.6		02	9	9	E	HOLL	5305	
11	ADF	2130E	0006D	S31	E43	01	15.3	1	03	7	7	E	HOLL	5316	
12	AFS	0054E	0530D	S25	W27	01	9.9		03	9	9	E	LEAR	5310	
12	ADF	0107E	1054D	S15	W02	01	11.9		11	9	9	E	LEAR	5311	
12	ADF	1412E	1916D	S33	E39	01	15.7	1	14	9	9	E	RAMY	5316	
12	ADF	1418E	1916D	N40	E37	01	15.6	1	07	9	9	E	RAMY		
12	ADF	1430E	1916D	N10	W59	01	8.2	1	03	9	9	E	RAMY	5305	
12	ADF	1430E	1916D	N13	W54	01	8.5	1	02	9	9	E	RAMY	5305	
12	ADF	1610E	1821D	S23	E34	01	15.3	3	09	9	9	E	RAMY	5319	
12	SDF	1621E	1821D	S23	E34	01	15.3		09	9	9	E	RAMY	5319	
12	DSD	2210E	0007D	N20	E44	01	16.3		02	9	9	E	HOLL	5317	
13	DSD	0046E	0105	N13	W59	01	8.6		06	9	9	E	LEAR	5305	Flare Associated
13	DSD	0400E	0434D	N40	E25	01	15.2		12	9	9	E	LEAR	5318	Flare Associated
13	ADF	0650E	0814D	S40	E07	01	13.8	1	07	0	9	E	LEAR	5312	
13	BSL	0856	0856D	N80	W90	01	5.0	1-				C	CATA		
13	DSD	0920E	0935	S28	E03	01	13.6	1				V	KHAR		
13	DSD	0928E	0945	N17	E60	01	17.9	1				V	KHAR		

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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	DSD	0931E	0938	S30	W03	01	13.2	1				V	KHAR		
13	ADF	1038E	1048D	S24	E24	01	15.3	1				V	KHAR		
13	AFS	1229E	1455D	S26	W52	01	9.5		03	9	9	E	SVTO	5310	
13	ADF	1233E	1455D	N29	W43	01	10.1	1	04	9	9	E	SVTO	5315	
13	ADF	1238E	1455D	N28	E33	01	16.1	1	19	9	9	E	SVTO	5318	
13	ADF	1817E	2135D	S26	E14	01	14.8	2	07	8	9	E	RAMY	5316	
13	ADF	1817E	2135D	S29	E22	01	15.5	1	04	8	8	E	RAMY	5316	
13	ADF	1828E	2135D	S17	W31	01	11.4	1	07	9	9	E	RAMY	5311	
13	AFS	1838E	2135D	N21	E31	01	16.1		03	9	9	E	RAMY	5317	
13	ASR	1915E	2135D	N29	W88	01	6.9			9	9	E	RAMY	5304	
13	ADF	1930E	2135D	S25	W49	01	10.0	1	05	9	9	E	RAMY		
13	ADF	1930E	2135D	S26	W44	01	10.4	1	04	9	9	E	RAMY		
13	ADF	1930E	2135D	S31	W41	01	10.6	1	08	9	9	E	RAMY	5315	
13	SDF	2135E	1142D	N32	W01	01	13.8		10	0	0	E	RAMY		
13	ADF	2330E	0008D	S30	E20	01	15.5	1	06	9	9	E	HOLL	5316	
14	APR	0132E	0300D	N15	W90	01	7.2	1				C	VORO		
14	APR	0200	0300D	N28	W90	01	7.0	1				C	VORO		
14	ASR	0207E	0235D	N12	W75	01	8.4			9	9	E	LEAR	5305	Flare Associated
14	AFS	0810E	1040D	N21	E23	01	16.1		03	9	9	E	LEAR	5317	
14	BSL	0847E	0856	N22	E90	01	21.3	1-				C	CATA		
14	BSL	0847E	0905D	N21	E90	01	21.3	1-				C	CATA		
14	BSL	0935	0945	N17	E90	01	21.2	1-				C	CATA		
14	BSL	0935	0958	N20	E90	01	21.3	1-				C	CATA		
14	ASR	1000E	1513D	N21	E90	01	21.3			9	9	E	SVTO		
14	BSL	1015	1025	N21	E90	01	21.3	1-				C	CATA		
14	BSL	1015	1030	N19	E90	01	21.3	1-				C	CATA		
14	BSL	1015	1050D	N22	E90	01	21.3	1-				C	CATA		
14	DSD	1030E	1317D	N23	E22	01	16.1		03	9	9	E	SVTO	5317	
14	ADF	1153E	1513D	N27	E25	01	16.4	1	04	9	9	E	SVTO	5318	
14	ADF	1153E	1513D	N28	E33	01	17.1	1	07	9	9	E	SVTO	5318	
14	ADF	1153E	1513D	N32	E20	01	16.1	1	10	9	9	E	SVTO		
14	BSL	1211E	1220	N22	E90	01	21.4	1-				C	CATA		
14	ADF	1320E	2148D	N34	W45	01	11.0	1	07	9	9	E	RAMY	5315	
14	ASR	1330E	2148D	N19	E90	01	21.4			9	9	E	RAMY		
14	ADF	1330E	2148D	S30	E14	01	15.7	1	14	9	9	E	RAMY	5316	
14	AFS	1347E	2148D	N21	E20	01	16.1		05	9	9	E	RAMY	5317	
14	AFS	1350E	1513D	N23	E17	01	15.9		04	9	9	E	SVTO	5317	
14	ADF	1353E	1525D	N32	E23	01	16.4	1	09	9	9	E	RAMY	5318	
14	ADF	1353E	2148D	N24	E32	01	17.0	1	06	9	9	E	RAMY	5318	
14	ADF	1400E	2148D	N33	E39	01	17.7	3	45	9	9	E	RAMY		
14	ADF	1400E	2148D	S31	E35	01	17.3	1	16	9	9	E	RAMY		
14	ADF	1525E	2148D	N25	E11	01	15.5	1	06	9	9	E	RAMY		
14	DSD	1600E	1830D	S37	W10	01	13.9		05	9	9	E	RAMY	5312	
14	ADF	1656E	2148D	N15	E43	01	18.0	1	07	9	9	E	RAMY	5321	
14	ADF	1756E	0010D	S17	W45	01	11.3	1	09	9	9	E	HOLL	5311	
14	AFS	1800E	0010D	N21	E19	01	16.2	1	04	7	9	E	HOLL	5317	
14	ASR	1900E	2010D	N12	W90	01	8.0			8	8	E	HOLL	5305	
14	ADF	1917E	0137D	N16	E45	01	18.2		05	9	9	E	PALE	5321	
14	AFS	1917E	0137D	N22	E19	01	16.3		03	9	9	E	PALE	5317	
14	ADF	1917E	0137D	S13	W40	01	11.8		10	9	9	E	PALE	5311	
14	AFS	2240E	0601D	S22	E29	01	17.2		02	9	9	E	LEAR	5320	
14	AFS	2241E	1028D	N21	E15	01	16.1		03	9	9	E	LEAR	5317	
14	ASR	2245E	1028D	N27	W76	01	9.0			9	9	E	LEAR	5307	
14	ADF	2250E	1028D	N17	E36	01	17.7	1	05	9	9	E	LEAR	5321	
15	SDF	0151E	0135D	N37	E30	01	17.5		41	0	0	E	LEAR		
15	BSD	0415	0503D	S33	W27	01	13.0		05	9	9	E	LEAR	5312	
15	ADF	0512E	1028D	N17	E16	01	16.4	1	03	9	9	E	LEAR	5317	
15	BSL	0722E	0948D	N20	E90	01	22.2	1				C	ABST		
15	BSL	0722E	0948D	N40	W90	01	8.0	1				C	ABST		
15	BSL	0722E	0948D	N46	E90	01	22.8	1				C	ABST		
15	BSL	0801	0805	N28	W90	01	8.3	1-				C	CATA		
15	BSL	0905	0915	N25	W90	01	8.4	1-				C	CATA		
15	ASR	1022E	1428D	N26	W90	01	8.4			9	9	E	SVTO	5307	
15	AFS	1120E	1428D	N23	E07	01	16.0		04	9	9	E	SVTO	5317	
15	SDF	1240E	0748D	N50	E35	01	18.5	2				C	CATA		
15	ASR	1258E	2113D	N28	W90	01	8.5			9	9	E	RAMY	5307	
15	AFS	1258E	2113D	S21	W06	01	15.1		02	9	9	E	RAMY	5319	
15	ADF	1330E	2113D	N20	W02	01	15.4	1	05	9	9	E	RAMY	5317	

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
15	ADF	1344E	2113D	N16	E31	01	17.9	1	08	9	9	E	RAMY	5321	
15	ADF	1344E	2113D	N20	E31	01	17.9	1	09	9	9	E	RAMY	5321	
15	ADF	1420E	2113D	N31	E70	01	21.1	1	24	9	9	E	RAMY	5323	
15	SDF	1428E	0728D	N67	E45	01	19.6		32	0	0	E	SVTO		
15	ADF	1432E	2113D	S26	W10	01	14.8	1	11	9	9	E	RAMY	5316	
15	ADF	1432E	2113D	S29	W03	01	15.4	1	08	9	9	E	RAMY	5316	
15	DSD	1442E	1730D	S32	W32	01	13.1		03	9	9	E	RAMY	5312	
15	DSD	1442E	1730D	S33	W34	01	12.9		04	9	9	E	RAMY	5312	
15	ASR	1542E	2245D	N28	W90	01	8.6			9	9	E	HOLL	5307	
15	APR	1545E	0010D	N17	E90	01	22.5	1		8	8	E	HOLL		
15	SDF	1558E	1732D	N35	E24	01	17.6		40	8	9	E	HOLL		
15	SDF	1600E	1723D	N41	E26	01	17.8		10	0	0	E	RAMY		
15	BSL	1617E	1701D	N25	W90	01	8.7			9	9	E	HOLL	5307	
15	ADF	1720E	1845D	N38	E24	01	17.7	1	09	9	9	E	RAMY		
15	ADF	1720E	1845D	N51	E32	01	18.4	1	21	9	9	E	RAMY		
15	SDF	1720E	1847D	N38	E24	01	17.7		09	0	0	E	RAMY		
15	SDF	1720E	1847D	N51	E32	01	18.4		21	0	0	E	RAMY		
15	ADF	1755E	2113D	S35	W27	01	13.6	1	11	8	7	E	RAMY	5312	
15	AFS	1905E	0331D	N22	E05	01	16.2		03	9	9	E	PALE	5317	
15	SDF	1905E	1905D	N37	E20	01	17.4		40	0	0	E	PALE		
15	ASR	1905E	2247D	N28	W90	01	8.8			9	9	E	PALE	5307	
15	ASR	2015E	2113D	N14	W90	01	9.0			9	9	E	RAMY	5305	
15	AFS	2240E	1040D	N21	E02	01	16.1		04	9	9	E	LEAR	5317	
15	ADF	2242E	1040D	S32	W04	01	15.6	2	07	9	9	E	LEAR	5316	
15	AFS	2245E	0454D	N19	E28	01	18.1		01	8	8	E	LEAR	5321	
15	ADF	2248E	1040D	N40	W08	01	15.3	2	11	9	9	E	LEAR		
15	DSD	2255E	0405	N31	W02	01	15.8		07	9	9	E	LEAR	5316	
15	ADF	2255E	2257D	N30	W10	01	15.2	1	10	9	9	E	PALE		
16	ASR	0200	1040D	N26	W80	01	9.9			9	9	E	LEAR	5307	
16	BSL	0218E	0234D	N24	W90	01	9.1	1				V	VORO		
16	ADF	0225E	1040D	N17	E04	01	16.4	2	06	9	9	E	LEAR	5317	
16	DSD	0316	0432	N19	E22	01	17.8		04	9	9	E	LEAR	5321	
16	BSD	0525	0601D	S32	W35	01	13.4		04	8	8	E	LEAR	5312	
16	ADF	0533E	1040D	S29	W32	01	13.7	1	08	9	9	E	LEAR	5312	
16	ADF	0830E	1317D	N23	W07	01	15.8	1	04	8	8	E	SVTO	5317	
16	BSL	0833E	0840	N55	E90	01	24.1	1-				C	CATA		
16	BSL	0833E	0846D	S22	E90	01	23.3	1-				C	CATA		
16	EPL	0856E	0933	N28	E90	01	23.4	3+				C	CATA		
16	APR	0902E	0921D	N31	E90	01	23.5	1		9	9	E	SVTO		
16	ASR	0920E	1040D	N16	E90	01	23.2			9	9	E	LEAR		
16	BSL	0959	1035D	N23	E90	01	23.3	1				C	CATA		
16	BSL	1027	1035	S73	E90	01	24.7	1-				C	CATA		
16	BSL	1106	1210	S83	W90	01	8.1	1				C	CATA		
16	BSL	1138	1243D	N25	E90	01	23.4	1				C	CATA		
16	BSL	1212	1243D	N05	W90	01	9.8	1-				C	CATA		
16	BSL	1213	1215	S78	E90	01	24.8	1-				C	CATA		
16	ADF	1217E	1317D	N21	E16	01	17.7	1	04	9	9	E	SVTO	5321	
16	BSL	1231	1241	N13	W90	01	9.7	1				C	CATA		
16	ADF	1242E	2110D	N23	E20	01	18.1	1	04	9	9	E	RAMY	5321	
16	AFS	1449E	2110D	N22	W07	01	16.1		03	9	9	E	RAMY	5317	
16	SSB	1544		345	W00	01	13.3			0	0	E	HOLL		
16	DSD	1548E	2120D	S34	W35	01	13.9		05	9	9	E	HOLL	5312	
16	BSD	1950	2005	S36	W37	01	13.8		05	9	9	E	HOLL	5312	Flare Associated
16	AFS	2325E	0754D	N22	W08	01	16.4		05	9	9	E	LEAR	5317	
16	ADF	2325E	1014D	N19	E12	01	17.9	1	06	9	9	E	LEAR	5321	
17	APR	0011E	0229D	N32	E90	01	24.1	1				C	VORO		
17	APR	0011E	0229D	S34	E90	01	24.2	1				C	VORO		
17	BSL	0810E	0846	N26	E90	01	24.3	1-				C	CATA		
17	ASR	0833E	1014D	N25	E90	01	24.3			9	9	E	LEAR		
17	BSL	0851	1011	N25	E90	01	24.3	1				C	CATA		
17	BSL	1039	1100	N26	E90	01	24.4	1-				C	CATA		
17	BSL	1110	1112D	N25	E90	01	24.4	1-				C	CATA		
17	BSL	1125E	1200	N26	E90	01	24.5	1				C	CATA		
17	BSL	1207	1226	N26	E90	01	24.5	1-				C	CATA		
17	BSL	1230	1240D	N26	E90	01	24.5	1-				C	CATA		
17	AFS	1235E	2148D	N23	W20	01	16.0		03	9	9	E	RAMY	5317	
17	SDF	1240E	0732D	N36	W34	01	14.8	1				C	CATA		
17	SDF	1240E	0732D	N45	W20	01	15.9	1				C	CATA		

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
17	ADF	1254E	2148D	N27	W13	01	16.5	1	08	9	0	E	RAMY	5318	
17	ADF	1254E	2148D	N36	W01	01	17.4	1	18	9	9	E	RAMY	5318	
17	ADF	1309E	2148D	S31	W46	01	13.9	1	05	9	9	E	RAMY	5312	
17	ADF	1352E	2148D	S32	W26	01	15.5	1	07	9	9	E	RAMY	5316	
17	ASR	1432E	1449D	S15	W90	01	10.8			9	9	E	RAMY	5311	
17	AFS	1445E	0011D	N21	W18	01	16.2	1	05	9	9	E	HOLL	5317	
17	ASR	1445E	2148D	N24	E85	01	24.2			9	9	E	RAMY		
17	ADF	1448E	0011D	S31	W55	01	13.3	1	08	9	9	E	HOLL	5312	
17	SDF	1452E	1150D	N26	W35	01	14.9		16	0	0	E	SVTO		
17	SSB	1505		345	W00	01	14.3			0	0	E	HOLL		
17	SDF	1518E	2148D	N47	W40	01	14.3		25	9	9	E	RAMY		
17	ADF	1600E	0011D	N33	W11	01	16.8	1	10	9	9	E	HOLL	5318	
17	SDF	1707E	2345D	N29	W37	01	14.8		15	0	0	E	HOLL		
17	DSD	1835E	1855D	S36	W49	01	13.8		08	9	9	E	HOLL	5312	
17	SSB	1839		370	W23	01	12.4			0	0	E	HOLL		
18	APR	0032E	0228D	N36	W90	01	10.8	1				C	VORO		
18	APR	0051	0228D	N30	E90	01	25.1	1				C	VORO		
18	BSL	1142	1145	S87	E90	01	26.9	1-				C	CATA		
18	BSL	1201	1230	S39	W90	01	11.2	1-				C	CATA		
18	BSL	1201	1230	S40	W90	01	11.2	1				C	CATA		
18	BSL	1226	1231	N83	E90	01	26.9	1-				C	CATA		
18	DSD	1454E	1549D	S34	W59	01	13.9		12	9	9	E	RAMY	5312	
18	DSD	1455E	2353D	S34	W61	01	13.7		18	9	9	E	HOLL	5312	
18	SSB	1510		366	W31	01	13.4			0	0	E	RAMY		
18	ADF	1542E	2146D	N24	W33	01	16.1	1	04	9	9	E	RAMY	5317	
18	SSB	1637		375	W40	01	12.6			0	0	E	HOLL		
18	AFS	1730E	2348D	N22	W32	01	16.3		03	9	9	E	HOLL	5317	
18	ADF	1755E	2353D	S27	W48	01	15.0	1	07	9	9	E	HOLL	5316	
18	LPS	1840	2207D	N26	W28	01	16.6			9	9	E	HOLL	5318	Flare Associated
18	DSD	1900E	2349D	N20	W10	01	18.0		05	9	9	E	HOLL	5321	Flare Associated
19	APR	0102E	0228D	N35	E90	01	26.2	1				C	VORO		
19	BSL	0105E	0210D	S32	E90	01	26.2			9	9	E	LEAR	5326	Flare Associated
19	ASR	0123E	0624D	N31	E89	01	26.1			9	9	E	LEAR		
19	ASR	0440E	0624D	S30	W88	01	12.3			9	9	E	LEAR	5312	
19	ASR	1156E	1315D	S34	W90	01	12.3			9	9	E	SVTO	5312	
19	AFS	1209E	1315D	N22	E11	01	20.3		02	9	9	E	SVTO	5323	
19	ADF	1215E	1315D	N23	W34	01	16.9	1	20	9	9	E	SVTO	5318	
19	AFS	1225E	1315D	N22	W47	01	15.9		03	9	9	E	SVTO	5317	
19	ADF	1259E	1315D	S36	W51	01	15.4	1	12	9	9	E	SVTO	5316	
19	ASR	1710E	0013D	S32	W81	01	13.3			9	9	E	HOLL	5312	
19	AFS	1711E	0013D	N21	E10	01	20.5	1	03	9	9	E	HOLL		
19	ADF	1714E	0013D	S35	W53	01	15.5	2	19	9	9	E	HOLL	5316	
19	ADF	1718E	2214D	N22	W27	01	17.6	2	05	9	9	E	HOLL	5321	
19	SSB	1743		375	W54	01	13.3			0	0	E	HOLL		
19	ASR	1951E	1956D	S29	W90	01	12.8			9	9	E	RAMY	5312	
19	ADF	1951E	1956D	S30	W79	01	13.6	1	06	9	9	E	RAMY	5312	
19	ADF	2216E	0013D	N24	W52	01	15.9	2	07	9	7	E	HOLL	5317	
19	AFS	2242E	0833D	N21	E05	01	20.3		02	9	9	E	LEAR	5328	
19	ASR	2242E	0833D	S31	W89	01	12.9			9	9	E	LEAR	5312	
19	ADF	2245E	0833D	N22	E22	01	21.6	1	07	9	9	E	LEAR	5323	
19	AFS	2248E	0833D	S19	W36	01	17.2		02	9	9	E	LEAR	5320	
19	AFS	2249E	0833D	S19	E58	01	24.4		01	9	9	E	LEAR	5326	
19	ADF	2250E	0833D	S24	E50	01	23.8	2	07	9	9	E	LEAR	5317	
19	ASR	2252E	0013D	N39	W90	01	12.6			9	9	E	HOLL		
19	SDF	2313E	1422D	N55	E90	01	27.7		55	0	0	E	HOLL		
20	BSL	0123	0140	N22	E90	01	27.0	1				C	VORO		
20	APR	0230	0300D	S43	E90	01	27.5	1				C	VORO		
20	SDF	0440	0609	N48	E12	01	21.2	3	44	0	0	E	LEAR		
20	ASR	0705E	0833D	N17	E90	01	27.1			9	9	E	LEAR		
20	ADF	0754E	0820	N34	W50	01	16.3	1				V	KHAR		
20	APR	0754E	0945D	N17	E90	01	27.2	1				V	KHAR		
20	ADF	0829E	1213D	N20	W53	01	16.3	1	06	9	9	E	SVTO	5317	
20	ADF	0900E	0940D	N29	W64	01	15.3	1				V	KHAR		
20	BSL	0913E	0922	N33	W90	01	13.2	1				V	KHAR		
20	BSL	0958E	1035	N13	E90	01	27.2	1				V	KHAR		
20	ASR	1358E	1938D	S34	W90	01	13.4			9	9	E	RAMY	5312	
20	ADF	1415E	1938D	N25	W51	01	16.6	1	10	9	9	E	RAMY	5318	

ACTIVE PROMINENCES AND FILAMENTS

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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	DSD	1421E	1612D	N24	W62	01	15.8		07	9	9	E	RAMY	5316	
20	ADF	1421E	1938D	N18	W57	01	16.2	1	06	9	9	E	RAMY	5317	
20	SDF	1431E	1612D	S16	W57	01	16.3		07	9	9	E	RAMY	5322	
20	ADF	1450E	1938D	N22	E12	01	21.5	1	15	9	9	E	RAMY	5323	
20	SSB	1505		375	W66	01	13.9			0	0	E	HOLL		
20	ASR	1518E	0014D	S33	W90	01	13.5			9	9	E	HOLL	5312	
20	ADF	1524E	1938D	N27	E70	01	26.1	1	20	9	9	E	RAMY		
20	ASR	1538E	1938D	N13	E90	01	27.4			9	9	E	RAMY		
20	ASR	1615E	0014D	N14	E90	01	27.5			9	9	E	HOLL		
20	ADF	1856E	0014D	N20	E44	01	24.1	1	23	9	9	E	HOLL	5324	
20	SDF	1938E	1340D	N26	W61	01	16.1		13	0	0	E	RAMY	5318	
20	ADF	2022E	0014D	N18	W63	01	16.0	1	08	9	9	E	HOLL	5317	
20	ADF	2022E	0014D	N33	W59	01	16.2	1	12	9	9	E	HOLL	5318	
20	ASR	2225E	0014D	S17	E90	01	27.8			9	9	E	HOLL		
20	ASR	2240E	0813D	N18	E82	01	27.2			9	9	E	LEAR	5329	
20	ASR	2245E	0813D	S19	E83	01	27.3			9	9	E	LEAR		
20	ASR	2248E	0813D	S30	W83	01	14.4			9	9	E	LEAR	5316	
20	ADF	2250E	0813D	N26	W65	01	15.9	1	04	9	9	E	LEAR	5317	
21	AFS	0450E	0813D	N17	W35	01	18.5		02	9	9	E	LEAR		
21	BSL	0620E	0900D	S53	W90	01	13.5	1				C	ABST		
21	BSL	0757E	0900D	S10	E90	01	28.1	1				C	ABST		
21	ADF	1101E	1325D	N14	W68	01	16.3	1	03	9	9	E	SVTO	5317	
21	ADF	1138E	2127D	N16	W65	01	16.5	1	06	9	9	E	RAMY	5317	
21	ASR	1142E	1816D	S34	W90	01	14.3			9	9	E	RAMY	5312	
21	ASR	1308E	1813D	N22	W89	01	14.7			9	9	E	RAMY	5317	
21	ADF	1308E	1820D	N15	W11	01	20.7	1	04	9	9	E	RAMY	5328	
21	ADF	1308E	1820D	N21	W17	01	20.2	1	09	9	9	E	RAMY	5328	
21	AFS	1308E	2127D	N17	W39	01	18.6		03	9	9	E	RAMY		
21	ADF	1315E	2127D	N28	E54	01	25.8	1	13	9	9	E	RAMY		
21	ADF	1315E	2127D	N29	E38	01	24.5	1	14	9	9	E	RAMY	5324	
21	ADF	1336E	2127D	S36	W78	01	15.3	1	08	9	9	E	RAMY	5312	
21	ASR	1358E	2127D	S19	E86	01	28.1			9	9	E	RAMY		
21	DSD	1417E	2030D	N17	W56	01	17.3		05	9	9	E	RAMY	5321	
21	DSD	1438E	2029D	N12	E67	01	26.6		05	9	9	E	RAMY	5329	Flare Associated
21	AFS	1438E	2127D	N18	E65	01	26.5		02	9	9	E	RAMY	5329	
21	ADF	1508E	2127D	S41	E57	01	26.3	1	05	9	9	E	RAMY		
21	AFS	1515E	2355D	N17	E67	01	26.7		03	9	9	E	HOLL	5329	
21	ASR	1515E	2355D	S18	E90	01	28.5			9	9	E	HOLL		
21	ADF	1518E	2355D	S40	E56	01	26.2	1	04	9	9	E	HOLL		
21	ADF	1520E	2355D	S33	E57	01	26.2	1	22	9	9	E	HOLL	5326	
21	ADF	1523E	2355D	N29	E58	01	26.2	1	30	8	8	E	HOLL	5324	
21	ADF	1523E	2355D	N35	W68	01	16.2	1	12	9	9	E	HOLL	5318	
21	ASR	1525E	2355D	S32	W90	01	14.5			9	9	E	HOLL	5312	
21	CAP	1540E	2355D	S33	W90	01	14.5		01	8	7	E	HOLL	5312	
21	SSB	1548		375	W79	01	14.7			0	0	E	HOLL		
21	APR	1600E	1700	S11	E90	01	28.4	1		9	9	E	HOLL		
21	DSD	1615E	1813D	N18	W74	01	16.0		03	9	9	E	RAMY	5317	Flare Associated
21	EPL	1628E	1700	S11	E90	01	28.4			9	9	E	HOLL		
21	DSD	1630E	2355D	N19	W76	01	15.9		11	9	9	E	HOLL	5317	Flare Associated
21	ASR	1801E	0029D	S26	W90	01	14.7			9	9	E	PALE	5312	
21	ADF	1813E	0030D	N30	E34	01	24.4	1	12	9	9	E	PALE	5324	
21	ASR	1828E	2127D	S37	W90	01	14.5			9	9	E	RAMY	5312	
21	APR	1849E	2355D	S43	W90	01	14.4	1		9	9	E	HOLL	5312	
21	DSD	1945E	2355D	N27	W70	01	16.4		08	9	9	E	HOLL	5317	
21	ASR	2317E	0618D	N22	W88	01	15.2			9	9	E	LEAR	5317	
21	DSD	2340E	2355D	N24	E34	01	24.6		05	9	9	E	HOLL	5324	
22	APR	0010	0300D	S27	W90	01	15.0	1				C	VORO		
22	BSL	0137	0152	S37	W90	01	14.8	1				C	VORO		
22	APR	0140	0300D	N50	E90	01	29.7	1				C	VORO		
22	DSD	0523E	0618D	N16	W45	01	18.8		07	9	9	E	LEAR	5331	
22	BSL	0820	0820D	N27	W90	01	15.3	1-				C	CATA		
22	BSL	0830E	0835	N27	W90	01	15.3	1-				C	CATA		
22	BSL	0830E	0842D	S65	E90	01	30.4	1-				C	CATA		
22	ASR	1156E	2140D	N22	W90	01	15.6			9	9	E	RAMY	5317	
22	AFS	1220E	2125D	S13	E22	01	24.2		02	9	9	E	RAMY	5326	
22	AFS	1220E	2140D	N26	E53	01	26.6		04	9	9	E	RAMY	5329	
22	ADF	1220E	2140D	N27	E59	01	27.1	1	08	9	9	E	RAMY	5329	
22	AFS	1220E	2140D	S15	W68	01	17.4		02	9	9	E	RAMY	5332	

ACTIVE PROMINENCES AND FILAMENTS

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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
22	ASR	1355E	2140D	S18	E90	01	29.4			9	9	E	RAMY	5330	
22	ADF	1451E	2125D	S18	W25	01	20.7	1	06	9	9	E	RAMY	5328	
22	ADF	1452E	2140D	N25	W13	01	21.6	1	09	9	9	E	RAMY	5323	
22	ADF	1610E	2140D	S16	E70	01	28.0	1	17	9	9	E	RAMY	5330	
22	AFS	1619E	2125D	N16	W53	01	18.7		03	9	9	E	RAMY	5331	
22	ADF	1622E	2140D	N29	E22	01	24.4	1	08	9	9	E	RAMY	5324	
22	ASR	1634E	2140D	N32	W75	01	16.7			9	9	E	RAMY	5318	
22	ASR	1754E	0210D	N27	W90	01	15.7			9	9	E	PALE	5318	
22	AFS	1814E	0401D	N17	E50	01	26.5		02	9	9	E	PALE	5329	
22	APR	1817E	0016D	N24	W90	01	15.8	1		9	9	E	HOLL	5317	
22	ASR	1834E	0016D	N16	W68	01	17.6			9	9	E	HOLL	5321	
22	DSD	1836E	2125D	N16	W70	01	17.5		05	9	9	E	RAMY	5321	
22	ASR	1900E	0401D	S18	E82	01	29.0			9	9	E	PALE	5330	
22	ASR	2213E	0401D	N22	W90	01	16.0			9	9	E	PALE	5317	
22	ASR	2312E	1034D	N20	W90	01	16.1			9	9	E	LEAR	5317	
22	ASR	2334E	0618D	S15	E90	01	29.8			9	9	E	LEAR	5330	
22	ASR	2345E	1034D	S22	E90	01	29.9			9	9	E	LEAR	5330	
22	AFS	2347E	1034D	S20	W33	01	20.5		02	9	9	E	LEAR	5328	
23	AFS	0000E	1034D	N16	E47	01	26.6		03	9	9	E	LEAR	5329	
23	BSL	0736E	0914D	S14	E90	01	30.1	1				C	ABST		
23	BSL	0736E	0914D	S52	E90	01	31.0	1				C	ABST		
23	AFS	1229E	2009D	N16	E38	01	26.4		03	9	9	E	RAMY	5329	
23	ASR	1229E	2009D	N18	E77	01	29.4			9	9	E	RAMY	5330	
23	ADF	1229E	2009D	N23	E45	01	27.0	1	05	9	9	E	RAMY	5329	
23	ASR	1258E	2009D	N18	W82	01	17.3			9	9	E	RAMY	5321	
23	SDF	1353E	1127D	N28	E31	01	26.0		20	0	0	E	RAMY		
23	ADF	1402E	2009D	N31	W24	01	21.7	1	09	9	9	E	RAMY	5323	
23	ADF	1408E	2009D	N31	E12	01	24.5	1	11	9	9	E	RAMY	5324	
23	ADF	1430E	2340D	N31	E12	01	24.5	1	12	9	9	E	HOLL	5324	
23	ADF	1435E	2340D	N24	E44	01	27.0	1	04	9	9	E	HOLL	5329	
23	APR	1437E	2340D	S34	W90	01	16.4	1		9	9	E	HOLL		
23	ADF	1502E	2009D	S42	E33	01	26.3	1	08	9	9	E	RAMY		
23	APR	1558E	2009D	S29	W90	01	16.6	1		9	9	E	RAMY		
23	APR	1558E	2009D	S35	W90	01	16.5	1		9	9	E	RAMY		
23	ASR	1825E	2340D	N18	W90	01	16.9			9	9	E	HOLL	5317	
23	DSD	1829E	2340D	S16	E80	01	29.8		03	9	9	E	HOLL	5330	
24	APR	0130	0300D	S49	W90	01	16.5	2				C	VORO		
24	APR	0141	0300D	N38	W90	01	16.8	1				C	VORO		
24	ASR	0230E	1045D	N19	W90	01	17.2			7	6	E	LEAR	5317	
24	ADF	0300E	1045D	N17	E36	01	26.9	1	08	7	5	E	LEAR	5329	
24	ASR	0300E	1045D	S15	W90	01	17.3			8	5	E	LEAR	5332	
24	AFS	0345E	1045D	N18	E31	01	26.5		02	5	4	E	LEAR	5329	
24	SDF	0646E	0756D	S17	E47	01	27.8		16	0	0	E	LEAR		
24	ADF	0753E	1516D	S19	E53	01	28.4	1	07	9	9	E	SVTO	5330	
24	DSD	0756	1010	S24	E44	01	27.7		05	9	9	E	LEAR	5330	
24	AFS	0814E	1516D	S19	E64	01	29.2		02	9	9	E	SVTO	5330	
24	ADF	0820E	1516D	N17	E32	01	26.8	1	05	9	9	E	SVTO	5329	
24	ADF	0926E	1516D	N22	W03	01	24.2	1	09	9	9	E	SVTO	5324	
24	ADF	0940E	1516D	N19	W40	01	21.3	1	05	9	9	E	SVTO	5323	
24	DSD	1015	1045D	N17	W06	01	24.0		05	9	9	E	LEAR	5324	
24	ASR	1122E	1145D	S23	E90	01	31.4			9	9	E	SVTO		
24	BSL	1126	1139	S23	E90	01	31.4			9	9	E	SVTO		
24	ADF	1139E	2008D	N24	W02	01	24.3	1	04	9	9	E	RAMY	5324	
24	ADF	1207E	2008D	N16	E32	01	26.9	1	05	9	9	E	RAMY	5329	
24	ASR	1207E	2008D	N18	E90	01	31.3			9	9	E	RAMY	5321	
24	ADF	1207E	2008D	N26	E34	01	27.1	1	05	9	9	E	RAMY	5329	
24	ADF	1207E	2008D	N30	W36	01	21.7	1	12	9	9	E	RAMY	5323	
24	BSL	1516	1624D	S24	E90	01	31.6			9	9	E	HOLL		
24	ASR	1516	2322D	S24	E90	01	31.6			9	9	E	HOLL		
24	SDF	1516E	0700D	N42	W02	01	24.5		13	0	0	E	SVTO		
24	SDF	1516E	0700D	S53	E37	01	27.8		14	0	0	E	SVTO		
24	ASR	1553E	2008D	S25	E90	01	31.6			9	9	E	RAMY		
24	BSL	1640	1659D	S24	E90	01	31.6			9	9	E	HOLL		
24	ASR	1710E	2008D	S17	W90	01	17.9			9	9	E	RAMY	5332	
24	BSL	1727	1949D	S24	E90	01	31.7			9	9	E	HOLL		
24	ASR	1730E	0325D	S23	E90	01	31.7			9	9	E	PALE		
24	BSL	1730	1924D	S25	E90	01	31.7			9	9	E	RAMY		
24	BSL	1741E	1855D	S23	E90	01	31.7			9	9	E	PALE		

ACTIVE PROMINENCES AND FILAMENTS

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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
24	SDF	1919E	1505D	N24	W09	01	24.1	2	08	0	0	E	HOLL	5234	
24	SDF	1919E	1505D	S16	E42	01	28.0	2	12	0	0	E	HOLL	5330	
24	SDF	1919E	1505D	S44	E26	01	26.9	2	08	0	0	E	HOLL		
24	BSL	2141	2223	S24	E90	01	31.8			9	9	E	PALE		Flare Associated
24	BSL	2200E	2202D	S26	E90	01	31.9			9	9	E	HOLL		
24	ASR	2315E	1038D	S23	E90	01	31.9			9	9	E	LEAR		
25	BSL	0007	0032	S23	E90	01	31.9	1				C	VORO		
25	APR	0007	0200	N25	E90	02	1.0	2				C	VORO		
25	APR	0030	0200D	S43	W90	01	17.6	1				C	VORO		
25	BSL	0054E	0116D	S23	E90	02	1.0	1				C	VORO		
25	BSL	0130	0152	S23	E90	02	1.0	1				C	VORO		
25	APR	0140	0200	N35	W90	01	17.9	2				C	VORO		
25	ASR	0702E	1525D	S24	E90	02	1.2			9	9	E	SVTO		
25	BSL	0855E	0913	S20	E90	02	1.2	1-				C	CATA		
25	BSL	1010E	1032	S22	E90	02	1.3	2				V	KHAR		
25	BSL	1020E	1020D	S23	E90	02	1.4	1				C	CATA		
25	DSD	1058	1108	N22	W64	01	20.5	1				V	KHAR		
25	BSL	1102E	1125D	S22	E90	02	1.4	2				V	KHAR		
25	ADF	1130E	1946D	N14	E16	01	26.7	1	08	9	9	E	RAMY	5329	
25	ADF	1208E	1946D	N21	W52	01	21.5	1	12	9	9	E	RAMY	5323	
25	ASR	1225E	1946D	S21	E90	02	1.4			9	9	E	RAMY		
25	ADF	1232E	1946D	S26	W13	01	24.5	1	17	7	9	E	RAMY		
25	DSD	1346	1400D	N14	E13	01	26.5		03	9	9	E	RAMY	5329	
25	DSD	1400E	1419D	N18	E10	01	26.3		05	9	9	E	RAMY	5329	
25	ASR	1420E	0018D	S24	E90	02	1.5			9	9	E	HOLL	5334	
25	ADF	1440E	1845D	S22	E48	01	29.3	1	07	9	9	E	HOLL	5330	
25	SDF	1525E	0710D	S28	E80	01	31.9		16	0	0	E	SVTO		
25	DSD	1915E	0018D	N20	W54	01	21.7		03	9	9	E	HOLL	5323	
26	ASR	0747E	1230D	N14	E90	02	2.1			9	9	E	SVTO		
26	BSD	1234	1328D	N16	W67	01	21.4		02	9	9	E	SVTO	5323	
26	DSD	1550E	1624	N15	W12	01	25.7		06	9	9	E	HOLL	5329	
26	SDF	1710E	1754D	N18	E00	01	26.7		03	0	0	E	HOLL	5329	
26	SDF	1834E	2107D	N36	E33	01	29.4		06	0	0	E	HOLL		
26	SDF	1834E	2107D	N44	E80	02	2.4		37	0	0	E	HOLL		
26	SDF	1834E	2107D	N46	E70	02	1.6		21	0	0	E	HOLL		
26	SDF	1834E	2107D	S26	E57	01	31.2		24	0	0	E	HOLL		
26	DSD	1845E	2346D	N14	W12	01	25.9		07	9	9	E	HOLL	5329	
26	DSD	1943E	2103D	S20	W29	01	24.6		05	9	9	E	RAMY	5330	
26	ADF	1943E	2148D	S20	W33	01	24.3	1	05	9	9	E	RAMY	5330	
26	ASR	2000E	0019D	S18	E90	02	2.7			9	9	E	HOLL		
26	BSD	2312E	0019D	N14	W14	01	25.9		04	9	9	E	HOLL	5329	Flare Associated
27	AFS	0025E	1034D	N16	W09	01	26.3		03	9	9	E	LEAR	5329	
27	AFS	0803E	1503D	S15	W37	01	24.5		03	9	9	E	SVTO	5326	
27	ADF	0804E	1503D	S22	W38	01	24.4	1	08	9	9	E	SVTO	5326	
27	ADF	0830E	1034D	S18	W43	01	24.1	2	06	9	9	E	LEAR	5326	
27	DSD	1214E	1214D	N17	W03	01	27.3	1				C	CATA		
27	DSD	1215E	1252	N18	W07	01	27.0		07	9	9	E	SVTO	5329	
27	DSD	1334E	2046D	N16	W14	01	26.5		02	9	9	E	RAMY	5329	
27	ADF	1347E	2046D	N17	E23	01	29.3	1	06	9	9	E	RAMY	5330	
27	AFS	1351E	2046D	S14	W41	01	24.5		02	9	9	E	RAMY	5326	
27	ADF	1351E	2046D	S18	W43	01	24.3	1	05	9	9	E	RAMY	5326	
27	SDF	1503E	0730D	N29	E30	01	30.0		31	0	0	E	SVTO		
27	SDF	1503E	0730D	N39	E36	01	30.5		17	0	0	E	SVTO		
27	SDF	1503E	0730D	S23	E50	01	31.5		10	0	0	E	SVTO		
27	SDF	1503E	0730D	S34	E48	01	31.4		27	0	0	E	SVTO		
27	APR	1511E	2046D	N27	W90	01	20.6	1		9	9	E	RAMY	5323	
27	AFS	1820E	2254D	S34	W36	01	24.9	1	12	9	9	E	PALE		
27	DSD	1931E	2254D	N18	W16	01	26.6		03	9	9	E	PALE	5329	
27	ASR	1940E	2046D	N16	W90	01	21.0			9	9	E	RAMY	5323	
27	DSD	1944E	2046D	N19	W15	01	26.7		05	9	9	E	RAMY	5329	
27	AFS	2039E	2046D	S21	E03	01	28.1		03	9	9	E	RAMY	5330	
27	AFS	2150E	0020D	S21	E02	01	28.1	1	02	9	9	E	HOLL		
27	AFS	2246E	0020D	S13	W46	01	24.5		02	9	9	E	HOLL		
27	SSB	2306		246	W33	01	31.6			0	0	E	HOLL		
27	AFS	2318E	1029D	S21	E01	01	28.0		02	9	9	E	LEAR		
27	AFS	2335E	1029D	N16	W20	01	26.5		02	8	5	E	LEAR	5329	
27	APR	2345E	0250D	N24	W90	01	21.0	2		9	5	E	LEAR	5323	

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
28	SDF	0003E	1540D	N21	W24	01	26.2		13	0	0	E	HOLL		
28	ADF	0004E	0910D	S25	E06	01	28.5	1	03	9	9	E	LEAR	5330	
28	SDF	0004E	0910D	S25	E06	01	28.5		03	9	9	E	LEAR	5330	
28	APR	0020	0300D	S41	E90	02	4.4	1				C	VORO		
28	ADF	0026	0300D	N32	W43	01	24.6	1				C	VORO		
28	EPL	0029E	0059	N33	W90	01	20.9	2				C	VORO		
28	SDF	0031E	0045D	N33	E23	01	29.8		32	0	0	E	LEAR		
28	SDF	0031E	0045D	N35	E38	01	31.1		22	0	0	E	LEAR		
28	SDF	0045E	0038D	N24	W28	01	25.9		12	0	0	E	LEAR		
28	SDF	0045E	0038D	N28	W11	01	27.2		08	0	0	E	LEAR		
28	SDF	0045E	0038D	N29	W42	01	24.7		25	0	0	E	LEAR		
28	APR	0058	0300D	N48	W90	01	20.5	1				C	VORO		
28	APR	0059	0300D	N05	E90	02	3.8	1				C	VORO		
28	APR	0144	0300D	N35	E90	02	4.3	1				C	VORO		
28	AFS	0235E	1029D	S14	W49	01	24.4		03	9	9	E	LEAR		
28	AFS	0455E	1029D	S21	E55	02	1.4		02	9	9	E	LEAR	5334	
28	BSL	0733E	0830D	S10	E90	02	4.1	1				C	ABST		
28	ADF	0900E	0925D	N19	W24	01	26.5	1	05	9	8	E	SVTO	5329	
28	APR	0901E	0925D	N07	E90	02	4.1	1		9	9	E	SVTO		
28	APR	0902E	0925D	N11	W90	01	21.6	1		8	9	E	SVTO		
28	ADF	0903E	0925D	S24	W52	01	24.3	1	10	9	9	E	SVTO	5326	
28	ADF	0904E	0925D	S23	E13	01	29.4	1	07	9	9	E	SVTO	5330	
28	AFS	0905E	0925D	S23	W32	01	25.9		02	9	9	E	SVTO		
28	AFS	0906E	0925D	S15	W52	01	24.4		02	9	9	E	SVTO	5335	
28	ADF	0907E	0925D	S21	E18	01	29.7	1	07	9	9	E	SVTO	5330	
28	BSL	0940E	0952	N52	E90	02	5.1	1-				C	CATA		
28	AFS	1255E	2131D	S14	W53	01	24.5		01	8	7	E	RAMY	5335	
28	DSD	1442E	1600D	S17	E50	02	1.4		02	9	9	E	RAMY	5334	
28	SSB	1533		246	W42	02	1.4			0	0	E	HOLL		
28	SDF	1533E	2306D	N00	W46	01	25.2		06	0	0	E	HOLL		
28	AFS	1558E	2131D	S21	W34	01	26.0		02	9	9	E	RAMY		
28	AFS	1813E	1859D	S24	W35	01	26.0		02	9	9	E	PALE		
28	DSD	1815	1959D	S22	E49	02	1.5		05	9	9	E	HOLL	5334	Flare Associated
28	DSD	1820E	1859D	S21	E49	02	1.5		05	9	9	E	PALE	5334	
28	SDF	2046E	1515D	N18	W25	01	27.0		21	0	0	E	RAMY		
28	DSD	2144	2336D	S24	E49	02	1.7		08	9	9	E	HOLL	5334	Flare Associated
28	APR	2157E	2337D	N45	W90	01	21.4			9	9	E	HOLL		
28	ADF	2329E	1023D	N21	W31	01	26.6	1	03	9	9	E	LEAR	5329	
28	SDF	2337E	1454D	N21	W42	01	25.8		06	0	0	E	HOLL		
28	SDF	2337E	1454D	N24	W60	01	24.3		22	0	0	E	HOLL		
28	SDF	2337E	1454D	N35	W43	01	25.5		17	0	0	E	HOLL		
28	SDF	2337E	1454D	S07	E02	01	29.1		07	0	0	E	HOLL		
29	APR	0043E	0300D	N05	E90	02	4.8	1				C	VORO		
29	APR	0049	0300D	N46	W90	01	21.5	1				C	VORO		
29	APR	0109	0300	N20	W90	01	22.2	1				C	VORO		
29	BSL	0218	0243	S21	E90	02	5.0	1				C	VORO		
29	DSD	0803E	1023D	S21	E04	01	29.6		03	7	7	E	LEAR	5330	
29	BSL	0957	1000D	N68	W90	01	21.3	1-				C	CATA		
29	SDF	1140E	1443D	N22	W46	01	25.9		22	0	0	E	RAMY	5333	
29	ADF	1200E	2203D	S16	E41	02	1.6	1	04	9	9	E	RAMY	5334	
29	ADF	1438E	2203D	N17	W03	01	29.4	1	04	9	9	E	RAMY	5329	
29	ADF	1500E	0021D	N17	W30	01	27.3	2	07	9	9	E	HOLL	5329	
29	DSD	1542E	2203D	S21	W02	01	29.5		03	9	9	E	RAMY	5330	
29	DSD	1738E	0021D	S22	E35	02	1.4		08	9	9	E	HOLL	5334	Flare Associated
29	DSD	1814E	1842D	N13	W41	01	26.7		04	9	9	E	RAMY	5329	Flare Associated
29	SSB	1830		264	W75	02	4.6			0	0	E	RAMY		
29	SSB	1840		205	W16	01	30.1			0	0	E	RAMY		
29	SSB	1945		213	W25	01	30.8			0	0	E	HOLL		246 W58
29	DSD	1946	1946D	N17	W34	01	27.2		03	9	9	E	RAMY	5329	Flare Associated
29	DSD	2000E	0021D	N17	W35	01	27.2		05	9	9	E	HOLL	5329	Flare Associated
29	ADF	2048E	2203D	N08	W31	01	27.5	1	07	9	9	E	RAMY	5329	
29	DSD	2048E	2203D	N13	W34	01	27.3		03	9	9	E	RAMY	5329	
29	DSD	2054E	0349D	N13	W33	01	27.4		03	9	9	E	PALE	5329	
29	AFS	2140E	2203D	S19	W25	01	28.0		03	8	8	E	RAMY	5336	
29	AFS	2155E	0021D	S20	W26	01	27.9		02	9	9	E	HOLL	5336	
29	AFS	2205E	2206D	S19	W25	01	28.0		02	9	9	E	PALE	5336	
29	DSD	2314E	2335D	N16	W39	01	27.0		06	9	9	E	HOLL	5329	Flare Associated
29	DSD	2315E	0034	N11	W40	01	26.9		07	9	9	E	LEAR	5329	

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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	AFS	2315E	1035D	S19	W26	01	28.0		02	9	9	E	LEAR	5336	
30	APR	0054	0300D	N18	W90	01	23.2	1				C	VORO		
30	EPL	0054E	0153	N33	W90	01	22.9	2				C	VORO		
30	APR	0110	0300D	N45	W90	01	22.6	1				C	VORO		
30	DSD	0130	0300D	S23	E32	02	1.5		05	9	9	E	LEAR	5334	
30	APR	0130E	0154D	N28	W88	01	23.2	1		9	9	E	LEAR	5324	
30	EPL	0154E	0235	N24	W88	01	23.3	1		9	9	E	LEAR	5324	
30	EPL	0200E	0238	N24	W90	01	23.1	1		9	9	E	PALE	5324	
30	BSL	0235	0300D	N24	W90	01	23.1	1				C	VORO		
30	APR	0300E	0936D	N24	W90	01	23.2			9	9	E	LEAR	5324	
30	ASR	0312E	0349D	N27	W88	01	23.3			9	9	E	PALE	5324	
30	DSD	0403	0504D	N17	W40	01	27.1		10	9	9	E	LEAR	5329	
30	ASR	0541	1035D	S24	E90	02	6.2			9	9	E	LEAR		
30	ADF	0739E	1410D	S20	E25	02	1.2	1	04	9	9	E	SVTO	5334	
30	AFS	0749E	1527D	S19	W35	01	27.6		02	8	9	E	SVTO	5336	
30	AFS	0800E	1527D	N21	W47	01	26.7		03	9	9	E	SVTO	5329	
30	DSD	0805E	1527D	N18	W50	01	26.5		04	9	9	E	SVTO	5329	
30	ADF	0911E	1410D	N19	E35	02	2.0	1	11	9	9	E	SVTO	5338	
30	DSD	0917E	1527D	N16	W55	01	26.2		02	9	9	E	SVTO	5329	
30	DSD	1230E	1251D	N15	W50	01	26.7		06	9	9	E	SVTO	5329	
30	DSD	1315E	2025D	N15	W58	01	26.2		05	9	9	E	RAMY	5329	
30	DSD	1622E	2144D	N15	W64	01	25.8		13	9	9	E	HOLL	5329	
30	DSD	1723E	2150D	N14	W65	01	25.8		07	9	9	E	RAMY	5329	
30	ADF	1734E	2150D	S24	E20	02	1.3	1	09	9	9	E	RAMY	5334	
30	ASR	1744E	2150D	S15	W90	01	23.9			9	9	E	RAMY	5335	
30	SSB	1832		211	W35	01	31.6			0	0	E	HOLL		253 W77
30	AFS	1852E	2150D	N35	E02	01	30.9		02	9	9	E	RAMY		
30	AFS	2025E	2150D	N14	W54	01	26.8		03	9	9	E	RAMY	5329	
30	AFS	2030E	2150D	S18	W22	01	29.2		03	8	7	E	RAMY	5330	
30	SDF	2032E	2032D	S46	W03	01	30.6		19	0	0	E	PALE		
30	AFS	2032E	2150D	S18	W37	01	28.0		03	9	9	E	RAMY	5336	
30	ADF	2035E	2150D	S15	W58	01	26.5	1	05	9	9	E	RAMY	5337	
30	ASR	2250E	1039D	S23	E86	02	6.6			9	9	E	LEAR	5339	
30	ASR	2255E	0716D	S15	W83	01	24.7			9	9	E	LEAR	5335	
30	AFS	2259E	1039D	N01	W37	01	28.2		01	9	9	E	LEAR		
30	AFS	2320E	0410D	N37	E01	01	31.0		02	9	9	E	PALE		
30	AFS	2320E	0410D	S17	W41	01	27.8		03	9	9	E	PALE	5336	
30	ASR	2330E	0533D	N21	W84	01	24.5			9	9	E	LEAR	5324	
30	ASR	2330E	1039D	N33	W90	01	23.8			9	8	E	LEAR	5333	
31	DSD	0000	0059	N16	W52	01	27.0		04	9	9	E	LEAR	5329	
31	DSD	0004	0017D	N18	W53	01	27.0		04	9	9	E	PALE	5329	Flare Associated
31	AFS	0145E	1039D	S23	E18	02	1.4		02	9	9	E	LEAR	5334	
31	AFS	0725E	1500D	N19	W58	01	26.9		02	9	9	E	SVTO	5329	
31	ADF	0725E	1500D	N21	E23	02	2.1	1	10	8	9	E	SVTO	5338	
31	BSL	0810	0815	N89	E90	02	8.7	1-				C	CATA		
31	BSL	0820	0829	N80	W90	01	23.0	1-				C	CATA		
31	BSL	0855	0904	N82	E90	02	8.7	1-				C	CATA		
31	BSL	0921E	0925	N46	E90	02	7.9	1-				C	CATA		
31	BSL	0921E	0927	N25	W90	01	24.4	1-				C	CATA		
31	DSD	1016E	1103D	S24	W24	01	29.6		04	9	9	E	SVTO	5330	Flare Associated
31	BSL	1051E	1105	S13	E90	02	7.2	1-				C	CATA		
31	LPS	1211E	1242	S24	E05	01	31.9			9	9	E	RAMY	5334	Flare Associated
31	AFS	1212E	1530D	N36	W11	01	30.6		02	9	9	E	SVTO		
31	ADF	1219E	2003D	N15	W62	01	26.8	1	05	9	9	E	RAMY	5329	
31	DSD	1219E	2003D	N16	W72	01	26.0		02	9	9	E	RAMY	5329	
31	DSD	1223E	1500D	S23	W23	01	29.7		02	9	9	E	SVTO	5330	
31	AFS	1235E	2003D	S18	W46	01	28.0		03	9	9	E	RAMY	5336	
31	SSB	1325		209	W44	02	1.3			0	0	E	RAMY		232 W76 180 W15
31	AFS	1330E	2003D	N35	W07	01	31.0		03	9	9	E	RAMY		
31	ASR	1332E	1625D	S18	E90	02	7.4			9	9	E	RAMY		
31	DSD	1352E	1352D	S23	E05	02	1.0		08	9	9	E	RAMY	5334	
31	AFS	1400E	1500D	S23	E06	02	1.0		03	9	9	E	SVTO	5334	
31	APR	1443E	2347D	N30	E90	02	7.7	2		9	9	E	HOLL		
31	DSD	1623E	2003D	S20	E08	02	1.3		06	9	9	E	RAMY	5334	Flare Associated
31	APR	1630E	2003D	N32	E90	02	7.8	1		8	8	E	RAMY		
31	APR	1740E	0355D	N30	E90	02	7.8	1		9	9	E	PALE		
31	ADF	2025E	0409D	N17	W63	01	27.1	2	15	9	9	E	PALE	5329	
31	SDF	2150E	1250D	S08	E07	02	1.4		17	0	0	E	RAMY		

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1989

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
31	SSB	2330		208	W48	02	1.6			0	0	E	HOLL		
31	DSD	2330E	0030D	S24	E06	02	1.4		05	6	5	E	LEAR	5334	
31	AFS	2333E	2347D	S21	E04	02	1.3		04	9	9	E	HOLL	5334	
31	DSD	2333E	2347D	S24	E07	02	1.5		08	9	9	E	HOLL	5334	
31	AFS	2334E	2347D	S07	E29	02	3.1		01	8	7	E	HOLL	5342	

ADF = Active Dark Filament
AFS = Arch Filament System
APR = Active Prominence
ASR = Active Surge Region
BSD = Bright Surge on Disk
BSL = Bright Surge on Limb
CAP = CAP Prominence (Tandberg-Hanssen)
CRN = Coronal Rain
DSD = Dark Surge on Disk
EPL = Eruptive Prominence on Limb
LPS = Loops
MDP = Mound Prominence
SDF = Sudden Disappearing Filament
SPY = Spray
SSB = Solar Sector Boundary

For SOLAR SECTOR BOUNDARY REPORTS, the latitude field contains the Carrington longitude of the point where a neutral line crosses the solar equator. The comments field may contain the Carrington longitude and central meridian distance of two more intersection points.

The EXTENT field for limb events is the radial extent above the limb in hundredths of solar radius. For disk events this field contains the heliographic extent in whole degrees.

The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

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

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C A R T E S Y N O P T I Q U E
A C T I V E R E G I O N S
CARRINGTON ROTATION 1809

(15 November to 12 December 1988)

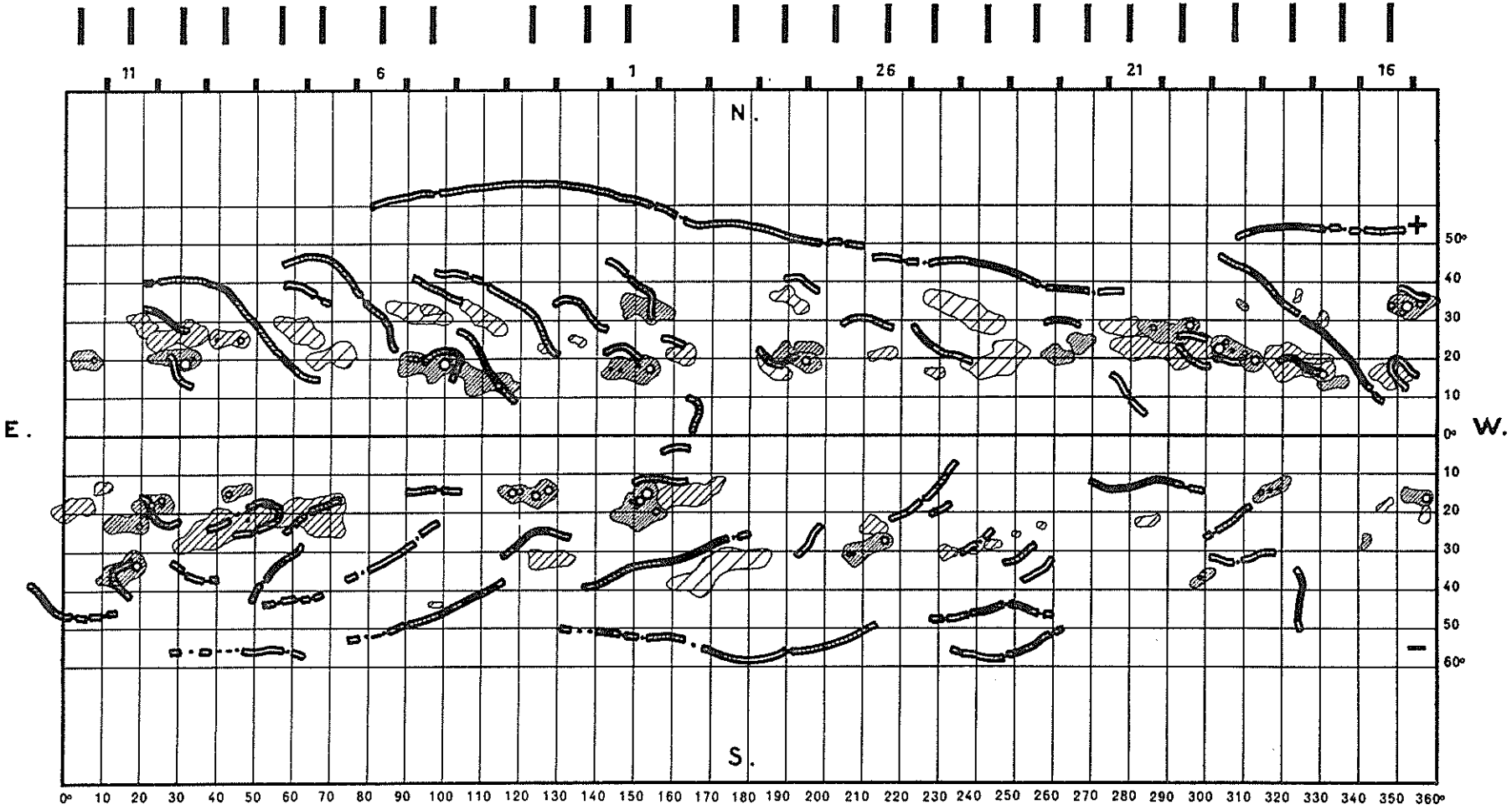
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1808	Activity at West Limb
1	21 S	358	1	+2	x		disappeared
2	16 S	356	3	0			stable
3	34 N	354	4	>6			decreasing
4	16 N	348	1	>6	x	2	dispersed
5	18 S	347	1	+3	x		disappeared
6	28 S	342	1	-5	x		stable
7	14 N	334	1	-3	x		increasing
8	30 N	331	1	+2	x		stable
9	16 N	330	3	>6			decreasing
10	19 N	325	1	>6	x	5	decreasing
11	14 S	318	2	-3			stable
12	34 N	310	1	+5	x		disappeared
13	21 N	308	4	>6			decreasing
14	23 N	290	2	+1			stable
15	26 N	290	3	>6			decreasing
16	23 S	285	1	>6	x		dispersed
17	28 N	278	1	>6	x		dispersed
18	24 N	267	1	>6	x		decreasing
19	21 N	261	1	+1	x		dispersed
20	29 S	244	1	+1	x		disappeared
21	29 S	240	1	-5	x		stable
22	31 S	232	1	+3	x		dispersed
23	16 N	229	1	0	x		disappeared
24	21 N	215	1	>6	x		dispersed
25	24 S	213	1	>6	x	18	dispersed
26	29 S	211	3	>6			decreasing
27	23 N	196	1	0	x		stable
28	20 N	192	3	>6			decreasing
29	35 N	191	1	>6	x		disappeared
30	15 S	165	1	>6	x		decreasing
31	21 N	162	1	>6			decreasing
32	33 N	153	1	>6	x	24	decreasing
33	19 S	152	5	>6		26	decreasing
34	17 N	149	3	+1			decreasing
35	32 S	128	1	>6	x		decreasing
36	16 S	124	4	+2			decreasing
37	14 N	111	2	>6		33	decreasing
38	30 N	110	1	>6	x	31	dispersed
39	33 N	96	1	-4	x		decreasing
40	18 N	95	3	+6			decreasing
41	21 S	65	1	>6	x	41	dispersed
42	27 N	62	1	>6	x	42	dispersed
43	15 S	45	2	-2			stable
44	25 N	43	2	>6			decreasing
45	24 S	41	2	>6		44+46	decreasing
46	26 N	30	1	>6	x	48	decreasing
47	20 N	29	3	>6			decreasing
48	18 S	23	3	>6			decreasing
49	29 N	20	1	>6	x		decreasing
50	23 S	16	2	>6			decreasing
51	35 S	16	3	>6		49	decreasing
52	13 S	10	1	+1	x		disappeared
53	20 N	6	2	-2			stable
54	19 S	3	1	>6	x		dispersed

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1809
(15 November to 12 December 1988)

Meudon Observatory

November 1988



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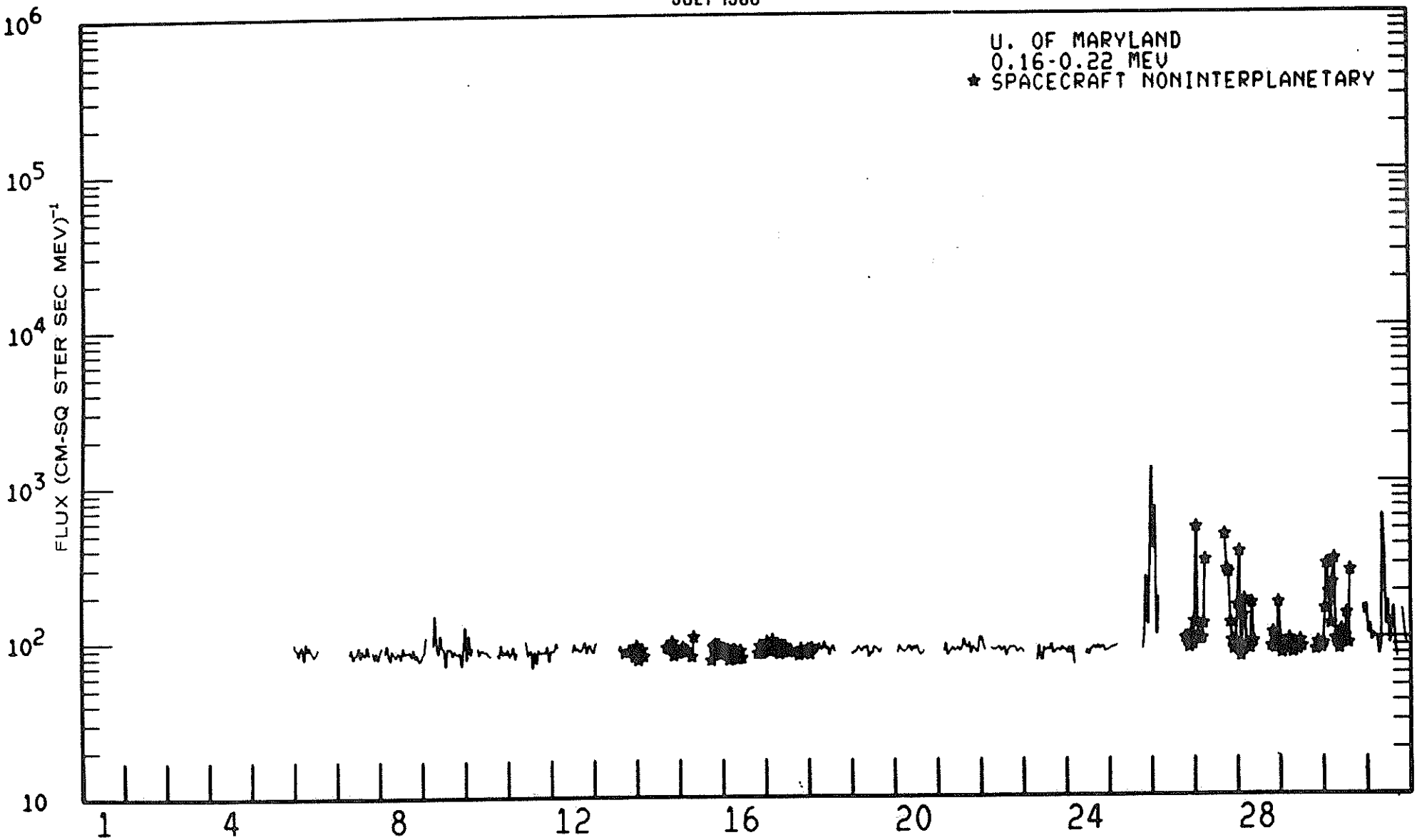
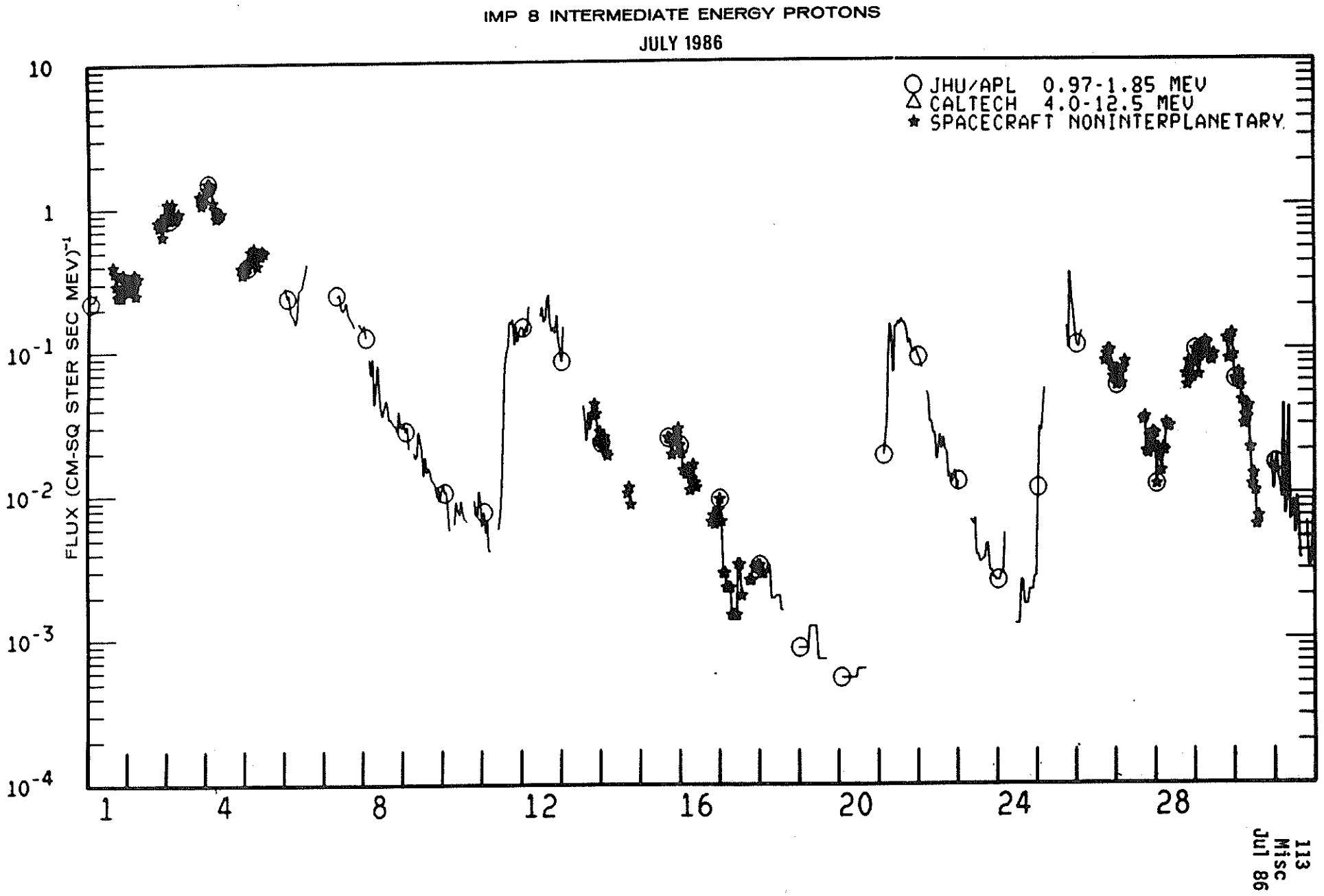
IMP 8 LOW ENERGY PROTONS

JULY 1986

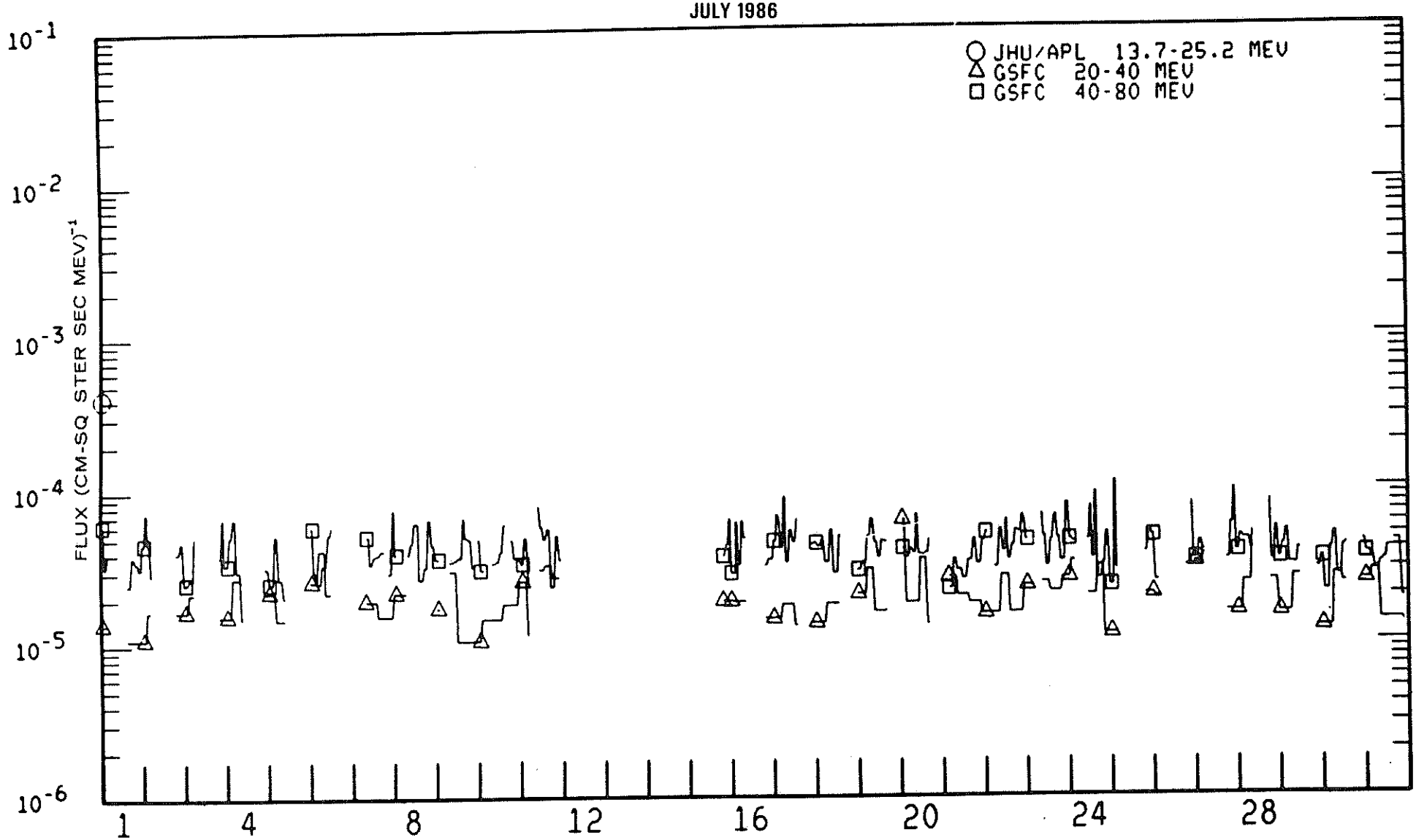


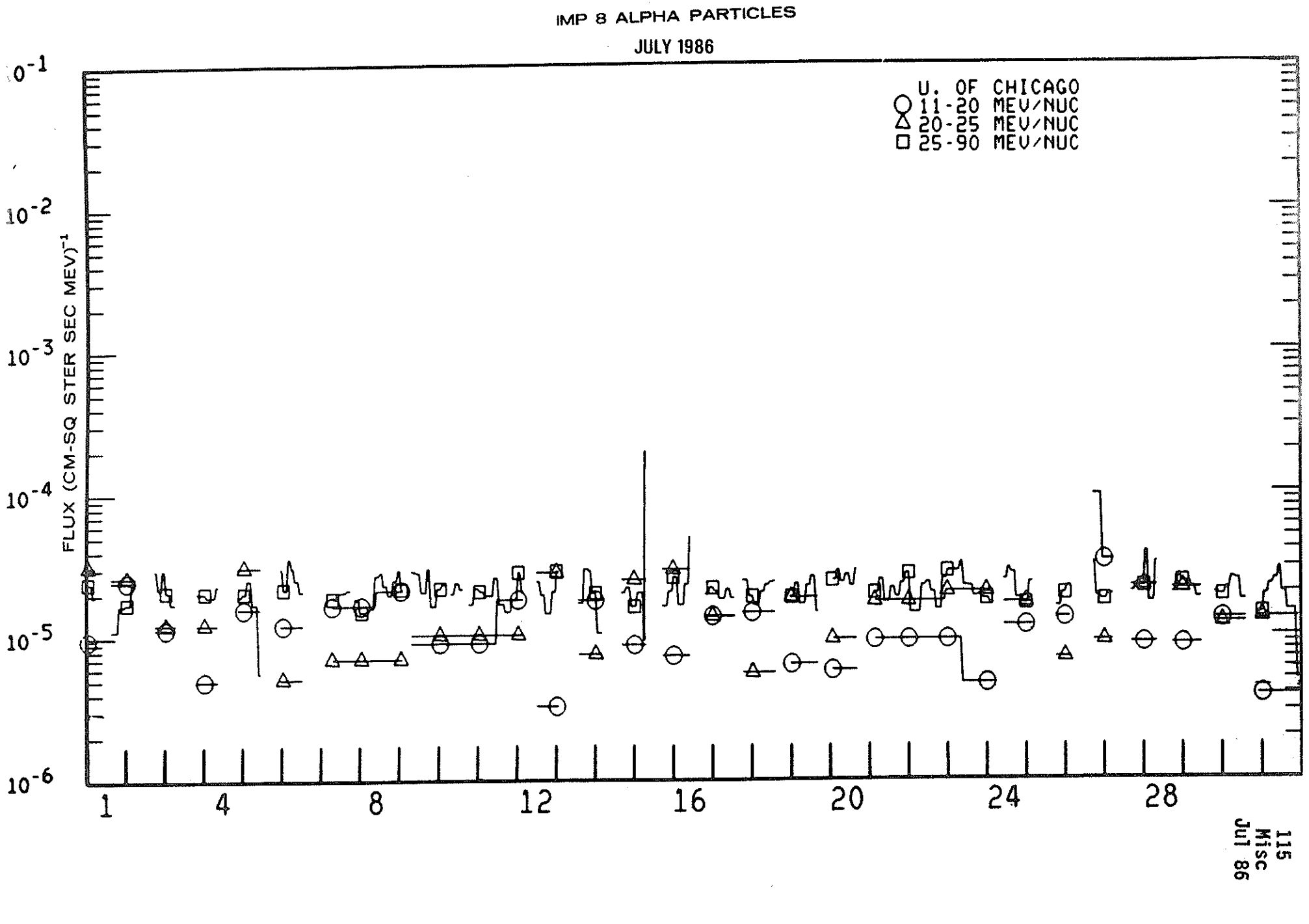

IMP 8 INTERMEDIATE ENERGY PROTONS
JULY 1986
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10
1
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1
4
8
12
16
20
24
28
113
Misc
Jul 86

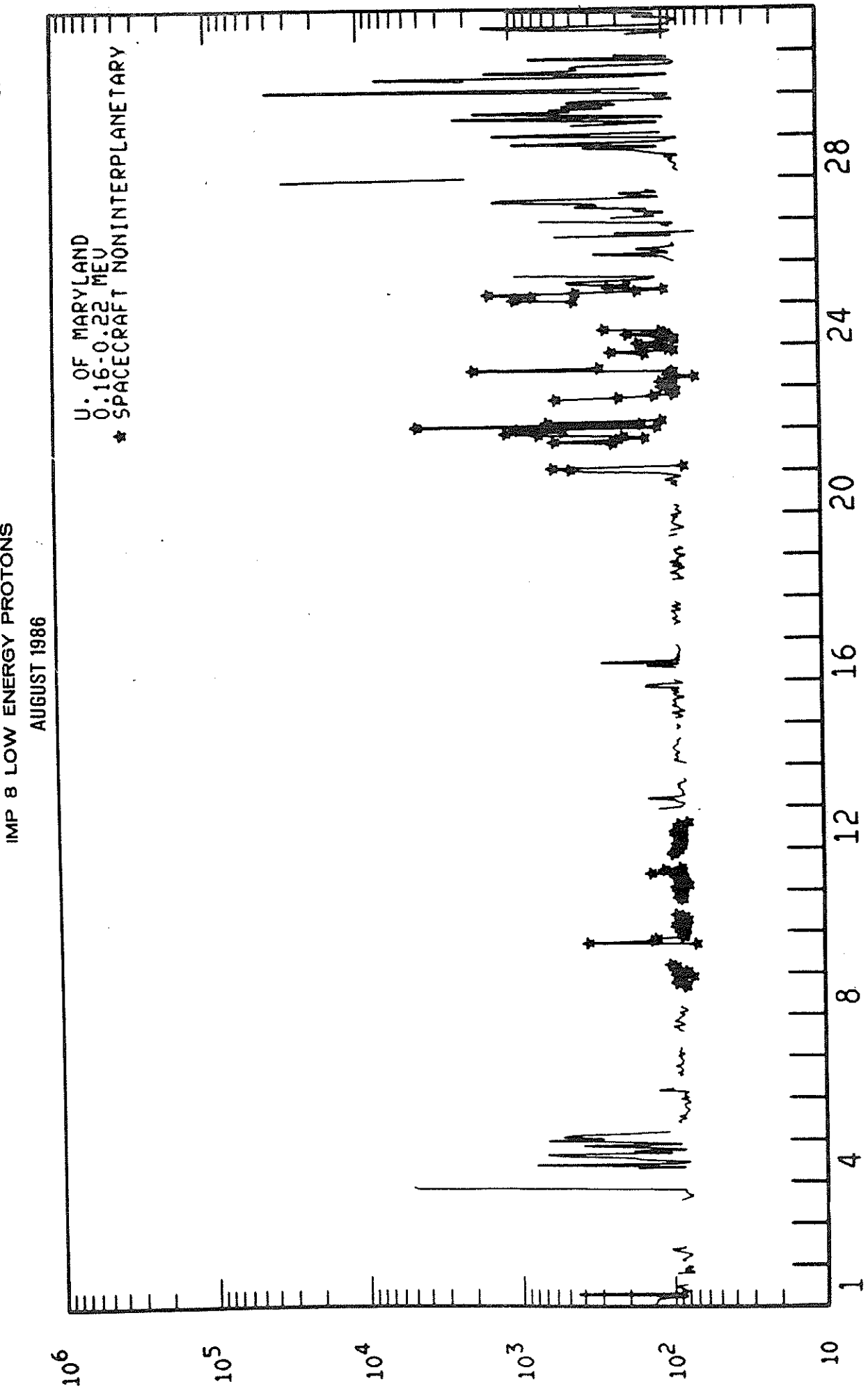
114
Misc
Jul 86

IMP 8 HIGH ENERGY PROTONS

JULY 1986

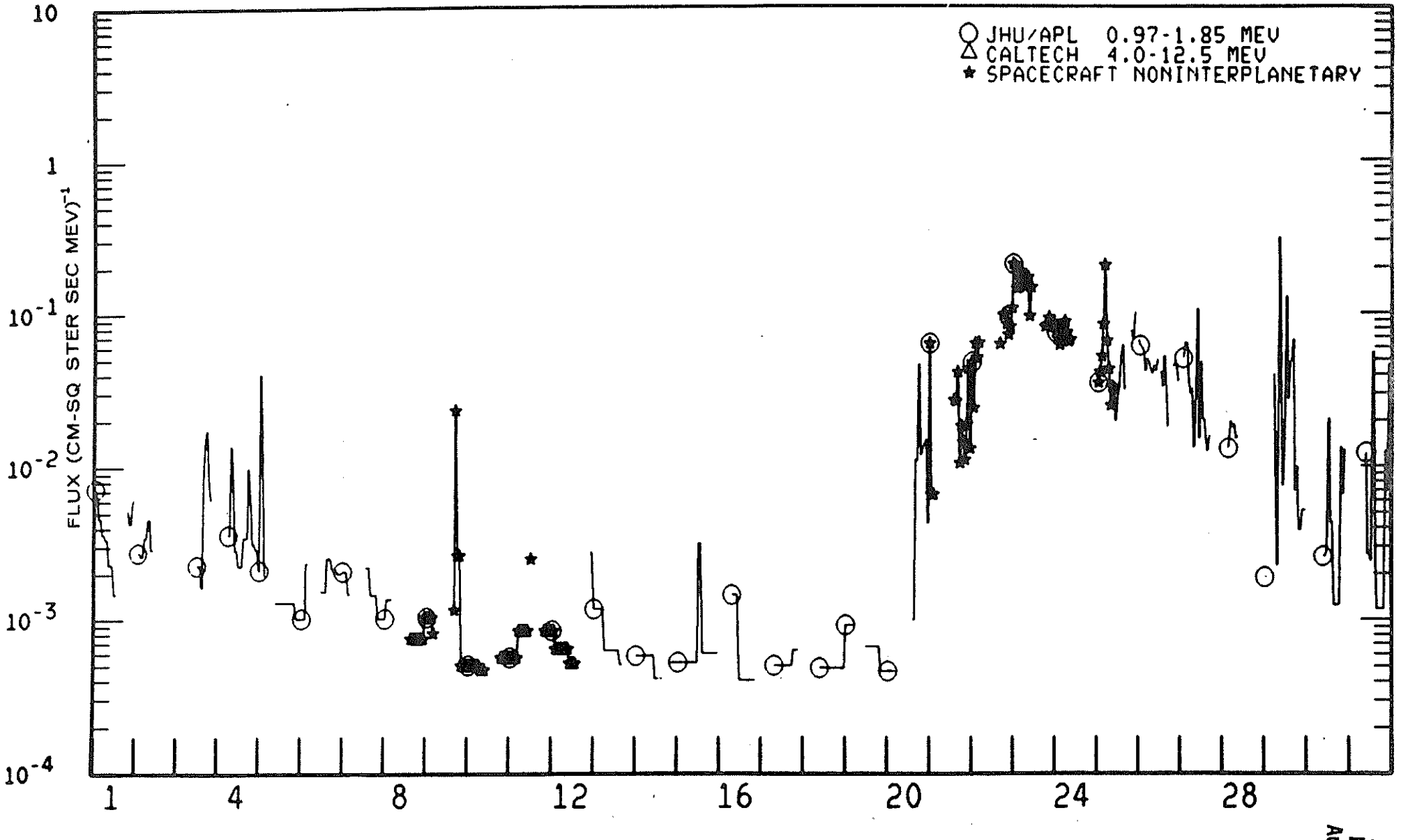



IMP 8 ALPHA PARTICLES
JULY 1986
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
115
Misc
Jul 86

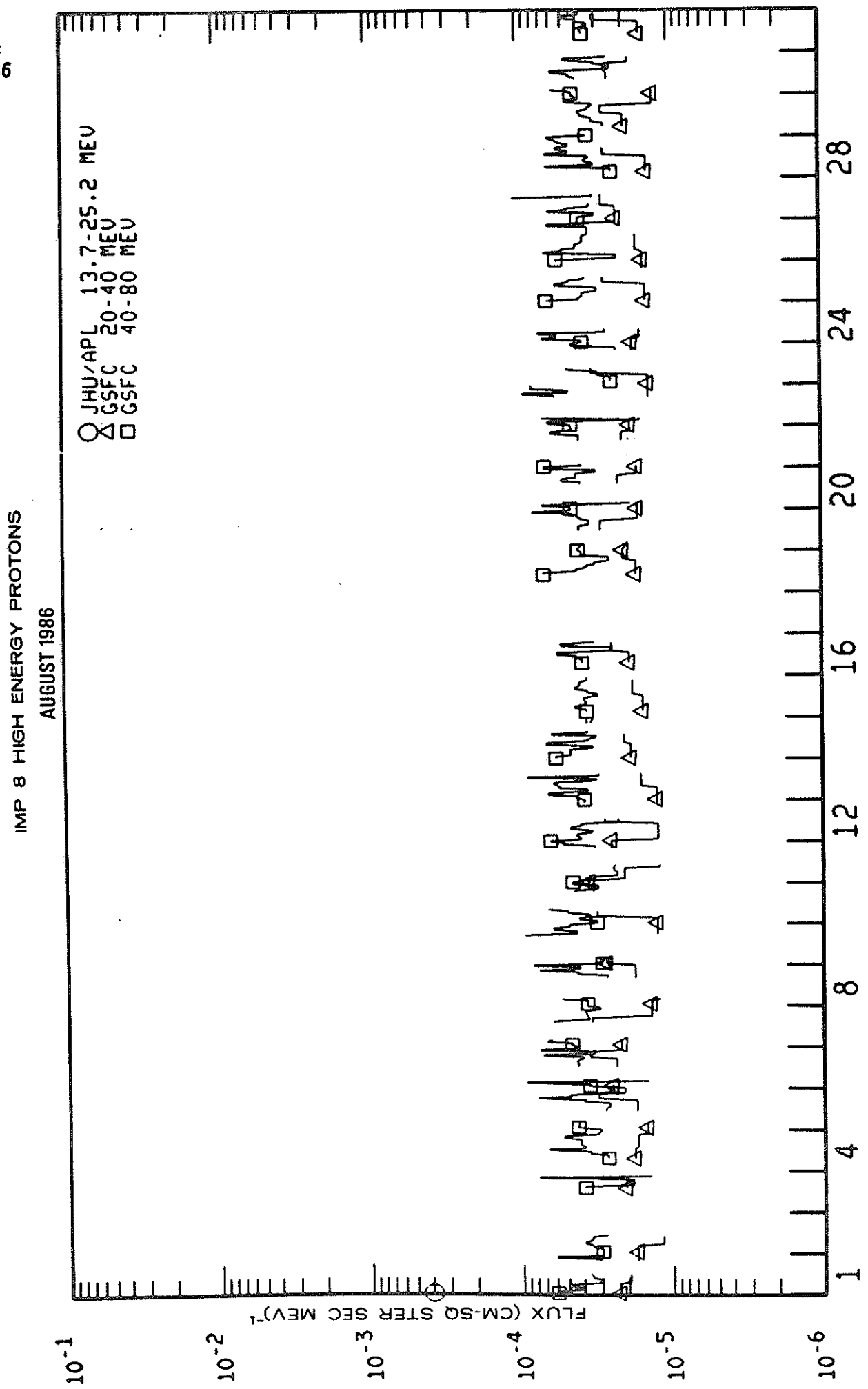

IMP 8 LOW ENERGY PROTONS
AUGUST 1986
U. OF MARYLAND
0.16-0.22 MEV
★ SPACECRAFT NONINTERPLANETARY
10^6
10^5
10^4
10^3
10^2
10
1
4
8
12
16
20
24
28

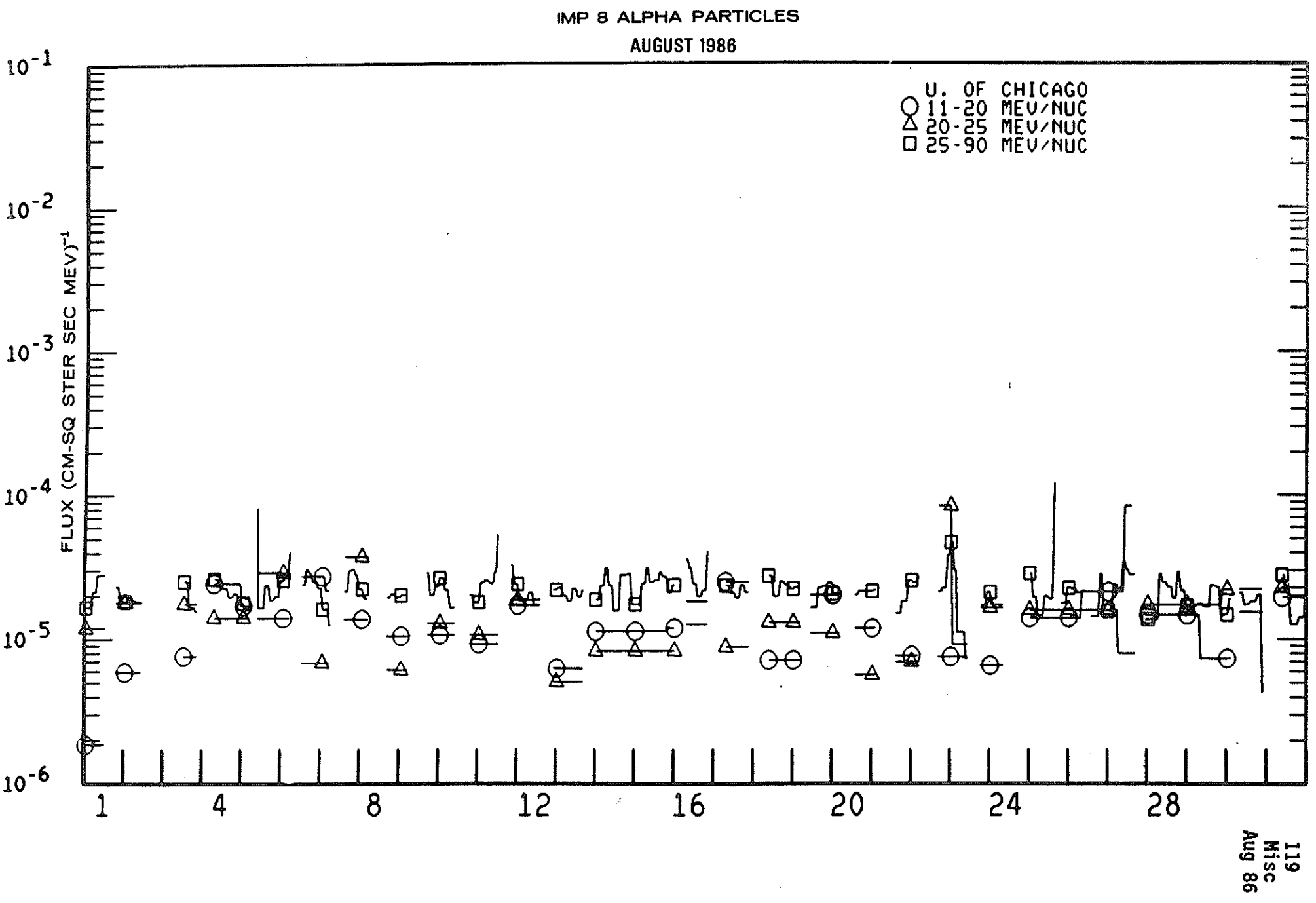
IMP 8 INTERMEDIATE ENERGY PROTONS

AUGUST 1986



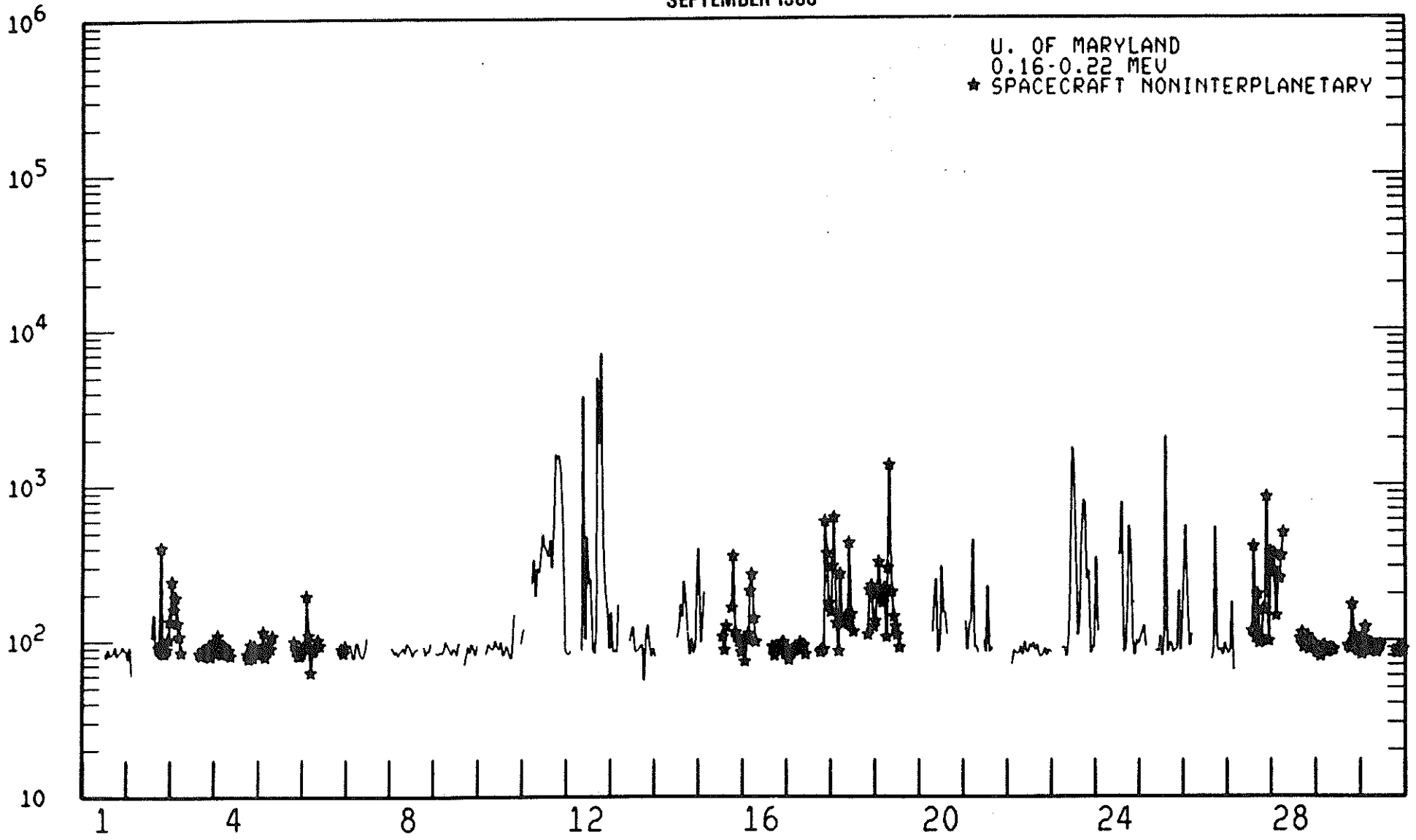
117
Misc
Aug 86

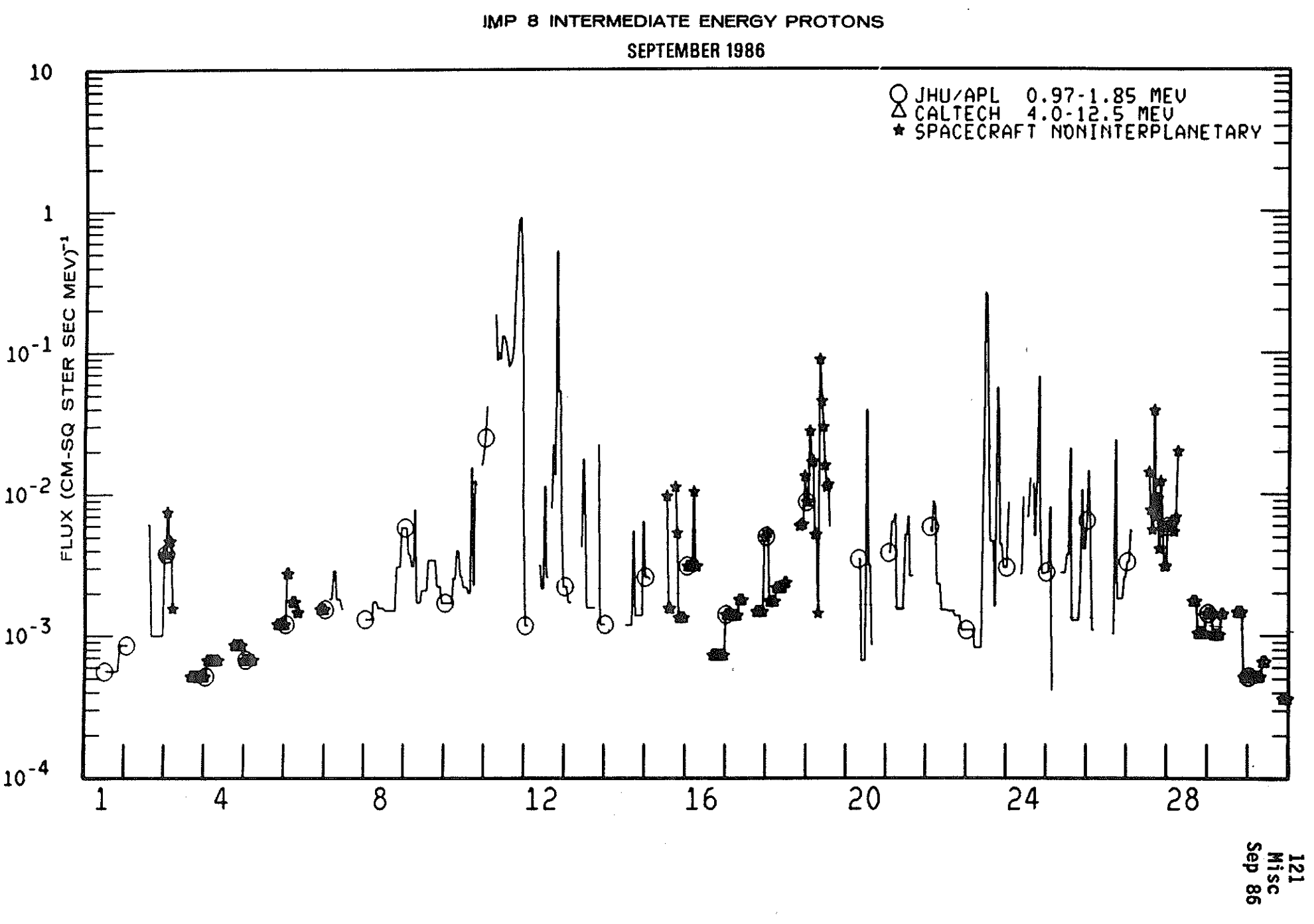

IMP 8 HIGH ENERGY PROTONS
AUGUST 1986
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)-1
10-1
10-2
10-3
10-4
10-5
10-6
1
4
8
12
16
20
24
28

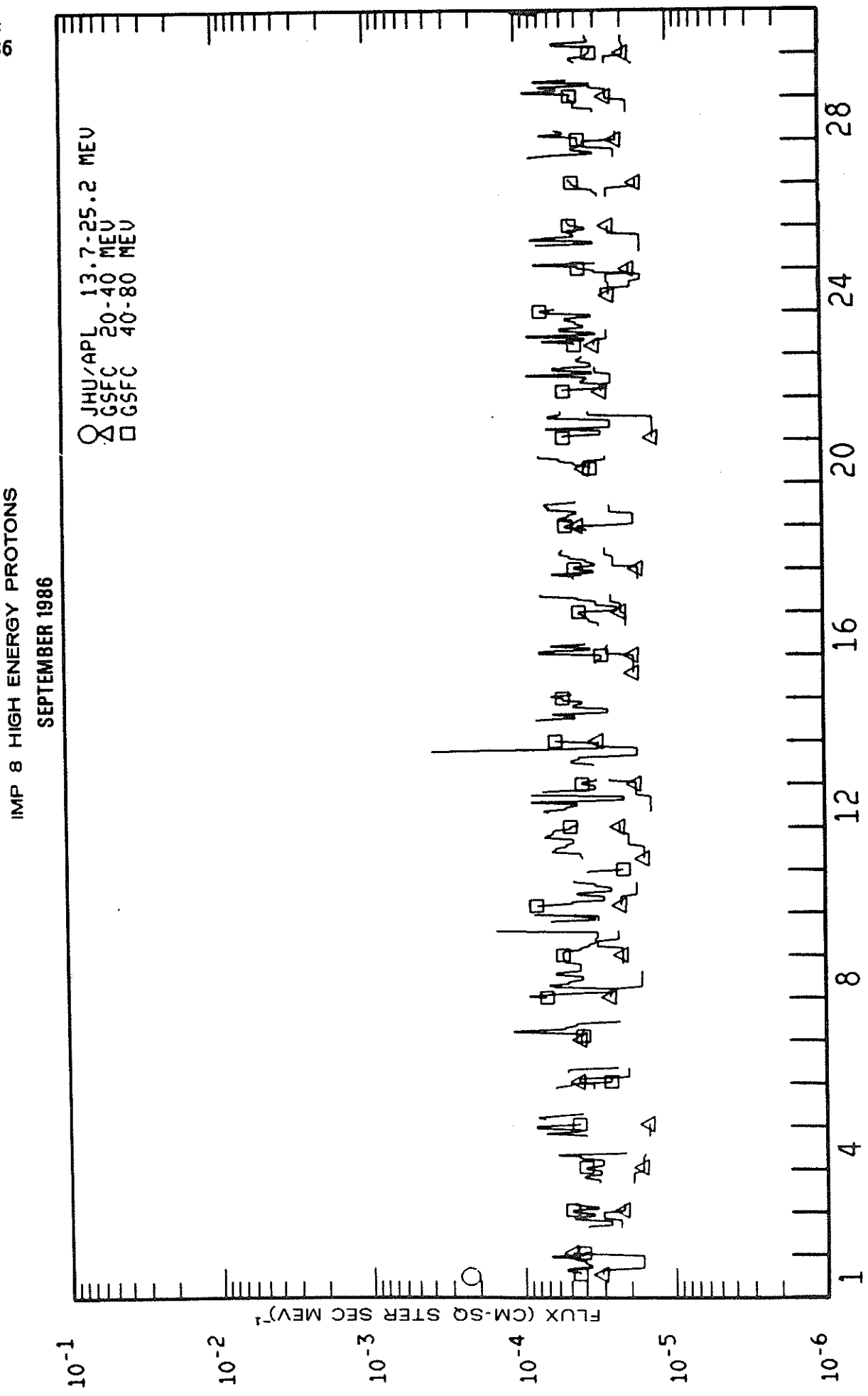

IMP 8 ALPHA PARTICLES
AUGUST 1986
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
119
Misc
Aug 86

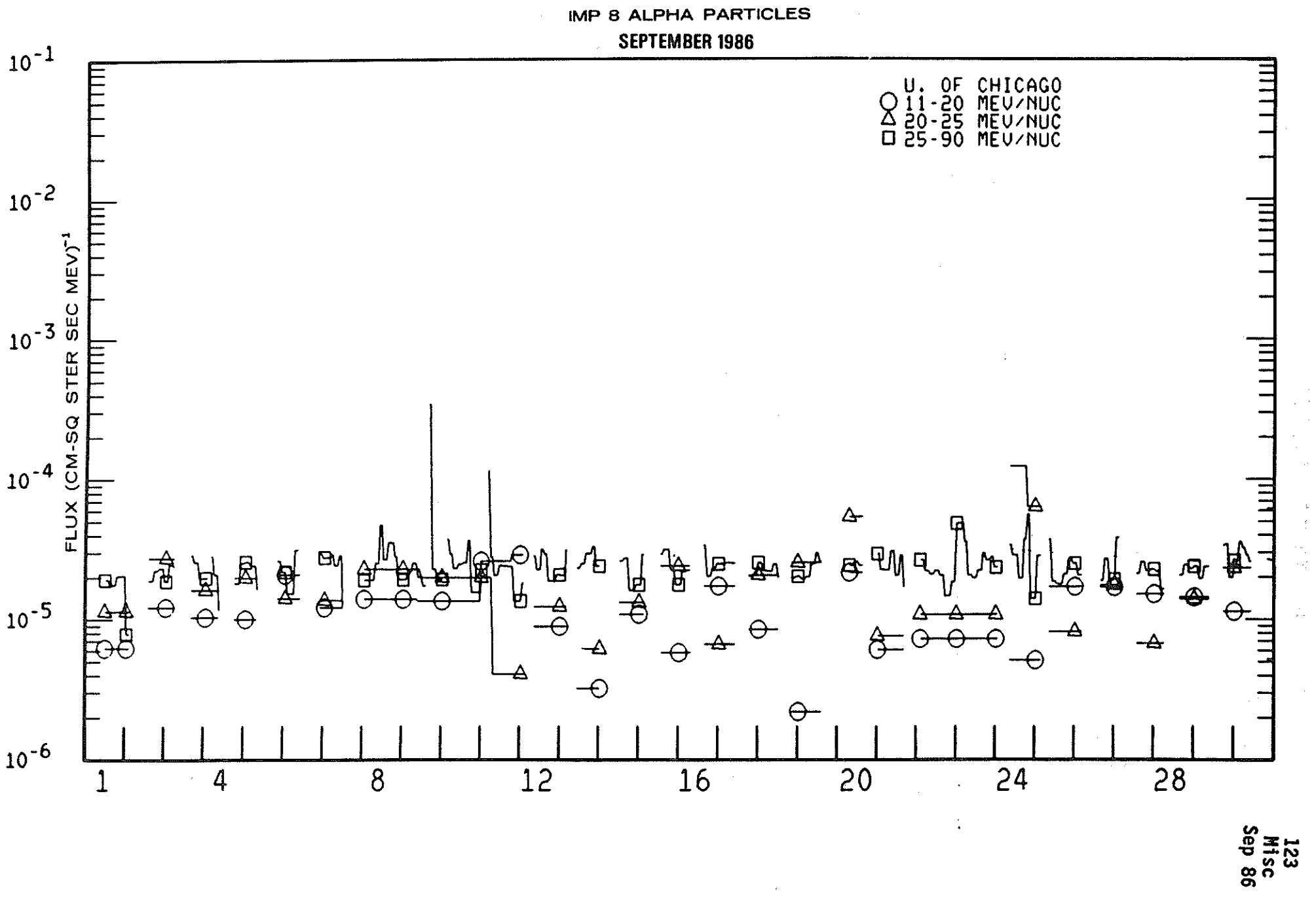
IMP 8 LOW ENERGY PROTONS

SEPTEMBER 1986

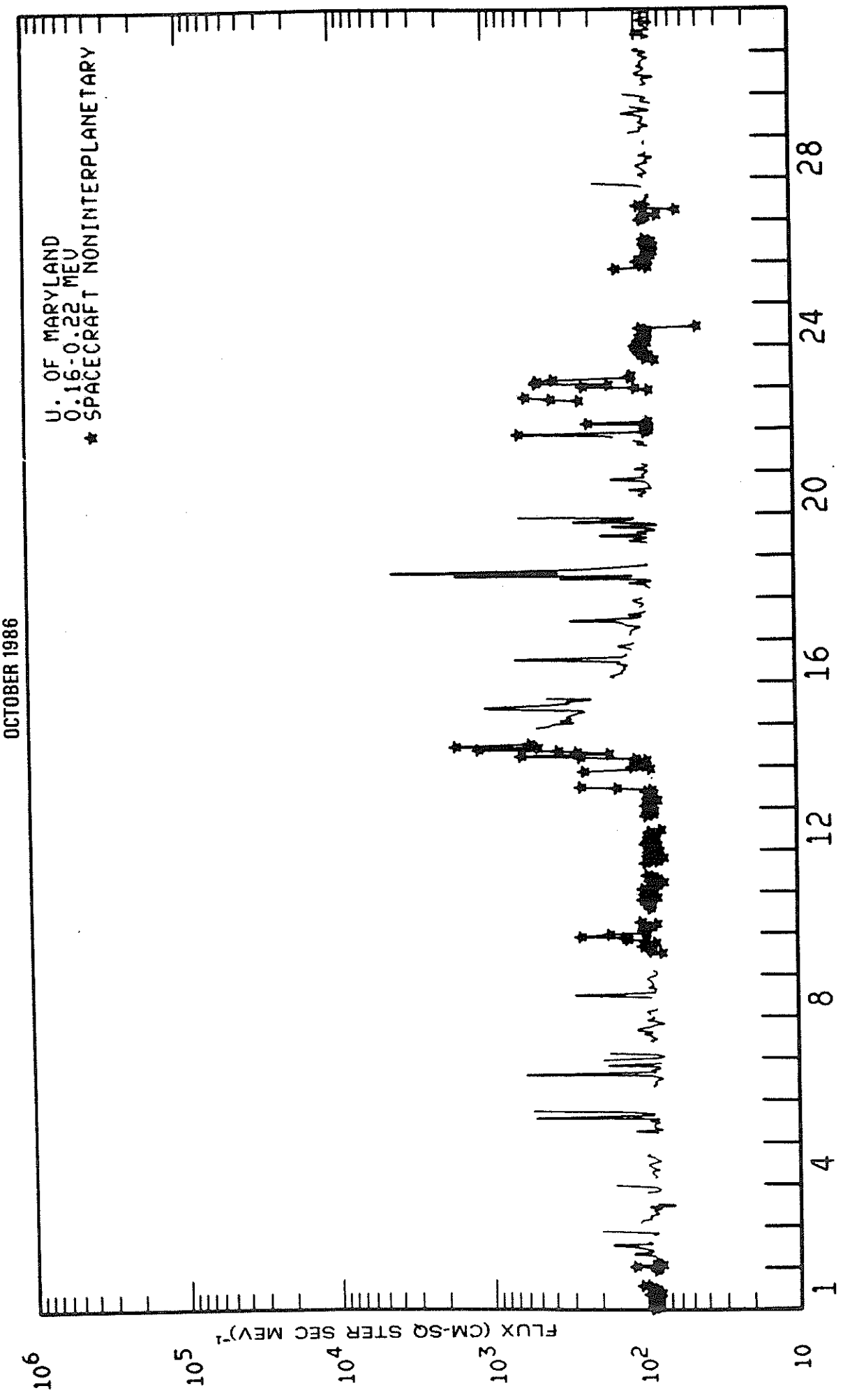


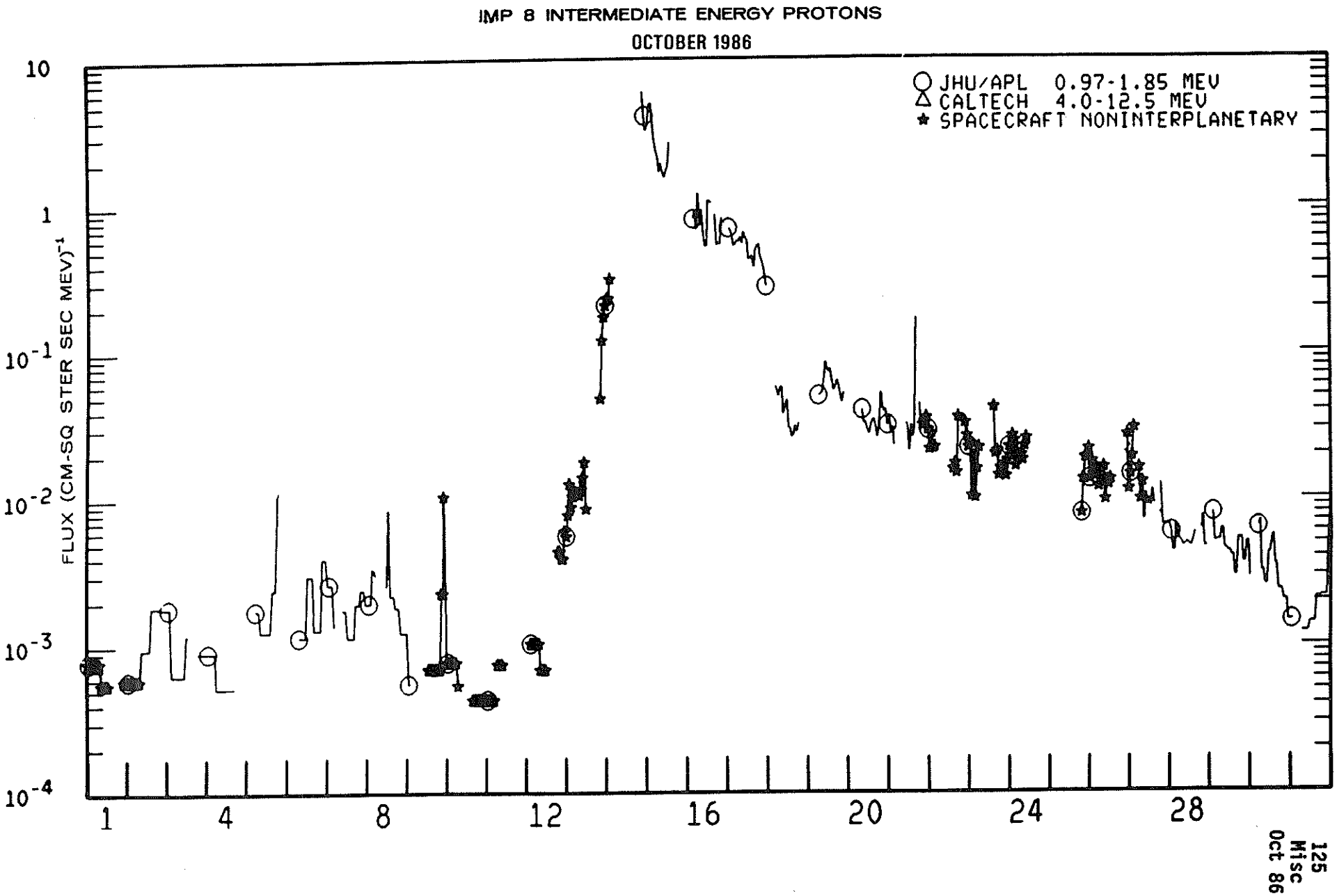

IMP 8 INTERMEDIATE ENERGY PROTONS
SEPTEMBER 1986
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28
121
Misc
Sep 86


IMP 8 HIGH ENERGY PROTONS
SEPTEMBER 1986
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28

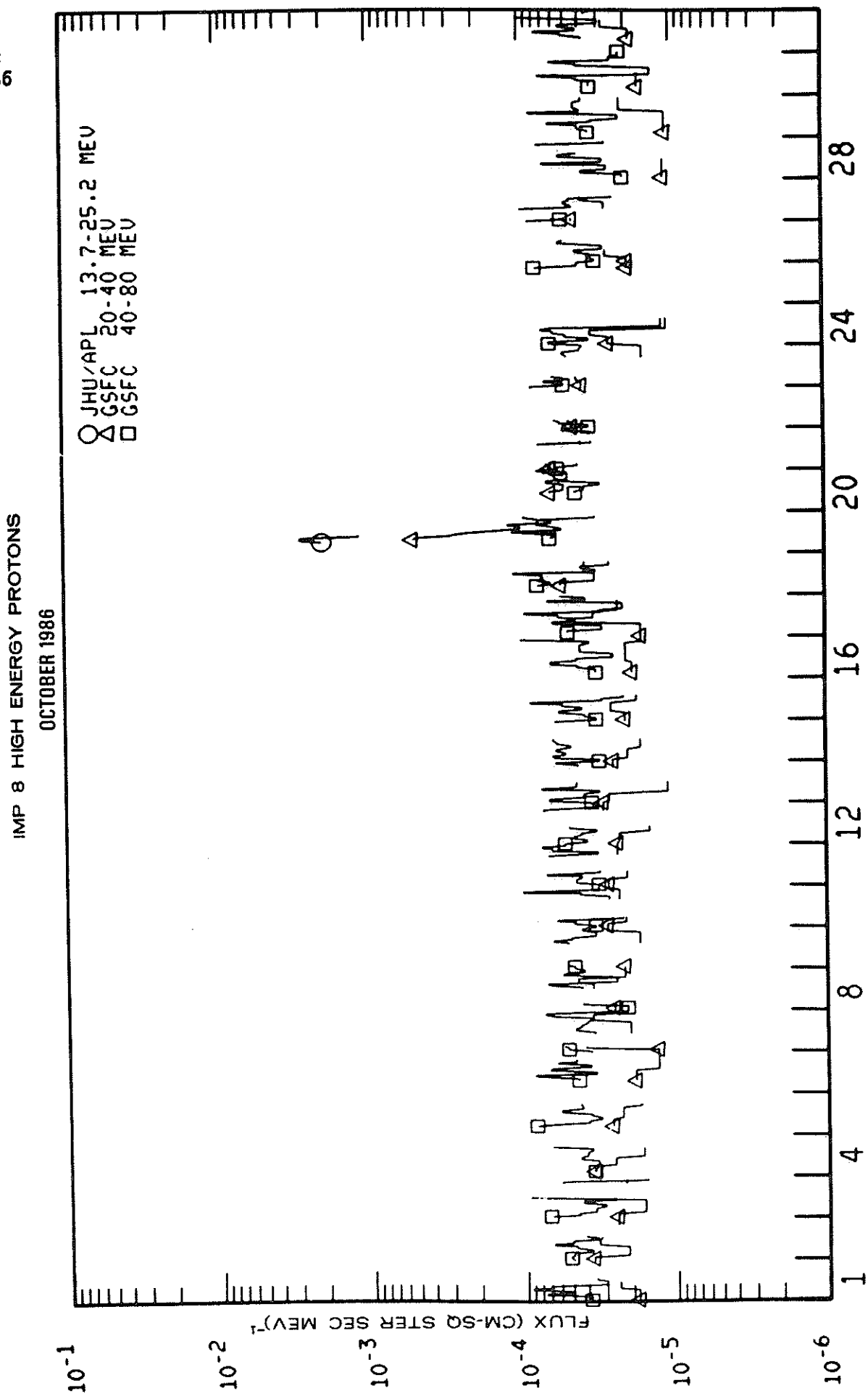

IMP 8 ALPHA PARTICLES
SEPTEMBER 1986
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28
123
Misc
Sep 86

124
Misc
Oct 86



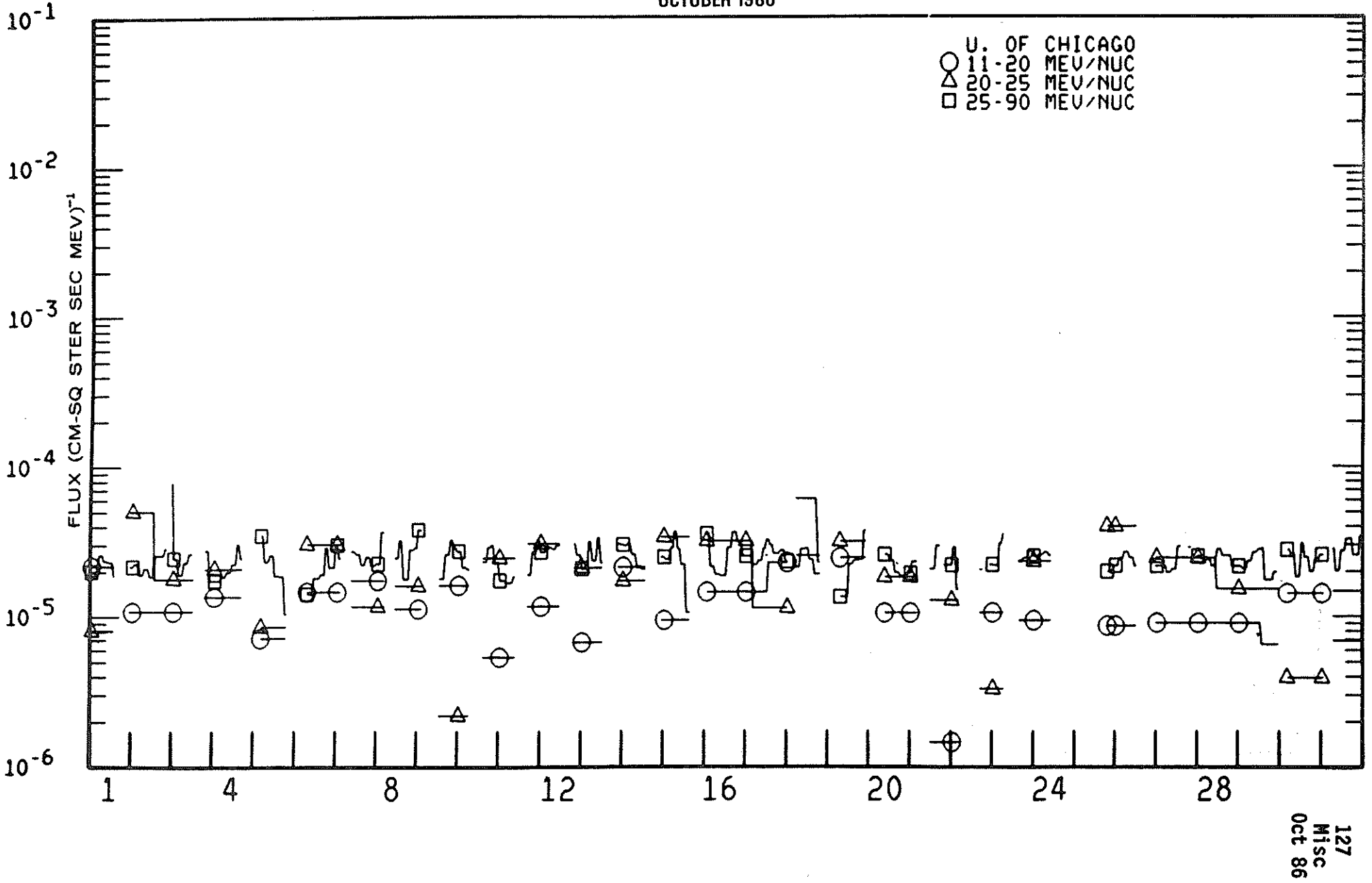

IMP 8 INTERMEDIATE ENERGY PROTONS
OCTOBER 1986
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28
125
Misc
Oct 86

126
Misc
Oct 86



IMP 8 ALPHA PARTICLES

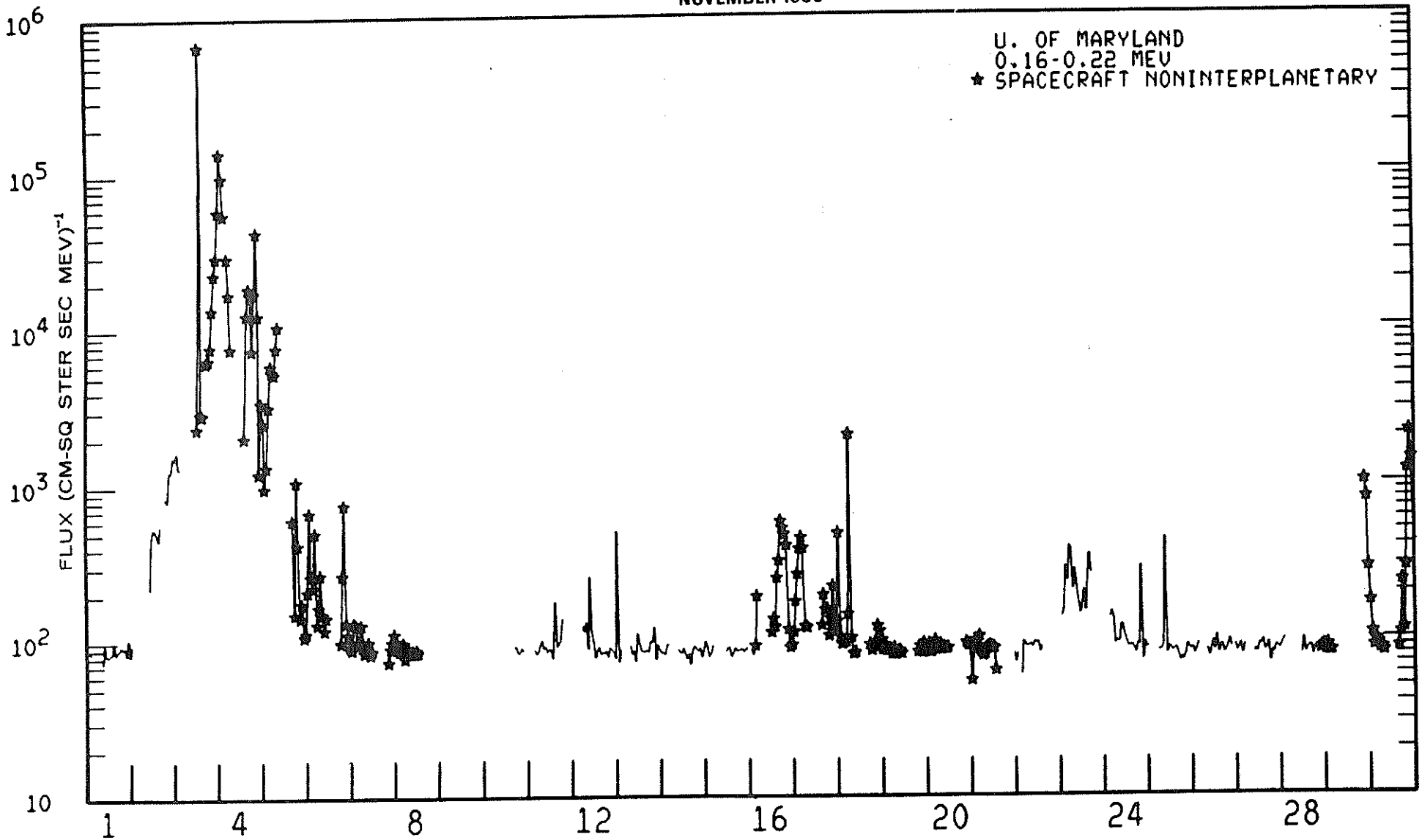
OCTOBER 1986

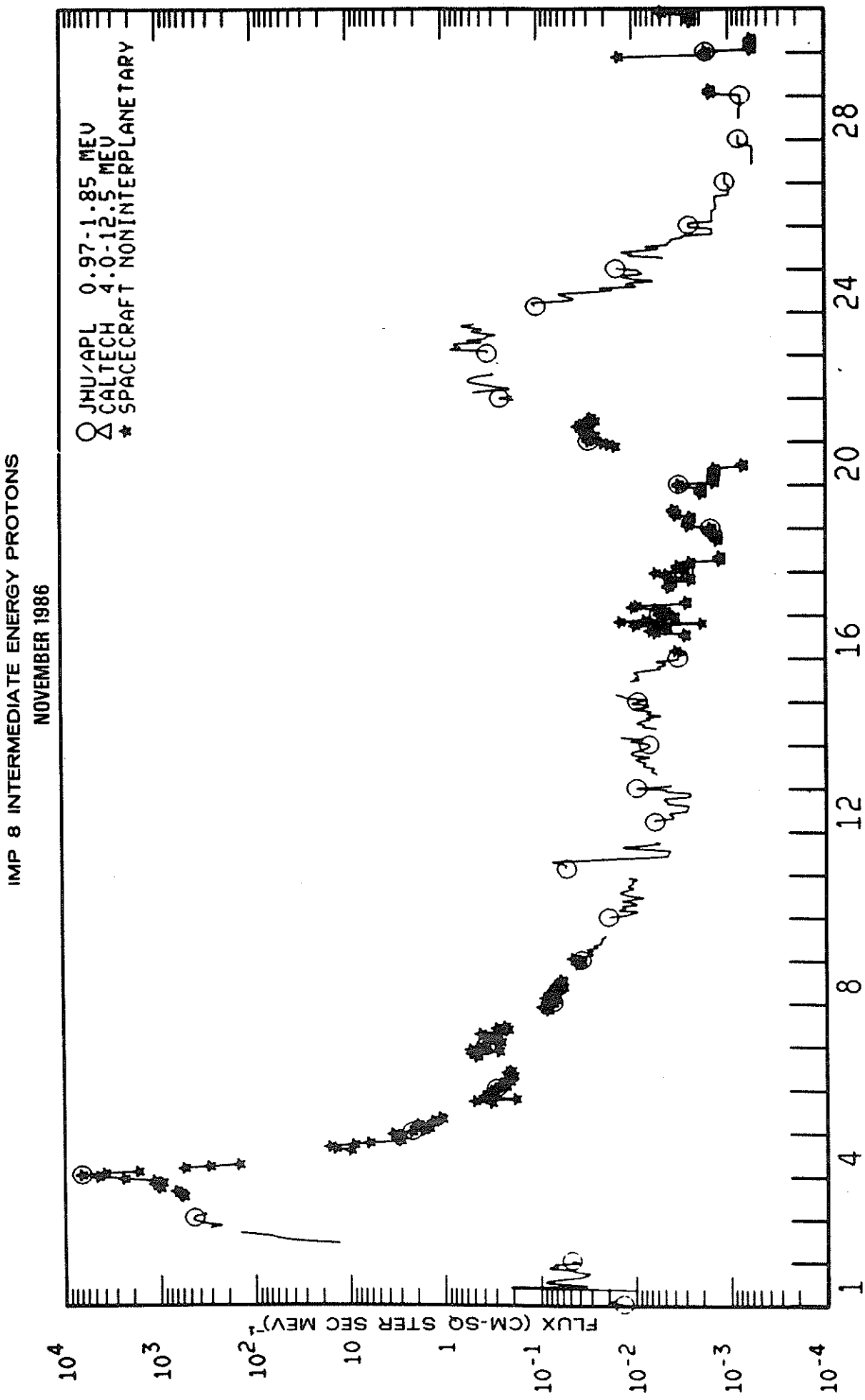


128
Misc
Nov 86

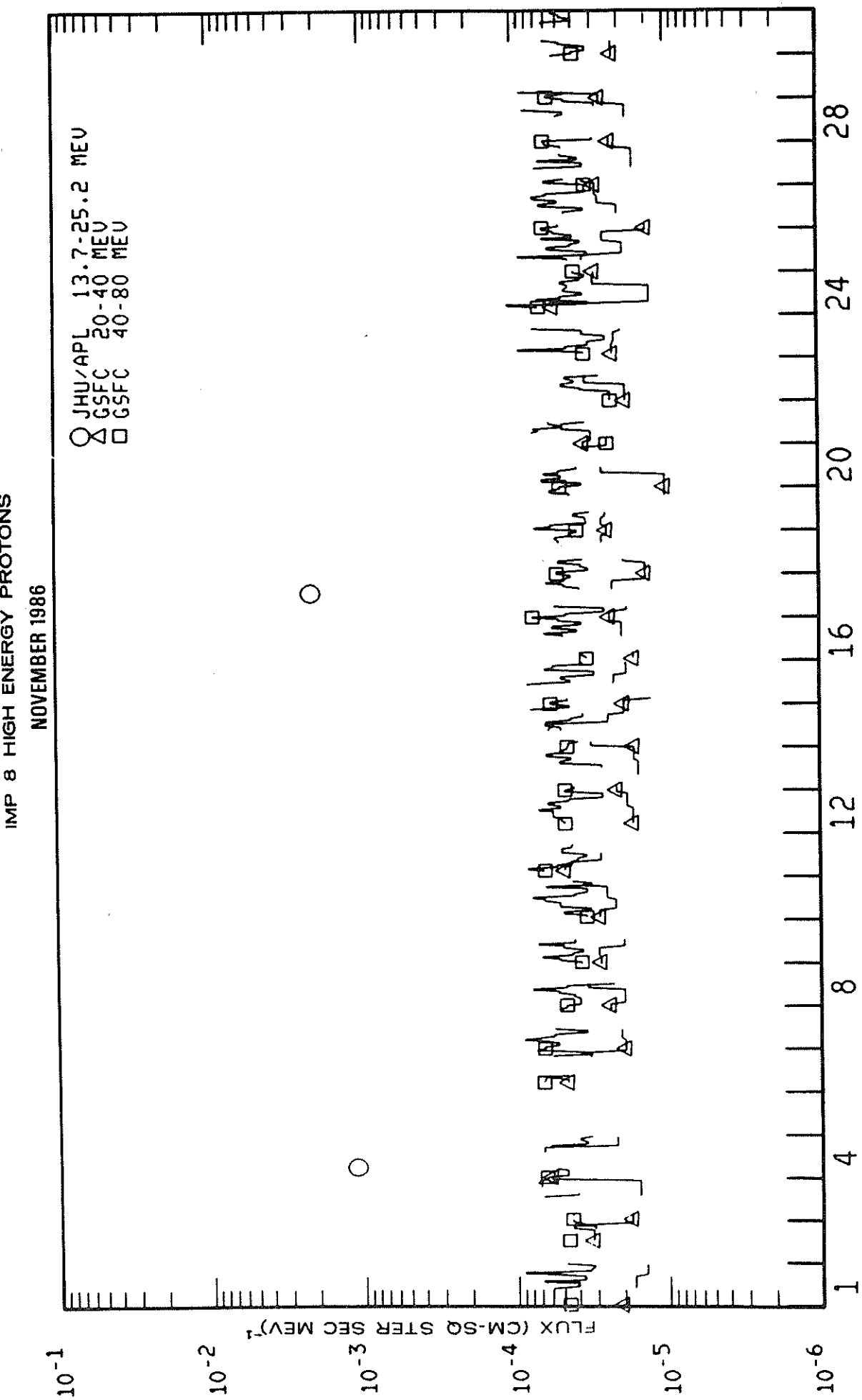
IMP 8 LOW ENERGY PROTONS

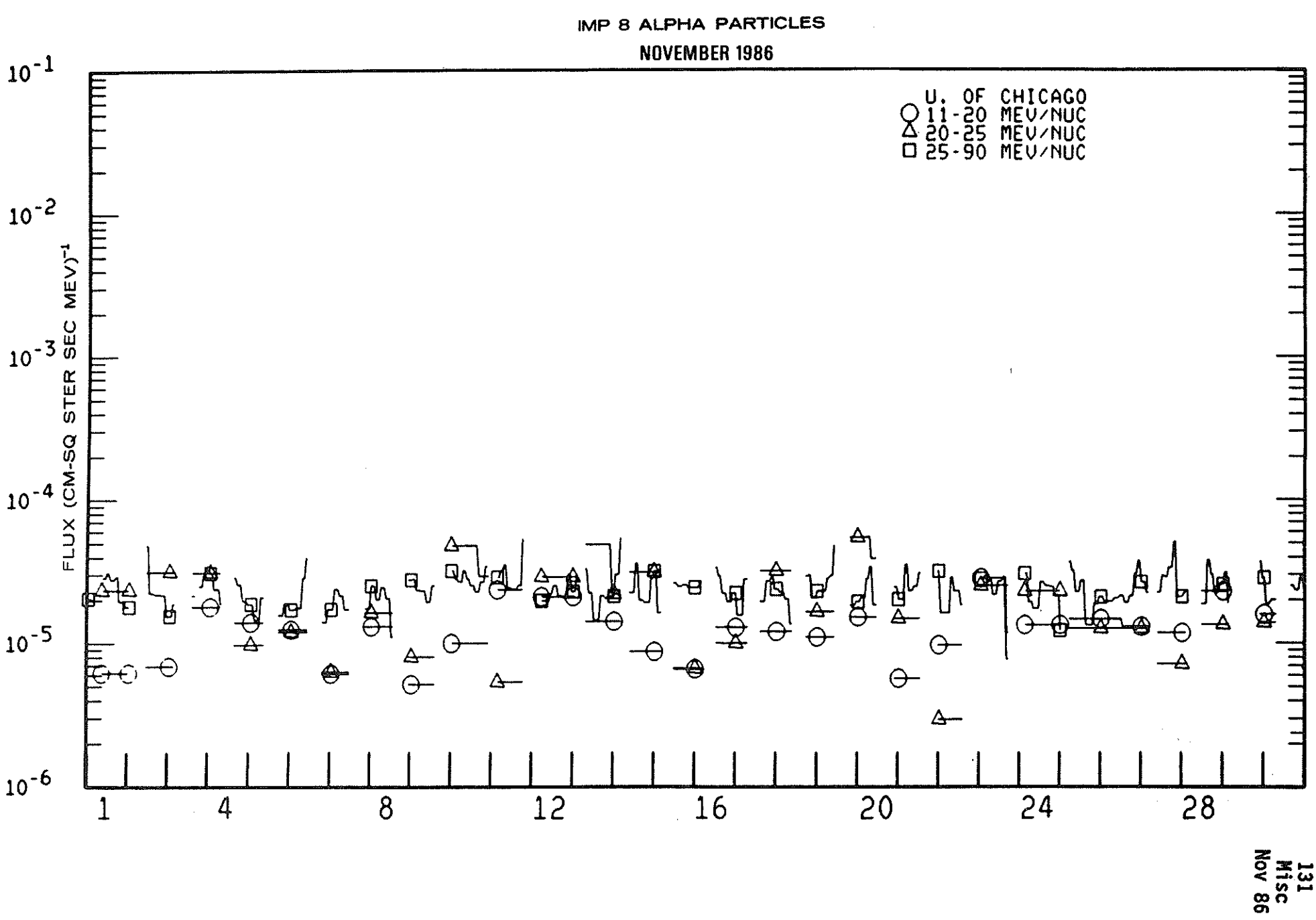
NOVEMBER 1986




IMP 8 INTERMEDIATE ENERGY PROTONS
NOVEMBER 1986
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁴
10³
10²
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28

130
Misc
Nov 86

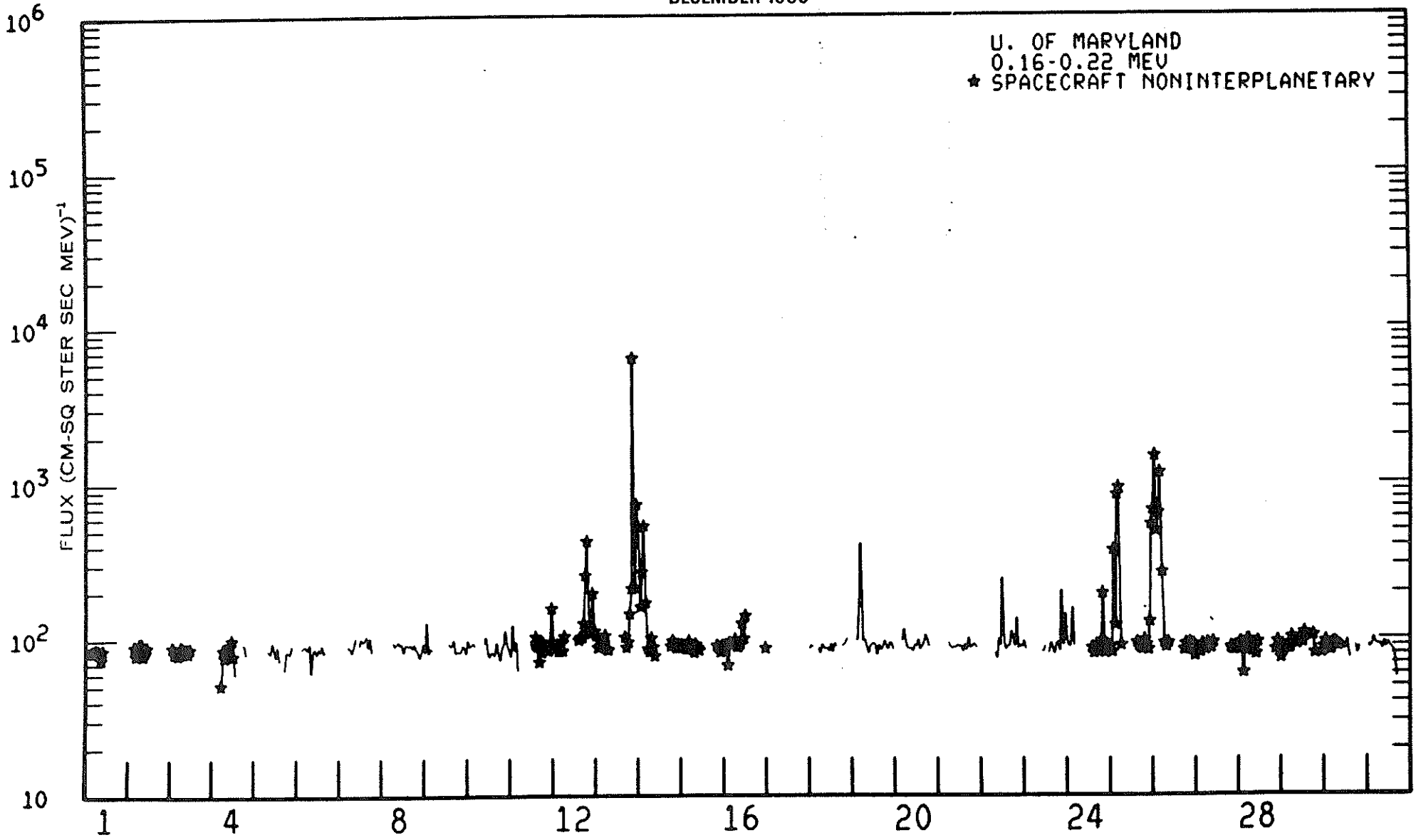


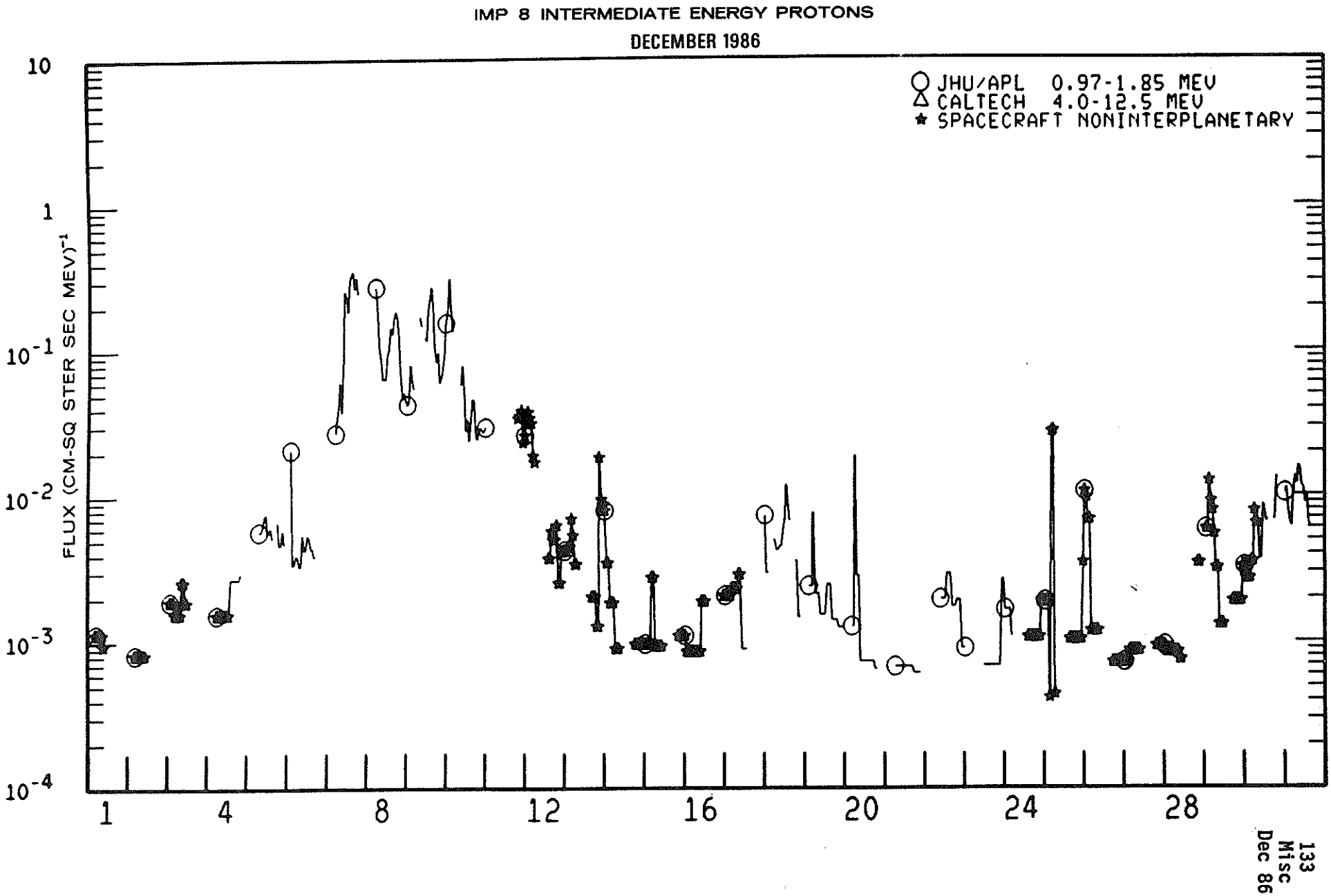

IMP 8 ALPHA PARTICLES
NOVEMBER 1986
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28
131
Misc
Nov 86

132
Misc
Dec 86

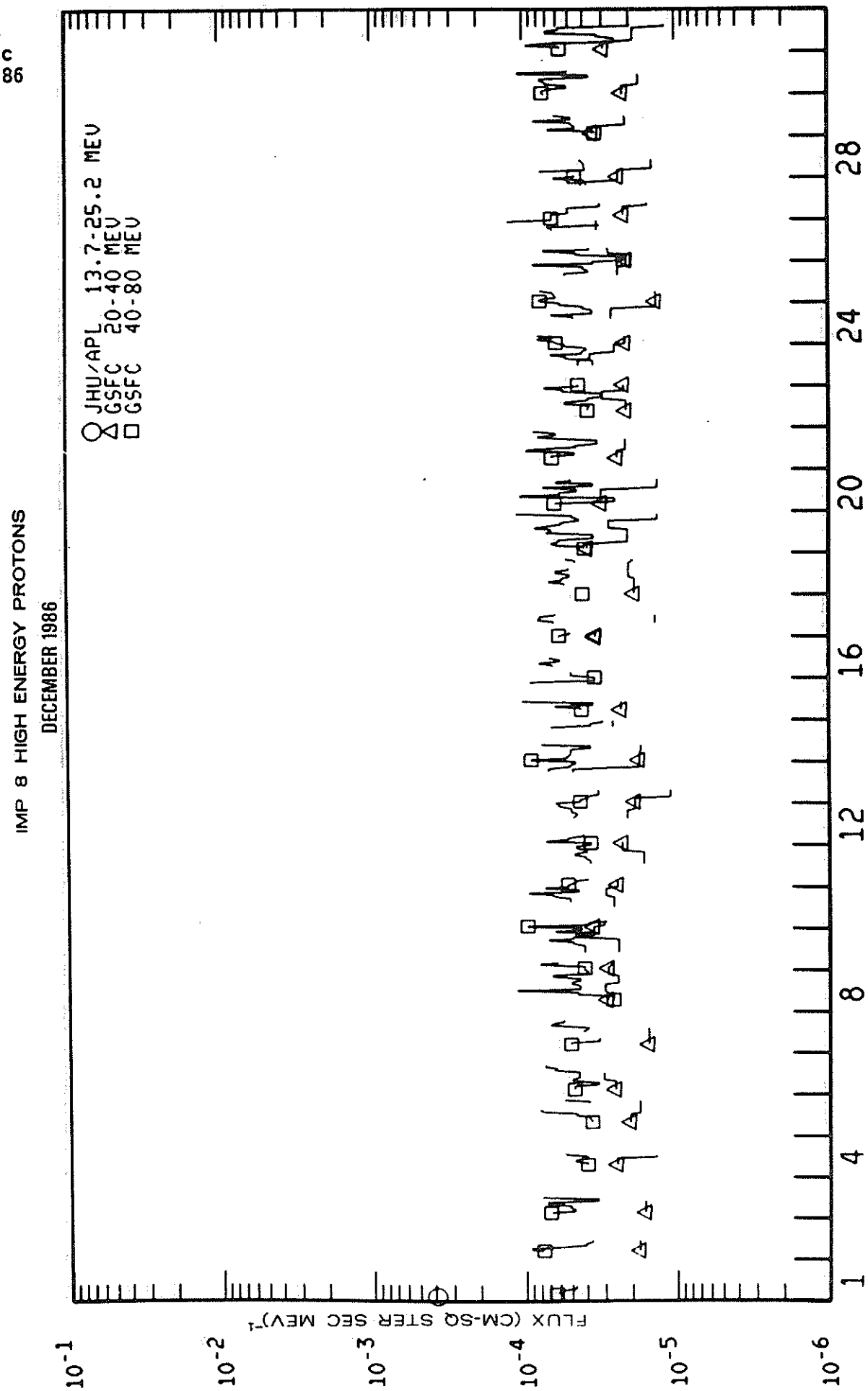
IMP 8 LOW ENERGY PROTONS

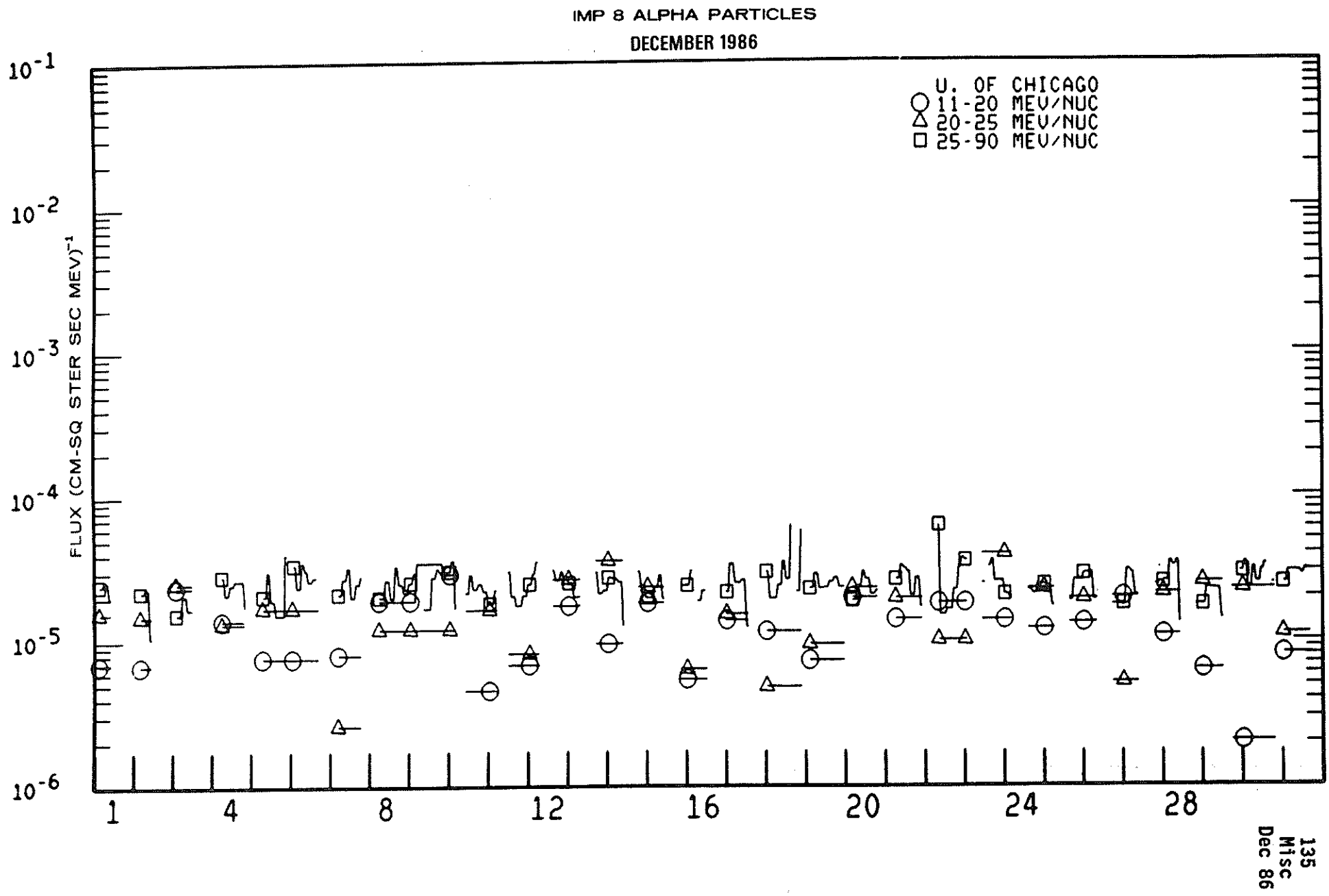
DECEMBER 1986




IMP 8 INTERMEDIATE ENERGY PROTONS
DECEMBER 1986
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10
1
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1
4
8
12
16
20
24
28
133
Misc
Dec 86

134
Misc
Dec 86

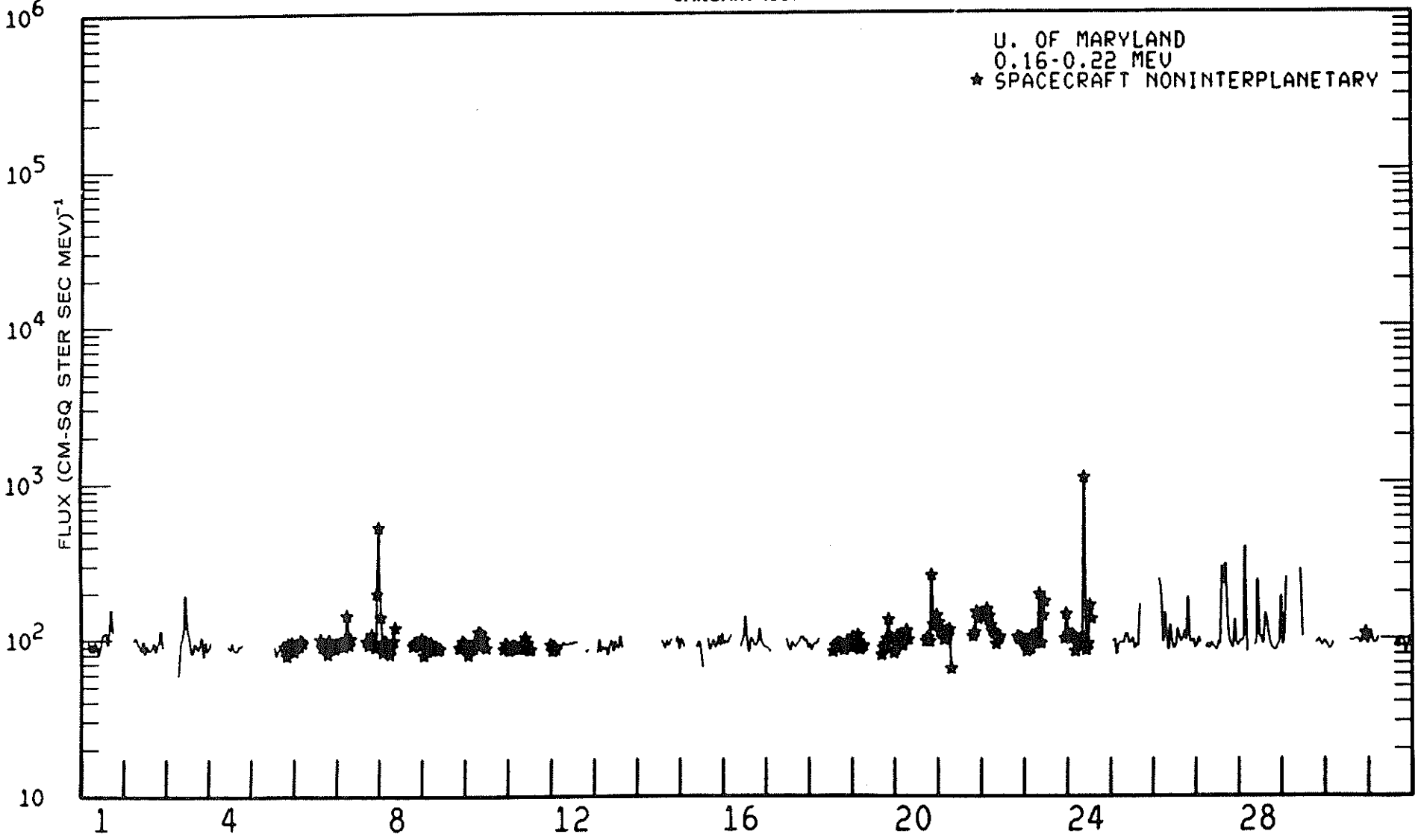


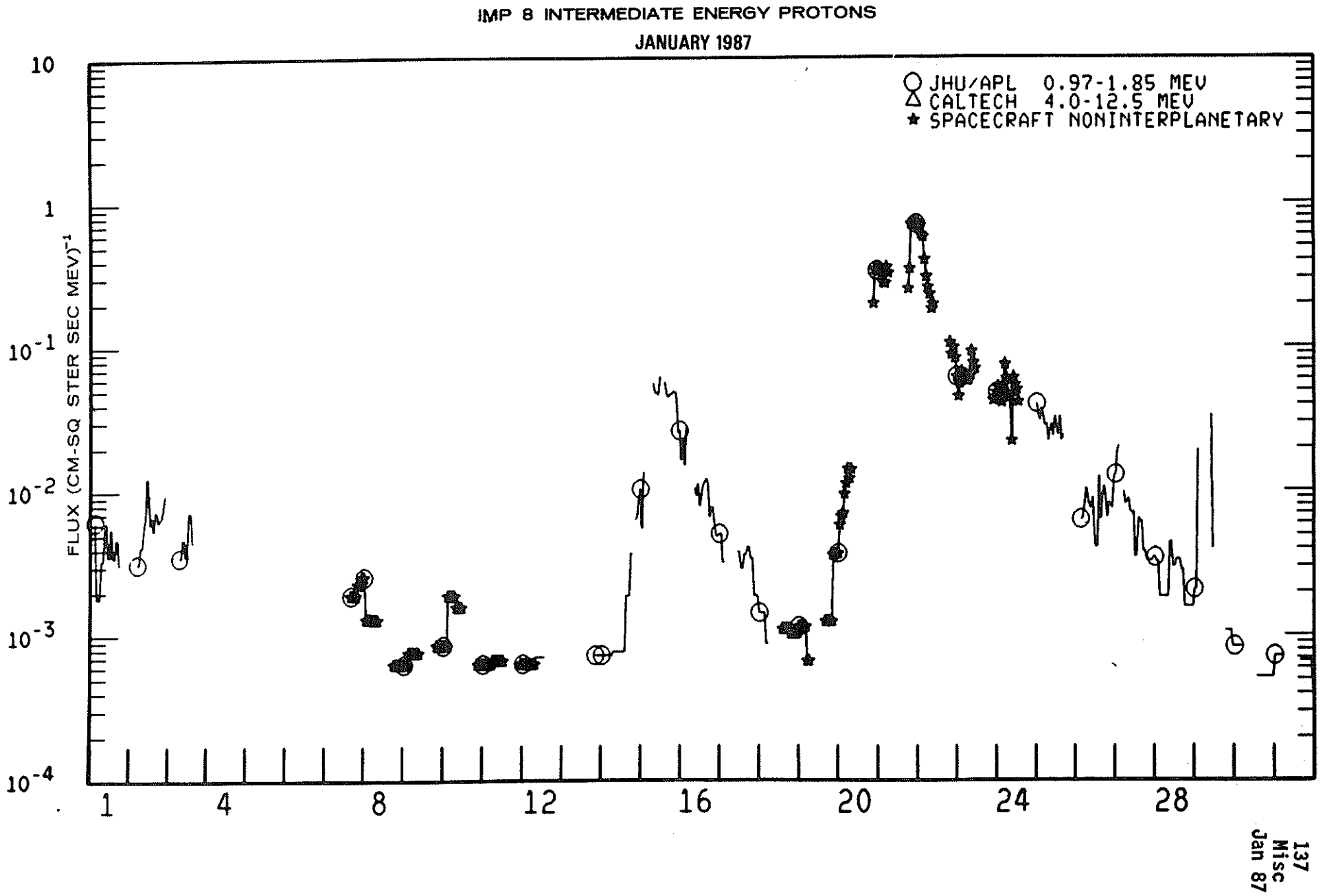

IMP 8 ALPHA PARTICLES
DECEMBER 1986
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
135
Misc
Dec 86

136
Misc
Jan 87

IMP 8 LOW ENERGY PROTONS

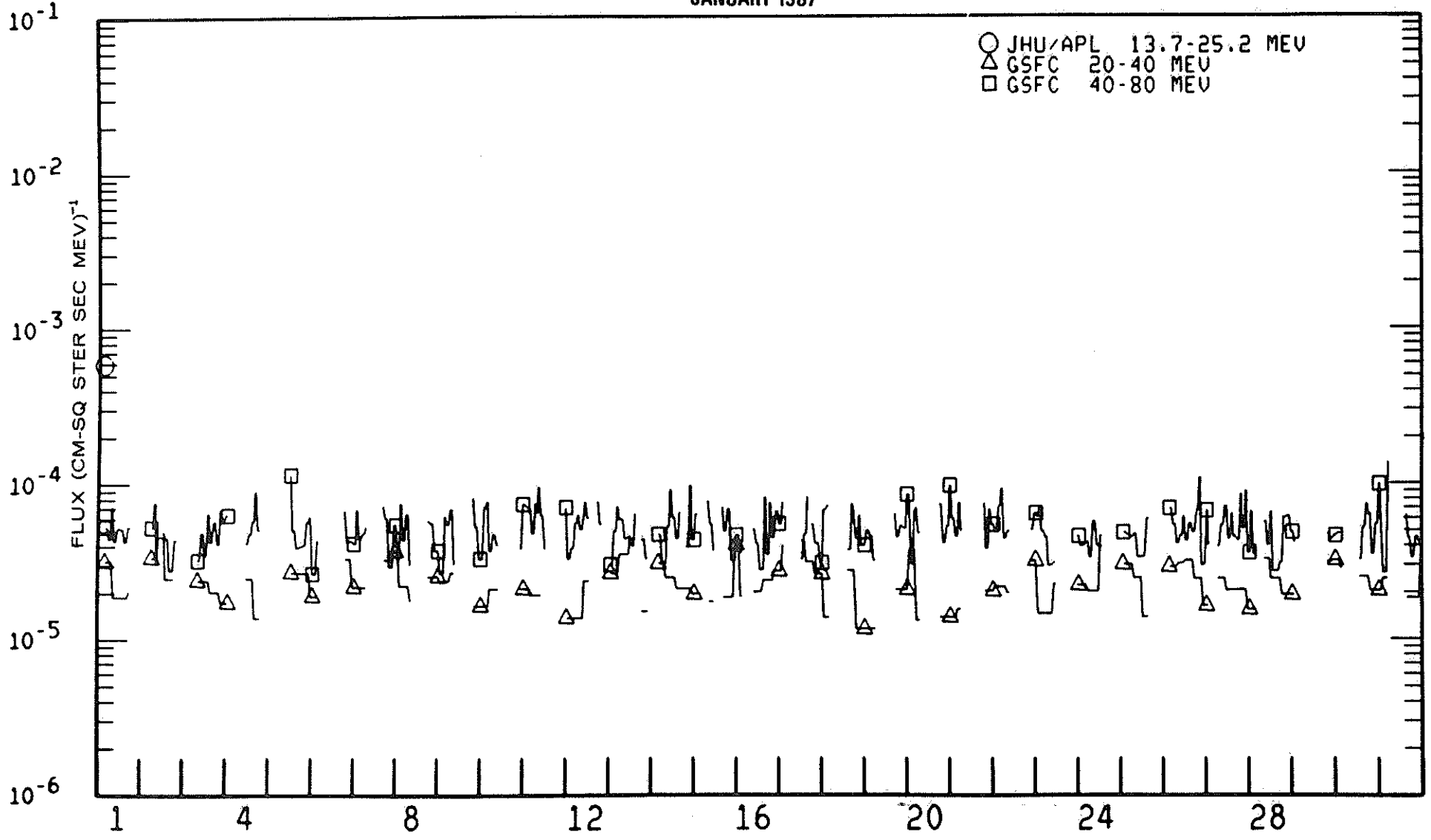
JANUARY 1987

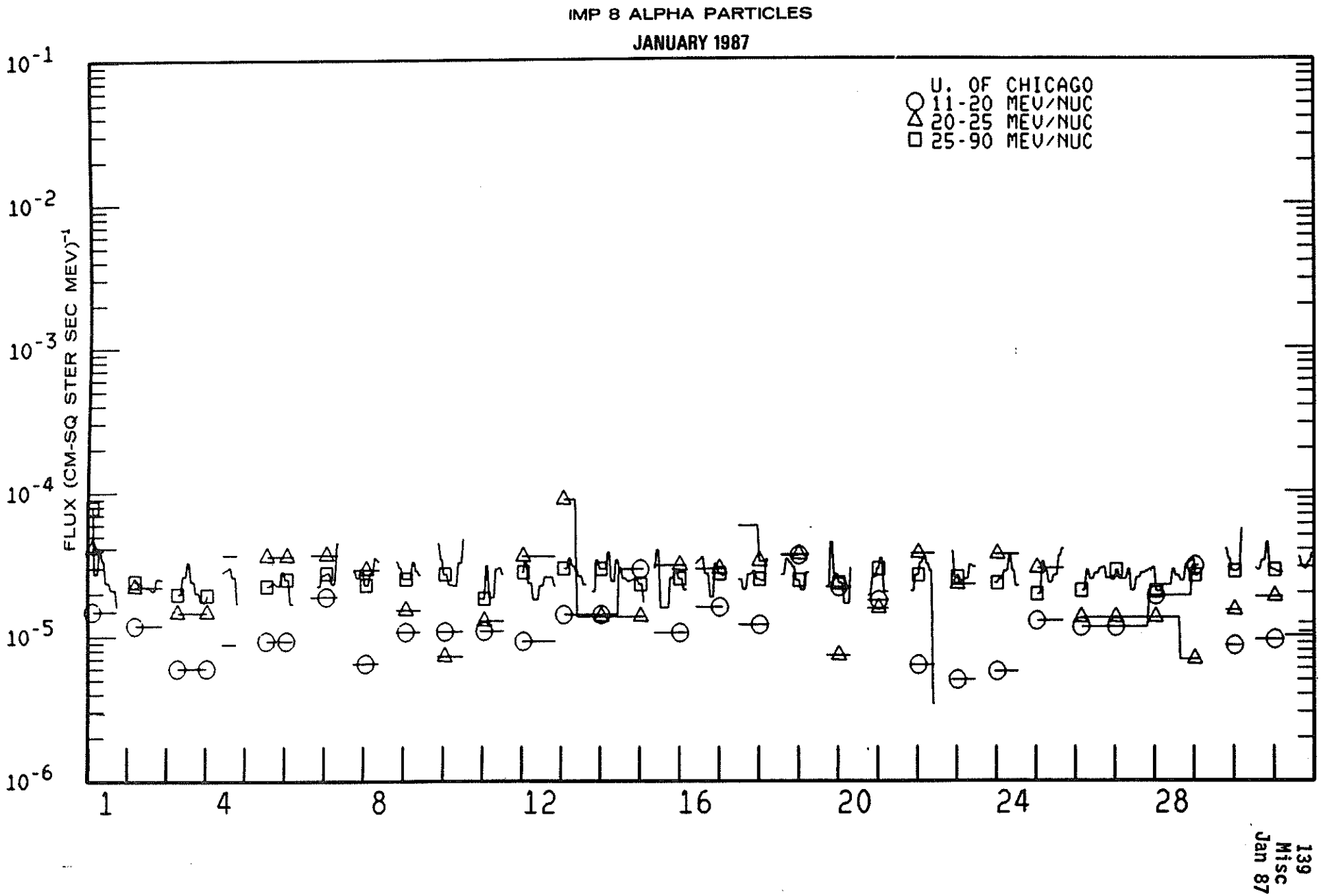


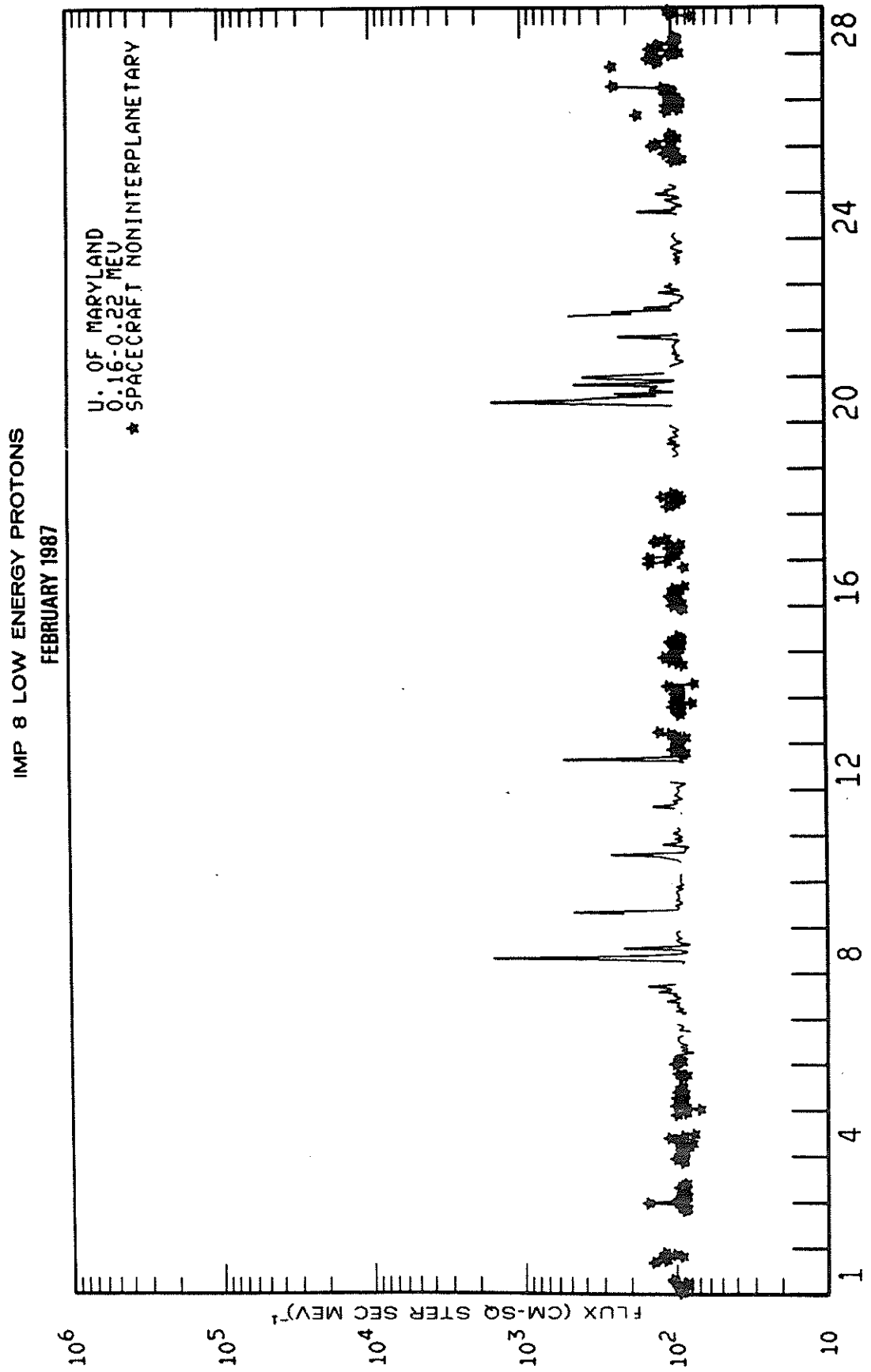

IMP 8 INTERMEDIATE ENERGY PROTONS
JANUARY 1987
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10
1
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1
4
8
12
16
20
24
28
137
Misc
Jan 87

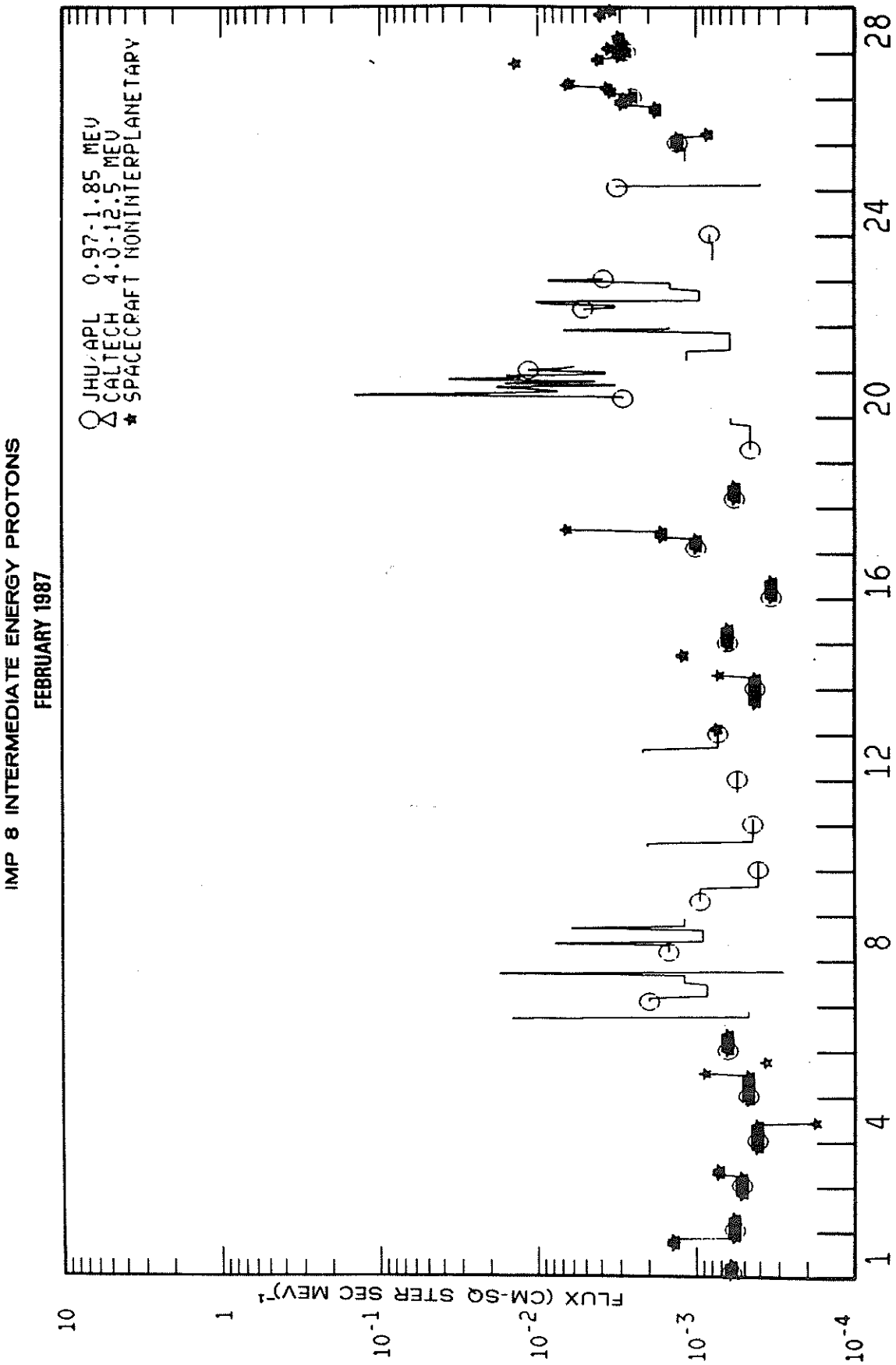
IMP 8 HIGH ENERGY PROTONS

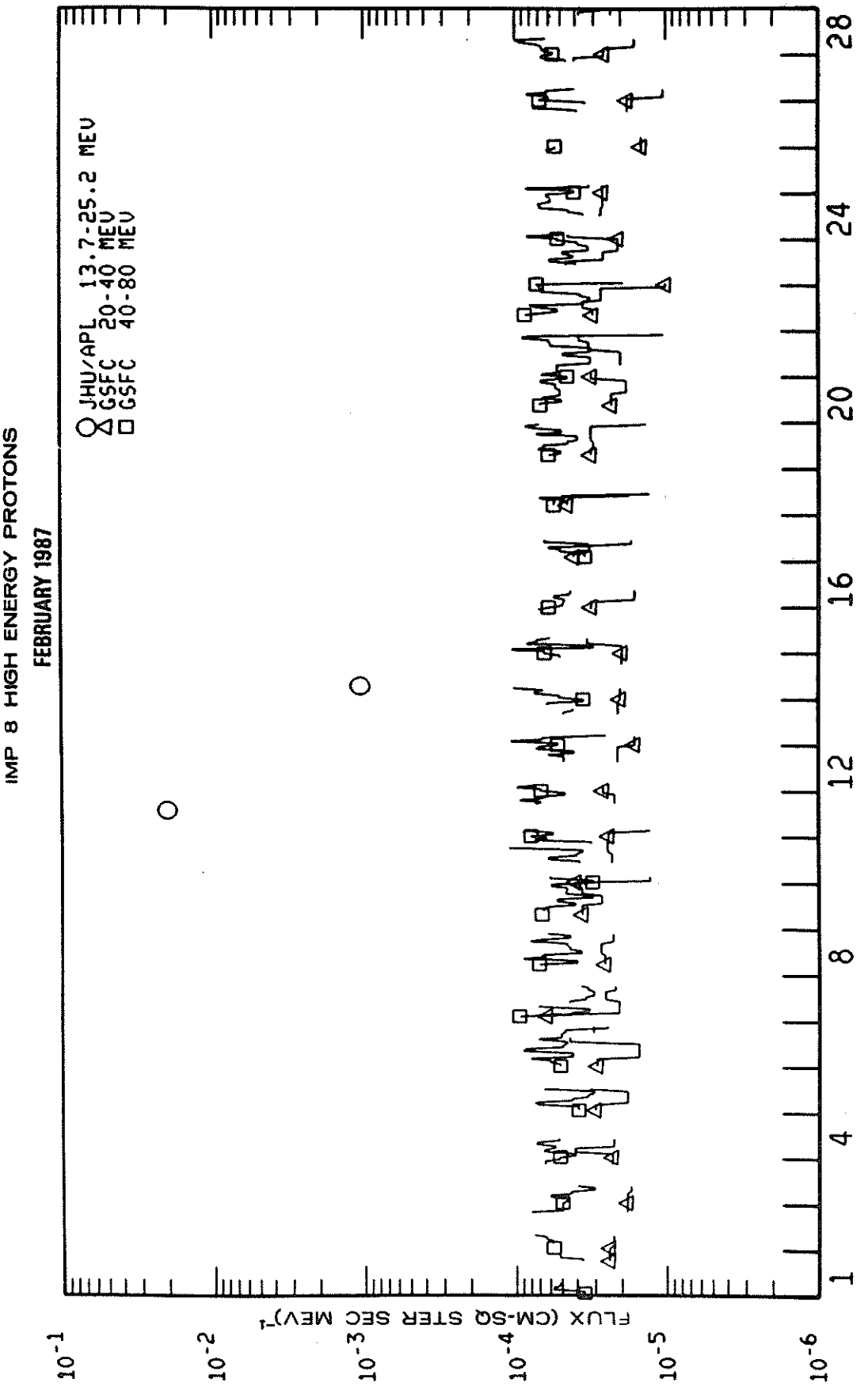
JANUARY 1987

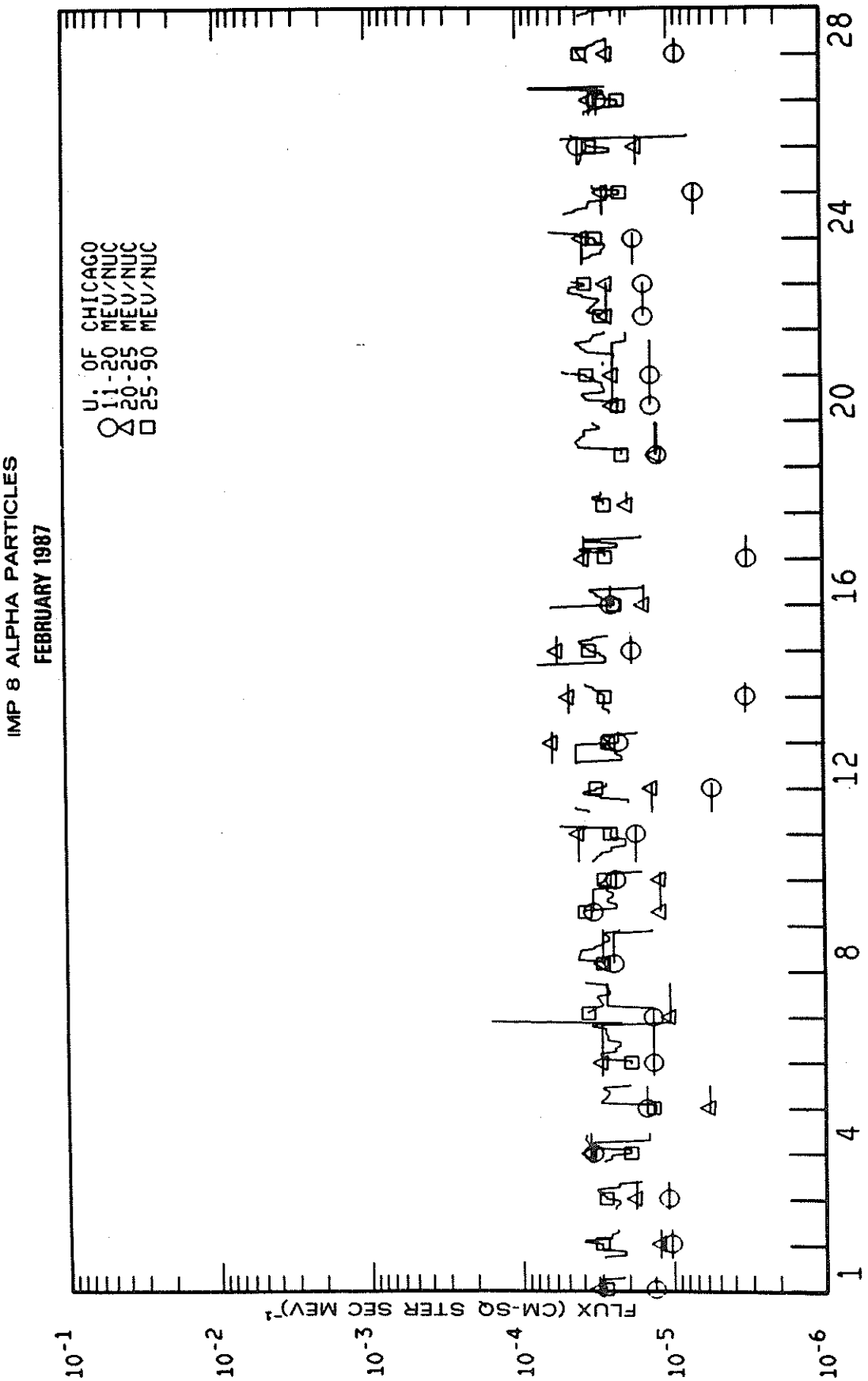



IMP 8 ALPHA PARTICLES
JANUARY 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
139
Misc
Jan 87

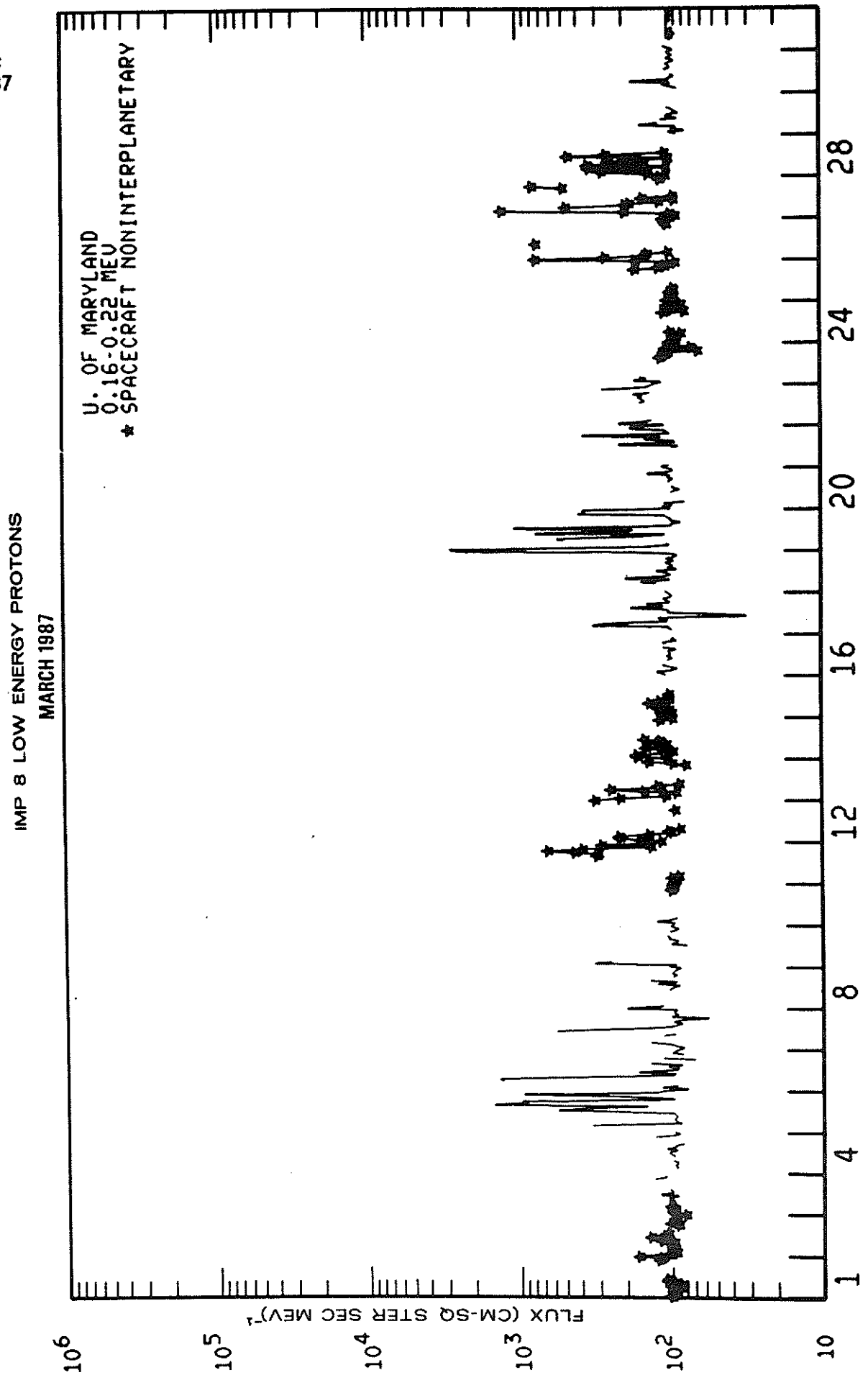

IMP 8 LOW ENERGY PROTONS
FEBRUARY 1987
U. OF MARYLAND
0.16-0.22 MEV
* SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^6
10^5
10^4
10^3
10^2
10
1
4
8
12
16
20
24
28


IMP 8 INTERMEDIATE ENERGY PROTONS
FEBRUARY 1987
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28


IMP 8 HIGH ENERGY PROTONS
FEBRUARY 1987
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)-1
10-1
10-2
10-3
10-4
10-5
10-6
1
4
8
12
16
20
24
28

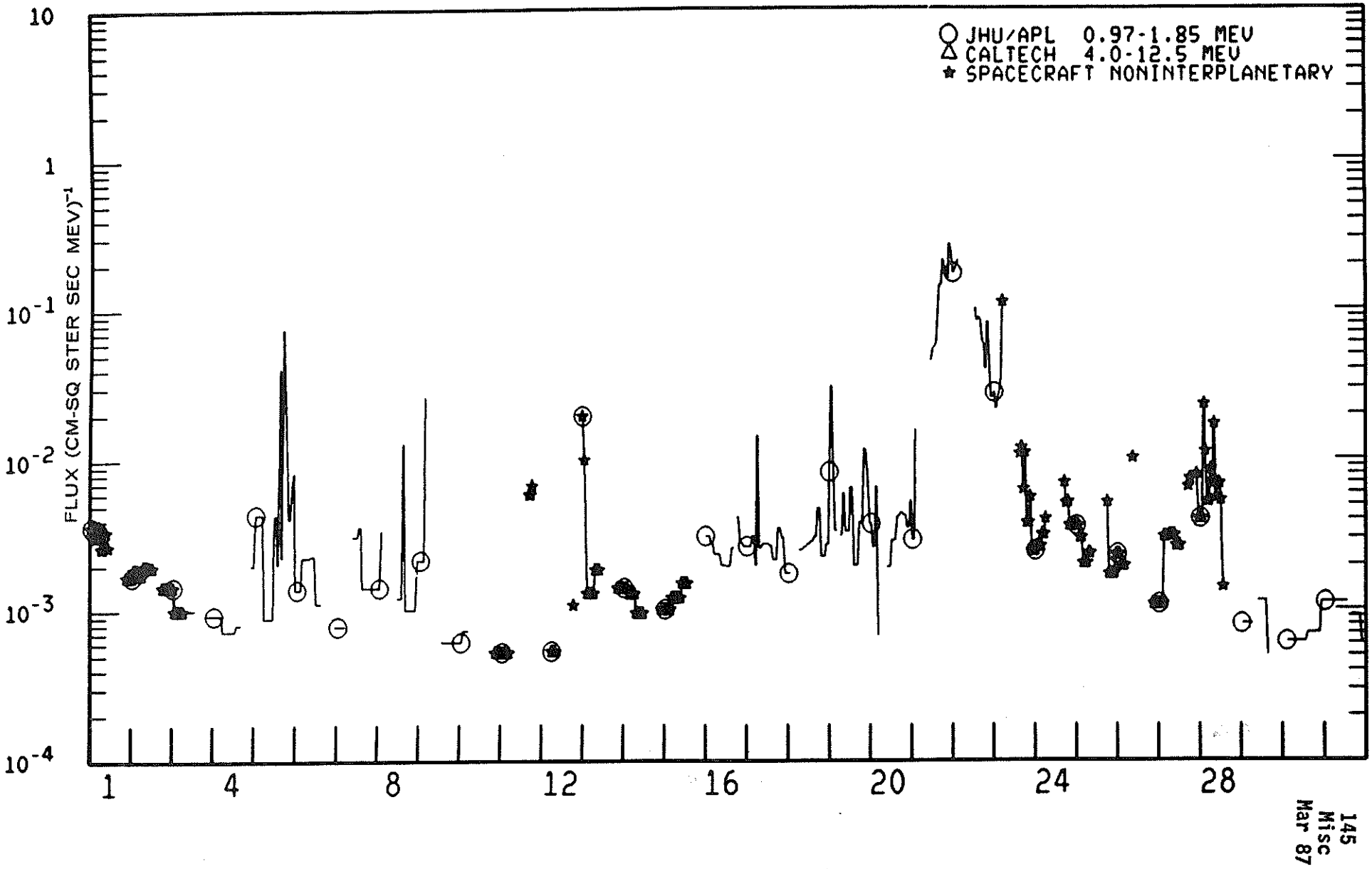

IMP 8 ALPHA PARTICLES
FEBRUARY 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28

144
Misc
Mar 87



IMP 8 INTERMEDIATE ENERGY PROTONS

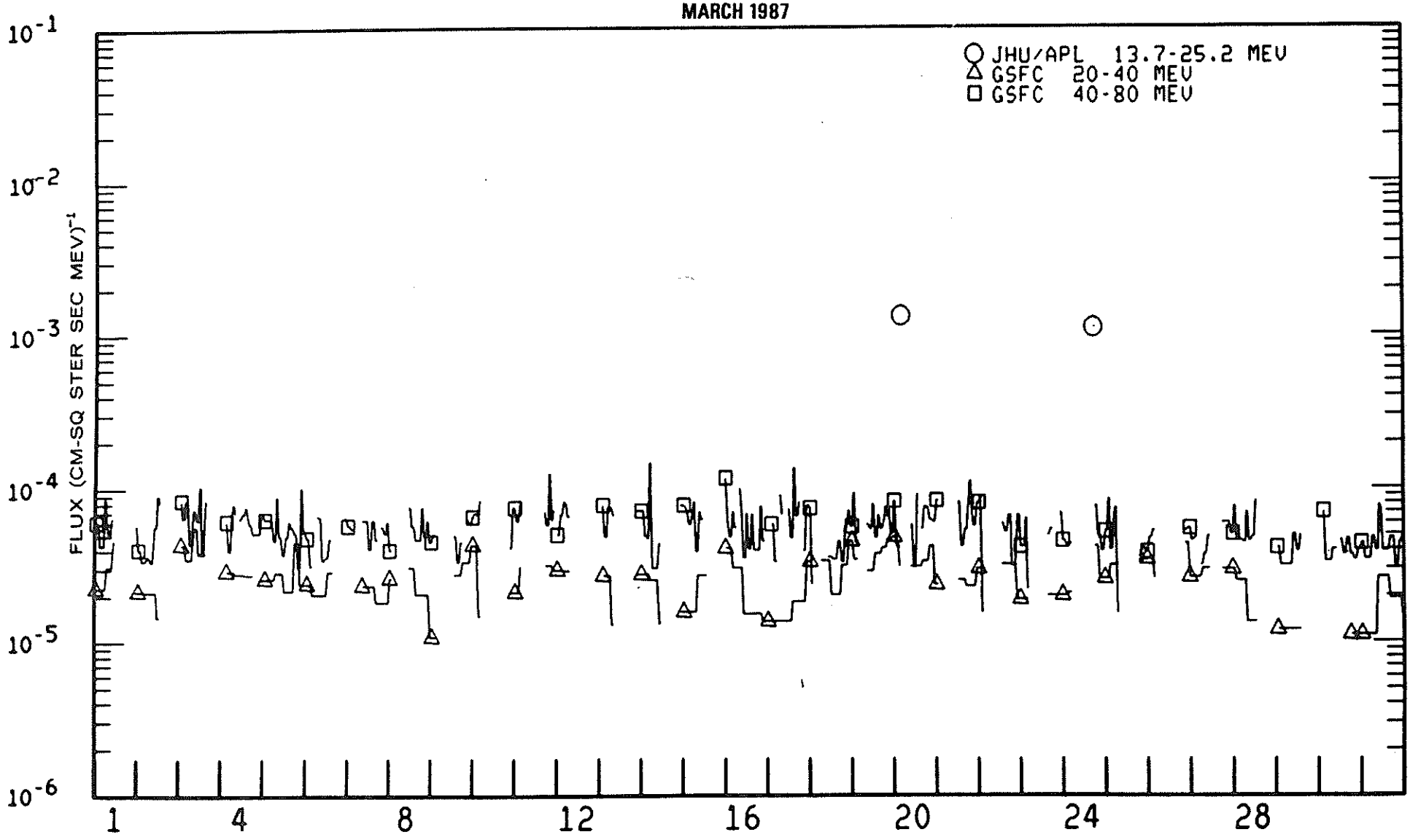
MARCH 1987

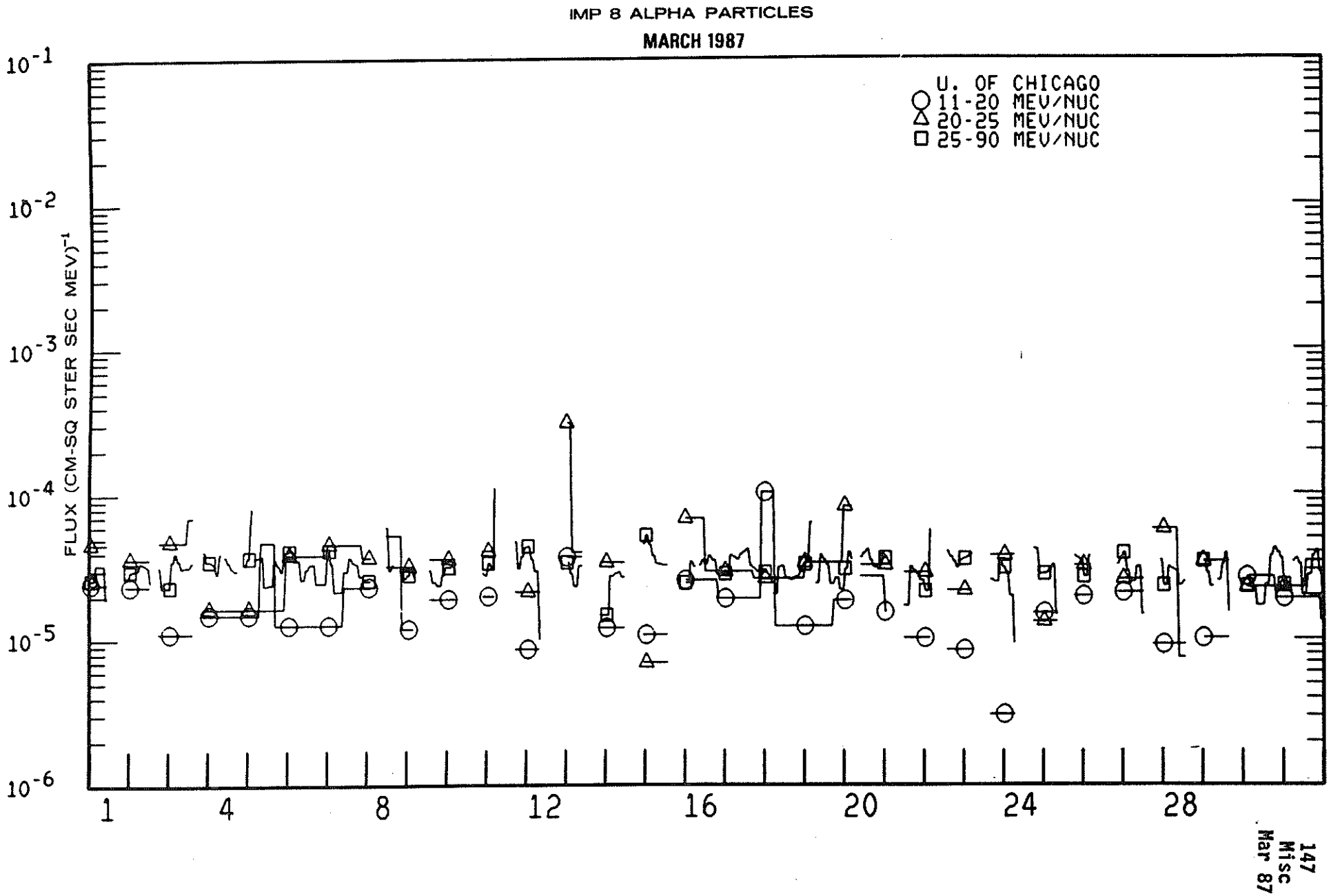


146
Misc
Mar 87

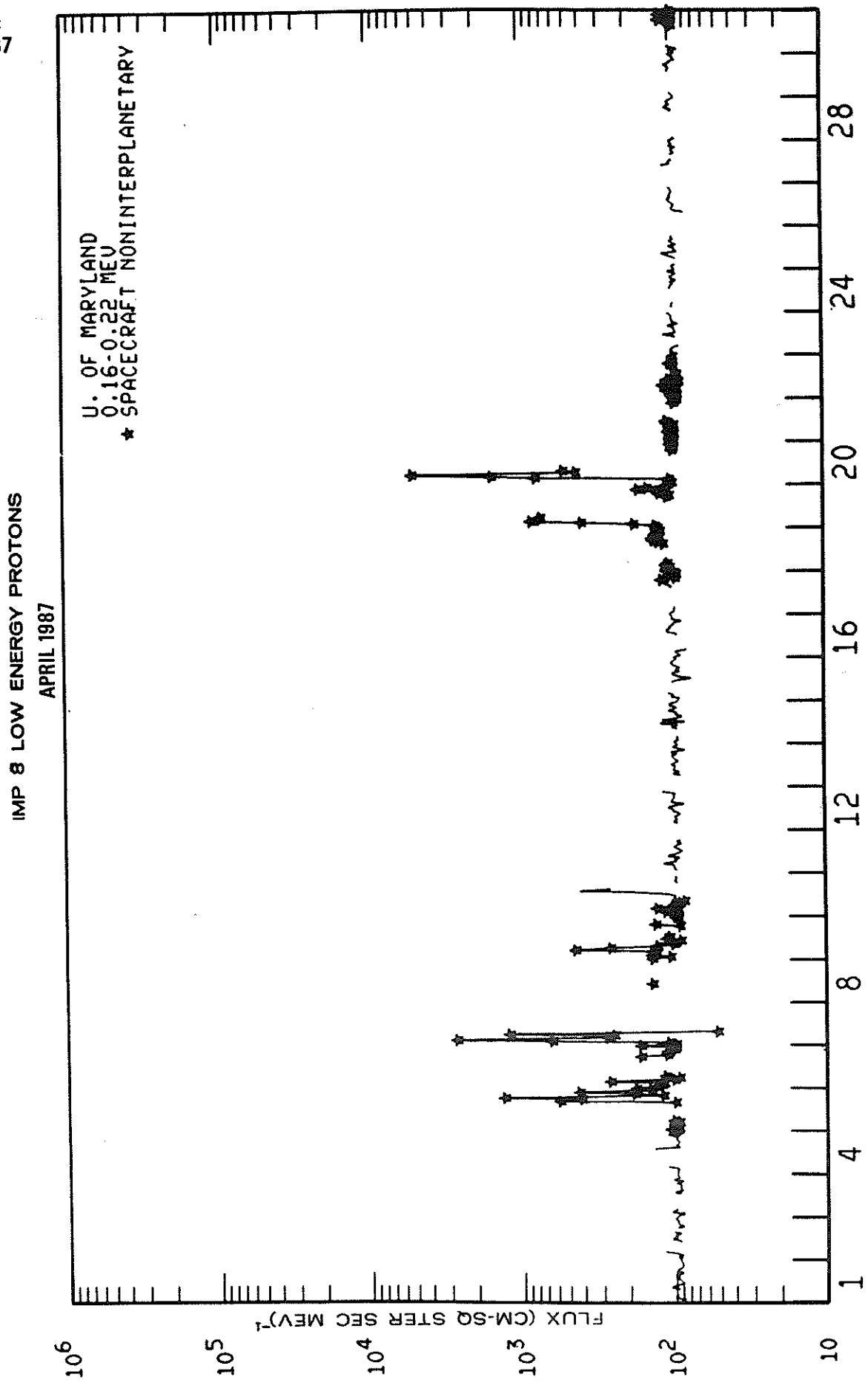
IMP 8 HIGH ENERGY PROTONS

MARCH 1987



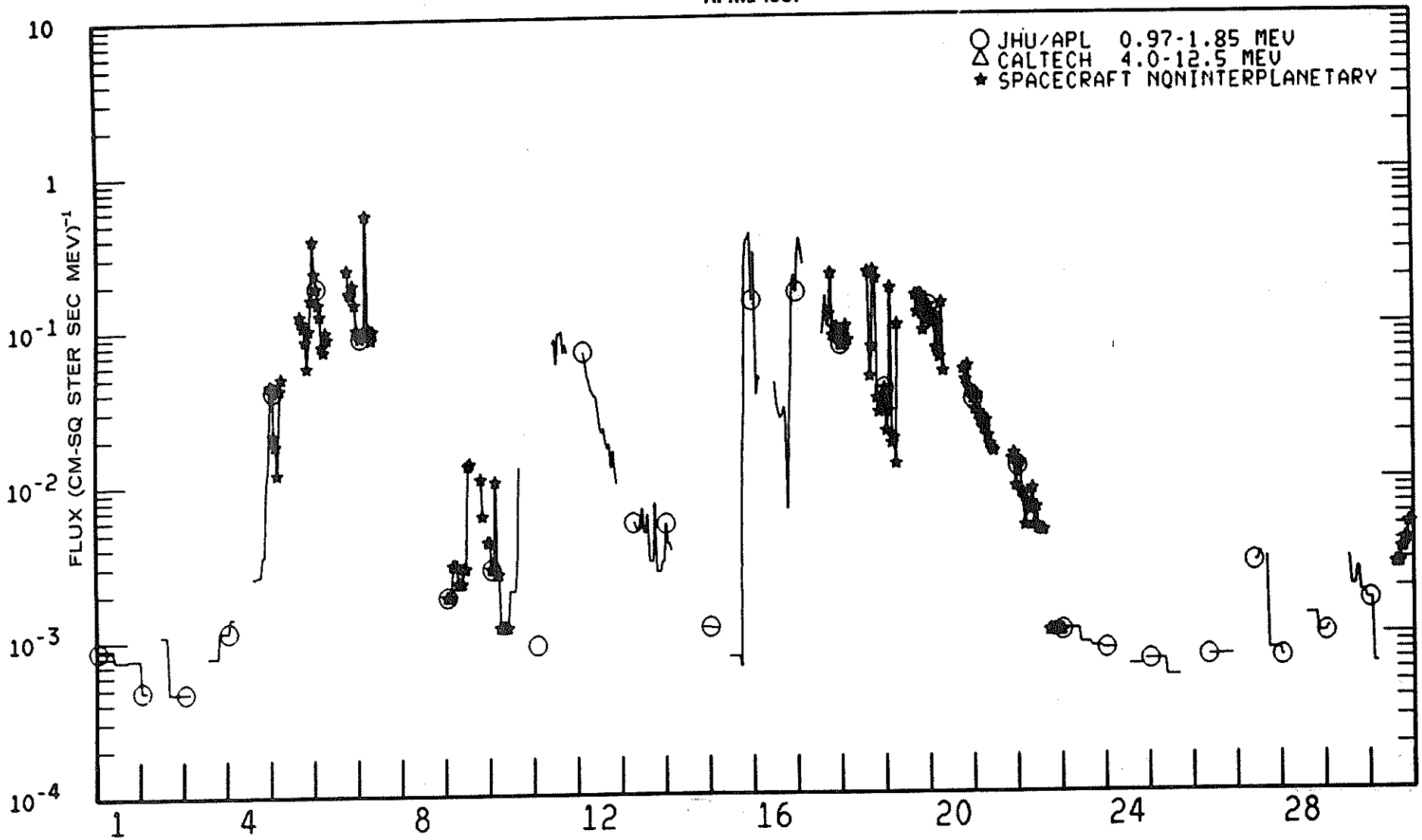

IMP 8 ALPHA PARTICLES
MARCH 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
147
Misc
Mar 87

148
Misc
Apr 87



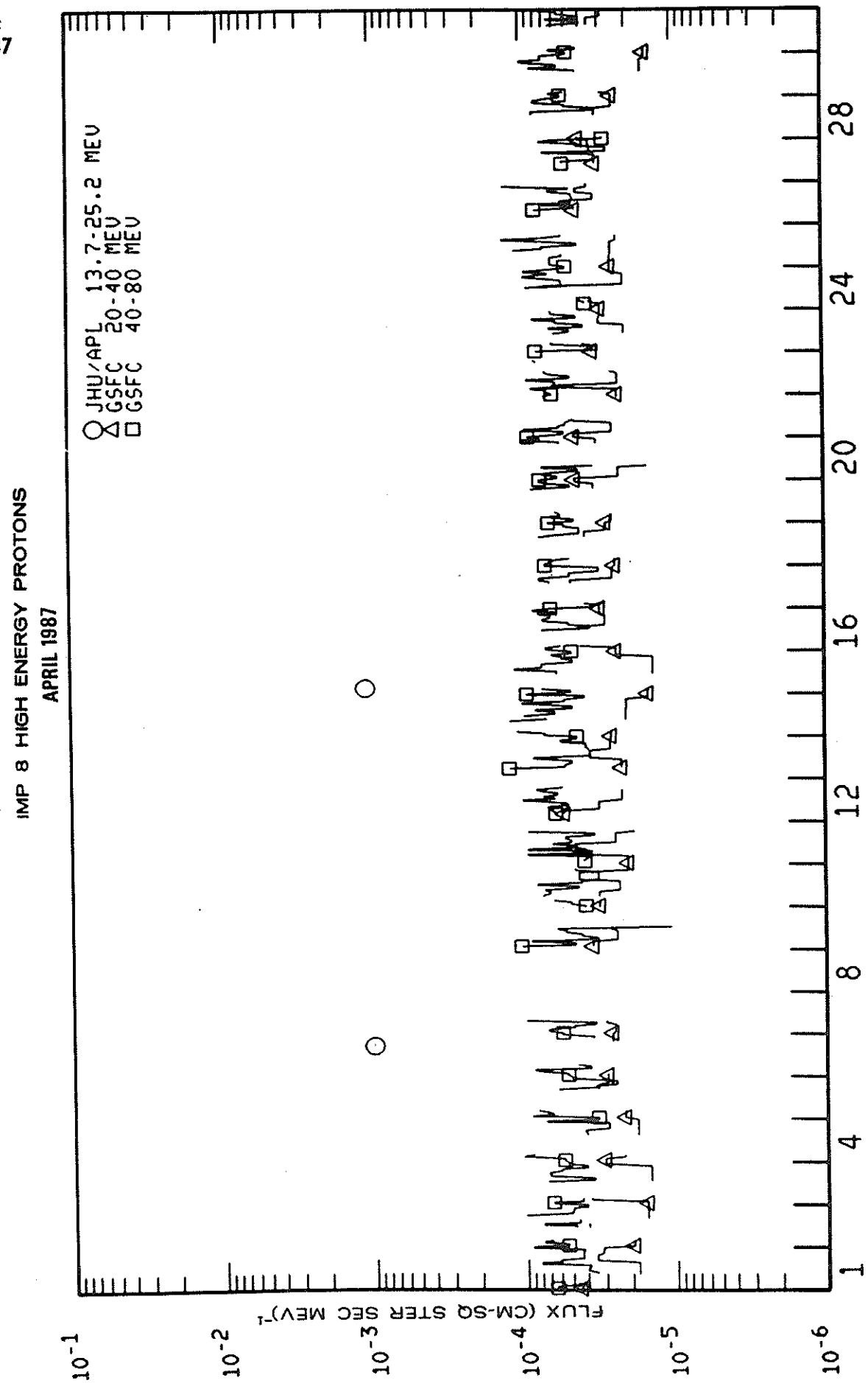
IMP 8 INTERMEDIATE ENERGY PROTONS

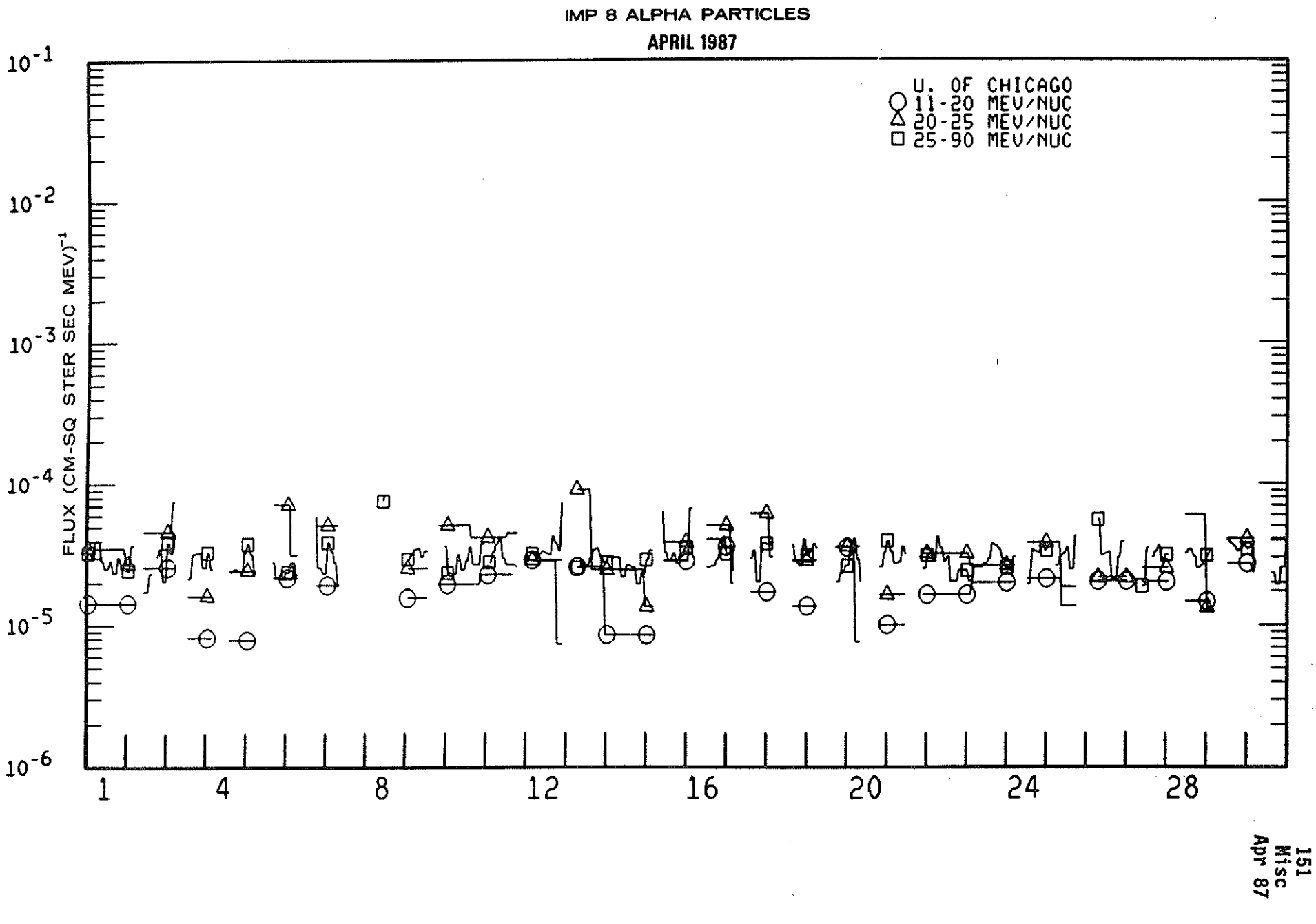
APRIL 1987



149
Misc
Apr 87

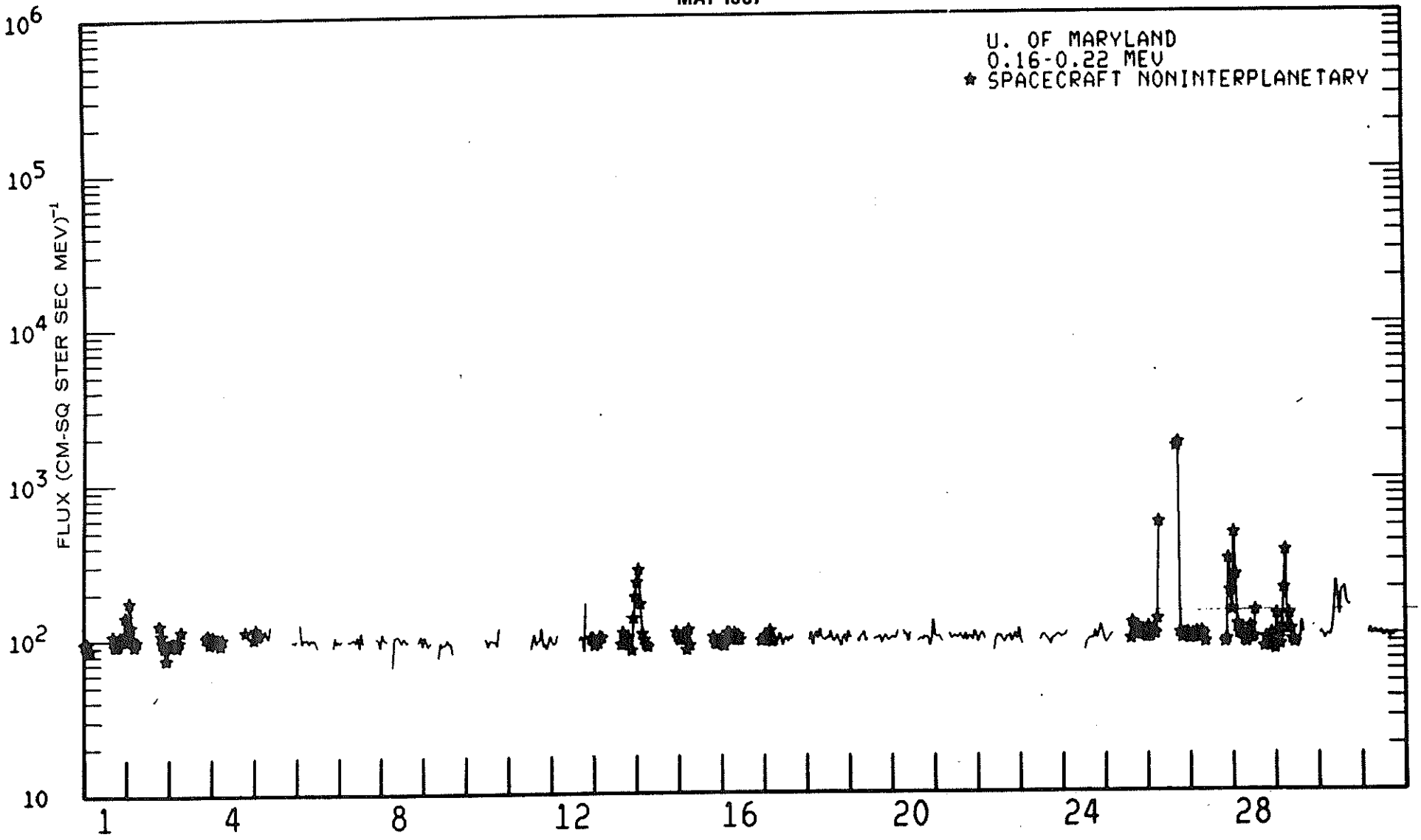
150
Misc
Apr 87

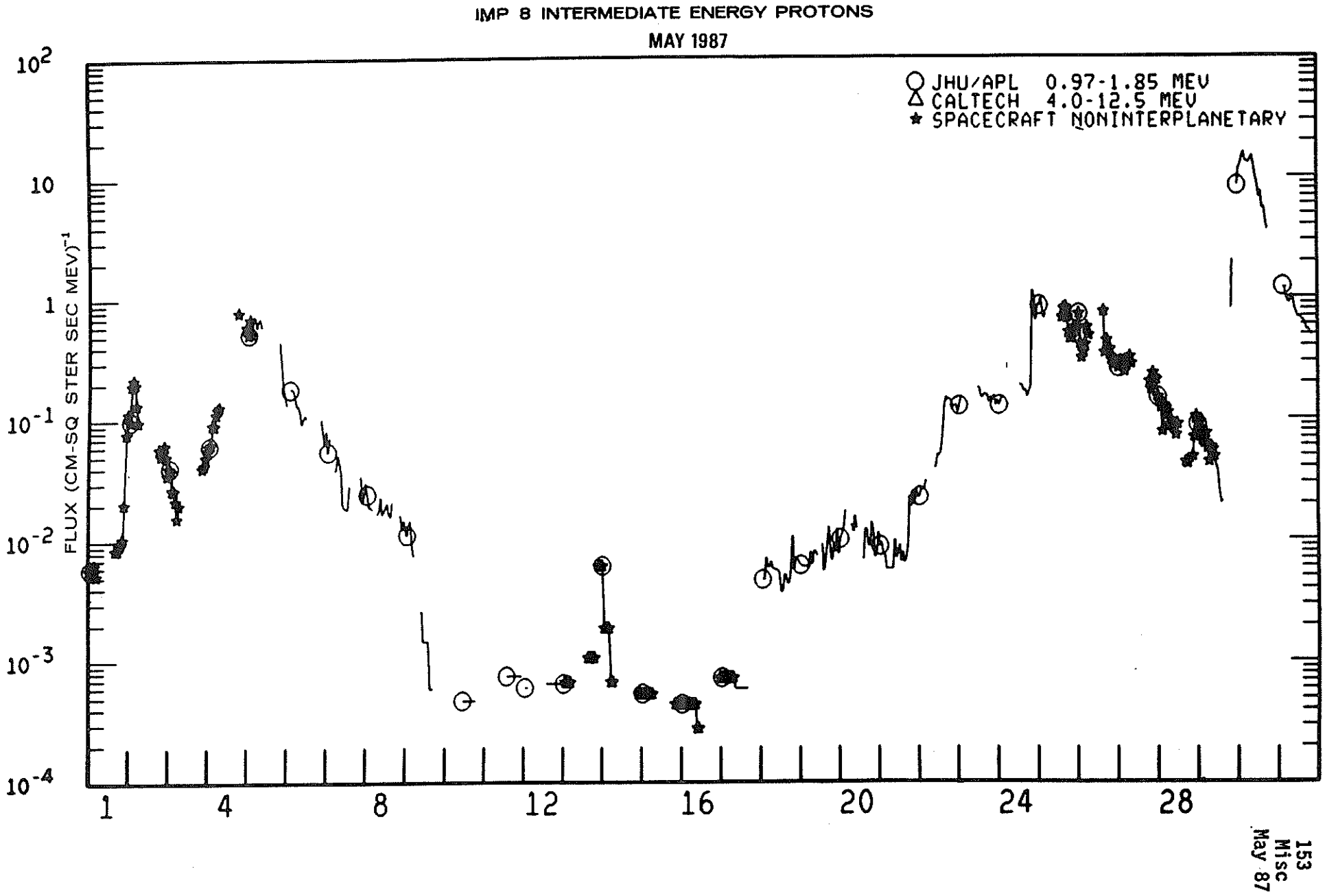



IMP 8 ALPHA PARTICLES
APRIL 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
151
Misc
Apr 87

IMP 8 LOW ENERGY PROTONS

MAY 1987

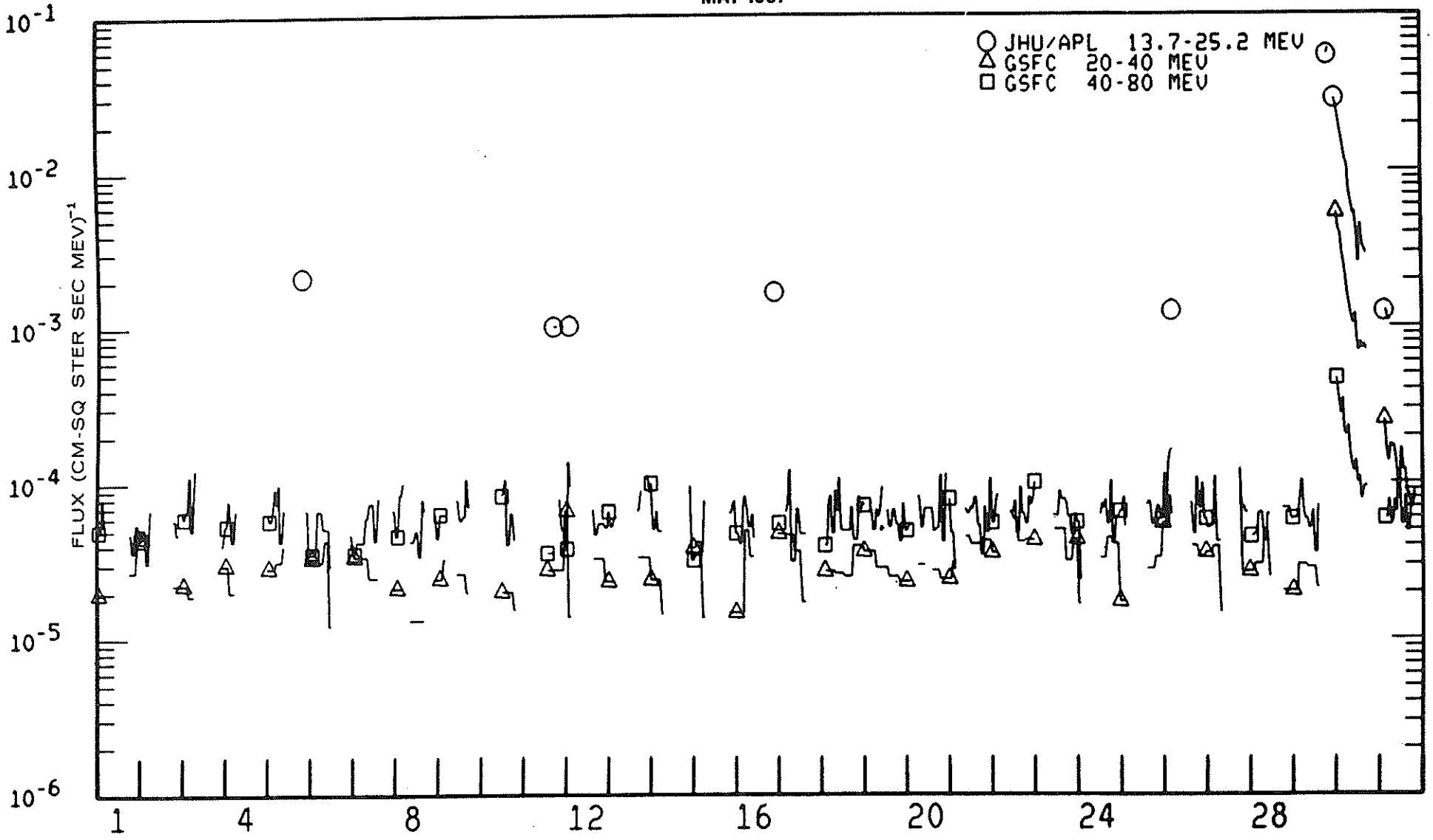


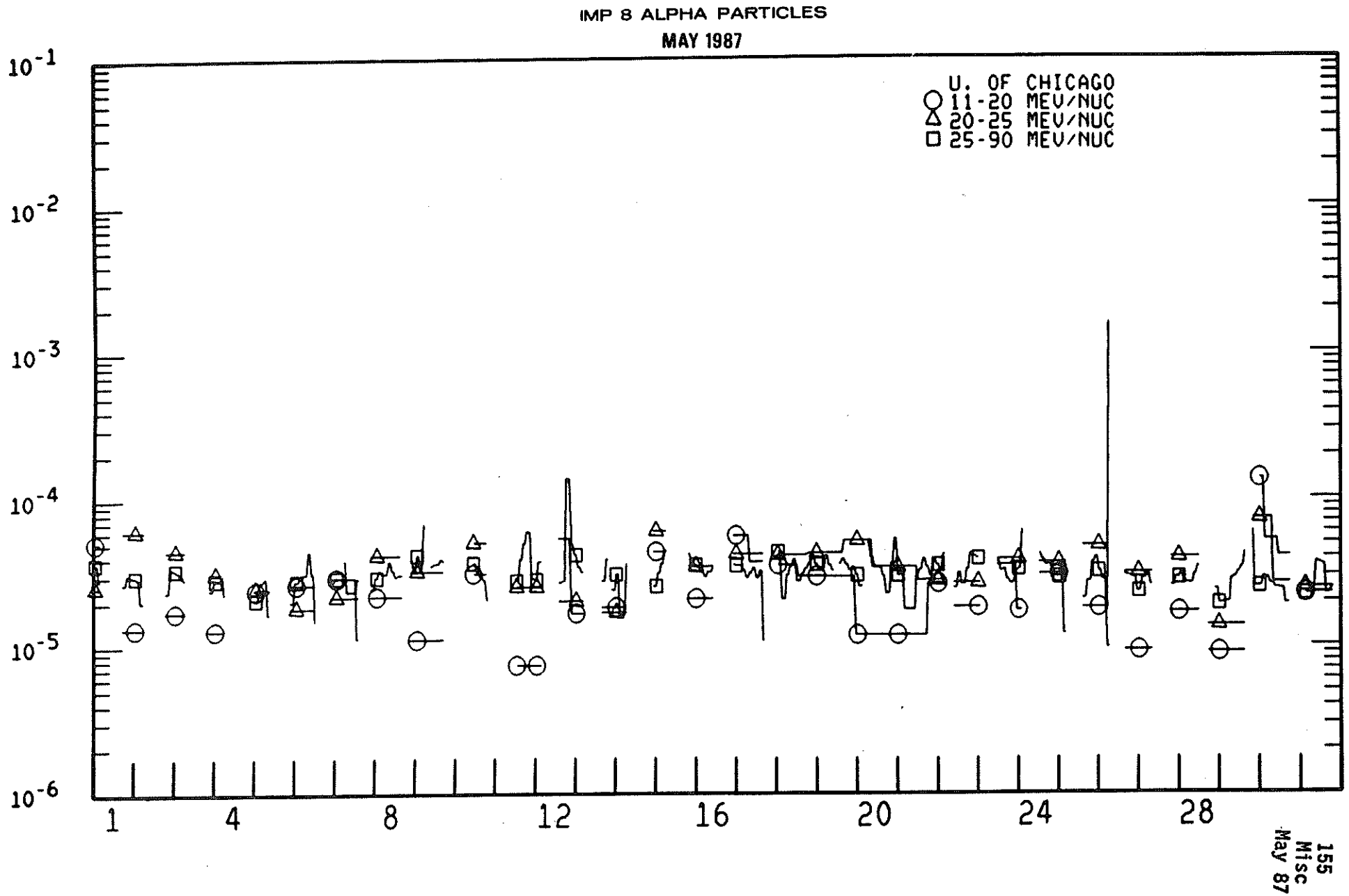

IMP 8 INTERMEDIATE ENERGY PROTONS
MAY 1987
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10²
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28
153
Misc
May 87

154
Misc
May 87

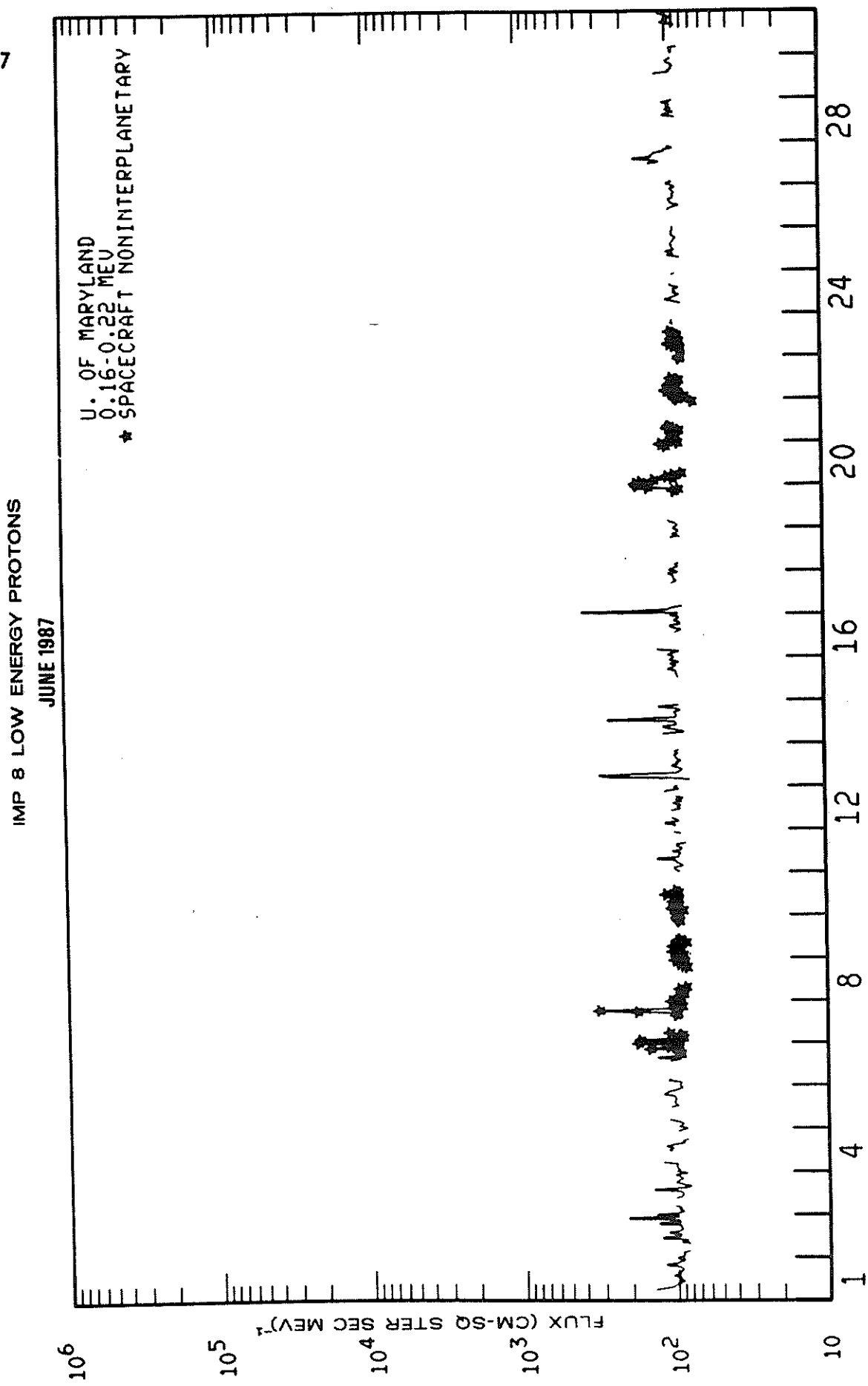
IMP 8 HIGH ENERGY PROTONS

MAY 1987



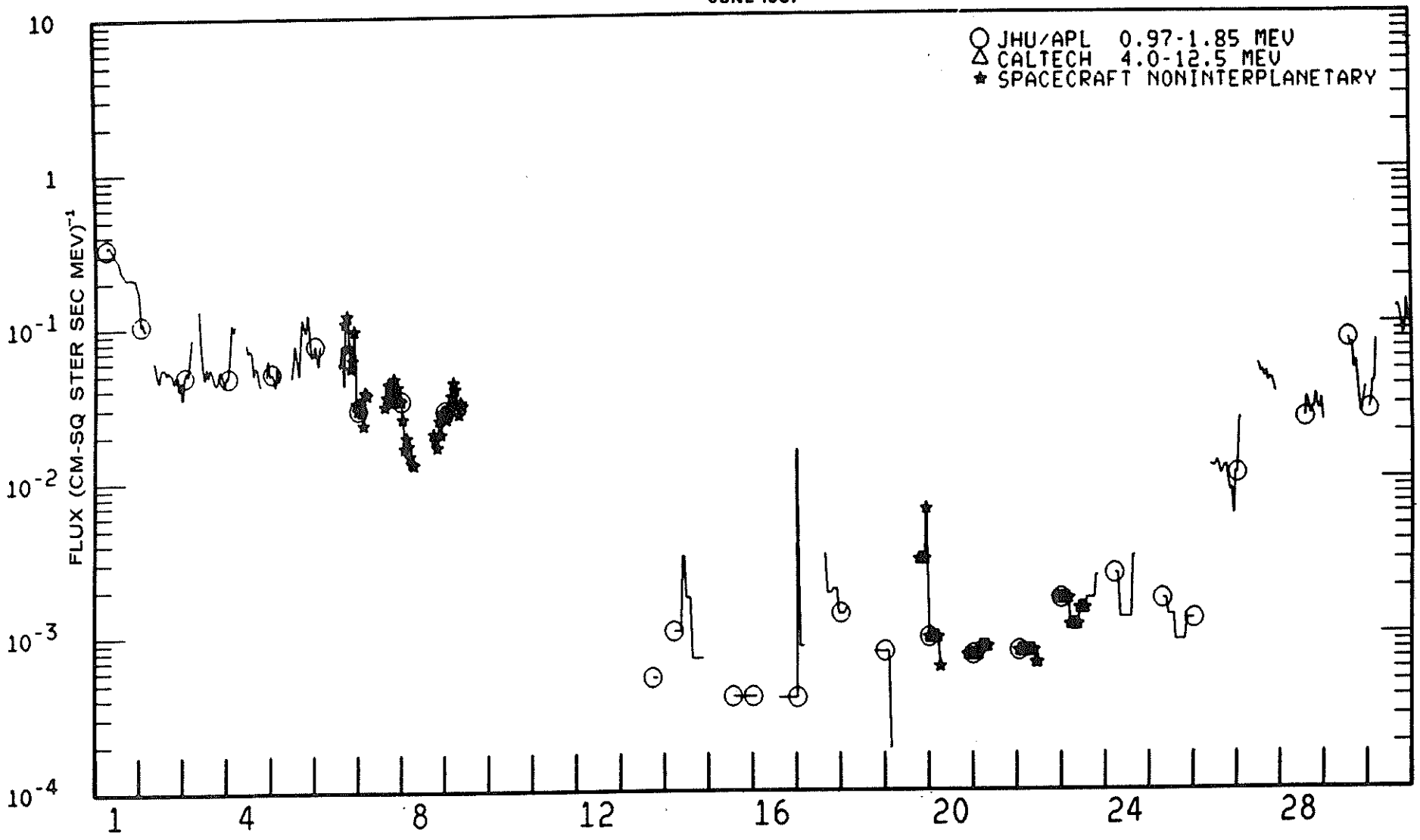

IMP 8 ALPHA PARTICLES
MAY 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
155
Misc
May 87

156
Misc
Jun 87



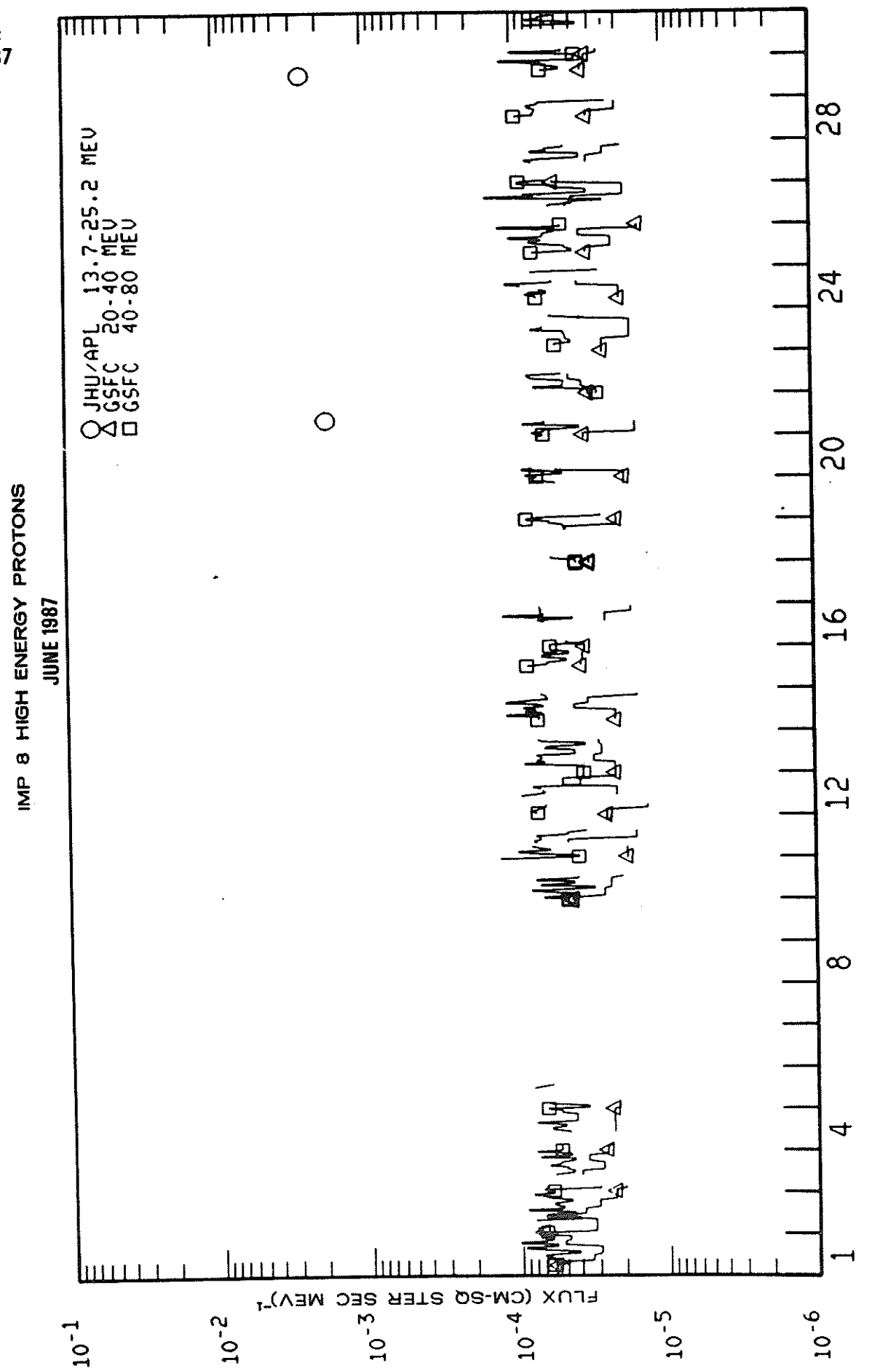
IMP 8 INTERMEDIATE ENERGY PROTONS

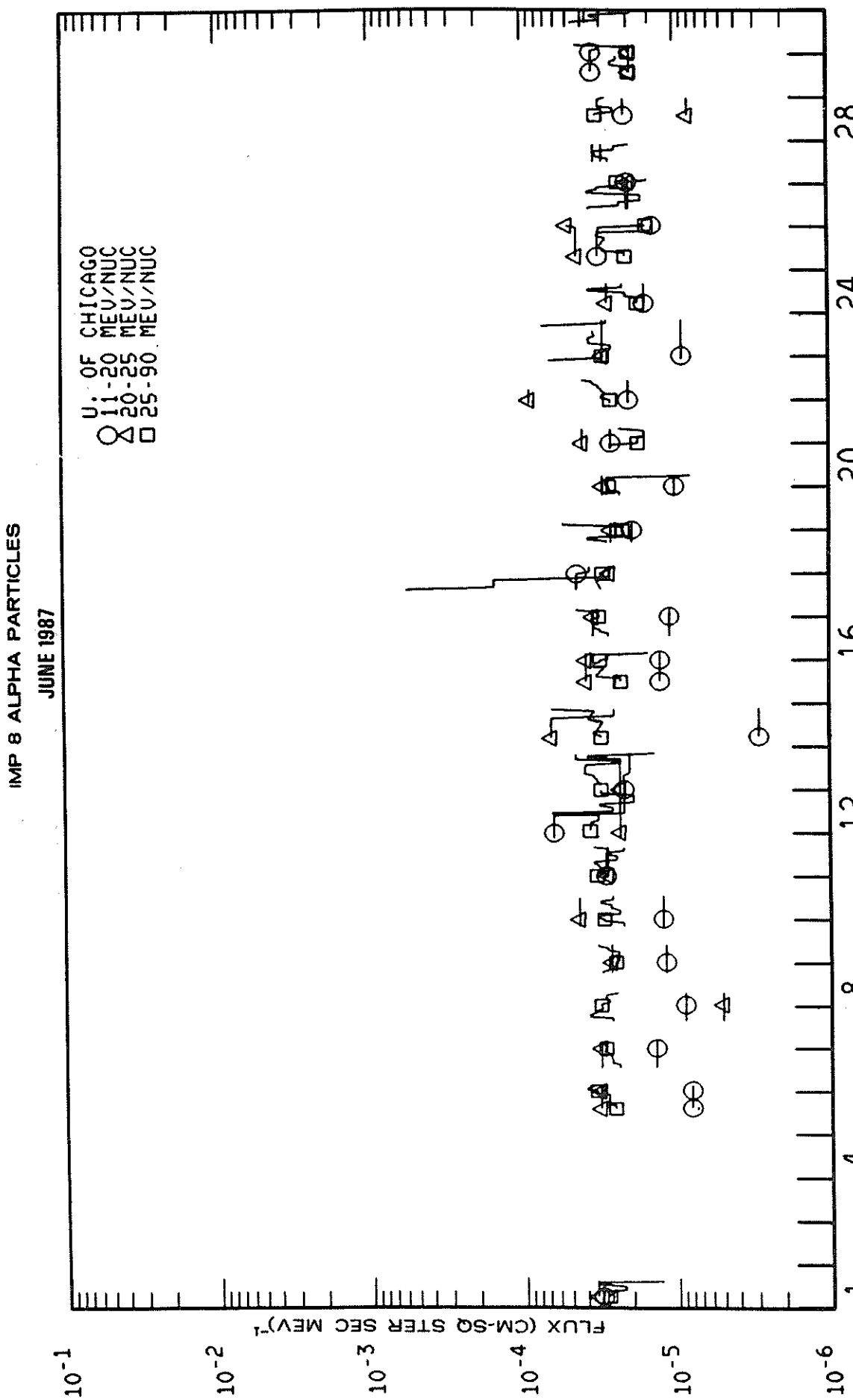
JUNE 1987



157
Misc
Jun 87

158
Misc
Jun 87

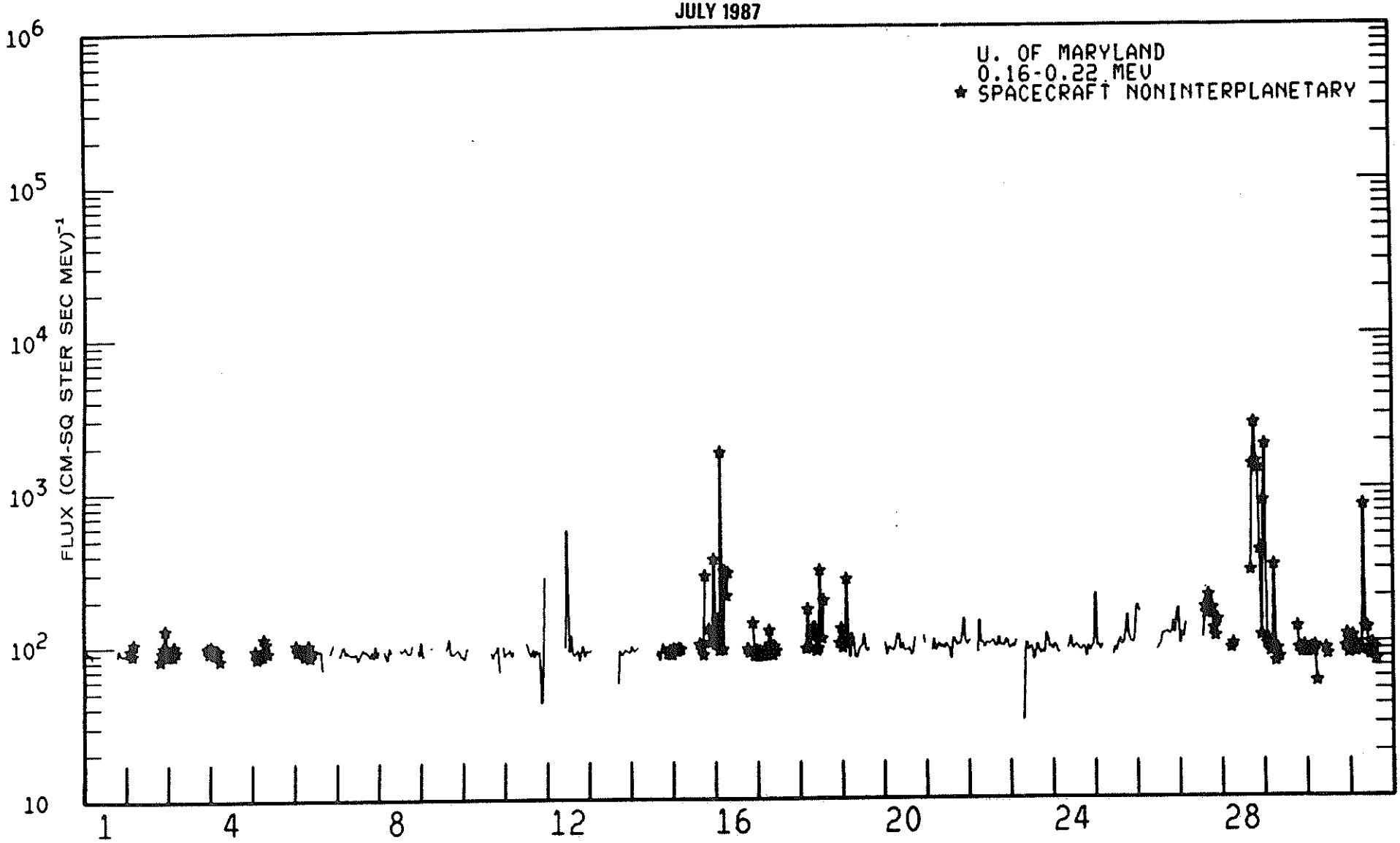



IMP 8 ALPHA PARTICLES
JUNE 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28

160
Misc
Jul 87

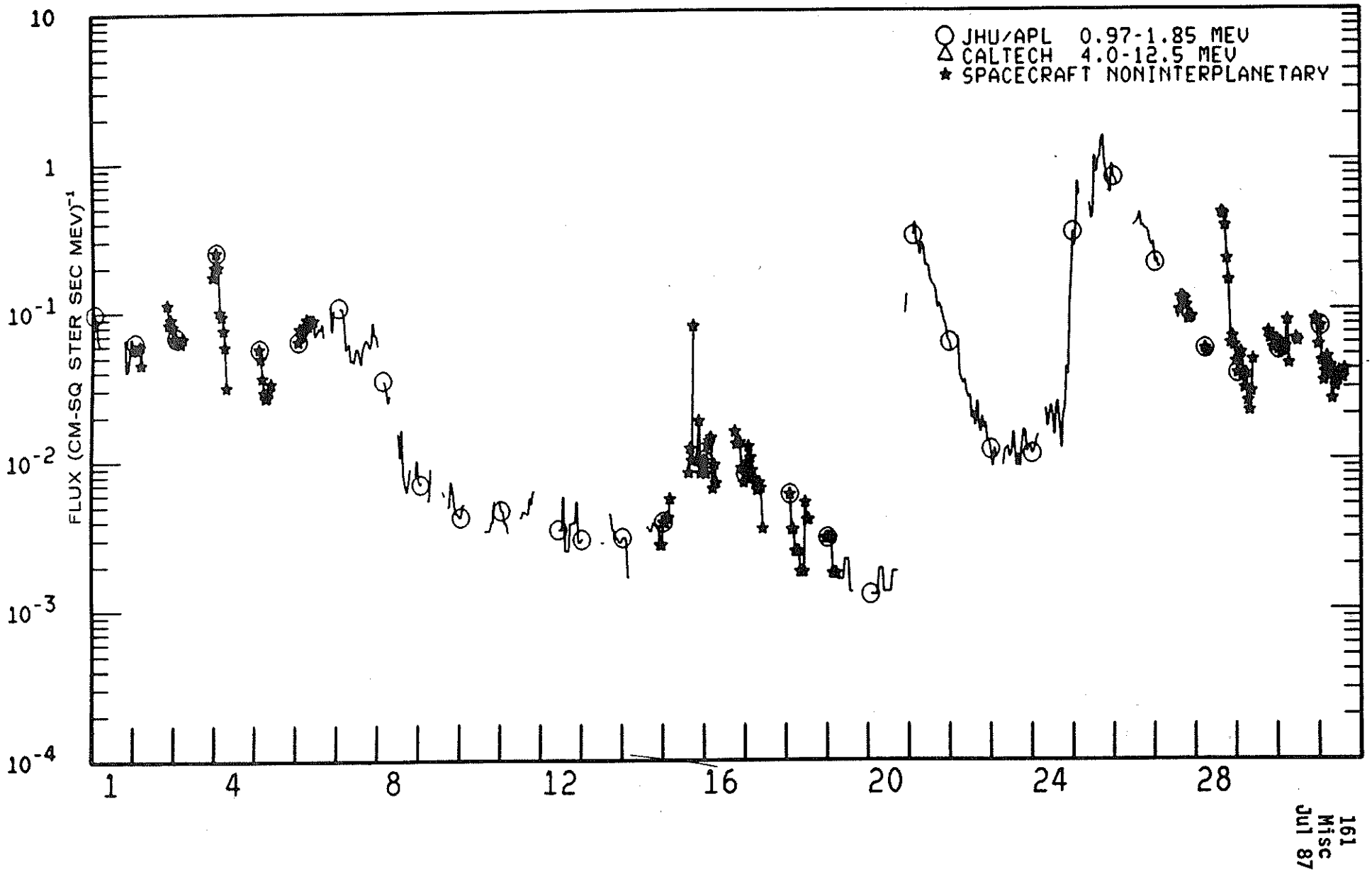
IMP 8 LOW ENERGY PROTONS

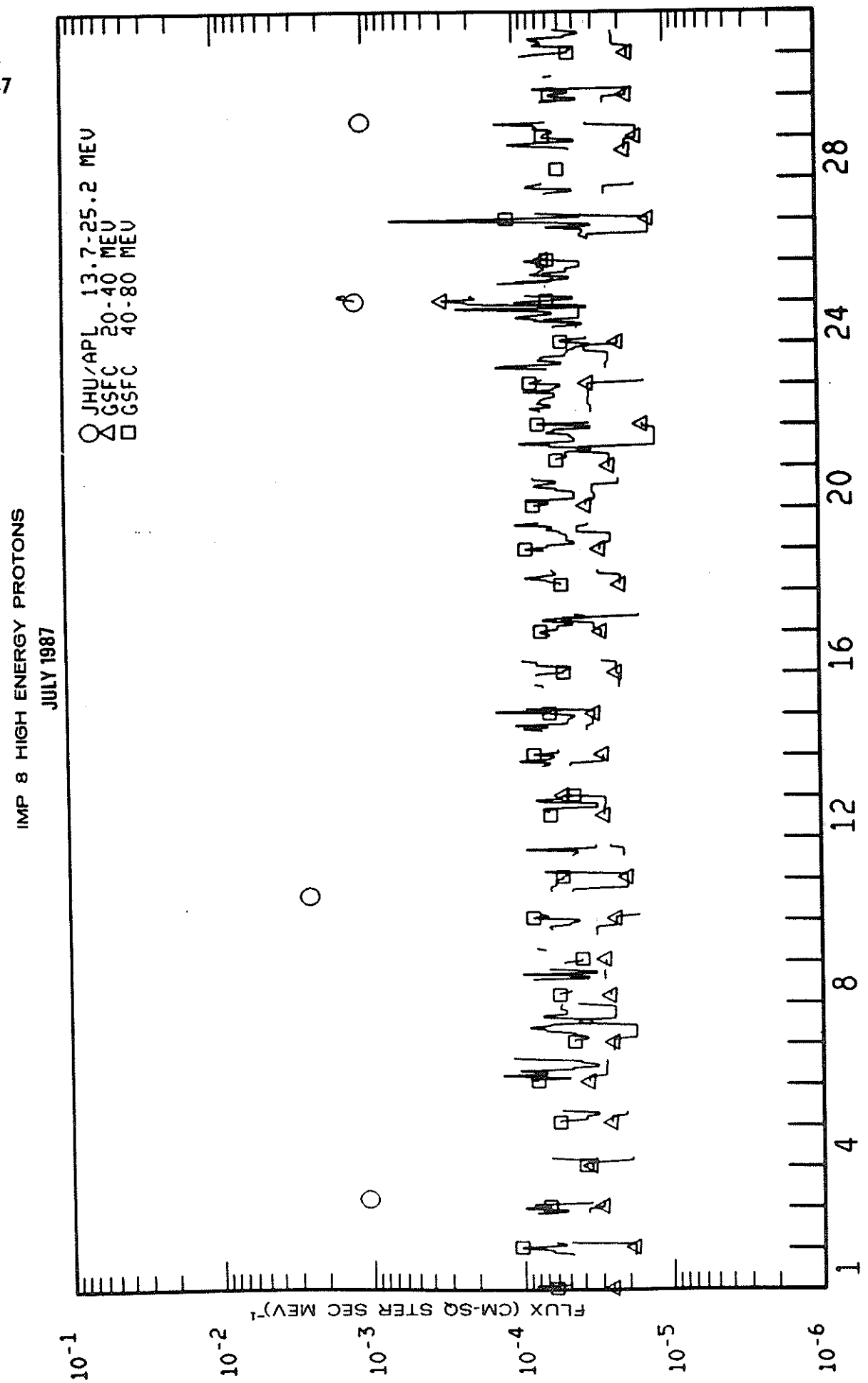
JULY 1987

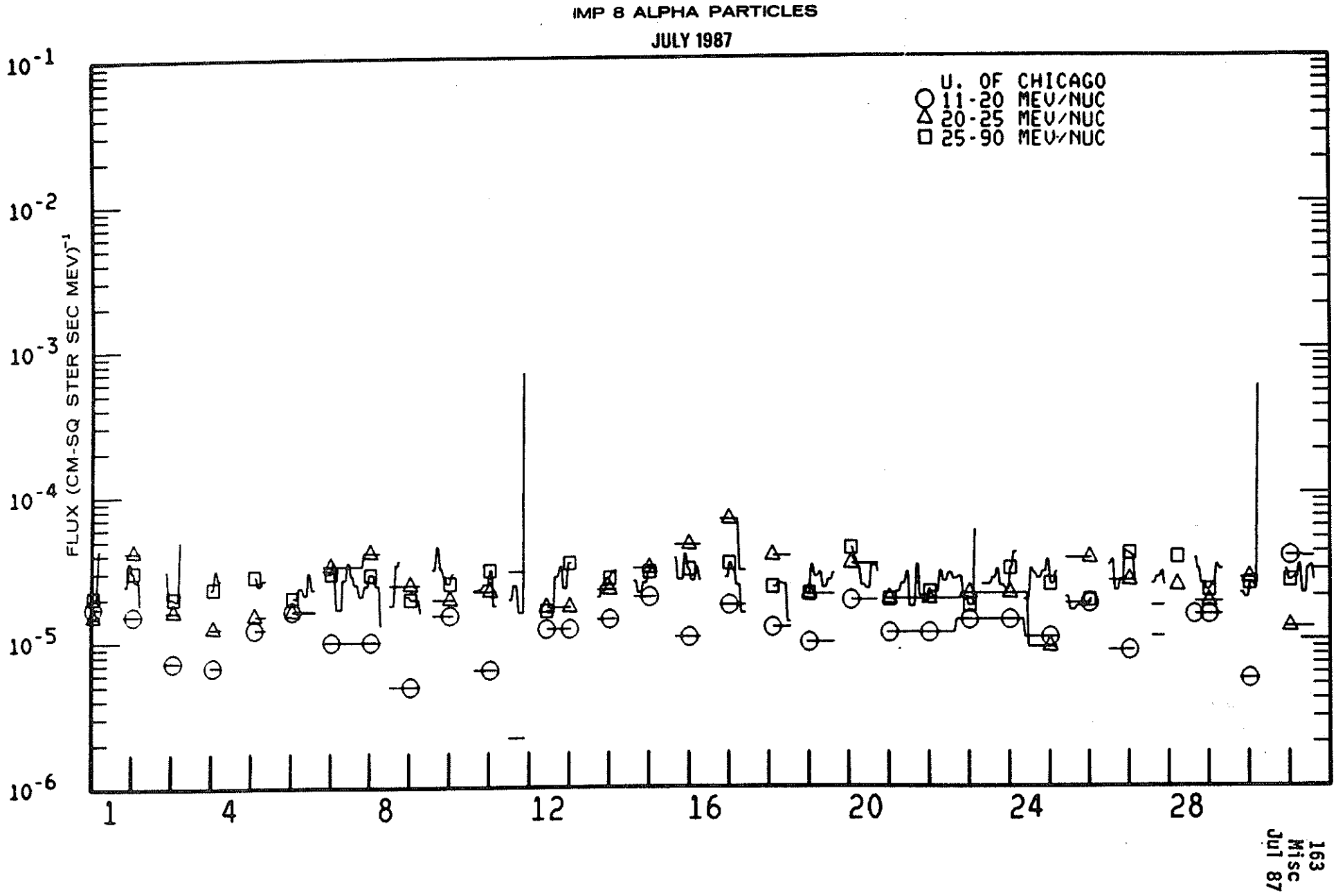


IMP 8 INTERMEDIATE ENERGY PROTONS

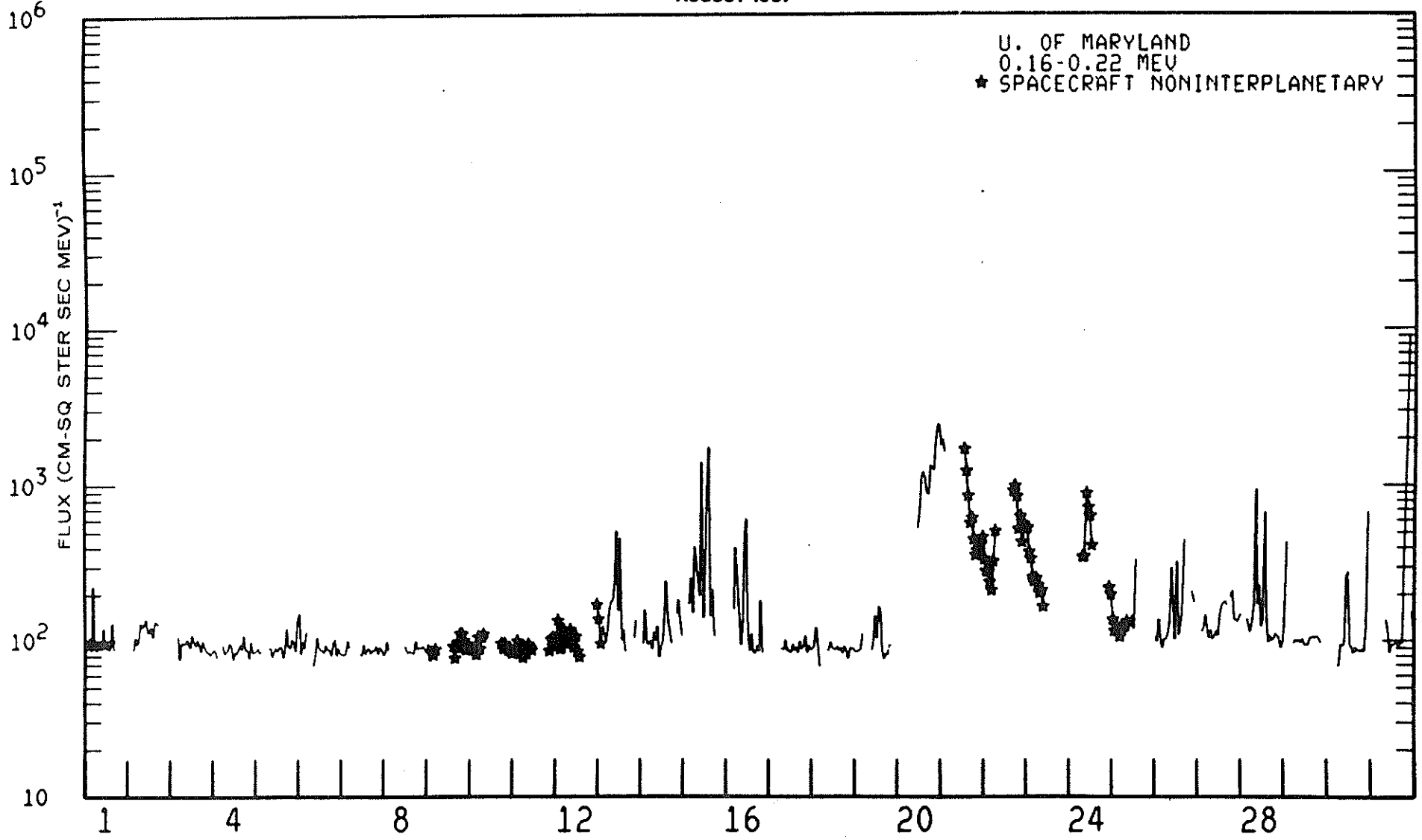
JULY 1987

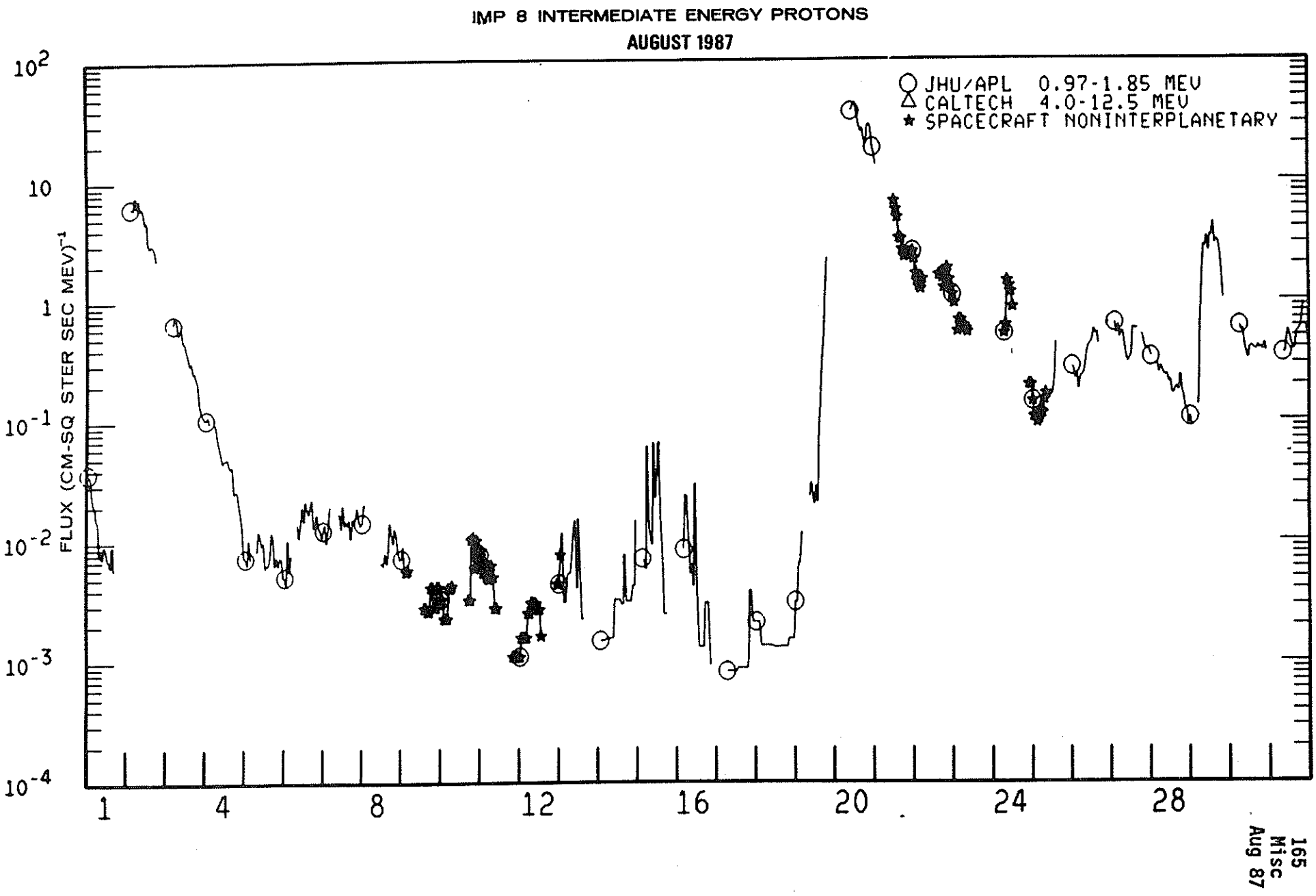



IMP 8 HIGH ENERGY PROTONS
JULY 1987
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28

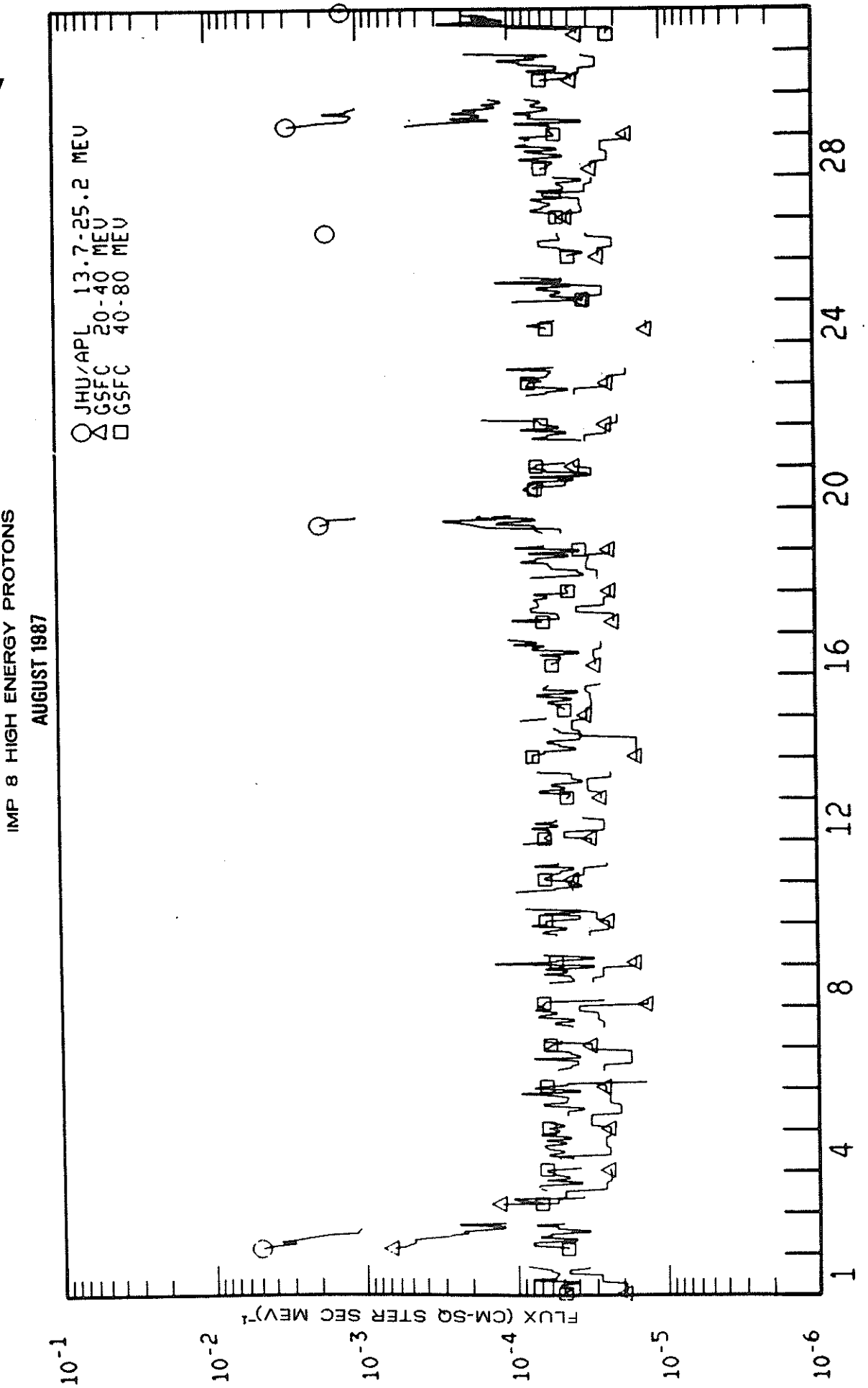

IMP 8 ALPHA PARTICLES
JULY 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
163
Misc
Jul 87

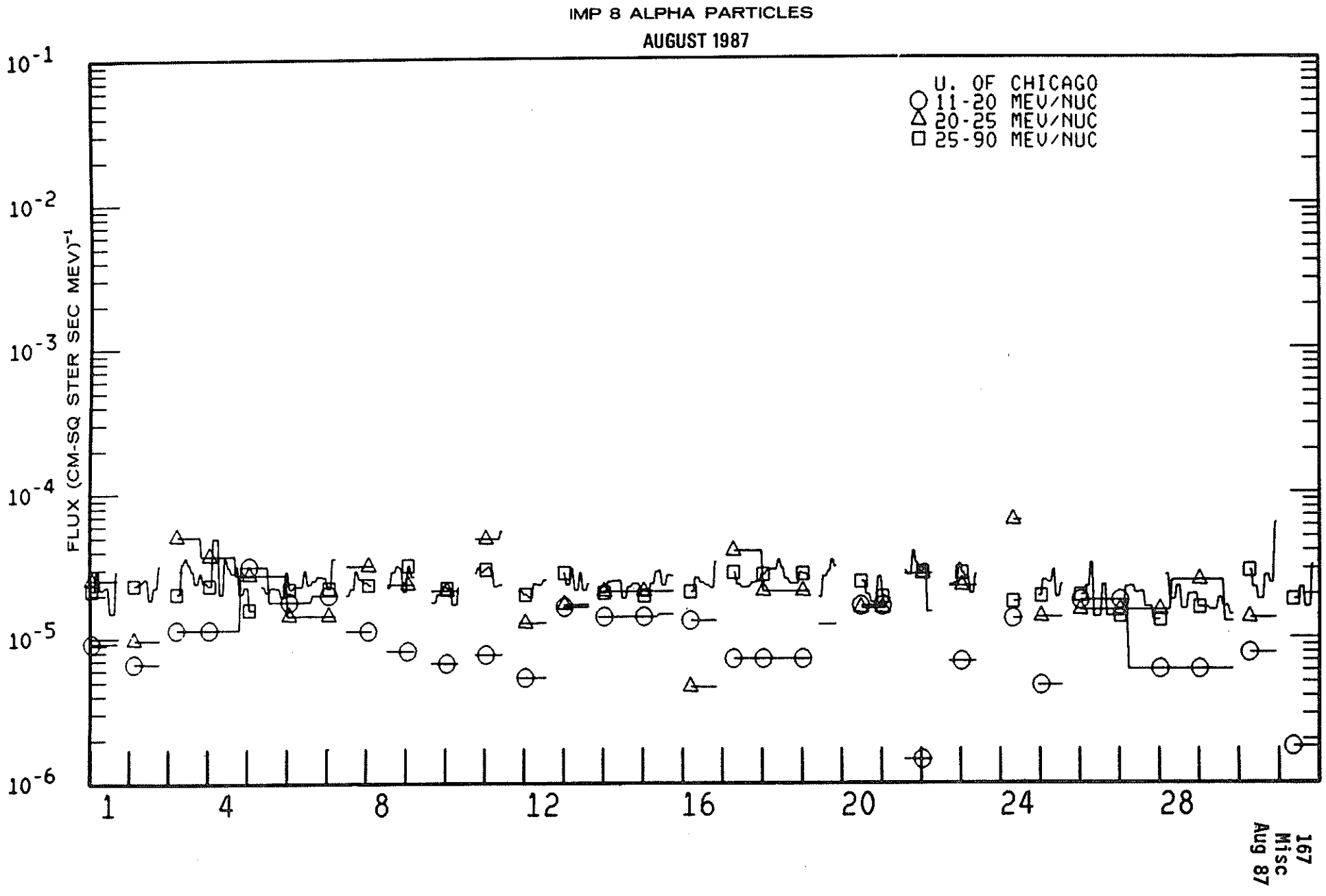
IMP 8 LOW ENERGY PROTONS
AUGUST 1987




IMP 8 INTERMEDIATE ENERGY PROTONS
AUGUST 1987
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10²
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28
165
Misc
Aug 87

166
Misc
Aug 87




IMP 8 ALPHA PARTICLES
AUGUST 1987
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
167
Misc
Aug 87

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."