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Solar - Geophysical Data

NO. 402 FEBRUARY 1978

Part II (Comprehensive Reports)

DATA FOR
AUGUST 1977
JULY 1977
& MISCELLANEA

**NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO**

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

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To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, 390 Part I (or Part II), pages, February 1977, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80302).

SOLAR-GEOPHYSICAL DATA

No. 402

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Director
Solar-Terrestrial Data Services Division

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Notes:

"391A 34" listed under 1977 Jan means that data for January 1977 were contained in Polar-Geophysical Data Number 391 - Part I, beginning on page 34.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

AUGUST 1977 DATA

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ACTIVE REGIONS

CARRINGTON ROTATION 1657

(July 10 - August 6, 1977)

Region No.	Coordinates		Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1656	Activity at West Limb
	Lat.	Long.					
1	29° S	346°	+1	1	x		dispersed
2	27 N	339	>6	1	x		disappeared
3	19 N	337	0	1	x		disappeared
4	18 N	316	+5	1	x		disappeared
5	15 S	268	-2	1	x		decreasing
6	22 N	246	-3	1	x		decreasing
7	7 S	217	0	1	x		disappeared
8	25 S	203	>6	1	x	(9+10)	decreasing
9	21 N	189	+2	2			increasing
10	11 N	183	+3	1	x		disappeared
11	21 N	181	+4	1	x		disappeared
12	30 S	162	+1	1	x		dispersed
13	12 N	151	>6	1	x	(16)	dispersed
14	20 N	139	>6	2		(16)	decreasing
15	19 S	133	-1	1	x		decreasing
16	24 S	132	>6	2			decreasing
17	17 N	130	>6	1	x		decreasing
18	26 S	124	>6	1	x		decreasing
19	17 N	121	>6	1	x		dispersed
20	29 N	116	-2	2			disappeared
21	39 N	113	-3	1	x	(17)	decreasing
22	22 N	115	>6	1	x		dispersed
23	23 N	94	>6	1	x	(21)	dispersed
24	12 N	91	-2	1	x		disappeared
25	24 N	40	>6	1	x		disappeared
26	20 N	39	+2	1	x		disappeared
27	17 S	10	+2	2			stable
28	21 S	8	-3	1	x		disappeared

ACTIVE REGIONS

CARRINGTON ROTATION 1658

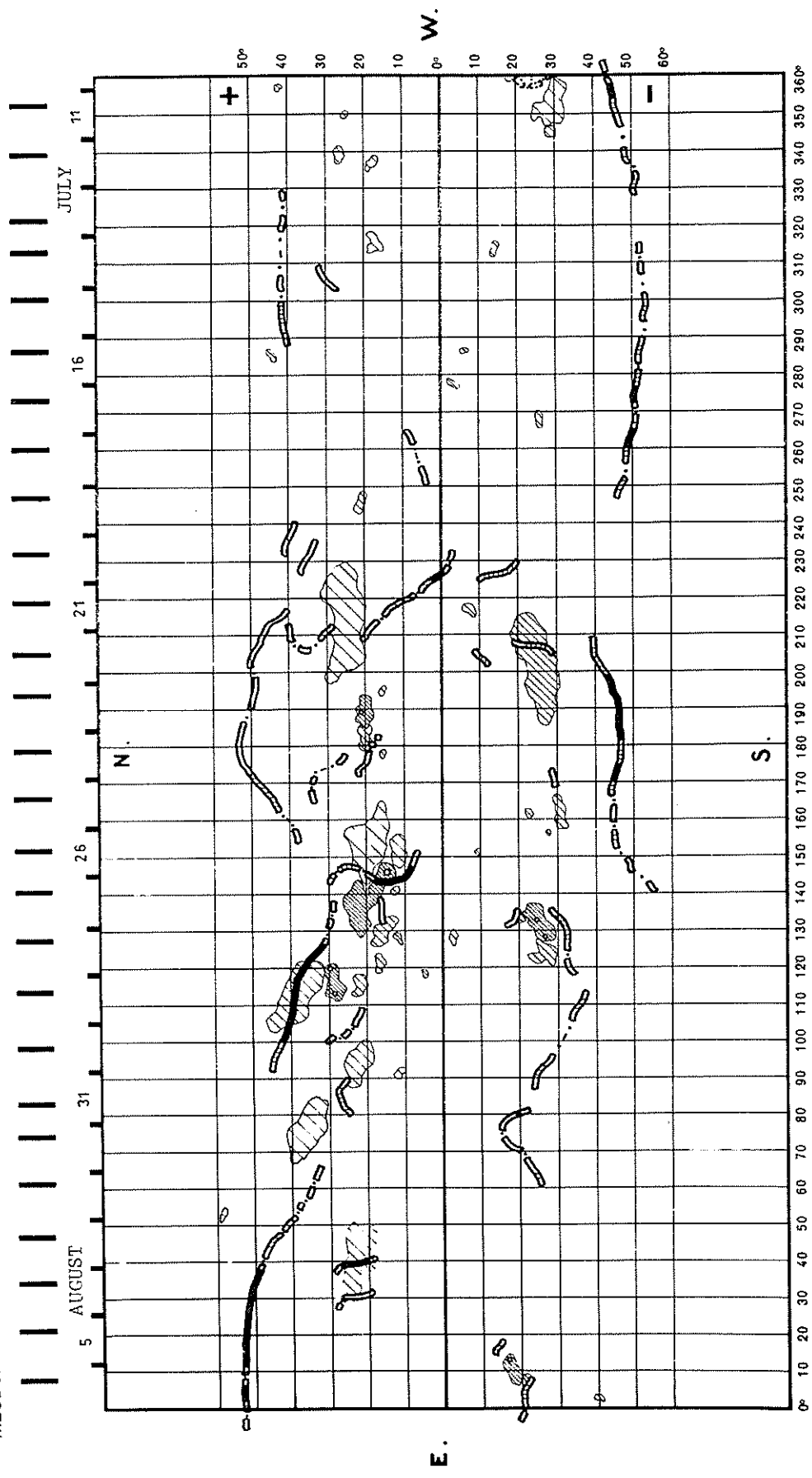
(August 6 - September 3, 1977)

Region No.	Coordinates		Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1657	Activity at West Limb
	Lat.	Long.					
1	31°N	346°	+4	1	x	(6)	disappeared
2	25 N	328	>6	4			decreasing
3	22 S	282	+3	1	x		disappeared
4	22 N	266	0	1	x		disappeared
5	22 N	248	>6	1	x		dispersed
6	19 N	241	+1	4			increasing
7	18 N	236	+6	1	x		dispersed
8	26 S	233	>6	1	x		dispersed
9	6 S	224	-2	1	x		disappeared
10	35 N	220	+5	1	x		disappeared
11	26 N	214	+5	2		(14) (15+16+18)	decreasing
12	32 N	210	>6	2			decreasing
13	25 S	209	>6	1	x		dispersed
14	22 S	208	-2				decreasing
15	20 N	201	-2	1	x		dispersed
16	22 N	191	>6	2			decreasing
17	31 S	190	>6	1	x		dispersed
18	36 N	190	>6	1	x		dispersed
19	21 N	176	+4	2			decreasing
20	21 N	161	-2	2			decreasing
21	28 S	150	+6	1	x	(25)	dispersed
22	20 N	146	>6	1	x		dispersed
23	27 S	127	>6	1	x		dispersed
24	26 N	117	-1	2			stable
25	27 S	98	>6	3			decreasing
26	38 N	86	0	1	x		disappeared
27	42 N	78	+2	1	x		disappeared
28	21 N	69	-2	1	x		dispersed
29	26 N	66	-3	2			decreasing
30	17 S	65	-3	1	x		disappeared
31	21 N	49	>6	1	x	(25)	decreasing
32	32 S	39	+5	2			decreasing
33	19 S	16	+5	1	x		disappeared

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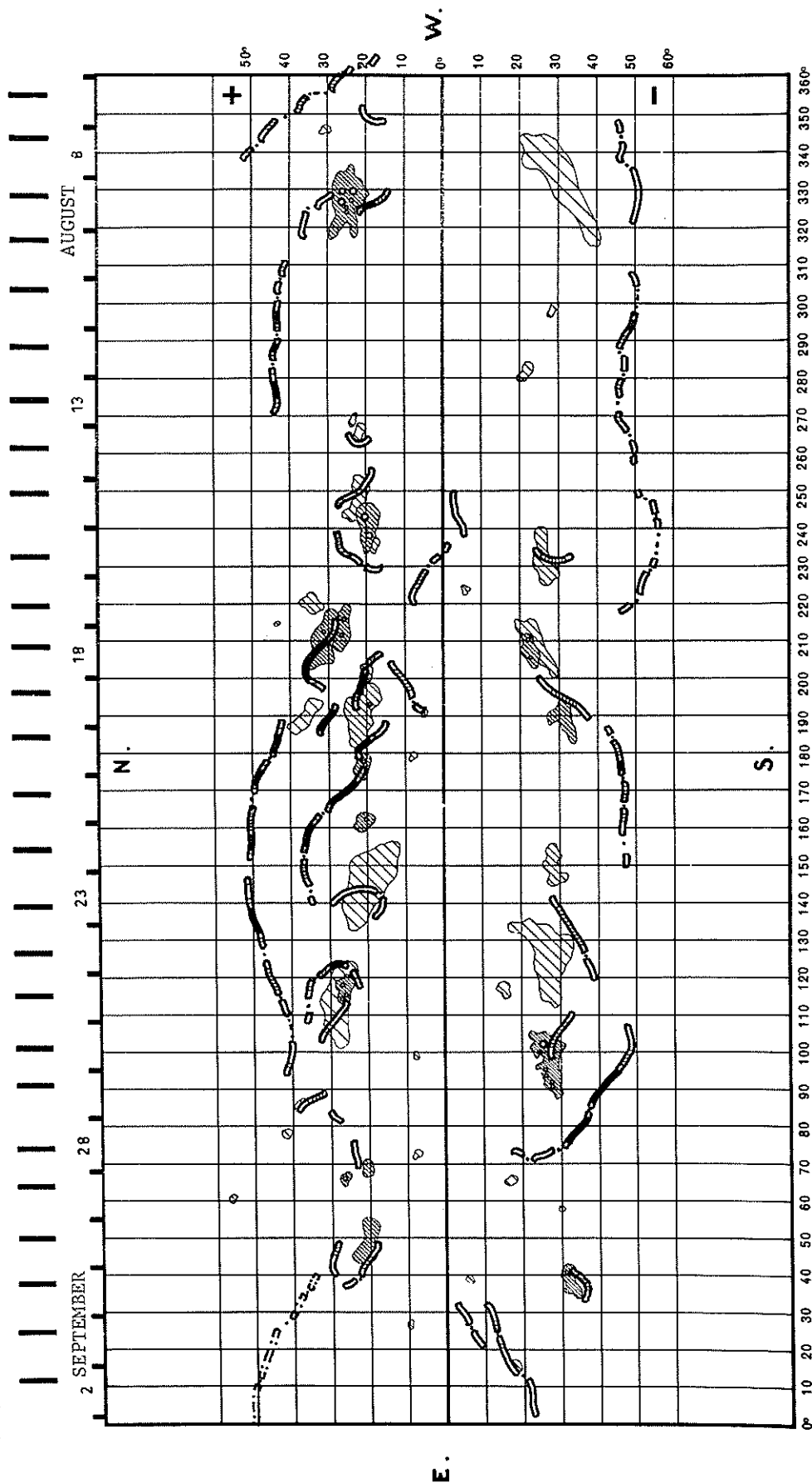
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1657
JULY 10 TO AUGUST 6, 1977

MEUDON OBSERVATORY



SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1658
AUGUST 6 - SEPTEMBER 3, 1977

MEUDON OBSERVATORY



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H α SOLAR FLARES

AUGUST 1977

OBSERVATORY	OBSERVED UT				LOCATION				DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS		
	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	McMATH PLAGE REGION			CMP. DAY	COND.	TYPE	TIME UT	MEAS. AREA			CORR. AREA
					LAT.	MER. DIST.												
333 MITK	01	0058	0101	0103	N28	W40	.694	14883	29.0	5	-N	P	0101	80	1.2	D	Y5	
334 MITK	01	0137		0148	N28	W38	.673	14883	29.2	11	-N	P	0137	50	.7	D	Y5	
335 MONT	01	0658E	0714	0804	S19	W58	.885	14874	27.9	660	-F	C	0714	40		EGHK	Y5	
336 MONT	01	0725	0729	0734	N27	W42	.710	14883	29.2	9	-F	C	0729	20		OH	Y5	
337 MONT	01	0857	0920	0944	S19	W59	.892	14874	27.9	47	-N	C	0920	80		EG	Y5	
	01	2112	2127	NO FLARE PATROL														
	01	2301	2303	NO FLARE PATROL														
	01	2316	2317	NO FLARE PATROL														
	01	2319	2325	NO FLARE PATROL														
338 CULG	02	2205	2209	2230	N18	E10	.269	14880	3.7	25	-F	C	2209	30	.3		Y5	
	03	0135	0137	NO FLARE PATROL														
	03	0140	0142	NO FLARE PATROL														
GRP64339	03	1030+1	1035+6	1053	N21	E78	.973	14888	9.3	23	-N							
CATA	03	1030	1035	1055	N21	E77	.969	14888	9.2	25	1N	2	1035	56				
ZURI	03	1031	1041	1051	N22	E79	.977	14888	9.4	20	-F	C	1041	20				
340 ZURI	03	1035	1039	1051	N28	W70	.937	14883	29.2	16	-N	C	1039	14			Y5	
341 LOCA	03	1429	1432	1440	S21	W90	1.001	14874	27.9	11	? N	V				A	Y5	
	IMP.1	NO	ZURI2	HUAN2	CATA1	MCMA1												
GRP64342	03	1449+1	1449+6	1459	N18	00	.209	14880	3.6	10	-F			20	.2			
ZURI	03	1449	1449	1457	N19	E00	.226	14880	3.6	8	-F	C	1449	14	.2			
CATA	03	1450	1455	1500	N18	W01	.210	14880	3.5	10	-N	2	1455	28	.3			
	03	1829	1838	NO FLARE PATROL														
	03	1851	1853	NO FLARE PATROL														
343 HUAN	03	1908		1928	N23	E75	.961	14888	9.4	20	-F	1	C				Y5	
344 VORO	03	2207	2210	2216	N19	E09	.272	14880	4.6	9	-N	C	2210	99	1.1	OG	Y5	
	03	2237	2248	NO FLARE PATROL														
	03	2327	2330	NO FLARE PATROL														
GRP64345	04	1140	1140	1147	N25	E67	.918	14888	9.5	7	-F					D		
ZURI	04	1140	1140	1146	N25	E68	.924	14888	9.6	6	-F	C	1140	35		D		
KHAR	04	1141E	1147	1147D	N26	E67	.919	14888	9.5	60	-F	P				D		
GRP64346	04	1222	1228	1242	N25	E68	.924	14888	9.6	20	-N			40		D		
ZURI	04	1222	1228	1236	N25	E68	.924	14888	9.6	14	-F	C	1228	50				
HUAN	04	1230E		1244	N25	E67	.918	14888	9.5	140	-N	1	P	1231	30			
MCMA	04	1231E		12420	N26	E68	.925	14888	9.6	110	-N	P	1231	25	.7	D		
GRP64347	04	1320+0	1322+1	1326	N25	E67	.918	14888	9.6	6	-F			40				
ZURI	04	1320	1322	1324	N25	E68	.924	14888	9.7	4	-F	C	1322	50				
HUAN	04	1320	1323	1327	N25	E67	.918	14888	9.6	7	-F	1	C	1323	30			
GRP64348	04	1444+0	1454	1514	N25	E67	.918	14888	9.6	30	-N			50		D		
ZURI	04	1444	1454	1514	N25	E68	.924	14888	9.7	30	-N	C	1454	70				
HUAN	04	1444		1502	N25	E66	.912	14888	9.6	18	-F	1	C					
MCMA	04	1457E		15150	N26	E67	.919	14888	9.6	180	-8	P	1457	30	.8	D		
349 ZURI	04	1528	1528	1530	N25	E68	.924	14888	9.7	2	-F	C	1528	40			Y5	
350 MCMA	04	1558	1602	1609	N26	E67	.919	14888	9.7	11	-N	C	1602	20	.6	D	Y5	
GRP64351	04	1823		1840	N25	E64	.898	14888	9.6	17	-F					E		
HUAN	04	1823		1837	N25	E64	.898	14888	9.6	14	-F	1	C					
MCMA	04	1825E		18430	N25	E64	.898	14888	9.6	180	-N	C	1832	40	1.0	E		
	04	1920	1929	NO FLARE PATROL														
	04	1942	1944	NO FLARE PATROL														
	04	1947	1959	NO FLARE PATROL														
352 PALE	04	2054	2055	2116	N27	E57	.848	14888	9.1	22	-N	3	C		45		DE Y5	

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OBSERVATORY	OBSERVED UT				LOCATION				DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCMAH PLAGE REGION					CMP DAY	COND	TYPE		TIME UT
					LAT.	MER. DIST.											
											AUG						
GRP64353 HUAN PALE	04 04 04	2203 2203 2209E	2210 2210	2215 2213 2216D	N25 N25 N26	E60 E62 E59	.869 .884 .862	14888 14888 14888	9.4 9.6 9.3	12 10 7D	-F -F -F	 1 3	 C C	 32			
GRP64354 HUAN PALE	04 04 04	2225 2225 2226E	 2226U	2236D 2232D 2236D	N25 N25 N26	E60 E62 E59	.869 .884 .862	14888 14888 14888	9.4 9.6 9.4	11 7D 10D	-F -F -F	 1 3	 P C	2231 30 25 30	.6		0 0
	04 05 05 05 05	2308 0007 0017 0022 0151	2309 0016 0021 0023 0157	NO FLARE NO FLARE NO FLARE NO FLARE NO FLARE	PATROL PATROL PATROL PATROL PATROL												
355 KANZ	05	0835	0858	0903	N25	E55	.827	14888	9.5	28	-F		C				LT Y5
GRP64356 KANZ CATA ZURI MEUD RANY KHAR	05 05 05 05 05 05 05	1114+9 1114 1115 1134 1134 1140E 1140E	1134+3 1137 1135 1134 1136 1142 1140	1145 1145 1200 1146 1142 1145D 1147D	N26 N26 N27 N26 N26 N28 N26	E53 E51 E53 E54 E54 E51 E54	.812 .793 .814 .821 .821 .798 .821	14888 14888 14888 14888 14888 14888 14888	9.4 9.3 9.4 9.5 9.5 9.3 9.5	31 31 45 12 8 5D 7D	-N -N -B -N -F -N -F	 2 4	 C C C C C C P	1135 84 1134 1136 30 32	.5 1.5 .6 .5		D T D D D
GRP64357 MCMA MEUD ZURI KHAR	05 05 05 05 05	1146+2 1146E 1148 1148 1153E	1147+2 1147 1149 1148 1154	1155 1155D 1155 1154 1153D	N26 N26 N26 N26 N27	E52 E53 E50 E54 E52	.803 .812 .784 .821 .805	14888 14888 14888 14888 14888	9.4 9.5 9.2 9.5 9.4	9 9D 7 6 6	-F -N -F -F -F		P C C C P	1147 40 1149 1148 30	.7 .7 .7 .6		E E E D
GRP64358 ZURI HUAN	05 05 05	1234+0 1234 1234	1235+1 1236 1235	1239 1240 1238	N25 N26 N24	E54 E54 E55	.819 .821 .826	14888 14888 14888	9.6 9.6 9.6	5 6 4	-F -F -F	 1	C C C	1236 20 1235 20	.4 .4 .3		O O O
GRP64359 ZURI KANZ HUAN	05 05 05 05	1330+1 1330 1331 1331	1334+1 1334 1335 1337	1338 1338 1342 1337	N26 N26 N26 N26	E53 E54 E51 E53	.812 .821 .793 .812	14888 14888 14888 14888	9.5 9.6 9.4 9.5	8 8 11 6	-F -F -N -F	 1	C C C C	1334 30	.6		E E E
GRP64360 ZURI HUAN LVOV MCMA KANZ MEUD CATA	05 05 05 05 05 05 05	1404+9 1404 1405 1409 1410E 1412 1413 1415	1413+1 1420+0 1414 1448 1438 1436D 1433 1420 1435	1445 1502 1448 1438 1436D 1433 1440 1515	N26 N26 N25 N26 N26 N26 N26 N26 N27	E52 E54 E54 E52 E51 E50 E52 E52 E51	.803 .821 .819 .803 .793 .784 .803 .796	14888 14888 14888 14888 14888 14888 14888 14888 14888	9.5 9.6 9.6 9.5 9.4 9.3 9.5 9.4	41 58 43 29 26D 21 27 6D	1N 1N 1F 1N 1N 1B 1N 1B	 1 1 1 1 2	C C C C C C C C C	1414 140 1413 1418 200 150 1420 1435	3.1 2.6 3.1 2.7 4.2 2.4		EJ E EJ E F
361 MCMA	05	1726E		1729D	N20	H22	.431	14888	4.1	3D	-F		C	1726	30	.3	E Y5
GRP64362 MCMA HUAN	05 05 05	1809+1 1809E 1810	1811 1811 1813	1813 1813D 1813	N25 N26 N25	E50 E50 E50	.782 .784 .782	14888 14888 14888	9.5 9.5 9.5	4 4D 3	-F -N -F	 1	C C C	1811 25	.4		D D
	05	1823	1837	NO FLARE	PATROL												
363 MCMA	05	1858	1910	1945D	N27	E48	.768	14888	9.4	47D	1N		C	1910	125	2.1	E Y5
	05 05	1945 2008	1948 2014	NO FLARE NO FLARE	PATROL PATROL												
364 HUAN	05	2108		2117D	N25	E48	.762	14888	9.5	9D	-F	1	P	2114	25	.4	D Y5
	05	2117	2121	NO FLARE	PATROL												
365 HUAN	05	2147	2151	2155	N25	E48	.762	14888	9.5	8	-F	1	C	2151	20	.3	D Y5
366 VORO	05	2206	2209	2215	N27	E60	.871	14888	10.4	9	-F		C	2210	99	2.0	DJ Y5
367 VORO	05	2224	2226	2237	N27	E60	.871	14888	10.4	13	-F		C	2227	54	1.1	D Y5
	05 06 06 06 06	2307 0238 0255 0308 0314	2314 0246 0303 0313 0315	NO FLARE NO FLARE NO FLARE NO FLARE NO FLARE	PATROL PATROL PATROL PATROL PATROL												

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H α SOLAR FLARES

AUGUST 1977

OBSERV- ATORY	OBSERVED UT				LOCATION					DURA- TION	IMPOR- TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE AUG	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCNATH FLAGE REGION	CMP. DAY			COND	TYPE	TIME UT	MEAS. AREA	CORR AREA	
					LAT.	MER. DIST.											
368 PALE	06	0325E	0325U	0325D	N26	E43	.714	14888	9.4		-F	3	C		27		Y5
	06	0331	0334	NO FLARE PATROL													
369 MONT	06	0932	0934	0940	N26	E38	.660	14888	9.2	8	-F		C	0934	40		E Y5
370 MONT	06	0946	0947	0953	N26	E38	.660	14888	9.3	.7	-F		C	0947	60		E Y5
GRP64371	06	1042+7	1051+5	1133	N25	E40	.678	14888	9.4	51	1N						H0Z
ATHN	06	1042	1051	1135	N25	E40	.678	14888	9.4	53	1N	1			196		
KANZ	06	1046	1054	1115	N24	E47	.749	14888	10.0	29	-F		C				
KHAR	06	1048E	1056	11500	N25	E38	.656	14888	9.3	620	3N		P	1056	1110	15.0	EH0Z
MEUD	06	1049		1130	N26	E40	.682	14888	9.5	41	1N		C	1103	230	3.2	F
	06	1827	2201	NO FLARE PATROL													
	06	2327	2333	NO FLARE PATROL													
	07	0134	0145	NO FLARE PATROL													
GRP64372	07	1304	1310	1339	N24	E24	.487	14888	9.3	35	-F				170	2.0	
			1327+1														
KANZ	07	1304	1310	1332	N24	E24	.487	14888	9.3	28	-B		C				
TEHR	07	1322E	1327	1333D	N24	E25	.498	14888	9.4	110	-F	2	V		159		
TEHR	07	1322E	1327	1344	N24	E25	.498	14888	9.4	220	-F	2	C		159		
RAMY	07	1325E	1328	1345	N26	E24	.504	14888	9.4	200	-F	4	C		180		
	07	2327	2332	NO FLARE PATROL													
	07	2342	2353	NO FLARE PATROL													
GRP64373	08	1225+5	1229+1	12390	N25	E13	.383	14888	9.5	14	-N						
KANZ	08	1225	1229	1239	N24	E15	.389	14888	9.6	14	-N		C				
CATA	08	1230	1230	1320	N26	E12	.388	14888	9.4	50	-N	2		1230	28	.3	
	08	1925	1928	NO FLARE PATROL													
	08	1932	2052	NO FLARE PATROL													
374 HUAN	08	2052E		2101D	S22	E54	.865	14893	12.9	90	-N	1	P				Y5
	08	2101	2112	NO FLARE PATROL													
	08	2202	2213	NO FLARE PATROL													
	08	2328	0013	NO FLARE PATROL													
	09	0141	0148	NO FLARE PATROL													
	09	0208	0212	NO FLARE PATROL													
375 CULG	09	0447	0450	0510	N23	E04	.295	14888	9.5	23	-F		C	0450	60	.6	Y5
GRP64376	09	0918+0	0920+3	0940	N24	E02	.306	14888	9.5	22	-F				100	1.1	E
KHAR	09	0918E	0920	09320	N24	E05	.315	14888	9.8	140	-F		P		110	1.2	E
HTPR	09	0918	0923	0935	N23	E00	.287	14888	9.4	17	-F		C	0923	90	1.0	E
MONT	09	0918	0921	0944	N25	E02	.322	14888	9.5	26	-N		C	0921	100		E
GRP64377	09	1008+7	1013+2	1020	N26	E02	.339	14888	9.6	12	-N				40	.4	E
MONT	09	1008	1013	1022	N26	E01	.337	14888	9.5	14	-F		C	1013	40		E
HTPR	09	1011	1013	1017	N25	E02	.322	14888	9.6	6	-F		C	1013	50	.5	
CATA	09	1015	1015	1020	N26	E02	.339	14888	9.6	5	-B	2		1015	28	.3	
GRP64378	09	1031+0	1032+1	1044	N25	E01	.321	14888	9.5	13	-F				35	.4	
HTPR	09	1031	1033	1040	N25	E01	.321	14888	9.5	9	-F		C	1033	50	.5	
MONT	09	1031	1032	1047	N26	E01	.337	14888	9.5	16	-F		C	1032	20		
379 HUAN	09	1350	1353	1357	S22	E45	.792	14893	13.0	7	-F	1	C	1353	15	.2	D Y5
GRP64380	09	1417+4	1422+3	1442	N26	00	.337	14888	9.6	25	-N				110	1.2	
HTPR	09	1417	1422	1445	N26	E02	.339	14888	9.7	28	-N		C	1422	130	1.4	
CATA	09	1420	1425	1445	N27	W01	.354	14888	9.5	25	-N	2		1425	112	1.2	
KANZ	09	1421	1425	1431	N25	W02	.322	14888	9.4	10	-N		C				
HUAN	09	1423E		1439	N27	E03	.357	14888	9.8	160	-F	2	P	1425	25	.3	CD
MCHA	09	1431E		1441D	N27	E00	.353	14888	9.6	100	-N		P	1435	40	.4	F
381 HUAN	09	1437		1447	S22	E45	.792	14893	13.0	10	-F	1	C				E Y5
GRP64382	09	1538+1	1543+1	1554	N25	W01	.321	14888	9.6	16	-F						
HUAN	09	1538	1543	1557	N23	W02	.289	14888	9.5	19	-F	1	C	1543	30	.3	
HTPR	09	1539	1544	1550	N27	E00	.353	14888	9.7	11	-F		C	1544	140	1.5	
383 HUAN	09	1631		1639	N23	W04	.295	14888	9.4	8	-F	1	C				Y5

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	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCMATH PLAGE REGION			CMP DAY	COND	TYPE	TIME UT	MEAS. AREA		CORR AREA
					LAT.	MER. DIST.											
GRP64384	09	1641	1644	1703	N27	00	.353	14888	9.7	22	-F						
HTPR	09	1641	1644	1655	N27	E00	.353	14888	9.7	14	-F	C	1644	90	1.0	EH	
MCMA	09	1650E		17100	N27	W01	.354	14888	9.6	200	-N	P	1653	40	.4	EH	
385 MCMA	09	1704		17140	S22	E43	.774	14893	12.9	100	-N	P	1710	20	.2	E Y5	
	09	1949	2004	NO FLARE	PATROL												
	09	2018	2036	NO FLARE	PATROL												
	09	2053	2058	NO FLARE	PATROL												
	09	2106	2116	NO FLARE	PATROL												
GRP64386	10	1731+0	1732+1	1745	N24	W16	.397	14888	9.5	14	-F			35	.4	E	
MCMA	10	1731	1732	17450	N23	W16	.386	14888	9.5	140	-F	C	1732	20	.2	E	
HTPR	10	1731	1733	1745	N25	W16	.409	14888	9.5	14	-N	C	1733	50	.5		
	10	2235	2241	NO FLARE	PATROL												
387 VORO	10	2245	2248	2305	N24	W05	.314	14888	10.6	20	? N	C	2254	267	2.9	EJKL Y5	
	IMP	1 NO	CULG1														
388 CATA	11	0710E	0740	08050	S28	E73	.979	14897	16.8	550	? F	2	0740	112		Y5	
	IMP	1 NO	HTPR2														
389 HTPR	11	0746	0753	0810	N26	W23	.491	14888	9.6	24	-F	C	0753	40	.5	Y5	
390 HUAN	11	1808	1811	1818	N28	E87	.995	14899	18.3	10	-F	2 C	1811	20		D Y5	
	11	2304	2325	NO FLARE	PATROL												
	11	2326	2333	NO FLARE	PATROL												
	11	2340	2352	NO FLARE	PATROL												
	11	2354	0010	NO FLARE	PATROL												
	12	0045	0114	NO FLARE	PATROL												
GRP64391	12	0715+1	0718+0	0726	N25	W37	.642	14888	9.5	11	-F			60	.8	E	
HTPR	12	0715	0718	0725	N26	W36	.636	14888	9.6	10	-N	C	0718	60	.8	E	
MONT	12	0716	0718	0726	N25	W38	.653	14888	9.5	10	-F	C	0718	60		E	
392 HTPR	12	0813	0817	0825	N26	W37	.647	14888	9.6	12	-F	C	0817	60	.8	E Y5	
GRP64393	12	1340+4	1350	1355	N28	E75	.960	14899	18.2	15	-F						
CATA	12	1340E	1350	1400	N28	E75	.960	14899	18.2	200	-N	2	1350	56			
HUAN	12	1344		1350	N28	E76	.964	14899	18.3	6	-F	1 C					
GRP64394	13	1154+1	1154+1	1215	N28	W53	.814	14888	9.5	21	-F					E	
KHAR	13	1154E	1154	1157D	N26	W55	.827	14888	9.4	30	-F	P				E	
CATA	13	1155	1155	1215	N31	W52	.813	14888	9.6	20	-N	2	1155	84	1.5		
	13	1830	1839	NO FLARE	PATROL												
	13	1905	1911	NO FLARE	PATROL												
	13	2032	2036	NO FLARE	PATROL												
	13	2046	2054	NO FLARE	PATROL												
	14	0206	0215	NO FLARE	PATROL												
395 CATA	14	0945E	0945	1000D	N20	E18	.375	14894	15.8	150	-N	2	0945	84	.9	Y5	
396 HUAN	14	1401	1407	1415	N34	E70	.938	14904	19.8	14	-F	1 C	1407	20		D Y5	
397 HUAN	14	1617		1620	N21	E65	.901	14903	19.6	3	-F	1 C				Y5	
398 HUAN	14	1633	1635	1640	N35	E68	.929	14904	19.8	7	-F	1 C	1635	20		D Y5	
399 HUAN	14	1850	1853	1854	N35	E68	.929	14904	19.9	4	-F	1 C	1853	25		D Y5	
	14	1927	1928	NO FLARE	PATROL												
	14	1932	2100	NO FLARE	PATROL												
	15	0155	0201	NO FLARE	PATROL												
400 CATA	15	0605E	0605	0620	N30	E40	.697	14899	18.3	150	-N	2	0605	28	.4	Y5	
401 MCMA	15	1339	1340	1350	N30	E32	.617	14899	18.0	11	-N	C	1340	30	.4	D Y5	
GRP64402	15	1553+0	1554+1	1558	N30	E32	.617	14899	18.1	5	-N			30	.4	D	
HUAN	15	1553	1555	1558	N30	E32	.617	14899	18.1	5	-N	1 C	1555	20	.2	D	
MEUD	15	1553	1554	1558	N30	E31	.606	14899	18.0	5	-N	C	1554	40	.5	D	
MCMA	15	1554E	1554	1557	N30	E32	.617	14899	18.1	30	-B	C	1554	30	.4	D	
	15	1922	1932	NO FLARE	PATROL												

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	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCARTH FLARE REGION			CNR DAY	COND	TYPE	TIME UT	MEAS. AREA		CORR AREA			
					LAT.	MER. DIST.												TIME UT	MEAS. AREA	CORR AREA
423 VORO	22	2257	2320	0014	N31	W64	.900	14899	18.2	77	PF	C	2409	474	10.0	EGJK Y5				
GRP64424 CATA ATHN	23	0655	0700+5	0724	S21	W63	.926	14902	18.6	29	-N			80						
	23	0655	0700	0725	S21	W63	.926	14902	18.6	30	1N	2	0700	112						
	23	0659E	0705	0722	S21	W63	.926	14902	18.6	230	-F	1		49						
425 HTPR	23	1508		15120	N22	W37	.625	14908	20.9	40	-F	C	1509	60	.8	D Y5				
426 HUAN	23	1525		1541	S17	E22	.535		25.3	16	-F	1	C			D Y5				
GRP64427 PALE PALE	23	2100+0	2102+0	2108	S25	E41	.778	14915	26.9	8	-F			50	.8					
	23	2100	2102	2108	S25	E41	.778	14915	27.0	8	-F	3	C	48		DE				
	23	2100	2102	2108	S25	E41	.778	14915	27.0	8	-F	3	V	48		DE				
GRP64428 PALE PALE	23	2117+0	2120+0	2123	S25	E41	.778	14915	27.0	6	-F			30	.5					
	23	2117	2120	2123	S25	E41	.778	14915	27.0	6	-F	3	C	31		DE				
	23	2117	2120	2123	S25	E41	.778	14915	27.0	6	-F	3	V	31		DE				
GRP64429 PALE PALE	23	2127	2130	NO FLARE	PATROL															
	23	2147+0	2149+0	2156	S25	E41	.778	14915	27.0	9	-F			30	.5					
	23	2147	2149	2156	S25	E41	.778	14915	27.0	9	-F	3	V	25		DE				
GRP64430 VORO PALE	23	2227	2235	NO FLARE	PATROL															
	24	0155+0	0155+1	0202	S25	E38	.754	14915	26.9	7	-F			50	.7	D				
	24	0155	0156	0204	S25	E37	.745	14915	26.9	9	-F			72	1.3	0				
431 CULG	24	0155	0155	0159	S25	E39	.762	14915	27.0	4	-F	3	C	29						
	24	0234	0250	0330	N23	W43	.698	14908	20.9	56	-F	C	0250	80	1.3	Y5				
	GRP64432 HTPR CATA	24	0547	0600	0620	S26	E34	.727	14915	26.8	33	1N					E			
GRP64433 CULG CULG HTPR	24	0547	0600	0610	S26	E34	.727	14915	26.8	23	1N	C	0600	300	4.2	E				
	24	0605E	0605	0630D	S27	E34	.735	14915	26.8	250	-B	2	0605	112	1.7	T				
	24	0554+1	0606	0635	S23	W87	1.000	14902	17.7	41	-N					A				
GRP64434 HTPR MCMA ZURI	24	0527	0532	0620D	S23	W85	.999	14902	17.9	530	-N	*	C	0532	40					
	24	0554	0606U	0621D	S24	W85	1.000	14902	17.9	270	-N	*	P	0606	40					
	24	0555		0635	S22	W90	1.001	14902	17.5	40	-N	*	C			A				
435 MCMA	24	1204+0	1206+4	1236	N24	W50	.775	14903	20.8	32	-N			30	.5	E				
	24	1204	1210	1230	N23	W50	.773	14903	20.8	26	-F	C	1210	40	.6					
	24	1204		1207D	N24	W50	.775	14903	20.8	30	-N	P	1206	30	.5	E				
436 ZURI	24	1204	1206	1242	N24	W49	.765	14903	20.8	38	-B	P	1206	20	.3					
	24	1326	1327	1334	N21	W36	.609	14920	21.9	8	-N	C	1327	25	.3	D Y5				
	24	1418	1418	1422D	S26	E32	.711	14915	27.0	40	-N	P	1418	30	.5	Y5				
437 HUAN	24	1556		1604	S21	W90	1.001	14902	17.9	8	-F	1	C			Y5				
	24	1824	1827	NO FLARE	PATROL															
	24	2004	2007	NO FLARE	PATROL															
438 HTPR	24	2043	2055	NO FLARE	PATROL															
	24	2058	2108	NO FLARE	PATROL															
	24	2112	2122	NO FLARE	PATROL															
439 HTPR	24	2230	2240	NO FLARE	PATROL															
	25	0133	0140	NO FLARE	PATROL															
	25	0212	0215	NO FLARE	PATROL															
GRP64440 KANZ ZURI	25	0551	0555	0615	N22	W45	.718	14920	21.9	24	-F	C	0555	70	1.0	D Y5				
	25	0639	0646	0715	N22	W46	.728	14920	21.8	36	-N	C	0646	140	1.9	E Y5				
	25	0810+5	0821	0837	N21	W46	.726	14920	21.9	27	-F									
GRP64441 CATA KANZ	25	0829																		
	25	0810	0829	0835	N21	W47	.737	14920	21.8	25	-F	C								
	25	0815	0821	0839	N21	W46	.726	14920	21.9	24	-N	C	0821	30	.5					
GRP64441 CATA KANZ	25	0915	0915	0925	S26	E15	.589	14915	26.5	10	-N									
	25	0915	0915	0925	S26	E15	.589	14915	26.5	10	-N	2	0915	112	1.4					
	25	0920E	0920	0920D	S26	E15	.589	14915	26.5		-F	C								

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	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCNATH PLAGE REGION			CNR DAY	COND	TYPE	TIME UT	MEAS. AREA		CORR AREA
					LAT.	MER. DIST.											
GRP64442	25	1002+3	1003+2	1014	S27	E18	.619	14915	26.8	12	-N				30	.4	D
HTPR	25	1002	1003	1014	S27	E18	.619	14915	26.8	12	-N	C	1003	50	.6	D	
ZURI	25	1003	1003	1009	S27	E19	.625	14915	26.8	6	-N	C	1003	16	.2	D	
KHAR	25	1005E	1005	10120	S27	E20	.631	14915	26.9	70	-F	C					
CATA	25	1005	1005	1015	S27	E18	.619	14915	26.8	10	-N	2	1005	28	.4		
CATA	25	1005	1005	1035	S27	E18	.619	14915	26.8	30	-N	2	1005	28	.4		
KANZ	25	1005	1005	10050	S26	E15	.589	14915	26.5		-N	C					
KANZ	25	1017	1017	10170	S27	E15	.602	14915	26.6		-N	C					
GRP64443	25	1025+0	1031+6	1056	S28	E15	.614	14915	26.6	31	-N						E
ZURI	25	1025	1037	1057	S28	E16	.620	14915	26.6	32	-F	C	1037	14	.2		
HTPR	25	1025	1031	1100	S28	E16	.620	14915	26.6	35	-N	C	1031	80	1.1	E	
CATA	25	1035	1035	1055	S29	E14	.622	14915	26.5	20	-N	2	1035	28	.4		
KANZ	25	1036	1036	1055	S28	E15	.614	14915	26.6	19	-N	C					
GRP64444	25	1043+6	1049+5	1059	N21	W47	.737	14920	21.9	16	-F						
ZURI	25	1043	1049	1053	N21	W46	.726	14920	22.0	10	-N	C	1049	60	.9		
KANZ	25	1049	1054	1104	N21	W48	.748	14920	21.9	15	-F	C					
GRP64445	25	1435+0	1441+0	1452	N25	W64	.895	14908	20.8	17	-F				30		D
ZURI	25	1435	1441	1459	N25	W65	.902	14908	20.7	24	-F	C	1441	40	1.0		
HUAN	25	1435	1441	1445	N26	W64	.896	14908	20.8	10	-F	1	1441	15			
GRP64446	25	1554+1	1557	1608	S27	E18	.619	14915	27.0	14	-F						DH
MCMA	25	1554	1557	1615	S28	E18	.631	14915	27.0	21	-N	C	1557	25	.3	DH	
HUAN	25	1555		1601	S27	E18	.619	14915	27.0	6	-F	1					
447 MCMA	25	1626	1628	1631	S28	E18	.631	14915	27.0	5	-N	C	1628	25	.3	DH Y5	
448 MCMA	25	1839E		18400	S28	E17	.625	14915	27.1	10	-F	P	1839	20	.2	D Y5	
	25	1840	1849														
	25	1857	1915														
	25	1932	1941														
	25	1942	1947														
	25	2001	2040														
	25	2042	0050														
	26	0203	0205														
449 MANI	26	0542E	0545	0549	S25	E06	.539	14915	26.7	70	-N	2	P	0545	80	1.0	Y5
GRP64450	26	0630+3	0635+0	0640	S27	E09	.576	14915	26.9	10	-N				80	1.0	DH
CATA	26	0630	0635	06400	S27	E09	.576	14915	26.9	100	-N	2		0635	56	.7	
MANI	26	0633	0635	0639	S25	E06	.539	14915	26.7	6	-N	2	P	0635	90	1.1	H
HTPR	26	0635E		0640	S28	E12	.601	14915	27.2	50	-N		C	0635	100	1.2	DH
451 MCMA	26	1312E		1415	S27	E06	.567	14915	27.0	630	-F		C	1321	40	.4	EHK Y5
452 HUAN	26	1451		1454	S27	E07	.570	14915	27.1	3	-F	1	C				Y5
GRP64453	26	1645+1	1646	1650	S27	E06	.567	14915	27.1	5	-F						D
MCMA	26	1645	1646	1649	S28	E06	.581	14915	27.1	4	-N		C	1646	25	.3	
HUAN	26	1646		1650	S27	E06	.567	14915	27.1	4	-F	1	C				
GRP64454	26	1704+0		1708	S27	E04	.563	14915	27.0	4	-F						D
MCMA	26	1704E		1709	S28	E03	.576	14915	26.9	50	-N		C	1704	25	.3	D
HUAN	26	1704		1706	S27	E05	.565	14915	27.1	2	-F	1	C				
455 MCMA	26	1806	1811	1820	S26	E04	.549	14915	27.1	14	-N		C	1811	35	.4	E Y5
GRP64456	26	1952+1	1954	2004	S25	E03	.533	14915	27.1	12	-N						E
MCMA	26	1952	1954	2004	S26	E03	.547	14915	27.1	12	-N		C	1954	60	.7	E
HUAN	26	1953		19530	S25	E03	.533	14915	27.1		-F	1	P				
GRP64457	26	2134	2138+0	2148	S26	W02	.546	14915	26.7	14	-N						EJ
VORO	26	2134	2138	2148	S28	W04	.577	14915	26.6	14	1N		C	2140	161	2.1	EJ
PALE	26	2136E	2138	21390	S25	W01	.531	14915	26.8	30	-F		C	2138	3		
458 VORO	26	2210	2212	2215	S31	E55	.905	14924	31.0	5	-F		C	2212	54	1.1	OG Y5
459 VORO	26	2310	2313	2319	S32	E55	.909	14924	31.1	9	-N		C	2313	63	1.5	OG Y5
460 CATA	27	0955	1000	1015	N27	W28	.548	14922	25.3	20	-N	2		1000	28	.3	Y5
GRP64461	27	1102+3	1105+1	1125	S26	W10	.566	14915	26.7	23	-B						E
KHAR	27	1102E	1106	11210	S27	W11	.584	14915	26.6	190	-N		C	1106	110	1.4	E
CATA	27	1105	1105	1125	S26	W10	.566	14915	26.7	20	1B	2		1105	337	4.2	

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	DATE	START	MAX. PHASE	END	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA	CORR. AREA			
					LAT.	MER. DIST.													
																		MIL. of Orb	Sq. Deg.
462 HUAN	27	2035	2039	NO FLARE PATROL															
	27	2044	2110	NO FLARE PATROL															
	28	0950	1000	NO FLARE PATROL															
	28	1817	1821	NO FLARE PATROL															
	28	1849		1854 S20 E87	1.000	14929	4.3	5	-F	1	C	1851	25			0	Y5		
463 HUAN	28	1901	1906	NO FLARE PATROL															
	28	1909	1913	NO FLARE PATROL															
	28	1917	1921	NO FLARE PATROL															
	28	1923		1929 S20 E87	1.000	14929	4.3	6	-F	1	C	1923	30				Y5		
	28	1953	2005	NO FLARE PATROL															
464 CATA	28	2036	2124	NO FLARE PATROL															
	29	0143	0148	NO FLARE PATROL															
	29	0158	0224	NO FLARE PATROL															
	29	0249	0300	NO FLARE PATROL															
	29	0516	0532	NO FLARE PATROL															
465 HUAN	29	0538	0545	NO FLARE PATROL															
	29	0735	0740	0740D S24 W35	.722	14915	26.7	50	-B	2		0740	73	1.1			Y5		
	29	1453		1503 S24 W40	.765	14915	26.6	10	-F	1	C						Y5		
	29	1740	1744	NO FLARE PATROL															
	29	1910	2048	NO FLARE PATROL															
466 VORO	29	2135E		2149D S27 W40	.784	14915	26.9	140	-N		C	2136	81	1.3			0J	Y5	
	29	2315	2325	NO FLARE PATROL															
	29	2333	2338	NO FLARE PATROL															
	30	0520	0526	NO FLARE PATROL															
	30	0546	0600	NO FLARE PATROL															
467 CATA	30	0750E	0755	0830D S27 W38	.768	14915	27.5	400	-N	2		0755	56	.9				Y5	
	30	0928	0930	NO FLARE PATROL															
	30	0936	0945	NO FLARE PATROL															
	30	1339+9	1441	1450 N24 E90	.999	14930	7.3	71	1F										
	30	1339	1441	1450 N25 E90	.999	14930	6.3	71	1F										
469 MCMA	30	1435	1440	1440D N24 E90	.999	14930	6.4	50	1F	2	C	1440	56				A	A	
	30	1543	1548	NO FLARE PATROL															
	30	1730E	1733	1740D N25 E90	.999	14930	6.5	100	-F		C	1733					Y5		
	30	1740	1748	NO FLARE PATROL															
	30	1845	1853	NO FLARE PATROL															
470 CATA	30	1859	2230	NO FLARE PATROL															
	31	0820	0830	0830D N24 E90	.999	14930	7.1	100	-F	2		0830	28				Y5		
	31	0941	0946+1	0953D N22 E82	.985	14930	7.6	12	-F										
	31	0941	0946	0950D N22 E83	.987	14930	6.6	90	-F		C	0946	20				0	0	0
	31	0943E	0947	0953D N23 E81	.981	14930	6.5	100	-F		C								
GRP64472	31	1004+6	1015+1	1105D N26 E80	.978	14930	7.4	61	2N										
	31	1004	1010	1014D N25 E80	.978	14930	6.4	100	1N	*	C							AEHO	
	31	1005	1016	1140D N27 E80	.978	14930	6.4	950	2N	*	C	1035	440				AE		
	31	1010	1015	1105 N27 E85	.991	14930	6.8	55	3B	*		1015	393				HO		
	31	1012E	1015	1040D N22 E78	.971	14930	6.3	280	1N	*									
	31	1013E	1016	1058D N26 E81	.981	14930	6.5	450	1B	*	P	1016	100						
	31	2030	2221	NO FLARE PATROL															

"Remarks":

A = Eruptive prominence whose base is less than 90° 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 a 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 calcium II lines H and K.
 P = Flare shows helium D₃ in emission.
 Q = Flare shows the Balmer continuum in emission.
 R = Marked asymmetry in H α line suggests ejection of high velocity material.
 S = Brightness follows disappearance of filament (same position).
 T = Region active all day.
 U = Two bright branches, parallel (||) or converging (Y).
 V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
 W = Great increase in area after time of maximum intensity.
 X = Unusually wide H α line.
 Y = System of loop-type prominences.
 Z = Major sunspot umbra covered by flare.

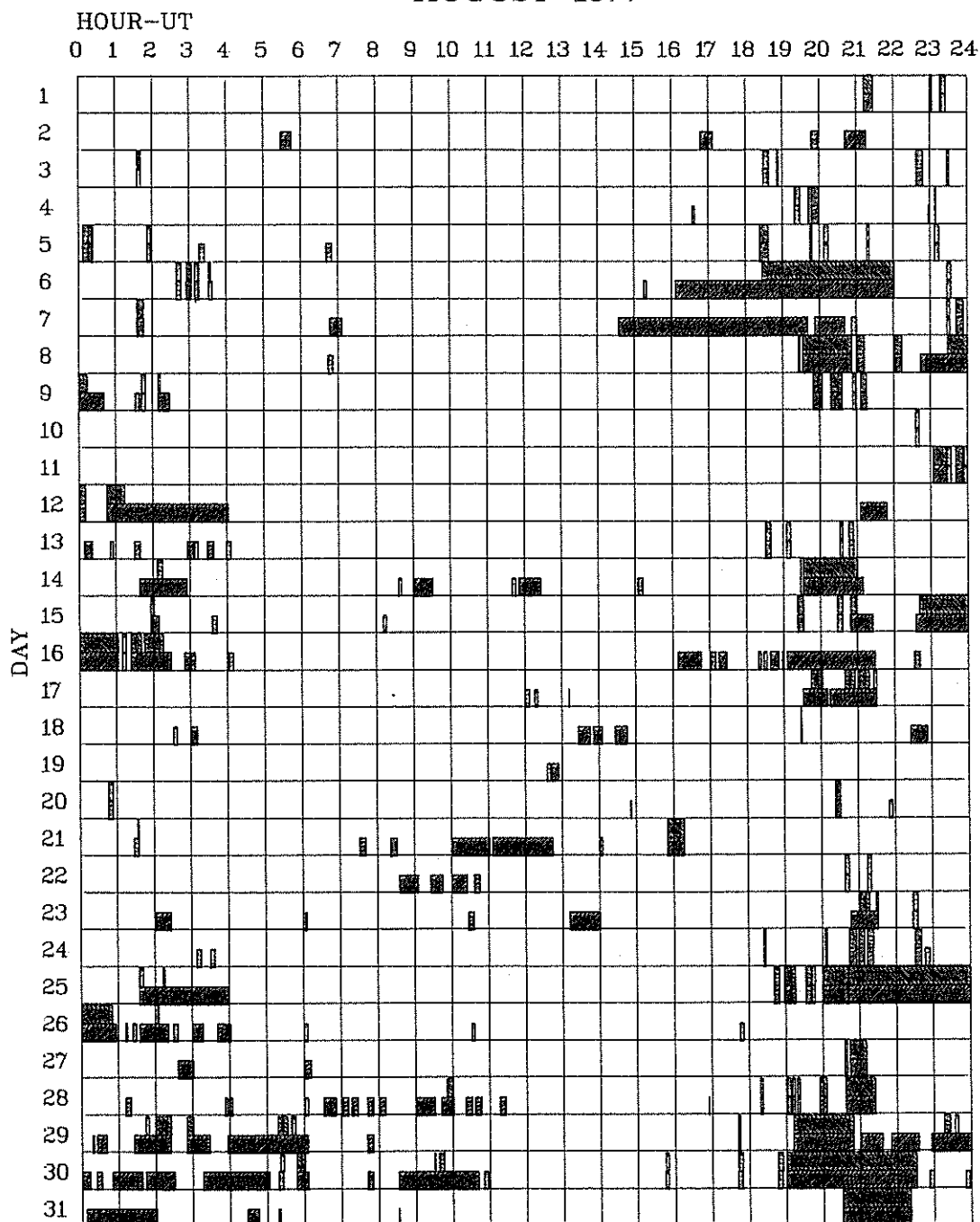
DAILY FLARE INDICES Includes all Flares								
AUGUST 1977								
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
770801	7.45	23.6	770811	4.22	23.1	770821	0.00	23.5
770802	5.28	24.0	770812	6.20	23.5	770822	2.53	23.8
770803	8.03	23.5	770813	1.90	23.6	770823	12.40	23.6
770804	9.61	23.6	770814	9.12	22.4	770824	21.01	23.2
770805	45.44	23.1	770815	6.33	21.1	770825	31.44	18.4
770806	18.09	19.9	770816	2.61	23.1	770826	32.09	24.0
770807	15.25	23.6	770817	23.45	23.1	770827	6.78	23.5
770808	6.56	21.5	770818	0.00	24.0	770828	1.76	22.6
770809	39.97	23.0	770819	23.01	24.0	770829	6.30	21.0
770810	.65	23.9	770820	9.76	23.8	770830	6.78	19.6
						770831	72.61	22.2

When no Flare Index is given, it is 0 for that day.

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

AUGUST 1977



Observatories included in total patrol:

Athenes	Herstmonceux	Kiev	McMath-Hulbert	Tashkent
Bucharest	Huancayo	Kodaikanal	Meudon	Tehran
Catania	Kandilli	Locarno	Mitaka	Upice
Culgoora	Kanzelhoehe	Lvov	Monte Mario	Voroshilov
Haute Provence	Kharkov	Manila	Palehua	Wendelstein
			Ramey	Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

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Aug 77

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1977

AUG 1977	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	100 GORK	44 NS	0300		120		5		
	2800 OTTA	20 GRF	1455	1620	255	1.4	0.7		
2	100 GORK	43 NS	0333		420		5		
	260 ONDR	8 S	1507.3	1507.3	.3	25			
3	100 GORK	43 NS	0303		297		5		
	260 ONDR	45 C	0925	0925.7	2	13			
	608 ONDR	4 S/F	0929.3	0930	1.5	55			
	260 ONDR	4 S/F	1124.5	1125	.6	30			
	260 ONDR	8 S	1204.8	1204.8	.3	121			
4	100 GORK	44 NS	0345		453		10		
	1420 ARCE	1	1001.9	1002	.6				
	2800 OTTA	27 RF	1450		170	1.2	0.9		
	2800 OTTA	24 R	1450	1530	40	1.2	0.8		
	2800 OTTA	24P R	1530		90	1.2			
	2800 OTTA	26 FAL	1700	1740	40	-1.2	-0.6		
	2800 OTTA	240 R	1755	1805	10	1.2	0.6		
	2800 OTTA	20 GRF	1825	1835	60	1.2	0.6		
	2800 OTTA	2 S/F	2054	2054.5	1.5	1.6	0.8		
	2800 OTTA	22 GRF	2056	2125	80	3.8	2.1		
5	100 GORK	44 NS	0306		459		5		
	9400 TYKW	5 S	0535	0535.4	5	10	3		
	4995 ATHN	3 S	0934.4	0940	1.1	8.3	2.5		
	3100 CRIM	1 S	0938	0939	2	3	1		
	1420 ARCE	1	0939.6	0939.9	.8				
	536 ONDR	3 S	0947.2	0947.2	.3	21			
	2800 OTTA	240 R	1127	1136	9	1.4	0.7		
	7000 SAOP	8 SP	1146.4	1147	1.2	5.2	3.5		
	2800 OTTA	24 R	1230	1300	30	2.8	1.4		
	2800 OTTA	27AFRF	1230		295	2.8	2.2		
	2800 OTTA	24P R	1300		165	2.8			
	1470 BERL	21	1411.5	1424	49	1.5			
	1470 BERL	2	1412	1413.5	3.5	3			
	7000 SAOP	20 GRF	1412		51.6	12.3			
	7000 SAOP	21 GRF	1412	1413.3	51.6	21.5			
	3000 BERL	1	1412.3	1413	48	9.7			
	9500 BERL	1	1412.5	1412.9	48	8.4			
	1420 BOUL	1 S	1412.5	1413	3		1		
	4995 SGMR	20 GRF	1412.8	1413.3	22	13.5	4.1		
	2695 SGMR	20 GRF	1412.9	1413.5	22.5	7.5	2.3		SWF
	4995 ATHN	3 S/F	1412.9	1413.4	36.5	16.6	5		SWF
	2800 OTTA	21 GRF	1412	1423	78	4.6	2.3		
	8800 SGMR	3 S	1413	1413.3	9.2	10.4	3.1		SWF
	1415 SGMR	1 S	1413	1414	2.7	5.5	1.6		SWF
	7000 SAOP	3 S	1413	1413.3	2.2	16.5	5.7		
	2800 OTTA	2 S/F	1413	1413.2	4.5	6.8	3.1		
	2695 BOUL	23 GRF	1414	1414.5	15	6	3		
	2800 OTTA	26 FAL	1545	1725	100	-2.8	-1.4		
	1420 GUL	1 S	1857.5	1900	12	5	2		
	7000 SAOP	21 GRF	1857.8	1900.4	55	17.1			
	7000 SAOP	20 GRF	1857.8		55	10.5			
	2800 OTTA	3 S	1857	1900	6	20.4	5.1		
	2695 BOUL	1 S	1858.5	1900.1	11.5	18	6		
	2695 SGMR	3 S	1858.6	1900.1	4.3	24.8	7.4		
	4995 SGMR	3 S	1859.2	1900.2	2.8	13.6	4.1		
	7000 SAOP	1 S	1859.4	1900.4	2.4	8.8	3		
	1415 SGMR	1 S	1859.5	1900.3	2.8	6.7	2		
	4995 BOUL	1 S	1859	1900	3.5	15	5		
	2800 OTTA	29 PBI	1903	1903	77	4.2	2.3		
	2800 OTTA	240 R	2030	2045	15	0.8	0.4		
6	100 GORK	44 NS	0315		450		5		
	3100 CRIM	40 F	0744	0950	133	2	1		
	9500 BERL	20	0933	1117	182	11			
	1470 BERL	21	0935	1051	200	5			
	3000 BERL	20	0941	1050.5	174	14			
	3100 CRIM	3 S	0957	1152 U	93 D	14			
	260 ONDR	42 SER	1032	1048	30	9	1.4		
	408 TRST	41 F	1042.6	1049.6	9.1	4			
	536 ONDR	45 C	1045	1051.3	7	62	4.4		
	1420 ARCE	22	1047.5	1051.2	72				
	237 TRST	5 S	1049.2	1049.3	.1	87	30		
	608 ONDR	45 C	1050.3	1051.5	2	170	65		0
	606 SGMR	3 S	1050.8	1051.8	1.6	223.2	67		
	2800 OTTA	26 FAL	1100	1307	127	-9.6	-6		
	7000 SAOP	1 S	1348.7	1349.4	2.6	3.6	2.4		
	2800 OTTA	32 ABS	1535	1555	68	-4.2	-2.1		
	4995 BOUL	3 S	1743	1744.5	2	12	4		
	2695 BOUL	3 S	1744.5	1745.5	2.5	2	1		
	2800 OTTA	27AFRF	2033		197	3	2.2		
	2800 OTTA	24 R	2033	2145	72	3	1.5		

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1977

AUG 1977	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
7	2800 OTTA	24P R	2145		108	3			
	2800 OTTA	20 GRF	2249	2251	30	2	1		
	2800 OTTA	26 FAL	2333	2350	17	-3	-1.5		
	260 ONDR	43 NS	1204		194	15			
	2800 OTTA	21 GRF	1300	1315	110	4.6	2.3		
	2800 OTTA	2 S/F	1304	1305.1	8	4.4	2.2		
	536 ONDR	8 S	1445.8	1445.8	.3	80			
	2800 OTTA	1 S	1633	1635.2	10	1.2	0.4		
	2800 OTTA	20 GRF	1705	1730	45	0.8	0.4		
	2695 BOUL	3 S	1744	1745.5	2.5	3	1		
8	4995 BOUL	3 S	1843	1844.5	2.5	10	3		
	7000 SAOP	1 S	1905.1	1905.8	1.2	6.4	4.3		
	208 VORO	4 S/F	0004.6	0005.2	1.5	22			
	4995 ATHN	3 S/F	0407.6	0408	1.9	15.5	4.7		
	260 ONDR	41 F	1120	1311.6	140	5			
	2800 OTTA	20 GRF	2015	2023	30	1.8	0.9		
	2800 OTTA	20 GRF	2105		40	1	0.7		
	2800 OTTA	21 GRF	2150	2210	35	1.2	0.6		
	4995 BOUL	8 S	2206.5	2207.5	1.5	12	4		
	2695 BOUL	8 S	2207.5	2208	1.5	4	1		
9	2800 OTTA	1 S	2207	2207.5	2	3	1.2		
	2695 PENT	22 GRF	2252	2254	24	1.4	0.7		
	2800 OTTA	27A RF	1415		175	1.2	1.1		
	2800 OTTA	24 R	1415	1425	10	1.2	0.6		
	2800 OTTA	24P R	1425		153	1.2			
	2800 OTTA	20 GRF	1535	1541	23	1.6	0.8		
	2800 OTTA	20 GRF	1625	1631	15	1.4	0.7		
	2800 OTTA	26 FAL	1658	1710	12	-1.2	-0.6		
	2800 OTTA	1 S	2245	2246.9	2.5	6.6	3.3		
	2800 OTTA	29 PBI	2247.5	2247.5	37	2.4	1.2		
10	2000 TYKH	5 S	2245	2246.8	5	4	1.5		
	3750 TYKH	5 S	2246	2246.7	2	5	2		
	2695 BOUL	3 S	2246	2247.5	2.5	6	2		
	1420 BOUL	3 S	2246	2246.5	2	3	1		
	536 ONDR	8 S	1232.5	1232.5	.5	78			
	2800 OTTA	1 S	1730	1731	8	1.4	0.5		
	536 ONDR	8 S	1219.3	1219.3	.3	72			
	536 ONDR	8 S	1409.5	1409.5	.3	38			
	3100 GRIM	26 FAL	0857	1200	183	9			
	2800 OTTA	20 GRF	1520	1550	60	1.2	0.6		
11	2800 OTTA	1 S	1728.5	1729	3	0.8	0.4		
	3100 GRIM	20 CRF	0614	0625	47	4	1		
	3100 GRIM	24 R	0710	0915	125	5			
	1420 ARCE	8	0807.3	0807.5	.5				
	9100 GORK	20 GRF	0834.1	0835	1.1	10	5		
	260 ONDR	4 S/F	0920	0920	1	43	14		
	9100 GORK	20 GRF	1122.8	1123.8	37.2	5.3	1.8		
	2800 OTTA	27A RF	1430	1430	100	0.8	0.7		
	2800 OTTA	24 R	1430	1455	25	0.8	0.4		
	2800 OTTA	24P R	1455		65	0.8			
12	1420 BOUL	1 S	1551	1552	1.5	2	1		
	2695 BOUL	1 S	1552.5	1553.5	1.5	3	1		
	2800 OTTA	1 S	1552	1552.5	2	2.2	1		
	2800 OTTA	26 FAL	1600	1610	10	-0.8	-0.4		
	3100 GRIM	41 F	0823	0950	32	3	1		
	3100 GRIM	5 S	0950	0952	8	3	1		
	1420 ARCE	5	1350.3	1352.1	4.5				
	4995 ATHN	2 S/F	1417.3	1429.5	24.3	23.5	14.1		
	4995 ATHN	2 S/F	0651.3	0655.2	17.7	24.6	14.9		
	260 ONDR	8 S	0918	0918	.3	27			
13	4995 ATHN	2 S/F	0922.6	0933.2	26.8	27.5	16.5		
	4995 ATHN	1 S/F	1425.2	1430.5	18.1	19.3	9.6		
	2800 OTTA	240 R	2135	2155	20	1.4	0.7		
	260 ONDR	3 S	0812.3	0812.3	.2	4			
	536 ONDR	3 S	1008.2	1008.2	.3	10			
	260 ONDR	40 F	1150.3	1150.3	13	8			
	2800 OTTA	20 GRF	1300	1317	50	98	0.4		
	536 ONDR	8 S	1340.2	1340.2	.3	35			
	2695 PENT	27 RF	2225		95	0.8	0.6		
	2695 PENT	24 R	2225	2235	10	0.8	0.4		
14	2695 PENT	24P R	2235		95	0.8			
	2695 PENT	26 FAL	2330	2400	30	-0.8	-0.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		
	2800 OTTA	27 RF	1255		190	1.6	1.4		

OR
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SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1977

AUG 1977	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
20	2800 OTTA	24 R	1255	1330	35	1.6	1		
	2800 OTTA	24P R	1330		120	1.6			
	2800 OTTA	26 FAL	1520	1605	45	-1.6	-0.8		
	260 ONDR	4 S/F	1500.8	1502.3	2.5	8			
21	200 HIRA	44 NS	0015 E	0740	540 D	10	2		SR
	260 ONDR	44 NS	0645 E		500 D	101			
	202 IZMI	44 NS	0700		300	70			
	127 TORN	43 NS	0840 U	1016	200 U	20			V=1
	245 SGMR	44 NS	1000 E	1552.5	812 D	174.6			
	208 VORO	43 NS	2153	2207	187	10	7		
	127 TORN	44 NS	0840 U	1124.6		25			
	536 ONDR	8 S	1037	1037	.3	31			
	2800 OTTA	20 GRF	1208	1214	12	1.4	0.7		
	2800 OTTA	24 R	1420	1600	100	2.4	1.2		
	2800 OTTA	27A RF	1420		305	2.4	1.8		
	536 ONDR	8 S	1439.2	1439.2	.3	91			
	2800 OTTA	1A S	1555		4	1	0.5		
	2800 OTTA	8 S	1557.5	1557.7	0.5	3.2	1.6		
	2800 OTTA	24P R	1600		135	2.4			
	2800 OTTA	26 FAL	1815	1925	70	-2.4	-1.2		
	2800 OTTA	240 R	1930	2000	30	1.4	0.7		
	2800 OTTA	20 GRF	2030	2340	300	2.8	1.8		
22	260 ONDR	44 NS	0650 E		510 D	10			
	228 HARS	47 GB	1252.5	1317 U	40	135 D	135 D		
	228 HARS		1252.5	1256 U	10	135 D			
	536 ONDR	8 S	1320.5		.3	36			
	7000 SAOP	20 GRF	1454.5		15.2	5.5			
	2695 PENT	20 GRF	2250	2430	180 D	3.8			
23	3100 CRIH	26 FAL	0748	1107		3			
	4995 BOUL	40 F	2257.5	2303	7.5	102	33		
	2695 BOUL	45 C	2300	2301.5	4	32	11		
	4995 BOUL	2 SF	2325.5	2326	2.5	10	3		
	2695 BOUL	2 SF	2330	2330.5	2.5	4	1		
	4995 BOUL	8 S	2333.5	2334.5	1.5	32	11		
	2695 BOUL	8 S	2334	2335	1.5	7	2		
24	260 ONDR	42 SER	1251.5	1311.5	90	162			
	7000 SAOP	22 GRF	1624.6		22.6	4			
25	200 HIRA	45 C	0121	0121.5	1	500	50		0
	3100 CRIH	24 R	0527	0808		4			
	2800 OTTA	20 GRF	1830	1845	50	1	0.5		
	500 HIRA	45 C	2150.7	2151.6	3	90	25		SL
26	500 HIRA	45 C	0302.8	0303	.8	12	4		SL
	200 HIRA	45 C	0303	0303.3	1	500	40		SL
	200 HIRA	45 C	0404	0404.4	1	800	20		SL
	100 HIRA	45 C	0404.3	0404.5	.5	1200	250		SL
	606 MANI	40 F	0502	0506.5	5.5	33	7.2		HL
	606 MANI	40 F	0502	0506.5	5.5	33	7.2		HL
	500 HIRA	45 C	0502.7	0506.5	5	240	50		HL
	200 HIRA	45 C	0502.7	0504	2	600	45		HL
	1400 SYDN	40 F	0502.9	0504.7	1.8	63			
	2000 TYKH	45 C	0502	0504.3	4	4	.5		45L
	1000 TYKH	45 C	0502	0503	4	8.7	1.3		
	100 HIRA	45 C	0503	0503	.5	1200	500		HL
	1415 MANI	1 S	0503	0504.5	4.5	9.1	1.1		
	1415 MANI	1 S	0503	0504.5	4.5	9.1	1.1		
	700 SYDN	40 F	0503.1	0504.7	1.6	26			
	1000 TYKH	45 C	0516.5	0517	1	2	.4		
	500 HIRA	45 C	0524	0524.3	1.7	11	5		HL
	200 HIRA	45 C	0524	0525	2	500	15		0
	1000 TYKH	45 C	0524	0524.9	2	.8	.2		
	200 HIRA	45 C	0535	0538	7.3	700	50		0
	1000 TYKH	45 C	0536	0538.8	12	71	8		
	100 HIRA	45 C	0537	0539	13	1200	250		HL
	500 HIRA	48 C	0537	0538.6	15	3500	1000		SL
	606 MANI	47 GB	0537	0539.2	7	1570	215		
	606 MANI	47 GB	0539.7	0540.9		345			
	1415 MANI	4 S/F	0537.9	0539.2	6.1	129	17.1		
	2695 MANI	3 S	0537.9	0538.8	6.1	15.4	3.4		
	4995 MANI	3 S	0537.9	0538.8	6.1	16.5	9.7		
	8800 MANI	3 S	0537.9	0538.8	6.1	26.1	5.8		
	1415 MANI	4 S/F	0537.9	0539.2	6.1	129	17.1		
	2695 MANI	3 S	0537.9	0538.8	6.1	15.4	3.4		
	4995 MANI	3 S	0537.9	0538.8	6.1	16.5	9.7		
	8800 MANI	3 S	0537.9	0538.8	6.1	26.1	5.8		
	2000 TYKH	45 C	0537	0538.5	6	30			30L
	4995 ATHN	2 S/F	0538.2	0538.6	1.6	13.3	8		
	35000 NAGO	5 S	0538.5	0538.5	1 D	15			
	3750 TYKH	45 C	0538	0538.4	4	12	2		

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SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1977

AUG 1977	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
27	9400 TYKH	45 C	0538	0538.4	6	35	7		DR
	1000 TYKH	5 S	0630.5	0630.8	1	3.5	.7		20L
	237 TRST	42 SER	0630.5	0632.2	1.8	1130			WL
	100 HIRA	45 C	0630.5	0630.5	1	1200	400		0
	200 HIRA	45 C	0630.7	0631	1	500	60		
	202 IZHI	42 SER	0631	0631	3	200			
	260 ONDR	44 NS	0635 E		511	138			
	240 DWIN	45 C	0731	0731.5	1	10	2		
	160 DWIN	45 C	0731	0731.5	1	50	5		
	237 TRST	5 S	0747.5	0747.6	.1	145	46		8L
	245 SGMR	44 NS	1006 E	1646.4	797 0	79.9			3.5
	410 SGMR	43 NS	1821.8	1822.2	301.20	75.8			3
	200 HIRA	44 NS	2010 E	2200	470 0	10	2		SR
	208 VORO	44 NS	2100		240		10		
	160 DWIN	45 C	1030.5	0732	1.5	25	2		
	5730 IRKU	45 C	1417	1419.7	6	3			L
	5731 IRKU		1417	1421.5		16			K
	240 DWIN	45 C	1419	1419.5	1	10	3		
	160 DWIN	45 C	1419	1419.5	1	140	5		
	240 DWIN	45 C	1421	1421.5	1	13	3		
	160 DWIN	45 C	1421	1421.5	1	35	5		
	2800 OTTA	240 R	1435	1530	55	1.2	0.6		
	237 TRST	41 F	1645.8	1645.8	.2	510			19L
	237 TRST	42 SER	1703.3	1704.7	2	150			10L
	2800 OTTA	1 S	1721	1722.2	2	1.2	0.6		
	2695 SGMR	3 S	1948.8	1953.4	6.3	15.7	7.9		
	4995 SGMR	1 S	1951.1	1953.3	7.1	2.9	1.5		
	1420 BOUL	45 C	1951.5	1953	4	71	24		
	410 SGMR	7 C	1952	1952.3	3.4	474	142.2		
	606 SGMR	3 S	1952	1953	4.5	156.8	47		
	1415 SGMR	3 S	1952.2	1952.9	4.2	209.2	62.7		
	2800 OTTA	45 C	1952	1953.3	4	18.8	2.6		
	2695 BOUL	45 C	1953.5	1954.5	1.5	15	5		
	2800 OTTA	20 GRF	2015	2136	120	2.2	0.8		
	100 HIRA	45 C	0045.5	0046	1	270	50		WL
	127 TORN	44 NS	0700 E		430 0				V=0
	260 ONDR	44 NS	0710 E		482 0	34	4		
	245 SGMR	44 NS	1007 E	1632.3	795 0	64.2			SWF
	200 HIRA	44 NS	2010 E	0345	780 0	27	5		SR
	208 VORO	44 NS	2100	0031	240	17	9		
	9100 GORK	20 GRF	0710.3	0721.7	39.3	7.6	3.5		
	4995 SGMR	4 S/F	1059.3	1102.2	4.8	52.3	15.7		SWF
	2695 SGMR	4 S/F	1059.8	1102.2	4.1	38.3	11.5		SWF
	7000 SAOP	3 S	1100.6	1102.4	3.3	64.6	21.5		
	7000 SAOP	29 PBI	1103.9		47.6				
	1420 ARCE	3	1100.9	1102.1	2.1				
	4995 ATHN	3 S	1101	1102.1	3	47.5	14.3		
	8800 SGMR	4 S/F	1101.3	1102.4	2.7	43.7	13.1		SWF
	15400 SGMR	4 S/F	1101.7	1102.3	2	24.8	7.4		SWF
	1415 SGMR	1 S	1101.8	1102.3	2.1	4.7	1.4		SWF
	9500 BERL	4	1101	1102.5	3	44			
	1470 BERL	4	1101	1101.9	2.5	6.6			
	3000 BERL	4	1101	1101.8	2.5	27			
	1420 ARCE	29	1103		50				
28	100 HIRA	45 C	0202	0202.3	.7	600	150		WL
	202 IZHI	44 NS	0700		300	40			
	260 ONDR	44 NS	0722 E		468 0	27	3		
	245 SGMR	44 NS	1008 E	1152.4	792 0	79.2			
	160 DWIN	44 NS	1621 E		93 0		5		
	536 ONDR	8 S	1228	1228	.3	45			
29	2800 OTTA	240 R	2010	2100	50	1.4	0.7		
	260 ONDR	44 NS	0642 E		506 0	34			
	245 SGMR	44 NS	1009 0	1456.4	790 0	26.9			3
	160 DWIN	44 NS	1022 E		90 0		3		
	202 IZHI	6 S	0917		1	70	30		
	536 ONDR	3 S	1057.3	1057.3	.2	18			
30	237 TRST	41 F	1228.4	1228.5	.1	70			16L
	228 HARS	1 S	1454.5	1455.5	4	43	19		
	237 TRST	41 F	1455	1456.3	1.3	88			5L
	240 DWIN	45 C	0846	0846.5	1	15	3		
31	160 DWIN	45 C	0846	0846.5	1	25	5		
	260 ONDR	40 F	0956.8	0956.8	17	7	1		
	3000 BERL	3	1005.5	1011.2					
	1470 BERL	4	1005.5	1007	5.5	18	6.5		
	536 ONDR	2 S/F	1005.6	1007.3	4.5	14	4		
	808 ONDR	2 S/F	1005.8	1007.1	4	30	10		
	3100 CRIM	5 S	1006	1009	26	3	1		
	1420 ARCE	4	1006.1	1008.3	4.5				
	408 TRST	3 S	1006.9	1007.3	1.2	13			
	930 BORD	46 C	1006	1007	4	77	8		

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SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1977

AUG 1977	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	9100 GORK	20 GRF	1009.3	1027.1	74 D	7.4			
	3100 CRIM	8 S	1010.6	1010.8	.4	4	1		
	160 DWIN	45 C	1201.8	1202	1	120	5		
	160 DWIN	45 C	1248.6	1249	1	300 D	10		
	160 DWIN	45 C	1303.6	1303.8	.4	30	5		
	4995 BOUL	45 C	1913	1915	5	24	6		
	4995 BOUL	45 C	1955.5	1958	8	32	11		

Reports received from the following observatories:

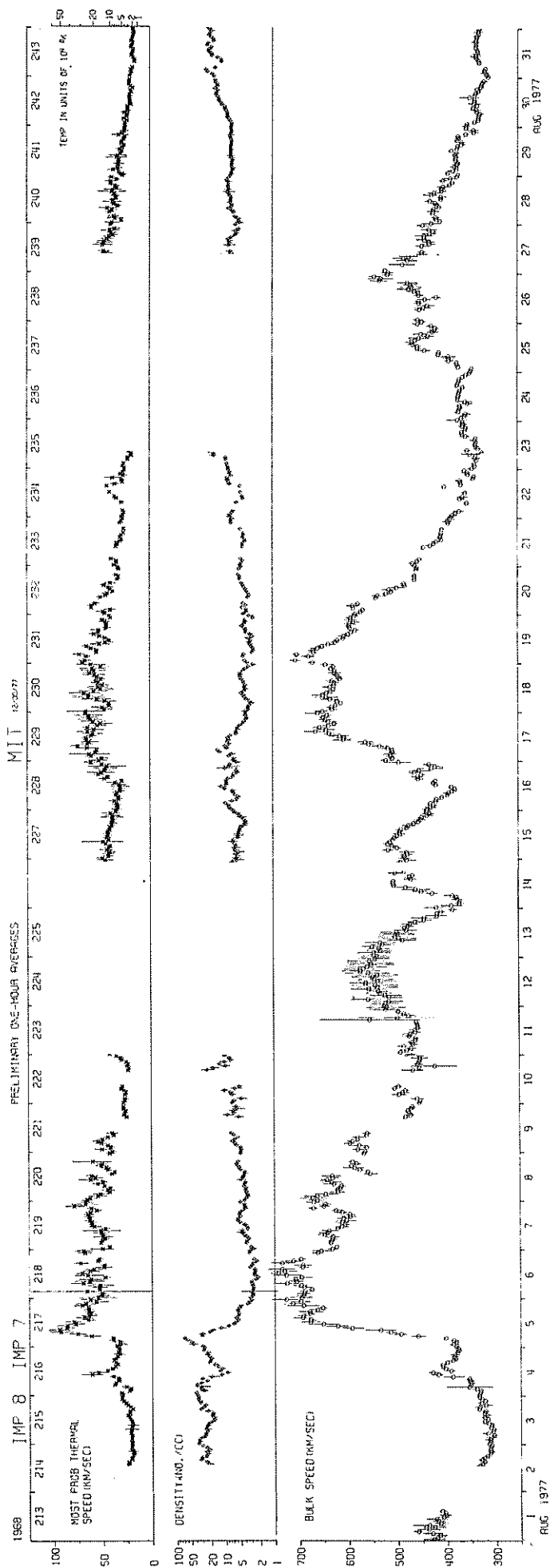
ARCE = Arcetri	DWIN = Dwingeloo	IRKU = Irkutsk	ONDR = Ondrejov	SGMR = Sagamore Hill
BERL = Berlin-Adlershof	GORK = Gorky	KIEV = Kiev	OTTA = Ottawa	SYDN = Sydney
BORD = Bordeaux	HARS = Harestua	MANI = Manila	PENT = Penticton	TORN = Torun
BOUL = Boulder	HIRA = Hiraio	MCMA = McMath-Hulbert	POTS = Potsdam	TYKW = Toyokawa
CRIM = Simferopol	HUAN = Huancayo	NAGO = Nagoya	SAOP = Sao Paulo	TRST = Trieste
				VORO = Voroshilov (Ussurisk)

Explanation of Type Code:

1 Simple 1	6 Minor	22 Simple 3F	27 Rise and Fall	32 Absorption	44 Noise Storm in Progress
2 Simple 1F	7 Minor +	23 Simple 3AF	28 Precursor	40 Fluctuation	45 Complex
3 Simple 2	8 Spike	24 Rise	29 Post Burst Increase	41 Group of Bursts	46 Complex F
4 Simple 2F	20 Simple 3	25 Rise A	30 Post Burst Increase A	42 Series of Bursts	47 Great Burst
5 Simple	21 Simple 3A	26 Fall	31 Post Burst Decrease	43 Onset of Noise Storm	48 Major
					49 Major +

IMP 7 AND 8 SOLAR WIND PLASMA

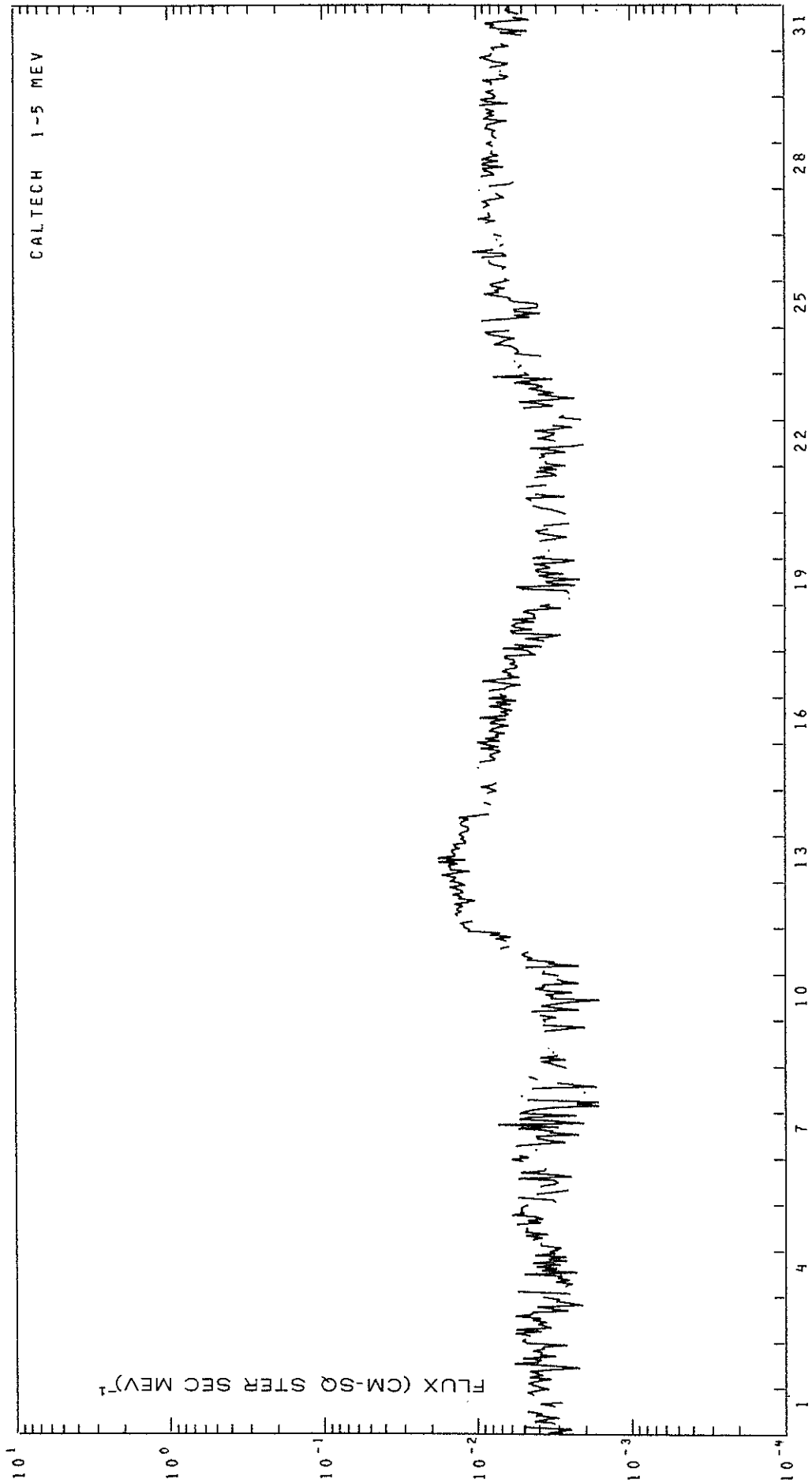
AUGUST 1977



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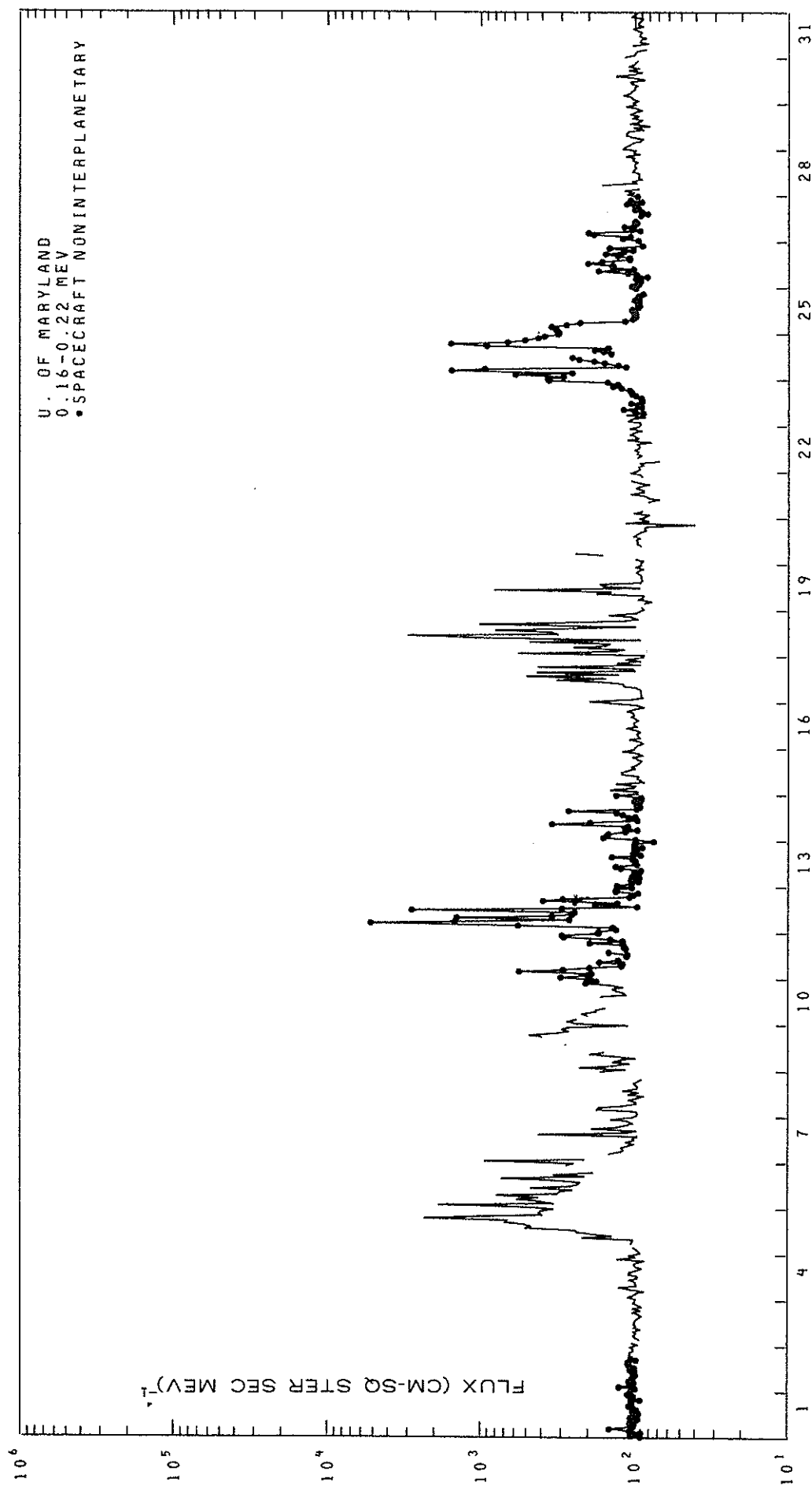
IMP 7 AND 8 ELECTRONS

AUGUST, 1977



IMP 7 AND 8 LOW ENERGY PROTONS

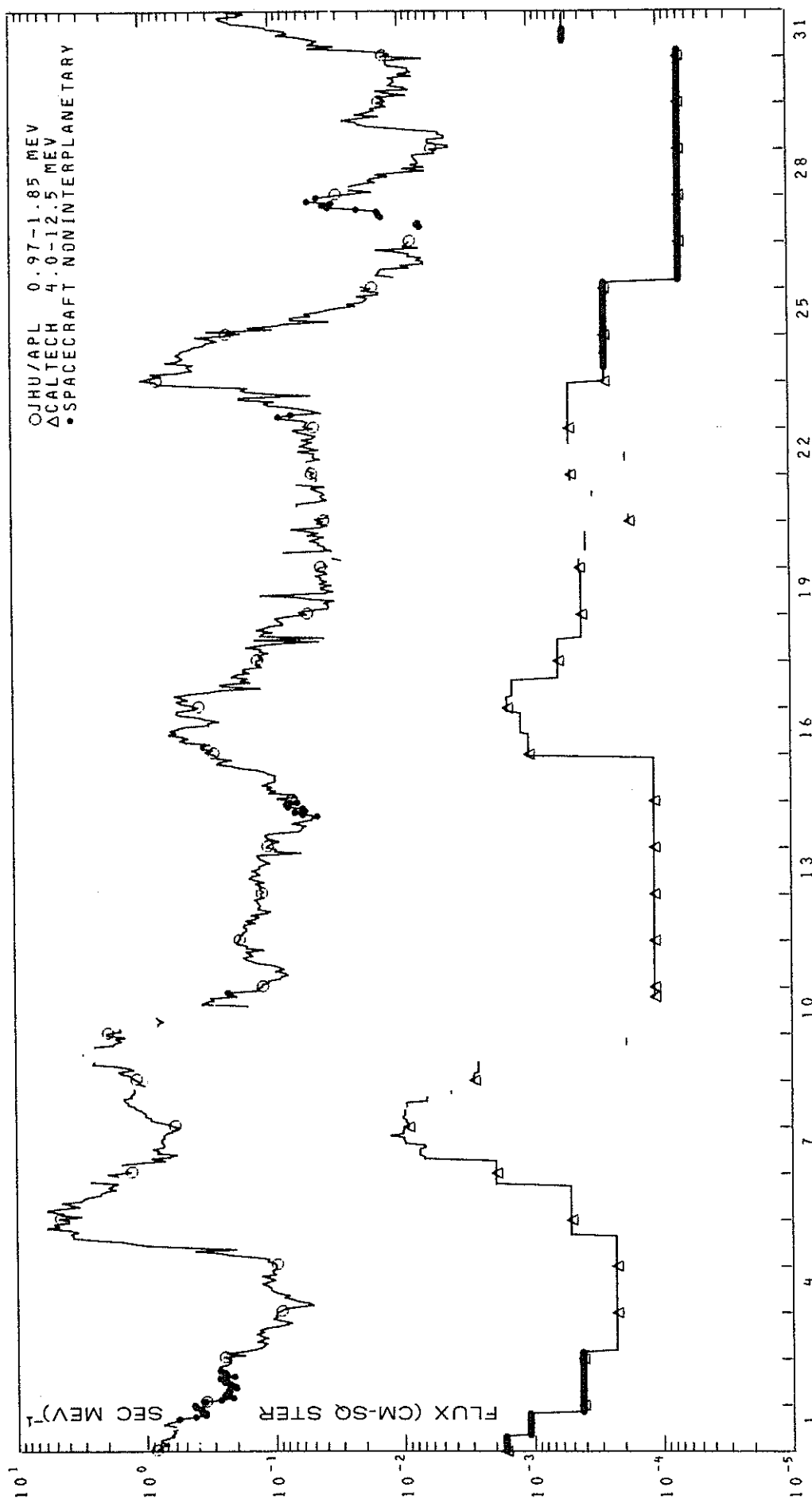
AUGUST, 1977



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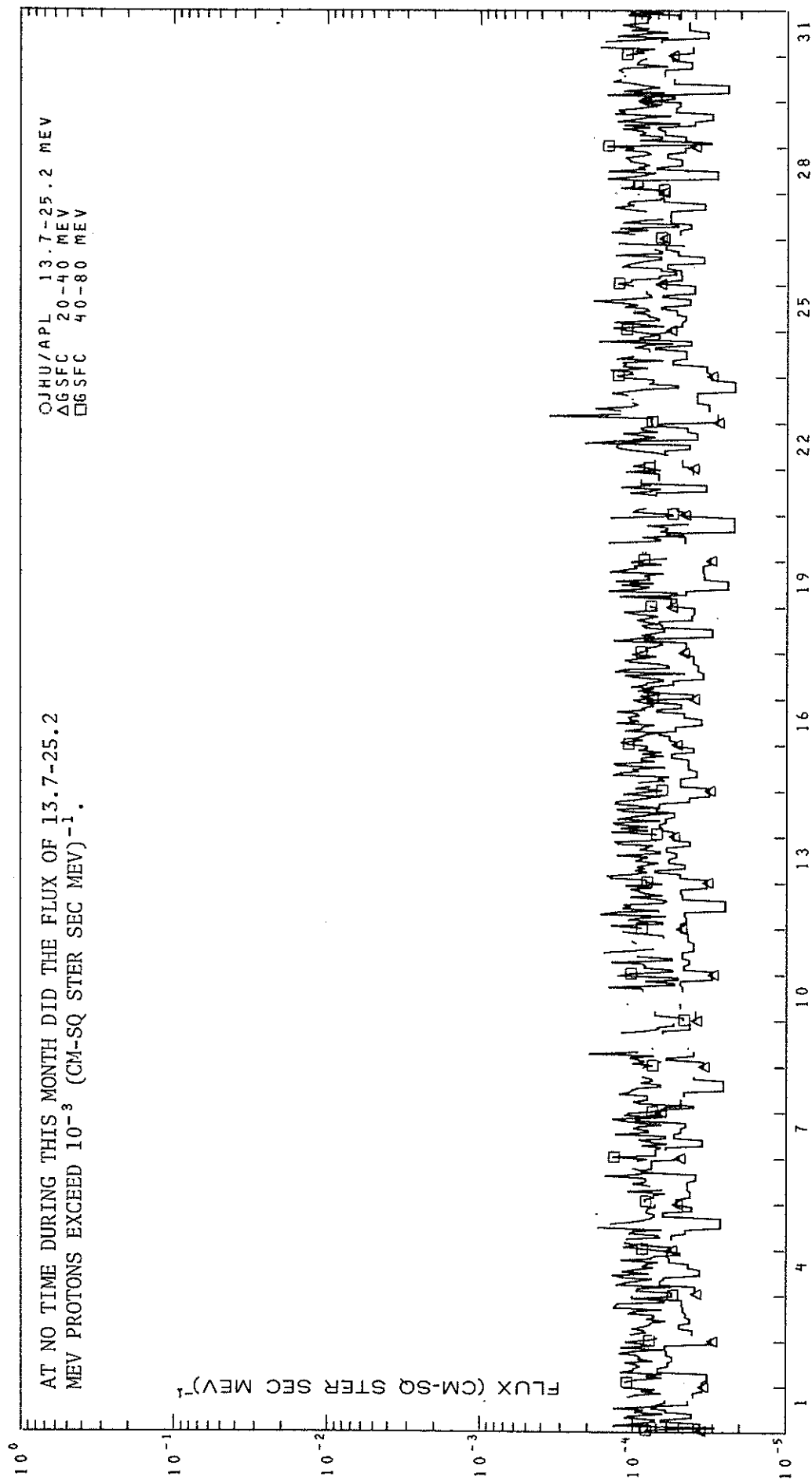
IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

AUGUST, 1977



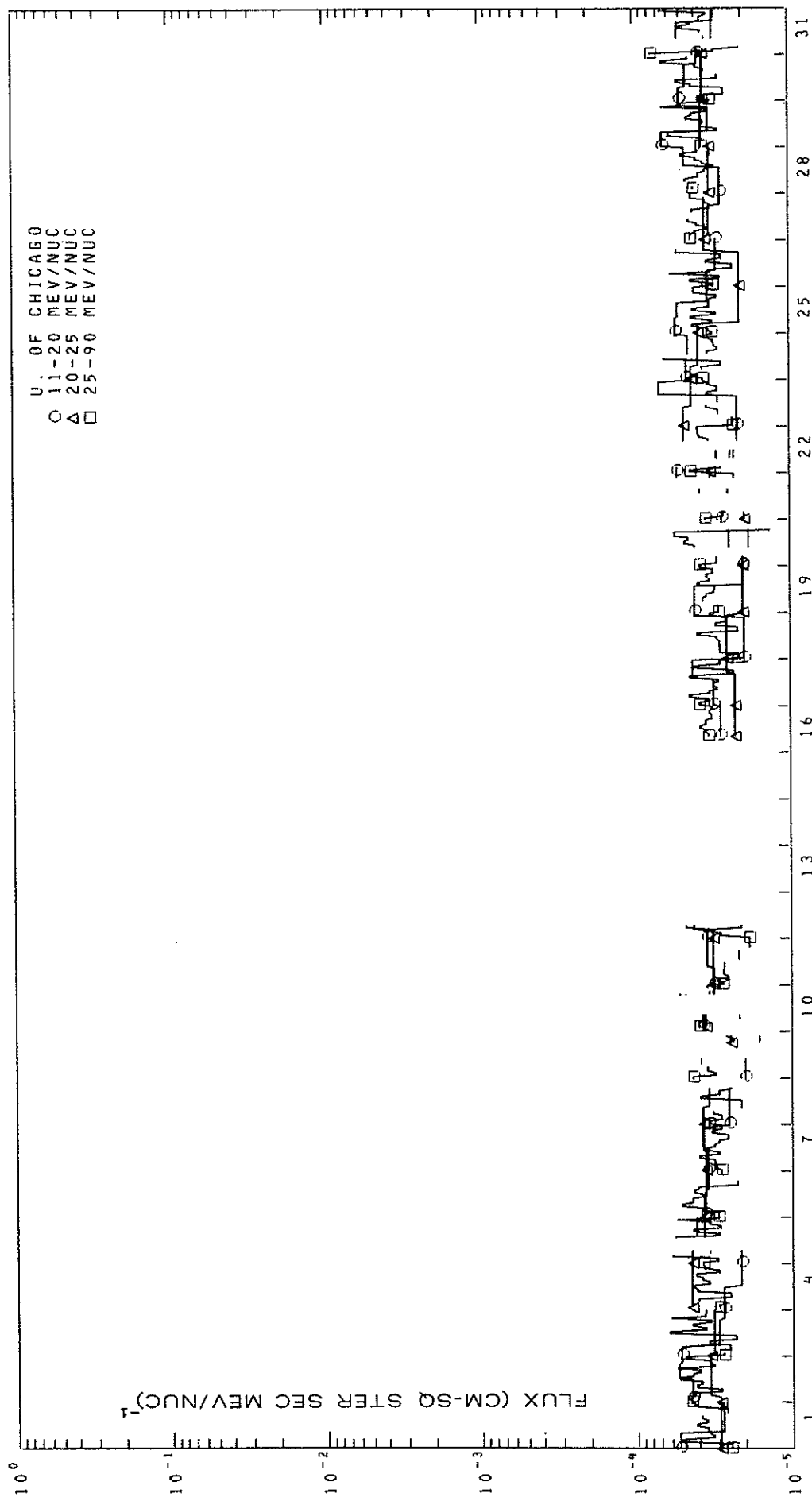
IMP 7 AND 8 HIGH ENERGY PROTONS

AUGUST, 1977



IMP 7 AND 8 ALPHA PARTICLES

AUGUST, 1977



JULY 1977 DATA

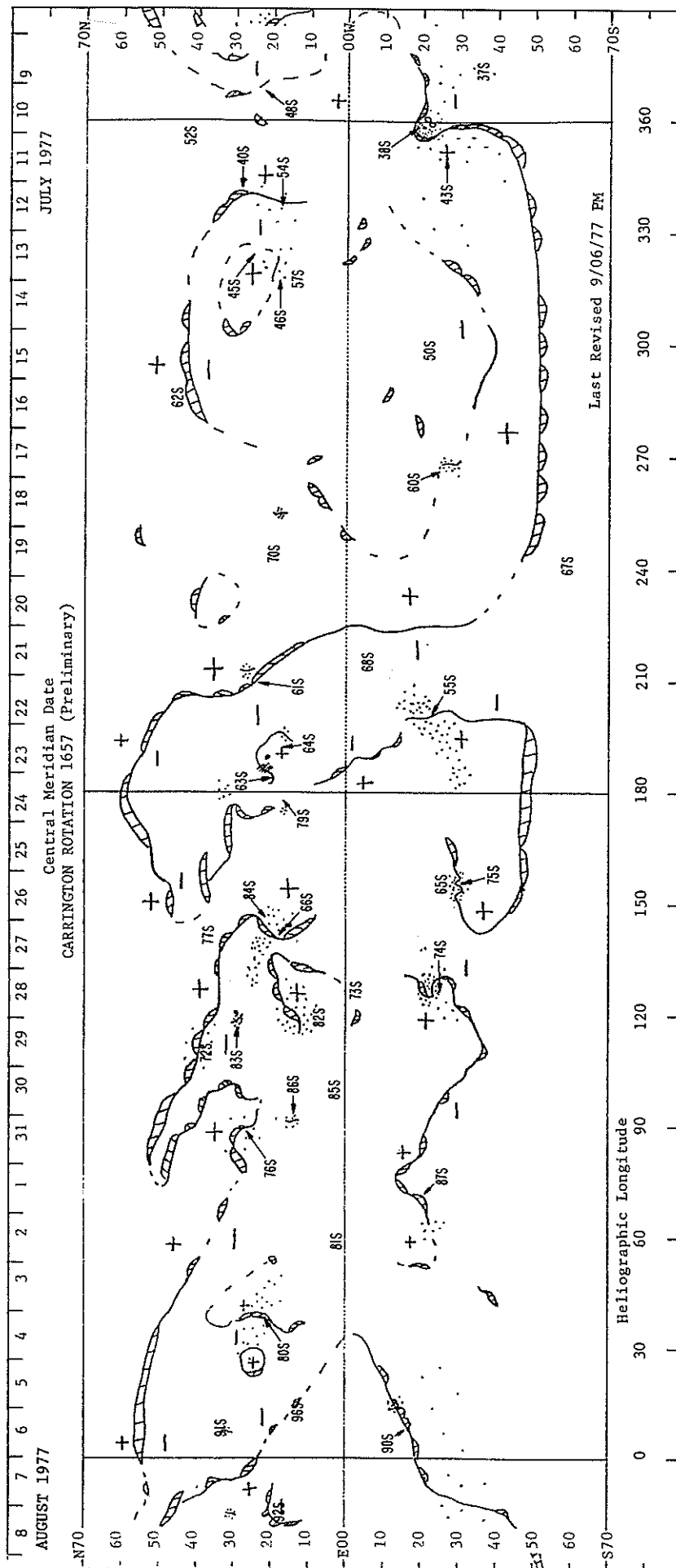
Contents

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<u>Hα Synoptic Chart</u>	30-31
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<u>Regional Flare Index</u>	39

ABBREVIATED CALENDAR RECORD

H α SYNOPSIS CHART

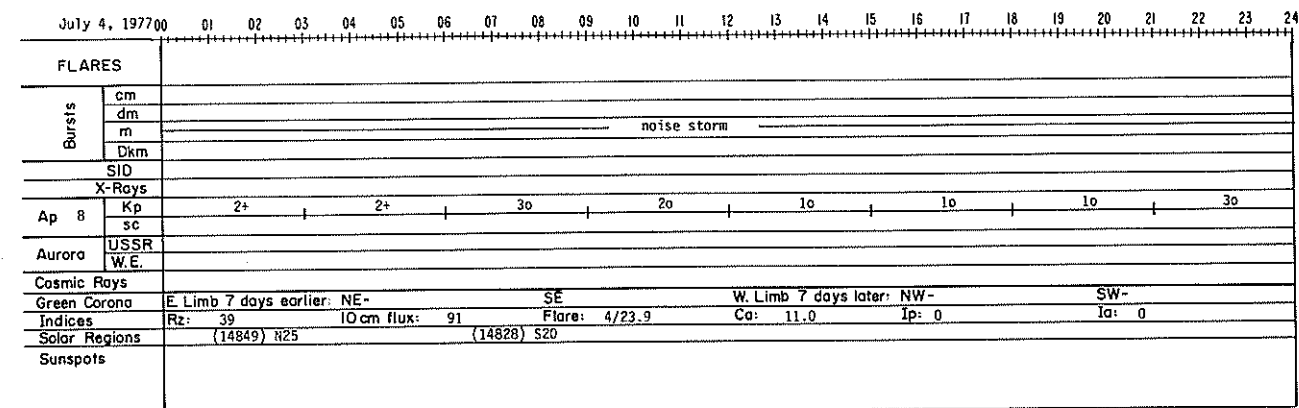
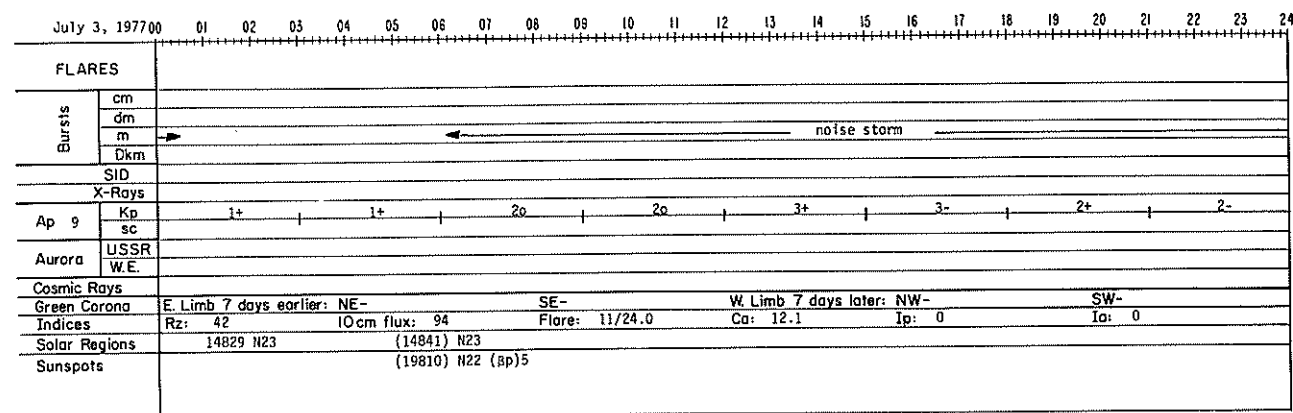
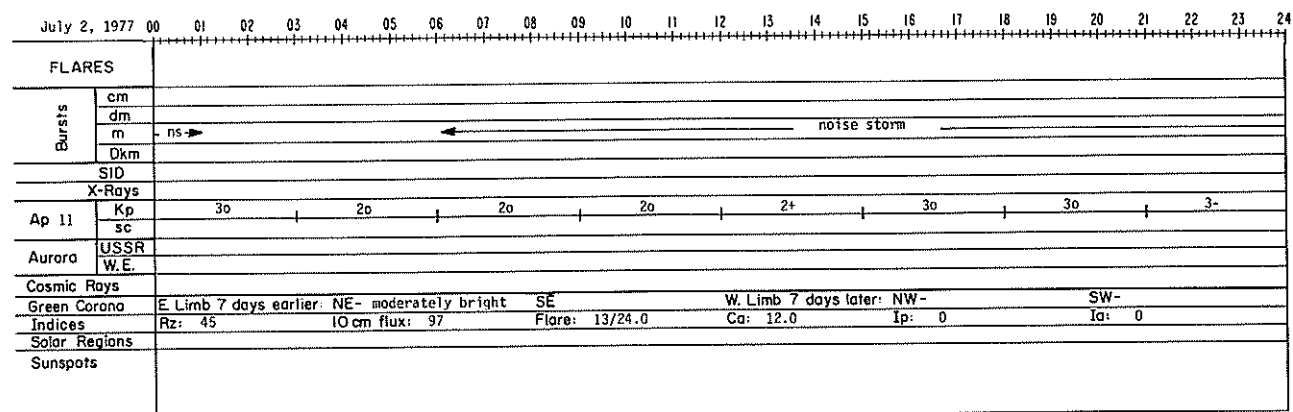
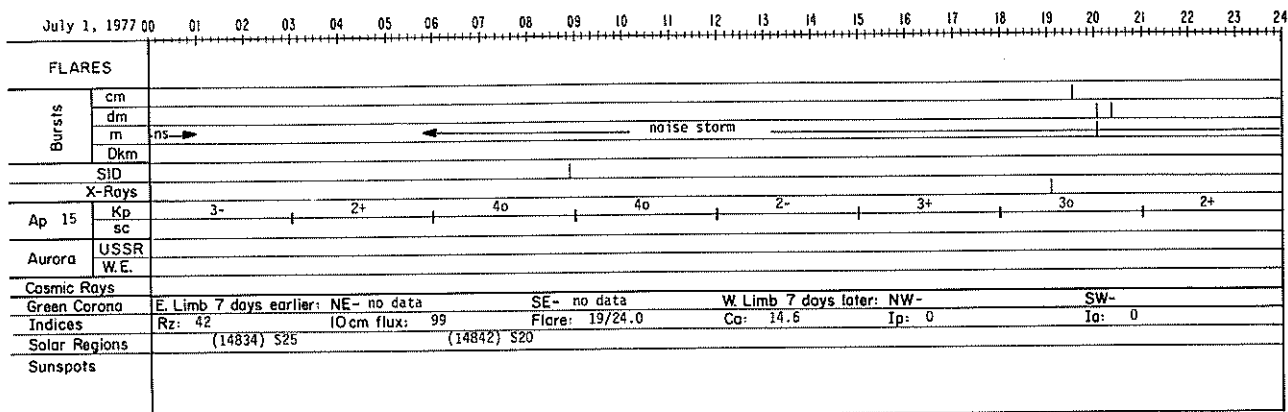
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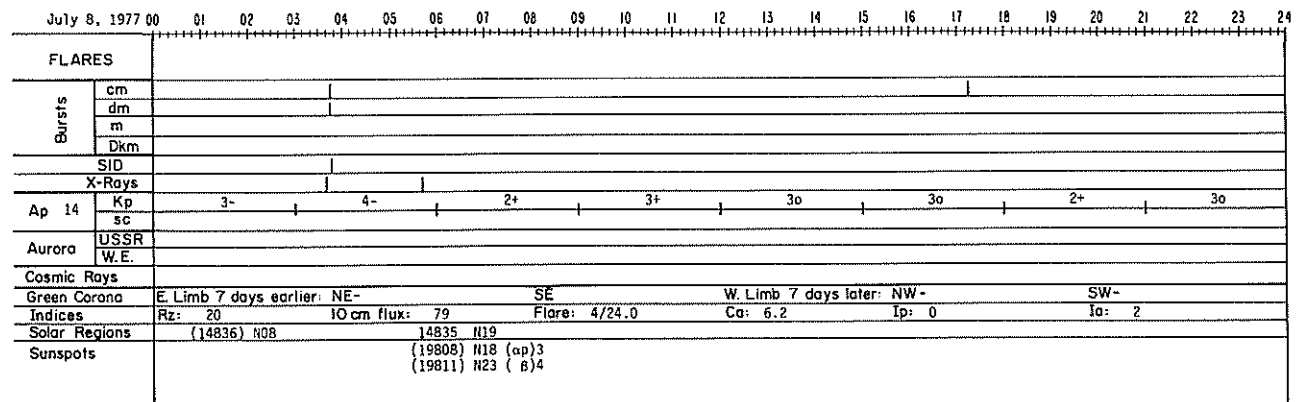
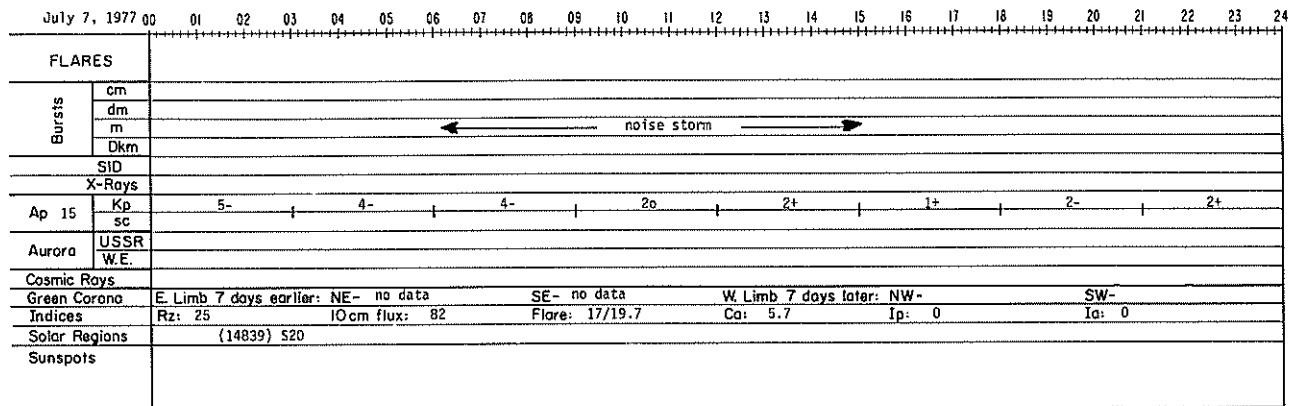
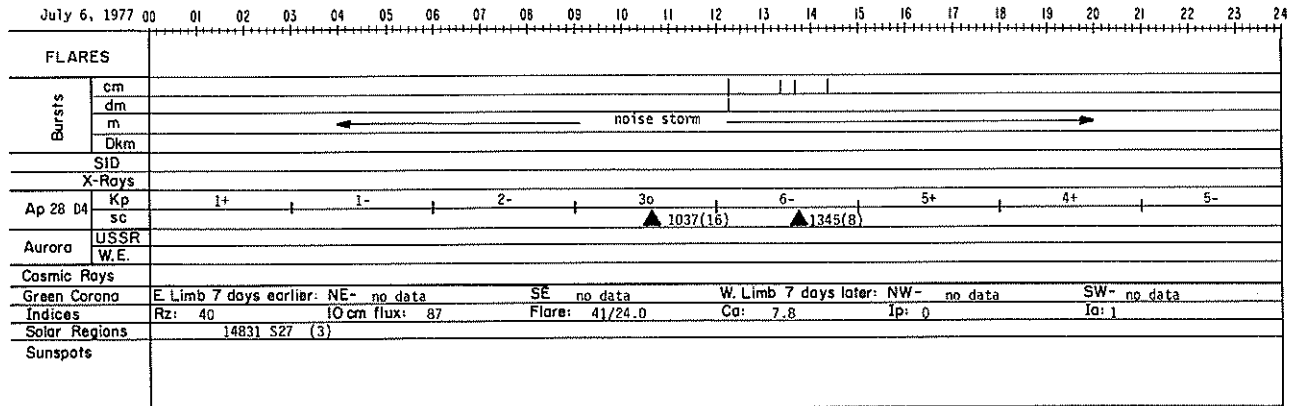
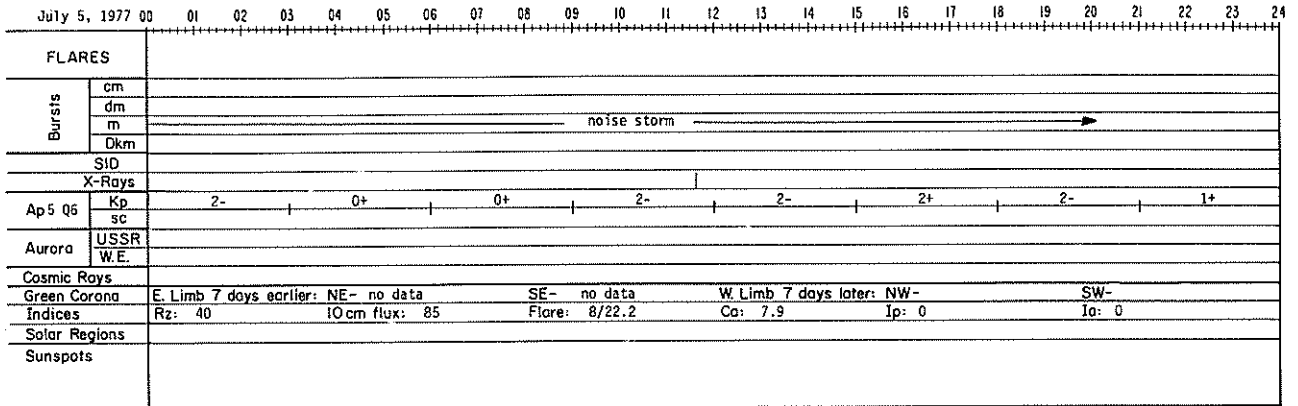


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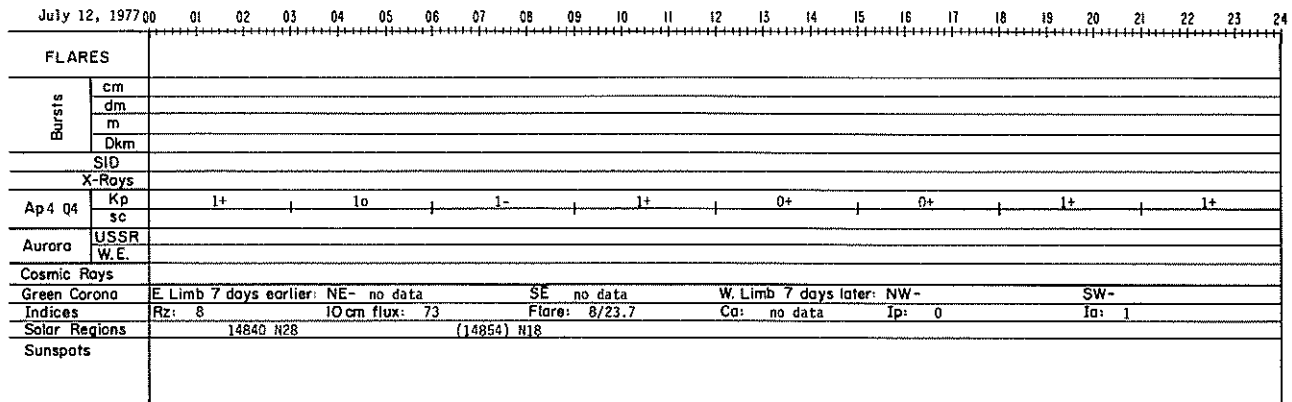
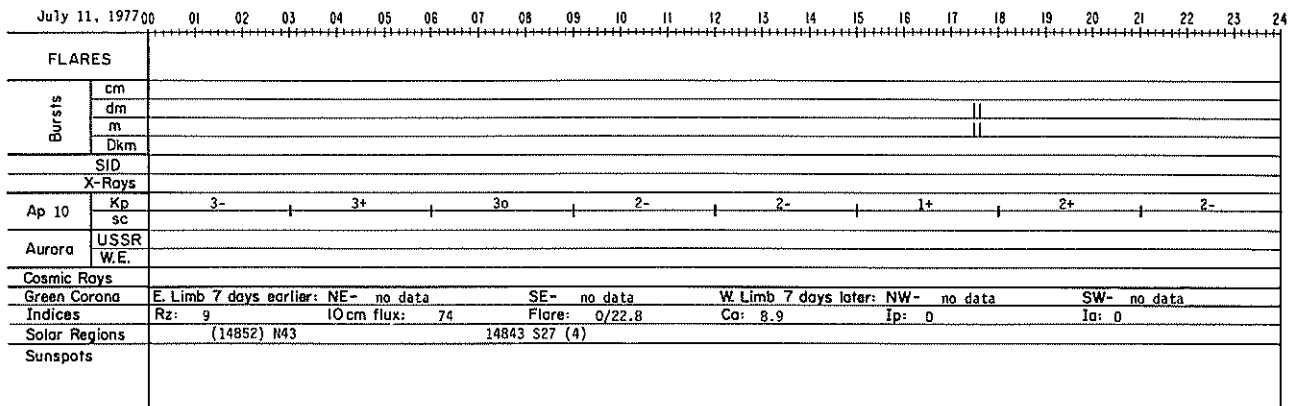
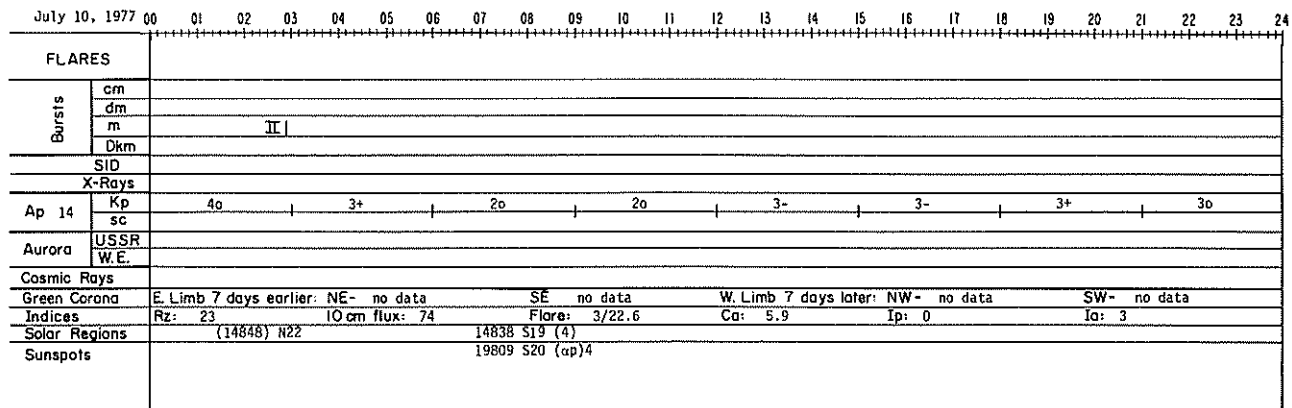
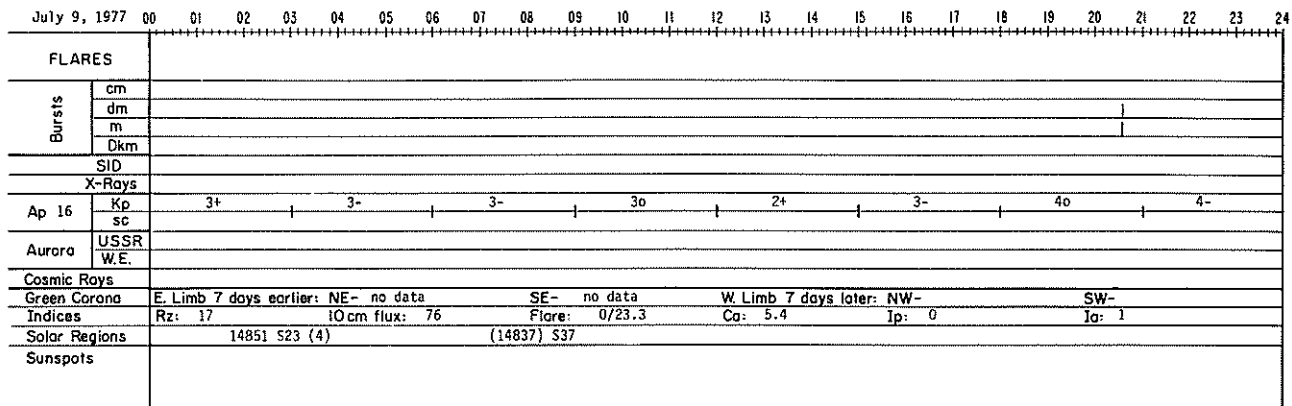
ABBREVIATED CALENDAR RECORD

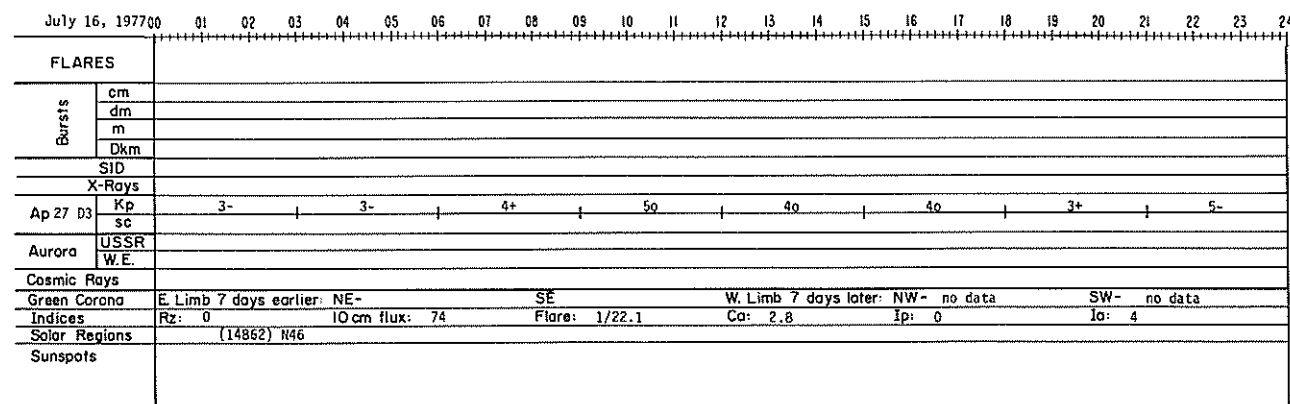
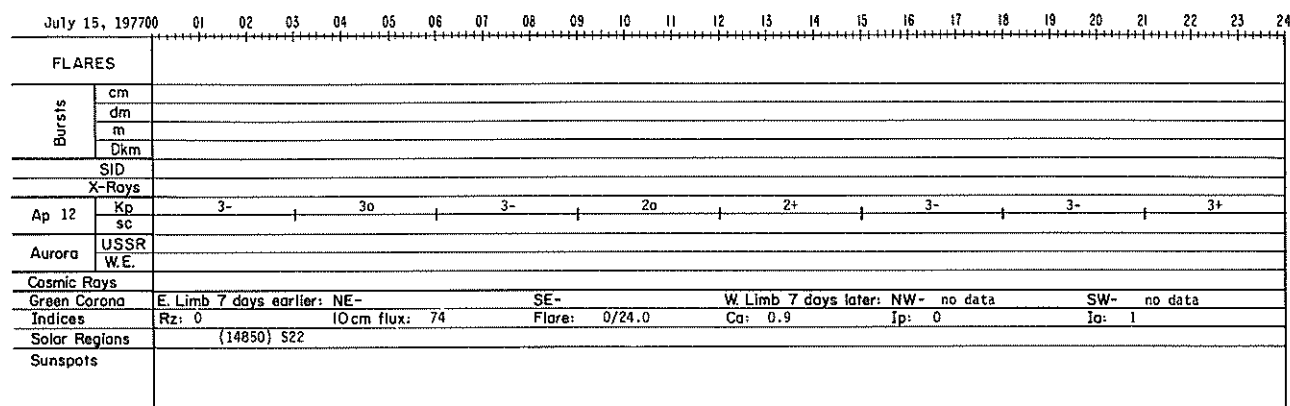
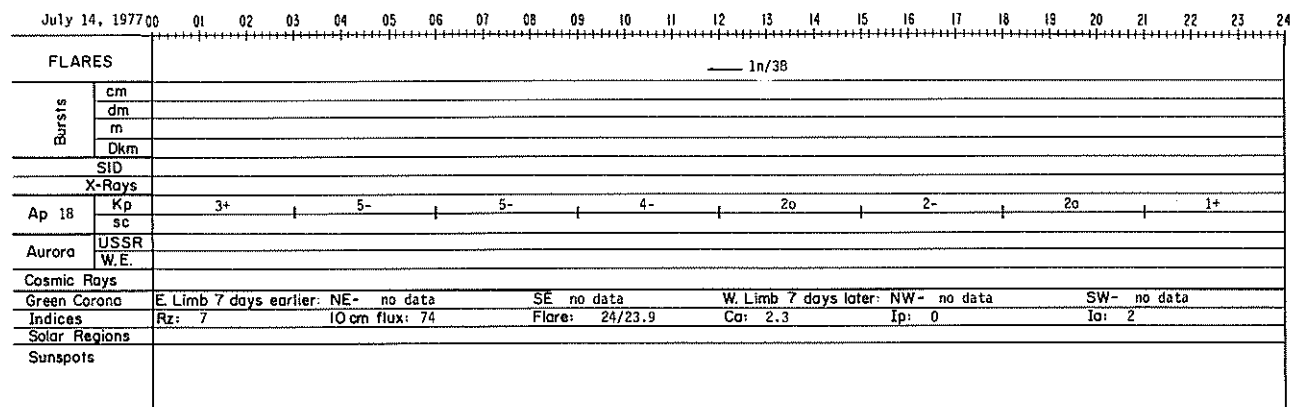
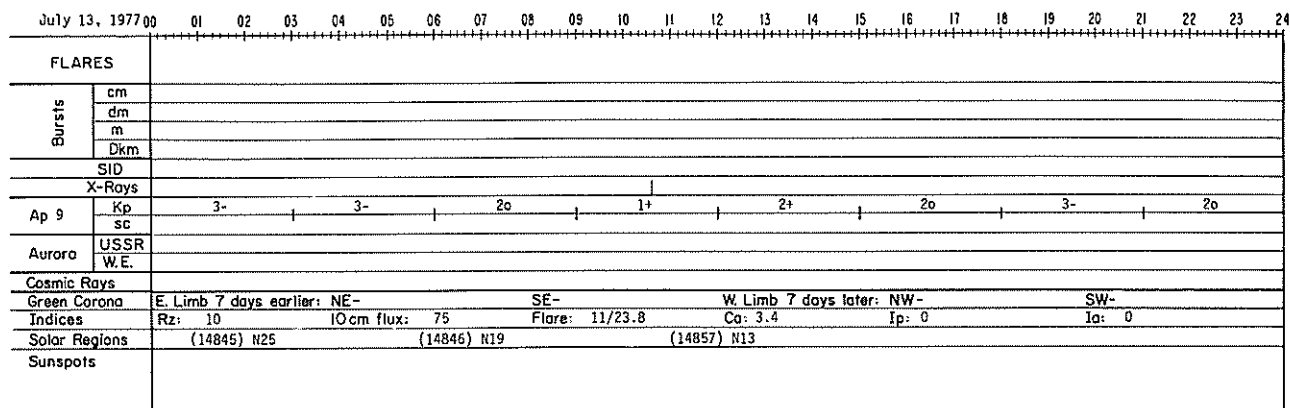
JULY 1977



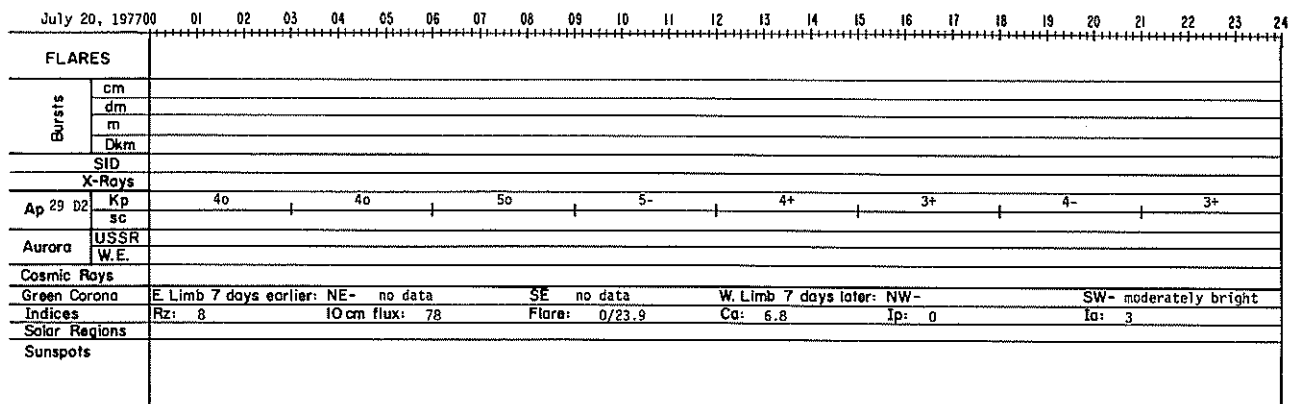
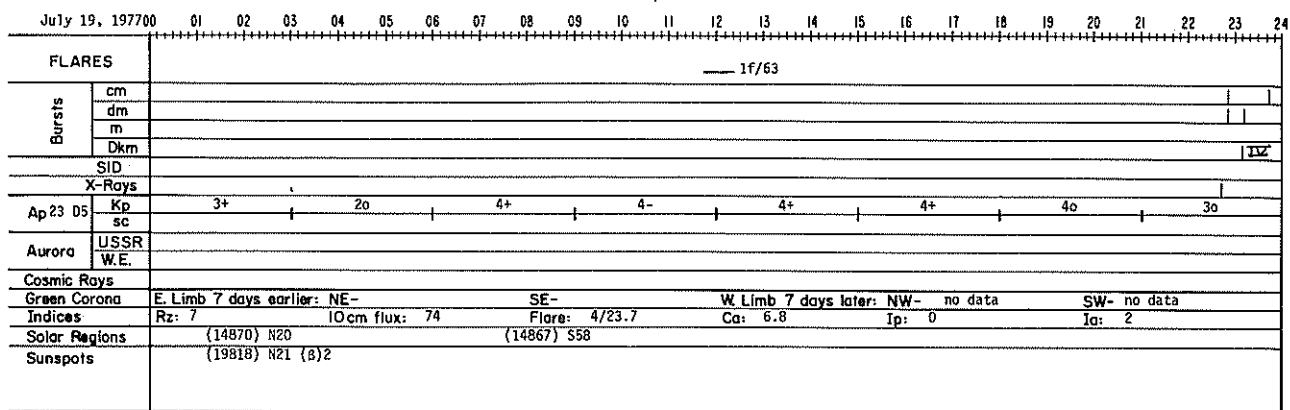
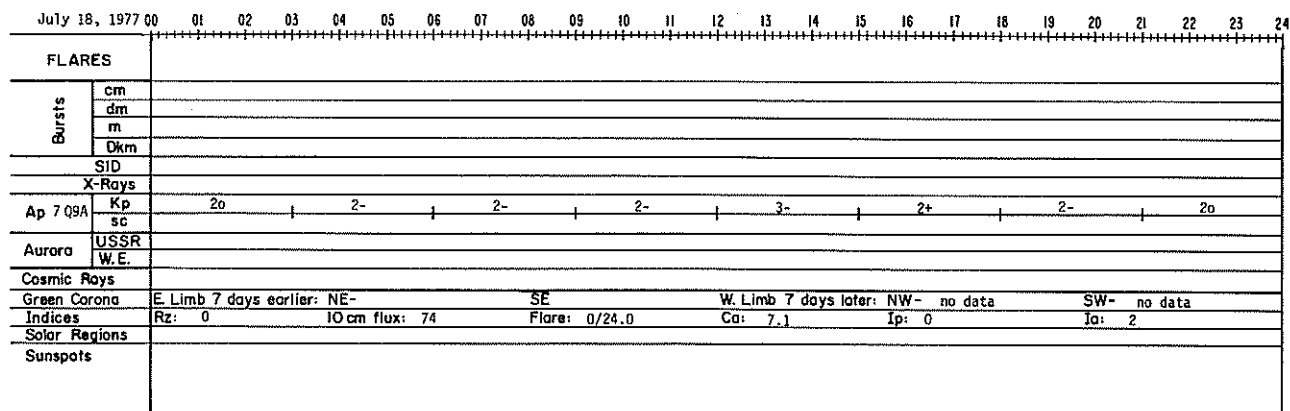
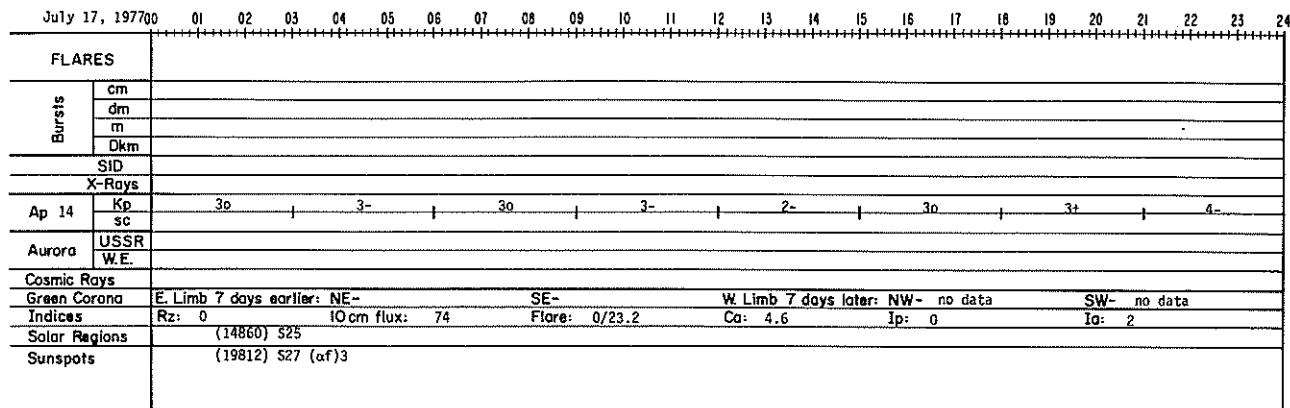


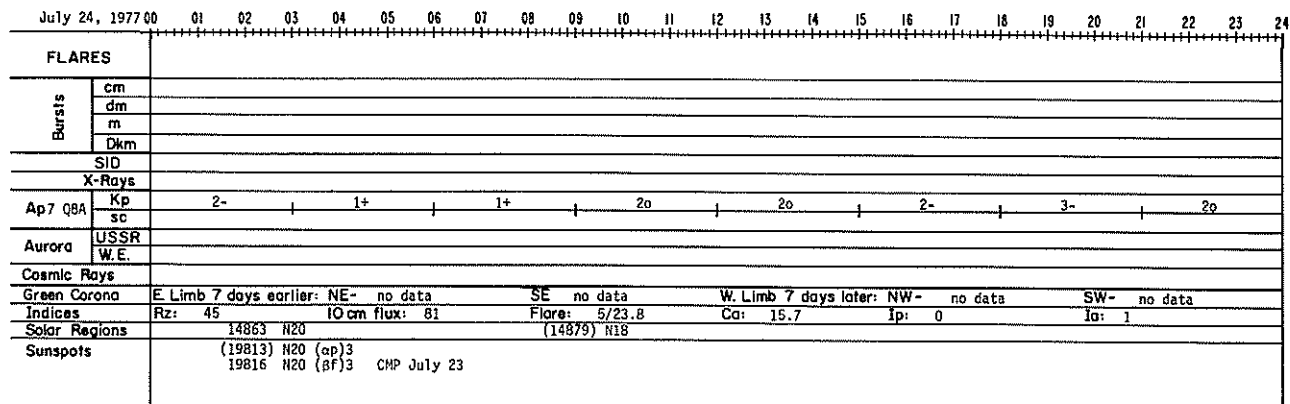
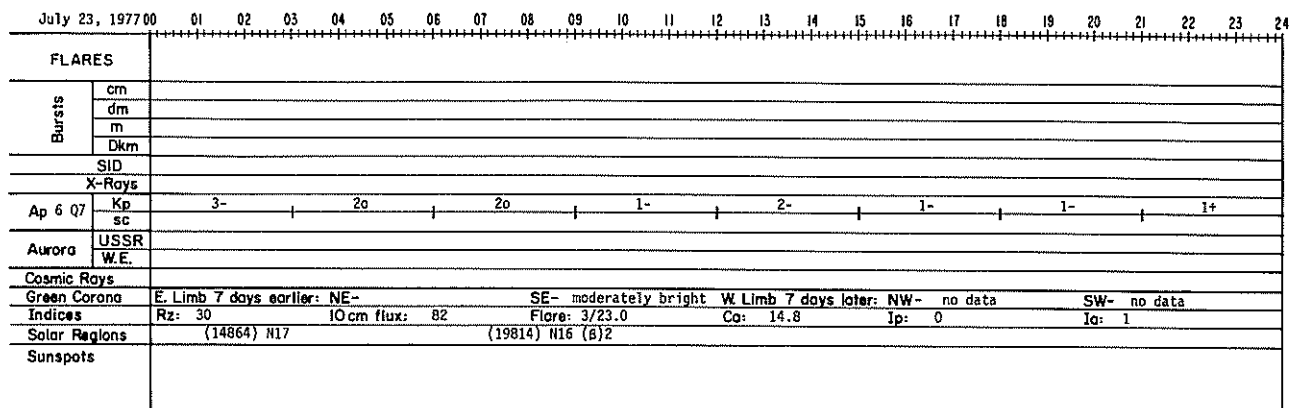
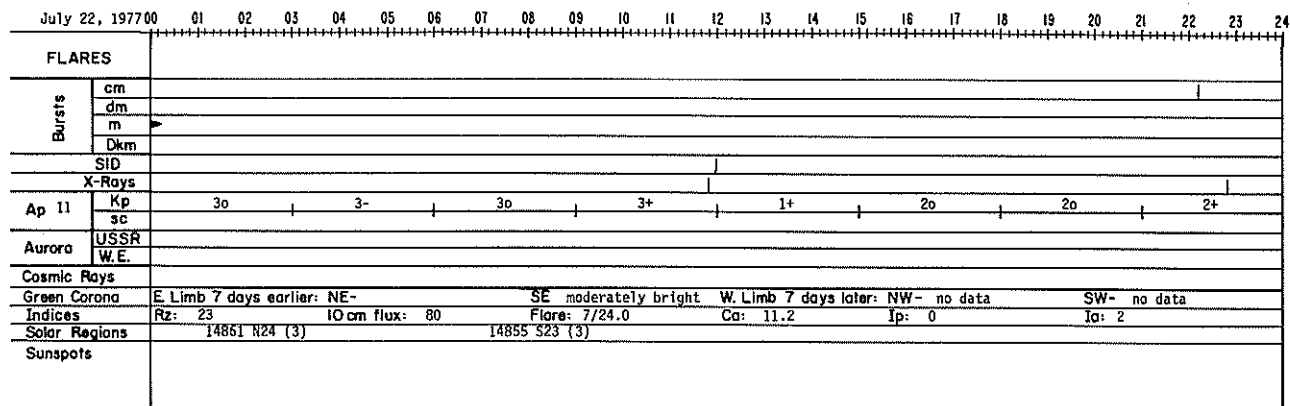
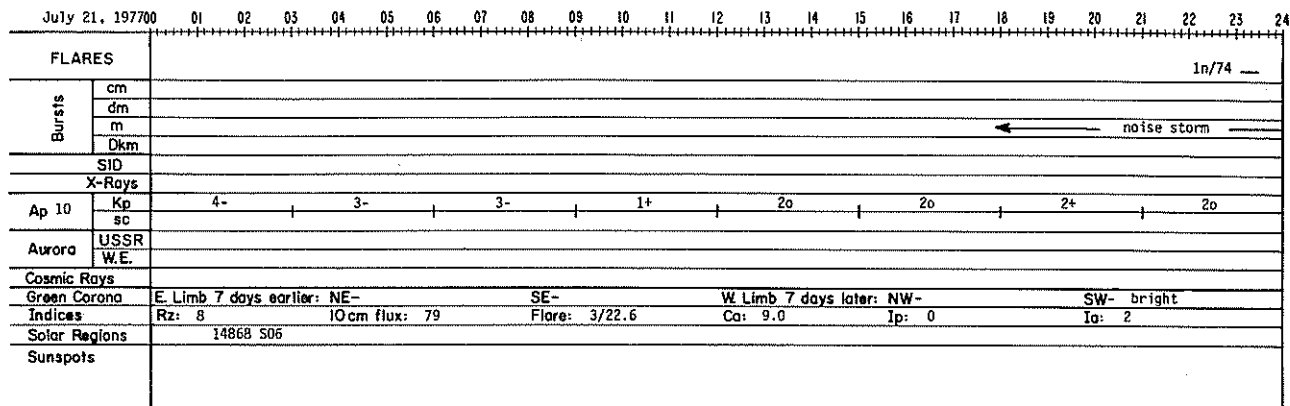
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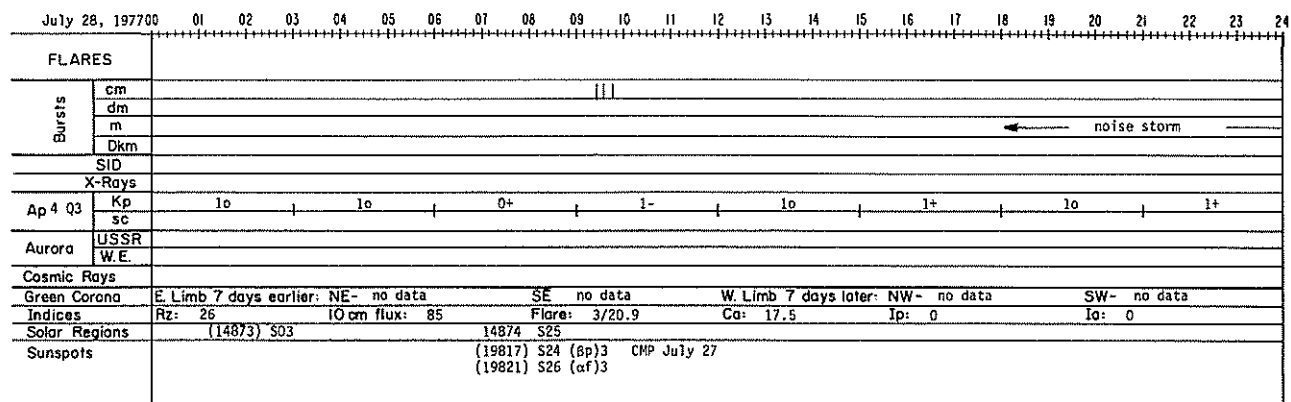
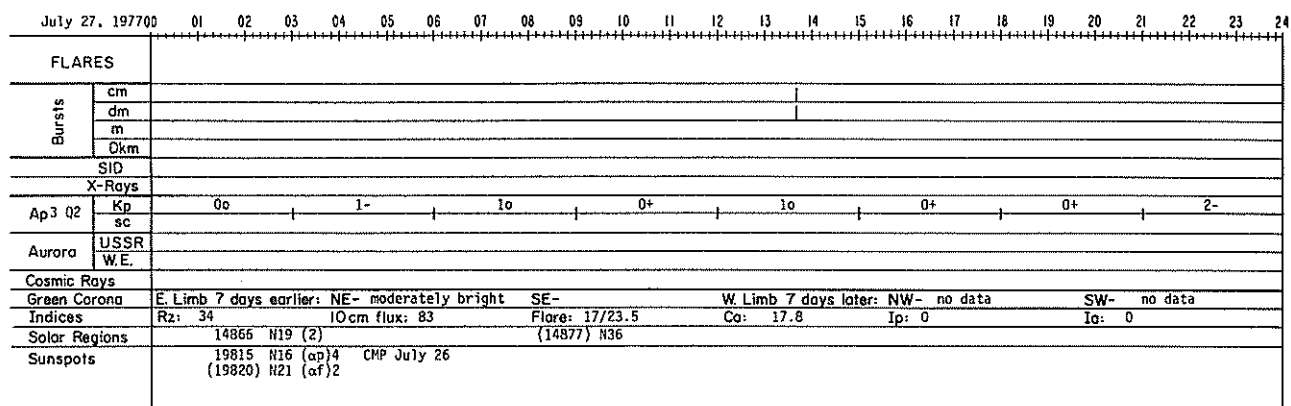
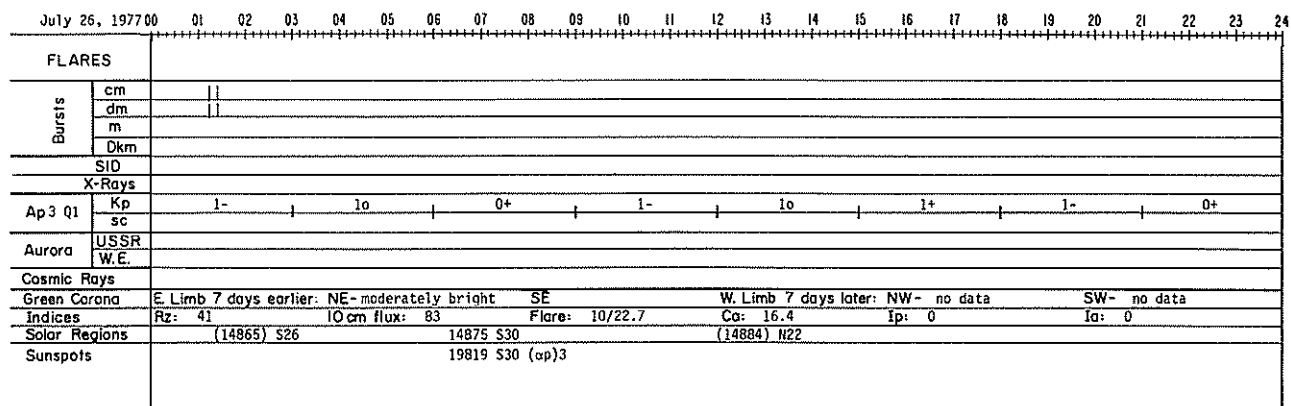
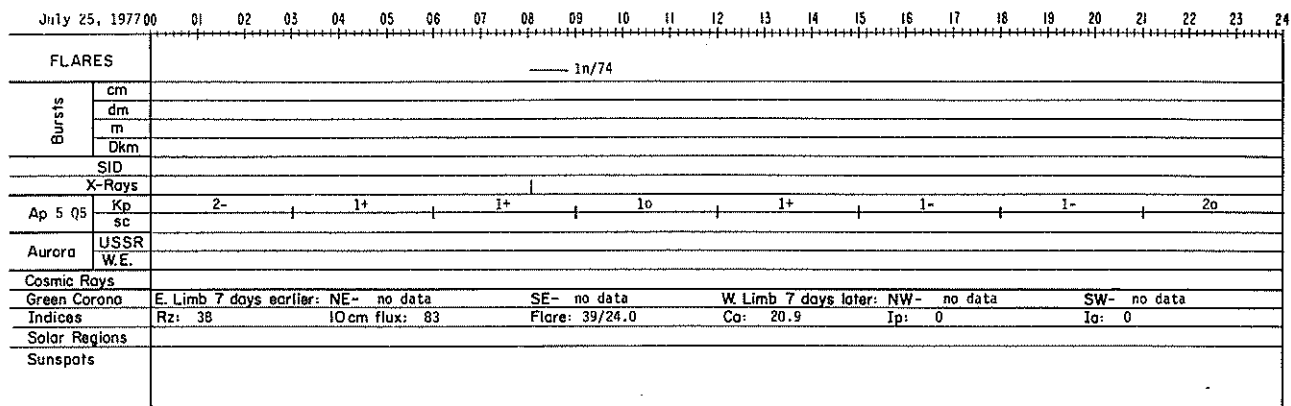


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July 29, 197700																								01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES																																															
Bursts	cm																																														
	dm																																														
	m																																														
	Dkm																																														
SID																																															
X-Rays																																															
Ap61 D1	Kp	60 7- 60 5+ 7- 4+ 3- 20																																													
	sc	▲ 0027(20)																																													
Aurora	USSR																																														
	W.E.																																														
Cosmic Rays																																															
Green Corona	E Limb 7 days earlier: NE- no data											SE- no data				W Limb 7 days later: NW- no data				SW- no data																											
Indices	Rz: 16	IOcm flux: 84				Flare: 6/24.0				Ca: 10.8				Ip: 0				Ia: 3																													
Solar Regions	(14882) N07											(14883) N28				14872 N38																															
Sunspots												(19822) N28 (8)2																																			

July 30, 197700																								01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES																								—1n/66 – 1n/63																							
Bursts	cm																																														
	dm																																														
	m																																														
	Dkm																																														
SID																																															
X-Rays																																															
Ap 17	Kp	4+			4+			4o			3+			2-			2-			2-			2-																								
	sc																																														
Aurora	USSR																																														
	W.E.																																														
Cosmic Rays																																															
Green Corona	E Limb 7 days earlier: NE- no data											SE- no data				W Limb 7 days later: NW- no data				SW- no data																											
Indices	Rz: 8	IO cm flux: 82				Flare: 15/24.0				Ca: 11.5				Ip: 0				Ia: 2																													
Solar Regions	(14885) N02																																														
Sunspots																																															

July 31, 197700		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
FLARES																														
Bursts	cm																													
	dm																													
	m																													
	Dkm																													
SID																														
X-Rays																														
Ap 8 Q10A	Kp	3-				3-				20				20				2-				1-				1+				2+
	sc																													
Aurora	USSR																													
	W.E.																													
Cosmic Rays																														
Green Corona	E Limb 7 days earlier: NE- no data											SE- no data				W Limb 7 days later: NW-				SW-										
Indices	Rz: 7	IO cm flux: 78				Flare: 7/23.9				Ca: 8.2				Ip: 0				Ia: 1												
Solar Regions	(14886) N13											14876 N26 (2)																		
Sunspots																														

REGIONAL FLARE INDEX
INCLUDES ALL FLARES

MC MATH PLAGE NO.	LAT	CHP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
14829	N23	77/07/03.6	77/06/30	77/06/30	1.90	1.90	1
14841	N23	77/07/03.7	77/07/06	77/07/10	60.66	12.13	32
14849	N25	77/07/04.8	77/07/10	77/07/10	1.69	1.69	2
14835	N19	77/07/08.9	77/07/03	77/07/14	7.33	.61	5
14838	S20	77/07/10.8	77/07/04	77/07/16	35.23	2.94	15
14860	S26	77/07/17.8	77/07/23	77/07/23	.85	.85	1
14855	S23	77/07/22.6	77/07/29	77/07/29	.84	.94	1
14863	N21	77/07/24.0	77/07/19	77/07/30	39.28	3.27	24
14866	N19	77/07/27.5	77/07/19	77/07/30	11.19	.93	2
14874	S24	77/07/28.5	77/07/21	77/08/03	59.05	4.22	25
14883	N28	77/07/29.3	77/07/31	77/08/03	9.95	2.49	5
14872	N36	77/07/29.7	77/07/21	77/07/26	2.86	.48	2
14876	N24	77/07/31.1	77/07/26	77/07/31	4.26	.71	2

Miscellaneous Data

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NOVEMBER 1977

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

NOVEMBER 1977

NOV 1977	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
25	0723	1454	WEIS										IIIG
26	0726 0922	0836 1453	WEIS WEIS										
27	0727	1451	WEIS				1114.2	1117.3	1				
28	0737	1451	WEIS										IIIP IIIG
29	0803	1451	WEIS				1151.3	1151.6	1				
			WEIS				1350.0	1351.6	1				

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but
apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

COSMIC RAY INDICES
(Neutron Monitors)
OCT-NOV 1977

OCT. 1977	SULPHUR MT Average cts/hr	CALGARY Average cts/hr	NOV. 1977	ALERT Average cts/hr	DEEP RIVER Average cts/hr
1	* -	11868.2	1	7451.5	7012.7
2	-	11858.1	2	7487.0	7026.3
3	-	11919.0	3	7496.8	7025.6
4	-	11977.2	4	7519.6	7046.3
5	-	11988.0	5	7562.4	7117.3
6	-	12029.8	6	7581.9	7112.1
7	-	12102.0	7	7588.8	7134.9
8	-	12162.4	8	7604.1	7144.9
9	-	12183.2	9	7647.8	7163.5
10	-	12106.4	10	7660.7	7185.5
11	-	12134.6	11	7557.7	7153.0
12	-	11952.2	12	7600.0	7186.5
13	-	11952.9	13	7603.6	7179.7
14	-	11960.0	14	7523.9	7117.2
15	-	11931.0	15	7478.3	7063.8
16	-	11968.1	16	7478.5	7064.3
17	-	11997.9	17	7499.2	7094.0
18	-	11976.4	18	7530.3	7118.3
19	-	11984.5	19	7515.0	7097.0
20	-	12022.6	20	7525.8	7090.3
21	8978.2(7)	12030.3(21)	21	7504.1	7061.2
22	8987.4	12029.3	22	7630.8	7204.3
23	9039.9	12022.4	23	7523.7	7069.4
24	9049.0	12093.6	24	7518.3	7070.1
25	9115.2	12136.4	25	7509.1	7079.6
26	9167.8	12205.4	26	7475.2	7050.1
27	9080.4	12113.7	27	7436.7	6994.2
28	9028.9	12037.7	28	7413.0	6966.1
29	9035.6	12044.4	29	7455.5	6965.0
30	9003.1	12053.7	30	7451.9	6974.2
31	9038.1	12051.9			
MEAN	9047.6	12028.8	MEAN	7527.7	7085.6

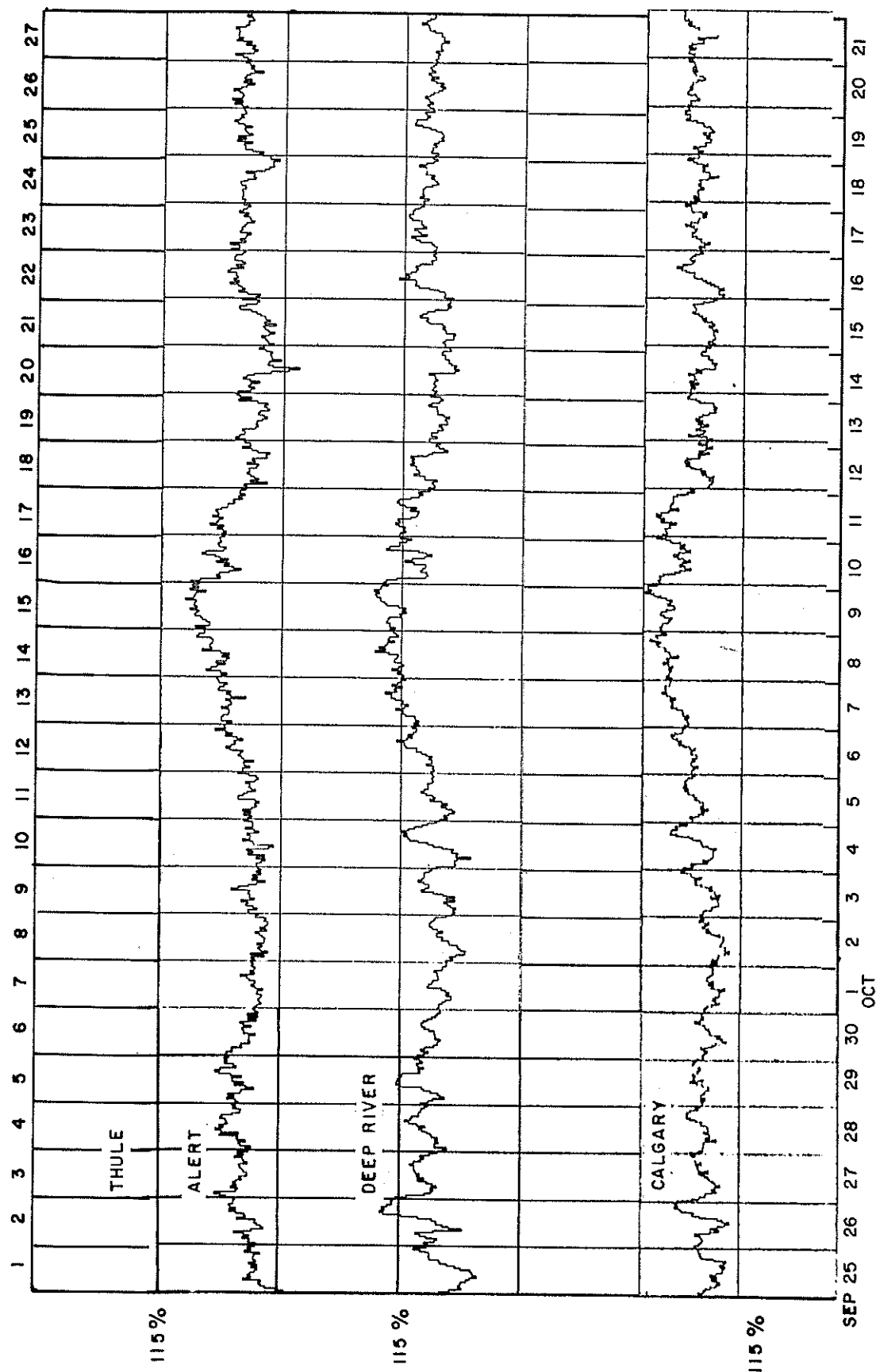
* Due to mechanical and paper punch difficulties, no data are available for the Sulphur Mt. Super Neutron Monitor until 21 October 1977.

() Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.
Deep River Scaling Factor = 300.

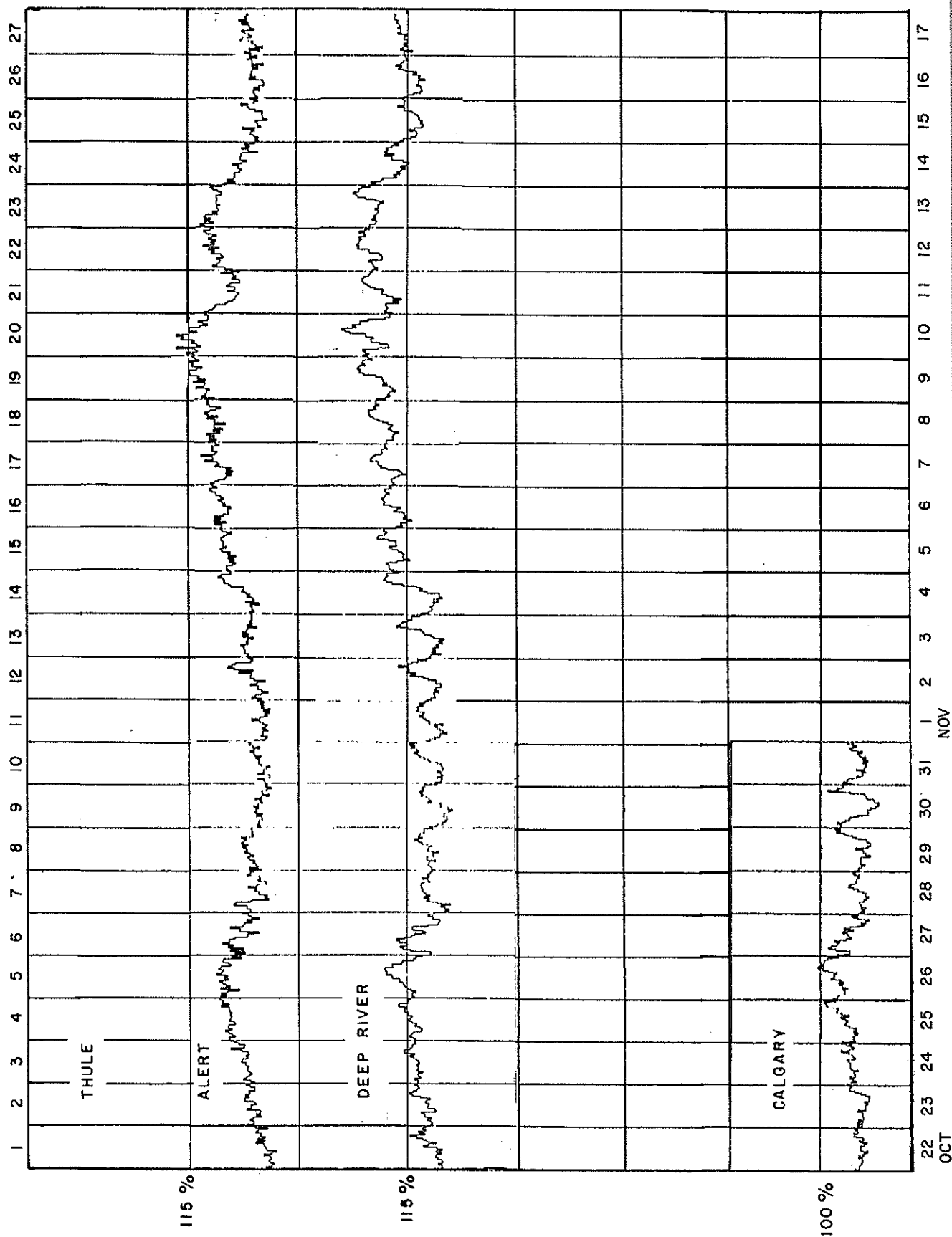
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1971 (September - October 1977)

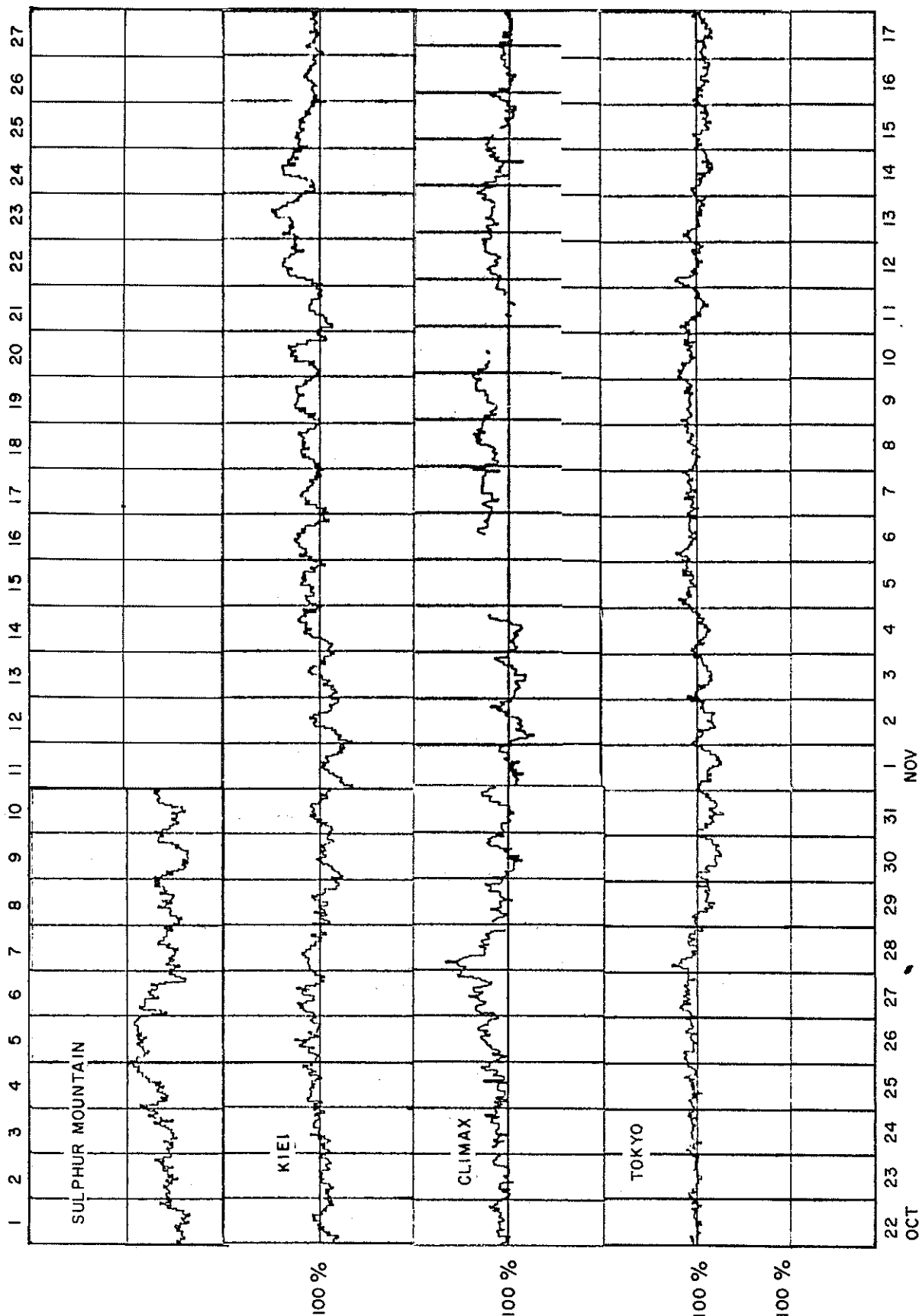


COSMIC RAY INDICES (Neutron Monitors)

Bartels Rotation 1972 (October - November 1977)



COSMIC RAY INDICES
(Neutron Monitors)
Bartels Rotation 1972 (October - November 1977)



COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

DECEMBER 1976

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	6.64	6.63	6.60	6.65	6.67	6.65	6.69	6.58	6.63	6.50	6.59	6.47	6.59	6.40	6.44	6.64	6.64	6.46	6.39	6.41	6.46	6.46	6.46	6.46
14	6.63	6.68	6.43	6.30	6.22	6.39	6.13	5.97	5.90	M	6.23	6.15	M	5.98	5.89	M	5.92	M	5.76	5.64	M	5.99	5.74	M
15	6.00	6.15	5.82	5.33	M	5.27	5.44	5.41	5.75	5.79	6.00	M	M	M	5.37	M	6.10	6.06	6.10	6.09	M	5.53	6.27	M
16	5.80	6.08	5.92	6.35	M	5.90	6.17	6.25	6.36	6.22	6.36	6.18	M	M	6.28	M	6.21	6.15	M	6.32	6.34	6.21	6.24	M
17	6.35	6.19	6.31	5.78	6.01	6.16	6.29	M	6.31	6.43	6.17	M	M	M	5.33	M	5.17	6.01	M	6.19	6.42	6.49	6.55	M
18	6.36	6.32	5.46	6.64	6.45	6.58	6.51	6.50	6.54	5.90	M	M	M	M	6.29	M	6.75	M	6.44	6.54	M	4.11	4.37	M
19	4.50	5.09	M	5.32	5.60	5.72	4.63	5.84	5.91	4.29	M	M	M	M	M	5.76	M	5.97	6.04	6.07	6.31	M	6.26	M
20	M	6.05	6.43	6.36	6.82	M	6.85	M	6.77	M	M	M	M	M	M	7.25	M	7.49	B	7.46	7.35	M	7.47	7.93
21	M	7.01	6.95	7.12	7.48	M	7.05	B	7.29	6.53	6.86	7.09	B	7.21	M	6.96	M	M	5.39	M	5.49	5.61	5.94	M
22	6.16	5.54	6.71	6.77	6.82	6.79	6.46	6.01	6.14	6.31	6.12	5.80	5.60	M	5.77	5.46	5.73	5.68	5.10	M	5.58	M	5.48	M
23	5.85	5.98	5.21	5.22	5.33	4.34	4.82	5.72	M	5.19	M	5.86	5.44	M	4.51	5.38	5.24	5.36	5.51	5.08	5.01	5.37	5.55	5.46
24	5.38	5.85	5.69	5.73	5.47	5.85	5.92	5.75	M	5.53	5.88	5.89	5.67	5.90	5.76	5.88	6.04	5.99	6.02	5.81	6.05	5.69	6.02	5.87
25	5.36	5.62	5.66	5.82	5.87	5.77	5.78	5.91	M	5.91	5.66	5.74	6.01	5.85	5.74	5.76	5.96	6.09	5.95	6.14	6.16	6.10	6.08	5.52
26	5.89	6.06	6.11	6.16	6.08	6.07	6.06	6.04	5.82	5.94	5.99	M	6.16	6.10	6.18	6.12	6.11	6.12	6.16	6.11	6.27	6.24	6.24	6.24
27	6.11	6.20	6.12	6.24	6.20	6.20	M	5.89	6.22	6.20	6.12	M	5.67	6.14	6.03	6.06	5.79	6.15	6.10	6.04	M	6.06	M	M
28	5.90	6.03	6.19	6.18	6.25	6.30	M	6.17	6.13	6.09	6.18	M	5.59	5.32	5.87	5.75	5.85	5.87	5.22	4.55	4.84	5.17	M	M
29	5.82	6.11	6.17	6.13	6.21	6.38	6.20	6.26	5.46	M	5.49	4.67	4.93	5.31	5.71	5.87	6.08	6.13	6.20	6.14	6.20	6.03	6.33	M
30	6.03	6.19	6.34	6.42	6.48	5.48	4.54	4.60	4.87	M	5.19	5.48	5.52	5.50	5.60	5.67	5.80	5.90	5.98	6.04	5.95	5.99	6.21	6.26
31	6.27	6.21	6.06	6.34	6.43	6.35	6.33	6.41	6.12	6.01	6.13	6.21	6.32	6.33	6.08	6.20	5.98	5.21	4.78	5.83	6.07	6.01	6.17	4.60

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

Data are missing for days 1 Jan., 15 April, 11 May, 23 May and 9 June 1977 due to processing problems. These will be published later. Some data published earlier are replaced here by more accurate data.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

DECEMBER 1976

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	7.13	7.72	7.07	6.96	7.17	B	7.10	7.69	7.25	6.97	7.30	6.81	7.14	6.87	7.00	M	7.03	M	7.02	7.08	M	6.86	7.03	M
14	7.31	6.97	7.06	6.61	6.66	6.93	6.84	6.51	6.63	M	6.85	6.63	M	6.58	6.38	M	6.35	M	6.20	6.05	M	6.43	6.16	M
15	6.38	6.37	6.21	5.73	M	5.72	5.83	5.88	6.15	6.20	6.41	M	M	M	5.78	M	6.51	6.49	6.47	6.52	M	6.00	6.72	M
16	6.23	6.60	6.39	7.39	M	6.30	6.55	6.42	6.92	6.53	7.04	6.55	M	M	6.52	M	6.72	6.60	6.82	6.76	6.67	6.80	M	M
17	6.90	6.49	6.91	6.18	6.46	6.55	6.78	M	6.63	6.83	6.90	M	M	M	5.65	M	5.44	6.39	6.47	6.64	6.70	7.20	M	M
18	6.64	7.04	5.84	7.11	6.96	6.86	6.97	7.09	7.46	6.18	M	M	M	M	6.52	M	6.21	M	6.19	6.37	6.52	6.63	M	M
19	4.94	5.49	M	5.65	5.97	6.25	5.00	6.16	6.63	4.64	M	M	M	M	M	6.21	M	6.19	6.37	6.52	6.63	M	6.60	M
20	M	6.46	6.72	6.58	7.10	M	7.27	M	M	M	M	M	M	M	M	M	7.01	M	7.37	7.25	7.15	M	B	M
21	M	7.62	B	7.96	7.20	M	7.52	7.44	7.41	6.70	7.50	7.82	7.22	7.35	M	7.88	M	5.75	M	5.75	M	5.89	5.97	6.30
22	6.48	6.90	7.81	7.13	7.99	7.22	7.07	6.43	6.68	6.83	6.70	6.08	5.91	M	6.16	5.85	6.38	6.18	5.54	M	5.96	M	M	5.95
23	6.28	6.40	5.61	5.61	5.70	4.67	5.19	6.16	M	5.56	M	6.26	5.86	M	4.87	5.77	5.54	5.67	5.82	5.39	5.38	5.80	5.88	5.84
24	5.74	6.30	6.09	6.15	5.84	6.17	6.28	6.09	M	5.80	6.45	6.41	6.01	6.32	6.07	6.15	6.51	6.53	6.52	6.14	6.48	5.99	6.22	6.19
25	5.67	5.95	6.02	6.16	6.27	6.08	6.17	6.27	M	6.30	5.94	5.86	6.32	6.11	6.07	6.24	6.16	6.41	6.23	6.44	6.70	6.42	6.35	5.80
26	6.25	6.39	6.39	6.61	6.36	6.44	6.50	6.33	6.09	6.27	6.39	M	6.47	6.40	6.63	6.48	6.53	6.51	6.60	6.51	6.86	6.52	6.51	6.53
27	6.43	6.57	6.51	6.55	6.54	6.54	M	6.17	6.42	6.67	7.27	M	5.96	6.42	6.28	6.51	6.10	6.51	6.46	6.49	M	6.40	M	M
28	6.15	6.36	6.49	6.53	6.50	6.71	M	6.48	6.48	6.47	6.52	M	5.91	5.67	6.19	6.13	6.14	6.24	5.52	4.85	5.17	5.52	M	M
29	6.21	6.55	6.58	6.61	6.57	7.18	6.53	7.01	5.76	M	5.84	4.98	5.27	5.70	6.08	6.38	6.49	6.51	6.61	6.57	6.47	6.48	6.69	M
30	6.36	6.55	6.74	6.77	6.92	5.81	4.88	4.96	5.25	M	5.55	5.85	5.92	5.88	5.98	6.02	6.19	6.28	6.26	6.52	6.33	6.39	6.61	6.72
31	6.77	6.67	6.49	6.79	6.66	6.75	6.62	6.88	6.48	6.49	6.56	6.55	6.63	6.74	6.53	6.66	6.38	5.55	5.10	6.35	6.43	6.38	6.68	5.00

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

DECEMBER 1976

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	6.55	6.52	6.51	6.51	6.50	6.46	6.53	6.49	6.46	6.44	6.47	6.46	6.45	6.45	6.47	6.53	6.53	6.42	6.42	6.42	M	6.42	6.38	M
14	6.48	6.58	6.39	6.32	6.35	6.42	6.23	6.19	6.17	M	6.26	6.18	M	6.24	6.09	6.03	6.03	6.10	6.03	6.10	M	6.11	5.96	M
15	6.16	6.15	6.08	5.73	M	5.67	5.76	5.73	5.95	6.05	6.10	M	M	5.70	M	6.10	6.08	6.08	6.18	6.18	M	5.77	6.22	M
16	6.05	6.19	6.12	6.28	M	6.16	6.22	6.23	6.27	6.20	6.28	6.15	M	6.19	M	6.17	6.16	6.16	6.25	6.31	6.21	6.24	M	M
17	6.32	6.24	6.31	6.07	6.10	6.18	6.26	M	6.30	6.40	6.24	M	M	5.66	M	5.52	6.10	M	6.12	6.28	6.37	6.32	M	M
18	6.30	6.34	5.93	6.44	6.48	6.52	6.32	6.33	6.50	6.11	M	M	M	6.22	M	6.43	M	6.41	6.34	6.34	M	4.79	4.96	M
19	5.08	5.49	M	5.62	5.79	5.84	5.27	5.91	6.04	4.89	M	M	M	M	5.93	M	6.06	6.18	6.31	6.34	M	6.36	M	M
20	M	6.18	6.31	6.40	6.57	M	6.66	M	6.51	M	M	M	M	M	6.68	M	6.71	6.92	6.71	6.81	M	6.93	6.70	M
21	M	6.80	6.70	6.80	6.90	M	6.73	6.78	6.60	6.50	6.58	6.64	6.91	6.77	M	6.85	M	5.83	M	M	5.71	5.77	6.00	M
22	6.17	6.40	6.54	6.58	6.65	6.76	6.53	6.20	6.16	6.29	6.28	6.06	5.79	M	5.91	5.86	5.89	5.92	5.56	M	5.84	M	5.71	M
23	5.95	6.07	5.72	5.59	5.64	4.85	5.20	5.81	M	5.44	M	5.90	5.70	M	5.02	5.59	5.48	5.61	5.68	5.42	5.37	5.60	5.80	5.70
24	5.55	5.87	5.82	5.84	5.67	5.89	5.93	5.89	M	5.83	5.91	5.94	5.80	5.88	5.79	5.86	5.94	6.03	5.92	5.93	6.01	5.83	5.89	5.98
25	5.68	5.79	5.77	5.85	5.87	5.85	5.79	5.91	M	5.89	5.74	5.86	5.90	5.90	5.93	5.86	5.94	6.02	5.95	6.03	5.98	6.02	6.00	5.76
26	5.84	5.94	6.05	6.05	6.03	5.98	6.08	5.96	6.02	5.97	6.02	M	6.06	6.06	6.05	6.03	6.04	6.06	6.08	6.14	6.07	6.11	6.11	M
27	6.05	6.10	6.04	6.09	6.10	6.07	M	5.97	6.03	6.07	6.05	M	5.88	6.03	5.96	6.07	5.86	6.00	6.05	5.98	M	5.95	M	M
28	5.86	5.98	6.05	6.05	6.10	6.14	M	6.08	6.03	5.99	6.04	M	5.89	5.59	5.93	5.87	5.94	5.94	5.73	5.02	5.19	5.40	M	M
29	5.84	5.95	6.00	6.01	6.02	6.20	6.09	6.13	5.92	M	5.71	5.16	5.32	5.54	5.85	5.98	6.07	6.11	6.07	6.04	6.13	6.07	6.20	M
30	6.11	6.17	6.27	6.26	6.34	5.90	5.12	5.15	5.31	M	5.57	5.74	5.79	5.74	5.78	5.82	5.89	5.96	6.02	6.03	5.99	6.03	6.11	6.15
31	6.13	6.18	6.05	6.19	6.26	6.22	6.19	6.32	6.15	6.02	6.12	6.16	6.22	6.25	6.12	6.19	6.13	5.50	5.30	5.88	6.14	6.11	6.27	5.31

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

JANUARY 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	5.84	5.91	5.48	5.73	5.72	5.73	6.11	6.13	6.09	6.33	6.26	6.21	6.13	6.26	6.31	5.56	6.38	6.23	6.44	6.47	6.05	6.26	6.30	M
4	6.18	6.02	6.37	6.24	6.28	6.55	6.37	6.07	6.17	6.21	M	5.89	4.76	4.75	5.07	5.33	5.41	5.46	5.60	5.65	5.82	5.83	5.96	M
5	6.09	6.27	6.41	6.42	6.31	M	6.01	6.36	6.10	6.16	M	6.03	6.31	6.17	6.05	6.10	6.21	6.39	6.26	6.11	6.35	6.43	6.09	6.39
6	6.04	6.18	6.15	6.01	6.08	6.23	6.01	6.21	M	M	6.30	6.44	M	M	6.44	6.47	6.39	6.61	6.58	6.55	6.58	6.60	6.59	6.67
7	M	6.76	M	M	6.94	M	M	M	M	M	M	6.86	M	6.98	6.75	6.99	7.04	7.47	M	7.17	7.61	M	7.10	M
8	M	M	7.78	7.06	7.40	7.42	7.25	M	7.22	7.53	M	7.49	7.31	M	M	M	7.35	M	7.55	M	M	M	M	7.54
9	M	6.94	M	7.34	M	M	6.98	M	M	M	M	M	7.88	M	7.40	7.30	M	M	M	M	7.23	M	M	M
10	7.21	M	M	M	7.19	M	M	M	M	M	M	M	7.44	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.58	M	M	M	5.95	6.83	M	M	5.72	M
12	6.45	6.36	5.99	7.09	M	6.46	M	M	5.85	M	5.64	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	6.01	M	M	M	M	M	5.98	5.87	M	6.00	M	M	M	M	6.05	M	6.06	6.34	6.11
14	6.08	6.05	5.96	6.14	M	5.80	6.23	6.25	6.40	6.25	6.31	5.92	6.44	6.27	6.21	5.91	6.25	6.18	6.33	6.29	6.18	6.09	6.10	6.27
15	6.03	6.35	6.31	5.81	6.07	6.17	6.17	M	6.02	5.99	6.01	6.14	6.15	6.12	5.94	5.62	5.82	6.07	5.89	5.63	5.98	6.09	5.96	5.83
16	5.71	5.78	5.98	5.97	5.79	5.93	5.79	5.84	5.15	5.81	5.87	5.96	5.99	5.99	5.96	5.80	5.78	5.76	5.83	6.00	5.86	5.59	5.89	5.96
17	5.99	5.74	5.84	5.81	5.43	5.60	5.85	6.11	5.97	5.85	5.79	5.67	5.56	5.77	5.80	5.96	5.97	5.80	5.51	5.67	5.68	5.74	5.65	M
18	5.55	5.40	5.30	5.33	5.33	5.54	5.44	5.02	5.37	5.70	5.59	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
25	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
26	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
27	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
28	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

JANUARY 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	5.92	6.35	M	6.52	7.39	6.38	6.63	M	6.62	5.72	5.39	5.79	4.99	5.24	5.99	6.04	5.83	6.73	5.93	5.78	6.53	6.77	6.03	6.04
3	6.35	6.39	5.91	6.16	6.18	6.21	6.58	6.43	6.62	6.82	6.47	6.79	7.41	6.63	6.80	6.10	6.71	6.90	7.12	7.16	6.60	6.68	7.25	M
4	B	6.50	6.99	6.60	6.73	7.06	6.84	6.48	6.67	6.80	M	6.25	5.17	5.13	6.68	5.81	5.87	5.90	6.09	6.11	6.36	6.32	6.44	M
5	6.72	6.68	6.90	6.87	6.65	M	6.45	7.16	6.52	6.59	M	6.38	6.81	6.57	6.49	6.49	6.70	6.79	7.15	6.58	7.03	6.90	6.61	6.76
6	6.47	6.57	6.62	6.53	6.40	6.97	6.44	6.52	M	M	6.64	6.91	M	M	7.05	6.97	7.01	7.01	7.13	6.95	7.32	7.35	6.97	6.99
7	M	7.02	M	M	7.67	M	M	M	M	M	M	M	7.82	M	7.51	7.43	7.23	7.59	7.13	M	7.30	8.00	M	7.40
8	M	M	M	M	7.37	7.16	M	7.10	M	7.95	M	M	M	6.97	M	M	7.12	M	7.95	M	M	M	M	M
9	M	M	6.86	M	7.03	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	7.86	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	5.36	M	M	M	M	M	M	M	M	M	M	M	M	M	6.43	M	M	M	6.28	M	5.74	M	M
12	6.13	6.27	5.88	6.52	M	6.93	M	M	6.01	M	6.26	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	6.24	M	M	M	M	M	6.37	6.35	M	6.10	M	M	M	6.45	M	6.44	6.64	6.44
14	6.45	6.23	6.41	6.72	M	6.00	6.83	6.55	7.23	6.56	6.58	6.21	6.67	6.68	7.00	6.16	6.67	6.64	6.62	6.65	6.71	6.37	6.30	7.39
15	6.42	6.65	7.05	6.12	6.37	6.60	6.49	M	6.37	6.37	6.44	6.48	6.58	6.59	6.27	5.95	6.16	6.40	6.34	6.04	6.30	6.49	6.31	6.18
16	6.02	6.15	6.34	6.35	6.16	6.37	6.14	6.19	5.41	6.09	6.15	6.24	6.38	6.37	6.32	6.15	6.09	6.16	6.17	6.36	6.24	5.96	6.31	6.38
17	6.45	6.05	6.20	6.17	5.72	5.98	6.20	6.59	6.29	6.19	6.06	5.97	5.95	6.11	6.17	6.33	6.48	6.12	5.87	6.02	6.07	6.09	6.08	M
18	5.89	5.78	5.69	5.72	5.74	5.92	5.83	5.45	5.82	6.07	5.92	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
25	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
26	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
27	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
28	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

JANUARY 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	6.12	6.33	6.06	6.10	6.44	6.43	6.01	M	6.20	6.04	6.08	6.21	6.02	6.02	6.16	6.12	6.09	6.10	6.16	6.13	6.04	5.88	5.97	6.21
3	6.05	6.11	5.81	5.89	5.93	5.82	6.16	6.23	6.16	6.20	6.23	6.22	6.15	6.18	6.24	6.00	6.32	6.22	6.32	6.34	6.20	6.17	6.25	M
4	6.08	6.16	6.31	6.24	6.29	6.32	6.33	6.17	6.25	6.24	M	6.12	5.35	5.31	5.44	5.71	5.76	5.81	5.86	5.91	6.01	6.04	6.09	M
5	6.15	6.26	6.43	6.34	6.31	M	6.17	6.35	6.27	6.18	M	6.07	6.26	6.20	6.21	6.22	6.20	6.29	6.31	6.23	6.34	6.43	6.27	6.32
6	6.17	6.22	6.38	6.18	6.19	6.33	6.17	6.29	M	M	6.26	6.44	M	M	6.40	6.40	6.43	6.42	6.36	6.42	6.43	6.44	6.42	6.45
7	M	6.60	M	M	6.57	M	M	M	M	M	M	6.76	M	6.76	6.64	6.64	6.77	6.64	6.76	M	6.97	6.86	M	7.04
8	M	M	6.75	7.04	7.04	6.80	6.70	M	6.87	7.39	M	7.13	6.83	M	6.87	6.75	M	6.63	M	6.53	M	6.85	M	6.62
9	M	6.79	M	6.61	M	M	6.20	M	M	M	M	6.64	6.56	M	6.87	6.96	M	M	M	M	M	6.81	M	M
10	6.18	M	M	M	5.97	M	M	M	M	M	M	M	6.49	M	M	M	M	M	M	M	M	4.81	M	M
11	M	4.80	M	M	M	M	M	M	M	M	M	M	M	M	5.73	M	M	5.46	5.64	M	M	4.34	M	M
12	5.44	5.85	5.50	6.23	M	6.57	M	M	6.00	M	5.84	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	5.92	M	M	M	M	M	6.12	6.31	M	6.04	M	M	M	6.25	M	6.22	6.47	6.31
14	6.27	6.20	6.22	6.35	M	6.07	6.25	6.36	6.40	6.32	6.44	6.36	6.37	6.38	6.37	6.18	6.51	6.54	6.28	6.39	6.35	6.34	6.16	6.36
15	6.34	6.40	6.47	6.13	6.18	6.27	6.26	M	6.17	6.10	6.05	6.15	6.20	6.14	6.06	5.83	5.94	6.11	6.06	5.85	6.12	6.12	6.07	6.04
16	5.92	5.98	6.04	6.04	5.98	5.99	5.93	6.00	5.49	5.86	5.88	5.99	6.02	6.03	6.01	5.95	5.94	5.90	5.98	6.06	5.95	5.83	6.01	6.01
17	6.09	5.93	5.99	5.93	5.61	5.70	5.89	6.05	5.98	5.95	5.86	5.85	5.79	5.87	5.92	6.00	6.00	5.89	5.77	5.81	5.87	5.86	5.79	M
18	5.84	5.67	5.57	5.63	5.69	5.78	5.69	5.45	5.63	5.81	5.84	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
25	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
26	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
27	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
28	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

FEBRUARY 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	5.90	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	6.05	M	M	5.91	M	M	M	M	M	5.91	6.15	5.53	6.17	M	M	M	5.87	M	M	M	M	M	M	4.82
4	M	M	M	M	M	M	M	M	M	5.74	5.92	5.92	6.17	M	M	M	M	M	M	M	M	M	M	6.21
5	6.53	6.29	6.38	M	5.34	5.53	M	5.78	5.80	5.74	6.35	6.15	M	6.28	M	6.27	M	M	6.27	M	M	M	M	6.41
6	M	6.32	M	M	6.27	6.73	6.24	6.52	6.28	M	6.58	6.53	M	6.56	6.22	M	5.94	M	6.32	M	6.41	M	M	6.43
7	6.49	6.39	6.42	6.64	6.60	6.49	6.69	6.52	6.56	6.30	6.28	6.58	6.47	6.29	6.61	6.44	6.26	M	6.58	6.58	6.49	6.59	M	6.43
8	5.86	6.01	5.79	5.80	5.52	5.66	5.71	5.62	5.86	5.80	6.00	5.56	6.24	5.71	5.32	M	5.23	5.68	5.61	4.74	M	5.21	4.96	5.44
9	5.26	5.41	5.16	5.48	5.41	5.51	5.50	5.48	5.60	5.40	5.64	5.58	5.08	5.68	5.66	4.87	5.37	5.60	5.67	5.37	5.42	5.56	5.36	5.51
10	5.97	5.63	5.67	5.89	5.88	5.95	5.75	5.94	5.68	5.89	5.71	5.45	5.57	5.70	5.32	5.66	5.62	5.57	5.69	5.43	5.85	5.63	5.52	5.52
11	5.21	5.04	4.82	5.27	5.53	5.46	5.42	5.63	5.43	5.36	5.78	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
25	6.84	6.88	6.85	6.89	6.97	6.94	6.97	7.07	7.07	M	5.36	5.48	5.75	5.96	6.09	6.30	6.41	6.51	6.58	6.63	6.73	6.76	6.84	6.84
26	7.13	7.31	7.15	7.09	M	7.05	7.12	7.10	7.15	7.12	7.04	7.06	7.03	7.16	M	M	7.18	7.22	7.25	7.11	6.92	6.76	7.06	7.06
27	6.86	6.68	6.54	6.15	6.13	6.31	6.52	6.58	6.68	6.79	6.92	7.11	7.08	7.18	7.08	7.31	7.21	7.22	7.16	6.84	6.61	6.52	6.31	6.77
28	6.98	7.01	6.72	6.30	6.52	6.41	6.68	M	6.72	M	6.71	7.13	7.05	6.98	7.06	7.06	7.01	6.62	6.80	6.83	5.83	M	4.10	4.89

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

FEBRUARY 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	5.51	M	M	M	M	M	M	M	5.45	M	M	M	M	5.73	5.47	M	M	6.19	M	5.90	6.70	6.12	M
3	M	M	M	5.97	M	M	M	M	M	5.99	6.11	6.23	M	M	M	M	M	M	M	M	M	5.61	M	6.02
4	M	M	M	M	M	M	M	M	M	5.93	M	5.81	5.93	M	M	M	M	M	M	6.03	6.04	M	M	6.25
5	5.95	5.56	6.68	M	6.03	6.30	5.68	6.13	5.77	M	5.98	5.77	M	6.16	5.65	M	M	5.67	M	5.60	M	5.94	M	5.79
6	M	5.68	M	M	5.71	5.94	M	6.17	6.21	M	M	7.31	7.17	M	6.49	6.36	6.50	M	6.99	6.63	7.05	6.64	M	B
7	7.05	6.73	6.80	6.72	7.46	7.29	7.08	6.97	7.27	6.74	6.90	7.03	7.11	6.59	6.86	B	6.93	M	6.87	6.39	6.33	6.74	6.13	6.17
8	6.43	6.56	6.24	6.35	6.08	6.16	6.25	6.22	6.34	6.51	6.66	6.09	6.78	6.25	5.93	M	5.77	6.35	6.21	5.19	M	5.68	5.36	5.86
9	5.71	5.89	5.64	5.96	5.84	5.96	5.93	5.91	6.07	5.83	6.05	6.11	5.51	6.12	6.16	5.29	5.82	6.06	6.09	5.77	5.89	6.01	5.84	5.94
10	6.48	5.97	6.02	6.35	6.30	6.29	6.14	6.23	6.03	6.39	6.14	5.80	5.96	6.07	5.69	6.11	6.00	5.88	6.01	5.79	6.27	6.02	5.91	5.86
11	5.61	5.46	5.17	5.65	5.92	5.83	5.84	6.01	5.78	5.70	6.27	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	5.85	5.91	6.23	6.40	6.53	6.87	6.86	7.21	B	6.99	7.58	6.85	6.28
25	7.12	7.29	7.18	7.24	7.35	7.59	7.42	B	7.37	M	7.83	7.35	B	7.65	7.52	7.96	7.48	7.85	7.34	7.47	7.41	7.55	7.33	7.22
26	7.65	7.41	M	7.54	M	7.43	B	7.55	7.80	M	B	7.65	B	7.90	M	M	M	7.15	7.12	7.77	7.30	6.95	7.08	7.46
27	7.28	7.16	6.77	6.42	6.51	6.72	7.07	7.13	7.13	7.10	B	7.61	7.65	7.79	7.35	7.36	7.48	7.92	7.35	7.23	7.55	7.50	7.65	7.68
28	7.49	7.78	B	6.89	7.23	7.04	7.15	M	7.22	M	7.31	7.61	7.91	B	7.56	B	7.60	7.10	7.37	7.48	6.05	M	4.44	5.29

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

FEBRUARY 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/Hr	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
2	M	5.85	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
3	5.54	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4	M	M	M	M	5.14	5.07	M	5.26	5.37	5.16	M	5.31	5.83	M	M	M	M	M	M	M	M	M	M	M
5	5.80	5.46	3.66	M	5.26	5.21	6.14	5.33	3.24	M	5.20	5.21	M	5.48	5.11	M	M	M	M	M	M	M	M	M
6	M	M	M	M	M	5.74	M	5.55	5.53	M	5.96	6.04	5.96	M	6.35	6.22	6.17	M	6.38	6.34	6.33	6.40	M	6.37
7	6.39	6.29	6.38	6.32	6.40	6.37	6.37	6.35	6.40	6.28	6.24	6.33	6.30	6.23	6.34	6.39	6.32	M	6.25	6.14	6.05	6.21	5.92	5.97
8	6.01	6.07	6.00	6.04	5.87	5.95	5.88	5.92	6.06	6.00	6.15	5.90	6.20	6.00	5.77	M	5.68	6.01	5.97	5.20	M	5.69	5.40	5.72
9	5.57	5.75	5.56	5.79	5.71	5.74	5.70	5.71	5.80	5.67	5.79	5.80	5.57	5.89	5.86	5.46	5.67	5.81	5.80	5.77	5.77	5.80	5.80	5.81
10	5.97	5.86	5.85	5.98	5.95	5.99	5.91	5.94	5.82	6.01	5.88	5.74	5.79	5.87	5.62	5.80	5.79	5.71	5.80	5.65	5.84	5.77	5.71	5.70
11	5.51	5.57	5.29	5.53	5.68	5.70	5.66	5.75	5.68	5.72	5.80	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
25	6.69	6.73	6.69	6.65	6.66	6.71	6.71	6.68	6.72	M	6.73	6.71	6.68	6.79	6.82	6.82	6.44	6.49	6.56	6.53	6.68	6.56	6.56	6.79
26	6.76	6.83	6.70	6.72	M	6.69	6.75	6.72	6.74	6.73	6.69	6.77	6.71	6.82	M	M	M	6.73	6.71	6.64	6.55	6.55	6.47	6.51
27	6.76	6.68	6.55	6.40	6.23	6.31	6.51	6.51	6.53	6.61	6.68	6.69	6.53	6.71	6.64	6.79	6.68	6.70	6.66	6.68	6.74	6.70	6.70	6.73
28	6.65	6.64	6.55	6.40	6.44	6.42	6.52	M	6.61	M	6.61	6.60	6.71	6.62	6.61	6.60	6.62	6.49	6.49	6.55	6.27	M	4.65	5.25

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

MARCH 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.10	5.48	5.70	5.91	6.23	6.24	6.40	6.57	6.57	M	M	6.68	6.57	6.39	6.57	6.47	6.59	6.58	6.59	6.69	6.90	6.90	6.63	6.34
2	6.39	6.64	6.82	6.08	5.00	5.44	6.70	6.33	6.38	6.62	M	6.10	6.20	6.33	6.54	6.50	M	M	6.50	6.33	6.25	6.25	7.09	6.77
3	M	6.63	6.44	6.55	6.55	6.52	5.19	6.17	6.29	6.65	6.69	6.65	6.71	6.41	6.59	6.73	6.77	6.81	6.84	6.88	6.74	6.49	6.35	M
4	6.47	6.82	6.76	6.77	6.66	6.66	6.29	6.65	6.72	6.74	6.63	6.71	6.70	6.68	6.60	6.68	6.59	5.98	6.22	6.35	6.69	6.58	6.58	6.60
5	M	6.00	6.16	6.20	6.27	6.59	6.62	6.47	6.13	6.47	6.46	6.29	6.54	6.59	6.50	6.45	6.25	6.46	6.58	5.65	5.97	6.33	6.45	*-1.
6	6.71	6.50	6.64	6.63	6.61	6.75	6.75	6.73	6.48	6.63	6.65	M	6.62	6.87	6.80	6.55	M	6.59	6.55	6.82	6.71	6.69	M	*-1.
7	M	M	6.55	M	6.64	6.55	6.41	6.60	6.71	6.56	6.44	M	M	M	M	M	M	M	M	M	M	M	M	M
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	5.30	5.51	5.72	5.71	5.88	5.96	6.01	6.13	6.19	5.71	5.98	6.06
24	6.30	6.36	6.44	6.13	6.18	5.33	5.47	5.99	6.64	6.55	6.53	6.62	M	6.54	6.51	M	6.84	6.70	6.84	6.71	7.00	6.72	6.64	6.71
25	6.64	6.56	6.73	M	6.69	6.80	6.73	6.83	6.67	6.29	6.47	6.64	6.88	6.76	6.63	M	6.63	6.50	6.58	6.73	6.72	6.91	6.71	6.24
26	6.35	6.71	6.77	6.77	6.72	6.79	6.69	6.45	6.73	6.48	6.56	6.64	6.77	6.60	6.76	6.83	6.75	6.95	M	6.66	6.59	6.66	6.75	6.60
27	6.73	6.58	6.29	6.44	6.65	6.74	6.58	6.23	6.61	6.83	6.75	6.69	6.77	6.71	6.86	6.98	6.94	6.97	M	6.82	6.85	6.67	6.60	5.97
28	5.95	6.79	6.49	6.84	6.93	6.94	7.03	6.84	7.00	6.76	7.00	M	6.78	M	7.22	7.21	7.06	6.79	M	6.85	6.85	6.68	7.06	M
29	M	M	M	M	M	6.78	7.17	M	6.86	7.24	M	M	6.85	M	M	M	M	6.54	M	M	M	M	M	M
30	M	M	M	M	M	6.95	7.16	6.95	M	7.12	M	M	M	M	M	6.83	M	M	M	M	M	M	6.92	6.84
31	7.21	7.04	M	7.05	7.18	M	6.90	6.97	7.06	7.02	M	M	M	M	7.09	7.07	M	7.02	6.95	7.15	6.83	6.85	6.92	6.86

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

MARCH 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	5.48	5.86	6.10	6.25	6.56	6.84	6.64	6.90	6.90	M	M	6.98	6.79	6.84	7.08	6.73	6.90	6.83	6.75	7.05	7.19	7.02	7.02	6.53	
2	6.46	7.16	M	6.77	5.35	5.77	6.90	6.55	7.04	7.01	M	6.41	6.46	6.66	6.87	7.11	M	M	6.47	6.48	6.77	6.73	7.32	7.20	
3	M	7.45	6.81	7.04	6.92	6.88	5.53	6.70	6.68	6.92	B	6.97	7.04	6.95	7.30	B	7.19	7.28	7.35	7.17	7.18	7.68	6.60	M	
4	6.85	7.29	7.22	7.18	7.83	7.27	6.53	7.32	7.74	7.66	7.00	7.39	7.19	B	7.08	7.13	7.14	6.39	6.58	6.89	6.95	7.52	7.13	6.99	
5	M	6.37	6.47	6.62	6.60	7.34	7.20	6.95	6.74	7.18	7.63	6.78	7.04	7.23	7.13	6.75	6.66	B	6.62	6.11	6.31	6.73	6.71	*-1.	
6	7.32	7.24	6.25	7.24	6.89	7.63	6.81	6.92	M	6.83	7.10	M	6.90	6.91	6.41	7.58	M	6.60	6.74	6.60	6.71	6.56	M	*-1.	
7	M	M	B	M	7.07	6.58	6.48	7.39	6.97	6.66	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
24	7.71	6.99	7.22	6.76	6.65	5.58	5.79	6.41	7.21	7.16	6.94	6.97	M	5.73	5.96	6.10	6.01	6.34	6.44	6.45	6.73	6.42	6.10	6.60	6.54
25	7.85	6.80	7.17	M	7.83	7.29	6.56	7.71	7.46	6.79	6.77	7.03	7.33	M	6.82	7.04	M	7.39	B	7.63	7.11	B	7.39	7.01	7.14
26	6.80	7.37	6.91	7.25	7.27	B	7.15	7.53	7.03	6.99	6.93	7.21	7.18	6.98	7.38	B	7.07	7.00	B	7.03	7.10	7.03	6.86	6.92	
27	7.04	7.14	6.74	6.95	7.10	7.14	7.09	6.56	7.02	7.15	7.32	7.15	6.99	7.03	7.29	7.30	7.32	7.53	M	6.92	6.82	7.16	7.24	7.50	
28	6.29	6.96	7.09	7.20	7.25	7.53	7.64	7.25	7.42	7.36	7.34	M	M	M	M	M	7.11	6.94	M	7.68	7.36	6.97	7.27	6.33	
29	M	M	M	M	M	7.47	7.30	M	6.99	7.32	M	M	7.01	M	M	M	M	7.38	M	B	7.19	M	M	M	
30	M	M	M	M	7.33	7.17	7.25	M	7.87	M	M	M	M	M	M	7.02	M	M	M	M	M	M	M	6.74	7.25
31	7.12	7.52	M	B	7.35	M	7.36	7.30	M	B	M	M	M	M	M	7.29	7.73	M	7.30	7.16	7.63	7.18	7.04	7.69	7.04

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

MARCH 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/Hr	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.43	5.71	5.92	5.97	6.17	6.21	6.30	6.44	6.43	M	M	6.40	6.33	6.32	6.35	6.35	6.44	6.38	6.49	6.53	6.50	6.60	6.45	6.41
2	6.35	6.38	6.55	6.21	5.40	5.69	6.53	6.31	6.42	6.41	M	6.21	6.30	6.26	6.37	6.46	M	M	6.40	6.37	6.27	6.39	6.38	6.45
3	M	6.48	6.42	6.49	6.49	6.45	5.61	6.20	6.32	6.42	6.46	6.46	6.39	6.43	6.46	6.46	6.52	6.56	6.53	6.55	6.49	6.53	6.36	M
4	6.41	6.47	6.52	6.47	6.42	6.43	6.29	6.43	6.45	6.50	6.42	6.49	6.39	6.40	6.40	6.41	6.35	6.19	6.24	6.30	6.43	6.43	6.42	6.36
5	M	6.06	6.18	6.21	6.19	6.42	6.35	6.23	6.21	6.24	6.16	5.91	6.18	6.25	6.19	6.19	6.17	6.17	6.16	5.75	5.98	6.13	6.21	*-1.
6	6.25	6.17	6.29	6.22	6.24	6.14	6.23	6.25	6.13	6.19	6.17	M	6.25	6.14	6.01	6.00	M	6.25	5.90	5.99	6.16	6.06	M	*-1.
7	M	M	6.09	M	M	6.42	6.22	6.16	6.26	6.05	5.91	M	M	M	M	M	M	M	M	M	M	M	M	M
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
24	6.18	6.23	6.31	6.19	6.15	5.79	5.56	5.90	6.28	6.25	6.25	6.21	M	5.78	5.97	5.99	6.04	6.08	6.14	6.18	6.21	5.97	6.08	6.16
25	6.38	6.34	6.35	M	6.42	6.48	6.42	6.39	6.37	6.32	6.32	6.34	6.44	6.51	6.37	M	6.45	6.37	6.41	6.42	6.49	6.36	6.39	6.38
26	6.29	6.36	6.41	6.43	6.43	6.45	6.45	6.37	6.41	6.28	6.32	6.32	6.39	6.35	6.46	6.42	6.45	6.58	M	6.48	6.40	6.41	6.45	6.40
27	6.45	6.35	6.27	6.33	6.43	6.45	6.38	6.25	6.36	6.53	6.46	6.45	6.55	6.43	6.51	6.55	6.58	6.59	M	6.51	6.45	6.42	6.36	6.22
28	6.11	6.47	6.46	6.53	6.48	6.48	6.58	6.57	6.57	6.52	6.49	M	6.41	M	6.53	6.47	6.62	6.67	M	6.48	6.41	6.72	6.60	M
29	M	M	M	M	M	6.47	6.52	M	6.60	6.54	M	M	6.48	M	M	M	M	6.53	M	M	M	M	M	M
30	M	M	M	M	6.67	6.90	6.65	M	6.60	M	M	M	M	M	M	6.69	M	M	M	M	M	M	6.65	6.55
31	6.61	6.63	M	6.74	6.63	M	6.63	6.76	6.51	6.61	M	M	M	M	6.60	6.69	M	6.69	6.64	6.64	6.53	6.49	6.55	6.55

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

APRIL 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	7.06	6.79	6.76	6.76	6.89	6.92	6.76	M	6.97	M	M	M	M	M	6.69	M	6.62	6.78	M	6.89	6.77	6.77	6.91
2	M	6.70	6.62	6.29	6.72	6.64	6.54	5.55	M	M	M	6.35	M	M	M	6.00	6.49	6.58	6.48	M	6.45	6.43	6.46	6.48
3	6.38	6.50	6.51	M	6.61	6.70	6.64	6.37	M	5.90	6.23	M	M	M	M	M	6.61	M	6.81	M	6.82	6.18	5.78	4.84
4	5.71	5.54	4.86	M	5.41	5.71	5.73	5.90	M	6.08	6.18	M	6.32	M	M	6.53	6.68	M	6.61	6.80	6.90	6.83	M	6.84
5	6.40	6.27	6.83	6.68	6.78	6.84	M	7.03	M	6.69	6.12	M	6.30	M	M	6.89	7.00	M	7.01	6.87	6.76	6.75	M	6.98
6	6.89	6.89	7.05	6.99	6.95	6.68	M	6.37	6.78	6.90	7.21	M	6.44	M	M	M	6.96	M	7.03	7.34	M	6.61	M	6.80
7	6.02	M	6.58	M	5.63	5.77	5.26	M	6.06	M	6.42	M	M	M	M	M	M	M	6.43	6.67	M	6.36	M	M
8	6.71	M	6.58	M	M	6.78	M	6.32	M	7.00	M	M	M	7.00	M	M	M	M	M	M	M	6.57	6.33	6.43
9	6.63	M	M	M	M	6.32	M	6.55	6.88	M	6.22	6.10	6.12	6.01	6.11	6.08	6.04	6.25	6.19	6.17	6.00	5.76	M	5.08
10	5.24	5.26	5.40	5.74	M	4.89	5.22	5.39	5.90	M	5.86	5.55	M	5.44	5.33	5.55	5.57	5.76	5.58	5.66	5.86	5.45	5.71	5.73
11	5.74	5.52	5.76	5.29	5.69	5.59	5.78	5.89	5.53	5.70	5.55	5.71	5.31	5.27	5.31	4.61	4.76	5.06	5.21	5.42	5.45	5.41	4.31	4.86
12	5.18	5.76	5.91	5.44	5.86	5.45	5.73	5.77	5.59	5.65	5.34	4.13	4.32	4.40	4.70	4.88	4.94	5.09	5.18	5.34	5.33	5.41	5.51	5.40
13	5.47	5.50	5.62	5.56	5.16	5.51	4.98	M	5.36	5.49	5.22	5.26	4.71	4.59	4.82	5.28	4.83	5.03	4.32	4.61	4.94	5.10	4.38	4.55
14	4.59	4.86	4.64	4.85	5.02	5.14	M	4.65	4.74	5.13	M	5.29	5.47	M	5.54	5.48	5.54	5.53	5.52	5.01	5.47	5.04	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	5.50	5.33	5.29	5.66	5.49	5.81	5.76	4.60	4.08	4.69	5.36	5.49	5.03	5.54	5.43	5.73	5.81	5.81	5.36	5.66	5.42	3.87	4.57	4.90
17	3.75	3.87	4.18	4.09	4.44	4.55	4.64	5.33	5.37	5.57	5.72	5.43	5.22	5.81	5.99	6.02	5.95	6.04	6.06	6.13	6.02	5.55	5.90	5.73
18	6.15	6.26	6.25	6.07	6.02	6.15	6.22	6.20	6.03	6.08	6.32	6.29	6.17	6.33	6.33	6.30	6.34	6.32	5.32	6.19	6.43	6.24	6.14	5.98
19	6.06	6.14	6.23	6.28	6.31	6.01	6.17	6.13	4.93	4.79	6.10	6.38	6.12	M	6.26	4.10	M	5.05	5.80	M	5.20	M	6.18	5.77
20	M	4.90	5.46	M	6.10	5.97	5.85	5.79	M	5.47	5.46	M	5.88	5.88	5.84	5.85	M	4.44	5.22	M	5.77	5.77	M	6.25
21	M	6.25	6.24	M	6.22	5.93	6.00	5.85	M	4.68	6.01	5.51	5.77	6.45	6.07	6.03	6.21	5.92	6.24	6.13	6.21	6.05	6.05	6.24
22	6.33	6.06	6.03	M	5.77	5.97	5.03	5.10	5.40	5.39	5.67	6.00	5.71	5.05	4.81	5.41	5.49	6.02	6.43	6.13	6.11	6.21	6.01	5.90
23	6.03	6.05	5.65	6.02	5.47	6.16	6.30	6.33	6.17	6.23	6.26	6.17	5.98	6.23	6.11	5.98	6.18	6.09	6.13	5.78	6.07	6.09	M	6.36
24	6.33	6.21	6.25	5.79	5.73	5.93	6.12	6.18	6.04	6.09	6.06	6.30	6.35	6.17	6.14	6.16	6.25	6.36	6.37	6.23	6.35	6.33	6.30	6.08
25	6.10	6.35	6.36	6.23	6.31	6.11	6.26	6.18	6.21	6.23	5.32	5.85	6.21	6.08	6.12	6.20	6.20	6.23	6.39	6.37	6.32	6.31	6.27	5.95
26	6.19	6.22	6.18	6.13	6.07	6.01	6.21	6.25	6.26	6.50	6.36	6.47	6.54	6.51	6.49	6.59	6.57	6.47	6.52	6.52	6.45	6.46	6.35	6.49
27	6.65	6.70	6.84	6.65	6.66	6.69	6.73	6.74	6.71	6.84	6.76	6.84	6.92	6.84	6.84	6.86	6.76	6.74	6.75	6.86	6.83	6.79	7.05	6.96
28	6.85	6.48	6.54	6.49	6.51	6.80	6.86	6.87	6.98	6.58	6.92	6.72	6.53	6.50	6.86	6.72	6.59	5.89	5.93	6.07	6.51	6.33	5.98	5.78
29	6.90	5.92	5.98	5.98	6.05	6.19	6.28	6.44	6.53	6.64	6.79	6.71	6.74	6.62	6.57	6.70	6.66	6.59	6.60	6.63	6.70	6.70	6.60	6.61
30	6.52	6.07	5.98	6.03	5.99	5.36	5.61	5.89	5.84	5.95	5.94	5.71	5.78	5.51	5.33	5.75	5.96	6.15	5.80	6.00	5.97	6.03	5.99	5.99

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

APRIL 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	M	7.42	B	7.12	7.27	7.13	7.57	7.00	M	B	M	M	M	M	M	7.14	M	7.07	7.46	M	7.31	7.20	B	7.60	
2	M	7.16	6.95	6.68	7.49	6.77	7.10	5.85	M	M	M	6.79	M	M	M	M	6.40	6.78	7.29	6.79	M	7.03	6.77	7.03	6.95
3	6.72	6.91	6.86	M	7.08	7.20	7.07	6.68	M	6.38	6.77	M	M	M	M	M	7.23	M	7.56	M	7.69	6.58	6.11	5.24	
4	6.14	5.95	5.25	M	5.82	6.09	6.14	6.30	M	6.76	6.78	M	6.89	M	M	6.80	B	M	6.95	7.42	6.89	7.21	M	7.29	
5	B	6.61	7.25	M	7.33	7.36	M	7.08	M	7.75	6.55	M	M	M	M	7.55	7.11	M	7.15	7.27	7.04	7.10	M	M	
6	7.35	7.53	7.00	7.05	7.33	7.53	M	6.94	7.05	M	7.21	M	7.10	M	M	M	7.37	M	7.32	7.59	M	7.52	M	6.96	
7	6.40	M	M	6.15	6.10	5.74	M	6.57	M	M	7.18	M	M	M	M	M	M	M	6.78	M	M	6.96	M	M	
8	6.75	M	6.88	M	M	7.08	M	M	6.95	M	M	M	M	7.22	M	M	M	M	M	M	M	M	5.83	6.16	
9	6.25	M	M	M	M	6.52	M	7.10	6.66	M	6.55	6.53	6.42	6.27	6.36	6.57	6.60	6.90	6.50	6.25	6.09	M	5.40		
10	5.59	5.89	6.13	M	5.28	5.65	5.73	6.33	M	6.28	6.03	M	5.91	5.71	5.96	5.96	5.97	6.22	6.06	6.09	6.30	5.88	6.10	6.22	
11	6.02	5.91	5.19	5.67	6.05	6.01	6.27	6.46	5.95	6.13	6.02	6.04	5.68	5.74	5.69	4.97	5.16	5.44	5.64	5.82	5.89	5.84	4.76	5.38	
12	5.66	6.35	6.36	5.80	6.21	5.85	6.20	6.29	5.90	5.97	5.67	4.50	4.75	4.80	5.08	5.24	5.29	5.42	5.50	5.70	5.65	5.75	5.78	5.75	
13	5.76	5.84	5.98	5.88	5.65	5.85	5.34	M	5.65	5.78	5.53	5.55	5.06	4.94	5.13	5.65	5.17	5.39	4.67	4.95	5.32	5.44	4.77	4.94	
14	4.98	5.22	5.03	5.25	5.46	5.56	M	4.94	5.07	5.46	M	5.57	5.76	M	5.89	5.86	5.88	5.89	5.83	5.37	5.80	5.34	M	M	
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
16	5.98	5.64	5.64	6.12	5.84	6.19	6.11	4.87	4.44	5.00	5.64	5.80	5.33	5.82	5.71	6.16	6.13	6.14	5.73	5.97	5.76	4.20	4.91	5.24	
17	4.16	4.25	4.52	4.43	4.82	4.93	5.03	5.76	5.75	5.97	6.07	5.73	5.69	6.39	6.46	6.36	6.28	6.29	6.34	6.45	6.43	5.88	6.47	6.19	
18	6.72	6.54	6.55	6.45	6.34	6.53	B	6.48	6.24	6.55	6.82	6.64	6.52	6.77	6.77	6.62	6.70	6.58	5.66	6.62	6.82	6.74	6.52	6.36	
19	6.51	6.53	6.61	6.65	6.71	6.45	6.47	6.71	5.21	5.14	6.56	6.67	6.42	M	6.61	4.46	M	5.42	6.24	M	5.59	M	6.42	6.20	
20	M	5.31	5.85	M	6.37	6.32	6.20	6.11	M	5.82	5.79	M	6.22	6.30	6.27	6.34	M	4.80	5.64	M	6.12	6.17	M	6.58	
21	M	6.65	6.62	M	6.67	6.34	6.59	6.32	M	5.05	6.39	5.88	6.21	7.59	6.56	6.44	6.88	6.50	6.83	6.65	6.71	6.64	6.63	7.01	
22	7.59	6.46	6.41	M	6.25	6.44	5.46	5.54	5.92	5.88	6.14	6.48	6.13	5.44	5.22	5.84	5.88	6.47	7.02	6.49	6.50	6.70	6.39	6.25	
23	6.44	6.46	6.08	6.47	5.78	6.59	6.69	6.86	6.61	6.61	6.67	6.56	6.27	6.60	6.39	6.28	6.56	6.48	6.46	6.11	6.45	6.97	M	AP	
24	6.79	6.60	6.63	6.14	6.11	6.38	6.63	6.51	6.39	6.45	6.43	6.63	6.82	6.55	6.59	6.60	6.59	6.55	6.99	6.60	6.68	7.04	6.64	6.39	
25	6.39	6.71	6.82	6.98	6.75	6.43	6.66	6.46	6.56	6.56	6.89	6.22	6.57	6.38	6.54	6.97	6.65	6.77	6.76	6.83	6.69	6.67	6.58	6.27	
26	6.54	6.60	6.56	6.42	6.53	6.38	6.57	6.57	6.56	7.12	6.76	7.16	6.90	6.90	6.90	7.07	7.54	7.05	6.90	7.66	6.95	6.97	6.79	7.04	
27	7.04	7.08	7.70	7.22	7.11	7.09	B	7.24	7.11	7.22	6.98	B	7.38	7.15	7.62	7.05	7.17	B	7.33	7.42	7.27	B	7.33	*-1.	
28	M	7.29	7.04	6.66	6.89	7.10	7.26	7.29	7.46	6.89	7.49	7.17	6.97	6.96	7.24	7.02	7.04	6.23	6.40	6.59	6.94	6.68	6.37	6.27	
29	7.15	6.38	6.42	6.54	6.58	6.71	6.87	6.82	6.98	7.18	7.47	7.36	7.04	7.08	6.88	7.01	7.06	7.28	6.95	7.05	7.05	7.17	6.88	6.97	
30	6.79	6.39	6.29	6.29	6.36	5.62	5.90	6.19	6.20	6.31	6.26	6.01	6.08	5.82	5.56	6.06	6.26	6.46	6.11	6.26	6.31	6.38	6.32	6.31	

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA
X-RAY EMISSION LINE FLUXES

APRIL 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/MR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	M	6.66	6.54	6.51	6.49	6.47	6.55	6.49	M	6.66	M	M	M	M	M	6.39	M	6.37	6.51	M	6.55	6.54	6.52	6.54
2	M	6.46	6.42	6.33	6.45	6.35	6.35	5.88	M	M	M	6.33	M	M	M	6.02	6.35	6.25	6.33	M	6.38	6.30	6.33	6.32
3	6.29	6.29	6.29	M	6.37	6.38	6.38	6.25	M	5.96	6.07	M	M	M	M	M	6.38	M	6.44	M	6.45	6.26	6.04	5.46
4	6.06	5.90	5.36	M	5.66	5.88	5.94	6.00	M	6.06	6.09	M	6.12	M	M	6.35	6.41	M	6.37	6.47	6.48	6.46	M	5.52
5	6.35	6.28	6.57	6.50	6.54	6.52	M	5.97	M	6.55	6.26	M	6.36	M	M	6.56	6.68	M	6.55	6.66	6.74	6.63	M	6.64
6	6.65	6.55	6.79	6.71	6.72	6.32	M	6.29	6.53	6.52	6.76	M	6.70	M	M	M	6.71	M	6.61	6.54	M	6.47	M	6.64
7	6.46	M	M	6.67	6.06	5.86	M	6.34	M	M	6.44	M	M	M	M	M	M	M	6.74	6.54	M	6.47	M	M
8	6.52	M	6.52	M	M	6.77	M	M	6.40	M	M	M	M	6.88	M	M	M	M	M	M	M	5.55	5.29	5.23
9	5.31	M	M	M	M	6.31	M	6.37	6.50	M	6.40	6.17	6.23	6.17	6.09	6.17	6.21	6.33	6.16	6.26	6.15	6.07	M	5.47
10	6.15	5.63	5.85	5.88	M	5.30	5.52	5.63	5.94	M	5.97	5.82	M	5.66	5.64	5.71	5.82	5.94	5.90	5.82	6.00	5.74	5.82	5.82
11	5.91	5.77	5.84	5.54	5.73	5.71	5.82	5.85	5.72	5.75	5.73	5.81	5.60	5.61	5.64	5.13	5.24	5.40	5.43	5.57	5.60	5.58	4.82	5.20
12	5.35	5.74	5.82	5.70	5.91	5.75	5.81	5.85	5.74	5.71	5.62	4.62	4.89	4.95	5.12	5.24	5.28	5.36	5.40	5.50	5.52	5.55	5.62	5.60
13	5.58	5.59	5.68	5.65	5.54	5.59	5.38	M	5.54	5.62	5.49	5.50	5.07	4.97	5.13	5.54	5.30	5.37	4.75	4.96	5.22	5.31	4.85	4.91
14	4.95	5.21	5.09	5.19	5.36	5.37	M	5.00	5.06	5.29	M	5.47	5.54	M	5.61	5.60	5.63	5.62	5.67	5.38	5.63	5.41	M	M
15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
16	5.65	5.53	5.63	5.76	5.62	5.80	5.79	5.27	4.75	5.09	5.49	5.58	5.36	5.61	5.57	5.73	5.81	5.79	5.54	5.68	5.63	4.42	5.06	5.39
17	4.31	4.39	4.65	4.59	4.76	4.91	4.95	5.38	5.45	5.58	5.68	5.63	5.31	5.74	5.87	5.91	5.92	5.97	5.95	6.02	5.99	5.82	5.88	5.80
18	6.04	6.06	6.12	6.14	6.00	6.06	6.00	6.11	6.03	6.07	6.11	6.08	6.07	6.18	6.21	6.17	6.16	6.20	5.64	6.09	6.19	6.18	6.18	6.09
19	6.11	6.14	6.16	6.12	6.16	6.11	6.10	6.09	5.39	5.28	6.00	6.12	6.16	M	6.26	4.77	M	5.39	5.84	M	5.59	M	6.05	6.02
20	M	5.43	5.62	M	5.99	6.13	6.01	5.90	M	5.67	5.75	M	5.96	5.95	5.97	5.97	M	5.13	5.45	M	5.88	5.87	M	6.13
21	M	6.14	6.17	M	6.12	6.04	5.99	6.03	M	5.27	5.99	5.87	5.96	6.30	6.15	6.10	6.13	6.05	6.12	6.10	6.11	6.15	6.10	6.18
22	6.22	6.11	6.09	M	5.92	6.00	5.58	5.55	5.68	5.67	5.84	6.05	5.90	5.50	5.32	5.64	5.77	5.96	6.30	6.24	6.18	6.20	6.08	6.03
23	6.02	6.13	5.98	6.07	5.93	6.09	6.14	6.17	6.06	6.02	6.15	6.10	6.05	6.10	6.06	5.99	6.09	6.03	6.07	5.89	5.95	6.01	M	6.24
24	6.18	6.11	6.12	5.92	5.90	5.94	6.06	6.08	5.96	6.00	6.02	6.15	6.20	6.17	6.13	6.19	6.14	5.99	6.17	6.06	6.19	6.20	6.14	6.12
25	6.06	6.19	6.17	6.15	6.16	6.07	6.17	6.07	6.14	6.12	6.16	6.01	6.06	6.04	6.09	6.09	6.13	6.16	6.27	6.20	6.21	6.18	6.18	6.12
26	6.11	6.08	6.06	6.06	6.07	6.11	6.12	6.16	6.15	6.24	6.24	6.27	6.30	6.32	6.31	6.37	6.32	6.28	6.36	6.32	6.32	6.28	6.25	6.30
27	6.36	6.41	6.41	6.41	6.41	6.39	6.49	6.42	6.45	6.48	6.44	6.56	6.55	6.51	6.39	6.48	6.48	6.51	6.57	6.54	6.56	6.52	6.62	x-1.
28	6.52	6.42	6.53	6.47	6.43	6.56	6.61	6.62	6.70	6.54	6.72	6.57	6.49	6.47	6.62	6.59	6.55	6.19	6.12	6.18	6.40	6.39	6.21	6.00
29	6.52	6.08	6.11	6.14	6.16	6.24	6.27	6.36	6.42	6.45	6.56	6.52	6.58	6.53	6.45	6.46	6.42	6.43	6.43	6.37	6.40	6.44	6.42	6.35
30	6.33	6.12	6.06	6.03	6.08	5.66	5.77	5.91	5.95	5.97	6.00	5.85	5.84	5.67	5.55	5.75	5.92	6.00	5.85	5.94	5.95	6.00	5.98	6.02

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

MAY 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.81	6.07	5.84	6.09	5.98	M	6.01	6.07	6.07	6.11	6.37	6.19	6.20	6.26	6.24	6.19	6.20	6.19	6.31	6.19	6.20	6.17	6.23	6.23
2	6.19	6.34	6.28	6.33	6.40	6.16	6.20	6.33	6.32	6.40	6.37	6.34	6.39	6.30	6.23	6.05	6.04	6.14	6.12	6.05	6.15	6.02	6.03	6.03
3	5.99	5.94	5.62	5.71	5.44	5.39	5.12	5.36	5.40	5.39	5.50	5.64	5.70	5.59	5.59	5.02	5.13	5.19	5.42	5.77	5.48	M	5.51	4.48
4	5.33	5.44	5.50	5.82	5.65	5.47	5.77	5.83	5.80	5.72	5.86	5.22	5.57	5.29	5.16	5.56	5.59	4.83	4.88	5.65	5.59	5.64	5.81	4.67
5	5.78	5.85	5.84	5.93	5.78	5.55	5.77	5.99	5.98	6.00	5.94	6.16	6.13	6.17	6.22	6.07	6.04	6.21	6.00	6.11	6.08	5.87	5.66	5.96
6	6.21	6.15	6.15	6.19	6.12	5.63	4.90	6.08	6.18	6.06	6.24	6.25	6.25	6.21	6.28	6.24	6.08	6.15	6.35	6.46	6.12	6.27	6.19	6.19
7	6.27	6.23	5.81	6.17	6.04	5.93	6.02	6.22	6.36	6.31	6.30	6.32	6.34	6.35	6.36	M	6.26	6.12	6.23	6.31	6.33	6.31	6.18	6.15
8	5.79	5.96	6.16	5.92	6.10	6.03	6.03	6.12	6.20	6.10	5.87	5.89	5.94	5.98	5.89	5.94	5.75	5.57	5.89	6.06	M	M	M	6.01
9	5.94	5.61	5.44	5.47	5.76	5.91	5.97	5.92	5.95	5.06	4.99	5.25	M	M	M	M	M	M	M	M	M	M	M	5.75
10	5.79	5.84	5.87	5.88	5.88	5.86	5.80	5.78	5.79	5.85	5.92	5.89	6.07	5.97	5.82	6.04	6.11	5.99	6.04	5.99	5.97	5.99	6.09	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.13
12	6.12	6.12	5.91	5.67	6.02	5.94	6.08	6.14	6.16	6.07	5.86	5.63	6.05	6.08	6.21	5.95	M	6.17	6.22	6.28	6.17	6.33	6.20	6.19
13	6.14	6.14	6.07	5.98	5.94	6.24	6.17	6.08	6.12	6.03	6.21	6.12	5.95	5.89	5.99	5.92	5.80	5.84	5.89	5.98	5.89	5.98	5.99	6.01
14	5.94	5.99	5.99	5.97	5.86	5.88	5.96	5.91	6.03	5.69	5.82	5.98	5.90	5.63	M	5.84	5.49	5.38	5.84	M	5.91	5.93	5.88	5.93
15	5.87	5.92	5.90	5.86	5.91	5.88	5.84	5.69	5.79	5.89	5.92	5.91	5.69	5.89	M	5.68	5.82	5.89	5.63	5.62	5.83	5.65	5.73	5.42
16	5.57	5.76	5.69	5.79	5.76	5.88	5.95	M	M	M	5.41	5.68	5.92	5.94	5.81	5.78	M	5.89	5.87	5.87	6.02	5.95	5.56	5.56
17	6.02	6.13	5.86	5.92	6.13	6.08	6.03	6.10	5.87	6.06	5.77	5.66	5.76	6.06	5.98	5.83	6.07	M	5.59	6.07	6.04	6.03	M	5.45
18	6.05	6.07	6.01	5.29	5.85	5.45	5.72	6.15	6.33	6.19	5.97	M	6.23	6.22	6.10	M	M	6.24	6.35	6.25	6.09	M	6.22	6.22
19	5.19	4.62	5.59	M	6.11	6.25	6.05	5.95	6.19	6.25	5.92	5.89	M	5.89	5.66	M	6.06	6.23	6.20	6.05	5.81	6.34	6.30	*-1.
20	6.19	6.30	6.33	6.18	6.26	6.27	6.27	6.35	6.16	5.96	M	6.32	6.55	6.39	6.37	M	6.36	6.58	M	6.49	6.46	6.46	5.43	*-1.
21	6.47	6.48	6.32	6.37	6.54	6.40	6.44	6.46	6.46	6.48	M	6.42	6.47	6.37	6.49	6.53	6.50	6.46	6.41	6.33	6.39	6.27	6.26	6.34
22	6.21	6.36	6.32	5.87	6.33	6.46	5.88	6.17	6.08	6.15	6.18	6.15	6.13	M	M	M	6.24	6.34	6.24	M	5.60	5.19	5.39	5.85
23	5.36	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.42
24	6.38	6.20	6.21	6.16	6.37	6.36	6.03	5.81	5.87	6.01	M	6.13	6.29	M	6.41	6.45	6.53	6.53	6.47	6.44	6.61	6.71	6.50	*-1.
25	6.82	6.78	6.91	6.69	6.36	6.59	6.90	M	6.88	6.80	7.02	6.94	6.87	M	6.64	6.71	M	6.85	6.75	6.70	6.95	7.26	7.22	6.94
26	6.95	6.91	7.08	6.97	6.34	6.39	6.63	M	6.75	6.78	6.64	7.04	6.76	6.94	7.26	7.02	M	7.15	7.13	7.33	7.15	7.15	7.01	6.80
27	6.19	6.86	6.21	6.39	6.96	M	6.84	6.56	6.59	6.85	M	6.66	6.95	6.63	6.75	6.99	M	6.97	7.05	M	6.59	5.83	5.93	6.65
28	6.71	6.85	6.90	6.64	6.70	M	6.79	6.91	M	6.80	M	6.78	6.67	6.84	6.79	6.89	7.00	6.91	6.66	M	6.81	6.95	6.65	6.71
29	6.72	6.39	6.59	6.66	6.61	M	6.33	6.51	M	6.58	6.42	6.36	6.39	6.55	M	6.41	6.11	6.09	6.00	M	5.54	5.71	M	5.55
30	5.87	5.82	5.71	M	5.56	5.90	5.76	5.71	M	5.71	5.70	M	5.42	5.26	5.12	4.88	4.92	M	4.91	5.03	5.06	5.52	M	5.56
31	5.51	5.46	5.05	M	5.32	5.27	5.23	5.44	M	5.23	5.39	4.85	5.39	5.23	5.52	5.59	5.52	M	5.48	5.84	5.85	5.45	5.47	5.32

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA
X-RAY EMISSION LINE FLUXES

MAY 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	6.13	6.40	6.26	6.43	6.31	M	6.24	6.37	6.40	6.50	6.82	6.47	6.48	6.67	6.67	6.67	6.56	6.90	6.48	6.47	6.58	6.53	6.47	6.57
2	6.50	6.61	6.55	6.54	6.86	6.54	6.71	6.77	6.82	6.90	6.86	6.69	6.91	7.00	6.67	6.53	6.37	6.31	6.45	6.46	6.33	6.52	6.28	6.34
3	6.33	6.19	5.93	6.03	5.75	5.75	5.49	5.72	5.73	5.75	5.92	6.05	6.08	5.95	5.88	5.42	5.51	5.55	5.74	6.13	5.86	M	5.85	4.83
4	5.74	5.91	5.88	6.19	5.96	5.89	6.10	6.23	6.21	6.10	6.27	5.54	5.97	5.63	5.51	5.85	5.93	5.12	5.17	6.03	5.93	5.94	6.05	5.99
5	6.15	6.22	6.18	6.33	6.07	5.84	6.15	6.34	6.32	6.34	6.24	6.54	6.42	6.58	6.62	6.46	6.37	6.59	6.38	6.48	6.25	6.18	5.94	6.34
6	6.72	6.44	6.59	6.59	6.61	6.49	5.92	5.19	6.44	6.62	6.44	6.58	6.72	6.56	6.80	6.52	6.60	6.39	6.54	6.86	7.03	6.44	7.93	6.57
7	6.68	6.52	6.12	6.61	6.61	6.27	6.57	6.68	6.77	7.03	6.58	6.72	6.71	6.80	6.87	M	6.75	6.56	6.80	6.70	6.70	6.99	6.61	6.58
8	6.28	6.42	6.78	6.47	6.68	6.41	6.49	6.53	6.63	7.02	6.23	6.29	6.49	6.47	6.30	6.53	6.16	5.95	6.39	6.49	M	M	M	6.27
9	6.39	5.99	5.79	5.87	6.14	6.49	6.57	6.30	7.51	5.36	5.40	5.69	M	M	M	M	M	M	M	M	M	M	M	6.25
10	6.35	6.35	6.37	6.38	6.31	6.32	6.40	6.19	6.21	6.30	6.43	6.39	6.51	6.37	6.36	6.52	6.52	6.52	6.55	6.51	6.29	6.45	6.53	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.71
12	6.80	6.65	6.38	6.18	6.49	6.50	6.88	7.62	6.69	6.72	5.53	6.09	6.56	6.78	6.78	6.48	M	6.81	7.12	6.53	6.79	6.74	7.36	B
13	6.76	6.63	6.54	6.58	6.26	6.65	6.58	6.55	6.91	6.51	6.61	6.49	6.45	6.92	6.25	6.61	6.35	6.38	6.38	6.55	6.44	6.58	6.57	6.42
14	6.31	6.45	6.48	6.41	6.26	6.24	6.50	6.31	6.50	6.01	6.30	6.45	6.36	6.09	M	6.30	5.79	5.76	6.39	M	6.46	6.44	6.33	6.53
15	6.13	6.30	6.38	6.37	6.67	6.33	6.36	6.15	6.22	6.42	6.45	6.72	6.06	6.44	M	6.14	6.26	6.25	6.09	6.04	6.31	6.11	6.36	5.79
16	6.00	6.31	6.24	6.17	6.24	6.30	6.50	M	M	M	5.74	6.05	6.42	6.56	6.11	6.28	M	6.32	6.22	6.27	6.41	6.91	5.82	
17	6.45	6.53	6.25	6.37	6.60	6.55	6.53	6.59	6.22	6.43	6.74	5.99	6.07	6.45	6.54	6.20	6.51	M	5.94	6.40	6.43	6.79	M	5.77
18	6.73	6.57	6.51	5.74	6.30	5.86	6.07	6.07	6.74	6.66	6.45	M	6.70	6.61	6.37	M	M	6.59	6.73	6.78	6.55	M	6.84	
19	5.52	5.03	6.10	M	6.61	6.74	6.34	6.43	6.67	6.76	6.34	6.39	M	6.29	6.10	M	6.61	7.00	6.67	6.59	6.23	6.89	7.56	*-1.
20	6.70	6.77	7.51	6.61	6.66	6.80	6.60	6.82	6.65	6.39	M	6.96	7.01	7.01	7.18	M	6.85	7.25	M	7.18	6.70	6.78	6.71	*-1.
21	6.79	7.02	6.79	6.69	6.98	6.84	6.92	6.65	6.93	6.73	M	6.52	6.88	7.22	6.97	7.18	7.35	6.90	6.99	6.94	6.98	6.73	6.68	*-1.
22	7.00	6.91	6.63	6.39	6.94	6.84	6.80	6.84	6.38	7.14	6.56	6.88	6.35	M	M	6.55	6.63	7.02	M	6.16	5.52	5.76	6.33	6.26
23	5.85	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.80
24	6.95	6.52	6.71	6.61	7.18	6.76	6.39	6.24	6.31	6.41	M	6.43	6.72	M	7.45	7.35	6.90	6.94	7.17	7.22	7.16	7.17	7.77	*-1.
25	7.27	7.41	7.17	7.32	6.97	7.04	7.23	M	6.90	7.04	7.27	7.36	7.37	M	7.64	7.34	M	7.17	6.93	7.52	B	M	B	7.51
26	B	7.74	M	7.31	6.78	6.70	6.92	M	7.06	7.34	7.08	M	7.48	7.37	7.14	7.35	M	7.54	7.70	7.57	7.84	M	B	7.19
27	6.56	B	6.58	6.88	7.38	M	7.21	7.20	7.85	6.92	M	7.42	7.20	6.74	7.16	6.88	M	7.40	7.83	M	7.45	6.15	6.23	7.19
28	7.50	7.88	7.33	7.28	7.09	M	7.10	B	M	B	M	7.16	7.54	7.22	7.92	B	7.00	7.26	B	M	B	7.62	7.11	7.23
29	7.52	7.39	7.39	M	7.64	M	6.94	7.22	M	7.03	6.68	6.60	7.05	6.88	M	6.94	6.76	6.54	6.48	M	6.09	6.27	M	6.01
30	6.39	6.42	6.26	M	6.07	6.73	6.32	6.22	M	6.21	6.19	M	5.82	5.68	5.52	5.36	5.29	M	5.35	5.50	5.49	6.00	M	5.98
31	5.87	5.83	5.36	M	5.66	5.59	5.53	5.80	M	5.57	5.71	5.15	5.82	5.65	6.03	5.93	5.96	M	5.84	6.21	6.23	5.76	5.88	5.69

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

MAY 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.94	6.03	5.96	6.01	5.95	M	6.00	6.03	6.05	6.11	6.18	6.12	6.09	6.13	6.07	6.09	6.08	6.10	6.05	6.08	6.06	6.04	6.10	
2	6.10	6.14	6.14	6.18	6.20	6.12	6.15	6.14	6.18	6.19	6.14	6.15	6.14	6.11	6.09	6.06	5.99	6.11	6.03	6.01	6.04	5.95	5.97	
3	5.93	5.92	5.79	5.80	5.68	5.64	5.50	5.64	5.61	5.61	5.70	5.82	5.77	5.72	5.67	5.40	5.59	5.51	5.64	5.84	5.70	M	5.54	4.96
4	5.58	5.68	5.70	5.85	5.76	5.68	5.80	5.87	5.86	5.85	5.89	5.73	5.74	5.58	5.55	5.70	5.78	5.34	5.27	5.78	5.79	5.80	5.77	5.81
5	5.86	5.88	5.87	5.93	5.89	5.68	5.79	5.92	5.91	5.96	5.92	6.01	6.00	6.02	6.06	6.01	5.97	6.02	5.95	5.97	5.95	5.92	5.77	5.96
6	6.03	5.98	6.01	6.01	6.01	6.01	5.83	5.31	5.98	6.04	5.95	6.02	6.06	6.07	6.08	5.98	6.03	5.93	6.01	6.08	6.28	6.07	6.10	6.00
7	6.06	6.05	5.91	6.08	6.08	5.97	6.01	6.05	6.09	6.07	6.12	6.13	6.14	6.11	6.13	M	6.13	6.06	6.09	6.10	6.10	6.07	6.09	6.05
8	5.89	5.91	5.98	5.92	5.96	5.94	5.94	5.98	5.99	5.96	5.90	5.86	5.87	5.89	5.80	5.94	5.80	5.71	5.83	5.89	M	M	M	5.86
9	5.87	5.76	5.66	5.63	5.75	5.81	5.85	5.84	5.84	5.47	5.35	5.45	M	M	M	M	M	M	M	M	M	M	M	5.68
10	5.72	5.75	5.76	5.79	5.79	5.79	5.79	5.78	5.76	5.79	5.80	5.82	5.88	5.91	5.83	5.91	5.91	5.86	5.89	5.88	5.87	5.86	5.90	M
11	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	5.95
12	5.91	5.92	5.85	5.75	5.94	5.93	5.95	6.00	5.96	5.95	5.51	5.76	5.91	5.90	6.03	5.94	M	5.97	5.98	5.95	5.95	6.01	5.95	5.96
13	5.90	5.91	5.95	5.83	5.84	5.97	5.92	5.92	5.92	5.86	5.93	5.89	5.83	5.84	5.84	5.81	5.62	5.72	5.74	5.73	5.74	5.81	5.82	5.80
14	5.74	5.78	5.80	5.75	5.73	5.77	5.76	5.75	5.81	5.68	5.70	5.77	5.74	5.70	M	5.71	5.60	5.59	5.74	M	5.79	5.79	5.76	5.76
15	5.72	5.74	5.73	5.72	5.73	5.73	5.73	5.66	5.65	5.72	5.73	5.74	5.63	5.74	M	5.63	5.68	5.70	5.67	5.58	5.65	5.64	5.64	5.50
16	5.58	5.68	5.67	5.66	5.69	5.73	5.77	M	M	M	5.50	5.70	5.79	5.80	5.68	5.68	5.68	M	5.72	5.66	5.74	5.78	5.77	5.64
17	5.86	5.90	5.80	5.87	5.87	5.89	5.85	5.86	5.77	5.87	5.74	5.66	5.81	5.87	5.84	5.75	5.79	M	5.69	5.92	5.88	5.84	M	5.60
18	5.87	5.86	5.82	5.59	5.83	5.66	5.76	5.92	6.00	5.91	5.88	M	5.93	6.00	5.84	M	M	M	5.97	5.98	6.04	5.94	M	5.97
19	5.66	5.21	5.66	M	5.96	5.99	5.89	5.91	5.93	6.01	5.88	5.87	M	5.83	5.81	M	5.90	5.96	5.91	5.93	5.97	6.03	6.04	*-1.
20	6.03	6.03	6.05	5.98	6.08	6.04	6.05	6.05	6.07	5.97	M	6.14	6.10	6.06	6.08	M	6.14	6.18	M	6.16	6.12	6.15	6.11	*-1.
21	6.14	6.13	6.16	6.11	6.15	6.16	6.24	6.18	6.12	6.13	M	6.15	6.20	6.14	6.16	6.44	6.22	6.18	6.12	6.04	6.05	5.99	6.01	6.10
22	6.01	5.99	6.02	5.93	6.14	6.09	5.89	6.04	5.88	6.02	5.92	5.93	5.92	M	M	6.06	6.10	6.03	M	5.87	5.51	5.65	5.83	5.88
23	5.70	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6.17
24	6.11	6.07	6.05	6.01	6.11	6.11	5.99	5.94	5.96	6.02	M	6.05	6.13	M	6.20	6.20	6.20	6.27	6.29	6.20	6.34	6.34	6.32	*-1.
25	6.41	6.44	6.48	6.42	6.38	6.39	6.46	M	6.48	6.44	6.53	6.58	6.59	M	6.47	6.47	M	6.49	6.48	6.47	6.54	6.68	6.57	6.55
26	6.57	6.55	6.66	6.61	6.31	6.30	6.42	M	6.42	6.53	6.59	6.47	6.59	6.56	6.52	6.63	M	6.69	6.63	6.70	6.67	6.67	6.63	6.58
27	6.36	6.55	6.36	6.42	6.55	M	6.49	6.45	6.46	6.52	M	6.52	6.62	6.47	6.38	6.52	M	6.49	6.57	M	6.46	6.10	6.05	6.32
28	6.47	6.41	6.42	6.37	6.38	M	6.41	6.44	M	6.45	M	6.40	6.32	6.42	6.56	6.41	6.45	6.41	6.39	M	6.38	6.42	6.36	6.36
29	6.39	6.26	6.29	6.27	6.31	M	6.07	6.28	M	6.31	6.28	6.21	6.30	6.26	M	6.18	6.11	6.06	6.06	M	5.85	5.88	M	5.76
30	5.91	5.94	5.84	M	5.72	5.88	5.84	5.80	M	5.81	5.82	M	5.58	5.50	5.46	5.29	5.31	M	5.32	5.34	5.37	5.61	M	5.66
31	5.61	5.61	5.31	M	5.37	5.47	5.41	5.55	M	5.49	5.54	5.23	5.49	5.37	5.54	5.61	5.63	M	5.58	5.76	5.76	5.59	5.57	5.44

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

JUNE 1977

Si XV (5.09Å) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.48	5.53	5.37	5.55	5.45	5.52	M	5.15	5.64	5.64	5.47	M	5.61	5.83	5.83	M	5.80	5.90	5.61	5.04	4.83	5.03	5.33	*-1.
2	5.44	5.59	5.32	5.54	5.56	5.48	M	5.21	5.10	M	5.58	M	5.08	5.24	5.15	5.05	5.21	M	5.21	5.04	5.11	4.94	4.79	*-1.
3	4.72	4.66	4.63	4.87	5.04	4.70	M	4.94	4.98	M	4.69	5.21	5.20	4.84	5.11	5.06	4.93	4.61	4.91	4.90	5.05	4.90	M	5.27
4	5.17	5.20	5.16	5.24	5.30	5.06	5.06	5.28	5.03	4.92	4.96	5.20	4.48	4.99	5.13	5.10	5.29	5.22	4.95	5.40	4.91	5.24	M	5.51
5	5.30	5.39	5.00	5.53	5.56	5.41	5.61	5.44	5.53	5.42	5.49	5.47	5.52	5.62	5.49	5.54	5.51	5.60	5.62	5.60	5.74	5.37	M	5.79
6	5.56	5.79	5.74	5.27	5.53	5.66	5.53	M	5.71	5.17	5.35	5.70	5.63	5.72	M	5.78	5.61	5.68	5.71	5.01	5.25	5.53	5.61	M
7	5.62	5.72	5.63	5.37	5.76	5.84	5.66	M	5.72	5.71	5.82	5.80	5.94	5.70	5.66	5.64	5.72	5.76	5.78	5.33	5.46	5.50	AI	5.22
8	5.41	5.51	5.51	5.55	5.57	5.57	5.65	5.61	5.57	5.74	5.81	5.51	5.69	5.73	5.70	5.56	5.58	5.74	5.83	5.72	5.73	5.69	5.78	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	5.82	5.93	5.92	5.90	5.72	5.75	5.90	5.87	5.68	5.54	5.84	5.88	5.99	5.83	5.77	5.93	5.86	5.37	5.90	5.94	5.82	5.84	5.70	5.33
11	5.58	5.82	5.95	5.95	5.92	5.97	5.76	5.87	5.92	5.86	5.94	5.93	5.95	5.96	5.91	5.92	5.99	5.72	5.94	5.95	5.57	5.70	5.73	A
12	5.98	6.02	5.96	5.85	5.92	5.88	5.50	5.82	5.72	5.44	6.08	6.06	5.93	6.10	6.09	5.82	6.12	6.14	6.12	6.17	6.21	6.36	6.39	*-1.
13	6.30	6.36	6.39	6.41	6.14	4.86	5.19	5.76	5.89	6.03	6.23	6.19	6.27	6.33	6.31	6.09	6.15	6.21	6.03	5.84	6.15	6.13	6.23	6.40
14	6.26	6.13	5.96	5.60	5.92	6.37	6.40	6.37	6.43	6.38	6.38	6.41	6.28	5.97	6.12	5.99	6.18	6.19	6.27	6.44	6.49	6.43	6.50	6.64
15	6.50	6.41	6.37	6.28	6.29	6.40	6.32	6.20	6.10	6.19	6.33	6.06	6.10	6.15	6.10	6.08	5.71	5.67	6.16	6.34	6.49	6.31	6.36	6.24
16	6.43	6.29	6.04	6.80	6.09	5.80	6.14	6.14	5.80	6.10	6.25	6.27	5.65	5.94	5.91	5.97	5.87	5.94	6.04	6.25	5.97	5.89	5.84	*-1.
17	6.11	6.00	6.19	6.30	6.23	5.68	5.76	5.73	5.96	5.93	5.85	M	6.07	6.16	6.14	6.14	6.01	6.12	6.07	6.24	6.18	6.06	M	5.54
18	5.88	5.99	6.04	6.02	6.12	5.92	5.76	5.96	5.97	5.96	5.83	M	6.10	6.04	6.02	6.00	5.84	5.99	5.94	6.05	5.94	M	M	M
19	6.07	5.84	5.98	5.86	5.87	5.93	6.01	6.08	M	6.08	M	5.54	6.12	5.92	5.74	6.01	5.98	5.85	M	5.98	5.63	5.84	M	M
20	5.47	5.41	5.36	5.51	5.66	5.88	6.03	5.90	5.90	5.96	5.75	5.83	5.91	5.73	5.75	5.82	5.95	6.01	6.05	5.92	6.13	5.82	6.00	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	5.50
22	5.51	5.71	5.76	5.64	5.65	5.70	5.64	5.39	5.41	5.25	M	5.36	5.59	5.57	5.39	4.76	4.69	5.09	M	5.27	5.24	5.11	5.30	M
23	M	5.22	M	M	5.37	5.53	5.44	5.50	5.37	5.48	5.23	4.76	M	M	5.27	M	M	5.44	M	M	5.37	5.25	5.09	4.94
24	*-1.	4.49	4.92	5.02	4.93	M	4.55	4.56	M	4.09	4.13	4.37	M	4.44	4.82	M	5.00	4.52	4.54	5.06	4.59	4.99	M	M
25	M	4.96	4.71	4.84	4.82	4.90	4.95	4.93	4.91	4.81	4.76	4.60	4.89	4.88	4.90	M	M	4.98	M	M	4.75	M	4.62	4.55
26	M	M	M	M	4.39	M	M	4.52	M	M	M	M	M	M	M	M	M	4.32	4.41	4.80	M	4.68	M	4.84
27	M	4.95	M	M	4.61	M	M	4.73	4.97	5.02	4.72	M	4.92	4.97	M	4.92	5.12	5.27	5.11	M	5.20	4.91	4.32	5.06
28	5.00	5.17	5.18	M	4.39	4.97	5.21	5.20	5.14	5.11	5.43	5.51	5.55	5.48	M	5.44	5.56	5.40	4.64	5.37	5.28	5.37	5.40	5.33
29	4.96	5.07	5.00	4.90	5.12	4.66	4.59	4.92	5.11	5.21	4.96	5.33	5.39	5.30	M	5.53	5.55	M	5.52	5.46	5.49	5.17	M	5.13
30	5.44	5.46	5.42	5.39	5.34	5.63	5.73	5.65	5.54	5.53	5.62	5.60	5.43	5.60	M	5.56	5.64	M	5.61	5.72	5.60	5.71	5.82	5.77

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA X-RAY EMISSION LINE FLUXES

JUNE 1977

Si XIII (5.68A) Hourly Averages (-Log (flux), ergs/cm²s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.68	5.91	5.77	6.04	5.80	5.87	M	5.51	6.60	6.29	5.91	M	6.02	6.23	6.36	M	6.23	7.46	6.01	5.41	5.25	5.39	5.67	*-1.
2	5.91	6.11	5.69	6.02	5.94	5.90	M	5.62	5.55	M	6.10	M	5.41	5.66	5.66	5.50	5.70	M	5.65	5.49	5.55	5.33	5.17	*-1.
3	5.17	5.10	5.04	5.27	5.47	5.11	M	5.33	5.36	M	5.04	5.52	5.59	5.25	5.53	5.46	5.34	4.97	5.26	5.21	5.36	5.22	M	5.61
4	5.56	5.64	5.52	5.62	5.81	5.40	5.37	5.72	5.33	5.28	5.29	5.63	4.91	5.36	5.54	5.47	5.69	5.54	5.31	5.74	5.61	5.56	M	5.88
5	5.66	5.78	5.32	5.86	5.91	5.80	6.04	5.71	5.83	5.87	5.81	5.79	5.84	6.01	5.82	5.82	5.83	5.90	5.93	5.92	6.09	5.65	M	6.29
6	5.86	6.26	6.18	5.63	5.85	5.97	5.85	M	6.37	5.56	5.72	6.04	5.88	6.21	M	6.08	5.95	6.04	6.09	5.31	5.62	5.94	5.97	M
7	5.98	6.01	5.95	5.66	6.00	6.20	5.99	M	6.02	6.06	6.17	6.21	6.45	6.11	6.09	6.28	6.18	6.08	6.16	5.66	5.81	5.90	6.06	5.61
8	5.79	5.95	5.79	5.90	5.94	5.88	6.09	5.89	5.95	6.05	6.26	5.80	6.07	6.08	6.02	5.91	5.87	6.06	6.23	6.11	6.06	6.85	6.06	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	6.28	6.25	6.25	6.34	6.09	6.05	6.31	6.17	6.14	5.97	6.24	6.21	6.32	6.37	6.19	6.38	6.28	5.68	6.25	6.35	6.27	6.14	6.07	5.61
11	5.91	6.22	6.34	6.35	6.39	6.39	5.90	6.21	6.37	6.18	6.29	6.32	6.30	6.25	6.19	6.27	6.57	6.00	6.36	6.20	5.88	6.01	6.14	A
12	6.11	6.37	6.36	6.26	6.24	6.23	6.00	6.25	6.07	5.85	6.46	6.44	6.27	6.59	6.42	6.17	6.47	6.54	6.45	6.63	6.63	6.97	7.15	*-1.
13	6.83	6.76	7.15	6.98	6.48	5.24	5.61	6.16	6.45	6.60	6.84	6.75	7.91	7.41	7.07	6.53	6.59	6.99	6.39	6.32	7.01	6.64	6.86	6.88
14	6.92	6.66	6.43	6.13	6.40	7.05	6.89	6.94	6.97	7.03	6.83	6.52	6.92	6.44	6.52	6.51	6.98	7.01	6.69	6.81	7.30	7.00	7.08	7.13
15	6.89	6.72	6.97	6.66	6.69	6.77	6.85	6.61	6.53	6.59	6.65	6.43	6.59	6.51	6.76	6.47	6.27	6.09	6.46	6.74	6.92	6.87	7.50	6.60
16	6.82	6.57	6.45	6.38	6.49	6.17	6.32	6.52	6.27	6.68	6.61	6.46	6.03	6.31	6.18	6.40	6.17	6.23	6.43	6.59	6.38	6.29	6.27	*-1.
17	6.42	6.40	6.48	6.74	6.35	5.94	6.07	6.15	6.24	6.29	6.08	M	M	7.53	6.47	6.63	6.26	6.65	6.64	6.57	6.18	6.41	M	5.77
18	6.21	6.31	6.33	6.42	6.21	6.24	6.14	6.24	6.12	6.31	6.21	M	6.46	6.18	6.66	6.87	6.05	6.27	6.27	6.41	M	M	M	M
19	7.70	M	5.91	5.70	5.75	6.10	6.03	5.76	M	5.89	M	5.10	7.02	6.25	5.96	6.81	6.24	6.29	M	6.25	5.94	6.28	M	M
20	5.83	5.67	5.73	5.82	6.02	6.11	6.41	6.12	6.17	6.26	6.01	6.13	6.24	6.02	5.98	6.15	6.30	6.19	6.35	6.27	6.43	6.10	6.30	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	5.83
22	5.87	6.10	6.09	6.18	6.05	6.06	6.05	5.77	5.68	5.56	M	5.69	6.00	6.09	5.82	5.07	5.00	5.47	M	5.66	5.70	5.58	5.74	M
23	M	5.67	M	M	5.79	5.91	5.82	5.95	5.71	5.87	5.54	5.17	M	M	5.76	M	M	5.83	M	M	5.80	5.68	5.51	5.38
24	*-1.	4.90	5.37	5.43	5.36	M	4.95	4.95	M	4.48	4.52	4.78	M	M	4.90	5.23	M	5.45	5.03	5.05	5.56	5.51	5.46	M
25	M	5.40	5.18	5.29	5.32	5.37	5.44	5.44	5.40	5.28	5.22	5.03	5.36	5.37	5.36	M	M	5.49	M	M	5.26	M	5.15	5.13
26	M	M	M	M	4.85	M	5.07	M	M	M	M	M	M	M	M	M	4.82	4.85	5.28	M	5.21	M	5.07	5.31
27	M	5.36	M	M	5.02	M	5.17	5.39	5.45	5.14	M	5.35	5.38	M	M	5.31	5.59	5.74	5.57	M	5.65	5.29	4.74	5.43
28	5.32	5.55	5.58	M	4.72	5.34	5.63	5.59	5.47	5.44	5.82	5.98	5.97	5.87	M	5.79	5.96	5.81	4.94	5.75	5.66	5.74	5.75	5.69
29	5.31	5.44	5.31	5.22	5.44	4.99	4.94	5.27	5.46	5.57	5.39	5.74	5.79	5.67	M	5.95	5.91	M	5.93	5.82	5.85	5.54	M	5.51
30	5.85	5.95	5.85	5.74	5.80	6.04	6.29	6.06	5.98	5.92	6.04	6.04	5.94	5.99	M	5.87	6.08	M	6.08	6.21	6.00	6.15	6.31	6.14

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

COLUMBIA OSO-8 GRAPHITE CRYSTAL SPECTROMETER DATA
X-RAY EMISSION LINE FLUXES

JUNE 1977

Si XII (5.82Å) Hourly Averages (-Log (flux), ergs/cm² s)

DAY/HR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.54	5.53	5.44	5.60	5.57	5.61	M	5.38	5.75	5.69	5.59	M	5.72	5.78	5.83	M	5.80	5.89	5.67	5.41	5.22	5.31	5.48	*-1.
2	5.55	5.61	5.54	5.64	5.63	5.60	M	5.49	5.37	M	5.58	M	5.45	5.48	5.39	5.44	5.41	M	5.44	5.31	5.37	5.24	5.13	*-1.
3	5.07	5.05	5.04	5.15	5.23	5.05	M	5.19	5.27	M	5.01	5.38	5.38	5.31	5.37	5.29	5.27	5.04	5.19	5.19	5.25	5.23	M	5.42
4	5.37	5.32	5.33	5.36	5.44	5.29	5.29	5.40	5.34	5.27	5.22	5.33	5.82	5.22	5.27	5.26	5.33	5.31	5.21	5.39	5.23	5.37	M	5.49
5	5.44	5.44	5.27	5.49	5.52	5.44	5.58	5.49	5.48	5.45	5.49	5.45	5.54	5.56	5.52	5.48	5.53	5.51	5.57	5.59	5.65	5.48	M	5.68
6	5.60	5.67	5.67	5.44	5.55	5.57	5.59	M	5.65	5.37	5.44	5.56	5.62	5.71	M	5.63	5.60	5.62	5.64	5.28	5.38	5.49	5.59	M
7	5.59	5.63	5.58	5.51	5.69	5.74	5.63	M	5.62	5.51	5.66	5.64	5.63	5.64	5.61	5.64	5.66	5.61	5.64	5.46	5.46	5.49	AQ	5.39
8	5.46	5.52	5.53	5.54	5.55	5.54	5.57	5.60	5.55	5.65	5.67	5.55	5.64	5.64	5.60	5.58	5.57	5.63	5.72	5.66	5.61	5.59	5.61	M
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10	5.77	5.78	5.80	5.75	5.70	5.72	5.77	5.74	5.70	5.63	5.72	5.79	5.78	5.73	5.74	5.74	5.79	5.55	5.77	5.82	5.78	5.82	5.76	5.49
11	5.62	5.71	5.79	5.83	5.80	5.82	5.78	5.77	5.82	5.78	5.85	5.85	5.82	5.82	5.81	5.80	5.86	5.73	5.90	5.80	5.69	5.73	5.74	A
12	5.78	5.84	5.86	5.82	5.82	5.80	5.64	5.83	5.80	5.62	5.94	5.90	5.87	5.96	5.95	5.88	6.02	6.04	6.03	6.01	6.06	6.22	6.15	*-1.
13	6.19	6.18	6.20	6.20	6.16	5.29	5.52	5.85	6.00	5.98	6.03	6.10	6.09	6.13	6.11	6.13	6.09	6.11	6.10	6.02	6.09	6.07	6.08	6.20
14	6.13	6.15	6.07	5.92	6.00	6.23	6.26	6.24	6.24	6.26	6.31	6.22	6.21	6.07	6.13	6.07	6.15	6.13	6.20	6.31	6.31	6.35	6.43	6.39
15	6.32	6.31	6.31	6.28	6.23	6.34	6.27	6.27	6.30	6.28	6.30	6.13	6.16	6.22	6.18	6.15	5.97	5.89	6.19	6.19	6.34	6.24	6.18	6.17
16	6.29	6.23	6.19	6.10	6.10	5.99	6.18	6.14	5.96	6.14	6.20	6.19	5.94	6.02	5.96	6.08	5.96	5.99	6.10	6.02	6.00	5.99	6.03	*-1.
17	6.01	5.99	6.09	6.14	6.06	5.79	5.91	5.82	5.92	5.87	5.82	M	5.94	6.11	5.99	5.94	6.09	6.17	6.13	5.91	5.95	M	5.90	M
18	5.87	5.84	6.02	6.00	5.91	5.88	5.82	5.97	5.86	5.89	5.95	M	6.03	5.99	5.70	5.87	5.71	6.03	5.68	5.67	5.84	M	M	M
19	5.92	5.70	5.56	5.10	5.05	5.25	5.60	M	7.84	M	5.54	5.45	5.64	5.64	5.74	5.87	5.86	5.76	M	5.87	5.69	5.76	M	M
20	5.58	5.61	5.48	5.62	5.74	5.83	5.93	5.95	5.85	5.89	5.79	5.80	5.75	5.82	5.84	5.82	5.88	5.92	5.95	5.84	6.00	5.91	5.92	M
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	5.60
22	5.57	5.68	5.70	5.63	5.63	5.64	5.65	5.51	5.57	5.42	M	5.45	5.59	5.58	5.50	5.15	5.08	5.26	M	5.43	5.43	5.40	5.44	M
23	M	5.41	M	M	5.49	5.54	5.48	5.51	5.47	5.50	5.48	5.24	M	M	5.40	M	M	5.53	M	M	5.47	5.49	5.39	5.26
24	*-1.	4.95	5.23	5.29	5.21	M	5.05	5.05	M	M	4.50	4.56	4.76	M	4.89	5.11	M	5.26	5.01	5.05	5.31	5.28	5.24	M
25	M	5.24	5.14	5.21	5.24	5.21	5.26	5.28	5.24	5.14	5.13	4.99	5.23	5.24	5.22	M	M	5.27	M	M	5.16	M	5.07	5.08
26	M	M	M	M	4.74	M	M	4.98	M	M	M	M	M	M	M	M	4.81	4.88	5.11	M	5.09	M	5.04	5.16
27	M	5.24	M	M	5.09	M	M	5.07	5.21	5.24	5.14	M	5.23	5.25	M	5.18	5.28	5.36	5.36	M	5.39	5.31	4.93	5.29
28	5.28	5.39	5.41	M	4.89	5.30	5.38	5.43	5.39	5.40	5.47	5.51	5.56	5.55	M	5.51	5.60	5.51	5.08	5.46	5.46	5.47	5.50	5.46
29	5.19	5.27	5.21	5.14	5.26	5.10	4.93	5.16	5.26	5.31	5.22	5.42	5.45	5.39	M	5.53	5.56	M	5.57	5.54	5.54	5.46	M	5.33
30	5.55	5.52	5.54	5.49	5.49	5.59	5.70	5.63	5.59	5.62	5.61	5.60	5.58	5.62	M	5.65	5.64	M	5.66	5.63	5.60	5.65	5.74	5.69

Note: "B" indicates the flux was below the cut-off levels.

"M" denotes periods of missing data.

Earlier data available from WDC-A for Solar-Terrestrial Physics cover the period July 1975 - August 1976.

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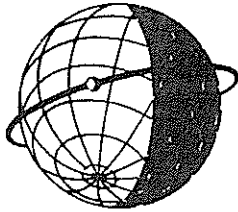
Prepared by World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado, U.S.A.

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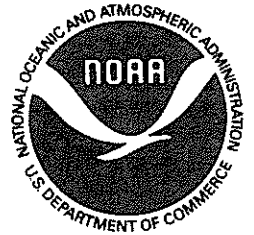
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