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Solar - Geophysical Data

NO. 392 APRIL 1977

Part II (Comprehensive Reports)

**DATA FOR
OCTOBER 1976
SEPTEMBER 1976
& MISCELLANEA**

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

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SOLAR - GEOPHYSICAL DATA

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No. 392

Issued in two parts

Helen E. Coffey, Editor

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

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Sudden Commencements and Solar Flare
Effects - January 1977

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ACTIVE REGIONS
CARRINGTON ROTATION 1646
(September 13 - October 10, 1976)

Region No.	Coordinates		Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1645	Activity at West Limb
	Lat.	Long.					
1	26°N	329°	0	1	x		disappeared
2	20 N	276	+2	1	x	1645(1)	dispersed
3	13 S	271	>6	1	x		dispersed
4	12 S	265	>6	2			decreasing
5	14 S	256	>6	1	x	1645(2)	dispersed
6	22 N	225	>6	1	x		decreasing
7	18 N	218	>6	1	x		dispersed
8	22 N	173	-4	1	x		stable
9	28 N	172	-1	1	x		decreasing
10	33 N	129	0	2			decreasing
11	18 N	126	>6	3		1645(6)	decreasing
12	28 S	125	>6	2			decreasing
13	26 N	112	>6	1	x	1645(6)	dispersed
14	1 N	86	-5	1	x		(?)
15	17 N	81	-4	1	x		decreasing
16	5 S	30	+5	1	x		disappeared
17	24 S	28	>6	1	x	1645(10)	dispersed
18	24 S	13	>6	1	x		decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1647

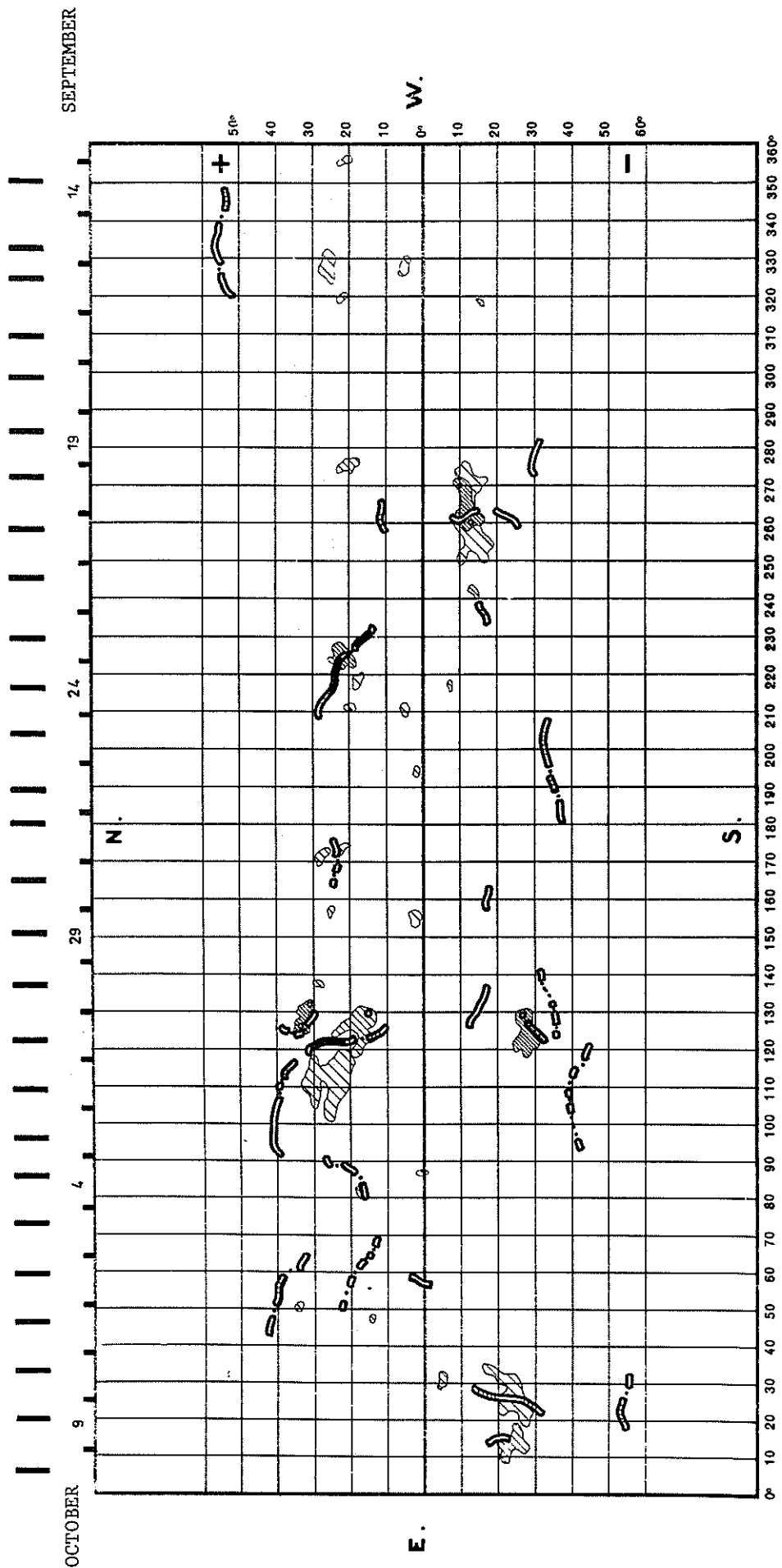
(October 10 - November 7, 1976)

Region No.	Coordinates		Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1646	Activity at West Limb
	Lat.	Long.					
1	26°N	309°	>6	1	x		decreasing
2	28 S	288	+4	4			decreasing
3	10 S	265	>6	2			
4	22 N	234	-3	1	x		disappeared
5	24 S	211	>6	1	x		decreasing
6	29 N	191	+2	4			decreasing
7	6 N	176	+6	1	x		disappeared
8	18 N	128	>6	1	x		dispersed
9	29 S	121	+5	2		(11)	decreasing

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Oct 76

SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1646
SEPTEMBER 13 TO OCTOBER 10, 1976

MEUDON OBSERVATORY

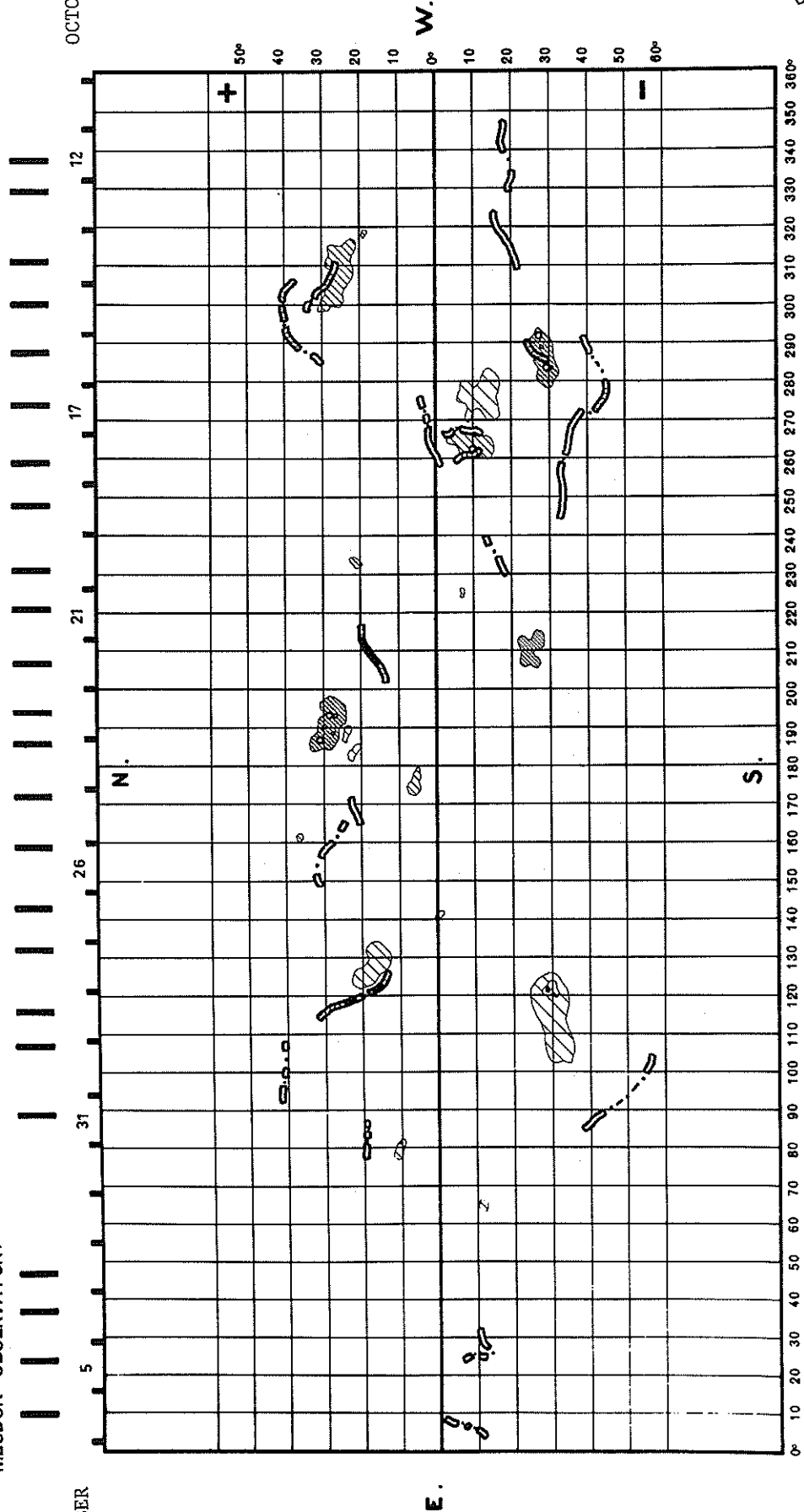


SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1647
OCTOBER 10 TO NOVEMBER 7, 1976

MEUDON OBSERVATORY

OCTOBER

NOVEMBER



8
Oct 76

H α SOLAR FLARES OCTOBER 1976

OBSERV- ATORY	OBSERVED UT				LOCATION				DURA- TION	IMPOR- TANCE	OBS.	MEASUREMENTS			REMARKS				
	DATE OCT	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCMATH FLARE REGION				CME DAY	MIN.	COND.		TYPE	TIME UT	MEAS. AREA Min. of Disk	CORR. AREA Sq. Deg.
					LAT.	MER. DIST.													
GRP63603 RANY MCHA	01	1945	2007	NO FLARE	PATROL														
	01	2125	2134	NO FLARE	PATROL														
	01	2205	2213	NO FLARE	PATROL														
	02	1945	2011	NO FLARE	PATROL														
	02	2108	2255	NO FLARE	PATROL														
	02	2330	2348	NO FLARE	PATROL														
	03	0100	0106	NO FLARE	PATROL														
	03	0112	0120	NO FLARE	PATROL														
	03	0153	0155	NO FLARE	PATROL														
	03	0200	0215	NO FLARE	PATROL														
	03	1945	2208	NO FLARE	PATROL														
	04	1944	2015	NO FLARE	PATROL														
	04	2115	2230	NO FLARE	PATROL														
	05	1346	1347	NO FLARE	PATROL														
604 KHAR	05	1709>9	1726+0	1733	N29	W59	.864	14454	1.3	24	-F								
	05	1709	1726	1734	N28	W58	.855	14454	1.4	25	-F	3	C	0000	30	.6	D DE D		
	05	1725	1726	1732	N30	W60	.873	14454	1.2	7	-N		C	1726	30	.6			
	05	1819	1851	NO FLARE	PATROL														
	05	1853	1919	NO FLARE	PATROL														
605 KHAR	05	1929	2051	NO FLARE	PATROL														
	05	2129	2213	NO FLARE	PATROL														
606 MCHA	06	0846E	0846	0913D	S24	E52	.858	14468	10.3	270	-F		C	0000			D Y5		
	06	1104	1104	1112D	S23	E51	.847	14468	10.3	80	-F		C	0000			D Y5		
	06	1632	1653	NO FLARE	PATROL														
	06	1708	2023	NO FLARE	PATROL														
	06	2207	2225	NO FLARE	PATROL														
	07	1621	2012	NO FLARE	PATROL														
	07	2200	2206	NO FLARE	PATROL														
	08	1542	2250	NO FLARE	PATROL														
	09	0154	0206	NO FLARE	PATROL														
	09	0215	0234	NO FLARE	PATROL														
	09	0238	0249	NO FLARE	PATROL														
	09	1621	2014	NO FLARE	PATROL														
	09	2147	2203	NO FLARE	PATROL														
	09	2336	2340	NO FLARE	PATROL														
	10	0108	0221	NO FLARE	PATROL														
	10	1610	1920	NO FLARE	PATROL														
	10	1941	2220	NO FLARE	PATROL														
	11	1507	1509	NO FLARE	PATROL														
	11	1521	1616	NO FLARE	PATROL														
	11	1618	1633	NO FLARE	PATROL														
	11	1728	1740	NO FLARE	PATROL														
	11	1800	1820	NO FLARE	PATROL														
	11	1847	1925	NO FLARE	PATROL														
	11	1943	2033	NO FLARE	PATROL														
	11	2142	2155	NO FLARE	PATROL														
	12	1340	1353	NO FLARE	PATROL														
	12	1520	1527	NO FLARE	PATROL														
	12	1557	1608	NO FLARE	PATROL														
	12	1817	1821	NO FLARE	PATROL														
12	1850	1901	NO FLARE	PATROL															
12	1938	2253	NO FLARE	PATROL															
607 CATA	13	1611	1612	1616	S08	E65	.916	14476	18.5	5	-F		C	1612	25	.6	DL Y5		
	13	1655	1707	NO FLARE	PATROL														
	13	1719	1728	NO FLARE	PATROL														
	13	1732	1855	NO FLARE	PATROL														
	13	1857	2032	NO FLARE	PATROL														
	13	2217	2302	NO FLARE	PATROL														
	13	2340	0025	NO FLARE	PATROL														
608 MCHA	14	0125	0500	NO FLARE	PATROL														
	14	0910	0910	0920	S10	E53	.821	14476	18.4	10	-N	2	C	0910	56	1.0	Y5		
	14	0923	0928	NO FLARE	PATROL														
609 MCHA	14	1225	1249	NO FLARE	PATROL														
	14	1424	1427	1431	S07	E50	.783	14476	18.4	7	-N		C	1427	25	.4	D Y5		
	14	1802	1837	NO FLARE	PATROL														
610 MCHA	14	1902	1918	NO FLARE	PATROL														
	14	1902	1918	NO FLARE	PATROL														

Note: Although these flare listings give all reported events, not all possible brightenings are reported. Thresholds of reporting vary from observatory to observatory.

OBSERV- ATORY	OBSERVED UT				LOCATION					DURA- TION	IMPOR- TANCE	OBS	MEASUREMENTS				REMARKS	
	DATE	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MCNATH PLAGE REGION	CNR DAY				COND	TYPE	TIME UT	MEAS. AREA		CORR AREA
					LAT.	MER. DIST.												
609 HCHA	1976 OCT	14	1921	2230	NO FLARE PATROL													
	15	1846	1858	1914	S09	E33	.589	14476	18.3	28	-N	C	1858	120	1.5	EKL	Y5	
	15	1924	2031	NO FLARE PATROL														
	15	2210	2221	NO FLARE PATROL														
610 KIEV	16	0220	0225	NO FLARE PATROL														
	16	1120E	1131	11450	S29	E06	.578	14475	15.9	17D	-F	C	1131	150	1.9	DI	Y5	
	16	1543	1638	NO FLARE PATROL														
	16	1641	0112	NO FLARE PATROL														
GRP63611 PALE PALE	17	0139	0242	NO FLARE PATROL														
	17	0347	0358	NO FLARE PATROL														
	17	0518	0520	NO FLARE PATROL														
	17	0531	0548	NO FLARE PATROL														
	17	1116	1147	NO FLARE PATROL														
	17	1649	1657	NO FLARE PATROL														
	17	1702	1716	NO FLARE PATROL														
	17	1729	2003	NO FLARE PATROL														
	17	2036	2116	NO FLARE PATROL														
	17	2134	2255	NO FLARE PATROL														
	18	0215	0221	NO FLARE PATROL														
	18	0226	0235	NO FLARE PATROL														
	18	0248	0254	NO FLARE PATROL														
	18	1701	1718	NO FLARE PATROL														
	18	1724	1739	NO FLARE PATROL														
	18	2157	2330	NO FLARE PATROL														
	19	0010	0034	NO FLARE PATROL														
	19	0038	0113	NO FLARE PATROL														
	19	0118	0228	NO FLARE PATROL														
	19	0244	0257	NO FLARE PATROL														
19	0300	0304	NO FLARE PATROL															
19	0347	0356	NO FLARE PATROL															
19	1608	1704	NO FLARE PATROL															
612 PALE	19	1701E	1710	1736	S28	W42	.794	14475	16.6	35	-N						FU	
	19	1701E	1710	1736	S28	W42	.794	14475	16.6	35D	-N	2	C	0000	120		U F	
	19	1701E	1710	1736	S28	W42	.794	14475	16.6	35D	-N	2	C	0000	120		U F	
	19	1727	2350	NO FLARE PATROL														
613 MONT	19	1741	1745	1752	S29	W42	.800	14475	16.6	11	-B	3	C	0000	80		DE	
	20	0016	0036	NO FLARE PATROL														
	20	0118	0125	NO FLARE PATROL														
	20	0248	0435	NO FLARE PATROL														
	20	1705	1722	NO FLARE PATROL														
	20	1948	1955	NO FLARE PATROL														
	20	2035	2045	NO FLARE PATROL														
	20	2123	2348	NO FLARE PATROL														
	20	2353	0130	NO FLARE PATROL														
	21	0135	0155	NO FLARE PATROL														
	21	0212	0220	NO FLARE PATROL														
	21	0650	0700	NO FLARE PATROL														
	21	1057	1101	NO FLARE PATROL														
	21	1604	1631	NO FLARE PATROL														
	21	1713	1736	NO FLARE PATROL														
	21	1746	1803	NO FLARE PATROL														
	21	1833	2215	NO FLARE PATROL														
	615 PALE	22	0903	0906	0911	S17	W90	1.000		15.6	8	-F	C	0906	20			Y5
		22	0942+1	0944+2	0951	N19	E81	.984	14497	28.5	9	-F			38			OG
		22	0942	0944	0949	N20	E80	.981	14497	28.4	7	-F	C	0944	20			
22		0943	0946	0952	N18	E82	.987	14497	28.6	9	-F	C	0946	40			OG	
615 PALE	22	1627	1905	NO FLARE PATROL														
	22	1902	1907U	2003	N29	E12	.442	14494	23.7	51	-F	2	C	0000	64		Y5	
	22	1915	1922	NO FLARE PATROL														
	22	2009	2015	NO FLARE PATROL														
	22	2119	2210	NO FLARE PATROL														
	22	2249	2250	NO FLARE PATROL														
	22	2255	2314	NO FLARE PATROL														

H α SOLAR FLARES

[illegible]

H α SOLAR FLARES

OCTOBER 1976

OBSERV- ATORY	OBSERVED UT				LOCATION					DURA- TION	IMPORT- ANCE	OBS		MEASUREMENTS			REMARKS
	DATE OCT	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE	MC/MATH PLAGE REGION	CMP. DAY			COND	TYPE	TIME UT	MEAS. AREA	CORR AREA	
					LAT.	MER. DIST.											
	30	1105	1121	NO FLARE	PATROL												
	30	1241	1247	NO FLARE	PATROL												
	30	1321	1324	NO FLARE	PATROL												
	30	1415	1432	NO FLARE	PATROL												
	30	1522	1639	NO FLARE	PATROL												
	30	1719	1735	NO FLARE	PATROL												
	30	1941	2000	NO FLARE	PATROL												
	30	2003	2031	NO FLARE	PATROL												
	30	2041	2117	NO FLARE	PATROL												
	30	2137	2215	NO FLARE	PATROL												
	30	2249	0120	NO FLARE	PATROL												
	31	0238	0243	NO FLARE	PATROL												
	31	0615	0656	NO FLARE	PATROL												
	31	0704	0715	NO FLARE	PATROL												
	31	0725	0730	NO FLARE	PATROL												
	31	0732	0850	NO FLARE	PATROL												
	31	0900	0920	NO FLARE	PATROL												
	31	0925	1010	NO FLARE	PATROL												
	31	1025	1035	NO FLARE	PATROL												
	31	1040	1121	NO FLARE	PATROL												
	31	1200	1207	NO FLARE	PATROL												
	31	1231	1245	NO FLARE	PATROL												
	31	1406	1531	NO FLARE	PATROL												
	31	1535	1610	NO FLARE	PATROL												
	31	1723	1916	NO FLARE	PATROL												
	31	1945	1948	NO FLARE	PATROL												

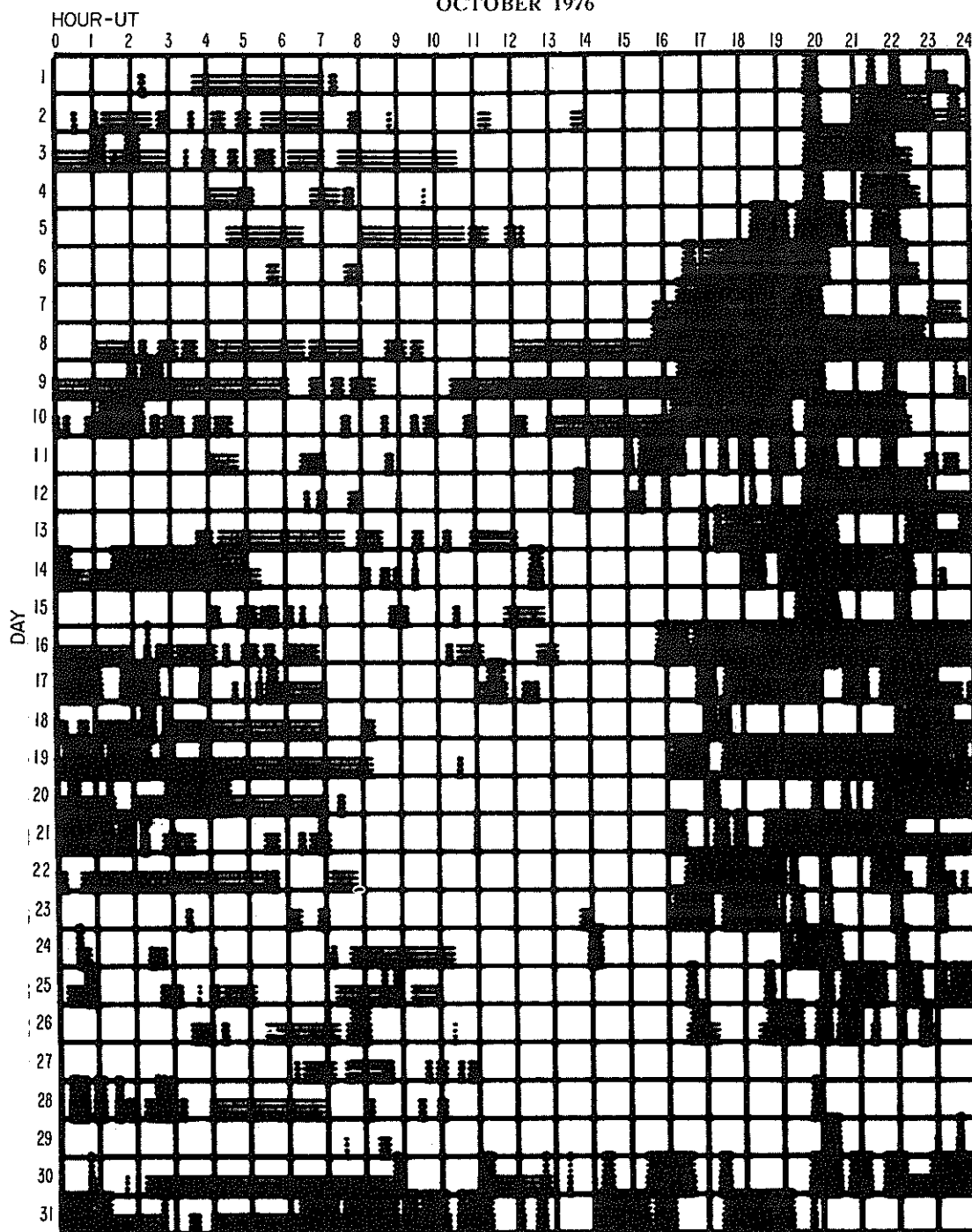
"Remarks":

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.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1976



Observatories included in total patrol:

Athenes	Herstmonceux	Kiev	McMath-Hulbert	Tachkent
Bucharest	Huancayo	Kodaikanal	Mitaka	Tehran
Catania	Hurbanovo	Locarno	Monte Mario	Upice
Culgoora	Istanbul	Lvov	Palehua	Voroshilov
Haute Provence	Kharkov	Manila	Ramey	Wendelstein
				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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Oct 76

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES OCTOBER 1976

OCT 1976	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	200 HIRA	45 C	0423.5	0424.6	2.5	970	150		
	100 HIRA	45 C	0424.5	0425.1	1.5	1200	500		
	1000 TYKH	5 S	0424.7	0424.9	1	0.9	0.3		
	2000 TYKH	5 S	0424.8	0425.2	1.2	1.8	0.6		
	3750 TYKH	5 S	0424.8	0425.1	0.7	1	0.30		
	500 HIRA	5 S	0424.8	0425	1	5	1		
	3100 CRIM	24 R	0732			6			
	100 HIRA	45 C	0802 U	0802.5	1 U	190	50		
	237 TRST	41 F	1151.2	1151.8	1.4	48	11 R		
	260 ONDR	42 SER	1151	1155.3	9	13	2.2		
	536 ONDR	2 S/F	1439.4	1439.4	0.6	8			
	536 ONDR	8 S	1444.4	1444.4	0.3	48			
	18 MCHA	6 S	1525	1526	2			1	
	2695 BOUL	1 S	1536.5	1537.5	1	4	1		
2	200 HIRA	44 NS	2035 E	0206	710 D	33	3		
	207 VORO	44 NS	2200	0230	360	11			
3	127 TORN	44 NS	0620 E	1256.7	520 D	60			
	260 ONDR	44 NS	0730 E		448 D	28			
	245 SGHR	44 NS	1047 E	1234.1	690 D	28			
	207 VORO	44 NS	2200	2220	360	12			
	127 TORN	5 S	1309.8	1310.1	1.2	120	40		
	18 MCHA	6 S	1430	1432	3				
	18 MCHA	41 F	1943	1945	5			1	
								1	
4	9240 ARCE	1 S	0807.2	0808.2	1.4				
	127 TORN	40 F	0900 U	0938	70 U	2.5			
	260 ONDR	43 NS	0915		349	11			
	9240 ARCE	3 S	1100.7	1100.9	0.5				
	29 UPIC	4 S/F	1107.4	1107.9	0.8				
	33 UPIC	4 S/F	1107.5	1107.6	0.6				
	29 UPIC	8 S	1109.6	1109.7	0.2				
	33 UPIC	8 S	1109.7	1109.7	0.1				
5	3100 CRIM	24 R	0928	0934		3.5			
	9240 ARCE	20 GRF	1134.7	1309	150				
	18 MCHA	6 S	1321	1323	2				
	2800 OTTA	240 R	1335	1445	70	1.2	0.6		
	2800 OTTA	24P R	1445		550 D	1.2			
	536 ONDR	8 S	1456.4	1456.4	0.3	31			
	18 MCHA	6 S	1749	1751	2			1	
6	4995 BOUL	45 C	2017.5	2019	2.5	46	18		
	2695 BOUL	45 C	2018.5	2019.5	1.5	22	7		
7	3100 CRIM	27 RP	0950	0955	39	2	1		
	29 UPIC	45 C	1145.2	1146	1.3				
	33 UPIC	45 C	1145.3	1145.7	0.7				
	4995 BOUL	20 GRF	1547	1552	20.5	10	3		
	2695 BOUL	20 GRF	1555.5	1601	12	4	1		
	2695 PENT	240 R	2105	2300	115	2.4	1.2		
	2695 PENT	24P R	2300		65 D	2.4			
8	9240 ARCE	1 S	1013.3	1013.5	0.5				
	9240 ARCE	1 S	1027.4	1027.7	0.8				
	536 ONDR	8 S	1354.2	1354.2	0.3	63			
	536 ONDR	8 S	1452.3	1452.3	0.3	50			
9	2695 BOUL	2 SF	1636.5	1637.5	2	2	1		
	1420 BOUL	2 SF	1839.5	1840	2	2	1		
10	536 ONDR	8 S	1435	1435	0.3	52			
	536 ONDR	8 S	1440.8	1440.8	0.3	28			
11	9240 ARCE	3 S	0803.9	0804.2	1				
	18 MCHA	6 S	1539	1541	2				
12	33 UPIC	45 C	1209.8	1210.1	1.7				
	29 UPIC	45 C	1209.9	1210.3	1.6				
13	9240 ARCE	2 S/F	0902.6	0903.6	1.5				
	260 ONDR	4 S/F	0926.3	0927.2	1.5	8	1.4		
	9240 ARCE	40 F	1039.8	1043.6	7.5				
	536 ONDR	8 S	1219.1	1219.1	0.3	74			
	260 ONDR	4 S/F	1230.6	1230.6	1	32	4.2		
	18 MCHA	6 S	1636	1640	4				
14	18 MCHA	41 F	1330	1346	24				
	18 MCHA	42 SER	1450	1502	20				
	18 MCHA	6 S	1529	1531	2				
	18 MCHA	6 S	1537	1538	2				
	18 MCHA	6 S	1550	1552	2				
	18 MCHA	6 S	1555	1557	3				

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Oct 76

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

OCTOBER 1976

OCT 1976	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10 ⁻²² Wm ⁻² Hz ⁻¹		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	18 MCMA	6 S	1636	1638	3			1	
	18 MCMA	42 SER	1820	1830	29			2	
	18 MCMA	41 F	2116	2118	3			1	
	18 MCMA	6 S	2136	2138	2			1	
15	9240 ARCE	1 S	0953.8	0954.2	1.2				
	2800 OTTA	26 FAL	1410	1500	50	-0.8	-0.4		
	2800 OTTA	240 R	1805	1900	55	2.2	1.1		
	2800 OTTA	24P R	1900		120 D	2.2			
	18 MCMA	41 F	1850	1853	9			1	
	1420 BOUL	2 SF	2236.6	2243	9.5	2	1		
	2695 BOUL	1 S	2244	2245	1.5	2	1		
16	18 MCMA	6 S	1808	1809	2			1	
17	2000 TYKW	5 S	0056.3	0056.5	0.5	11	3		
	1000 TYKW	5 S	0056.3	0056.5	0.5	29	7		
	3750 TYKW	5 S	0056.4	0056.5	0.2	5	2		
	1000 TYKW	42 SER	0103	0104.2	3	18	0.9		
	3750 TYKW	5 S	0104.1	0104.3	0.5	1.5	0.4U		
	2000 TYKW	42 SER	0104	0104.3	2	1.7	0.5		
	18 MCMA	6 S	1523	1525	2			1	
	18 MCMA	6 S	1529	1531	3			1	
	18 MCMA	42 SER	1845	2046	121			2	
18	930 BORD	46 C	1000.7	1001	0.7	9	2		
	930 BORD	46 G	1019.2	1019.3	0.5	10	2		
	18 MCMA	6 S	1536	1538	2			1	
	18 MCMA	6 S	2142	2144	2			1	
19	2800 OTTA	20 GRF	1335	1345	40	2.4	0.8		
	2800 OTTA	27A RF	1455		255	0.8	0.6		
	2800 OTTA	24 R	1455	1545	50	0.8	0.4		
	2800 OTTA	24P R	1545		155	0.8			
	2800 OTTA	21 GRF	1647	1705	80	3	1.3		
	2695 SGMR	22 GRF	1656.8	1659.4	10.7	11	6.6		SWF
	4995 SGMR	22 GRF	1657.4	1659.4	10	7.7	4.6		SWF
	1420 BOUL	1 S	1657.5	1700	3.5	2	1		
	8800 SGMR	2 S/F	1657.9	1658.8	9.6	2.6	.8		SWF
	2695 PENT	2 S/F	1657	1659.5	5.5	9.6	3		
	2695 BOUL	23 GRF	1657	1700	17.5	12	3		
	4995 SGMR	2 S/F	1742	1742.6	7.4	3.7	1.1		
	2800 OTTA	2 S/F	1742.4	1742.9	1	5.2	2.6		
	2695 SGMR	4 S/F	1742.5	1742.8	6	11.2	3.3		
	2800 OTTA	26 FAL	1820	1910	50	-0.8	-0.4		
20	9240 ARCE	45 C	0825.9	0827.3	4.2				
	9240 ARCE	2 S/F	0839.2	0839.6	1.2				
	9240 ARCE	1 S	0853.6	0854.2	1.4				
	2800 OTTA	20 GRF	1940	2210	200 D	1.4			
21	9100 GORK	20 GRF	0605	0606	16	8.5	4.2		
	9240 ARCE	2 S/F	1057.9	1058	1.2				
	9240 ARCE	8 S	1114.8	1114.9	0.6				
23	3100 CRIM	26 FAL	1118	1123		2			
	260 ONDR	2 S/F	1245.5	1245.6	1.6	5			
24	2800 OTTA	21 GRF	1610	1619	50	1.6	0.8		
	2800 OTTA	8 S	1616	1616.5	0.7	1	0.5		
	18 MCMA	6 S	1823	1824	2			1	
	2800 OTTA	20 GRF	1845	1904	40	1	0.5		
25	200 GORK	44 NS	0524 E		336 D		9		
	100 GORK	43 NS	0617		223		5		
	127 TORN	44 NS	0650 E	0907.5	400 D	60			
	260 ONDR	44 NS	0804		381 D	5			
	9240 ARCE	22 GRF	0912.6	0919.6	66				
	127 TORN	45 C	0958.3	0958.8	2.7	85	30		
	2800 OTTA	21 GRF	1300	1306	20 D	1.2			
	2800 OTTA	1 S	1301	1302.6	3	1.4	0.7		
	2800 OTTA	21 GRF	1340	1346	20	2.2	1		
	2800 OTTA	1 S	1343.7	1344	1.5	2.2	1.7		
	18 MCMA	42 SER	1414	1416	3			1	
	200 HIRA	44 NS	2105 E	0535	640 D	33	12		
	207 VORO	44 NS	2200	0000	240	17			
26	100 GORK	44 NS	0500 E		480		5		
	200 GORK	43 NS	0500 E		480		5		
	127 TORN	44 NS	0650 E	1358.2	470 D	14			
	260 ONDR	44 NS	0742		413 D	9			
	240 DWIN	44 NS	0851 E		112 D		2		
	169 DWIN	44 NS	0851 E		112 D		8		
	160 DWIN	44 NS	0851 E		112 D		5		
	3100 CRIM	26 FAL	0740	1000		3			

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SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES OCTOBER 1976

OCT 1976	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	9240 ARCE	40 F	1010.6	1011.8	5			1	
	234 POTS	40 F	1157	1157	1.5	350	10		
	9240 ARCE	1 S	1219.8	1220.1	0.6				
	2800 OTTA	23 GRF	1240	1310	210	2	1		
	260 ONDR	8 S	1256.3	1256.3	0.3	226			
	237 TRST	41 F	1256.9	1257.2	0.5	1600	3 R		
	260 ONDR	8 S	1257.4	1257.4	0.3	94			
	237 TRST	41 F	1258.3	1258.5	0.4	440	6 R		
	9240 ARCE	40 F	1352.8	1402.8	18				
	18 MCMA	42 SER	1405	1406	2				
	2800 OTTA	8 S	1411.7	1411.8	0.6	1	0.5		
	2800 OTTA	22 GRF	1620	1757	190	2	1		
	207 VORO	44 NS	2200	2317	240	11			
	260 ONOR	43 NS	0840		190	6			
	160 DWIN	44 NS	0943 E		295 D		3		
	169 DWIN	44 NS	0943 E		295 D		3		
	9240 ARCE	22 GRF	1451.1	1455.2	7.3				
	2800 OTTA	20 GRF	1925	2000	120	1.6	0.8		
28	207 VORO	7 C	0133	0133	1	196		1	
	100 HIRA	45 C	0140.6	0140.8	1	500	130		
	207 VORO	46 C	0140	0141	2	245			
	1400 SYDN	20 GRF	0509.7	0517.3	15.9				
	1000 TYKW	45 C	0509	0517.7	16	28	6		
	1000 TYKW	29 PBI	0525		95	1.3	0.6		
	2000 TYKW	5 S	0509	0517.7	18	13	7		
	2000 TYKW	29 PBI	0527		95	4	2		
	3750 TYKW	5 S	0512	0517.5	15	9	5		
	3750 TYKW	29 PBI	0527		80	5	2		
	700 SYDN	45 C	0513.3	0517.8	12.3				
	606 MANI	40	0514.3	0518.8	8.2	29.5	12.6		
	1415 MANI	1	0515.8	0518.2	6	7	3.5		
	2695 MANI	1	0516.2	0519.2	5.6	5.8	2.3		
	160 DWIN	44 NS	0743 E		414 D		1		
	169 DWIN	44 NS	0743 E		414 D		2		
	160 DWIN	45 C	0750	0751	2	100	10		
	240 DWIN	45 C	0750	0751	2	8	3		
	169 DWIN	45 C	0750	0751	2	100	10		
	169 DWIN	45 C	0755	0755.5	1	50	5		
	160 DWIN	45 C	0755	0755.5	1	60	5		
	240 DWIN	45 C	0755	0755.5	1	30	5		
	160 DWIN	45 C	0810		3	70	5		
	169 DWIN	45 C	0810	0811	3	70	10		
	160 DWIN	45 C	0824	0825	2	100	5		
	240 DWIN	45 C	0824	0825	2	40	5		
	169 DWIN	45 C	0824	0825	2	100	5		
	260 ONDR	8 S	0825	0825	0.3	21			
	33 UPIC	4 S/F	0916.3	0916.7	1.1				
	29 UPIC	4 S/F	0916.5	0917.1	1.1				
	169 DWIN	45 C	0916	0916.5	1	220	10		
	160 DWIN	45 C	0916	0916.5	1	200	15		
	260 ONDR	42 SER	0937	0948.3	13	29	1		
	237 TRST	42 SER	0941	0949	9	50	46 R		
	240 DWIN	45 C	0943	0944	2	35	5		
	169 DWIN	45 C	0943	0944	2	250	30		
	160 DWIN	45 C	0943	0944	2	300 D	25		
	29 UPIC	4 S/F	0944.4	0944.9	1.2				
	33 UPIC	4 S/F	0944.7	0945	0.8				
	160 DWIN	45 C	0948	0949	2	280	50		
	240 DWIN	45 C	0948	0949	2	60	10		
	169 DWIN	45 C	0948	0949	2	300	50		
	169 DWIN	45 C	0955	0957	6	150	10		
	160 DWIN	45 C	0955	0957	6	200	10		
	169 DWIN	45 C	1106	1106.5	1	250	5		
	160 DWIN	45 C	1106	1106.5	1	150	5		
	169 DWIN	45 C	1137.5	1138	1	70	5		
	160 DWIN	45 C	1137.5	1138	1	150	5		
	2800 OTTA	26A FAL	1410	1510	60	-1	-0.5		
	2800 OTTA	1 S	1454.5	1455	1.5	1.4	0.7		
	18 MCMA	42 SER	1621	1628	8				
	18 MCMA	6 S	1639	1642	5				
	2800 OTTA	1 S	1915	1916	10	0.8	0.4		
	200 HIRA	45 C	2135.5	2136.2	1	620	50		
	100 HIRA	45 C	2135.8	2136.2	1	1130	180		
	207 VORO	42 SER	2329	2330	13	38			
	207 VORO		2329	2337		233			
	200 HIRA	45 C	2336	2337	2	570	80		
	100 HIRA	45 C	2336.8	2337	0.6	1150	190		
29	207 VORO	42 SER	0135	0136	25	31		2	
	207 VORO		0135	0141		34			
	207 VORO		0135	0148		61			
	207 VORO		0135	0150		171			
	207 VORO		0135	0158		36			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1976

OCT 1976	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		
30	100 HIRA	45 C	0140.8	0141	1	1080	110		
	700 SYDN	45 C	0148	0148.4	0.6				
	700 SYDN	2 S	0150	0150.4	1				
	100 HIRA	45 C	0240	0240.8	1.5	1180	280		
	200 HIRA	45 C	0240	0240.5	1	660	100		
	200 HIRA	45 C	0308	0308.7	1	85	20		
	100 HIRA	45 C	0347.8	0348	1.5	610	120		
	700 SYDN	45 C	0411.2	0411.7	2.1				
	700 SYDN	45 C	0414.3	0415.6	2.3				
	240 DWIN	45 C	0810	0810	3	40	5		
	169 DWIN	45 C	0810	0812	3	100	5		
	160 DWIN	45 C	0810	0812	3	60	5		
	260 ONDR	42 SER	0811	0820.5	10	10			
	160 DWIN	45 C	0924	0924.5	1	190	5		
	240 DWIN	45 C	0924	0924.5	1	15	2		
	169 DWIN	45 C	0924	0924.5	1	200	5		
	33 UPIC	2 S/F	1025.2	1025.5	0.5				
	29 UPIC	2 S/F	1025.5	1025.7	0.4				
	33 UPIC	2 S/F	1028.1	1028.4	0.7				
	29 UPIC	8 S	1028.3	1028.6	0.5				
	260 ONDR	42 SER	1034	1140.5	139	37			
	29 UPIC	2 S/F	1156.1	1156.3	0.5				
	33 UPIC	2 S/F	1156.2	1156.4	0.4				
	29 UPIC	2 S/F	1211.2	1211.4	0.7				
	33 UPIC	2 S/F	1211	1211.1	0.6				
	2800 OTTA	1 S	1740	1743	10	0.6	0.3		
	2800 OTTA	240AR	1912	2000	48	2	1		
	2800 OTTA	1 S	1915.2	1916	3	1.6	0.8		
	2800 OTTA	24P R	2000		180 D	2			
	1420 BOUL	8 S	2203.5	2204.5	2.5	10	3		
	200 HIRA	45 C	2203.8	2204.2	1.5	250	90		
	500 HIRA	45 C	2203.8	2205.2	1.7	115	25		
	100 HIRA	45 C	2203.9	2204.2	2.3	1180	500		
	606 MANI	8	2204.6	2205.3	1.9	121	39.1		
	2695 PENT	2 S/F	2204	2204.8	1	1.8	1		
	2695 BOUL	8 S	2205	2206	2	4	1		
	207 VORO	44 NS	2300	0146	180	11			
	3750 TYKW	5 S	0319	0323	10	1.5	0.50		
	2000 TYKW	5 S	0321	0323.2	3	2.3	0.8		
	2000 TYKW	29 PBI	0324		7	0.6	0.3		
	1000 TYKW	45 C	0322	0323.3	3	7	1.5		
	9400 TYKW	45 C	0528.5	0529.3	2	31	9		
	29 UPIC	45 C	0711.7	0714.6	3.6				
	33 UPIC	45 C	0711.8	0712.4	3.5				
	29 UPIC	2 S/F	1110.3	1110.6	0.8				
	33 UPIC	8 S	1110.7	1110.8	0.4				
	33 UPIC	2 S/F	1125.2	1125.6	0.8				
	29 UPIC	2 S/F	1125.5	1125.6	0.6				
	33 UPIC	45 C	1155.5	1156.5	2.4				
	29 UPIC	45 C	1155.6	1156.7	2.3				
	29 UPIC	45 C	1236.1	1240.1	5.8				
	33 UPIC	45 C	1236.2	1240	6.2				
	29 UPIC	2 S/F	1255.2	1255.6	0.5				
	33 UPIC	2 S/F	1255.2	1255.6	0.6				
	18 MCMA	6 S	1545	1548	4			1	
	18 MCMA	6 S	1654	1655	2			1	
	18 MCMA	6 S	1700	1703	4			1	

Reports received from the following observatories:

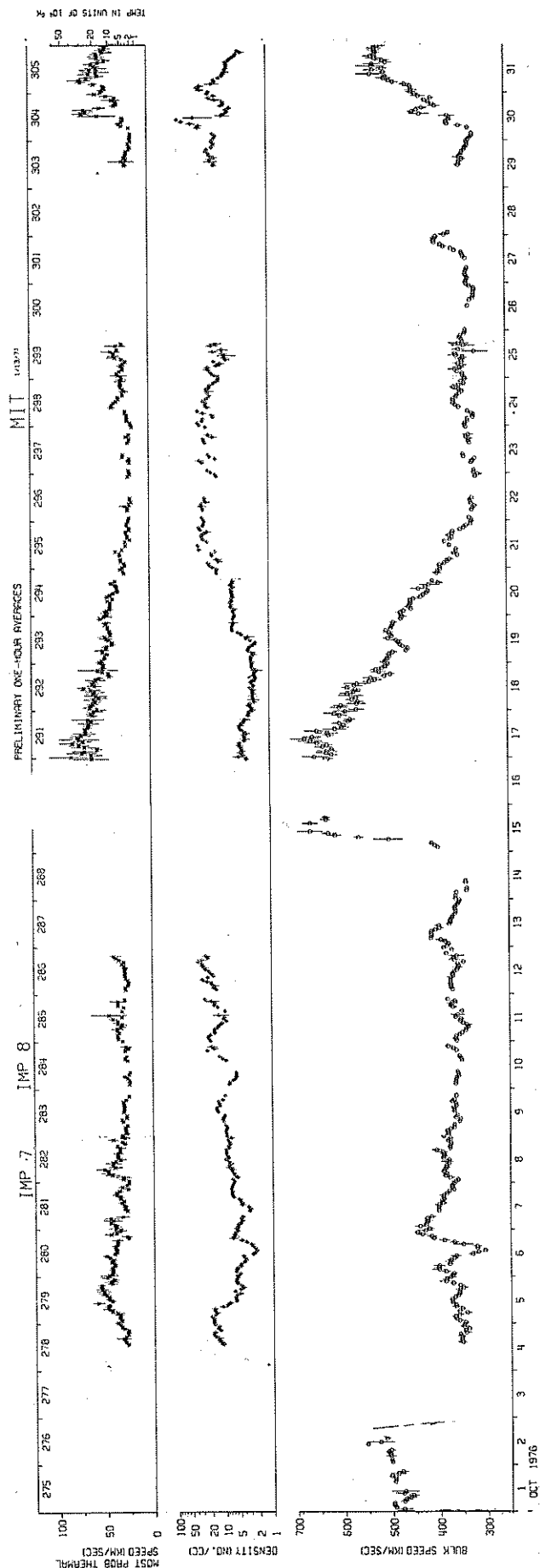
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CRIM = SimferopolDWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraio
HUAN = Huancayo
IRKU = IrkutskKIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
ONDR = OndrejovOTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore HillSYDN = Sydney
TORI = Torun
TYKW = Toyokawa
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 +

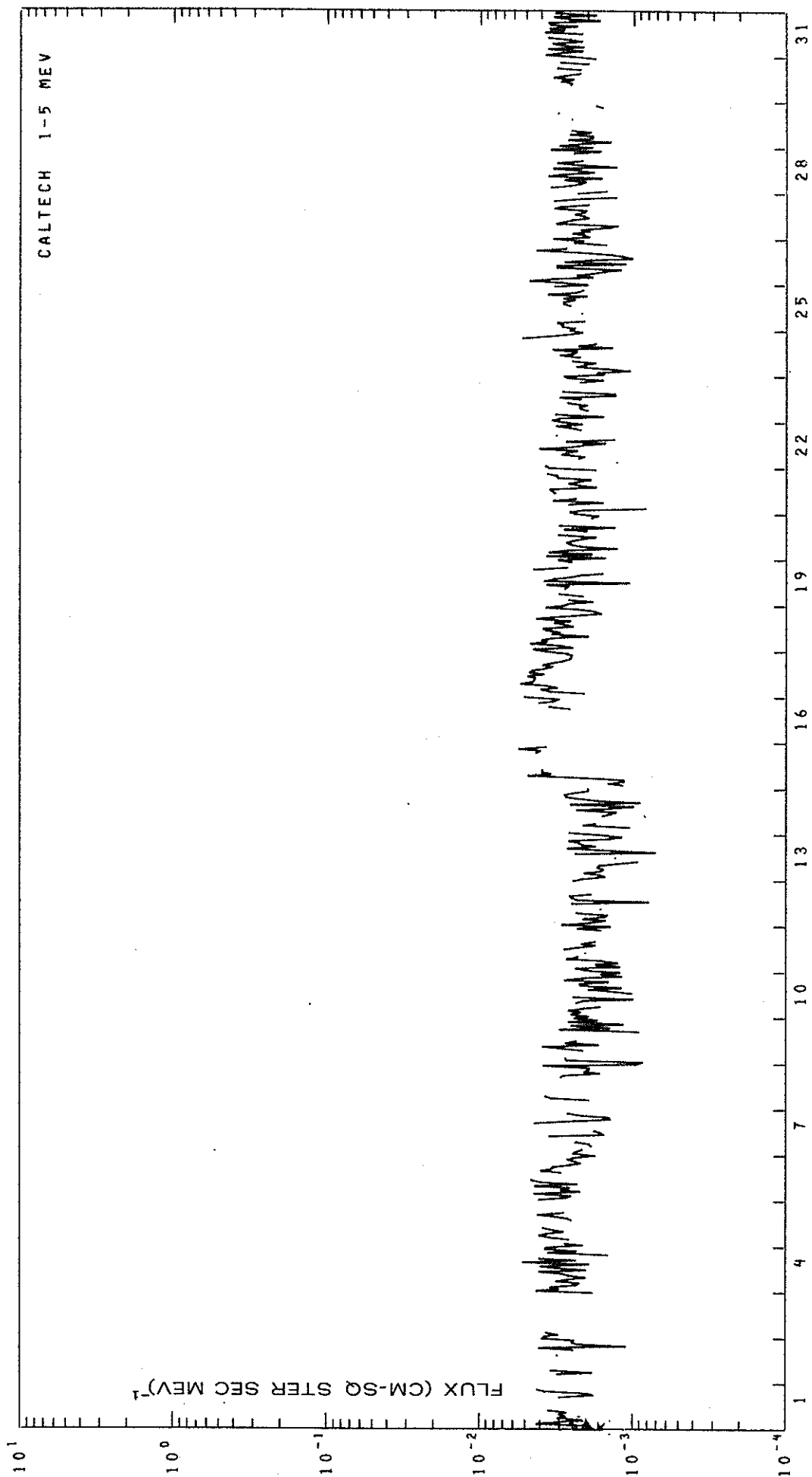
IMP 7 AND 8 SOLAR WIND PLASMA

OCTOBER 1976



IMP 7 AND 8 ELECTRONS

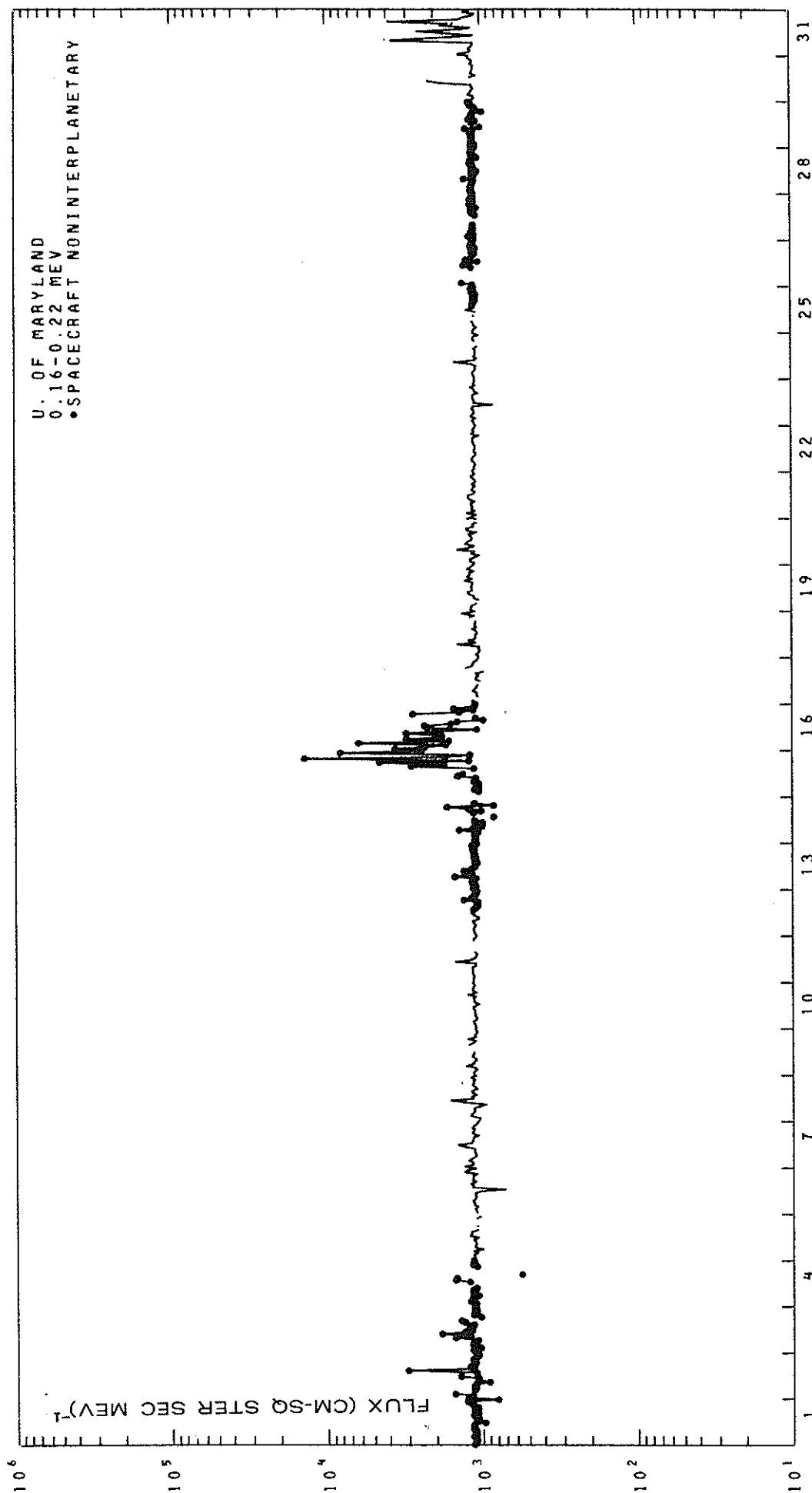
OCTOBER, 1976



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Oct 76

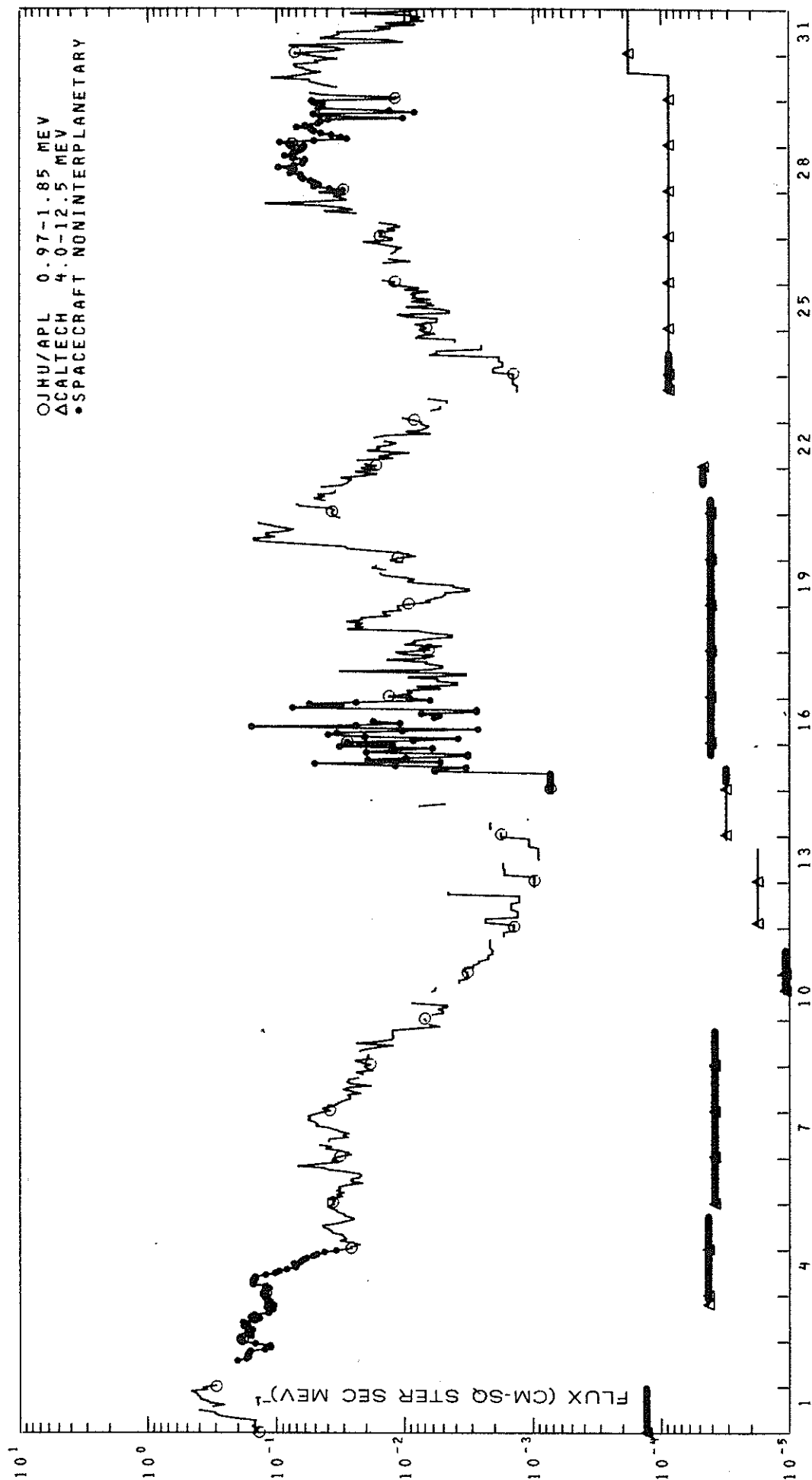
IMP 7 AND 8 LOW ENERGY PROTONS

OCTOBER, 1976



IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

OCTOBER, 1976

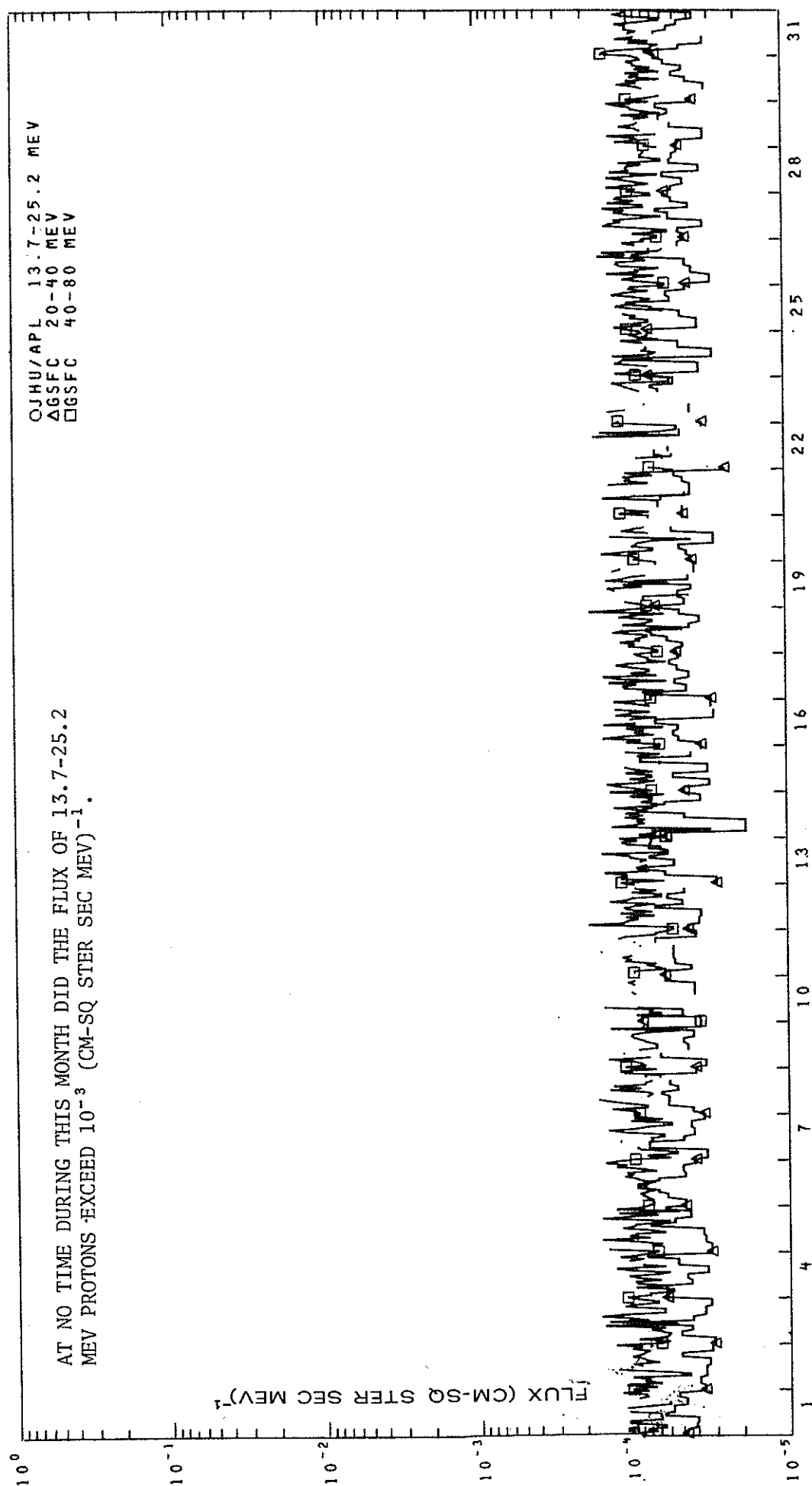


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Oct 76

IMP 7 AND 8 HIGH ENERGY PROTONS

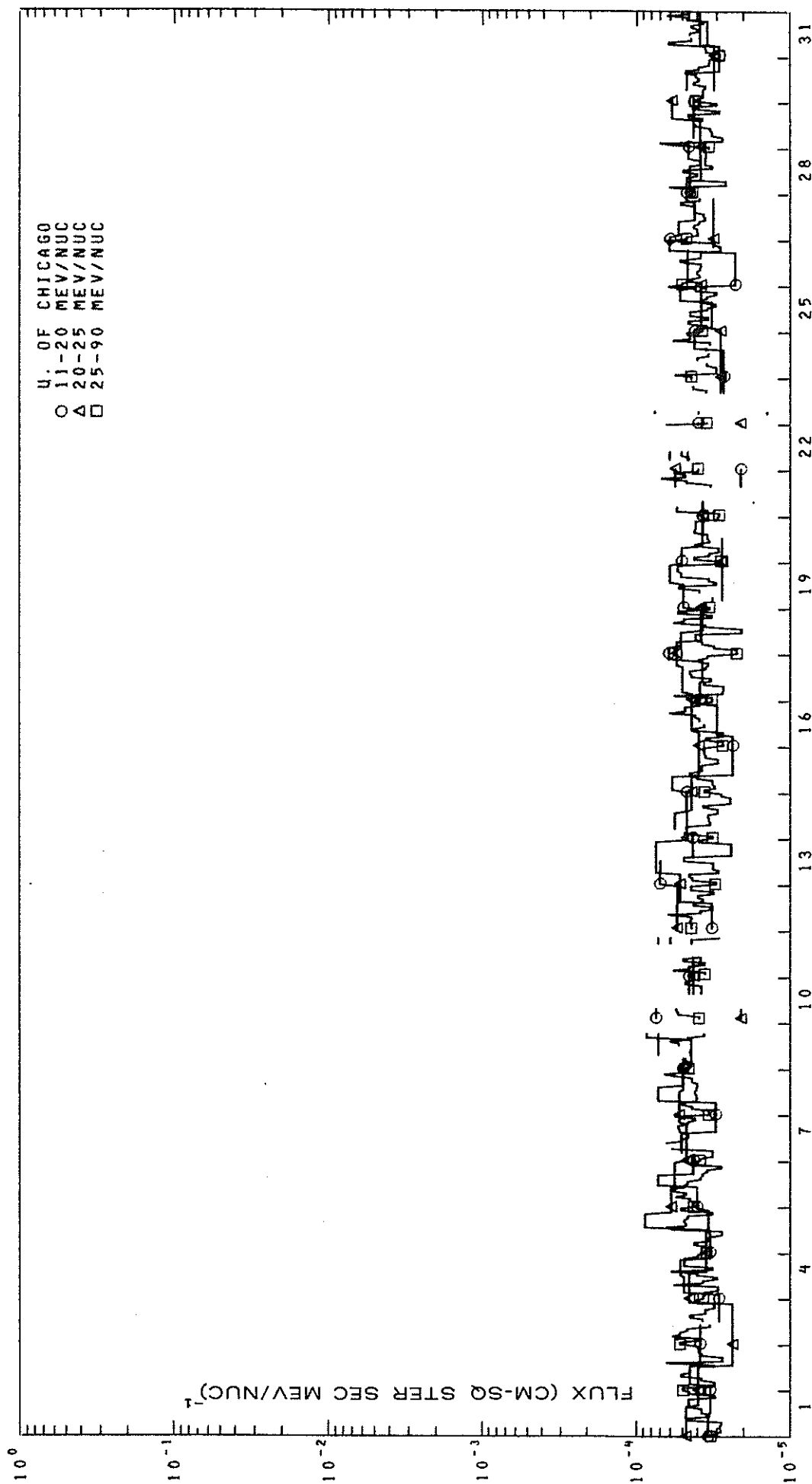
22
Oct 76

OCTOBER, 1976



IMP 7 AND 8 ALPHA PARTICLES

OCTOBER, 1976



23
Oct 76

SEPTEMBER 1976 DATA

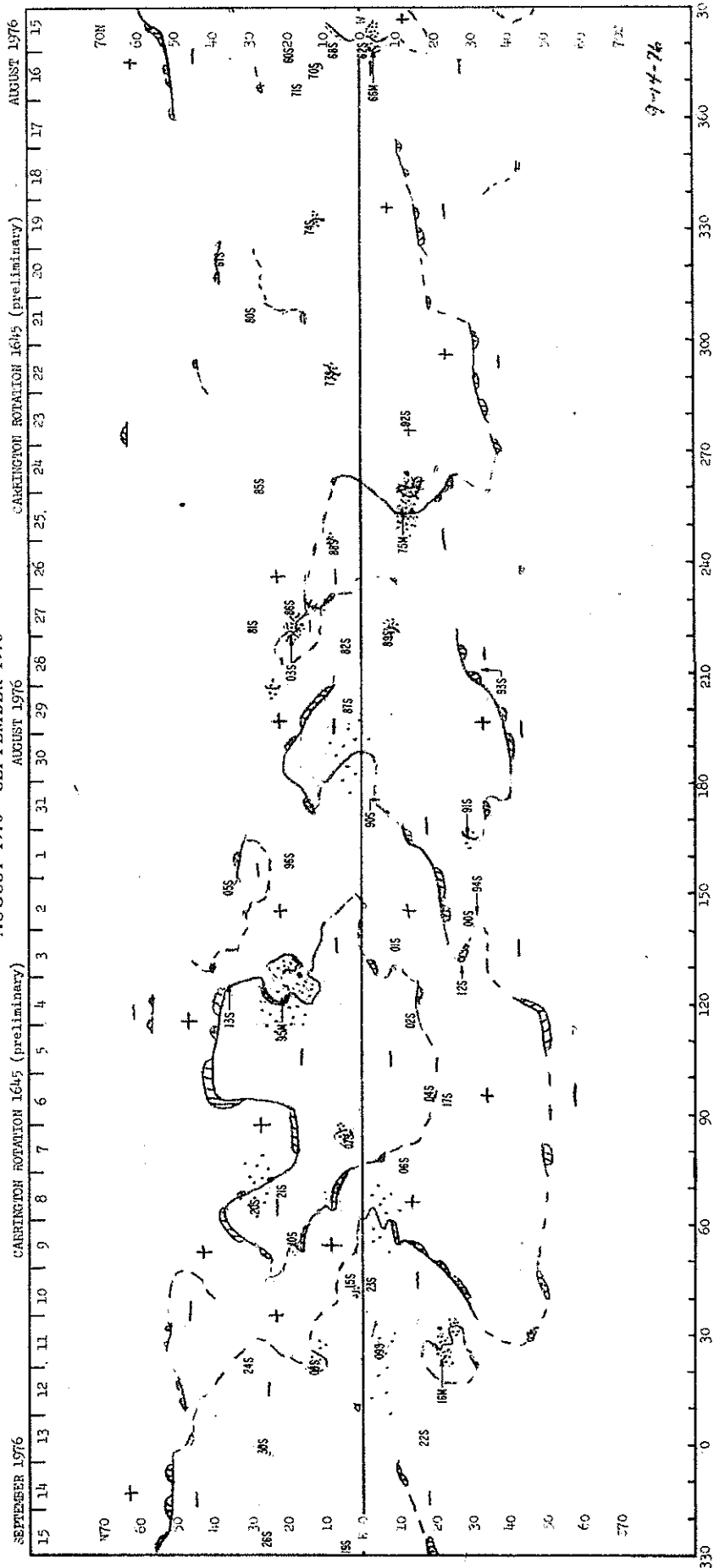
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<u>Abbreviated Calendar Record</u>	28-35
<u>Regional Flare Index</u>	35

ABBREVIATED CALENDAR RECORD

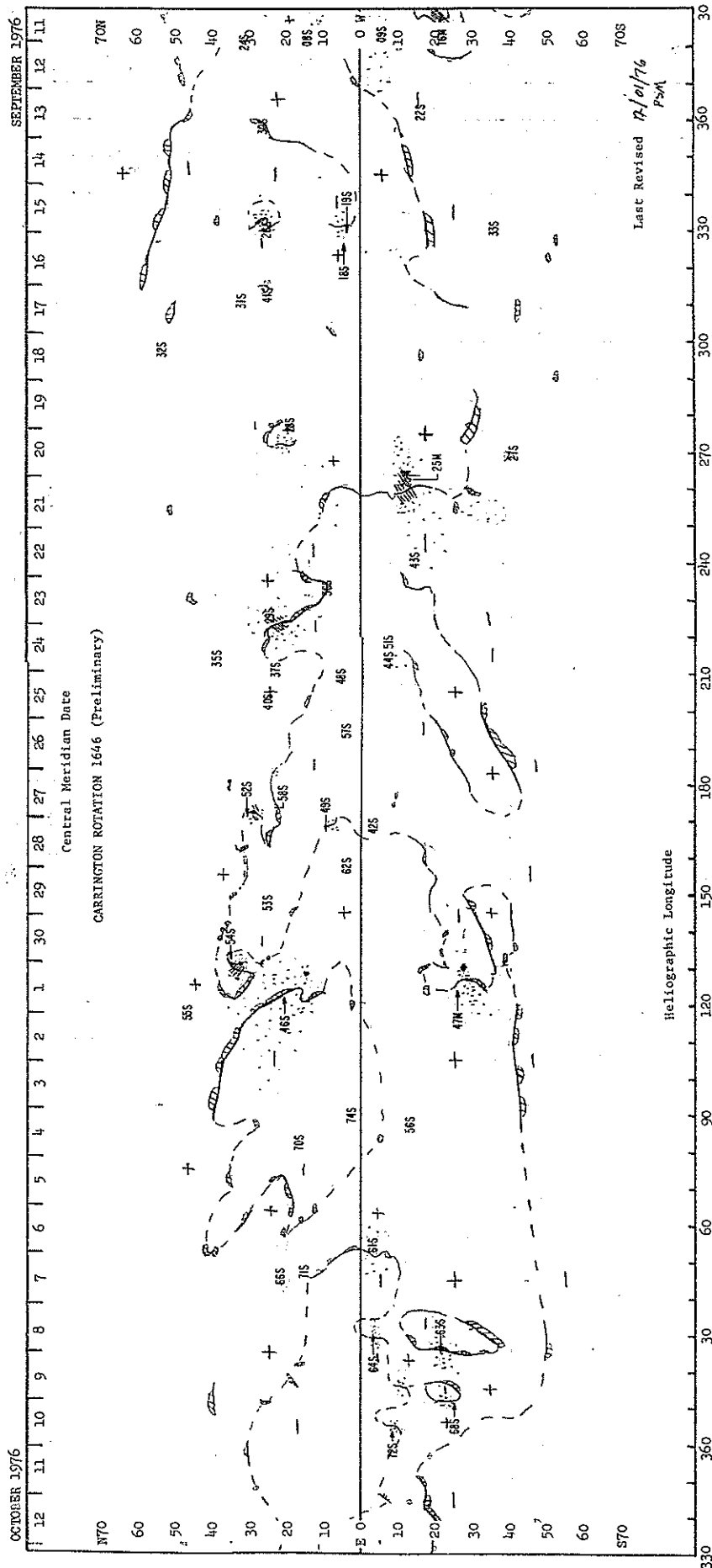
H_a SYNOPTIC CHART

AUGUST 1976 - SEPTEMBER 1976



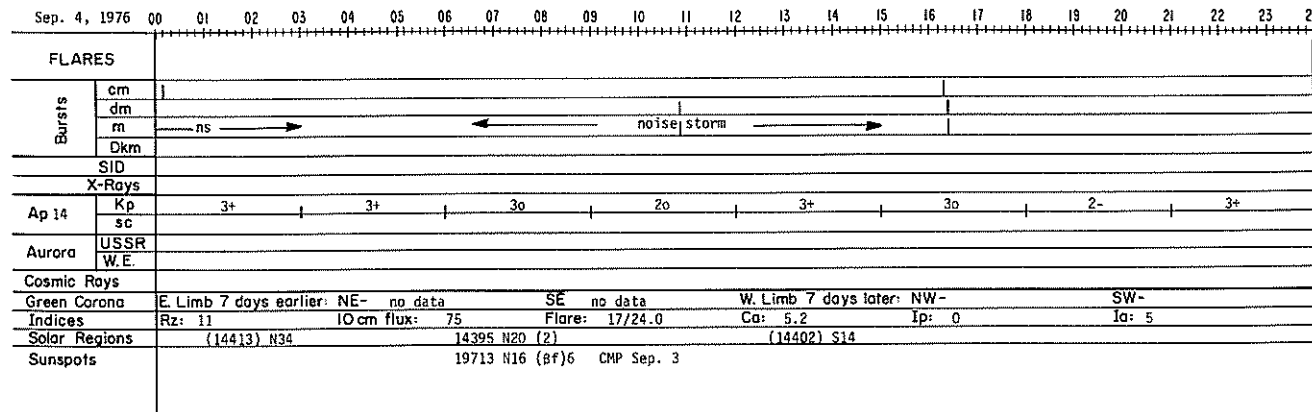
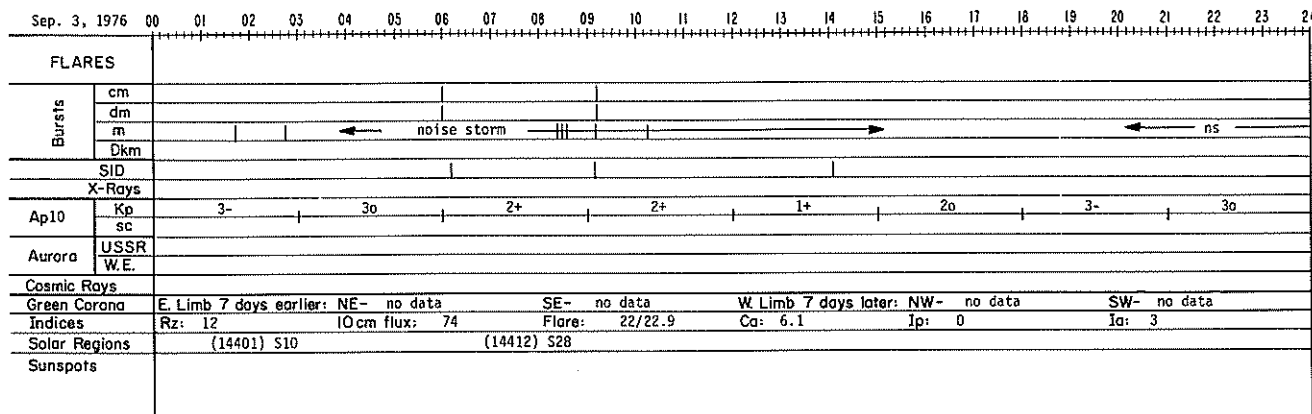
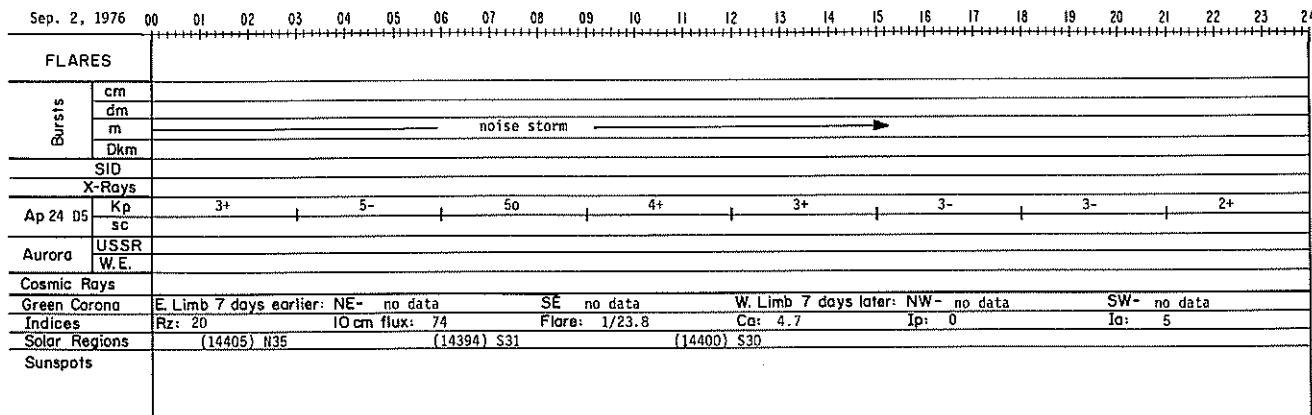
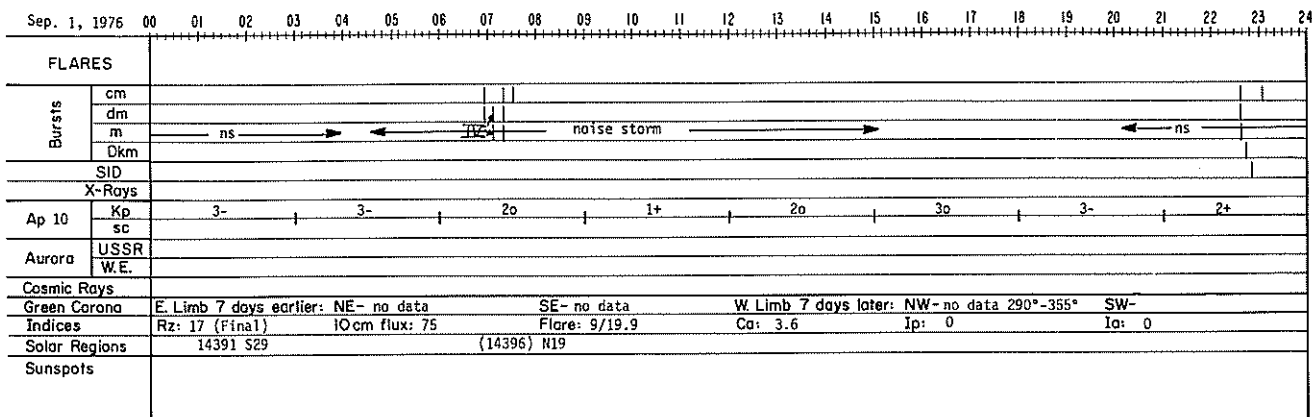
ABBREVIATED CALENDAR RECORD

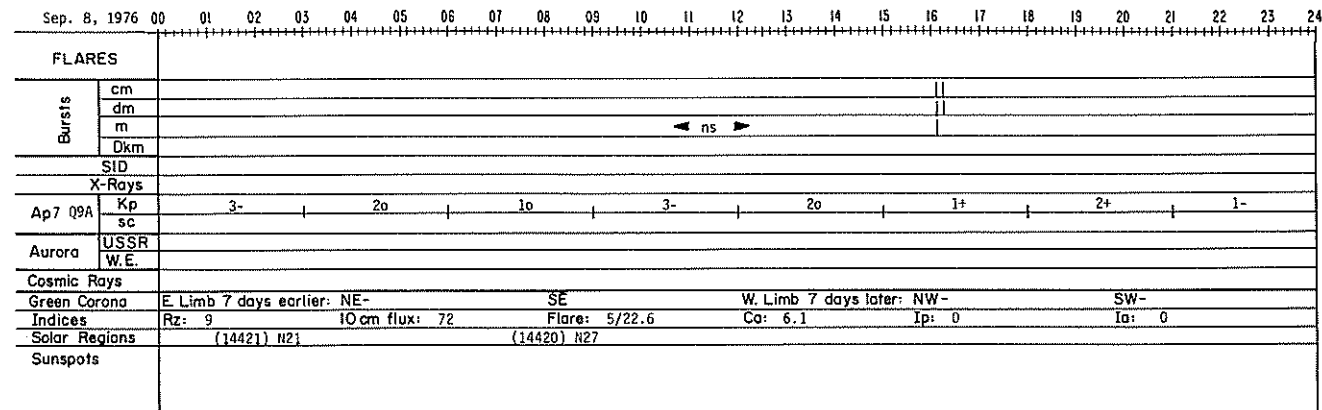
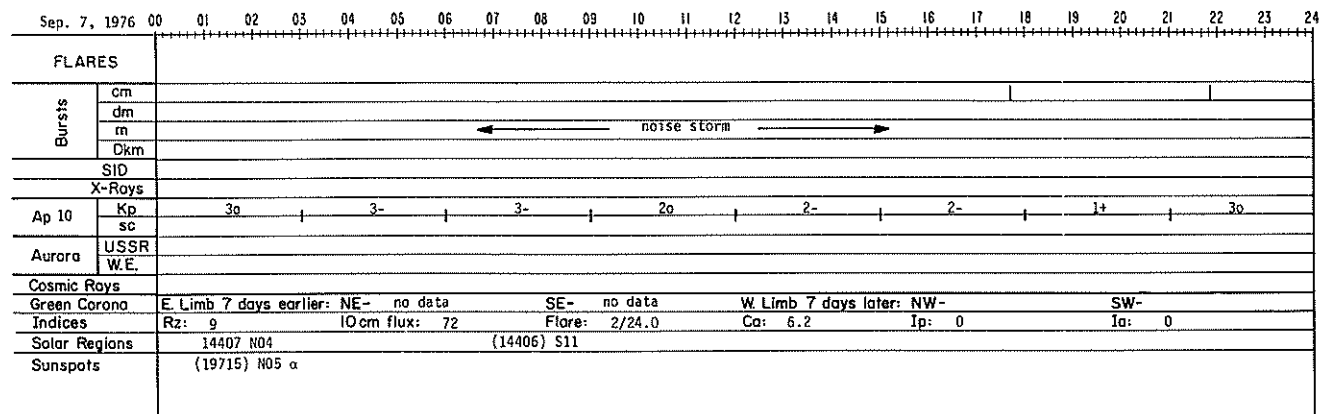
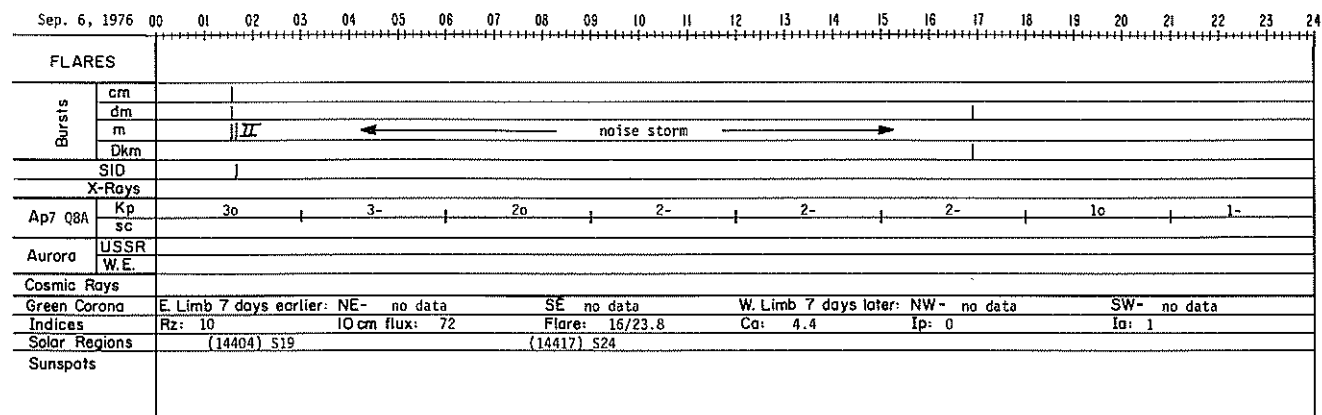
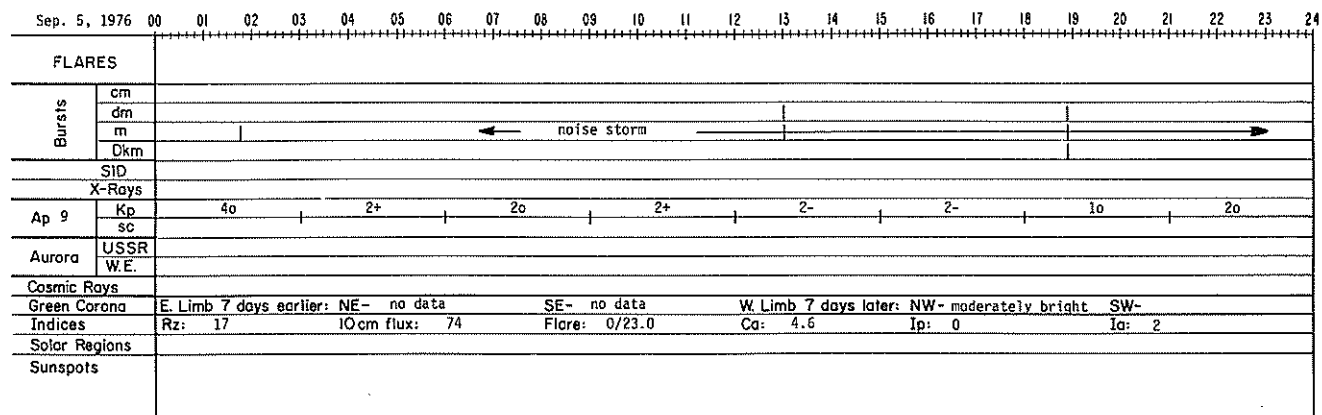
H α SYNOPTIC CHART
SEPTEMBER 1976 - OCTOBER 1976



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Sep 76

ABBREVIATED CALENDAR RECORD





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Sep 76

Sep. 9, 1976		00	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																										
Ap6 Q5	Kp	3-		2o		1+		1+		2o		1o		1o		0o										
	sc																									
Aurora	USSR																									
	W.E.																									
Cosmic Rays																										
Green Corona	E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- no data SW- no data																									
Indices	Rz: 18 10cm flux: 72 Flare: 2/20.9 Ca: 4.0 Ip: 0 Ia: 2																									
Solar Regions		(14410) N18																								
Sunspots																										

Sep. 10, 1976 00		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 5 Q3	Kp	2-		0+		1-		2-		10		20		20		20		20		20		20		20			
	sc																										
Aurora	USSR																										
	W.E.																										
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-												SE				W. Limb 7 days later: NW-no data 110°,125-180°SW-										
Indices	Rz:	22	10 cm flux:				75	Flare:				18/20.8	Ca:				3.3	Ip:				0	Ia:				2
Solar Regions	(14415) N02 (14423) S01																										
Sunspots	(19718) S02																										

Sep. 11, 197600		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	◀──																							

Sep. 12, 197600		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																											
Ap8 Q10A	Kp	2-		3-		2+		2-		2-		3-		2o		2-											
	sc																										
Aurora	USSR																										
	W.E.																										
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-							SE							W. Limb 7 days later: NW-							SW-					
Indices	Rz: 20	10 cm flux: 75						Flare: 0/22.9						Ca: 7.1						Ip: 0						Ia: 2	
Solar Regions																											
Sunspots																											

Sep. 13, 1976 Q0		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																								
	Okm																								
SID																									
X-Rays																									
Ap 5 Q2	Kp	2o 2- 1+ 1o 0+ 1- 1+ 2o																							
	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: 18 IOcm flux: 73 Flare: 0/24.0 Ca: 7.8 Ip: 0 Ia: 0																								
Solar Regions	14422 S17 (14430) N26																								
Sunspots																									

Sep. 14, 1976		00	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 10	Kp	2o 2+ 2- 3o 3o 3- 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: 10 10 cm flux: 74 Flare: 2/22.3 Ca: 5.7 Ip: 0 io: 0																										
Solar Regions																											
Sunspots																											

Sep. 15, 1976 00		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 10	Kp sc	1- 4- 3+ 3- 2+ 0+ 1+ 2o																							
Aurora	USSR W.E.																								
Cosmic Rays																									
Green Corona	E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- no data SW- no data																								
Indices	Rz: 16 10cm flux: 73 Flare: 0/22.5 Ca: no data Ip: 0 Ia: 3																								
Solar Regions	(14426) N25 (14419) N04 (14433) S36																								
Sunspots																									

Sep. 16, 1976 00		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 6 Q6	Kp	2+		2+				1o			1+			2o			2o			2-			1o		
	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: 14	10 cm flux: 75				Flare: 0/23.5				Ca: no data				Ip: 0				Ia: 2							
Solar Regions		(144)8 N04																							
Sunspots																									

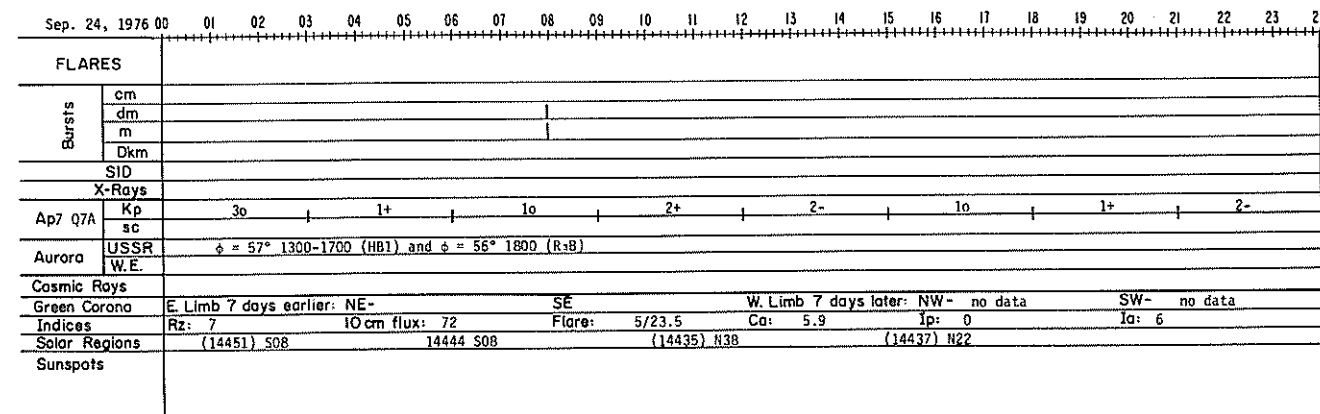
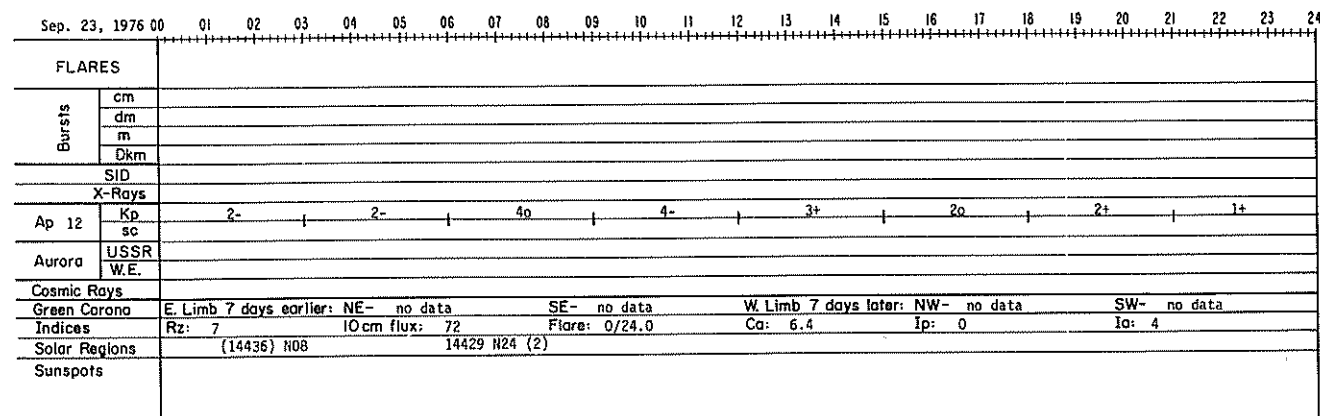
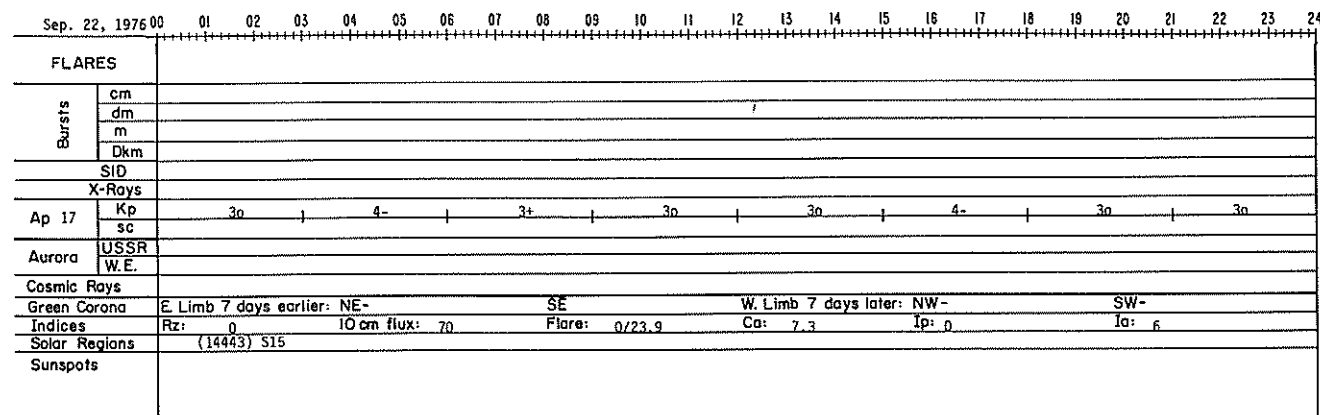
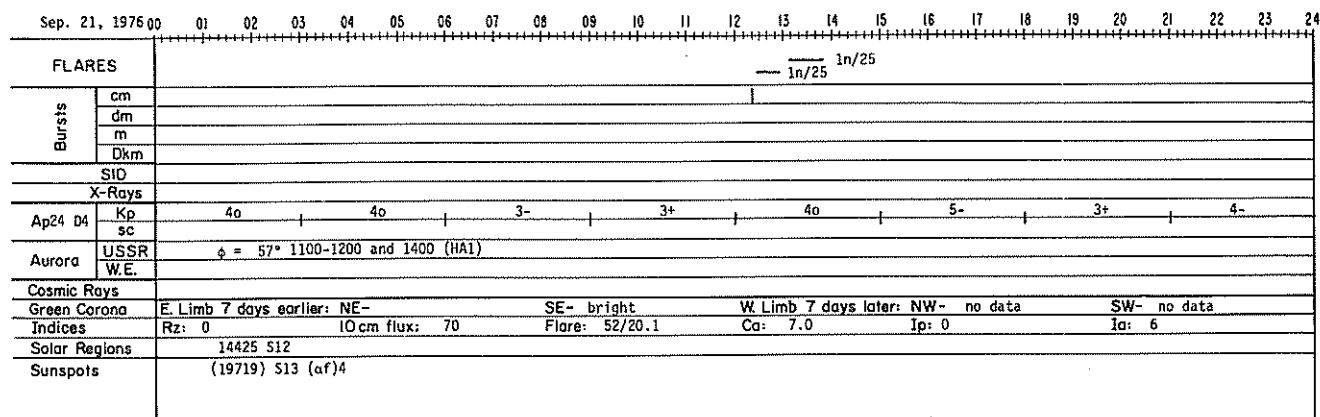
32
Sep 76

Sep. 17, 1976 00		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 10	Kp	2o 3- 2o 2- 2- 1- 3- 4o																							
Aurora	sc																								
	USSR																								
Aurora	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: 8 10cm flux: 76 Flare: 5/22.8 Co: 4.4 Ip: 0 Ia: 2																								
Solar Regions	(14441) N25 (14431) N30																								
Sunspots																									

Sep. 18, 1976 00		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																									
Ap33 D2	Kp sc	3-		5+		6+		5+		5-		3-		1+		1+									
Aurora	USSR W.E.	$\phi = 60^{\circ}$ 0800 (R ₁ A ₂), 1100 (HA1) and $\phi = 56^{\circ}$ 1300-1600 (HB1-2)																							
Cosmic Rays																									
Green Corona	E Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- SW-																								
Indices	Rz: 8 IO cm flux: 74 Flare: 15/24.0 Ca: 6.8 Ip: 0 Ig: 4																								
Solar Regions	(14432) N53																								
Sunspots																									

Sep. 19, 1976 00		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 20	Kp sc	1o 2- 2o 4+ 4- 4o 4+ 4o																									
Aurora	USSR W.E.	φ = 58° 1100-1400 (R ₁ R ₁), 1200-1600 (H _B 1) and φ = 56° 2000-2300 (R ₁ R ₂)																									
Cosmic Rays																											
Green Corona Indices	E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- no data SW- no data																										
Solar Regions	Rz: 7 IQcm flux: 73 Flare: 1/17.0 Ca: 8.2 Ip: 0 Ia: 1																										
Sunspots	14428 N19 (19720) N19 (Sp)4																										

Sep. 20, 1976 00		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																									
Ap51 01	Kp sc	5+ 60 50 50 5+ 50 40 50																							
Aurora	USSR W.E.	$\phi = 56^{\circ}$ 1500-1800 (RB2), $\phi = 57^{\circ}$ 1800-2000 (HA1), 2100 (R1R2) and $\phi = 58^{\circ}$ 1900-2000 (HA1)																							
Cosmic Rays																									
Green Corana	E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data																								
Indices	Rz: 0 10 cm flux: 72 Flare: 22/18.3 Ca: 7.5 Ip: 1 Ia: 7																								
Solar Regions	(14427) S41																								
Sunspots																									



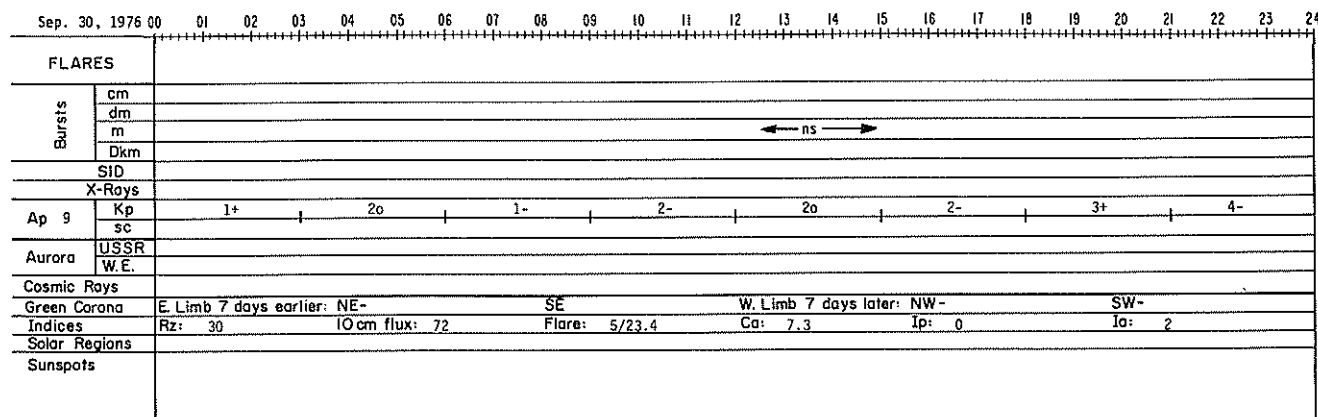
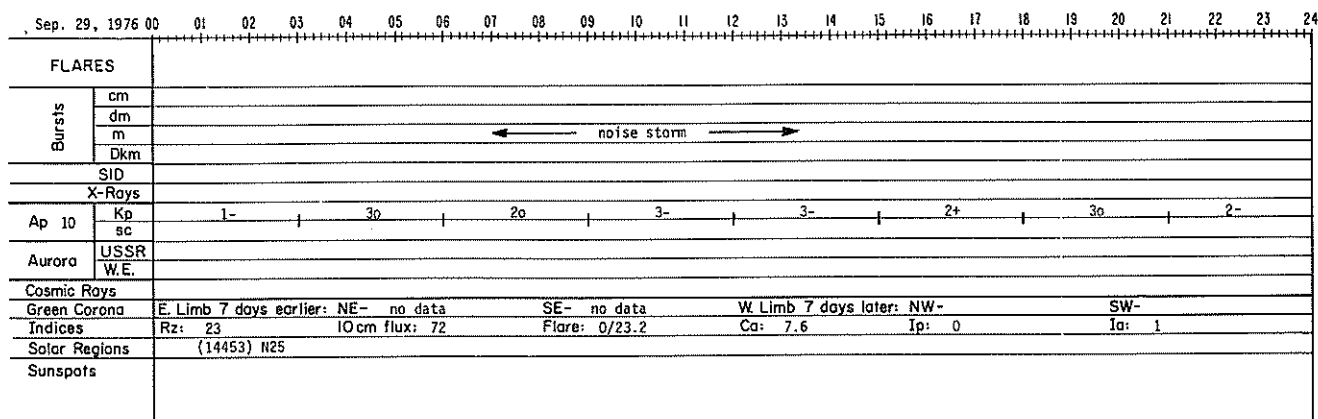
34
Sep 76

Sep. 25, 1976 00		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 24 D3	Kp sc	4o 3o 4- 4- 3+ 4o 4o 4+																							
Aurora	USSR W.E.																								
Cosmic Rays																									
Green Corona	E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- no data SW- no data																								
Indices	Rz: 16 10cm flux: 73 Flare: 5.1 Ca: 0/21.4 Ip: 0 Ia: 0																								
Solar Regions	(14448) N05 (14440) N24																								
Sunspots																									

Sep. 26, 1976 00		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 13	Kp	5- 3- 2- 2o 2+ 2o 3- 2+																							
	sc																								
Aurora	USSR	$\phi = 53^\circ$ 1500-1600 (R+R1)																							
	W.E.																								
Cosmic Rays																									
Green Corona	E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- SW-																								
Indices	Rz: 17 10 cm flux: 72 Flare: 0/24.0 Ca: no data Ip: 0 Ia: 0																								
Solar Regions	(14457) N03																								
Sunspots																									

Sep. 27, 1976		00	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 12	Kp	3e 3- 3- 3+ 3- 3- 2o 3-																									
	sc																										
Aurora	USSR																										
	W.E.																										
Cosmic Rays																											
Green Corono	E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW-																										
Indices	Rz: 18 10 cm flux: 73 Flare: 2/23.1 Ca: 7.0 Ip: 0 Ia: 1																										
Solar Regions	(14458) N23 (14452) N28																										
Sunspots	N28																										

Sep. 28, 1976		00	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	← noise storm →																									
	Dkm																										
SID																											
X-Rays																											
Ap 5 Q4	Kp	2o 2+ 1+ 1- 0+ 1- 2o 2o																									
	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: 18 IO cm flux: 73 Flare: 1/23.3 Ca: 7.9 Ip: 0 Ig: 1																										
Solar Regions	(14442) S04 (14449) N08 (14462) N03																										
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
14395	N17	76/09/03.8	76/09/03	76/09/08	53.36	8.90	15
14416	S22	76/09/11.7	76/09/08	76/09/14	26.36	3.77	18
14408	N12	76/09/11.9	76/09/06	76/09/06	.84	.84	1
14425	S11	76/09/21.0	76/09/17	76/09/21	88.36	17.67	8
14429	N23	76/09/23.9	76/09/17	76/09/24	12.17	1.52	4

Note:

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no flares during its disk passage.

Miscellaneous Data

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SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JANUARY 1977

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletin nr. 32.

Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

28 1839 A: LG CI; B: TL LM; C: WI NI EB

28 2012 B: DU; C: KG

28 2036 A: AE; B: SZ

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

None

Very unusual events

28 2050 bp: A: WN KG

2049-2135 pi 1-2: A: WN(90s 25 γ); B: SO

2055-2100 } psc: A: FU ($\sim$ 100s 3-4 γ)
2103-2107 }

Note: psc = pulsational single event (probably pi2)

UAG Series of Reports

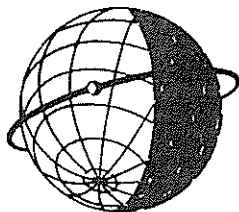
Prepared by World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado, U.S.A.

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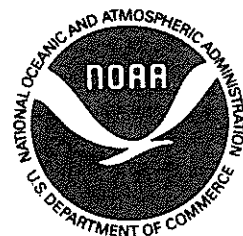
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WORLD DATA CENTER A

FOR

SOLAR-TERRESTRIAL PHYSICS



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