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NO. 426 FEBRUARY 1980

Part II (Comprehensive Reports)

DATA FOR
AUGUST 1979

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BOULDER, COLORADO

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No. 426

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Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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Notes:

"415A 52" listed under 1979 Jan means that the sunspot drawings for January 1979 were contained in *Solar-Geophysical Data* Number 415 - Part I, beginning on page 52.

A = Part I, B = Part II.

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

SGD 426 Part II (Comprehensive)

AUGUST 1979 DATA

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NOTE ON SOLAR FLARE DATA DELAY:

Solar Flare data for publication are now eleven months delayed from date of observation, rather than the usual six months. Several problems have caused this delay. A basic step of flare processing is using the Carte Synoptique de la Chromosphere to identify active centers. Because these Carte Synoptique data are also currently delayed, the Meudon Observatory staff, who performs this analysis, are hindered in their efforts. Meudon is also changing to another computer, which can mean computer program conversion problems that can delay the work. NGSDC is also working on some conversion problems.

A delay in the final listing of the solar flare data also delays the Daily Flare Index, the Regional Flare Index and the Abbreviated Calendar Record. We deeply regret this situation and hope it will improve in the near future. We ask for your patience in the interim.

For researchers who need the solar flare data more promptly, NGSDC has available "Preliminary" final listings of solar flares for April-August 1979. These fairly complete listings do not have the final Meudon corrections, and thus will not be published until we receive these corrections. However, they are available on request with the stipulation that they are recognized as "Preliminary" final listings when used in research projects. A fee may be charged for reproducing these data if a large demand ensues. Please contact the editor, Helen Coffey, for copies of these listings (phone: (303) 499-1000 X6223; FTS: 323-6223; Telex: SOLTERWARN BLDR 45897.)

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

AUGUST 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
1	200	GORK	2 SF	0429	0429.6	.9	55			
	100	GORK	8 S	0429.5	0429.9	1.3	145			
	260	ONDR	44 NS	0553 E		498 D	32			
	10400	BERN	4	0627.2	0629.3	5	49			
	3100	CRIM	3 S	0628	0629	3	24	8		
	3100	CRIM	29 PBI	0628	0631	65	4	1		
	2950	GORK	4 SF	0628.3	0630.3	3	45	22		
	15000	KISV	4 S/F	0628.3	0629.3	2	32			
	6100	KISV	4 S/F	0628.3	0629	2	50			
	9100	GORK	4 SF	0628.4	0629.4	3.3	50			
	5730	IRKU	45 C	0628.6	0629	2	42	20		R
	5730	IRKU		0628.6	0629 3		42			R
	17000	NOBE	3 S	0628.7	0629.5	3.3	24			Ø
	930	BORD	46 C	0628.8	0629.3	1.2	15	3		
	950	GORK	4 SF	0628.8	0629.2	1.5	7			
	2650	DWIN	45 C	0628	0628	3	110	50		
	6100	KISV		0629 3			51			
	6100	KISV	29 PBI	0630	0630	30	17			
	3100	CRIM	1 S	0856	0856.5	3	6	2		
	6100	KISV	4 S/F	0856.3	0857	3	34			
	10400	BERN	4	0856.5	0857.5	13	64			
	9500	BERL	3 S	0856.5	0857.5	2.5	50			
	3000	BERL	3 S	0856.5	0857	2	15			
	1470	BERL	1 S	0856.5	0856.5	1.5	3.2			
	950	GORK	46 C	0856.6	0856.7	1.5	18			
	808	ONDR	45 C	0856.6	0857.8	2	172			
	950	GORK		0856.6	0857.4		78			
	930	BORD	41 F	0856.7	0857.5	1.3	260	4		
	9100	GORK	4 SF	0856.7	0857 7	2.2	58			
	9100	ARCE	4 S/F	0856.8	0857 7	3.2				
	15000	KISV	8 S	0856	0857.3	3	34			
	5730	IRKU	1 S	0857	0857.7	2	20			Ø
	2650	DWIN	8 S	0857			30	30		
	10715	DWIN	1 S	0857	0858	2	40	20		
	930	BORD	41 F	1006.7	1006.8	.2	24	2		
	9500	BERL	20 GRF	1007	1012.5	21	5			
	2800	OTTA	23 GRF	1114	1312	245	6.4			
	10400	BERN	4	1116	1118.4	17	138			OPR
	2800	OTTA	4 S/F	1116.1	1117.1	3	12.8	6.4		
	950	GORK		1116 3	1118		81			
	15000	KISV	4 S/F	1116.3		2	30 D			
	950	GORK	46 C	1116.3	1116.9	2.5	59			
	7000	SAOP	45 C	1116.4	1118.2	6.8	107			1L
	3000	BERL	4 S/F	1116.5	1118.3	2.5	16			
	9500	BERL	29 PBI	1116 5	1118	29	110			
	1470	BERL	4 S/F	1116 5	1117.1	2.5	22			
	9100	ARCE	4 S/F	1116.6	1118.4	2.9				
	9100	GORK	4 SF	1116.7	1118.4	2.2	120			
	2950	GORK	1 S	1116.7	1118.3	2.2	20	10		
	9100	GORK	29 PBI	1116.7	1118.8	11.6	16	6		
	808	ONDR	45 C	1116.8	1118.3	2	65			
	930	BORD	46 C	1116	1118	3	210	3		
	6100	KISV	4 S/F	1116	1118	4	60			
	2650	DWIN	2 S/F	1116	1117	3	15	10		
	10715	DWIN	45 C	1116	1118	3	100	70		
	3100	CRIM	29 PBI	1117	1119		5	2		
	3100	CRIM	3 S	1117	1118	2	12	4		
	650	GORK	8 S	1118.4	1118.4	.4	69	34		
	9100	ARCE	29 PBI	1119.5		14				
	9400	HUAN	S	1402.2	1414.7	30	8.7	3.3		L
	2695	BOUL	1 S	1410.5E	1411.5	1.5D	5	2		
	1470	BERL	4 S/F	1412	1413.5	3	79			
	930	BORD	46 C	1412	1413.3	2.5	882	8		
	4995	BOUL	4 S/F	1412	1413	3	12	4		
	1420	BOUL	46 C	1412 E	1413	3 D	80	27		
	9400	HUAN	S	1413.3	1414	1.1	19.1	8.4		L
	7000	SAOP	45 C	1413.3	1413.9	17.4	17			Ø
	10400	BERN	3	1413.3	1413.8	15	25			
	2695	PENT	1 S	1413.3	1413.9	1	6.6	3.3		
	9500	BERL	23 GRF	1413.5	1413.8	12	15			
	3000	BERL	3 S	1413.5	1413.8	1	10			
	9400	HUAN	S	1415.5	1415.9	1.2	7	2.6		Ø
	2695	PENT	1 S	1418	1419	2	3.6	2		
	7000	SAOP	24 R	1634.5						
	2800	OTTA	1 S	1647	1648	2	3	1.7		
	1420	BOUL	40 F	1651 E	1652	1.5D	11	4		
	2800	OTTA	21 GRF	1755	1839.5	75	4	1.8		
	2800	OTTA	8 S	1838.1	1838.4	.5	5.8	2.9		
	2800	OTTA	1 S	2028	2030	7	1.6			
	2800	OTTA	20 GRF	2105	2115	35	1.8	.9		
	2800	OTTA	20 GRF	2215	2225	25	1.8	.9		
2	260	ONDR	44 NS	0600 E		499 D	71	3		
	221	ABST	42 SER	0609	0630.5	20	29			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	127	TORN	8	S	0916.4	0916 6	.5	91	46		
	29	UPIC	45	C	1001.2	1002.5	3 4				
	33	UPIC	45	C	1001	1002.4	3.8				
	2800	OTTA	1	S	1149	1153.5	8	3	1.5		
	33	UPIC	4	S/F	1301.6	1302.3	2.7				
	29	UPIC	4	S/F	1301.7	1302.5	1.9				
	2800	OTTA	20	GRF	1311	1313	45	3	1.2		
	2800	OTTA	20	GRF	1520	1550	145	2.4	1.4		
	9400	HUAN		S	1739.2	1830.8	113.8	4.8	2.5		R
	2800	OTTA	20	GRF	1805	1810	55	1 8	1.3		
	2800	OTTA	1	S	2105.2	2106	1.5	5	2.5		
	2800	OTTA	29	PBI	2106.7	2106.7	10	1.8	1		
	2695	PENT	20	GRF	2335	2345	30	6.2	3.1		
3	221	ABST	45	C	0529	0934	6	28	13		
	260	ONDR	44	NS	0545 E		507 D	28			
	2800	OTTA	20	GRF	1430		120	2.4	1.4		
	9400	HUAN		S	1833.7	1903	58.3	11.4	4.5		0
	4995	BOUL	4	S/F	2000	2006.5	10	11	4		
4	200	GORK	44	NS	0306 E		414 D		5		
	221	ABST	44	NS	0500	0600.5	300	19			
	260	ONDR	44	NS	0607 E		486 D	31			
	930	BORD	41	F	0654.6	0654.6	.1	37	2		
	536	ONDR	4	S/F	0654.7	0654.7	2.5	38	2		
	808	ONDR	3	S	0654.8	0654.8	.2	18			
	930	BORD	8	S	0702.8	0702.8	.1	20	1		
	930	BORD	41	F	0712.4	0712.6	.3	27	2		
	808	ONDR	3	S	0712.5	0712.5	.2	19			
	9100	ARCE	2	S/F	0937.3	0938.4	4.2				
	200	GORK	2	SF	0953.2	0953.6	1	60			
	9100	GORK	2	SF	0953.6	0953.7	.4	11	5		
	808	ONDR	3	S	1032.4	1032.4	.2	25			
	930	BORD	8	S	1032.7	1032.7	.1	75	1		
	536	ONDR	42	SER	1035	1056.6	90	41			
	808	ONDR	3	S	1044.7	1044.7	.2	20			
	127	TORN	4	S/F	1134.2	1134.7	1	242	13.5		
	9400	HUAN		S	1332.1	1348.2	53.9	3 3	1.1		0
	9400	HUAN		S	1742.6	1802.6	29.8	4.9	4.6		R
	9400	HUAN		S	1907.8	1935	56.8	6.6	4.1		0
	2800	OTTA	2	S/F	2020	2020.1	2.5	3.6	1.2		
5	260	ONDR	3	S	1054.5	1054.5	.2	8			
	127	TORN	4	S/F	1122.7	1123.4	1.5	12	3.8		
	260	ONDR	42	SER	1139.5	1140.6	14	7			
	127	TORN	45	C	1156.8	1157.5	1	98	37		
	113	POTS	4	S/F	1157.2	1157.4	.5	110	25		
	260	ONDR	8	S	1312.4	1312.4	.2	24			
	9400	HUAN		S	1741.8	1753.8	40.4	6.5	3.2		R
	2800	OTTA	20	GRF	2120	2235	260	6.2	3.1		
6	9100	ARCE	1	S	1211.3	1211.5	.9				
	9100	GORK	1	S	1216.1	1216.7	4.3	8.5	4		
	9100	ARCE	2	S/F	1216.5	1216.8	4				
	2800	OTTA	20	GRF	1938	1944	35	2.6	1.3		
	9400	HUAN		S	1939.2	1940.2	2.3	13.2	6.9		R
	4995	BOUL	45	C	2011	2013	9	19	6		
	2800	OTTA	23	GRF	2109	2015	125	11.4	5		
	2800	OTTA	20	GRF	2138	2144	35	5.8	2.9		
	4995	BOUL	4	S/F	2141	2143	5	15	5		
	9400	HUAN		S	2142.7	2145	4.6	21.5	11		L
7	9100	GORK	20	GRF	0341.4	0343.4	49	12	4		
	6100	KISV	4	S/F	0711	0713	7	60			
	15000	KISV	8	S	0712.3	0713	2	50			
	9100	GORK	29	PBI	0712.5	0714.1	9	15	6		
	9500	BERL	3	S	0712.5	0713	6.5	46			
	9100	GORK	3	S	0712.5	0713.2	1.6	60	30		
	10715	DWIN	1	S	0713	0713	2	45	20		
	6100	KISV	1	S	0735	0736	5	3			
	9400	HUAN		S	1641.6	1651.3	26.4	6.9	3.3		0
	9400	HUAN		S	1725.8	1745.5	52.5	8.6	7.5		0
	2695	BOUL	46	C	1728 E	1730	5 D	15	5		
	7000	SAOP	4	S/F	1859.8	1900.8	2.2	116			17R
	9400	HUAN		S	1900.7	1901.6	3.1	128 8	34.4		R
	4995	BOUL	4	S/F	1900	1901	5	43	14		
	2800	OTTA	1	S	1901	1902	6	2.6	1.3		
	9400	HUAN		PBI	1903.8	1903.8	18	10.3	6.7		R
	2800	OTTA	23	GRF	1940	2055	360 D	14.4			
	2695	BOUL	20	GRF	1943 E	2002	34 D	25	8		
	9400	HUAN		S	1951.8	2002.2	73.2	29.2	21.5		R
	2800	OTTA	3	S	1956	2000.8	11	21.4	8.6		
	500	HIRA	46	C	2048.1	2051.6	9	30	10		0
	2800	OTTA	20	GRF	2142	2148	30	6	3		
8	9100	ARCE	1	S	0819.7	0820	1				

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DAY OF MONTH	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		
	536	ONDR	3 S	1059.4	1059.4	.2	33			
	260	ONDR	2 S/F	1136.3	1136.8	.5	13			
	260	ONDR	3 S	1143.7	1143.7	.2	15			
	9100	ARCE	1 S	1205.3	1206	4.6				
	260	ONDR	4 S/F	1335	1335	.5	101			
	7000	SAOP	45 C	1737	1741.9	20	38			15R
	10400	BERN	4	1737.1	1742.1	8	41			OPR
	9400	HUAN	C	1737.7	1741.8	5	50.6	21.7		R
	2800	OTTA	21 GRF	1737	1753	65	2.6	1.3		
	2800	OTTA	2 S/F	1738	1738.9	1.5	5.4	1.4		
	2800	OTTA	2 S/F	1740.5	1741.8	1.5	8.2	4.1		
	9100	ARCE	4 S/F	1740.6	1741.9	2				AT SUNSET
	9400	HUAN	PBI	1742.7	1742.7	33.5	16.3	9.9		R
	9400	HUAN	S	1850.7	1851.8	2.6	13	7.2		Ø
	2695	PENT	20 GRF	2230	2315	140	4.2	2.1		
9	9100	GORK	20 GRF	Ø438.3	Ø439.2	11				
	17000	NOBE	1 S	Ø515.8	Ø516.3	1	29			R
	9100	GORK	20 GRF	Ø551.5	Ø600	26.6	8	3		
	9100	GORK	1 S	Ø653	Ø653.4	1.2	4.5	2		
	9100	ARCE	45 C	Ø834.2	Ø834.6	2.5				
	9100	ARCE		Ø834.2	Ø834.6	1				
	10400	BERN	45	Ø835.1	Ø835.9	7	147			OPR
	9100	ARCE		Ø835.2	Ø835.4	1.5				
	9100	GORK	46 C	Ø835.5	Ø836.2	2.7	60			
	9100	GORK	29 PBI	Ø835.5	Ø838.2	8.8	9.5	4		
	9100	GORK		Ø835.5	Ø837		50			
	10715	DWIN	3 S	Ø835	Ø836	4	40	20		
	536	ONDR	3 S	Ø836.2	Ø836.2	.2	38			
	9100	ARCE	29 PBI	Ø836.7		8				
	9100	ARCE	1 S	Ø904.7	Ø905.2	2.4				
	9100	GORK	1 S	Ø906.1	Ø906.6	2.6	8	4		
	9100	ARCE	1 S	Ø941.7	Ø942.7	2.8				
	10400	BERN	4	Ø943	Ø943.9	5	13			OPR
	9100	GORK	21 GRF	Ø943.4	Ø950.4	15	6	2.5		
	9100	GORK	1 S	Ø943.7	Ø944.2	1	12	6		
	113	POTS	4 S/F	1033.4	1033.5	.4	300	60		
	234	POTS	8 S	1033.5	1033.6	.3	250	60		
	10400	BERN	3	1100.6	1101.6	15	29			
	9100	ARCE	3 S	1100	1100.6	1.4				
	9500	BERL	3 S	1101	1101.3	3	25			
	9100	ARCE	29 PBI	1101.4		5.4				
	9100	GORK	3 S	1101.5	1102	4.7	29	14		
	10715	DWIN	1 S	1101	1102	5	20	10		
	7000	SAOP	1 S	1312	1312.3		8			15R
	10400	BERN	8	1532.9	1533	.3	100			
	2800	OTTA	23 GRF	1625	1725	140	5	2.5		
	2695	BOUL	41 F	1727 E	1732.5	26 D	86	29		
	4995	BOUL	46 C	1738.5	1744	13.5	44	15		
	2800	OTTA	45 C	1739	1744.5	15	19.6	4.8		
	9400	HUAN	S	1740	1744.5	3.5	82.1	25.3		R
	9100	ARCE	4 S/F	1742.9	1743.6	3.2				AT SUNSET
	930	BORD	45 C	1743.7	1744.7	2.3	20	4		
	1420	BOUL	1 S	1744 E	1745	2.5D	7	2		
	9400	HUAN	PBI	1746.3	1746.3	93.3	19.7	10.3		R
	2800	OTTA	20 GRF	1934	1937.5	11	2.6	1.3		
	2800	OTTA	22 GRF	2100	2137	160	3.6	1.7		
10	2695	PENT	1 S	0013	0015	5	3.2	1.6		
	2695	PENT	22 GRF	0120	0135	40	4.2			
	9100	GORK	20 GRF	0430	0622	180	24	10		
	3100	CRIM	26 FAL	0617	0852	165	11	4		
	4995	MANI	S/F	0901	0914.3	22.9	4 139.4	46.5		
	536	ONDR	45 C	0901.5	0906.1	5	11	4.5		
	8800	MANI	S	0903	0914.6	20.2	3 228.9	76.3		
	2950	GORK	21 GRF	0909.8	0912	35	20	10		
	9100	ARCE	4 S/F	0909.9	0913.2	5.4				
	5730	IRKU	45 C	0910	0913.3	5	23	20		Ø
	5730	IRKU		0910	0914.1		27			
	10400	BERN	4	0910.5	0914.2	19	53			
	3100	CRIM	3 S	0910.5	0914	10	59	20		
	3100	CRIM	29 PBI	0910.5	0920.5	64	6	2		
	2650	DWIN	4 S/F	0910	0914	10	35	20		
	9500	BERL	3 S	0911	0914.4	9	46			
	1470	BERL	3 S	0911	0914	9	18			
	9100	GORK	21 GRF	0911.1	0915.2	63	27			
	950	GORK	20 GRF	0911.3	0914.4	8.3	12.7	6		
	200	GORK	2 SF	0911.6	0911.7	4.2	6			
	930	BORD	3 S	0911	0914.2	7	30	10		
	9100	GORK	4 SF	0912	0914.2	3.8	55			
	100	GORK		0912	0914.2		75			
	100	GORK		0912	0913.6	4	60			
	2950	GORK	4 SF	0912.2	0914.2	6.6	58			
	808	ONDR	2 S/F	0912.4	0914.2	4	15	8		
	650	GORK	3 S	0912.7	0914.5	6.7	10.5	5		

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DAY OF MONTH	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		
	10715	DWIN	4 S/F	0912	0914	8	40	20		
	5730	IRKU	29 PBI	0915		13	16	8		0
	9100	ARCE	29 PBI	0915.3		52				
	536	ONDR	8 S	1006.6	1006.6	.2	81			
	202	IZMI	7 C	1027	1027.5	.5	700	300		
	2800	OTTA	24 R	1110	1130	20	3	1.5		
	2800	OTTA	27A RF	1110		280	3	2.5		
	2800	OTTA	24P R	1130		180	3			
	2695	PENT	1 S	1411	1413	5	2.2	1.6		
	2800	OTTA	26 FAL	1430	1550	80	-3	-1.6		
	2800	OTTA	20 GRF	1600	1642	105	3.2	2.2		
	9400	HUAN	S	1740.5	1811.6	81.1	8.3	6		0
	2800	OTTA	24O R	1835	1845	10	2	1.5		
	2800	OTTA	20 GRF	2015	2050	140	5	2.5		
11	200	GORK		0446.1	0450.8		60 D			
	200	GORK	41 F	0446.1	0446.4	10	60 D			
	7000	SAOP	45 C	1122	1123.9	19	9			12R
	9100	ARCE	1 S	1123.2	1123.9	9				
	4995	BOUL	4 S/F	1335	1336	2	10	3		
	9100	ARCE	1 S	1336.3	1336.8	1.2				
	7000	SAOP	4 S/F	1336.3	1336.7	6	16			18R
	2800	OTTA	1 S	1336	1336.5	2	3.2	1.2		
	2800	OTTA	20 GRF	1430	1445	55	1.8	.9		
	2800	OTTA	24 R	1605	1705	60	2.8	1.4		
	2800	OTTA	27A RF	1605		365	2.8	2.5		
	10400	BERN	21	1653.8	1656.8	22	12			OPR
	7000	SAOP	4 S/F	1655.8	1656.5	10.8	22			22R
	4995	BOUL	4 S/F	1655	1656	2	9	3		
	9400	HUAN	S	1656.2	1656.5	1.1	11.4	7.8		R
	9100	ARCE	1 S	1656.3	1656.6	1.1				
	2800	OTTA	1 S	1656	1656.5	2	8.4	2.8		
	9100	ARCE	29 PBI	1657.4		8.2				
	2800	OTTA	24P R	1705		290	2.8			
	9400	HUAN	S	1733	1750.5	45.7	9.8	6.2		R
	2800	OTTA	20 GRF	1745	1750	40	1.6	1		
	2800	OTTA	20 GRF	1826	1945	135	2.8	1.4		
	2800	OTTA	26 FAL	2155	2210	15	-2.8	-1.4		
	2695	PENT	8 S	2252	2252.2	.5	2.8	1.4		
	200	HIRA	7 C	2350	2350	.8	1600	500		0
	2695	PENT	3 S	2350.3	2350.5	2	10	2.6		
	100	HIRA	7 C	2350.5	2350.8	1.5	20000	3000		WL
	5730	IRKU	2 S	2350.6	2350.7	3	35	7		R
	4995	BOUL	8 S	2350	2351	2	34	11		
	2695	BOUL	3 S	2351 E	2351.5	1.5D	10	3		
12	2695	PENT	1 S	0054	0055	3	4.6	1.5		
	221	ABST	42 SER	0444	0445	18	51			
	100	GORK		0446.1	0450.7		260 D			
	100	GORK	41 F	0446.1	0446.3	15.6	260 D			
	100	GORK		0446.1	0506		260 D			
	536	ONDR	42 SER	0815	0818	3	14			
	3100	CRIM	1 S	0953	0954	2	4	1		
	260	ONDR	42 SER	1015.5	1034	74.5	27			
	33	UPIC	4 S/F	1048.1	1048.2	.5				
	113	POTS	8 S	1048.2	1048.2	.1	550	180		
	29	UPIC	4 S/F	1048.3	1048.5	.9				
	408	TRST	42 SER	1128.8	1129.5	2.3	110			
	536	ONDR	4 S/F	1139.3	1139 3	.7	62	9		
	2800	OTTA	22 GRF	1200	1230	110	2.6	1.3		
	2800	OTTA	1 S	1550	1550.2	1	2.2	1		
	9400	HUAN	S	2020.2	2025.2	29.6	4.9	3		R
	9400	HUAN	S	2037.3	2038	1.9	6.6	2.9		R
	9400	HUAN	S	2044.8	2045.3	1.3	8.2	3.7		R
13	221	ABST	44 NS	0500	1000	300	22			
	200	GORK	44 NS	0508		472		10		
	260	ONDR	44 NS	0704 E		419 D	135	15		
	200	GORK	44 NS	1114	1124.1	22.5	60			
	234	POTS	27 RF	0912	1124	178	67	20		
	3100	CRIM	28 RPE	0924	1013	49	1.5			
	202	IZMI	24 R	0950	1122	110	48	25		
	127	TORN	27 RF	1000.5	1120.9	36.5	153	25		
	536	ONDR	28 PRE	1002		48	18	9.5		
	100	GORK	46 C	1007	1026.6	49	640 D			
	100	GORK		1007	1029.6		640 D			
	100	GORK		1007	1030.3		500			
	650	GORK	21 GRF	1010.4	1038.6	115	10.5	3.5		
	3100	CRIM	47 GB	1013		125				
	3100	CRIM	29 PBI	1013	1218	42 D	13	4		
	950	GORK	21 GRF	1013.1	1036	119	31			
	2950	GORK	47 GB	1013.4	1022.1	140	295			
	2950	GORK		1013.4	1057.8		3700			
	2950	GORK		1013.4	1028.5		1500			
	9100	GORK	48 C	1013.8	1022	140	175			

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				UT	UT	MINUTES	PEAK	MEAN		
	9100	GORK		1013.8	1028.8		3350			
	9100	GORK		1013.8	1057.8		2200			
	1470	BERL	46 C	1013	1059.9	152	620			
	2650	DWIN	49 GB	1013		150	180 D			
	808	ONDR	28 PRE	1013		36	38	34		
	930	BORD	45 C	1013	1102	107	297	57		
	10400	BERN	47	1014	1028.5	143	5976			
	9100	ARCE		1014.7	1035.5	32.6				
	9100	ARCE	47 GB	1014.7	1035.5	84.9				
	3000	BERL	45 C	1014	1058	145	1220 D			
	10715	DWIN	49 GB	1015		125	300 D			
	15000	KISV	47 GB	1015		100	2000 D			
	9500	BERL	45 C	1015	1028	132	2400			
	6100	KISV	47 GB	1015		100	1000 D			
	950	GORK	45 C	1018	1020.6	4.8	31			
	33	UPIC	48 C	1027	1031.5	37.7				
	29	UPIC	48 C	1029.1	1050.9	35.5				
	113	POTS	27 RF	1032	1032	79 D	77			
	9100	ARCE		1047.3	1057.1	52.3				
	650	GORK		1050.6	1122.8		36			
	650	GORK	46 C	1050.6	1102.3	42	57			
	536	ONDR	49 GB	1050	1104.7	80	45	23		
	808	ONDR	49 GB	1050	1102	70	141	71		
	950	GORK		1055.2	1102.2	18	183			
	2800	OTTA	47 GB	1107.5		100 D	2200			
	9100	ARCE	29 PBI	1139.6		50				
	2800	OTTA	27 RF	1430		270	2.6	2		
	2800	OTTA	24 R	1430	1500	30	2.6	1.3		
	2800	OTTA	24P R	1500		170	2.6			
	2800	OTTA	26 FAL	1750	1800	70	-2.6	-.9		
	2800	OTTA	20 GRF	1924	1930	30	1.6	1.2		
	2800	OTTA	20 GRF	2003	2008	40	1.4	1		
	2800	OTTA	20 GRF	2120	2130	35	1.6	1.2		
	2800	OTTA	24 R	2220	2225	5	2.8	1.4		
	2800	OTTA	27 RF	2220		120	2.8	2.3		
	2695	PENT	24P R	2225		90	2.8			
	2695	PENT	26 FAL	2355	2410	15	-2.8	-1.4		
14	2695	PENT	240 R	0050	0100	10	2.8	1.4		
	200	GORK	44 NS	0300 E		603 D		5		
	200	GORK	44 NS	0300 E		603 D		5		
	260	ONDR	44 NS	0615 E		472 D	64	4		
	127	TORN	43 NS	0812	1149.2	363	217	24		V1
	100	GORK	43 NS	1150.7		100		50		
	950	GORK	45 C	0549.9	0550.1	1.5	9			
	950	GORK		0549.9	0551 3		20			
	9100	GORK	1 S	0553.1	0553.4	.8	4	2		
	2950	GORK	4 SF	0553.2	0553.4	.8	39	18		
	221	ABST	6 S	0641.2	0641.5	1	28			
	950	GORK	1 S	0746.7	0747	.5	5			
	3100	CRIM	20 GRF	0822	0837	75	9	3		
	202	IZMI	7 C	0852	0852.1	.6	70	20		
	200	GORK	2 SF	0852.2	0852.6	.8	50 D			
	200	GORK	2 SF	0852.2	0852.6	.8	50 D			
	3000	BERL	3 S	1004.3	1005.1	1.7	12			
	9100	GORK	20 GRF	1004.3	1005.2	10	10	5		
	2950	GORK	1 S	1004.4	1005.1	1.6	14	7		
	9500	BERL	3 S	1004.5	1005.1	1.5	11			
	9100	ARCE	1 S	1004.6	1005.2	2				
	6100	KISV	3 S	1004	1005	2	12			
	1470	BERL	1 S	1004	1005	1.8	1.8			
	3100	CRIM	1 S	1005	1006	3	13	4		
	10400	BERN	47	1130	1248.9	264	14180			OPR
	6100	KISV	20 GRF	1130	1232	72	61			
	9500	BERL	46 C	1130		245 D	5300 D			
	100	GORK	8 S	1132.8	1132.8	.8	380			
	200	GORK	2 SF	1132.8	1132.8	.3	50			
	200	GORK	2 SF	1132.8	1132.8	.3	50			
	100	GORK	8 S	1132.8	1132.8	.8	380			
	2800	OTTA	28 PRE	1134	1232	68	53.6	34.7		
	9100	GORK	48 C	1135.4	1248.9	115	12500			
	1470	BERL	46 C	1135		240 D	2600 D			
	10715	DWIN	20 GRF	1135		67		35		
	2650	DWIN	20 GRF	1135		67		40		
	9100	ARCE	28 PRE	1136.5	1231.6	66.2				
	3000	BERL	46 C	1137		238 D	1380 D			
	3100	CRIM	47 GB	1138.5		131 D				
	650	GORK	48 C	1139	1155.8	110	35			
	2950	GORK	48 C	1139	1251.8	111	7500			
	650	GORK		1139	1246.3		265			
	650	GORK		1139	1615.5		72			
	650	GORK		1139	1602.2		441			
	808	ONDR	28 PRE	1140	1153.2	63	25	13		
	228	HARS	28 PRE	1140	1223	62	140	60		
	234	POTS	49 GB	1140	1244	110	180			

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					UT	UT	MINUTES	PEAK	MEAN		
14	536	ONDR	28	PRE	1140	1155.6	64	65	17.5		
	113	POTS	49	GB	1140	1244.5	130	700			
	950	GORK	48	C	1142	1243.7	108	937			
	950	GORK			1142	1302		2730			
	950	GORK			1142	1259.3		2640			
	930	BORD	40	F	1143	1144.6	26	36	3		
	33	UPIC	45	C	1145.6	1146.7	2.1				
	29	UPIC	45	C	1145.8	1145.9	2.1				
	9400	HUAN	28	PRE	1154.3	1232	48.2	51	22.5		R
	127	TORN	27	RF	1200	1244.6	79	957	79		
	930	BORD	40	F	1218	1222.3	16	19	2		
	930	BORD			1241	1259 U		3230 D			
	930	BORD	47	GB	1241	1243.6	66	1558	517		
	930	BORD			1241	1302 U		3230 D			
	930	BORD			1241	1300		2993			
	260	ONDR	49	GB	1242.3	1247.2	17	135	103		
	100	GORK	45	C	1242.4	1243	15	4100			
	808	ONDR	49	GB	1242.4	1301.8	68	545	245		
	100	GORK			1242.4	1245		4000			
	808	ONDR			1242.4	1243.6		394			
	100	GORK			1242.4	1243.3		7700			
	808	ONDR			1242.4	1258		540			
	228	HARS	47	GB	1242.5	1244		340	140		
	1420	BOUL	47	GB	1242.5U	1300 U	60 U	11599 U	3866		SUNRISE
	9400	HUAN		C	1242.5	1248.7	44.3	12139	5592.3		R
	228	HARS			1242.5	1256.5		160			
	33	UPIC	49	GB	1242.6	1243.9	23.2				
	536	ONDR			1242.6	1300		162			
	536	ONDR	49	GB	1242.6	1243.4	47	250	138		
	536	ONDR			1242.6	1245.7		214			
	9100	ARCE			1242.7	1242.8	20.5				
	9100	ARCE	47	GB	1242.7	1308.2	59.7				
	29	UPIC	49	GB	1242.8	1244.3	24.9				
	408	TRST	49	GB	1242.8	1244.1	15	1300			
	10715	DWIN	49	GB	1242		110	300 D			
	2800	OTTA	47	GB	1242	1251.8	78	4030	1430		
	2650	DWIN	49	GB	1242		110	180 D			
	15000	KISV	47	GB	1242	1248.3		2000 D			
	6100	KISV	47	GB	1242	1248.3		2200			
	2695	BOUL	47	GB	1243.5U	1253	68 U	5224 U	1741		SUNRISE
	4995	BOUL	47	GB	1243.5U	1250	67.5U	9034	3011		SUNRISE
	9100	ARCE			1303.2	1308.2	39.2				
	9400	HUAN		S	1326.8	1326.8	182.9	493.8	55		R
	9100	ARCE	30	PBI	1342.4		166				
	9100	ARCE	1	S	1351.8	1352.3	1				
	2800	OTTA	30	PBI	1400	1400	425	54	17.2		
	2650	DWIN	45	C	1443	1443.5	1	180 D			
	9100	ARCE	1	S	1446.8	1446.1	1.8				
	113	POTS	8	S	1506.5	1506.7	8	350	120		
	33	UPIC	4	S/F	1506.5	1506.6	.4				
	29	UPIC	3	S	1506.6	1506.8	.3				
	228	HARS	45	C	1541.2	1543.5	2.5	750	25		
	930	BORD	8	S	1543.2	1543.6	1	694	8		
	7000	SAOP	3	S	1543.3	1543.7	1	15			24R
	33	UPIC	4	S/F	1543.3	1543.6	1				
	9100	ARCE	1	S	1543.4	1543.7	.7				
	2800	OTTA	8	S	1543.4	1543.5	.6	535			
	29	UPIC	4	S/F	1543.6	1544.1	1.2				
	9400	HUAN		S	1611.5	1612.3	1.9	16.5	9.3		R
	9100	ARCE	1	S	1611.9	1612.3	1.4				
	10400	BERN	3		1611.9	1612.2	2	17			
	7000	SAOP	3	S	1612	1612.3	.4	11			12R
	2800	OTTA	2	S/F	1612	1612.3	3	3.4	1.7		
	9400	HUAN		S	1625	1625.4	1.1	9.9	5.2		R
	9400	HUAN		S	1700.4	1700.8	1.8	18.1	10.4		R
	9400	HUAN		S	1721.5	1733.1	38	9.9	4.9		0
	4995	BOUL	4	S/F	1727.5	1729.5	3	22	7		
	228	HARS	45	C	1728	1729	5.5	350	80		
	2800	OTTA	4	S/F	1728.2	1730	3	10.8	5.4		
	7000	SAOP	3	S	1728.4	1730	17	24			16L
	9400	HUAN		S	1729	1729.7	1.8	11 5	8.7		0
	2695	BOUL	42	SER	1858.5E	2002	113 D	46	15		
	1420	BOUL	1	S	2000.5E	2001	1.5D	7	2		
	2800	OTTA	40	F	2000	2001	1 5	60			
	9400	HUAN		S	2010.5	2031.3	31 8	8.2	4.9		0
	2695	PENT	8	S	2011.5	2011.6	.2	6			
	1420	BOUL	4	S/F	2011 E	2014	3.5D	76	25		
	500	HIRA	46	C	2013.2	2014	1.5	100	70		SR
	2695	PENT	4	S/F	2013	2014	2	21.4	7 2		
	9400	HUAN		S	2046.9	2050.8	12.8	6.6	4.1		0
	2800	OTTA	4	S/F	2048.5	2049	3	15.2	5		
	9400	HUAN		S	2048.6	2049.5	1.2	9.9	7.2		0
	2800	OTTA	21	GRF	2120	2230	240	9	4.5		
	2800	OTTA	22	GRF	2147	2151	11	3	1.6		
	4995	BOUL	4	S/F	2354	2357	4.5	20	7		

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				UT	UT	MINUTES	PEAK	MEAN		
	5730	IRKU	1 S	2355	2357.1	4	20	8		Ø
	1415	MANI	S	2355	2356	3.8	1 13	4.3		
	720	SYDN	40 F	2355.3	2356.2	3.4	82			
	606	MANI	S/F	2355.5	2356.1	3	4 143.3	47.7		
	500	HIRA	46 C	2355.6	2356	3	40	10		Ø
	1415	SYDN	45	2355.7	2357.2	3.1	12			
	2695	MANI	S	2356	2357.3	3	1 43.9	14.6		
	2695	PENT	3 S	2356	2357.4	4	13.8	4.6		
	2695	PENT	2 S/F	2441	2442	3	3			
15	200	HIRA	46 C	0040.8	0041.2	2.5	8500	500		WR
	500	HIRA	46 C	0040.9	0041	2	650	100		WLWR
	100	HIRA	46 C	0041	0041.5	3	40000	5000		ML
	720	SYDN	42 SER	0041.1	0041.3	2.3	49			
	1415	SYDN	8 S	0157.7	0158	.6	42			
	100	HIRA	7 C	0208.8	0209	1.3	7000	100		WL
	200	HIRA	42 SER	0233	0238	5.5	1000	100		WL
	100	HIRA	46 C	0234	0236	6	500	50		Ø
	1415	MANI	S/F	0237	0237.7	2	4 228.2	76.1		
	606	MANI	S/F	0237	0237.7	2	4 375.4	125.1		
	17000	NOBE	1 S	0237.6	0237.8	.6	20			Ø
	720	SYDN	45 C	0237.7	0238	1.1	122			
	500	HIRA	46 C	0237.7	0238	1	250	100		WL
	1415	SYDN	8 S	0237.7	0237.8	.8	195			
	650	GORK	3 S	0409.9	0412.6	6.6	6	3		
	9100	GORK	20 GRF	0412.1	0412.8	18.3	5	2.5		
	2950	GORK	1 S	0412.2	0412.5	1.7	6.1	3		
	950	GORK	3 S	0420.1	0420.7	1	15			
	6100	KISV	45 C	0455	0456.1	9	114			
	6100	KISV		0455	0459.1		55			
	221	ABST	44 NS	0500	0935	300	9			
	260	ONDR	44 NS	0643 E		435 D	37			
	100	GORK	44 NS	0900 E		360 D		5		
	200	GORK	44 NS	0900 E		240 D		5		
	200	HIRA	41 F	0513	0519	17	2800			WL
	100	HIRA	41 F	0513	0519.5	20	1500			WL
	228	HARS	45 C	0517.5	0518.8	3	675	60		
	3100	CRIM	26 FAL	0716	1149	273	10	3		
	113	POTS	4 S/F	0848.9	0849	.4	125	25		
	202	IZMI	41 F	1134.3	1137.8	3.7	350			
	100	GORK		1134.5	1136.5		470 D			
	234	POTS	41 F	1134.5	1137.4	3.3	100	1		
	200	GORK		1134.5	1137.4		500			
	200	GORK	41 F	1134.5	1136.5	3.7	40 D			
	100	GORK	41 F	1134.5	1134.6	2.3	470 D			
	113	POTS	41 F	1134.6	1136.4	3.2	700	25		
	29	UPIC	46 C	1134.7	1136.6	3.8				
	33	UPIC	46 C	1134.7	1136.6	3.8				
	2800	OTTA	8 S	1136.7	1136.7	.1	9.4			
	930	BORD	41 F	1209.6	1209.7	.3	16	2		
	536	ONDR	8 S	1214.6	1214.6	.2	205			
	2800	OTTA	24OAR	1230	1340	10	3	1.5		
	2800	OTTA	8 S	1233.6	1233.7	.4	123			
	2800	OTTA	22 GRF	1313	1318	15	3	1.5		
	9400	HUAN	S	1340.5	1407.5	42	4.7	2.6		Ø
	2800	OTTA	4 S/F	1357	1559.5	3	30	15		
	930	BORD	46 C	1441.6	1441.6	1	128	5		
	1420	BOUL	4 S/F	1527.5E	1528	3 D	264	88		
	4995	BOUL	4 S/F	1527.5	1528	3	25	8		
	9400	HUAN	S	1527.9	1529	5.4	45.7	21.4		R
	2800	OTTA	4 S/F	1528.1	1529	5	32	14		
	10400	BERN	46	1528.2	1529.1	7	45			
	2650	DWIN	4 S/F	1528	1530	3	35	30		
	2800	OTTA	21 GRF	1528	1540	50	3	1.5		
	930	BORD	46 C	1528	1528.8	3.5	319	25		
	10715	DWIN	1 S	1528	1529	3	30	20		
	2695	BOUL	4 S/F	1529 E	1530	3 D	26	9		
	2800	OTTA	1 S	1541.5	1542	1	1.8	.9		
	930	BORD	41 F	1610	1610.5	.7	27	3		
	2800	OTTA	20 GRF	1700	1718	75	2.4	1.3		
	7000	SAOP	1 S	1713.3	1713.7		8			41R
	2800	OTTA	1 S	1828	1828.8	2	2.2			
	2695	PENT	20 GRF	2005	2013	15	2.2	1		
	2800	OTTA	20 GRF	2115	2210	120	5.4	3		
16	9100	GORK	21 GRF	0440.2	0625	480	36			
	5730	IRKU		0454	0459 3		61			R
	5730	IRKU	45 C	0454	0456	9	68 D			R
	2950	GORK	3 S	0454.9	0455.3U	2.1	70 D			
	2950	GORK	29 PBI	0454.9	0458	12.3	25	12		
	4995	MANI	S	0455	0456.4	5.4	3 136.8	45.6		
	9100	GORK	45 C	0455.3	0456.5		125			
	17000	NOBE	21 GRF	0455.3	0459.2	138	35			R
	9100	GORK		0455.3	0459.6		70			
	2695	MANI	S	0455.3	0456.4	5.1	3 140.5	46.8		

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					UT	UT	MINUTES	PEAK	MEAN		
	1415	MANI		S	0455.6	0459.5	5.7	3 16.9	5.6		1
	17000	NOBE	1	S	0456	0456.2	.4	29			R
	950	GORK	2	SF	0458.3	0459.7	3.2	16	8		
	650	GORK	2	SF	0458.4	0459.2	2.9	6			
	5730	IRKU	29	PBI	0503		24	9			R
	260	ONDR	44	NS	0554 E		421 D	21			
	113	POTS	27	RF	0615	0731	125 D	30			
	930	BORD	42	SER	0620	0620.2	4.3	67	2		
	930	BORD	8	S	0645.5	0645.6	.2	48	2		
	3100	CRIM	26	FAL	0653	0848	115	13	4		
	29	UPIC	41	F	0702.5	0814.7	190.4				
	33	UPIC	41	F	0703.2	0812.9	193				
	930	BORD	8	S	0710.8	0710.8	.1	54	1		
	930	BORD	8	S	0724.7	0724.7	.1	76	1		
	221	ABST	48	C	0734.2	0740	10	42	19		
	930	BORD	8	S	0750.2	0750.2	.1	48	1		
	536	ONDR	42	SER	0755	0755	11	35			
	930	BORD	8	S	0810.7	0810.7	.1	59	1		
	536	ONDR	3	S	0942.2	0942.2	.2	14			
	930	BORD	8	S	1017.8	1017.8	.1	38	1		
	33	UPIC	4	S/F	1101.2	1101.3	1.3				
	113	POTS	4	S/F	1101.3	1102.4	.8	300	60		
	29	UPIC	4	S/F	1101.4	1101.6	1.1				
	408	TRST	42	SER	1134	1218	52	390			
	260	ONDR	48	C	1134	1158.2	76	59	18.5		
	2800	OTTA	240	R	1135	1140	5	2.8	1.4		
	1470	BERL	22	GRF	1135	1204.4	171	26			
	228	HARS	27	RF	1135	1200	70	45	15		
	3000	BERL	20	GRF	1135	1223.7	136	10			
	950	GORK	46	C	1137	1154.6	68	49			
	950	GORK			1137	1205		73			
	950	GORK			1137	1217.2		73			
	650	GORK	46	C	1137.4	1156.8	67	102			
	650	GORK			1137.4	1217.9		808			
	650	GORK			1137.4	1204		676			
	536	ONDR	48	C	1137.5	1217.5	63	192	13		
	536	ONDR			1137.5	1203		138			
	930	BORD			1139	1154.6		131			
	930	BORD	42	SER	1139	1218	47	504	6		
	930	BORD			1139	1205		161			
	113	POTS	27	RF	1141	1214	172	70	13		
	33	UPIC	45	C	1147.2	1151.3	4.4				
	202	IZMI	4	S/F	1147.5	1149.2	1.7	35	12		
	29	UPIC	45	C	1147.5	1150.1	6				
	9500	BERL	20	GRF	1153	1204	87	7.8			
	2950	GORK	20	GRF	1154.9	1212	50	11	5		
	2800	OTTA	20	GRF	1154	1215	155	6.8	3.4		
	808	ONDR	48	C	1154	1217.8	32	162	6		
	2800	OTTA	20	GRF	1525	1530	20	2.4	1.4		
	2800	OTTA	20	GRF	1620	1630	20	2.4	1.2		
17	260	ONDR	44	NS	0628 E		454 D	25			
	113	POTS	27	RF	0658	0822	312 D	20	8		
	930	BORD	8	S	0824	0824	.1	42	1		
	930	BORD	8	S	0900.7	0900.7	.1	52	1		
	930	BORD	8	S	0927.4	0927.4	.1	42	1		
	930	BORD	8	S	1016.5	1016.5	.1	55	1		
	29	UPIC	3	S	1024.6	1024.9	.4				
	33	UPIC	8	S	1024.6	1024.7	.4				
	930	BORD	8	S	1042.5	1042.5	.1	31	1		
	33	UPIC	3	S	1054.8	1054.9	.4				
	29	UPIC	3	S	1055	1055.2	.5				
	930	BORD	8	S	1110	1110.1	.1	60	1		
	2800	OTTA	20	GRF	1750	1930	160	3.6	1.8		
	9400	HUAN		S	1833.7	1858.6	48.3	8.6	6.5		R
	100	HIRA	44	NS	2000 E	0005	370 D	140	50		SL
	9400	HUAN		S	2120.6	2136	24.7	10.3	7.1		0
	9400	HUAN		S	2200.4	2203	4.6	12	6.7		0
	2800	OTTA	1	S	2200	2203.8	6	9.8	4.9		
	2800	OTTA	30	PBI	2206	2206	55	4	2		
	2800	OTTA	2	S/F	2219.2	2221.7	6	3			
	2695	PENT	1	S	2334	2334.2	1	7.4	4		
18	950	GORK	1	S	0508	0508.6	.9	6.5	3		
	2950	GORK	1	S	0515.1	0515.6	1.4	12.5	6		
	221	ABST	6	S	0516	0517	2	19			
	650	GORK	2	SF	0538.1	0538.6	.7	6			
	260	ONDR	44	NS	0603 E		537 D	28			
	127	TORN	44	NS	0742 E	0826.1	438 D	143	8.5		V1
	113	POTS	42	SER	0619.8	0620	5.7	1300	10		
	3100	CRIM	1	S	0626	0628.5	4	4	1		
	536	ONDR	3	S	0700.2	0700.2	.2	26			
	113	POTS	4	S/F	0741.1	0741.5	1.1	300	40		
	930	BORD	8	S	0804.4	0804.4	.1	39	1		
	536	ONDR	3	S	0823.8	0823.8	.2	35			

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	930	BORD	8	S	0933.3	0933.3	.1	56	1		
	113	POTS	4	S/F	0941.4	0941.5	.5	175	20		
	3100	CRIM	3	S	0946.5		15				
	650	GORK	1	S	0947.5	0947.6	.4	3	1.5		
	1470	BERL	3	S	0947.5	0950.4	9	14			
	3000	BERL	4	S/F	0947.5	0950	13	90			
	5730	IRKU	2	S	0948	0949.8	5	58	8		R
	9500	BERL	3	S	0948	0950	4.5	30			
	5730	IRKU			0948	0950		50			R
	9100	GORK	21	GRF	0948.4	0951.8	11	12			
	2650	DWIN	4	S/F	0948	0950	17	100	50		
	10715	DWIN	1	S	0948	0950	7	25	15		
	9100	GORK	4	SF	0949.6	0950.4	1.8	37	20		
	950	GORK	1	S	0950.4	0950.7	1.3	1.5	.7		
	930	BORD	8	S	0952.7	0952.7	.1	36	1		
	113	POTS	4	S/F	1048.1	1048.2	.3	300	60		
	113	POTS	8	S	1110.6	1110.6	.2	150	50		
	113	POTS	4	S/F	1255	1255	.1	175	40		
	113	POTS	4	S/F	1315.8	1315.9	1.5	220	20		
	113	POTS	42	SBR	1326.6	1328.4	2.3	200	9		
	9400	HUAN		S	1345.3	1347.4	3.1	336.6	150		L
	9500	BERL	46	C	1345.3	1413.4	71	1023			
	2800	OTTA	46F	C	1345.5	1423.5	64.5	490	163		
	7000	SAOP	45	C	1345.6	1413.2		995			5L
	2650	DWIN	49	GB	1345		75	180 D			
	3000	BERL	46	C	1345	1423.6	71	299			
	10715	DWIN	49	GB	1345		75	300 D			
	1420	BOUL	3	S	1346 E	1347.5	3.5D	50	17		
	930	BORD	3	S	1346	1347.6	4	12	5		
	1470	BERL	46	C	1346	1405.9	72	224			
	2695	BOUL	4	S	1347 E	1349	8 D	119	39		
	4995	BOUL	3	S	1347	1348	7	117	39		
	9400	HUAN		PBI	1348.4	1348.4	9.5	52	22.2		L
	234	POTS	49	GB	1354	1415	60	3000			
	9400	HUAN		C	1401	1413.5	42.2	1426	451.2		L
	1420	BOUL	45	C	1401 E	1401	43 D	235	78		
	536	ONDR	46	C	1401	1410.3	52	254	39		
	930	BORD	45	C	1402	1409.8	53	259	60		
	2695	BOUL	45	C	1402 E	1425	45 D	335	112		
	808	ONDR	46	C	1403	1410	44	272	61		
	4995	BOUL	47	GB	1404	1425	44	651	217		
	228	HARS	47	GB	1405	1414	45	900	30		
	260	ONDR	46	C	1405		35	219 D	53		
	113	POTS	49	GB	1406.5	1419	79	5000			
	127	TORN	47	GB	1411.3	1416.4	9	4930	1040		
	9400	HUAN		PBI	1443.2	1443.2	95	48.8	18.2		L
	2800	OTTA	30	PBI	1450	1450	70	4.6			
	2800	OTTA	3	S	1453.5	1454.1	1.5	23.2	11.6		
	9400	HUAN		S	1454	1454.4	1.5	16.3	7.5		L
	930	BORD	41	F	1454.2	1454.7	.5	18	2		
	2800	OTTA	29	PBI	1455	1455	8	5.4	1.8		
	2800	OTTA	23	GRF	1730	1740.5	90	5.6	2.8		
	7000	SAOP	20	GRF	1731		38	11			Ø
	9400	HUAN		S	1735.6	1821.7	26.4	11.4	5.9		Ø
	2800	OTTA	1	S	1824.8	1825	1	1.4	.7		
	2800	OTTA	22	GRF	1845.7	1847.3	25	2.6			
	2800	OTTA	27A	RF	1915		155	3.4	2.7		
	2800	OTTA	24	R	1915	1930	15	3.4	1		
	2800	OTTA	24P	R	1930		90	3.4			
	2800	OTTA	3	S	2030	2031.6	4	12.6	6		
	2800	OTTA	3	S	2035	2035.3	1.5	12	4		
	2800	OTTA	26F	FAL	2100	2150	50	-3.4	-1.7		
19	9100	GORK	1	S	0517.5	0518.2	2.4	5	2.5		
	9100	GORK			0530	0546.6		40			
	9100	GORK	45	C	0530	0532.7	25.4	17			
	3100	CRIM	3	S	0542		7				
	5730	IRKU			0542	0546		41			R
	5730	IRKU	45	C	0542	0544.1	6	7	10		R
	5730	IRKU			0542	0546.4		23			R
	5730	IRKU			0542	0545.3		19			R
	2950	GORK	21	GRF	0543.2	0545.2	24.5	11			
	2950	GORK			0545.8	0546.5	2.3	24	12		
	5730	IRKU	29	PBI	0548		12	7			R
	260	ONDR	44	NS	0555 E		500 D	37			
	127	TORN	44	NS	0600 E	0844.9	540 D	2070	1		VØ
	3100	CRIM	1	S	0642	0643	2	4	1		
	536	ONDR	4	S/F	0642.3	0642.6	2	136	16		
	202	IZMI	41	F	0656.7	0703.4	8.8	250			
	536	ONDR	46	C	0658.5	0703	9	202	41		
	500	HIRA	46	C	0701	0703.1	5.5	2600	500		SL
	228	HARS	45	C	0702.3	0702.4	3	240	20		
	3100	CRIM	1	S	0702.5	0703.5	5	3	1		
	221	ABST	45	C	0704	0705	4	52	19		
	9100	GORK	20	GRF	0733.5	0735.7	7.8	8	4		

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				UT	UT	MINUTES	PEAK	MEAN		
	930	BORD	8 S	0752	0752	.1	33	1		
	536	ONDR	4 S/F	0755	0755.8	2.5	24	1.7		
	536	ONDR	4 S/F	0810.5	0811.3	2	22	4.2		
	113	POTS	4 S/F	0810.6	0811	.5	200	20		
	930	BORD	8 S	0819.7	0819.7	.1	30	1		
	221	ABST	45 C	0842.5	0843	2	62	32		
	536	ONDR	45 C	0843.2	0845.6	6	52	20.6		
	500	HIRA	41 F	0843.3	0846.4	4.5	450	200		SL
	3100	CRIM	45 C	0843.5	0844.5	5	8	3		
	113	POTS	4 S/F	0843.5	0845	1.5	1400	45		
	3000	BERL	3 S	0843.6	0844.5	2.9	7.1			
	202	IZMI	41 F	0843.7	0845	4.3	325			
	1470	BERL	2 S/F	0843.8	0845	4.7	4.3			
	100	HIRA	46 C	0843	0845	3	1000	350		0
	9500	BERL	1 S	0844	0844.5	1.5	4.3			
	228	HARS	45 C	0844	0844.2	2.5	300	18		
	29	UPIC	45 C	0844.1	0845.6	2.9				
	33	UPIC	45 C	0844	0845.3	2.4				
	930	BORD	8 S	0854	0854	.1	40	1		
	113	POTS	4 S/F	0922.6	0922.6	.3	200	40		
	930	BORD	8 S	0936.8	0936.8	.1	17	1		
	113	POTS	4 S/F	0946.4	0946.4	.2	200	70		
	1470	BERL	20 GRF	1102.5	1111.5	36	4.3			
	9500	BERL	20 GRF	1102	1104.8	6	7.1			
	2800	OTTA	1 S	1128.5	1129	1.5	3.6	1.8		
	2800	OTTA	24OAR	1128	1130	2	2.4	1.2		
	127	TORN	7 C	1228.3	1228.5	1.2	394	115		
	113	POTS	4 S/F	1228.3	1228.4	.6	300	30		
	9500	BERL	20 GRF	1232	1315	113	10			
	2800	OTTA	24OFR	1253	1306	13	3.6			
	9400	HUAN	S	1535.3	1540.3	14	8.2	4.6		0
	2800	OTTA	21 GRF	1536	1540	14	5.4	2.5		
	9400	HUAN	8 S	1538.6	1538.9	.7	44.2	22.6		0
	2800	OTTA	8 S	1538.9	1539	.2	10 8			
	9400	HUAN	S	1554.7	1558.2	43.7	9.8	3.7		0
	9400	HUAN	S	1815.7	1836	41.7	14.7	6.5		L
	9400	HUAN	S	1943.1	1943.8	1.5	4.9	3.3		0
	200	HIRA	44 NS	2005 E	2255	800 D	35	10		SR
	2800	OTTA	23 GRF	2020	2137	160	4.4	2.4		
	9400	HUAN	S	2021	2022	3.1	13.1	8.8		L
	9400	HUAN	S	2125.6	2128.1	4.7	26.2	11.3		0
	2800	OTTA	1 S	2127.8	2128.2	3.5	8	3.8		
	2800	OTTA	20 GRF	2153	2200	17	3	1.8		
20	221	ABST	44 NS	0500	0550	300	32			
	260	ONDR	44 NS	0550 E		503 D	125	8		
	9100	GORK	20 GRF	0508.2	0510.4	12.3	9	4		
	221	ABST	48 C	0510	0519	19	76	38		
	9100	GORK	20 GRF	0545.9	0624.6	59	10	5		
	930	BORD	8 S	0652.2	0652.2	.1	42	1		
	9100	GORK	46 C	0720.2	0722.3	12.7	200 D			
	9100	GORK		0720.2	0722.8		170			
	9100	ARCE	4 S/F	0720.4	0721 7	3.6				
	3100	CRIM	3 S	0721	0722	18	30	10		
	4995	MANI	S/F	0721.1	0722.2	3.4	4 246.9	82.3		
	2695	MANI	S/F	0721.1	0722.3	5.4	4 52	17.3		
	5730	IRKU		0721.1	0722.5		64			L
	8800	MANI	S/F	0721.1	0722.2	2.2	4 295.2	98.4		
	5730	IRKU	2 S	0721.1	0721.7	4	44 D			L
	2950	GORK	3 S	0721.5	0723	3.9	98			
	9500	BERL	4 S/F	0721.5	0722.5	8.5	187			
	3000	BERL	4 S/F	0721.5	0722.5	11	91			
	17000	NOBE	7 C	0721.6	0722.5	2.1	112			L
	2650	DWIN	4 S/F	0721	0723	10	60	30		
	6100	KISV	4 S/F	0721	0722.3	5	20			
	10715	DWIN	4 S/F	0721	0723	8	120	50		
	15000	KISV	8 S	0721	0722	5	85 D			
	1470	BERL	1 S	0722	0723.2	6	3.1			
	9100	ARCE	29 PBI	0724		13.4				
	5730	IRKU	29 PBI	0725		11	10			L
	930	BORD	8 S	0727.2	0727.2	.1	48	1		
	930	BORD	8 S	0804.2	0804.2	.1	38	1		
	9100	GORK	23 GRF	0808	0953.5	265	78			
	2950	GORK	21 GRF	0810	0900	260	35			
	3100	CRIM	28 RPE	0812	0814	36	5	1		
	930	BORD	8 S	0837	0837.3	.3	22	2		
	6100	KISV		0841	0922		454			
	6100	KISV		0841	0909.2		282			
	6100	KISV		0841	0934.3		591			
	6100	KISV		0841	0906.3		53			
	6100	KISV		0841	0927.4		729			
	6100	KISV		0841	0916		478			
	6100	KISV	29 PBI	0841	0945	70	162			
	6100	KISV	47 GB	0841	0924.3	64	802			
	6100	KISV		0841	0913.3		454			

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20	6100	KISV			0841	0907.1		76			
	6100	KISV			0841	0918.5		664			
	650	GORK	21	GRF	0842		96				
	3100	CRIM			0848	0935		667	222		
	3100	CRIM	47	GB	0848	0924.5	69	680	227		
	3100	CRIM	29	PBI	0848	0957	75	11	4		
	9100	ARCE			0859.8	0912.3	16.2				
	9100	ARCE	47	GB	0859.8	0923.4	47.6				
	15000	KISV			0900	0909.4		180			
	15000	KISV			0900	0934		820			
	15000	KISV	47	GB	0900	0924.1	41	2360			
	15000	KISV	29	PBI	0900	0942	14	370			
	15000	KISV			0900	0916.1		1030			
	15000	KISV			0900	0913.1		1570			
	15000	KISV			0900	0922		700			
	15000	KISV			0900	0912.1		890			
	15000	KISV			0900	0918.4		1310			
	15000	KISV			0900	0914.4		1320			
	15000	KISV			0900	0927.5		2230			
	9500	BERL	46	C	0902.5	0924.5	113	1870			
	2650	DWIN	49	GB	0902		60	140	D		
	3000	BERL	46	C	0902	0924.8	59	335			
	3000	BERL			0902	0935.5		335			
	2950	GORK	46	C	0903	0909.6	40	213			
	9100	GORK	46	C	0903	0909.5	45	500			
	2950	GORK			0903	0924.8		990			
	9100	GORK	46	C	0903	0924.6	2800				
	2950	GORK			0903	0918.7		430			
	9100	GORK			0903	0918.8		1600			
	2950	GORK			0903	0935.1		350			
	9100	GORK			0903	0934	1180				
	2950	GORK			0903	0912.3		430			
	9100	GORK			0903	0927.7	1970				
	2950	GORK			0903	0922		480			
	5730	IRKU	49	GB	0903.5		57	64	D		L
	930	BORD	8	S	0903.8	0903.9	.1	28	1		
	10715	DWIN	49	GB	0903		120	270	D		
	1470	BERL	46	C	0904	0925	67	323			
	4995	MANI	4	GB	0904.7	0924.3	42.5	7 1563.7	521.2		
	8800	MANI	4	GB	0905.5	0924.3	41.7	7 2804.4	934.8		
	950	GORK			0906	0924.8		142			
	950	GORK	46	C	0906	0922	26.8	95			
	950	GORK			0906	0928		121			
	808	ONDR	48	C	0907	0924.3	50	106	60		
	930	BORD	45	C	0907	0924.6	49	166	45		
	2695	MANI	4	GB	0908.5	0924.3	37.4	7 520	173.3		
	606	MANI		S/F	0908.7	0916	34.8	4 124.2	41.4		
	1415	MANI		S/F	0908.8	0924.4	38.5	4 253.8	84.6		
	650	GORK			0909	0918.8		108			
	650	GORK	46	C	0909	0915.2	30.5	143			
	650	GORK			0909	0928.1		77			
	650	GORK			0909	0924.4		88			
	536	ONDR	48	C	0909	0917.2	48	247	49		
	234	POTS	46	C	0910	0922.5	46	100	15		
	228	HARS	49	GB	0910	0921	60	200	15		
	408	TRST	49	GB	0912.5	0921.6	27.5	460			
	260	ONDR	48	C	0913	0922	27	126	60		
	202	IZMI	48	C	0914	0917.5	24	440	200		
	202	IZMI	45	C	0914	0917.5	4	440	200		
	113	POTS	46	C	0914.5	0919	38	350	35		
	127	TORN			0914.9	0925.1		331			
	127	TORN	49	GB	0914.9	0919.3	17.3	612	113		
	127	TORN			0914.9	0921.8		361			
	9100	ARCE			0916	0917.6	6				
	202	IZMI	27	RF	0918	0923.7	20	340	100		
	9100	ARCE			0922	0923.4	3.8				
	33	UPIC	48	C	0923.4	0923.6	32.6				
	9100	ARCE			0925.8	0926.6	6				
	9100	ARCE			0931.8	0932.8	15.6				
	9100	ARCE	30	PBI	0947.4		97				
	9100	ARCE	1	S	1105	1105.6	1.8				
	930	BORD	8	S	1125.6	1125.6	.1	45	1		
	9100	ARCE	2	S/F	1140.9	1141.7	3.6				
	2800	OTTA	21	GRF	1140	1248	215	8.4	4.2		
	3100	CRIM	3	S	1141	1142.5	3	30	10		
	3100	CRIM	29	PBI	1141	1144	23	7	2		
	6100	KISV	4	S/F	1141.3	1142.3	4	18			
	1470	BERL	29	PBI	1141.5	1142.5	8.5	18			
	9500	BERL	22	GRF	1141.5	1142.4	18	11			
	7000	SAOP	4	S/F	1141.6	1142.5	14	18			52R
	3000	BERL	29	PBI	1141.6	1142.5	16	35			
	2950	GORK	3	S	1141.9	1142.6	2.4	38	19		
	2800	OTTA	3	S	1141	1142.4	4	38.6	16.6		
	2650	DWIN	4	S/F	1141	1143	20	40	20		
	950	GORK	1	S	1142.3	1142.8	1.9	5			

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	650	GORK	1 S	1142.6	1143.5	1.3	2			
	930	BORD	3 S	1142	1142.7	2	13	4		
	2800	OTTA	29 PBI	1145	1145	21	11	5.5		
	930	BORD	8 S	1150.2	1150.2	.1	42	1		
	930	BORD	8 S	1214.1	1214.1	.1	37	1		
	930	BORD	8 S	1240.8	1240.8	.1	30	1		
	9400	HUAN	S	1245.5	1413.2	124.3	15.9	8.1		L
	113	POTS	8 S	1245.7	1246	.3	350	120		
	234	POTS	8 S	1246.5	1246.8	.4	525	125		
	7000	SAOP	4 S/F	1258	1259	25	15			13L
	127	TORN	45 C	1258.1	1258.6	2	62	25		
	2800	OTTA	1 S	1258.5	1259	4	4.8	2.4		
	234	POTS	4 S/F	1423.7	1423.8	.9	250	5		
	113	POTS	8 S	1438.4	1438.5	.1	770	250		
	7000	SAOP	24 R	1610			8			Ø
	7000	SAOP	41 F	1610						
	2800	OTTA	24O R	1620	1630	10	3.6	1.8		
	7000	SAOP	45 C	1622	1635.5	29	20			Ø
	2800	OTTA	20 GRF	1640		100	5.4			
	7000	SAOP	20 GRF	1659.6		18.6	15			Ø
	7000	SAOP	45 C	1722.8	1731.2	12	20			Ø
	9100	ARCE	4 S/F	1729.8	1730.3	3.2				AT SUNSET
	7000	SAOP	20 GRF	1750.6		26	12			Ø
	2800	OTTA	27 RF	1835		115	2.6	2		
	2800	OTTA	24 R	1835	1855	20	2.6	1.3		
	2800	OTTA	24P R	1855		65	2.6			
	9400	HUAN	S	1922.7	1948	46.9	12.8	6.7		L
	9400	HUAN	S	1942	1944.5	5.3	30.3	16.1		L
	2800	OTTA	26 FAL	2000	2030	30	-2.6	-1.3		
	200	HIRA	44 NS	2010 E	2145	540 D	15	5		SR
	2800	OTTA	21 GRF	2105	2210	145	5.8	2.9		
	2800	OTTA	2 S/F	2109.5	2111.5	4	8.8	4.4		
	9400	HUAN	S	2110	2139.7	35.7	27.1	14.4		L
	2800	OTTA	2 S/F	2231.2	2232	2	3.6	2		
	5730	IRKU	1 S	2336	2338.9	7	17	8		L
21	5730	IRKU	1 S	Ø138	Ø139.5	6	9	4		L
	5730	IRKU		Ø147.2	Ø152.7		19			L
	5730	IRKU		Ø147.2	Ø150.6		24			L
	5730	IRKU		Ø147.2	Ø154.9		39			L
	5730	IRKU	45 C	Ø147.2	Ø148.4	14	22	17		L
	5730	IRKU		Ø147.2	Ø151.1		24			L
	5730	IRKU	29 PBI	Ø201		37	7			L
	221	ABST	43 NS	Ø449	Ø450	18	28			
	260	ONDR	44 NS	Ø550 E		503 D	47			
	2950	GORK	20 GRF	Ø605.4	Ø617.8	40	48			
	536	ONDR		Ø606.6	Ø624.2		27			
	536	ONDR	48 C	Ø606.6	Ø611.8	50	114	24		
	536	ONDR		Ø606.6	Ø649.6		28			
	950	GORK		Ø607	Ø613.1		39			
	950	GORK	46 C	Ø607	Ø611	45.4	51			
	950	GORK		Ø607	Ø650		10			
	33	UPIC	42 SER	Ø607.1	Ø621.4	62.7				
	650	GORK		Ø607.2	Ø649.9		26			
	650	GORK	46 C	Ø607.2	Ø612.7	47.4	87			
	650	GORK		Ø607.2	Ø624.6		42			
	9100	GORK	20 GRF	Ø607.5	Ø618.4	41	22	10		
	6100	KISV	27 RF	Ø607	Ø620	33	7			
	100	HIRA	48 C	Ø607	Ø616.2	22	15000	1000		Ø
	260	ONDR	48 C	Ø607	Ø613.3	52	51	12.6		
	200	HIRA	46 C	Ø607	Ø618	25	30	10		WL
	606	MANI	S/F	Ø608	Ø610.8	7.8	4 86.2	28.7		
	500	HIRA	48 C	Ø608	Ø612	50	350	50		ML
	500	HIRA		Ø608	Ø649.4		40			ML
	500	HIRA		Ø608	Ø624.3		30			WL
	1415	MANI	S/F	Ø608.3	Ø614.5	6.9	4 46.1	15.4		
	3100	CRIM	3 S	Ø610	Ø617.5	17	42	14		
	3100	CRIM	29 PBI	Ø610	Ø627	15	5	2		
	127	TORN	49 GB	Ø611.4	Ø618	10.7	1240	193		
	2695	MANI	S	Ø611.5	Ø614.5	3.5	3 25.9	8.6		
	113	POTS	4 S/F	Ø617.9E	Ø619	2.9D	1000			
	930	BORD	8 S	Ø639.2	Ø639.2	.1	33	1		
	930	BORD	3 S	Ø647	Ø649.7	6	18	6		
	930	BORD	8 S	Ø704.7	Ø704.7	.1	35	1		
	930	BORD	8 S	Ø747.2	Ø747.2	.1	48	1		
	930	BORD	8 S	Ø828.1	Ø828.1	.1	60	1		
	9100	ARCE	20 GRF	Ø833.9	Ø841.1	70				
	6100	KISV	27 RF	Ø835	Ø841.3	32	5			
	9100	GORK	20 GRF	Ø836	Ø841.6	32	19	10		
	2950	GORK	20 GRF	Ø837.2	Ø842	25	8.5	4		
	930	BORD	8 S	Ø839.9	Ø839.9	.1	22	1		
	930	BORD	8 S	Ø953.6	Ø953.6	.1	53	1		
	930	BORD	8 S	1018.8	1018.8	.1	35	1		
	127	TORN	4 S/F	1029.2	1030	1.7	31	13		
	127	TORN	4 S/F	1031.5	1031.8	.7	7	3.5		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	930	BORD	8	S	1045.1	1045.1	.1	45	1		
	9400	HUAN		S	1153	1203.2	22.8	5	2		Ø
	9400	HUAN		S	1302	1342.8	108.3	13.4	4.8		R
	2800	OTTA	21	GRF	1320	1342	110	5.8	2.9		
	9100	ARCE	20	GRF	1327.6	1331	58				
	9500	BERL	22	GRF	1329	1332	73	8.1			
	2800	OTTA	1	S	1331.3	1331.8	1	2.8	1.4		
	9400	HUAN		S	1331.4	1332.3	2.3	6.7	4.4		R
	3000	BERL	22	GRF	1331	1358	76	7.8			
	1470	BERL	22	GRF	1331	1358	84	4			
	33	UPIC	45	C	1344.9	1345.7	2.4				
	29	UPIC	45	C	1345.1	1345.9	2				
	113	POTS	4	S/F	1345	1345.1	.7	1800	350		
	2800	OTTA	2	S/F	1356	1358	3	3.6	1.6		
	2695	PENT	1	S	1410	1411	2	5.2			
	2695	PENT	2	S/F	1416	1417.5	3	2	.9		
	2800	OTTA	1	S	1548.5	1549.5	3	4.8	2.4		
	2800	OTTA	21	GRF	1640	1657	100	10.2	3.4		
	9400	HUAN		S	1742.3	1743.5	4.7	25.2	8.6		Ø
	2800	OTTA	4	S/F	1751	1752	6	14.6	5		
	2800	OTTA	21	GRF	1840	1930	90	3	1.5		
	2800	OTTA	1	S	1858.2	1859	2	7.6	3.8		
	9400	HUAN		S	1948.2	1959.6	17.3	6.7	2.8		R
	2695	PENT	21	GRF	2120	2410	230 D	20.6			
	200	HIRA	43	NS	2123	2250	710 D	500	80		MLMR
	100	HIRA	43	NS	2203	0005	670 D	750	270		SR
	2695	PENT	20	GRF	2244	2251.5	11	7	3.4		
22	35000	NAGO	5	S	0247	0248	2	5			
	221	ABST	44	NS	0500	0517	300	19			
	260	ONDR	44	NS	0555 E		500 D	26	4		
	127	TORN	44	NS	0600 E	1409.5	540 D	228	11.4		V1
	33	UPIC	4	S/F	1046	1046.3	2.4				
	7000	SAOP	20	GRF	1103.2		124	30			6R
	536	ONDR	41	F	1104.3	1113	14	10	7 7		
	1470	BERL	20	GRF	1105	1133.8	103	9.3			
	9500	BERL	20	GRF	1105	1136	82	16			
	33	UPIC	45	C	1108.9	1110	2 6				
	3000	BERL	20	GRF	1110	1134	59	11			
	9100	GORK	20	GRF	1115	1136	64	15	7		
	2800	OTTA	21	GRF	1120	1138	105	11	5.5		
	930	BORD	8	S	1127.8	1128.1	.4	23	2		
	113	POTS	27	RF	1128	1213	119	65	16		
	9400	HUAN	8	S	1129	1129.4	1	42.9	21		R
	9400	HUAN		S	1131.3	1132.3	1.4	27.5	16.8		Ø
	2800	OTTA	1	S	1133	1134	2	3	1.5		
	9400	HUAN		S	1150.3	1151.7	2.4	10.3	6.3		Ø
	9400	HUAN		S	1200.8	1201.2	1.8	6.9	4.5		Ø
	2800	OTTA	240	R	1317	1350	33	5.4	3		
	9400	HUAN		S	1320.2	1345.2	93.3	8.6	5.4		Ø
	33	UPIC	45	C	1337.5	1337.8	1.7				
	29	UPIC	45	C	1338.2	1338.6	2.1				
	113	POTS	41	F	1338	1338.4	1.5	350	10		
	7000	SAOP	40	F	1510	1655					Ø
	2800	OTTA	20	GRF	1525	1550	95	3.6	1.8		
	2800	OTTA	21	GRF	1845	2200	375	8.4			
	2800	OTTA	4	S/F	1854	1858.3	12	15.8	5.4		
	2695	PENT	45	C	2343	2350	11	36	7.2		
	4995	BOUL	4	S/F	2347	2349.5	3	30	10		
	5730	IRKU	1	S	2349.5	2350.4	3	8	3		L
23	17000	NOBE	1	S	0108.8	0109	.5	35			L
	221	ABST	42	SER	0504	0507.5	54	28			
	9100	GORK	22	GRF	0530.8	0552	56	17	8		
	260	ONDR	44	NS	0556 E		490 D	61	2		
	202	IZMI	5	S	0733	0733	.3	520	300		
	113	POTS	4	S/F	0737	0737.1	.2	300	100		
	221	ABST	6	S	0752.5	0753	1	24			
	228	HARS	45	C	0752.6	0752.8	2.5	90	10		
	9100	GORK	20	GRF	0754.3	0801	23.5	6	3		
	3100	CRIM	41	F	0843	0846	6	13	4		
	3100	CRIM			0843	0848.5		15	5		
	930	BORD	8	S	0850.9	0850.9	.1	27	1		
	536	ONDR	2	S/F	0909	0909.4	.5	18			
	9100	GORK	20	GRF	0922	0927.9	12.3	6	3		
	9100	GORK	1	S	0938.8	0941.2	5	8	4		
	9100	GORK	1	S	0947.3	0951.3	4	11	5		
	6100	KISV	27	RF	1059	1103.3	13	4			
	7000	SAOP	45	C	1102	1252.1	67.4	527			12L
	9400	HUAN		S	1140	1141.2	4	11.4	5.4		Ø
	9100	GORK	20	GRF	1148.5	1155.4	11	7	3		
	9400	HUAN		S	1210.7	1213.3	9.3	16.3	9.2		Ø
	2950	GORK	20	GRF	1210.8	1212.9	12.8	13	6		
	3100	CRIM	1	S	1211	1213	3	15	5		
	3000	BERL	3	S	1211	1212.7	5	12			

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DAY OF MONTH	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		
	9100	GORK	20 GRF	1211.3	1219.5	10	10	5		
	2800	OTTA	20 GRF	1211	1213	20	10.6	3.6		
	2695	BOUL	45 C	1235 U	1301	34 U	143	48		SUNRISE
	4995	BOUL	45 C	1236.5U	1243 U	19 U	163	54		SUNRISE
	3100	CRIM		1243	1301		116	39		
	3100	CRIM	45 C	1243	1252	23	139	46		
	10400	BERN	4	1243.4	1251.1	25	365			OPR
	2650	DWIN	45 C	1243		37	120 D			
	2800	OTTA		1243	1252	14	114			
	2800	OTTA	46F C	1243	1300	27	124	45.6		
	9400	HUAN	C	1244.1	1251.1	10.5	532	228.2		L
	9100	ARCE	4 S/F	1244.2	1250.2	12				
	1470	BERL	46 C	1245	1252.2	40	936			
	10715	DWIN	45 C	1245	1251	25	270	150		
	9500	BERL	29 PBI	1245	1251	125	404			
	3000	BERL	46 C	1247	1300	92	139			
	1420	BOUL	47 GB	1248.5U	1251.5U	20 U	954 U	318		SUNRISE
	536	ONDR	48 C	1248.5	1251	41	214	37		
	808	ONDR	48 C	1248		32	621 D	147		
	930	BORD	47 GB	1249	1250.4	33	7800	416		
	930	BORD		1249	1259.7		707			
	930	BORD		1249	1254.8		905			
	930	BORD		1249	1251.7		6760			
	930	BORD		1249	1257.5		884			
	9400	HUAN	PBI	1254.6	1254.6	160.3	132.2	33.9		L
	9100	ARCE	29 PBI	1256.2	1259.6	110				
	2800	OTTA		1257	1300	13	124			
	9400	HUAN	S	1259	1259.9	2.3	32.6	19		Ø
	228	HARS	45 C	1259.5	1300.6	5.5	270	20		
	2800	OTTA	30 PBI	1310	1310	230	19.8	7.4		
	2800	OTTA	3 S	1318	1318.5	1.5	12.8	4 2		
	113	POTS	4 S/F	1431	1431.1	.8	100	10		
	9400	HUAN	S	1451.1	1451.5	1.1	8.2	6.5		Ø
	9400	HUAN	S	1457.6	1458.7	4.3	9.2	5.8		Ø
	9100	ARCE	1 S	1457	1457.7	4				
	9100	ARCE	3 S	1506.1	1507.5	5.6				
	9400	HUAN	S	1506.8	1508	4.3	18	9.8		Ø
	2650	DWIN	1 S	1506	1508	7	30	20		
	4995	BOUL	4 S/F	1506	1507.5	6	30	10		
	2800	OTTA	3 S	1506	1508.5	6	32	10.6		
	2695	BOUL	3 S	1508 E	1509	4	14	5		
	2800	OTTA	29 PBI	1512	1512	10	4.4	2.2		
	9400	HUAN	S	1627.8	1628.2	1.7	16.3	8.7		Ø
	2800	OTTA	22 GRF	1800	1850	150	6.6	3.3		
	9400	HUAN	S	1844.5	1851	24.8	8 2	2		Ø
	2695	PENT	21 GRF	2300	2322	70	11.8	5.6		
	2695	PENT	1 S	2304	2306	4	3.6	1.8		
24	2695	PENT	20 GRF	0015	0020	50 D	5.2			
	200	HIRA	43 NS	0050	0750	505 D	15	5		WR
	260	ONDR	44 NS	0550 E		500 D	34	2		
	127	TORN	43 NS	0713	0750.5	130	32	2.8		V1
	930	BORD	8 S	1016.2	1016.2	.1	25	1		
	650	GORK	20 GRF	1143.9	1222.6	47	3			
	2650	DWIN	20 GRF	1150	1201	70	30	10		
	9100	GORK	20 GRF	1151.5	1213	40	20			
	1470	BERL	29 PBI	1152	1202.8	131	14			
	2800	OTTA	45 C	1154	1201	26	36.6	22		
	7000	SAOP	45 C	1155.2	1211.5	50	30			6R
	9500	BERL	20 GRF	1155	1212.7	128	19			
	3000	BERL		1155	1211.5		41			
	3000	BERL	29 PBI	1155	1201.4	115	41			
	950	GORK	20 GRF	1157.6	1203.4	34	5			
	6100	KISV	27 RF	1157	1212	32	9			
	2950	GORK	20 GRF	1158.3	1201.5	32	38			
	9400	HUAN	S	1158.6	1218.1	55.5	17.8	8.8		Ø
	3100	CRIM		1210	1232		54	18		
	3100	CRIM	7 C	1210	1222	26	56	19		
	3100	CRIM	29 PBI	1210	1236	36 D	22	7		
	2800	OTTA	29 PBI	1220	1220	90	17.4	8.7		
	2800	OTTA	20 GRF	1435	1507	50	5.6	1.9		
	2800	OTTA	24O R	1600	1635	35	4	2		
	2800	OTTA	1 S	1636	1637.5	4	2.4	1.2		
	2800	OTTA	1 S	1738	1739	4	8	6		
	2800	OTTA	29 PBI	1742	1742	10	4	1.4		
	9400	HUAN	S	1812.4	1818.7	27.3	7.6	3.6		Ø
	9400	HUAN	S	1814.7	1815.4	2.5	11.4	8.3		Ø
	2800	OTTA	2 S/F	1814	1814.7	3	6.4	3.2		
	2800	OTTA	29 PBI	1817	1817	20	2.4	1.2		
	2800	OTTA	24O R	1900	1925	25	4	2		
	4995	BOUL	3 S	1920	1923.5	10	15	5		
	9400	HUAN	S	1921.5	1924.7	6.7	7.6	3 7		Ø
	2800	OTTA	22 GRF	1940	1950	45	2.8			
	9400	HUAN	S	1946.5	1955.3	15.9	5.1	3		Ø
	2800	OTTA	20 GRF	2035	2117	65	4.8	2.8		

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DAY OF MONTH	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		
	9400	HUAN		S	2048.2	2048.6	11.8	20.4	12.5		Ø
	9400	HUAN		S	2151.2	2152.6	2.6	57.3	24.7		L
	4995	BOUL	8	S	2151	2152	2	26	9		
	2800	OTTA	21	GRF	2151	2210	120	7	3.5		
	2800	OTTA	3	S	2152.3	2152.7	1.5	11.4	3.8		
25	221	ABST	48	C	0545	0553	11	38	19		
	260	ONDR	44	NS	0704 E		439 D	29			
	3100	CRIM	20	GRF	0739	0805	88	8	3		
	33	UPIC	8	S	0854.4	0854.5	.4				
	29	UPIC	3	S	0854.5	0854.7	.6				
	33	UPIC	8	S	0909.6	0909.6	.4				
	29	UPIC	3	S	0909.7	0909.8	.5				
	7000	SAOP	20	GRF	1200		127	32			Ø
	2800	OTTA	240	R	1210	1240	30	6	3		
	113	POTS	8	S	1239	1239	.1	200	70		
	9400	HUAN		S	1257.8	1303.1	11	10.3	6.2		Ø
	9400	HUAN		S	1353.4	1357.3	16	6.8	3.7		Ø
	2800	OTTA	3	S	1509	1511.7	5	24	12		
	2800	OTTA	30	PBI	1514	1514	25	6.4	3.2		
	2800	OTTA	1	S	1534	1534.5	1	4	2		
	2800	OTTA	21	GRF	1610	1620	100	10.4	4.8		
	9400	HUAN		S	1615.1	1635	36.6	10.3	4.4		Ø
	2800	OTTA	20	GRF	1700	1702	30	8.4	4.2		
	2800	OTTA	21	GRF	1900	2055	240	12	6		
	7000	SAOP	45	C	1921	1959.5	35	130			3L
	9400	HUAN		S	1924.4	2007.3	97	37.7	21.4		L
	2800	OTTA	4	S/F	1943	1959.5	25	85	28.4		
	4995	BOUL	45	C	1949.5	1959	20.5	65	22		
	9400	HUAN		C	1950.4	1959	15.1	75.3	39.9		L
	2695	BOUL	3	S	1959 E	2001	5.5D	100	30		
	2800	OTTA	29	PBI	2008	2008	30	8	4		
	200	HIRA	46	C	2223	2224	3	400	100		WR
	500	HIRA	46	C	2225.7	2226 3	1	85	60		WR
	100	HIRA	42	SER	2226	2227	7	800	200		WL
	2695	PENT	3	S	2313.3	2313.7	1	22	11		
26	5730	IRKU	2	S	0006	0010.1	8	31	5		L
	5730	IRKU			0006	0010.3		28			
	4995	BOUL	3	S	0008.5	0009.5	4.5	25	8		
	2695	PENT	3	S	0009.9	0010.3	5	15	5		
	17000	NOBE	20	GRF	0144.5	0206.9	54	15			Ø
	500	HIRA	46	C	0152.7	0203.5	18 5	20	8		Ø
	5730	IRKU	20	GRF	0335	0338	12	15	5		L
	2950	GORK	20	GRF	0335.9	0338	11.3	33	16		
	200	HIRA	43	NS	0340	0535	190	60	20		Ø
	9100	GORK	1	S	0648.7	0651.7	6.2	12	6		
	3100	CRIM	1	S	0649	0651.5	4	20	7		
	5730	IRKU	20	GRF	0649	0651.6	7	14	5		Ø
	9500	BERL	3	S	0650	0651.5	3	11			
	6100	KISV	21	GRF	0650	0651.3	12	11			
	33	UPIC	42	SER	0703.3	1133.3	358.4				
	29	UPIC	42	SER	0703.5	1133.5	358.4				
	260	ONDR	44	NS	0720 E		415 D	27			
	1470	BERL	3	S	0800	0803	7	7.3			
	3100	CRIM	1	S	0800.5	0803.5	6	19	6		
	3100	CRIM	3	S	0844	0846	4	52	17		
	536	ONDR	4	S/F	0844.8	0845	4	32	10		
	5730	IRKU	2	S	0844.8	0845.1	4	22	8		R
	29	UPIC	45	C	0844.9	0845.4	2.3				
	950	GORK	1	S	0845	0845.8	2	5			
	113	POTS	4	S/F	0845	0845.1	1.5	700	70		
	9100	GORK	45	C	0845	0846.1	26 7	26			
	650	GORK	2	SF	0845	0846.1	2.3	26			
	9100	GORK			0845	0853.8		20			
	202	IZMI	8	S	0845.2	0845.5	1.5	1050	600		
	2950	GORK	3	S	0845.2	0846.1	2.9	33	16		
	33	UPIC	45	C	0845.2	0845.5	3				
	234	POTS	4	S/F	0845.3	0845.4	.8	450	10		
	228	HARS	45	C	0845.4	0845.6	2.7	270 D	20		
	260	ONDR	4	S/F	0845.5	0845.5	1.5	219 D	32		
	2650	DWIN	1	S	0845	0847	5	40	20		
	930	BORD	8	S	0856.5	0856.5	.1	26	1		
	650	GORK	1	S	0857.6	0858.4	1.1	2.5	1		
	1470	BERL	1	S	0933	0934.2	2	2.9			
	7000	SAOP	3	S	1128	1128.7	2.2	23			5L
	6100	KISV	3	S	1128	1128.4	2	14			
	2800	OTTA	21	GRF	1215	1240	100	4	1.4		
	9500	BERL	20	GRF	1217	1235.5	68	13			
	1470	BERL	20	GRF	1224	1230.5	41	1.9			
	2800	OTTA	8	S	1232	1232.1	.5	2.4	1.2		
	9400	HUAN		S	1351	1410.5	41.5	8.2	4.1		R
	2800	OTTA	21	GRF	1358	1445	100	5.2	2.6		
	7000	SAOP	45	C	1427	1428.1	61	16			8R
	2800	OTTA	1	S	1445	1445.3	1.5	5.2	2.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

AUGUST 1979

DAY OF MONTH	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		
	7000	SAOP	45 C	1609	1647.2		1469			10R
	10400	BERN	46	1636	1647.1	50 D	995 U			OPR
	4995	BOUL	45 C	1639	1648	55	250	83		
	9400	HUAN	C	1640	1646.7	13.5	1272.8	558.9		R
	9400	HUAN		1640	1647.1		1281			
	2650	DWIN	49 GB	1640		10 D	120 D			
	2800	OTTA	46F C	1640	1647	60	400	115		
	10715	DWIN	49 GB	1640		20 D	260 D			
	2695	BOUL	45 C	1641 E	1648	40 D	362	121		
	930	BORD		1641	1732		109			
	1420	BOUL	45 C	1641 E	1647	43 D	198	66		
	930	BORD	28 PRE	1641	1647	69	262	30		
	9400	HUAN	PBI	1653.5	1653.5	98.2	209.4	105.4		R
	9400	HUAN	S	1657.2	1659	4.3	139.1	58.2		R
	2800	OTTA	30 PBI	1740	1740	240	36	24		
	930	BORD	47 GB	1750	1757 U	30 D	3270 D			
	1420	BOUL	45 C	1751 E	1757	35 D	363	121		
	2800	OTTA	3 S	1753	1802	38	285	97		
	4995	BOUL	3 S	1753	1802	38	54	18		
	9400	HUAN	S	1754.5	1801.7	21.5	22.9	16.7		R
	2695	BOUL	3 S	1754.5E	1803	31 D	222	74		
	9400	HUAN	S	1843.6	1902.3	85.8	13.1	11		Ø
	2800	OTTA	22 GRF	1849	1857	13	6.6	3.2		
	9400	HUAN	S	1942.7	1943.4	1.5	6.5	4.2		Ø
27	4995	BOUL	40 F	0040.5	0048	24	38	13		
	5730	IRKU	2 S	0048	0048.2	3	36	7		L
	9100	GORK		0300 E						
	200	HIRA	42 SER	0304	0307	6	10000	400		ML
	100	HIRA	42 SER	0304	0307	6	25000			ML
	500	HIRA	41 F	0306.7	0306.7	2.5	1000	200		SL
	930	BORD	8 S	0700.4	0700.4	.1	30	1		
	33	UPIC	42 SER	0702.9	0719.2	329.8				
	29	UPIC	42 SER	0703	1231.2	329.1				
	113	POTS	4 S/F	0718.7	0718.8	.9	125	10		
	260	ONDR	44 NS	0725 E		405 D	22			
	930	BORD	8 S	0943.6	0943.6	.1	39	1		
	234	POTS	8 S	1044.1	1044.1	.1	1400	500		
	9400	HUAN	S	1151	1152	3.1	8.4	4.7		R
	9100	ARCE	21 GRF	1421	1457.6	106				
	7000	SAOP	45 C	1429.5	1430.4	30	13			Ø
	9100	ARCE	1 S	1429	1429.5	4.2				
	9100	ARCE	1 S	1445.2	1446.3	2.7				
	9100	ARCE	1 S	1537	1537.6	3.3				
	7000	SAOP	3 S	1809	1809.8	1	16			Ø
	2800	OTTA	8 S	1809.8	1809.9	.4	11.4	5.7		
	2800	OTTA	27A RF	1830		170	4	3		
	2800	OTTA	24 R	1830	1845	15	4	2		
	2800	OTTA	24P R	1845		90	4			
	4995	BOUL	3 S	1848	1849.5	5	13	4		
	2800	OTTA	2 S/F	1849.5	1849.8	1	5.6	1.9		
	4995	BOUL	3 S	2009	2010.5	6	18	6		
	2800	OTTA	26 FAL	2015	2120	65	-4	-2		
	2800	OTTA	22 GRF	2135	2200	85	7.6	3.8		
	500	HIRA	27 RF	2200	2216.6	26	10	4		SL
	17000	NOBE	20 GRF	2202.7	2204.4	117	20			Ø
	100	HIRA	27 RF	2208	2218.5	40	1200	40		WL
28	9100	GORK	2 SF	0415.5	0416	1.8	10			
	100	HIRA	41 F	0445	0452	9	40000			ML
	200	HIRA	41 F	0445	0452	9	4000			ML
	228	HARS	45 C	0451.8	0451.8	2	290	60		
	260	ONDR	44 NS	0600 E		490 D	54	3		
	127	TORN	43 NS	1229.4	1232.5	39.5	21	.4		VL
	9100	GORK	20 GRF	0624.5	0627.2	8.1	8.5	3		
	930	BORD	8 S	0644.2	0644.2	.1	20	1		
	930	BORD	8 S	0709.8	0709.8	.1	21	1		
	536	ONDR	42 SER	0720	0735.8	70	10			
	113	POTS	42 SER	0739.2	0739.2	3.3	100	1		
	9100	ARCE	22 GRF	0759.2	0800.7	48				
	9100	GORK	20 GRF	0800		15.3				
	6100	KISV	8 S	0800	0801.3	3	10			
	113	POTS	4 S/F	0805.2	0805.2	.2	200	15		
	29	UPIC	2 S/F	0805.3	0805.4	.6				
	33	UPIC	4 S/F	0805.3	0805.4	.5				
	930	BORD	8 S	0826.6	0826.6	.1	30	1		
	113	POTS	41 F	0837.6	0837.6	.4	100	4		
	930	BORD	41 F	0844.4	0844.5	.3	30	2		
	930	BORD	8 S	0849	0849	.1	30	1		
	930	BORD	8 S	0913.4	0913.4	.1	31	1		
	9100	ARCE	40 F	1028.4	1029.7	2				
	7000	SAOP	8 S	1054.2	1054.6	.2	111			5R
	930	BORD	8 S	1124.4	1124.4	.1	29	1		
	7000	SAOP	1 S	1156	1156.9		7.5			23R
▼	9100	ARCE	22 GRF	1214.2	1221.4	25.5				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	9100	GORK	20 GRF	1215.3	1222.3	11.4	16	6		
	7000	SAOP	45 C	1215.5	1222.2		18			20R
	2800	OTTA	23 GRF	1215	1313	160	12	5.9		
	9400	HUAN	S	1216.7	1222.5	28.2	15.3	6.2		R
	1470	BERL	3 S	1218	1219.2	3	10			
	650	GORK	20 GRF	1221.6	1226.9	12.9	5.5	2.5		
	950	GORK	1 S	1224	1227	5	1.8	.9		
	3000	BERL	3 S	1226.5	1227.1	2.5	14			
	3100	CRIM	1 S	1227	1227.5	1	15	5		
	1470	BERL	1 S	1227	1227.7	1.5	3.8			
	2650	DWIN	1 S	1227	1227.5	2	30	10		
	2800	OTTA	2 S/F	1227	1227.5	1 5	8.2	4.1		
	930	BORD	8 S	1228.8	1228.8	.1	17	1		
	9400	HUAN	S	1252.3	1253.5	2.1	95	33.7		R
	9100	ARCE	3 S	1252.3	1252.6	1.1				
	10400	BERN	3	1253	1254.4	67	86			OPR
	9500	BERL	29 PBI	1253	1253.5	67	81			
	930	BORD	8 S	1253.4	1253.4	.1	42	1		
	9100	ARCE	30 PBI	1253.4		64				
	10715	DWIN	1 S	1253	1254	5	60	30		
	9400	HUAN	PBI	1254.4	1254.4	64.7	15.3	5.1		R
	3000	BERL	21 GRF	1257	1307.9	47	113			
	33	UPIC	42 SER	1257.6	1301.8	20				
	2650	DWIN	2 S/F	1257	1307	23	40	15		
	29	UPIC	42 SER	1258.6	1302	18.8				
	1470	BERL	42 SER	1301	1313.7	23	42			
	536	ONDR	41 F	1301	1307.8	29	21	9.5		
	808	ONDR	41 F	1303.8	1307.8	17	20	7		
	9400	HUAN	S	1304.5	1319	35.1	17	5.2		Ø
	2800	OTTA	4 S/F	1304	1308	7	29	10		
	9100	ARCE	27 RF	1305.8		18				
	3100	CRIM	3 S	1306.5	1307.5	3	54	18		
	930	BORD	40 F	1306 E	1307.8	12 D	40	4		
	228	HARS	45 C	1413.4	1414	2.2	170	60		
	7000	SAOP	1 S	1444	1444.9		6			29R
	2800	OTTA	24 R	1500	1515	15	4	2		
	2800	OTTA	27A RF	1500		300	4	3.7		
	930	BORD	41 F	1511.4	1511.9	.6	23	2		
	7000	SAOP	45 C	1514.6	1517.7	36	20			Ø
	2800	OTTA	24P R	1515		260	4			
	930	BORD	41 F	1517.2	1517.6	1.8	17	3		
	2800	OTTA	1 S	1517	1518	2	4.4	2.2		
	7000	SAOP	45 C	1719	1725.3	20.4	16			8R
	2800	OTTA	4 S/F	1816.5	1817.9	6	13.4	4.5		
	2800	OTTA	20 GRF	1830	1850	35	4	2.4		
	7000	SAOP	45 C	1843.5	1850.7	12.4	27			46R
	9400	HUAN	S	1850	1850.9	1.4	8.5	6 1		Ø
	2800	OTTA	20 GRF	1910	1918.5	22	6.4	3.2		
	9400	HUAN	S	1913.3	1917.2	21.9	5.1	3.4		Ø
	2800	OTTA	26 FAL	1935	2000	25	-4	-2		
	9400	HUAN	S	1938.3	1947.3	20.7	4.2	2.4		Ø
	4995	BOUL	8 S	1940.5	1941	1.5	33	11		
	7000	SAOP	45 C	1944	1946.4	5	36			5R
	9400	HUAN	S	1945.4	1946.3	2	23.8	12.4		R
	4995	BOUL	3 S	2134	2135	2.5	10	3		
	2800	OTTA	1 S	2135	2135.7	1.5	3.2	1.5		
	4995	BOUL	4 S/F	2149.5	2152	11	78	26		
	9400	HUAN	S	2151.7	2152.8	2.4	76.4	35.4		R
	2800	OTTA	3 S	2152	2152.7	4	17.2	5.8		
	2800	OTTA	29 PBI	2156	2156	25	4.8	2.4		
	4995	BOUL	8 S	2235	2236	3	99	33		
	2800	OTTA	40 F	2235	2236.8	3	78			
	2695	BOUL	4 S/F	2238	2239	3 D	49	16		
29	930	BORD	8 S	0652.7	0652.7	.1	17	1		
	930	BORD	8 S	0719.7	0719.7	.1	12	1		
	3000	BERL	22 GRF	0742	0749	29	6.5			
	9500	BERL	20 GRF	0742	0749.5	37	6.3			
	1470	BERL	22 GRF	0743	0748	25	3.9			
	950	GORK	4 SF	0746.2	0749.1	4	7			
	9100	GORK	20 GRF	0746.3	0749.4	8.1	7	3.5		
	650	GORK	4 SF	0746.7	0749	3.8	11			
	930	BORD	46 C	0746	0749.2	4.2	13	3		
	6100	KISV	3 S	0748	0749.3	5	7			
	3100	CRIM	1 S	0749	0749.5	1.5	5	2		
	930	BORD	8 S	0905.7	0905.7	.1	23	1		
	9100	ARCE	1 S	1105.8	1106.2	1.5				
	2800	OTTA	24 R	1140	1200	20	3.6	1.8		
	2800	OTTA	27 RF	1140		140	3.6	3.1		
	2800	OTTA	24P R	1200		100	3.6			
	2800	OTTA	26 FAL	1340	1400	20	-3.6	-1.8		
	2800	OTTA	24 R	1438	1450	12	3.2	1.6		
	2800	OTTA	27AFRF	1438		367	3.2	3		
	2800	OTTA	24P R	1450		330	3.2			
	7000	SAOP	20 GRF	1652		33	11			Ø

SOLAR RADIO EMISSION
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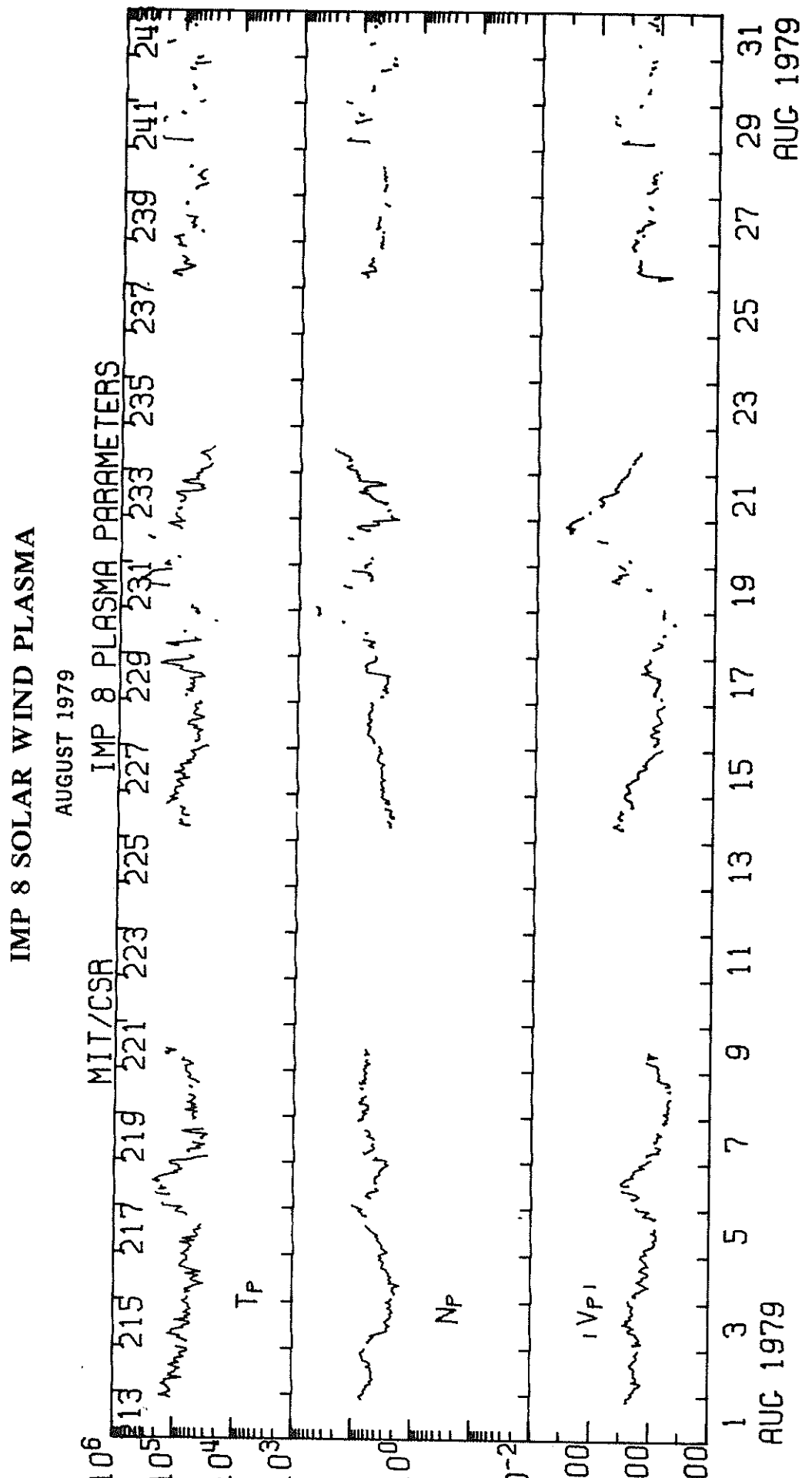
DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	8	S	1654.2	1654.2	.1	7.2			
	9400	HUAN		S	1920.7	1922.5	3.8	19.1	8.4		Ø
	2800	OTTA	20	GRF	1925	1933	35	2.4	1.2		
	2800	OTTA	26	FAL	2020	2045	25	-3.2	-1.6		
	2695	PENT	21	GRF	2250	2255	20	3.4	2.6		
	4995	BOUL	4	S/F	2251	2251.5	2	33	11		
	2695	PENT	40	F	2252	2252	3	11.8			
	2695	PENT	20	GRF	2350	2500	100 D	7.6			
30	260	ONDR	43	NS	0740		382 D	47	2		
	650	GORK	4	SF	0850.1	0850.4	.8	63	31		
	234	POTS	42	SER	0946.3	0946.4	18	1400	4		
	2800	OTTA	20	GRF	1435	1445	25	2.2	1.1		
	2800	OTTA	22	GRF	1505	1530	70	3	1.5		
	9400	HUAN		S	1535.3	1609.8	51.8	5	3.5		Ø
	7000	SAOP	41	F	1641						
	2800	OTTA	20	GRF	2120	2123	30	3.6	2.8		
31	221	ABST	8	S	0516.5	0517	1	50	19		
	650	GORK	2	SF	0519.3	0520.7	1.8	4.5	2		
	950	GORK	2	SF	0519.5	0520.4	2.8	2.5			
	260	ONDR	44	NS	0605 E		365	81			
	221	ABST	8	S	0716	0716.5	1	47	19		
	200	HIRA	7	C	0717	0717.5	1	800	300		Ø
	202	IZMI	5	S	0717	0717	1	870	400		
	100	HIRA	7	C	0717	0718	3	200	100		WL
	127	TORN	47	GB	0717.1	0717.8	1	837	192		
	650	GORK	3	S	0717.3	0717.4	.9	31	15		
	950	GORK	1	S	0717 3	0717.7	.9	2			
	260	ONDR	8	S	0717.8	0717.8	1	222 D	42		
	536	ONDR	4	S/F	0717	0717.7	2.5	72	3		
	202	IZMI	8	S	0725	0725	.3	140	60		
	930	BORD	8	S	0727.5	0727.5	.1	27	1		
	650	GORK	1	S	1010.9	1017.6	1.3	5.5	2.5		
	536	ONDR	4	S/F	1110.5	1111.3	2	46	2		
	228	HARS	45	C	1110.8	1111	.8	260	100		
	202	IZMI	7	C	1111	1111.5	1.3	1200	600		
	930	BORD	8	S	1111.2	1111.6	.5	67	2		
	9100	ARCE	1	S	1235.6	1235.8	.8				
	2800	OTTA	20	GRF	1243	1303	50	3	2.4		
	9400	HUAN		S	1319.2	1332.6	39.3	6.7	3		R
	9400	HUAN		S	1738.5	1805.2	45.3	5	4.5		Ø
	228	HARS	45	C	1818	1818	.5	260	85		
	2800	OTTA	20	GRF	1840	1847	12	2.2	1.4		
	100	HIRA	7	C	2249	2249.5	1.5	160	80		WL

Reports received from the following observatories:

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

Explanation of Type Code:

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


IMP 8 SOLAR WIND PLASMA
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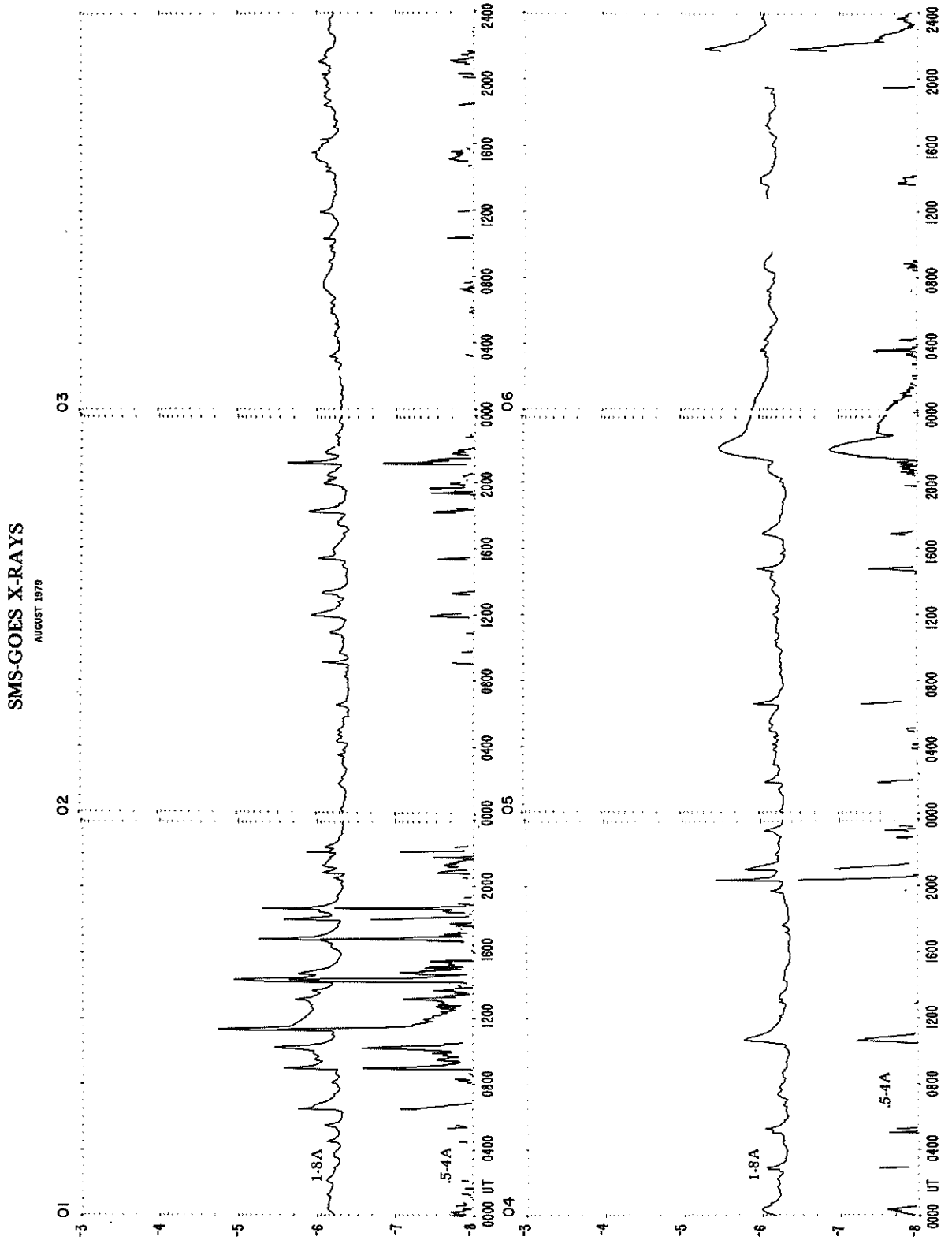
SMS-GOES X-RAYS
AUGUST 1979
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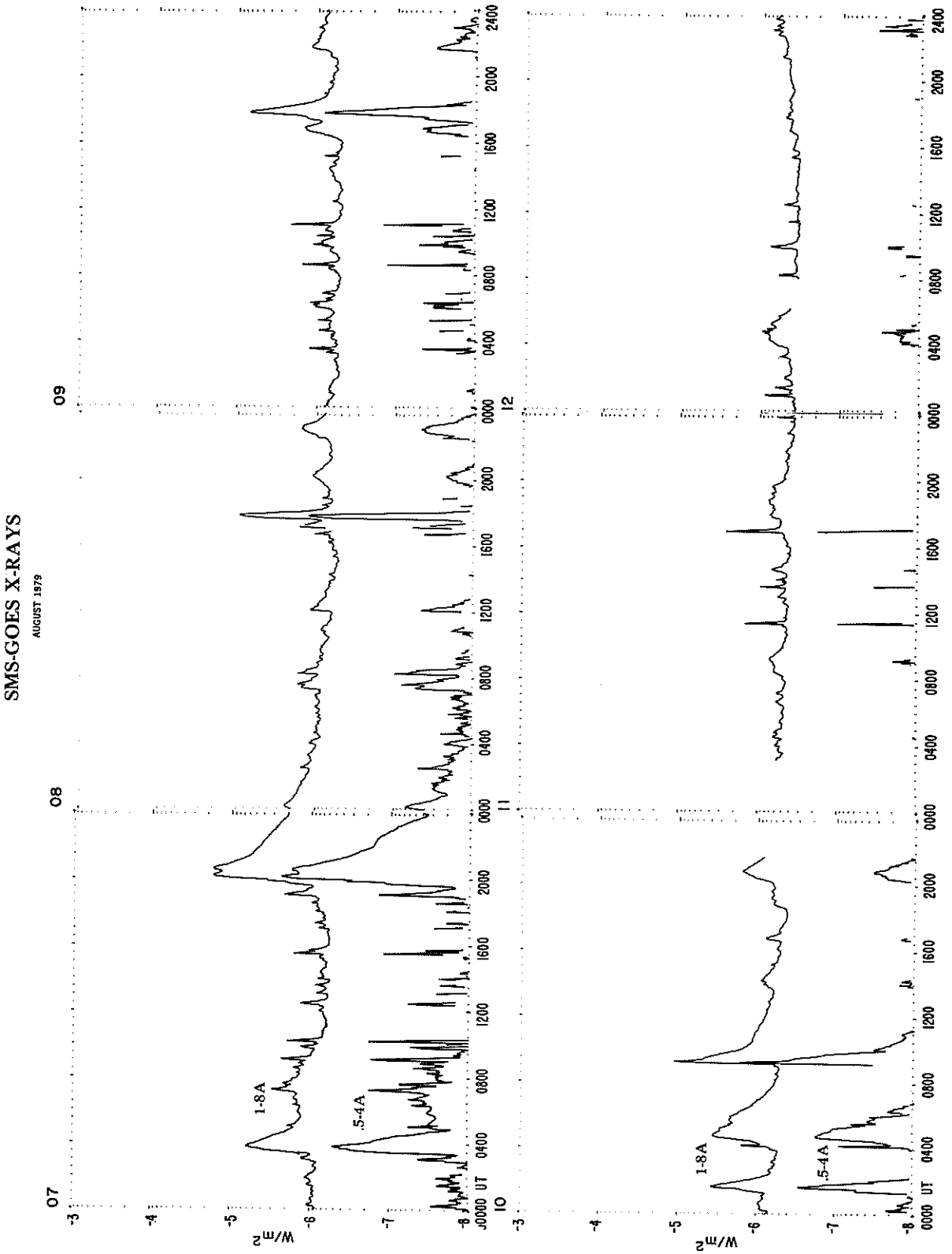
2000
2400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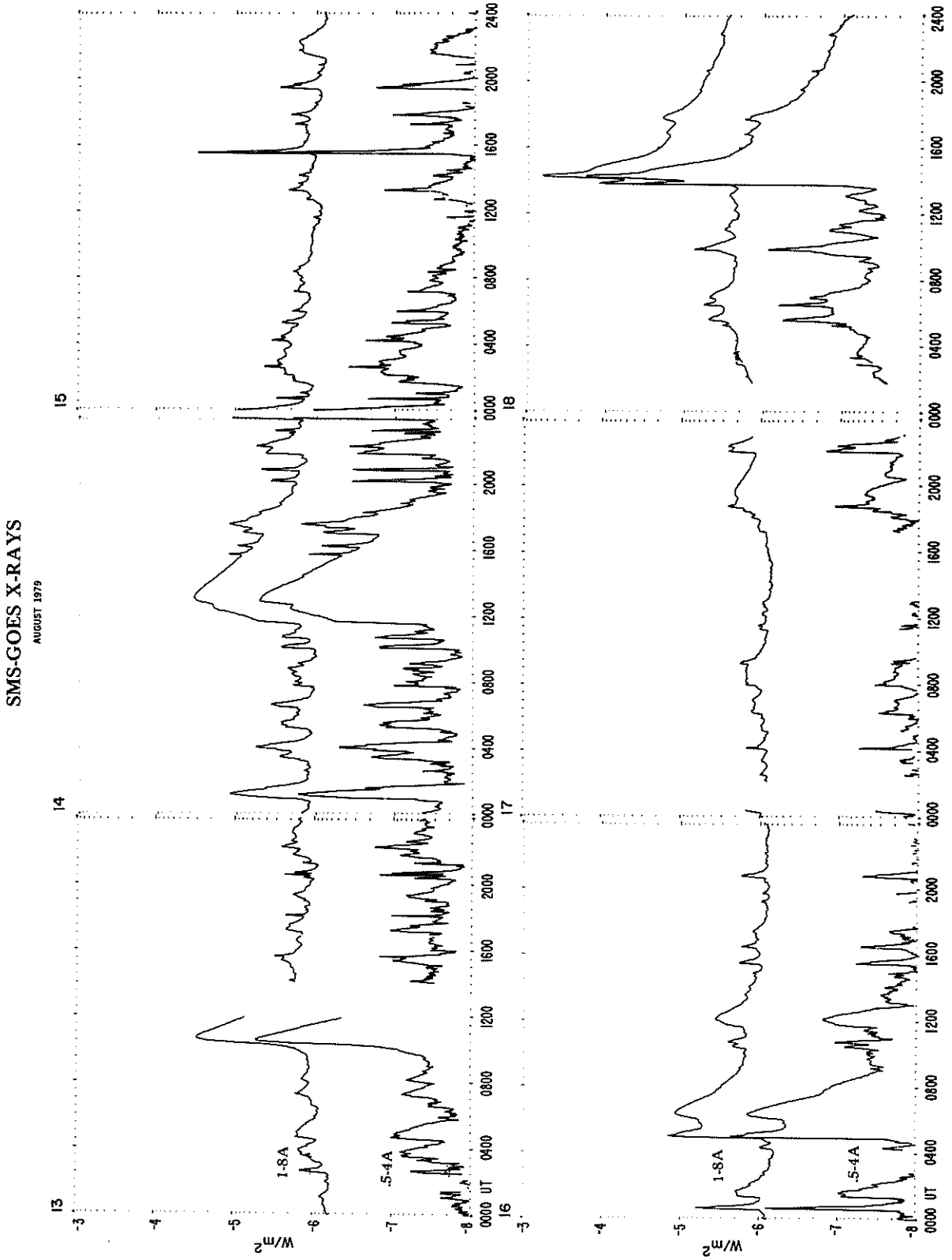
AUGUST 1979
07
08
09
10
11
12
1-8A
.5-4A
W/m²
UT
0000
0400
0800
1200
1600
2000
2400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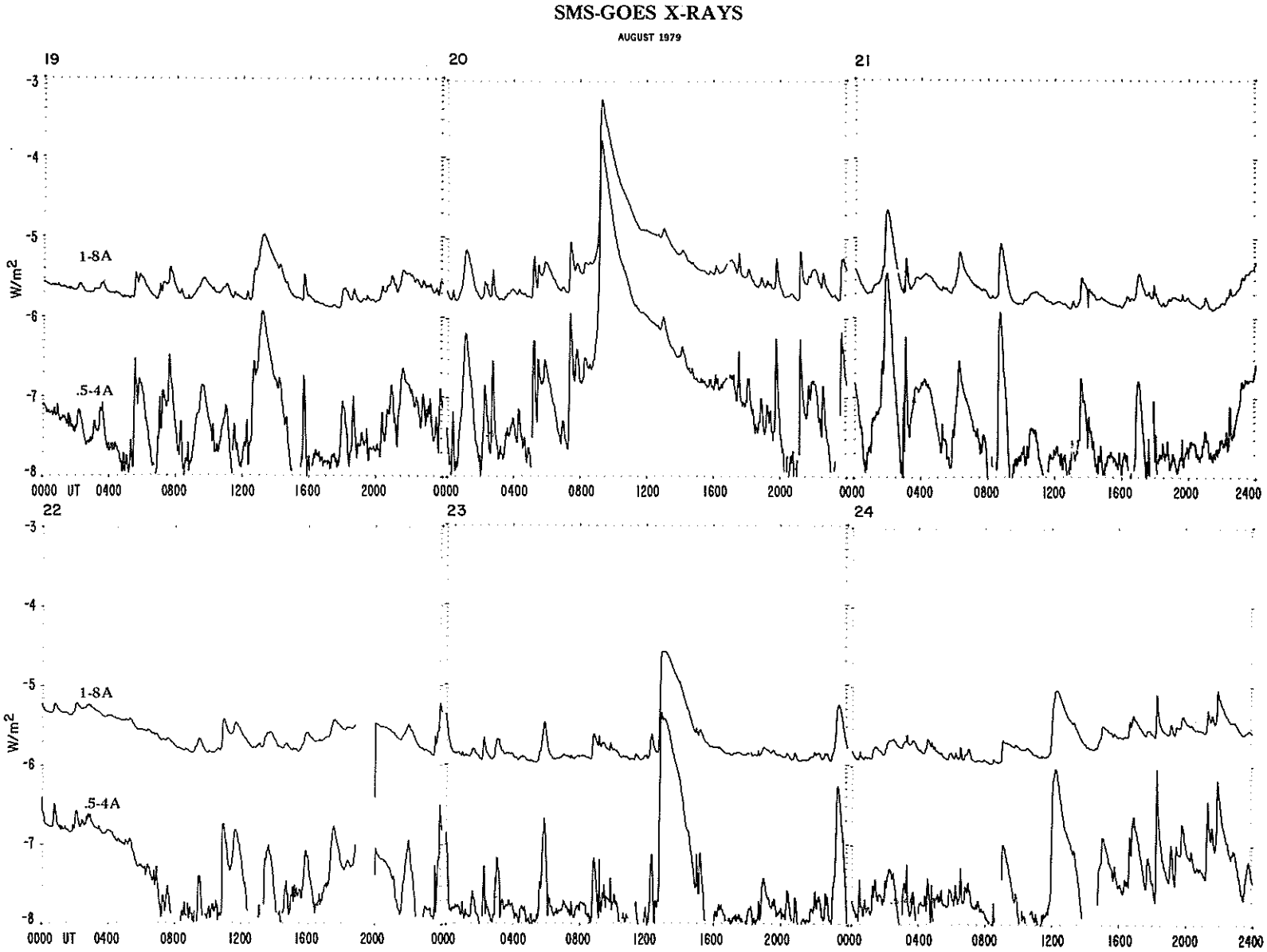
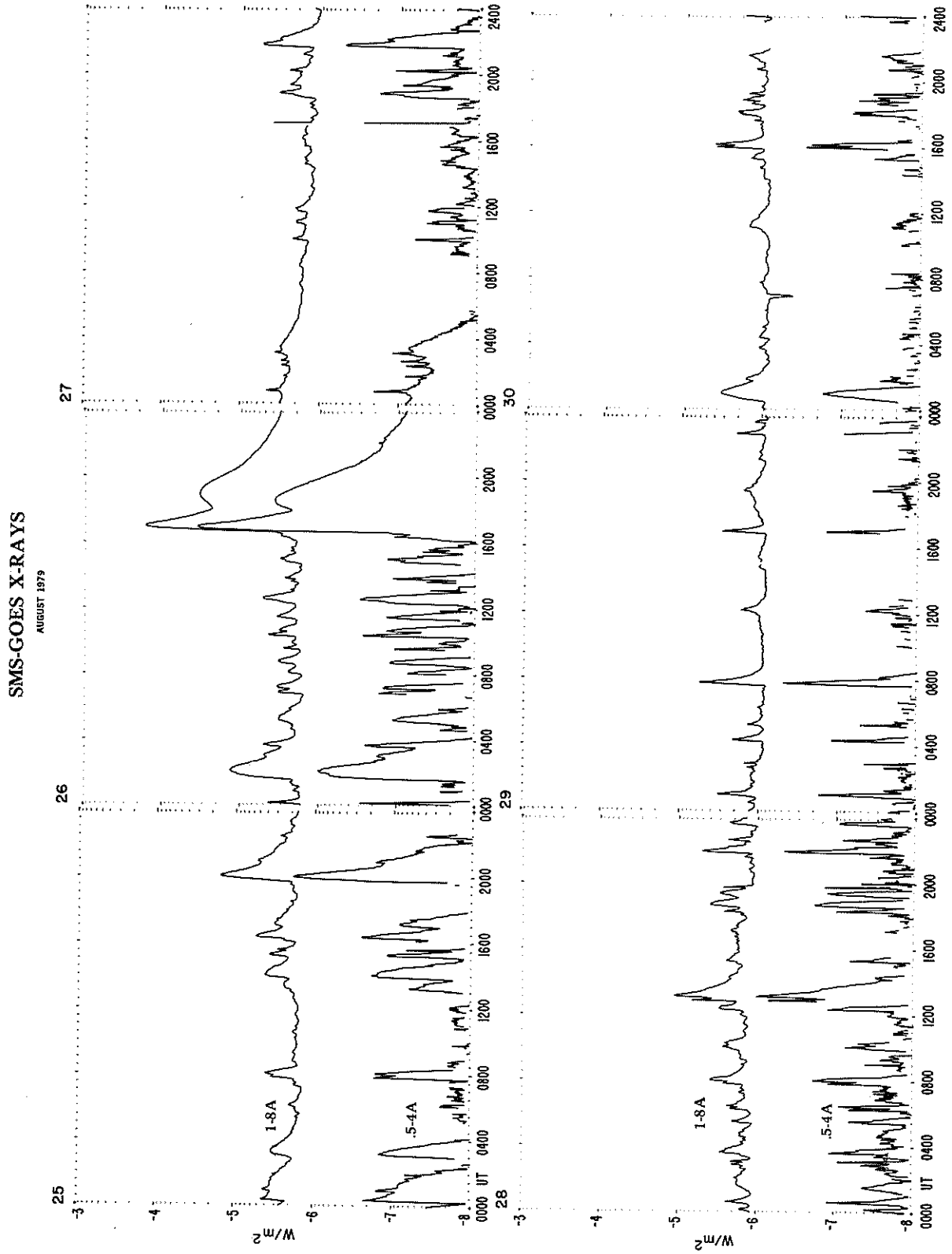
AUGUST 1979
1-8A
.5-4A
W/m²
0000 UT
0400
0800
1200
1600
2000
2400
13
14
15
16
17
18


SMS-GOES X-RAYS
AUGUST 1979
19
20
21
22
23
24
1-8A
.5-4A
W/m2
-3
-4
-5
-6
-7
-8
0000 UT
0400
0800
1200
1600
2000
2400

28
Aug 79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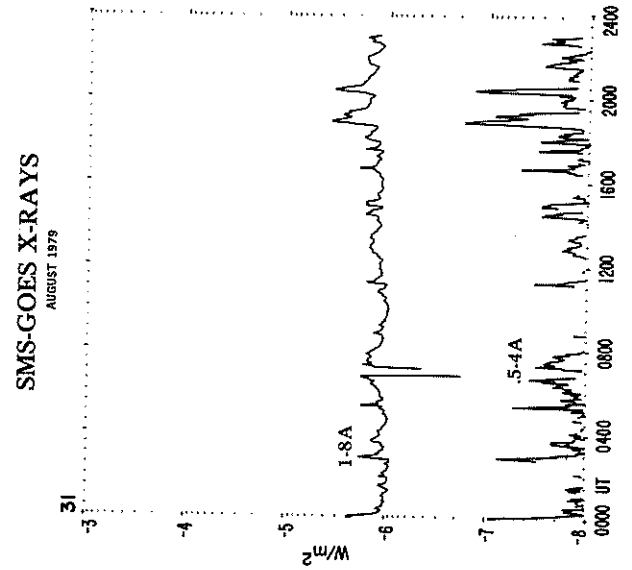
AUGUST 1979
25
26
27
28
29
30
1-8A
.5-4A
W/m²
UT
0000
0400
0800
1200
1600
2000
2400


SMS-GOES X-RAYS
AUGUST 1979
31
-3
-4
-5
-6
-7
-8
W/m²
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
2400

SGD 426 Part II (Comprehensive)

MISCELLANEOUS DATA

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Active Regions March 30 - July 17, 1979	38-41
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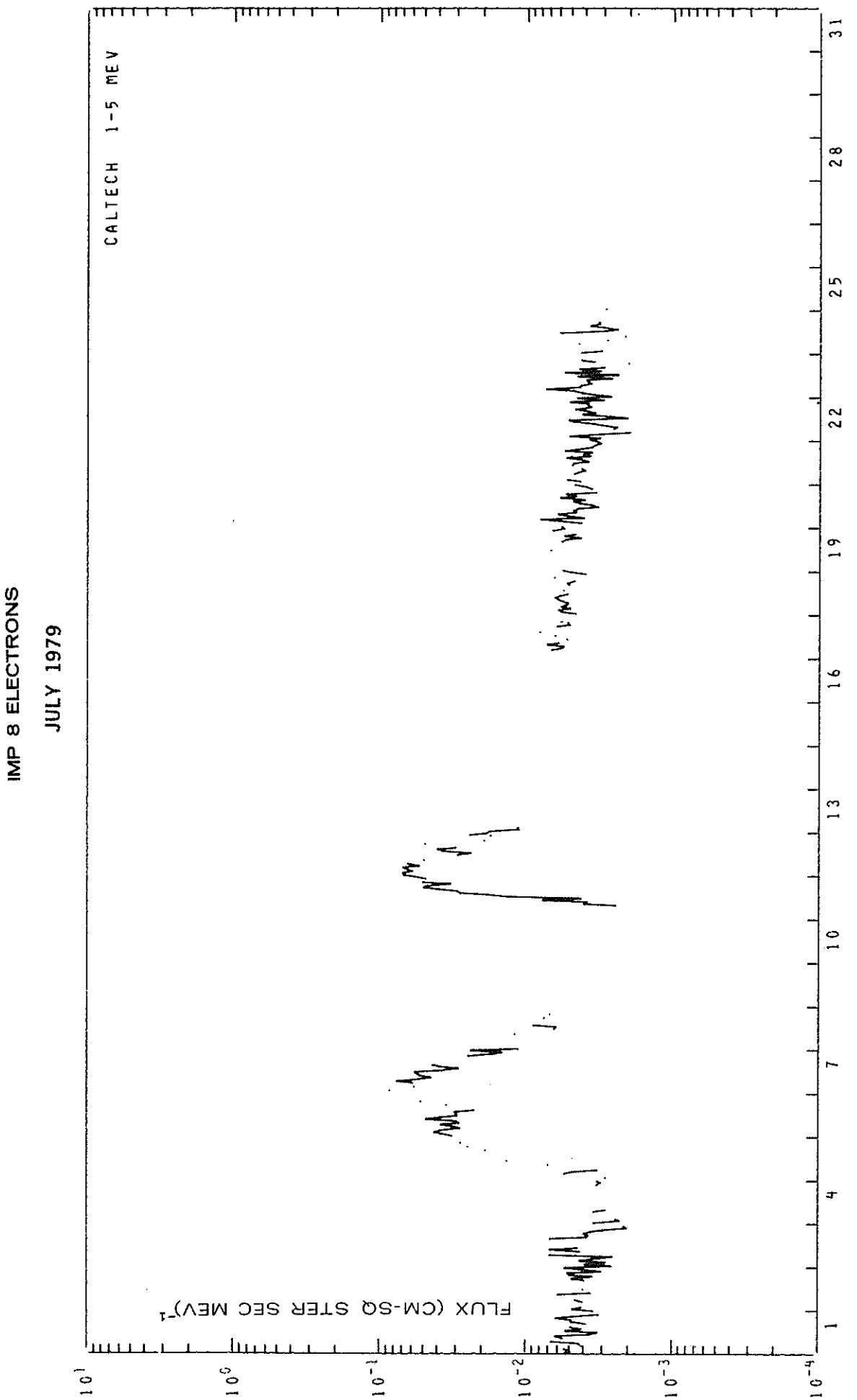
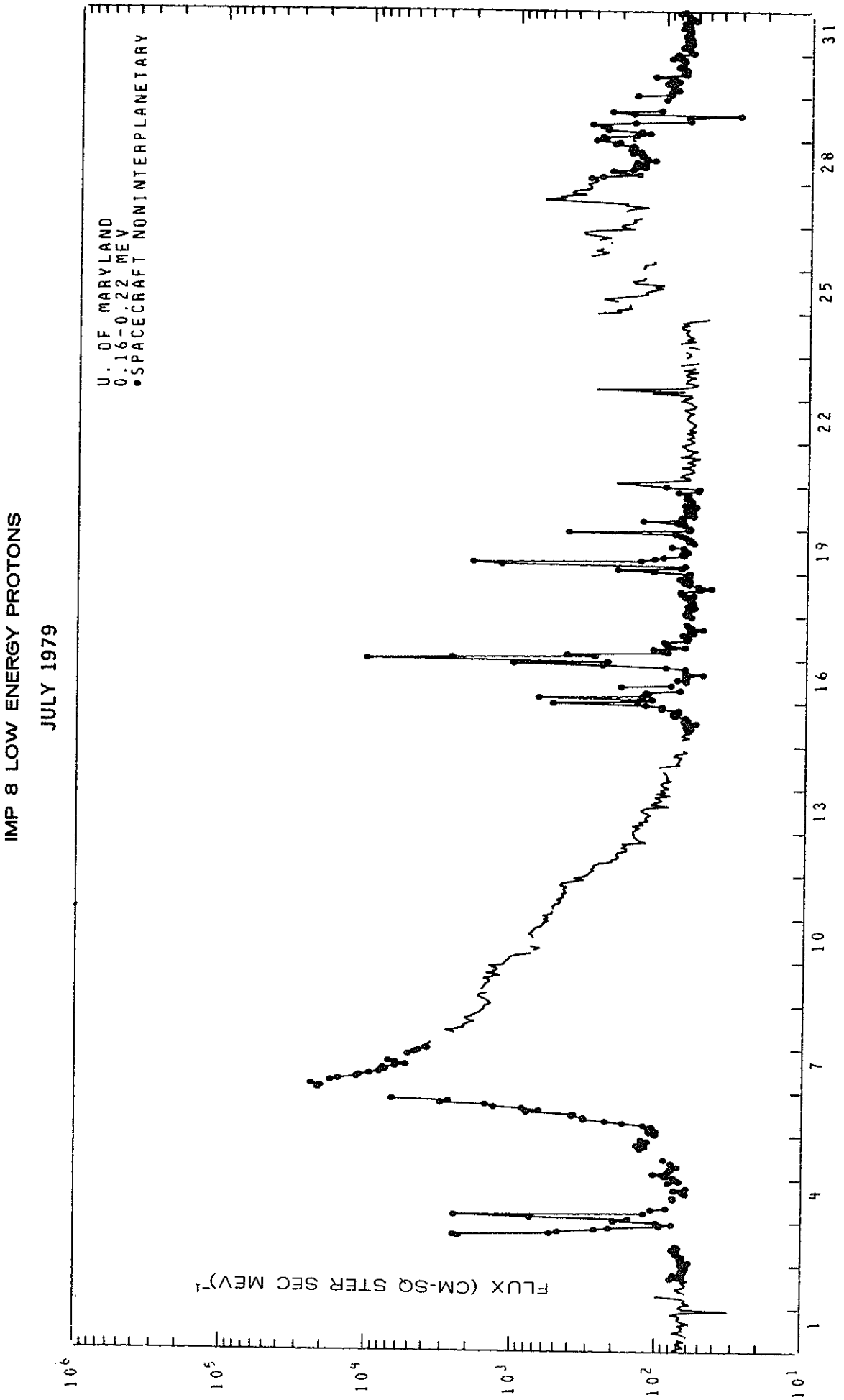
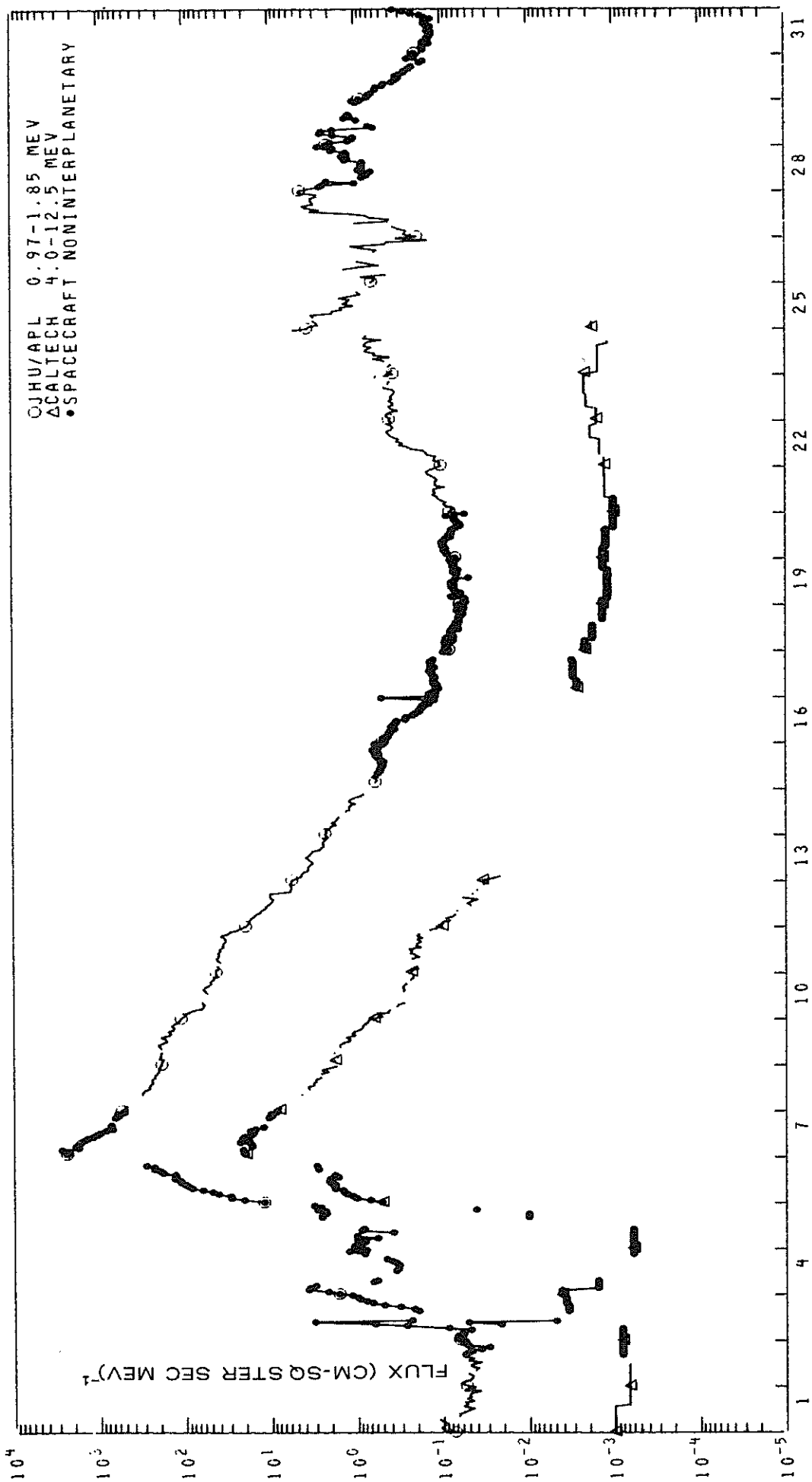
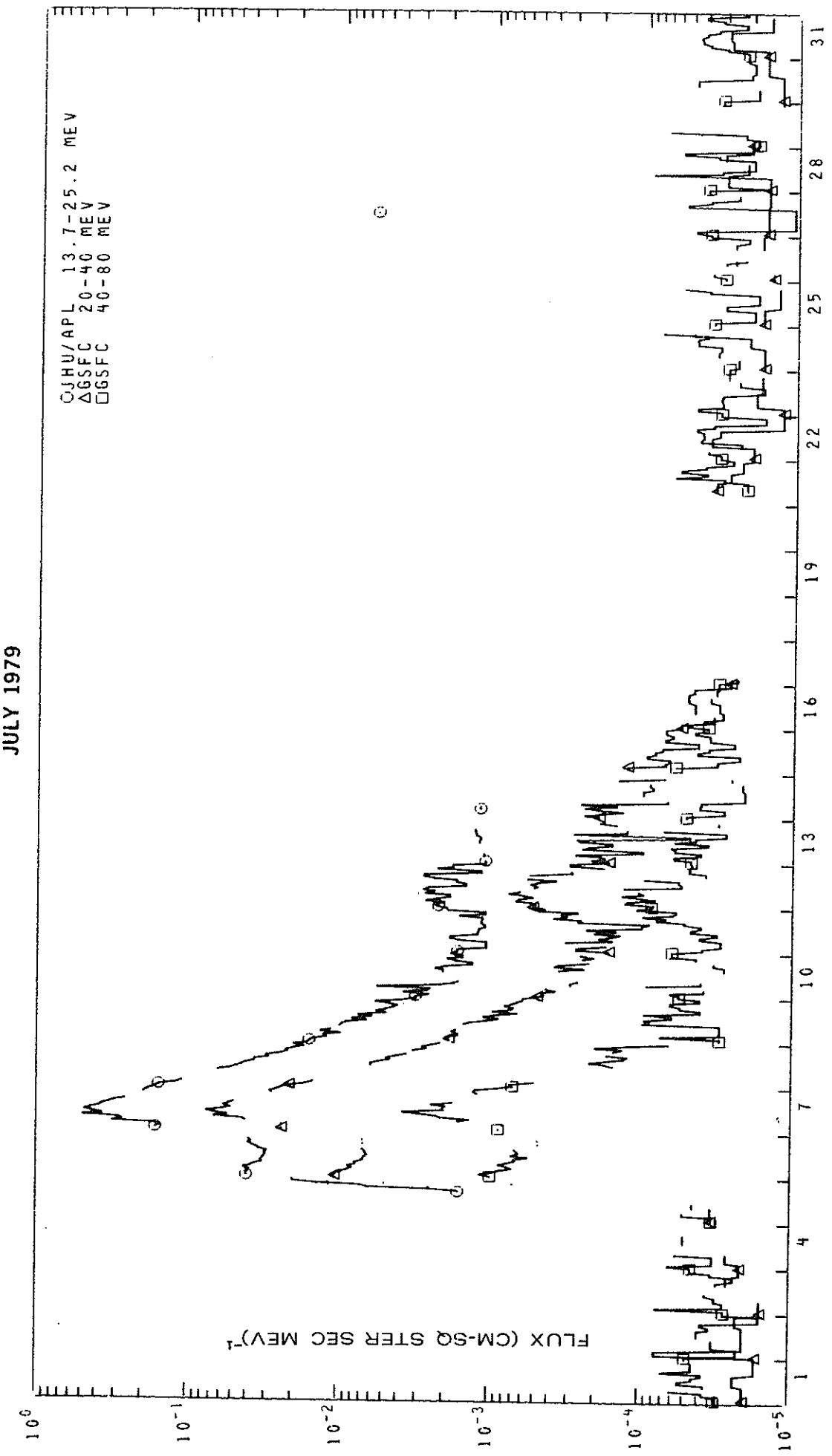

IMP 8 ELECTRONS
JULY 1979
CALTECH 1-5 MEV
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1
4
7
10
13
16
19
22
25
28
31

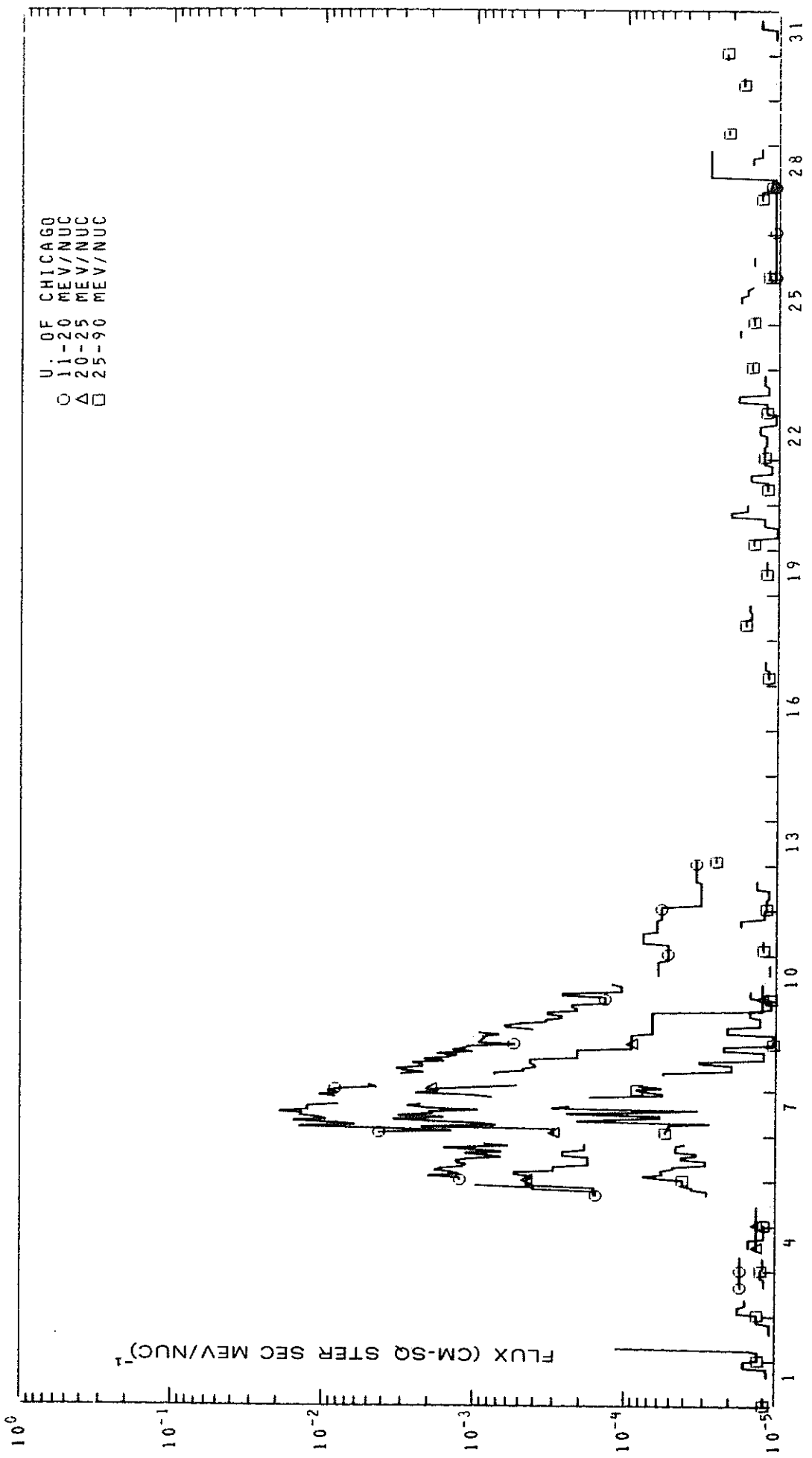

IMP 8 LOW ENERGY PROTONS
JULY 1979
U. OF MARYLAND
0.16-0.22 MEV
•SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁶
10⁵
10⁴
10³
10²
10¹
1
4
7
10
13
16
19
22
25
28
31

IMP 8 INTERMEDIATE ENERGY PROTONS

JULY 1979




IMP 8 HIGH ENERGY PROTONS
JULY 1979
○JHU/APL 13.7-25.2 MEV
△GSFC 20-40 MEV
□GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
1
4
7
10
13
16
19
22
25
28
31


IMP 8 ALPHA PARTICLES
JULY 1979
U. OF CHICAGO
○ 11-20 MEV/NUC
△ 20-25 MEV/NUC
□ 25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV/NUC)$^{-1}$
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
1
4
7
10
13
16
19
22
25
28
31

ACTIVE REGIONS

CARRINGTON ROTATION 1680

(March 30 to April 26, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1679	Activity at West Limb
1	18°S	357°	1	-4	x		stable
2	27 N	355	2	>6			decreasing
3	23 S	351	1	>6	x		dispersed
4	17 S	345	1	-3	x		stable
5	18 S	341	1	>6	x		decreasing
6	19 S	340	1	>6	x		dispersed
7	21 S	339	2	+5			decreasing
8	34 N	334	2	>6			decreasing
9	20 S	319	4	>6			decreasing
10	25 S	318	5	>6			decreasing
11	14 N	314	1	>6			decreasing
12	31 S	311	1	>6	x		decreasing
13	16 S	301	2	>6			decreasing
14	17 N	294	1	>6	x	(15+18)	decreasing
15	15 N	283	2	-5			(?)
16	9 S	280	1	>6	x		dispersed
17	12 S	273	2	0			stable
18	29 N	271	1	>6	x	(21)	dispersed
19	19 S	244	1	>6	x	(26)	decreasing
20	25 S	240	2	-2			increasing
21	34 N	220	1	+4	x		disappeared
22	34 S	205	1	>6	x		dispersed
23	27 S	203	2	>6			decreasing
24	13 N	197	1	>6	x	(37)	dispersed
25	27 S	192	1	>6	x		dispersed
26	33 N	192	1	+2	x		dispersed
27	22 N	174	3	>6			decreasing
28	35 N	173	2	-1			stable
29	16 N	164	1	>6	x	(46)	decreasing
30	11 N	159	1	>6	x	(45)	decreasing
31	40 N	146	1	>6	x	(41)	dispersed
32	8 N	142	4	>6	x		decreasing
33	14 S	142	1	>6	x	(49+50)	decreasing
34	18 N	131	2	>6			stable
35	24 S	129	3	+4			decreasing
36	14 S	128	2	-4			decreasing
37	10 N	124	2	>6			decreasing
38	29 N	123	4	>6			decreasing
39	8 S	122	1	>6	x		stable
40	16 S	119	1	>6	x		dispersed
41	7 N	114	1	>6	x	(61)	dispersed
42	19 N	113	1	>6	x		dispersed
43	18 N	103	2	-4			decreasing
44	29 S	79	1	>6	x	(63)	decreasing
45	24 N	61	1	0	x		disappeared
46	7 N	42	2	>6		(68)	decreasing
47	22 S	38	1	+4	x		decreasing
48	4 S	36	1	-1	x		disappeared
49	20 S	25	1	>6	x	(72)	decreasing
50	11 S	14	1	>6	x	(75)	disappeared
51	22 N	7	3	+4			decreasing
52	18 S	6	1	>6	x	(73)	disappeared
53	39 S	5	1	-2	x		decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1681

(April 26 to May 23, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1680	Activity at West Limb
1	20°S	339°	1	-4	x		stable
2	23 S	338	1	>6	x		dispersed
3	24 S	334	2	+1			decreasing
4	10 N	331	1	+1	x		dispersed
5	18 N	330	7	>6			decreasing
6	18 S	320	1	>6	x	(9)	decreasing
7	24 S	314	4	>6		(10)	decreasing
8	13 N	309	1	>6	x	(11)	dispersed
9	38 N	308	1	>6	x		disappeared
10	30 S	307	2	>6			decreasing
11	20 S	305	1	>6	x		dispersed
12	24 N	298	3	>6			decreasing
13	33 S	289	1	>6	x	(12)	dispersed
14	23 N	284	1	-2	x		decreasing
15	15 N	282	7	>6		(15)	decreasing
16	25 N	278	2	-4			stable
17	24 N	274	1	>6	x		dispersed
18	11 N	272	3	-1			stable
19	31 S	271	1	-5	x		(?)
20	25S	224	2	>6			decreasing
21	26 S	216	2	>6			decreasing
22	21 N	213	2	+5			decreasing
23	3 N	207	2	+4			disappeared
24	15 N	201	1	>6	x		decreasing
25	24 N	189	2	>6			decreasing
26	26 S	181	3	>6			decreasing
27	20 N	180	5	>6			decreasing
28	15 N	168	1	>6	x	(29)	decreasing
29	7 N	162	6	>6			stable
30	20 S	161	2	-4			stable
31	34 N	159	1	>6	x		decreasing
32	19 N	158	2	+4			disappeared
33	21 S	154	2	>6			decreasing
34	6 N	144	4	>6		(32)	decreasing
35	32 S	142	1	+6	x		dispersed
36	13 S	140	2	-1			decreasing
37	16 N	137	5	>6			increasing
38	16 S	135	3	>6			decreasing
39	28 S	126	1	>6	x	(35)	dispersed
40	8 N	125	1	>6	x	(37)	dispersed
41	32 N	120	1	+1	x		dispersed
42	16 S	116	2	>6			decreasing
43	32 N	115	3	>6		(38)	decreasing
44	20 S	108	1	>6			disappeared
45	16 N	107	3	+4			stable
46	30 S	105	4	+1			decreasing
47	22 N	104	1	>6	x	(42)	dispersed
48	37 N	100	2	+1			decreasing
49	15 S	97	1	>6	x		disappeared
50	13 S	93	1	-4	x		decreasing
51	13 N	87	3	>6			decreasing
52	18 S	84	1	>6	x		dispersed
53	21 N	77	1	-3	x		dispersed
54	30 S	66	1	-4	x		stable
55	23 N	57	4	>6			decreasing
56	13 N	53	1	>6	x		dispersed
57	20 S	51	1	>6	x		dispersed
58	13 N	36	2	-3			stable
59	17 S	34	2	>6			dispersed
60	7 S	33	1	+3	x		disappeared
61	13 N	27	1	>6	x		dispersed
62	14 S	27	1	+4	x		dispersed
63	25 N	20	2	+4			decreasing
64	12 S	18	1	>6	x		dispersed
65	13 N	9	1	-2	x		decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1682

(May 23 to June 19, 1979)

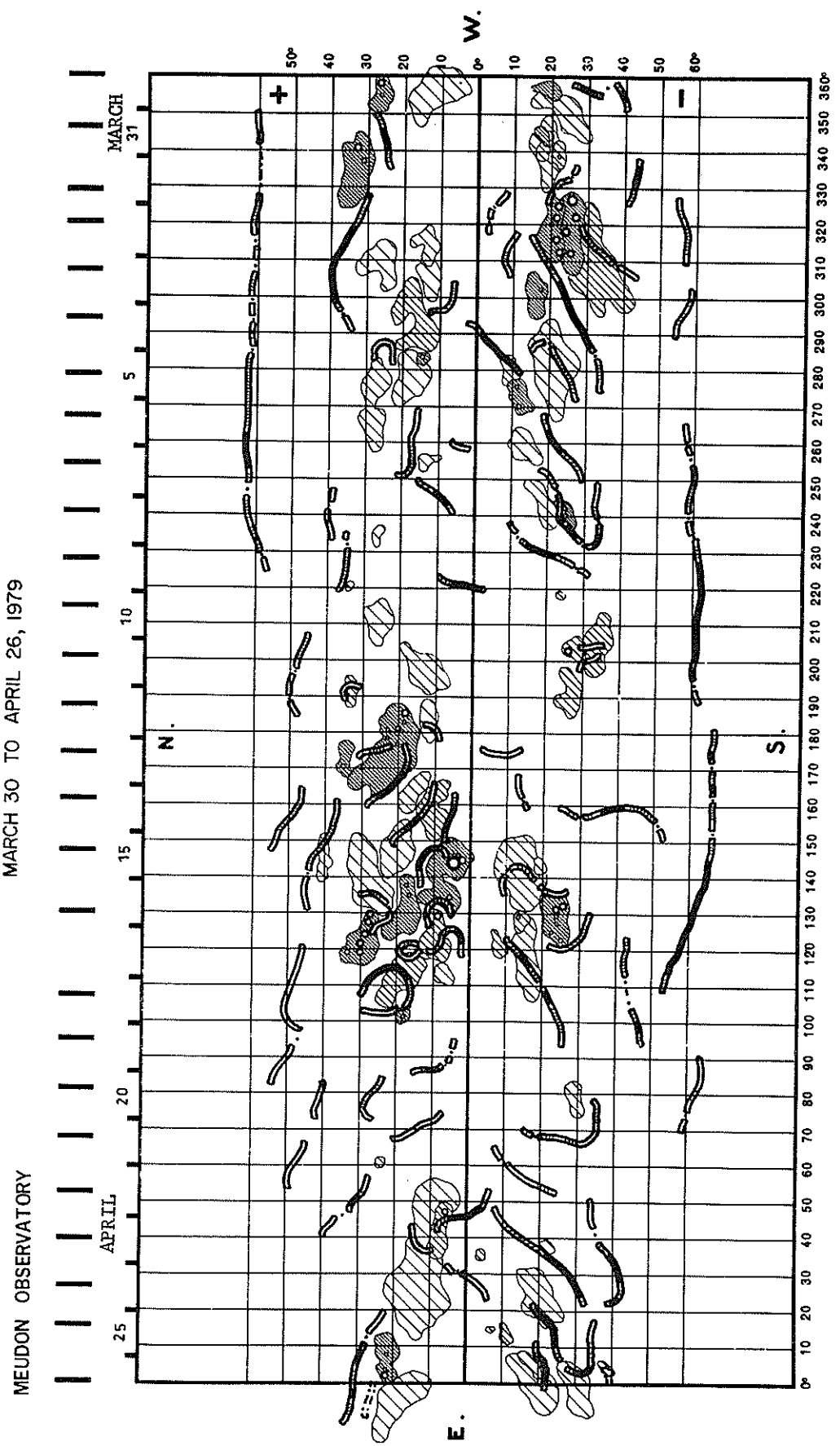
Region No.	Coordinates Lat	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1681	Activity at West Limb
1	29°S	353°	1	>6	x		dispersed
2	20 S	344	3	>6		(1)	decreasing
3	29 N	343	1	-1	x		decreasing
4	24 S	333	1	>6	x	(3)	decreasing
5	22 N	331	1	>6	x	(5)	decreasing
6	18 N	325	3	>6			decreasing
7	19 N	320	2	-2			stable
8	12 N	317	1	-2	x		decreasing
9	24 S	315	1	>6	x		decreasing
10	24 S	313	2	-3			decreasing
11	8 S	308	1	+3	x		disappeared
12	34 S	304	2	>6			decreasing
13	26 N	299	1	>6		(12)	decreasing
14	13 N	291	2	+2			dispersed
15	8 S	286	1	+5	x		disappeared
16	32 S	286	1	>6	x		dispersed
17	17 N	281	3	>6		(15)	decreasing
18	24 S	278	1	+4	x		disappeared
19	11 N	276	2	>6		(18)	decreasing
20	33 S	275	2	>6			decreasing
21	25 N	274	2	>6		(16)	decreasing
22	21 S	267	1	>6	x		decreasing
23	13 S	260	1	-1	x		decreasing
24	13 N	258	2	-3			stable
25	17 S	220	2	0			stable
26	14 N	212	6	>6			decreasing
27	8 N	211	1	+5	x		dispersed
28	21 N	211	1	>6	x	(22)	decreasing
29	6 N	201	1	>6	x		disappeared
30	23 N	189	1	>6	x		decreasing
31	10 N	188	2	+1			decreasing
32	23 S	183	1	>6	x	(26)	dispersed
33	18 N	180	8	>6			decreasing
34	23 N	170	2	>6			decreasing
35	8 N	169	3	>6			decreasing
36	8 S	168	2	+4			decreasing
37	21 S	163	6	>6		(30-33)	stable
38	35 S	161	2	+3			dispersed
39	16 S	154	3	>6			decreasing
40	4 N	153	2	-1			dispersed
41	5 N	149	3	>6		(34)	stable
42	16 S	144	2	+5			decreasing
43	18 N	138	1	>6	x	(37)	decreasing
44	8 N	135	1	>6	x	(40)	dispersed
45	15 S	132	1	+6	x		stable
46	17 N	122	3	>6			decreasing
47	16 N	115	1	>6	x		dispersed
48	30 N	110	1	>6	x	(43-48)	dispersed
49	36 N	110	1	>6	x		dispersed
50	12 S	101	2	-3			decreasing
51	22 S	101	1	>6	x		disappeared
52	17 N	100	7	>6			decreasing
53	13 S	95	2	+2			decreasing
54	25 S	94	1	-1	x		disappeared
55	18 S	93	5	>6			decreasing
56	33 S	90	1	>6	x		disappeared
57	41 N	78	1	>6	x		dispersed
58	7 N	60	3	0			decreasing
59	23 N	59	1	+6	x		decreasing
60	27 S	53	1	0	x		disappeared
61	15 S	33	1	>6	x		decreasing
62	23 N	29	3	>6			decreasing
63	9 N	28	2	>6			decreasing
64	26 N	16	1	>6	x	(69)	decreasing
65	17 S	15	1	+3	x		disappeared
66	13 N	11	1	>6	x	(65)	dispersed
67	27 N	5	2	>6			decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1683

(June 19 to July 17, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1682	Activity at West Limb
1	19°N	360°	1	+6	x		dispersed
2	15 N	359	3	>6			decreasing
3	12 N	338	2	-4			increasing
4	28 S	338	2	-5			(?)
5	34 N	336	1	>6	x		disappeared
6	13 N	333	1	-2	x		increasing
7	19 N	319	1	>6	x		decreasing
8	19 S	327	2	>6			decreasing
9	24 S	325	4	+2			decreasing
10	19 N	319	2	>6			decreasing
11	25 S	312	1	>6	x		decreasing
12	7 S	306	3	>6			decreasing
13	17 S	299	1	>6	x		dispersed
14	29 S	294	3	+5			decreasing
15	24 S	284	2	>6			dispersed
16	17 S	283	1	+6	x		disappeared
17	6 S	278	1	-2	x		decreasing
18	10 N	278	1	>6	x		decreasing
19	18 N	277	1	>6	x		dispersed
20	21 N	276	2	-2			stable
21	12 S	262	3	>6			decreasing
22	25 N	252	2	+6			decreasing
23	19 S	250	2	>6	x		disappeared
24	16 S	248	2	+2			decreasing
25	16 S	223	1	>6	x	(25)	decreasing
26	15 N	216	2	-1			decreasing
27	15 N	212	4	>6		(26)	decreasing
28	19 N	212	2	>6			decreasing
29	11 N	193	2	0			decreasing
30	19 N	192	1	>6	x		dispersed
31	6 N	175	2	>6			decreasing
32	20 N	173	5	>6			decreasing
33	33 N	172	1	>6	x		dispersed
34	22 S	159	4	>6		(37)	decreasing
35	14 S	154	3	+4			decreasing
36	4 N	150	3	>6		(41)	decreasing
37	22 N	150	1	>6	x		dispersed
38	29 S	147	1	>6	x		dispersed
39	11 N	140	2	+4			decreasing
40	17 N	137	1	>6	x	(43)	decreasing
41	22 N	131	2	-3			decreasing
42	24 N	128	3	>6			decreasing
43	7 N	127	2	0			dispersed
44	10 N	120	5	>6			decreasing
45	19 N	116	1	>6	x		decreasing
46	19 N	113	2	+3			decreasing
47	13 S	100	2	+2			decreasing
48	16 N	98	4	>6		(52)	decreasing
49	21 N	95	3	+4			stable
50	27 S	95	3	>6			decreasing
51	21 S	91	3	>6		(55)	decreasing
52	16 S	90	3	>6			decreasing
53	30 S	83	1	>6	x		dispersed
54	28 N	72	3	>6			decreasing
55	8 N	62	1	>6	x	(58)	disappeared
56	25 S	51	2	-2			decreasing
57	11 N	43	3	+4			decreasing
58	14 N	38	1	>6	x		dispersed
59	28 S	35	1	0	x		decreasing
60	17 N	30	1	+4	x		disappeared
61	19 S	28	2	-2			decreasing
62	15 S	25	1	>6	x		disappeared
63	26 N	24	2	>6			decreasing
64	31 S	10	1	>6	x		dispersed
65	15 S	8	1	>6	x		disappeared


SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1680
MARCH 30 TO APRIL 26, 1979
MEUDON OBSERVATORY
MARCH
31
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APRIL
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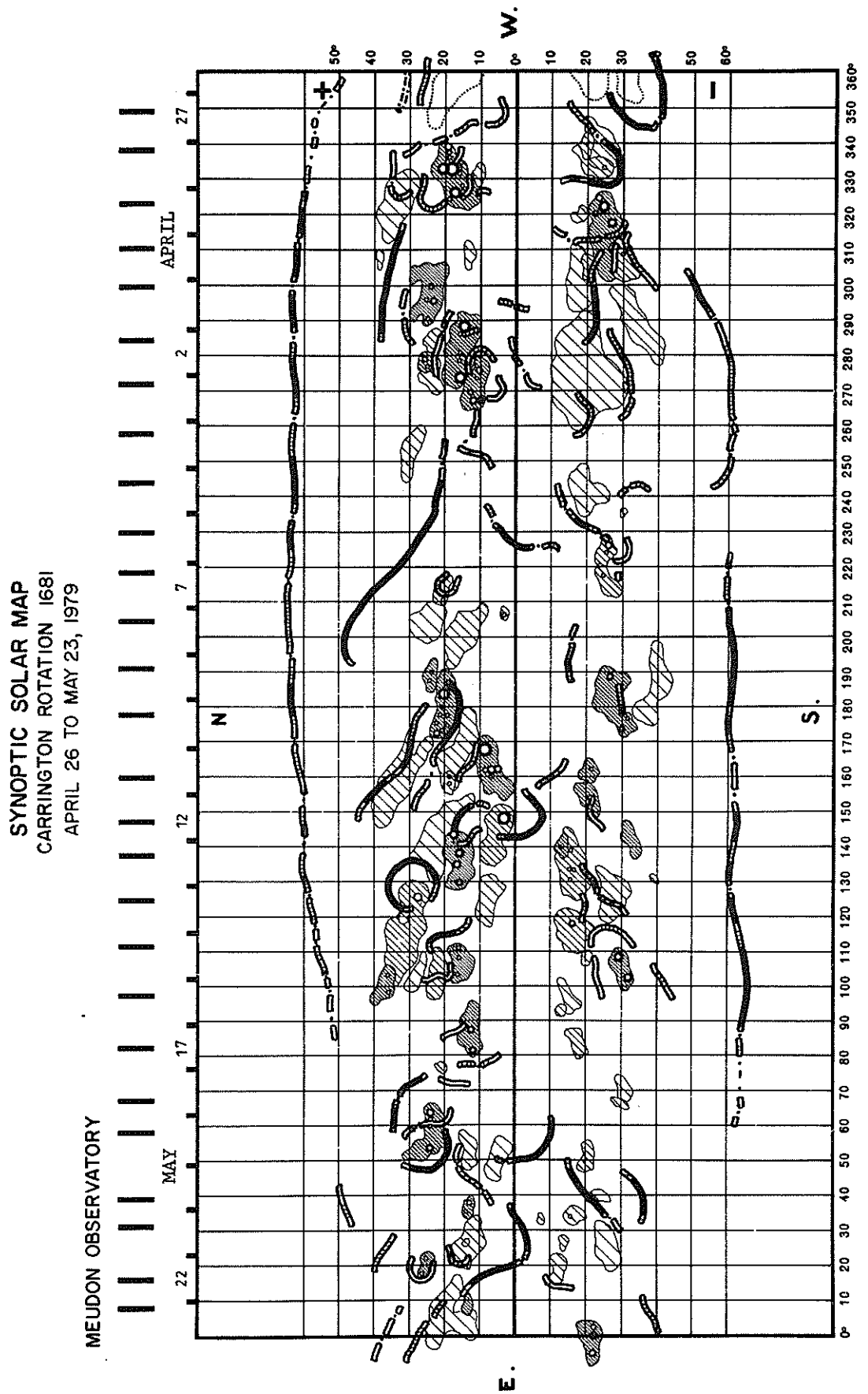
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1681
APRIL 26 TO MAY 23, 1979
MEUDON OBSERVATORY
APRIL
MAY
N
S.
E.
W.
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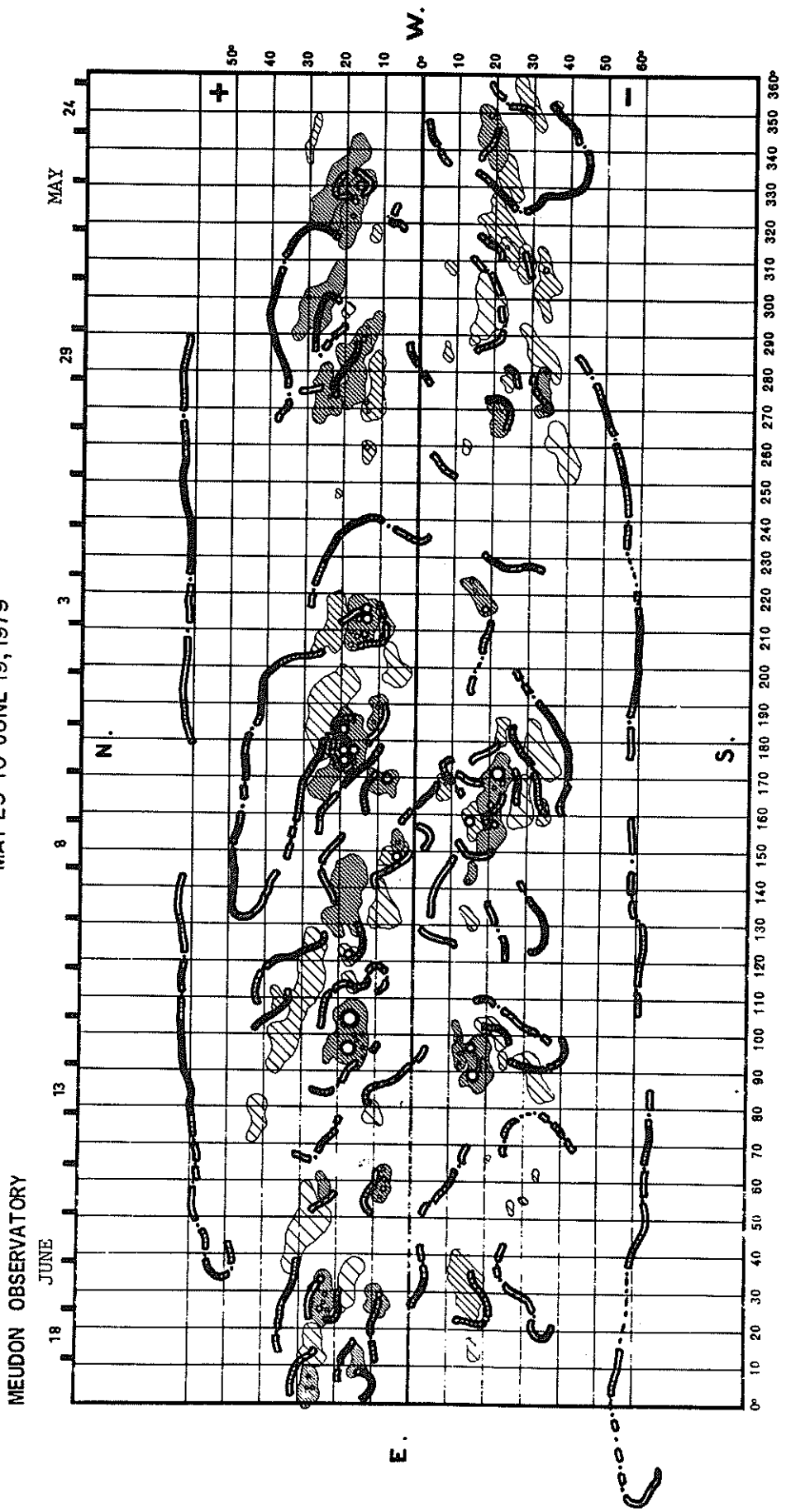
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1682
MAY 23 TO JUNE 19, 1979
MEUDON OBSERVATORY
MAY
JUNE
N.
S.
E.
W.
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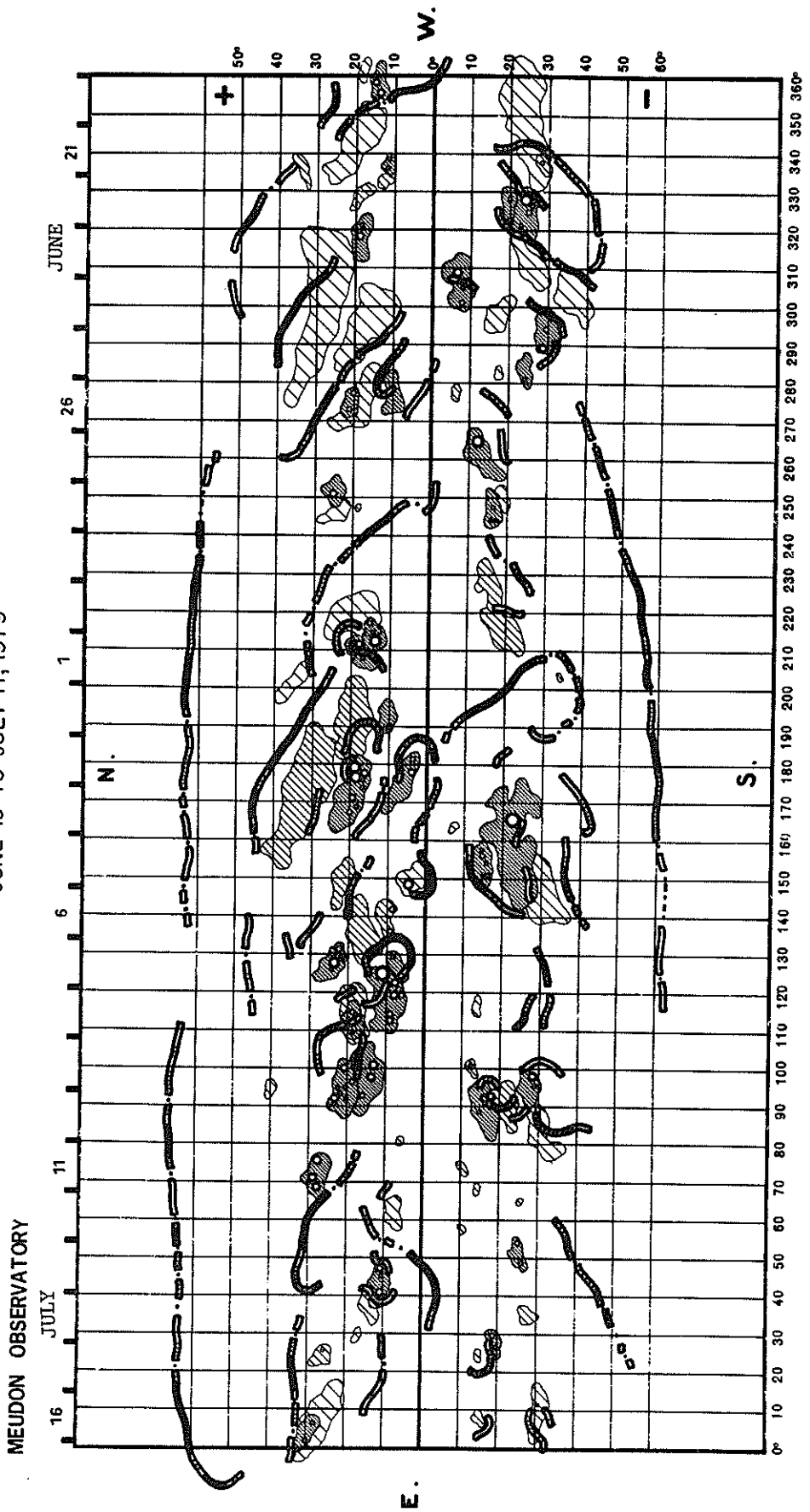
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1683
JUNE 19 TO JULY 17, 1979
MEUDON OBSERVATORY
JUNE
JULY
16
21
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SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

Belgium: *Bulletin d'Observations: Activite Solaire - Observations Radio-electriques Solaires - 600 MHz (Humain, Belgium)* Observatoire Royal de Belgique, Ave. Circulaire 3, Brussels, Belgium (monthly since 1962)

Canada: *Solar Noise Observations at 2800 Mc/s (Ottawa - ARO) and 2700 Mc/s (Penticton - DRAO)* Series C Monthly Report, National Research Council, Radio Astronomy Section Ottawa 7, Ontario, Canada (since 1947)

France: *Carte Synoptiques de la Chromosphere Solaire* Observatoire de Paris, 92 Meudon, France (monthly since 1931)

Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.D. (monthly since Jul 1957)

Italy: *Solar Phenomena - Monthly Bulletin and Photographic Supplement* Osservatorio Astronomica di Roma, Monte Mario, Rome, Italy (monthly since 1958) *Osservazion Solari, Solar Flux and Distinctive Events* Osservatorio Astronomico Di Trieste (quarterly since 1965) *Solar Observations made at Catania Astrophysical Observatory* (annually since 1967)

Japan: *Monthly Report of Solar Radio Emission* Radio Astronomy Section, Research Institute of Atmospherics, Nagoya University, Toyokawa, Japan (since 1956) *Solar Activity Chart* WDC-C2, Toyokawa Observatory, Nagoya University, Toyokawa, Japan (annually since 1968) *IAU Quarterly Bulletin on Solar Activity* Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan (since 1978)

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USSR: СОЛНЕЧНЫЕ ДАННЫЕ *(Solar Data)* USSR Academy of Science (monthly since 1958) КОСМИЧЕСКИЕ ДАННЫЕ *(Cosmic Data)* (monthly since 1962) *Magnetic Fields of Sunspots* (bimonthly since 1964)

USA: *Preliminary Report and Forecast of Solar-Geophysical Activity* Space Environment Services Center, NOAA, Boulder, Colorado 80303 USA (weekly) *Solar-Geophysical Data* NOAA, Boulder, Colorado 80303 USA (monthly since November 1956)

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UAG-39 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1971", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, February 1975, 144 pages, price $2.05.

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UAG-45 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1972", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, May 1975, 144 pages, price $2.10.

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UAG-47 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1973", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, June 1975, 144 pages, price $2.10.

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)", [Reissue with quality images] by R. A. Howard, M. J. Koomen, D. J. Michels, R. Tousey, C. R. Detwiler, D. E. Roberts, R. T. Seal and J. D. Whitney, E. O. Hulbert Center for Space Research, NRL, Washington, D. C. 20375 and R. T. and S. F. Hansen, C. J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, Colorado 80303, February 1976, 200 pages, price $4.27.

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UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radar Observatory (November 1966 - April 1969)", by W. L. Clark and T. E. Van Zandt, Aeronomy Laboratory, NOAA, Boulder, Colorado 80302 and J. P. McClure, University of Texas at Dallas, Dallas, Texas 75230, April 1976, 10 pages, price 33 cents.

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UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975", by R. B. Fritz, Space Environment Laboratory (currently with Wave Propagation Laboratory), NOAA, Boulder, Colorado 80302 USA, September 1976, 61 pages, price $1.04.

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UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976", edited by Helen E. Coffey and John A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, August 1977, 313 pages, price $2.95.

UAG-62 "Geomagnetic Data For February 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 55 pages, price $1.11.

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UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, and Processing" by G. K. Hartmann, Max-Planck-Institut für Aeronomie, D-3411 Katlenburg-Lindau 3, GFR, May 1978, 36 pages, price 75 cents.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3mm 1970-1973" by Earle B. Mayfield, Space Science Lab., and Fred I. Shimabukuro Electronics Res. Lab., The Ivan A. Getting Laboratories, The Aerospace Corp., El Segundo, California 90245, May 1978, 30 pages, price 75 cents.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pages, price 88 cents.

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, September 1978, 56 pages, price $1.41.

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UAG-73 "Auroral Electrojet Magnetic Activity Indices AE(11-12) for January-June 1975", by J. H. Allen, C. C. Abston, J. E. Salazar and J. A. McKinnon, NGSDC/EDIS/NOAA, August 1979, 114 pages, price $1.75.

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

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