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NO. 427 MARCH 1980

Part II (Comprehensive Reports)

DATA FOR
SEPTEMBER 1979

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BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 427

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419B 62	419B 62	419B 62	419A153	420A155	421A158	422A165	423A161	424A146	425A143	426A132	427A147	
F.1i	Cosmic Ray Neutron Counts (Kiel)	415A154	416A151	417A151	418A151	419A153	420A155	421A158	422A165	423A161	427A159	425A143	426A132	427A147	
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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 427 Part II (Comprehensive)

SEPTEMBER 1979 DATA

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NOTE ON SOLAR FLARE DATA DELAY:

Solar Flare data for publication are now twelve 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 These fairly complete listings do not have the final Meudon corrections, and thus will not be published until we receive these corrections.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

SEPTEMBER 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	MEAN	INT	POLARIZATION OR REMARKS
1	100	HIRA	46	C	0317.3	0318.5	3	900	300		O
	127	TORN	44	NS	0730 E		250 D		3.3		VO,INCOMPLETE
	260	ONDR	41	F	0850	0857.6	50	10	2.8		
	260	ONDR	2	S/F	1130.5	1131.4	2	9	1.7		
	228	HARS	45	C	1317.2	1317.2	4	250	80		
	260	ONDR	45	C	1317.5	1317.5	4	24	2		
	234	POTS	4	S/F	1317.6	1317.7	.2	200	20		
	228	HARS	45	C	1524.4	1526.4	2.8	310	100		
	9400	HUAN	20	GRF	1730	1300.2	90.7	7.9	6.1		O
	228	HARS	45	C	1758.4	1800	3.5	225	75		
	2800	OTTA	260	FAL	1800	1840	40	4.4	2.2		
	2800	OTTA	1	S	1851	1854	9	9.4	3.2		
	2695	PENT	240	R	2315	2335	20	6.4	3.2		
2	2695	PENT	4	S/F	0021	0034.3	32	143	49		
	500	HIRA	46	C	0022	0024.4	6	14	6		MR
	5730	IRKU			0022	0033.5	23	57 D			L
	5730	IRKU	2	S	0022	0035.9		57 D			L
	200	HIRA	46	C	0023	0033	25	70	35		O
	100	HIRA	46	C	0028	0040.5	38	90	20		O
	17000	NOBE	20	GRF	0030.7	0036.8	46	15			O
	35000	NAGO	20	GRF	0030	0055	40	10			
	5730	IRKU	29	PBI	0045		45	21			L
	2695	PENT	29	PBI	0053	0053	40 D	10.2			
	3100	CRIM	20	GRF	0547	0556	70	6	2		
	3100	CRIM	1	S	1015	1016	3	4	1		
	9100	ARCE	1	S	1026.6	1027.7	3				
	2800	OTTA	27	RF	1250		185	2.6	2.4		
	2800	OTTA	24	R	1250	1305	15	2.6	1.3		
	2800	OTTA	24P	R	1305		150	2.6			
	2800	OTTA	1	S	1529	1530	2.5	1.6	.8		
	2800	OTTA	26	FAL	1535	1555	20	-2.6	-1.3		
	9400	HUAN	8	S	1611.2	1611.4	.9	53.5	17.3		L
	9400	HUAN	20	GRF	1752.6	1802.8	30.4	5.2	1.9		R
	9400	HUAN	8	S	1849.6	1849.8	.9	86.3	28.7		L
	2800	OTTA	240	R	2000	2020	20	3.4	2		
3	2950	GORK	20	GRF	0425.6	0442.3	33	25			
	9100	GORK	20	GRF	0429.5	0442	50	19	10		
	100	HIRA	46	C	0435.6	0436.5	2.5	950	350		O
	200	HIRA	46	C	0437	0440	8	60	20		O
	100	HIRA	46	C	0441	0450	13	130	60		WL
	260	ONDR	44	NS	0620 E		469 D	27	1		
	9400	HUAN	3	S	1130.5	1132.7	3.4	17.6	9.1		O
	536	ONDR	3	S	1337.6	1337.5	.3	21			
	9400	HUAN	3	S	1856.7	1858.1	1.4	80.3	40.8		L
	2800	OTTA	4	S/F	1856	1858.1	4	23	7.6		
	9400	HUAN	29	PBI	1859.6	1859.6	20.7	5.4	2.7		L
	2800	OTTA	30	PBI	1900	1900	27	3.4	1.2		
	2800	OTTA	1	S	1901	1901.8	1.5	2	1		
	2800	OTTA	8	S	1908	1908.2	.2	4.4			
	2800	OTTA	20	GRF	1955	2020	105	2.6	1.3		
4	3100	CRIM	1	S	0600	0602.5	5	14	4		
	2950	GORK	1	S	0602.20	0602.2	1.90	5.6			
	260	ONDR	44	NS	0633 E		457 D	61	3		
	930	BORD	8	S	0707.2	0707.3	.2	24	1		
	3100	CRIM	26	FAL	0713	0355		6			
	930	BORD	8	S	0742.6	0742.7	.2	21	1		
	930	BORD	8	S	0821.5	0821.6	.2	22	1		
	536	ONDR	42	SER	0837	0846.5	9.5	98			
	536	ONDR	42	SER	1229	1309	51	65			
	2800	OTTA	2	S/F	1309.9	1310	1.5	4			
	9500	POTS	20	GRF	1320	1348	40	13			
	9400	HUAN	20	GRF	1328.6	1335	58.8	10.1	3.5		L
	2800	OTTA	27	RF	1336		120	2.4	2.3		
	2800	OTTA	24	R	1336	1336	2	2.4	1.2		
	3000	POTS	20	GRF	1338	1341	45	6.7			
	1470	POTS	20	GRF	1338	1355.5	57	3.1			
	2800	OTTA	24P	R	1338		112	2.4			
	2800	OTTA	1	S	1341	1342	2	2.6	1.3		
	2800	OTTA	26	FAL	1530	1536	6	-2.4	-1.2		
	2800	OTTA	21	GRF	1600	1616	270	6	3		
	2800	OTTA	22	GRF	1704	1710	70	3.8			
	9400	HUAN	20	GRF	1727	1602.5	69.5	5.1	2.5		O
	200	HIRA	44	NS	2020 E	0325	760 D	50	15		MR
	9400	HUAN	20	GRF	2102.6	2115.9	13.3	8.4	4.8		O
5	17000	NOBE	20	GRF	0405.2	0412.3	145	19			O
	5730	IRKU			0406	0412.7		26			L
	5730	IRKU	45	C	0406	0409.1	14	12			L
	5730	IRKU	1	S	0439.9	0441.1	4	8			L
	202	IZMI	44	NS	0600 E		360 D	50			
	260	ONDR	44	NS	0623 E		465 D	81	10		

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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	MEAN	INT	POLARIZATION OR REMARKS
	127	TORN	44	NS	0630 E	1230.7	450 D	261	3.7		V1,DISTURBED
	2950	GORK	1	S	0655.8	0656.6	2.3	3.6	1.8		
	9100	GORK	22	GRF	0656	0707	21.3	7	3		
	9100	ARCE	1	S	0705.5	0706.1	6.5				
	930	BORD	46	C	0705.9	0705.9	2.8	22	4		
	9500	POTS	1	S	0706	0707	2.5	6.3			
	3000	POTS	4	S/F	0706	0706.6	2.7	32			
	1470	POTS	4	S/F	0706	0707.4	2.7	7.3			
	950	GORK	4	S/F	0706.1	0708	3.8	6			
	650	GORK	4	S/F	0706.1	0706.3	2.6	27.5	7		
	5730	IRKU	1	S	0706.2	0707	3	13			L
	2950	GORK	4	S/F	0706.3	0706.8	2.5	25			
	535	ONDR	45	C	0706.4	0706.4	3.5	88	5		
	606	MANI	4	S/F	0706.4	0706.6	2.4	58.1	19.4		
	1415	MANI	1	S	0706.6	0707.6	2.2	9.8	3.3		
	2650	DWIN	45	C	0706	0707	3	45	15		
	3100	GRIM	3	S	0706	0706	3	54	10		
	930	BORD	8	S	0750.6	0750.8	.2	28	1		
	930	BORD	8	S	0813.8	0813.6	.2	55	1		
	930	BORD	8	S	0857.3	0857.3	.1	49	1		
	930	BORD	8	S	0918.2	0918.2	.1	38	1		
	536	ONDR	2	S/F	0946	0946.8	1	10			
	930	BORD	8	S	0958	0958.1	.2	26	1		
	535	ONDR	2	S/F	1048.2	1049	.8	13	2		
	930	BORD	8	S	1100.5	1100.8	.5	61	2		
	930	BORD	41	F	1104.5	1104.7	.5	68	2		
	7000	SAOP	40	F	1151	1309	167				
	29	UPIC	2	S/F	1214.9	1215.1	.7				
	33	UPIC	2	S/F	1215	1215.1	.4				
	2800	OTTA	1A	S	1257.5	1259	2.5	2.4	1.2		
	2800	OTTA	8	S	1258.6	1258.8	.1	2.6			
	2600	OTTA	4	S/F	1432.6	1433.2	1	34	17		
	113	POTS	4	S/F	1456.4	1456.6	.6	300	75		
	2800	OTTA	20	GRF	1840	1840	80	3.4	1.8		
	9400	HUAN	20	GRF	1934.6	2021	64.1	9.8	4.7		R
	200	HIRA	44	NS	2020 E	2115	760 D	30	5		MR
6	100	HIRA	43	NS	0040	0306	210	40	10		SR
	33	UPIC	43	NS	0628.1	1336.4	429.9				
	29	UPIC	43	NS	0628.3	1336.6	430.4				
	260	ONDR	44	NS	0653 E		425 D	81	6		
	536	ONDR	43	NS	0655		305	24	12		
	200	HIRA	44	NS	2020 E	0730	760 D	55	15		MR
	6100	KISV	27	RF	0726	0736	60	7			
	202	IZMI	5	S	0906.4	0906.5	.5	125	75		
	113	POTS	42	SER	1138.5	1139.9	19	420	8		
	202	IZMI	4	S/F	1138.7	1139	1.3	115	60		
	113	POTS	4		1211.7	1212.4	1.3	2500	100		
	113	POTS	42	SER	1332.4	1336.3	15	4200	15		
	9400	HUAN	20	GRF	1333.5	1336.7	10.2	6.6	4.1		R
	7000	SAOP	4	S/F	1335	1336.6	6	16			O
	2800	OTTA	1	S	1335.9	1336.5	2	2	1		
	2800	OTTA	21	GRF	1435	1537	255	7.6	3.8		
	9400	HUAN	40	F	1635.3	1636.1	2.3	81.9	22.5		
	2600	OTTA	20	GRF	1635	1650	25	2.6	1.9		
	225	HAWS	45	C	1645.5	1646	1.7	530	100		
	10400	BERN	3		1645.5	1646.5	9	14			
	9100	ARCE	1	S	1645.6	1646.1	1.6				
	7000	SAOP	3	S	1645.7	1647	5.6	30			4L
	9400	HUAN	3	S	1646.1	1646.9	2.2	13.1	7.4		
	7000	SAOP	40	F	1836		89				
	2600	OTTA	1	S	1929	1930	7	2.4	1.2		
7	100	HIRA	46	C	0056	0057.6	3.5	9000	2000		WL
	500	HIRA	46	C	0056	0056.7	3	130	40		WR
	200	HIRA	46	C	0056	0057.5	3	1000	300		WL
	1400	SYDN	47	GB	0056.3	0056.9	4.7				
	700	SYDN	40	F	0056.4	0057	3.1				
	17000	NOBE	7	C	0056.8	0057.4	14	24			D
	2695	PENT	4	S/F	0056	0057.4	4	40	23.6		
	8800	MANI	4	S/F	0057	0058.7	4.5	122.9	41		
	5730	IRKU	2	S	0057.5	0058.4	3	40	11		L
	606	MANI	4	S/F	0057.7	0058.2	3	249.4	83.1		
	1415	MANI	4	S/F	0057.7	0058.1	3	352.6	117.5		
	2635	MANI	1	S	0058	0058.8	2.5	34.8	11.6		
	4995	MANI	4	S/F	0058	0058.8	3.5	134.5	44.8		
	5730	IRKU	1	S	0121	0122.4	3	8	4		L
	500	HIRA	20	GRF	0430	0725	260 D	18	6		SR
	113	POTS	44	NS	0640 E	0859	300 D	70			
	930	BORD	8	S	0655.7	0655.7	.1	28	1		
	930	BORD	8	S	0726.5	0726.6	.2	55	1		
	930	BORD	8	S	0757.4	0757.5	.2	32	1		
	930	BORD	8	S	0827	0827.1	.1	23	1		
	202	IZMI	7	C	1030.3	1031	1.5	250	150		
	113	POTS	4	S/F	1111.3	1113.2	3.3	600	35		

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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	MEAN	INT	POLARIZATION OR REMARKS
	127	TORN	45	C	1112	1113.3	4	468	73		
	202	IZMI	46	C	1112.5	1114.7	2.5	150	50		
	3000	POTS	1	S	1113	1115	3.5	5			
	1470	POTS	4	S/F	1113	1113.8	3.5	6.6			
	930	BORD	41	F	1113	1113.2	1	15	2		
	3000	POTS	3	S	1147.5	1148.5	2	11			
	1470	POTS	3	S	1147.5	1148.7	2.5	5.9			
	2650	DWIN	1	S	1148	1148	2	10	5		
	930	BORD	41	F	1148	1152	7	28	2		
	2650	DWIN	8	S	1218			30			
	2650	DWIN	8	S	1222			45			
	7000	SAOP	4	S/F	1317	1318.8	14	12			19L
	9100	ARCE	1	S	1317.3	1318.1	4.2				
	2800	OTTA	1	S	1317	1319	3	2	1		
	9400	HUAN	1	S	1318	1318.8	2.7	8.6	6.6		L
	930	BORD	41	F	1415.2	1415.2	.4	25	2		
	9400	HUAN	20	GRF	1556	1615.9	41	10.4	3.4		O
	2800	OTTA	20	GRF	1607	1615	15	1.6	.8		
	7000	SAOP	4	S/F	1615.4	1615.9	17.4	12			15L
	2800	OTTA	1	S	1712	1713	1.1	3.4	1.6		
	2800	OTTA	20	GRF	1725	1730	12	2.4	1.2		
	2800	OTTA	20	GRF	1835	1840	15	1.6	.8		
	7000	SAOP	3	S	1906.5	1907.5	1.2	21			O
	7000	SAOP	41	F	1906.5						3 BURSTS
	9400	HUAN	3	S	1906.6	1907.3	1.2	17.3	8.6		O
	7000	SAOP	20	GRF	1918		17.2	8			O
	9400	HUAN	20	GRF	1937.3	1951.5	36.3	12.1	4.1		O
	7000	SAOP	45	C	1946.8	1950	11.6	27			17L
	2800	OTTA	4	S/F	1948.4	1948.7	4.6	40	20		
	2800	OTTA	29	PBI	1953	1953	7	3.4	1.7		
	100	HIRA	43	NS	0400	0636	300 D	100	50		SR
	202	IZMI	44	NS	0600 E		360 D	50			
	260	ONDR	44	NS	0645 E		433 D	54	12		
	127	TORN	44	NS	0745 E	1025	435 D	432	14		V2
	33	UPIC	43	NS	0912.4		221.1				
	29	UPIC	43	NS	0914.2	1113.9	221.4				
	200	HIRA	44	NS	2020 E	2205	760 D	30	5		SR
	2600	OTTA	3	S	2057.7	2058	1	37	18		
	2800	OTTA	29	PBI	2058.7	2058.7	3	4.4	2.2		
	2695	PENT	240	R	2300	2420	80	10.2	5.1		
8	29	UPIC	43	NS	0528.7	0845.5	460.1				
	33	UPIC	43	NS	0529.5	0845	459.5				
	127	TORN	44	NS	0600 E	1202.3	360 D	99	.4		V1
	260	ONDR	44	NS	0630 E		464 D	27	4		
	15000	KISV	28	PRE	0625	0647	22	21			
	1470	POTS	22	GRF	0646	0649.2	40	6.7			
	9100	ARCE			0646.1	0647.2	2.1				
	9100	ARCE	45	C	0646.1	0647.2	6.8				
	3000	POTS	29	PBI	0646.5	0648.3	66	48			
	9100	GORK	45	C	0646.7	0647.9	7.2	290			
	9100	GORK			0646.7	0649.9		210			
	17000	NOBE	45	C	0646.8	0648.1	6.1	155			O
	5730	IRKU			0646	0648		67			L
	5730	IRKU	45	C	0646	0647.2	6	23			L
	5730	IRKU			0646	0650		136			L
	8800	MANI	3	S	0647.3	0648.4	7.7	128.6	42.8		
	4995	MANI	4	S/F	0647.8	0648.4	6.2	353.6	118		
	2650	DWIN	45	C	0647	0648	5	30	25		
	2950	GORK	45	C	0647	0648.2	6	42	20		
	35000	NAGO	5	S	0647	0648	7	25			
	6100	KISV			0647	0650		112			
	10715	DWIN	45	C	0647	0648	6	190	120		SUNRISE
	2950	GORK			0647	0649.8		40	20		
	15000	KISV			0647	0648		14 D			
	6100	KISV	45	C	0647	0648	20	194			
	15000	KISV	45	C	0647	0650	3	108			
	9500	POTS	29	PBI	0647	0647.7	56	253			
	9100	ARCE			0648.2	0649.2	4.7				
	17000	NOBE	29	PBI	0652.9	0652.9	17	19			O
	9100	ARCE	29	PBI	0652.9		19				
	930	BORD	8	S	0751.7	0751.8	.2	33	1		
	113	POTS	8	S	0821.8	0821.8	.1	600	200		
	113	POTS	4	S/F	0844	0844.6	1.2	200	5		
	9100	GORK	20	GRF	0858.2	0909.1	38	8	4		
	1470	POTS	3	S	0901	0902	2	6			
	930	BORD	8	S	0936	0936.1	.2	38	1		
	113	POTS	8	S	1202.2	1202.3	.1	200	70		
	9400	HUAN	20	GRF	1301.7	1312	44.3	5	1.8		O
	2800	OTTA	20	GRF	1440	1445	20	2.2	1.1		
	7000	SAOP	20	GRF	1514.6			5			O
	2800	OTTA	260	FAL	1537	1635	58	-2.3	-1.4		
	9400	HUAN	8	S	2043.9	2044.9	1.3	199.6	77.1		L
9	17000	NOBE	20	GRF	0240	0249.5	21.8	19			O

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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	MEAN	INT	POLARIZATION OR REMARKS
	260	ONDR	44	NS	0630 E		470 D	104	6		
	33	UPIC	43	NS	0919.1	0920.1	236.8				
	29	UPIC	43	NS	0919.8	0920.2	236				
	536	ONDR	45	C	0901	0905.2	7	27			
	234	POTS	42	SER	0919.9	0924.7	8.5	525	2		
	113	POTS	41	F	0919.9	0920.2	5.9	225	2		
	228	HARS	45	C	0920	0920.2	.5	600	125		
	202	IZMI	4	S/F	0920	0920	1	300	100		
	223	HARS	45	C	0924.2	0924.6	1	550	60		
	930	BORO	8	S	0924.8	0924.9	.4	13	2		
	113	POTS	42	SER	1012.9	1029.3	19	200	1 E		
	536	ONDR	42	SER	1048	1226.3	102	221			
	113	POTS	42	SER	1052.7	1052.7	13	180	1 E		
	202	IZMI	5	S	1100.3	1100.3	.8	90	40		
	3100	OPIM	1	S	1100.5	1101.5	1	5	1		
	127	TORN	45	C	1145.1	1145.6	2.5	14	6.2		
	9100	ARCE	3	S	1210.5	1211.5	1.5				
	9400	HUAN	3	S	1211.1	1212.5	3.7	17.2	5.9		R
	7000	SAOP	4	S/F	1211.4	1212.4	1	37			9R
	2800	OTTA	3	S	1211.6	1212.5	2.2	34	9		
	930	BORO	3	S	1211	1212.8	5	20	4		
	2650	OWIN	3	S	1211	1212	2	40	20		
	1470	POTS	3	S	1211.5	1212.5	3.5	26			
	3000	POTS	3	S	1211.7	1212.4	1.8	35			
	9500	POTS	3	S	1212	1212.4	1.2	19			
	127	TORN	45	C	1227.3	1228.4	5.3	451	18		
	260	ONDR	46	C	1227.6	1228.7	3.5	222 D	18		
	113	POTS	41	F	1227.9	1228.5	1.2	2100	500		
	1470	POTS	1	S	1228	1228.5	2	3.7			
	234	POTS	41	F	1228.2	1228.6	1.4	280	10		
	228	HARS	45	C	1228.2	1228.4	2	550	60		
	2800	OTTA	1	S	1228	1228.7	1.2	3	1.5		
	2500	OTTA	2	S/F	1358	1359.7	3.5	3.6	1.2		
	228	HARS	45	C	1359.5	1359.5	1	500	60		
	7000	SAOP	1	S	1414	1415.2		5			0
	2800	OTTA	1	S	1534.5	1537	8	6.6	3.3		
	2600	OTTA	1	S	1656	1657	2	1	.5		
	2800	OTTA	1	S	1728	1729.5	2	3.6	1.2		
	7000	SAOP	4	S/F	1921.5	1923		13			19R
	2800	OTTA	3	S	1922	1923	2	11.6	3.8		
	2800	OTTA	22	GRF	1945	1948.5	45	5.4			
	2800	OTTA	22	GRF	2035	2053	55	4.4	2.2		
10	650	GORK	20	GRF	0510.2	0516.2	11.2	7	2.5		
	500	HIRA	4	S/F	0515.3	0516	3	10	4		WR
	700	SYDN	4	S	0515.3	0516.4	2.6				
	9100	GORK	4	S/F	0515.4	0516.4	1.8	40	20		
	1400	SYDN	3	S	0515.4	0516.5	2.2				
	2950	GORK	45	C	0515.4	0516.6	10.4	37	19		
	950	GORK	3	S	0515.4	0516.6	2.1	6			
	2950	GORK			0515.4	0521.6		18	9		
	200	HIRA			0515.5	0520		110			WR
	1415	MANI	4	S/F	0515.5	0516.8	3.2	17.6	5.9		
	200	HIRA	46	C	0515.5	0516.5	6	1000	70		WR
	5730	IRKU	45	C	0515.5	0516.4	12	51	12		
	5730	IRKU			0515.5	0521.7		19			
	17000	NOBE	20	GRF	0515.6	0521.7	26	19			0
	2645	MANI	3	S	0515.6	0516.8	2.4	43.4	14.5		
	4995	MANI	3	S	0515.6	0516.8	2.3	35.3	11.8		
	606	MANI	1	S	0515.7	0516.3	2.3	3.3	1.1		
	29	UPIC	2	S/F	0515.9	0516.2	.8				
	100	HIRA	42	SER	0515	0516	15	4000			WL
	9100	GORK	30	PBI	0516.2	0516.8	12.4	26			
	33	UPIC	2	S/F	0516	0516	1.9				
	3100	OPIM	3	S	0516	0517	10	52	15		
	35000	NAGO	20	GRF	0516	0522	11	7			
	9100	GORK	1	S	0520.8	0522.3	2.4	7	3.5		
	260	ONDR	44	NS	0625 E		462 D	168			
	33	UPIC	43	NS	0820	1013.1	374.2				
	29	UPIC	43	NS	0820	1013.2	374.7				
	127	TORN	43	NS	0913	0941.6	78	14	.7		V1
	127	TORN	43	NS	1132	1155.2	38	368	.1		V1
	113	POTS	4	S/F	1012.7	1012.8	.2	190	50		
	536	ONDR	42	SER	1054	1154.6	62	32			
	113	POTS	42	SER	1136.1	1155	21	1000	15		
	234	POTS	4	S/F	1154.7	1155	.4	420	80		
	202	IZMI	5	S	1154.3	1154.8	1	750	300		
	7000	SAOP	20	GRF	1203	1203.6	26	9			
	9500	POTS	8	S	1211.2	1211.3	.5	28			
	2800	OTTA	8	S	1215.5	1215.5	.2	5.4			
	127	TORN	4	S/F	1223.3	1223.5	1.5	170	17		
	113	POTS	4	S/F	1225.4	1225.8	.4	200	30		
	127	TORN	7	C	1303.2	1303.8	1	36	14		
	9400	HUAN	20	GRF	1320.1	1325	48.5	5	4.1		0
	2800	OTTA	23	GRF	1320	1336	65	2.6			

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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	MEAN	INT	POLARIZATION OR REMARKS
	127	TORN	7	C	1348.1	1348.6	1	306	48		
	113	POTS	4	S/F	1350.1	1350.4	.5	550	200		
	7000	SAOP	45	C	1357	1357.9	9	8			15L
	536	ONDR	8	S	1357.3	1357.3	.4	150			
	3000	POTS	3	S	1357.8	1357.9	1.2	9.3			
	1470	POTS	3	S	1357.8	1358.1	1.2	7.5			
	9500	POTS	1	S	1357.9	1358	.6	4.5			
	2800	OTTA	1	S	1357.9	1358	1	5.4	2.7		
	2800	OTTA	20	GRF	1505	1506	15	2.6	1.3		
	9400	HUAN	20	GRF	1734.4	1751.4	52.6	8.4	5.6		D
	7000	SAOP	45	C	1736.4	1739.5	22	12			15L
	2800	OTTA	1	S	1738.7	1740	2.5	2.2	1.4		
	2800	OTTA	1	S	1812	1812.5	1	2.2	1.1		
	7000	SAOP	1	S	1843.4	1844.4		6			11L
	9400	HUAN	20	GRF	2013.7	2024.7	15.6	4.2	2.8		R
	2695	PENT	21	GRF	2235	2255	135	11.2	5.6		
	2695	PENT	3	S	2243	2244	3	14	6		
	2695	PENT	1	S	2400.5	2401	1	3	1.5		
11	1415	MANI	8	S	0517.9	0519.2	1.7	171.6	57.2		
	606	MANI	4	S/F	0517.9	0518.6	2.2	49.6	16.5		
	2695	MANI	1	S	0518	0518.5	1.6	2.7	.9		
	4995	MANI	1	S	0513.7	0519.1	.7	42.4	14.1		
	6100	KISV			0520	0523.3		8			
	6100	KISV	45	C	0520	0524	5	17			
	1400	SYDN	47	GB	0522.1	0524.2	3.9				
	500	HIRA	46	C	0522.6	0523.7	3	300	50		SL
	950	GORK	4	S/F	0522.6	0524.5	6	29			
	700	SYDN	45	C	0522.6	0523.5	1.8				
	200	HIRA	46	C	0523	0523.2	2	2500	500		G
	2950	GORK	45	C	0523.1	0523.6	3.4	17	7		
	2950	GORK			0523.1	0524.4		15	7		
	650	GORK	45	C	0523.2	0523.9	6.3	65			
	650	GORK			0523.2	0526.3		27			
	100	HIRA	46	C	0523	0524	2	700	100		WL
	9100	GORK	20	GRF	0523	0524.5	9.5	10	5		
	700	SYDN	40	F	0526.7	0527.9	1.9				
	930	BORD	41	F	0645.4	0645.6	.6	33	2		
	930	BORD	8	S	0707	0707.2	.3	37	2		
	930	BORD	8	S	0741.2	0741.3	.2	47	1		
	536	ONDR	45	C	0808.2	0809.5	4	260	29		
	260	ONDR	42	SER	0809	1004.2	216	202			
	930	BORD	8	S	0817.4	0817.5	.1	48	1		
	536	ONDR	42	SER	0906		94	49			
	930	BORD	8	S	0919.4	0919.4	.1	45	1		
	9500	POTS	8	S	0928.5	0928.9	.6	14			
	9100	ARCE	22	GRF	0944	1003.4	67				
	9100	GORK	21	GRF	0950.8	1002.6	26	4	2		
	202	IZMI	42	SEP	1000.5	1005	11.5	650			
	127	TORN	42	SER	1002.3	1004.1	13.2	454			
	127	TORN			1002.3	1010.1		281			
	226	HARS	45	C	1003.3	1004.2	1.7	350	30		
	3000	POTS	42	SER	1003.3	1004.4	8.7	18			
	9500	POTS	42	SER	1003.5	1004.3	8.5	12			
	650	GORK			1003.5	1005					
	950	GORK	4	S/F	1003.6	1004.3	7.2	6			
	2950	GORK	1	S	1003.7	1004.3	1.8	13	6		
	1470	POTS	42	SER	1003.8	1004.6	8.2	5.5			
	234	POTS	42	SER	1003.8	1004.3	19	450	1	E	
	113	POTS	42	SER	1003.8	1004.3	20	2000	20		
	10400	BERN	1		1003.8	1004.3	10	11			
	9100	GORK	1	S	1003.9	1004.3	1	15	7		
	930	BORD	3	S	1003	1004.2	3	18	3		
	808	ONDR	45	C	1003	1008.8	8	25	6		
	33	UPIC	42	SER	1004.3	1004.5	35.5				
	29	UPIC	42	SER	1004.5	1004.7	35.2				
	6100	KISV	8	S	1004	1004.3	1	15			
	930	BORD	41	F	1007	1007.9	4	32	5		
	2950	GORK	1	S	1009.3	1009.8	1	6.4	3		
	9100	GORK	1	S	1009.4	1009.8	1.5	10	5		
	6100	KISV	4	S/F	1009	1009.7	3	11			
	202	IZMI	7	C	1022.5	1023	1	600	250		
	127	TORN	8	S	1022.6	1023	1	498	59		
	127	TORN	45	C	1033.8	1035.1	2.8	25	7.3		
	202	IZMI	42	SER	1034	1039	5.5	100			
	930	BORD	41	F	1034	1035	2	22	2		
	127	TORN	45	C	1037.6	1038.8	1.8	120	32		
	9400	HUAN	1	S	1222.3	1224.7	3.4	9.9	4.7		R
	127	TORN	45	C	1229.3	1230.4	2.2	22	6.4		UNCERTAIN
	536	ONDR	4	S/F	1230.3	1230.8	1.5	72	13		
	9100	ARCE	21	GRF	1342.9	1402.1	148				
	2800	OTTA	21	GRF	1342		160	14.6			
	3000	POTS	29	PBI	1342.5	1346.7	68 D	85			
	1470	POTS	29	PBI	1342.5	1347.6	68 D	96			
	10400	BERN	20		1343	1403.4	73	27			

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	930	BORD	3	S	1343	1346.3	9	36	18		
	863	ONDR	3	S	1343	1346.2	8	22	18		
	2650	DWIN	3	S	1343	1347	12	90	50		
	2800	OTTA	3	S	1343	1346.8	12	75	26.6		
	9500	POTS	22	GRF	1344	1351.2	66 D	35			
	9400	HUAN	20	GRF	1344.8	1359.5	94.9	33	15.4		0
	9100	ARCE	1	S	1344.9	1345.6	3				
	9400	HUAN	3	S	1346.1	1347.3	2.5	24.3	17.8		0
	2800	OTTA	21	GRF	1634	1749	190	9.2	4.8		
	7000	SAOP	45	C	1635.4	1636	8.6	11			
	2800	OTTA	45	C	1635.5	1636	7	11	3.7		
	9400	HUAN	20	GRF	1637.5	1642.5	25.2	8.3	3.1		0
	10400	BERN	21		1653.8	1656.8	22	12			OPR
	2800	OTTA	240	R	2010	2025	15	4.8	2.4		
	2695	PENT	1	S	2250.8	2251.2	1.5	6	3		
	2695	PENT	21	GRF	2250	2253	90	5.4			
	2695	PENT	21	GRF	2332	2336	30	3	1.5		
	2695	PENT	3	S	2333.9	2334	1.1	10.6	5.3		
	2695	PENT	1	S	2337	2338	1.8	3.6	2.4		
12	3100	CRIM	3	S	0523.5	0524	3	28	8		
	260	ONDR	2	S/F	0651.7	0651.9	1	9			
	930	BORD	8	S	0703	0703.1	.2	76	2		
	930	BORD	8	S	0730	0730.1	.2	71	1		
	260	ONDR	4	S/F	0810.6	0811.3	1.5	29	3.7		
	33	UPIC	4	S/F	0811.1	0811.2	.6				
	202	IZMI	41	F	0811	0811	1	50			
	29	UPIC	2	S/F	0811	0811.1	.6				
	930	BORD	8	S	0823.8	0823.8	.1	55	1		
	260	ONDR	8	S	1012.3	1012.3	.3	78			
	536	ONDR	41	F	1120.7	1124.6	5	18			
	7000	SAOP	40	F	1221	1235					
	9400	HUAN	20	GRF	1757.7	1814.5	37.4	3.3	1.7		R
	2695	PENT	20	GRF	2305	2317	25	3.2			
13	930	BORD	8	S	0725	0725.1	.1	38	1		
	10400	BERN	45		0801.5	0804.1	6	14			
	9100	ARCE	45	C	0801.7U	0802.2U	2.7U				
	9500	POTS	29	PBI	0802.5	0803	17	19			
	3000	POTS	3	S	0802.5	0804	5	7.5			
	3100	CRIM	1	S	0802.5	0805	6	11	4		
	9100	GORK			0802.9	0803.3		21			
	9100	GORK	46	C	0802.9	0803.3	1.5	20			
	6100	KISV	46	C	0802	0804	5	21			
	9100	GORK	29	PBI	0803.4	0805.4	30.5	12	6		
	2950	GORK	26	GRF	0803	0804.4	19.6	6.4	3		
	9100	ARCE	29	PBI	0804.4U		10.3U				
	260	ONDR	8	S	0837.8	0837.8	.3	24			
	9400	HUAN	1	S	1301.1	1301.7	1.2	4.1	3.3		R
	7000	SAOP	45	C	1303.4	1312.1	22	57			17R
	10400	BERN	1		1309	1312.2	29	30			
	9100	ARCE	3	S	1309.7	1311.3	3.5				
	9400	HUAN	3	S	1310.2	1312.2	5.5	34.6	15.7		R
	2800	OTTA	2	S/F	1310.9	1315.9	5	7.2	5		
	6100	KISV	4	S/F	1310	1312.3	2.3D	20			
	10715	DWIN			1310	1312	20	15	10		
	2800	OTTA	27A	RF	1310		170	4.4	3.8		
	2800	OTTA	24	R	1310	1316	6	4.4			
	3000	POTS	3	S	1311	1312.4	5	11			
	9500	POTS	29	PBI	1311.5	1312	19	25			
	1470	POTS	1	S	1312	1312.4	1.5	3.4			
	9100	ARCE	29	PBI	1313.2		17				
	9400	HUAN	29	PBI	1315.7	1315.7	43.1	9.9	4.8		R
	2800	OTTA	24P	R	1316		124	4.4			
	7000	SAOP	20	GRF	1454.2	1455.5		8			0
	2800	OTTA	1	S	1454	1455.5	3	8.6	4.3		
	2800	OTTA	29	PBI	1457	1457	20	3.6	1.8		
	2800	OTTA	26	FAL	1520	1600	40	-4.4	-2.4		
	2800	OTTA	21	GRF	1555	1555	35	3	1.5		
	9400	HUAN	1	S	1933.1	1934.5	2.2	8.3	3.9		0
	9400	HUAN	1	S	2008.3	2008.9	1.7	9.9	6.8		R
	2695	PENT	3	S	2009	2009	2	11.8	3		
	2800	OTTA	240AR		2040	2056	16	4.8			
	2800	OTTA	4	S/F	2049.5	2050.7	6	14.4	7		
	2800	OTTA	20	GRF	2125	2143	45	4.5	2.4		
14	17000	NOBE	7	C	0325	0327.2	2.8	75			R
	35000	NAGO	5	S	0326	0327	3	24			
	17000	NOBE	29	PBI	0327.8	0327.8	23.6	23			0
	2950	GORK	1	S	0429.5	0430	3	9.8	5		
	2950	GORK	1	S	0445.7	0446.7	3.6	6.9	3.5		
	29	UPIC	43	NS	0607.9	0720.5	380				
	33	UPIC	43	NS	0608.1	0720	380				
	260	ONDR	44	NS	0710 E		417 D	47	3		
	127	TORN	44	NS	0730 E	1336.8	490 D	13700	202		V1

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	1470	POTS	46	C	0926	0926.2	204	119			
	127	TORN	47	GB	0926.1	0926.8	5	1700	1050		
	930	BORO	45	C	0926	0929	26	88	30		
	202	IZMI	48	C	0930 U	0942	26	5000	1400		
	930	BORO	45	C	1006	1024.4	29	265	23		
	808	ONDR	45	C	1021.6	1024.2	8	76	42		
	202	IZMI	45	C	1044	1052	16	550	300		
	808	ONDR	46	C	1046.5	1051.8	13	35	60		
	930	BORO	45	C	1046	1052	14	219	82		
	10400	BERN	3		1305	1306.9	3	24			
	9500	POTS	3	S	1306	1307	2	23			
	9100	ARCE	3	S	1306.4	1307.1	1.5				
	9400	HUAN	20	GRF	1316.8	1323.7	37.5	5	2.6		O
	2800	OTTA	22	GRF	1318	1333	35	2.2	1		
	2800	OTTA			1418.5E	1418.9	.50	8.8			
	7000	SAOP	45	C	1428.5	1429.1		7			O
	2800	OTTA	24	R	1429	1431	2	3.6	1.9		
	2800	OTTA	27A	RF	1429		126	3.8	3.4		
	3000	POTS	3	S	1431.5	1433.8	3.5	9			
	2800	OTTA	2	S/F	1431.5	1434	4.5	9.2	4.4		
	2800	OTTA	24P	R	1431		99	3.3			
	1470	POTS	1	S	1433	1434	2	3.5			
	930	BORO	41	F	1445.5	1445.9	.5	22	2		
	930	BORO	8	S	1453.6	1453.6	.1	22	1		
	9400	HUAN	20	GRF	1500.3	1505.8	13.7	6.7	1.7		O
	2800	OTTA	40	F	1530	1533.3	3.5	8.7			
	2800	OTTA	26	FAL	1610	1635	25	-3.8	-1.9		
	2800	OTTA	21	GRF	1655	1720	135	9.4	4.6		
	2800	OTTA	4	S/F	1700	1701.8	6	44.8	11		
	9400	HUAN	20	GRF	1706.4	1728.3	41.2	7.6	3.5		O
	2800	OTTA	21	GRF	1930	2000	85	6.6	3.3		
	4995	BOUL	4	SF	1932.5	1936	8.5	21	7		
	7000	SAOP	45	C	1933	1936.2	20	42			BR
	9400	HUAN	3	S	1933	1935.8	5.3	26.9	17.3		R
	2600	OTTA	3	S	1934.5	1936.3	6	11.4	5.7		
	9400	HUAN	29	PBI	1938.3	1938.3	40.7	20.2	8.3		R
	2800	OTTA	2	S/F	2036	2039.6	5	8.4			
	9400	HUAN	1	S	2037.8	2039.7	2.8	6.7	3.6		O
	2800	OTTA	32	ABS	2100	2130	75	-4.4	-2.2		
	4995	BOUL	3	S	2148	2148.5	1.5	27	9		
	2695	PENT	240	R	2240	2305	25	6	3		
	2695	PENT	22	GRF	2316	2319	18	3.4	1.5		
15	2695	PENT	1	S	0045	0045.7	1	3.2	1.6		
	2695	PENT	1	S	0112.5	0113.5	1.5	6.8			
	9100	GORK	22	GRF	0445.6	0447.7	7.9	7	3.5		
	6100	KISV	21	GRF	0550.8	0551	10	4			
	260	ONDR	44	NS	0692 E		433 D	40	2		
	127	TORN	43	NS	0900 U	0957.6	400	526	3.7		V1,DISTURBED
	9100	ARCE	21	GRF	0915.1	0925.3	41.5				
	10400	BERN	3		0922	0924.6	22	11			
	6100	KISV	4	S/F	0922	0925	11	4			
	9100	GORK	20	GRF	0923	0925.2	9	15	7		
	9100	ARCE	8	S	0926.2	0926.4	.8				
	1470	POTS	29	PBI	1012	1027.3	54	63			
	10400	BERN	4		1013	1027.4	32	80			
	536	ONDR	41	F	1016.5	1027.1	44	34	5		
	3000	POTS	29	PBI	1017	1027	43	104			
	930	BORO	46	C	1017	1027	19	45	10		
	127	TORN	48	C	1019.4	1026.1	6.6	229	40		
	9500	POTS	29	PBI	1020	1027.5	39	92			
	29	UPIC	48	C	1020.9	1022.6	10.7				
	3100	CRIM	47	GB	1020	1026 U	12	15 D			
	6100	KISV	46	C	1020	1026.5	30	81			
	3100	CRIM			1020	1032	152 D	7			
	9100	ARCE	4	S/F	1021.2	1027.5	14.2				
	33	UPIC	48	C	1021.3	1021.7	10				
	202	IZMI	41	F	1021.8	1029	10.2	50			
	808	ONDR	20	GRF	1023	1026.7	23	20	13		
	15000	KISV	46	C	1025	1027.7	9	38			
	10715	DWIN	45	C	1025	1027	10	70	50		
	2650	DWIN	45	C	1025	1027	10	130	70		
	113	POTS	4	S/F	1025.1	1025.4	2.2	280	20		
	9100	ARCE	30	PBI	1035.4		55				
	9100	ARCE	8	S	1036.1	1036.2	.5				
	7000	SAOP	45	C	1241.8	1253.4	16	13			9L
	113	POTS	25		1300	1418	90 D	57			
	9400	HUAN	20	GRF	1614	1645.8	44.6	5.1	1.8		O
	9400	HUAN	20	GRF	1932.2	1955	46	6.8	2.7		O
	9400	HUAN	3	S	2004.2	2005	1.2	10.2	6.1		R
	200	HIRA	44	NS	2025 E	2150	730 D	25	5		NL
	9400	HUAN	3	S	2145.2	2145.7	4.2	17.1	6		O
	2800	OTTA	1	S	2145.4	2145.5	1	2	1		
16	5730	IRKU	45	C	0103.5	0105.3	13	9			L

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16	5730	IRKU			0103.5	0110.5		48 D			L
	5730	IRKU			0103.5	0108.8		48 D			L
	5730	IRKU			0103.5	0116.3		14			L
	5730	IRKU			0103.5	0106.6		15			L
	5730	IRKU			0103.5	0112.4		48 D			L
	5730	IRKU			0103.5	0109.5		48 D			L
	17000	NOBE	28	PPE	0104.2	0108	3.8	19			O
	2695	PENT	4	S/F	0107	0108.9	5	192	44.4		
	1415	MANI	3	S	0108	0109.7	7	15.6	5.2		
	17300	NOBE	47	GB	0108	0109.5	6.4	723			O
	3080	MANI	47	GB	0108	0109.5	7	1355.5	451.8		
	4995	MANI	4	S/F	0108	0109.3	7	261.2	37.1		
	2695	MANI	3	S	0108	0109.3	7	93.9	31.3		
	606	MANI	1	S	0108.2	0109.5	3.5	3.4	1.1		
	38000	NAGO	5	S	0109	0110	0	310			
	17000	NOBE	29	PBI	0114.4	0114.4	37	37			O
	36000	NAGO	29	PBI	0115	0122	45	28			
	5730	IRKU	29	PBI	0117		35	10			L
	6100	KISV	4	S/F	0539	0600.5	0	8			
	200	ONDR	44	NS	0640 E		441 D	26	2		
	127	TURN	43	NS	1050	1319.8	230	27	.7		V1
	3100	CRIM	20	GRF	0645	0652	23	7	2		
	10400	BERN	1		0647.2	0648.1	3	7			
	9100	GORK	1	S	0647.5	0648	1.2	6	3		
	930	BORO	8	S	0707.5	0707.6	.1	21	1		
	9100	ARCE	21	GRF	0721.6	0619	48				
	930	BORO	8	S	0741	0741	.1	28	1		
	6100	KISV			0750	0602.8		75			
	6100	KISV	45	C	0750	0602.8	30	98			
	9100	GORK	21	GRF	0753.3	0809.3	54.7	29	14		
	10400	BERN	4		0756	0801.6	56	120			
	1415	MANI	4	S/F	0759.6	0800.8	4.4	32.9	10.9		
	4995	MANI	4	S/F	0800.5	0802	2.4	67	22.2		
	5730	IRKU			0600 U	0802	15	48 D			L
	5730	IRKU	45	C	0800	0803.1		32			L
	9580	POTS	29	PBI	0801	0601.5	48	121			
	3000	POTS	29	PBI	0601	0603	44	27			
	3100	CRIM	3	S	0801	0802.5	9	35	11		
	10715	DWIN	45	C	0801	0801	60	80	15		
	9100	GORK	46	C	0801	0801.5	8	150			
	2650	DWIN	1	S	0801	0802	15	15	10		
	9100	GORK			0601	0803.9		80			
	2950	GORK	21	GRF	0801.1	0807.6	48	10			
	9100	ARCE	4	S/F	0801.3	0801.7	15.3				
	2950	GORK	3	S	0802	0802.6	4.7	18	9		
	3100	CRIM	29	PBI	0810	0810	30	7	2		
	930	BORO	8	S	0811.7	0811.7	.2	21	1		
	930	BORO	3	S	0851.7	0851.7	.2	32	1		
	10400	BERN	46		0915	0937.1	70	655			
	6100	KISV			0920	0942		260			
	6100	KISV	46	C	0920	0937	90	370			
	6100	KISV			0920	0942.7		150			
	9100	ARCE			0930.5	0937.2	9.6				
	9100	ARCE	46	C	0930.6	0937.2	21.6				
	9580	POTS	45	C	0931	0937.2	66	720			
	9100	GORK			0931.3	0941.6		800			
	9100	GORK	46	C	0931.3	0936.9	16.7	1100			
	10715	DWIN	45	C	0934		60	270 D			
	3100	CRIM			0934	0938		222			
	15000	KISV			0934	0937		530			
	3100	CRIM	47	GB	0934	0937.5	27	222	70		
	15000	KISV	46	C	0934	0942	36	700			
	15000	KISV			0934	0942.8		560			
	3000	POTS	45	C	0935	0936.3	60	184			
	2650	DWIN	45	C	0935	0933	30	145	80		
	2950	GORK	46	C	0935.1	0936.7	11.2	176			
	2950	GORK			0935.1	0943		94			
	2695	MANI	4	S/F	0935.3	0936.6	5.3	123.7	41.2		
	4995	MANI	4	S/F	0935.3	0936.8	4.7	333.6	111.2		
	1470	POTS	4	S/F	0938 E	0940.7	7 D	16			
	33	UPIC	32	ABS	0939.3	0943.3	32.10				
	950	GORK	20	GRF	0939	0940.6	3	4			
	650	GORK	40	F	0939	0940.5	4	7			
	650	GORK			0939	0942		1.5			
	9100	ARCE			0940.4	0942.1	12				
	29	UPIC	32	ABS	0940 U	0943	16 U				
	2950	GORK	29	PBI	0946.3	0946.4	24.6	37			
	9100	GORK	29	PBI	0948	0946	40 D	85			
	9100	ARCE	29	PBI	0952.4		43				
	3100	CRIM	29	PBI	1001	1001		20			
	10400	BERN	3		1110.2	1111.9	4	11			
	9100	ARCE	1	S	1111.7	1112.1	1				
	9100	ARCE	29	PBI	1112.7		16				
	9400	HUAN	20	GRF	1134.2	1141	14.8	9.7	2.3		O
	9400	HUAN	20	GRF	1227.7	1307.1	92.8	4.9	1.9		L

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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
	10400	BERN	41		1230.6	1232.9	53	15			
	9100	ARCE	1	S	1232.6	1233	7.5				
	9100	ARCE	20	GRF	1248.2	1307.5	33.7				
	7000	SAOP	45	C	1253	1307.3	16.6	13			19L
	113	POTS	4	S/F	1341.5	1341.8	.4	100	3		
	7000	SAOP	45	C	1430	1438.4	16	11			13L
	7000	SAOP	41	F	1430						3 BURSTS
	9400	HUAN	20	GRF	1430.6	1543.6	104.2	16.2	7.7		L
	10400	BERN	27		1431	1436.2	25	9			
	7000	SAOP	20	GRF	1456			12			10L
	10400	BERN	27		1457.6	1458.4	9	11			
	7000	SAOP	45	C	1540	1555	37	26			20L
	10400	BERN	27		1540.2	1555.8	35	11			
	2800	OTTA	20	GRF	1545	1600	50	6.6	3		
	2800	OTTA	20	GRF	1652	1658	11	1.6			
	7000	SAOP	45	C	1711.6	1718.2	17.2	15			26L
	7000	SAOP	27	RF	1742		12.5	7			19L
	9400	HUAN	20	GRF	1742.1	1752.5	23	11.4	4.4		L
	7000	SAOP	27	RF	1803.7		29.3	8			16L
	9400	HUAN	20	GRF	1811.7	1820.8	18.7	4.9	3.4		L
	9400	HUAN	20	GRF	1845.8	1902.6	34.2	16.2	5.1		0
	9400	HUAN	20	GRF	1928	1955.5	115.1	30.8	13.6		L
	7000	SAOP	45	C	1944.2	1951.9		64			3L
	9400	HUAN	3	S	1950.6	1951.4	4.1	64.9	34.9		L
	2800	OTTA	21	GRF	1950	2045	120	5.8	3.6		
	2800	OTTA	3	S	1951	1952.8	6	64	29.9		
	2800	OTTA	29	PBI	1957	1957	25	8	4		
	9400	HUAN	3	S	2041.9	2043.8	3	17.8	10		L
	9400	HUAN	20	GRF	2130.8	2137.8	29	9.7	4.7		L
	9400	HUAN	1	S	2211.7	2215.2	6.8	8.1	4.4		0
	2695	PENT	20	GRF	2220	2250	50	3	1.5		
	2695	PENT	20	GRF	2330	2417	70	6.8	2.3		
	17000	NOBE	1	S	2350.5	2351.4	2.4	27			L
17	9100	GORK	22	GRF	0421.7	0425	7.7	11	5		
	2950	GORK	20	GRF	0509.5	0515	52	8.3	4		
	9100	GORK	20	GRF	0512.5	0529.5	38.5	14	7		
	930	BORO	8	S	0702	0702.1	.1	16	1		
	6100	KISV	3	S	0715	0720	15	6			
	9100	ARCE	20	GRF	0717.4	0722.4	19				
	9100	GORK	20	GRF	0717	0722.2	13.7	11	5		
	930	BORO	8	S	0731.6	0731.6	.1	22	1		
	260	ONOR	44	NS	0740 E		390 D	29			
	930	BORO	8	S	0807.7	0807.7	.1	16	1		
	6100	KISV	1	S	0842	0843.5	3	3			
	9100	GORK	21	GRF	0920.2	0936.6	30.6	9	4.5		
	6100	KISV	4	S/F	0925	0934	35	16			
	10400	BERN	45		0925.7	0932.1	27	22			
	9100	ARCE	21	GRF	0927.8	0934.1	23				
	9100	GORK			0931.3	0933.7		15			
	9100	GORK	45	C	0931.3	0932	5.2	21			
	9500	POTS	4	S/F	0931.5	0932	5.5	20			
	15000	KISV	8	S	0931.5	0932	1	25			
	9100	ARCE	1	S	0931.6	0932.2	1.4				
	10715	DWIN	8	S	0932	0932.5	1	26	10		
	10400	BERN	21		1034.5	1036.2	42	12			
	9100	GORK	1	S	1035.7	1036.2	1.7	11	5		
	650	GORK			1035.7	1037.7		2.5			
	650	GORK	40	F	1035.7	1036.8	3.3	2.5			
	9100	ARCE	22	GRF	1035	1040.4	39				
	3100	CRIM	3	S	1035	1037	14	13	4		
	9100	GORK	21	GRF	1035	1044.7	42	12	6		
	2950	GORK	20	GRF	1035	1036.9	35	11	5		
	950	GORK	1	S	1037.5	1037.6	.2	6	3		
	3100	CRIM	29	PBI	1049	1049	112	5			
	9400	HUAN	3	S	1124.4	1126.3	10.7	17.1	10.2		0
	7000	SAOP	20	GRF	1156.5			7			46L
	10400	BERN	1		1227.8	1228.2	2	10			
	9100	ARCE	1	S	1228.2	1228.5	1.2				
	2800	OTTA	20	GRF	1345	1400	40	2.4			
	2800	OTTA	22	GRF	1515	1610	115	5.2	3		
	9400	HUAN	20	GRF	1517.4	1530	36.7	10.2	3.8		L
	9100	ARCE	1	S	1528.6	1530.3	7.5				
	7000	SAOP	41	F	1554.5						2 BURSTS
	7000	SAOP	45	C	1554.5	1606.2	29.4	19			32L
	7000	SAOP	45	C	1643.3	1647.7	30	14			0
	9400	HUAN	20	GRF	1718.6	1726	72.4	8.5	6.3		L
	2800	OTTA	27	RF	1720		155	4	3.4		
	2800	OTTA	24	R	1720	1735	15	4	2		
	2800	OTTA	24P	R	1735		110	4			
	9400	HUAN	3	S	1815.3	1816.5	4.5	23.9	14.8		L
	9400	HUAN	20	GRF	1831	1904.7	55.8	10.2	6.1		L
	2800	OTTA	26	FAL	1925	1955	30	-4	-2		
	2800	OTTA	1	S	2049.7	2050	1	2.8	1.4		
	2800	OTTA	8	S	2202.5	2202.8	.5	2	1		

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17	9100	GORK	20	GRF	0609.4	0620.2	23.6	8	4		
	10400	BERN	47		0650	0737.6	146	2200			OPR
	6100	KISV			0650	0655.5		370			
	6100	KISV			0650	0658.2		280			
	6100	KISV			0650	0727		270			
	6100	KISV	47	GB	0650	0737.5	300	1550			
	6100	KISV			0650	0702.7		120			
	6100	KISV			0650	0658.8		350			
	6100	KISV			0650	0621.5		260			
	6100	KISV			0650	0700.5		360			
	6100	KISV			0650	0615.5		240			
	6100	KISV			0650	0709		100			
	6100	KISV			0650	0744.7		1550			
	6100	KISV			0650	0700.2		360			
	6100	KISV			0650	0615.5		240			
	6100	KISV			0650	0704.5		90			
	6100	KISV			0650	0700.7		350			
	6100	KISV			0650	0711.7		70			
	9100	GORK			0653.3	0821.6		370			
	9100	GORK	47	GB	0653.3	0700.4	325 D	360			
	2950	GORK			0653.3	0619.4		270			
	9100	GORK			0653.3	0745		4060			
	2950	GORK			0653.3	0738		1650			
	9100	GORK			0653.3	0738		4300			
	2950	GORK	47	GB	0653.3	0700.3	300	540			
	9100	GORK			0653.3	0615.6		400			
	2950	GORK			0653.3	0744.6		2590			
	9100	ARCE	23	PRE	0653.6	0700.6	29.8				
	4995	MANI	47	GB	0653.7	0744.7	98.2	4288.7	1429.6		
	3000	POTS	47	GB	0654	0746	139	1600 D			
	2695	MANI	47	GB	0655	0745.5	96.3	4089.3	1363.1		
	950	GORK			0655.7	1024.4		162			
	950	GORK			0655.7	0747.6		214			
	950	GORK			0655.7	1052		134			
	950	GORK	46	C	0655.7	0705.1	304	91			
	950	GORK			0655.7	0822.2		154			
	2650	DWIN	49	GB	0655		175	140 D			
	3800	MANI	47	GB	0656	0736	97.7	3060	1020		
	1470	POTS	47	GB	0656	0750.8	147	1090			
	1415	MANI	47	GB	0656.3	0747.6	169.7	928.5	309.5		
	9500	POTS	47	GB	0656.5	0737.6	307	2800			
	10715	DWIN	49	GB	0656		120	260 D			
	3100	CRIM	47	GB	0656 E	0712	258 U	456			
	3100	CRIM			0656 E	0823 U		800 D			
	3100	CRIM			0656 E	0743 U		800 D			
	3100	CRIM			0656 E	0930	17	60	20		
	650	GORK			0657.2	0619		1490			
	650	GORK	47	GB	0657.2	0703	321 D	61			
	650	GORK			0657.2	1054.1		620			
	650	GORK			0657.2	0745.7		57			
	650	GORK			0657.2	1026		556			
	930	BORD			0657	0857.3		184			
	930	BORD	45	C	0657	0800	140	255	75		
	500	HIRA	48	C	0658.6	0703.5	73	60	25		WR
	234	POTS	47	GB	0659	0928	431 D	700			
	113	POTS	47	GB	0659	0928	431 D	2500			
	606	MANI	47	GB	0659.2	0907	133.1	567	189		
	200	HIRA			0659.5	0732		80			WL
	200	HIRA	48	C	0659.5	0702	105 D	7000	50 U		WR
	202	IZMI	47	GB	0700	0703	6	3300	1000		
	100	HIRA	48	C	0700	0702.8	63	6000	200		WL
	234	POTS	4	S/F	0700.9	0702.3	2.4	175	6		
	33	UPIC	48	C	0707.2	0720	51.9				
	29	UPIC	48	C	0707.5	0720.5	51				
	536	ONDR	49	GB	0710 E	0907	270 D	273	50		
	536	ONDR			0710 E	0926		182			
	536	ONDR			0710 E	0816.3		182			
	536	ONDR			0710 E	1054		52			
	113	POTS	4	S/F	0719.8	0719.9	1.1	4200	350		
	17000	NOBE	47	GB	0720.5	0737.7	36 D	2004			L,SUNSET
	808	ONDR			0720	0823.6		106			
	808	ONDR	49	C	0720	0747.6	126	111	69		
	808	ONDR			0720	0856.8		90			
	15000	KISV			0722	0324		500			
	15000	KISV	47	GB	0722	0736	78	1300			
	9100	ARCE	47	GB	0723.4	0735.3	51				
	202	IZMI	21	GRF	0726.5	0728.5	23.9	250	100		
	35000	NAGO	5	S	0728	0739	40 D	857			SUNSET
	113	POTS	4	S/F	0746.2	0746.7	2	2800	150		
	9100	ARCE	30	PBI	0814.4		175				
	500	HIRA	48	C	0815.5	0816.7	25 D	180 U	60 U		WL,WR,SUNSET
	9100	ARCE	40	F	0815	0821.6	13				
	202	IZMI	25	R	0830	1025	270	250			
	200	ONDR	49	GB	0830		180	202 D	57		
	3000	POTS	29	PBI	0926	0930.4	162	32			

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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
	200	HIRA	43	NS	2250	2400	235 D	40	5		WL
18	1400	SYDN	20	S	0022.7	0023.6	2.7				
	2695	PENT	1	S	0023	0024	2.5	5	2.5		
	700	SYDN	4	S	0125.3	0125.7	.9				
	2695	PENT	4	S/F	0125.5	0126	1.5	12.8	6.4		
	5730	IRKU	1	S	0125	0125.9	4	5			L
	6100	KISV	4	S/F	0618	0619.5	6	4			
	260	ONDR	44	NS	0630 E		453 D	29			
	9100	GORK	20	GRF	0651.2	0658.2	18.7	7	3.5		
	9100	ARCE	22	GRF	0723.2	0819.8	137				
	3000	POTS	20	GRF	0742	0819.4	98	16			
	9500	POTS	20	GRF	0746	0818.7	94	28			
	10400	BERN	20		0746.5	0818.7	88	23			
	3100	CRIM	21	GRF	0749	0850	97	8	3		
	2950	GORK	20	GRF	0754.3	0819.4	7.9	8	4		
	9100	GORK	21	GRF	0754	0801.7	102	27	15		
	9100	GORK	1	S	0816.7	0819.6	7.2	17	8		
	3100	CRIM			0816	0820		6			
	3100	CRIM	45	C	0816	0817	7	5	2		
	6100	KISV	4	S/F	0817	0819.5	13	14			
	127	TORN	7	C	1025.1	1026.6	2	5	2.2		
	33	UPIC	42	SER	1145.1	1150.1	5.5				
	29	UPIC	42	SER	1145.1	1150.5	5.6				
	9400	HUAN	20	GRF	1222	1234.5	21.8	10.3	3.9		L
	7000	SAOP	45	C	1247	1253.7	26	29			10L
	9400	HUAN	3	S	1248.2	1254.1	10.3	15.4	8.4		L
	10400	BERN	3		1251.5	1253.6	3	14			
	9100	ARCE	3	S	1251.8	1253.7	8.3				
	9500	POTS	3	S	1252	1252.5	3	3			
	9400	HUAN	20	GRF	1400.2	1447.8	100.6	29.1	8		L
	2800	OTTA	21	GRF	1420	1445	110 D	13.8			
	7000	SAOP	46	C	1432	1438.2	65.2	147			14L
	10400	BERN	46		1432.2	1438.2	115	55			
	9400	HUAN	3	S	1432.3	1437.5	14.9	78.8	35		L
	9100	ARCE	28	PRE	1432.7	1433.3	3.8				
	3000	POTS	29	PBI	1436	1438.4	14 D	33			
	2650	DWIN	1	S	1436	1438	6	30	20		
	2800	OTTA	3	S	1436	1438	6	24.6	9		
	10715	DWIN	1	S	1436	1436	6	30	20		
	9500	POTS	29	PBI	1436.5	1438.5	14 D	50			
	9100	ARCE	3	S	1436.5	1438.6	4.9				
	9100	ARCE	29	PBI	1441.4	1444.4	49				
	4995	BOUL	3	S	1532.5	1534	2.5	14	5		
	2800	OTTA	21	GRF	1730	1750	50	4	2		
	9400	HUAN	20	GRF	1743.1	1755.7	35.6	13.7	6.2		0
	7000	SAOP	2	S/F	1755	1755.8		8			0
	2300	OTTA	1	S	1755	1755.6	1	8.4	2.1		
	9400	HUAN	20	GRF	1825.9	1845	43	9.1	4.8		0
	7000	SAOP	46	C	1918	1923.4	32	68			21L
	9400	HUAN	20	GRF	1918.5	1927.9	50.9	27.4	9.8		L
	4995	BOUL	4	SF	1918	1922.5	27	48	16		
	2800	OTTA	20	GRF	1920	1953	90	6.2	3.1		
	2800	OTTA	20	GRF	2120	2135	40	3.6	2		
	9400	HUAN	20	GRF	2152.6	2200	12.2	8.6	5.8		0
	2695	PENT	20	GRF	2220	2235	45	3.8	2		
19	17000	NOBE	1	S	0309.6	0310	.6	19			0
	9100	GORK	21	GRF	0357	0415.3	63	29	15		
	5730	IRKU			0400	0403.2		23			L
	5730	IRKU	41	SER	0400	0402.3	12	32			L
	5730	IRKU			0400	0406.8		36			L
	17000	NOBE	7	C	0402.2	0402.4	5.3	67			0
	9100	GORK	46	C	0402.4	0403.3	6.5	55			
	9100	GORK			0402.4	0407		70			
	35000	NAGO	20	GRF	0403	0409	97	19			
	2950	GORK	21	GRF	0406 E	0415.8	76 D	13	6.5		
	17000	NOBE	23	PBI	0407.5	0407.5	48	17			0
	5730	IRKU	2	S	0413.7	0414.1	5	66			L
	2950	GORK	3	S	0414	0414.3	1.9	33	16		
	9100	GORK	3	S	0414.1	0414.4	1.2	40	20		
	15000	KISV	45	C	0644	0650 U	14	132 D			
	10400	BERN	47		0644.5	0646.1	16	415			
	9100	GORK			0644.7	0649.8		185			
	9100	GORK	46	C	0644.7	0646.5	76	500			
	9500	POTS	4	S/F	0645	0646	11	348			
	35000	NAGO	5	S	0645	0647	7	68			
	3100	CRIM	3	S	0645	0646	7	72	24		
	930	BORD	46	C	0645	0645.4	8	35	5		
	6100	KISV			0645	0650		52			
	5730	IRKU			0645	0649.9		41			R
	6100	KISV	45	C	0645	0646	6	219			
	5730	IRKU	45	C	0645	0646	15	102 D			R
	6100	KISV			0645	0650.7		61			
	5730	IRKU			0645	0650.7		43			F

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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	MEAN	INT	POLARIZATION OR REMARKS
19	17000	NOBE	45	C	0645.1	0645.9	14	505			R
	990	GORK	45	C	0645.1	0646.4	10	15			
	950	GORK			0645.1	0649.5		19			
	9100	ARCE			0645.3	0646.2	3.4				
	650	GORK	45	C	0645.3	0646.0	10.5	40			
	650	GORK			0645.3	0650		30			
	2950	GORK	4	S/F	0645.6	0646.6	5.5	91			
	4995	MANI	3	S	0646	0647.5	6.7	126.6	42.2		
	9100	ARCE	46	C	0646.2	0646.2	16.9D				
	6300	MANI	3	S	0646.5	0647.5	7.7	252.9	84.3		
	2695	MANI	3	S	0647.2	0647.7	1.8	49.4	16.5		
	9100	ARCE			0648.7	0649.0	13.5				
	260	ONDR	44	NS	0650 E		441 D	30			
	610	KISV	29	PBI	0651.3	0651.3	50	37			
	2950	GORK	29	PBI	0651	0651	130	19			
	35000	NAGO	29	PBI	0652	0702	60 D	23			
	9100	GORK	30	PBI	0652.3	0652.5	340 D	48			
	10400	BERN	4		0704.9	0709.2	31	35			
	9100	ARCE	4	S/F	0706.6	0709.5	3.7				
	3100	OPIM	1	S	0706	0709	5	18	6		
	9100	GORK	45	C	0706	0708.4	6.2	50			
	5730	IRKU	2	S	0706	0708.9	10	61	24		R
	9100	GORK			0706	0709.3		57			
	6100	KISV	4	S/F	0707	0709	3	83			
	15000	KISV	3	S	0707	0709.5	4	26			
	9500	POTS	29	PBI	0707.5	0709	158	45			
	3000	POTS	29	PBI	0707.5	0708.8	163	24			
	6100	KISV	29	PBI	0710	0710	85	37			
	9100	ARCE	29	PBI	0710.3		19				
	10400	BERN	21		0750	1218.9	327	46			
	9100	ARCE	1	S	0850.2	0851.4	2				
	9100	ARCE	1	S	0927.7	0927.8	.6				
	9500	POTS	21	GRF	1155	1219	77	25			
	3000	POTS	22	GRF	1200	1214.8	100	13			
	9400	HUAN	20	GRF	1200	1221.8	44	13	8		O
	2800	OTTA	21	GRF	1205	1230	95	7.8	3.7		
	9400	HUAN	3	S	1207.7	1208.8	2	11.4	7.5		O
	9100	ARCE	21	GRF	1208.6	1223.4	36				CHART DISTURBED
	1470	POTS	22	GRF	1209	1214.5	51	3.9			
	2800	OTTA	45	C	1211	1214.0	7	5.2	2.5		
	2950	GORK	20	GRF	1211.7	1215	24 D	6.2	3.1		
	9400	HUAN	1	S	1213.6	1214.4	1.4	6.5	4.2		R
	9100	GORK	1	S	1218.6	1219.1	2.3	12			
	9400	HUAN	3	S	1218.5	1219.6	1.6	14.6	12.2		O
	9100	ARCE	1	S	1218.6	1219.4	2.8				
	9400	HUAN	28	PRE	1348.2	1355.1	6.9	3.2	3		L
	7000	SAOP	46	C	1348.6	1357.6	32	265			SL
	9500	POTS	21	GRF	1350	1411.1	70 D	40			
	10400	BERN	46		1355	1357.6	96	172			
	10400	BERN	46		1355	1420.4	96	78			
	2650	OWIN	41	F	1355	1356	30	55	20		
	10715	OWIN	41	F	1355	1355	30	140	30		
	9400	HUAN	45	C	1355.1	1357.5	8	230.6	81.4		L
	9100	ARCE			1355.3	1357.8	3.3				
	9100	ARCE	46	C	1355.3	1357.8	5				
	3000	POTS	21	GRF	1356	1412.5	66	18			
	2800	OTTA			1356	1420.5	29	54.6			
	1470	POTS	22	GRF	1357	1418.5	64	8.9			
	9500	POTS	4	S/F	1355	1357.5	12	179			
	3000	POTS	4	S/F	1356.5	1358.8	6.5	52			
	9100	ARCE			1358.6	1359.1	1.7				
	9100	ARCE	30	PBI	1400.3		84.5				
	9400	HUAN	29	PBI	1403.1	1403.1	63.2	39	21.3		L
	9400	HUAN	3	S	1405.3	1406.5	1.7	16.2	6.5		O
	936	JORD	41	F	1410	1411.7	2.5	177	4		
	3000	POTS	4	S/F	1417	1420.2	7	52			
	9400	HUAN	3	S	1417.1	1420.1	6	87.7	41.6		O
	9100	ARCE	3	S	1417.7	1420.5	6.8				
	9500	POTS	2	S/F	1418	1420.1	7	93			
	2800	OTTA	29	PBI	1425	1425	90	14	7		
	10400	BERN	3		1558.1	1602.5	26	14			OPR
	7000	SAOP	45	C	1559	1602.2	13	16			O
	2800	OTTA	240	F	1600	1601.2	1.2	3	1		
	9100	ARCE	1	S	1601.2	1602.6	9.4				
	2800	OTTA	22	GRF	1618	1651	65	3			
	7000	SAOP	20	GRF	1733		26	15			O
	1420	BOUL	3	S	1738 E	1738.5	1.5D	6 U	2		
	2800	OTTA	240	R	1741	1742.2	1.2	4.4	2.2		
	2500	OTTA	20	GRF	1826	1830.5	34	20	6.7		
	9400	HUAN	40	F	1856.4E	2101.6	208.3D	76.5	26.5		O
	2800	OTTA	21	GRF	1910	1930	60	5.2			
	7000	SAOP	45	C	1911	1921.1	36	56			GR
	2800	OTTA	4	S/F	1916	1918	11	12.2	6.1		
	2800	OTTA	22	GRF	1935.5	1936.3	16	7.8	3.7		
	2800	OTTA	21	GRF	2015	2045	73	11.6	5.8		

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	2800	OTTA	1	S	2019.5	2020.5	2	4.4	2.2		
	2800	OTTA	8	S	2033	2033.2	.6	3	1.5		
	2800	OTTA	1	S	2034	2036.3	8	7.4	2.6		
	1420	BOUL	3	S	2038 E	2038.5	1.50	6 U	3		
	17000	NOBE	8	S	2215.1	2215.6	.7	105			R
	9400	HUAN	8	S	2215.1	2215.4	1	179	51.8		R
	17000	NOBE	29	PBI	2215.8	2216.9	5	18			0
	17000	NOBE	28	PRE	2255.6	2301.5	5.9	64			0
	2695	PENT	8	S	2257.3	2257.3	.1	11.2			
	1415	MANI	4	S/F	2301	2307.3	19.8	217.7	72.6		
	8800	MANI	47	GB	2301	2306.2	20.6	2047.5	682.5		
	17000	NOBE	47	GB	2301.5	2306.3	14.8	2699			0
	4995	MANI	47	GB	2301.5	2306.4	19.3	832.7	277.6		
	35000	NAGO	47	GB	2301	2307	9	1260			
	2695	PENT	47	GB	2302	2306.5	38	1520	277		
	2695	MANI	47	GB	2303	2306.4	6.5	993.8	331.3		
	606	MANI	4	S/F	2305.6	2313.8	14.2	30.9	10.3		
	35000	NAGO	29	PBI	2311	2313	125	171			
	17000	NOBE	29	PBI	2316.3	2316.4	75	146			0
	2695	PENT	29	PBI	2340	2340	70	28	12.5		
20	35000	NAGO	5	S	0117	0117	1	31			
	17000	NOBE	20	GRF	0345.4	0346.4	3.8	11			0
	17000	NOBE	20	GRF	0454.8	0500.9	42	19			0
	9100	GORK	20	GRF	0454.9	0456	29	15	7		
	9100	GORK	20	GRF	0615.4	0620.4	13	7	3.5		
	260	ONDR	44	NS	0630 E		450 D	74	3		
	234	POTS	8	S	0633.5	0634	1	700	200		
	6100	KISV	27	RF	0712	0733	153	4			
	2950	GORK	21	GRF	0712		309				
	9100	ARCE	1	S	0717.3	0717.4	1.2				
	15000	KISV	4	S/F	0730	0731	5	30 D			
	3000	POTS	4	S/F	0736.5	0741.5	6.5	24			
	9100	ARCE	21	GRF	0738.5	0743.2	46				
	3100	CRIM	1	S	0738.5	0741.5	3	12	4		
	9100	GORK	21	GRF	0738.6	0803.6	38	20			
	6100	KISV	28	PRE	0738	0742.5	12	8			
	6100	KISV			0738	0741		3			
	2950	GORK	3	S	0740.2	0741.6	2.9	17	8		
	2650	DWIN	41	F	0740	0746	15	100	10		
	15000	KISV	4	S/F	0740	0742.5	5	13			
	9500	POTS	3	S	0741.5	0742.5	3.5	11			
	9100	GORK	1	S	0741.5	0742.6	2.3	8	4		
	10715	DWIN	3	S	0758	0759	7	130	30		
	6100	KISV	8	S	0758	0759.5	18	192			
	9500	POTS	29	PBI	0758.5	0759.5	19	151			
	10400	BERN	8		0758.5	0759.5	26	155			
	9100	ARCE	3	S	0758.6	0759.6	3				
	9100	GORK	4	S/F	0758.7	0759.8	4	170 D			
	3000	POTS	29	PBI	0759	0759.5	16	67			
	3100	CRIM	3	S	0759	0759.5	1.5	48	10		
	15000	KISV	8	S	0759	0759.7	4	79			
	2950	GORK	3	S	0759.2	0759.5	1.5	54	17		
	5730	IRKU	2	S	0759.2	0759.5	5	60	15		L
	8800	MANI	4	S/F	0759.4	0759.7	1.6	88.4	29.5		
	4995	MANI	3	S	0759.4	0759.7	1.6	158.1	52.7		
	2695	MANI	3	S	0759.5	0759.7	.7	69.1	23.1		
	3100	CRIM	29	PBI	0800.5	0800.5	21	13	4		
	9100	ARCE	29	PBI	0801.6		11.2				
	3100	CRIM	20	GRF	0827	0851.5	3	22	7		
	10400	BERN	45		0830	0851.7	95	20			
	9100	GORK	21	GRF	0837.9		230 D				
	930	BORO	8	S	0838	0838	.2	35	1		
	9500	POTS	20	GRF	0838.5	0851	67	17			
	3000	POTS	20	GRF	0838.5	0851.5	62	15			
	9100	ARCE	20	GRF	0838.9	0851.2	22.6				
	6100	KISV			0839	0852		14			
	6100	KISV	46	C	0839	0909.5	49	14			
	6100	KISV			0839	0935		7			
	9100	GORK	1	S	0908.5	0909.5	2.1	12	6		
	9100	ARCE	1	S	0909.2	0909.6	2.2				
	9100	ARCE	22	GRF	0923.2	0927.4	13				
	10400	BERN	45		1014.4	1023.2	14	11			
	9500	POTS	20	GRF	1016	1023	13	11			
	9500	POTS	21	GRF	1042	1103	36	22			
	10400	BERN	45		1042.3	1101.2	52	34			
	3000	POTS	20	GRF	1043	1044.6	5	6.9			
	9100	ARCE	21	GRF	1051.2	1103.3	42				
	6100	KISV	45	C	1055	1101.2	35	17			
	6100	KISV			1055	1108.5		34			
	9500	POTS	2	S/F	1100	1101.2	2	36			
	3000	POTS	3	S	1100	1101.4	2	11			
	9100	GORK	1	S	1100	1101.2	2.4	21	10		
	15000	KISV	45	C	1100	1101	12	19			
	15000	KISV			1100	1108.5		16			

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	9100	ARCE	3	S	1100.4	1101.6	2.3				
	9100	GORK	2	S/F	1107.7	1108.8	1.5	23			
	9500	POTS	4	S/F	1108	1108.6	1	27			
	3000	POTS	1	S	1108	1109	2	4.5			
	7000	SAOP	45	C	1108.1E	1108.1	12.4	45			3R
	9100	ARCE	1	S	1108.1	1108.6	3				
	7000	SAOP	45	C	1148	1152.7	15	23			16L
	9100	ARCE	1	S	1148.9	1152.6	8				
	2650	DWIN	1	S	1151	1152	8	40	20		
	3100	CRIM	3	S	1151	1153	3	46	10		
	3000	POTS	3	S	1151.7	1152.7	3.8	39			
	9100	GORK	1	S	1151.7	1152.8	2.2	8	4		
	1470	POTS	3	S	1151.9	1152.7	3.1	11			
	2950	GORK	3	S	1151.9	1152.7	2.1	30	15		
	9500	POTS	1	S	1152	1152.5	2.5	4.7			
	2800	OTTA	4	S/F	1152	1152.5	2	38	16		
	6100	KISV	4	S/F	1152	1152.5	3	10			
	10400	BERN	4		1208	1209.7	16	41			
	9100	ARCE	45	C	1208	1211.1	3.6				CHART DISTURBED
	9400	HUAN	3	S	1208	1209.7	2.5	56.7	28.9		L
	9100	ARCE			1208	1209.9	2.9				
	9100	GORK	45	C	1209	1209.9	4.9	45			
	10715	DWIN	1	S	1209	1210	3	40	20		
	9100	GORK			1209	1212.2		12			
	9400	HUAN	29	PBI	1210.5	1210.5	25.7	11	3		0
	9100	ARCE			1210.9	1211.1	.7				
	9400	HUAN	1	S	1211.3	1211.7	1.5	9.4	3.8		L
	9100	ARCE	29	PBI	1211.6		15				
	9400	HUAN	20	GRF	1313.2	1336.8	51.5	18.9	8.9		0
	7000	SAOP	3	S	1314	1338.8	46	35			0
	9100	ARCE	20	GRF	1323.8	1339.3	49				
	10400	BERN	4		1333	1336.7	45	14			
	2800	OTTA	20	GRF	1335	1339	70	9.2	3		
	4995	BOUL	3	S	1336.5	1338.5	5	20	7		
	9400	HUAN	20	GRF	1427.2	1438.8	19.8	9.4	2.9		0
	10400	BERN	3		1437.5	1439	13	10			OPR
	9100	ARCE	1	S	1438.1	1440	7.5				
	2800	OTTA	24	R	1458	1503	5	3.8	1.8		
	2800	OTTA	27F	RF	1458		165	3.8	3.4		
	2800	OTTA	24P	R	1503		130	3.6			
	9400	HUAN	20	GRF	1520.5	1542.5	58.6	11	4.2		0
	7000	SAOP	41	F	1529						3 BURSTS
	7000	SAOP	3	S	1529	1540.1	29	39			0
	10400	BERN	3		1539.4	1540	7	20			
	9400	HUAN	3	S	1539.5	1540.1	1.9	31.5	13.9		0
	9100	ARCE	4	S/F	1539.7	1540.2	2.4				
	9400	HUAN	20	GRF	1627.6	1701	49.7	12.6	8.4		0
	7000	SAOP	20	GRF	1629			10			0
	2800	OTTA	26	FAL	1713	1743	30	-3.8	-1.9		
	7000	SAOP	20	GRF	1726		61 D	9			0
	2800	OTTA	23	GRF	1800	1844	115	11.2	5		
	2800	OTTA	1	S	1813.6	1815	3	3	1.6		
	9400	HUAN	20	GRF	1814.4	1904	141.8	34.7	16.5		0
	2800	OTTA	22	GRF	1857	1859.5	25	11.6	5.9		
	9400	HUAN	20	GRF	2036.2	2058.4	49.7	14.2	8		L
	9400	HUAN	3	S	2048.7	2050.2	2.7	12.6	6.8		L
	9400	HUAN	3	S	2152.6	2154	3.3	37.8	23.8		L
	2800	OTTA	1	S	2153.5	2154.3	2	9.2	4.6		
	9400	HUAN	29	PBI	2156.1	2156.1	16.4	12.6	7.7		0
	2695	PENT	20	GRF	2255	2315	50	3.8	1.9		
	1400	SYDN	46	C	2303	2306	37				
	700	SYDN	46	C	2305.6		14				
21	5730	IRKU	21	GRF	0120.5	0126.7	17	12			L
	5730	IRKU	1	S	0205	0205.5	5	8			R
	5730	IRKU	21	GRF	0236	0251	26	18			0
	5730	IRKU	20	GRF	0350	0351	6	9			
	5730	IRKU	45	C	0358.3	0358.4	2	6			R
	5730	IRKU			0358.3	0358.9		15			R
	9100	GORK	21	GRF	0428.3	0439	165	6			
	2950	GORK	1	S	0428.5	0429	1.7	8.6	4		
	9100	GORK	1	S	0554	0554.5	1	17	8		
	200	ONDP	44	NS	0700 E		440 D	19			
	6100	KISV	45	C	0731	0731.5	9	4			
	930	BORD	8	S	0739	0739.1	.2	35	1		
	930	BORD	8	S	0801.4	0801.4	.2	40	1		
	9100	GORK	20	GRF	0816.2	0819.8	7.6	6	3		
	930	BORD	8	S	0827	0827.1	.2	42	1		
	930	BORD	8	S	0851.5	0851.5	.2	39	1		
	1470	POTS	3	S	0934.2	0935.2	2.8	6.9			
	930	BORD	8	S	0943.4	0943.4	.2	33	1		
	6100	KISV	21	GRF	1007	1008.5	23	10			
	3000	POTS	3	S	1007.5	1008.5	5	24			
	1470	POTS	3	S	1007.5	1008.8	4	6.1			
	2950	GORK	1	S	1008.1	1009	3.7	14	7		

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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	MEAN	INT	POLARIZATION OR REMARKS
	2650	OWIN	1	S	1008	1009	3	20	10		
	3100	CRIM	3	S	1008	1009.5	3	26	3		
	9100	GORK	20	GRF	1008	1011.5	9.1	6	3		
	930	BORD	8	S	1009.5	1009.5	.2	32	1		
	3100	CRIM	29	PBI	1010.5	1010.5	13	8			
	930	BORD	8	S	1035.2	1035.2	.2	30	1		
	9100	GORK	20	GRF	1039.8	1049.8	14	6	3		
	930	BORD	8	S	1104.8	1104.8	.1	32	1		
	7000	SAOP	2	S/F	1127.2	1127.8		8			O
	930	BORD	8	S	1135.5	1135.5	.1	35	1		
	9400	HUAN	3	S	1145.6	1153.8	16.4	15	5.2		L
	9100	ARCE	1	S	1145.7	1146	1				
	9500	POTS	20	GRF	1147	1153.5	21	14			
	9100	GORK	22	GRF	1149.8	1153.6	13.5	13	6		
	10400	BERN	4		1210	1212.5	4	36			
	9400	HUAN	3	S	1210.7	1212.5	2.4	51.6	20.1		L
	7000	SAOP	46	C	1211	1212.5	3	56			1L
	6100	KISV	8	S	1211	1212.5	4	25			
	10715	OWIN	1	S	1211	1212	2	25	10		
	9500	POTS	4	S/F	1211.5	1212.5	1.6	41			
	9100	ARCE	4	S/F	1211.8	1212.7	2.4				
	9100	GORK	4	S/F	1212	1212.3	1.8	50	25		
	9400	HUAN	29	PBI	1213.1	1213.1	20.9	3.3	1.7		L
	930	BORD	8	S	1214.7	1214.7	.1	32	1		
	930	BORD	8	S	1257.3	1257.3	.1	32	1		
	9400	HUAN	20	GRF	1324.7	1342.4	53.3	21.6	5.6		L
	2800	OTTA	1A	S	1336	1339	10	5.4	2.7		
	7000	SAOP	46	C	1336.4	1338.2	38	41			3L
	9400	HUAN	40	F	1336.5	1337.8	4.7	38.2	22.4		L
	10400	BERN	4		1336.6	1338.3	18	33			
	2650	OWIN	2	S/F	1337	1339	3	25	15		
	2800	OTTA	1	S	1337	1337	1	5			
	10715	OWIN	2	S/F	1337	1338	14	25	10		
	9500	POTS	29	PBI	1337.5	1337.9	13	31			
	3000	POTS	3	S	1337.5	1338.5	3.5	35			
	2800	OTTA	3	S	1338.2	1338.5	1.2	23	8		
	2800	OTTA	1	S	1348	1453	8	2.2	1.4		
	10400	BERN	4		1357.4	1359.3	20	27			
	9500	POTS	3	S	1357.5	1359.8	2.5	21			
	930	BORD	8	S	1357.7	1357.7	.1	23	1		
	9400	HUAN	3	S	1357.8	1359.3	2.9	26.6	13.7		L
	10715	OWIN	1	S	1359	1359.5	1	20	15		
	9400	HUAN	1	S	1444.2	1447.5	9.8	10	6		O
	7000	SAOP	27	RF	1444.5			14			O
	2800	OTTA	20	GRF	1445	1448.5	15	10	4.8		
	2800	OTTA	20	GRF	1506.5	1509	15	4.2	2.1		
	9400	HUAN	20	GRF	1520.7	1524.3	41.6	5	1.7		O
	7000	SAOP	20	GRF	1522.4		11.6	11			O
	2800	OTTA	1	S	1524	1524.3	1	5	1.3		
	7000	SAOP	4	S/F	1544.3	1545.1	17	19			27L
	2800	OTTA	22	GRF	1544	1545	16	7.6	2.6		
	930	BORD	8	S	1700.7	1700.7	.1	22	1		
	2800	OTTA	21	GRF	1730	1828	85	3	1.8		
	9400	HUAN	20	GRF	1755.6	1833.8	59	8.3	3.4		O
	2800	OTTA	8	S	1826.3	1826.4	.5	2.6	1.3		
	9400	HUAN	3	S	1826.3	1826.7	1.6	11.6	8.6		O
	9400	HUAN	20	GRF	1914.6	1920	12.1	5	2.5		O
	2800	OTTA	21	GRF	1945	2016	75	3.6	1.8		
	2695	PENT	1	S	2010	2011	3	6.8	3.3		
	2800	OTTA	21	GRF	2107	2123	85	3	1.6		
	9400	HUAN	3	S	2108.7	2110.2	2.5	106.4	43.1		O
	2800	OTTA	8	S	2110	2110.1	.5	6.4			
	9400	HUAN	29	PBI	2111.2	2111.2	24.4	18.3	5		O
	5730	IRKU			2344	2353		1008			L
	5730	IRKU	49	GB	2344	2350.7	40	32			L
	5730	IRKU			2344	2351.1		45			L
	17000	NOBE	28	PRE	2348.7	2351.2	2.5	10			O
	4995	MANI	47	GB	2349.7	2352	5.6	687	229		
	8800	MANI	47	GB	2350	2352	5.6	1473.8	491.3		
	2695	MANI	4	S/F	2350.3	2352	4.1	90.8	30.3		
	2695	PENT	45	C	2350	2353.2	8	200	47		
	17000	NOBE	45	C	2351.2	2352.8	4.4	502			O
	17000	NOBE	29	PBI	2355.6	2355.6	40	48			O
	2695	PENT	29	PBI	2358	2358	20	13	6.5		
22	100	HIRA	42	SER	0004.5	0006.5	3	850	200		HL
	200	HIRA	42	SER	0005	0006.5	2	200	40		O
	17000	NOBE	20	GRF	0105.6	0106.3	16.6	27			O
	17000	NOBE	20	GRF	0214.7	0216	15.4	33			O
	4995	MANI	4	S/F	0232	0234.3	5.2	193.9	64.6		
	8800	MANI	4	S/F	0232	0234.3	5.2	341	113.7		
	17000	NOBE	45	C	0233.4	0235.4	23.3	98			O
	5730	IRKU	2	S	0233	0235.4	17	60 0			L
	17000	NOBE	8	S	0320.1	0320.3	.4	93			O
	17000	NOBE	29	PBI	0320.5	0320.5	1.9	14			O

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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
22	17000	NOBE	1	S	0433	0433.3	.9	15			O
	9100	GORK	1	S	0433.2	0433.9	3.5	15	7		
	650	GORK	1	S	0433	0434.3	.7	4	2		
	9100	GORK	21	GRF	0605.6	0625.7	11	5			
	6100	KISV	21	GRF	0607	0609.7	10	15			
	9100	GORK	1	S	0608.6	0609.6	1.9	15	7		
	2950	GORK	1	S	0629.3	0630	2.1	2.7	1.3		
	6100	KISV			0646	0654		9			
	6100	KISV	45	C	0646	0648	14	8			
	2950	GORK	1	S	0647	0648	2.3	6.5	3.2		
	3100	CRIM	1	S	0647	0648	2	17	6		
	3100	CRIM	29	PBI	0648.5	0649.5	28	8			
	9100	GORK	1	S	0653.5	0654	2.5	7	4		
	6100	KISV	1	C	0727.5	0728	1	3			
	8800	MANI	3	S	0729.2	0729.7	1	53.7	17.9		
	4995	MANI	3	S	0729.3	0729.7	1.5	87.7	29.2		
	10400	BERN	45		0729.3	0730.8	15	39			
	6100	KISV	8	S	0730.5	0730.8	4	54			
	5730	IRKU	2	S	0730.5	0730.6	5	40			L
	9100	GORK	4	S/F	0730.3	0730.9	4.1	53	27		
	2950	GORK	1	S	0730.6	0730.9	2.2	16	8		
	9100	ARCE	3	S	0730.7	0731.1	1.7				
	3100	CRIM	3	S	0730	0730.5	2	35	12		
	10715	OWIN	1	S	0730	0731	5	30	10		
	9100	ARCE	29	PBI	0732.4		31				
	9100	ARCE	21	GRF	0811.5		24				
	15000	KISV	8	S	0814.3	0814.8	2	60			
	6100	KISV	1	S	0815	0815.8	2	3			
	10715	JWIN	41	F	0815	0822	15	25	10		
	10400	BERN	45		0815.3	0815.8	19	25			
	10400	BERN	45		0815.3	0821.9	19	37			
	9100	GORK	2	S/F	0815.5	0816	1.2	20	10		
	9100	ARCE	3	S	0815.6	0816	4				
	15000	KISV	45	C	0820	0820.5	5	30			
	6100	KISV	45	C	0820	0822	8	60			
	9100	GORK	45	C	0821.2	0822	5.7	46			
	9100	GORK			0821.2	0825		24			
	5730	IRKU			0821.3	0824.9		48			L
	5730	IRKU	45	C	0821.3	0822	11	57	17		L
	9500	POTS	23	GRF	0821.5	0821.6	6.5	33			
	3600	POTS	23	GRF	0821.5	0821.9	5	27			
	9100	ARCE			0821.5	0822	2.4				
	3100	CRIM	3	S	0821.5	0822	1	38	13		
	9100	ARCE	45	C	0821.5	0822	8.8				
	2950	GORK	4	S/F	0821.6	0822	1	21	10		
	2650	OWIN	1	S	0822	0822.5	1	15	10		
	9100	ARCE			0823.9	0825.1	6.4				
	3100	CRIM	1	S	0824	0824.5	1	13	4		
	33	UPIC	3	S	0948.1	0948.2	.5				
	29	UPIC	3	S	0948	0948.2	.4				
	7000	SHOP	4	S/F	1056.6	1057.4	3	14			4R
	3100	CRIM	1	S	1057	1057.5	.5	14	4		
	6100	KISV	8	C	1057	1057.5	1	10			
	9100	ARCE	1	S	1057.2	1057.5	1.8				
	2800	OTTA	8	S	1154.5	1154.7	.8	6.2	3.1		
	7000	SHOP	2	S/F	1154.6	1154.8		9			30R
	2800	OTTA	240	F	1233	1255	22	7	4.6		
	9400	HUAN	20	GRF	1255.2	1315	51.4	8.6	3.8		R
	7000	SHOP	3	S	1259.5	1300.2	5	12			O
	2800	OTTA	1	S	1315	1316.5	3	2	1.5		
	33	UPIC	2	S/F	1338.5	1338.9	.7				
	29	UPIC	2	S/F	1338.8	1339	.7				
	9400	HUAN	20	GRF	1400.6	1417.3	32.9	6.8	2		R
	930	BORD	8	S	1524.4	1524.4	.1	16	1		
	9401	HUAN	20	GRF	1610.5	1625.2	33.5	6	3.8		R
	930	BORD	8	S	1713.3	1713.4	.3	24	1		
	9400	HUAN	3	S	1740.4	1742.7	4.6	15.4	7.4		R
	2800	OTTA	1	S	1907	1907.7	1	3	1.5		
	2800	OTTA	2	S/F	1922	1923.5	2	3.6	1.8		
23	17000	NOBE	20	GRF	0202.5	0204.3	14	15			O
	5730	IRKU	2	S	0202.9	0203.4	1.5	50			L
	2600	MANI	3	S	0203	0204.7	2	65.7	21.9		
	4995	MANI	3	S	0203	0202	3	70.2	23.4		
	8800	MANI	3	S	0203	0203.2	1.8	56	18.7		
	5730	IRKU	29	PBI	0204.4		8	10			L

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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	MEAN	INT	POLARIZATION OR REMARKS
	9100	GORK	20	GRF	0440.2	0459.6	28.5	11	6		
	9100	GORK	23	GRF	0614.5	0617.6	34.5	25	13		
	9100	ARCE	28	PRE	0615.7	0616.8	4.3				CHART DISTURBED
	15000	KISV	28	PRE	0616	0618	4	15			
	6100	KISV	4	S/F	0616	0620.5	19	120 D			
	10400	BERN	3		0619.9	0620.5	10	124			
	17000	NOBE	8	S	0620.1	0620.5	.7	60			R
	2950	GORK	1	S	0620.4	0620.6	5.9	2.9	1.4		
	17000	NOBE	29	PBI	0620.8	0620.8	4.5	20			L
	5730	IRKU	2	S	0620	0620.5	5	55			R
	9100	ARCE	3	S	0620	0620.5	4.7				
	9100	GORK	5	S	0620	0620.7	3.7	160	60		
	15000	KISV	8	S	0620	0621	5	60 D			
	9100	ARCE	30	PBI	0624.7		29				
	10400	BERN	3		0639.5	0639.8	4	26			
	17000	NOBE	1	S	0639.5	0639.7	.6	50			R
	9100	GORK	1	S	0639.6	0639.9	.5	17	6		
	9100	ARCE	3	S	0639.7	0640	2.8				
	2950	GORK	1	S	0639.7	0639.8	.4	5.9	2.9		
	15000	KISV	8	S	0639	0640	3	45 D			
	260	ONDR	44	NS	0750 E		372 D	24			
	10400	BERN	27		0753	0759.6	17	11			
	9100	GORK	22	GRF	0753.2	0831.6	57.8	25	13		
	9100	ARCE	27	RF	0759	0805.2	9				
	2950	GORK	1	S	0800.1	0800.5	1.2	3.9	1.9		
	3100	CRIM	3	S	0812.5	0814	3	28	9		
	2950	GORK	1	S	0813.2	0813.8	6.2	14	7		
	2650	DWIN	1	S	0813	0814	7	15	10		
23	3000	POTS	29	PBI	0813	0814.2	12	20			
	3100	CRIM	29	PBI	0815.5	0816	6	9			
	6100	KISV	20	GRF	0825	0832	55	12			
	15000	KISV	45	C	0825	0831	25	15			
	10400	BERN	45		0825.4	0828.1	30	17			
	9100	ARCE	23	GRF	0826.5	0831.8	25				
	9100	ARCE	4	S/F	0846.8	0847.5	1.4				
	9100	GORK	20	GRF	0910.5	0916.3	19	9	4.5		
	930	BORD	8	S	0924.6	0924.7	.1	25	1		
	930	BORD	8	S	0955.7	0955.7	.1	18	1		
	3100	CRIM	21	GRF	1003	1114	101	15	5		
	6100	KISV	8	S	1021	1022	2	25 D			
	650	GORK	1	S	1022.2	1022.4	.5	6	3		
	10400	BERN	8		1022.2	1023	10	91			
	9100	GORK	23	GRF	1022.4	1023.7	13.5	17	6		
23	9500	POTS	3	S	1023	1023	5	86			
	9100	GORK	3	S	1023.1	1023.3	.4	130	60		
	10715	DWIN	1	S	1023	1023.5	1	70	40		
	2950	GORK	1	S	1023	1023.1	.6	6	3		
	6100	KISV	29	PBI	1023	1023	7	11			
	930	BORD	8	S	1046.4	1046.4	.1	31	1		
	6100	KISV	4	S/F	1047	1049	3	21			
	3100	CRIM	3	S	1049	1050.2	2	27	9		
	2650	DWIN	1	S	1049	1050	6	20	10		
	6100	KISV	20	GRF	1055	1100	35	9			
	6100	KISV	8	S	1156	1157.5	2	20			
	10400	BERN	3		1157	1158.5	15	22			
	7000	SAOP	46	C	1157.4	1158.5	13	40			16R
	9400	HUAN	3	S	1157.5	1158.6	4.3	24.4	11.4		R
	9100	ARCE	3	S	1157.5	1158.6	5.3				
23	9500	POTS	4	S/F	1157.5	1159	5	26			
	6100	KISV	29	PBI	1158	1158		14			
	9100	ARCE	29	PBI	1202.8		10				
	7000	SAOP	3	S	1240	1240.8	1.4	11			48R
	33	UPIC	2	S/F	1250.3	1250.4	.4				
	29	UPIC	2	S/F	1250.4	1250.5	.4				
	33	UPIC	2	S/F	1252.5	1252.9	.6				
	29	UPIC	2	S/F	1252.5	1252.9	.5				
	2800	OTTA	240	R	1525	1600	35	4.2	2.1		
	9100	ARCE	1	S	1526.9	1527.1	.5				
	9100	ARCE	1	S	1534.5	1534.6	.5				
	7000	SAOP	45	C	1617.6	1644.8	40	25			13R
	9400	HUAN	20	GRF	1630.5	1637.8	30.1	26	9		R
	2800	OTTA	21	GRF	1630	1642	35	5	2.5		
	2300	OTTA	40	F	1631.5	1633.4	3	10.4			
	930	BORD	41	F	1632	1633.2	2	26	3		
	2300	OTTA	20	GRF	1740	1755	60	3.4	2		
	9400	HUAN	1	S	1822.8	1823.6	1.4	9.8	5.5		R
	2800	OTTA	8	S	1853	1853	.1	12.4			
	9400	HUAN	3	S	1937.6	1938.6	3.2	11.4	4.6		R
	9400	HUAN	20	GRF	2032	2038.8	34.3	16.3	7.9		R
	2695	PENT	20	GRF	2215	2250	75	4.8	2.4		
24	5730	IRKU	45	C	0148	0151.6	14	27			R
	5730	IRKU			0148	0153.3		24			R
	650	GORK	4	S/F	0501.5E	0503.1	2 D	260			
	6100	KISV	3	S	0503	0506.3	7	100			
	9100	GORK	21	GRF	0505.5	0512.9	45	28	14		
	4995	MANI	3	S	0506	0508	4	61.3	20.4		
	6800	MANI	4	S/F	0506	0507.8	4	141.4	47.1		

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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	MEAN	INT	POLARIZATION OR REMARKS
	17000	NOBE	45	C	0506.7	0509	17	70			R
	5730	IRKU			0506.7	0508.9		55			L
	5730	IRKU	45	C	0506.7	0507	3.5	25			L
	5730	IRKU			0506.7	0508.3		60			L
	2950	GORK	1	S	0507.7	0509.1	3.1	10.5	5		
	9100	GORK	46	C	0507	0508.5	5.3	146			
	9100	GORK			0507	0509.3		76			
	5730	IRKU	29	PBI	0510.2		35	32			L
	6100	KISV	29	PBI	0510	0510	20	25			
	6100	KISV	8	S	0634	0635.5	4	5			
	202	IZMI	41	F	0656.2	0657	2.2	100			
	228	HARS	45	C	0656.6	0656.6	1.2	100	40		
	260	ONDR	44	NS	0700 E		433 D	61			
	930	BORD	8	S	0716.8	0716.9	.1	26	1		
	6100	KISV	3	S	0821	0823.7	4	4			
	202	IZMI	4	S/F	0920.5	0921	1	60	20		
	536	ONDR	2	S/F	0956.6	0956.6	.6	10	1		
	3000	POTS	3	S	1007	1007.5	1	12			
	1470	POTS	1	S	1007	1007.7	2	5.2			
	6100	KISV	8	S	1007	1007.5	1	7			
	3100	CRIM	1	S	1007	1007.5	1	9	3		
	536	ONDR	2	S/F	1007.2	1007.2	.7	10	1		
	950	GORK	1	S	1007.3	1008	3	3	1.5		
	2950	GORK	1	S	1007.3	1007.9	1.6	6.7	3.3		
	650	GORK	2	S/F	1007.3	1007.9	.8	17.5	4		
	9500	POTS	1	S	1007.5	1007.6	.5	3.2			
	930	BORD	8	S	1023.3	1023.4	.2	17	1		
	930	BORD	8	S	1049.4	1049.5	.2	18	1		
	7000	SAOP	2	S/F	1122	1123.3		6			24R
	930	BORD	8	S	1140.2	1140.2	.1	35	1		
	33	UPIC	45	C	1146.8	1146.9	.7				
	29	UPIC	45	C	1146.8	1147	.8				
	930	BORD	8	S	1203.2	1203.2	.1	36	1		
	33	UPIC	2	S/F	1203.3	1203.4	.3				
	29	UPIC	2	S/F	1203.3	1203.4	.3				
	930	BORD	8	S	1227.6	1227.6	.1	32	1		
	7000	SAOP	45	C	1252.4	1254.8	6.6	17			8R
	930	BORD	8	S	1258.1	1258.2	.2	30	1		
	930	BORD	8	S	1323.4	1323.4	.1	35	1		
	930	BORD	8	S	1407.3	1407.3	.1	33	1		
	2800	OTTA	20	GRF	1425	1440	40	2.4	1.2		
	930	BORD	8	S	1435.3	1435.3	.1	26	1		
	930	BORD	8	S	1501.5	1501.5	.1	35	1		
	930	BORD	8	S	1533.5	1533.5	.1	37	1		
	9400	HUAN	20	GRF	1550.7	1557.8	11.4	5.3	1.8		0
	930	BORD	8	S	1603.7	1603.7	.1	21	1		
	9400	HUAN	20	GRF	1635.2	1641	11.6	7	2.8		0
	2800	OTTA	21	GRF	1730	1855	300	9.6	4.8		
	9400	HUAN	20	GRF	1740.8	1756.3	40.3	12.3	4.9		R
	7000	SAOP	45	C	1747	1751.4	14	35			12R
	9400	HUAN	3	S	1748.3	1751.1	6.9	31.6	14.4		R
	2800	OTTA	21	GRF	1749	1752	15	8.2	4		
	2800	OTTA	8	S	1750.1	1750.1	.1	8.2			
25	9100	GORK	20	GRF	0632.5	0653	27.4	6	3		
	3100	CRIM	1	S	0645.5	0647	.5	11	7		
	3100	CRIM	1	S	0648.5	0649	1	16	5		
	3100	CRIM	1	S	0652	0652.5	1	6	2		
	9100	GORK	20	GRF	0734	0737.3	11.7	6	3		
	260	ONDR	44	NS	0738 E		382 D	27			
	127	TORN	43	NS	1227	1247.8	35 U	16	.1		V1,DISTURBED
	9100	GORK	22	GRF	0827	0841	27	9	4.5		
	6100	KISV	21	GRF	0840	0841	15	6			
	9100	ARCE	2	S/F	0930.2	0930.4	1.2				
	3100	CRIM	3	S	1049	1114	29	51	17		
	10400	BERN	27		1052	1130.3	100	27			
	2950	GORK	21	GRF	1057.2	1111.5	64	17	8.5		
	3000	POTS	23	GRF	1103	1114.2	57	30			
	1470	POTS	23	GRF	1103	1116.7	79	20			
	6100	KISV	45	C	1105	1126	45	28			
	9500	POTS	20	GRF	1108	1130.5	77	25			
	930	BORD	40	F	1108	1130.3	29	46	7		
	3100	CRIM	30	PBI	1108	1118	80	23			
	9100	GORK	22	GRF	1108.2	1130.5	48.8	27	13		
	2650	OWIN	45	C	1110	1129	30	110	40		
	2950	GORK	1	S	1112	1114.1	4.4	11.6	5		
	9400	HUAN	20	GRF	1113.6	1131.2	49.8	32.5	14.2		R
	260	ONDR	46	C	1124	1130.7	13	52	35		
	228	HARS	45	C	1124.5	1131	12	120	45		
	1470	POTS	4	S/F	1124.6	1130.7	10	85			
	3000	POTS	4	S/F	1124.7	1129	10	84			
	950	GORK	4	S/F	1124.7	1130.4	12.2	40			
	536	ONDR	45	C	1124.6	1130.5	15	14	9.6		
	650	GORK	20	GRF	1124.8	1132.3	18.6	17	6		
	3100	CRIM	41	F	1125	1129	13	55	18		

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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	MEAN	INT	POLARIZATION OR REMARKS
	808	ONDR	45	C	1125	1130.5	11	28	19		
	202	IZMI	48	C	1125	1131.5	12	62	25		
	127	TORN	27	RF	1127.6	1132	10.3	35	12		
	2950	GORK	46	C	1128.6	1129	4.8	55			
	2950	GORK			1128.6	1130		47			
	127	TORN	42	SER	1138.2	1140.2	8.3	35			
	650	GORK	20	GRF	1150.7	1157.8	12.3	8	4		
	950	GORK	4	S/F	1151	1154.7	7.9	10			
	536	ONDR	45	C	1152	1155.8	8	6	3.7		
	930	BORD	40	F	1153	1154.7	7	13	3		
	127	TORN	27	RF	1153.2	1155.7	11.3	27	7.5		
	113	POTS	41	F	1140.5	1140.5	.4	180	15		
	2950	GORK	1	S	1154.2	1154.5	2	6	3		
	808	ONDR	45	C	1154.5	1155.8	5	8	6		
	29	UPIC	2	S/F	1155.6	1156.5	2				
	33	UPIC	2	S/F	1156	1156.8	1.4				
	7000	SAOP	1	S	1239.4	1240.4		7			27R
	2800	OTTA	20	GRF	1240	1400	220	7.6	4		
	7000	SAOP	40	F	1307	1337	153	36			D
	330	BORD	41	F	1309.8	1309.8	1	16	2		
	9400	HUAN	20	GRF	1320.7	1347.8	43.8	4.9	1.8		R
	1470	POTS	8	S	1422.5	1422.9	.6	15			
	9100	ARCE	1	S	1453.9	1454.1	.6				
	1420	BOUL	4	SF	1459 E	1500	1.50	37 U	12		
	2600	OTTA	21	GRF	1700	1735	85	2.8	1.4		
	2800	OTTA	2	S/F	1811.8	1811.9	1	3.2	1.6		
	2800	OTTA	21	GRF	1910	1930	60	6	3		
	2800	OTTA	45	C	1925.5	1926	3	9.4	4.5		
	2800	OTTA	21	GRF	2030	2045	40	4.8	2.4		
	9400	HUAN	3	S	2036	2036.7	4	17.9	9.6		R
	2800	OTTA	1	S	2036	2037	6	3.2	1.6		
	9400	HUAN	20	PBI	2040	2040	36.6	14.6	4.6		R
	2800	OTTA	4	S/F	2132	2135	7	11.8	4		
	9400	HUAN	20	GRF	2202.7	2210.4	15	4.9	1.9		D
	2695	PENT	21	GRF	2240	2250	40	5.6	2.8		
	2695	PENT	3	S	2244.3	2245.5	4	11.8	5.9		
26	200	HIRA	43	NS	0350	0713	250 D	10	5		WL
	260	ONDR	44	NS	0702 E		420 D	168	5		
	127	TORN	44	NS	0800 E	1345.2	420 D	539	2.2		V1
	202	IZMI	45	C	0706	0706.2	1.5	370			
	6100	KISV	4	S/F	0750	0752	10	6			
	234	POTS	8	S	0900.6	0900.6	.10	2100	700		
	3100	CRIM	1	S	1130.5	1130.8	.5	8	3		
	3000	POTS	20	GRF	1143	1149	55	19			
	3100	CRIM	3	S	1144	1149	23	23	8		
	1470	POTS	20	GRF	1147	1149	51	4			
	536	ONDR	42	SER	1253	1336.7	55	34			
	2800	OTTA	20	GRF	1300	1308	60	2.4	1.2		
	9400	HUAN	20	GRF	1300.4	1318.3	33.3	3.4	1.4		D
	930	BORD	41	F	1305	1305.8	3	23	3		
	113	POTS	42	SER	1311.6	1315.8	4.6	1000	20		
	9400	HUAN	3	S	1314.6	1315.9	2.2	11.8	6.4		R
	7000	SAOP	40	F	1315		93				
	127	TORN	47	GB	1315.5	1315.7	1	669	334		
	234	POTS	4	S/F	1315.6	1315.8	.6	950	150		
	930	BORD	8	S	1315.6	1315.7	.3	57	2		
	228	HARS	45	C	1337	1337	2	250	16		
	113	POTS	42	SER	1337.2	1337.3	11	2800	35		
	930	BORD	41	F	1337.2	1337.3	.6	17	2		
	29	UPIC	8	S	1337.2	1337.5	.7				
	33	UPIC	4	S/F	1337.3	1337.3	.5				
	234	POTS	42	SER	1337.7	1337.7	9.9	420	1 D		
	228	HARS	45	C	1344.5	1344.8	1.5	120	15		
	2800	OTTA	1	S	1551	1552.5	3	4	2		
	2800	OTTA	20	GRF	1610	1705	110	4	2.4		
	9400	HUAN	3	S	1737.2	1737.3	1.5	55.6	16.9		L
	2800	OTTA	20	GRF	1805	1835	105	3.6	1.8		
	9400	HUAN	3	S	1846.2	1846.3	1.6	62.5	19.7		L
	2800	OTTA	24	R	2005	2015	10	4	2		
	2800	OTTA	27A	RF	2005		135	4	3.7		
	2800	OTTA	24P	R	2015		115	4			
	200	HIRA	44	NS	2028 E	2250	270 D	10	5		WL
	100	HIRA	43	NS	2338	0705	500 D	20	8		
	2800	OTTA	4	S/F	2055	2100.8	12	40.4	23.1		
	4995	BOUL	45	C	2056	2100	9.5	27	9		
	2800	OTTA	29	PBI	2107	2107	40	13.8	8.4		
	2800	OTTA	26	FAL	2210	2220	10	-4	-2		
27	5730	IRKU	21	GRF	0213	0219.4	10	9			R
	5730	IRKU			0213	0220.2		9			R
	100	HIRA	7	C	0241	0242	2	810	290		WL
	234	POTS	8	S	0624	0624.1	.5	500	150		
	200	HIRA	43	NS	0650	0706	100 D	35	15		WL, WR
	260	ONDR	44	NS	0710 E		412 D	34	4		

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	127	TORN	43	NS	0745	0837.7	435 D	2040	1.8		V1
	3100	CRIM	20	GRF	0651	0727	249	8	3		
	930	BORO	40	F	0655	0702.7	12	24	4		
	930	BORO	41	F	0726	0726.2	.4	19	2		
	9100	GORK	1	S	0748.7	0749.6	1.8	6	3		
	9100	ARCE	1	S	0757.2	0758	6.4				
	9100	GORK	1	S	0757.2	0757.3	1.7	8.5	4		
	6100	KISV	8	S	0757	0757.7	1	5			
	15000	KISV	1	S	0757	0758	2	7			
	930	BORO	46	C	0837	0837.7	1.2	84	9		
	930	BORO	41	F	0840.7	0841.6	1.3	18	3		
	113	POTS	4	S/F	0840.8	0841	.5	200	7		
	6100	KISV	4	S/F	0854	0855	3	2			
	202	IZMI	8	S	0917.8	0917.8	.5	320 D	130		
	113	POTS	41	F	0918	0918.6	.6	350	35		
	930	BORO	41	F	0918	0918.5	1.7	24	2		
	202	IZMI	41	F	1019	1021	3.5	65			
	127	TORN	48	C	1019.2	1019.9	2.6	328	142		
	930	BORO	41	F	1019.4	1019.4	2.8	24	2		
	226	HARS	45	C	1019.5	1020.2	2	120	15		
	113	POTS	4	S/F	1019.6	1019.7	1.5	700	70		
	7000	SAOP	40	F	1413		124				
	9400	HUAN	20	GRF	1438.3	1501.7	38.3	6.9	4.6		O
	113	POTS	41	F	1449.5	1453.2	3.8	190	3		
	2800	OTTA	20	GRF	1450	1530	100	4.8	2.4		
	9400	HUAN	20	GRF	1520.8	1536.2	42.8	8.7	3.2		O
	2800	OTTA	20	GRF	1645	1705	55	3.8	2		
	9400	HUAN	20	GRF	1930.7	1945.6	42.1	5.2	3.3		L
	200	HIRA	44	NS	2028 E	0020	718 D	15	5		WL
	2695	PENT	8	S	2243.9	2244	.8	6.6			
28	100	HIRA	43	NS	0000	0631	480 D	18	8		O
	202	IZMI	43	NS	0600		360	25			
	127	TORN	44	NS	0600 E	1258.1	580 D	87	2.4		V2
	260	ONDR	44	NS	0700 E		420 D	40	4		
	3100	CRIM	1	S	0756	0757.5	2	8	2		
	850	GORK	4	S/F	0756.8	0758	1.9	27	5		
	3000	POTS	3	S	0757	0758.2	1.5	8.1			
	1470	POTS	4	S/F	0757	0758.2	2	25			
	930	BORO	3	S	0757	0758.1	2	26	5		
	950	GORK	3	S	0757	0759.1	2.1	20	10		
	9400	HUAN	20	GRF	1115	1137.5	39.7	6.7	4.3		O
	127	TORN	47	GB	1121.5	1122.3	1.1	2290	175		
	33	UPIC	3	S	1301	1301	.4				
	29	UPIC	2	S/F	1301	1301.2	.4				
	2800	OTTA	240	R	1340	1355	15	3.8	1.9		
	9400	HUAN	20	GRF	1342.1	1403.3	47.2	8.4	4.7		O
	7000	SAOP	40	F	1425		219				
	930	BORO	8	S	1431.4	1431.8	.4	45	2		
	9400	HUAN	20	GRF	1440.8	1458	35.5	5	2.2		O
	10400	BERN	1		1447.2	1448.1	2.2	10			
	8400	BERN	1		1447.2	1448.1	2.2	24			
	9400	HUAN	1	S	1447.5	1448.2	1	8.4	5.3		L
	9100	ARCE	1	S	1448	1448.3	2.6				
	2800	OTTA	22	GRF	1515	1530	25	4.4	2.2		
	930	BORO	8	S	1529.2	1529.2	.2	22	2		
	2800	OTTA	2	S/F	1845	1847	3	3.4			
	2800	OTTA	20	GRF	2000	2010	75	6.6	2.2		
	200	HIRA	44	NS	2030 E	2234	710 D	20	10		WL
	2800	OTTA	20	GRF	2130	2150	60	5.8	2.9		
	9400	HUAN	20	GRF	2151.4	2205.3	21.4	10	5.8		L
29	9100	GORK	21	GRF	0413.9	0417.6	28	10	3.7		
	9100	GORK	1	S	0414	0414.2	.8	12	9		
	9100	GORK	20	GRF	0536.8	0538.3	8	6.5	3		
	127	TORN	44	NS	0600 E	1426.9	580 D	1230	3.8		V2
	202	IZMI	44	NS	0600 E		360 D	28			
	260	ONDR	44	NS	0725 E		397 D	34	5		
	3100	CRIM	1	S	0647	0647.5	2	9	3		
	9100	GORK	1	S	0834.1	0835.2	5.8	5	2.4		
	8400	BERN	1		0913.5	0914	1	20			
	10400	BERN	1		0913.5	0914	1	6			
	536	ONDR	45	C	1026	1026.2	3.5	29	1.6		
	930	BORO	8	S	1028.5	1028.6	.6	80	2		
	936	ONDR	3	S	1028.6	1028.6	.2	25			
	113	POTS	4	S/F	1044.9	1045	.4	150	15		
	29	UPIC	2	S/F	1045.2	1045.5	.7				
	33	UPIC	4	S/F	1045.4	1045.5	.7				
	6100	KISV	8	S	1109	1109.8	2	15			
	2800	OTTA	21	GRF	1210	1340	170	9.6	6.5		
	113	POTS	24	R	1240	1354	110 D	56			
	9400	HUAN	20	GRF	1320.5	1345.6	81.6	5.2	1.1		L
	2800	OTTA	1	S	1320.8	1321.4	2	7	3.5		
	2800	OTTA	240	R	1630	1648	18	3.8	1.9		
	2800	OTTA	20	GRF	1630	1335	30	2.8	1.4		

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	100	HIRA	44	NS	2030 E	0635	640 D	150	25		SL
	200	HIRA	44	NS	2030 E	0634	710 D	65	30		ML
	2695	PENT	22	GRF	2110	2240	160	6.8	3.4		
	500	HIRA	27	RF	2110	2245	165	15	10		SL
30	9100	GORK	40	F	0400		56				
	9100	GORK	1	S	0500.8	0501.2	1.3	16	3		
	950	GORK	1	S	0500.9	0501.1	1.2	4.7	2.5		
	127	TORN	44	NS	0600 E	0754	580 D	868	21		V1
	202	IZMI	44	NS	0600 E		360 D	70			
	536	ONDR	44	NS	0745 E		405 D	20			
	260	ONDR	44	NS	0745 E		405 D	108	9		
	9100	GORK	21	GRF	0600.9	0617.8	430 D	34	15		
	6100	KISV	4	S/F	0612	0616.5	13	48			
	3100	CRIM	21	GRF	0614	0922	178	25	8		
	8400	BERN	3		0615	0616.3	2	76			
	10400	BERN	3		0615	0616.3	2	49			
	15000	KISV	21	GRF	0615	0616.5	3	30			
	9100	GORK	4	S/F	0615.3	0616.5	2.5	58	17		
	15000	KISV	29	PBI	0618	0618	12	20			
	6100	KISV	27	RF	0720	0820	195	20			
	650	GORK	23	GRF	0757	0831.2	158 D	12	6		
	6100	KISV	4	S/F	0802	0805	13	20			
	3000	POTS	2	S/F	0802.5	0805	5	21			
	9100	ARCE	20	GRF	0802.5	0806.3	71				
	9500	POTS	2	S/F	0803	0804.6	6	14			
	1470	POTS	4	S/F	0803	0804.2	5	23			
	2650	OWIN	2	S/F	0803	0805	7	20	10		
	3100	CRIM	1	S	0803	0805	10	12	4		
	930	BORO	45	C	0803	0806.8	6	55	18		
	10715	OWIN	2	S/F	0803	0805	7	10	5		
	950	GORK	45	C	0803.3	0806.4	9.5	32			
	950	GORK			0803.3	0812.3		9			
	9100	GORK	1	S	0803.4	0806.2	5	15	7		
	10400	BERN	20		0803.5	0806.1	9.5	10			
	8400	BERN	20		0803.5	0806.1	9.5	19			
	606	MANI	4	S/F	0803.6	0806.3	5.1	94.5	31.5		
	808	ONDR	4	S/F	0803.6	0806.6	6.5	42	19		
	650	GORK	4	S/F	0803.8	0806.6	5.8	100			
	536	ONDR	4	S/F	0804	0806.4	6	72	34		
	6100	KISV	4	S/F	0906	0908	4	6			
	6100	KISV	4	S/F	0923.5	0924.5	3	4			
	6100	KISV	28	PPE	1035	1107.5	32	13			
	234	POTS	4	S/F	1100	1100.2	.4	400	20		
	7000	SAOP	46	C	1107.4	1108.6	36.2	93			23L
	10400	BERN	45		1107.5	1108.5	22.5	50			
	6100	KISV			1107.5	1119		45			
	8400	BERN	45		1107.5	1108.5	22.5	86			
	6100	KISV	45	C	1107.5	1108.5	13	60			
	9100	ARCE	3	S	1107.8	1108.8	2.9				
	9400	HUAN	20	GRF	1107.9	1108.6	3.1	77.3	23.4		L
	9500	POTS	3	S	1108	1108.5	3	66			
	9500	POTS	21	GRF	1108	1207.5	162	12			
	10715	OWIN	45	C	1108	1109	15	30	10		
	15000	KISV	8	S	1108.3	1108.7	1	16			
	9100	ARCE	30	PBI	1110.7		64				
	9400	HUAN	29	PBI	1111	1111	62.6	12	6.1		L
	33	UPIC	45	C	1111.5	1112	2.1				
	29	UPIC	45	C	1111.5	1112	2.1				
	15000	KISV	20	GRF	1116	1119	24	12			
	9400	HUAN	3	S	1116.8	1115.6	3.9	34.4	15.3		L
	9500	POTS	3	S	1117.5	1115.8	3.5	37			
	9100	ARCE	3	S	1117.7	1119.1	5				
	1470	POTS	23	GRF	1120	1133.5	138	32			
	3000	POTS	20	GRF	1126	1203	119	21			
	536	ONDR	45	C	1130	1133.4	20	52	18		
	930	BORO	40	F	1130	1133.3	15	21	5		
	808	ONDR	41	F	1131	1137.7	32	22	4		
	29	UPIC	45	C	1134.7	1135.1	2.1				
	33	UPIC	45	C	1134.7	1135.2	2.2				
	930	BORO	41	F	1156.7	1157.4	1.3	27	3		
	9400	HUAN	20	GRF	1407.5	1420.1	34.8	6.9	3.6		0
	2500	OTTA	20	GRF	1419	1428	30 D	4.8			
	9400	HUAN	20	GRF	1505.8	1525.7	38.5	3.4	2.5		L
	7000	SAOP	40	F	1544		48				
	9400	HUAN	20	GRF	1613.5	1635.8	31.3	4.3	1.7		L
	2800	OTTA	260	FAL	1640	1800	80	14.4	7.2		9L
	7000	SAOP	45	C	1727	1729.1	5.8	14			9L
	9400	HUAN	20	GRF	1825.5	1844.6	111.3	20.6	9.7		L
	2800	OTTA	22	GRF	1900	1911	42	3.8			
	2800	OTTA	260	FAL	2020	2030	10	4	2		
	9400	HUAN	1	S	2025.1	2026.1	1.7	6.9	2.7		0
	200	HIRA	44	NS	2030 E	0340	710 D	250	100		ML

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 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
30	100	HIRA	+3 NS	2156	0027	600 0	360	100		SL
	9400	HUAN	3 S	2116.6	2117.1	1.4	20.6	9.4		L

Reports received from the following observatories:

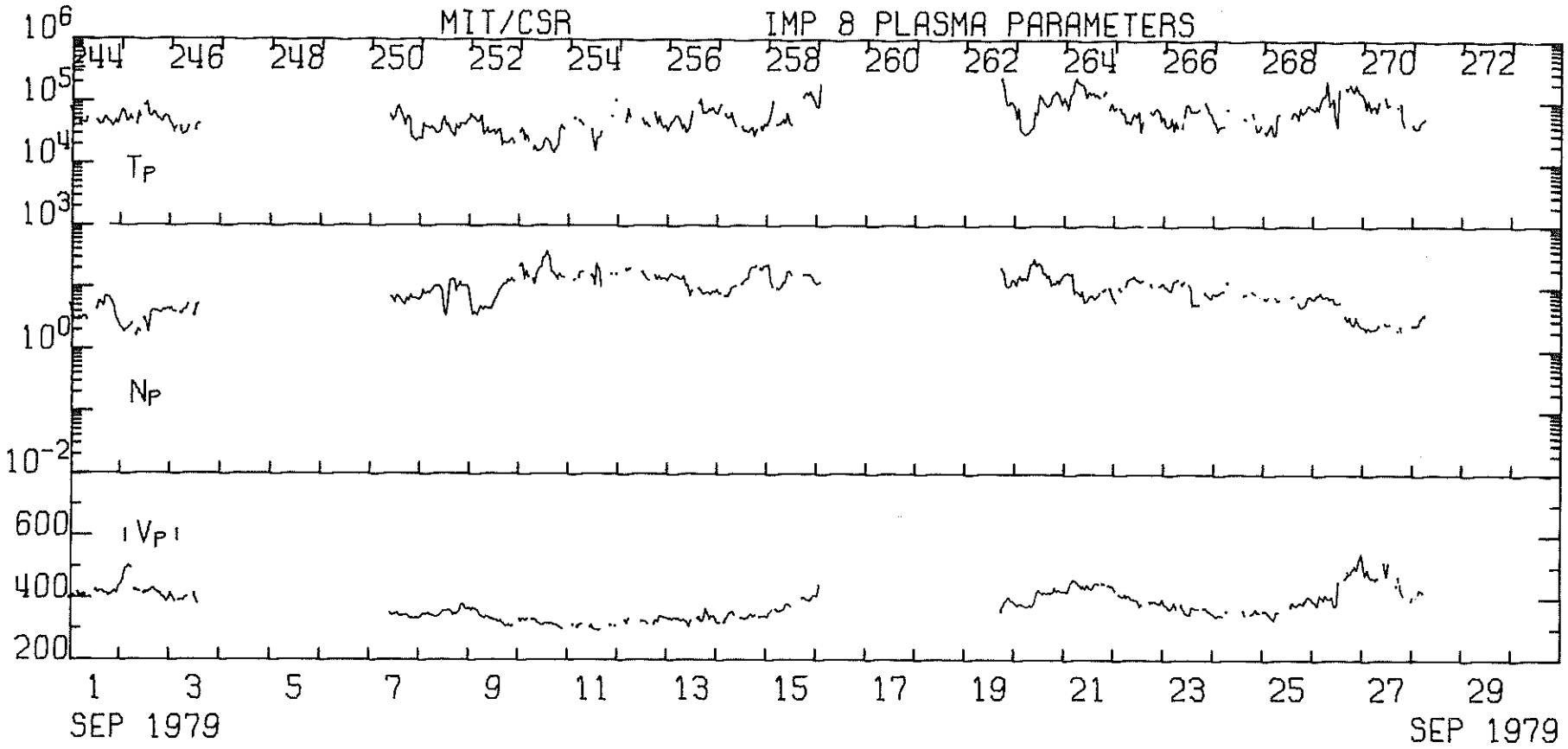
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = IRKUTSK
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton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

Explanation of Type Code:

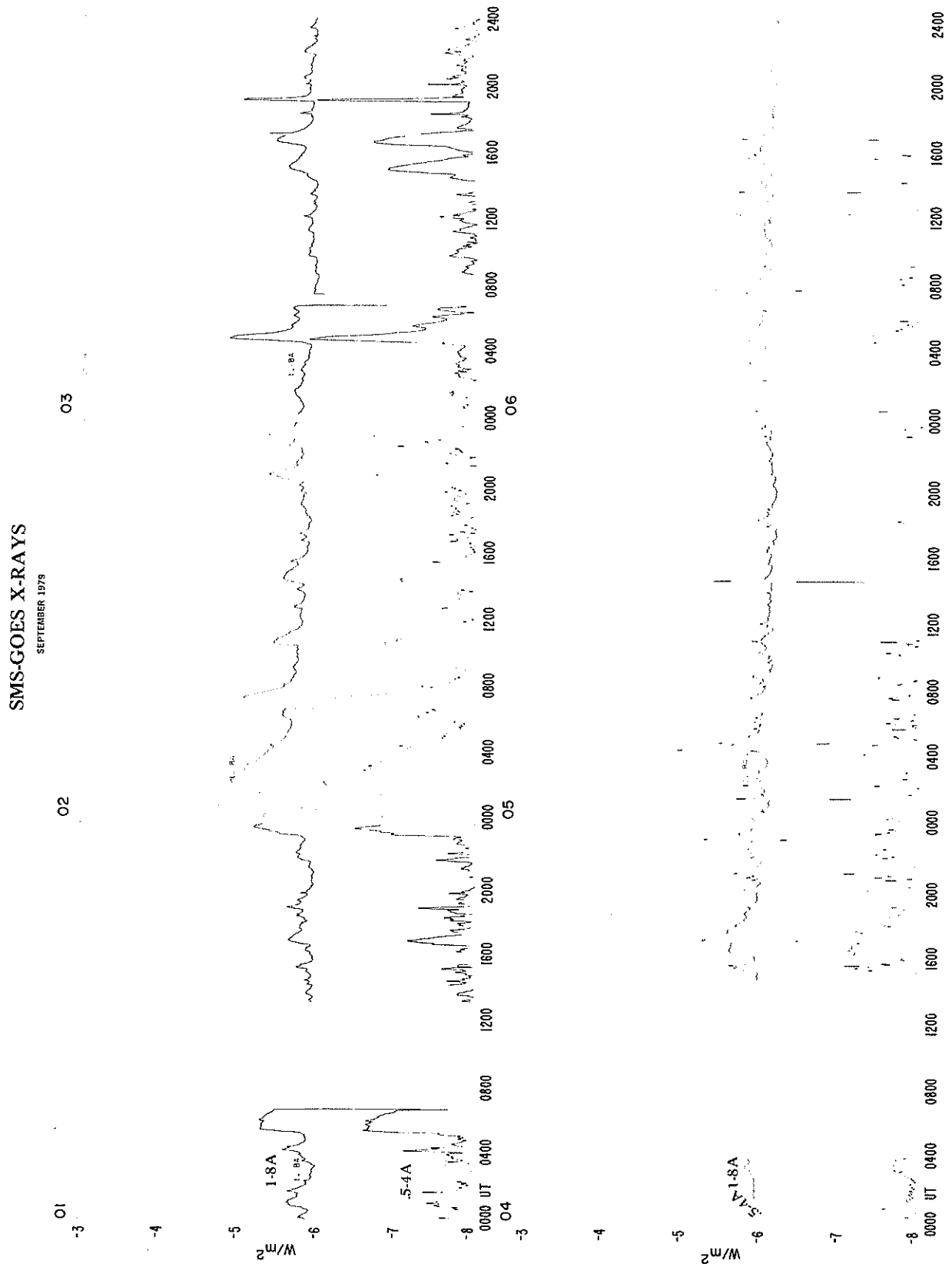
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of 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

SEPTEMBER 1979



28
Sep 79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SEPTEMBER 1979
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0000 UT
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1600
2000
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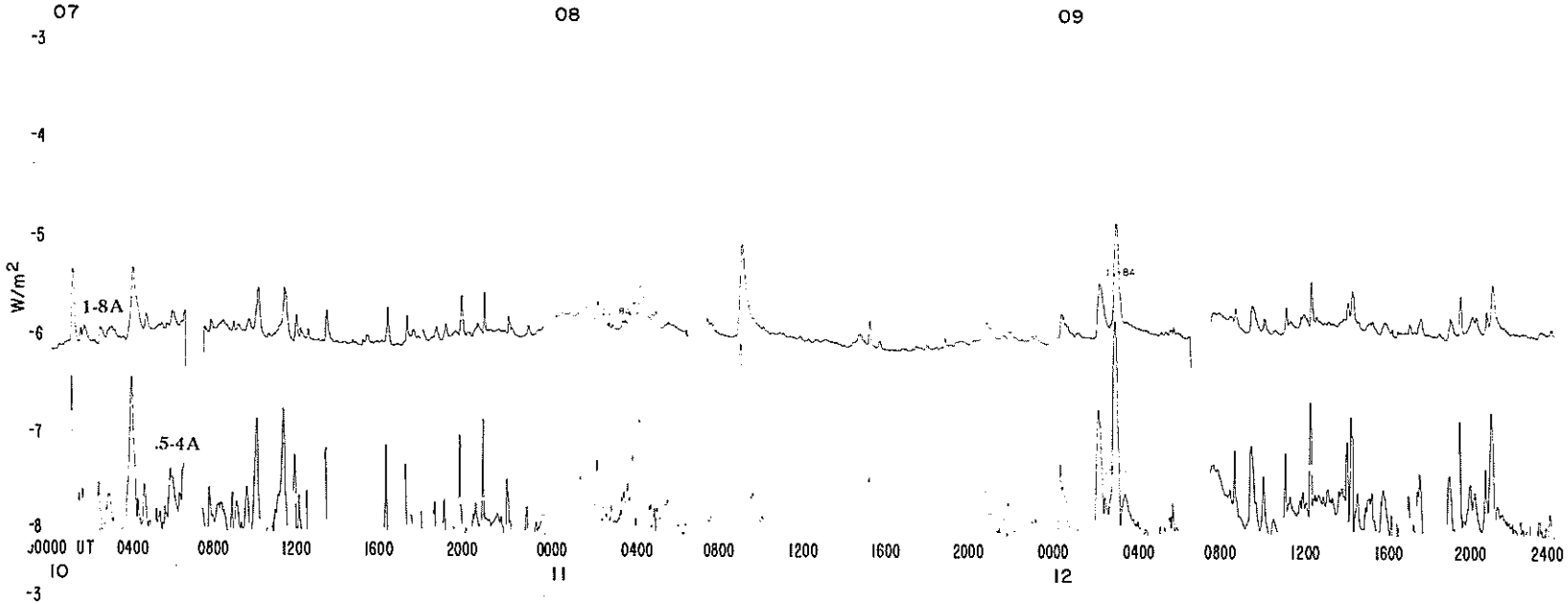
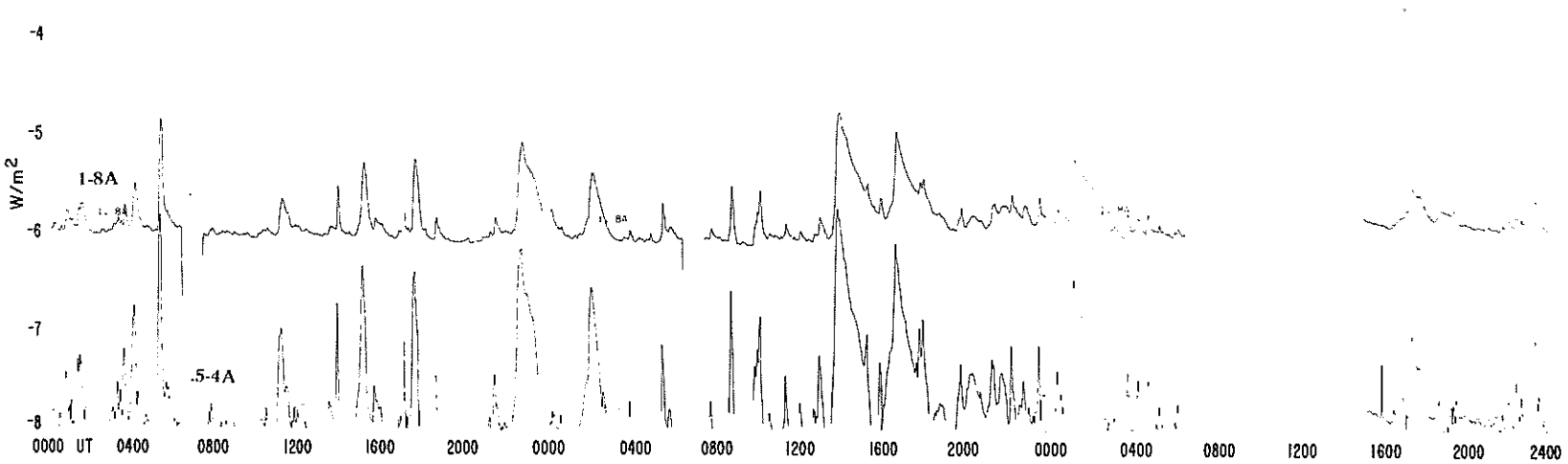
SMS-GOES X-RAYS

SEPTEMBER 1979





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Sep 79

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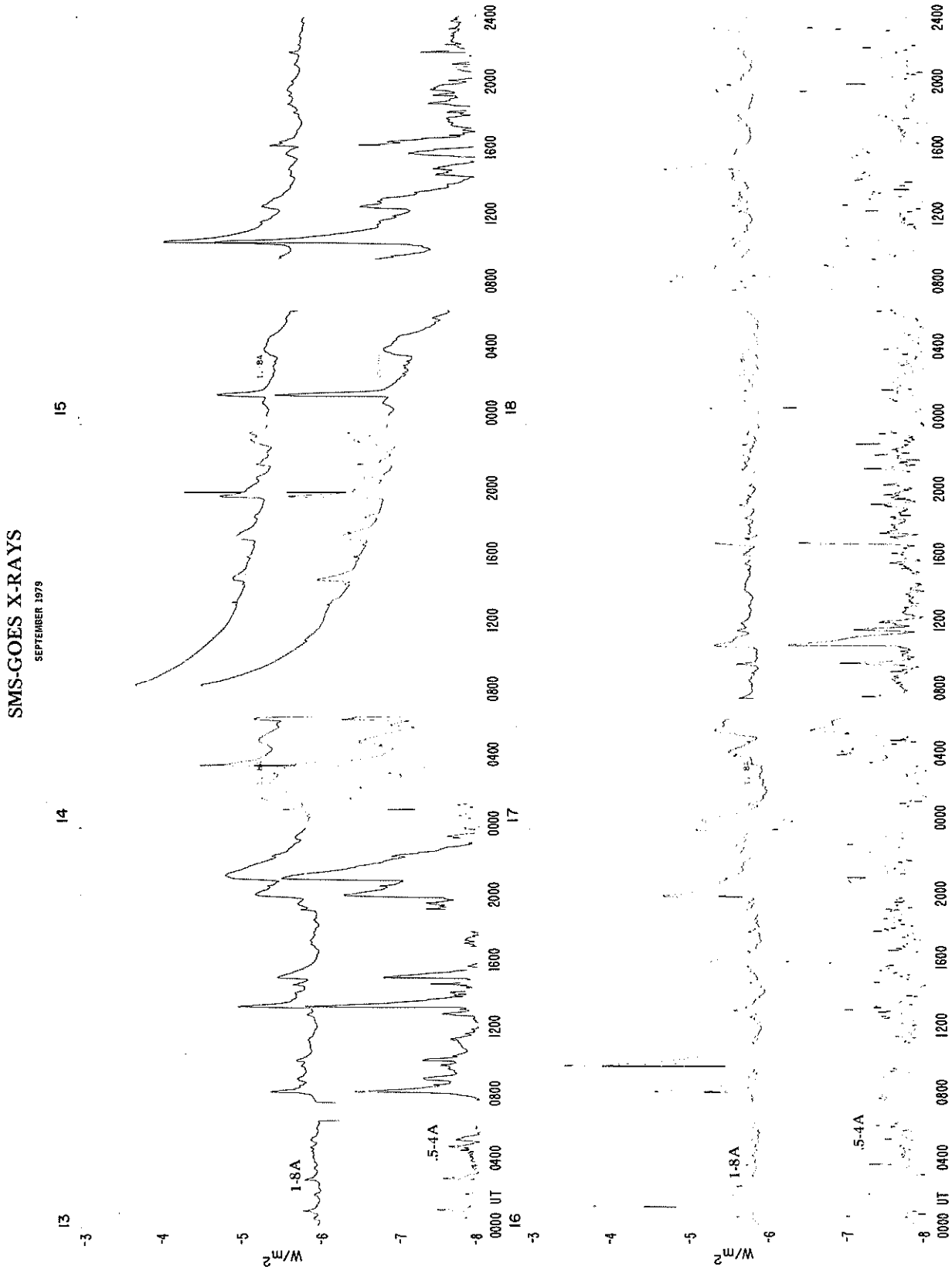
Sep 79


SMS-GOES X-RAYS
SEPTEMBER 1979
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.5-4A
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-8
0000 UT
0400
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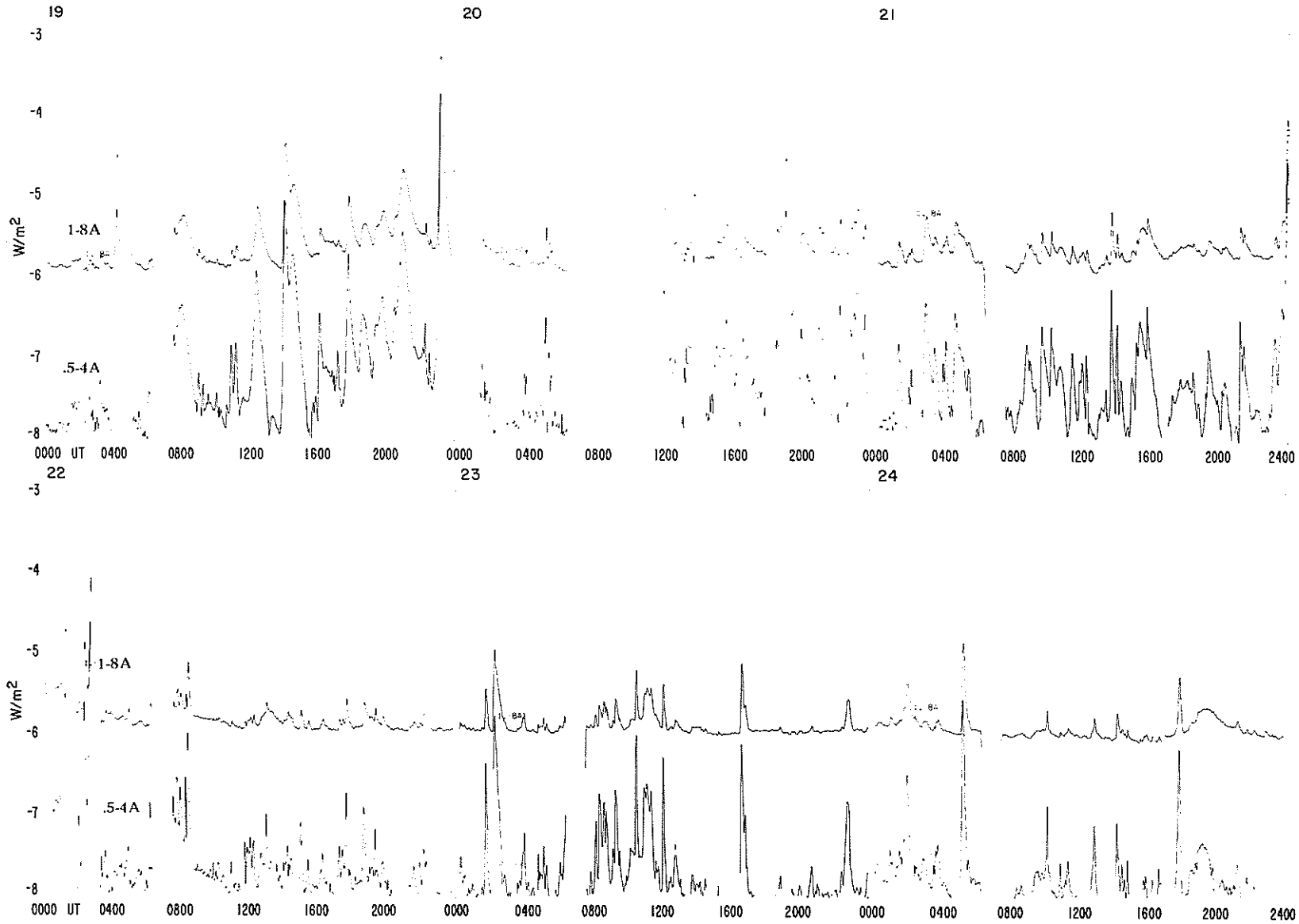
1200
1600
2000
2400

SMS-GOES X-RAYS

SEPTEMBER 1979



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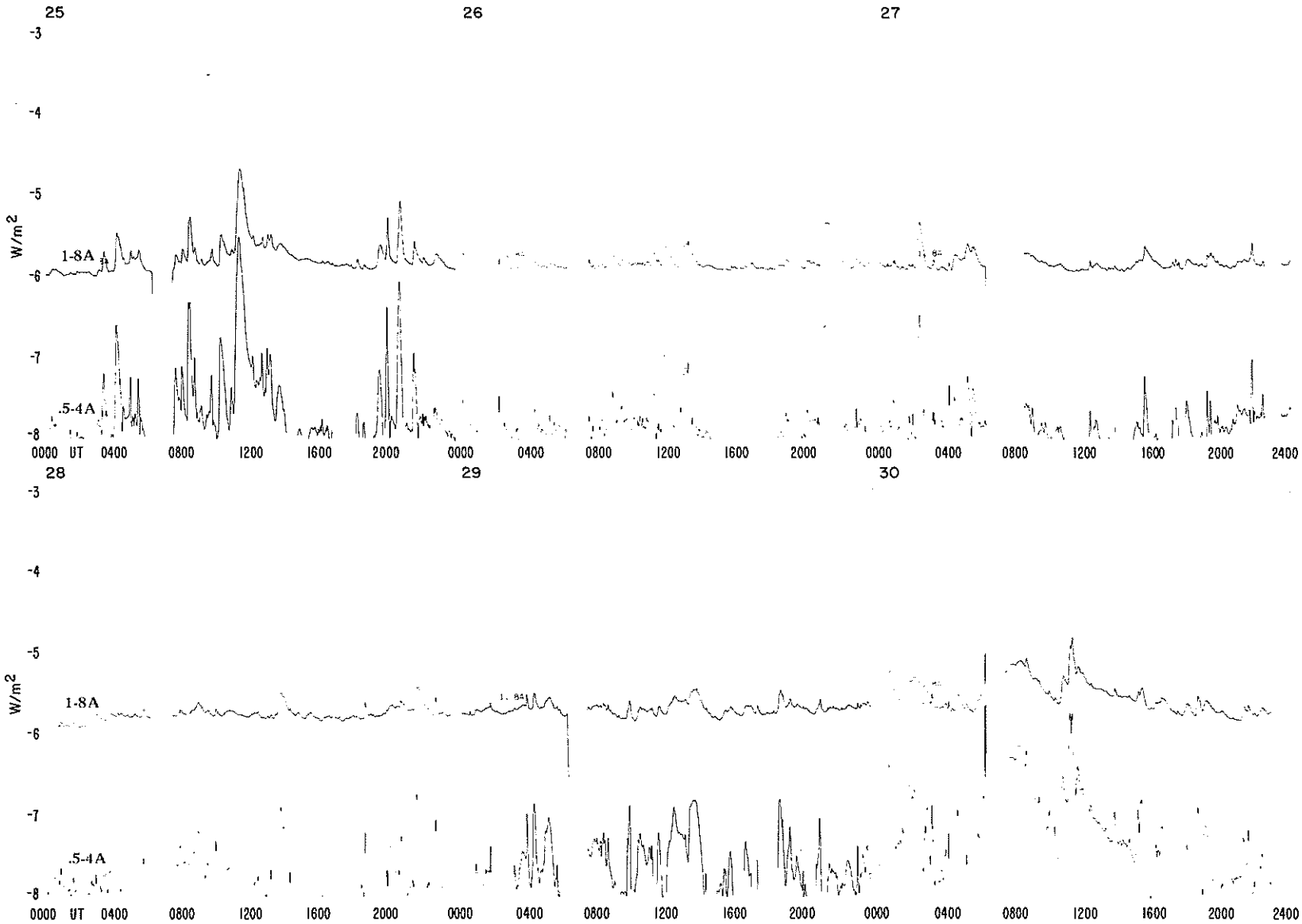
Sep 79

SMS-GOES X-RAYS

SEPTEMBER 1979



SGD 427 Part II (Comprehensive)

MISCELLANEOUS DATA

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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	MEAN	INT	POLARIZATION OR REMARKS
1	8800	SGMR	1	S	1117.1	1117.6	1.9	9.7	3.9		SWF
	4995	SGMR	3	S	1116.7	1118.2	2.1	44	13.2		SWF
	2695	SGMR	3	S	1116.8	1118	2.3	156	31.2		SWF
	1415	SGMR	3	S	1116.6	1116.7	1.9	33.3	10		SWF
	606	SGMR	3	S	1118.4	1118.5	.2	171	34		SWF
	2695	SGMR	20	GRF	1213.9	1214	124.1	16	6.2		SWF
	1415	SGMR	3	S	1412.1	1413.1	3.1	109	33		SWF
	606	SGMR	3	S	1412.1	1412.5	.9	13	3.9		SWF
	8800	SGMR	3	S	1646.8	1647.2	10	10.2	3.1		SWF
	1415	SGMR	3	S	1646.4	1650.1	3.9	44.2	8.8		SWF
2	8800	SGMR	3	S	2100.5	2106	7.9	30.9	9.3		
	4995	SGMR	3	S	2105.5	2105.9	1	24.5	7.9		
4	2695	SGMR	1	S	2020.6	2021	1.2	6	1.8		SWF
	1415	SGMR	1	S	2020.2	2020.5	.6	2.9	.9		SWF
	606	SGMR	3	S	2020.2	2020.4	.9	118	35.4		SWF
5	8800	SGMR	3	S	2020.8	2021.5	1.2	99.8	20		
7	15400	SGMR	3	S	1900	1901.7	4.3	179	54		SWF
	8800	SGMR	3	S	1900.9	1901.7	5.6	143	43		SWF
	4995	SGMR	3	S	1901.2	1901.7	5.9	93	28		SWF
	8800	SGMR	3	S	1950.5	1952.5	73.5	35.7	14.3		SWF
8	8800	SGMR	3	S	1738.3	1738.6	.7	63.7	19		SWF
	15400	SGMR	3	S	1740.6	1741.6	5.1	29.8	8.9		SWF
	8800	SGMR	3	S	1738.8	1741.7	9.7	47.5	14.3		SWF
	4995	SGMR	3	S	1737.5	1741.7	8	32.9	9.9		SWF
	2695	SGMR	1	S	1741.3	1741.9	1.2	6.2	1.9		SWF
	606	SGMR	3	S	2054	2056.7	3.3	134.2	40.2		SWF
9	8800	SGMR	3	S	1100.3	1101.1	4.1	28.6	8.6		
	4995	SGMR	3	S	1101	1101.9	3.4	10.1	3		
	15400	SGMR	3	S	1744	1744.8	3	37.5	11.4		
	8800	SGMR	3	S	1738.8	1745.2	14.2	78	23		
	4995	SGMR	3	S	1739.6	1744.6	13.4	52	16		
	2695	SGMR	1	S	1737	1744.8	11.2	9.4	3.7		
	1415	SGMR	3	S	1740.1	1744.8	6.1	13	5		
	606	SGMR	3	S	1743.6	1744.7	2.5	275	55		
13	15400	SGMR	47	GB	1012.5	1027.5	80	1278.4	383.5		SWF
	15400	SGMR	47	GB		1057		1944			SWF
	8800	SGMR	47	GB	1008.2	1030.3	103.8	1752	526		SWF
	8800	SGMR	47	GB		1057.2		871			SWF
	4995	SGMR	47	GB	1011	1030.1	99	5479	1644		SWF
	4995	SGMR	47	GB		1057.6		4828			SWF
	2695	SGMR	47	GB	1012	1034.3	100.5	2502	1230		SWF
	2695	SGMR	47	GB		1057.2		4101			SWF
	1415	SGMR	47	GB	1013.2	1017.4	98.8	428	870		SWF
	1415	SGMR	47	GB		1057.2		2907			SWF
	606	SGMR	3	S	1012	1101.8	81	420	168		SWF
	245	SGMR	7	C	1012	1020.8	99	385	77		SWF
	245	SGMR	7	C		1044		90.5			SWF
	245	SGMR	7	C		1125		153			SWF
	245	SGMR	44	NS	1151 E	2145.5	713 D	125			
	245	SGMR	48	GB	2031.9	2032.8	2.1	1222	244		
14	35000	SGMR	47	GB	1242.8	1245	35.2	2310	1430		SWF
	35000	SGMR	47	GB		1248.4		4770			SWF
	15400	SGMR	47	GB	1238.1	1244.5	69.3	5820	2720		SWF
	15400	SGMR	47	GB		1248.4		9050			SWF
	8800	SGMR	47	GB	1150.5	1244.5	123.7	8570	4890		SWF
	8800	SGMR	47	GB		1248.5		16300			SWF
	4995	SGMR	47	GB	1154.6	1244.6	122.4	6270	3480		SWF
	4995	SGMR	47	GB		1248.8		11600			SWF
	2695	SGMR	47	GB	1153.3	1244.8	123.6	3890	1860		SWF
	2695	SGMR	47	GB		1251.6		5890			SWF
	2695	SGMR	47	GB		1254.7		6200			SWF
	1415	SGMR	47	GB	1135.5	1244.8	141.4	1320	6420		SWF
	1415	SGMR	47	GB		1251.2		4980			SWF
	1415	SGMR	47	GB		1300.1		21400			SWF
	606	SGMR	47	GB	1151	1243.7	92	918	275		SWF
	606	SGMR	47	GB		1300.4		807			SWF
	245	SGMR	49	GB	1141.2	1202	102.6	360	185		SWF
	245	SGMR	49	GB		1244.5		617			SWF
	245	SGMR	49	GB		1256.6		250			SWF
	8800	SGMR	3	S	1543.5	1543.8	1	11	2.2		
	2695	SGMR	3	S	1543.8	1544	3	497	149		
	1415	SGMR	47	GB	1543.5	1543.6	7.6	3530	1060		
	606	SGMR	3	S	1543.5	1543.8	.8	50	15		
	245	SGMR	48	GB	1541.1	1543.8	8.2	5550	1110		
	245	SGMR	49	S	1727.9	1729.5	5.4	584	175		
	245	SGMR	49	S		1731.2		406			

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	MEAN	INT	POLARIZATION OR REMARKS
	2695	SGMR	3	S	2014	2014.8	20	18.6	5.6		
	1415	SGMR	3	S	2011.6	2013.8	3.1	141	42.3		
	606	SGMR	3	S	2013.3	2014.2	1.5	59.8	17.9		
	1415	SGMR	3	S	2048.3	2051.3	4	10.9	4.4		
	606	SGMR	3	S	2049	2049.3	3.4	54.4	16		
	245	SGMR	48	GB	2047.1	2049	6.4	622	188		
	245	SGMR	48	GB	2311.9	2312.1	.3	7360	1470		
15	245	SGMR	44	NS	0954 E	1440.8	827 D	572			
	245	SGMR	6	S	1134.5	1134.7	5.8	88.4	26.5		
	15400	SGMR	3	S	1527.5	1528.2	6	48	14		SWF
	8800	SGMR	3	S	1527.9	1528.3	4.6	43	13		SWF
	2695	SGMR	3	S	1527.9	1528.4	4.6	31.2	9.4		SWF
	1415	SGMR	3	S	1527.7	1528.1	6.3	353	106		SWF
	245	SGMR	6	S	1530.2	1530.6	2.2	9.6	2.9		SWF
	245	SGMR	7	S	1916.8	1916.8	.7	342	103		
16	245	SGMR	44	NS	1000 E	1855.3	819 D	523			
	606	SGMR	43	NS	1340	1438.4	107.7	72.5			
	1415	SGMR	3	S	1135.8	1213.4	51.7	29	5.8		
	606	SGMR	47	GB	1144.6	1202.2	43.4	963	597		
	606	SGMR	47	GB		1218.1		1990			
	245	SGMR	6	S	1136	1152	53.2	185	55.5		
17	245	SGMR	44	NS	0956 E	1329.1	822 D	63.2			
18	15400	SGMR	47	GB	1345	1347.4	72	473	417		SWF
	15400	SGMR	47	GB		1410.8		1390			SWF
	15400	SGMR	47	GB		1424.8		473			SWF
	8800	SGMR	47	GB	1345.5	1347.3	66.5	255	315		SWF
	8800	SGMR	47	GB		1412.6		1050			SWF
	8800	SGMR	47	GB		1425		516			SWF
	4995	SGMR	47	GB	1345.2	1347.2	72.1	198	221		SWF
	4995	SGMR	47	GB		1413.3		683			SWF
	4995	SGMR	47	GB		1425.4		736			SWF
	2695	SGMR	47	GB	1347	1348.1	71	262	221		SWF
	2695	SGMR	47	GB		1405.2		651			SWF
	2695	SGMR	47	GB		1424		735			SWF
	1415	SGMR	45	C	1346.1	1347.6	59.9	67.3	88		SWF
	1415	SGMR	45	C		1406.9		292			SWF
	1415	SGMR	45	C		1424.8		133			SWF
	1415	SGMR	45	C		1436		82			SWF
	606	SGMR	45	C	1346	1402	57	205	103		SWF
	606	SGMR	45	C		1410.2		342			SWF
	245	SGMR	49	GB	1402	1414.9	44	3960	1190		SWF
	245	SGMR	43	NS	1506.5	2034.8	509.5D	254			
19	245	SGMR	44	NS	0958 E	1829.1	817 D	160			
20	245	SGMR	44	NS	0959 E	1217.2	814 D	578			
	4995	SGMR	3	S	1141.3	1143	3.7	25	7.6		
	2695	SGMR	3	S	1140.7	1143.1	11	44	13		
	1415	SGMR	3	S	1139.7	1142.5	7.7	22	6.6		
	8800	SGMR	3	S	1940.8	1944.2	8.6	28.8	11.5		SWF
21	245	SGMR	44	NS	1000 E	2150.5	812 D	493			
	8800	SGMR	1	S	1751.7	1752	2.2	9.5	2.9		
	4995	SGMR	1	S	1751.5	1751.8	1.5	9.9	3		
	2695	SGMR	3	S	1752	1752.3	4.9	14.9	4.5		
	1415	SGMR	1	S	1751.6	1751.8	6.4	8.6	2.6		
	606	SGMR	3	S	1751.3	1751.6	.8	29.9	9		
	245	SGMR	48	GB	1749.7	1751.3	3.3	1070	321		
	1415	SGMR	45	C	2236.5	2245.5	24	140	58.4		
	1415	SGMR	45	C		2249.5		146			
	606	SGMR	45	C	2243.7	2244.7	17.1	63	51.2		
	606	SGMR	45	C		2249.8		128			
	245	SGMR	48	GB	2238.3	2241.7	16.7	600	240		
	245	SGMR	48	GB		2245.2		525			
22	245	SGMR	44	NS	1001 E	2134.4	809 D	94.5			
	2695	SGMR	3	S	1854.8	1859.2	11.2	11	3.3		
	1415	SGMR	3	S	1846.1	1857.9	20.2	137	41		
	606	SGMR	3	S	1852.2	1856.9	10.2	13.6	4.1		
	245	SGMR	6	S	1851.5	1859.4	10.5	9.6	2.9		
23	245	SGMR	44	NS	1002 E	1939	807 D	215.4			
	15400	SGMR	3	S	1246.6	1251	14.1	340	112		SWF
	8800	SGMR	3	S	1243.8	1251	20.2	405	134		SWF
	4995	SGMR	3	S	1246	1251.1	23	289.1	92.7		SWF
	2695	SGMR	45	C	1246	1300.4	22	138	45.5		SWF
	2695	SGMR	45	C		1246		130			SWF
	1415	SGMR	47	GB	1249.4	1251.6	28.1	1680	554		SWF
	606	SGMR	47	GB	1248.4	1249.5	29.1	2220	733		SWF
	606	SGMR	47	GB		1254.1		780			SWF
	245	SGMR	49	GB	1249	1249.8	20.8	2060	680		SWF
	245	SGMR	49	GB		1259.8		150			SWF

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
24	245	SGMR	44	NS	1004 E	1418	803 D	212			
	8800	SGMR	20	GRF	1158.6	1200.1	60	9	2.7		SWF
	4995	SGMR	20	GRF	1157.6	1200.5	62	36	10.8		SWF
	2695	SGMR	20	GRF	1159.8	1200.8	60	21	6.3		SWF
	1415	SGMR	20	GRF	1156.8	1201.9	60	16.8	5		SWF
	8800	SGMR	3	S	1815.2	1815.3	2.8	12.5	3.7		SWF
	2695	SGMR	1	S	1815.3	1815.5	1.7	3.6	1.1		SWF
	1415	SGMR	1	S	1816.2	1816.4	2.8	2.5	0.8		SWF
	606	SGMR	3	S	1816.5	1816.6	.3	12.8	3.7		SWF
	15400	SGMR	3	S	2152.4	2152.7	.8	30.1	9		
	1415	SGMR	3	S	2157.4	2158.3	3.7	47.6	14.3		
	606	SGMR	3	S	2157.2	2158.6	1.7	43.4	13		
25	245	SGMR	44	NS	1005 E	1239	800 D	178			
	8800	SGMR	3	S	1926.4	1927.6	1.7	82	27.1		
	15400	SGMR	3	S	1950.3	2000.1	14.9	47.1	15.5		SWF
	8800	SGMR	3	S	1950.3	1959.8	16.9	90	29.7		SWF
	4995	SGMR	3	S	1943.6	2000	25.9	111	36.6		SWF
	2695	SGMR	3	S	1945.1	2000.7	24.5	82.2	27.1		SWF
	1415	SGMR	3	S	1946	2000.5	24.8	18.9	6.2		SWF
	606	SGMR	3	S	1948.8	1949.2	15	34.2	11.3		SWF
	606	SGMR	3	S	2225.9	2226.9	1.2	71	23.4		
	245	SGMR	6	S	2225.9	2226.4	1.2	238	79		
26	1415	SGMR	43	NS	1822 E	1852.4	302 D	5			
	606	SGMR	43	NS	1823.2E	1945.7	300.6D	601			
	245	SGMR	44	NS	1006 E	1852.8	798 D	55.8			
	15400	SGMR	47	GB	1639.9	1645.4	66.3	1180	354		SWF
	15400	SGMR	47	GB		1648.5		624			SWF
	8800	SGMR	47	GB	1640.2	1647.1	63.8	1570	471		SWF
	8800	SGMR	47	GB		1649.3		1140			SWF
	8800	SGMR	47	GB		1659.1		396			SWF
	4995	SGMR	47	GB	1640.8	1647.1	59.7	645	194		SWF
	4995	SGMR	47	GB		1651.5		587			SWF
	4995	SGMR	47	GB		1659.2					SWF
	2695	SGMR	47	GB	1640.9	1647	58.3	601	180		SWF
	2695	SGMR	47	GB		1651.6		472			SWF
	2695	SGMR	47	GB		1659		386			SWF
	1415	SGMR	45	C	1639.4	1647.1	71.4	296	89		SWF
	1415	SGMR	45	C		1657		243			SWF
	606	SGMR	45	C	1645	1647	65	347	143		SWF
	606	SGMR	45	C		1650		475			SWF
	245	SGMR	49	GB	1646.6	1646.8	64.4	362	293		SWF
	245	SGMR	49	GB		1658		704			SWF
	245	SGMR	49	GB		1741		362			SWF
	8800	SGMR	3	S	1753.9	1801.9	26.4	19.1	7.6		
	4995	SGMR	3	S	1755	1801.5	22.5	147	59		
	2695	SGMR	3	S	1753.8	1802.6	29	307	92		
	1415	SGMR	45	C	1750.6	1758.5	31.4	475	143		
	1415	SGMR	45	C		1801.7		438			
	606	SGMR	47	GB	1751.8	1757.4	31.4	82600	24800		
27	245	SGMR	44	NS	1007 E	1936	795 D	140.1			
28	245	SGMR	44	NS	1008 E	1220.3	793 D	93.8			
	15400	SGMR	3	S	1253.1	1253.4	8.9	41.1	13.6		SWF
	8800	SGMR	3	S	1253.1	1253.4	8.9	94.5	31.2		SWF
	4995	SGMR	3	S	1253.1	1253.5	6.4	26.6	10.6		SWF
	2695	SGMR	3	S	1304	1308.5	12	37.5	12.4		SWF
	1415	SGMR	45	C	1303.2	1307.7	16.8	27.5	18.1		SWF
	1415	SGMR	45	C		1313.5		60.3			SWF
	245	SGMR	7	S	1413.5	1414.7	5.5	473	156		
	245	SGMR	7	S	1517	1518	1.5	289.4	86.8		
	1415	SGMR	1	S	1816.4	1818	4.4	8.7	2.6		
29	245	SGMR	44	NS	1009 E	1448.7	790 D	62.6			
30	245	SGMR	44	NS	1010 E	1308	787 D	167			
31	245	SGMR	7	S	1111	1111.6	1.1	349	69.6		
	245	SGMR	43	NS	1200.8	1818.4	675.20	479			

Reports received from the following observatories:

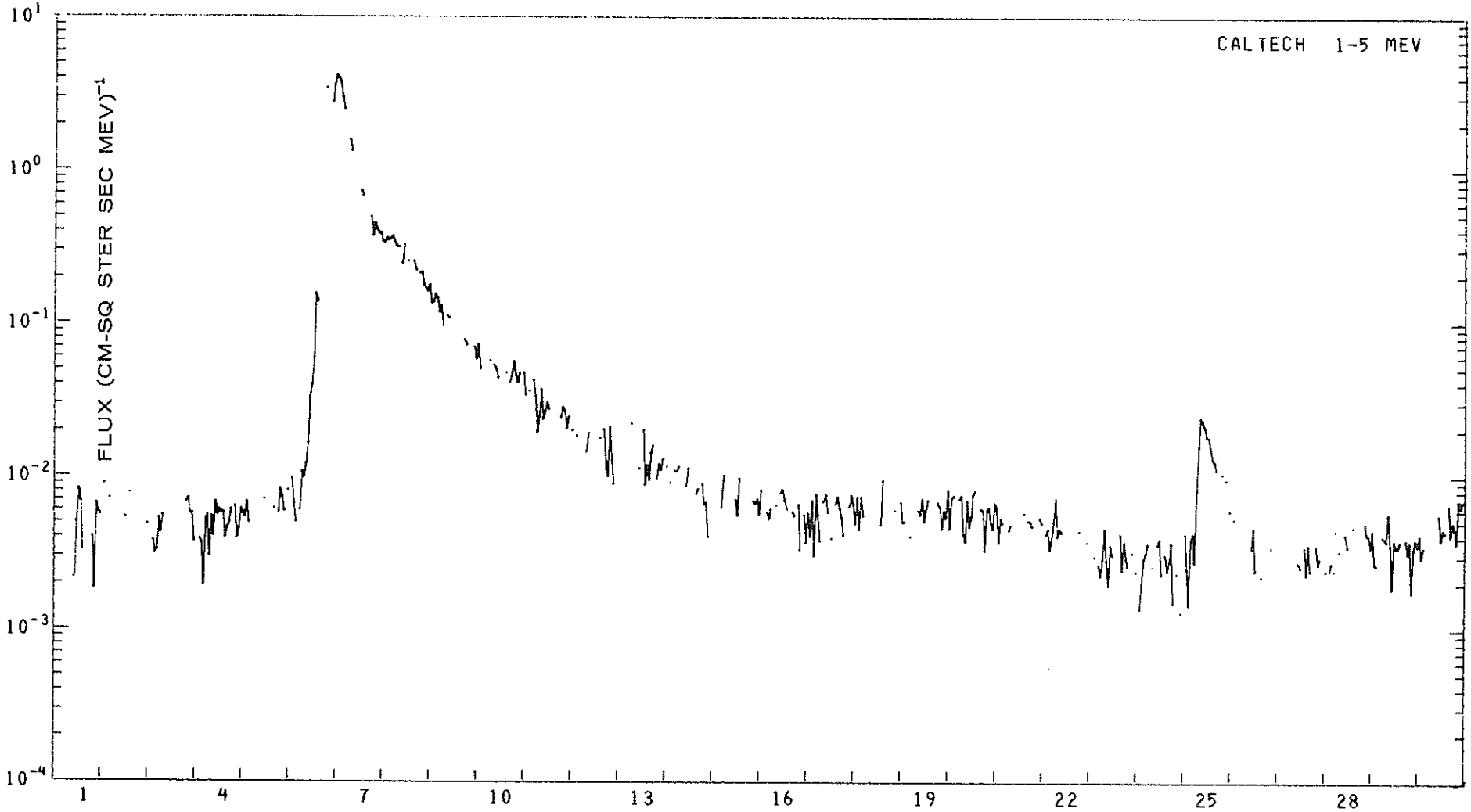
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton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

Explanation of Type Code:

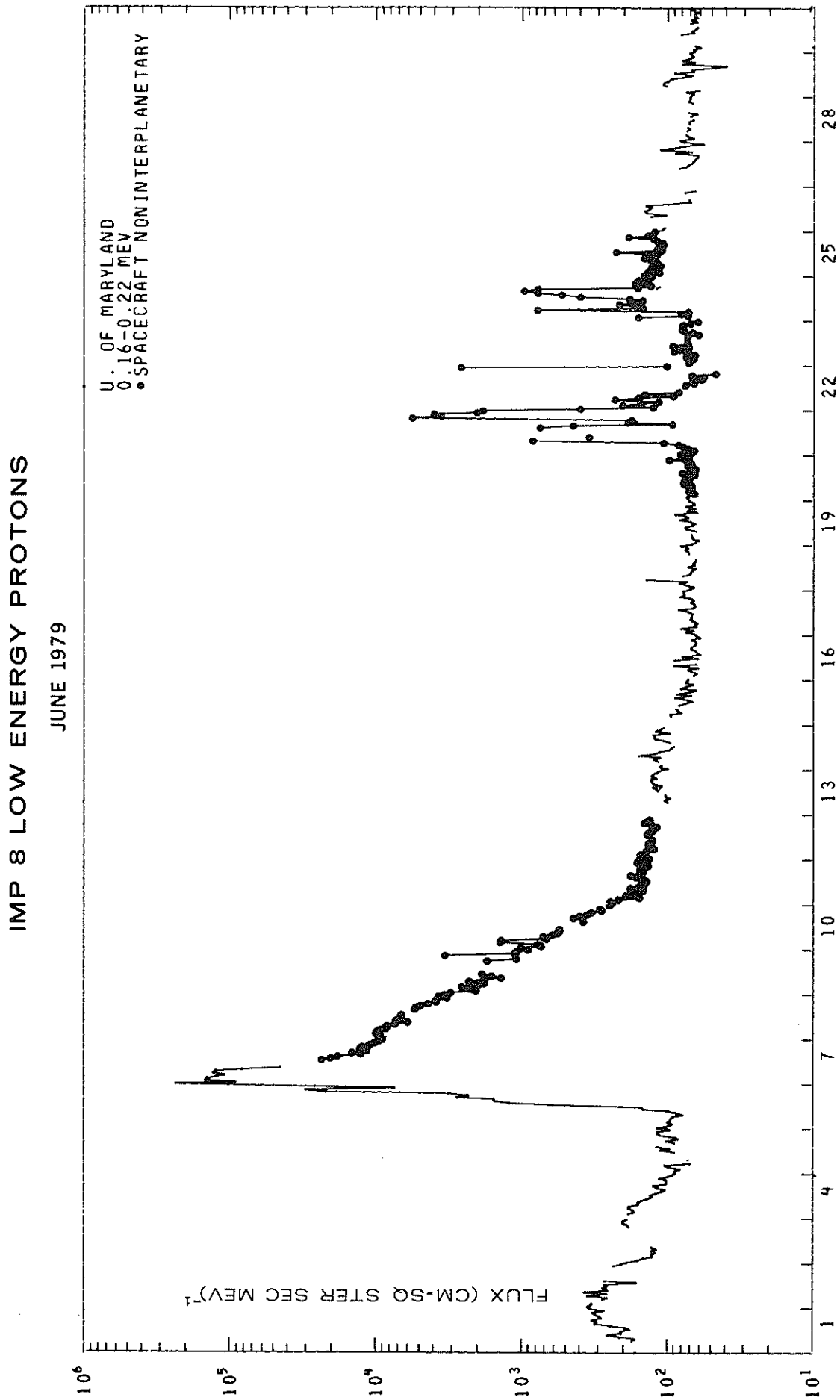
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of 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 ELECTRONS

JUNE 1979

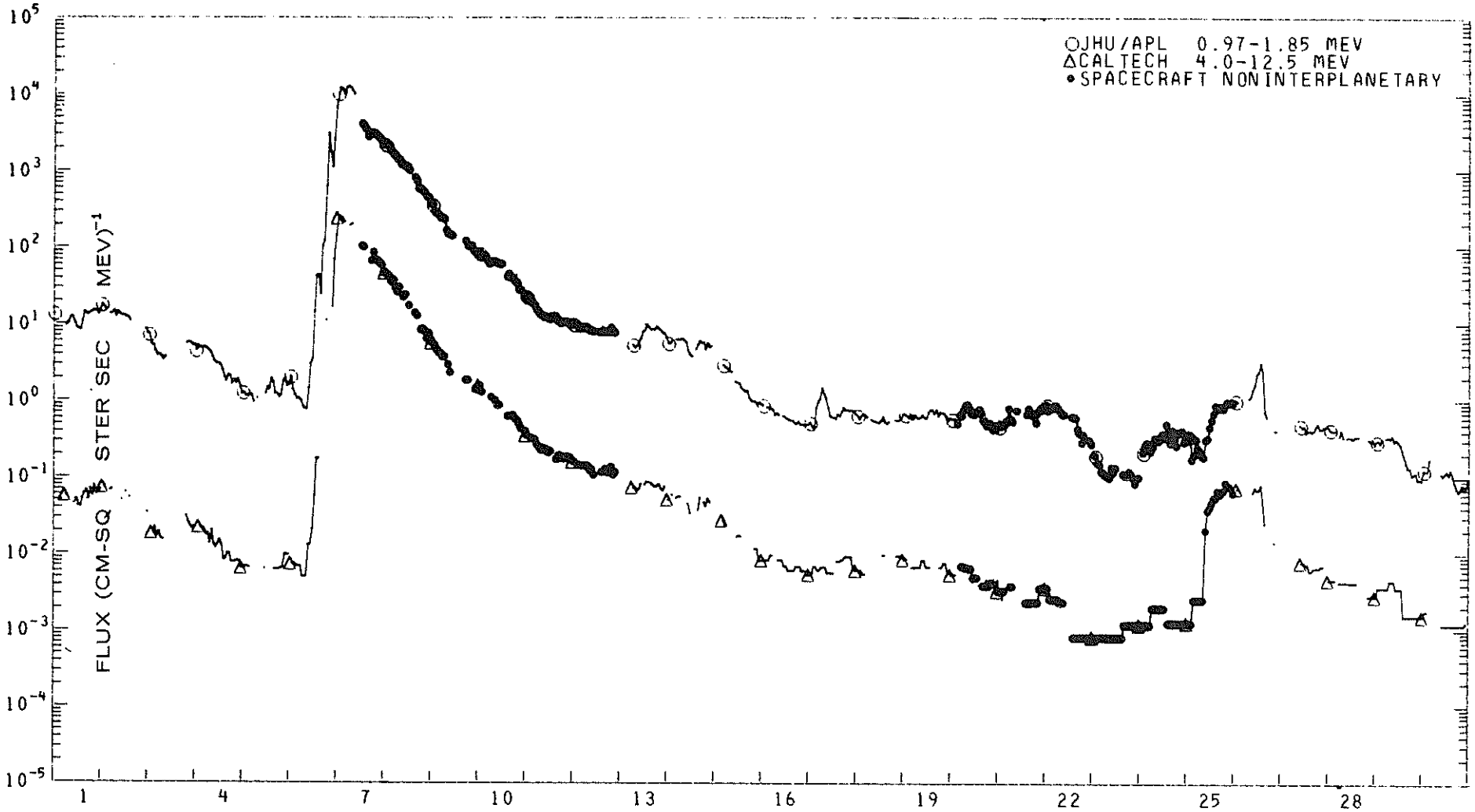


37
Misc
Jun 79

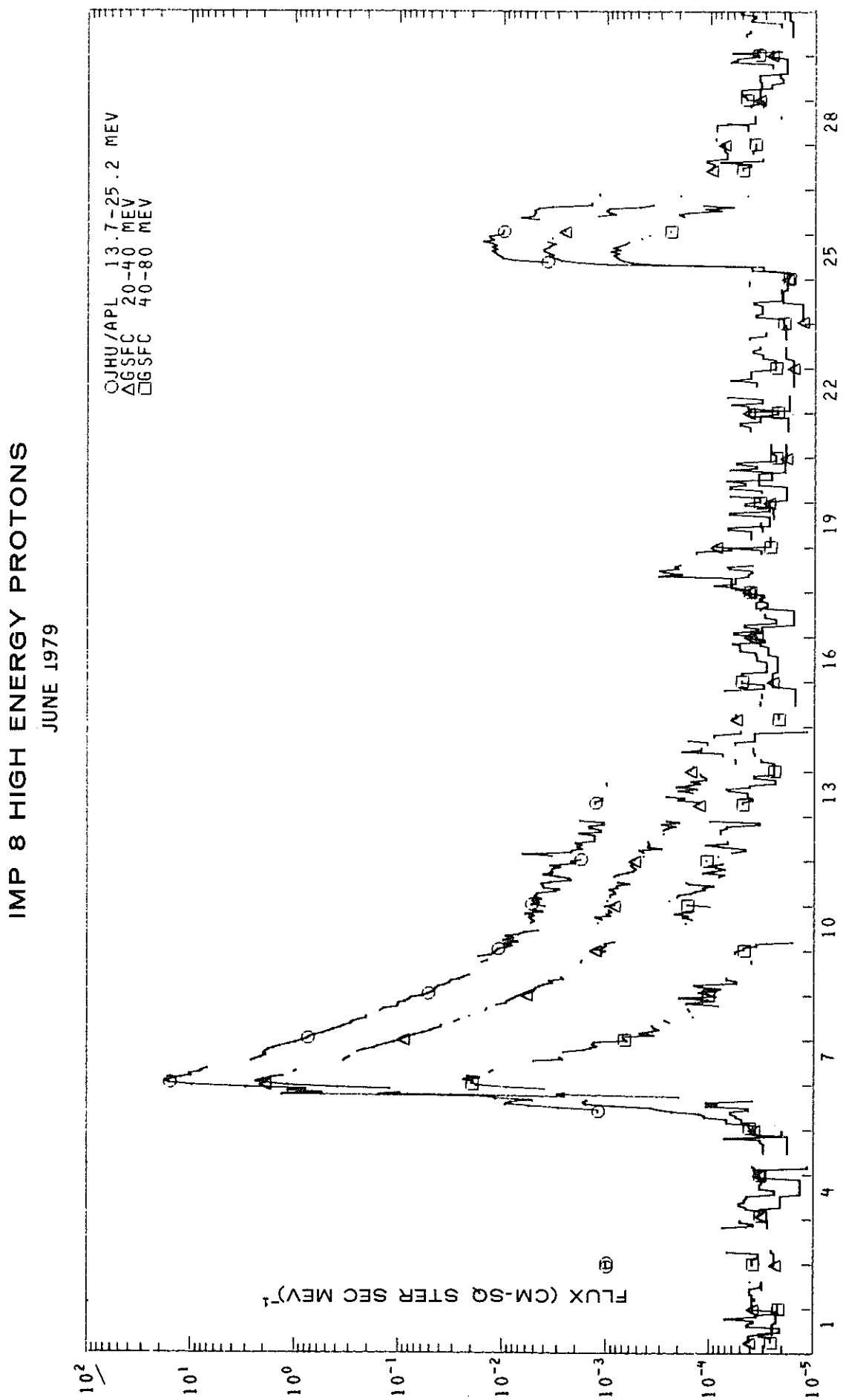

IMP 8 LOW ENERGY PROTONS
JUNE 1979
U. OF MARYLAND
0.16-0.22 MEV
• SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^6
10^5
10^4
10^3
10^2
10^1
1
4
7
10
13
16
19
22
25
28

IMP 8 INTERMEDIATE ENERGY PROTONS

NE 1979

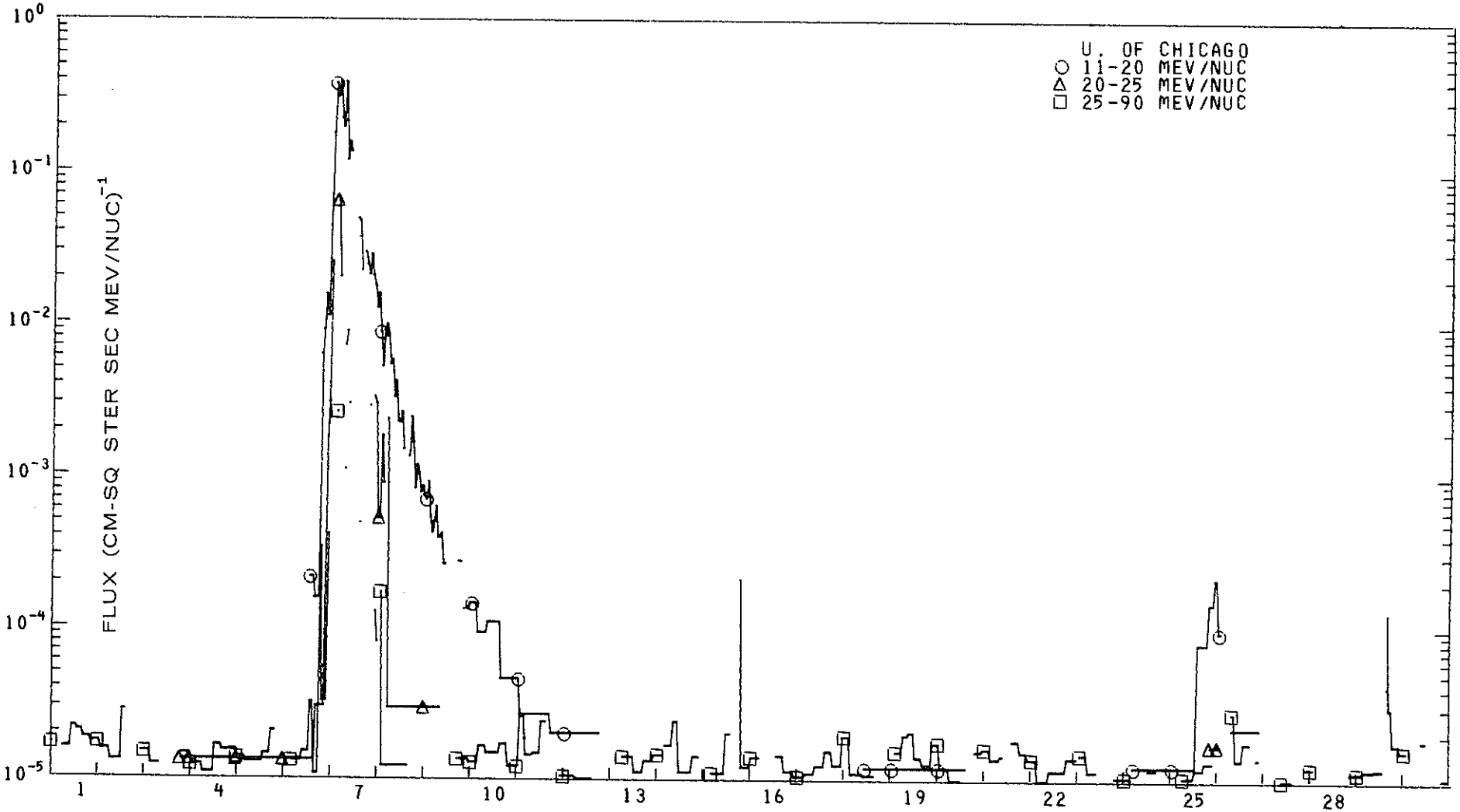


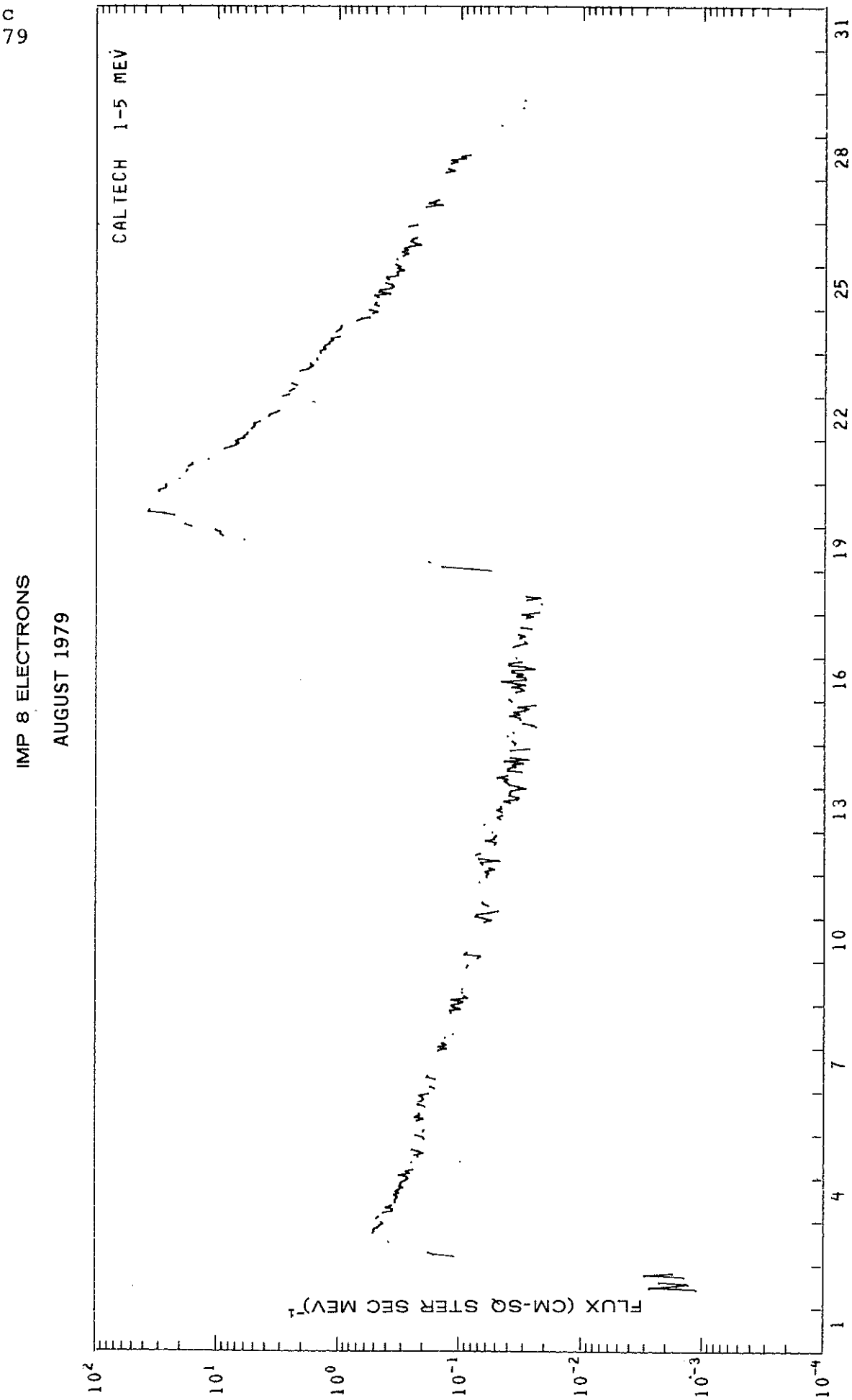
39
Misc
Jun 79


IMP 8 HIGH ENERGY PROTONS
JUNE 1979
○JHU/APL 13.7-25.2 MEV
△GSFC 20-40 MEV
□GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^2
10^1
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
1
4
7
10
13
16
19
22
25
28

IMP 8 ALPHA PARTICLES

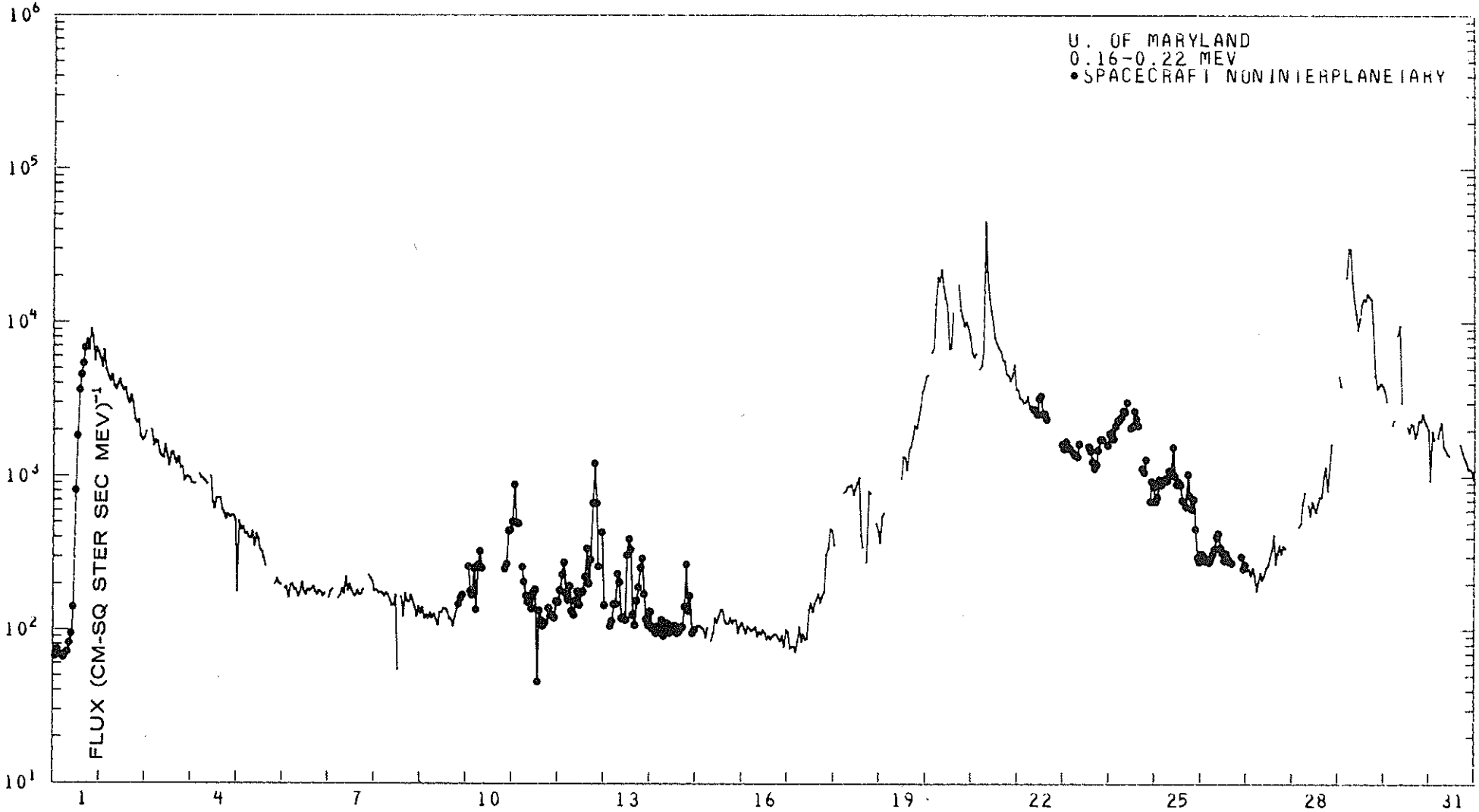
JUNE 1979




IMP 8 ELECTRONS
AUGUST 1979
CALTECH 1-5 MEV
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{2}
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

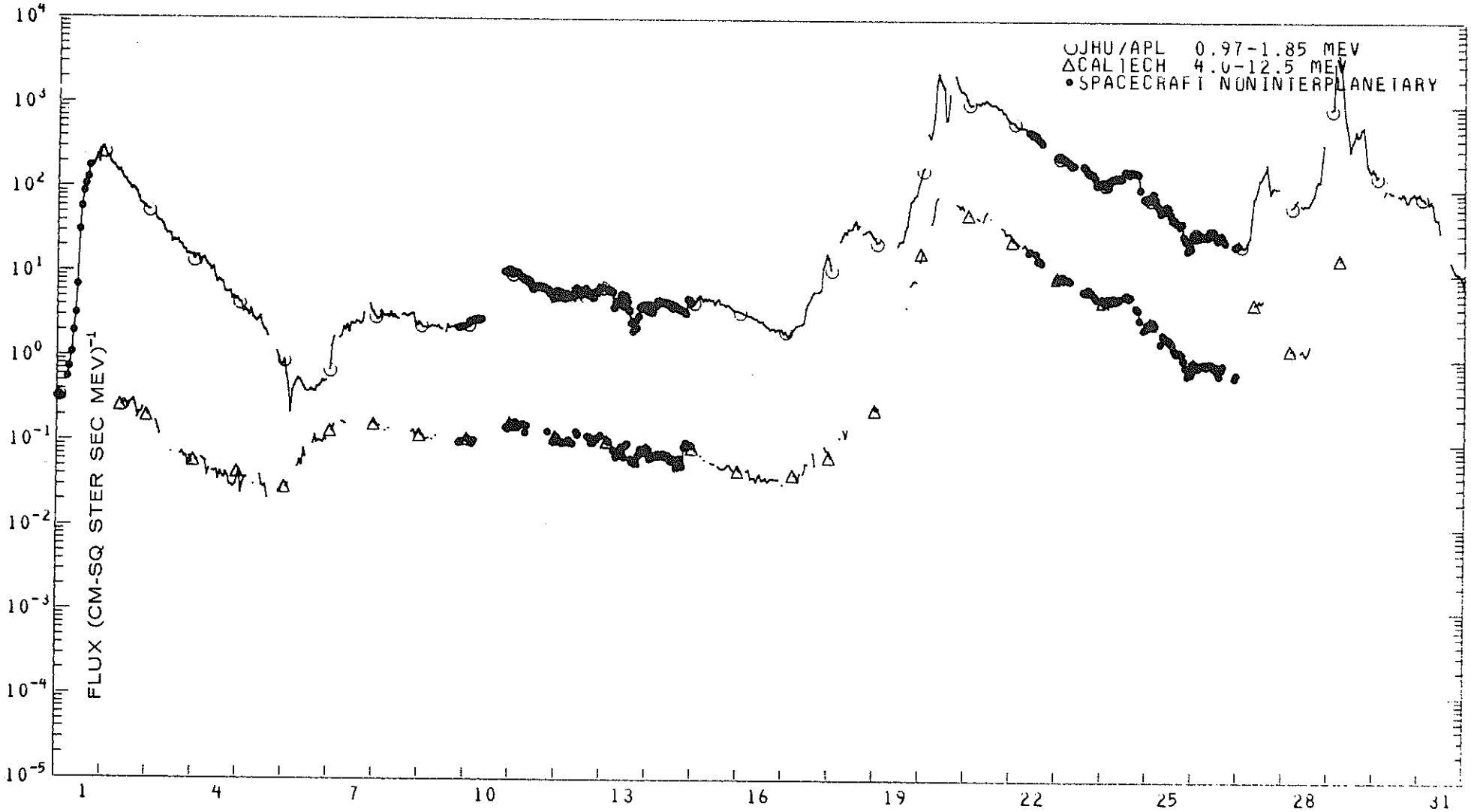
AUGUST 1979



43
Misc
Aug 79

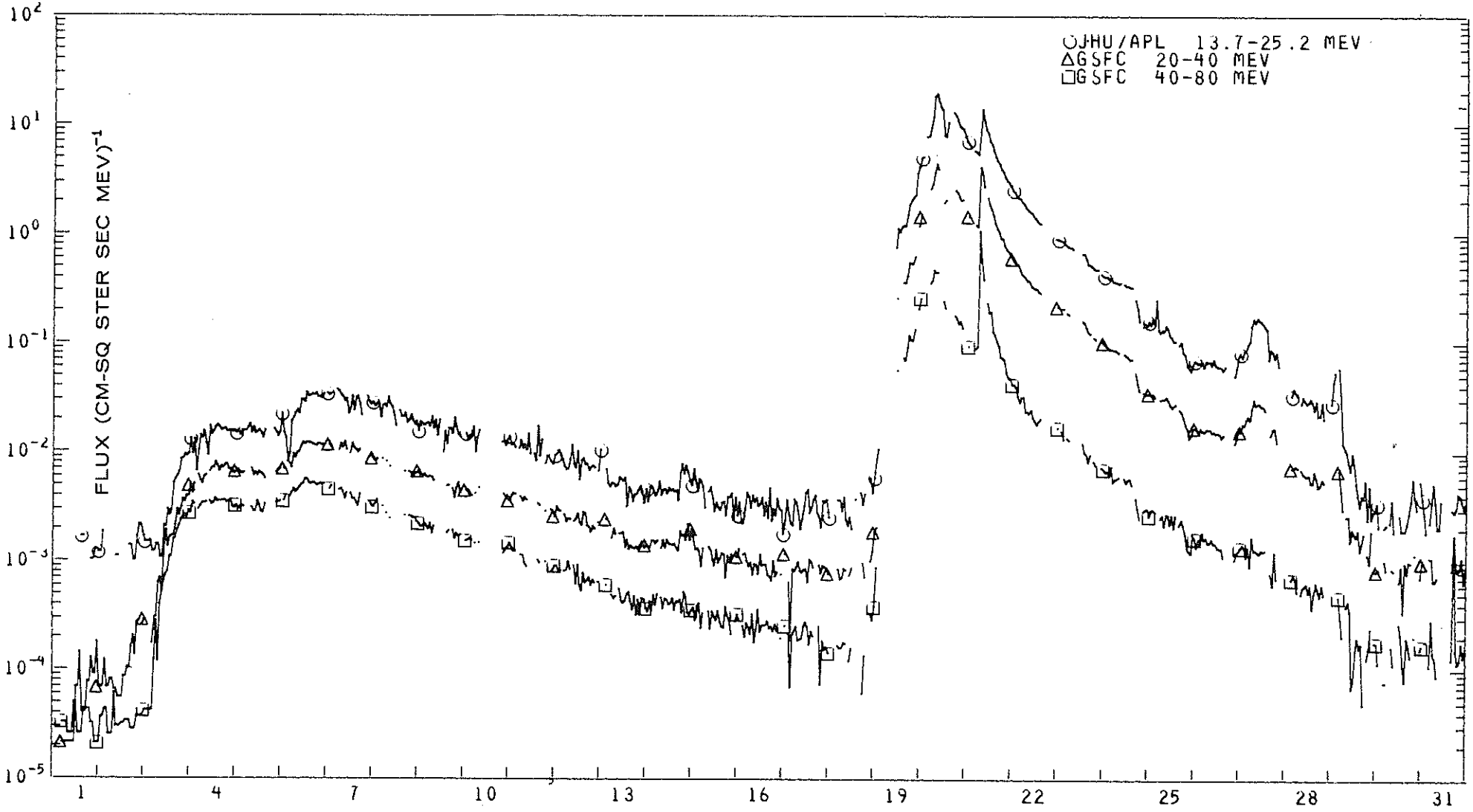
IMP 8 INTERMEDIATE ENERGY PROTONS

AUGUST 1979



IMP 8 HIGH ENERGY PROTONS

AUGUST 1979

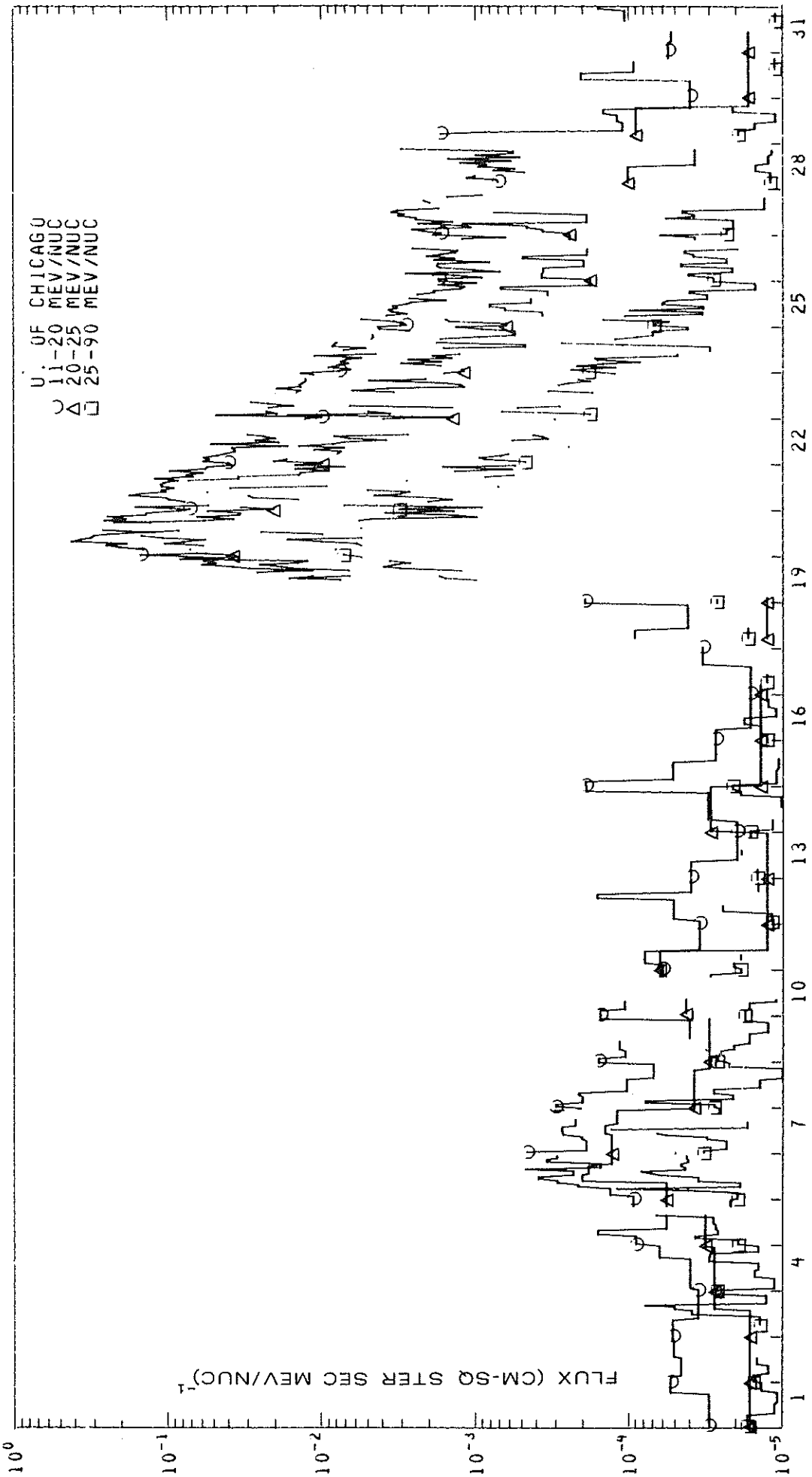


45
Misc
Aug 79

46
Misc
Aug 79

IMP 8 ALPHA PARTICLES

AUGUST 1979

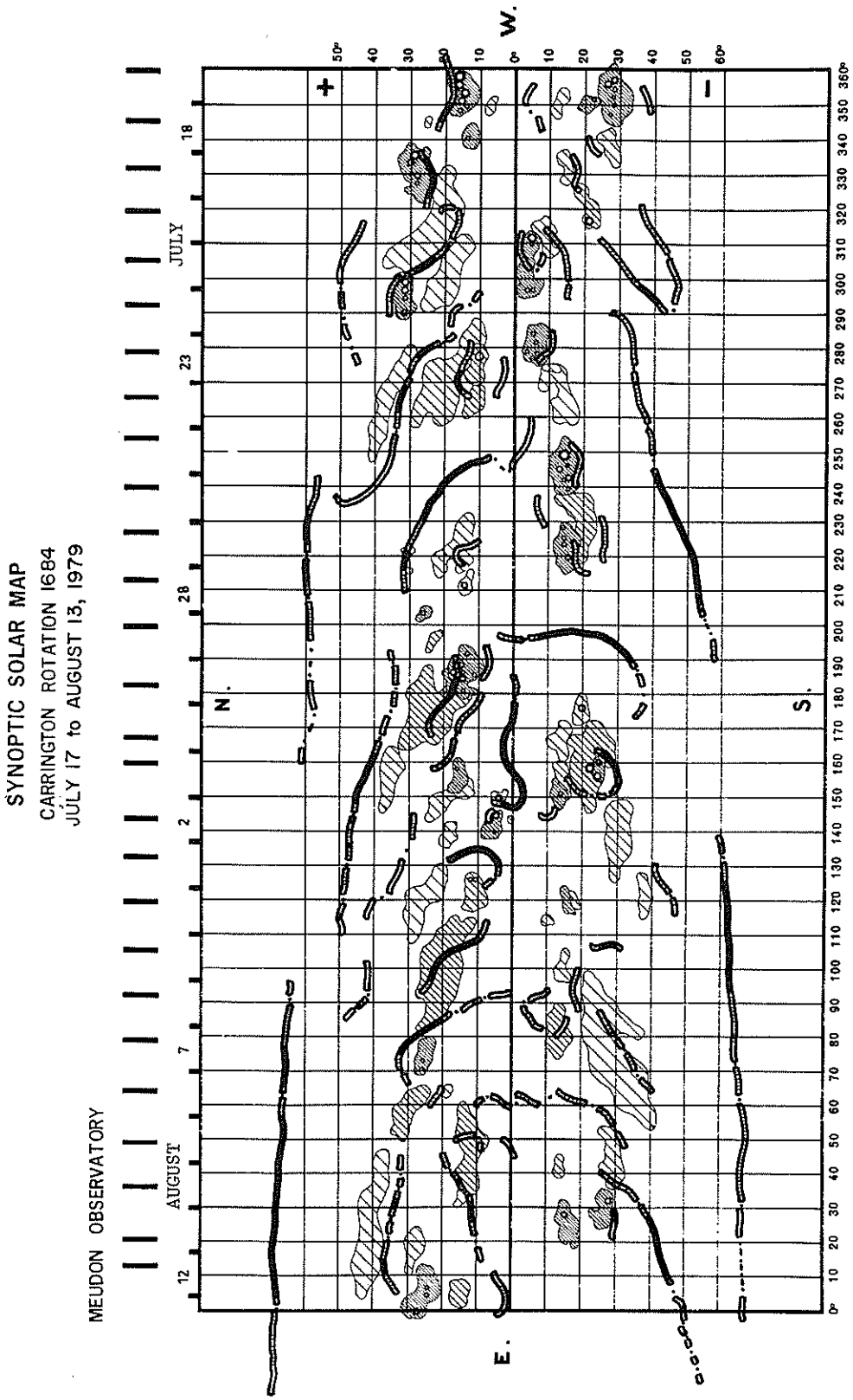


ACTIVE REGIONS

CARRINGTON ROTATION 1684

(July 17 to August 13, 1979)

Region No.	Coordinates Lat	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1603	Activity at West Limb
1	15°N	353°	5	+1			increasing
2	28 S	353	4	>6			decreasing
3	12 S	351	1	>6	x		dispersed
4	7 N	350	1	>6	x		dispersed
5	21 S	350	2	-1			decreasing
6	13 N	341	2	-4			stable
7	27 S	338	1	>6	x		dispersed
8	15 S	332	1	>6	x		dispersed
9	29 N	331	4	>6			decreasing
10	21 S	322	3	+3			decreasing
11	9 S	312	1	>6	x	12	disappeared
12	3 S	305	3	>6			decreasing
13	32 N	295	3	+4			decreasing
14	6 S	281	3	+2			decreasing
15	11 N	276	3	>6			decreasing
16	19 N	271	1	>6	x	20	dispersed
17	11 N	265	1	>6	x	18	decreasing
18	14 S	246	4	0			stable
19	20 S	230	1	>6	x		dispersed
20	15 S	223	3	+3			decreasing
21	16 N	223	1	>6	x		dispersed
22	14 S	212	2	>6		27	decreasing
23	26 N	203	2	-4			(?)
24	23 N	195	1	>6	x		dispersed
25	17 N	188	3	-4			increasing
26	14 N	186	3	>6			decreasing
27	5 N	179	1	>6	x		dispersed
28	20 S	175	3	>6			dispersed
29	24 N	175	1	>6	x	32	decreasing
30	13 S	167	1	>6	x		dispersed
31	22 S	160	3	>6		34	decreasing
32	25 S	158	3	+2			decreasing
33	15 N	156	2	+2			decreasing
34	36 N	156	1	>6	x		dispersed
35	14 S	155	1	>6	x	35	dispersed
36	13 S	151	2	+2			decreasing
37	4 N	150	2	>6		36	decreasing
38	19 N	150	1	>6	x		dispersed
39	6 N	142	2	0			decreasing
40	18 N	139	1	>6	x	40	dispersed
41	30 S	139	1	>6	x		decreasing
42	11 N	122	2	>6		44	decreasing
43	16 S	120	1	-3	x		stable
44	18 S	120	1	>6	x		disappeared
45	10 S	114	1	>6	x		disappeared
46	14 S	101	1	>6	x	52	dispersed
47	21 N	100	1	>6		46, 48, 49	decreasing
48	13 S	82	1	>6	x		decreasing
49	25 N	74	2	>6			decreasing
50	18 N	65	1	0	x		disappeared
51	20 N	58	1	>6	x	54	dispersed
52	12 N	48	1	>6	x	57, 58	decreasing
53	29 S	45	1	>6	x	56	disappeared
54	14 S	43	1	+3	x		dispersed
55	15 N	32	1	+1	x		disappeared
56	27 S	30	2	>6			decreasing
57	17 S	26	2	>6			decreasing
58	28 N	17	1	>6	x	63	disappeared
59	25 N	4	3	>6		66	decreasing
60	15 N	4	1	>6	x		disappeared


SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1684
JULY 17 to AUGUST 13, 1979
MEUDON OBSERVATORY
AUGUST
JULY
12
7
2
28
23
18
N.
S.
E.
W.
+
−

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)

Netherlands: *Geomagnetic Data* IAGA Bulletin No. 12 (1932-69), No. 32 (since 1970) IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris V, France (annually)

Taiwan: *Report on Sunspot Observations* Taiwan Provincial Weather Bureau Observatory, Taipei, Taiwan (quarterly since 1957)

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)

UAG Series of Reports

UAG Reports are issued on an irregular basis, with 6 to 12 reports being issued each year. Subscriptions may be ordered through the National Geophysical and Solar-Terrestrial Data Center, Environmental Data and Information Service, NOAA, Boulder, CO 80303, USA. The annual subscription price is $25.20 ($17.30 additional for foreign mailing). In years when the single price copies are less than $25.20, arrangements will be made to extend the subscription duration. Single issues are also available at the prices shown below. Some of the issues are now out of print and are available only on microfiche. Orders must include check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGSDC. $2.00 handling charge per order.

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UAG-11 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).
UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970", price (includes Parts 1-3) $3.00.
UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969, price 50 cents.
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UAG-15 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-16 "Temporal Development of the Geographical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1969)", price 70 cents.
UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967-March 1970)", microfiche only, price 45 cents.
UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations", price 20 cents.
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UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972", price 70 cents.
UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970", price 75 cents.
UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, November 1972, 324 pages, price $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", Revision of Chapters 1-4, edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, July 1978, 135 pages, price $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971", price (includes Parts 1 and 2) $2.00.
UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971", price 35 cents.

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UAG-31 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1969", price 75 cents.
UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969", price 35 cents.
UAG-33 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1967", price 75 cents.
UAG-34 "Absorption Data for the IGY/IGC and IQSY", price $2.00.
UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics", price 20 cents.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed Via Sudden Frequency Deviations During the ATM-SKYLAB Missions", price 55 cents.
UAG-37 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1966", price 75 cents.
UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics", price $1.60.
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.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity For the Period of Skylab Observations, May, 1973-March, 1974", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, February 1975, 32 pages, price 56 cents.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20, October, 1964 - August, 1965", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, and Jerome T. Nolte, American Science and Engineering, Cambridge, Massachusetts, March 1975, 25 pages, price 48 cents.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz 10 December 1971 through 21 March 1975", by James W. Warwick, George A. Dulk, and Anthony C. Riddle, Department of Astro-Geophysics, University of Colorado, Boulder, Colorado 80302, April 1975, 49 pages, price $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs", compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, May 1975, 159 pages, price $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973", by Werner Graf and Ronald N. Bracewell, Radio Astronomy Institute, Stanford University, Stanford, California 94305, May 1975, 183 pages, price $2.55.

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UAG-46 "Interplanetary Magnetic Field Data 1963-1974", by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, June 1975, 382 pages, price $2.95.

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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-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304Å Spectroheliograms from the Manned Skylab Missions", by J. D. Bohlin and D. M. Rubenstein, E. O. Hulbert Center for Space Research, Naval Research Laboratory, Washington, D. C. 20375 U.S.A., November 1975, 30 pages, price 54 cents.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974", compiled by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, The University of Michigan, 895 Lake Angelus Road North, Pontiac, Michigan 48055 U.S.A., November 1975, 27 pages, price 60 cents.

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.

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UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, July 1977, 57 pages, price $1.07.

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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.

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UAG-72 "Energy Release in Solar Flares, Proceedings of the Workshop on Energy Release in Flares, 26 February-1 March 1979, Cambridge, Massachusetts, U.S.A.", edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pages, price $1.50.

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."