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Solar - Geophysical Data

NO. 432 AUGUST 1980

Part II (Comprehensive Reports)

DATA FOR
FEBRUARY 1980

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BOULDER, COLORADO

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Solar-Geophysical Data, 426 Part I (or Part II), pages, February 1980, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 432

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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Notes:

"420A 50" listed under 1979 Jun means that the sunspot drawings for Jun 1979 were contained in *Solar-Geophysical Data* Number 420 - Part I, beginning on page 50.

A = Part I, B = Part II.

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

SGD 432 Part II (Comprehensive)

FEBRUARY 1980

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NOTE ON DELAY OF GROUPED SOLAR FLARE DATA:

The grouped solar flare data have again been delayed by another month due to a much needed vacation taken by our Meudon colleagues. We again ask your patience in this critical situation.

For researchers who need the comprehensive solar flare data more promptly, NGSDC has available "preliminary" listings from July through October 1979. These complete tabulations lack the final Meudon corrections, and thus will not be published until we receive these. Nevertheless, printouts for the July-October 1979 period are available on request with the stipulation that they be recognized as "preliminary" 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) 497-6223; Telex: SOLTERWARN BLDR 45897].

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1980

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
01	100	GORK	44	NS	0606.0E		384.0D		5		
	200	GORK	44	NS	0606.0E		324.0D		5		
	127	TORN	44	NS	0810.0E	1201.9	400.0D	373	6		V1
	260	ONDR	44	NS	0812.0E		364.0D	35			
	100	HIRA	44	NS	2355.0E	0511	470.0D	500	250		
	200	HIRA	44	NS	2355.0E	0255	480.0D	20	10		ML
	3750	TYKW	5	S	0009.0	0010.4	3.0	4	1.5		
	2000	TYKW	5	S	0009.0	0010.4	3.0	6	2		
	3750	TYKW	29	PBI	0012.0		13.0	1.5	.7		
	700	SYDN	2	S/F	0013.4	0013.6	.4				
	3750	TYKW	5	S	0054.0	0057	20.0	2.5	1		
	3750	TYKW	5	S	0138.0	0139.8	7.0	3	1		
	100	HIRA	8	S	0335.0	0335.2	.4	810			
	100	HIRA	46	C	0338.7	0339.1	1.2	540	200		
	200	HIRA	42	SER	0339.0	0342.9	10.0	140			WL
	3750	TYKW	45	C	0345.0	0348.0	30.0	70	14		
	3750	TYKW			0345.0	0406.0		22			
	2930	VORO	3	S	0345.0	0311.8	10.0	68			
	5730	IRKU			0346.9	0348.6		22			L
	5730	IRKU	2	S/F	0346.9	0348.4	6.5	24			L
	5730	IRKU			0346.9	0348.8		21			L
	2000	TYKW	45	C	0347.0	0348.0	8.0	15	6		
	9400	TYKW	21	GRF	0347.0	0406	55.0	16	6		
	9400	TYKW	5	S	0347.0	0348.7	6.0	6	1.5		
	5730	IRKU			0353.5	0402.0	11.5	11			L
	2000	TYKW	29	PBI	0355.0		25.0	3	1.5		
	5730	IRKU			0405.0	0407.3		21			L
	5730	IRKU	45	C	0405.0	0406.2	6.0	24			L
	5730	IRKU	29	PBI	0411.0		16.0	10			L
	3750	TYKW	29	PBI	0415.0		90.0	10	3		
	113	POTS	4	S/F	0732.0	0739.8	12.0	100	25		
	9100	GORK	22	GRF	0757.0	0837.4	69.0	13			
	950	GORK	3	S	0801.0	0801.2	1.2	11	5		
	650	GORK	4	S/F	0801.1	0801.3	1.2	9	4.5		
	3100	CRIM	25	R	0802.0	0853.0		12			
	6100	KISV			0811.0	0819.5		9			
	6100	KISV			0811.0	0812.5		9			
	6100	KISV	46	C	0811.0	0837.5	49.0	14			
	3100	CRIM	3	S	0822.0	0825.0	5.0	30	10		
	3000	POTS	4	S/F	0823.0	0824.2	4.0	29			
	1470	POTS	4	S/F	0823.3	0823.5	3.2	8.7			
	113	POTS	41	F	0842.1	0842.4	.4	220	15		III
	113	POTS	4	S/F	0858.8	0858.9	.2	100	20		III
	113	POTS	8	S	0955.1	0955.1	.2	200	70		
	6100	KISV	45	C	1011.0	1013.2	49.0	42			
	6100	KISV			1011.0	1047		7			
	3000	POTS	3	S	1011.5	1012.9	2.5	19			
	10400	BERN	3		1011.5	1013.1	7.0	31.0			ONLY PAPER REC
	9100	GORK	23	GRF	1011.8	1023.4	18.2	7.5			
	2950	GORK	20	GRF	1011.9	1013.0		11			
	9500	POTS	3	S	1012.5	1012.9	2.5	35			
	3100	CRIM	1	S	1012.5	1013.0	1.5	12	4		
	9100	GORK	3	S	1012.6	1012.9	1.8	37	12		
	15000	KISV	8	S	1012.8	1013	2.0	15			
	430	KRAK	41	F	1036.2	1041.8	8.0	22	5		
	536	ONDR	42	SER	1149.0	1212.7	96.0	182			
	810	KRAK	8	S	1149.3	1149.3	.2	159			
	930	BORD	41	F	1157.0	1157	.6	34	2		
	950	GORK	1	S	1212.0	1212.4	1.3	5	2.5		
	650	GORK	4	S/F	1212.0	1212.5	1.0	37	10		
	930	BORD	46	C	1212.0	1212.6	1.0	23	3		
	3100	CRIM	1	S	1212.0	1212.5	1.0	10	3		
	1470	POTS	3	S	1212.0	1212.9	2.0	6.2			
	3000	POTS	3	S	1212.0	1212.6	1.0	12			
	430	KRAK	8	S	1212.3	1212.5	.5	94			
	810	KRAK	4	S/F	1212.3	1212.5	.7	134	22		
	808	ONDR	8	S	1212.7	1212.7	.2	30			
	430	KRAK	8	S	1323.0	1323.0	1.0	92			
	113	POTS	4	S/F	1334.6	1334.7	.5	100	10		III
	127	TORN	7	C	1401.2	1401.9	1.8	288	67		
	113	POTS	4	S/F	1401.3	1401.6	1.5	2100	35		III
	2800	OTTA	240	R	1440.0	1505	25.0	6.6	3.3		
	2800	OTTA	20	GRF	1630.0	1642	20.0	3.6	1.2		
	2800	OTTA	21	GRF	1653.0	1715	110.0	7.6			
	2800	OTTA	22	GRF	1741.0	1748	20.0	5.4	2.7		
	2695	PENT	260	FAL	2000.0	2035	35.0	-3.2	-1.6		
	2695	PENT	20	GRF	2045.0	2215	135.0D	6.0			
	9400	TYKW	45	C	2239.0	2246.0	15.0	27	7		
	3750	TYKW	45	C	2239.0	2244	25.0	5	1.5		
	9400	TYKW	29	PBI	2254.0		20.0	6	2		
	9400	TYKW	5	S	2342.0	2346	10.0	3	1		
02	200	GORK	44	NS	0639.0E		306.0D		10		
	100	GORK	44	NS	0642.0E		303.0D		30		

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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
	202	IZMI	43	NS	0700.0		300.0	52			
	127	TORN	44	NS	0700.0E	1120.0	470.0D	45	14		V1
	260	ONDR	44	NS	0805.0E		325.0D	142	6		
	200	HIRA	44	NS	2138.0E	0503	620.0D	10	5		SL
	100	HIRA	44	NS	2138.0E	0616	620.0D	510	210		
	9400	TYKW	5	S	0152.5	0153.5	4.0	7	2		
	3750	TYKW	5	S	0209.0	0209.6	2.0	1.5	.5		
	3750	TYKW	5	S	0310.0	0311.6	3.0	4	2		
	9400	TYKW	5	S	0310.0	0311.6	3.0	8	4		
	2000	TYKW	5	S	0310.0	0311.6	5.0	4.5	1.5		
	1000	TYKW	45	C	0310.5	0311.4	4.0	150	35		
	606	MANI	1	S	0311.8	0312.0	1.3	7.9	2.6		
	1415	MANI	3	S	0311.9	0312.6	2.1	14.1	4.7		
	4995	MANI	1	S	0312.0	0312.6	1.0	11.8	3.9		
	2695	MANI	1	S	0312.4	0312.6	.3	11.2	3.7		
	3750	TYKW	29	PBI	0313.0		20.0	1.5	.7		
	9400	TYKW	29	PBI	0313.0		15.0	4	1		
	2000	TYKW	45	C	0324.0	0325.4	5.0	2	.7		
	3750	TYKW	20	GRF	0335.0	0405	80.0	3	1.5		
	9400	TYKW	20	GRF	0345.0	0400	70.0	4	2		
	9100	GORK	20	GRF	0639.7	0758.8	238.0	22			
	3750	TYKW	5	S	0707.0	0709.4	25.0	6	2.5		
	2000	TYKW	5	S	0708.0	0709.3	3.0	8	3		
	2950	GORK	2	S/F	0709.0	0709.4	1.3	11			
	3100	CRIM	1	S	0709.0	0709.5	1.5	12	4		
	2950	GORK	21	GRF	0710.3E	0710.3		12			
	2000	TYKW	29	PBI	0711.0		20.0	3	1.5		
	6100	KISV	46	C	0755.0	0759	45.0	10			
	6100	KISV	4	S/F	0840.0	0924	60.0	10			
	6100	KISV	46	C	1000.0	1115		15			
	15000	KISV	26	FAL	1000.0	1000	120.0	-8			
	6100	KISV			1000.0	1025		9			
	9500	POTS	20	GRF	1107.0	1113.5	20.0	11			
	9100	GORK	22	GRF	1107.0	1113.8	11.0	13	6		
	29	UPIC	4	S/F	1139.0	1139.2	1.4				
	33	UPIC	4	S/F	1139.1	1139.2	1.3				
	228	HARS	45	C	1206.5	1206.5	1.0	270	90		
	234	POTS	4	S/F	1206.6	1207.1	.7	170	20		III
	33	UPIC	4	S/F	1206.8	1207.7	2.6				
	930	BORD	46	C	1207.0	1207.2	.2	18	2		
	29	UPIC	4	S/F	1207.2	1207.8	2.3				
	9500	POTS	20	GRF	1234.0	1244.5	43.0	12			
	7000	SAOP	3	S	1238.6	1244.6	19.0	15.0			11L
	430	KRAK	8	S	1241.0	1241.5	.5	95 U			
	29	UPIC	4	S/F	1253.1	1253.6	1.1				
	33	UPIC	4	S/F	1253.3	1253.6	.7				
	9400	HUAN		S	1342.1	1422.2	65.7	5.2	3.2		L
	7000	SAOP	4	S/F	1409.7						RECEIVER PROBS
	9400	HUAN		S	1415.0	1415.9	2.5	10.3	4.8		O
	2800	OTTA	20	GRF	1435.0	1440	17.0	3.6	1.3		
	930	BORD	41	F	1440.0	1440.2	1.0	34	2		
	2800	OTTA	21	GRF	1511.0	1514.5	23.0	4.0	2.0		
	2800	OTTA	8	S	1512.0	1512.4	.8	2.2	1.1		
	2800	OTTA	21	GRF	1542.0	1625	60.0	3.6	1.8		
	2800	OTTA	45	C	1622.0	1629.5	4.0	22.6	5.6		
	930	BORD	41	F	1625.0	1625.3	.4	27	2		
	9400	HUAN		S	1625.4	1634.3	46.7	19.0	9.7		L
	7000	SAOP	45	C	1627.0	1631.4	13.2	5.0			5L
	9400	HUAN		S	1630.4	1631.4	2.7	36.2	12.9		L
	2800	OTTA	21	GRF	1702.0	1707	65.0	3.8	1.9		
	7000	SAOP	45	C	1739.8	1759.0	26.4	31.0			21R
	9400	HUAN		S	1750.8	1759.0	40.6	15.5	5.0		R
	2800	OTTA	46F	C	1751.5	1759	10.0	20.2	3.6		
	7000	SAOP	1	S	1849.0	1850.5		10.0			16L
	9400	HUAN		S	1905.0	1912.5	20.4	10.3	3.0		O
	7000	SAOP	20	GRF	1909.7			13.0			13L
	2800	OTTA	20	GRF	1954.0	1955	25.0	2.0	1.4		
	2800	OTTA	2	S/F	2032.2	2033	1.8	9.8	4.9		
	2800	OTTA	20	GRF	2100.0	2108	25.0	4.2	2.1		
	2800	OTTA	21	GRF	2126.0	2136	25.0	2.8	1.4		
	2800	OTTA	1	S	2127.8	2128.2	1.0	9.6	4.8		
	2800	OTTA	1	S	2144.0	2144.5	2.0	2.2	1.1		
	2695	PENT	20	GRF	2200.0	2230	70.0	5.0	3.6		
	3750	TYKW	5	S	2354.0	2355.3	5.0	1.5	.5		
03	200	GORK	44	NS	0558.0E		347.0D		15		
	100	GORK	44	NS	0604.0E		341.0D		80		
	202	IZMI	43	NS	0700.0		300.0	50			
	127	TORN	44	NS	0700.0E	0732.6	140.0D	145 U	36		V1
	260	ONDR	44	NS	0828.0E		378.0D	135	18		
	200	HIRA	44	NS	2139.0E	2247	290.0D	15	5		WL
	3750	TYKW	5	S	0014.0	0014.7	1.5	2	.7		
	9400	TYKW	5	S	0100.5	0100.8	1.5	12	2		
	9400	TYKW	29	PBI	0102.0		10.0	2	1		
	3750	TYKW	5	S	0147.0	0156	25.0	5	2		

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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
03	3750	TYKW	45	C	0226.0	0243.3	40.0	12	3		
	9400	TYKW	45	C	0240.0	0243.3	30.0	16	4		
	1000	TYKW	45	C	0245.0	0245.8	1.0	1.5	.5		
	2000	TYKW	8	S	0245.6	0245.8	.5	20	4		
	2000	TYKW	5	S	0348.0	0348.8	1.5	4	1		
	3750	TYKW	5	S	0348.0	0348.7	2.0	3	1		
	9400	TYKW	5	S	0348.0	0348.7	4.0	9	2		
	1000	TYKW	5	S	0348.4	0348.8	1.0	2.5	.5		
	3750	TYKW	45	C	0443.0	0447.3	15.0	5	1.5		
	3750	TYKW	21	GRF	0443.0	0510	70.0	3	1.5		
	3750	TYKW	5	S	0558.3	0558.6	1.0	3	.5		
	1000	TYKW	5	S	0558.3	0558.6	1.0	1.5	.4		
	2000	TYKW	20	GRF	0635.0	0654	55.0	8	3.5		
	3750	TYKW	20	GRF	0640.0	0654.5	50.0	7	3		
	9100	GORK	20	GRF	0655.3	0755.0	92.0	13	6.5		
	234	POTS	4	S/F	0859.2	0901.0	6.2	1500	80		
	650	GORK	20	GRF	0859.4	0904.0	7.8	4.5			
	260	ONDR	46	C	0859.5		6.0	209 D	167		
	228	HARS	45	C	0859.5	0901.0	5.0	600	90		
	950	GORK	1	S	0903.0	0906.2	4.0	2.5			
	100	GORK	8	S	0910.0	0910.2	.7	2000 D			
	113	POTS	8	S	0910.2	0910.3	.4	3400	1100		III
	6100	KISV	40	F	0930.0	1000	35.0	4			
	33	UPIC	42	SER	0956.5	1115.8	227.8				
	29	UPIC	42	SER	0956.5	1116	227.4				
	2650	DWIN	45	C	1002.0	1010	15.0	95	50		
	3100	CRIM	3	S	1002.0	1011.5	13.0	100	33		
	2950	GORK	46	C	1002.2	1010.6	16.7	78			
	2950	GORK			1002.2	1012.0		88			
	9100	GORK	20	GRF	1003.0	1012.0	87.0E	46			
	6100	KISV	4	S/F	1004.0	1011	46.0	56			
	810	KRAK	41	F	1004.4	1009.0	20.0	33	9		
	3000	POTS	4	S/F	1005.0	1011.5	15.0	114			
	9500	POTS	25	R	1005.0	1012.5	35.0	37			
	15000	KISV	20	GRF	1005.0	1013	30.0	44			
	1470	POTS	4	S/F	1005.0	1010.6	20.0	81			
	430	KRAK	42	SER	1005.3	1007.7	10.5	40			
	808	ONDR	41	F	1005.5	1010.3	35.0	22	10		
	930	BORD	40	F	1006.0	1010.2	16.0	37	10		
	650	GORK	22	GRF	1006.2	1010.3	17.0	16.5			
	950	GORK	22	GRF	1006.2	1010.3	17.7	20			
	10400	BERN	20		1006.2	1012.6	34.0	35.0			ONLY PAPER REC
	536	ONDR	42	SER	1007.0	1144	141.0	35			
	234	POTS	4	S/F	1008.6	1008.8	.2	450	100		
	200	GORK			1009.5	1014.4		490			
	200	GORK	46	C	1009.5	1013.1	7.2	370			
	3100	CRIM	30	PBI	1015.0	1015.0	90.0D	22			
	2950	GORK	30	PBI	1018.9	1019.0	71.0E	21			
	430	KRAK	42	SER	1028.5	1032.7	5.5	65			
	200	GORK	46	C	1033.5	1034.2	2.5	110 D			
	200	GORK			1033.5	1035.6		110 D			
	234	POTS	4	S/F	1034.1	1034.2	.6	2900	200		III
	113	POTS	4	S/F	1034.1	1034.2	.4	600	200		III
	810	KRAK	1	S	1034.2	1034.2	.2	9			
	100	GORK	8	S	1035.4	1035.5	.6	2400 D			
	430	KRAK	8	S	1055.5	1055.5	.5	23			
	810	KRAK	8	S	1055.5	1055.5	.1	17			
	430	KRAK	8	S	1107.5	1107.7	.7	68			
	810	KRAK	8	S	1107.7	1107.7	.1	17			
	930	BORD	8	S	1109.8	1109.9	.3	18	1		
	6100	KISV	8	S	1115.5	1115.8	1.0	3			
	100	GORK	41	F	1115.6	1115.8	8.9	2350 D			
	3000	POTS	3	S	1122.5	1123.4	2.5	8.8			
	3100	CRIM	1	S	1122.5	1123.5	2.0	10	3		
	1470	POTS	4	S/F	1122.5	1123.5	3.5	8.5			
	2950	GORK	2	S/F	1122.9	1123.5	2.0	8			
	100	GORK	41	F	1123.2E	1123.2		2300 D			
	113	POTS	41	F	1123.3	1123.4	.6	1400	100		III
	930	BORD	8	S	1131.2	1131.3	.2	15	2		
	234	POTS	8	S	1154.1	1154.2	.2	400	150		
	7000	SAOP	46	C	1207.0	1339.4	306.0	485.0			21L
	430	KRAK	41	F	1221.2	1221.8	2.5	75			
	810	KRAK	8	S	1223.3	1223.3	.2	8			
	930	BORD	8	S	1224.5	1224.5	.2	20	2		
	234	POTS	42	SER	1305.8	1305.9	5.6	150	1 E		
	3000	POTS	45	C	1310.0	1339	108.0	910			
	2650	DWIN	47	GB	1312.0	1339	78.0	430	100		
	2800	OTTA	46F	C	1318.0	1339	69.0	400.0	90.0		
	1470	POTS	45	C	1318.0	1415	77.0	216			
	9500	POTS	45	C	1323.0	1339.5	100.0	225			
	9400	HUAN		PRE	1323.0	1332.3	9.3	23.5	16.7		L
	430	KRAK			1327.0	1412 U		132			
	430	KRAK	47	GB	1327.0	1344.0	67.0D	159	47		
	930	BORD			1330.0	1412.2		1122			
	930	BORD			1330.0	1357.8		781			

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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
01	930	BORD	47	GB	1330.0	1416.7	76.0	1891	244		
	930	BORD			1330.0	1414		1623			
	536	ONDR			1330.0	1338		150			
	536	ONDR			1330.0	1422		156			
	536	ONDR	49	GB	1330.0	1414.8	76.0D	188	67		
	10400	BERN	23		1330.4	1339.6	135.0	177.0			ONLY PAPER REC
	10715	DWIN	45	C	1332.0	1339	16.0	55	20		
	810	KRAK			1332.0	1412		1700 D			
	810	KRAK	49	GB	1332.0	1343.8	62.0D	165	380		
	810	KRAK			1332.0	1358.5		576			
	9400	HUAN		C	1332.3	1339.4	11.7	292.9	133.5		L
	808	ONDR			1333.0	1357.5		354			
	808	ONDR			1333.0	1343.7		192			
	808	ONDR	49	GB	1333.0		73.0D	596 D	177		
	808	ONDR			1333.0	1412.3		556			
	9400	HUAN		PBI	1344.0	1344.0	163.3	121.1	38.3		L
	9400	HUAN		S	1404.6	1405.8	2.1	12.6	7.6		O
	9400	HUAN		S	1410.3	1412.0	2.8	9.0	8.8		O
	9400	HUAN		S	1414.2	1415.7	4.0	10.8	6.7		O
	2800	OTTA	30	PBI	1427.0	1427	300.0	38.0	11.8		
	930	BORD			1503.0	1551		146			
	930	BORD			1503.0	1515.5		317			
	930	BORD	47	GB	1503.0	1510.4	51.0	1049	20		
	930	BORD			1503.0	1521.3		183			
	930	BORD			1503.0	1513.6		366			
	930	BORD			1503.0	1525.9		403			
	2800	OTTA	20	GRF	1505.0	1510	15.0	4.0	1.8		
	2800	OTTA	20	GRF	1547.0		30.0	4.6			
	9400	HUAN		S	1631.8	1714.4	71.3	14.5	5.1		L
	9400	HUAN		S	1705.5	1706.1	1.5	12.6	4.7		L
	2800	OTTA	8	S	1840.0	1840.3	.6	6.8	3.4		
	9400	TYKW	5	S	2254.0	2255.7	6.0	11	2		
	3750	TYKW	5	S	2306.0	2307	3.0	2.5	1		
	9400	TYKW	5	S	2307.5	2308.2	3.0	4	1.5		
	9400	TYKW	5	S	2352.0	2352.5	1.0	8	3		
	3750	TYKW	5	S	2352.0	2352.4	1.0	1	.3		
04	100	GORK	44	NS	0543.0E		77.0D		5		
	260	ONDR	44	NS	0800.0E		391.0D	21			
	100	GORK	43	NS	0909.0		51.0		5		
	200	HIRA	44	NS	2136.0E	0305	620.0D	15	5		ML
	100	HIRA	44	NS	2139.0E	2310	620.0D	100	45		
	9400	TYKW	5	S	0109.0	0109.4	1.0	3	1		
	3750	TYKW	20	GRF	0200.0	0224.7	70.0	4	1		
	9400	TYKW	5	S	0222.0	0224.7	15.0	7	2		
	9400	TYKW	5	S	0241.0	0242.4	7.0	12	2.5		
	9400	TYKW	5	S	0302.5	0302.8	1.5	9	2.5		
	9400	TYKW	5	S	0354.0	0354.3	1.5	5	1.5		
	9400	TYKW	5	S	0405.0	0407.3	3.0	15	5		
	3750	TYKW	5	S	0405.0	0407.3	3.0	3	1.5		
	5730	IRKU	21	GRF	0406.0	0407.8	11.0	8	3		L
	5730	IRKU			0406.0	0410.0		6			
	9400	TYKW	29	PBI	0408.0		20.0	8	3		
	3750	TYKW	29	PBI	0408.0		20.0	2	1		
	9400	TYKW	5	S	0434.5	0435.6	5.0	7	2		
	9400	TYKW	5	S	0450.0	0451.2	10.0	7	2		
	500	HIRA	7	C	0500.0	0500.2	1.5	20	12		ML
	200	HIRA	7	C	0502.0	0503.2	5.0	1800	118		WR,WL
	2000	TYKW	5	S	0502.0	0503.3	10.0	4	1		
	1000	TYKW	45	C	0502.0	0503.3	2.0	97	20		
	3750	TYKW	45	C	0502.0	0503.3	2.0	6	1		
	3750	TYKW	29	PBI	0504.0		11.0	1	.5		
	100	HIRA	46	C	0506.4	0506.6	.6	320	120		
	9400	TYKW	5	S	0523.0	0523.2	2.0	12	3.5		
	9400	TYKW	45	C	0607.0E	0611.3	10.0D	22	9 D		
	15000	KISV	8	S	0608.0	0609	2.0	24			
	15000	KISV	29	PBI	0609.3	0609.3	3.0	14			
	100	GORK	2	S/F	0644.5	0645.4	1.5	60			
	650	GORK	1	S	0645.1	0645.7	1.6	4			
	950	GORK	1	S	0645.2	0645.2	.7	6			
	202	IZMI	41	F	0704.5	0709.0	5.5	1385	600		
	930	BORD	8	S	0938.8	0938.8	.1	37	1		
	15000	KISV	8	S	1000.0	1000.7	1.0	18			
	930	BORD	41	F	1055.0	1055.2	.2	23	2		
	6100	KISV	4	S/F	1140.0	1147		4			
	1470	POTS	8	S	1146.7	1147.0	.9	16			
	930	BORD	41	F	1232.0	1232.2	.2	14	2		
	1470	POTS	8	S	1314.5	1315.0	1.0	19			
	234	POTS	4	S/F	1328.4	1328.5	.9	600	10		
	9400	HUAN		S	1351.6	1402.9	63.9	10.2	4.5		O
	930	BORD	41	F	1440.0	1440.2	.3	20	2		
	930	BORD	8	S	1520.2	1520.3	.1	18	2		
	2800	OTTA	20	GRF	1535.0	1603	85.0	4.8	2.8		
	9400	HUAN		S	1550.0	1615.0	73.8	9.0	3.4		O
	7000	SAOP	20	GRF	1550.6	1609.8	31.0	20.0			O

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
04	9400	HUAN		S	1608.2	1608.8	2.5	20.5	10.9		0
	9400	HUAN		S	1644.3	1644.9	1.4	10.2	2.8		0
	9400	HUAN		S	1654.1	1655.1	3.1	7.8	4.3		0
	2800	OTTA	21	GRF	1705.0	1755	245.0	17.0	8.5		
	7000	SAOP	3	S	1712.5	1713.2	1.0	14.0			12R
	2800	OTTA	4	S/F	1712.9	1713.2	1.2	48.0	16.0		
	7000	SAOP	40	F	1734.0						SUNSET
	9400	HUAN		S	1738.1	1752.2	29.3	9.0	4.4		0
	9400	HUAN		S	1827.3	1833.0	37.5	10.2	4.9		L
	9400	HUAN		S	2044.5	2045.5	3.7	7.8	5.1		0
	9400	HUAN		S	2117.3	2118.1	4.8	51.2	15.2		L
	9400	HUAN		S	2130.1	2141.3	32.5	11.5	5.8		R
	9400	TYKW	8	S	2300.6	2300.8	.4	25	5		
	9400	TYKW	5	S	2331.5	2331.7	.8	15	4		
05	200	GORK	44	NS	0553.0E		397.0D		5		
	100	GORK	43	NS	0600.0		360.0		5		
	127	TORN	44	NS	0800.0E	1048.7	410.0D	88	5		V1
	260	ONDR	44	NS	0812.0E		378.0D	64	5		
	200	HIRA	44	NS	2135.0E	0218	620.0D	10	5		WL
	9400	TYKW	45	C	0103.0	0103.7	5.0	5	2		
	3750	TYKW	5	S	0206.0	0211	12.0	2	1		
	9400	TYKW	5	S	0230.0	0230.2	1.0	4	1		
	1000	TYKW	20	GRF	0232.0	0234	55.0	2	1		
	2000	TYKW	21	GRF	0233.0	0239	50.0	3	1		
	3750	TYKW	21	GRF	0233.0	0259	70.0	3	1.5		
	500	HIRA	6	S	0233.0	0233.7	2.0	10	4		SL
	100	HIRA	42	SER	0235.0	0237.0	5.0	140			
	9400	TYKW	21	GRF	0255.0	0312	40.0	8	3		
	9400	TYKW	5	S	0553.0	0554.3	4.0	16	4		
	9400	TYKW	5	S	0703.0	0704.4	4.0	62	15		
	6100	KISV	3	S	0703.0	0704.5	5.0	32			
	4995	MANI	3	S	0703.4	0704.4	2.0	28.2	9.4		
	8800	MANI	3	S	0703.4	0704.4	2.6	30.7	10.2		
	9100	GORK	23	GRF	0703.5	0748.5	113.0	9			
	3750	TYKW	5	S	0703.8	0704.3	3.5	3	1		
	9100	GORK	3	S	0704.0	0704.5	2.0	75	30		
	15000	KISV	3	S	0704.0	0704.2	3.0	58			
	9400	TYKW	29	PBI	0707.0		15.0	4	2		
	3100	CRIM	25	R	0724.0	0959.0		11			
	2950	GORK	21	GRF	0725.8	0837.8	278.0E	7.5			
	6100	KISV			0737.0	0739.8		3			
	6100	KISV	40	F	0737.0	0737.5	4.0	7			
	2695	MANI	4	S/F	0737.0	0739.6	14.5	29.0	9.7		
	9400	TYKW	5	S	0744.0	0746.3	5.0	19	6		
	6100	KISV	3	S	0745.3	0746.5	10.0	23			
	9100	GORK	1	S	0745.4	0746.7	3.0	16	8		
	3750	TYKW	5	S	0745.5	0746.4	3.0	9	3		
	2000	TYKW	5	S	0745.5	0746.4	3.0	3	1		
	15000	KISV	4	S/F	0745.5	0746.3	4.0	15			
	15000	KISV	1	S	0750.5	0757.3	2.0	6			
	6100	KISV	3	S	0756.0	0757	2.0	7			
	9100	GORK	1	S	0757.0	0757.3	.8	7.5	3.5		
	6100	KISV	4	S/F	0925.0	0931	10.0	3			
	113	POTS	8	S	0931.5	0931.5	.1	200	70		III
	6100	KISV	45	C	0945.0	0945.5	15.0	8			
	6100	KISV			0945.0	0953		8			
	9100	GORK	22	GRF	0956.5	1007.0	39.4	8	4		
	536	ONDR	2	S/F	1023.0	1023.8	1.0	18	1		
	2950	GORK	1	S	1023.9	1024.3	3.1	6	3		
	3100	CRIM	45	C	1025.0	1025.5	4.0	7	2		
	3100	CRIM			1025.0	1026.0		4			
	6100	KISV	3	S	1107.5	1108	2.0	4			
	536	ONDR	8	S	1128.2	1128.2	.2	22			
	6100	KISV	40	F	1132.0	1135.3		5			
	6100	KISV			1132.0	1144.8		7			
	9100	GORK	22	GRF	1133.3	1138.5	30.0E	7			
	1470	POTS	20	GRF	1147.0	1149.6	7.0	5.8			
	9400	HUAN		S	1208.9	1224.2	47.6	20.0	9.6		L
	7000	SAOP	3	S	1223.0	1224.3	8.0	14.0			11L
	7000	SAOP	41	F	1223.0						
	536	ONDR	2	S/F	1241.0	1241.5	1.5	17	3.7		
	7000	SAOP	3	S	1241.5	1242.3	1.8	14.0			0
	29	UPIC	2	S/F	1241.6	1242.1	1.1				
	33	UPIC	2	S/F	1242.0	1242.1	.7				
	7000	SAOP	1	S	1249.4	1250.3		10.0			0
	2800	OTTA	21	GRF	1300.0	1344	110.0	5.2	2.6		
	7000	SAOP	27	RF	1302.7			6.0			0
	10400	BERN	4		1317.5	1319.9	11.0	54.0			ONLY PAPER REC
	2800	OTTA	1	S	1319.0	1320	2.5	8.8	2.9		
	7000	SAOP	45	C	1319.0	1320.3	15.4	56.0			14L
	3000	POTS	3	S	1319.0	1320.4	2.0	14			
	9500	POTS	4	S/F	1319.0	1320.2	6.0	49			
	9400	HUAN		S	1319.2	1320.3	2.6	52.7	25.6		L
	9400	HUAN		PBI	1321.8	1321.8	77.6	21.8	10.1		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
05	9400	HUAN		S	1412.8	1415.7	5.3	5.4	4.9		O
	9400	HUAN		S	1515.3	1519.8	54.4	9.1	4.4		O
	7000	SAOP	3	S	1516.7	1518.6	3.0	18.0			13L
	2800	OTTA	24	R	1540.0	1550	10.0	2.6	1.3		
	2800	OTTA	27A	RF	1540.0		155.0	2.6	2.4		
	2800	OTTA	24P	R	1550.0		135.0	2.6			
	9400	HUAN		S	1718.3	1726.3	10.1	294.2	135.5		O
	7000	SAOP	46	C	1723.0	1726.3	15.2	337.0			2L
	2800	OTTA	3	S	1724.5	1727	6.5	58.0	29.0		
	9400	HUAN		PBI	1728.4	1728.4	78.2	103.5	46.6		O
	2800	OTTA	29	PBI	1731.0	1731	30.0	14.0	3.4		
	2800	OTTA	26	FAL	1805.0	1815	10.0	-2.6	-1.3		
	9400	HUAN		S	1940.9	2030.6	112.1	20.0	10.6		O
	9400	HUAN		S	1956.0	1956.6	1.8	12.7	6.5		O
	2800	OTTA	2	S/F	2030.0		1.2	2.0	1.7		
	2800	OTTA	22	GRF	2040.0	2041.5	57.0	4.8	2.4		
	9400	HUAN		S	2040.4	2041.8	1.6	10.9	6.2		O
	2695	PENT	2	S/F	2209.5	2210	1.5	7.0	2.3		
	1000	TYKW	45	C	2209.5	2210.3	1.5	55 U	10 U		
	2000	TYKW	45	C	2209.5U	2210.2U	1.5U	12 U	3 U		
	3750	TYKW	5	S	2259.0	2300	5.0	3	1		
	2000	TYKW	45	C	2308.0	2309.0	2.0	6	1		
	9400	TYKW	5	S	2311.0	2313.3	5.0	85	14		
	2000	TYKW	5	S	2311.0	2313.3	4.0	9	2		
	3750	TYKW	45	C	2311.0	2313.3	5.0	18	5		
	2695	PENT	4	S/F	2311.5	2313.1	2.0	11.0			
	4995	MANI	3	S	2311.8	2313.4	2.8	54.5	18.2		
	1000	TYKW	45	C	2312.6	2313.2	1.5	410 U	20 U		
	1000	TYKW			2312.6	2312.7		15			
	1000	TYKW			2312.6	2313.1		38			
	700	SYDN		S	2313.0	2313.1	.2				
	2695	MANI	3	S	2313.2	2313.4	1.3	21.8	7.3		
	8800	MANI	3	S	2313.2	2313.4	.6	36.1	12.0		
	3750	TYKW	30	PBI	2316.0		30.0	3	1.5		
	9400	TYKW	30	PBI	2316.0		45.0	6	3 U		
	2695	PENT	1	S	2318.0	2319	2.0	3.2	1.8		
	35000	NAGO	20	GRF	2320.0	2526	150.0	28			
	3750	TYKW	5	S	2334.0	2336	5.0	2	1		
	700	SYDN	42	SER	2355.4	2358.4	3.2				
	1000	TYKW	5	S	2356.9	2357.1	.5	5	1		
	1000	TYKW	5	S	2358.0	2358.3	.6	22	4		
06	200	GORK	44	NS	0658.0E		305.0D		5		
	127	TORN	44	NS	0700.0E	1148.9	470.0D	78	2		V1
	260	ONDR	44	NS	0816.0E		375.0D	57	3		
	100	GORK	43	NS	1024.0		96.0		5		
	200	HIRA	44	NS	2135.0E	2305	420.0D	5	2		WL
	1400	SYDN	42	SER	0015.0	0015.5	3.0				
	3750	TYKW			0015.0	0015.8		8			
	9400	TYKW	45	C	0015.0	0018.6	5.0	26	11		
	9400	TYKW			0015.0	0015.8		16			
	3750	TYKW	45	C	0015.0	0018.7	6.0	11	4		
	1000	TYKW	5	S	0015.3	0015.4	.3	21	4		
	2000	TYKW	45	C	0015.3	0015.4	1.0	38	6		
	4995	MANI	3	S	0015.3	0015.7	4.7	21.2	7.1		
	2695	MANI	3	S	0015.3	0015.8	4.7	8.4	2.8		
	1415	MANI	8	S	0015.4	0015.5	3.0	325.2	108.4		
	1000	TYKW	45	C	0017.3	0018.5	2.5	350	30		
	9400	TYKW	29	PBI	0020.0		12.0	9	4		
	9400	TYKW	21	GRF	0040.0	0052	100.0	7	3		
	3750	TYKW	21	GRF	0050.0	0105	100.0	4	1		
	3750	TYKW	5	S	0054.0	0055.5	6.0	4.5	1.5		
	9400	TYKW	5	S	0055.0		4.0	7	1		
	9400	TYKW	5	S	0102.0	0103	15.0	9	2		
	700	SYDN	40	F	0102.0	0105.3	5.5				
	3750	TYKW	5	S	0108.0	0109.3	3.0	4	1		
	2000	TYKW	5	S	0108.0	0109.3	3.0	3	1		
	3750	TYKW	5	S	0125.5	0126.2	2.0	8	1.5		
	9400	TYKW	5	S	0125.7	0126.1	1.5	23	4		
	1000	TYKW	45	C	0125.9	0126.2	1.0	8	1.5		
	2000	TYKW	5	S	0125.9	0126.2	1.0	38	3		
	3750	TYKW	21	GRF	0137.0	0153	45.0	3.5	2		
	2000	TYKW	20	GRF	0137.0	0139	30.0	3	1		
	9400	TYKW	5	S	0139.0	0142	15.0	4	2		
	9400	TYKW	5	S	0156.0	0200	10.0	3	1		
	700	SYDN	2	S/F	0231.4	0231.7	.8				
	606	MANI	4	S/F	0245.0	0246.9	2.5	54.5	18.2		
	700	SYDN	40	F	0245.7	0246.9	1.8				
	2000	TYKW	21	GRF	0250.0	0320	70.0	3	1		
	3750	TYKW	21	GRF	0250.0	0319	75.0	10	5		
	9400	TYKW	21	GRF	0250.0	0319	70.0	18	7		
	3750	TYKW	5	S	0307.0	0307.2	1.0	3	1		
	5730	IRKU	21	GRF	0330.5	0333.0	8.0	11	5		L
	5730	IRKU			0330.5	0335.0		18			L
	700	SYDN		S	0330.9	0331.2	.4				

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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
06	4995	MANI	3	S	0331.0	0335.0	7.0	24.2	8.1		
	9400	TYKW	5	S	0332.7	0332.9	.7	10	3		
	700	SYDN	40	F	0334.1	0335.6	2.3				
	606	MANI	4	S/F	0334.3	0335.9	2.5	79.0	26.3		
	1400	SYDN	40	F	0334.6	0335.0	1.9				
	1000	TYKW			0334.7	0335.1		24			
	2000	TYKW	45	C	0334.7	0335.1	2.0	9	4.5		
	1000	TYKW	45	C	0334.7	0335.7	2.0	37	5		
	3750	TYKW	45	C	0334.7	0335.0	2.0	8	3		
	2000	TYKW			0334.7	0335.8		8			
	3750	TYKW			0334.7	0335.7		8			
	9400	TYKW	5	S	0334.8	0335.0	1.0	25	4		
	1415	MANI	4	S/F	0334.8	0335.2	2.0	33.6	11.2		
	2695	MANI	4	S/F	0334.8	0335.0	1.8	15.1	5.1		
	9400	TYKW	45	C	0347.0	0349.1	4.0	5	1.5		
	700	SYDN		S	0424.7	0425.0	.5				
	2695	MANI	4	S/F	0432.2	0433.8	2.5	20.3	6.8		
	1415	MANI	4	S/F	0432.8	0434.0	1.7	18.8	6.3		
	606	MANI	4	S/F	0433.2	0433.3	1.5	75.4	25.1		
	9400	TYKW	21	GRF	0500.0	0509	100.0	9	2		
	2000	TYKW	20	GRF	0500.0	0600	130.0	3	1.8		
	3750	TYKW	21	GRF	0500.0	0510	130.0	4.5	1.5		
	9400	TYKW	5	S	0505.0	0505.7	2.0	8	2		
	3750	TYKW	5	S	0525.0	0526	5.0	2	.5		
	3750	TYKW	5	S	0613.0	0614.2	10.0	4.5	1		
	9400	TYKW	5	S	0613.5	0614.3	7.0	3	1		
	6100	KISV	4	S/F	0613.5	0614.5	3.0	10			
	5730	IRKU	1	S	0613.5	0614.2	2.5	10	6		R
	6100	KISV	29	PBI	0613.5	0616	14.0	4			
	15000	KISV	8	S	0614.3	0614.3	1.0	7			
	6100	KISV	45	C	0645.0	0701	30.0	5			
	15000	KISV	45	C	0645.0	0652	40.0	50			
	15000	KISV			0645.0	0712		47			
	15000	KISV			0645.0	0701		49			
	6100	KISV			0645.0	0644		3			
	3750	TYKW	5	S	0650.0	0650.2	1.0	4	1		
	9100	GORK	20	GRF	0700.0	0701.4	10.5	5.5	3		
	9400	TYKW	5	S	0700.0	0701.2	12.0	8	2		
	3100	CRIM	25	R	0814.0	1105.0		25			
	6100	KISV	4	S/F	0822.0	0824	8.0	6			
	2950	GORK	21	GRF	0908.9	1128.5	180.0E	22			
	6100	KISV	28	PRE	0915.0	0920	5.0	5			
	9100	GORK	21	GRF	0915.6	1133.6	170.0E	29			
	6100	KISV	45	C	0936.0	0944.5	19.0	15			
	6100	KISV			0936.0	0939		13			
	15000	KISV	26	FAL	0943.0	1020	47.0	-9			
	6100	KISV	29	PBI	0954.0	0955	25.0	6			
	202	IZMI	5	S	1004.0	1004.2	.5	130	60		
	6100	KISV	26	FAL	1010.0	1022	15.0	-7			
	6100	KISV	24	R	1025.0	1033.7		4			
	6100	KISV	8	S	1033.7	1034	1.0	4			
	15000	KISV	8	S	1034.0	1034.2	1.0	13			
	10400	BERN	3		1034.1	1034.3	9.0	15.0			ONLY PAPER REC
	6100	KISV	24	R	1034.2	1123	39.0	-8			
	9100	GORK	1	S	1034.4	1034.6	.7	17	8		
	15000	KISV	26	FAL	1121.0	1123	3.0	-3			
	6100	KISV			1123.0	1132		10			
	6100	KISV	46	C	1123.0	1124		15			
	6100	KISV			1123.0	1133.3		2			
	7000	SAOP	3	S	1123.4	1124.2	17.0	22.0			7L
	2950	GORK	1	S	1123.8	1124.3	3.1	6.7	3.5		
	9100	GORK	1	S	1123.8	1124.2	2.8	12	6		
	15000	KISV	4	S/F	1124.0	1124.3	6.0	8			
	930	BORD	8	S	1125.2	1125.3	.3	14	2		
	202	IZMI	4	S/F	1127.0	1127.5	1.0	80	45		
	33	UPIC	4	S/F	1127.2	1127.9	1.6				
	29	UPIC	4	S/F	1127.4	1127.9	1.2				
	100	GORK	8	S	1127.4	1128 U	1.4	120 D			
	9100	GORK	1	S	1129.4	1129.6	.6	6.5	3		
	930	BORD	41	F	1131.7	1132.0	1.8	176	2		
	9400	HUAN		S	1201.6	1221.8	36.2	11.2	5.8		0
	9500	POTS	20	GRF	1218.0	1222.5	17.0	8			
	1470	POTS	29	PBI	1220.0	1222.2	10.0	14			
	930	BORD	41	F	1220.2	1220.8	1.8	73	2		
	3100	CRIM	1	S	1221.0	1221.5	1.0	19	6		
	9400	HUAN		S	1306.2	1344.0	212.8	14.9	8.0		0
	10400	BERN	3		1314.0	1314.8	5.0	17.0			ONLY PAPER REC
	9500	POTS	3	S	1314.0	1314.7	2.0	21			
	9400	HUAN		S	1314.2	1315.2	2.1	18.6	5.0		0
	2800	OTTA	21	GRF	1320.0	1445	145.0	8.4	5.6		
	2800	OTTA	1	S	1334.0	1334.5	1.2	6.2	5.2		
	2800	OTTA	40	F	1336.2	1337.2	1.1	17.4			
	7000	SAOP	40	F	1512.0		7.0				
	9400	HUAN		ABS	1714.7	1717.5	5.0	7.4	6.3		0
	7000	SAOP	46	C	1719.0	1723.6	64.0	94.0			4L

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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
06	2800	OTTA	24	R	1719.3	1719.8	.5	4.2	2.1		
	2800	OTTA	27A	RF	1719.3		140.7	4.2	3.8		
	9400	HUAN		C	1719.7	1720.1	9.1	93.2	39.9		L
	2800	OTTA	24P	R	1719.8		115.2	4.2			
	2800	OTTA	40	F	1720.0	1720.3	9.0	15.4			
	2800	OTTA	29	PBI	1729.0	1729	15.0	2.6	1.3		
	9400	HUAN		S	1740.3	1746.8	46.2	13.0	6.5		O
	2800	OTTA	21	GRF	1748.0	1807	32.0	3.6	1.8		
	2800	OTTA	1	S	1748.2	1749.4	1.8	8.2	4.0		
	9400	HUAN		S	1748.2	1752.6	7.5	87.6	33.4		O
	2800	OTTA	1	S	1752.0	1753.5	8.0	8.8	4.4		
	2800	OTTA	26	FAL	1915.0	1940	25.0	-4.2	-2.1		
	2695	PENT	2	S/F	2011.9	2012.5	2.0	4.8	2.4		
	9400	TYKW	5	S	2231.5	2231.9	1.0	6	2		
	9400	TYKW	5	S	2247.0	2247.2	.5	9	3		
	2000	TYKW	5	S	2255.3	2255.7	1.0	4.5	1		
	1000	TYKW	45	C	2255.3	2255.7	1.0	7	2		
	9400	TYKW	5	S	2359.0	2359.2	.5	4	1		
07	200	GORK	44	NS	0541.0E		439.0D		5		
	260	ONDR	44	NS	0847.0E		339.0D	27			
	9400	TYKW	20	GRF	0004.0	0008	50.0	4	2		
	3750	TYKW	5	S	0004.0	0008.2	6.0	7	3		
	2000	TYKW	20	GRF	0004.0	0009	40.0	3	1.5		
	3750	TYKW	29	PBI	0010.0		70.0	5	2		
	3750	TYKW	45	C	0257.0	0305.2	13.0	18	7		
	5730	IRKU	20	GRF	0257.0	0300.0	5.0	7	3		O
	5730	IRKU	20	GRF	0302.5	0305.2	10.0	16	4		O
	9400	TYKW	20	GRF	0303.0	0305	40.0	6	2		
	3750	TYKW	29	PBI	0310.0		40.0	6	2		
	3750	TYKW	28	PRE	0430.0	0434	4.0	2.5	1		
	9400	TYKW	45	C	0433.0	0436.3	7.0	98	25		
	2000	TYKW	45	C	0434.0	0436.4	6.0	17	9		
	3750	TYKW	45	C	0434.0	0436.3	6.0	30	15		
	5730	IRKU			0434.0	0436.4		28 D			L
	5730	IRKU			0434.0	0440.8		8			L
	5730	IRKU	45	C	0434.0	0435.1	20.0	17			L
	1400	SYDN	40	F	0434.3	0434.5	2.2				
	4995	MANI	4	S/F	0434.6	0436.7	4.7	42.9	14.3		
	8800	MANI	4	S/F	0434.7	0436.7	4.6	115.9	38.6		
	1415	MANI	3	S	0434.7	0434.9	2.1	16.1	5.4		
	35000	NAGO	5	S	0435.0	0436	2.0	50			
	35000	NAGO	29	PBI	0437.0	0437	8.0	16			
	2000	TYKW	30	PBI	0440.0		105.0	4	1.5		
	3750	TYKW	29	PBI	0440.0		110.0	10	5		
	9400	TYKW	30	PBI	0440.0		110.0	11	3		
	2000	TYKW	45	C	0446.0	0446.7	1.5	7.5	1		
	9400	TYKW	5	S	0552.0	0552.4	1.0	2.5	1		
	2950	GORK	23	GRF	0648.0	0735.9	339.0E	18			
	6100	KISV	24	R	0650.0	0705	15.0	-13			
	15000	KISV			0650.5	0655.5		3			
	15000	KISV	45	C	0650.5	0651	1.0	3			
	9400	TYKW	21	GRF	0653.0	0710	57.0D	14	8 D		
	3750	TYKW	21	GRF	0653.0	0707	57.0D	11	5 D		
	2000	TYKW	21	GRF	0655.0U	0706 U	55.0U	9 U	5 D		
	9100	GORK	21	GRF	0656.1	0709.3	241.0	16			
	15000	KISV	24	R	0700.0	0710	10.0	-12			
	1000	TYKW	45	C	0702.0U	0707.5	6.0U	25	2 U		
	2950	GORK	1	S	0702.1	0702.6	.9	6	3		
	8800	MANI	3	S	0702.2	0702.4	.5	38.6	12.9		
	1415	MANI	4	S/F	0702.4	0702.6	4.6	13.4	4.5		
	9400	TYKW	5	S	0703.0	0703.2	.5	13	3		
	650	GORK	40	F	0703.2	0707.4	5.8	10			
	6100	KISV	3	S	0705.0	0711	11.0	4			
	950	GORK	3	S	0706.8	0707.3	2.5	21			
	15000	KISV	40	F	0710.0	0721	30.0	9			
	15000	KISV			0710.0	0722		9			
	6100	KISV			0719.0	0722		15			
	6100	KISV			0719.0	0728		7			
	6100	KISV	46	C	0719.0	0721	21.0	20			
	3750	TYKW	5	S	0720.0	0722.1	4.0	8	1.5		
	9400	TYKW	45	C	0720.0	0721.2	4.0	29	9		
	9100	GORK	4	S/F	0720.5	0721.2	2.2	30			
	5730	IRKU			0720.5	0722.1		9			
	5730	IRKU	45	C	0720.5	0721.2	6.0	9			
	2950	GORK	1	S	0721.4	0722.0	1.4	5.8	3		
	950	GORK	1	S	0741.7	0741.8	.8	4	2		
	6100	KISV	4	S/F	0755.0	0818.5	45.0	5			
	6100	KISV			0755.0	0805		3			
	6100	KISV			0755.0	0758		2			
	6100	KISV			0755.0	0813.5		2			
	1470	POTS	41	F	0828.4	0829.1	1.1	30			
	6100	KISV	26	FAL	0840.0	0840	20.0	-6			
	15000	KISV	27	RF	0920.0	0950	70.0	7			
	6100	KISV	8	S	0934.0	0934.3	1.0	11			

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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
07	6100	KISV	29	PBI	0934.7	0934.7	10.0	4			
	6100	KISV			0952.0	0959.5		5			
	6100	KISV	45	C	0952.0	0955	18.0	5			
	930	BORD	8	S	1004.5	1004.5	.1	25	1		
	650	GORK	22	GRF	1018.0	1025.2	3.8	9			
	3100	CRIM	26	FAL	1158.0	1300.0		12			
	7000	SAOP	40	F	1253.0		98.0				
	536	ONDR	8	S	1350.8	1350.8	.2	14			
	536	ONDR	45	C	1413.6	1413.6	.7	31	2		
	234	POTS	4	S/F	1413.9	1414	.4	450	90		III/V
	113	POTS	42	SER	1414.0	1422.9	9.0	200	1 E		III
	2800	OTTA	1	S	1439.5	1440.1	1.5	1.4	.7		
	7000	SAOP	4	S/F	1440.0	1440.7		16.0			0
	9400	HUAN		S	1440.2	1440.6	2.3	19.7	7.8		L
	7000	SAOP	40	F	1449.0		7.0				
	2800	OTTA	1	S	1453.8	1454	4.0	3.0	1.2		
	930	BORD	41	F	1454.4	1454.5	.4	30	2		
	7000	SAOP	45	C	1521.6	1525.2		19.0			19L
	2800	OTTA	1	S	1524.3	1525	1.5	5.0	1.6		
	7000	SAOP	3	S	1646.4	1646.8		12.0			0
	2800	OTTA	23	GRF	1655.0	1720	145.0	8.8	4.4		
	9400	HUAN		S	1704.7	1725.8	49.6	10.6	4.2		0
	2800	OTTA	1	S	1731.0	1731.3	1.0	2.4			
	2800	OTTA	8	S	1735.4	1735.5	.5	2.4			
	2695	PENT	20	GRF	2135.0	2200	70.0	4.2	2.1		
	1000	TYKW	45	C	2317.2	2317.5	.5	19	8		
08	200	GORK	44	NS	0533.0E		423.0D		5		
	260	ONDR	44	NS	0803.0E		385.0D	54	2		
	100	GORK	43	NS	0917.0		60.0		5		
	127	TORN	43	NS	0919.0		330.0D				V0
	200	HIRA	44	NS	2133.0E	0103	630.0D	5	2		WL
	5730	IRKU	45	C	0141.0	0142.5	10.0	11	4		L
	5730	IRKU			0141.0	0144.4		16			L
	5730	IRKU			0141.0	0143.3		15			L
	1000	TYKW	45	C	0144.0	0145.5	2.0	5	1		
	2000	TYKW	45	C	0144.0	0145.5	7.0	12	4		
	3750	TYKW	45	C	0144.0	0145.4	8.0	15	4		
	9400	TYKW	45	C	0144.0	0146.1	5.0	28	5		
	5730	IRKU	21	GRF	0331.0	0332.4	8.0	7	1.5		0
	9400	TYKW	5	S	0332.0	0332.3	2.0	8	2		
	3750	TYKW	5	S	0332.0	0332.3	2.0	3	1		
	2000	TYKW	5	S	0559.0	0600.0	2.0	4	2		
	3750	TYKW	5	S	0559.0	0559.8	1.0D	20	7 D		
	9400	TYKW	20	GRF	0559.0	0600	40.0	4	1.5		
	5730	IRKU	1	S	0559.0	0559.8	2.0	14			0
	2000	TYKW	29	PBI	0601.0		15.0	1.5	.7		
	3750	TYKW	29	PBI	0603.0E		50.0D	3 D	1 D		
	113	POTS	4	S/F	0735.4	0736	2.8	250	15		III
	650	GORK	2	S/F	0745.7	0749.1	7.7	4.5			
	2950	GORK	20	GRF	0748.9	0749.2	9.0	3			
	6100	KISV	1	S	0749.0	0749.3	2.0	3			
	6100	KISV	32	ABS	0803.0	0819	37.0	-5			
	2950	GORK	21	GRF	0827.0	0915.5	95.0	15			
	6100	KISV	3	S	0831.0	0835.3	6.0	4			
	9100	GORK	21	GRF	0833.0	0918.0	123.0	30			
	536	ONDR	42	SER	0844.6	0933.3	103.0	36			
	6100	KISV			0852.0	0853.1		3			
	6100	KISV	28	PRE	0852.0	0854	3.0	6			
	950	GORK	1	S	0852.4	0854.0	3.0	8.5	4		
	650	GORK	28	PRE	0853.0	0853.9	1.8	6	2		
	430	KRAK	3	S	0853.5	0854.0	.7	303	37		
	1470	POTS	3	S	0853.5	0854.1	1.5	8.2			
	2950	GORK	1	S	0853.5	0854.0	1.2	4	2		
	810	KRAK	1	S	0853.5	0853.8	.7	14			
	234	POTS	4	S/F	0853.8	0853.9	.2	450	100		
	3100	CRIM	1	S	0854.0	0856.0	3.0	10	3		
	6100	KISV	26	FAL	0855.0	0901.5	7.0	-4			
	6100	KISV			0901.5	0913		85			
	6100	KISV			0901.5	0910		244			
	6100	KISV	47	GB	0901.5	0908.5	15.0	481			
	6100	KISV			0901.5	0914.5		64			
	10400	BERN	47		0903.2	0907.7	40.0	1560.0			ONLY PAPER REC
	808	ONDR	46	C	0903.7	0906.6	9.0	140	55		
	1470	POTS	45	C	0903.7	0906.5	15.0	286			
	650	GORK	4	S/F	0904.0E	0906.7U	11.0D	295			
	3100	CRIM	3	S	0904.0	0906.0	8.0	262	87		
	10715	DWIN	47	GB	0904.0		25.0	350			
	1415	MANI	4	S/F	0904.0	0906.6	20.5	335.0	111.7		
	2650	DWIN	47	GB	0904.0	0906	15.0	390	200		
	930	BORD	47	GB	0904.0	0906	11.0	1074	300		
	9100	GORK			0904.2	0908.2		1577			
	2950	GORK	45	C	0904.2	0906.5	11.1	460			
	9100	GORK			0904.2	0910.0		880			
	9100	GORK	46	C	0904.2	0907.7	13.6	1620			

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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
08	2950	GORK			0904.2	0907.7		257			
	9500	POTS	45	C	0904.5	0907.6	42.0	1536			
	15000	KISV	47	GB	0904.5	0907.5	10.0	1718			
	260	ONDR	46	C	0904.5		11.0	226 D	65		
	536	ONDR	46	C	0904.6	0906.5	12.0	98	45		
	606	MANI	4	S/F	0904.8	0906.8	19.2	361.2	120.4		
	8800	MANI	4	S/F	0904.8	0908.4	19.2	281.5	93.8		
	228	HARS	47	GB	0905.0	0906.0U	17.0	1600 D	150 D		
	810	KRAK	46	C	0905.0E	0907.2	18.3D	670 D	109		
	200	GORK	46	C	0905.0E	0907.9	8.0D	5000 D			
	100	GORK	45	C	0905.0E	0908.0	11.5D	13500			
	100	GORK			0905.0E	0911.2		32200			
	430	KRAK	46	C	0905.0E	0905.5U	11.0D	390 D	75		
	430	KRAK			0905.0E	0907.7		134			
	200	GORK			0905.0E	0910.9		3600			
	2695	MANI	47	GB	0905.1	0906.6	18.9	599.4	199.8		
	4995	MANI	4	S/F	0905.1	0906.6	18.9	354.5	118.2		
	202	IZMI	46	C	0905.2	0908.0	8.0	3860	2050		
	127	TORN			0905.4	0908.4		571			
	127	TORN			0905.4	0910.4U		618			SATURATED
	127	TORN	49	GB	0905.4	0906.6	12.3	180	76		
	950	GORK			0906.0E	0906.8		320			
	950	GORK	46	C	0906.0E	0906.1U	9.7D	350			
	234	POTS	4	S/F	0907.0E	0908	5.0D	5000			III
	113	POTS	49	GB	0907.0E	0911.5	23.0D	7000 D			III
	29	UPIC	45	C	0908.0	0908.3	1.7				
	33	UPIC	45	C	0908.0	0908.1	2.2				
	3100	CRIM	29	PBI	0912.0	0912.0	36.0	20			
	15000	KISV	29	PBI	0914.0	0914	46.0	116			
	6100	KISV	29	PBI	0916.0	0916	34.0	27			
	430	KRAK	2	S/F	0932.5	0933.2	1.5	12	6		
	650	GORK	4	S/F	0933.0	0933.3	.7	61	30		
	810	KRAK	8	S	0933.2	0933.5	.3	22			
	3100	CRIM	24	R	0950.0	1158.0		6			
	430	KRAK	42	SER	1023.0	1023.2	2.3	40			
	650	GORK	40	F	1024.1	1024.3	3.9	10			
	810	KRAK	1	S	1024.2	1024.2	.2	5			
	930	BORD	41	F	1054.2	1054.3	.2	20	2		
	930	BORD	8	S	1115.3	1115.3	.1	15	1		
	930	BORD	8	S	1221.3	1221.4	.1	14	1		
	7000	SAOP	1	S	1233.2	1234.0		8.0			O
	2800	OTTA	27A	RF	1325.0		195.0	4.8	4.0		
	2800	OTTA	24	R	1325.0	1400	35.0	4.8	2.4		
	9400	HUAN		S	1350.4	1407.5	30.9	5.0	2.7		R
	7000	SAOP	21	GRF	1351.0						
	7000	SAOP	21	GRF	1351.0			9.0			O
	930	BORD	41	F	1353.0	1353.5	.5	15	2		
	2800	OTTA	24P	R	1400.0		130.0	4.8			
	9400	HUAN		S	1403.0	1403.8	2.3	18.4	3.8		R
	7000	SAOP	3	S	1403.6E	1403.6		15.0			21R
	2800	OTTA	21	GRF	1450.0	1505	60.0	8.2	3.9		
	7000	SAOP	20	GRF	1450.6	1500.0	41.4	30.0			11L
	9400	HUAN		S	1452.6	1500.5U	17.9	16.7	9.4		L
	2800	OTTA	1	S	1457.0	1500	6.0	7.2	3.6		
	930	BORD	8	S	1531.0	1531	.2	34	1		
	2800	OTTA	26	FAL	1610.0	1640	30.0	-4.8	-2.4		
	2800	OTTA	21	GRF	1710.0	1720	50.0	4.8	2.4		
	2800	OTTA	8	S	1741.8	1741.8	.3	2.8			
	2800	OTTA	20	GRF	2005.0	2100	115.0	3.8	2.2		
09	200	GORK	44	NS	0529.0E		234.0D		5		
	100	GORK	44	NS	0533.0E		222.0D		5		
	127	TORN	44	NS	0720.0E	1346.4	460.0D	52	.5U		V1
	260	ONDR	44	NS	0800.0E		350.0D	71	15		
	200	GORK	44	NS	0923.0E		154.0D		20		
	202	IZMI	43	NS	0930.0		150.0	50			
	200	HIRA	44	NS	2133.0E	0100	640.0D	40	10		WR
	3750	TYKW	5	S	0029.0	0029.7	30.0	2	1		
	3750	TYKW	5	S	0113.0	0114.0	2.0	13	4		
	2000	TYKW	5	S	0113.0	0114.1	2.0	13	4		
	9400	TYKW	5	S	0113.5	0114.0	1.5	6	3		
	9400	TYKW	29	PBI	0115.0		20.0	2	1		
	3750	TYKW	29	PBI	0115.0		45.0	3	2		
	2000	TYKW	29	PBI	0315.0		45.0	2	1		
	3750	TYKW	5	S	0423.0	0423.2	1.0	1	.4		
	3750	TYKW	5	S	0514.0	0515.2	12.0	7	2		
	2000	TYKW	5	S	0514.0	0516	6.0	1	.3		
	1000	TYKW	45	C	0530.0	0532.5	6.0	14	4		
	3750	TYKW	5	S	0530.0	0533.4	7.0	3.5	1		
	2000	TYKW	45	C	0530.0	0532.4	6.0	7	2.5		
	650	GORK	1	S	0530.6	0532.7	3.5	8.5	4		
	950	GORK	2	S/F	0531.8	0532.2	3.7	14			
	6100	KISV	27	RF	0743.0	0757	73.0	8			
	9100	GORK	20	GRF	0744.5	0755.6	63.0	12	5.5		
	430	KRAK			0800.0E	1341.5		73			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

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
09	430	KRAK			0800.0E	1127.7		78			
	430	KRAK			0800.0E	1130.5		89			
	430	KRAK	42	SER	0800.0E	0811.0	360.0D	67			
	430	KRAK			0800.0E	1356.0		48			
	430	KRAK			0800.0E	0833.0		82			
	6100	KISV	24	R	0920.0			-9			
	234	POTS	4		0954.8	0955.4	1.2	360	20		
	7000	SAOP	4	S/F	1151.4	1154.0	3.6	51.0			24R
	6100	KISV	8	S	1152.0	1154	4.0	13 D			
	10400	BERN	45		1152.6	1155.8	27.0	32.0			ONLY PAPER REC
	9500	POTS	4	S/F	1153.5	1154.0	2.5	35			
	3000	POTS	3	S	1153.6	1154.1	2.4	19			
	15000	KISV	4	S/F	1154.0	1154.7	2.0	20			
	1470	POTS	1	S	1154.0	1154.5	1.0	1.6			
	7000	SAOP	45	C	1302.6	1304.7		12.0			31R
	7000	SAOP	8	S	1411.2	1411.3		28.0			0
	2800	OTTA	20	GRF	1420.0E	1423	50.0D	5.0			
	2800	OTTA	21	GRF	1523.0	1559	167.0	9.8	4.6		
	7000	SAOP	45	C	1549.8	1551.0	23.0	43.0			17R
	10400	BERN	4		1550.2	1550.7	4.0	23.0			ONLY PAPER REC
	2800	OTTA	1	S	1550.5	1551	2.0	7.8	3.8		
	930	BORD	46	C	1611.6	1612	1.1	46	4		
	2800	OTTA	20	GRF	1850.0	1905	35.0	3.4	1.7		
	2695	PENT	1	S	2335.0	2335.3	1.0	9.4	3.4		
	3750	TYKW	5	S	2335.0	2335.3	1.0	3.5	1		
	1000	TYKW	5	S	2335.0	2335.3	1.0	7	2		
	2000	TYKW	5	S	2335.0	2335.4	1.0	10	3		
10	200	GORK	44	NS	0552.0E		366.0D		20		
	202	IZMI	44	NS	0700.0E		300.0D	150			
	100	GORK	43	NS	0710.0		284.0E		10		
	127	TORN	44	NS	0720.0E	1344.5	460.0D	343	15		V1
	430	KRAK	44	NS	0749.0E	0801.5	29.0D	96 U			
	260	ONDR	44	NS	0800.0E		396.0D	168	33		
	430	KRAK	43	NS	1043.5U		373.0	75	13		
	200	HIRA	44	NS	2130.0E	2215	640.0D	130	55		WR
	100	HIRA	44	NS	2130.0E	2206	640.0D	600	130		
	1000	TYKW	5	S	0043.3	0043.7	.5	5	1.5		
	3750	TYKW	5	S	0132.0	0132.4	1.0	2	.7		
	2000	TYKW	5	S	0157.0	0158.0	2.0	2	1		
	2000	TYKW	21	GRF	0323.0	0332	35.0	1	.5		
	3750	TYKW	21	GRF	0323.0	0332	35.0	3.5	2		
	3750	TYKW	45	C	0325.0	0326.6	3.0	5	1.5		
	9400	TYKW	21	GRF	0330.0	0340	30.0	3	2		
	2000	TYKW	31	ABS	0358.0	0415	110.0	-4	-2		
	3750	TYKW	31	ABS	0358.0	0413	110.0	-4	-2.5		
	9400	TYKW	31	ABS	0400.0	0410	110.0	-4	-2		
	9400	TYKW	45	C	0429.0	0430.8	10.0	42	7		
	4995	MANI	3	S	0429.0	0431.4	3.6	49.5	16.5		
	8800	MANI	3	S	0429.7	0431.3	2.9	91.4	30.5		
	2000	TYKW			0430.0	0431.5		5.5			
	2000	TYKW	45	C	0430.0	0447.6	25.0	45	3		
	3750	TYKW	45	C	0430.0	0447.6	25.0	60	5		
	3750	TYKW			0430.0	0431.0		18			
	2695	MANI	1	S	0430.5	0431.4	2.7	9.3	3.1		
	1415	MANI	3	S	0446.5	0448.0	4.7	19.8	6.6		
	1000	TYKW	45	C	0447.0	0447.7	5.0	8	2		
	9400	TYKW	45	C	0447.0	0447.8	8.0	27	4		
	2695	MANI	3	S	0447.7	0448.1	3.9	83.0	27.7		
	4995	MANI	3	S	0447.7	0448.1	1.3	55.0	18.3		
	6100	KISV	24	R	0606.0	0632	26.0	2			
	3750	TYKW	5	S	0627.0	0631	10.0	2	1		
	9400	TYKW	5	S	0627.0	0631	15.0	4	1		
	9100	GORK	20	GRF	0627.6	0631.0	17.8	7	3.5		
	6100	KISV	4	S/F	0632.0	0636	15.0	8			
	9100	GORK	20	GRF	0727.3	0735.0	34.6	9.5	4		
	3100	CRIM	1	S	0729.0	0729.5	1.0	5	2		
	127	TORN	45	C	0732.3	0735.7	6.2	220 U	58 U		
	606	MANI	4	S/F	0734.0	0735.7	2.3	19.6	6.6		
	950	GORK	2	S/F	0734.1	0735.1	2.7	8			
	650	GORK	2	S/F	0734.3	0735.7	4.7	21			
	1415	MANI	2	S/F	0735.5	0735.9	1.0	4.3	1.4		
	650	GORK	2	S/F	0742.0	0742.3	2.6	8			
	650	GORK	22	GRF	0749.9		31.0	11.5			
	810	KRAK	8	S	0801.3	0802.0	1.0	27			
	536	ONDR	42	SER	0803.5	0806.3	10.0	17			
	810	KRAK	42	SER	0809.3	0812.5	3.5	39	12		
	950	GORK	2	S/F	0811.9	0812.4	1.3	7			
	3100	CRIM	25	R	0829.0	1038		8			
	9100	GORK	20	GRF	0900.6	0902.0	8.3	3			
	9100	GORK	21	GRF	1006.0	1048.0	88.0	10	5		
	100	GORK			1021.5	1023.0		125			
	100	GORK	46	C	1021.5	1022.3	2.4	120 D			
	33	UPIC	42	SER	1022.0	1022.2	83.9				
	29	UPIC	42	SER	1022.2	1022.5	83.8				

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
10	2950	GORK	21	GRF	1033.9E	1040.4U	36.0D	14			
	3000	POTS	29	PBI	1035.0	1037.5	13.0	35			
	2650	DWIN	2	S/F	1035.0	1002	10.0	25	15		
	2950	GORK	4	S/F	1035.4	1037.4	5.0	26	10		
	3100	CRIM	3	S	1036.0	1038.5	13.0	27	9		
	9500	POTS	1	S	1036.5	1038.0	2.0	6.0			
	9100	GORK	2	S/F	1036.7	1037.9	2.6	13			
	234	POTS	4	S/F	1046.1	1046.9	2.4	600	40		
	234	POTS	41	F	1132.0	1200	43.0	1500			III
	536	ONDR	42	SER	1136.0	1153	120.0	27			
	10715	DWIN	2	S/F	1154.0	1154	2.0	15	8		
	810	KRAK	1	S	1228.0	1228.0	.2	9			
	7000	SAOP	3	S	1233.0	1233.3	17.0	20.0			O
	7000	SAOP	3	S	1321.0	1321.8	5.0	36.0			9R
	810	KRAK	1	S	1321.5	1321.5	.1	8			
	10400	BERN	3		1321.5	1321.9	3.0	17.0			ONLY PAPER REC
	9500	POTS	3	S	1321.5	1321.7	1.1	21			
	2800	OTTA	8	S	1321.7	1322	.6	2.4	1.2		
	29	UPIC	46	C	1333.8	1334.5	3.0				
	33	UPIC	46	C	1333.8	1334.3	3.1				
	810	KRAK	1	S	1349.5	1349.5	.3	10			
	7000	SAOP	40	F	1455.0		24.0				
	2800	OTTA	21	GRF	1515.0	1555	335.0	17.6	8.4		
	7000	SAOP	45	C	1526.3	1535.9	50.0	62.0			5R
	2800	OTTA	4	S/F	1528.0	1536	18.0	90.0	30.0		
	2650	DWIN	45	C	1528.0	1532	12.0	150	50		
	10400	BERN	3		1532.2	1532.4	1.5	17.0			ONLY PAPER REC
	7000	SAOP	45	C	1850.0	1858.7		17.0			14R
	2800	OTTA	20	GRF	2105.0	2125	55.0	5.8	3.4		
	100	HIRA	42	SER	2330.0	2333	88.0	3900			
	100	HIRA			2330.0	2334.7		2700			
	100	HIRA			2330.0	2330.2		2600			
	3750	TYKW	45	C	2330.0	2330.7	5.0	8	2.5		
	1000	TYKW	45	C	2330.0	2331.0	5.0	7	1.5		
	2000	TYKW	45	C	2330.0	2330.2	2.0	3.5	1		
	9400	TYKW	45	C	2330.0	2330.7	10.0	60	7		
	700	SYDN	45	C	2336.5	2337.4	1.7				
	1000	TYKW	8	S	2353.2	2353.3	.5	4.5	1		
	1000	TYKW	45	C	2356.0	2356.1	1.0	15	2		
11	200	GORK	44	NS	0537.0E		443.0D		85		
	100	GORK	44	NS	0540.0E		440.0D		30		
	113	POTS	44	NS	0650.0E	1140	475.0D	70			
	234	POTS	44	NS	0650.0E	1327	472.0D	250			
	202	IZMI	44	NS	0700.0E		300.0D	170			
	127	TORN	44	NS	0710.0E	1048.5	470.0D	452	61		V2
	430	KRAK	44	NS	0759.0E	0953.0	362.0D	222 U	45		
	536	ONDR	44	NS	0802.0E		379.0D	39	2		
	260	ONDR	44	NS	0802.0E		379.0D	152	54		
	33	UPIC	43	NS	0935.7	1127	287.7				
	29	UPIC	43	NS	0935.9	1130	287.5				
	100	HIRA	44	NS	2130.0E	0712	640.0D	950	350		
	200	HIRA	44	NS	2130.0E	0548	640.0D	580	170		MR
	1000	TYKW	45	C	0005.5	0007.2	2.0	3.5	1		
	2930	VORO	3	S	0018.0	0021 .	7.0	34			
	9400	TYKW	45	C	0019.0	0020.6	4.0	84	10		
	1000	TYKW	45	C	0019.0	0024.0	8.0	30	2		
	1400	SYDN	42	SER	0019.1	0020.7	7.3				
	100	HIRA	46	C	0019.2	0021.0	4.6	40000 D	7900 D		
	200	HIRA	46	C	0019.4	0021.2	8.6	1350	130		WL,WR
	2000	TYKW	45	C	0019.5	0020.6	2.0	115	15		
	3750	TYKW	45	C	0019.5	0020.6	3.5	36	7		
	8800	MANI	4	S/F	0019.6	0021.0	3.4	100.7	33.6		
	1415	MANI	4	S/F	0019.6	0020.9	4.4	11.8	3.9		
	4995	MANI	3	S	0019.8	0020.9	4.2	51.7	17.2		
	700	SYDN	40	F	0020.2	0022.3	4.8				
	2000	TYKW	29	PBI	0021.5		50.0	4	2		
	606	MANI	3	S	0022.6	0022.8	.8	17.9	6.0		
	9400	TYKW	29	PBI	0023.0		35.0	4	2		
	3750	TYKW	29	PBI	0023.0		50.0	3	1.5		
	1000	TYKW			0106.0	0108.5		24			
	1000	TYKW	45	C	0106.0	0106.6	3.0	75	2		
	700	SYDN	40	F	0205.7	0208.9	3.6				
	9400	TYKW	45	C	0246.0	0249.0	6.0	19	8		
	9400	TYKW	29	PBI	0252.0		35.0	6	3		
	1000	TYKW	45	C	0405.0	0405.3	4.0	25	3		
	2000	TYKW	20	GRF	0450.0	0452	60.0	3	1		
	1000	TYKW	45	C	0526.5	0527.2	2.0	2	.5		
	700	SYDN	40	F	0616.6	0617.8	2.5				
	9100	GORK	21	GRF	0631.1	0641.1	31.5	5			
	9400	TYKW	5	S	0639.0	0639.4	1.5	10	3		
	9100	GORK	1	S	0639.6	0639.9	.6	10	5		
	9400	TYKW	5	S	0701.9	0702.1	1.5	5	2		
	9100	GORK	21	GRF	0708.2	0724.5	46.0	13	5.5		
	9400	TYKW			0717.0	0720.2		18			

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
11	9400	TYKW	45	C	0717.0	0725.7	30.0	19	4		
	9100	GORK	2	S/F	0718.2	0720.7	5.8	15	5.5		
	650	GORK	22	GRF	0734.3		326.0E	32	15		
	3100	CRIM	20	GRF	0739.0	1030.0	261.0D	21	7		
	234	POTS	4	S/F	0814.4	0814.6	.4	500	100		III
	113	POTS	4	S/F	0814.4	0814.6	.4	250	60		III
	810	KRAK	8	S	0816.0	0816.0	.2	15			
	810	KRAK	8	S	0824.0	0824.0	.2	30			
	9100	GORK	1	S	0919.2	0920.5	3.5	9.7	4.5		
	113	POTS	8	S	0930.6	0930.7	.2	1400	500		III
	113	POTS	8	S	0947.2	0947.7	1.4	700	200		III
	2950	GORK	20	GRF	0952.7	1030.5	129.0	9.5	3.5		
	9100	GORK	22	GRF	1003.0	1035.3	135.0	18			
	810	KRAK	8	S	1052.3	1052.3	.2	12			
	810	KRAK			1118.0	1130.0		20			
	808	ONDR	41	F	1118.0	1126.5	13.0	26	3		
	810	KRAK			1118.0	1121.0		103			
	810	KRAK	42	SER	1118.0	1118.3	12.5	36			
	930	BORD	42	SER	1118.0	1126.9	13.0	101	4		
	810	KRAK			1118.0	1126.5		132			
	1470	POTS	42	SER	1121.0	1124.9	7.0	6.5			
	950	GORK	40	F	1121.1	1125.9	9.7	20			
	113	POTS	4	S/F	1124.8	1126.5	3.9	3500			III
	100	GORK	46	C	1125.1	1125.8	2.5	1400			
	100	GORK			1125.1	1127.0		12700			
	33	UPIC	46	C	1125.2	1127	5.3				
	29	UPIC	46	C	1125.5	1130	5.0				
	200	GORK	4	S/F	1126.1	1127.0	1.5	1060			
	930	BORD	8	S	1209.2	1209.2	.2	24	1		
	810	KRAK	8	S	1256.2	1256.2	.2	9			
	930	BORD	41	F	1256.2	1256.3	.2	49	2		
	808	ONDR	8	S	1256.2	1256.2	.2	25			
	810	KRAK	8	S	1257.5	1258.0	.5	8			
	810	KRAK	8	S	1329.7	1329.7	.2	24			
	810	KRAK	8	S	1349.5	1349.5	.2	9			
	2800	OTTA	21	GRF	1420.0E	1516	130.0D	8.4			
	930	BORD	8	S	1457.2	1457.2	.1	15	1		
	7000	SAOP	20	GRF	1501.6	1504.5		8.0			21L
	2800	OTTA	2	S/F	1502.0	1505	4.5	3.4			
	930	BORD	8	S	1504.2	1504.2	.1	45	1		
	7000	SAOP	4	S/F	1636.0	1643.2	29.0	40.0			13R
	2800	OTTA	20	GRF	1700.0	1715	30.0	3.4	1.7		
	2800	OTTA	20	GRF	1735.0	1800	55.0	3.0	1.5		
	9400	HUAN		S	1742.0	1814.3	44.3	10.7	6.7		0
	2800	OTTA	20	GRF	1917.0	1940	40.0	3.0	1.5		
	9400	HUAN		S	1929.0	1946.2	46.2	12.2	5.2		L
	2695	PENT	8	S	2009.2	2009.5	.5	3.8	1.9		
	9400	HUAN		S	2022.8	2045.8	62.8	82.3	12.4		R
	2800	OTTA	4	S/F	2036.5	2037.6	2.5	196.0	49.0		
	9400	HUAN		S	2036.6	2037.1	1.2	433.0	175.6		R
	2800	OTTA	31A	ABS	2039.0	2105	55.0	-3.8			
	2800	OTTA	1	S	2125.0	2127	7.0	7.2	2.4		
	8800	MANI	3	S	2251.0	2251.8	1.4	159.3	53.1		
	4995	MANI	3	S	2251.5	2251.8	.9	78.4	26.1		
	606	MANI	1	S	2253.0	2253.3	.7	11.0	3.6		
	9400	TYKW	5	S	2322.0	2323.9	15.0	12	3		
12	200	GORK	44	NS	0529.0E		451.0D		60		
	100	GORK	44	NS	0533.0E		447.0D		200		
	127	TORN	44	NS	0630.0E	1238.0	510.0D	1450	166		V1,INCOMPLETE
	234	POTS	44	NS	0640.0E	0845	480.0D	340			
	113	POTS	44	NS	0640.0E	0722.5	484.0D	800			
	202	IZMI	44	NS	0700.0E		300.0D	200			
	260	ONDR	44	NS	0800.0E		378.0D	142	21		
	33	UPIC	43	NS	0821.8	1114.9U	353.3				
	29	UPIC	43	NS	0822.2	1306.9	355.0				
	9400	TYKW	5	S	0017.0	0018	3.0	5	2		
	3750	TYKW	21	GRF	0050.0	0145	60.0	4	1.5		
	3750	TYKW	5	S	0102.0	0103.2	4.0	4	1		
	700	SYDN	40	F	0202.8	0203.9	1.8				
	700	SYDN	40	F	0225.2	0226.0	2.0				
	9400	TYKW	5	S	0323.0	0324.5	5.0	2	1		
	3750	TYKW	45	C	0335.0	0337.1	5.0	3	1		
	9400	TYKW	45	C	0406.0	0406.7	6.0	4	1		
	3750	TYKW	5	S	0408.0	0409	4.0	1	.5		
	700	SYDN	45	C	0437.8	0439.3	2.0				
	700	SYDN	40	F	0503.9	0509.7	6.1				
	9400	TYKW	5	S	0525.0	0525.2	1.0	4	1		
	3750	TYKW	45	C	0526.0	0541.7	65.0	6	2.5		
	5730	IRKU	45	C	0526.0	0527.7	10.0	5	2		R
	5730	IRKU			0526.0	0529.8		10			R
	9400	TYKW	45	C	0527.0	0529.7	4.0	5	1		
	9400	TYKW	5	S	0541.0	0542	3.0	2	1		
	2000	TYKW	5	S	0550.0	0550.6	2.0	2	.5		
	9400	TYKW	20	GRF	0550.0	0610	40.0	4	2		

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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
12	1000	TYKW	45	C	0550.5	0550.7	1.5	3	1		
	650	GORK	2	S/F	0550.6	0552.5	3.3	10			
	2950	GORK	21	GRF	0614.8	0712.9	300.0				
	9100	GORK	21	GRF	0642.5	0849.7	220.0	31			
	9400	TYKW	45	C	0707.0	0712.5	20.0	11	3		
	3750	TYKW	5	S	0710.0	0713	15.0	4	1.5		
	5730	IRKU	20	GRF	0710.4	0712.6	8.0	6	3		R
	15000	KISV	27	RF	0800.0	0810	17.0	11			
	430	KRAK	26	FAL	0800.0E	0810.3	20.7D	42	21		
	15000	KISV	45	C	0806.5	0807	2.0	11			
	15000	KISV	45	C	0806.5	0807.3		5			
	1470	POTS	4	S/F	0822.0	0822.2	1.5	15			
	234	POTS	42	SER	0827.0	0837.2	18.0	1900			III
	6100	KISV			0829.0	0837		72			
	6100	KISV	45	C	0829.0	0839	17.0	215			
	6100	KISV			0829.0	0844.5		42			
	6100	KISV			0829.0	0845.8		48			
	6100	KISV			0829.0	0840.5		53			
	6100	KISV			0829.0	0839.5		210			
	15000	KISV			0830.0	0837		88			
	15000	KISV	45	C	0830.0	0833	16.0	318			
	15000	KISV			0830.0	0844.5		45			
	15000	KISV			0830.0	0838.5		254			
	15000	KISV			0830.0	0840.7		66			
	15000	KISV			0830.0	0839.3		307			
	15000	KISV			0830.0	0844		51			
	430	KRAK	45	C	0830.8	0838.7	29.0	268	26		
	650	GORK	23	GRF	0831.4		26.0				
	10400	BERN	46		0832.5	0841.6	56.0	275.0			ONLY PAPER REC
	2650	DWIN	45	C	0833.0	0841	17.0	120	50		
	9500	POTS	29	PBI	0833.0	0841.0	62.0	232			
	1470	POTS	45	C	0833.0	0836.8	15.0	572			
	950	GORK	46	C	0833.2	0839.4	14.0	81			
	950	GORK			0833.2	0841.4		71			
	1415	MANI	4	S/F	0833.7	0837.1	11.8	283.6	94.5		
	10715	DWIN	45	C	0834.0	0841	16.0	85	30		
	930	BORD	46	C	0834.0	0838.9	15.0	218	13		
	3000	POTS	45	C	0834.0	0841.4	16.0	114			
	3100	CRIM	3	S	0834.0	0841.5	9.0	90	30		
	2950	GORK	46	C	0834.5	0842	14.8	110			
	2950	GORK			0834.5	0842.9		43			
	810	KRAK	46	C	0834.5	0839.0	13.0	213	19		
	808	ONDR	46	C	0834.7	0839.2	13.0	100	14		
	536	ONDR	46	C	0835.0	0839.2	15.0	42	7		
	9100	GORK			0835.4	0841.6		255			
	9100	GORK	46	C	0835.4	0839.6	14.0	70			
	200	GORK	4	S/F	0837.4	0839.4	2.4	1400 D			
	606	MANI	4	S/F	0838.0	0839.6	6.0	51.7	17.2		
	4995	MANI	4	S/F	0838.4	0841.9	6.6	222.6	74.2		
	650	GORK			0838.5	0841.8		23			
	650	GORK	46	C	0838.5	0839.4	4.8	49			
	8800	MANI	4	S/F	0839.0	0841.9	6.0	265.6	88.5		
	3100	CRIM	29	PBI	0843.0	0843.0	46.0	22			
	15000	KISV	29	PBI	0846.0	0846	28.0	22			
	6100	KISV	29	PBI	0846.0	0846	40.0	34			
	15000	KISV	4	S/F	0908.5	0910.5	4.0	7			
	1470	POTS	4	S/F	0910.7	0912.6	5.8	110			
	3000	POTS	45	C	0910.8	0911.5	5.7	20			
	930	BORD	46	C	0911.0	0913	6.0	44	5		
	9100	GORK	4	S/F	0911.2	0912.1	3.8	29			
	536	ONDR	4	S/F	0911.3	0912.2	2.5	25	11		
	808	ONDR	45	C	0911.4	0913	5.0	45	6		
	9100	GORK	1	S	0911.8	0913.9	3.2	12	6		
	650	GORK	4	S/F	0912.0	0913.4	5.3	50			
	950	GORK			0912.0	0916.2		17			
	950	GORK	46	C	0912.0	0913.4	5.8	27			
	9100	GORK	3	S	0916.0	0916.1	.6	24	12		
	9100	GORK	1	S	0920.1	0920.2	.6	7	35		
	6100	KISV			1002.0	1007.8		5			
	6100	KISV	45	C	1002.0	1004.5	8.0	9			
	6100	KISV	3	S	1014.0	1016.5	5.0	4			
	9100	GORK	20	GRF	1027.5	1050.5	79.0	9.8	4.5		
	9500	POTS	20	GRF	1207.0	1214.3	18.0	11			
	9400	HUAN		S	1207.0	1301.7	86.0	21.9	5.4		O
	9100	GORK	22	GRF	1208.3	1223.2	20.0E	8.6			
	3000	POTS	20	GRF	1210.0	1216.0	15.0	6.1			
	536	ONDR	42	SER	1211.0	1245.6	116.0	14			
	430	KRAK	8	S	1212.2	1212.5	.5	88			
	810	KRAK	8	S	1213.0	1213.0	.1	13			
	1470	POTS	40	F	1214.0	1216.4	12.0	17			
	930	BORD	41	F	1224.9	1225.2	.5	24	2		
	930	BORD	41	F	1233.4	1233.4	.3	28	2		
	430	KRAK			1248.7	1257.2		84			
	430	KRAK			1248.7	1301.5		109			
	430	KRAK	42	SER	1248.7	1254.0		154			

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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
12	1470	POTS	42	SER	1251.0	1253.4	13.0	13			
	1470	POTS			1251.0	1253.7					
	9500	POTS	20	GRF	1252.0	1301.7	33.0	15			
	3000	POTS	20	GRF	1253.0	1316.7	35.0	8.5			
	930	BORD	42	SER	1253.0	1258	14.3	109	3		
	808	ONDR	41	F	1253.0	1258.2	11.0	38	2		
	7000	SAOP	45	C	1253.0	1301.8	33.0	23.0			7R
	810	KRAK			1253.7	1257.3		73			
	810	KRAK	42	SER	1253.7	1253.7	5.2	104			
	810	KRAK	8	S	1309.5	1309.5	.2	18			
	430	KRAK	4	S/F	1318.5	1319.5	1.0	114	22		
	2800	OTTA	1	S	1432.5	1433	5.0	3.2	1.1		
	7000	SAOP	3	S	1544.8	1545.2		12.0			28L
	2800	OTTA	21	GRF	1605.0	1612	30.0	4.6	2.3		
	930	BORD	42	SER	1606.0	1608.2	6.0	29	3		
	9400	HUAN		S	1608.0	1613.0	19.8	18.3	6.8		O
	2800	OTTA	2	S/F	1609.0	1610	3.0	9.2	4.4		
	2800	OTTA	1	S	1612.7	1613	1.5	9.2	4.6		
	2800	OTTA	1	S	1642.0	1644.3	5.0	2.4	1.0		
	9400	HUAN		S	1642.1	1644.5	4.8	12.8	5.5		R
	2800	OTTA	21	GRF	1710.0	1728	70.0	7.4	3.7		
	9400	HUAN		S	1710.1	1730.2	27.8	12.8	5.9		L
	2800	OTTA	3	S	1711.0	1712.7	3.0	10.4	4.8		
	9400	HUAN		S	1711.4	1712.4	1.4	5.5	3.2		L
	7000	SAOP	45	C	1715.0	1724.0	26.0	75.0			13L
	9400	HUAN		S	1720.3	1723.4	7.2	65.8	25.9		L
	2800	OTTA	4	S/F	1722.0	1724	6.0	60.0	28.0		
	2800	OTTA	2	S/F	1741.0	1742	3.0	7.8	2.6		
	2800	OTTA	26O	FAL	1821.0	1851	30.0	-3.8	-1.9		
	2800	OTTA	20	GRF	1910.0	1945	65.0	4.6	2.3		
	9400	HUAN		S	1950.1	1956.7	34.6	12.8	2.4		O
	2800	OTTA	1	S	2043.0	2045	3.0	3.2	1.5		
	2800	OTTA	29	PBI	2046.0	2046	25.0	2.4	1.9		
	2695	PENT	1	S	2156.0	2157	2.0	5.8	2.9		
13	200	HIRA	44	NS	0005.0E	0600 U	480.0D	160	80		WR
	100	HIRA	44	NS	0005.0E	0614	480.0D	730	380		
	200	GORK	44	NS	0538.0E		442.0D		120		
	100	GORK	44	NS	0540.0E		440.0D		400		
	127	TORN	44	NS	0630.0E	1224.4	510.0D	718	168		V1
	113	POTS	44	NS	0635.0E	0827	495.0D	700			
	234	POTS	44	NS	0635.0E	1018	495.0D	300			
	202	IZMI	44	NS	0700.0E		300.0D	170			
	260	ONDR	44	NS	0800.0E		398.0D	165	32		
	536	ONDR	43	NS	0821.0		336.0	176			
	200	HIRA	44	NS	2126.0E	0230	640.0D	150	80		WR
	100	HIRA	44	NS	2126.0E	0338	640.0D	400	180		
	9400	TYKW	5	S	0000.0	0001	3.0	4	1.5		
	3750	TYKW	5	S	0017.0	0017.7	3.0	22	2		
	9400	TYKW	5	S	0017.5	0017.7	.8	3	1		
	2000	TYKW	5	S	0017.5	0018.0	1.0	3	1		
	1000	TYKW	5	S	0017.5	0018	1.0	2	.5		
	700	SYDN	45	C	0017.5	0018.1	.9				
	700	SYDN	42	SER	0036.5	0036.7	1.7				
	3750	TYKW	5	S	0109.0	0110.8	8.0	2.5	.8		
	5730	IRKU	1	S	0116.3	0118.1	4.0	12			O
	2000	TYKW	45	C	0125.0	0138.2	20.0	34	4		
	9400	TYKW	45	C	0125.0	0138.1	25.0	24	7		
	3750	TYKW	45	C	0125.0	0138.1	25.0	16	3		
	1000	TYKW	45	C	0137.0	0138.2	2.0	115	13		
	700	SYDN		S	0137.9	0138.2	.9				
	2000	TYKW	29	PBI	0145.0		40.0	3	1.5		
	3750	TYKW	30	PBI	0150.0		45.0	5	2		
	9400	TYKW	30	PBI	0150.0		45.0	6	3		
	9400	TYKW	45	C	0207.0	0210.1	10.0	24	4		
	1000	TYKW	45	C	0219.5	0220.0	3.0	18	4		
	1000	TYKW	45	C	0226.5	0227.3	1.5	4.5	1		
	3750	TYKW	5	S	0226.5	0227	1.5	1.5	.5		
	2000	TYKW	5	S	0226.5	0227	1.5	1.5	.5		
	2000	TYKW	45	C	0233.0	0303.2	50.0	8	2		
	9400	TYKW	45	C	0239.0	0319	51.0	29	10		
	3750	TYKW	45	C	0239.0	0302.7	31.0	10	4		
	1000	TYKW	45	C	0252.0	0252.6	1.5	6	1		
	700	SYDN	40	F	0252.2	0252.7	1.4				
	1000	TYKW	45	C	0308.0	0310.8	4.0	5	1		
	3750	TYKW	30	PBI	0310.0		80.0	6	2.5		
	2000	TYKW	29	PBI	0323.0		35.0	4	2		
	9400	TYKW	30	PBI	0330.0		60.0	15	5		
	2000	TYKW	45	C	0413.0	0417.0	11.0	4	.5		
	3750	TYKW	5	S	0416.0	0416.9	2.0	29	6		
	5730	IRKU	2	S/F	0416.3	0416.9	8.0	28 D			L
	4995	MANI	3	S	0416.3	0417.1	2.0	61.2	20.4		
	9400	TYKW	5	S	0416.5	0416.9	1.0	34	8		
	2695	MANI	1	S	0416.7	0417.1	1.3	9.7	3.2		
	8800	MANI	3	S	0416.8	0417.0	1.5	50.1	16.7		

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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
13	9400	TYKW	29	PBI	0417.5		12.5	5	2		
	3750	TYKW	29	PBI	0418.0		10.0	2	.7		
	9400	TYKW	45	C	0437.0	0455	60.0	4	1.5		
	3750	TYKW	21	GRF	0437.0	0441	60.0	3	1		
	15000	KISV	4	S/F	0606.5	0607	6.0	10			
	6100	KISV	1	S	0606.5	0607	2.0	4			
	6100	KISV	24	R	0608.5			-2			
	9400	TYKW	45	C	0608.8	0609.7	3.0	11	4		
	2950	GORK	21	GRF	0609.7	1208.4	387.0E	37			
	9100	GORK	23	GRF	0609.7	1210.5	486.0E	42			
	9100	GORK	1	S	0610.0	0610.3	1.1	8.8	4.4		
	15000	KISV	27	RF	0631.0	0635	18.0	16			
	15000	KISV	24	R	0631.0			-9			
	6100	KISV	8	S	0638.0	0639	2.0	13			
	15000	KISV	8	S	0638.0	0639	3.0	11 D			
	9400	TYKW	5	S	0640.0	0641.2	1.5	25	4		
	100	GORK	45	C	0640.2	0640.4	.8	1300			
	5730	IRKU	1	S	0640.6	0641.3	5.0	10	2		R
	200	GORK	4	S/F	0640.7	0640.9	.6	890			
	9100	GORK	1	S	0640.8	0641.1	1.1	24	12		
	950	GORK	1	S	0640.9	0641.0	.5	1.5			
	650	GORK	3	S	0640.9	0641 U	.5	50	25		
	2000	TYKW	45	C	0641.0	0641.2	1.0	7	1.5		
	3750	TYKW	45	C	0641.0	0641.1	1.5	19	3		
	9400	TYKW	29	PBI	0641.5		7.0	4	2		
	930	BORD	8	S	0748.2	0748.2	.1	87	1		
	430	KRAK	40	F	0805.0	0833.5	43.0	52	14		
	6100	KISV			0809.0	0814.3		6			
	6100	KISV	45	C	0809.0	0813	6.0	8			
	810	KRAK	42	SER	0811.5	0811.5	4.5	51			
	810	KRAK			0811.5	0815.0		13			
	950	GORK	4	S/F	0812.7	0815.0	3.8	30			
	930	BORD	41	F	0814.6	0815.2	1.6	157	3		
	113	POTS	4	S/F	0815.0	0815.9	2.1	500	70		III
	2950	GORK	1	S	0815.6	0816.2	1.3	6.3	3		
	100	GORK	4	S/F	0815.6	0815.8	.7	18400			
	200	GORK	4	S/F	0815.7	0816.1	1.0	1000 D			
	234	POTS	4	S/F	0815.9	0816	.8	800	40		III
	3100	CRIM	1	S	0816.0	0816.5	1.0	7	2		
	202	IZMI	8	S	0820.7	0821.3	1.0	2000	1350		
	6100	KISV	4	S/F	0826.0	0827	14.0	4			
	810	KRAK	8	S	0827.3	0827.3	.1	43			
	810	KRAK	8	S	0905.5	0906.2	1.0	13			
	810	KRAK	8	S	0912.5	0912.5	1.0U	24			
	930	BORD	8	S	0912.6	0912.7	.2	14	1		
	15000	KISV			0940.0	1011.5		6			
	15000	KISV	45	C	0940.0	0956.5	38.0	24			
	6100	KISV	24	R	0940.0			-27			
	15000	KISV			0940.0	0946.5		17			
	430	KRAK			0940.5	1008.0		73			
	430	KRAK			0940.5	0958.3		70			
	430	KRAK	45	C	0940.5	0945.0	37.5	41	29		
	430	KRAK	23	GRF	0940.5		143.0U	35	21		
	3000	POTS	20	GRF	0941.5	1005.7	49.0	22			
	9500	POTS	20	GRF	0941.5	0957.5	29.0	31			
	200	GORK	4	S/F	0941.5	0945.9U	7.6	200 D			
	2950	GORK	1	S	0942.0	0942.6	1.4	4.5	2		
	3100	CRIM	1	S	0942.0	0942.5	1.0	6	2		
	3100	CRIM	25	R	0943.0	1101.0		13			
	650	GORK	20	GRF	0944.0	0958.9	19.0U	6	3		
	1470	POTS	40	F	0944.5	0959.0	23.0	17			
	100	GORK			0945.2	0951.0		1800			
	100	GORK			0945.2	0949.2		1700			
	100	GORK			0945.2	0952.0		3500			
	100	GORK	46	C	0945.2	0946.0	6.8	1700			
	950	GORK	22	GRF	0947.2	0958.8	18.0	13			
	6100	KISV	4	S/F	0951.0	0955	6.0	4			
	2950	GORK	1	S	1005.5	1005.9	1.2	11	5		
	3100	CRIM	1	S	1005.5	1005.9	1.0	11	3		
	810	KRAK	8	S	1005.5	1005.5	.5	447 D			
	930	BORD	8	S	1005.6	1005.6	.1	196	1		
	930	BORD	41	F	1018.2	1018.3	.3	20	2		
	6100	KISV	4	S/F	1025.0	1028	14.0	5			
	810	KRAK	42	SER	1040.0	1042.2	11.5	55			
	810	KRAK			1040.0	1048.5		468 D			
	808	ONDR	42	SER	1040.0	1048	33.0	525			
	810	KRAK			1040.0	1049.5		468 D			
	930	BORD	41	F	1040.1	1040.3	.3	22	2		
	33	UPIC	42	SER	1042.5	1206.2	166.0				
	29	UPIC	42	SER	1044.5	1206.3	163.7				
	430	KRAK	42	SER	1046.2	1046.8	38.5	388 D			
	430	KRAK			1046.2	1108.5		388 D			
	930	BORD	42	SER	1048.3	1048.5	2.8	185	2		
	930	BORD	42	SER	1107.0	1107.3	6.4	196	2		
	810	KRAK	42	SER	1107.2	1107.5	6.2	465			

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OUTSTANDING OCCURRENCES

FEBRUARY 1980

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
13	7000	SAOP	45	C	1114.6	1224.4	83.2	88.0			9L
	1470	POTS	22	GRF	1130.0	1202	98.0	28			
	9500	POTS	22	GRF	1130.0	1210.5	135.0	23			
	3000	POTS	22	GRF	1131.0	1200	82.0	38			
	2650	DWIN	21	GRF	1135.0	1200	50.0	40	20		
	2950	GORK			1135.6	1146.3		15			
	2950	GORK	46	C	1135.6	1137.4	15.8	12			
	950	GORK			1136.6	1224.2		13			
	950	GORK	22	GRF	1136.6	1203.8	55.5	10			
	3100	CRIM	1	S	1137.0	1137.5	2.5	9	3		
	9400	HUAN		S	1141.4	1142.4	1.4	24.4	10.9		0
	650	GORK	21	GRF	1144.0		29.0	4	2		
	3100	CRIM	1	S	1145.0	1146.5	4.0	11	3		
	2950	GORK	46	C	1153.8	1156.4	12.8	15			
	2950	GORK			1153.8	1200.8		24			
	3100	CRIM	1	S	1158.0	1200.5	5.0	18	6		
	2650	DWIN	8	S	1158.0		8.0	350			
	430	KRAK	46	C	1200.2	1206.5	16.5	159			
	9400	HUAN		PRE	1201.8	1223.0	21.2	17.4	15.5		0
	650	GORK			1203.0	1206.3		7			
	650	GORK	45	C	1203.0	1203.5	4.8	5			
	100	GORK			1205.0	1206.0		6700			
	100	GORK	46	C	1205.0	1205.7	1.5	6000			
	810	KRAK	42	SER	1210.5	1211.7	2.2	170			
	808	ONDR	8	S	1211.6	1211.6	.2	42			
	930	BORD	8	S	1211.7	1211.8	.2	71	1		
	430	KRAK	47	GB	1217.0	1224.0U	9.8	391 D	93		
	650	GORK	2	S/F	1219.9	1221.4	3.4	9.5	4.8		
	202	IZMI	46	C	1220.0	1224.1	5.5	1500	700		
	808	ONDR	2	S/F	1222.0	1223.8	3.5	19	7		
	100	GORK	46	C	1222.3	1224.3	6.6	15600			
	100	GORK			1222.3	1226.5		15900			
	810	KRAK	2	S/F	1222.5	1224.0	2.7	13	4		
	10400	BERN	21		1222.9	1224.3	43.0	35.0			ONLY PAPER REC
	9100	GORK	4	S/F	1222.9	1224.4	4.3	43			
	1470	POTS	45	C	1223.0	1229.0	8.0	47			
	6100	KISV	4	S/F	1223.0	1224.7	5.0	39			
	9400	HUAN		S	1223.0	1224.3	3.8	74.8	22.8		L
	930	BORD	46	C	1223.0	1224.2	3.0	41	4		
	228	HARS	45	C	1223.6	1223.8	1.8	270	100		
	234	POTS	4	S/F	1223.7	1224.2	1.5	4800	150		III
	200	GORK	4	S/F	1223.9	1224.4	1.4	1800			
	9500	POTS	4	S/F	1224.0	1224.4	5.0	62			
	15000	KISV	8	S	1224.0	1224.7	4.0	32			
	3000	POTS	4	S/F	1224.0	1224.4	4.0	54			
	2950	GORK	4	S/F	1224.0	1224.5	2.8	41			
	113	POTS	4	S/F	1224.0	1224.5	.7	7000	2000		III
	3100	CRIM	3	S	1224.5	1225.0	3.0	44	12		
	9400	HUAN		PBI	1226.8	1226.8	312.6	22.6	16.4		L
	15000	KISV	29	PBI	1227.5	1227.5	13.0	12			
	930	BORD	8	S	1311.4	1311.4	.1	19	1		
	810	KRAK	8	S	1317.0	1317.3	.5	30			
	930	BORD	8	S	1317.1	1317.1	.1	43	1		
	430	KRAK	4	S/F	1326.0	1328.0	5.0	39	15		
	930	BORD	8	S	1327.3	1327.3	.1	47	1		
	930	BORD	8	S	1356.2	1356.3	.1	15	1		
	9400	HUAN		S	1424.4	1426.6	3.4	19.1	10.2		0
	2800	OTTA	3	S	1425.0	1425.7	2.0	10.2	5.0		
	2800	OTTA	29	PBI	1427.0	1427	23.0	3.2	1.8		
	2800	OTTA	21	GRF	1515.0	1610	65.0	3.2	2.0		
	9400	HUAN		S	1546.5	1547.1	2.2	17.4	6.1		R
	9400	HUAN		S	1555.8	1556.8	3.7	10.4	3.3		0
	930	BORD	41	F	1557.9	1558	.4	68	2		
	2800	OTTA	1	S	1558.2	1558.5	1.5	2.2	1.1		
	9400	HUAN		S	1610.2	1611.2	1.4	12.2	8.0		0
	9400	HUAN		S	1623.8	1624.7	4.1	13.9	5.7		R
	7000	SAOP	45	C	1654.4	1656.2	16.4	19.0			9R
	2800	OTTA	20	GRF	1720.0	1726	56.0	3.6	1.6		
	2800	OTTA	1	S	1927.9	1928	1.0	9.2	2.4		
	2800	OTTA	20	GRF	1945.0	2003	45.0	2.8	1.6		
	9400	HUAN		S	2006.1	2019.8	69.9	20.9	10.4		0
	2800	OTTA	4	S/F	2031.0	2034.3	4.5	27.6	13.8		
	2800	OTTA	29	PBI	2035.5	2035.5	35.0	11.6	3.8		
	9400	HUAN		S	2036.4	2036.9	1.7	15.7	8.0		0
	9400	HUAN		S	2041.8	2042.3	1.4	8.7	4.5		0
	2800	OTTA	260	FAL	2100.0	2115	15.0	-4.0	-2.0		
	9400	HUAN		S	2136.6	2138.0	6.5	170.5	53.8		R
	2695	PENT	1	S	2140.0	2144	10.0	4.0	1.8		
	2695	PENT	260	FAL	2200.0	2225	25.0	-3.2	-1.6		
	2695	PENT	260	FAL	2250.0	2325	35.0	-4.0	-2.0		
	9400	TYKW	45	C	2353.0	2356.2	25.0	15	4		
14	100	GORK	44	NS	0545.0E		435.0D		10		
	200	GORK	44	NS	0546.0E		434.0D		25		
	113	POTS	44	NS	0635.0E	0723	487.0D	70			

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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
14	234	POTS	44	NS	0635.0E	0730	487.0D	53			
	127	TORN	44	NS	0640.0E	1058.4	500.0D	467	16		V1
	202	IZMI	44	NS	0700.0E		300.0D	100			
	260	ONDR	44	NS	0750.0E		412.0D	128	14		
	200	HIRA	44	NS	2126.0E	0243	640.0D	60	15		WR
	9400	TYKW	5	S	0027.0	0029.2	10.0	220	35		
	3750	TYKW	5	S	0028.0	0029.2	4.0	1	.4		
	8800	MANI	3	S	0028.5	0029.3	1.5	274.0	91.3		
	9400	TYKW	29	PBI	0037.0		15.0	8	3		
	3750	TYKW	5	S	0057.0	0059	6.0	2	.5		
	2000	TYKW	5	S	0057.0	0100	20.0	2	1		
	9400	TYKW	5	S	0057.5	0058.7	10.0	4	1.5		
	9400	TYKW	5	S	0207.0	0210	10.0	4	1.5		
	3750	TYKW	5	S	0228.0	0232	12.0	2	1		
	9400	TYKW	45	C	0228.0	0234.4	12.0	7	2		
	9400	TYKW	5	S	0410.0	0410.3	2.0	4	1		
	9400	TYKW	5	S	0428.0	0430	5.0	4	2		
	3750	TYKW	45	C	0429.0	0429.8	5.0	7	2		
	2000	TYKW	5	S	0429.0	0430.2	3.0	9	2.5		
	3750	TYKW	20	GRF	0456.0	0504.5	55.0	5	2		
	2000	TYKW	5	S	0456.0	0500	20.0	1.5	.5		
	9400	TYKW	28	PRE	0459.0	0504.5	9.5	4	2		
	9400	TYKW	5	S	0508.5	0509.6	6.5	155	25		
	5730	IRKU	2	S/F	0508.5	0509.5	6.0	18	3.5		L
	9400	TYKW	29	PBI	0515.0		25.0	9	2.5		
	2000	TYKW	45	C	0540.0	0541.8	4.0	2	.5		
	9400	TYKW	45	C	0600.0	0609.4	20.0	10	2.5		
	2000	TYKW	45	C	0600.0	0610.5	14.0	6	2		
	3750	TYKW	45	C	0603.0E	0609.4	17.0D	4	1 D		
	1000	TYKW	45	C	0603.0E	0609.5	10.0D	16	1.5D		
	9400	TYKW	5	S	0630.0	0631.2	3.0	7	2		
	3750	TYKW	5	S	0656.0	0656.3	1.0	3	1		
	6100	KISV	1	S	0656.0	0658.3	3.0	2			
	202	IZMI	7	C	0705.0	0706.0	2.0	570	300		
	2950	GORK	20	GRF	0707.0	0711.6	9.6	4.5	2		
	3750	TYKW	5	S	0710.0	0711.2	7.0	3	1		
	9100	GORK	21	GRF	0710.8	0721.9	31.5	15	3.6		
	6100	KISV	8	S	0715.0	0719	5.0	18			
	9400	TYKW	5	S	0717.0	0718.9	5.0	87	13		
	9100	GORK	3	S	0718.3	0719.2	3.3	82	17		
	10400	BERN	3		0718.4	0719.1	6.0	62.0			ONLY PAPER REC
	15000	KISV	8	S	0718.5	0719	2.0	57			
	202	IZMI	41	F	0721.5	0723.0	6.5	625			
	9400	TYKW	29	PBI	0722.0		6.0	4.5	2		
	5730	IRKU	1	S	0722.5	0722.9	6.0	9	2		R
	810	KRAK	8	S	0846.5	0846.7	.5	13			
	6100	KISV	1	S	0857.0	0857.3	2.0	2			
	33	UPIC	42	SER	1050.4	1050.5	22.2				
	29	UPIC	42	SER	1050.5	1050.7	22.6				
	202	IZMI	45	C	1129.5	1130.1	1.5	675	350		
	430	KRAK	8	S	1255.3	1255.7	.5	62			
	113	POTS	4	S/F	1303.6	1305.0	2.1	400	20		III
	7000	SAOP	40	F	1349.0		7.0				
	9400	HUAN		S	1529.2	1529.8	3.9	11.2	5.0		R
	9400	HUAN		S	1544.0	1545.6	4.1	9.6	4.8		R
	2800	OTTA	20	GRF	1640.0	1730	80.0	3.6	2.6		
	7000	SAOP	40	F	1647.0						SUNSET
	9400	HUAN		S	1758.1	1802.4	26.7	4.8	1.6		R
	2800	OTTA	22	GRF	1850.0	1950	120.0	3.2	2.0		
	1000	TYKW	45	C	2316.5	2317.0	2.0	2	.5		
15	200	GORK	44	NS	0533.0E		407.0D		30		
	100	GORK	44	NS	0536.0E		384.0D		5		
	202	IZMI	44	NS	0700.0E		300.0D	100			
	127	TORN	44	NS	0720.0E	0912.6	460.0D	40	3		V1
	260	ONDR	44	NS	0800.0E		390.0D	94	8		
	200	HIRA	44	NS	2125.0E	2259	570.0D	40	10		WR
	9400	TYKW	5	S	0015.0	0016	3.0	2.5	1		
	1000	TYKW	45	C	0059.0	0104.0	9.0	50	5		
	3750	TYKW	45	C	0059.0	0100.2	8.0	15	2		
	2000	TYKW	45	C	0059.0	0100.3	4.0	6	2		
	700	SYDN	40	F	0059.5	0100.3	1.2				
	1400	SYDN	40	F	0059.5	0100.3	1.7				
	9400	TYKW	5	S	0100.0	0100.2	2.0	14	3		
	9400	TYKW	5	S	0110.0	0110.2	1.0	2	.5		
	3750	TYKW	21	GRF	0115.0	0140	60.0	3	1		
	2000	TYKW	45	C	0244.0	0248.3	11.0	18	6		
	3750	TYKW	45	C	0244.0	0246.7	7.0	40	9		
	2930	VORO	45	C	0245.0	0248	7.0	34			
	1000	TYKW	5	S	0247.0	0248.5	4.0	1	.4		
	700	SYDN	40	F	0248.9	0249.1	1.4				
	3750	TYKW	30	PBI	0251.0		145.0	7	2.5		
	2000	TYKW	30	PBI	0255.0		160.0	3.5	2		
	2000	TYKW	5	S	0310.0	0316	8.0	5	1.5		
	3750	TYKW	20	GRF	0314.0	0320	85.0	5	2		

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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
15	1000	TYKW	45	C	0314.0	0315.7	5.0	2	1		
	2000	TYKW	29	PBI	0318.0		30.0	3	1.5		
	650	GORK	20	GRF	0711.0		32.0	5.4	2.5		
	113	POTS	42	SER	0746.7	0746.7	7.0	700	2		III
	29	UPIC	2	S/F	0751.5	0752.1	1.1				
	33	UPIC	2	S/F	0753.2	0753.4	1.8				
	810	KRAK	8	S	1059.0U	1059.8	1.0U	39			
	810	KRAK	8	S	1143.0	1143.0	.1	10			
	430	KRAK	42	SER	1240.5	1244.7	7.0	39			
	430	KRAK	8	S	1303.5	1303.5	.1	17			
	113	POTS	8	S	1303.5	1303.5	.1	200	70		III
	810	KRAK	4	S/F	1310.8	1311.0	.7	41	15		
	430	KRAK	42	SER	1328.0	1329.5	3.7	201			
	536	ONDR	42	SER	1328.2	1329.3	17.0	24			
	2800	OTTA	8	S	1328.9	1328.9	.1	4.4			
	810	KRAK	42	SER	1329.3	1329.7	2.0	25			
	430	KRAK	8	S	1343.2	1343.5	.3	11			
	430	KRAK	1	S	1359.0	1359.0	.2	5			
	930	BORD	8	S	1359.7	1359.7	.1	22	1		
	810	KRAK	4	S/F	1359.7	1359.7	.7	32	16		
	930	BORD	41	F	1436.0	1436.4	.5	48	2		
	2800	OTTA	20	GRF	1500.0	1700	180.0	7.2	3.6		
	2800	OTTA	21	GRF	1900.0	1930	230.0	6.4	3.2		
	9400	HUAN		PRE	2045.8	2110.2	24.4	13.2	3.1		O
	2800	OTTA	8	S	2046.2	2046.5	.8	3.4	1.7		
	2800	OTTA	21	GRF	2102.0	2120	43.0	8.6			
	2800	OTTA	2	S/F	2103.0	2104.3	4.0	5.6	2.6		
	2800	OTTA	4	S/F	2110.0	2113.5	6.0	19.0	7.2		
	9400	HUAN		C	2110.2	2113.8	8.0	54.4	22.2		L
	9400	HUAN		PBI	2118.2	2118.2	51.0	19.8	5.4		L
	2000	TYKW	5	S	2344.0	2347.3	6.0	8	3		
	1000	TYKW	5	S	2345.0	2347.5	5.0	8	3		
	3750	TYKW	5	S	2346.0	2347.0	5.0	5	1.5		
	9400	TYKW	5	S	2346.5	2347.5	2.5	2.5	1		
	2000	TYKW	29	PBI	2350.0		20.0	2	1		
16	200	GORK	44	NS	0523.0E		383.0D		5		
	260	ONDR	44	NS	0750.0E		415.0D	30	2		
	3750	TYKW	5	S	0611.0	0612.7	5.0	2.5	1		
	6100	KISV	1	S	0654.0	0654.7	4.0	3			
	950	GORK	1	S	0724.4	0724.5	.5	8	4		
	650	GORK	1	S	0724.5	0724.6	.3	8	4		
	2950	GORK	1	S	0724.6	0724.8	.4	7.5	3.5		
	100	GORK	8	S	0913.8	0914.1	1.2	160			
	33	UPIC	4	S/F	0913.8	0914.3	1.0				
	29	UPIC	4	S/F	0913.9	0914.5	.9				
	100	GORK	46	C	0949.3	0948.8	2.6	130			
	100	GORK			0950.3			160			
	2800	OTTA	3	S	1441.5	1442.3	4.0	11.4	3.6		
	7000	SAOP	3	S	1513.0E	1513.0		15.0			O,CALIBRATION
	9400	HUAN		S	1527.8	1605.6	94.5	17.2	3.4		R
	2800	OTTA	22	GRF	1640.0	1750	85.0	3.6			
	7000	SAOP	1	S	1644.5	1644.7		9.0			O
	2800	OTTA	260	FAL	1820.0	1900	40.0	-4.4	-2.2		
	2800	OTTA	20	GRF	1935.0	1950	30.0	2.4	1.2		
	2695	PENT	20	GRF	2200.0	2205	12.0	5.0	2.5		
	2695	PENT	3	S	2224.3	2224.6	3.0	31.8	15.0		
	3750	TYKW	5	S	2224.3	2224.6	8.0	19	4		
	2000	TYKW	5	S	2224.3	2224.6	4.0U	24 U	6 U		
	9400	TYKW	5	S	2224.3	2224.6	1.5	3	1		
	2695	PENT	29	PBI	2227.3	2227.3	12.0	6.2	3.0		
	9400	TYKW	5	S	2244.0	2244.5	1.0	10	3		
17	200	GORK	44	NS	0552.0E		366.0D		5		
	260	ONDR	44	NS	0750.0E		429.0D	26			
	3750	TYKW	5	S	0311.0	0313.2	4.0	16	4		
	5730	IRKU	2	S/F	0312.0	0313.2	7.0	22	5		L
	4995	MANI	3	S	0312.5	0313.5	2.4	30.4	10.1		
	3750	TYKW	29	PBI	0315.0		15.0	3	1.5		
	5730	IRKU	21	GRF	0628.0	0629.0	5.0	11	4		L
	3750	TYKW	5	S	0628.5	0629.0	5.0	2	1		
	6100	KISV	45	C	0839.5	0841.7	6.0	22			
	6100	KISV			0839.5	0841		13			
	3100	CRIM	1	S	0841.0	0842.0	2.0	9	3		
	3100	CRIM	26	FAL	1012.0	1117.0		5			
	6100	KISV	2	S/F	1049.0	1049.5	1.0	3			
	2800	OTTA	20	GRF	1336.0	1337.5	25.0	4.0	1.8		
	2800	OTTA	20	GRF	1435.0	1550	205.0	6.4	3.4		
	228	HARS	45	C	1557.2	1557.4	1.2	115	40		
	9400	HUAN		S	1806.7	1807.1	1.4	15.3	5.2		O
18	200	GORK	43	NS	0600.0		402.0E		5		
	260	ONDR	44	NS	0800.0E		410.0D	18			
	2000	TYKW	5	S	0112.0	0112.6	1.5	3	1		
	3750	TYKW	5	S	0112.0	0112.4	3.0	5	1.5		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
18	6100	KISV			0939.5	0940		2			
	6100	KISV	4	S/F	0939.5	0941	5.0	5			
	6100	KISV	20	GRF	0952.0	0953	10.0	4			
	6100	KISV	1	S	1002.0	1003	3.0	2			
	930	BORD	41	F	1002.7	1002.7	.4	29	2		
	810	KRAK	8	S	1002.7	1002.7	.3	32			
	930	BORD	41	F	1204.5	1204.6	.6	27	3		
	2800	OTTA	20	GRF	1455.0	1500	25.0	2.6	1.3		
	2800	OTTA	22	GRF	1625.0	1636	75.0	3.8	2.0		
	9400	HUAN		S	1709.0	1715.5	17.7	8.4	4.6		O
	7000	SAOP	4	S/F	1912.2	1913.4		13.0			14R
	9400	HUAN		S	1912.6	1913.1	6.2	11.8	6.3		O
	2800	OTTA	20	GRF	2010.0	2045	90.0	4.0	2.0		
19	5730	IRKU	20	GRF	0404.0	0408.5	13.0	15	6		
	6100	KISV	45	C	0742.0	0749.5	9.0	30			
	6100	KISV			0742.0	0750.5		24			
	9400	TYKW	45	C	0746.0	0749.6	18.0	55	12		
	3750	TYKW	45	C	0746.0	0749.6	18.0U	7 U	3 U		
	9100	GORK	21	GRF	0746.2	0755.1	38.0	17	6		
	9500	POTS	4	S/F	0746.5	0749.5	13.0	55			
	2950	GORK	20	GRF	0746.8	0754.0	47.0	5.3			
	10715	DWIN	2	S/F	0747.0	0750	8.0	20	10		
	9100	GORK	46	C	0747.1	0749.6	7.9	55			
	9100	GORK			0747.1	0753.6		22			
	9100	GORK			0747.1	0750.1		52			
	6100	KISV	29	PBI	0751.0	0751	39.0	12			
	6100	KISV	45	C	0752.0	0753	3.0	19			
	6100	KISV			0752.0	0754		16			
	930	BORD	41	F	1016.5	1016.9	.5	115	3		
	930	BORD	41	F	1058.0	1058.2	.3	85	2		
	9400	HUAN		S	1501.4	1529.0	79.9	8.8	3.9		R
	9400	HUAN		S	1525.8	1527.4	2.8	24.8	13.1		R
	2800	OTTA	21	GRF	1908.0	1910.5	35.0	3.8	1.6		
	2800	OTTA	1	S	1909.5	1910	1.5	5.2	2.4		
	2800	OTTA	20	GRF	2005.0	2040	160.0	6.6	3.3		
	2000	TYKW	5	S	2253.0	2254.7	3.0	2	1		
	3750	TYKW	45	C	2253.0	2254.7	3.0	4	1.5		
	9400	TYKW	45	C	2253.0	2254.7	6.0	28	5		
20	3750	TYKW	5	S	0655.0	0656.2	6.0	3	1		
	6100	KISV	1	S	1152.0	1152	1.0	2			
	430	KRAK	3	S/F	1316.2	1316.5	1.5	47	16		
	9400	HUAN		S	1404.5	1413.0	11.3	9.6	7.4		O
	2800	OTTA	21	GRF	1420.0	1505	145.0	3.8	2.4		
	2800	OTTA	20	GRF	1603.0	1607	15.0	2.0	1.0		
	2800	OTTA	27A	RF	1741.0		339.0	3.4	3.3		
	2800	OTTA	24	R	1741.0	1748	7.0	3.4	1.4		
	9400	HUAN		S	1747.1	1758.6	63.4	11.7	6.4		O
	2800	OTTA	24P	R	1748.0		317.0	3.4			
	2800	OTTA	3	S	1749.0	1753	11.0	11.4	5.7		
	2800	OTTA	29	PBI	1800.0	1800	60.0	4.4	1.5		
	2800	OTTA	4	S/F	2016.0	2017.8	2.8	17.4	6.5		
	9400	HUAN		S	2016.8	2017.6	5.4	42.9	8.7		R
	2800	OTTA	29	PBI	2018.8	2018.8	34.0	5.0	2.5		
	2800	OTTA	20	GRF	2130.0	2132	11.0	6.0	2.0		
	2695	PENT	3	S	2253.0	2254.5	4.0	17.4	6.6		
	3750	TYKW	5	S	2253.0	2254.6	3.0	19	7		
	9400	TYKW	45	C	2254.0	2254.6	4.0	12	2		
	2000	TYKW	5	S	2254.0	2254.6	3.0	5	2		
	700	SYDN	2	S/F	2254.8	2255.1	.7				
	3750	TYKW	29	PBI	2256.0		20.0	4	1.5		
	2695	PENT	29	PBI	2257.0	2257	7.0	5.0	2.4		
	2695	PENT	26	FAL	2305.0	2320	15.0	-3.4	-1.7		
21	100	HIRA	44	NS	2120.0E	2321	360.0D	70	25		
	200	HIRA	44	NS	2120.0E	0151	600.0D	10	2		WR
	700	SYDN	45	C	0007.7	0008.3	.8				
	700	SYDN	40	F	0015.3	0016.2	1.3				
	2000	TYKW	5	S	0320.0	0322.0	3.0	13	3.5		
	3750	TYKW	5	S	0321.0	0322.0	2.0	22	7		
	9400	TYKW	20	GRF	0321.0	0325	40.0	4.5	2		
	1000	TYKW	5	S	0321.5	0322.0	1.0	7	1.5		
	2000	TYKW	29	PBI	0323.0		30.0	3	1		
	3750	TYKW	29	PBI	0323.0		45.0	5	1.5		
	3750	TYKW	21	GRF	0446.0	0508	75.0	4	1.5		
	2000	TYKW	20	GRF	0500.0	0508	40.0	3.5	1		
	9400	TYKW	20	GRF	0500.0	0510	50.0	3	1.5		
	9400	TYKW	5	S	0710.9	0711.3	1.0	6	2		
	536	ONDR	48	C	0751.7	0901.5	108.0	84	47		UNCERTAIN
	2800	OTTA	20	GRF	1439.0	1449	30.0	4.8	1.8		
	2800	OTTA	20	GRF	1525.0	1545	60.0	2.2	1.5		
	930	BORD	8	S	1620.2	1620.2	.1	31	1		
	9400	HUAN		S	1744.6	1816.8	57.9	8.6	5.0		L
	9400	HUAN		S	1812.7	1813.9	2.4	16.0	7.0		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
21	2800	OTTA	4	S/F	1812.8	1814.1	5.2	18.0	9.0		
	2800	OTTA	29	PBI	1818.0	1818	25.0	3.8	1.4		
22	260	ONDR	44	NS	0740.0E		430.0D	12			
	3750	TYKW	5	S	0216.0	0217	3.0	1.5	.5		
	5730	IRKU	20	GRF	0515.0	0518.0	11.0	43			L
	5730	IRKU	29	PBI	0526.0		27.0	23			
	2800	OTTA	22	GRF	1858.0	1904	16.0	8.0	3.0		
	9400	HUAN		S	1902.4	1904.3	3.4	5.6	4.0		O
	2695	PENT	26O	FAL	2300.0	2320	20.0	-3.4	-1.7		
23	260	ONDR	44	NS	0800.0E		400.0D	15			
	3750	TYKW	5	S	0101.0	0101.5	20.0	2.5	.7		
	3750	TYKW	5	S	0141.0	0142.0	20.0	3	.9		
	1000	TYKW	45	C	0141.8	0142.0	1.0	35	3 U		
	6100	KISV	27	RF	0641.0	0649	14.0	2			
	113	POTS	8	S	0651.1	0651.2	.9	350	100		
	6100	KISV	27	RF	0825.0	0828	6.0	2			
	113	POTS	4	S/F	0918.3	0918.4	1.3	1300	35		III
	6100	KISV	27	RF	1020.0	1025	40.0	3			
	6100	KISV	27	RF	1120.0	1128	35.0	4			
	113	POTS	8	S	1120.0	1120.0	.1D	250	80		
	9400	HUAN		S	1305.9	1328.4	76.5	6.9	4.1		O
	2800	OTTA	20	GRF	1627.0	1810	150.0	2.2	1.1		
	2000	TYKW	5	S	2355.0	2355.7	7.0	3	1		
24	260	ONDR	44	NS	0809.0E		386.0D	24			
	3750	TYKW	5	S	0048.0	0048.7	6.0	2	.5		
	3750	TYKW	5	S	0224.0	0225.3	15.0	2	1		
	2000	TYKW	5	S	0242.0	0244.1	6.0	3	1		
	3750	TYKW	5	S	0243.5	0244.0	1.5	1	.3		
	3750	TYKW	5	S	0507.0	0508.4	4.0	3	1		
	2000	TYKW	5	S	0507.5	0508.5	3.0	3.5	1		
	9400	TYKW	5	S	0508.0	0508.4	1.0	3	1		
	6100	KISV	1	S	0650.5	0651.3	3.0	2			
	3750	TYKW	5	S	0651.0	0651.3	1.0	2.5	.7		
	3100	CRIM	1	S	0651.0	0651.5	1.0	6	2		
	2000	TYKW	5	S	0651.0	0651.4	1.0	11	3		
	2950	GORK	1	S	0651.1	0651.3	.6	7.4	3.6		
	127	TORN	4	S/F	0917.7	0918.7	2.6	313	157		
	33	UPIC	4	S/F	0917.8	0919.4	4.1				
	29	UPIC	4	S/F	0918.2	0918.9	2.5				
	930	BORD	8	S	1411.5	1411.5	.1	18	1		
	2800	OTTA	20	GRF	1540.0	1710	125.0	3.0	1.8		
	2800	OTTA	1	S	1800.0	1807	10.0	2.0	1.2		
25	260	ONDR	44	NS	0750.0E		405.0D	26			
	202	IZMI	41	F	0721.0	0722.2	1.5	95			
	930	BORD	8	S	1154.7	1154.7	.1	13	1		
	2800	OTTA	27	RF	1350.0		105.0	3.2	2.7		
	2800	OTTA	24	R	1350.0	1410	20.0	3.2	1.6		
	2800	OTTA	24P	R	1410.0		73.0	3.2			
	2800	OTTA	26	FAL	1523.0	1535	12.0	-3.2	-1.6		
	2800	OTTA	24O	R	1540.0	1555	15.0	3.2	1.6		
	2650	DWIN	3	S	1621.0	1621	2.0	150	100		
	7000	SAOP	3	S	1621.1	1621.5		14.0			O
	2800	OTTA	4	S/F	1621.2	1621.7	4.0	66.0	6.6		
	930	BORD	3	S	1621.4	1621.7	4.6	44	15		
	2800	OTTA	24O	R	1645.0	1703	18.0	5.0	2.6		
	9400	HUAN		S	1654.8	1727.7	74.0	12.0	8.6		O
	2800	OTTA	21	GRF	1705.0	1735	135.0	4.4	3.4		
	2800	OTTA	8	S	1722.0	1722	.1	4.0			
	2800	OTTA	21	GRF	1944.0	2020	130.0	4.6	2.6		
	2800	OTTA	1	S	1944.5	1945	3.0	4.0	1.9		
	9400	HUAN		S	1945.3	2020.4	74.5	13.7	8.5		O
	2800	OTTA	1	S	2201.0	2202	2.0	3.4	1.7		
26	260	ONDR	44	NS	0750.0E		422.0D	22			
	3750	TYKW	5	S	0027.0	0027.3	2.0	2	2		
	9400	TYKW	5	S	0027.0	0027.3	2.0	8	2		
	3750	TYKW	45	C	0321.0	0321.5	2.0	3	1		
	2000	TYKW	45	C	0321.0	0321.5	1.5	11	2		
	1000	TYKW	45	C	0321.0	0321.5	1.5	8	1.5		
	3100	CRIM	25	R	0727.0	0845.0		6			
	430	KRAK	41	F	0803.0	0808.3	9.5	65	13		
	430	KRAK	8	S	0825.0	0825.0	.1	17			
	536	ONDR	42	SER	0837.0	0845.6	10.0	56			
	430	KRAK	8	S	0838.5	0838.5	.1	92			
	3100	CRIM	45	C	0844.0	0844.5	5.0	13	4		
	3100	CRIM			0844.0	0846.0		8			
	810	KRAK	41	F	0844.3	0846.2	2.0	14			
	1470	POTS	4	S/F	0844.4	0852.0	8.6	8.3			
	6100	KISV			0844.5	0846.5		3			
	430	KRAK	41	F	0844.5	0845.0	.8	45			
	930	BORD	41	F	0844.6	0844.7	2.6	17	3		

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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
26	3000	POTS	3	S	0845.0	0846.8	2.5	7.6			
	6100	KISV	45	C	0849.5	0845	4.0	7			
	3100	CRIM	20	GRF	0920.0	0927.0	45.0	5	2		
	1470	POTS	1	S	0940.0	0940.9	1.5	2.1			
	3000	POTS	1	S	0940.5	0940.8	.8	2.5			
	127	TORN	4	S/F	1003.4	1004.5	1.8	70	35		
	3000	POTS	20	GRF	1012.0	1016.5	7.0	5			
	9100	GORK	20	GRF	1013.4	1034.0	27.0	12	3		
	9500	POTS	20	GRF	1014.5	1016.8	6.5U	6			
	536	ONDR	41	F	1030.5	1033.8	4.0	21	3		
	260	ONDR	45	C	1031.5	1031.8	2.5	162	11		
	430	KRAK	41	F	1032.0	1033.7	2.0	257			
	234	POTS	41	F	1032.0	1032.0	1.2	400	6		III
	3000	POTS	40	F	1032.7	1033.8	1.8	4			
	810	KRAK	4	S/F	1033.7	1033.8	.5	70	21		
	9100	GORK	20	GRF	1058.9	1105.0	12.4	4	2		
	930	BORD	8	S	1103.5	1103.6	.1	21	1		
	2650	DWIN	3	S	1151.0	1152	2.0	65	50		
	810	KRAK	4	S/F	1151.5	1152.5	1.5	23	8		
	536	ONDR	4	S/F	1151.5	1152.1	2.0	182	20		
	650	GORK	4	S/F	1151.5	1152.0	1.6	60 D	30		
	3000	POTS	4	S/F	1151.5	1152.5	2.8	37			
	1470	POTS	3	S	1151.5	1152.8	2.0	17			
	9500	POTS	1	S	1151.8	1152.5	1.2	4.5			
	2950	GORK	3	S	1151.8	1152.7	2.0	40	20		
	200	GORK	3	S	1151.8	1152.7U	1.5	30 D			
	808	ONDR	2	S/F	1151.8	1152.7	2.0	25	3.8		
	930	BORD	46	C	1152.0	1152.6	1.4	33	6		
	202	IZMI	7	C	1152.0	1152.3	1.0	310	170		
	3100	CRIM	3	S	1152.0	1152.5	2.0	20	5		
	9100	GORK	1	S	1152.1	1152.7	2.0	6.5	3		
	260	ONDR	4	S/F	1152.1	1152.1	1.5	118	14		
	29	UPIC	4	S/F	1152.2	1153.2	1.6				
	950	GORK	3	S	1152.2	1152.9	1.1	27	13		
	430	KRAK	4	S/F	1152.3	1152.5	1.0	325	85		
	234	POTS	8	S	1152.3	1152.6	.8	300	60		III/V
	113	POTS	8	S	1152.4	1152.7	.8	350	90		III
	100	GORK	8	S	1152.4	1153	1.4	120			
	33	UPIC	4	S/F	1152.6	1153	.9				
	29	UPIC	2	S/F	1207.1	1207.4	2.0				
	33	UPIC	2	S/F	1207.3	1207.4	1.8				
	127	TORN	4	S/F	1252.5	1253.0	1.0	473	236		
	430	KRAK	8	S	1338.7	1339.0	.3	22			
	234	POTS	8	S	1338.9	1338.9	.1	330	110		
	260	ONDR	45	C	1448.0	1449.8	2.0	135	15		
	2800	OTTA	4	S/F	1449.0	1449.9	2.0	40.0	6.6		
	2650	DWIN	3	S	1449.0	1450	2.0	90	50		
	3000	POTS	8	S	1449.2	1449.8	1.1	28			
	234	POTS	4	S/F	1449.3	1449.6	.9	240	20		
	1470	POTS	8	S	1449.3	1450.1	1.2	145			
	930	BORD	46	C	1449.3	1449.9	1.3	108	5		
	7000	SAOP	21	GRF	1449.4			14.0			0
	7000	SAOP	21	GRF	1449.4						
	9500	POTS	1	S	1449.5	1450.0	1.0	4.5			
	536	ONDR	8	S	1450.0	1450	.3	110	20		
	808	ONDR	8	S	1450.0	1450	.2	42			
	7000	SAOP	3	S	1450.0E	1450.0		18.0			35L
	930	BORD	41	F	1624.4	1626.3	3.0	32	2		
	2800	OTTA	8	S	1625.0	1625.2	.5	3.6	1.8		
	2800	OTTA	21	GRF	1705.0	1810	240.0	12.2			
	2800	OTTA	4	S/F	1743.0	1749.5	17.0	19.2	7.0		
	9400	HUAN		S	1749.1	1810.3	65.5	11.6	7.4		0
	2800	OTTA	4	S/F	1858.0	1900.5	9.0	14.4	6.0		
	2800	OTTA	29	PBI	1907.0	1907	50.0	4.4	2.2		
27	3750	TYKW	8	S	0228.3	0228.3	.1	2	1		
	1000	TYKW			0326.0	0359.6		48			
	1000	TYKW			0326.0	0327.4		30			
	2000	TYKW	28	PRE	0326.0	0345.7	25.0	27	7		
	3750	TYKW	28	PRE	0326.0	0345.6	26.0	25	10		
	1000	TYKW	45	C	0326.0	0355.3	60.0	65	12		
	9400	TYKW	28	PRE	0326.0	0346	26.0	20	10		
	606	MANI	4	S/F	0326.2	0327.0	2.8	44.8	14.9		
	1415	MANI	4	S/F	0326.5	0327.2	1.8	17.3	5.8		
	5730	IRKU			0337.5	0403.7		39			L
	5730	IRKU			0337.5	0400.7		69			L
	5730	IRKU	45	C	0337.5	0345.5	44.0	15			L
	200	HIRA	46	C	0338.9	0356.3	35.0	200	37		WL
	200	HIRA			0338.9	0345.1		28			WL
	1415	MANI	4	S/F	0340.0	0346.0	7.0	53.2	17.7		
	2695	MANI	1	S	0343.3	0345.5	5.4	8.4	2.8		
	100	HIRA	48	C	0344.5	0345.3	33.0	21000	1100		
	100	HIRA			0344.5	0400.7		120			
	100	HIRA			0344.5	0347.5		15000			
	8800	MANI	4	S/F	0347.9	0400.7	23.8	90.8	30.2		

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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
27	35000	NAGO	20	GRF	0350.0	0353	31.0	8			
	2000	TYKW	45	C	0351.0	0401.0	30.0	120	50		
	1415	MANI	4	S/F	0351.5	0403.5	22.5	66.5	22.2		
	4995	MANI	4	S/F	0351.6	0400.7	23.4	96.8	32.2		
	9400	TYKW	45	C	0352.0	0401.0	25.0	80	35		
	3750	TYKW	45	C	0352.0	0401.0	30.0	140	50		
	2695	MANI	4	S/F	0352.6	0401.0	22.4	112.0	37.3		
	606	MANI	4	S/F	0352.8	0400.3	21.2	11.8	3.9		
	9400	TYKW	30	PBI	0417.0		120.0	18	7		
	2000	TYKW	29	PBI	0421.0		120.0	10	3		
	3750	TYKW	29	PBI	0422.0		130.0	19	6		
	200	HIRA	27	RF	0422.8	0443	69.0	8	2		WL
	100	HIRA	27	RF	0426.0	0512	105.0	25	11		
	1000	TYKW	29	PBI	0426.0		50.0	3	1		
	9400	TYKW	5	S	0452.0	0452.3	1.0	5	1.5		
	9400	TYKW	5	S	0700.0	0700.2	.5	8	3		
	3100	CRIM	24	R	0724.0	0936.0		7			
	113	POTS	41	F	0735.6	0735.9	.4	100	5		III
	930	BORD	41	F	0745.5	0746.2	1.0	36	2		
	930	BORD	41	F	1101.4	1101.6	.4	14	2		
	127	TORN			1134.8	1142.1		96			
	127	TORN	42	SER	1134.8	1141.1	9.0	113			
	3100	CRIM	1	S	1142.5	1142.6	1.5	20	5		
	3000	POTS	4	S/F	1142.6	1143.0	1.1	8.1			
	2950	GORK	1	S	1142.8	1143.1	4.2	7.4	3.0		
	2800	OTTA	1	S	1342.5	1343	1.0	2.2	1.4		
	2800	OTTA	22	GRF	1420.0E	1500	120.0D	5.6			
	1470	POTS	8	S	1443.0	1443.4	.8	12			
	2800	OTTA	260	FAL	1905.0	1935	30.0	-3.0	-1.5		
28	5730	IRKU	1	S	0249.5	0250.7	4.0	9	2		L
	2000	TYKW	5	S	0250.5	0250.8	.8	4.5	.8		
	3750	TYKW	5	S	0250.5	0250.7	1.0	9	2		
	9400	TYKW	5	S	0250.5	0250.7	1.0	5	1.5		
	1000	TYKW	5	S	0250.5	0250.7	.8	1.2	.3		
	3100	CRIM	25	R	0717.0	0952.0		5			
	3100	CRIM	1	S	0847.0	0849.0	3.0	6	2		
	113	POTS	42	SER	0947.8	0948.9	1.4	800	25		III
	260	ONDR	8	S	0948.6	0948.6	.2	14			
	234	POTS	8	S	0948.9	0948.9	.3	150	30		III
	3100	CRIM	26	FAL	1057.0	1112.0		3			
	100	GORK	8	S	1123.8	1124.5	1.7	100			
	113	POTS	4	S/F	1124.0	1124.6	.8	420	35		III
	33	UPIC	4	S/F	1124.5	1124.7	.8				
	29	UPIC	4	S/F	1124.6	1124.9	.9				
	6100	KISV	32	ABS	1135.0	1205	30.0	-3			
	15000	KISV	32	ABS	1140.0	1204	25.0	-11			
	430	KRAK	8	S	1149.7	1149.7	.2	22			
	430	KRAK	8	S	1150.5	1150.8	.5	26			
	100	GORK	8	S	1150.6	1150.7	.6	120			
	260	ONDR	8	S	1150.7	1150.7	.3	29			
	127	TORN	47	GB	1203.2	1207.4	5.5	823	144		
	9100	GORK			1203.5	1208.5		140			
	9100	GORK	46	C	1203.5	1206.3	25.0E	580			
	536	ONDR	46	C	1204.5	1206	10.0	188	40		
	7000	SAOP	46	C	1205.0	1206.2	4.5	544.0			1L
	950	GORK			1205.0	1208.6		290			
	950	GORK	46	C	1205.0	1207.0	7.8	230			
	650	GORK			1205.0	1208.6		55			
	2950	GORK	46	C	1205.0	1206.3	7.8	218			
	260	ONDR	46	C	1205.0		15.0	222 D	87		
	650	GORK	46	C	1205.0	1206.8U	10.0	186			
	228	HARS	48	C	1205.0	1206.5	15.0	250 D	40		
	33	UPIC	46	C	1205.0	1206.2	3.8				
	2650	DWIN	45	C	1205.0	1207	8.0	215	100		
	430	KRAK	46	C	1205.0	1206.0U	8.0	473 D	121		
	10715	DWIN	45	C	1205.0	1207	15.0	200	100		
	2950	GORK			1205.0	1208.6		54			
	930	BORD	46	C	1205.0	1205.8	10.0	525	126		
	3100	CRIM	3	S	1205.0	1206.5	8.0	184	60		
	1470	POTS	30	PBI	1205.0	1207.1	150.0	610			
	15000	KISV	46	C	1205.0	1206.5	5.0	514 D			
	9500	POTS	29	PBI	1205.0	1206.2	85.0	498			
	3000	POTS	29	PBI	1205.0	1206.3	129.0	471			
	15000	KISV			1205.0	1208.5		67			
	6100	KISV			1205.0	1208.5		135			
	6100	KISV	46	C	1205.0	1207.5	5.0	350			
	200	GORK	46	C	1205.1	1207.3	5.4D	1700			
	100	GORK	46		1205.1	1206 U	5.0	120 D			
	200	GORK			1205.1	1208.3		5200			
	100	GORK			1205.1	1208.5		16000			
	9400	HUAN		C	1205.1	1206.4	4.9	630.4	231.4		L
	808	ONDR			1205.2	1206		212			
	10400	BERN	47		1205.2	1206.3	27.0	550.0			ONLY PAPER REC
	808	ONDR	46	C	1205.2	1208.7	10.0	394	50		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1980

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
28	234	POTS	48	C	1205.2	1208.4	5.1	100000	800		III
	113	POTS	48	C	1205.5	1207.8	4.9	2000	35		III
	810	KRAK	46	C	1205.5	1206.3	8.8	363	82		
	29	UPIC	46	C	1205.6	1206.3	4.1				
	9400	HUAN		PBI	1210.0	1210.0	79.0	37.8	8.4		0
	6100	KISV	29	PBI	1210.0	1210		9			
	15000	KISV	29	PBI	1210.0	1210		9			
	3100	CRIM	29	PBI	1213.0	1213.0	30.0D	6			
	430	KRAK	8	S	1347.3	1347.5	.5	18			
	2800	OTTA	1	S	1353.0	1353.5	1.0	2.6	1.8		
	1470	POTS	4	S/F	1411.5	1412.6	2.7	15			
	2800	OTTA	22	GRF	1530.0	1600	140.0	3.2	1.8		
	2695	PENT	20	GRF	2120.0	2200	130.0	6.6	3.3		
29	9400	TYKW	5	S	0008.0	0008.1	.4	10	2		
	9400	TYKW	5	S	0021.3	0021.7	1.0	14	3		
	3750	TYKW	21	GRF	0140.0	0230	110.0	5	2		
	2000	TYKW	20	GRF	0150.0	0230	90.0	3	1.5		
	3750	TYKW	5	S	0159.0	0201	10.0	1.5	.5		
	9400	TYKW	20	GRF	0200.0	0230	90.0	4	2		
	650	GORK	2	S/F	0655.4	0657.0	3.0	14			
	950	GORK	2	S/F	0655.8	0656.5	1.5	3.5			
	1000	TYKW	45	C	0656.0	0656.5	1.5	7	1.5		
	2000	TYKW	5	S	0656.0	0656.3	.7	2.5	.5		
	3750	TYKW	5	S	0656.0	0656.4	1.0	1	.3		
	9400	TYKW	5	S	0709.7	0710.0	1.0	6	3		
	650	GORK	1	S	0731.3	0734.1	11.7	2			
	950	GORK	1	S	0733.0	0733.5	1.5	1.8	.9		
	2000	TYKW	5	S	0733.0	0734.0	2.0	8	1.5		
	3100	CRIM	1	S	0733.0	0734.0	2.0	3	1		
	3750	TYKW	5	S	0733.5	0733.9	1.0	2.5	.8		
	200	GORK	3	S	0733.5	0734.0	1.3	3.3			
	2950	GORK	1	S	0733.5	0734.1	1.0	6.2	3.0		
	3100	CRIM	25	R	0834.0	0926.0		7			
	810	KRAK	40	F	0836.2	0837.0	1.5	14			
	930	BORD	41	F	0836.3	0836.4	.6	24	2		
	536	ONDR	2	S/F	0837.6	0838.7	1.5	25	2		
	3100	CRIM	1	S	0838.0	0839.0	2.0	7	2		
	810	KRAK	8	S	1038.5	1038.5	.1	9			
	930	BORD	8	S	1104.4	1104.4	.2	50	2		
	260	ONDR	42	SER	1224.0	1313.6	55.0	13			
	2800	OTTA	23	GRF	1420.0E	1520	260.0D	8.8			
	2800	OTTA	20	GRF	1440.0	1444	15.0	4.6	2.0		
	9500	POTS	20	GRF	1441.0	1445.7	8.0	9.2			
	3000	POTS	20	GRF	1441.0	1443.7	7.0	6.1			
	1470	POTS	4	S/F	1443.3	1443.9	3.7	15			
	536	ONDR	8	S	1443.7	1443.7	.2	24			
	930	BORD	41	F	1640.4	1640.7	.4	61	2		
	2800	OTTA	21	GRF	2000.0	2016	40.0	4.6	2.3		
	2800	OTTA	1	S	2006.0	2007	4.0	2.8	1.4		
	2695	PENT	3	S	2013.0	2013	.1	10.2			

Reports are received routinely from the following observatories:

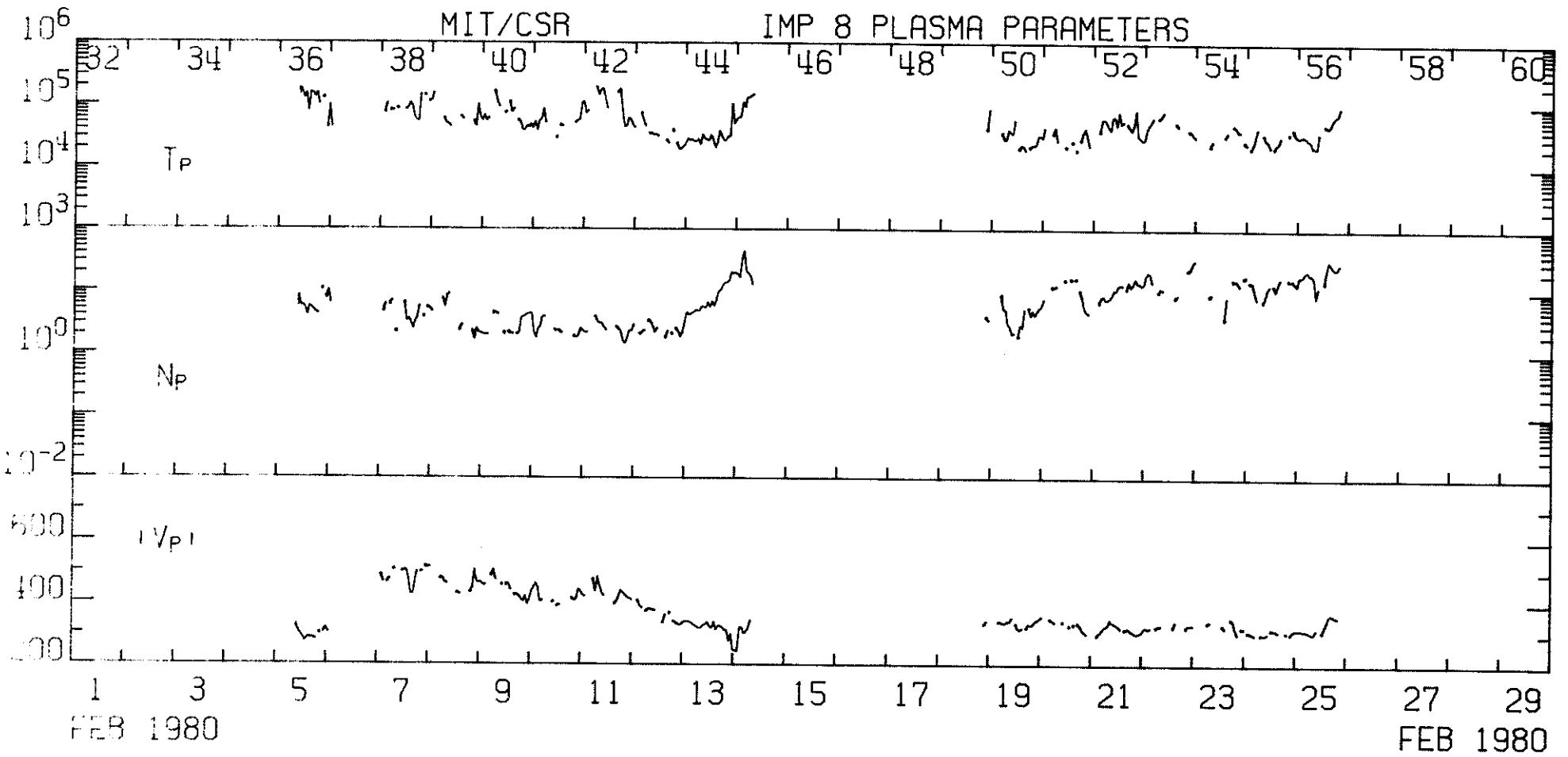
ARCE = Arcetri
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SOAP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

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

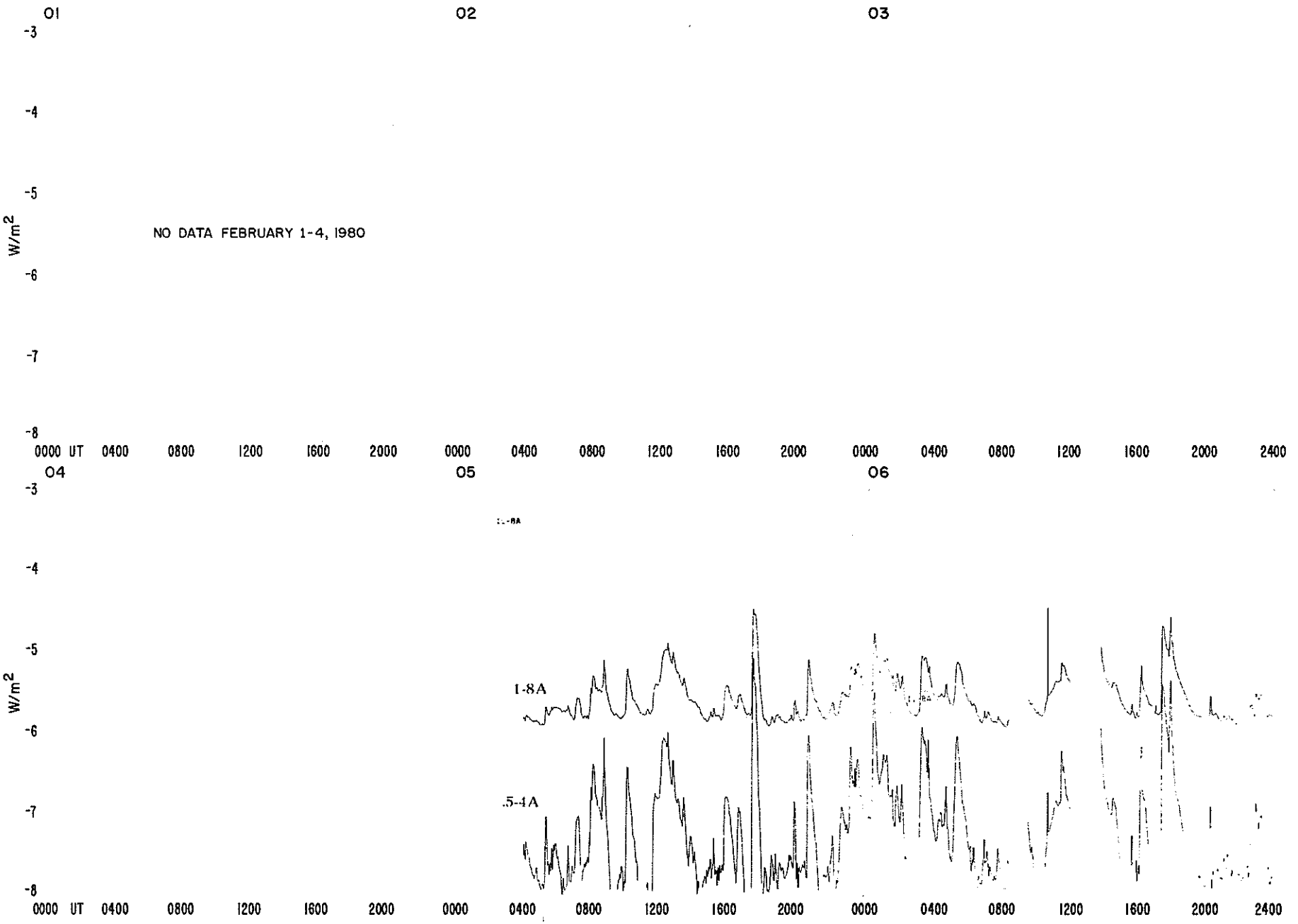
FEBRUARY 1980



29
Feb 80

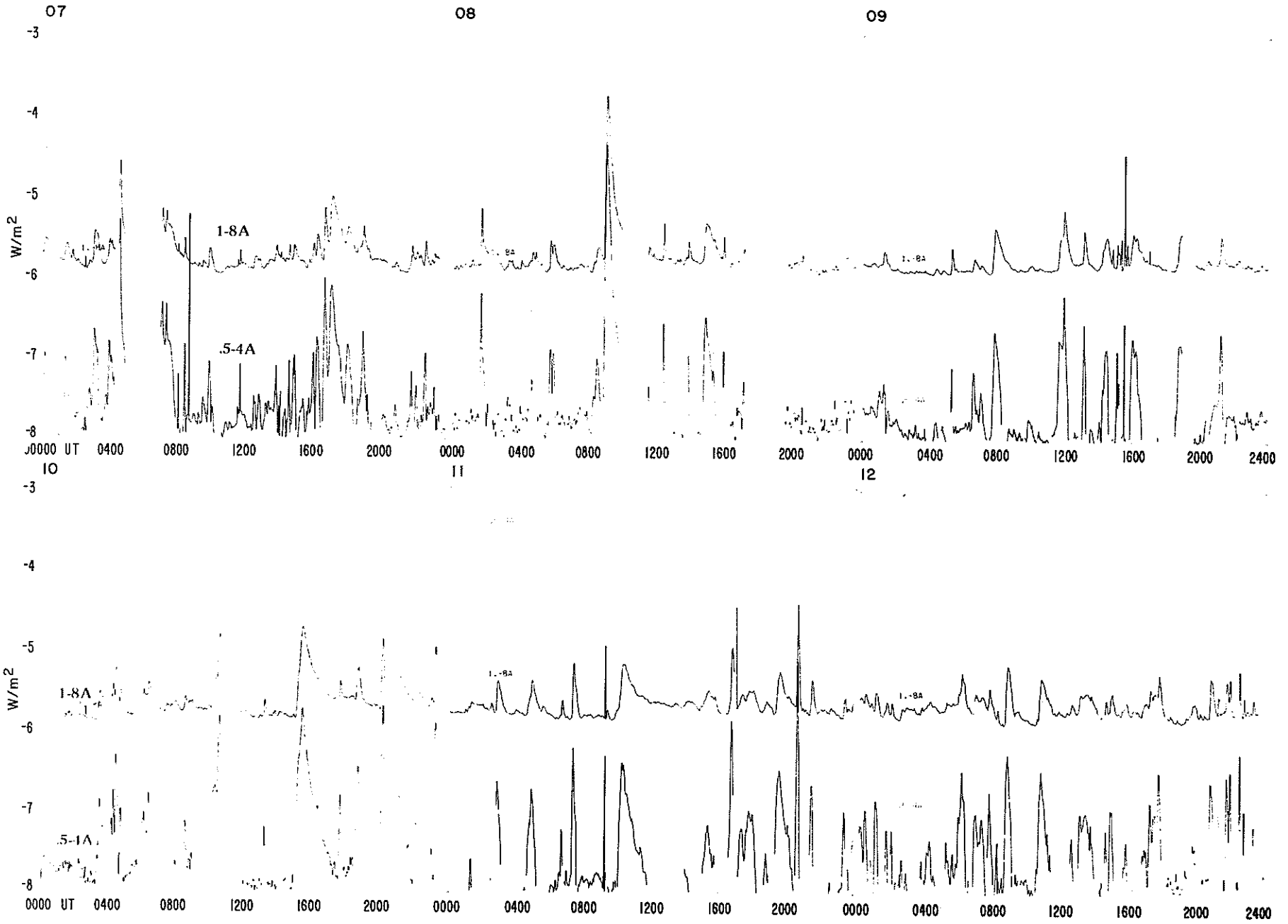
SMS-GOES X-RAYS

FEBRUARY 1980



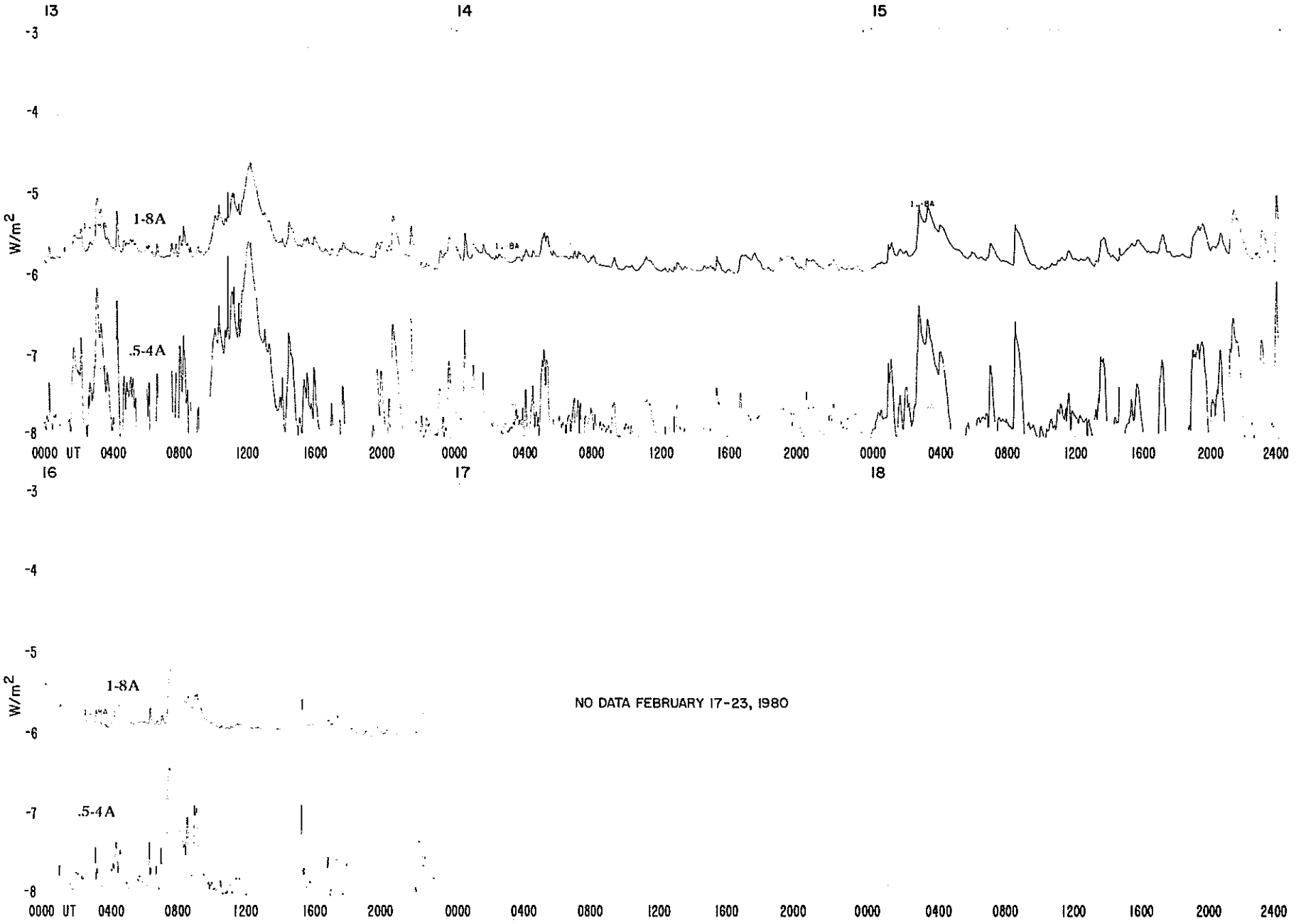
SMS-GOES X-RAYS

FEBRUARY 1980



SMS-GOES X-RAYS

FEBRUARY 1980



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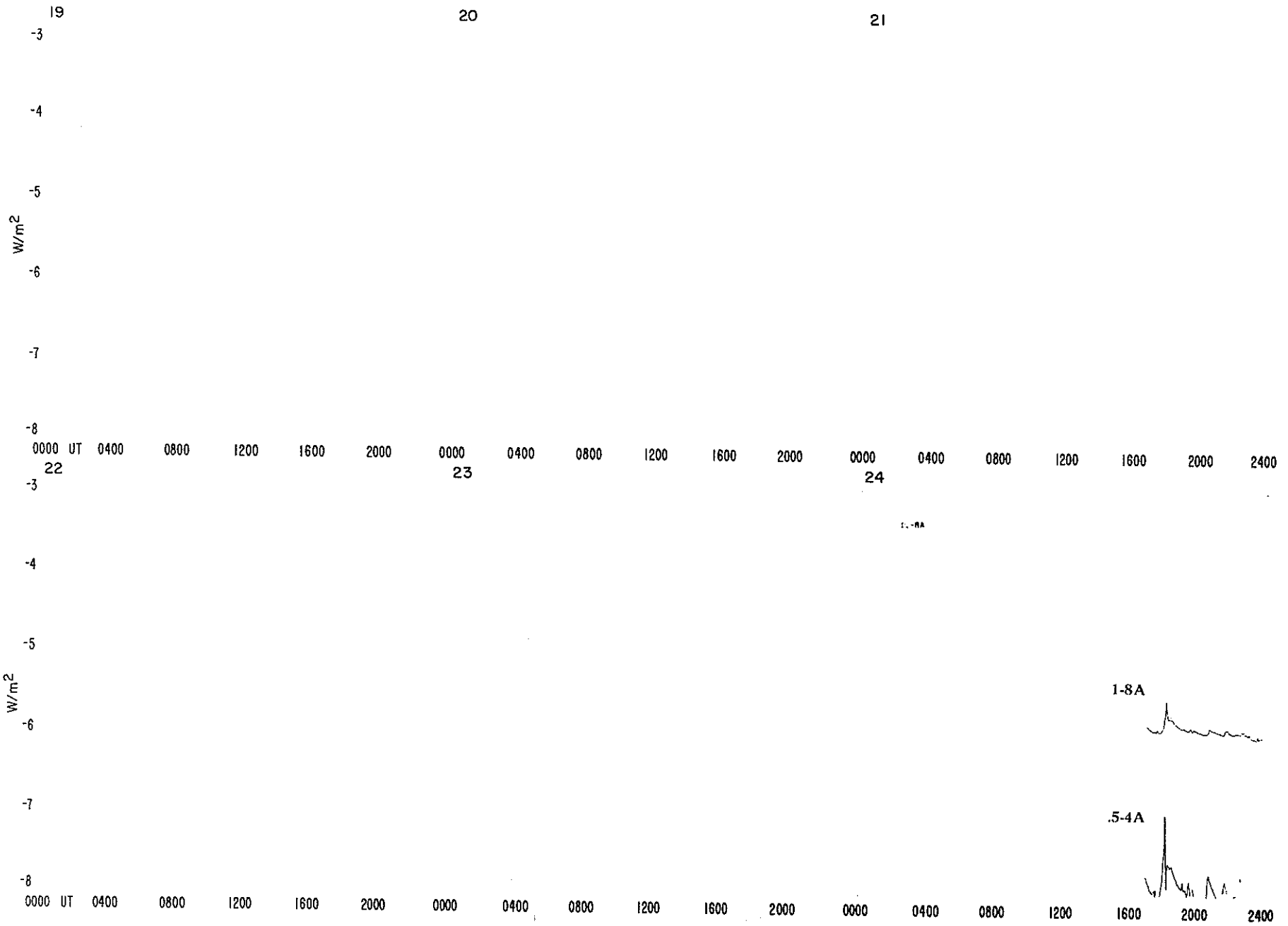
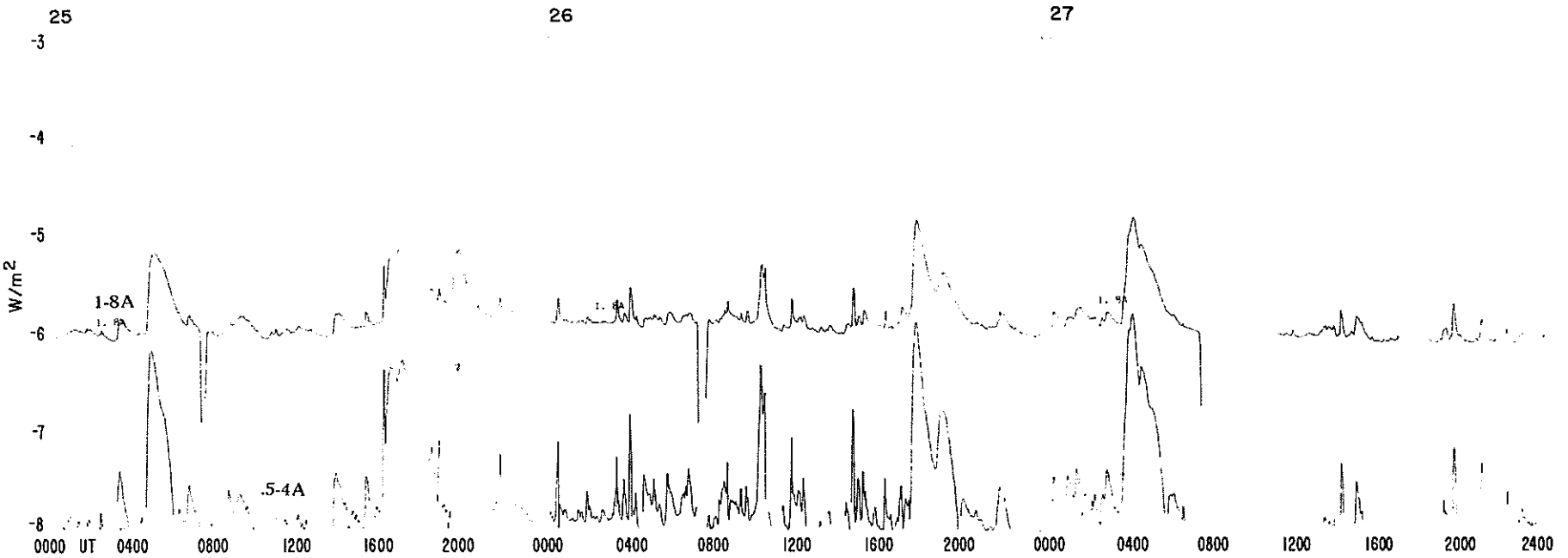
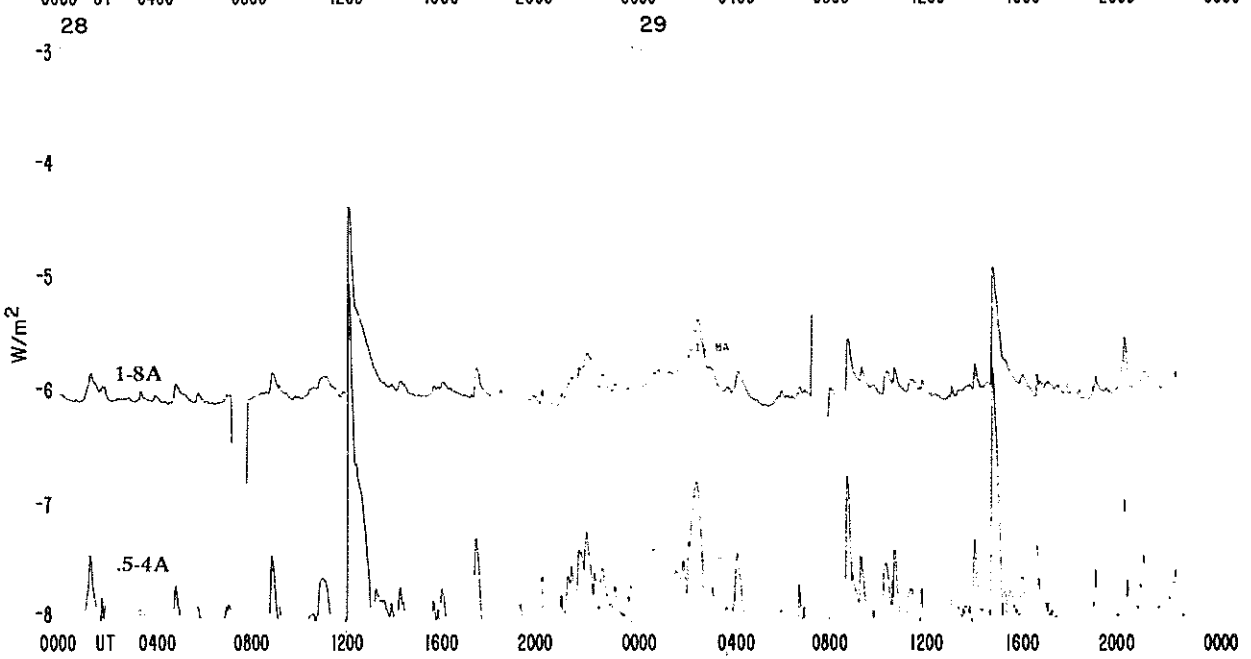
FEBRUARY 1980



SMS-GOES X-RAYS

FEBRUARY 1980





SGD 432 Part II (Comprehensive)

MISCELLANEOUS DATA

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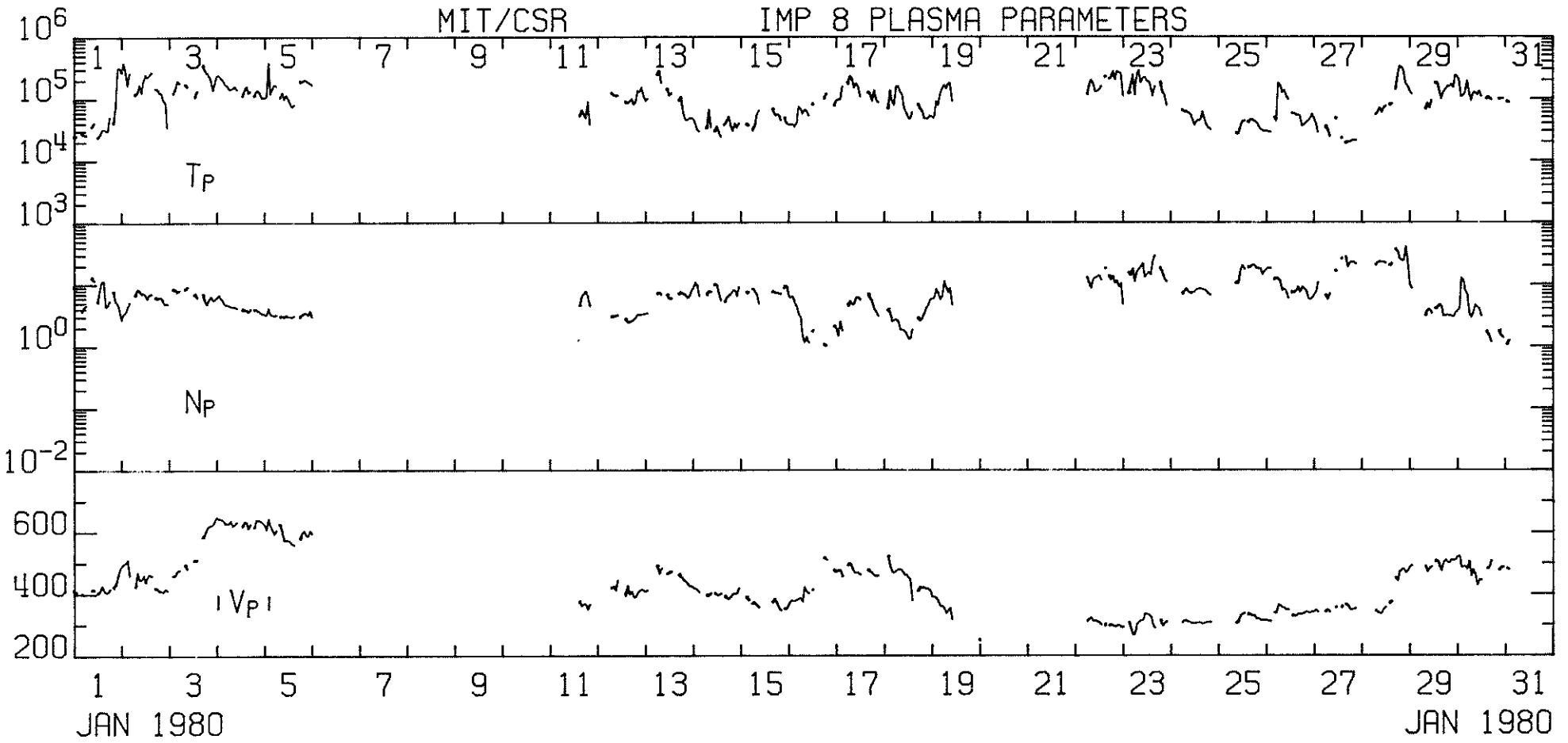
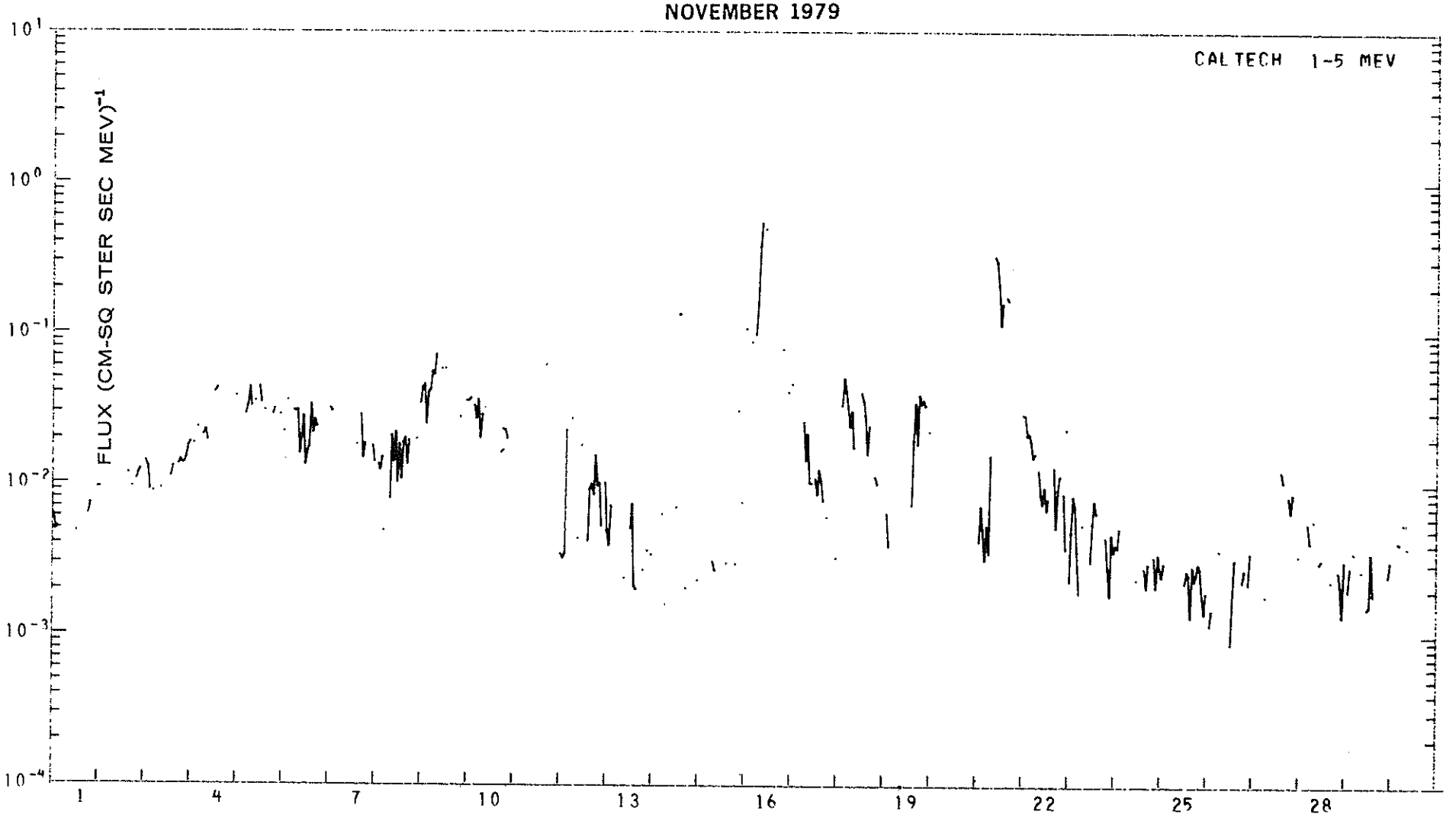
IMP 8 SOLAR WIND PLASMA

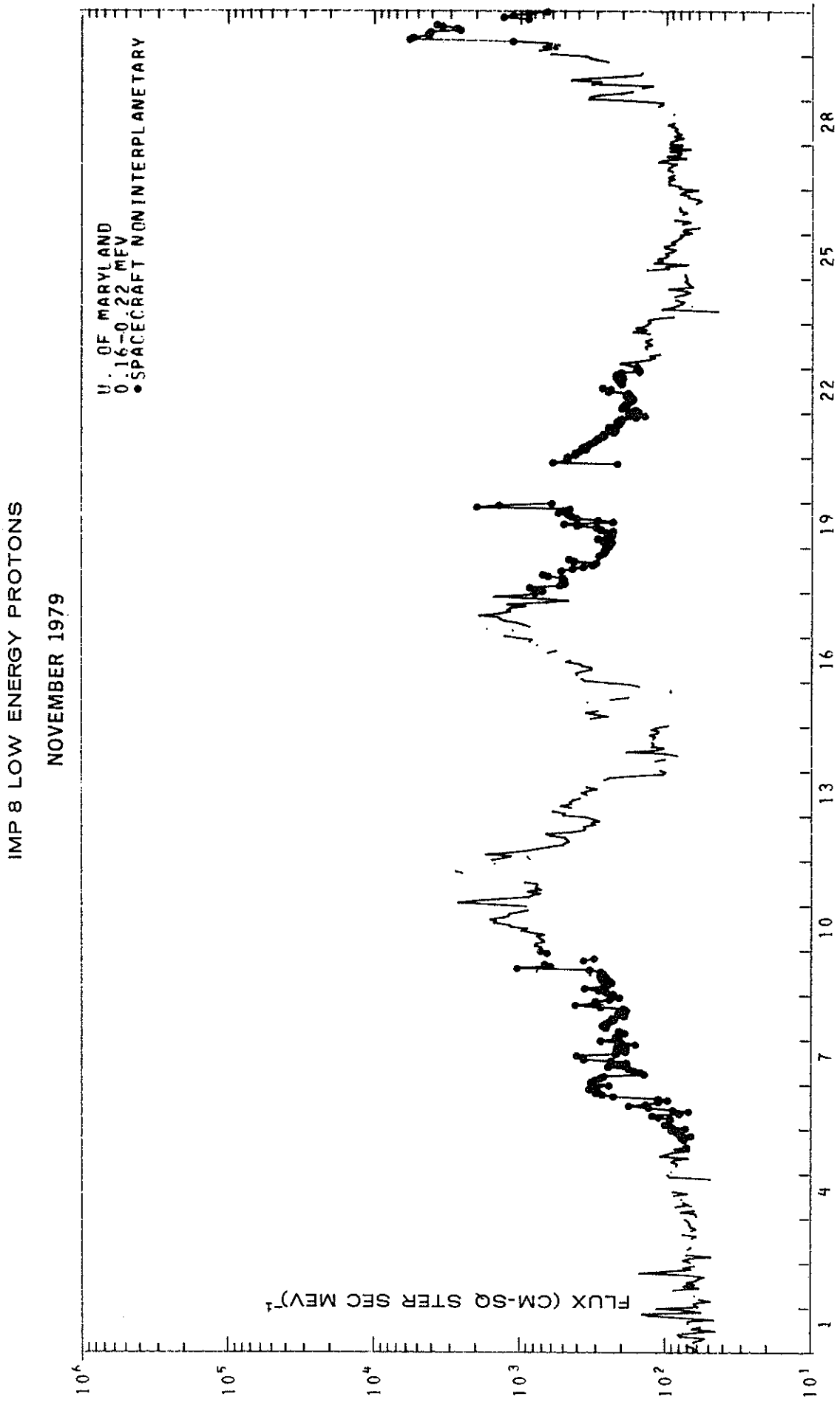
JANUARY 1980



IMP 8 ELECTRONS

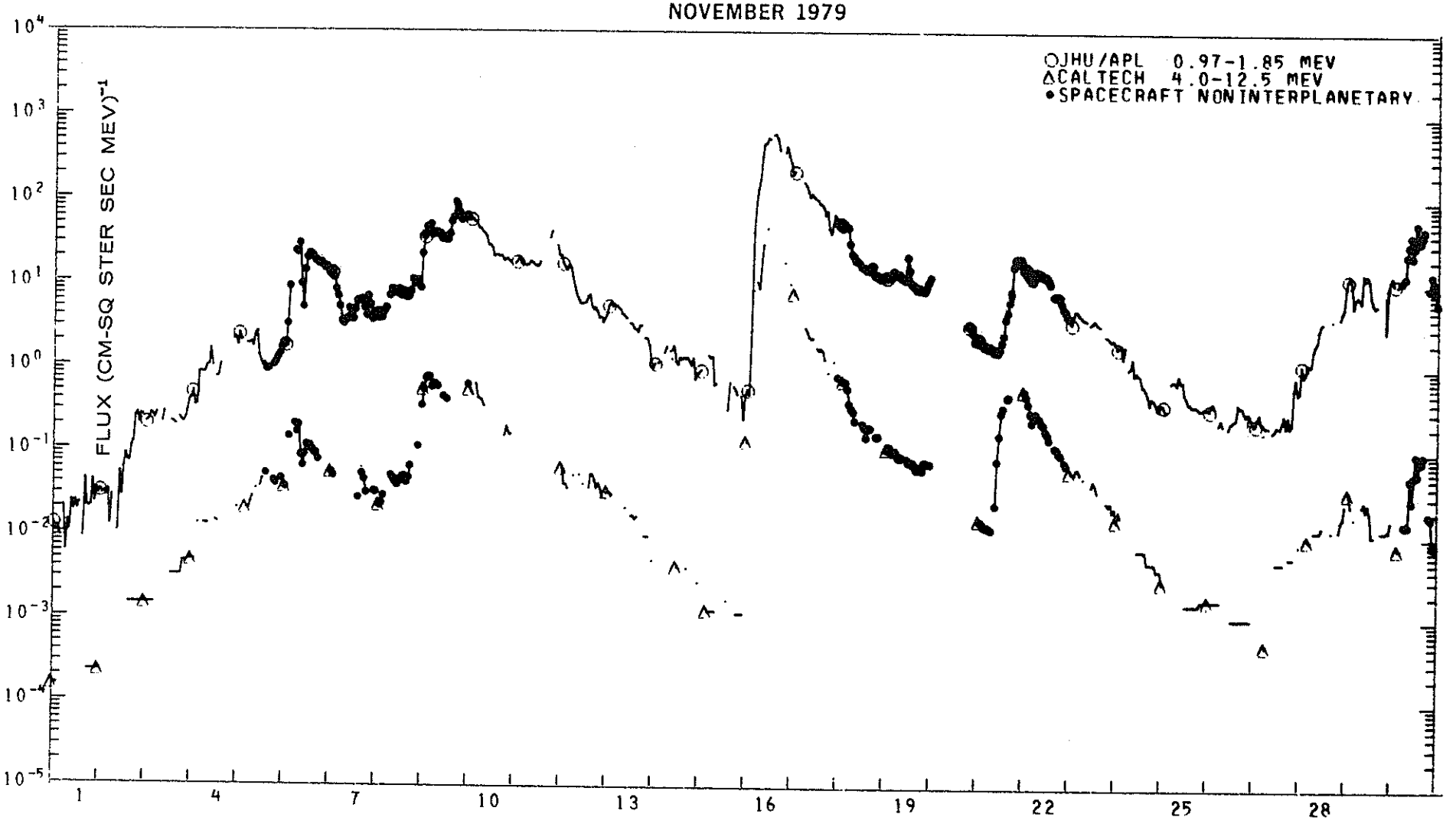
NOVEMBER 1979




IMP 8 LOW ENERGY PROTONS
NOVEMBER 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

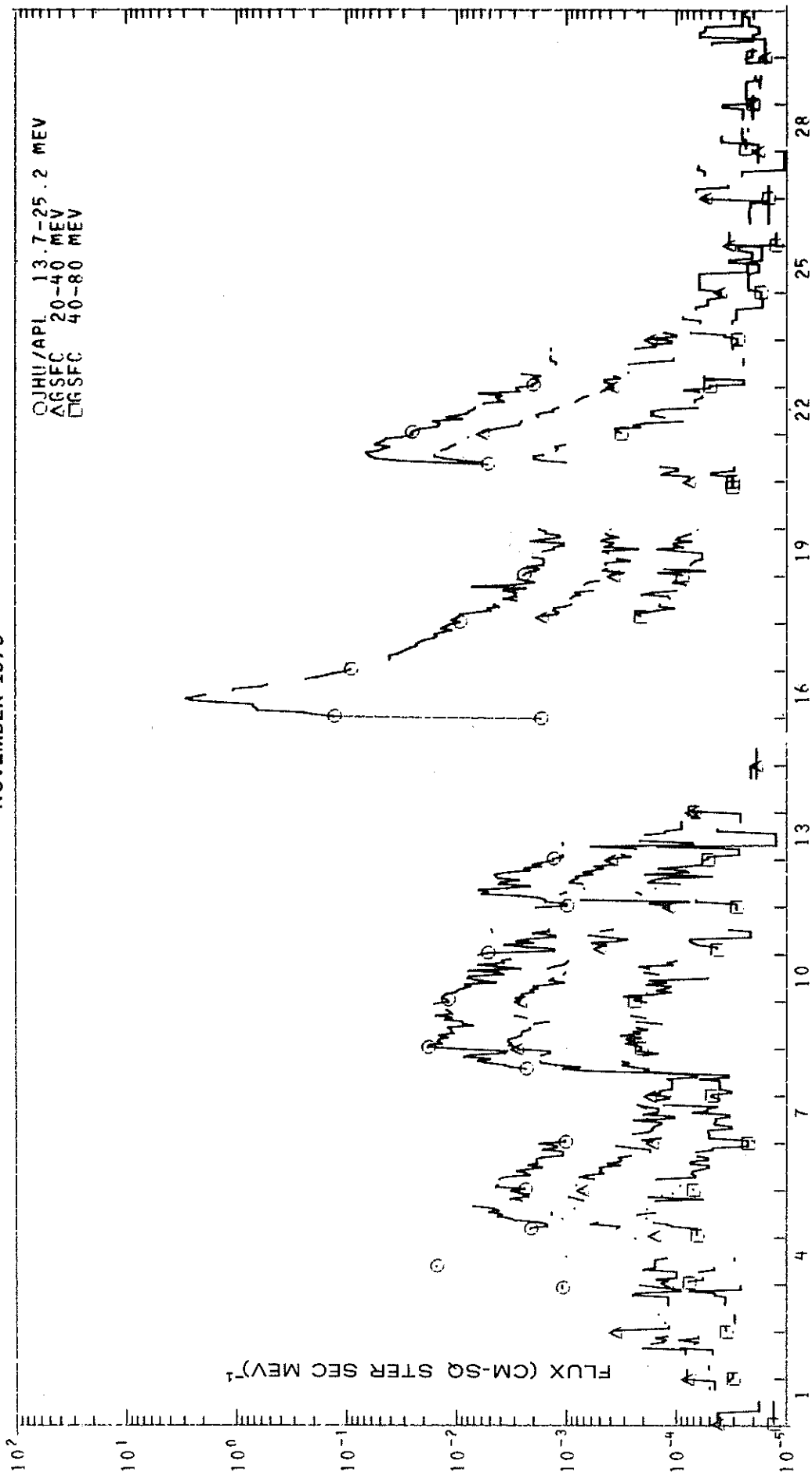
IMP 8 INTERMEDIATE ENERGY PROTONS

NOVEMBER 1979



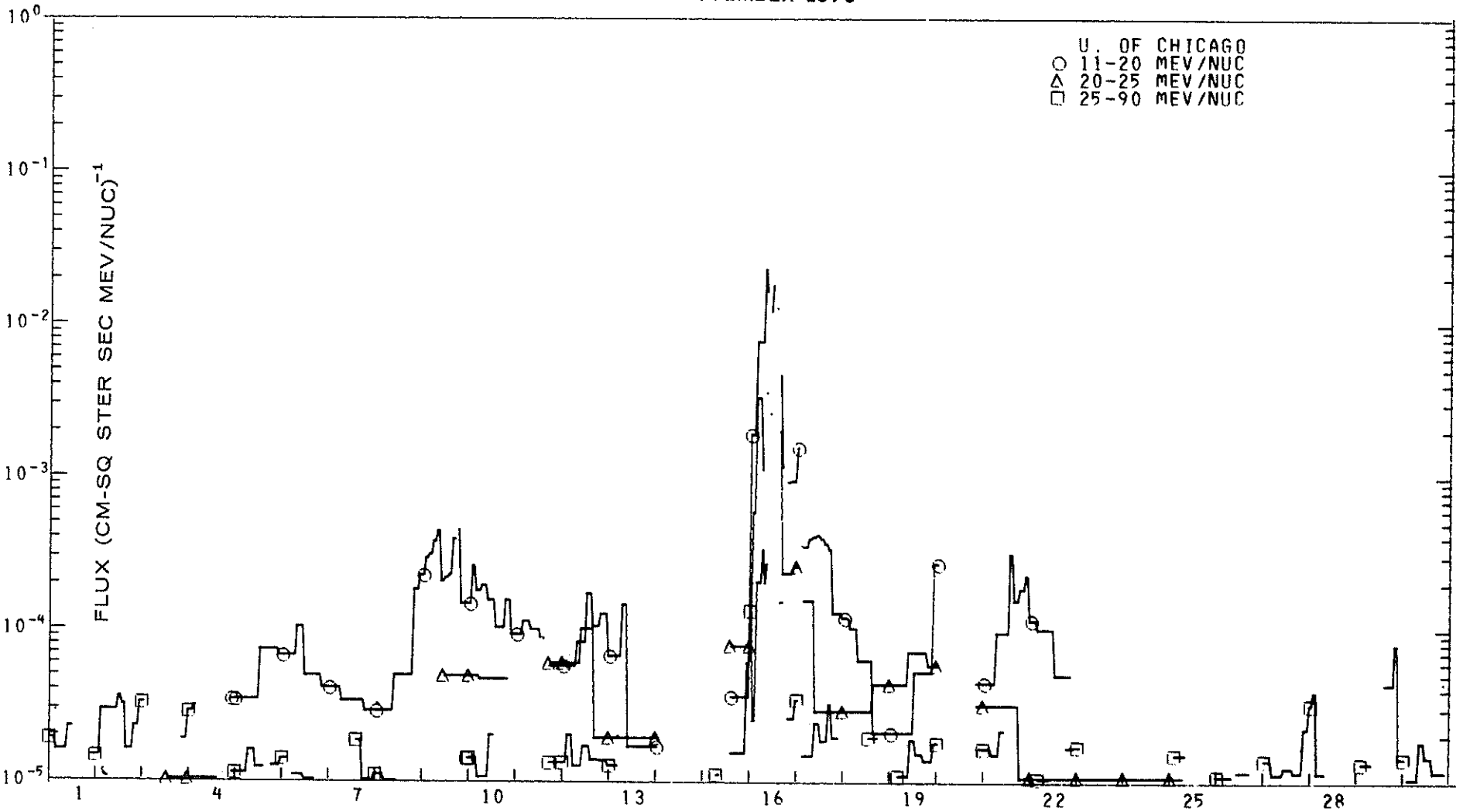
IMP 8 HIGH ENERGY PROTONS

NOVEMBER 1979



IMP 8 ALPHA PARTICLES

NOVEMBER 1979



ACTIVE REGIONS
CARRINGTON ROTATION 1688
(November 3 to November 30, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1687	Activity at West Limb
1	27°N	357°	2	>6			decreasing
2	15 N	356	2	+3			decreasing
3	23 N	354	1	>6	x		dispersed
4	12 N	350	2	-6			(?)
5	31 N	348	1	>6	x		dispersed
6	7 S	346	1	>6	x	1	dispersed
7	12 N	345	4	>6			decreasing
8	14 S	343	4	>6		2	decreasing
9	17 S	326	3	-3			increasing
10	27 N	322	3	>6		7	decreasing
11	14 N	320	2	>6		8	decreasing
12	21 S	315	5	+1			decreasing
13	19 N	310	4	>6			decreasing
14	14 N	300	1	>6	x	13	decreasing
15	22 S	300	3	0			decreasing
16	23 N	298	1	>6	x		dispersed
17	14 S	277	7	>6			decreasing
18	11 S	261	1	>6	x		decreasing
19	17 S	261	1	>6	x		dispersed
20	26 N	255	4	>6		22	decreasing
21	30 S	253	2	>6			decreasing
22	16 S	240	8	>6			decreasing
23	28 N	231	1	>6	x		decreasing
24	8 N	225	1	>6	x		dispersed
25	33 N	224	5	>6			decreasing
26	20 N	220	1	>6	x		decreasing
27	7 S	217	3	-4			stable
28	10 N	214	1	>6	x		decreasing
29	13 N	214	2	-4			stable
30	5 S	209	1	>6	x	33	dispersed
31	1 N	207	2	-3			decreasing
32	11 N	206	2	>6			decreasing
33	18 S	205	2	+1			decreasing
34	6 S	204	1	+2	x		decreasing
35	37 N	202	1	>6	x	29	dispersed
36	20 N	195	1	>6	x		dispersed
37	22 N	193	1	>6	x		decreasing
38	15 N	190	3	>6		38	decreasing
39	32 S	185	4	+3			decreasing
40	32 N	181	3	>6			decreasing
41	24 N	178	1	>6	x		decreasing
42	12 N	176	1	+4	x		decreasing
43	14 N	172	2	-5			increasing
44	32 N	170	4	+1			decreasing
45	37 N	160	1	>6	x		decreasing
46	30 N	158	1	>6	x		decreasing
47	30 S	157	1	>6	x	43	decreasing
48	14 S	145	1	>6	x	47	decreasing
49	23 N	128	1	>6	x		decreasing
50	24 N	120	4	+6			decreasing
51	15 N	118	2	-2			decreasing
52	21 N	110	1	>6	x		decreasing
53	13 N	107	1	>6	x		dispersed
54	12 S	104	1	>6	x	54	dispersed
55	19 S	100	2	>6			decreasing
56	25 N	95	1	>6	x		decreasing
57	19 N	94	1	+2	x		dispersed
58	16 S	93	1	>6	x		dispersed
59	24 S	90	4	>6			decreasing
60	19 S	82	1	-3	x		stable
61	20 N	81	1	>6	x		dispersed
62	18 N	74	2	+2			decreasing
63	16 S	71	3	>6			stable
64	9 N	66	1	+4	x		disappeared
65	15 S	65	2	+5			decreasing
66	24 N	46	1	>6	x		dispersed
67	13 N	27	1	>6	x	71	decreasing
68	10 S	19	2	-1			stable
69	22 N	13	3	>6		73	decreasing
70	13 N	1	1	>6	x		dispersed

ACTIVE REGIONS
CARRINGTON ROTATION 1689
(November 30 to December 27, 1979)

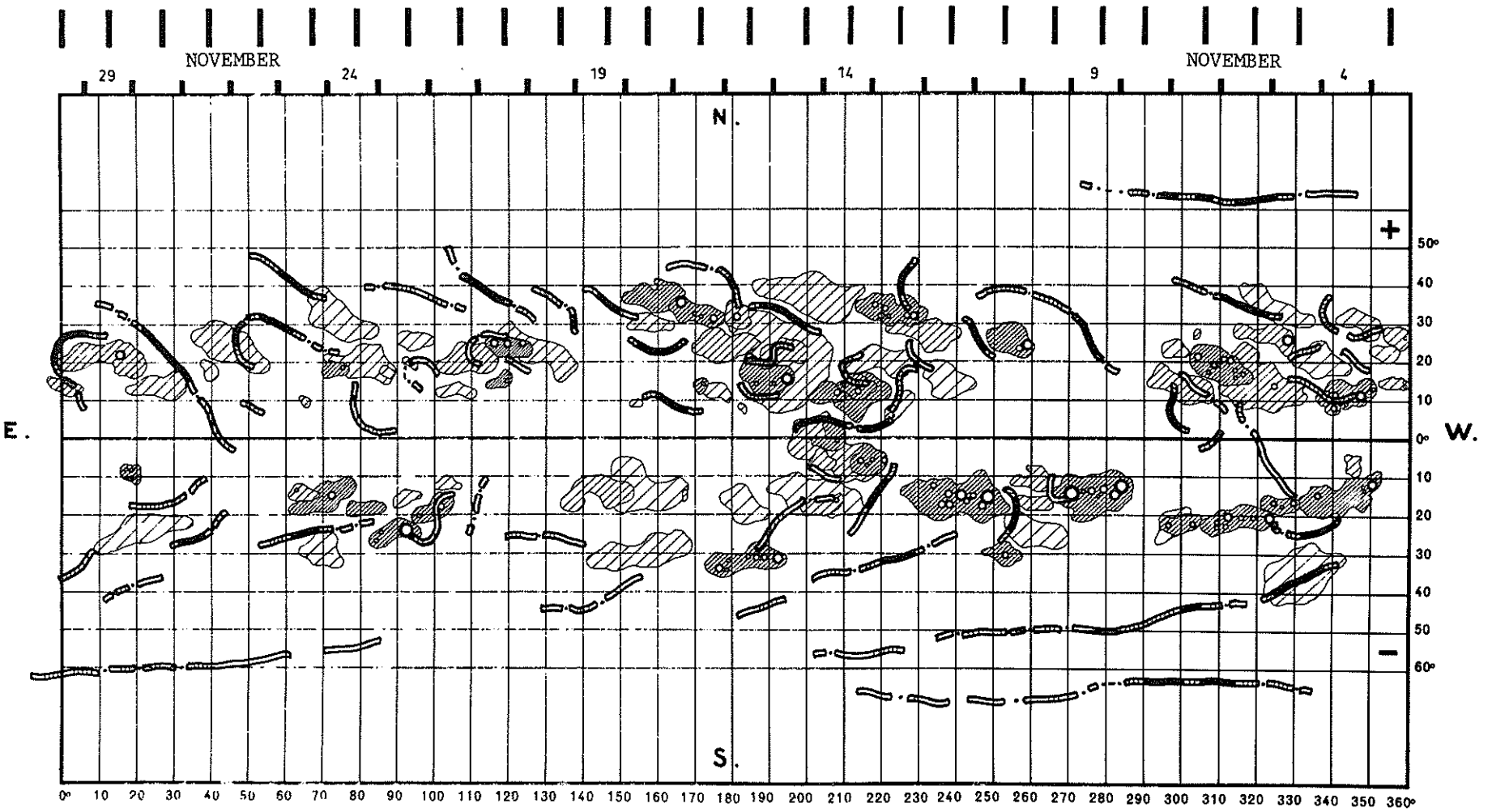
Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1688	Activity at West Limb
1	14°N	351°	1	>6	x	2	dispersed
2	18 S	350	1	>6	x		decreasing
3	12 N	344	1	+1	x		decreasing
4	15 S	344	2	>6			decreasing
5	12 S	333	1	>6	x		decreasing
6	18 N	333	1	+2	x		decreasing
7	17 S	332	2	>6			decreasing
8	13 N	329	1	>6	x		decreasing
9	13 S	323	3	+1			decreasing
10	18 S	323	3	>6		9	stable
11	18 N	321	1	>6	x		decreasing
12	25 S	320	1	>6	x		dispersed
13	30 S	319	1	+3	x		disappeared
14	27 N	315	1	>6	x		decreasing
15	24 S	312	2	>6	x		decreasing
16	20 N	305	1	>6	x	13	dispersed
17	24 S	298	3	>6			decreasing
18	19 S	293	1	>6	x		dispersed
19	20 N	286	2	+4			disappeared
20	17 S	280	4	>6			decreasing
21	11 N	274	2	+2			increasing
22	12 S	264	1	-4	x		(?)
23	26 S	260	2	>6			decreasing
24	19 S	250	1	>6	x		dispersed
25	22 N	249	2	>6			decreasing
26	11 S	240	4	>6			decreasing
27	9 N	239	2	>6			decreasing
28	17 S	238	3	>6		22	decreasing
29	34 S	229	2	+3			stable
30	27 N	227	1	>6	x		decreasing
31	11 N	225	2	>6			decreasing
32	3 S	224	1	>6	x	27	decreasing
33	22 N	223	1	>6	x		decreasing
34	16 S	220	1	>6	x		decreasing
35	1 S	211	1	>6	x	31	decreasing
36	11 N	210	2	+4			decreasing
37	15 S	209	3	>6			stable
38	21 N	202	1	>6	x		dispersed
39	35 N	202	1	>6	x	25	decreasing
40	8 N	200	1	>6	x		dispersed
41	26 S	194	2	+1			decreasing
42	13 N	200	2	>6		38	decreasing
43	20 N	189	3	>6			decreasing
44	12 S	179	1	>6	x		dispersed
45	23 N	178	3	>6			decreasing
46	24 S	178	2	-1			stable
47	16 N	177	4	+2			stable
48	28 N	174	1	>6	x		dispersed
49	5 N	172	2	+3			decreasing
50	34 S	167	1	>6	x	39	decreasing
51	18 N	165	1	>6	x		dispersed
52	32 N	160	1	>6	x	44	decreasing
53	10 N	159	2	0			stable
54	31 S	158	1	>6	x		dispersed
55	18 S	139	3	>6			decreasing
56	39 N	138	1	>6	x		dispersed
57	22 S	137	2	+6			decreasing
58	12 S	131	2	>6			decreasing
59	7 S	124	2	0			stable
60	7 S	116	1	+4	x		disappeared
61	27 N	113	1	>6	x	50	dispersed
62	12 S	105	1	+2	x		disappeared
63	21 S	105	1	>6	x		disappeared
64	33 S	101	2	+1			stable
65	18 N	90	1	>6	x		dispersed
66	17 S	76	2	>6		63	decreasing
67	18 S	68	3	>6			stable
68	21 N	40	1	>6	x		decreasing
69	12 N	31	1	>6	x	67	dispersed
70	14 S	24	2	>6			decreasing
71	15 S	15	3	>6			decreasing
72	25 N	15	1	>6	x		decreasing
73	12 N	11	2	+1			stable
74	10 S	4	1	>6	x		dispersed

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1688

NOVEMBER 3 - NOVEMBER 30, 1979

MEUDON OBSERVATORY

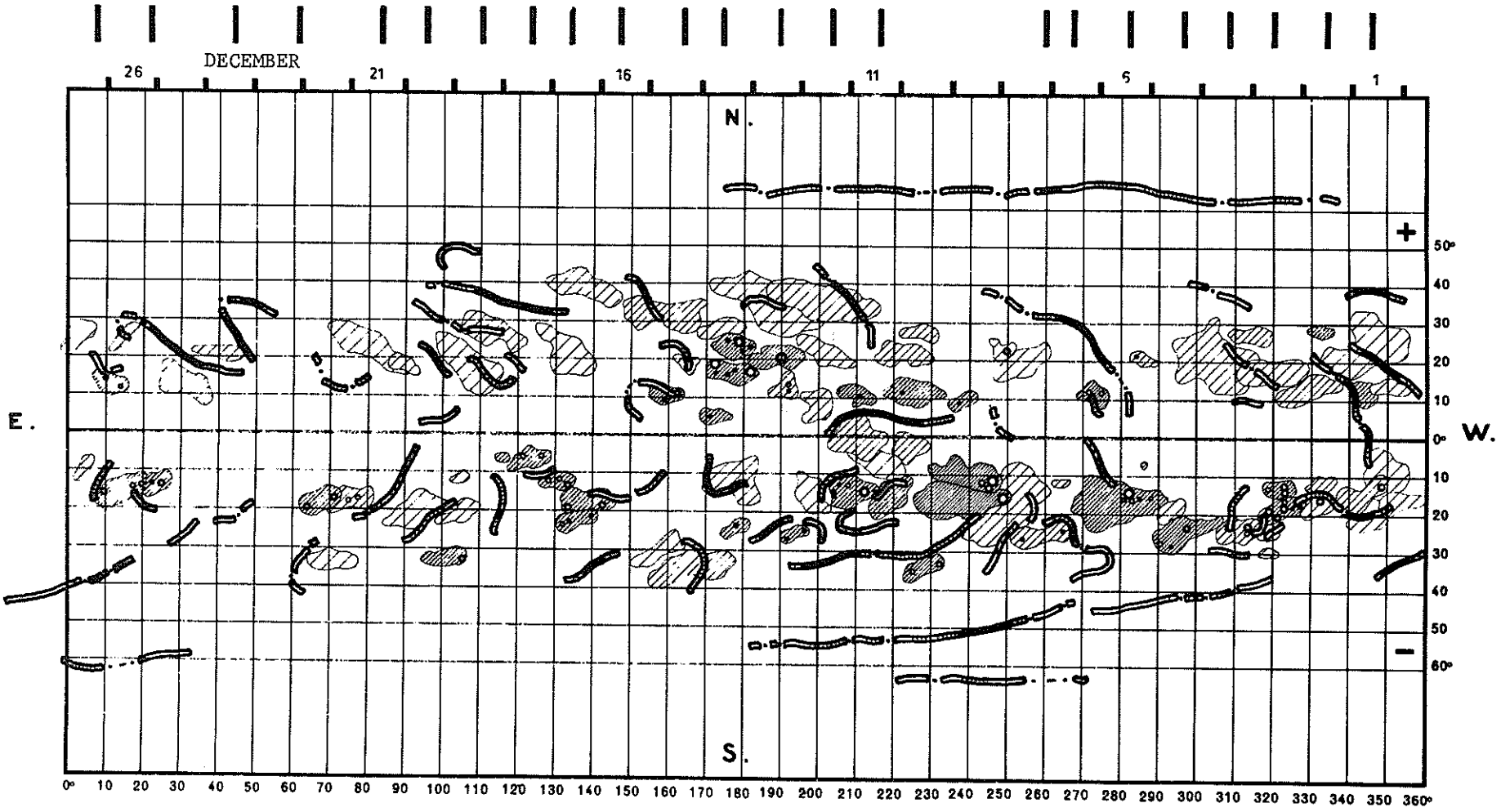


SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1689

NOVEMBER 30 - DECEMBER 27, 1979

MEUDON OBSERVATORY



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