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Solar - Geophysical Data

NO. 433 SEPTEMBER 1980

Part II (Comprehensive Reports)

DATA FOR
AUGUST 1980
JULY 1980

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 433

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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"422A 52" listed under 1979 Aug means that the sunspot drawings for Aug 1979 were contained in *Solar-Geophysical Data* Number 422 - Part I, beginning on page 52.

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SGD 433 Part II (Comprehensive)

MARCH 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 These complete tabulations lack the final Meudon corrections, and thus will not be published until we receive these.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

MARCH 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	2000	TYKW	5	S	0403.5	0403.8	.8	3	1		
	1000	TYKW	5	S	0536.8	0536.9	.4	7	2		
	600	UCCL	40	F	0848.0	0858	35.0	6			
	2800	OTTA	1	S	1523.0	1523.2	1.0	2.0	1.0		
	9400	HUAN		S	1746.3	1802.8	23.9	5.7	3.4		R
	2800	OTTA	20	GRF	1840.0	1846.5	20.0	2.0	1.0		
	2695	PENT	20	GRF	2205.0	2230	50.0	2.8	1.4		
02	2000	TYKW	21	GRF	0150.0	0315	240.0	12	4		
	3750	TYKW	21	GRF	0230.0	0318	200.0	16	5		
	9400	TYKW	20	GRF	0240.0	0315	160.0	10	3		
	1000	TYKW	45	C	0306.0	0307.2	4.0	9	1.5		
	500	HIRA	46	C	0306.6	0308.5	3.5	15	6		0
	3750	TYKW	45	C	0445.0	0447.2	25.0	6	1		
	2000	TYKW	45	C	0446.0	0447	12.0	2	1		
	1000	TYKW	45	C	0525.3	0525.7	1.0	8	1.5		
	260	ONDR	41	F	0800.0E	0832.2	105.0D	14	1		
	600	UCCL	1	S	0904.5	0905	1.0	3	1		
	6100	KISV			0937.0	0942.5		4			
	6100	KISV	45	C	0937.0	0938.5	13.0	2			
	2950	GORK	1	S	0937.8	0938.6	5.8	9.7	4.5		
	113	POTS	42	SER	0941.4	0943.0	1.7	400	10		III
	9100	GORK	1	S	0942.0	0942.8	6.0	5	2		
	810	KRAK	8	S	0942.5	0942.7	.5	160			
	536	ONDR	8	S	0942.7	0942.7	.3	37			
	930	BORD	8	S	0943.0	0943.2	.2	23	2		
	9100	GORK	20	GRF	1025.4	1033.4	28.5	4	2		
	2950	GORK	1	S	1036.1	1039.7	6.9	7.2	3.6		
	3100	CRIM	1	S	1039.0	1039.5	1.0	7	2		
	9400	HUAN		S	1152.0	1202.0	20.6	8.6	2.8		R
	9400	HUAN		S	1221.9	1230.8	18.0	6.8	4.4		0
	600	UCCL	3	S	1501.5	1501.6	.3	20	10		
	2800	OTTA	20	GRF	1506.0	1509.5	28.0	3.2	1.2		
	7000	SAOP	45	C	1632.0	1637.0	5.0	644.0			10R
	2650	DWIN	45	C	1633.0	1637	7.0	90	50		SUNSET
	600	UCCL	41	F	1633.0	1637	7.0	50	7		
	10715	DWIN	45	C	1633.0	1638	10.0	250	150		SUNSET
	930	BORD	46	C	1633.0	1636.8	9.0	64	7		
	9400	HUAN		C	1633.2	1637.2	6.4	814.0	261.4		R
	8400	BERN	4		1633.4	1637.3	20.0D	225.0D			ONLY PAPER REC
	11800	BERN	4		1633.4	1637.3	20.0D	500.0			ONLY PAPER REC
	10400	BERN	4		1633.4	1637.3	20.0D	225.0D			ONLY PAPER REC
	35000	BERN	4		1633.4	1637.3	20.0D	1200.0			ONLY PAPER REC
	19600	BERN	4		1633.4	1637.3	20.0D	1255.0			ONLY PAPER REC
	2800	OTTA	4	S/F	1633.6	1637.3	5.4	119.0	34.4		
	2800	OTTA	30	PBI	1639.0	1639	10.0	4.0	1.4		
	9400	HUAN		PBI	1639.6	1639.6	32.7	42.8	9.9		R
	2800	OTTA	2	S/F	1640.1	1641.2	1.4	5.4	2.0		
	2800	OTTA	1	S	1905.5	1905.8	1.0	2.0	1.0		
	2695	PENT	20	GRF	2110.0	2215	130.0	3.4	2.6		
03	2800	OTTA	20	GRF	1615.0	1655	90.0	2.4	1.2		
	2800	OTTA	21	GRF	1853.0	1915	85.0	3.2	2.0		
	9400	HUAN		S	1934.5	1945.0	31.7	6.6	2.2		0
	2800	OTTA	1	S	1941.0	1942	10.0	4.2	2.0		
	2800	OTTA	4	S/F	2050.3	2051.4	5.0	14.8	4.0		
	9400	HUAN		S	2050.6	2051.4	3.2	44.5	14.1		R
04	3750	TYKW	5	S	0122.0	0122.1	.5	3	1		
	3750	TYKW	5	S	0258.0	0258.4	2.0	7	2		
	9400	TYKW	5	S	0258.0	0258.4	1.5	8	3		
	2000	TYKW	5	S	0258.0	0258.5	3.0	3	.8		
	2000	TYKW	21	GRF	0335.0	0350	150.0	4	2		
	9400	TYKW	21	GRF	0335.0	0355	110.0	6	3		
	3750	TYKW	21	GRF	0335.0	0355	150.0	5.5	2.5		
	17000	NOBE	20	GRF	0342.7	0401.4	48.0	13			0
	9400	TYKW	5	S	0414.0	0415.3	3.0	3	1		
	3750	TYKW	5	S	0414.0	0415.3	3.0	1.2	.3		
	237	TRST	41	F	0741.0	0745.8	7.1	110			3L
	9400	TYKW	5	S	0745.0	0745.7	1.5	13	4		
	3750	TYKW	5	S	0745.0	0745.7	1.5	6	2		
	327	TRST	42	SER	0745.1	0745.4	.8	59			6L
	650	GORK	1	S	0745.1	0746.3	1.5	5.5	2.7		
	2000	TYKW	5	S	0745.3	0745.7	1.0	3	1		
	9100	GORK	1	S	0745.4	0746.0	1.9	14	3.5		
	950	GORK	1	S	0745.5	0745.9	1.4	2.6	1.8		
	2950	GORK	1	S	0745.5	0746.0	1.8	3.1	1.5		
	600	UCCL	1	S	0745.5	0746	1.0	4	2		
	234	POTS	4	S/F	0745.6	0745.8	.3	100	15		III
	113	POTS	42	SER	0759.2	0801.8	2.9	150	4		III
	204	IZMI	41	F	0759.5	0805.0	12.5	135			
	204	IZMI	41	F	0851.7	0854.0U	5.0	295 U			
	204	IZMI	41	F	1000.5	1003.0U	4.5	295 D			
	260	ONDR	42	SER	1003.0	1019.5	28.0	47	3		

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04	33	UPIC	4	S/F	1010.5	1010.7	.5				
	29	UPIC	4	S/F	1010.5	1011.0	.8				
	6100	KISV	4	S/F	1018.0	1020	4.0	12			
	536	ONDR	2	S/F	1018.3	1020	4.0	20	4		
	200	GORK	46	C	1018.8	1020.5	4.2	150			
	3000	POTS	4	S/F	1018.8	1019.7	4.5	14			
	200	GORK			1018.8	1021.9		150 D			
	9100	GORK	3	S	1019.0	1019.5	3.2	90	14		
	15000	KISV	8	S	1019.0	1020	2.0	62			
	1470	POTS	4	S/F	1019.0	1019.8	3.5	11			
	9500	POTS	4	S/F	1019.0	1019.8	2.5	77			
	950	GORK	3	S	1019.0	1020.1	2.5	54	27		
	10715	DWIN	1	S	1019.0	1019	2.0	30	20		
	127	TORN	4	S/F	1019.0	1019.6	1.8	140	30		
	2650	DWIN	1	S	1019.0	1019	2.0	10	5		
	237	TRST	42	SER	1019.1	1019.7	1.9	63			1L
	11800	BERN	3		1019.1	1019.6	1.5	55.0			ONLY PAPER REC
	19600	BERN	3		1019.1	1019.6	1.5	70.0			ONLY PAPER REC
	35000	BERN	3		1019.1	1019.6	1.5	90.0			ONLY PAPER REC
	2950	GORK	1	S	1019.1	1019.6	4.1	10			
	10400	BERN	3		1019.1	1019.6	1.5	55.0			ONLY PAPER REC
	8400	BERN	3		1019.1	1019.6	1.5	45.0			ONLY PAPER REC
	327	TRST	45	C	1019.2	1019.6	.6	220	44		1R
	113	POTS	4	S/F	1019.4	1019.5	.6	150	25		III
	600	UCCL	1	S	1019.5	1020	1.0	6	3		
	260	ONDR	42	SER	1226.0	1350	107.0	94			
	2800	OTTA	21	GRF	1250.0	1358	430.0	12.4	6.0		
	9400	HUAN		S	1300.7	1358.0	88.1	12.3	6.7		0
	810	KRAK	8	S	1311.7	1311.7	.1	8			
	7000	SAOP	4	S/F	1335.0	1357.5	25.0	23.0			0
	1470	POTS	23	GRF	1337.0	1340.5	53.0	9			
	3000	POTS	22	GRF	1338.0	1358	52.0U	12			
	2800	OTTA	1	S	1348.5	1349.8	2.5	5.4	1.8		
	1470	POTS	4	S/F	1348.5	1349.8	2.5	22			
	228	HARS	45	C	1348.7	1349.5	2.1	170	65		
	808	ONDR	4	S/F	1348.8	1349.8	2.5	60	24		
	536	ONDR	4	S/F	1348.8	1349.9	2.5	72	28		
	930	BORD	45	C	1348.8	1349.6	3.0	85	20		
	237	TRST	45	C	1349.0	1349.9	1.9	200	60		1L,OSCILLATIONS
	600	UCCL	4	S/F	1349.0	1349.8	2.5	27	10		
	430	KRAK	4	S/F	1349.0	1350.0	2.0	310	120		
	327	TRST	45	C	1349.1	1349.7	1.7	500	170		6L,OSCILLATIONS
	408	TRST	45	C	1349.1	1349.7	1.4	280	92		0,OSCILLATIONS
	234	POTS	8	S	1349.2	1349.9	1.8	150	50		III
	3000	POTS	3	S	1349.4	1349.9	1.1	13			
	810	KRAK	4	S/F	1349.5	1350.0	1.7	70	35		
	113	POTS	4	S/F	1413.4	1413.6	.3	200	30		
	327	TRST	42	SER	1413.4	1413.7	.3	100			0
	237	TRST	42	SER	1413.4	1413.7	.7	81			1L
	9400	HUAN		S	1557.1	1611.2	20.2	7.0	2.5		0
	600	UCCL	3	S	1634.0	1634.1	.3	15	7		
05	9400	TYKW	20	GRF	0200.0	0210	40.0	2	1		
	3750	TYKW	20	GRF	0200.0	0220	60.0	2	1		
	2000	TYKW	20	GRF	0200.0	0201	40.0	3	.7		
	2000	TYKW	20	GRF	0330.0	0355	90.0	2	1		
	3750	TYKW	20	GRF	0330.0	0355	60.0	2	1		
	260	ONDR	41	F	0811.0	0836.6	31.0	19	2		
	536	ONDR	4	S/F	1006.5	1007.2	1.5	46	2		
	260	ONDR	2	S/F	1006.7	1007.2	1.5	11	2.3		
	237	TRST	42	SER	1006.8	1007.4	1.5	68			3R
	430	KRAK	4	S/F	1006.8	1007.0	1.0	110	50		
	327	TRST	42	SER	1006.9	1007.2	.6	97			14L
	810	KRAK	8	S	1007.5	1007.5	.1	10			
	810	KRAK	8	S	1033.7	1033.7	.1	10			
	536	ONDR	8	S	1052.7	1052.7	.2	22			
	260	ONDR	8	S	1252.9	1252.9	.2	16			
	260	ONDR	8	S	1302.2	1302.2	.2	35			
	228	HARS	45	C	1338.4	1339.4	1.4	85	30		
	2800	OTTA	1	S	1525.0	1526.2	3.0	2.4	1.2		
	2800	OTTA	20	GRF	1720.0	1750	60.0	2.0	1.0		
	9400	HUAN		S	1943.3	1951.7	21.1	3.3	2.0		0
	9400	HUAN		S	1947.7	1948.0	1.6	8.2	3.9		0
	1000	TYKW	45	C	2207.0	2208.1	3.0	12	1		
	2800	OTTA	2	S/F	2207.0	2207.7	1.0	4.8			
	2000	TYKW	45	C	2207.2	2207.7	1.0	21	3		
	2695	PENT	1	S	2232.3	2233.5	2.0	3.4	1.7		
	3750	TYKW	5	S	2232.5	2233.7	3.0	3	1		
	2000	TYKW	5	S	2232.5	2233.0	3.0	5	1.5		
	9400	TYKW	5	S	2244.5	2245.2	1.5	5	1.5		
	2000	TYKW	5	S	2328.0	2330.9	13.0	12	5		
	2695	PENT	20	GRF	2328.0	2331	13.0	12.0	4.6		
	1000	TYKW	45	C	2329.0	2334.7	18.0	13	2.5		
	3750	TYKW	5	S	2329.0	2330.9	10.0	4	1		
06	2000	TYKW	45	C	0123.5	0124.3	1.5	3	1		

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06	1000	TYKW	45	C	0123.8	0124.1	1.0	3.5	1		
	3750	TYKW	5	S	0123.8	0124.1	1.0	4	1.5		
	1000	TYKW	45	C	0245.5	0246.8	2.0	12	1.5		
	2000	TYKW	45	C	0354.0	0355.5	6.0	10	1.5		
	3750	TYKW	45	C	0354.0	0355.4	2.0	8	2		
	1000	TYKW	42	SER	0354.0	0356.7	5.0	6	1		
	3750	TYKW	30	PBI	0356.0		21.0	1.5	1.5		
	2000	TYKW	5	S	0412.0	0420.5	15.0	15	5		
	3750	TYKW	5	S	0417.0	0421.3	10.0	18	8		
	9400	TYKW	20	GRF	0420.0	0430	80.0	6	2		
	3750	TYKW	29	PBI	0427.0		90.0	8	4		
	2000	TYKW	29	PBI	0427.0		80.0	4	2		
	9100	GORK	1	S	0601.4U	0602.0	1.5	5	2		
	2950	GORK	1	S	0601.4	0601.7	1.4	4.7	2.3		
	950	GORK	1	S	0601.5	0602.1	1.2	6	3		
	1000	TYKW	5	S	0644.0	0644.2	.5	5	1.5		
	1000	TYKW	45	C	0701.5	0702.6	1.5	12	2		
	3750	TYKW	5	S	0701.5	0701.7	1.5	4	1.5		
	2000	TYKW	5	S	0701.5	0701.7	1.5	5	1.5		
	3000	POTS	1	S	0701.5	0702.0	1.5	4.2			
	6100	KISV	8	S	0701.5	0702	3.0	5			
	9500	POTS	1	S	0701.5	0701.5	.8	4.6			
	1470	POTS	1	S	0701.5	0702.5	1.5	2.3			
	430	KRAK	22	GRF	1047.0		23.5	16	6		
	536	ONDR	41	F	1047.0	1055.2	19.0	8	3.3		
	950	GORK	46	C	1047.8	1050.0	11.5	78			
	950	GORK			1047.8	1054.9		64			
	650	GORK	46	C	1048.0	1048.1	12.0	14			
	650	GORK			1048.0	1054.7		28			
	810	KRAK	41	F	1048.8	1051.0	11.0	70	25		
	810	KRAK			1048.8	1054.8		110			
	810	KRAK			1048.8	1057.5		80			
	808	ONDR	46	C	1049.0	1054	11.0	46	22		
	930	BORD	46	C	1049.0	1051	11.0	90	14		
	600	UCCL	40	F	1050.0	1055	10.0	9	2		
	260	ONDR	4	S/F	1053.0	1055	3.0	29	4		
	9500	POTS	20	GRF	1053.0	1122	48.0	7.7			
	3100	CRIM	1	S	1053.0	1054.0	2.0	11	3		
	1470	POTS	4	S/F	1053.7	1054.5	6.3	36			
	9100	GORK	20	GRF	1053.9	1054.6	37.0	4.5	2		
	237	TRST	42	SER	1053.9	1054.3	1.0	89			3L
	33	UPIC	4	S/F	1053.9	1054.1	1.0				
	29	UPIC	4	S/F	1054.0	1054.2	1.0				
	6100	KISV	4	S/F	1054.0	1054.5	2.0	4			
	3000	POTS	3	S	1054.0	1054.5	2.5	8.4			
	200	GORK	2	S/F	1054.0	1054.5	1.2	40 D			
	2950	GORK	1	S	1054.0	1054.6	5.6	7.2	3.0		
	100	GORK	4	S/F	1054.1	1054.5	1.0	90			
	234	POTS	4	S/F	1054.2	1054.4	.7	100	15		III
	930	BORD	8	S	1224.5	1224.5	.1	14	1		
	536	ONDR	42	SER	1318.0	1338.8	95.0	32			
	9400	HUAN		S	1335.4	1336.0	2.2	8.0	6.1		R
	228	HARS	45	C	1342.2	1342.2	1.2	440	200 U		
	260	ONDR	8	S	1454.0	1454	.2	18			
	2800	OTTA	1	S	1537.5	1538.7	1.5	2.0	1.0		
	3750	TYKW	5	S	2331.0	2332.1	4.0	4	1		
	2000	TYKW	5	S	2331.5	2332.1	1.5	1	.3		
	2695	PENT	1	S	2332.0	2332	1.0	1.8	.9		
07	3750	TYKW	20	GRF	0455.0	0530	90.0	3	1.5		
	2000	TYKW	21	GRF	0455.0	0505	90.0	3	1.5		
	2800	OTTA	20	GRF	1725.0	1755	155.0	6.8	3.4		
08	127	TORN	43	NS	0832.0	1021.6	298.0	40	.5U		V2
	100	GORK	43	NS	0851.0		108.0		5		
	100	HIRA	43	NS	2155.0	2250	250.0	45	5		
	113	POTS	8	S	0726.4	0726.5	.1E	150	50		
	260	ONDR	42	SER	1016.5	1119.5	65.0	14			
	113	POTS	41	F	1017.4	1017.4	.2	350	35		
	237	TRST	41	F	1119.2	1121.0	3.4	64			4R
	228	HARS	45	C	1120.4	1121.0	2.0	55	15		
	237	TRST	42	SER	1446.5	1446.8	.6	73			10L,OSCILLATION
	327	TRST	42	SER	1446.6	1446.8	.3	120			25R,OSCILLATION
	408	TRST	42	SER	1446.6	1446.9	.4	110			30L,OSCILLATION
	2800	OTTA	20	GRF	1530.0	1615	80.0	1.8	.9		
09	3750	TYKW	5	S	0417.0	0418.1	9.0	4	1		
	2000	TYKW	5	S	0417.0	0418	10.0	1	.5		
	9400	TYKW	5	S	0424.3	0424.5	.7	7	2		
	3750	TYKW	45	C	0435.5	0436.4	3.5	20	3		
	2000	TYKW	45	C	0435.5	0436.5	4.0	18	6		
	1000	TYKW	45	C	0436.0	0436.6	2.0	125	25		
	260	ONDR	45	C	0912.0	0913.8	6.0	16	1.5		
	100	GORK	8	S	0912.4	0913 U	1.9	220 D			
	29	UPIC	45	C	0912.6	0913.8	2.1				

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09	33	UPIC	45	C	0912.6	0913.0	2.0				
	810	KRAK	8	S	1152.5	1152.7	.3	8			
	430	KRAK	8	S	1153.0	1153.0	.1	6			
	127	TORN			1200.3	1202.5		230			
	127	TORN	42	SER	1200.3	1201.0	3.3	90			
	113	POTS	41	F	1200.8	1202.5	2.6	1000	25		III
	29	UPIC	45	C	1200.9	1201.0	3.5				
	260	ONDR	45	C	1202.0	1203	1.0	14	4		
	29	UPIC	45	C	1238.4	1239.0	.9				
	430	KRAK	8	S	1249.5	1249.8	.5	10			
	810	KRAK	8	S	1250.0	1250.0	.1	5			
	430	KRAK	8	S	1257.0	1257.0	.1	9			
	810	KRAK	8	S	1257.3	1257.3	.1	2			
	237	TRST	41	F	1359.0	1359.9	2.0	180			4R
	234	POTS	4	S/F	1359.8	1400.0	.7	220	30		III
	113	POTS	4	S/F	1359.9	1400.1	1.4	230	40		III
	228	HARS	45	C	1459.2	1459.2	2.8	165	40		
	2800	OTTA	20	GRF	1740.0	1830	110.0	5.8	3.8		
	2800	OTTA	24O	R	2018.0	2030	12.0	3.2	2.0		
10	810	KRAK	8	S	1041.7	1041.7	.1	25 U			
	430	KRAK	8	S	1041.7	1041.7	.1	62 U			
	260	ONDR	45	C	1058.0	1058.4	4.0	29	4.5		
	930	BORD	8	S	1059.7	1059.7	.1	14	1		
	930	BORD	41	F	1155.0	1155.5	.5	14	2		
	127	TORN			1158.4	1200.8		70			
	127	TORN	42	SER	1158.4	1159.1	3.1	30			
	237	TRST	42	SER	1158.5	1159.1	1.1	120			5R
	234	POTS	4	S/F	1158.8	1159.2	.5	100	10		III
	33	UPIC	4	S/F	1242.0U	1242.0U	.6U				
	29	UPIC	4	S/F	1242.5	1242.6	.6				
	9400	HUAN		S	1459.1	1510.0	24.2	9.4	3.8		R
	930	BORD	8	S	1538.9	1538.9	.1	14	1		
	2800	OTTA	20	GRF	2050.0	2103	25.0	2.6	1.3		
	3750	TYKW	5	S	2226.0	2227.4	4.0	10	4		
	2695	PENT	1	S	2226.2	2227.5	4.0	7.8	3.6		
11	127	TORN	43	NS	0956.0	1128.8	204.0	20	.5U		VO
	2000	TYKW	45	C	0053.5	0054.2	2.0	6	1		
	100	HIRA	46	C	0053.7	0054.8	2.3	610	100		
	2695	PENT	8	S	0054.0	0054.3	.5	6.2	3.0		
	260	ONDR	2	S/F	1018.5	1018.5	.7	12			
	2650	DWIN	41	F	1100.0	1113	16.0	20	10		
	930	BORD	8	S	1101.2	1101.2	.1	16	1		
	930	BORD	41	F	1157.6	1157.6	.6	29	2		
	113	POTS	8	S	1242.3	1242.4	.2	700	250		III
	237	TRST	42	SER	1544.0	1544.5	.5	95			13R
	327	TRST	42	SER	1544.2	1544.5	.3	200			70R
	2800	OTTA	8	S	2028.0	2028.2	.5	1.6	.8		
12	3750	TYKW	21	GRF	0210.0	0213.2	40.0	3	1		
	650	GORK	4	S/F	0945.5	0946.9	2.6	25	5		
	950	GORK	1	S	0945.5	0945.6	1.6	4	2		
	2650	DWIN	45	C	1103.0	1103	4.0	530	300		
	2650	DWIN	45	C	1110.0	1114	5.0	530	100		
	536	ONDR	8	S	1324.7	1324.7	.2	24			
13	2000	TYKW	5	S	0659.0	0700.4	4.0	1.5	.5		
	1000	TYKW	5	S	0700.0	0700.4	1.0	1	.3		
	3750	TYKW	5	S	0700.0	0700.4	1.0	2	.5		
	204	IZMI	41	F	0813.0	0817.0	7.0	277			
	113	POTS	4	S/F	1014.2	1014.2	.1	200	10		III
	260	ONDR	42	SER	1032.5	1114	50.0	34			
	930	BORD	41	F	1159.4	1159.5	.7	39	2		
	260	ONDR	8	S	1228.8	1228.8	.2	29			
	9400	HUAN		S	1646.3	1650.3	6.7	15.6	5.7		0
	2800	OTTA	20	GRF	2035.0	2038	20.0	2.0	1.0		
14	930	BORD	41	F	1055.3	1055.4	.1	19	1		
	3750	TYKW	5	S	2258.5	2300.5	2.5	7	3		
	2000	TYKW	5	S	2259.0	2300.0	7.0	5	2		
	2695	PENT	1	S	2259.0	2300	6.0	8.4	4.0		
	3750	TYKW	29	PBI	2301.0		35.0	3	1		
15	1000	TYKW	5	S	0231.3	0231.5	.5	3	1		
	127	TORN	46	C	0905.1	0908.9	5.7	200	10		
	237	TRST	41	F	0907.0	0910.2	3.5	53			0
	33	UPIC	45	C	0908.6	0908.7	2.3				
	113	POTS	4	S/F	0908.6	0908.9	1.7	280	15		III
	260	ONDR	45	C	0908.7	0908.7	2.0	20	1		
	29	UPIC	45	C	0909.0	0909.2	1.5				
	33	UPIC	2	S/F	1128.8	1129.1	.7				
	29	UPIC	2	S/F	1128.8	1129.1	.6				
	113	POTS	4	S/F	1128.8	1129.0	.3	130	25		III
	600	UCCL	8	S	1727.0	1727.2	.4	90	40		

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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
15	2695	PENT	20	GRF	2200.0	2220	135.0	3.4	1.7		
17	260	ONDR	42	SER	1051.0	1052	55.0	28			
	113	POTS	8	S	1100.0	1100.0	.1	280	25		III
	930	BORD	8	S	1229.8	1229.8	.1	21	1		
18	430	KRAK			0952.5	0955.5		440 D			
	430	KRAK	48	C	0952.5	0954.0U	5.0	440 D	110		
	260	ONDR	2	S/F	1026.8	1027.8	2.0	10	2		
	650	GORK	3	S	1033.2	1033.4	.5	31	15		
	430	KRAK	7	C	1155.5	1156.2	2.0	29 U	13		
	430	KRAK			1155.5	1157.0		37			
	810	KRAK	8	S	1155.8	1155.8	.1	36 U			
	810	KRAK	8	S	1156.7	1156.7	.1	18 U			
	930	BORD	41	F	1535.6	1535.8	1.6	56	3		
	2800	OTTA	21	GRF	1535.7	1537	20.0	2.8	2.4		
	2800	OTTA	40	F	1539.9	1540	3.0	4.2			
	930	BORD	41	F	1541.5	1541.9	1.6	26	4		
19	1000	TYKW	45	C	0319.4	0319.8	2.5	25	5		
	2000	TYKW	45	C	0319.4	0320.3	2.5	6	1.5		
	3750	TYKW	5	S	0319.5	0319.9	1.5	3	1		
	9400	TYKW	5	S	0319.5	0319.8	1.5	4	1		
	606	MANI	4	S/F	0319.5	0319.9	1.0	32.4	10.8		
	5730	IRKU	1	S	0319.5	0319.9	1.0	4			L
	1415	MANI	1	S	0319.6	0320.0	1.0	8.4	2.8		
	2695	MANI	1	S	0319.7	0320.0	.8	3.8	1.3		
	9100	GORK	1	S	0522.9	0524.2	4.4	24			
	5730	IRKU	2	S	0523.0	0524.0	3.0	16			L
	6100	KISV	45	C	0523.0	0524.5	3.0	31			
	3750	TYKW	45	C	0523.0	0524.3	5.0	18	2.5		
	500	HIRA	46	C	0523.0	0524.0	2.6	80	15		WR
	9400	TYKW	45	C	0523.0	0524.3	2.0	26	3		
	700	SYDN	45	C	0523.0	0524.3	4.1				
	1000	TYKW	45	C	0523.0	0524.5	3.0	33	7		
	2000	TYKW	45	C	0523.0	0524.4	3.0	24	6		
	1400	SYDN	45	C	0523.2	0524.4	3.0				
	606	MANI	4	S/F	0523.2	0523.3	2.8	166.5	31.5		
	650	GORK			0523.2	0525.5		11			
	650	GORK	46	C	0523.2	0524.5	2.4	43			
	950	GORK			0523.4	0525.3		16			
	950	GORK	46	C	0523.4	0524.2	2.0	24			
	2950	GORK	3	S	0523.6	0524.2	2.1	24	12		
	200	GORK	2	S/F	0523.9	0524.0	.5	25			
	1415	MANI	4	S/F	0524.0	0524.6	2.2	23.2	7.7		
	2695	MANI	4	S/F	0524.0	0524.5	2.0	26.7	8.9		
	100	GORK	4	S/F	0524.1	0524.2	.3	100			
	6100	KISV	29	PBI	0526.0	0526	6.0	6			
	408	TRST	42	SER	0726.9	0727.0	.2	85			1R
	327	TRST	42	SER	0726.9	0727.0	.3	230			4L
	237	TRST	42	SER	0726.9	0727.1	.7	210			5L
	237	TRST	41	F	0735.5	0736.0	2.0	380			4L
	327	TRST	41	F	0735.6	0737.4	1.9	320			0
	408	TRST	41	F	0735.8	0737.4	1.7	200			0
	430	KRAK	46	C	0804.0	0807.0	5.5	435 D	80		
	430	KRAK			0804.0	0809.0		370			
	35000	BERN	46		0805.0U	0807.0U	2.0E	50.0			ONLY PAPER REC
	2650	DWIN	2	S/F	0805.0	0806	4.0	60	30		
	10715	DWIN	2	S/F	0805.0	0806	4.0	50	25		
	950	GORK	4	S/F	0805.1	0807.2	4.9	130			
	650	GORK	4	S/F	0805.2	0806.8U	2.5	60 D			
	19600	BERN	46		0805.3	0806.6	2.0U	160.0			ONLY PAPER REC
	11800	BERN	46		0805.3	0806.6	9.0	150.0			ONLY PAPER REC
	10400	BERN	46		0805.3	0906.6	9.0	120.0			ONLY PAPER REC
	8400	BERN	46		0805.3	0806.6	9.0	90.0			ONLY PAPER REC
	6100	KISV	45	C	0805.5	0806.2	5.0	90			
	2000	TYKW	45	C	0805.5	0806.9	4.0	60	10		
	3750	TYKW	45	C	0805.5	0806.7	3.0	115	20		
	1000	TYKW	45	C	0805.5	0806.9	3.0	170	30		
	9400	TYKW	45	C	0805.5	0806.7	3.0	115	30		
	606	MANI	4	S/F	0805.6	0806.8	2.4	333.0	72.0		
	9100	GORK	4	S/F	0805.7	0806.6	9.2	130			
	930	BORD	45	C	0805.7	0806.7	2.8	162	25		
	17000	NOBE	7	C	0805.8	0806.6	2.0D	148			R
	500	HIRA	46	C	0805.8	0806.9	2.0	300	60		WR
	408	TRST	41	F	0805.8	0806.8	3.5	930			9R
	2695	MANI	4	S/F	0805.8	0806.7	4.2	50.8	16.9		
	810	KRAK	3	S	0805.8	0806.7	2.3	250	80		
	2950	GORK	3	S	0805.9	0806.6	4.0	58	25		
	237	TRST	41	F	0805.9	0806.8	4.5	370			11R,VAR POL
	536	ONDR	45	C	0806.0	0807	4.0	117	34		
	600	UCCL	4	S/F	0806.0	0807	2.0	140	30		
	260	ONDR	42	SER	0806.0	0809.5	110.0	216	6		
	808	ONDR	4	S/F	0806.0	0807.3	2.5	167	56		
	9500	POTS	4	S/F	0806.0	0806.5	4.0	106			

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19	1470	POTS	4	S/F	0806.0	0807.3	3.0	46			
	1415	MANI	4	S/F	0806.0	0807.5	4.0	61.0	20.3		
	4995	MANI	4	S/F	0806.0	0806.7	5.0	65.1	21.7		
	3000	POTS	4	S/F	0806.0	0806.5	3.0	64			
	8800	MANI	4	S/F	0806.2	0806.7	3.0	104.4	34.8		
	204	IZMI	41	F	0806.5	0810.0	4.5	275			
	234	POTS	42	SER	0806.7	0806.7	2.9	575	3		III
	200	GORK			0806.7	0808.8		40 D			
	100	GORK	8	S	0806.7	0806.8	.4	150			
	200	GORK	46	C	0806.7	0806.8	2.8	40 D			
	29	UPIC	3	S	0806.7	0807.0	.4				
	33	UPIC	8	S	0806.7	0806.9	.6				
	327	TRST	41	F	0806.7	0808.7	2.9	560			O
	3100	CRIM	3	S	0824.5	0825.0	1.0	33	11		
	3100	CRIM	3	S	0906.0	0907.0	3.0	47	15		
	536	ONDR	42	SER	0920.0	0920.5	158.0	46			
	430	KRAK	8	S	0920.2	0920.5	.5	100			
	810	KRAK	8	S	0920.2	0920.2	.1	23			
	930	BORD	8	S	1102.3	1102.3	.2	23	1		
	2800	OTTA	20	GRF	1228.0	1245	55.0	2.4	1.5		
	2800	OTTA	21	GRF	1420.0	1445	80.0D	5.2			
	808	ONDR	45	C	1436.0	1439.8	5.5	132	31		
	536	ONDR	46	C	1436.5	1440	10.0	45	8		
	3000	POTS	4	S/F	1436.5	1440.3	7.5	30			
	7000	SAOP	4	S/F	1436.7	1440.4	17.0	16.0			O
	9400	HUAN		S	1436.8	1440.4	29.8	8.7	4.3		O
	113	POTS	41	F	1436.8	1440.3	6.6	450	10		III
	2800	OTTA	4	S/F	1436.8	1440.3	7.0	25.8	8.6		
	1470	POTS	4	S/F	1437.0	1440.3	6.0	54			
	930	BORD	45	C	1437.0	1439.7	5.0	109	20		
	2650	DWIN	2	S/F	1437.0	1440	6.0	20	10		
	127	TORN	47	GB	1438.4	1440.2	3.0	630 U	120 U		
	600	UCCL	4	S/F	1439.0	1440	2.0	36	15		
	33	UPIC	4	S/F	1439.8	1440.1	1.2				
	29	UPIC	4	S/F	1439.8	1440.5	1.1				
	9500	POTS			1440.5E	1440.5		8			
	260	ONDR	4	S/F	1449.5	1450	2.5	44	16		
	2800	OTTA	21	GRF	1725.0	1830	125.0	3.0	2.0		
	7000	SAOP	45	C	1731.2	1737.5	15.0	31.0			11R
	9400	HUAN		S	1733.5	1739.6	23.8	7.0	3.2		R
	9400	HUAN		S	1736.0	1737.4	2.7	17.4	9.6		R
	2800	OTTA	45	C	1736.0	1737.5	2.5	5.8	2.8		
	2800	OTTA	21	GRF	1945.0	2003	60.0	4.6			
	2800	OTTA	3	S	1946.0	1948.7	7.0	10.6	3.5		
	2800	OTTA	3	S	1955.5	1958.2	6.0	11.6	3.8		
	3750	TYKW	20	GRF	2257.0	2310	60.0	3	1.5		
	1000	TYKW	45	C	2304.5	2304.7	1.0	11	2.5		
20	3750	TYKW	20	GRF	0115.0	0128	60.0	4	1		
	9400	TYKW	20	GRF	0115.0	0130	35.0	2	1		
	2000	TYKW	45	C	0120.0	0128.0	25.0	3.5	.7		
	1000	TYKW	45	C	0124.0	0128.0	8.0	8	1		
	2000	TYKW	20	GRF	0532.0	0540	60.0	2.5	1.5		
	3750	TYKW	21	GRF	0532.0	0550	70.0	6	2.5		
	1000	TYKW	45	C	0534.5	0539.0	8.0	9	1.5		
	9400	TYKW	20	GRF	0535.0	0550	60.0	4	2		
	950	GORK	2	S/F	0536.0	0539.3	4.7	10			
	650	GORK			0536.2	0540.5		16			
	650	GORK	46	C	0536.2	0538.9	6.2	24	8		
	3750	TYKW	5	S	0548.8	0549.0	.7	14	3		
	2950	GORK	1	S	0848.0	0848.7	1.0	3.1	1.5		
	430	KRAK	5	S	0927.0	0928.2U	2.5	420 D	240 U		
	930	BORD	8	S	1056.2	1056.2	.2	20	2		
	2800	OTTA	20	GRF	1445.0	1454	20.0	1.8	.9		
	930	BORD	46	C	1519.6	1520.2	.6	20	3		
	930	BORD	8	S	1651.2	1651.2	.1	20	1		
	2800	OTTA	20	GRF	1845.0	1910	100.0	3.2	2.6		
	2800	OTTA	21	GRF	2030.0	2050	150.0	2.4	1.2		
	2800	OTTA	1	S	2043.2	2043.5	1.5	1.8	.9		
21	2000	TYKW	45	C	0133.0	0134.7	8.0	10	2		
	1000	TYKW	45	C	0133.0	0136.0	6.0	10	3.5		
	100	HIRA	46	C	0133.5	0133.9	4.7	150	26		WL
	200	HIRA	46	C	0133.6	0134.7	4.0	42	19		O
	9400	TYKW	5	S	0134.0	0135	3.0	2	1		
	3750	TYKW	5	S	0134.0	0135.3	15.0	6	1		
	5730	IRKU	2	S	0715.0	0717.6	4.0	18			L
	930	BORD	8	S	1057.6	1057.6	.2	28	2		
	430	KRAK	2	S/F	1332.7	1333.3	1.0	50	26		
	1470	POTS	4	S/F	1355.5	1356.6	1.5	15			
	536	ONDR	8	S	1405.2	1405.2	.2	18			
	260	ONDR	8	S	1405.3	1405.3	.2	50			
	536	ONDR	8	S	1421.8	1421.8	.2	14			
	260	ONDR	8	S	1422.0	1422	.2	45			
	2800	OTTA	20	GRF	1720.0	1830	110.0	2.6	1.3		

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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
21	2800	OTTA	20	GRF	1955.0	2017	55.0	2.2	1.1		
22	3750	TYKW	5	S	0102.4	0102.8	1.0	1	.3		
	650	GORK	1	S	0819.5	0820.2	1.4	9	4		
	930	BORD	46	C	0819.6	0820.4	1.3	35	5		
	950	GORK	4	S/F	0819.9	0820.5	1.3	21			
	3000	POTS	8	S	0820.0	0820.5	.7	3.1			
	1470	POTS	8	S	0820.0	0820.2	1.0	7.4			
	2950	GORK	1	S	0820.3	0820.4	.6	1.5			
	260	ONDR	8	S	0950.7	0950.7	.2	27			
	113	POTS	4	S/F	0950.9	0950.9	.1	120	10		III
	3100	CRIM	1	S	1128.0	1128.5	5.0	10	3		
	260	ONDR	8	S	1307.8	1307.8	.2	22			
	536	ONDR	8	S	1308.0	1308	.2	39			
	9400	HUAN		S	1447.1	1501.2	44.2	5.2	1.6		R
	2800	OTTA	20	GRF	1454.0	1456.5	55.0	3.2	1.6		
	9400	HUAN		S	1657.8	1658.7	1.2	26.0	7.5		O
	2800	OTTA	24O	R	1820.0	1835	15.0	4.2	2.1		
	9400	HUAN		S	1953.5	2002.1	19.1	8.6	6.0		O
	9400	HUAN		S	1958.0	1958.7	1.2	12.1	6.2		R
	2800	OTTA	20	GRF	2015.0	2030	55.0	2.2	1.4		
23	3750	TYKW	5	S	0116.0	0117	3.0	1	.4		
	1470	POTS	1	S	1207.0	1207.7	2.0	4.8			
	2800	OTTA	4	S/F	1207.2	1207.4	1.3	16.2	3.8		
	3000	POTS	3	S	1207.4	1207.5	.8	6.9			
	3000	POTS			1207.4	1208.8		6.9			
	930	BORD	41	F	1207.5	1207.7	.5	36	2		
	600	UCCL	4	S/F	1207.5	1207.7	.4				
	9400	HUAN		S	1548.1	1554.0	14.9	9.4	3.5		R
	2800	OTTA	46F	C	1655.0	1657.8	15.0	25.8	10.8		
	7000	SAOP	20	GRF	1656.7			15.0			O
	9400	HUAN		S	1656.8	1705.6	26.5	10.9	7.2		O
	930	BORD	46	C	1657.2	1657.8	1.5	21	3		
	600	UCCL	2	S/F	1657.5	1658.5	2.0				
	2800	OTTA	29	PBI	1710.0	1710	20.0	4.4	2.2		
24	260	ONDR	44	NS	0936.0E		330.0D	19			
	3750	TYKW	21	GRF	0005.0	0010	35.0	2	1		
	1000	TYKW	45	C	0028.8	0029.3	1.5	3	1		
	2000	TYKW	5	S	0028.8	0029.1	1.0	1.5	.5		
	3750	TYKW	5	S	0028.9	0029.3	1.0	5	1		
	1000	TYKW	42	SER	0216.8	0219.9	3.5	7	1		
	2000	TYKW	45	C	0217.0	0217.9	3.5	2	.5		
	2000	TYKW	5	S	0225.3	0225.5	1.0	1.5	.5		
	3750	TYKW	5	S	0225.3	0225.6	.5	3	1		
	1000	TYKW	8	S	0225.4	0225.4	.1	4	2 U		
	6100	KISV	3	S	0804.0	0805.5	3.0	6			
	810	KRAK	8	S	0804.5	0804.8	.5	155			
	9400	TYKW	5	S	0804.5	0805	1.5	4	2		
	3750	TYKW	5	S	0804.5	0805.3	2.0	4	1		
	9100	GORK	1	S	0804.6	0805.3	1.4	6	3		
	650	GORK	2	S/F	0804.6	0804.8	1.3	23	6		
	204	IZMI	8	S	0957.5	0957.5	.5	125	75		
	33	UPIC	4	S/F	0957.7	0957.9	.6				
	29	UPIC	4	S/F	0957.8	0958.0	.6				
	6100	KISV	20	GRF	1035.0	1059	32.0	10			
	9500	POTS	20	GRF	1052.0	1107.5	56.0	7.6			
	9100	GORK	20	GRF	1053.0	1108.5	25.4	6.3	3		
	3000	POTS	20	GRF	1104.0	1107.7	11.0	8.6			
	1470	POTS	20	GRF	1104.0	1107.5	11.0	5.0			
	6100	KISV	29	PBI	1107.0	1107	53.0	4			
	930	BORD	46	C	1338.0	1338.5	1.5	41	3		
	228	HARS	45	C	1351.8	1351.8	1.2	180	65		
	430	KRAK	45	C	1353.0	1354.2U	2.5	630 D	410 U		
	810	KRAK	8	S	1353.3	1353.5	.2	9			
	3000	POTS	8	S	1358.0	1358.4	1.0	29			
	1470	POTS	8	S	1358.0	1358.6	1.0	71			
	2800	OTTA	3	S	1358.0	1358.3	1.0	52.0	13.0		
	7000	SAOP	1	S	1358.3	1358.3		9.0			30R
	2800	OTTA	21	GRF	1500.0	1538	110.0	3.4	1.7		
	7000	SAOP	45	C	1528.4	1529.0		13.0			27R
	2800	OTTA	8	S	1528.5	1529	.9	2.8	1.4		
	2800	OTTA	1	S	1535.0	1536.2	2.0	2.8	1.4		
	2800	OTTA	1	S	1541.0	1542	2.0	1.4	.7		
	9400	HUAN		S	1715.7	1717.3	23.1	9.8	5.5		R
	2800	OTTA	27A	RF	1958.0		94.0	3.4	2.7		
	2800	OTTA	24	R	1958.0	2020	22.0	3.4	1.7		
	2800	OTTA	4	S/F	1958.7	1959.2	4.5	34.4	8.6		
	2800	OTTA	24P	R	2020.0		55.0	3.4			
	2800	OTTA	26	FAL	2115.0	2132	17.0	-3.4	-1.7		
	3750	TYKW	20	GRF	2300.0	2320	80.0	3	1.5		
25	260	ONDR	44	NS	0732.0E		461.0D	138			
	3750	TYKW	45	C	0124.0	0124.9	15.0	3	.5		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
25	3750	TYKW	5	S	0148.0	0149.9	2.5	11	3		
	2000	TYKW	5	S	0149.0	0149.9	2.0	4.5	1		
	9400	TYKW	5	S	0149.8	0150	1.0	4	1.5		
	3750	TYKW	29	PBI	0150.5		40.0	1.5	.7		
	3750	TYKW	21	GRF	0400.0	0423	160.0	8	4		
	2000	TYKW	21	GRF	0400.0	0435	160.0	5.5	3		
	9400	TYKW	21	GRF	0410.0	0435	130.0	9	4		
	1000	TYKW	45	C	0413.8	0419.5	20.0	10	4.5		
	2000	TYKW	45	C	0414.0	0421	17.0	6	3.5		
	100	HIRA	46	C	0425.9	0426.4	4.5	310	83		WL
	9400	TYKW	45	C	0426.0	0428.6	3.5	9	4		
	3750	TYKW	45	C	0426.0	0428.6	10.0	15	3		
	200	HIRA	46	C	0426.0	0426.4	4.0	500	65		O
	500	HIRA	4	S/F	0427.5	0428.1	1.3	24	10		WL
	3750	TYKW	5	S	0449.0	0449.8	2.0	3.5	1		
	9100	GORK	20	GRF	0541.2	0547.3	42.0	11	6		
	3100	CRIM	24	R	0754.0	1226.0		6			
	33	UPIC	8	S	0918.0	0918.2	.7				
	29	UPIC	4	S/F	0918.0	0918.5	.8				
	234	POTS	4	S/F	1001.7	1001.8	.6	275	30		III
	234	POTS	4	S/F	1052.6	1052.9	.4	120	20		III
	2800	OTTA	1	S	1349.0	1353	6.0	2.6	1.9		
	9400	HUAN		S	1352.1	1400.8	33.3	4.2	3.0		O
	228	HARS	45	C	1448.8	1449.1	3.0	155	50		
	234	POTS	42	SER	1448.8	1449.5	2.6	550	10		III
	2800	OTTA	21	GRF	1530.0	1640	115.0	5.4			
	2800	OTTA	4	S/F	1716.5	1717.7	3.0	14.2	6.0		
	7000	SAOP	45	C	1717.0	1717.7	2.4	18.0			36R
	7000	SAOP	1	S	1736.6	1737.2		9.0			53R
	2800	OTTA	1	S	1737.0	1737.1	1.0	2.4	1.2		
	2800	OTTA	4	S/F	1924.0	1924.6	2.0	10.0	3.4		
	2800	OTTA	23	GRF	1945.0	2118	110.0	3.6	1.8		
	2800	OTTA	40	F	2045.0	2049.7	6.0	2.8			
	9400	HUAN		S	2049.6	2100.0	28.1	7.0	5.6		R
	2695	PENT	1	S	2200.5	2202	3.5	2.8	1.4		
	3750	TYKW	5	S	2201.5	2202.2	1.5	2.5	.8		
	3750	TYKW	20	GRF	2227.0	2250	70.0	2	1		
	2000	TYKW	45	C	2227.0	2228.3	3.0	30	8		
	2800	OTTA	1A	S	2227.0	2228.5	5.0	4.2	2.1		
	2800	OTTA	8	S	2228.1	2228.1	.1	22.0			
	2000	TYKW	29	PBI	2230.0		50.0	3	1.5		
	2000	TYKW	45	C	2359.0	2407.9U	14.0	59 D	11 D		
26	200	GORK	43	NS	0440.0		480.0		10		
	204	IZMI	43	NS	0600.0		360.0	60			
	200	HIRA	43	NS	0606.0	0800	160.0D	5	2		WL
	260	ONDR	44	NS	0728.0E		461.0D	108	6		
	127	TORN	43	NS	0857.0	1012.4	159.0	50	.5		V1
	200	HIRA	44	NS	2031.0E	0335	740.0D	20	5		WL
	2695	PENT	4	S/F	0001.5	0007.5	13.0	145.0	28.2		
	1400	SYDN	45	C	0001.6	0007.7	8.7				
	1415	MANI	4	S/F	0002.0	0005.9	12.0	21.8	7.3		
	4995	MANI	4	S/F	0002.0	0007.7	10.0	154.9	51.6		
	700	SYDN	27	RF	0002.8	0007.4	7.6				
	1000	TYKW	45	C	0003.0E	0007.4	8.0D	15 D	5 D		
	3750	TYKW	45	C	0003.0E	0007.3	10.0D	170	35 D		
	2930	VORO	45	C	0003.0	0008	12.0	206			
	606	MANI	4	S/F	0003.5	0007.7	7.0	34.4	11.5		
	200	HIRA			0004.0	0007.0		50			WL
	100	HIRA	7	C	0004.0	0004.2	6.0	700	40		O
	200	HIRA	46	C	0004.0	0004.7	5.6	110	25		WL
	100	HIRA			0004.0	0005.5		100			WL
	17000	NOBE	28	PRE	0004.8	0006.5	1.7	11			O
	8800	MANI	4	S/F	0005.0	0007.7	6.5	142.6	47.5		
	35000	NAGO	20	GRF	0006.0	0007	5.0	25			
	17000	NOBE	3	S	0006.5	0007.5	5.0	53			R
	9400	TYKW	5	S	0007.0E	0007.3	6.0D	110	35 D		
	2695	MANI	4	S/F	0007.0	0007.7	10.3	118.8	39.6		
	700	SYDN	8	S	0007.4	0007.6	.4				
	17000	NOBE	29	PBI	0011.4	0011.4	18.0	11			O
	3750	TYKW	29	PBI	0013.0		20.0	4	1.5		
	9400	TYKW	29	PBI	0013.0		20.0	7	3.5		
	2000	TYKW	29	PBI	0013.0		10.0	1.4	.7		
	1000	TYKW	5	S	0308.0	0309.2	3.0	2	.7		
	2000	TYKW	5	S	0309.0	0309.8	2.0	2	.7		
	100	GORK			0503.5	0516.6U		160 D			
	100	GORK			0503.5	0515.6U		160 D			
	100	GORK			0503.5	0518.0		220			
	100	GORK			0503.5	0514.0U		160 D			
	100	GORK	46	C	0503.5	0510.7	16.0	160			
	2000	TYKW	21	GRF	0510.0	0532	110.0	5.5	2		
	3750	TYKW	21	GRF	0510.0	0532	150.0	7	3		
	9400	TYKW	20	GRF	0510.0	0530	110.0	6	2.5		
	1000	TYKW	45	C	0517.0	0517.8	1.5	7	1.5		
	2000	TYKW	5	S	0517.0	0517.5	1.5	4	1		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
26	3750	TYKW	5	S	0517.0	0517.5	1.5	1	.3		
	200	GORK			0517.6	0519.0		40			
	200	GORK	46	C	0517.6	0517.9	2.5	40 D			
	650	GORK	2	S/F	0517.6	0518.2	1.4	5.4	3.0		
	950	GORK	1	S	0517.6	0518.2	1.0	6.0	3.0		
	2950	GORK	1	S	0518.0	0518.0	.6	2.0	1.0		
	100	GORK			0621.2	0625.5		140			
	100	GORK	46	C	0621.2	0624.7	6.5	180			
	650	GORK	22	GRF	0621.5	0623.3	5.9	7	3.6		
	950	GORK	1	S	0621.5	0623.3	4.2	5	2.5		
	1470	POTS	3	S	0821.5	0822.7	2.0	8.8			
	3000	POTS	1	S	0821.5	0822.7	2.5	5.0			
	950	GORK	1	S	0821.7	0822.6	2.0	6.0	3.0		
	2950	GORK	1	S	0822.2	0822.6	2.5	2.8	1.0		
	650	GORK	1	S	0822.3	0822.7	1.6	4	2		
	9100	GORK	22	GRF	1002.8	1015.3	15.0	12	3		
	100	GORK	8	S	1009.0	1009.2	.6	290			
	1470	POTS	22	GRF	1010.0	1016.5	13.0	2.0			
	9500	POTS	22	GRF	1011.0	1015.2	8.0	9.4			
	3000	POTS	22	GRF	1011.0	1015.3	9.0	3.0			
	33	UPIC	8	S	1011.3	1011.4	.7				
	29	UPIC	8	S	1011.3	1011.5	.6				
	6100	KISV	45	C	1013.0	1015.2	3.0	9			
	10400	BERN	41		1014.3	1015.3	4.0	8.0			ONLY PAPER REC
	8400	BERN	41		1014.3	1015.3	4.0	7.0			ONLY PAPER REC
	2950	GORK	1	S	1014.6	1016.3	3.0	2.4	1.2		
	9100	GORK	21	GRF	1039.0	1107.1	66.8	6	3		
	11800	BERN	20		1039.0	1039.8	6.0	10.0			ONLY PAPER REC
	8400	BERN	20		1039.0	1039.8	6.0	5.0			ONLY PAPER REC
	10400	BERN	20		1039.0	1039.8	6.0	8.0			ONLY PAPER REC
	15000	KISV	27	RF	1039.0	1039.5	11.0	6			
	6100	KISV	45	C	1039.0	1039.3	2.0	9			
	2950	GORK	1	S	1039.3	1039.7	1.4	2.8	1.4		
	100	GORK	2	S/F	1039.4	1039.7	1.0	140			
	9100	GORK	1	S	1039.4	1039.8	.9	9.5	4		
	950	GORK	1	S	1039.4	1040.0	1.0	1.8	.9		
	200	GORK	2	S/F	1039.5	1039.9	.9	35 D			
	650	GORK	1	S	1039.5	1040.0	.9	2			
	33	UPIC	3	S	1039.6	1039.8	.6				
	29	UPIC	3	S	1039.8	1040.0	.7U				
	3000	POTS	20	GRF	1102.0	1106	21.0	4.0			
	6100	KISV	45	C	1108.0	1109.7	5.0	7			
	7000	SAOP	3	S	1108.4	1110.0	7.0	16.0			23R
	15000	KISV	27	RF	1108.5	1110	5.0	4			
	11800	BERN	20		1109.1	1110.2	4.0	10.0			ONLY PAPER REC
	10400	BERN	20		1109.1	1110.2	4.0	8.0			ONLY PAPER REC
	8400	BERN	20		1109.1	1110.2	4.0	7.0			ONLY PAPER REC
	9100	GORK	1	S	1109.3	1110.1	2.0	8	4		
	9500	POTS	1	S	1109.4	1110.0	1.6	9.4			
	9400	HUAN		S	1212.6	1221.2	20.8	4.9	2.7		0
	9400	HUAN		S	1227.6	1228.8	1.6	9.8	4.9		0
	9400	HUAN		S	1237.8	1243.5	27.0	11.4	2.1		0
	9400	HUAN		S	1239.6	1240.3	1.3	13.0	6.2		0
	9400	HUAN		C	1327.9	1330.3	4.3	86.4	34.5		R
	10715	DWIN	45	C	1328.0	1330	4.0	35	20		
	7000	SAOP	45	C	1328.0	1330.3	3.0	54.0			10R
	2650	DWIN	1	S	1328.0	1330	5.0	15	5		
	9500	POTS	4	S/F	1328.0	1330.0	3.5	74			
	2800	OTTA	46F	C	1328.2	1330.7	6.0	14.8	3.5		
	8400	BERN	46		1328.2	1330.2	4.0	36.0			ONLY PAPER REC
	1470	POTS	28	PRE	1328.2	1330.8	12.0	15			
	19600	BERN	46		1328.2	1330.2	3.0	106.0			ONLY PAPER REC
	35000	BERN	20		1328.2	1330.2	1.0	71.0			ONLY PAPER REC
	3000	POTS	28	PRE	1328.2	1330.9	9.3	18			
	11800	BERN	46		1328.2	1330.2	6.0	94.0			ONLY PAPER REC
	10400	BERN	46		1328.2	1330.2	4.0	74.0			ONLY PAPER REC
	228	HARS	45	C	1329.0	1330.0	2.1	160	60		
	536	ONDR	42	SER	1329.0	1421	52.0	68			
	234	POTS	42	SER	1329.8	1330.3	5.5	265	3		III
	113	POTS	42	SER	1330.1	1330.2	5.3	500	6		III
	113	POTS	42	SER	1417.4	1420.9	15.0	175	1 E		III
	2800	OTTA	2	S/F	1419.5	1421	4.5	6.0	2.4		
	1470	POTS	3	S	1420.0	1421.3	5.0	10			
	234	POTS	4	S/F	1420.4	1420.8	1.1	340	40		III
	930	BORD	41	F	1420.4	1420.5	.3	25	2		
	3000	POTS	3	S	1420.8	1421.4	2.2	7.0			
	2800	OTTA	240	R	1740.0	1800	20.0	3.6	2.6		
	9400	HUAN		S	1934.6	2005.0	50.1	9.8	4.6		R
	3750	TYKW	5	S	2203.0	2205.3	7.0	2.5	.5		
	2800	OTTA	1	S	2204.0	2205	3.0	2.8	1.4		
	2000	TYKW	5	S	2205.0	2205.3	1.0	3	1		
	1000	TYKW	5	S	2205.0	2205.5	1.0	3	1		
	100	HIRA	42	SER	2254.6	2339.7	50.0	4800			
	2000	TYKW	42	SER	2255.0	2256.7	5.0	13	1		
	1000	TYKW	45	C	2255.0	2256.8	4.0	6	1		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
26	3750	TYKW	45	C	2255.0	2307	35.0	5	1.5		
	2695	PENT	40	F	2255.5	2256.7	5.0	6.4			
	2000	TYKW	45	C	2306.0	2307.0	2.0	3	.5U		
	2695	PENT	1	S	2306.5	2307	1.0	3.2	1.6		
	2695	PENT	1	S	2308.5	2309	1.0	2.6	1.3		
	2695	PENT	8	S	2320.2	2320.3	.2	3.2			
	2000	TYKW	8	S	2320.3	2320.3	.1	5	2.5U		
	2000	TYKW	45	C	2338.0	2340.0	3.0	14	2		
	3750	TYKW	45	C	2338.0	2338.9	22.0	4	1		
	2695	PENT	1	S	2338.5	2339	2.0	3.2	1.6		
27	200	GORK	44	NS	0446.0E		542.0D		10		
	204	IZMI	43	NS	0600.0		360.0	40			
	33	UPIC	43	NS	0627.3	1008.3	444.7				
	29	UPIC	43	NS	0627.3	1008.5	444.6				
	260	ONDR	44	NS	0702.0E		483.0D	155	19		
	127	TORN	43	NS	0720.0	1043.2	450.0	130	20		V1
	100	GORK	43	NS	0806.0		354.0E		5		
	200	HIRA	44	NS	2030.0E	2226	450.0D	15	8		ML
	1000	TYKW	45	C	0210.0	0212.7	5.0	3	.5		
	3750	TYKW	5	S	0212.0	0212.6	1.0	1	.3U		
	2000	TYKW	5	S	0212.0	0212.6	2.0	3	1		
	2000	TYKW	21	GRF	0355.0	0450	210.0	3.5	2		
	3750	TYKW	21	GRF	0400.0	0450	200.0	5	3		
	3750	TYKW	5	S	0403.0	0404.4	3.0	2	.5		
	9400	TYKW	5	S	0404.0	0404.5	1.5	6	1.5		
	9400	TYKW	5	S	0415.0	0425	25.0	3	1		
	1000	TYKW	42	SER	0418.5	0419.7	3.5	3.5	.7		
	2000	TYKW	42	SER	0418.9	0419.7	2.0	1.5	.5		
	2000	TYKW	5	S	0424.0	0424.9	3.0	3	1		
	1000	TYKW	5	S	0424.5	0424.9	1.0	15	5		
	3750	TYKW	45	C	0429.0	0434.7	9.0	3	1		
	113	POTS	42	SER	0712.2	0721.9	19.0	300	1 E		III
	100	GORK			0712.5	0722 U		420 D			
	100	GORK	41	F	0712.5	0712.6	17.5	420 D			
	100	GORK			0712.5	0726.0		380			
	100	GORK			0712.5	0729.4		330			
	1000	TYKW	45	C	0713.0	0714.6	3.0	2	1		
	1470	POTS	8	S	0714.4	0714.5	.6	21			
	650	GORK	2	S/F	0721.1	0721.4	.8	3.5			
	1000	TYKW	45	C	0729.5	0731.0	2.0	6	1		
	1000	TYKW	5	S	0740.5	0741.4	1.5	4	1		
	3000	POTS	3	S	0740.5	0741.3	1.1	9.0			
	1470	POTS	3	S	0740.5	0741.4	1.5	8.3			
	2000	TYKW	5	S	0740.6	0741.3	1.0	7	2.5		
	3750	TYKW	5	S	0741.0	0741.3	.5	2.5	1		
	650	GORK	2	S/F	0741.2	0741.2	.7	4.5			
	650	GORK	4	S/F	0847.5	0851.4	5.8	19			
	536	ONDR	45	C	0848.0	0849.2	4.0	65	15		
	113	POTS	4	S/F	0848.7	0848.8	.3	500	125		III
	430	KRAK	8	S	0848.7	0848.7	.5	25			
	100	GORK	8	S	0848.9	0849.0U	.6	420 D			
	100	GORK	4	S/F	0926.8	0927.0	1.6	240			
	536	ONDR	8	S	0949.0	0949	.2	13			
	6100	KISV	46	C	0950.0	0951.5	5.0	9			
	9500	POTS	1	S	0950.5	0951.4	1.9	6.2			
	9100	GORK	1	S	0950.6	0951.7	4.0	11	5		
	204	IZMI	4	S/F	1007.5	1008.3	1.5	140	50		
	127	TORN	47	GB	1007.6	1008.6	1.8	750	380		
	100	GORK	46	C	1007.7	1008.0	2.0	400			
	100	GORK			1007.7	1008.5U		400 D			
	200	GORK	4	S/F	1007.8	1008.5	1.6	40 D			
	113	POTS	4	S/F	1007.9	1008.4	1.2	850	70		III
	650	GORK	41	F	1019.5	1022.3	7.9	4.0			
	650	GORK			1019.5	1023.4		6.0			
	113	POTS	42	SER	1021.0	1043.0	12.0	350	1 E		III
	10400	BERN	3		1021.5	1022.8	3.5	14.0			ONLY PAPER REC
	8400	BERN	3		1021.5	1022.8	3.5	16.0			ONLY PAPER REC
	3000	POTS	1	S	1022.0	1022.8	2.0	5.0			
	9500	POTS	3	S	1022.4	1022.7	1.6	17			
	9100	GORK	1	S	1022.5	1023.1	1.5	20	10		
	2950	GORK	1	S	1022.8	1023.0	1.1	1.5			
	204	IZMI	41	F	1028.5	1029.5	1.5	270			
	100	GORK	8	S	1032.3	1032.3	.5	400			
	100	GORK	8	S	1043.1	1043.3	.5	400 D			
	650	GORK	1	S	1100.5	1104.3	5.8	1.5			
	536	ONDR	42	SER	1104.0	1134	45.0	72			
	9100	GORK	21	GRF	1106.0		174.0E				
	430	KRAK	1	S	1118.2	1118.5	.3	5			
	810	KRAK	8	S	1119.0	1119.0	.1	6			
	6100	KISV	4	S/F	1122.0	1123	3.0	18			
	3100	CRIM	28	PRE	1132.0	1154.0	44.0	9	3		
	228	HARS	45	C	1133.2	1133.8	1.2	165	60		
	200	GORK	2	S/F	1133.8	1134.1	1.2	30 D			
	650	GORK			1133.8	1136.9		2.3			

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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
27	650	GORK	41	F	1133.8	1134.4	6.7	4.2			
	430	KRAK	45	C	1133.8	1134.0	3.0	90	16		
	234	POTS	4	S/F	1133.9	1134.1	.5	820	140		III
	810	KRAK	8	S	1134.0	1134.0	.1	10			
	810	KRAK	8	S	1136.0	1136.0	.1	8			
	1470	POTS	45	C	1138.0	1303.5	170.0	330			
	930	BORD	8	S	1142.7	1142.7	.1	21	1		
	3000	POTS	45	C	1143.0	1259.5	164.0	1600 E			
	650	GORK	1	S	1146.8	1147.9	5.8	1.5			
	200	GORK	46	C	1207.6	1232.1	113.4E	520			
	200	GORK			1207.6	1331.4		90			
	200	GORK			1207.6	1327.4		130			
	2800	OTTA	47	GB	1210.0	1259.5	90.0	733.0	137.0		
	950	GORK	46	C	1212.5	1252.7	107.0E	87			
	950	GORK			1212.5	1327.0		80			
	950	GORK			1212.5	1303.0		160			
	950	GORK			1212.5	1317.6		104			
	2950	GORK			1212.9	1253.7		190			
	2950	GORK	47	GB	1212.9	1237.0	108.0E	70			
	2950	GORK			1212.9	1259.6		580			
	19600	BERN	20		1215.0	1259.7	18.0	82.0			ONLY PAPER REC
	8400	BERN	47		1215.0	1259.7	18.0	260.0D			ONLY PAPER REC
	10400	BERN	47		1215.0	1259.7	18.0	500.0			ONLY PAPER REC
	11800	BERN	47		1215.0	1259.7	18.0	430.0			ONLY PAPER REC
	113	POTS	27	RF	1216.0	1238	114.0	56			RISE+I
	3100	CRIM	47	GB	1216.0	1310.5	78.0	432	144		
	650	GORK			1218.8	1306.4		260			
	650	GORK			1218.8	1326.6		100			
	650	GORK			1218.8	1318.3		130			
	650	GORK	46	C	1218.8	1303.0	102.0E	227			
	6100	KISV	47	GB	1219.0	1259.7		560			
	6100	KISV			1219.0	1247		130			
	6100	KISV			1219.0	1253.5		200			
	9500	POTS	45	C	1220.0	1259.8	125.0	520			
	536	ONDR			1220.0	1346.5		75			
	2650	DWIN	49	GB	1220.0		95.0	580 D			
	10715	DWIN	49	GB	1220.0	1259	80.0	220	100		
	536	ONDR	48	C	1220.0	1306.3	100.0	136	14		
	430	KRAK	46	C	1220.8	1230.0U	99.0D	160	15		
	100	GORK	46	C	1221.8	1226.4	36.0	1000			
	100	GORK			1221.8	1237.9		840			
	9400	HUAN		PRE	1223.2	1242.0	18.8	29.2	14.7		0
	113	POTS	4	S/F	1226.2	1226.3	.4	400	100		III
	127	TORN	27	RF	1226.9	1232.7	47.0	140	130		
	808	ONDR	48	C	1230.0	1305.2	80.0	121	58		
	930	BORD	45	C	1234.0	1303	88.0	165	40		
	9100	GORK			1234.8	1253.4		135			
	9100	GORK			1234.8	1259.7		690			
	9100	GORK	46	C	1234.8	1246.7	53.0	65			
	9100	GORK			1234.8	1301.6		575			
	810	KRAK			1235.5U	1326.5		90			
	810	KRAK			1235.5U	1318.0		150			
	810	KRAK	48	C	1235.5U	1305.0	58.0U	250	50		
	9400	HUAN		C	1242.0	1259.5	42.1	798.9	243.7		R
	33	UPIC	48	C	1246.4	1248.9	24.5				
	29	UPIC	48	C	1246.6	1248.7	25.0				
	600	UCCL	40	F	1251.0	1305.5	67.0				
	9400	HUAN		PBI	1324.1	1324.1	121.4	34.4	17.3		R
	810	KRAK	42	SER	1333.5	1344.0	24.5	20			
	810	KRAK			1333.5	1350.0		25			
	2800	OTTA	30	PBI	1340.0	1340	610.0	32.4	11.0		
	930	BORD	41	F	1513.0	1516.4	4.0	30	3		
	2800	OTTA	21	GRF	1830.0	1844	50.0	7.0	2.4		
	2800	OTTA	4	S/F	1837.0	1840	6.5	275.0	59.0		
	9400	HUAN		C	1837.1	1840.8	6.4	328.1	135.1		R
	7000	SAOP	45	C	1837.6	1840.8	17.6	460.0			3R
	9400	HUAN		PBI	1843.5	1843.5	44.7	36.1	12.6		R
	2800	OTTA	45	C	2030.2	2030.7	2.0	26.8	8.9		
	2800	OTTA	45	C	2108.0	2108.7	2.5	5.6	2.8		
	2800	OTTA	29	PBI	2110.5	2110.5	8.0	2.2	1.1		
	1000	TYKW	45	C	2149.2	2149.4	.4	14	3		
28	200	GORK	44	NS	0444.0E		420.0D		5		
	100	GORK	43	NS	0615.0		72.0		5		
	260	ONDR	44	NS	0650.0E		492.0D	67			
	33	UPIC	43	NS	0829.6	0830.0	287.4				
	29	UPIC	43	NS	0829.6	0934.2	287.1				
	100	HIRA	41	F	0156.4	0158.3	4.0	1700			WL
	2000	TYKW	5	S	0202.0U	0204	5.0U	3	1 U		
	200	HIRA	46	C	0202.2	0203.0	2.4	230	115		MR
	100	HIRA	46	C	0202.5	0203.0	3.0	1400	190		0
	100	HIRA	48	C	0340.0	0340.4	2.7	25000	5900		0
	3750	TYKW	45	C	0340.0	0341.0	2.5	7	2.5		
	2000	TYKW	5	S	0340.0	0340.7	2.5	5	1.5		
	1000	TYKW	5	S	0340.0	0340.8	2.5	3	1		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
28	200	HIRA	46	C	0340.0	0341.0	1.9	1300	260		WL
	9400	TYKW	5	S	0340.5	0341.2	2.0	3	1		
	700	SYDN	8	S	0414.9	0415.3	.6				
	700	SYDN	4	S/F	0417.7	0418.3	1.1				
	650	GORK	41	F	0515.5	0518.1	9.0	13			
	650	GORK			0515.5	0522.7		14			
	100	GORK			0516.5	0522.7		280 D			
	100	GORK	41	F	0516.5	0517.0U	7.5	280 D			
	100	HIRA	42	SER	0516.6	0517.7	9.0	2200			WL
	700	SYDN	3	S	0522.4	0522.8	.8				
	9400	TYKW	20	GRF	0635.0	0700	85.0D	6	5 D		
	2000	TYKW	21	GRF	0635.0	0710	85.0D	8	5.5D		
	3750	TYKW	21	GRF	0636.0	0700	84.0D	7	5.5D		
	9100	GORK	23	GRF	0636.0	0806 U	390.0	9			
	650	GORK	20	GRF	0636.7	0637.6	8.3	6.0	3.0		
	1000	TYKW	45	C	0637.0	0638.7	2.0	7	1.5		
	2000	TYKW	45	C	0637.0	0637.7	2.5	3	1		
	100	HIRA	42	SER	0642.0	0829.7	120.0	16000			0
	100	GORK			0730.6	0740.0		430			
	100	GORK			0730.6	0734.8		430			
	100	GORK	41	F	0730.6	0731.8	9.6	430 D			
	2950	GORK	21	GRF	0756.7E	0800 U	270.0E	10			
	1470	POTS	1	S	0803.5	0804.5	3.0	5.3			
	2950	GORK	1	S	0803.8	0804.1	2.0	4.2	2.0		
	3000	POTS	1	S	0804.0	0804.5	1.5	4.9			
	113	POTS	42	SER	0827.8	0829.9	5.8	1300	10		III
	10715	DWIN	4	S/F	0854.0	0856	4.0	75	50		
	2650	DWIN	4	S/F	0854.0	0856	6.0	195	100		
	3100	CRIM	3	S	0855.0	0858.0	7.0	46	15		
	430	KRAK	48	C	0925.2	0928.0U	5.0	450 D	180		
	430	KRAK	2	S/F	0938.5	0939.0	1.5	35	12		
	930	BORD	41	F	0947.6	0948	1.6	13	2		
	1470	POTS	1	S	0948.0	0948.9	2.0	5.3			
	808	ONDR	45	C	0951.0	0956.4	19.0	52	12		
	650	GORK			0953.1	0956.5		85			
	650	GORK	45	C	0953.1	0954.3U	6.9	60			
	127	TORN	47	GB	0953.3	0958.9	10.0	740	370		SATURATED
	536	ONDR	46	C	0953.7	0954.3	6.0	169	42		
	950	GORK	5	S	0954.0	0956.6	15.0	54			
	930	BORD	45	C	0954.0	0956.5	7.0	59	12		
	6100	KISV	4	S/F	0954.0	0956.5	4.0	220			
	3000	POTS	4	S/F	0954.0	0956.5	8.5	185			
	11800	BERN	46		0954.1	0957.0	7.0	186.0			ONLY PAPER REC
	8400	BERN	46		0954.1	0956.5	7.0	190.0			ONLY PAPER REC
	10400	BERN	46		0954.1	0956.5	7.0	167.0			ONLY PAPER REC
	9100	GORK	46	C	0954.3	0956.0	5.6	220			
	2950	GORK	4	S/F	0954.3	0956.6	5.7	190			
	9100	GORK	46	C	0954.3	0956.5		290			
	200	GORK			0954.4	0958.3		6400			
	200	GORK			0954.4	1000.8		2200			
	200	GORK	46	C	0954.4	0956.6	8.2	580 D			
	600	UCCL	4	S/F	0954.5	0955	5.5	210	40		
	1470	POTS	3	S	0954.5	0957.0	14.0	100			
	430	KRAK	46	C	0954.5	0955.0	11.7	320	30		
	9500	POTS	4	S/F	0954.5	0956.0	9.0	205			
	810	KRAK	2	S/F	0955.0	0955.8	3.0	55	20		
	260	ONDR	46	C	0955.0		6.0	219 D	80		
	228	HARS	45	C	0955.4	0958.6	6.2	800 U	260 U		
	204	IZMI	46	C	0955.5	1000.0	7.5	10700	4000		
	113	POTS	49	GB	0955.6	0957.7	30.0	8000			III
	234	POTS	48	C	0955.6	0958.4	6.9	6200			III
	100	GORK	46	C	0955.6	0956.0U	152.0	560 D			
	100	GORK			0955.6	0957.0		9600			
	100	GORK			0955.6	1009.8		7300 D			
	35000	BERN	20		0956.0	0957.0	3.0	80.0U			ONLY PAPER REC
	19600	BERN	20		0956.0	0957.0	3.0	103.0			ONLY PAPER REC
	430	KRAK	48	C	1110.3	1121.5U	13.0	440	90 U		
	237	TRST	41	F	1216.1	1216.2	1.1	140			3L
	100	GORK			1216.1	1217		540			
	100	GORK	41	F	1216.1	1216.3U	1.4	540 D			
	113	POTS	42	SER	1216.2	1217.0	7.5	600	1		III
	9400	HUAN		S	1244.8	1306.5	58.0	5.1	1.9		0
	2800	OTTA	20	GRF	1455.0	1511	65.0	3.6	1.2		
	237	TRST	41	F	1524.3	1525.6	1.5	47			6R
	2800	OTTA	21	GRF	2000.0	2017	100.0	12.4	6.2		
	2800	OTTA	4	S/F	2001.5	2005	6.0	32.2	16.1		
	9400	HUAN		S	2052.2	2102.5	31.1	7.0	5.6		0
	2800	OTTA	4	S/F	2053.0	2054	3.0	31.2	15.6		
	1000	TYKW	45	C	2059.0E	2059.8	2.0D	32 D	3 U		
	1000	TYKW	45	C	2109.0E	2110.1	1.2D	12	2 U		
	3750	TYKW	5	S	2154.0	2154.7	1.0	3	1		
	2000	TYKW	5	S	2154.0	2154.7	1.0	5	2		
	1000	TYKW	45	C	2154.0	2154.7	1.0	50	5		
	2800	OTTA	4	S/F	2157.0	2159.5	4.0	155.2	26.0		
	500	HIRA	48	C	2157.4	2201.2	21.0	6000	500		SL

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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
28	9400	HUAN			2157.8	2200.6		115.1			R
	9400	HUAN			2157.8	2159.0		167.4			R
	9400	HUAN		C	2157.8	2158.2	4.4	238.9	89.1		R
	2000	TYKW	45	C	2158.0	2159.5	4.0	245	40		
	9400	TYKW	45	C	2158.0	2158.5	3.0	240	60		
	17000	NOBE	45	C	2158.0	2158.4	.9	190			R
	3750	TYKW	45	C	2158.0	2159.4	3.0	93	25		
	1000	TYKW	47	GB	2158.0	2159.5	5.0	1080	200		
	17000	NOBE	45	C	2158.9	2159.1	1.5	203			R
	606	MANI	4	S/F	2200.0	2204.7	11.3	125.6	41.8		
	17000	NOBE	7	C	2200.4	2200.6	.7	59			R
	9400	TYKW	29	PBI	2201.0		15.0	12	6		
	3750	TYKW	29	PBI	2201.0		15.0	5	2.5		
	2800	OTTA	29	PBI	2201.0	2201	14.0	4.4	2.2		
	17000	NOBE	29	PBI	2201.1	2204.4	15.0	22			O
	2000	TYKW	29	PBI	2202.0		9.0	8	4		
	9400	HUAN		PBI	2202.2	2202.2	15.3	10.5	6.3		O
	1000	TYKW	29	PBI	2203.0		5.0	10	5		
	606	MANI	8	S	2325.9	2326.6	1.1	203.0	67.6		
	1000	TYKW	45	C	2326.0	2326.3	.5	11 D	2 D		
	2695	PENT	3	S	2443.0	2444	2.0	25.2	12.6		
29	33	UPIC	43	NS	0555.4	0854.8	537.2				
	29	UPIC	43	NS	0555.5	0858.7	537.5				
	260	ONDR	44	NS	0715.0E		499.0D	205	4		
	536	ONDR	43	NS	0734.0		436.0	396 D	5		
	1000	TYKW	45	C	0019.3	0020.2	1.0	9 D	1 D		
	2930	VORO	45	C	0040.0	0045	10.0	18			
	1000	TYKW	45	C	0042.0	0044.4	7.0	14	3		
	2000	TYKW	5	S	0042.0	0044.3	7.0	30	5		
	3750	TYKW	45	C	0042.0	0043.9	7.0	20	3.5		
	9400	TYKW	45	C	0042.0	0044.2	7.0	53	5		
	500	HIRA	46	C	0042.8	0042.9	1.6	300	50		O
	17000	NOBE	7	C	0043.0	0044.3	2.4	38			O
	3750	TYKW	21	GRF	0100.0	0129	140.0	8	4		
	9400	TYKW	20	GRF	0105.0	0130	110.0	9	4		
	2000	TYKW	21	GRF	0105.0	0130	130.0	4	2		
	1000	TYKW	21	GRF	0105.0	0140	100.0	2.5	1		
	1000	TYKW	8	S	0105.7	0105.7	.1	3	1 U		
	1000	TYKW	45	C	0110.0	0112.0	7.0	2	.5		
	17000	NOBE	20	GRF	0111.0	0137.3	72.0	10			O
	1000	TYKW	8	S	0139.0	0139.1	.3	4	1		
	1000	TYKW	8	S	0203.3	0203.3U	.3	5 D	1 D		
	1000	TYKW	8	S	0205.3	0205.3	.1	6	3 U		
	2000	TYKW	45	C	0244.0	0244.4	6.0	2	.5		
	1000	TYKW	45	C	0244.2	0244.3	1.0	4	1		
	606	MANI	4	S/F	0244.5	0245.2	1.5	88.0	29.3		
	1000	TYKW	5	S	0303.0	0303.5	1.5	3	1		
	1000	TYKW	45	C	0319.0	0320.3	2.0	8	1.5		
	2000	TYKW	45	C	0319.5	0320.3	1.5	18	3		
	500	HIRA	46	C	0328.8	0331.3	6.5	500	100		SL
	9400	TYKW	45	C	0329.0	0329.5	5.0	16	2		
	2000	TYKW	42	SER	0329.0	0329.4	5.0	4.5	.5		
	1000	TYKW	42	SER	0329.0	0330.6	5.0	55	5		
	3750	TYKW	45	C	0329.0	0329.5	5.0	4	.5		
	100	HIRA	42	SER	0329.1	0329.5	6.0	28000			WL
	17000	NOBE	1	S	0329.3	0329.5	.4	14			O
	1415	MANI	2	S/F	0329.3	0330.8	5.2	6.4	2.1		
	606	MANI	4	S/F	0329.3	0331.8	6.4	238.9	79.6		
	3750	TYKW	5	S	0341.5	0342.2	1.5	1	.3		
	1000	TYKW	5	S	0351.3	0351.5	.4	5	1		
	1000	TYKW	42	SER	0401.5	0417.3	23.5	7	.5		
	1000	TYKW	45	C	0427.0	0427.8	3.0	120	10		
	2000	TYKW	45	C	0427.0	0428.7	2.0	43	3		
	1415	MANI	4	S/F	0428.2	0429.6	3.6	41.6	13.9		
	606	MANI	4	S/F	0428.3	0430.5	3.8	174.2	58.1		
	1000	TYKW	42	SER	0435.5	0447.8	14.0	260	10		
	650	GORK	46	C	0436.0E	0437.4	17.5D	16			
	650	GORK			0436.0E	0440.9		21			
	650	GORK			0436.0E	0448.0		560			
	650	GORK			0436.0E	0443.5		23			
	606	MANI	4	S/F	0436.3	0448.2	14.1	313.5	104.5		
	100	GORK	8	S	0437.0	0437.5	1.0	1000 D			
	950	GORK	46	C	0437.0E	0440.9	13.0D	48			
	2000	TYKW	42	SER	0437.0	0441.2	12.0	70	3		
	950	GORK			0437.0E	0448.0		270			
	1415	MANI	4	S/F	0437.3	0441.9	12.7	76.8	25.8		
	200	GORK	46	C	0439.0E	0449.1	18.0D	630			
	200	GORK			0439.0E	0450.0		1500			
	100	GORK	46	C	0444.8	0445.0	5.0	80			
	100	GORK			0444.8	0447.0		80 D			
	100	GORK			0444.8	0448.7		80 D			
	3750	TYKW	5	S	0446.7	0447.0	.4	4	1		
	1000	TYKW	8	S	0501.4	0501.5	.3	3	1		
	1415	MANI	47	GB	0506.0	0512.2	24.0	1706.6	568.9		

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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
29	200	HIRA	45	C	0508.0	0515.6	13.0	300	80		ML
	200	GORK	46	C	0509.0	0513.0	11.3	130 D			
	200	GORK			0509.0	0515.7		580			
	500	HIRA	48	C	0509.3	0512.3	20.0	6500	500		SL
	950	GORK	46	C	0510.5	0512.3	7.0	1750			
	950	GORK			0510.5	0512.9		1250			
	1000	TYKW	47	GB	0510.5	0512.3	7.0	2000	200		
	650	GORK	46	C	0510.8	0513.0	21.2	1200			
	650	GORK			0510.8	0515.5		630			
	2000	TYKW	47	GB	0511.0	0511.9	7.0	540	60		
	3750	TYKW	45	C	0511.0	0512.7	10.0	8	3		
	606	MANI	47	GB	0511.2	0513.0	18.8	5524.1	1841.3		
	100	GORK			0511.5	0515.4		100			
	100	GORK	41	F	0511.5	0512.6	4.3	100			
	2950	GORK	4	S/F	0511.5	0511.6	5.8	50			
	9100	GORK	22	GRF	0511.8	0604.0	58.0	13.5	3.5		
	2695	MANI	4	S/F	0511.8	0515.0	4.7	50.4	16.8		
	9400	TYKW	5	S	0512.0	0516	15.0	4	2		
	950	GORK	2	S/F	0527.9	0528.8	3.0	21			
	1000	TYKW	45	C	0528.0	0529.0	3.0	9	2.5		
	200	GORK	4	S/F	0528.0	0528.9	1.8	45 D			
	2000	TYKW	5	S	0528.4	0529.0	1.5	4	1.5		
	100	HIRA	46	C	0528.5	0529.0	1.2	5000	1100		WL
	3750	TYKW	45	C	0528.5	0529.0	1.5	3	1		
	100	GORK	8	S	0528.6	0529.0U	1.0	850 D			
	200	HIRA	46	C	0529.4	0529.5	.9	900	190		WL
	200	GORK	41	F	0551.9	0555.6	12.6	45			
	200	GORK			0551.9	0604.2		180 D			
	1415	MANI	4	S/F	0553.7	0556.1	7.6	6.4	2.1		
	6100	KISV	45	C	0555.0	0556	13.0	6			
	6100	KISV			0555.0	0604.3		3			
	6100	KISV			0555.0	0558.5		5			
	3750	TYKW	45	C	0555.0	0558.3	15.0	6	1 D		
	2000	TYKW	45	C	0555.0	0555.3	6.0	11	1.5		
	9400	TYKW	5	S	0555.0	0558.5	15.0	4	2 D		
	100	GORK			0555.0	0604.5		520			
	950	GORK	2	S/F	0555.0	0555.5	5.6	20			
	100	GORK	41	F	0555.0	0555.5U	10.0	370 D			
	1000	TYKW	45	C	0555.0	0556.8	6.0	14	2		
	200	HIRA	46	C	0555.1	0555.7	1.0	42	19		WL
	100	HIRA	46	C	0555.2	0555.8	1.0	7000	1600		ML
	500	HIRA	46	C	0555.4	0559.2	6.0	160	40		SL
	650	GORK	2	S/F	0555.4	0559.0	4.8	5			
	606	MANI	4	S/F	0555.7	0559.7	5.5	70.4	23.4		
	600	UCCL	4	S/F	0556.0	0559	4.0	35	15		
	10715	DWIN	4	S/F	0635.0	0636	3.0	40	20		
	1000	TYKW	5	S	0651.0	0651.3	1.0	8	.8		
	100	GORK	41	F	0707.2	0707.3	8.3	85			
	100	GORK			0707.2	0710.7		250			
	100	GORK			0707.2	0714.2		205			
	200	GORK	41	F	0710.0	0714.2	8.0	120			
	200	GORK			0710.0	0717.6		140			
	2000	TYKW	42	SER	0711.0	0714.8	4.0	6	.5		
	1000	TYKW	42	SER	0711.0	0714.0	4.0	9	.5		
	650	GORK	4	S/F	0713.5	0714.2	2.5	38			
	600	UCCL	4	S/F	0714.0	0714.5	1.0	33	10		
	200	GORK			0729.3	0739.0		175			
	200	GORK			0729.3	0748.7		260			
	200	GORK	41	F	0729.3	0736.8	20.5	180			
	100	GORK			0730.8	0734.3		160			
	100	GORK	41	F	0730.8	0730.9	8.3	120			
	650	GORK	41	F	0733.5	0736.0U	15.0	80			
	650	GORK			0733.5	0748.3		67			
	9100	GORK			0735.2	0736.8		70			
	9100	GORK	46	C	0735.2	0736.4	7.8	110			
	950	GORK	41	F	0735.5	0736.1	21.7	17			
	600	UCCL	4	S/F	0735.5	0736	2.0	60	20		
	1000	TYKW	5	S	0735.5	0736.4	2.5	11	5		
	950	GORK			0735.5	0755.7		3.5			
	237	TRST	41	F	0735.5	0738.1	3.1	170			2L
	950	GORK			0735.5	0745.2		70			
	9400	TYKW	45	C	0735.5	0736.4	3.0	110	25		
	3750	TYKW	5	S	0735.5	0736.3	3.0	11	3		
	6100	KISV	4	S/F	0735.5	0736.5	5.0	50			
	19600	BERN	4		0735.5	0736.4	2.0	26.0			ONLY PAPER REC
	8400	BERN	4		0735.5	0736.4	4.0	72.0			ONLY PAPER REC
	3000	POTS	3	S	0735.5	0736.4	1.6	6.8			
	11800	BERN	4		0735.5	0736.4	3.0	84.0			ONLY PAPER REC
	9500	POTS	4	S/F	0735.5	0736.3	3.0	86			
	10400	BERN	4		0735.5	0736.4	4.0	112.0			ONLY PAPER REC
	500	HIRA	46	C	0735.7	0736.0	1.5	60	25		ML
	2950	GORK	1	S	0735.8	0736.3	2.7	6.6	3.0		
	2000	TYKW	5	S	0736.0	0736.4	2.0	12	3.5		
	100	HIRA	46	C	0736.0	0736.3	1.6	800	200		WL
	200	HIRA	45	C	0736.0	0736.9	1.3	170	44		0

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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
29	17000	NOBE	2	S/F	0736.0	0736.3	2.0	49			R
	1470	POTS	3	S	0736.0	0736.7	3.5	10			
	3100	CRIM	1	S	0736.0	0737.0	2.0	15	5		
	606	MANI	4	S/F	0736.0	0736.7	3.8	123.2	41.0		
	234	POTS	42	SER	0736.1	0746.6	14.0	1100	2		III
	113	POTS	41	F	0736.1	0736.2	4.0	350	15		III
	327	TRST	41	F	0736.1	0736.3	2.2	94			0
	100	GORK	46	C	0736.8		1750.0				
	100	GORK			0739.0		1600.0				
	1000	TYKW	8	S	0740.5	0740.6	.2	34	5		
	430	KRAK	4	S/F	0742.3	0746.0	8.8	280	20		
	1470	POTS	4	S/F	0744.5	0745.7	3.5	25			
	327	TRST	41	F	0744.7	0745.5	5.3	900			33L,VAR POL
	505	TRST	45	C	0745.0	0747.4	5.0				
	600	UCCL	4	S/F	0745.0	0745.3	4.0	180	55		
	810	KRAK			0745.0	0747.5		80			
	810	KRAK	46	C	0745.0	0745.5	2.5	480	110		
	1000	TYKW	45	C	0745.0	0745.4	2.5	115	12		
	606	MANI	4	S/F	0745.0	0745.9	4.8	220.0	73.3		
	2000	TYKW	45	C	0745.3	0745.8	1.5	23	7		
	408	TRST	42	SER	0745.3	0745.5	6.5	470			24L,VAR POL
	237	TRST	41	F	0745.4	0745.6	4.6	650			28L,VAR POL
	204	IZMI	5	S	0746.8	0748.5	3.2	150	100		
	3100	CRIM	1	S	0754.5	0756.0	4.0	11	3		
	1000	TYKW	5	S	0754.5	0755.7	2.5U	4 U	1 U		
	2950	GORK	1	S	0755.0	0755.8	2.5	2.8	1.4		
	2000	TYKW	5	S	0755.0	0755.7	4.0	5.5	2		
	3750	TYKW	5	S	0755.0	0756	3.0	2	1		
	3000	POTS	1	S	0755.0	0755.5	2.0	4.8			
	1470	POTS	3	S	0755.0	0755.7	4.0	11			
	2650	DWIN	45	C	0758.0	0759	2.0	40	20		
	2650	DWIN	41	F	0811.0	0818	13.0	60	20		
	650	GORK	23	GRF	0813.7		46.3				
	430	KRAK	46	C	0814.0	0816.0	3.0	200	40		
	100	GORK			0814.0	0816.7		4000			
	100	GORK			0814.0	0827.8		360 D			
	100	GORK	41	F	0814.0	0814.1	25.5	360			
	100	GORK			0814.0	0839.5		360			
	200	GORK			0814.4	0839.6		150			
	200	GORK			0814.4	0831.3		150			
	200	GORK	41	F	0814.4	0828.1	25.5	150 D			
	408	TRST	41	F	0815.0	0816.6	3.0	130			79L
	6100	KISV			0815.0	0828		6			
	6100	KISV	21	GRF	0815.0	0817	22.0	5			
	237	TRST	41	F	0815.1	0816.7	4.0	86			0
	950	GORK	4	S/F	0815.4	0817.0	2.6	30			
	1470	POTS	4	S/F	0815.5	0817.0	3.5	7.5			
	650	GORK	4	S/F	0815.6	0816.4	1.3	55	13		
	3750	TYKW	5	S	0816.0	0816.7	1.5	6	2		
	930	BORD	46	C	0816.0	0817	1.0	121	8		
	600	UCCL	4	S/F	0816.0	0816.5	1.0	84	30		
	2000	TYKW	45	C	0816.0	0817.0	1.5	8	1.5		
	1000	TYKW	45	C	0816.0	0817.0	2.0	58	4		
	3000	POTS	1	S	0816.0	0816.5	3.0	5.8			
	1415	MANI	4	S/F	0816.0	0818.3	3.4	16.0	5.3		
	9100	GORK	1	S	0816.1	0817.1	2.5	7.5	3		
	810	KRAK	2	S/F	0816.2	0816.5	.7	100	15		
	113	POTS	42	SER	0816.4	0817.7	23.0	150	2		III
	606	MANI	4	S/F	0816.5	0817.2	3.7	137.3	45.8		
	430	KRAK	42	SER	0817.0		22.5	35			
	10715	DWIN	45	C	0817.0	0818	4.0	275	150		
	930	BORD	41	F	0824.0	0824.2	.5	16	1		
	127	TORN	41	F	0826.9	0827.9	9.5	200 U			
	9100	GORK	20	GRF	0827.0	0828.4	15.0	7	3		
	650	GORK	2	S/F	0827.1	0827.7	1.4	11.5	2.5		
	237	TRST	41	F	0827.7	0828.1	12.1	280			6L
	327	TRST	41	F	0827.7	0839.5	12.1	79			11L
	234	POTS	4	S/F	0827.9	0828.1	.5	530	90		III/V
	808	ONDR	42	SER	0835.0		148.0	586	10		
	2650	DWIN	45	C	0840.0	0841	2.0	50	30		
	6100	KISV	1	S	0853.0	0854.5	3.0	4			
	10715	DWIN	4	S/F	0854.0	0855	3.0	100	50		
	2650	DWIN	4	S/F	0854.0	0855	3.0	150	100		
	2950	GORK	21	GRF	0856.1		78.0				
	9100	GORK	1	S	0856.4	0856.7	2.7	4.4	2		
	600	UCCL	4	S/F	0857.0	0858	1.2	96	25		
	200	GORK			0857.2	0901.7		40			
	200	GORK	41	F	0857.2	0858.7	5.1	45 D			
	237	TRST	41	F	0857.3	0858.7	1.6	280			1L,VAR POL
	950	GORK	4	S/F	0857.7	0858.6	6.0	70 D			
	430	KRAK	2	S/F	0858.0	0859.0	1.2	80	20		
	930	BORD	45	C	0858.0	0858.6	1.0	627	62		
	1470	POTS	3	S	0858.0	0858.6	1.5	420			
	650	GORK	4	S/F	0858.1	0858.8U	1.1	190	20		
	204	IZMI	8	S	0858.2	0858.2	.5	700	300		

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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
29	100	GORK			0858.2	0858.7		7700			
	408	TRST	42	SER	0858.2	0858.7	.8	44			62L
	327	TRST	42	SER	0858.2	0858.7	.8	150			4R
	2950	GORK	1	S	0858.2	0858.6	.7	1.9			
	100	GORK	46	C	0858.2	0858.3	1.1	300			
	810	KRAK	8	S	0858.2U	0858.5U	.5	470			
	234	POTS	4	S/F	0858.2	0858.7	.6	750	35		III
	113	POTS	4	S/F	0858.3	0858.7	.7	7000	1400		III
	3000	POTS	8	S	0858.5	0858.6	.6	18			
	606	MANI	4	S/F	0858.6	0859.3	3.6	183.0	61.0		
	1415	MANI	47	GB	0858.8	0859.3	2.5	748.5	249.5		
	1470	POTS	3	S	0902.0	0902.8	2.0	9.2			
	810	KRAK	46	C	0905.0U	0905.5U	5.0	320			
	1415	MANI	4	S/F	0910.0	0918.9	13.7	77.4	25.8		
	650	GORK	22	GRF	0910.2		55.8				
	950	GORK	46	C	0910.5	0912.1	18.0	60			
	950	GORK			0910.5	0918.0		75			
	1470	POTS			0910.5	0915.4		24			
	1470	POTS	42	SER	0910.5	0912.0	6.7	34			
	606	MANI	47	GB	0911.0	0914.1	13.8	612.1	204.0		
	930	BORD	46	C	0911.0	0918.2	13.0	99	10		
	650	GORK	46	C	0911.0	0915.3	7.2	400			
	600	UCCL	4	S/F	0911.0	0913	2.5	220	70		
	650	GORK			0911.0	0918.0		230			
	327	TRST	41	F	0911.7	0915.3	4.0	67			85L
	408	TRST	41	F	0911.7	0915.3	3.6	190			76L
	430	KRAK	46	C	0912.0	0914.0	4.0	360			
	200	GORK			0912.7	0926.7		165			
	200	GORK	41	F	0912.7	0918.3	16.0	7000 D			
	2950	GORK	1	S	0913.0	0913.1	.3	7.6	3.8		
	2695	MANI	4	S/F	0913.6	0918.9	7.1	58.2	19.4		
	2950	GORK	1	S	0914.3	0915.2	1.0	9.5			
	600	UCCL	4	S/F	0914.5	0915	1.0	240	50		
	11800	BERN	47		0915.6	0918.3	5.0	400.0D			ONLY PAPER REC
	10400	BERN	47		0915.6	0918.3	5.0	810.0			ONLY PAPER REC
	8400	BERN	47		0915.6	0918.3	5.0	243.0D			ONLY PAPER REC
	19600	BERN	47		0916.6	0918.3	3.0	927.0			ONLY PAPER REC
	35000	BERN	47		0917.0	0918.3	2.0	566.0			ONLY PAPER REC
	9100	GORK	29	PBI	0919.0	0919.0	11.0	44			
	9100	GORK	4	S/F	0917.0	0918.2	2.0	680			
	6100	KISV	8	S	0917.0	0918.5	5.0	199			
	3100	CRIM	3	S	0917.0	0918.0	3.0	114	38		
	600	UCCL	4	S/F	0917.0	0917.5	5.0	220	20		
	237	TRST	41	F	0917.2	0918.2	5.8	2400 D			7L
	204	IZMI	5	S	0917.2	0918.0	2.8	8000	3000		
	327	TRST	42	SER	0917.2	0918.3	2.0	410			0
	100	GORK	46	C	0917.2	0917.6	1.8	7750			
	100	GORK			0917.2	0918.6		4000			
	3000	POTS	3	S	0917.2	0918.2	5.3	60			
	9500	POTS	3	S	0917.2	0918.2	4.3	590			
	1470	POTS	29	PBI	0917.4	0918.4	12.0	86			
	127	TORN	7	C	0917.5	0918.4	1.8	2300	1300		
	430	KRAK	4	S/F	0917.5	0918.0	4.5	120	25		
	8800	MANI	47	GB	0917.6	0919.0	3.1	696.1	232.0		
	113	POTS	42	SER	0917.6	0918.2	39.0	28000 D			III
	234	POTS	42	SER	0917.6	0918.2	39.0	110000			III/V
	4995	MANI	4	S/F	0917.7	0919.0	3.0	117.7	39.2		
	2950	GORK	3	S	0918.0	0918.3	3.3	54	27		
	408	TRST	42	SER	0918.1	0918.2	1.0	400			0
	127	TORN	4	S/F	0925.9	0926.9	2.0	410	60		
	100	GORK	8	C	0926.2	0926.4	.4	7750			
	430	KRAK	8	S	0926.5	0927.3	1.0	100			
	3100	CRIM	3	S	0928.0	0928.5	3.0	58	19		
	1415	MANI	47	GB	0935.7	0941.6	7.8	1646.7	548.9		
	2695	MANI	4	S/F	0939.5	0941.0	3.5	46.6	15.5		
	4995	MANI	4	S/F	0939.5	0942.1	4.0	55.5	18.5		
	950	GORK	47	GB	0939.5	0942.0	4.0	2600			
	930	BORD	45	C	0940.0	0942	4.0	2946	700		
	600	UCCL	46	C	0940.0	0955.5	26.0	850	54		
	204	IZMI	20	GRF	0940.0	0941.0	9.0	400	200		
	100	GORK			0940.0	0940.8		2800			
	650	GORK	4	S/F	0940.0	0942.5	5.0	870			
	430	KRAK			0940.0	0957.0U		420 D			
	430	KRAK			0940.0	0955.5		420 D			
	6100	KISV			0940.0	0941.5		50			
	100	GORK	46	C	0940.0	0940.1	1.8	570			
	6100	KISV	45	C	0940.0	0940.5	4.0	13			
	430	KRAK	48	C	0940.0	0942.0U	21.0	420 D	100		
	200	GORK	41	F	0940.0	0941.2	17.3	500			
	200	GORK			0940.0	0956.7		1700			
	1470	POTS	4	S/F	0940.0	0941.2	3.0	105			
	3000	POTS	4	S/F	0940.0	0940.5	3.0	38			
	8400	BERN	4		0940.0	0941.4	2.0	37.0			ONLY PAPER REC
	9500	POTS	28	PRE	0940.0	0941.3	3.0	44			
	10400	BERN	4		0940.0	0941.4	2.0	49.0			ONLY PAPER REC

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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
29	11800	BERN	4		0940.0	0941.4	2.0	42.0			ONLY PAPER REC
	2950	GORK	45	C	0940.1	0940.6	2.9	36			
	2950	GORK			0940.1	0941.3		29			
	9100	GORK	29	PBI	0940.2	0941.6	7.4	14			
	9100	GORK	4	S/F	0940.2	0941.4	1.4	50			
	8800	MANI	4	S/F	0940.8	0942.0	2.7	69.6	23.2		
	606	MANI	4	S/F	0940.8	0942.0	4.0	72.1	24.0		
	237	TRST	47	GB	0944.0E	0944.0	5.5D	56 D			72L
	327	TRST	47	GB	0944.0E	0958.0	20.0D	130			69L,OSCILLATION
	408	TRST	47	GB	0946.1	0957.0	20.0	230			71L
	650	GORK			0948.9	0954.6		1200			
	650	GORK			0948.9	0956.5		1500			
	650	GORK	46	C	0948.9	0953.0	11.0	60			
	930	BORD	45	C	0951.0	0955.4	9.0	2946 D	100		
	950	GORK	47	GB	0951.2	0956.2	6.3	7100			
	6100	KISV	8	S	0954.0	0955.5	2.0	99			
	11800	BERN	3		0954.4	0955.3	3.0	335.0			ONLY PAPER REC
	10400	BERN	3		0954.4	0955.3	3.0	271.0			ONLY PAPER REC
	8400	BERN	3		0954.4	0955.3	3.0	164.0			ONLY PAPER REC
	1470	POTS	4	S/F	0954.5	0955.8	5.0	1700			
	3000	POTS	3	S	0954.5	0955.0	2.5	90			
	3100	CRIM	3	S	0954.5	0955.5	2.5	141	47		
	9100	GORK	29	PBI	0954.6	0956.3	6.7	25			
	9100	GORK	4	S/F	0954.6	0955.4	1.7	230			
	2950	GORK	3	S	0954.7	0955.3	2.9	90	45		
	127	TORN	47	GB	0954.7	0956.2	7.0	570	70		SATURATED
	9500	POTS	4	S/F	0954.7	0955.2	5.3	240			
	35000	BERN	47		0954.9	0955.3	2.0	492.0			ONLY PAPER REC
	19600	BERN	47		0954.9	0955.3	2.0	567.0			ONLY PAPER REC
	237	TRST	41	F	0954.9	0955.3	2.3	270			20L,VAR POL
	408	TRST	42	SER	0955.0	0955.1	.5	850			5L,VAR POL
	204	IZMI	41	F	0955.0	0955.5	2.5	800	450		
	327	TRST	41	F	0955.0	0955.1	1.7	810			18L,VAR POL
	100	GORK	8	C	0955.0	0955.2	1.4	78000			
	1415	MANI	47	GB	0955.3	0956.0	3.7	898.2	299.4		
	430	KRAK	42	SER	1001.0	1003.7	23.5	80			
	430	KRAK			1001.0	1013.5		70			
	430	KRAK			1001.0	1024.0		55			
	6100	KISV	4	S/F	1011.0	1014.5	9.0	10			
	9500	POTS	3	S	1013.5	1014.4	4.0	14			
	8400	BERN	1		1013.6	1014.5	2.0	11.0			ONLY PAPER REC
	11800	BERN	1		1013.6	1014.5	2.0	10.0			ONLY PAPER REC
	10400	BERN	1		1013.6	1014.5	2.0	16.0			ONLY PAPER REC
	810	KRAK	8	S	1014.0	1014.0	.1	8			
	9100	GORK	1	S	1014.1	1014.5	51.5	18	9		
	810	KRAK	8	S	1022.5	1022.5	.1	8			
	810	KRAK	8	S	1024.7	1024.7	.1	11			
	810	KRAK	2	S/F	1028.0	1028.3	1.0	25	2		
	430	KRAK	2	S/F	1028.5	1028.8	1.0	140	15		
	650	GORK			1031.0	1042.8		16			
	650	GORK			1031.0	1042.1		33			
	650	GORK	41	F	1031.0	1031.0	17.8	4.5			
	650	GORK			1031.0	1041.3		30			
	237	TRST	42	SER	1041.0	1042.8	2.6	760			19L,VAR POL
	430	KRAK	46	C	1041.0	1041.5	2.5	200			
	430	KRAK			1041.0	1043.0		180			
	200	GORK	4	S/F	1041.0	1042.8	2.4	230			
	327	TRST	41	F	1041.2	1042.8	2.3	420			19L,VAR POL
	100	GORK			1041.2	1042.9		3000			
	408	TRST	41	F	1041.2	1042.8	2.0	160			19L,VAR POL
	100	GORK	46	C	1041.2	1041.5	2.3	300			
	810	KRAK	8	S	1041.3	1041.5	.2	15			
	600	UCCL	41	F	1041.5	1041.7	2.0	30	5		
	113	POTS	41	F	1041.6	1042.8	1.8	600	30		III
	930	BORD	46	C	1042.5	1042.7	.7	90	3		
	810	KRAK	2	S/F	1042.7	1042.7	.7	60	13		
	950	GORK	2	S/F	1042.7	1042.9	.5	11			
	234	POTS	4	S/F	1042.7	1042.8	.5	1700	300		III
	430	KRAK	41	F	1117.5		37.5	60	9		
	650	GORK	2	S/F	1120.8	1121.7	1.0	9.5			
	430	KRAK	46	C	1135.0	1137.5	11.5	390 D			
	430	KRAK			1135.0	1139.5U		390 D			
	430	KRAK			1135.0	1144.8		150			
	810	KRAK	4	S/F	1137.5	1138.3	2.0	150	40		
	808	ONDR	45	C	1139.0	1141.5	4.5	42	3		
	930	BORD	46	C	1139.0	1141.5	3.0	103	4		
	1470	POTS	8	S	1139.2	1139.7	.8	9.0			
	408	TRST	41	F	1139.3	1139.5	2.3	280			79L
	505	TRST	41	F	1139.3	1140.3	1.3				
	606	TRST	41	F	1139.4	1139.8	1.2				
	127	TORN	8	S	1139.4	1139.9	1.0	530	260		
	113	POTS	42	SER	1139.4	1140.0	3.0	700	20		III
	600	UCCL	4	S/F	1139.5	1140	1.5	144	30		
	237	TRST	41	F	1139.6	1141.4	3.0	180			15L
	327	TRST	41	F	1140.1	1141.4	2.0	67			8L,VAR POL

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
29	234	POTS	4	S/F	1141.4	1141.5	.6	200	7		III
	9400	HUAN		S	1207.5	1208.2	1.5	14.0	6.7		0
	237	TRST	42	SER	1207.8	1208.1	.6	61			5L
	430	KRAK	46	C	1213.8	1215.5	3.5	140			
	1470	POTS	1	S	1216.3	1216.6	1.2	3.1			
	3000	POTS	8	S	1216.5	1216.7	1.0	14			
	2800	OTTA	8	S	1216.7	1216.7	.6	21.0			
	234	POTS	4	S/F	1217.0	1217.1	.3	2400	800		III/V
	237	TRST	41	F	1217.0	1217.1	1.4	890			15L,VAR POL
	408	TRST	42	SER	1217.0	1217.2	.3	70			1L
	327	TRST	42	SER	1217.0	1217.0	.3	460			34L
	113	POTS	8	S	1217.1	1217.2	.2	2100	700		III
	9400	HUAN		S	1220.9	1221.9	1.5	12.3	4.9		0
	430	KRAK	41	F	1233.0U		50.0	35	10		
	810	KRAK	41	F	1244.5	1246.0	5.0	70			
	1470	POTS	28	PRE	1248.0	1249.6	3.5	10			
	930	BORD	46	C	1248.2	1249.7	2.4	48	4		
	237	TRST	41	F	1248.2	1248.3	12.4	98			32L
	3000	POTS	1	S	1249.0	1249.6	2.5	5.8			
	600	UCCL	41	F	1249.5	1253.5	4.5	66	10		
	810	KRAK	1	S	1325.5U	1326.0U	2.0U	9	3		
	237	TRST	41	F	1333.1	1334.4	1.9	94			66L
	810	KRAK	8	S	1345.0	1345.0	.1	9			
	9400	HUAN		S	1350.6	1400.3	16.0	5.3	2.6		0
	2800	OTTA	1	S	1357.0	1400	6.0	2.8	1.0		
	930	BORD	46	C	1357.3	1400.4	4.2	202	3		
	600	UCCL	41	F	1357.5	1358	4.0	75	15		
	808	ONDR	42	SER	1358.0	1444	67.0	232	3		
	9500	POTS	20	GRF	1358.0	1400.0	5.0	7.7			
	3000	POTS	20	GRF	1358.0	1400.2	5.0	7.6			
	7000	SAOP	4	S/F	1358.4	1400.0	5.0	20.0			17R
	1470	POTS	8	S	1358.5	1358.8	.5	41			
	430	KRAK	8	S	1359.0	1359.2	.5	30			
	237	TRST	41	F	1411.8	1419.6	13.2	65			18L,VAR POL
	7000	SAOP	3	S	1414.2	1414.6	1.6	17.0			42R
	600	UCCL	3	S	1414.5	1414.7	.4	25	10		
	9400	HUAN		S	1414.5	1442.4	54.5	10.5	6.2		0
	9500	POTS	1	S	1414.5	1414.7	.9	6.1			
	3000	POTS	3	S	1414.5	1414.7	.5	8.6			
	3000	POTS	3	S	1418.5	1420.1	4.0	13			
	113	POTS	4	S/F	1418.8	1421.1	2.3	700	50		III
	2800	OTTA			1419.0	1420	3.0D	9.8			
	1470	POTS	3	S	1419.0	1420.1	3.5	13			
	2800	OTTA	21	GRF	1419.0	1450	70.0D	6.4			
	930	BORD	46	C	1441.0	1444	9.0	582	10		
	2800	OTTA	46F	C	1442.0	1447.3	8.0	18.4	3.6		
	237	TRST	41	F	1442.1	1447.7	6.8	270			19L,VAR POL
	327	TRST	41	F	1442.3	1447.6	7.2	140			3R,OSCILLATIONS
	790	TRST	41	F	1443.0	1444.1	5.2				
	7000	SAOP	45	C	1443.0	1447.5	8.0	34.0			16R
	606	TRST	41	F	1443.0	1444.1	5.5				
	600	UCCL	4	S/F	1443.0	1444.3	3.0	600	220		
	505	TRST	41	F	1443.4	1444.1	6.0				
	408	TRST	41	F	1443.5	1448.3	6.5	350			76L
	228	HARS	45	C	1445.0	1445.8	4.0	165	55		
	600	UCCL	4	S/F	1447.0	1447.2	3.0	110	35		
	10400	BERN	1		1447.0	1447.5	2.0	16.0			ONLY PAPER REC
	11800	BERN	1		1447.0	1447.5	2.0	11.0			ONLY PAPER REC
	8400	BERN	1		1447.0	1447.5	2.0	11.0			ONLY PAPER REC
	930	BORD	46	C	1500.5	1504.2	4.8	199	6		
	2800	OTTA	40	F	1501.2	1502	3.0	2.8			
	2800	OTTA	21	GRF	1640.0	1713	55.0	2.8	1.4		
	2800	OTTA	8	S	1729.3	1729.4	.5	6.2			
	930	BORD	41	F	1729.4	1729.5	2.6	202	4		
	930	BORD	41	F	1756.0	1757.8	2.0	41	3		
	9400	HUAN	8	S	1814.6	1814.8	.6	28.1	16.4		R
	2800	OTTA	1	S	1816.0	1816.7	2.0	2.4	1.2		
	9400	HUAN		S	1816.2	1816.8	1.4	10.5	4.4		0
	9400	HUAN		S	1854.8	1855.2	2.0	8.8	5.0		R
	9400	HUAN		S	1920.4	2042.3	141.2	14.0	8.8		R
	2800	OTTA	8	S	1937.0	1937	.3	5.2			
	9400	HUAN		S	1940.1	1941.0	2.8	7.0	2.6		R
	9400	HUAN		S	2014.2	2014.8	1.2	68.4	30.2		R
	2800	OTTA	2	S/F	2048.0	2049	3.0	2.8	1.7		
	9400	HUAN		S	2048.1	2049.0	3.0	45.6	20.7		R
	2800	OTTA	1	S	2119.2	2119.7	1.0	2.8	1.4		
	9400	TYKW	45	C	2129.5	2132.3	3.5	18	7		
	9400	HUAN		S	2129.6	2131.0	3.2	17.5	9.2		R
	9400	TYKW	29	PBI	2133.0		15.0	4	2		
	2800	OTTA	1	S	2135.5	2136.3	4.0	3.4	1.7		
	1415	MANI	1	S	2234.0	2235.1	2.5	9.9	3.3		
	606	MANI	1	S	2234.2	2235.2	2.3	3.6	1.2		
	8800	MANI	3	S	2234.3	2235.2	2.0	58.7	19.6		
	4995	MANI	3	S	2234.3	2235.2	2.2	24.0	8.0		
	2695	MANI	3	S	2234.5	2235.2	1.8	17.1	5.7		

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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
29	1000	TYKW	42	SER	2258.5	2304.2	12.0	280	10		
	606	MANI	4	S/F	2303.6	2304.5	6.9	16.4	5.5		
	1415	MANI	4	S/F	2303.8	2310.0	7.2	38.0	12.7		
	1000	TYKW	42	SER	2317.0	2318.8	5.0	110	10		
30	200	GORK	43	NS	0642.0		196.0		5		
	260	ONDR	44	NS	0756.0E		426.0D	27			
	1415	MANI	3	S	0209.1	0209.5	1.2	144.4	48.1		
	606	MANI	3	S	0209.1	0209.4	.7	91.0	30.1		
	9400	TYKW	5	S	0252.0	0252.7	1.5	7	1.5		
	3750	TYKW	5	S	0252.0	0252.7	2.0	5	1		
	1000	TYKW	5	S	0252.5	0252.8	1.0	1	.3		
	1000	TYKW	42	SER	0313.0	0313.7	5.0	13	1.5		
	1000	TYKW	42	SER	0322.0	0326.2	5.5	23	2.5		
	3750	TYKW	5	S	0322.0	0322.7	1.5	1	.3		
	9400	TYKW	5	S	0322.4	0322.6	1.0	4	1.5		
	3750	TYKW	8	S	0348.4	0348.5	.2	1	.3		
	9400	TYKW	8	S	0348.4	0348.5	.2	6	2		
	1000	TYKW	8	S	0348.4	0348.5	.2	14	5		
	100	HIRA	46	C	0429.1	0429.2	1.2	4300	460		WL
	200	HIRA	46	C	0429.1	0429.4	1.2	250	70		WL
	1000	TYKW	45	C	0436.0	0436.9	1.0	4	.7		
	1000	TYKW	45	C	0441.0	0441.3	1.0	2.5	.8		
	1000	TYKW	45	C	0449.5	0450.0	1.5	3	.5		
	1000	TYKW	42	SER	0458.5	0501.7	5.0	5	.3		
	1000	TYKW	45	C	0536.0	0536.2	.8	33	10		
	2000	TYKW	5	S	0536.0	0536.3	1.0	2	.5		
	200	GORK	2	S/F	0649.5	0650.2	1.8	40 D			
	100	GORK	46	C	0649.8	0650 U	1.4	300 D			
	100	GORK			0649.8	0650.5		220			
	100	HIRA	46	C	0649.8	0650.1	1.8	6200	510		WR
	650	GORK	41	F	0649.9	0650.1	8.1	6			
	650	GORK			0649.9	0656.1		40			
	234	POTS	4	S/F	0650.0	0650.2	.3	980	150		III
	950	GORK	1	S	0650.0	0650.2	.5	3.5			
	113	POTS	4	S/F	0650.0	0650.2	.8	9800	20		III
	1000	TYKW	5	S	0650.0	0650.2	.5	8	2		
	33	UPIC	4	S/F	0650.0	0650.1	1.3				
	2950	GORK	1	S	0650.0	0650.2	.7	2.8	1.4		
	6100	KISV	20	GRF	0650.0	0656.5	15.0	5			
	2000	TYKW	5	S	0650.0	0650.2	1.0	3	.7		
	204	IZMI	5	S	0650.0	0650.0	.5	290	150		
	6100	KISV			0650.0	0652.5		3			
	3750	TYKW	5	S	0650.0	0650.2	1.0	3	.7		
	200	HIRA	46	C	0650.0	0650.1	1.2	550	100		WL
	29	UPIC	4	S/F	0650.0	0650.1	.5				
	1000	TYKW	45	C	0655.8	0656.1	1.0	3.5	.8		
	950	GORK	1	S	0656.0	0656.2	.4	3			
	3100	CRIM	20	GRF	0717.0	0742.0	120.0	6	3		
	9100	GORK	1	S	0749.0	0749.7	2.0	3.8	1.5		
	2950	GORK	1	S	0749.0	0749.7	1.5	1.9	.9		
	650	GORK	1	S	0749.0	0750.0	1.3	5			
	950	GORK	1	S	0749.3	0749.9	.9	6			
	1000	TYKW	45	C	0749.3	0749.6	1.0	4.5	1.5		
	100	GORK			0809.6	0814.1		570			
	100	GORK	41	F	0809.6	0809.7	8.2	160			
	100	GORK			0809.6	0811.9		340			
	100	GORK			0809.6	0817.7		115			
	113	POTS	42	SER	0809.7	0814.1	5.0	650	8		III
	200	GORK	2	S/F	0813.5	0813.9	.9	40			
	2950	GORK	20	GRF	0840.5	0846.9	37.0	3.8	1.8		
	9100	GORK	20	GRF	0846.0	0906.5	45.0	6	3		
	127	TORN	41	F	0852.4	0855.4	9.0	40			
	100	GORK	4	S/F	0857.0	0858.8	6.0	160			
	650	GORK	1	S	0857.1	0859.7	5.9	6			
	950	GORK	3	S	0859.5	0859.6	3.0	19			
	113	POTS	41	F	1004.4	1004.6	.2	140	5		III
	100	GORK	8	S	1023.8	1024 U	1.0	250 D			
	29	UPIC	42	SER	1029.0	1029.3	55.5				
	33	UPIC	42	SER	1029.2	1029.4	55.5				
	2800	OTTA	21	GRF	1240.0	1435	340.0	10.6	5.6		
	237	TRST	47	GB	1247.0	1340.0	180.0	59			88L
	234	POTS	27	RF	1247.0	1340	96.0D	90			RISE+I
	113	POTS	27	RF	1306.0	1335	78.0D	56			RISE+I
	1470	POTS	40	F	1307.0	1321.5	64.0	12			
	228	HARS	27	RF	1312.5	1331.2	102.5	105	50		
	127	TORN	27	RF	1318.0		50.0		90		
	9400	HUAN		S	1320.6	1400.2	84.9	8.1	3.4		R
	930	BORD	45	C	1335.7	1337.3	2.5	34	7		
	930	BORD	45	C	1343.0	1344.8	7.0	24	5		
	237	TRST	42	SER	1440.4	1440.7	1.4	320			10L,VAR POL
	327	TRST	42	SER	1440.4	1441.1	.9	140			5L
	29	UPIC	42	SER	1440.5	1441.6	116.0				
	33	UPIC	42	SER	1440.5	1525.4	116.3				
	536	ONDR	45	C	1440.5	1441.3	3.5	81	15		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 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
30	930	BORD	41	F	1441.0	1443.5	3.0	22	3		
	408	TRST	42	SER	1441.1	1441.1	.4	47			70L
	9400	HUAN		S	1510.1	1527.8	29.1	9.7	1.2		R
	11800	BERN	4		1524.7	1525.8	4.0	21.0			ONLY PAPER REC
	10400	BERN	4		1524.7	1525.8	4.0	25.0			ONLY PAPER REC
	8400	BERN	4		1524.7	1525.8	4.0	21.0			ONLY PAPER REC
	237	TRST	41	F	1524.9	1529.4	4.5	210			22L,VAR POL
	327	TRST	41	F	1524.9	1529.2	4.5	240			27L
	408	TRST	41	F	1524.9	1526.4	14.3	170			74L
	930	BORD	46	C	1525.0	1525.6	4.0	31	5		
	7000	SAOP	45	C	1525.0	1525.8	4.0	26.0			19R
	2800	OTTA	2	S/F	1525.0	1525.7	4.5	3.4	1.7		
	9400	HUAN		S	1525.1	1525.8	1.7	22.7	10.6		R
	930	BORD	41	F	1538.8	1539	.4	42	2		
	327	TRST	41	F	1611.1	1616.3	11.2	170			13L
	237	TRST	41	F	1611.1	1619.9	11.2	1600			19L
	9400	HUAN		S	1620.4	1621.4	3.5	9.7	4.7		0
	2800	OTTA	2	S/F	1621.0	1622.3	2.0	2.8	1.4		
	2800	OTTA	1	S	1841.0	1842	2.0	3.4	1.5		
	7000	SAOP	4	S/F	1841.0	1842.0	1.0	24.0			13R
	9400	HUAN		S	1841.7	1842.1	1.9	17.8	7.3		0
	2800	OTTA	1	S	2049.0	2049.4	1.0	3.4	1.7		
	4995	MANI	4	S/F	2227.5	2239.3	18.0	61.2	20.4		
	1415	MANI	4	S/F	2227.5	2239.7	19.5	50.2	16.7		
	2695	MANI	4	S/F	2227.5	2239.5	18.0	69.9	23.3		
	3750	TYKW	45	C	2237.0	2240.4	9.0	34	13		
	2000	TYKW	45	C	2237.0	2239.2	9.0	65	25		
	9400	TYKW	21	GRF	2237.0	2240.7	30.0	11	6		
	1000	TYKW	45	C	2237.0	2238.7	9.0	30	5		
	1000	TYKW	29	PBI	2246.0		20.0	2	1		
	2000	TYKW	29	PBI	2246.0		25.0	5	2		
	3750	TYKW	29	PBI	2246.0		35.0	8	3		
	2000	TYKW	21	GRF	2335.0	2352	90.0	6	2.5		
	3750	TYKW	21	GRF	2339.0	2349	90.0	7	3		
31	200	GORK	44	NS	0402.0E		542.0D		10		
	260	ONDR	44	NS	0810.0E		425.0D	50	3		
	200	HIRA	44	NS	2025.0E	2119	740.0D	15	5		ML
	1000	TYKW	42	SER	0029.0	0029.4	3.0	6	1		
	3750	TYKW	5	S	0030.0	0031.5	4.0	3	1		
	2930	VORO	3	S	0048.0	0050	6.0	46			
	1000	TYKW	45	C	0048.5	0050.3	5.5	33	4.5		
	500	HIRA	46	C	0049.2	0049.7	8.0	400	70		SL
	100	HIRA	48	C	0049.3	0050.0	4.0	51000	3500		ML
	1400	SYDN	40	F	0049.4	0050.1	3.2				
	3750	TYKW	45	C	0049.5	0050.1	4.0	65	12		
	2000	TYKW	45	C	0049.5	0050.6	4.0	37	6		
	9400	TYKW	45	C	0049.5	0050.1	3.0	175	25		
	17000	NOBE	4	S/F	0049.5	0050.1	1.4	196			R
	700	SYDN	45	C	0049.8	0050.4	5.6				
	2695	MANI	3	S	0050.6	0051.3	1.4	42.6	14.2		
	1415	MANI	3	S	0050.6	0051.4	3.4	46.8	15.6		
	4995	MANI	3	S	0050.7	0051.3	2.8	86.1	28.7		
	8800	MANI	3	S	0050.8	0051.3	2.4	200.2	66.7		
	606	MANI	4	S/F	0050.9	0051.7	5.6	201.0	67.0		
	17000	NOBE	29	PBI	0050.9	0050.9	4.0	17			0
	9400	TYKW	29	PBI	0052.5		15.0	4	1.5		
	3750	TYKW	45	C	0115.0	0117.7	10.0	6	1		
	5730	IRKU	1	S	0117.5	0117.8	1.0	10			R
	2000	TYKW	8	S	0132.4	0132.5	.2	14	4		
	700	SYDN	45	C	0201.9	0202.6	.9				
	1000	TYKW	45	C	0202.0	0202.7	1.0	6	2.5		
	9400	TYKW	45	C	0202.0	0202.6	1.5	6	2.5		
	500	HIRA	8	S	0202.0	0202.0	.6	130	70		
	3750	TYKW	45	C	0202.0	0202.6	12.0	12	1		
	2000	TYKW	5	S	0202.0	0202.7	1.5	6	1.5		
	5730	IRKU	1	S	0202.3	0202.6	1.0	11			R
	100	HIRA	46	C	0202.4	0202.7	1.0	24000	2900		ML
	2000	TYKW	45	C	0206.5	0207.1	6.0	21	2		
	1400	SYDN	45	C	0206.7	0207.1	.7				
	700	SYDN	4	S/F	0206.7	0207.2	1.1				
	1000	TYKW	45	C	0206.8	0207.2	.7	82	20		
	1000	TYKW	45	C	0210.0	0211.6	2.0	5	1		
	700	SYDN	42	SER	0300.1	0300.6	.7				
	1000	TYKW	42	SER	0330.2	0330.4	1.0	147	15		
	2000	TYKW	20	GRF	0400.0	0407	40.0	1.5	.5		
	3750	TYKW	20	GRF	0404.0	0407	30.0	2	1		
	2000	TYKW	20	GRF	0510.0	0523	30.0	2	.8		
	3750	TYKW	5	S	0522.0	0523	4.0	2	.5		
	6100	KISV	3	S	0541.0	0543.5	7.0	14			
	9400	TYKW	45	C	0542.0	0542.4	2.0	17	4		
	9100	GORK	1	S	0542.0	0542.5	3.4	18	7		
	204	IZMI	5	S	0630.5	0631.5	1.0	900	550		
	234	POTS	42	SER	0630.5	0633.7	3.6	1700			III
	3750	TYKW	45	C	0630.5	0631	2.0	2	1		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 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
31	2000	TYKW	45	C	0630.5	0631.2	1.5	2	.7		
	1000	TYKW	5	S	0630.5	0631.2U	1.5	1.5U	.5U		
	113	POTS	42	SER	0630.6	0631.0	4.4	300			III
	650	GORK	1	S	0630.6	0631.0	.9	3.5			
	2950	GORK	1	S	0630.6	0631.0	1.9	6.5			
	200	GORK			0630.7	0633.8		120 D			
	100	GORK	41	F	0630.7	0631 U	4.2	120 D			
	100	GORK			0630.7	0634 U		120 D			
	200	GORK	41	F	0630.7	0631.3	5.5	120 D			
	950	GORK	1	S	0630.9	0631.1	.7	1.5			
	204	IZMI	5	S	0633.0	0633.0	1.2	1000	600		
	100	GORK	8	S	0643.6	0643.7U	.4	120 D			
	1000	TYKW	8	S	0707.6	0707.7	.2	16 D	4 D		
	3100	CRIM	26	FAL	0911.0	1300.0		6			
	10715	DWIN	3	S	1024.0	1024	2.0	35	20		
	2650	DWIN	1	S	1024.0	1024	1.0	20	10		
	808	ONDR	2	S/F	1027.0	1027.9	3.0	21	2		
	6100	KISV	4	S/F	1027.0	1028.7	5.0	23			
	327	TRST	41	F	1027.5	1028.6	1.7	470			1R
	408	TRST	41	F	1027.5	1028.5	1.7	120			0
	237	TRST	41	F	1027.8	1028.4	1.4	61			3R
	8400	BERN	3		1028.0	1028.5	2.0	28.0			ONLY PAPER REC
	3000	POTS	8	S	1028.0	1028.5	1.0	12			
	9500	POTS	3	S	1028.0	1028.4	2.0	26			
	536	ONDR	2	S/F	1028.2	1028.2	2.0	35	2		
	9100	GORK	3	S	1028.3	1028.6	3.8	34	6		
	930	BORD	41	F	1028.3	1028.5	1.0	30	2		
	650	GORK	4	S/F	1028.3	1028.6	1.5	34			
	950	GORK	1	S	1028.3	1028.7	2.1	16			
	2950	GORK	1	S	1028.4	1028.6	5.9	13			
	33	UPIC	3	S	1117.6	1117.8	.4				
	29	UPIC	3	S	1118.1	1118.4	.5				
	33	UPIC	2	S/F	1119.6	1119.8	.5				
	29	UPIC	2	S/F	1119.9	1120.0	.5				
	7000	SAOP	4	S/F	1122.0	1124.2	1.2	108.0			8R
	9400	HUAN		S	1123.4	1124.0	1.6	54.6	36.7		R
	3100	CRIM	3	S	1123.5	1124.5	2.0	27	9		
	3000	POTS	4	S/F	1123.5	1124.1	1.5	19			
	810	KRAK	1	S	1123.5	1124.0	1.5	15	5		
	1470	POTS	3	S	1123.5	1124.1	3.5	20			
	808	ONDR	45	C	1123.5	1124.3	7.0	16	2		
	19600	BERN	3		1123.7	1124.3	3.0	82.0			ONLY PAPER REC
	11800	BERN	3		1123.7	1124.3	3.0	68.0			ONLY PAPER REC
	930	BORD	3	S	1123.7	1124.2	2.3	25	3		
	327	TRST	41	F	1123.7	1124.0	6.3	720			1L
	8400	BERN	3		1123.7	1124.3	3.5	67.0			ONLY PAPER REC
	10400	BERN	3		1123.7	1124.3	3.0	90.0			ONLY PAPER REC
	9500	POTS	3	S	1123.7	1124.2	2.8	86			
	408	TRST	41	F	1123.7	1124.0	6.3	2300			4R
	9100	GORK	3	S	1123.8	1124.3	2.7	100	50		
	2950	GORK	3	S	1123.8	1124.5	2.4	28	14		
	536	ONDR	8	S	1124.0	1124	.2	234			
	6100	KISV	4	S/F	1124.0	1124.7	4.0	62			
	430	KRAK	8	S	1124.0	1124.0	.2	630 D			
	810	KRAK	2	S/F	1129.2	1130.0	1.0	80	20		
	930	BORD	41	F	1129.3	1129.6	1.2	25	2		
	536	ONDR	8	S	1130.0	1130	.2	20			
	33	UPIC	2	S/F	1258.8	1259.3	1.2				
	29	UPIC	2	S/F	1258.8	1259.2	1.2				
	930	BORD	20	GRF	1300.0	1316.2	23.0	15	5		
	127	TORN	8	S	1358.4	1358.9	.8	180	90		
	930	BORD	20	GRF	1424.0	1429	16.0	18	6		
	9400	HUAN		S	1516.1	1533.7	51.6	9.9	4.5		0
	930	BORD	41	F	1642.4	1643.8	2.0	26	2		
	2800	OTTA	20	GRF	1655.0	1705	105.0	3.6	1.3		
	930	BORD	41	F	1704.8	1705	4.3	230	2		
	930	BORD			1704.8	1708.6		230			
	9400	HUAN		S	1803.0	1828.8	39.7	8.3	5.5		0
	2800	OTTA	3	S	1932.8	1933	2.0	18.2	4.8		
	2930	VORO	45	C	2240.0	2245	7.0	46			

Reports are received routinely from the following observatories:

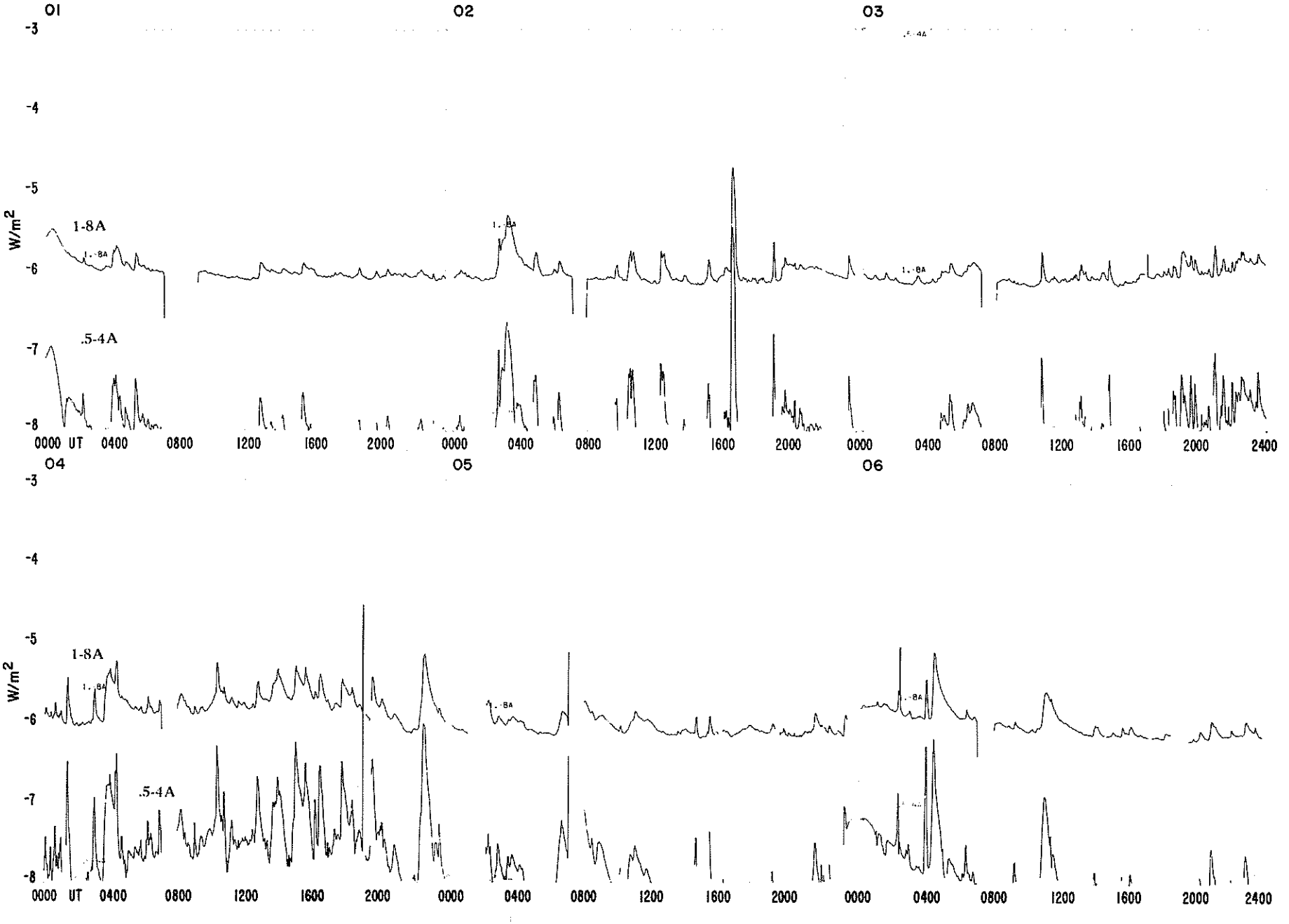
ARCE = Arcetri
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovod
KRAK = Krakow
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
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 Progr
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

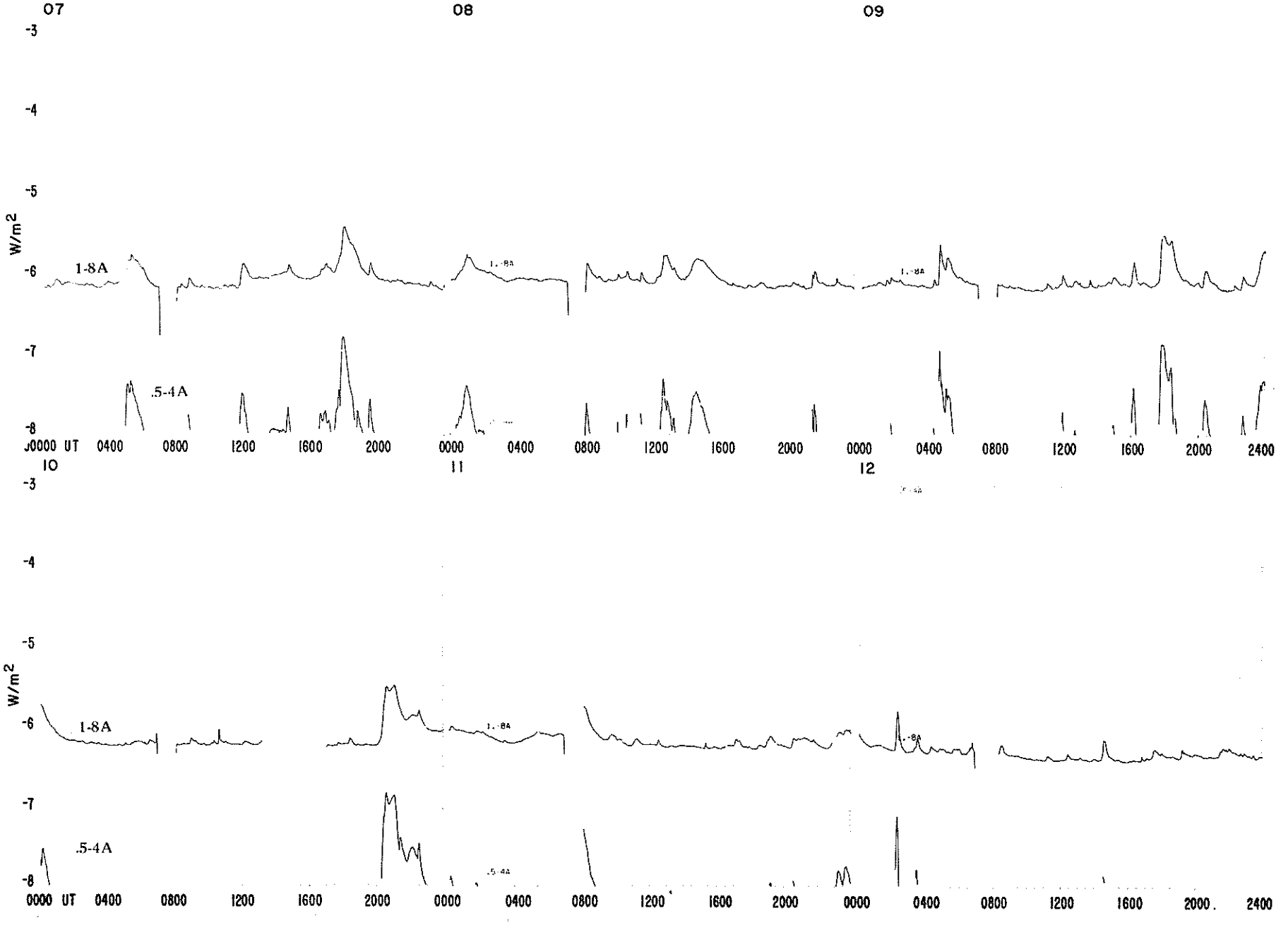
SMS-GOES X-RAYS

MARCH 1980



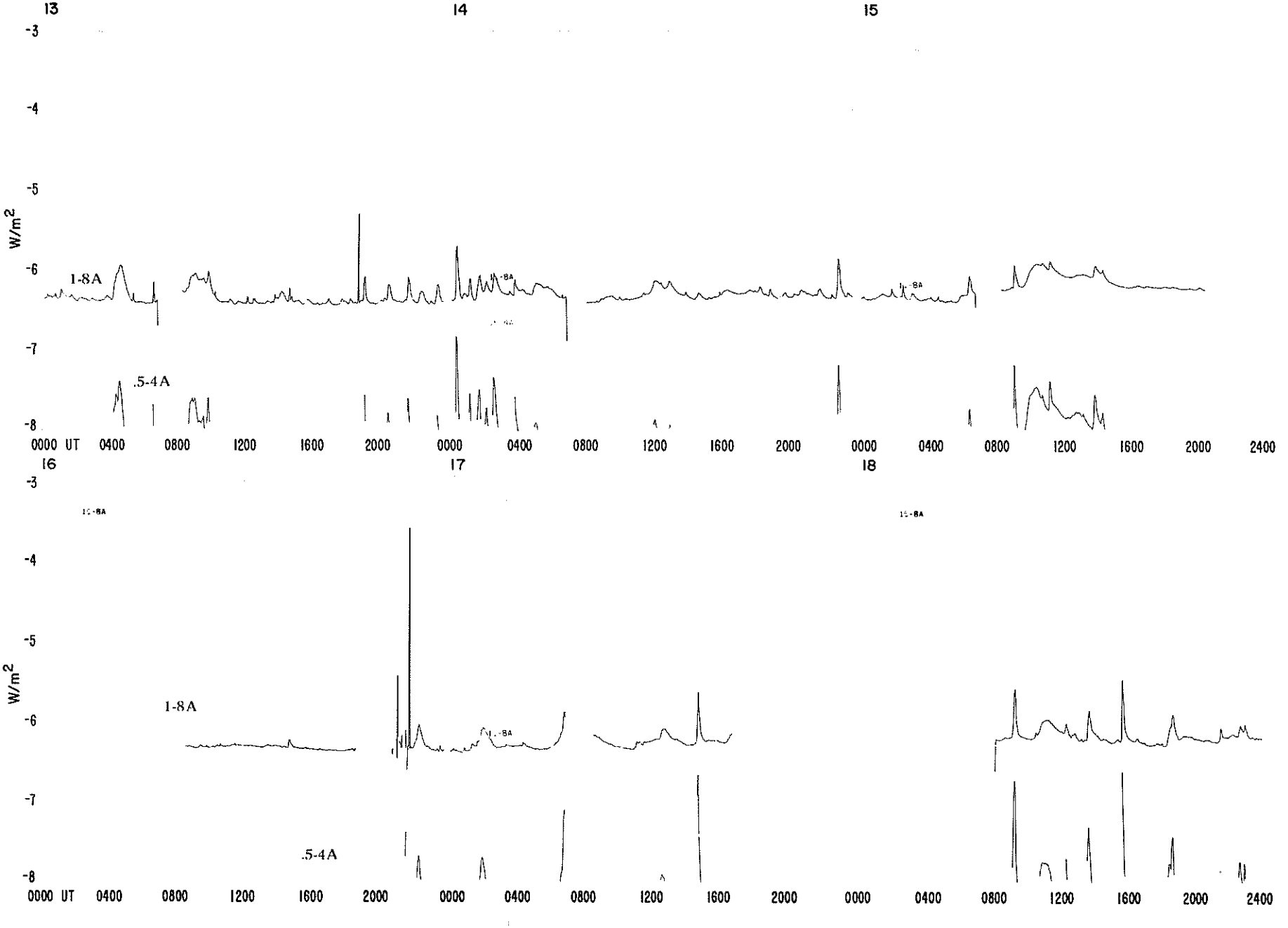
SMS-GOES X-RAYS

MARCH 1980



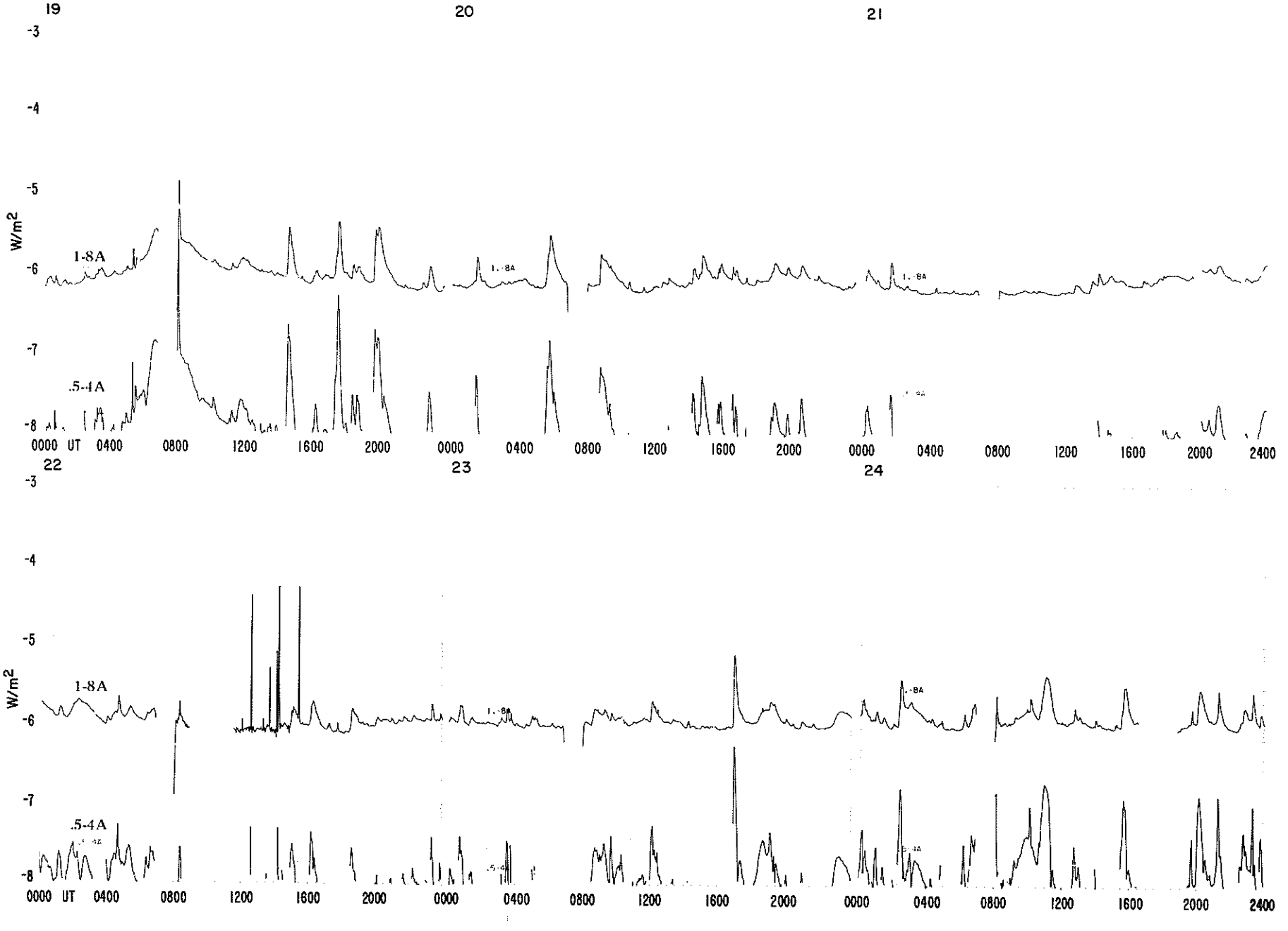
SMS-GOES X-RAYS

MARCH 1980



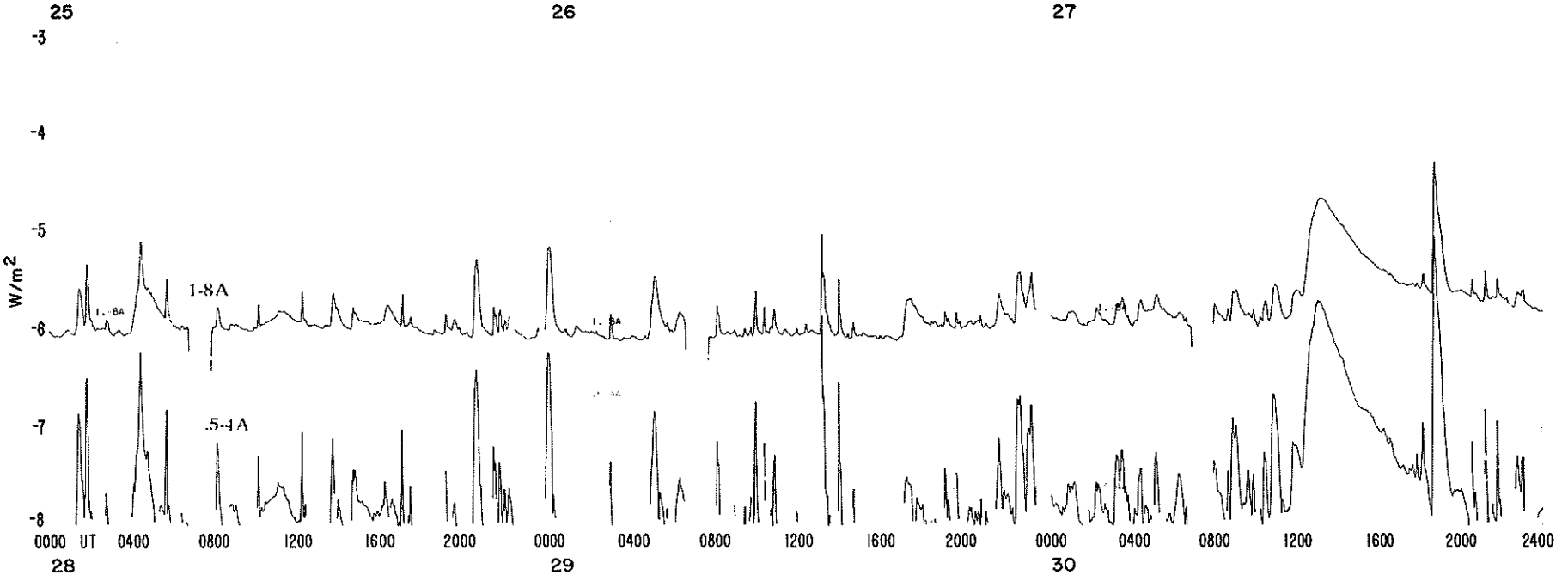
SMS-GOES X-RAYS

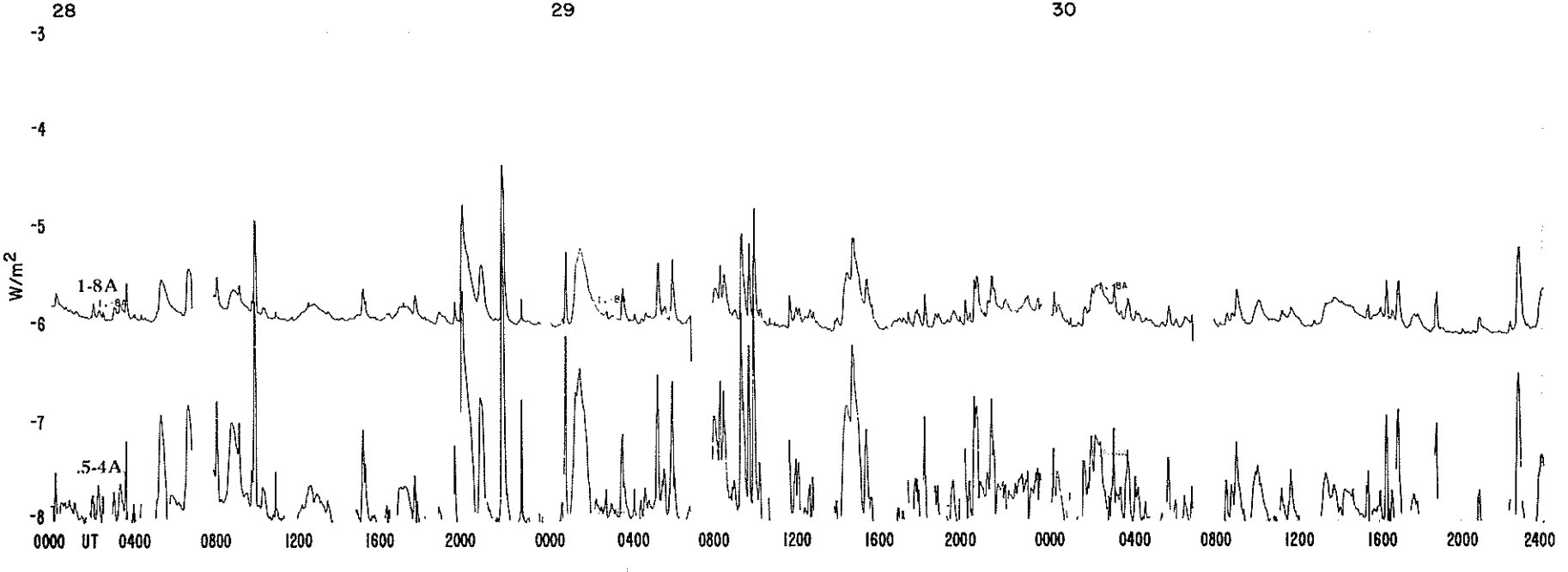
MARCH 1980

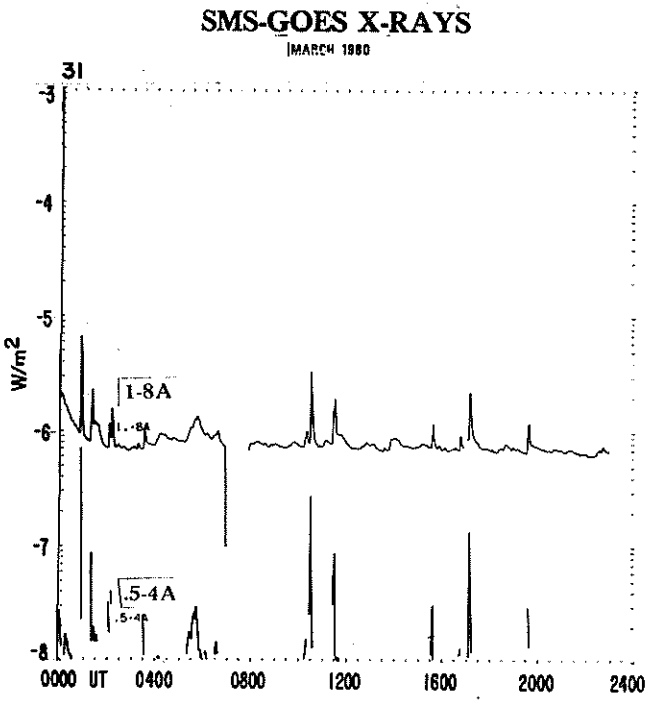


SMS-GOES X-RAYS

MARCH 1980






SMS-GOES X-RAYS
MARCH 1980
31
-3
-4
-5
-6
-7
-8
W/m2
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
2400

SOME OTHER SOURCES OF DATA

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

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

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

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

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

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

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

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

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

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

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

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UAG-1 "IQSY Night Airglow Data," by L.L. Smith, F.E. Roach, and J.M. McKennan, ESSA Aeronomy Laboratory, Boulder, CO, July 1968, 305 pp, $1.75.

UAG-2 "A Reevaluation of Solar Flares, 1964-1966," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, August 1968, 28 pp, $0.30.

UAG-3 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 6 July 1966 through 8 September 1968," by James W. Warwick and George A. Dulk, University of Colorado, Boulder, CO, October 1968, 35 pp, $0.55.

UAG-4 "Abbreviated Calendar Record 1966-1967," by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, ESSA now NOAA, Aeronomy and Space Data Center, Boulder, CO, January 1969, 170 pp, $1.25.

UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, February 1969, 120 pp, $0.65.

UAG-6 "International Geophysical Calendars 1957-1969," by A.H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories, now NOAA, Boulder, CO, March 1969, 25 pp, $0.30.

UAG-7 "Observations of the Solar Electron Corona: February 1964 - January 1968," by Richard T. Hansen, High Altitude Observatory, NCAR, Boulder, CO, and Kamuela, HI, October 1969, 12 pp, $0.15.

UAG-8 "Data on Solar-Geophysical Activity October 24 - November 6, 1968," Parts 1 and 2, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, March 1970, 312 pp, $1.75 (includes Parts 1 and 2).

UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1970, 109 pp, $0.55.

UAG-10 "Atlas of Ionograms," edited by A.H. Shapley, ESSA Research Laboratories now NOAA, Boulder, CO, May 1970, 243 pp, $1.50.

UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970," Parts 1, 2 and 3, compiled by J. Virginia Lincoln and Dale B. Bucknam, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1971, 466 pp, $3.00 (includes Parts 1-3).

UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969," compiled by Dale B. Bucknam and J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, May 1971, 76 pp, $0.90.

UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major" Flares, 1955-1969," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, July 1971, 25 pp, $0.30.

UAG-16 "Temporal Development of the Geophysical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1960)," by F.T. Berkey, University of Alaska, Fairbanks, AK; V.M. Driatskiy, Arctic and Antarctic Research Institute, Leningrad, USSR; K. Henriksen, Auroral Observatory, Tromson, Norway; D.H. Jelly, Communications Research Center, Ottawa, Canada; T.I. Shchuka, Arctic and Antarctic Research Institute, Leningrad, USSR; A. Theander, Kiruna Geophysical Observatory, Kiruna, Sweden; and J. Yliniemi, University of Oulu, Oulu, Finland, September 1971, 131 pp, $0.70 (microfiche only).

UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967 - March 1970)," by Ben B. Balsley, NOAA Aeronomy Laboratory, Boulder, CO, and Ronald F. Woodman, Jicamarca Radar Observatory, Instituto Geofisico del Peru, Lima, Peru, October 1971, 45 pp, $0.55 (microfiche only).

UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations," by K. Kawasaki and S.-I. Asasofu, University of Alaska, Fairbanks, AK, June 1972, 21 pp, $0.20.

UAG-19 "Reevaluation of Solar Flares 1967," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, and Marta Rovira de Miceli, San Miguel Observatory, Argentina, June 1972, 15 pp, $0.15.

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972," by J. Virginia Lincoln and Hope I. Leighton, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, November 1972, 128 pp, $0.70.

UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970," by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, November 1972, 146 pp, $0.75.

UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, November 1972, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 324 pp, $1.75.

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UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971," by James W. Warwick, George A. Dulk and David G. Swann, University of Colorado, Boulder, CO, February 1973, 35 pp, $0.35.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970," compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1973, 129 pp, $0.70.

UAG-27 "High Speed Streams in the Solar Wind," by D.S. Intriligator, University of Southern California, Los Angeles, CA, June 1973, 16 pp, $0.15.

UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events," Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, July 1973, 932 pp, $4.50.

UAG-29 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1968," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, October 1973, 148 pp, $0.75.

UAG-30 "Catalogue of Data on Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, October 1973, $1.50. Supersedes UAG-11, 15, and 20 catalogs.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1969," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1974, 142 pp, $0.75.

UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969," by Earle B. Mayfield, Kennon P. White III, and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, April 1974, 26 pp, $0.35.

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UAG-34 "Absorption Data for the IGY/IGC and IQSY," compiled and edited by A.H. Shapley, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; W.R. Piggott, Appleton Laboratory, Slough, UK; and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, June 1974, 381 pp, $2.00.

UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, July 1974, 20 pp, $0.20.

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UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20 October 1964 - August 1965," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO and Jerome T. Nolte, American Science and Engineering, Inc., Cambridge, MA, March 1975, 25 pp, $0.48.

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UAG-49 "Catalog of Standard Geomagnetic Variation Data," prepared by NOAA Environmental Data Service, Boulder, CO, August 1975, 125 pp, $1.85.

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UAG-73 "Auroral Electrojet Magnetic Activity Indices AE(11-12) for January - June 1975," by J.H. Allen, C.C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1979, 114 pp, $1.75.

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UAG-76 "Auroral Electrojet Magnetic Activity Indices AE(12) for July - December 1975," by J.H. Allen, C.C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1980, 116 pp, $2.50.

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

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