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Solar - Geophysical Data

Part II (Comprehensive Reports)

NO. 468 AUGUST 1983

DATA FOR
FEBRUARY 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 468

(Issued in Two Parts)

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

C O N T E N T S

Comprehensive Reports DATA FOR FEBRUARY 1983 Number 468 Part II

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
01	208	VORO	44	NS	0000.0E				2.0		
	127	TORN	43	NS	0756.0	0944.2	404.0	90.0	2.0		V=1
	260	ONDR	44	NS	0850.0E		340.0D				
	200	HIRA	44	NS	2140.0E	0015.0	610.0D	20.0	10.0		WR
	245	LEAR	43	NS	2222.0	1020.1	751.0D	260.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0010.5	0011.2	2.5	6.0	2.0		
	9400	TYKW	45	C	0052.5	0052.9	4.0	7.0	2.0		
	9400	TYKW	21	GRF	0105.0	0210.0	95.0	8.0	4.0		
	3750	TYKW	20	GRF	0125.0	0200.0	80.0	3.0	1.5		
	9400	TYKW	5	S	0148.0	0149.0	10.0	6.0	3.0		
	8800	LEAR	20	GRF	0149.5	0150.8	9.5	9.0			QL=6 ST=2 TYP=2
	15400	LEAR	20	GRF	0149.5	0151.0	9.5	7.0			QL=6 ST=2 TYP=2
	9400	TYKW	5	S	0200.0	0202.0	8.0	5.0	2.0		
	9400	TYKW	5	S	0213.0	0216.7	12.0	13.0	4.0		
	8800	LEAR	20	GRF	0214.1	0217.3	5.9	13.0			QL=6 ST=2 TYP=2
	9400	TYKW	45	C	0255.0	0257.3	6.0	5.0	2.0D		
	200	HIRA	46	C	0308.0	0308.1	1.0	85.0	22.0		0
	9400	TYKW	5	S	0400.5	0401.8	3.5	18.0	6.0		
	17000	NOBE	1	S	0401.4	0401.9	1.5	16.0			L
	9400	TYKW	29	PBI	0404.0		15.0	4.0	2.0		
	1000	TYKW	5	S	0436.0	0436.4	1.5	6.0	2.0		
	2000	TYKW	20	GRF	0437.0	0510.0	110.0	2.0	1.0		
	3750	TYKW	20	GRF	0437.0	0510.0	125.0	4.0	2.0		
	9400	TYKW	21	GRF	0438.0	0510.0	110.0	5.0	2.0		
	9400	TYKW	5	S	0503.0	0504.0	4.0	4.0	1.5		
	9400	TYKW	5	S	0534.0	0534.3	1.0	11.0	2.0		
	9400	TYKW	5	S	0544.9	0545.2	.7	8.0	2.0		
	9400	TYKW	5	S	0551.0	0552.7	8.0	5.0	2.0		
	6100	KISV	45	C	0642.0	0647.7	15.0	8.0			
	6100	KISV			0642.0	0648.7		7.0			
	1415	LEAR	20	GRF	0643.5	0647.3	18.5	6.0			QL=6 ST=2 TYP=2
	9395	PEKG	1	S	0644.0	0648.1	6.5	2.5	.8		
	2840	PEKG	1	S	0644.0	0648.2	9.0	7.0	3.0		
	2000	TYKW	5	S	0645.0	0648.5	8.0	4.0	1.5		
	3750	TYKW	21	GRF	0645.0	0730.0	50.0D	4.0	2.0D		
	2000	TYKW	21	GRF	0645.0	0730.0	50.0D	4.0	2.0D		
	2950	GORK	21	GRF	0645.0	0740.0	202.0	17.9			
	2695	LEAR	20	GRF	0645.3	0648.6	16.7	10.0			QL=6 ST=2 TYP=2
	9400	TYKW	5	S	0646.0	0648.0	6.0	4.0	2.0		
	3750	TYKW	45	C	0646.0	0648.7	7.0	16.0	5.0		
	9400	TYKW	21	GRF	0646.0	0730.0	60.0D	12.0	7.0D		
	3100	CRIM	1	S	0646.0	0648.0	5.0	11.0	4.0		
	4995	LEAR	20	GRF	0646.0	0648.6	16.0	13.0			QL=6 ST=2 TYP=2
	2950	GORK	1	S	0646.4	0648.7	3.5	5.5			
	8800	LEAR	20	GRF	0646.6	0648.6	4.4	4.0			QL=6 ST=2 TYP=2
	1000	TYKW	45	C	0646.7	0648.5	3.0	2.0	.7		
	6100	KISV	21	GRF	0703.0	0735.5	110.0	20.0D			
	6100	KISV			0703.0	0745.0		17.0			
	9100	GORK	23	GRF	0704.3	0736.3	293.0D	18.0			
	15000	KISV	1	S	0731.5	0735.5	5.0	30.0			
	9395	PEKG	5	S	0733.0	0735.9	13.0	38.0	10.0		
	4995	LEAR	4	S/F	0733.8	0736.8	13.3	17.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0734.0	0735.5	3.0	33.0	8.0		
	8800	LEAR	8	S	0734.3	0735.3	1.8	49.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0734.6	0735.6	1.2	16.0			QL=6 ST=2 TYP=3
	9500	POTS	3	S	0735.0	0735.4	1.0	21.0			
	9100	GORK	3	S	0735.0	0735.5	.8	30.0			
	15400	LEAR	8	S	0735.3	0735.5	.5	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0735.8	0737.3	11.3	21.0			QL=6 ST=2 TYP=3
	3100	CRIM	20	GRF	0736.0	0745.4	18.0	19.0	6.0		
	9400	TYKW	29	PBI	0737.0		7.0	6.0	3.0		
	245	LEAR	47	GB	0741.5	0742.6	5.6	39.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0742.3	0743.3	4.8	51.0			QL=6 ST=2 TYP=5
	2950	GORK	1	S	0742.6	0745.0	5.2	6.9			
	204	IZMI	41	F	0746.0	0752.0	13.0	90.0			
	410	LEAR	8	S	0806.1	0806.3	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0806.1	0806.3	.2	30.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0826.6	0826.6	.2	18.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0826.6	0826.6	.2	9.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0955.0	0956.2	5.0	6.0			
	930	BORD	41	F	1034.6	1034.7	.3	13.0	2.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
01	9100	GORK	1	S	1037.7	1038.1	1.0	8.0			
	9500	POTS	20	GRF	1055.5	1058.2	14.0	16.0			
	9100	GORK	1	S	1057.8	1058.3	1.3	10.0			
	536	ONDR	8	S	1121.0	1121.0	.1	11.0			
	113	POTS	4	S/F	1132.4	1132.4	.1	200.0	30.0		
	536	ONDR	42	SER	1150.5	1150.6	2.0	42.0			
	430	KRAK	42	SER	1204.5	1352.0	110.0	28.0U			
	9400	HUAN	20	GRF	1214.7	1219.5	26.4	9.6	4.1		L
	536	ONDR	8	S	1234.0	1234.0	.3	8.0			
	9400	HUAN	1	S	1306.9	1307.5	2.4	2.8	1.2		0
	536	ONDR	8	S	1316.0	1316.5	1.0	17.0			
	9400	HUAN	22	GRF	1327.4	1401.8	46.4	6.9	3.1		0
	536	ONDR	42	SER	1413.0	1414.0	1.0	39.0			
	9400	HUAN	1	S	1629.1	1629.7	3.3	17.9	6.8		L
	9400	HUAN	29	PBI	1632.4	1632.4	46.6	5.5	4.1		L
	9400	HUAN	22	GRF	1744.2	1751.7	20.0	5.5	3.3		0
	2800	OTTA	21	GRF	1750.0	1903.0	185.0	18.2	6.0		
	9400	HUAN	1	S	1823.7	1824.7	3.5	12.4	5.6		0
	9400	HUAN	2	S/F	1834.0	1835.2	4.2	6.9	3.6		L
	9400	HUAN	23	GRF	1842.1	1945.0	126.4	13.8	5.6		0
	9400	HUAN	1	S	1844.6	1845.8	2.4	5.5	3.0		0
	2800	OTTA	1	S	1854.0	1856.0	5.0	6.4	2.8		
	9400	HUAN	1	S	1854.7	1855.6	2.0	6.9	2.8		0
	1415	SGMR	8	S	1855.3	1855.8	.8	22.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1855.3	1855.8	11.0	20.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1855.5	1855.8	.3	13.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1906.1	1906.5	.5	20.0			QL=6 ST=2 TYP=3
	9400	HUAN	1	S	1924.2	1924.7	2.1	12.4	4.6		0
	9400	HUAN	2	S/F	1941.0	1942.4	2.2	9.6	3.2		L
	410	PALE	47	GB	1944.6E	1946.8	11.9D	430.0			QL=1 ST=2 TYP=5
	245	PALE	47	GB	1946.6E	1948.6	9.9D	95.0			QL=1 ST=2 TYP=5
	9400	HUAN	2	S/F	1946.9	1948.9	6.1	8.3	4.1		0
	8800	PALE	8	S	1947.1E	1948.8	1.7D	15.0			QL=1 ST=2 TYP=3
	610	PALE	47	GB	1952.5E	1952.6	.3D	64.0			QL=1 ST=2 TYP=5
	9400	HUAN	2	S/F	2115.0	2115.9	4.9	11.0	5.6		0
	100	HIRA	46	C	2140.0E		230.0D		115.0U		SUNRISE
	200	HIRA	46	C	2140.0E		120.0D		46.0U		SUNRISE
	500	HIRA	46	C	2140.0E	2213.0U	100.0D	50.0			SR,SUNRISE
	3750	TYKW	20	GRF	2237.0	2247.0	60.0	4.0	2.0		
02	208	VORO	44	NS	0000.0E		240.0D		14.0		
	204	IZMI	43	NS	0600.0		360.0	100.0			
	200	GORK	44	NS	0604.0E		359.0D		5.0		
	260	ONDR	44	NS	0829.0E		312.0D				
	127	TORN	43	NS	1152.0	1158.4	134.0	130.0	1.0		V=1
	245	SGMR	43	NS	2020.0	1336.1		57.0			QL=2 ST=3 TYP=1
	245	PALE	43	NS	2126.0	0227.1	394.0	110.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2138.0E	2226.0	610.0D	35.0	20.0		0
	245	LEAR	43	NS	2223.0	0227.1	749.0D	84.0			QL=6 ST=2 TYP=1
	245	PALE	47	GB	0019.6	0019.8	.4	110.0			QL=1 ST=2 TYP=5
	3750	TYKW	21	GRF	0035.0	0047.0	90.0	3.0	1.5		
	410	LEAR	8	S	0104.0	0104.1	.8	18.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0119.0	0128.0	25.0	2.0	1.0		
	9400	TYKW	5	S	0119.5	0119.7	1.5	7.0	4.0		RAIN
	9400	TYKW	29	PBI	0121.0		10.0	4.0	2.0		
	245	LEAR	8	S	0252.1	0252.3	.2	16.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0252.6	0252.6	.2	9.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0309.0	0310.0	2.0	6.0	3.0		
	8800	LEAR	4	S/F	0309.3	0310.0	5.7	8.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0311.0		15.0	3.0	1.5		
	9400	TYKW	5	S	0321.7	0321.9	2.5	6.0	1.5		
	3750	TYKW	32	ABS	0355.0	0431.0	65.0	-3.0	-1.5		
	2000	TYKW	32	ABS	0355.0	0435.0	65.0	-2.0	-1.0		
	9400	TYKW	5	S	0500.0	0501.5	4.0	5.0	2.0		RAIN
	3750	TYKW	20	GRF	0513.0	0528.0	35.0	2.0	1.0		
	3750	TYKW	20	GRF	0606.0	0617.0	45.0	3.0	1.5		
	6100	KISV	20	GRF	0702.5	0705.4	17.0	4.0			
	6100	KISV	20	GRF	0719.5	0724.8	19.0	5.0			
	9400	TYKW	5	S	0723.0	0723.9	3.0	11.0	3.0		
	810	KRAK	42	SER	0912.7	0918.2	20.0	90.0			
	9100	GORK	21	GRF	1029.4	1050.1	96.0D	20.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	234	POTS	42	SER	1040.0	1040.3	2.5	275.0	20.0		
	15400	LEAR	47	GB	1041.6	1041.8	.9	66.0			QL=5 ST=3 TYP=5
	2695	LEAR	8	S	1041.6	1041.8	.9	19.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	1041.8	1041.8	.7	20.0			QL=5 ST=3 TYP=3
	8800	LEAR	8	S	1041.8	1042.0	.7	40.0			QL=5 ST=3 TYP=3
	610	LEAR	8	S	1041.8	1042.1	1.0	15.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	1041.8	1042.1	.7	15.0			QL=5 ST=2 TYP=3
	2950	GORK	20	GRF	1042.0	1051.0	78.0D	8.9			
	6100	KISV	46	C	1044.9	1050.2	11.0	16.0			
	6100	KISV			1044.9	1051.3		14.0			
	15000	KISV	20	GRF	1046.5	1051.0	30.0	90.0			
	6100	KISV	29	PBI	1055.9	1056.0	30.0	6.0			
	810	KRAK	42	SER	1128.5	1215.0	56.0	27.0			
	9100	GORK	1	S	1157.2	1157.6	1.1	7.0			
	9400	HUAN	1	S	1359.3	1400.0	2.2	13.6	4.1		O
	2800	OTTA	20	GRF	1445.0	1600.0	205.0	5.2	2.5		
	9400	HUAN	22	GRF	1810.6	1843.2	51.0	9.5	4.1		O
	245	PALE	47	GB	2122.8	2123.1	.3	57.0			QL=6 ST=2 TYP=5
03	208	VORO	44	NS	0000.0E		240.0D		15.0		
	100	GORK	44	NS	0600.0E		354.0D		30.0		
	127	TORN	43	NS	0640.0	1402.5	482.0D	800.0	154.0		V=1
	260	ONDR	44	NS	0814.0E		349.0D				
	245	PALE	43	NS	1727.0	1948.8	628.0D	78.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2137.0E	0625.0	620.0D	85.0	35.0		WL
	100	HIRA	44	NS	2137.0E	0628.0	620.0D	1000.0	410.0		ML
	245	LEAR	43	NS	2223.0	0422.6	749.0D	130.0			QL=6 ST=2 TYP=1
	410	PALE	47	GB	0017.0	0017.1	.3	51.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	0017.1	0017.3	.2	52.0			QL=6 ST=2 TYP=5
	9400	TYKW	21	GRF	0125.0	0127.0	55.0	6.0	2.0		
	3750	TYKW	20	GRF	0140.0	0152.0	40.0	2.0	1.0		
	9395	PEKG	40	F	0203.0	0205.0	9.0	9.0	2.0		
	9400	TYKW	5	S	0203.0	0205.0	7.0	6.0	1.5		
	9400	TYKW	5	S	0301.0	0303.0	15.0	4.0	1.5		
	3750	TYKW	5	S	0303.0E	0303.0U	20.0D	3.0D	1.0D		
	3750	TYKW	5	S	0501.0	0503.0	20.0	1.5	.7		
	3750	TYKW	28	PRE	0537.0	0552.6	17.0	30.0	13.0		
	3653	YUNN	47	GB	0537.0	0607.3	115.0	2627.0			
	2000	TYKW	28	PRE	0539.0	0554.0	15.0	13.0	5.0		
	2840	PEKG	47	GB	0539.0	0605.2	171.0	3341.0D			
	9375	YUNN	47	GB	0539.0	0605.3	152.0	7764.0			
	2902	YUNN	47	GB	0539.0	0613.3	223.0	3097.0			
	200	HIRA	46	C	0539.0	0543.0	7.0	47.0	19.0		WR
	500	HIRA	45	C	0539.0	0543.3	7.0	40.0	15.0		MR
	1415	MANI	47	GB	0539.0	0640.8	174.5	1807.8	602.6		
	1000	TYKW	45	C	0540.5	0542.4	8.0	26.0	7.0		
	2000	TYKW	5	S	0540.5	0542.6	8.0	9.0	4.0		
	245	LEAR	47	GB	0540.5	0543.1	22.1	46.0			QL=6 ST=3 TYP=5
	410	LEAR	47	GB	0540.5	0543.3	22.1	40.0			QL=6 ST=3 TYP=5
	100	HIRA	46	C	0540.6	0542.2	5.0	370.0	240.0		O
	1415	LEAR	49	GB	0540.8	0542.8	21.8	13.0			QL=6 ST=3 TYP=6
	610	LEAR	49	GB	0540.8	0543.3	21.8	30.0			QL=6 ST=3 TYP=6
	9400	TYKW	28	PRE	0541.0	0552.6	13.0	28.0	12.0		
	9395	PEKG	47	GB	0541.0	0605.3	169.0	3725.0D			
	4995	LEAR	49	GB	0541.0	0542.8	21.6	11.0			QL=6 ST=3 TYP=6
	2695	LEAR	49	GB	0541.0	0543.3	21.6	13.0			QL=6 ST=3 TYP=6
	8800	LEAR	49	GB	0541.3	0543.3	21.3	3500.0			QL=6 ST=3 TYP=6
	4995	MANI	47	GB	0542.0	0607.0	109.0	5442.0	1814.0		
	6100	KISV	28	PRE	0545.0U	0552.3	9.5U	22.0			
	15400	LEAR	49	GB	0545.0	0554.5	17.6	16.0			QL=6 ST=3 TYP=6
	15000	KISV	28	PRE	0550.0	0557.6	8.5	102.0			
	17000	NOBE	28	PRE	0551.1	0558.5	7.4	48.0			L
	8800	ATHN	49	GB	0551.3	0600.3	20.5	3399.0			QL=5 ST=2 TYP=6
	1415	ATHN	49	GB	0551.3	0600.6	32.0	1500.0			QL=5 ST=2 TYP=6
	2695	ATHN	49	GB	0551.3	0600.6	124.2	1000.0			QL=5 ST=2 TYP=6
	9100	GORK	47	GB	0553.0E	0605.0	76.0D	6900.0			
	200	HIRA	48	C	0553.3	0656.0	128.0D	37000.0	3800.0		SUNRISE, MR
	15000	KISV	20	GRF	0553.5	0559.5	12.5	35.0			
	2000	TYKW			0554.0	0603.5		1520.0			
	1000	TYKW			0554.0	0604.8		1880.0			
	9400	TYKW	47	GB	0554.0	0605.1	116.0	7530.0	1000.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
03	3750	TYKW	47	GB	0554.0	0607.4	116.0	3860.0	840.0		
	2000	TYKW	47	GB	0554.0	0614.3	111.0	1550.0	840.0		
	1000	TYKW	47	GB	0554.0	0627.3	107.0	5800.0	1400.0		
	6100	KISV			0554.5	0600.5		1090.0			
	6100	KISV	47	GB	0554.5	0605.1	44.5	1550.0			
	6100	KISV			0554.5	0606.4		1530.0			
	100	HIRA	48	C	0554.7		128.0D	10000.0	3290.0D		
	2950	GORK	47	GB	0555.0E	0613.5	75.0D	2580.0			
	35000	NAGO	28	PRE	0556.0	0559.0	3.0	27.0			
	950	GORK	47	GB	0557.0E	0627.3	72.0D	4500.0			
	3100	CRIM	47	GB	0557.0E	0607.2	147.0D	2183.0	770.0		
	3100	CRIM			0557.0E	0612.9		2308.0			
	200	GORK	47	GB	0558.0E		291.0D	7500.0			
	500	HIRA	48	C	0558.0	0645.6	120.0D	11000.0	3000.0		SUNSET, MR
	15000	KISV			0558.4	0600.5		2395.0			
	15000	KISV			0558.4	0604.0U		5760.0D			
	15000	KISV	47	GB	0558.4	0605.0U	31.5D	5760.0			
	17000	NOBE	47	GB	0558.5	0607.1	30.0	4820.0			L
	650	GORK	47	GB	0558.5E	0607.2	223.0D	4700.0			
	650	GORK			0558.5E	0636.0U		5300.0			
	650	GORK			0558.5E	0719.1		2950.0			
	650	GORK			0558.5E	0736.8		2700.0			
	35000	NAGO	47	GB	0559.0	0607.0	24.0D	3550.0			
	100	GORK	46	C	0602.1	0602.9	72.0	2700.0			
	100	GORK			0602.1	0603.4		158000.0			
	100	GORK			0602.1	0609.1		6700.0			
	100	GORK			0602.1	0625.2		8000.0			
	100	GORK			0602.1	0647.7		3800.0			
	100	GORK			0602.1	0655.5		4500.0			
	100	GORK			0602.1	0710.9		1900.0			
	9100	GORK	29	PBI	0605.0	0709.0	222.0	120.0			
	8800	ATHN	47	GB	0611.8	0659.5	104.7	200.0			QL=5 ST=2 TYP=5
	410	LEAR	49	GB	0612.3	0612.5	16.2	1199.0			QL=6 ST=2 TYP=7
	15400	LEAR	49	GB	0612.3	0612.8	16.2	3300.0			QL=6 ST=2 TYP=7
	610	LEAR	49	GB	0612.3	0612.8	16.2	800.0			QL=6 ST=2 TYP=7
	4995	LEAR	49	GB	0612.3	0612.8	16.2	4300.0			QL=6 ST=2 TYP=7
	2695	LEAR	49	GB	0612.3	0612.8	16.2	2699.0			QL=6 ST=2 TYP=7
	245	LEAR	49	GB	0612.3	0612.8	16.2	540.0			QL=6 ST=2 TYP=7
	8800	LEAR	49	GB	0612.3	0612.8	16.2	4400.0			QL=6 ST=2 TYP=7
	1415	LEAR	49	GB	0612.3	0613.0	16.2	790.0			QL=6 ST=2 TYP=7
	204	IZMI	47	GB	0620.0	0651.2	220.0	12000.0	5000.0		
	204	IZMI			0620.0	0817.5		1250.0			
	17000	NOBE	29	PBI	0628.5	0628.5	67.0D				
	2695	LEAR	49	GB	0628.5	0628.6	11.3	2800.0			QL=6 ST=2 TYP=6
	4995	LEAR	49	GB	0628.5	0628.6	11.3	6700.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0628.5	0628.6	11.3	9000.0			QL=6 ST=2 TYP=6
	15400	LEAR	49	GB	0628.5	0628.6	11.3	6100.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0628.5	0630.3	11.3	13999.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0628.5	0631.1	11.3	7000.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0628.5	0631.8	11.3	12000.0			QL=6 ST=2 TYP=6
	1415	LEAR	49	GB	0628.5	0632.1	11.3	2300.0			QL=6 ST=2 TYP=6
	15000	KISV	29	PBI	0630.0	0630.0	250.0	390.0			
	1415	ATHN	49	GB	0632.3	0641.3	83.2	1699.0			QL=5 ST=2 TYP=6
	6100	KISV	29	PBI	0639.0	0639.0	240.0	320.0			
	4995	LEAR	49	GB	0639.8	0640.0	13.8	6700.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0639.8	0640.0	13.8	2800.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0639.8	0640.0	13.8	9000.0			QL=6 ST=2 TYP=6
	15400	LEAR	49	GB	0639.8	0640.0	13.8	6100.0			QL=6 ST=2 TYP=6
	1415	LEAR	49	GB	0639.8	0640.5	13.8	2899.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0639.8	0641.0	13.8	8600.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0639.8	0642.5	13.8	6800.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0639.8	0642.5	13.8	9300.0			QL=6 ST=2 TYP=6
	127	TORN	27	RF	0640.0E		30.0D		6000.0U		
	6100	KISV	22	GRF	0653.5	0659.5	18.0	55.0			
	15400	LEAR	49	GB	0653.6	0653.8	11.0	6100.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0653.6	0653.8	11.0	9000.0			QL=6 ST=2 TYP=6
	4995	LEAR	49	GB	0653.6	0653.8	11.0	6700.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0653.6	0653.8	11.0	2800.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0653.6	0653.8	11.0	10000.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0653.6	0653.8	11.0	8800.0			QL=6 ST=2 TYP=6
	1415	LEAR	49	GB	0653.6	0655.1	11.0	2399.0			QL=6 ST=3 TYP=6

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
03	245	LEAR	49	GB	0653.6	0655.6	11.0	23000.0			QL=6 ST=3 TYP=6
	3000	IZMI	31	ABS	0700.0	0700.0	120.0	540.0			
	610	LEAR	49	GB	0704.6	0713.1	16.2	2000.0			QL=6 ST=3 TYP=6
	950	GORK	29	PBI	0709.0	0709.0	189.2	740.0			
	2950	GORK	29	PBI	0709.0	0709.0	216.0	350.0			
	113	POTS	48	C	0710.0	0750.0	290.0	700.0			IV
	234	POTS	48	C	0713.0	0734.0	287.0	5500.0			IV
	8800	LEAR	49	GB	0720.8	0720.8	47.2	9000.0			QL=6 ST=2 TYP=6
	4995	LEAR	49	GB	0720.8	0720.8	81.3	6700.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0720.8	0720.8	135.7	5900.0			QL=6 ST=3 TYP=6
	15400	LEAR	49	GB	0720.8	0720.8	77.5	6100.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0720.8	0720.8	120.5	2800.0			QL=6 ST=2 TYP=6
	1415	LEAR	49	GB	0720.8	0721.0	113.8	700.0			QL=6 ST=3 TYP=6
	610	LEAR	49	GB	0720.8	0732.1	95.7	2199.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0720.8	0732.8	126.8	8100.0			QL=6 ST=2 TYP=6
	3100	CRIM	29	PBI	0724.0	0724.0	96.0	442.0	145.0		
	3000	POTS			0725.0E		215.0D				
	1470	POTS			0725.0E		215.0D				
	1000	TYKW	29	PBI	0741.0		2.0D	400.0	390.0D		
	2000	TYKW	29	PBI	0745.0		5.0D	290.0	280.0D		
	9400	TYKW	29	PBI	0750.0		20.0D	80.0	60.0		
	3750	TYKW	29	PBI	0750.0		5.0D	130.0	125.0D		
	810	KRAK	27	RF	0757.0E	0801.3	110.0D	130.0	35.0		
	408	TRST	47	GB	0800.0E	0815.3	180.0D	580.0			L
	327	TRST	47	GB	0800.0E	0815.3	240.0D	1650.0			L
	237	TRST	47	GB	0800.0E	0816.4	240.0D	1780.0			L
	650	GORK	29	PBI	0800.0	0800.0	123.0	210.0			
	536	ONDR	26	FAL	0814.0E		48.0D				
	260	ONDR	26	FAL	0814.0E		184.0D	236.0D			
	810	KRAK	8	S	0845.6	0845.7	.5	41.0			
	430	KRAK	27	RF	1003.0	1009.0	9.0	13.0	6.0		
	536	ONDR	40	F	1013.0		90.0	10.0			
	430	KRAK	8	S	1014.4	1014.5	.5	31.0			
	410	LEAR	8	S	1014.6	1014.8	.2	24.0			QL=6 ST=2 TYP=3
	430	KRAK	27	RF	1032.0	1040.5	29.5	17.0	7.0		
	33	UPIC	42	SER	1101.1	1222.6	181.9				
	29	UPIC	42	SER	1101.1	1309.9	159.2U				
	15000	KISV	1	S	1137.3	1137.9	1.0	14.0			
	234	POTS	42	SER	1140.3	1140.3	2.6	250.0	1.0		III
	113	POTS		SER	1140.3	1140.4	2.6				
	237	TRST	41	F	1222.1	1222.8	1.3	100.0			L
	237	TRST	46	C	1224.7	1225.1	.7	150.0			R
	536	ONDR	40	F	1246.0		32.0	6.0			
	430	KRAK	27	RF	1253.5		16.0	17.0	8.0		
	113	POTS	42	SER	1309.0	1309.7	4.4	700.0	25.0		III
	1470	POTS	4	S/F	1309.4	1309.6	1.1				
	327	TRST	46	C	1312.8	1312.9	.3	110.0			R
	237	TRST	46	C	1312.8	1313.0	.9	230.0			L
	234	POTS	4	S/F	1312.9	1313.0	.5	275.0	40.0		III
	113	POTS	4	S/F	1402.4	1402.5	.5	1800.0	350.0		III
	2800	OTTA	240	R	1746.0	1750.0	4.0	1.8	.9		
	8800	PALE	47	GB	1829.8	1832.0	7.0	58.0			QL=6 ST=2 TYP=5
	2800	OTTA	240	AR	1830.0	1840.0	10.0	2.8	1.4		
	610	PALE	8	S	1831.3	1832.1	1.2	22.0			QL=6 ST=2 TYP=3
	8800	SGMR	47	GB	1831.5	1832.1	4.0	61.0			QL=6 ST=3 TYP=5
	15400	PALE	8	S	1831.6	1832.1	1.2	32.0			QL=6 ST=2 TYP=3
	15400	SGMR	4	S/F	1831.6	1832.3	2.7	46.0			QL=6 ST=3 TYP=3
	4995	PALE	8	S	1832.0	1832.1	.3	13.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1832.1	1832.3	.4	13.0			QL=6 ST=3 TYP=3
	2800	OTTA	40	F	1833.5	1834.6	1.5	3.6			
	2800	OTTA	20	GRF	1850.0	1855.0	20.0	3.6	1.8		
	9400	HUAN	21	GRF	1919.7	1932.6	39.2	10.0	5.4		L
	9400	HUAN	1	S	1921.1	1921.8	2.9	11.3	7.3		O
	9400	HUAN	3	S	1929.4	1930.6	2.2	21.3	9.8		L
	9400	HUAN	1	S	1933.5	1934.2	2.1	12.6	5.4		O
	9400	HUAN	1	S	1944.9	1945.3	2.5	16.3	6.3		O
	9400	HUAN	1	S	2022.5	2023.6	3.0	5.0	1.6		O
	9400	TYKW	45	C	2222.0	2227.8	10.0	16.0	7.0		
	9400	TYKW	30	PBI	2232.0		125.0	7.0	3.0		
	3750	TYKW	20	GRF	2240.0	2247.0	45.0	3.0	1.5		
	9400	TYKW	5	S	2241.0	2243.0	10.0	7.0	3.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
03	9400	TYKW	5	S	2301.0	2302.0	10.0	8.0	4.0		
	3750	TYKW	20	GRF	2335.0	0025.0	120.0	3.0	1.5		
	9400	TYKW	5	S	2338.0	2341.0	9.0	4.0	2.0		
04	208	VORO	44	NS	0000.0E				18.0		
	100	GORK	44	NS	0557.0E		366.0D		45.0		
	200	GORK	44	NS	0559.0E		364.0D		20.0		
	204	IZMI	44	NS	0600.0E		360.0D	60.0			
	127	TORN	44	NS	0700.0E	1302.2	480.0D	400.0	143.0		V=1
	260	ONDR	44	NS	0810.0E		374.0D				
	245	PALE	44	NS	1729.0E	1737.3		58.0			QL=6 ST=3 TYP=1
	200	HIRA	44	NS	2136.0E	0707.0	620.0D	100.0	50.0		MR
	100	HIRA	44	NS	2136.0E	2220.0	620.0D	750.0	240.0		SR
	245	LEAR	43	NS	2224.0	0208.6	747.0D	219.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0001.5	0002.3	2.5D	6.0	3.0D		
	9400	TYKW	5	S	0008.6	0008.8	.6	6.0	2.0		
	9400	TYKW	5	S	0009.7	0010.1	7.0	13.0	4.0		
	9400	TYKW	45	C	0022.0	0023.9	6.0	7.0	2.0		
	9400	TYKW	28	PRE	0047.0	0050.0	6.0	5.0	2.0		
	9400	TYKW	5	S	0053.0	0053.3	3.0	47.0	12.0		
	9395	PEKG	3	S	0053.0	0053.7	6.0	42.0	12.5		
	17000	NOBE	1	S	0053.0	0053.4	2.0	53.0			R
	15400	LEAR	47	GB	0053.1	0053.3	.7	60.0			QL=6 ST=2 TYP=5
	8800	LEAR	8	S	0053.1	0053.3	.7	42.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	0053.1	0053.3	.5	24.0			QL=6 ST=2 TYP=3
	15400	PALE	8	S	0053.1	0053.3	.5	47.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0056.0		25.0	6.0	1.5		
	9400	TYKW	5	S	0101.0	0102.7	8.0	6.0	2.0		
	9400	TYKW	45	C	0112.7	0113.1	6.0	3.0	1.0		
	9400	TYKW	45	C	0132.5	0133.0	5.5	13.0	7.0		
	9395	PEKG	1	S	0133.0	0133.4	10.0	9.0	5.0		
	9400	TYKW	30	PBI	0138.0		20.0	4.0	2.0		
	9400	TYKW	5	S	0146.0	0147.1	5.5	12.0	4.0		
	9395	PEKG	3	S	0146.0	0147.5	5.0	12.0	4.0		
	8800	LEAR	4	S/F	0146.3	0147.0	4.7	13.0			QL=6 ST=3 TYP=3
	9395	PEKG	1	S	0208.0	0209.3	3.0	5.0	2.1		
	9400	TYKW	5	S	0208.5	0209.0	1.5	5.0	1.5		
	9400	TYKW	45	C	0220.0	0220.5	5.0	17.0	8.0		
	9395	PEKG	45	C	0220.0	0220.8	10.0	17.0	9.0		
	8800	LEAR	4	S/F	0220.1	0220.5	4.7	20.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0223.0	0305.0	135.0	2.0	1.0		
	9400	TYKW	29	PBI	0225.0		9.0	4.0	2.0		
	9400	TYKW	45	C	0248.3	0253.1	11.7	18.0	8.0D		
	8800	LEAR	4	S/F	0252.6	0253.0	4.4	21.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0300.0		110.0	5.0	2.0		
	3750	TYKW	21	GRF	0318.0	0338.0	70.0	4.0	2.0		
	9400	TYKW	45	C	0335.0	0341.4	10.0	9.0	2.0		
	9395	PEKG	1	S	0336.0	0341.9	10.0	5.0	1.7		
	3750	TYKW	20	GRF	0355.0	0407.0	35.0	2.0	1.0		
	9400	TYKW	45	C	0404.0	0411.7	13.0	16.0	6.0		
	9400	TYKW	29	PBI	0417.0		15.0	6.0	3.0		
	9400	TYKW	5	S	0507.0	0508.0	6.0	3.0	1.5		
	2000	TYKW	20	GRF	0510.0	0528.0	80.0	2.0	1.0		
	3750	TYKW	20	GRF	0510.0	0600.0U	140.0	5.0D	2.0D		
	410	LEAR	4	S/F	0526.8	0527.1	3.3	9.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0526.8	0527.5	4.8	110.0			QL=6 ST=3 TYP=5
	9400	TYKW	5	S	0659.0	0700.5	7.0	5.0	2.0		
	9100	GORK	20	GRF	0723.3	0947.4	212.0	13.0			
	9400	TYKW	5	S	0736.0	0736.5	2.0	9.0	3.0		
	650	GORK	22	GRF	0825.5	0842.0	27.0	7.0			
	2950	GORK	20	GRF	0943.0	0947.7	13.9	5.5			
	6100	KISV	2	S/F	0945.0	0945.3	5.0	6.0			
	430	KRAK	27	RF	0956.5	0959.5	5.5	11.0			
	2950	GORK	1	S	1105.0	1106.0	5.2	5.5			
	9100	GORK	20	GRF	1136.0	1146.5	35.6	7.0			
	430	KRAK	41	F	1224.0	1225.3	2.0	12.0			
	9400	HUAN	1	S	1329.0	1330.0	2.6	8.3	4.4		0
	430	KRAK	8	S	1358.0	1358.1	.2	18.0			
	2800	OTTA	23	GRF	1405.0	1445.0	170.0	5.6	3.2		
	9400	HUAN	1	S	1407.1	1408.7	2.7	6.9	2.8		R
	2800	OTTA	2	S/F	1629.0	1632.2	8.0	7.4	3.4		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
04	2800	OTTA	21	GRF	1730.0	1830.0	105.0	6.2	3.1		
	9400	HUAN	20	GRF	1731.4	1833.2	61.8U	9.7	4.1		0
	2800	OTTA	1	S	1732.0	1733.0	8.0	2.6	1.3		
	9400	HUAN	1	S	1945.5	1946.2	2.3	6.9	3.9		0
	2800	OTTA	1	S	1946.0	1946.7	2.0	3.0	1.5		
	2800	OTTA	260	FAL	2140.0	2200.0	20.0	-2.8	-1.8		
	9400	TYKW	21	GRF	2227.0	2230.0	30.0	10.0	4.0		
	3750	TYKW	45	C	2242.0	2243.2	3.0	21.0	7.0		
	8800	LEAR	8	S	2242.3	2242.8	1.2	32.0			QL=5 ST=2 TYP=3
	9400	HUAN	1	S	2242.3	2242.8	1.9	18.0	5.7		0
	2695	LEAR	8	S	2242.3	2243.0	1.5	17.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	2242.3	2243.0	1.5	17.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	2242.3	2243.1	1.5	25.0			QL=5 ST=2 TYP=3
	2000	TYKW	5	S	2242.5	2242.8	1.5	21.0	5.0		
	2695	PENT	3	S	2242.5	2243.0	3.0	16.8	5.6		
	4995	PALE	8	S	2242.6	2242.8	.5	20.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2242.6	2242.8	.5	23.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	2242.6	2242.8	.5	15.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	2242.6	2242.8	.5	172.0	20.0		
	1415	PALE	8	S	2242.6	2242.8	.5	10.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	2242.6	2247.8	5.2	23.0			QL=5 ST=2 TYP=3
	3750	TYKW	5	S	2300.0	2306.0	20.0	2.0	1.0		
	3750	TYKW	5	S	2349.0	2350.4	3.0	7.0	2.0		
	3750	TYKW	29	PBI	2352.0		7.0	1.5	.7		
05	208	VORO	44	NS	0000.0E				49.0		
	204	IZMI	44	NS	0600.0E		360.0D	45.0			
	200	GORK	44	NS	0603.0E		355.0D		10.0		
	200	GORK	44	NS	0604.0E		354.0D		45.0		
	127	TORN	44	NS	0700.0E	0754.9	480.0D	8800.0	127.0		V=1
	260	ONDR	44	NS	0822.0E		357.0D				
	245	PALE	43	NS	1735.0	1926.6	625.0D	219.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2135.0E	0704.0	625.0D	120.0	55.0		WR
	245	LEAR	43	NS	2225.0	0807.5	746.0D	330.0			QL=6 ST=2 TYP=1
	3750	TYKW	21	GRF	0015.0	0120.0	140.0	4.0	2.0		
	9400	TYKW	5	S	0018.0	0018.2	1.0	3.0	1.0		
	2000	TYKW	21	GRF	0020.0	0040.0	120.0U	2.0	1.0U		
	8800	LEAR	8	S	0029.8	0030.6	1.8	20.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0030.0	0030.7	4.0	4.0	1.5		
	9400	TYKW	5	S	0030.0	0030.7	2.0	20.0	6.0		
	15400	LEAR	8	S	0030.1	0030.6	1.0	17.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0030.1	0030.6	1.5	8.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0032.0		20.0	3.0	1.5		
	3750	TYKW	45	C	0034.9	0035.1	2.5	4.0	1.5		
	9400	TYKW	5	S	0036.0	0036.8	2.0	4.0	1.5		
	3750	TYKW	5	S	0038.0	0040.3	3.0	2.0	.7		
	9400	TYKW	5	S	0039.5	0040.6	6.0	6.0	2.0		
	9400	TYKW	5	S	0110.0	0113.0	10.0	4.0	1.5		
	3750	TYKW	45	C	0143.0	0146.3	5.0	11.0	4.0		
	2840	PEKG	5	S	0143.0	0146.9	17.0	9.0	2.3		
	9400	TYKW	45	C	0144.0	0145.9	3.0	12.0	6.0		
	2000	TYKW	45	C	0144.0	0146.5	5.0U	6.0	2.0U		
	9395	PEKG	1	S	0144.0	0146.7	9.0	8.0	2.0		
	500	HIRA	7	C	0144.0	0144.0	2.0	115.0	25.0		WL
	4995	LEAR	4	S/F	0144.1	0145.8	3.0	13.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0144.1	0146.3	2.5	80.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0144.3	0144.3	.8	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0144.5	0145.8	2.6	22.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0144.5	0146.4	3.5	2.0	.7		
	245	LEAR	47	GB	0144.6	0145.3	2.5	150.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0145.1	0146.3	3.9	15.0			QL=6 ST=2 TYP=3
	410	PALE	47	GB	0145.6	0146.3	1.0	89.0			QL=6 ST=2 TYP=5
	9400	TYKW	29	PBI	0147.0		20.0	4.0	2.0		
	3750	TYKW	29	PBI	0148.0		20.0	2.0	1.0		
	9400	TYKW	5	S	0259.2	0259.4	1.0	6.0	1.5		
	3750	TYKW	21	GRF	0400.0	0430.0	160.0	3.0	1.5		
	245	LEAR	47	GB	0419.8	0420.1	.5	60.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0419.8	0420.1	.5	25.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0425.8	0426.3	1.5	2.0	.7		
	3653	YUNN	45	C	0426.0	0437.5	24.0	63.0			
	1000	TYKW	5	S	0428.5	0429.0	1.5	3.0	.7		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
05	1000	TYKW	5	S	0431.0	0431.4	1.0	3.0	1.0		
	2902	YUNN	45	C	0433.0	0437.5	9.0	49.0			
	3750	TYKW	45	C	0434.0	0437.5	8.0	43.0	11.0		
	1000	TYKW	45	C	0434.3	0438.6	6.0	12.0	2.5		
	2000	TYKW	45	C	0434.5	0437.2	6.5U	24.0	7.0U		
	9375	YUNN	4	S/F	0434.8	0437.0	6.2	43.0			
	9400	TYKW	45	C	0435.0	0437.1	5.0	42.0	16.0		
	9395	PEKG	4	S/F	0435.0	0437.4	16.0	44.0	17.0		
	2840	PEKG	4	S/F	0435.0	0437.4	12.0	41.0	15.0		
	245	LEAR	47	GB	0436.3	0436.6	.8	100.0			QL=6 ST=2 TYP=5
	500	HIRA	7	C	0436.3	0436.9	2.5	10.0	7.0		MR
	410	LEAR	4	S/F	0436.3	0437.0	2.8	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0436.3	0437.1	2.7	54.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0436.3	0437.3	2.3	32.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0436.3	0437.3	2.3	43.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0436.6	0436.8	.7	19.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0436.6	0437.1	.5	13.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0437.0	0437.1	.3	13.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0440.0		25.0	9.0	4.0		
	2000	TYKW	30	PBI	0441.0		10.0U	2.0	1.0U		
	2000	TYKW	5	S	0441.0	0441.3	1.0	1.5	.5		
	3750	TYKW	30	PBI	0442.0		12.0	4.0	2.0		
	3750	TYKW	5	S	0444.5	0444.7	1.0	2.5	.7		
	3750	TYKW	5	S	0457.5	0458.2	4.0	4.0	1.0		
	1415	MANI	1	S	0536.6	0537.7	2.9	8.2	2.9		
	4995	MANI	3	S	0536.6	0537.8	2.4	60.9	20.3		
	3750	TYKW	20	GRF	0550.0	0605.0	45.0	3.0	1.5		
	2000	TYKW	20	GRF	0555.0	0600.0	40.0	2.0	1.0		
	245	LEAR	47	GB	0558.3	0558.8	.8	180.0			QL=6 ST=3 TYP=5
	410	LEAR	4	S/F	0558.3	0559.5	2.5	10.0			QL=6 ST=3 TYP=3
	6100	KISV	46	C	0558.5	0701.6	63.1U	115.0			
	6100	KISV			0558.5	0701.9		105.0			
	6100	KISV			0558.5	0702.1		85.0			
	245	LEAR	8	S	0610.8	0611.5	1.5	41.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0611.3	0611.3	.7	9.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0625.0	0625.7	2.0	3.0	1.0		
	15000	KISV	28	PRE	0646.0	0650.5	12.5	13.0			
	9400	TYKW	45	C	0647.0	0647.2	1.0	9.0	2.0		
	6100	KISV	28	PRE	0647.3	0647.6	.5	4.0			
	2000	TYKW	5	S	0647.5	0647.7	1.0	2.0	.5		
	9375	YUNN	45	C	0657.0	0701.7	12.0	93.0			
	2950	GORK	23	GRF	0657.2	0735.5	294.0	8.6			
	9400	TYKW	45	C	0658.0	0701.6	7.0	102.0	25.0		
	1000	TYKW	45	C	0658.0	0701.8	7.0	18.0	5.0		
	2000	TYKW	45	C	0658.0	0701.9	6.0	48.0	12.0		
	3750	TYKW	45	C	0658.0	0701.9	7.0	96.0	22.0		
	3653	YUNN	45	C	0658.0	0702.0	9.0	141.0			
	9395	PEKG	45	C	0658.0	0702.1	6.0	95.0	19.0		
	2840	PEKG	45	C	0658.0	0702.2	22.0	74.0	28.0		
	9100	GORK	21	GRF	0658.2	0937.0	159.2U	38.0			
	15000	KISV	46	C	0658.5	0701.7	5.0	60.0			
	15000	KISV			0658.5	0702.0		60.0			
	15000	KISV			0658.5	0702.2		50.0			
	2902	YUNN	45	C	0659.0	0702.0	8.0	90.0			
	8800	LEAR	47	GB	0659.1	0701.5	11.4	130.0			QL=6 ST=2 TYP=5
	17000	NOBE	20	GRF	0659.3	0701.7	27.0	29.0			R
	4995	LEAR	47	GB	0659.8	0701.5	5.5	110.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0700.1	0701.8	5.2	70.0			QL=6 ST=2 TYP=5
	1415	LEAR	4	S/F	0700.1	0701.8	3.5	34.0			QL=6 ST=2 TYP=3
	9100	GORK	46	C	0700.5	0701.5	2.9	100.0			
	9100	GORK			0700.5	0701.9		90.0			
	2950	GORK	4	S/F	0700.5	0701.9	3.0	71.0			
	245	LEAR	47	GB	0700.6	0701.3	3.0	50.0			QL=6 ST=2 TYP=5
	500	HIRA	7	C	0701.0	0701.3	2.5	45.0	10.0		SR
	1415	MANI	3	S	0701.0	0702.5	2.5	21.4	7.1		
	4995	MANI	3	S	0701.0	0702.5	2.5	101.6	33.9		
	410	LEAR	47	GB	0701.3	0701.5	1.8	67.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0701.3	0701.8	.8	27.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0701.3	0702.1	1.5	40.0			QL=6 ST=2 TYP=3
	15000	KISV	29	PBI	0703.5	0703.5	40.0U	25.0			
	6100	KISV	29	PBI	0703.5	0703.5	40.0U	25.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
05	2000	TYKW	30	PBI	0704.0		30.0	3.0	1.5		
	9395	PEKG	29	PBI	0704.0		38.0	24.0	10.2		
	3750	TYKW	30	PBI	0705.0		45.0U	8.0	4.0U		
	9400	TYKW	30	PBI	0705.0		55.0U	18.0	9.0U		
	9400	TYKW	5	S	0705.6	0705.8	.6	6.0	2.0		INTERFERENCE
	3750	TYKW	5	S	0711.0	0712.4	4.0U	3.0	1.0U		
	6100	KISV	1	S	0711.5	0712.6	3.0	8.0			
	9400	TYKW	5	S	0711.5	0712.6	3.0	15.0	4.0		
	15000	KISV	1	S	0711.5	0712.7	2.0	15.0			
	9100	GORK	1	S	0711.6	0712.5	1.5	14.0	7.0		
	2000	TYKW	45	C	0711.7	0712.2	1.0	3.0	1.0		
	9400	TYKW	5	S	0722.7	0723.0	1.5	16.0	4.0		INTERFERENCE
	9400	TYKW	5	S	0726.3	0726.7	1.0	16.0	5.0		
	9400	TYKW	45	C	0730.3	0730.6	1.5	6.0	2.0		
	6100	KISV	46	C	0732.7	0733.4	3.0	75.0			
	6100	KISV	23	GRF	0734.0	0735.4	9.5	6.0			
	3750	TYKW	5	S	0734.5	0735.5	2.5U	6.0	2.0U		
	234	POTS	4	S/F	0752.6	0752.7	.2	300.0	60.0		
	430	KRAK	2	S/F	0829.5	0830.0	.5	19.0	5.0		
	808	ONDR	1	S	0833.0	0834.0	2.0	40.0			
	113	POTS	4	S/F	0853.2	0853.3	.6	2000.0	400.0		
	9500	POTS	4	S/F	0928.0	0933.4	22.0	75.0			
	3100	BERN	4	S/F	0928.0	0933.4	10.0	70.0			
	5200	BERN	4	S/F	0928.0	0934.1	10.0	100.0			
	15000	KISV	28	PRE	0928.5	0931.1	4.5	28.0			
	6100	KISV	28	PRE	0928.5	0931.5	4.5	23.0			
	3000	POTS	4	S/F	0929.0	0933.5	7.0	57.0			
	8800	LEAR	47	GB	0929.8	0933.3	8.5	100.0			QL=6 ST=2 TYP=5
	2902	YUNN	45	C	0930.0	0932.7	7.0	91.0			
	9375	YUNN	45	C	0930.0	0933.6	13.0	73.0			
	3653	YUNN	45	C	0930.0	0933.7	8.0	91.0			
	536	ONDR	40	F	0930.0		60.0				
	536	ONDR	27	RF	0930.0	1000.0	60.0	20.0	10.0		
	260	ONDR	27	RF	0930.0	1010.0	64.0	131.0	110.0		
	4995	LEAR	47	GB	0930.3	0934.1	7.8	82.0			QL=6 ST=2 TYP=5
	9100	GORK	46	C	0930.6	0933.5	5.3	77.0			
	9100	GORK			0930.6	0934.2		66.0			
	15400	LEAR	8	S	0930.8	0931.1	.5	19.0			QL=6 ST=2 TYP=3
	1470	POTS	4	S/F.	0931.0	0933.6	7.0	32.0			
	950	GORK	23	GRF	0931.0	0936.4	65.8	4.0			
	430	KRAK	27	RF	0931.0	1005.0	149.0	94.0U	27.0U		
	327	TRST	42	SER	0931.3	0931.8	.9	100.0			L
	810	KRAK	4	S/F	0931.5	0933.0	3.7	230.0	8.0		
	245	LEAR	49	GB	0931.6	0933.1	2.2	2699.0			QL=6 ST=2 TYP=6
	200	GORK	27	RF	0931.7	1014.5	122.0	400.0			
	650	GORK	23	GRF	0931.7	1116.5	135.0	11.0			
	536	ONDR	46	C	0932.0	1033.0	61.0U	104.0			
	2695	LEAR	47	GB	0932.6	0933.3	3.2	60.0			QL=6 ST=2 TYP=5
	810	KRAK	41	F	0932.7	0933.3	2.7	22.0			
	15000	KISV	46	C	0932.7	0933.4	3.0	75.0			
	6100	KISV			0932.7	0934.2		70.0			
	15000	KISV			0932.7	0934.2		65.0			
	15000	KISV			0932.7	0935.3		50.0			
	6100	KISV			0932.7	0935.3		50.0			
	2950	GORK	4	S/F	0932.8	0933.5	3.3	50.0			
	930	BORD	40	F	0932.8	0934.2	29.2	46.0	4.0		
	327	TRST	42	SER	0932.9	0933.1	.9	380.0			R
	2650	DWIN	2	S/F	0933.0	0933.0	3.0	20.0	10.0		
	610	LEAR	47	GB	0933.0	0933.1	1.6	110.0			QL=6 ST=2 TYP=5
	650	GORK	4	S/F	0933.0	0933.2	2.6	90.0D	14.0		
	237	TRST	42	SER	0933.0	0933.3	.6	4480.0			L
	950	GORK	4	S/F	0933.0	0933.5	3.0	32.0			
	1415	LEAR	4	S/F	0933.0	0933.5	2.5	40.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0933.1	0933.3	2.2	90.0			QL=6 ST=2 TYP=5
	234	POTS	4	S/F	0933.2	0933.3	.3	44000.0	6000.0		
	15000	KISV	29	PBI	0935.7	0936.0	15.0	30.0			
	6100	KISV	29	PBI	0936.0	0936.0	15.0	21.0			
	410	LEAR	4	S/F	0944.8	0946.6	23.2	16.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0946.5	0951.1	21.5	119.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0949.5	0950.3	1.1	20.0			QL=6 ST=2 TYP=3
	650	GORK	4	S/F	0958.9	0959.7	2.3	21.0	7.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
05	810	KRAK	41	F	0959.0	1000.5	2.0	14.0	5.0		
	100	GORK	27	RF	1007.4	1016.7	18.6	55.0			
	245	LEAR	47	GB	1008.0	1009.8	15.6	239.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	1008.0	1010.0	15.6	70.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	1023.6	1027.6	15.4	239.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	1023.6	1027.6	14.5	69.0			QL=6 ST=2 TYP=5
	810	KRAK	1	S	1027.2	1027.3	.8	11.0	3.0		
	430	KRAK	8	S	1027.2	1027.5	1.0	92.0	12.0		
	408	TRST	46	C	1027.4	1027.6	.5	140.0			L
	237	TRST	46	C	1027.4	1027.7	.5	190.0			L
	327	TRST	46	C	1027.4	1027.8	.5	250.0			L
	930	BORD	41	F	1027.5	1027.6	.6	16.0	3.0		
	650	GORK	4	S/F	1027.5	1027.7	.9	12.0	5.0		
	610	LEAR	8	S	1027.6	1027.6	.4	19.0			QL=6 ST=2 TYP=3
	234	POTS	4	S/F	1027.7	1027.8	.1	220.0	50.0		
	234	POTS	4	S/F	1047.0	1047.2	.2	360.0	60.0		
	808	ONDR	8	S	1101.5	1102.0	1.0	150.0			
	9400	HUAN	1	S	1201.4	1201.7	2.3	5.5	2.8		0
	9500	POTS	3	S	1201.5	1202.0	2.5	12.0			
	430	KRAK	42	SER	1204.0	1210.0	38.0	46.0			
	430	KRAK			1204.0	1217.5		24.0			
	930	BORD	8		1204.3	1204.5	.2	25.0	2.0		
	536	ONDR	8	S	1204.5	1205.0	1.0	14.0			
	33	UPIC	2	S/F	1207.0	1207.3	.7				
	29	UPIC	2	S/F	1207.0	1207.4	.5				
	9400	HUAN	20	GRF	1259.4	1307.5	17.3	4.8	1.9		0
	9500	POTS	20	GRF	1301.0	1307.5	16.0	13.0			
	5200	BERN	4	S/F	1330.0	1340.3	20.0	47.0			
	3100	BERN	4	S/F	1330.0	1340.3	20.0	19.0			
	2800	OTTA	21	GRF	1332.0		17.0	3.8			
	1470	POTS	23	GRF	1333.0	1341.0	12.0	5.0			
	3000	POTS	23	GRF	1334.0	1336.1	21.0	10.0			
	3000	POTS			1334.0	1340.6		10.0			
	3000	POTS			1334.0	1343.1		10.0			
	9400	HUAN	22	GRF	1334.8	1343.7	17.5	15.2	6.2		0
	9500	POTS	20	GRF	1335.0	1341.0	20.0	7.0U			
	4995	SGMR	4	S/F	1335.6	1340.3	9.7	34.0			QL=6 ST=2 TYP=3
	2800	OTTA	40	F	1336.0	1340.7	9.0	5.6			
	9400	HUAN	2	S/F	1339.2	1340.5	2.8	11.1	8.3		0
	8800	SGMR	4	S/F	1340.1	1340.3	3.9	26.0			QL=6 ST=2 TYP=3
	2800	OTTA	23	GRF	1610.0	1749.0	305.0	13.0			
	9400	HUAN	3	S	1622.1	1622.8	1.9	23.6	8.1		R
	2800	OTTA	3	S	1622.2	1622.7	2.5	13.0	4.8		
	9400	HUAN	21	GRF	1647.8	1655.8	21.8	6.9	3.2		0
	9400	HUAN	1	S	1650.6	1651.0	2.4	8.3	6.4		R
	9400	HUAN	22	GRF	1721.4	1747.7	66.7	29.1	8.9		R
	2800	OTTA	22	GRF	1733.0	1733.5	11.0	8.4	4.0		
	9400	HUAN	21	GRF	1955.6	2004.1	68.7	12.5	6.4		R
	9400	HUAN	2	S/F	2015.6	2017.5	6.3	16.6	9.9		0
	9400	TYKW	5	S	2300.0	2303.0	15.0	3.0	1.5		
06	208	VORO	44	NS	0000.0E				29.0		
	100	HIRA	43	NS	0000.0	0710.0	500.0D	860.0	175.0		WR
	204	IZMI	44	NS	0600.0E		360.0D	60.0			
	100	GORK	44	NS	0603.0E		360.0D		10.0		
	200	GORK	44	NS	0607.0E		353.0D		20.0		
	127	TORN	44	NS	0700.0E	1146.3	480.0D	320.0	100.0		V=1
	245	PALE	43	NS	1735.0	0123.5	625.0D	530.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2135.0E	0130.0	625.0D	20.0	5.0		WR
	245	LEAR	43	NS	2225.0	0122.3	746.0D	219.0			QL=6 ST=2 TYP=1
	610	LEAR	8	S	0002.3	0002.8	.8	8.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0002.3	0003.0	.8	26.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0002.3	0003.1	.8	39.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0003.0E	0003.3	1.0D	6.0	2.5D		
	9400	TYKW	20	GRF	0020.0	0031.0	50.0	6.0	3.0		
	3750	TYKW	20	GRF	0024.0	0025.5	30.0	2.0	1.0		
	3750	TYKW	20	GRF	0100.0	0122.0	50.0	2.0	1.0		
	3750	TYKW	20	GRF	0155.0	0203.4	30.0	3.0	1.0		
	9400	TYKW	5	S	0303.0	0304.0U	5.0	5.0D	2.0D		
	9395	PEKG	1	S	0303.0	0305.0	4.0	4.6	2.1		
	3750	TYKW	5	S	0309.0	0309.7	3.0	5.0	1.5		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
06	9400	TYKW	5	S	0309.0	0309.8	3.0	3.0	1.0		
	9395	PEKG	1	S	0309.0	0310.1	3.0	3.4	.9		
	410	LEAR	47	GB	0309.5	0309.6	.3	99.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0309.5	0309.8	1.0	1.5	.5		
	2840	PEKG	1	S	0309.8	0310.1	3.0	2.4	.8		
	9400	TYKW	45	C	0327.0	0332.3	10.0	14.0	8.0		
	9395	PEKG	20	GRF	0327.0	0332.6	30.0	12.5	5.4		
	3750	TYKW	21	GRF	0328.0	0336.0	35.0	4.0	2.0		
	2000	TYKW	20	GRF	0329.0	0332.0	35.0	1.5	.7		
	3750	TYKW	45	C	0332.0	0332.5	1.5	7.0	2.0		
	1000	TYKW	5	S	0332.3	0332.6	.7	1.5	.5		
	9400	TYKW	29	PBI	0337.0		15.0	6.0	3.0		
	9400	TYKW	20	GRF	0404.0	0415.0	50.0	6.0	2.0		
	3750	TYKW	21	GRF	0410.0	0416.0	48.0	4.0	1.5		
	2000	TYKW	5	S	0411.0	0416.0	15.0	1.5	.7		
	3750	TYKW	5	S	0452.0	0452.2	1.5	1.5	.5		
	3750	TYKW	5	S	0501.0	0501.9	4.0	3.0	1.0		
	2000	TYKW	5	S	0501.5	0502.0	2.5	12.0	1.5		
	1000	TYKW	5	S	0501.5	0502.0	1.5	9.0	1.5		
	2695	LEAR	8	S	0508.3	0508.5	.3	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0508.6	0509.1	.7	40.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0508.7	0508.9	1.0	1.5	.5		
	1000	TYKW	45	C	0508.7	0508.9	1.0	3.0	1.0		
	245	LEAR	8	S	0508.8	0508.8	.2	13.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0508.8	0509.0	.7	25.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0510.0	0516.5	15.0	22.0	9.0		
	9400	TYKW	45	C	0510.0	0516.6	20.0	14.0	8.0		
	9395	PEKG	22	GRF	0510.0	0516.7	46.0	15.0	7.0		
	2840	PEKG	40	F	0510.0	0516.7	35.0	17.2	9.0		
	2000	TYKW	21	GRF	0510.0	0545.0	150.0	2.0	1.0		
	1000	TYKW	45	C	0510.5	0513.9	7.0	5.0	1.0		
	1000	TYKW			0510.5	0516.9		3.0			
	2000	TYKW	45	C	0511.0	0514.1	8.0	15.0	2.5		
	2902	YUNN	20	GRF	0511.0	0516.6	22.0	18.0			
	9375	YUNN	20	GRF	0511.0	0516.6	24.0	28.0			
	3653	YUNN	20	GRF	0511.0	0516.6	27.0	23.0			
	2000	TYKW			0511.0	0516.6		8.0			
	1415	LEAR	4	S/F	0511.3	0516.8	8.3	11.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0512.8	0516.3	11.2	29.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0513.5	0524.3	11.6	87.0			QL=6 ST=2 TYP=5
	410	LEAR	4	S/F	0513.6	0521.1	11.0	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0515.8	0517.0	3.0	20.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0516.0	0517.0	1.8	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0516.1	0516.3	.4	16.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0519.8	0520.0	.7	1.0	.3		
	1000	TYKW	5	S	0521.0	0521.2	.7	2.5	1.0		
	3750	TYKW	30	PBI	0525.0		145.0	6.0	3.0		
	3750	TYKW	45	C	0526.5	0527.2	3.5	12.0	4.0		
	2695	LEAR	4	S/F	0526.6	0527.1	2.7	11.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0526.6	0527.1	6.4	15.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0526.6	0528.3	10.0	8.0			QL=6 ST=2 TYP=3
	2000	TYKW			0526.8	0527.3		5.0			
	2000	TYKW	45	C	0526.8	0529.5	5.0	6.0	1.5		
	2840	PEKG	1	S	0527.0	0527.7	3.0	9.8	2.4		
	3750	TYKW	29	PBI	0530.0		15.0	2.0	1.0		
	9400	TYKW	29	PBI	0530.0		20.0	8.0	3.0		
	9395	PEKG	1	S	0548.0	0548.3	1.0	7.6	2.4		
	500	HIRA	42	SER	0552.8	0556.8	32.0	15.0			SL
	3750	TYKW	28	PRE	0554.0	0600.0U	6.0D	2.0D	1.0D		
	2000	TYKW	21	GRF	0554.0	0630.0	100.0	2.0	1.0		
	2902	YUNN	5	S	0559.5	0603.3	7.5	18.0			
	3653	YUNN	45	C	0559.7	0603.8	16.3	35.0			
	9100	GORK	20	GRF	0600.8	0511.8	101.0	17.0			
	9400	TYKW	45	C	0601.0	0602.7	16.0	18.0	9.0		
	9375	YUNN	5	S	0601.0	0603.5	8.0	19.0			
	9395	PEKG	22	GRF	0601.0	0603.7	40.0	25.0	11.0		
	9400	TYKW			0601.0	0612.1		18.0			
	2000	TYKW	45	C	0601.5	0603.2	23.0	8.0	3.0		
	2000	TYKW			0601.5	0612.5		8.0			
	15000	KISV	21	GRF	0601.8	0602.6	13.0	16.0			
	6100	KISV	23	GRF	0601.8	0602.7	13.5	12.0			

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
06	1415	LEAR	4	S/F	0601.8	0602.8	4.8	11.0			QL=6 ST=2 TYP=3
	15000	KISV			0601.8	0611.3		17.0			
	6100	KISV			0601.8	0611.4		10.0			
	950	GORK	40	F	0601.9U	0602.7	20.9U	8.0			
	950	GORK	2	S/F	0601.9	0603.1	3.3	5.8	2.5		
	2840	PEKG	46	C	0602.0	0603.6	28.0	8.7	2.6		
	610	LEAR	4	S/F	0602.0	0602.8	3.8	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0602.1	0602.6	2.0	20.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0602.3	0602.6	1.0	18.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0602.5	0603.1	.6	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0602.6	0603.1	.5	13.0			QL=6 ST=2 TYP=3
	2950	GORK	20	GRF	0602.6U	0604.8	8.7U	5.7			
	1000	TYKW	45	C	0603.0	0603.2	7.0D	6.0	2.0D		
	3750	TYKW	45	C	0603.0E	0603.3	15.0D	13.0	9.0D		
	3750	TYKW			0603.0E	0612.3	D	12.0	D		
	610	LEAR	4	S/F	0609.0	0611.3	10.1	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0610.0	0611.6	10.0	5.0	1.5		
	8800	LEAR	4	S/F	0610.3	0612.0	7.8	23.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0610.3	0612.1	9.2	18.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0610.3	0612.8	8.5	16.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	0610.8	0614.6	8.2	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0611.0	0612.5	8.1	16.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0617.0		105.0U	8.0	4.0U		
	3750	TYKW	29	PBI	0618.0E		80.0D	4.0	2.0D		
	410	LEAR	8	S	0630.3	0630.6	.7	13.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0642.0	0642.4	1.5	5.0	1.5		
	9395	PEKG	1	S	0642.0	0642.9	2.0	3.8	1.3		
	3000	IZMI	5	S	0700.0	0702.0	3.0	69.0	40.0		
	9400	TYKW	5	S	0720.5	0720.8	1.0	13.0	4.0		
	9400	TYKW	5	S	0727.0	0730.0	25.0	4.0	2.0		
	430	KRAK	49	GB	0757.0E	0758.0	109.0D	850.0	195.0		
	3653	YUNN	2	S/F	0910.0	0910.8	3.0	15.0			
	2902	YUNN	2	S/F	0910.0	0911.0	2.0	18.0			
	3000	IZMI	7	C	0932.9	0933.5	3.0	52.0	26.0		
	1470	POTS	4	S/F	1152.3	1152.8	2.7	6.0			
	930	BORD	8	S	1154.0	1154.2	.4	11.0	2.0		
	9400	HUAN	2	S/F	1740.7	1742.0	3.4	6.8	1.6		0
	2800	OTTA	20	GRF	1852.0	1854.0	28.0	3.0	1.6		
	245	LEAR	8	S	2323.6	2324.0	.5	27.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	2323.6	2324.1	1.2	13.0			QL=6 ST=2 TYP=3
07	208	VORO	44	NS	0000.0E				8.0		
	410	LEAR	43	NS	0045.3	0834.0	605.7D	110.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0556.0E		370.0D		10.0		
	204	IZMI	44	NS	0600.0E		360.0D	80.0			
	260	ONDR	44	NS	0808.0E		344.0D				
	127	TORN	43	NS	1154.0	1255.3	86.0	20.0	2.0		V=1
	245	SGMR	43	NS	1214.0	1318.6	226.0D	36.0			QL=2 ST=2 TYP=1
	200	HIRA	44	NS	2133.0E	0213.0	630.0D	35.0	10.0		WR
	410	LEAR	43	NS	2226.0	0234.1	744.0D	62.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2226.0	0431.8	744.0D	270.0			QL=6 ST=2 TYP=1
	2000	TYKW	5	S	0030.6	0031.1	1.0	7.0	2.5		
	1000	TYKW	5	S	0030.6	0031.1	1.0	2.0	.7		
	3750	TYKW	20	GRF	0035.0	0050.0	55.0	2.0	1.0		
	9400	TYKW	5	S	0042.0	0043.0	2.5	5.0	2.0		
	1000	TYKW	45	C	0111.0	0118.5	25.0	5.0	2.0		
	3750	TYKW	5	S	0218.0	0225.0	25.0	2.0	1.0		
	410	LEAR	8	S	0246.0	0246.1	.5	24.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0403.5	0403.7	.5	19.0	5.0		
	3750	TYKW	20	GRF	0424.0	0440.0	35.0	2.0	1.0		
	9400	TYKW	20	GRF	0510.0	0530.0	80.0	3.0	1.5		INTERFERENCE
	3750	TYKW	20	GRF	0510.0	0540.0	100.0	4.0	2.0		
	650	GORK	22	GRF	0635.6U	0851.0	198.0U	8.0			
	430	KRAK	42	SER	0800.0E	0817.5	360.0D	61.0			
	3100	CRIM	26	FAL	0905.0	1100.0		7.0			
	234	POTS	4	S/F	0934.6	0934.7	.8	170.0	35.0		
	2800	OTTA	20	GRF	1545.0	1635.0	105.0	2.6	1.0		
	2800	OTTA	21	GRF	2025.0	2045.0	90.0	3.0	1.6		
	2800	OTTA	3	S	2029.2	2029.5	1.0	10.4	2.8		
	2800	OTTA	1	S	2032.0	2032.6	1.5	3.2	1.1		
	1415	PALE	8	S	2032.1	2032.6	1.2	30.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
07	1415	PALE	47	GB	2349.3	2351.0	2.0	94.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	2351.0	2352.4	3.0	46.0	6.0		
08	208	VORO	44	NS	0000.0E				12.0		
	200	GORK	44	NS	0603.0E		354.0D		10.0		
	260	ONDR	44	NS	0835.0E		349.0D				
	127	TORN	43	NS	1119.0	1121.9	221.0	10.0	5.0		V=0
	430	KRAK	43	NS	1320.0	1410.0	72.0D	44.0	4.0		
	200	HIRA	44	NS	2131.0E	0440.0	635.0D	150.0	30.0		MR
	100	HIRA	44	NS	2131.0E	2327.0	630.0D	40.0	30.0		WL
	245	PALE	43	NS	2206.0	0252.8	356.0D	800.0			QL=6 ST=2 TYP=1
	410	PALE	43	NS	2206.0	0343.0	356.0D	70.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2226.0	0253.0	744.0D	570.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2248.0	0432.6	722.0D	49.0			QL=6 ST=2 TYP=1
	1415	PALE	8	S	0005.5	0005.8	.5	43.0			QL=6 ST=2 TYP=3
	1000	TYKW	20	GRF	0140.0	0159.0	65.0	3.0	1.5		
	3750	TYKW	20	GRF	0250.0	0307.0	50.0	3.0	1.5		
	2000	TYKW	21	GRF	0355.0	0410.0	120.0	2.0	1.0		
	3750	TYKW	20	GRF	0355.0	0443.0	170.0	4.0	2.0		
	200	HIRA	46	C	0426.3	0427.0	1.0	320.0	115.0		WR
	9400	TYKW	5	S	0449.3	0449.7	1.5	5.0	1.5		
	2000	TYKW	5	S	0500.0	0500.8	2.5	2.0	.5		
	2000	TYKW	5	S	0552.5	0553.0	1.5	1.5	.5		
	6100	KISV	1	S	0712.5	0713.3	1.0	4.0			
	245	LEAR	8	S	0759.6	0759.8	.2	34.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0759.6	0759.8	.2	9.0			QL=6 ST=3 TYP=3
	6100	KISV	21	GRF	0954.2	0955.5	32.0	3.0			
	536	ONDR	40	F	1315.0	1355.0	40.0U	7.0			
	930	BORD	8	S	1345.0	1345.1	.2	15.0	1.0		
	930	BORD	8	S	1454.0	1454.0	.1	23.0	1.0		
	245	SGMR	47	GB	1531.6	1532.1	3.4	119.0			QL=6 ST=2 TYP=5
	410	SGMR	8	S	1532.0	1532.1	.3	36.0			QL=6 ST=2 TYP=3
	2695	PENT	46F	C	2216.0	2312.0	73.0	54.0	24.2		
	3750	TYKW	21	GRF	2220.0	2355.0	350.0	18.0	9.0		
	3750	TYKW	28	PRE	2223.0	2234.0	11.0	4.0	2.0		
	2000	TYKW			2223.0	2236.2		22.0			
	2000	TYKW			2223.0	2305.6		45.0			
	2000	TYKW	45	C	2223.0	2336.0	77.0	222.0	22.0		
	2000	TYKW			2223.0	2338.3		128.0			
	9400	TYKW	21	GRF	2225.0	2326.0	220.0	16.0	8.0		
	3750	TYKW	45	C	2234.0	2312.1	50.0	41.0	17.0		
	610	LEAR	8	S	2254.1	2254.8	1.5	10.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	2258.0	2305.3	26.0	26.0	13.0		
	4995	LEAR	8	S	2259.0	2305.6	6.6D	42.0			QL=6 ST=2 TYP=3
	1415	LEAR	47	GB	2259.8	2302.8	16.8	68.0			QL=6 ST=2 TYP=5
	1000	TYKW			2300.0	2303.4		58.0			
	1000	TYKW	45	C	2300.0	2316.8	33.5	132.0	14.0		
	1000	TYKW			2300.0	2326.8		70.0			
	8800	PALE	4	S/F	2301.3	2305.0	6.7	24.0			QL=5 ST=2 TYP=3
	1415	PALE	4	S/F	2301.8	2302.8	6.2	49.0			QL=5 ST=2 TYP=3
	2695	LEAR	4	S/F	2302.0	2304.6	14.6	28.0			QL=6 ST=2 TYP=3
	4995	PALE	4	S/F	2302.6	2304.8	5.4	25.0			QL=5 ST=2 TYP=3
	8800	LEAR	4	S/F	2302.6	2304.8	12.2	33.0			QL=6 ST=2 TYP=3
	15400	LEAR	4	S/F	2303.8	2304.6	12.8	19.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2305.6	2305.6	.2	20.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	2305.6	2307.1	2.4	25.0			QL=5 ST=2 TYP=3
	1415	PALE	47	GB	2312.3	2314.3	4.2	130.0			QL=6 ST=2 TYP=5
	1415	PALE	49	GB	2316.0	2326.0	23.6	290.0			QL=6 ST=2 TYP=6
	2695	LEAR	8	S	2316.6	2316.6	.2	33.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	2316.6	2316.6	2.2	21.0			QL=6 ST=2 TYP=3
	1415	LEAR	49	GB	2316.6	2320.8	20.0	110.0			QL=6 ST=2 TYP=6
	15400	LEAR	8	S	2318.3	2318.3	.3	13.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	2324.0		25.0	6.0	3.0		
	2695	PENT	29	PBI	2329.0	2329.0	30.0D	15.4			
	1000	TYKW	45	C	2333.5	2339.1	38.0	82.0	10.0		
	1000	TYKW			2333.5	2342.3		65.0			
	1000	TYKW			2333.5	2357.2		42.0			
	1415	LEAR	49	GB	2336.6	2339.3	19.2	1399.0			QL=6 ST=2 TYP=6
	1415	PALE	49	GB	2339.6	2340.0	15.2	1600.0			QL=6 ST=2 TYP=6
	2000	TYKW	29	PBI	2340.0		270.0	16.0	8.0		
	1415	PALE	8	S	2357.8	2358.1	.5	27.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
09	208	VORO	44	NS	0000.0E				26.0		
	200	GORK	44	NS	0600.0E		360.0D		10.0		
	204	IZMI	44	NS	0600.0E		360.0D	50.0			
	260	ONDR	44	NS	0813.0E		383.0D				
	127	TORN	43	NS	0958.0	1250.2	242.0	20.0	1.0		V=1
	245	SGMR	43	NS	1212.0	1827.8	572.0D	930.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2130.0E	2340.0	635.0D	90.0	20.0		MR
	245	LEAR	43	NS	2227.0	0130.5	742.0D	800.0			QL=6 ST=3 TYP=1
	410	LEAR	43	NS	2227.0	2302.1	742.0D	36.0			QL=6 ST=3 TYP=1
	1415	LEAR	4	S/F	0002.0	0002.6	2.1	23.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0011.5	0014.6	3.5	6.0	1.5		
	1000	TYKW	45	C	0015.0	0015.4	3.0	6.0	2.0		
	1000	TYKW	45	C	0019.0	0021.2	12.0	37.0	7.0		
	3750	TYKW	20	GRF	0030.0	0100.0	100.0	2.0	1.0		
	1000	TYKW	45	C	0032.0	0040.4	23.0	72.0	10.0		
	1000	TYKW	45	C	0056.5	0101.2	7.5	3.0	1.5		
	1000	TYKW	45	C	0106.0	0108.0	6.0	2.0	1.0		
	410	LEAR	8	S	0110.6	0110.8	.7	10.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0110.8	0110.8	1.7	97.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0114.0	0114.8	2.0	2.0	.5		
	1000	TYKW	5	S	0118.0	0120.0	8.0	2.0	1.0		
	1000	TYKW	45	C	0138.0	0143.6	21.0	8.0	3.0U		INTERFERENCE
	1000	TYKW	45	C	0159.5	0201.0	6.0	19.0	7.0		
	1000	TYKW	45	C	0225.0	0230.9	21.5	7.0	3.0U		INTERFERENCE
	1000	TYKW			0247.0	0320.5		87.0			
	1000	TYKW			0247.0	0332.6		87.0			
	1000	TYKW	45	C	0247.0	0354.5	153.0	123.0	20.0		
	1000	TYKW			0247.0	0427.6		41.0			
	610	LEAR	4	S/F	0447.3	0449.6	17.5	13.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	0447.5	0449.8	17.3	32.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0447.8	0449.0	17.0	100.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0523.0	0524.7	15.0	14.0	2.0		
	1000	TYKW			0549.0	0552.2		11.0			
	1000	TYKW	45	C	0549.0	0616.6	60.0	13.0	2.0		
	1000	TYKW			0549.0	0634.2		10.0			
	2000	TYKW	45	C	0700.0	0701.1	2.0	3.0	1.0		
	3100	CRIM	26	FAL	0710.0	0800.0		4.0			
	430	KRAK	42	SER	0811.2	0835.6	33.0D	44.0			
	810	KRAK	8	S	0826.2	0826.4	.3	12.0			
	234	POTS	41	F	0835.6	0836.7	1.8	825.0	15.0		
	430	KRAK	42	SER	0914.0	0914.0	42.0	88.0			
	430	KRAK	42	SER	1013.5	1034.0	28.5	23.0			
	430	KRAK	42	SER	1107.2	1110.0	78.0	23.0			
	430	KRAK	42	SER	1250.7	1253.5	3.5	95.0			
	430	KRAK	8	S	1325.7	1325.7	.1	13.0			
	1000	TYKW	5	S	2209.5	2210.4	2.0	12.0	4.0		
	2695	PENT	21	GRF	2210.0	2225.0	30.0	2.4	1.2		
	9400	TYKW	20	GRF	2215.0	2220.0	60.0	10.0	4.0		
	3750	TYKW	5	S	2217.5	2219.1	3.5	15.0	7.0		
	2000	TYKW	45	C	2217.7	2218.3	1.0	7.0	2.0		
	2695	PENT	45	C	2217.8	2219.0	6.0	10.4	3.6		
	4995	PALE	8	S	2218.3	2219.0	1.7	20.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	2218.8	2219.0	.3	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	20	GRF	2220.0	2300.0	150.0	3.0	1.5		
	3750	TYKW	29	PBI	2221.0		40.0	2.0	1.0		
	2000	TYKW	5	S	2222.0	2222.6	2.0	5.0	2.0		
	1000	TYKW	45	C	2222.0	2222.6	2.0	12.0	4.0		
	200	HIRA	46	C	2246.8	2247.3	1.2	286.0	135.0		MR
	610	LEAR	8	S	2254.1	2254.8	1.5	10.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	2330.0	0020.0	160.0	2.0	1.0		
	410	PALE	8	S	2338.5	2338.6	.3	22.0			QL=6 ST=2 TYP=3
10	208	VORO	44	NS	0000.0E				15.0		
	200	GORK	44	NS	0552.0E		368.0D		10.0		
	204	IZMI	43	NS	0700.0		300.0	50.0			
	260	ONDR	44	NS	0835.0E		370.0D				
	204	IZMI	43	NS	1015.0		105.0	40.0			
	127	TORN	43	NS	1340.0		80.0		3.0		V=0
	245	PALE	49	GB	0053.3	0053.3	.8	530.0			QL=6 ST=2 TYP=6
	200	HIRA	46	C	0216.1	0216.3	.8	110.0	42.0		MR
	113	POTS	8	S	0749.1	0749.1	.1	300.0	100.0		III

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
10	430	KRAK	42	SER	0859.0E	1039.0	297.0D	76.0			
	430	KRAK			0859.0E	1139.3		53.0			
	234	POTS	4	S/F	1308.3	1309.4	1.3	275.0	15.0		
	237	TRST	45	C	1317.4	1317.6	.3	110.0			R
	2800	OTTA	32	ABS	1800.0	1825.0	40.0	-2.4	-1.2		
	245	LEAR	47	GB	2325.6	2325.8	1.2	119.0			QL=6 ST=2 TYP=5
	200	HIRA	46	C	2325.7	2326.0	1.0	180.0	74.0		0
11	245	LEAR	43	NS	0233.1	1014.3	494.9D	72.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0534.0E		386.0D		5.0		
	260	ONDR	44	NS	0745.0E		434.0D				
	245	PALE	43	NS	1900.0	1918.3	547.0D	95.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2227.0	0130.5	742.0D	800.0			QL=6 ST=3 TYP=1
	410	LEAR	43	NS	2227.0	2302.1	742.0D	36.0			QL=6 ST=3 TYP=1
	245	LEAR	8	S	0212.3	0212.5	1.0	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0413.1	0413.5	.9	11.0			QL=6 ST=2 TYP=3
	430	KRAK	42	SER	0816.5	0844.0	27.5	13.0			
	430	KRAK	42	SER	0942.2	0946.5	44.0	21.0			
	410	LEAR	8	S	0954.5	0954.6	1.3	13.0			QL=6 ST=2 TYP=3
	536	ONDR	8	S	1019.0	1019.5	1.0	11.0			
	430	KRAK	42	SER	1107.8	1120.2	14.0	17.0			
	237	TRST	4	S/F	1130.2	1130.3	.3	150.0			L
	430	KRAK	42	SER	1206.5	1208.3	4.5	29.0			
	260	ONDR	45	C	1300.0		18.0		23.0		
	260	ONDR			1300.0	1307.0		40.0			
	260	ONDR			1300.0	1308.5		51.0			
	810	KRAK	2	S/F	1301.8	1302.2	1.7	10.0	3.0		
	237	TRST	45	C	1302.8	1309.0	18.8	60.0			L
	2800	OTTA	46F	C	1305.0	1310.0	32.0	26.0	9.4		
	2695	ATHN	20	GRF	1306.5	1310.5	25.1	26.0			QL=6 ST=2 TYP=2
	127	TORN	27	RF	1309.0		80.0		17.0		
	2695	SGMR	8	S	1309.5	1310.3	1.1	23.0			QL=6 ST=2 TYP=3
	1415	SGMR	4	S/F	1309.5	1312.3	3.3	19.0			QL=6 ST=2 TYP=3
	1415	SGMR	20	GRF	1337.0	1442.6	101.3	36.0			QL=6 ST=2 TYP=2
	2800	OTTA	20	GRF	1338.0	1445.0	180.0	26.0			
	410	SGMR	20	GRF	1339.3	1457.1	84.0	13.0			QL=2 ST=2 TYP=2
	610	SGMR	20	GRF	1339.8	1439.8	90.3	71.0			QL=2 ST=2 TYP=2
	2695	SGMR	20	GRF	1340.0	1449.1	99.6	33.0			QL=6 ST=2 TYP=2
	930	BORD	40	F	1359.0	1431.0	58.0	30.0	5.0		
	930	BORD	41	F	1616.0	1616.6	.6	16.0	2.0		
	610	LEAR	8	S	2254.3	2254.6	1.0	27.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	2254.5	2254.6	.3	25.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2305.8	2307.8	4.2	200.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2353.0	2353.1	.1	16.0			QL=6 ST=2 TYP=3
12	410	LEAR	8	S	0003.1	0003.1	.2	7.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0003.1	0003.1	.2	23.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0055.1	0055.3	.2	11.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0103.8	0104.3	1.2	67.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0119.8	0120.0	.3	17.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0714.0	0714.1	.3	40.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0723.1	0723.1	.2	30.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0853.1	0853.1	.2	15.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0912.8	0913.0	.3	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0912.8	0913.0	.3	18.0			QL=6 ST=2 TYP=3
	430	KRAK	27	RF	0943.0	0946.2	6.5	6.0	3.0		
	260	ONDR	8	S	0954.0	0954.0	.1	5.0			
	260	ONDR	1	S	1013.0	1013.5	1.0	4.0			
	410	LEAR	8	S	1013.6	1013.6	.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	1013.6	1013.6	.2	10.0			QL=6 ST=2 TYP=3
	260	ONDR	42	SER	1217.5	1219.0	2.0	7.0			
	536	ONDR	8	S	1231.5	1231.5	.5	18.0			
	408	TRST	46	C	1403.6	1403.6	.6	310.0			R
	237	TRST	45	C	1403.7	1403.7	.8	30.0			L
	237	TRST	3	S	1403.8	1403.8	.5	30.0			L
	327	TRST	46	C	1436.6	1436.9	.6	110.0			L
	536	ONDR	8	S	1437.0	1437.0	.5	25.0			
	2000	TYKW	20	GRF	2230.0	2320.0	190.0	6.0	3.0		
	2695	PENT	20	GRF	2230.0	2320.0	90.0	6.4			
	3750	TYKW	20	GRF	2240.0	2320.0	220.0	6.0	3.0		
	1000	TYKW	20	GRF	2240.0	2355.0	200.0	5.0	2.5		

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
13	113	POTS	4	S/F	1002.2	1002.2	.7	1000.0	250.0		
14	200	GORK	43	NS	0605.0		76.0		5.0		
	260	ONDR	43	NS	0908.0		52.0D				
	245	LEAR	43	NS	0912.3	0933.1	94.7D	16.0			QL=6 ST=2 TYP=1
	410	LEAR	8	S	0910.5	0910.6	.1	3.0			QL=1 ST=2 TYP=3
	245	LEAR	47	GB	0910.5	0910.8	.5	57.0			QL=1 ST=2 TYP=5
	810	KRAK	8	S	1328.3	1328.4	.2	15.0			
	810	KRAK	8	S	1329.0	1329.2	.4	5.0			
15	245	LEAR	8	S	0453.8	0454.0	.3	10.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	1132.8	1132.9	.2	26.0			
16	245	PALE	44	NS	0113.0E	0239.1	139.0D				QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0728.5	0728.8	1.0	13.0	4.0		
	245	LEAR	8	S	0902.3	0902.5	.3	11.0			QL=6 ST=2 TYP=3
	260	ONDR	8	S	0956.5		.5	12.0			
	127	TORN	42	SER	1414.0	1416.0	2.5	10.0			
	930	BORD	41	F	1509.3	1509.4	.9	19.0	2.0		
	410	LEAR	8	S	2322.8	2322.8	.2	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2322.8	2322.8	.2	26.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2347.6	2347.6	.2	26.0			QL=6 ST=2 TYP=3
17	245	LEAR	8	S	0001.1	0001.1	.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0011.6	0011.8	.2	33.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0011.6	0011.8	.2	7.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0036.6	0036.6	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0120.1	0120.3	.2	10.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0735.8	0736.0	.3	10.0			QL=1 ST=2 TYP=3
	245	LEAR	8	S	0909.6	0909.8	.2	22.0			QL=1 ST=2 TYP=3
	410	LEAR	8	S	0909.6	0909.8	.2	28.0			QL=1 ST=2 TYP=3
	810	KRAK	8	S	1049.8	1050.0	.3	70.0			
	930	BORD	41	F	1100.7	1101.3	1.0	22.0	2.0		
	930	BORD	8	S	1421.0	1421.2	.1	19.0	1.0		
	410	LEAR	8	S	2321.1	2321.3	.2	6.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2321.1	2321.3	.2	13.0			QL=6 ST=2 TYP=3
18	410	LEAR	8	S	0011.6	0011.8	.2	4.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0011.6	0011.8	.2	23.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0036.8	0037.0	.3	23.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0554.0	0554.7	1.5	4.0	1.0		
	9400	TYKW	8	S	0627.3	0627.4	.4	12.0	3.0		
	9400	TYKW	21	GRF	0630.0	0633.0	35.0	3.0	1.5		
	3750	TYKW	20	GRF	0630.0	0633.0	35.0	1.5	.7		
	9400	TYKW	5	S	0645.0	0645.2	.7	9.0	1.5		
	2695	LEAR	8	S	0749.3	0749.3	.2	28.0			QL=1 ST=2 TYP=3
	9400	HUAN	20	GRF	1429.0	1437.2	19.0	4.0	2.7		0
	9400	HUAN	22	GRF	1625.4	1646.0	39.2	2.7	1.7		0
	2800	OTTA	20	GRF	1720.0	1800.0	80.0	1.8	.9		
	2800	OTTA	20	GRF	1945.0	2050.0	125.0	2.2	1.4		
19	430	KRAK	8	S	0954.0	0954.1	.2	5.0			
	260	ONDR	42	SER	1026.0	1026.0	25.0	16.0			
	430	KRAK	8	S	1249.2	1249.2	.1	19.0			
20	245	LEAR	8	S	0030.8	0030.8	.2	30.0			QL=5 ST=3 TYP=3
	3750	TYKW	20	GRF	0115.0	0210.0	190.0	2.0	1.0		
	3750	TYKW	20	GRF	0125.0	0215.0	190.0	2.0	1.0		
	245	LEAR	8	S	0547.6	0547.8	.2	10.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0547.6	0547.8	.2	8.0			QL=6 ST=2 TYP=3
	260	ONDR	8	S	0922.5	0923.5	1.0	20.0			
	430	KRAK	8	S	1122.0	1122.0	.1	21.0			
	810	KRAK	8	S	1154.2	1154.2	.1	6.0			
21	245	LEAR	43	NS	2326.6	2355.0	674.4D	19.0			QL=6 ST=2 TYP=1
	1000	TYKW	45	C	0143.0	0145.1	6.0	27.0	3.0		
	1000	TYKW	45	C	0533.5	0535.2	3.5	35.0	4.0		
	245	LEAR	4	S/F	0622.5	0624.3	3.5	10.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	0819.8	0820.0	.5	10.0			
	410	LEAR	8	S	0853.1	0853.1	.2	8.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0853.1	0853.1	.2	7.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
21	245	LEAR	8	S	0853.1	0853.1	.2	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0914.1	0914.1	.2	35.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0914.1	0914.1	.2	18.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	2232.5	2233.1	1.5	13.0	4.0		
	1000	TYKW	5	S	2307.0	2307.6	2.0	14.0	3.0		
22	410	PALE	43	NS	0019.0	0020.1	226.0D	80.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	0019.0	0246.8	226.0D	260.0			QL=6 ST=2 TYP=1
	410	PALE	8	S	0207.0	0207.1	.3	46.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	0207.0	0207.1	.3	180.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	0248.8	0249.1	.7	63.0			QL=5 ST=2 TYP=5
	245	PALE	47	GB	0249.0	0249.1	.5	380.0			QL=5 ST=2 TYP=5
	430	KRAK	8	S	0841.5	0841.6	.2	37.0			
	430	KRAK	42	SER	0922.5	0939.0	27.5	12.0			
	260	ONDR	42	SER	0945.0		40.0	4.0			
	260	ONDR	42	SER	1203.0		62.0	8.0			
	930	BORD	46	C	1253.6	1254.0	1.0	143.0	6.0		
	930	BORD	46	C	1258.0	1258.6	.6	41.0	3.0		
	930	BORD	8	S	1317.4	1317.4	.1	14.0	.1		
	2800	OTTA	21	GRF	1915.0	1955.0	240.0	7.0	3.5		
	2800	OTTA	4	S/F	1925.5	1933.0	27.0	180.0	25.6		
	9400	HUAN	45	C	1926.2	1932.8	9.2	435.3	216.4		L
	2695	PALE	47	GB	1926.6	1930.3		73.0			QL=6 ST=3 TYP=5
	4995	PALE	47	GB	1926.8	1930.3		260.0			QL=6 ST=3 TYP=5
	410	SGMR	4	S/F	1927.5	1934.1	6.6D	16.0			QL=2 ST=2 TYP=3
	245	PALE	49	GB	1928.1	1928.3		4000.0			QL=6 ST=3 TYP=6
	8800	PALE	47	GB	1928.1	1930.3		310.0			QL=6 ST=3 TYP=5
	245	SGMR	49	GB	1928.3	1928.3	1.7	5300.0			QL=2 ST=2 TYP=6
	8800	SGMR	47	GB	1928.3	1930.3	8.5	320.0			QL=6 ST=2 TYP=5
	15400	PALE	47	GB	1928.3	1930.3		280.0			QL=6 ST=3 TYP=5
	4995	SGMR	47	GB	1928.3	1930.5	8.0	260.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1928.3	1930.8	13.5	340.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1928.3	1930.8	8.7	93.0			QL=6 ST=2 TYP=5
	1415	PALE	8	S	1928.6	1930.3		16.0			QL=6 ST=3 TYP=3
	1415	SGMR	47	GB	1928.6	1930.8	7.7	28.0			QL=6 ST=2 TYP=5
	410	PALE	8	S	1930.1	1930.1		11.0			QL=6 ST=3 TYP=3
	610	PALE	8	S	1931.0	1932.1		23.0			QL=6 ST=3 TYP=3
	610	SGMR	8	S	1932.1	1932.3	1.0	22.0			QL=2 ST=2 TYP=3
	9400	HUAN	29	PBI	1935.4	1935.4	115.6	75.9	32.5		L
	2695	PENT	4	S/F	2005.5	2008.0	5.5	38.0	8.6		
23	208	VORO	44	NS	0000.0E						
	245	LEAR	43	NS	0035.1	0131.6	605.9D	29.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0457.0E		423.0D		5.0		
	260	ONDR	44	NS	0810.0E		415.0D				
	245	LEAR	43	NS	2234.0	0945.6	726.0D	47.0			QL=6 ST=2 TYP=1
	245	LEAR	8	S	0033.5	0033.6	.3	11.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0728.1	0728.1	.2	4.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0728.1	0728.1	.2	11.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0728.1	0728.1	.2	7.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	1009.8	1010.1	.4	14.0	2.0		
	430	KRAK	8	S	1022.1	1022.2	.2	18.0			
	430	KRAK	8	S	1038.7	1038.8	.2	24.0			
	930	BORD	41	F	1142.0	1142.0	.6	29.0	2.0		
	2800	OTTA	1	S	2102.0	2103.0	3.0	3.2	1.1		
	4995	PALE	8	S	2102.6	2102.8	.7	22.0			QL=6 ST=2 TYP=3
	100	HIRA			2316.2	2318.0		510.0			WL
	100	HIRA	46	C	2316.2	2319.9	9.3	560.0	16.2		WL
24	208	VORO	44	NS	0100.0E						
	260	ONDR	44	NS	0802.0E		410.0D				
	410	LEAR	8	S	0524.3	0524.3	.3	19.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	0649.7	0650.3	5.5	540.0	19.4		0
	430	KRAK	8	S	0845.2	0845.2	.2	22.0			
	930	BORD	8	S	0920.0	0920.0	.1	14.0	1.0		
	430	KRAK	42	SER	0928.5	0933.5	14.0	18.0			
	204	IZMI	41	F	0945.0	0948.0	15.0	110.0			
	536	ONDR	1	S	1002.5	1004.0	1.5	8.0			
	430	KRAK	2	S/F	1003.0	1003.3	.5	14.0	2.0		
	33	UPIC	45	C	1437.0	1437.5	1.9				
	29	UPIC	45	C	1437.2	1437.3	1.5				

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
24	2800	OTTA	21	GRF	1835.0	2145.0	320.0	6.0	3.0		
	2800	OTTA	4	S/F	1844.5	1848.4	7.4	23.0	12.0		
	2800	OTTA	29	PBI	1852.0	1852.0	25.0	4.8	2.0		
25	208	VORO	44	NS	0000.0E		240.0D		1.0		
	260	ONDR	44	NS	0826.0E		379.0D				
	245	SGMR	44	NS	1930.0E	2030.3		75.0			QL=2 ST=3 TYP=1
	245	PALE	43	NS	1935.0	2144.5	451.0	239.0			QL=1 ST=2 TYP=1
	3750	TYKW	5	S	0244.3	0244.8	2.7	5.0	2.0		
	3750	TYKW	29	PBI	0247.0		40.0	1.5	.7		
	3750	TYKW	5	S	0413.0	0414.3	4.0	1.5	.5		
	3750	TYKW	21	GRF	0443.0	0520.0	115.0	1.5	.7		
	3750	TYKW	20	GRF	0550.0	0607.0	40.0	1.5	.7		
	245	LEAR	8	S	0654.8	0655.0	.3	16.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	0830.0	0830.1	.3	15.0			
	410	LEAR	8	S	0849.8	0849.8	.2	11.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0849.8	0849.8	.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0849.8	0849.8	.2	15.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0934.3	0934.3	.2	31.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0934.3	0934.3	.2	13.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	1544.1	1544.3	.3	14.0	2.0		
	9400	HUAN	21	GRF	1912.2	1918.6	23.0	3.8	1.5		0
	9400	HUAN	2	S/F	1919.4	1923.0	5.2	6.4	2.0		L
	2800	OTTA	21	GRF	2028.0	2120.0	170.0	9.6	4.8		
	2800	OTTA	4	S/F	2028.5	2033.0	13.0	41.0	13.0		
	1415	PALE	20	GRF	2029.0	2031.8	7.6	51.0			QL=6 ST=3 TYP=2
	1415	SGMR	47	GB	2029.3	2031.6	7.7	52.0			QL=6 ST=2 TYP=5
	2695	SGMR	4	S/F	2029.8	2033.1	7.0	48.0			QL=6 ST=2 TYP=3
	610	SGMR	4	S/F	2030.1	2032.8	6.5	26.0			QL=2 ST=2 TYP=3
	4995	SGMR	4	S/F	2030.3	2032.8	6.0	26.0			QL=6 ST=2 TYP=3
	8800	SGMR	4	S/F	2030.8	2031.8	4.7	19.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	2030.8	2033.1	3.7	31.0			QL=6 ST=3 TYP=3
	4995	PALE	4	S/F	2031.1	2033.0	3.7	18.0			QL=6 ST=3 TYP=3
	610	PALE	8	S	2031.3	2032.1	1.0	11.0			QL=6 ST=3 TYP=3
	8800	PALE	8	S	2031.8	2033.0	1.3	13.0			QL=6 ST=3 TYP=3
	410	SGMR	8	S	2035.8	2036.0	.5	17.0			QL=2 ST=2 TYP=3
	2800	OTTA	1	S	2043.0	2046.0	6.0	2.2	1.1		
	1415	SGMR	8	S	2043.8	2044.1	.8	17.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	2044.1	2044.3	.5	11.0			QL=6 ST=2 TYP=3
	610	SGMR	8	S	2044.3	2044.5	.3	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	2100.0	2101.0	5.0	2.2	1.0		
	3750	TYKW	20	GRF	2319.0	2340.0	80.0	3.0	1.5		
26	245	LEAR	43	NS	0201.0	0716.1	518.0D	49.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0817.0E		221.0D		5.0		
	410	LEAR	43	NS	2321.5	2326.0	10.1	20.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2329.1	0035.3	272.5	31.0			QL=6 ST=2 TYP=1
	410	LEAR	4	S/F	0141.3	0141.6	3.3	21.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0146.3	0147.0	1.0	68.0			QL=6 ST=2 TYP=5
	2840	PEKG	1	S	0244.0	0244.8	4.0	7.1	2.5		
	2000	TYKW	5	S	0244.3	0244.9	2.5	3.5	1.5		
	410	LEAR	4	S/F	0858.8	0858.8	10.0	15.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0858.8	0858.8	2.0	9.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0858.8	0858.8	5180.0	18.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	0940.0	0940.2	.5	29.0	3.0		
	430	KRAK	42	SER	0949.3	0959.0	28.0	43.0			
	204	IZMI	8	S	1041.0	1041.0	.1	120.0			
	430	KRAK	42	SER	1107.5	1113.5	22.0	32.0			
	430	KRAK	8	S	1328.2	1328.3	.3	58.0			
	2695	PENT	22	GRF	2150.0	2330.0	150.0D	6.8			
	2000	TYKW	20	GRF	2320.0	2340.0	70.0	2.0	1.0		
	1000	TYKW	20	GRF	2320.0	2340.0	90.0	2.0	1.0		
27	245	LEAR	43	NS	0725.3	0728.8	49.3	32.0			QL=6 ST=2 TYP=1
	245	SGMR	43	NS	1340.0	1842.1	508.0D	910.0			QL=2 ST=2 TYP=1
	245	PALE	44	NS	1712.0E	1751.8	109.0D	52.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2236.0	0026.0	721.0D	86.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2310.6	2316.1	68.4	13.0			QL=6 ST=2 TYP=1
	2000	TYKW	20	GRF	0155.0	0225.0	145.0U	2.0	1.0		INTERFERENCE
	3750	TYKW	21	GRF	0221.0	0233.0	45.0	2.0	1.0		
	3750	TYKW	5	S	0223.5	0224.2	1.5	1.0	.3		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
27	3750	TYKW	20	GRF	0320.0	0342.0	65.0	2.0	1.0		
	3750	TYKW	20	GRF	0528.0	0540.0	50.0	2.0	1.0		INTERFERENCE
	3750	TYKW	21	GRF	0628.0	0700.0	85.0	4.0	2.0		INTERFERENCE
	3750	TYKW	5	S	0632.0	0633.3	3.5	2.0	.7		
	3750	TYKW	5	S	0758.0	0758.7	8.0	1.5	.5		
	410	LEAR	8	S	0904.8	0905.0	.3	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0904.8	0905.0	.3	17.0			QL=6 ST=2 TYP=3
	6100	KISV	1	S	0921.9	0923.0	2.5	5.0			
	245	LEAR	8	S	0926.6	0926.6	.2	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0926.6	0926.6	.2	22.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0946.1	0946.3	.2	6.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0946.1	0946.3	.2	11.0			QL=6 ST=2 TYP=3
	9400	HUAN	22	GRF	1510.1	1518.5	42.9	6.6	3.2		0
	9400	HUAN	20	GRF	1628.2	1636.9	21.6	5.3	3.7		0
	2800	OTTA	20	GRF	1740.0	1810.0	75.0	2.0	1.2		
	4995	PALE	8	S	1743.1	1743.3	.4	13.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	1743.1	1744.5	1.5	13.0			QL=6 ST=2 TYP=3
	8800	PALE	4	S/F	1743.1	1744.5	2.2	26.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	1747.5	1747.6	.3	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1930.0	1950.0	60.0	1.8	1.0		
	1415	PALE	8	S	2000.5	2000.8	.5	35.0			QL=6 ST=3 TYP=3
	2800	OTTA	2	S/F	2000.6	2001.0	1.0	4.8			
	2800	OTTA	8	S	2119.3	2119.4	.2	2.8			
	2800	OTTA	21	GRF	2140.0	2220.0	100.0	5.0	3.2		
	2800	OTTA	20	GRF	2158.0	2201.5	11.0	4.8	1.8		
	245	PALE	47	GB	2201.3	2201.3	.3	78.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2311.6	2312.0	.5	11.0			QL=6 ST=2 TYP=3
	2695	PENT	3	S	2357.0	2358.8	5.0	13.2	3.6		
	2695	LEAR	4	S/F	2357.8	2358.6	3.2	18.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	2358.0	2358.6	2.6	9.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2358.8	2358.8	.2	24.0			QL=6 ST=2 TYP=3
28	208	VORO	44	NS	0000.0E		240.0D		1.1		
	410	SGMR	43	NS	1143.0	1843.8	626.0	30.0			QL=6 ST=2 TYP=1
	245	SGMR	43	NS	1143.0	2015.1	626.0	160.0			QL=6 ST=2 TYP=1
	610	SGMR	43	NS	1809.1	2120.0	239.9	510.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1901.0	2033.6	544.0D	480.0			QL=6 ST=2 TYP=1
	410	PALE	43	NS	2010.0	2036.5	475.0D	100.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2107.0E	2211.0	740.0D	100.0	25.0		WL
	100	HIRA	44	NS	2107.0E	2240.0	500.0D	130.0	25.0		WL
	245	LEAR	43	NS	2236.0	0145.6	642.0D	200.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2236.0	0914.5	642.0D	65.0			QL=6 ST=2 TYP=1
	3750	TYKW	20	GRF	0055.0	0110.0	90.0	2.0	1.0		
	245	LEAR	8	S	0658.1	0658.1	.2	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0658.1	0658.1	.2	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0719.6	0719.8	.2	13.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0840.5	0840.5	.1	19.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	0958.8	0959.0	.4	15.0U			
	430	KRAK	8	S	1000.2	1000.4	.5	62.0U			
	2950	GORK	1	S	1127.2	1128.2	1.5	6.0			
	536	ONDR	42	SER	1217.0	1217.0	2.5	8.0			
	1470	POTS	3	S	1217.1	1218.8	2.6	6.0			
	2950	GORK	1	S	1217.3	1218.7	2.6	7.0			
	3000	POTS	4	S/F	1218.0	1218.8	2.0	7.6			
	930	BORD	46	C	1218.3	1218.9	1.0	19.0	3.0		
	234	POTS	4	S/F	1241.4	1241.5	.6	140.0	35.0		
	2800	OTTA	21	GRF	1325.0	1435.0	135.0	4.4	2.4		
	430	KRAK	42	SER	1342.3	1342.7	18.0	34.0U			
	2800	OTTA	2	S/F	1425.0	1426.2	7.0	5.6	2.5		
	2800	OTTA	2	S/F	1524.8	1525.3	3.0	6.2	3.1		
	930	BORD	46	C	1526.2	1526.8	1.2	20.0	3.0		
	930	BORD	8	S	1609.3	1609.3	.1	19.0	1.0		
	930	BORD	41	F	1638.0	1638.3	.5	23.0	2.0		
	410	PALE	47	GB	1726.1	1726.3	.5	77.0			QL=6 ST=2 TYP=5
	610	PALE	49	GB	2119.8	2120.0	.7	770.0			QL=6 ST=2 TYP=6
	610	PALE	49	GB	2121.6	2121.8	.4	160.0			QL=5 ST=2 TYP=6

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
28	1000	TYKW	45	C	2155.0	2211.4	90.0D	24.0	5.0D		
	1000	TYKW			2155.0E	2222.1		18.0			
	1000	TYKW			2155.0E	2252.0		8.0			
	2695	PENT	22	GRF	2200.0	2300.0	110.0	3.2	2.2		
	3750	TYKW	45	C	2232.0	2232.7	3.0	4.0	2.0		
	3750	TYKW	29	PBI	2235.0		10.0	1.5	.7		
	9400	TYKW	20	GRF	2249.0	2300.0	50.0	3.0	1.5		INTERFERENCE

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

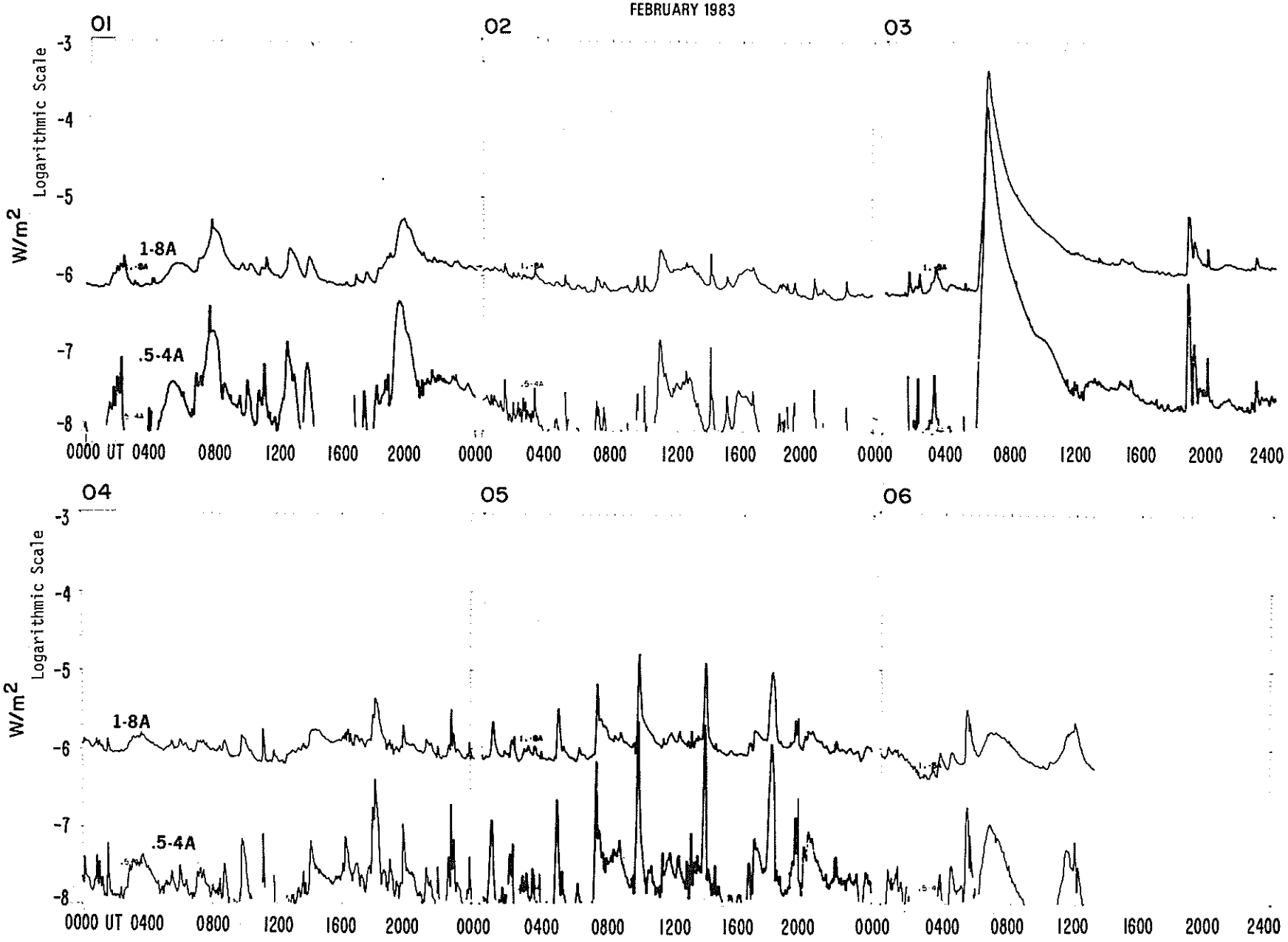
Explanation of Type Code:

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
33 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

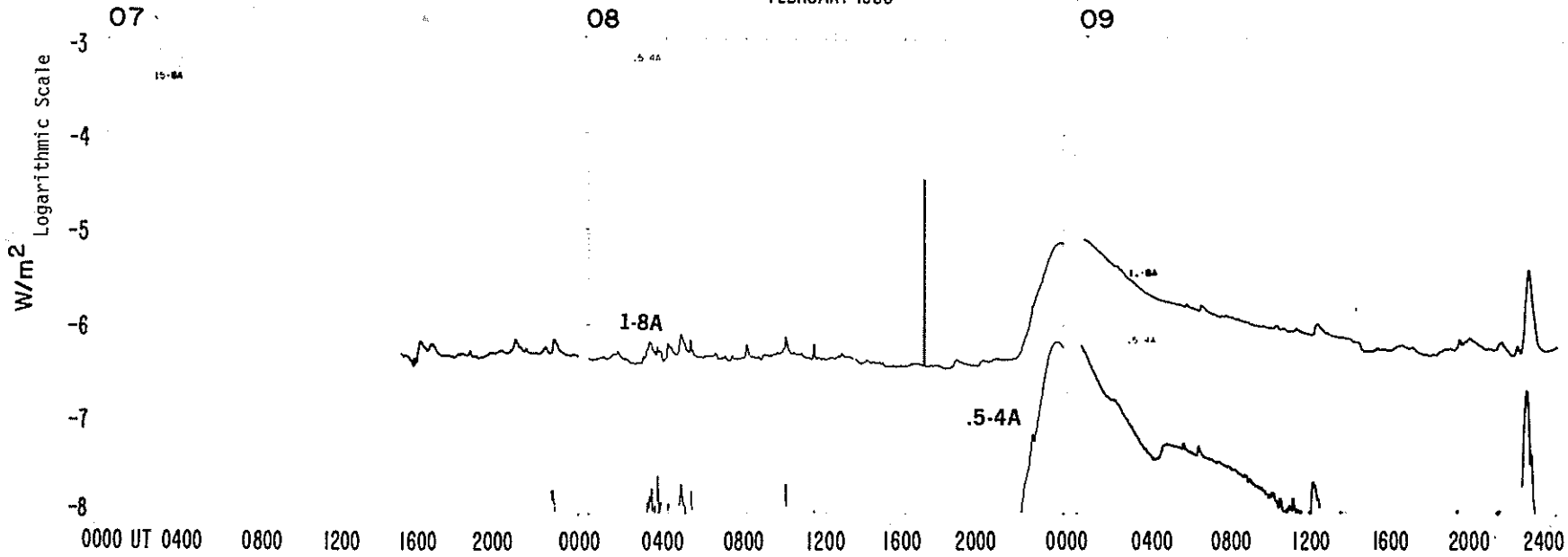
SMS-GOES X-RAYS

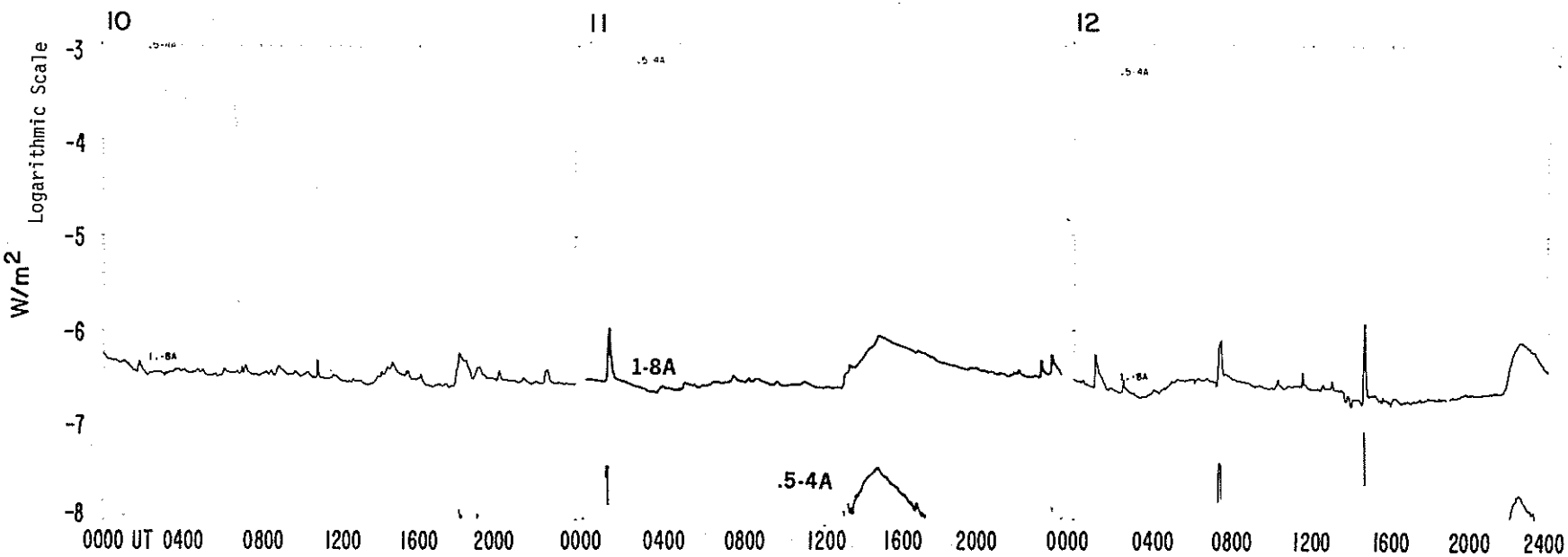
FEBRUARY 1983



SMS-GOES X-RAYS

FEBRUARY 1983

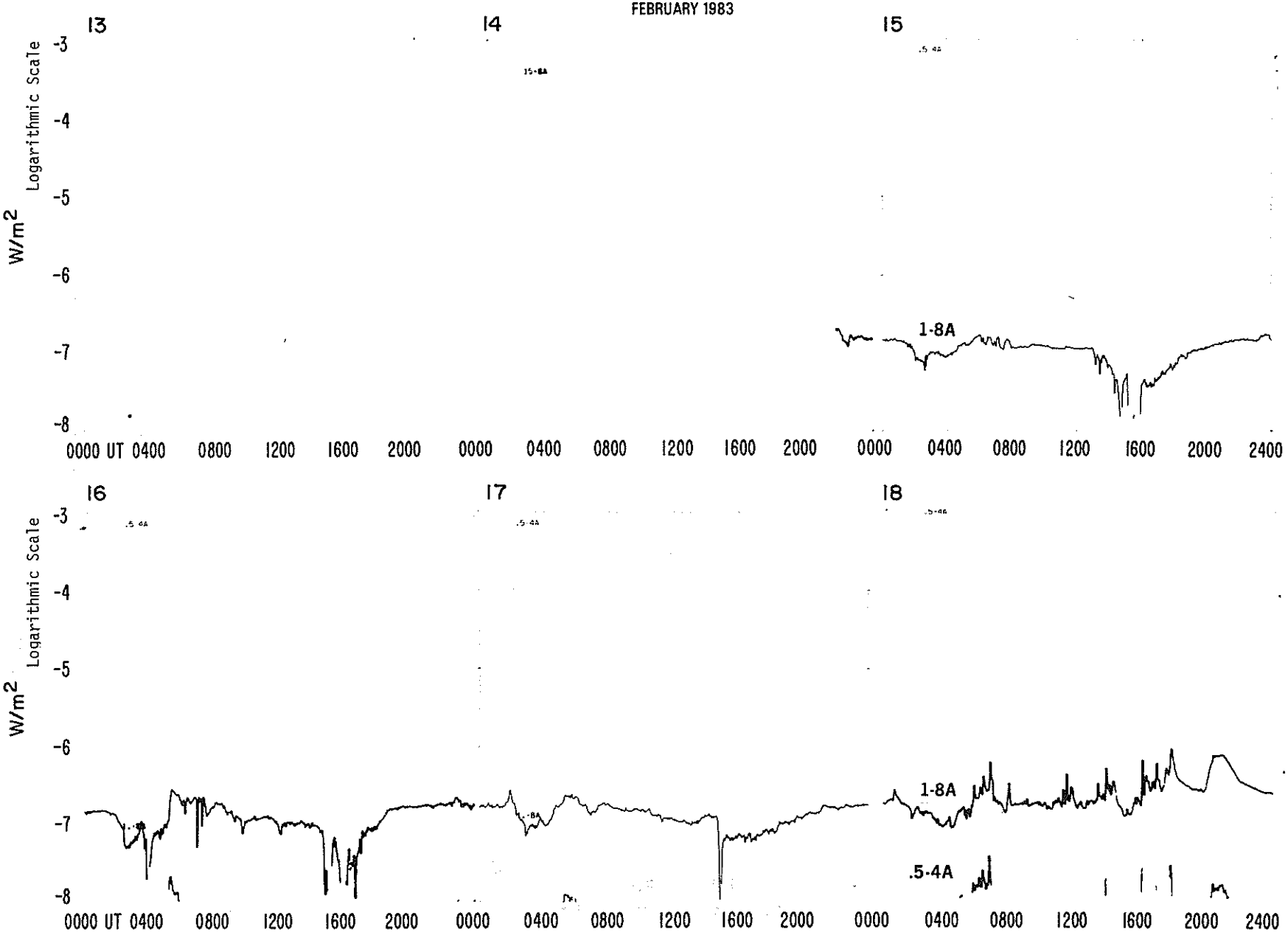




25 Feb 83

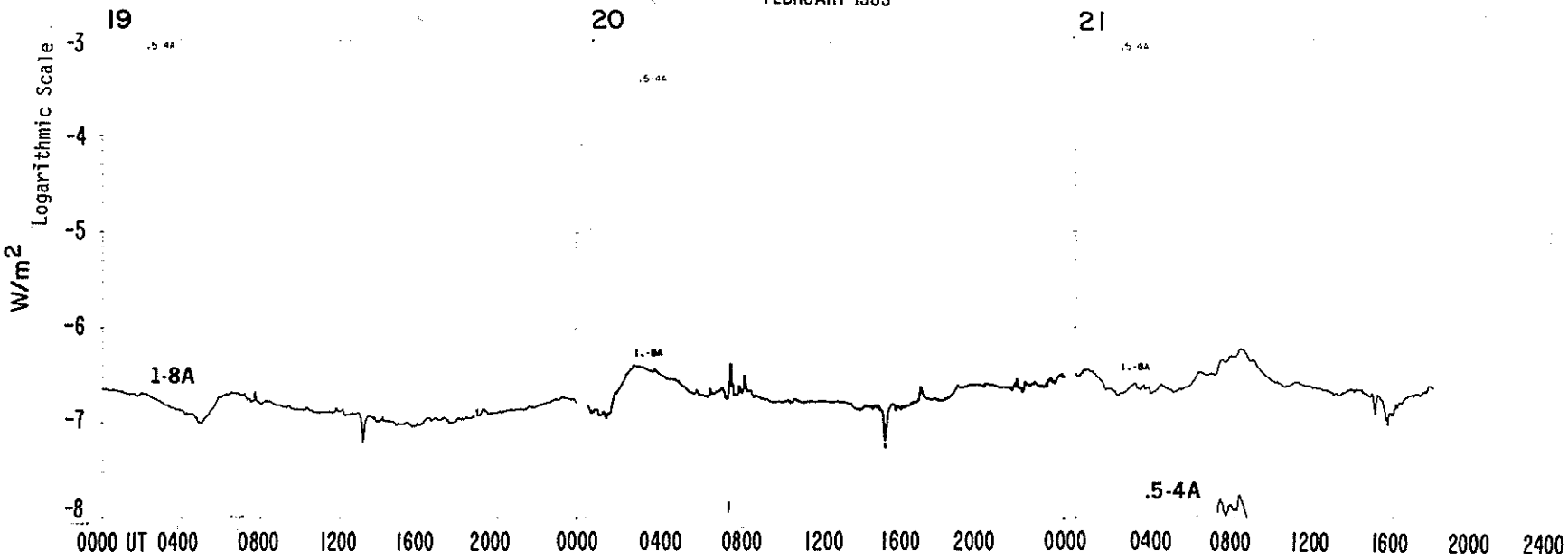
SMS-GOES X-RAYS

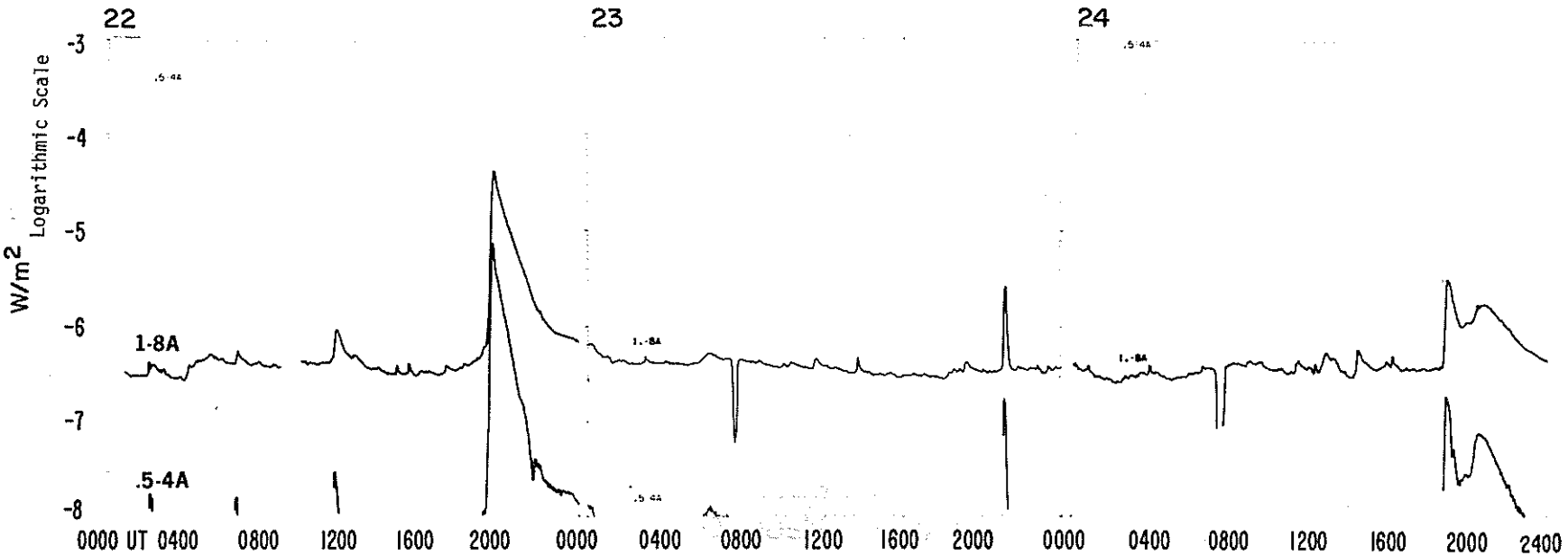
FEBRUARY 1983



SMS-GOES X-RAYS

FEBRUARY 1983

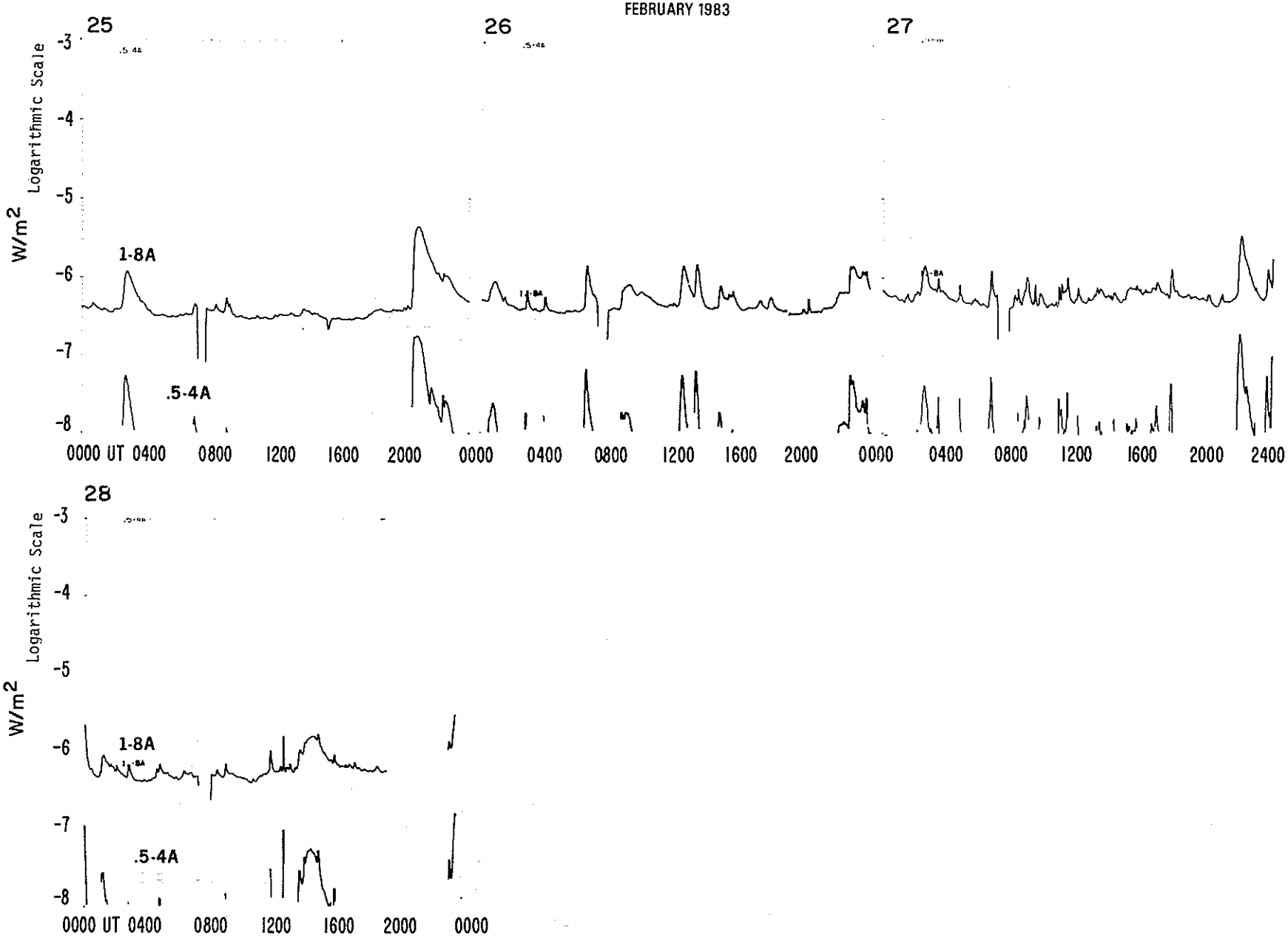




27 Feb 83

SMS-GOES X-RAYS

FEBRUARY 1983



MASS EJECTIONS FROM THE SUN

February 1983

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
CULG	03	0558.0		0740.0			Decimeter	IV
CULG	03	0602.5		0628.5			Meter; dekameter	II Herringbone
CULG	03	0602.5		0746.0			Meter	IV
LEAR	03	0602.6		0613.5			Meter	II
LEAR	03	0604.0		1052.0			Meter	IV
WEIS	03	0731E		0924			180-500 MHz	IV
WEIS	03	0731E		0947			30-160 MHz	IV Pulsations
ABST	05	0726	0726	0810	250	0.60	H-alpha	SP
ABST	08	0557E	0632	0705D	323	1.00	H-alpha	Q
ABST	09	0655E	0746	0841D	260	1.00	H-alpha	Q
VORO	11	0110E	0120	0128D	290	1	H-alpha	S
BLEN	11	1303.0		1320.0			Meter	IV
WEIS	11	1307.0		1348.0			Meter	II
VORO	12	0103E	0118	0139D	181	1	H-alpha	S
CULG	23	2316.0		2328.0			Meter	II
LEAR	23	2317.8		2328.1			Meter	II
CULG	24	0648.5		0701.5			Meter	II
LEAR	24	0649.8		0702.3			Meter	II
KHAR	24	0950E		1013D	073	1.00	H-alpha	S
WEND	24	0952	1000	1008	104	0.99-1.04	H-alpha	S
CULG	25	0704.5		0712.0			Meter	II
LEAR	25	0707.0		0714.1			Meter	II
ABST	25	0741	0746	0808	079	0.28	H-alpha	SP
CULG	25	2045.0		2055.5			Meter	II
CULG	25	2055.0		2211.0			Decimeter	IV
CULG	25	2109.5		2139.0			Meter	IV
KHAR	28	0902E		0916D	267	0.66	H-alpha	S
KHAR	28	0920E		0940D	295	0.70	H-alpha	S

QUALIFIERS ON START, MAX AND END TIMES
D = event ended after tabulated time
E = event began before the tabulated time
U = uncertain time

TYPE OF EVENT
A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray or streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS
ABST = Abastumani
BLEN = Bleien
CULG = Culgoora
KHAR = Kharkov
LEAR = Learmonth
VORO = Voroshilov
WEIS = Weissenau
WEND = Wendelstein

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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FOR
SOLAR-TERRESTRIAL PHYSICS

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."