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Solar - Geophysical Data

Part II (Comprehensive Reports)

NO. 464 APRIL 1983

DATA FOR
OCTOBER 1982

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

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SOLAR-GEOPHYSICAL DATA

No. 464

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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Part II (Comprehensive Reports)

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"453A 40" listed under 1982 Mar means that the sunspot drawings for Mar 1982 were contained in Solar-Geophysical Data Number 453 - Part I, beginning on page 40.

A = Part I, B = Part II.

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blank = data not yet received.

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in Solar-Geophysical Data, Number 461, Part II, pages 103-2135.

SGD 464 Part II (Comprehensive)

OCTOBER 1982 DATA

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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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	200	GORK	44	NS	0526.0E		398.0D		5.0		
	260	ONDR	44	NS	0646.0E	1026.0U	529.0D	57.0			
	127	TORN	43	NS	0840.0		200.0		1.0		V=1,DISTURBED
	100	GORK	43	NS	0845.0		199.0D		5.0		
	33	UPIC	43	NS	0914.2		307.3				
	29	UPIC	43	NS	0914.2		254.9				
	245	PALE	43	NS	1645.0	2247.3	668.0D	189.0			QL=6 ST=2 TYP=1
	245	SGMR	43	NS	1819.0	1853.5	226.0	189.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2030.0E	0343.0	706.0D	10.0	5.0		0
	208	VORO	44	NS	2200.0E		360.0D		4.0		
	245	LEAR	43	NS	2221.0	0411.6	705.0D	110.0			QL=6 ST=2 TYP=1
	245	LEAR	47	GB	0004.1	0004.6	1.5	53.0			QL=6 ST=2 TYP=5
	3750	TYKW	28	PRE	0018.0	0019.2	12.0	4.0	2.0		
	3750	TYKW	45	C	0030.0	0034.5	20.0	9.0	6.0		
	3750	TYKW			0030.0	0040.0		8.0			
	9400	TYKW	20	GRF	0030.0	0040.0	80.0	6.0	2.0		
	2000	TYKW	20	GRF	0030.0	0040.0	70.0	3.0	1.0		
	3750	TYKW	29	PBI	0050.0		65.0	3.0	1.5		
	200	HIRA	41	F	0216.0	0258.8	72.0	1100.0			ML
	245	LEAR	47	GB	0219.3	0219.6	2.7	219.0			QL=6 ST=3 TYP=5
	245	PALE	47	GB	0227.0	0227.1	4.6	200.0			QL=5 ST=2 TYP=5
	245	LEAR	47	GB	0229.6	0231.3	13.5	310.0			QL=6 ST=3 TYP=5
	245	LEAR	47	GB	0248.6	0252.1	17.7	219.0			QL=6 ST=2 TYP=5
	3750	TYKW	20	GRF	0250.0	0308.0	35.0	2.0	1.0		
	245	PALE	47	GB	0251.0	0252.1	1.8	270.0			QL=5 ST=2 TYP=5
	245	LEAR	47	GB	0306.3	0307.6	15.8	80.0			QL=6 ST=2 TYP=5
	3750	TYKW	5	S	0347.0	0347.7	2.0	3.0	1.0		
	9400	TYKW	5	S	0351.0	0353.0	20.0	3.0	1.5		
	245	LEAR	47	GB	0359.6	0359.8	1.2	69.0			QL=6 ST=2 TYP=5
	6100	KISV	20	GRF	0745.0	0750.0	20.0	5.0			
	6100	KISV	20	GRF	0812.0	0819.0	18.0	7.0			
	430	KRAK	8	S	0841.5	0841.7	.2	17.0			
	245	LEAR	8	S	0850.6	0850.8	.2	28.0			QL=6 ST=2 TYP=3
	930	BORD	8	S	1109.8	1109.8	.1	2.0	1.0		
	2800	OTTA	20	GRF	1410.0	1455.0	60.0	4.0	2.2		
	808	ONDR	8	S	1410.5	1410.5	.3	13.0			
	2800	OTTA	20	GRF	1745.0	1830.0	85.0	4.8	2.4		
	245	PALE	47	GB	1848.8	1850.1	1.8	89.0			QL=6 ST=2 TYP=5
	2695	SGMR	4	S/F	1852.0	1857.0	5.0D	18.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	2150.0	2225.0	80.0	4.0	2.0		
	1000	TYKW	45	C	2157.5	2159.5	3.0	10.0	1.5		
	500	HIRA	42	SER	2157.6	2159.1	2.5	1000.0			0
	410	PALE	8	S	2243.3	2243.3	.5	27.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	2247.1	2247.3	1.0	119.0			QL=6 ST=2 TYP=5
	3750	TYKW	21	GRF	2327.0	0017.0	130.0	3.0	1.5		
02	200	GORK	44	NS	0432.0E		428.0D		5.0		
	33	UPIC	43	NS	0607.2		522.7				
	29	UPIC	43	NS	0608.4	1137.9	523.6				
	260	ONDR	44	NS	0711.0E		469.0D				
	245	SGMR	43	NS	1102.0	1549.6	660.0D	3100.0			QL=6 ST=2 TYP=1
	410	SGMR	43	NS	1102.0	2021.1	660.0D	189.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1659.0	2343.3	654.0D	130.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2033.0E	0114.0	706.0D	25.0	10.0		WR
	208	VORO	44	NS	2230.0E		330.0D		15.0		
	500	HIRA	42	SER	0000.3	0000.3	13.5	250.0			0
	245	LEAR	47	GB	0001.5	0001.6	1.3	110.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0001.5	0001.8	1.5	1.5	.5		
	1000	TYKW	8	S	0004.9	0005.0	.2	8.0	2.0		
	3750	TYKW	5	S	0007.5	0007.7	.5	2.0	.5		
	1000	TYKW	8	S	0010.2	0010.3	.2	11.0	4.0		
	3750	TYKW	45	C	0011.0	0013.8	5.0	3.0	1.0		
	1000	TYKW	45	C	0012.0	0012.2	1.5	2.5	.5		
	9400	TYKW	45	C	0012.5	0012.9	2.5	5.0	1.5		
	610	PALE	47	GB	0012.6	0013.6	1.5	200.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0013.5	0013.6	1.0	35.0	4.0		
	2000	TYKW	5	S	0013.5	0013.8	1.5	1.5	.5		
	245	LEAR	47	GB	0013.6	0013.6	.4	70.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	0013.6	0013.6	.5	380.0			QL=6 ST=2 TYP=5
	3750	TYKW	5	S	0047.0	0047.3	1.0	2.0	.7		

OCTOBER 1982

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	9400	TYKW	5	S	0047.0	0047.4	1.0	3.0	1.0		
	3750	TYKW	5	S	0048.5	0050.0	4.0	1.5	.7		
	3750	TYKW	5	S	0107.0	0112.0	13.0	2.0	1.0		
	3750	TYKW	20	GRF	0150.0	0200.0	50.0	2.0	1.0		
	2000	TYKW	20	GRF	0150.0	0205.0	40.0	2.5	1.0		
	1000	TYKW	45	C	0151.0	0151.9	2.0	4.0	1.5		
	500	HIRA	46	C	0151.0	0151.3	2.0	330.0	65.0		0
	245	LEAR	8	S	0152.8	0153.0	1.0	38.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0201.0	0201.1	1.1	110.0			QL=6 ST=2 TYP=5
	3750	TYKW	5	S	0247.0	0248.7	4.0	4.0	1.5		
	9400	TYKW	21	GRF	0247.0	0249.0	30.0	7.0	3.0		RAIN
	2000	TYKW	5	S	0247.0	0254.0	25.0	3.0	1.5		
	3750	TYKW	21	GRF	0247.0	0306.0	130.0	4.0	2.0		
	2000	TYKW	5	S	0247.5	0249.2	2.5	7.0D	1.0D		
	3750	TYKW	5	S	0306.4	0307.3	3.5	1.5	.5U		
	9400	TYKW	45	C	0310.0	0311.5	3.0	5.0	2.0		
	2000	TYKW	20	GRF	0315.0	0330.0	85.0	3.0	1.5		
	3750	TYKW	5	S	0322.0	0326.5	20.0	3.0	1.0		
	3750	TYKW	30	PBI	0413.0		30.0	4.0	2.0		
	1000	TYKW	45	C	0415.0	0415.7	2.5	2.0	.5		
	1000	TYKW	45	C	0423.5	0423.9	1.0	4.0	1.0		
	245	LEAR	4	S/F	0423.6	0425.5	2.9	44.0			QL=6 ST=2 TYP=3
	500	HIRA	8	S	0424.9	0425.0	.6	130.0			0
	1000	TYKW	45	C	0425.0	0425.5	1.5	22.0	4.0		
	9400	TYKW	5	S	0425.3	0425.5	1.5	12.0	3.0		
	1000	TYKW	45	C	0448.0	0448.6	1.0	6.0	1.0		
	100	GORK	41	F	0535.2	0542.3	15.4	50.0			
	100	GORK			0535.2	0549.7		80.0D			
	245	LEAR	8	S	0555.0	0555.1	.6	26.0			QL=6 ST=2 TYP=3
	200	HIRA	42	SER	0557.0	0607.5	25.0	285.0			WL
	200	GORK	41	F	0557.1	0558.0	24.9	30.0D			
	200	GORK			0557.1	0607.5		30.0D			
	200	GORK			0557.1	0621.3		30.0D			
	204	IZMI	42	SER	0606.0	0606.8	15.5	250.0			
	100	GORK	41	F	0608.0E	0608.3	135.0D	135.0			
	100	GORK			0608.0E	0621.1		60.0			
	245	LEAR	8	S	0641.0	0641.1	.5	44.0			QL=6 ST=2 TYP=3
	100	GORK	4	S/F	0658.0	0658.5	1.2	85.0D			
	430	KRAK	41	F	0817.3	0817.5	1.7	24.0			
	100	GORK	41	F	0856.0	0857.0	18.7	90.0D			
	100	GORK			0856.0	0906.6		190.0			
	536	ONDR	8	S	0935.0	0935.0	.2	4.0			
	536	ONDR	4	S/F	0937.5	0937.5	1.0	8.0			
	808	ONDR	8	S	0944.5	0944.5	.5	4.0			
	810	KRAK	8	S	1037.8	1037.8	.2	13.0			
	808	ONDR	8	S	1038.0	1038.0	.5	4.0			
	113	POTS	4	S/F	1042.0	1042.1	.6	200.0	20.0		III
	200	GORK	4	S/F	1042.0	1042.2	.6	30.0D			
	100	GORK	4	S/F	1042.0	1042.2	1.7	100.0D			
	100	GORK	41	F	1123.5	1123.6	22.8	100.0D			
	100	GORK			1123.5	1145.6		100.0D			
	113	POTS	42	SER	1124.3	1124.3	31.0	3200.0	3.0		III
	234	POTS	42	SER	1124.3	1137.6	15.0	375.0	1.0		III
	204	IZMI	42	SER	1124.5	1146.0	22.0	470.0			
	200	GORK	41	F	1130.8	1131.1	1.0	30.0D			
	430	KRAK	41	F	1137.3	1139.0	1.7U	100.0	11.0		
	245	SGMR	47	GB	1138.0	1138.5	1.6	490.0			QL=6 ST=2 TYP=5
	410	SGMR	8	S	1138.0	1138.6	1.6	50.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	1231.3	1231.3	.1	15.0			
	430	KRAK	8	S	1253.8	1254.2	.5	24.0			
	113	POTS	42	SER	1311.9	1312.2	5.9	1000.0	3.0		III
	430	KRAK	42	SER	1332.5	1333.5	1.3	67.0			
	536	ONDR	4	S/F	1333.5	1333.5	.6	18.0			
	930	BORD	46	C	1359.6	1400.1	.8	120.0	3.0		
	536	ONDR	4	S/F	1408.5	1409.5	1.5	18.0			
	410	SGMR	47	GB	1408.8	1408.8	1.3	80.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1525.0	1650.0	205.0	9.0	4.5		
	2800	OTTA	8	S	1558.0	1558.0	.1	9.6			
	9400	HUAN	20	GRF	1631.4	1633.2	27.4	4.0	2.7		0
	410	SGMR	4	S/F	1648.5	1649.1	3.6	18.0			QL=6 ST=2 TYP=3
	610	SGMR	47	GB	1649.3	1650.8	4.0	63.0			QL=6 ST=2 TYP=5

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

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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	610	SGMR	20	GRF	1707.0	1720.1	63.5	189.0			QL=6 ST=2 TYP=2
	9400	HUAN	2	S/F	1715.2	1716.5	4.7	6.8	4.0		L
	2800	OTTA	20	GRF	1816.0	1817.0	20.0	7.4	2.5		
	2695	PENT	20	GRF	2140.0	2220.0	80.0	3.8	1.9		
	3750	TYKW	20	GRF	2210.0	2220.0	60.0	4.0	2.0		
	2000	TYKW	20	GRF	2210.0	2225.0	55.0	3.0	1.5		
	3750	TYKW	5	S	2331.0	2333.0	15.0	3.0	1.0		
03	221	ABST	44	NS	0500.0E	0531.5	180.0D	25.0			
	200	GORK	44	NS	0528.0E		371.0D		10.0		
	204	IZMI	43	NS	0600.0		70.0	80.0			
	260	ONDR	44	NS	0711.0E		488.0D				
	245	PALE	43	NS	2000.0	0313.8	475.0D	90.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2200.0E		360.0D		4.0		
	245	LEAR	43	NS	2219.0	0219.8	707.0D	100.0			QL=6 ST=2 TYP=1
	200	HIRA	43	NS	2325.0	0222.0	310.0D	15.0	5.0		WL
	3750	TYKW	20	GRF	0032.0	0056.0	70.0	4.0	2.0		
	9400	TYKW	5	S	0050.5	0051.0	1.0	6.0	3.0		
	9400	TYKW	29	PBI	0151.5		25.0	3.0	1.5		
	1000	TYKW	5	S	0212.0	0213.3	3.0	2.0	.7		
	2000	TYKW	45	C	0212.0	0213.6	8.0	5.0	1.0		
	3750	TYKW	5	S	0212.0	0217.0	25.0	2.5	1.0		
	1000	TYKW	5	S	0215.3	0215.8	1.5	34.0	2.5		
	500	HIRA	8	S	0215.4	0215.4	.5	100.0			0
	3750	TYKW	20	GRF	0244.0	0255.0	465.0	3.0	1.5		
	3750	TYKW	5	S	0358.0	0404.0	20.0	3.0	1.0		
	3750	TYKW	5	S	0440.0	0440.7	2.0	4.0	1.5		
	9400	TYKW	5	S	0440.5	0440.7	1.5	7.0	2.0		
	430	KRAK	8	S	0839.3	0839.5	.2	17.0			
	810	KRAK	8	S	0934.2	0934.3	.2	31.0			
	430	KRAK	8	S	0934.2	0934.3	.2	8.0			
	430	KRAK	8	S	0949.5	0949.5	.1	19.0			
	536	ONDR	8	S	0949.5	0949.5	.5	24.0			
	200	GORK	4	S/F	0959.0	0959.3	1.0	30.0D			
	200	GORK	4	S/F	1130.7	1131.1	1.0	30.0D			
	810	KRAK	27	RF	1147.0		43.0	4.0	3.0		
	430	KRAK	42	SER	1157.5	1216.2	26.0	60.0			
	536	ONDR	4	S/F	1229.5	1230.0	1.5	14.0			
	430	KRAK	8	S	1317.0	1317.1	.1	19.0			
	9400	HUAN	20	GRF	1341.6	1345.4	28.0	5.4	1.7		L
	430	KRAK	42	SER	1345.0	1345.0	7.5	36.0			
	536	ONDR	8	S	1345.0	1345.5	1.0	24.0			
	9400	HUAN	1	S	1544.9	1545.6	2.2	3.3	1.9		0
	245	SGMR	49	GB	1653.3	1654.8	3.2	1500.0			QL=6 ST=2 TYP=6
	245	PALE	49	GB	1653.8	1654.8	2.0	1600.0			QL=5 ST=2 TYP=6
	2800	OTTA	1A	S	1654.0	1655.0	2.0	2.8	1.4		
	410	SGMR	47	GB	1654.3	1654.8	2.2	130.0			QL=6 ST=2 TYP=5
	610	SGMR	8	S	1654.5	1655.3	2.0	26.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	1654.8	1655.3	.8	33.0			QL=5 ST=2 TYP=3
	2800	OTTA	8	S	1655.0	1655.0	.2	25.6			
	1415	PALE	8	S	1655.0	1655.1	.3	13.0			QL=5 ST=2 TYP=3
	2695	PENT	20	GRF	2010.0	2013.0	30.0	7.4	2.4		
	9400	HUAN	1	S	2012.4	2013.3	4.3	4.0	3.2		0
	2695	PENT	20	GRF	2120.0	2132.0	70.0	4.4	2.2		
	2000	TYKW	20	GRF	2200.0	2226.0	110.0	2.0	1.0		
	3750	TYKW	21	GRF	2200.0	2230.0	100.0	2.0	1.0		
	9400	TYKW	20	GRF	2252.0	2302.0	30.0	3.0	1.5		
	3750	TYKW	5	S	2253.0	2301.0	25.0	2.0	1.0		
04	221	ABST	44	NS	0500.0E	0535.8	240.0D	9.0			
	260	ONDR	44	NS	0654.0E		488.0D				
	245	SGMR	43	NS	1105.0	1358.6	655.0D	160.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2200.0E		360.0D		3.0		
	245	LEAR	43	NS	2218.0	0900.0	709.0D	70.0			QL=6 ST=2 TYP=1
	3750	TYKW	20	GRF	0050.0	0055.0	30.0	2.5	1.0		
	9400	TYKW	20	GRF	0052.0	0102.0	30.0	3.0	1.5		
	3750	TYKW	20	GRF	0125.0	0210.0	90.0	3.0	1.5		
	9400	TYKW	5	S	0140.0	0145.0	25.0	3.0	1.5		
	9395	PEKG	41	F	0208.5	0236.3		20.8	8.9		
	2000	TYKW	20	GRF	0340.0	0405.0	90.0	4.0	2.0		
	9400	TYKW	20	GRF	0340.0	0420.0	80.0	4.0	2.0		

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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
04	3750	TYKW	20	GRF	0349.0	0407.0	90.0	6.0	2.5		
	3750	TYKW	5	S	0536.0	0536.5	2.0	7.0	2.5		
	9400	TYKW	5	S	0536.0	0536.6	3.0	5.0	1.5		
	2000	TYKW	5	S	0612.6	0612.8	.6	3.0	1.0		
	6100	KISV	8	S	0612.6	0612.9	.5	10.0			
	3750	TYKW	5	S	0612.7	0612.8	.7	9.0	3.0		
	9400	TYKW	5	S	0612.7	0612.8	.6	15.0	3.0		
	1000	TYKW	5	S	0612.7	0612.9	.7	2.0	.7		
	3750	TYKW	5	S	0750.0	0750.3	1.0	3.0	.7		
	11800	BERN	8	S	0750.0	0750.2	1.0	18.0			ONLY PAPER REC
	5200	BERN	8	S	0750.0	0750.2	1.0	64.0			ONLY PAPER REC
	3100	BERN	8	S	0750.0	0750.2	1.0	15.0			ONLY PAPER REC
	8400	BERN	8	S	0750.0	0750.2	1.0	25.0			ONLY PAPER REC
	3100	CRIM	1	S	0750.0	0750.5	1.0	20.0	7.0		
	9500	POTS	3	S	0750.0	0750.5	1.0	13.0			
	9100	GORK	1	S	0750.2	0750.4	.6	25.0			
	6100	KISV	8	S	0750.2	0750.4	1.0	30.0			
	3000	POTS	3	S	0750.3	0750.5	.7	13.0			
	2695	ATHN	8	S	0750.3	0750.5	.8	9.0			QL=6 ST=2 TYP=3
	8800	ATHN	8	S	0750.3	0750.5	.8	28.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0822.0	0822.1	.1	50.0			QL=6 ST=2 TYP=5
	430	KRAK	8	S	0857.3	0857.5	.2	18.0			
	430	KRAK	42	SER	0959.5	1057.7	65.3	28.0			
	810	KRAK	27	RF	1038.2		29.3	6.0	2.0		
	430	KRAK	27	RF	1039.5		35.0	8.0	3.0		
	810	KRAK	8	S	1141.5	1141.5	.1	14.0			
	4995	SGMR	47	GB	1144.0	1144.1	2.1	70.0			QL=6 ST=2 TYP=5
	2800	OTTA	20	GRF	1210.0	1235.0	80.0	5.2	2.8		
	430	KRAK	42	SER	1239.5	1242.5	35.5	50.0			
	2800	OTTA	20	GRF	1335.0	1430.0	165.0	4.2	2.6		
	930	BORD	41	F	1440.2	1440.8	1.2	41.0	2.0		
	2800	OTTA	22	GRF	1640.0	1746.0	120.0	7.8	2.8		
	9400	HUAN	22	GRF	1735.7	1828.3	81.4	9.0	5.2		L
	2800	OTTA	20	GRF	1925.0	2000.0	70.0	3.0	1.5		
	9400	TYKW	5	S	2258.0	2259.1	3.5	14.0	4.0		
	3750	TYKW	5	S	2258.5	2258.9	1.5	4.0	1.0		
	3750	TYKW	20	GRF	2330.0	2340.0	40.0	2.0	1.0		
05	260	ONDR	44	NS	0703.0E	0810.0U	483.0D	10.0			
	200	GORK	43	NS	0841.0		104.0		5.0		
	245	LEAR	43	NS	2301.0	0622.6	666.0D	53.0			QL=6 ST=2 TYP=1
	3750	TYKW	21	GRF	0125.0	0216.0	220.0	10.0	4.0		
	9400	TYKW	21	GRF	0150.0	0220.0	190.0U	6.0	3.0		
	2000	TYKW	21	GRF	0150.0	0230.0	190.0	5.0	2.0		
	3750	TYKW	20	GRF	0312.0	0350.0	90.0	6.0	3.0		
	2000	TYKW	20	GRF	0315.0	0340.0	65.0	2.0	1.0		
	9400	TYKW	20	GRF	0315.0	0350.0	80.0U	5.0	2.0		
	808	ONDR	8	S	0812.0	0812.5	.5	5.0			
	430	KRAK	42	SER	0905.5	0916.0	82.0	59.0			
	930	BORD	8	S	1104.1	1104.2	.2	30.0	1.0		
	9100	GORK	22	GRF	1108.7	1149.9	75.0D	14.0			
	2950	GORK	1	S	1108.8	1109.0	.9	5.0			
	930	BORD	8	S	1114.4	1114.4	.2	29.0	1.0		
	650	GORK	20	GRF	1136.9	1146.0	16.9	4.5			
	950	GORK	20	GRF	1141.1	1145.0	10.2	7.0	3.5		
	3100	CRIM	20	GRF	1142.0	1145.8	11.0	13.0	4.0		
	11800	BERN	22	GRF	1142.6	1146.4	19.0	17.0			ONLY PAPER REC
	8400	BERN	22	GRF	1142.6	1146.4	19.0	22.0			ONLY PAPER REC
	5200	BERN	22	GRF	1142.6	1146.4	19.0	18.0			ONLY PAPER REC
	3100	BERN	22	GRF	1142.6	1146.4	19.0	15.0			ONLY PAPER REC
	2650	DWIN	2	S/F	1143.0	1146.0	12.0	10.0	5.0		
	6100	KISV	45	C	1143.0	1146.3	12.0	11.0			
	9400	HUAN	22	GRF	1143.0	1149.4	15.4	10.8	4.2		0
	6100	KISV			1143.0	1150.2		8.0			
	2950	GORK	20	GRF	1143.7	1146.7	13.0	10.0			
	9400	HUAN	20	GRF	1206.4	1211.4	13.6	5.4	1.9		0
	2800	OTTA	260	FAL	1255.0	1410.0	75.0	-8.4	-4.4		
	930	BORD	8	S	1410.2	1410.2	.1	18.0	1.0		
	4995	SGMR	4	S/F	1552.0	1553.6	12.3	44.0			QL=6 ST=2 TYP=3
	9400	HUAN	4	S/F	1552.4	1554.0	2.6	48.4	24.7		L
	5200	BERN	3	S	1552.5	1553.6	8.0	44.0			

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
05	19600	BERN	3	S	1552.5	1553.7	8.0	37.0			
	8400	BERN	3	S	1552.5	1553.9	8.0	81.0			
	11800	BERN	3	S	1552.5	1553.9	8.0	68.0			
	8800	SGMR	47	GB	1553.0	1553.8	2.6	61.0			QL=6 ST=2 TYP=5
	15400	SGMR	8	S	1553.3	1553.6	1.5	41.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	1555.0	1555.0	28.4	9.4	2.2		L
	2800	OTTA	1	S	1558.0	1559.0	2.0	2.0	1.0		
	2800	OTTA	260	FAL	1615.0	1655.0	40.0	-3.4	-1.7		
	9400	HUAN	1	S	1704.3	1705.2	1.6	4.0	1.9		0
	2800	OTTA	20	GRF	1800.0	1930.0	160.0	4.0	2.0		
	3750	TYKW	5	S	2143.0	2143.5	4.0	7.0	3.0		
	2000	TYKW	5	S	2143.0	2144.2	3.0	6.0	2.0		
	2695	PENT	1	S	2143.5	2144.0	7.0	7.2	2.0		
	3750	TYKW	20	GRF	2210.0	2235.0	60.0	3.0	1.5		
	3750	TYKW	21	GRF	2320.0	2356.0	110.0	4.0	2.0		
	1000	TYKW	8	S	2327.7	2327.8	.3	3.0	1.0		
	1000	TYKW	5	S	2333.5	2333.7	.5	6.0	1.5		
	2000	TYKW	5	S	2333.5	2333.7	.5	3.0	1.0		
	1000	TYKW	8	S	2345.2	2345.3	.2	22.0	5.0		
06	127	TORN	44	NS	0810.0E		240.0D		1.0		V=2, UNCERTAIN
	245	LEAR	43	NS	2227.1	2240.3	217.9	25.0			QL=6 ST=2 TYP=1
	1000	TYKW	5	S	0013.7	0013.8	1.0	73.0	7.0		
	2000	TYKW	5	S	0013.7	0013.9	1.5	7.0	2.5		
	3750	TYKW	5	S	0013.8	0014.0	1.0	3.0	1.0		
	3750	TYKW	21	GRF	0115.0	0141.0	60.0	2.0	1.0		
	3750	TYKW	5	S	0121.5	0122.4	4.0	2.0	1.0		
	2000	TYKW	5	S	0121.5	0122.4	4.0	1.5	.5		
	9400	TYKW	5	S	0155.5	0155.7	1.5	4.0	1.5		
	9395	PEKG	1	S	0226.0	0228.0	6.0	9.7	3.5		
	9400	TYKW	45	C	0313.5	0314.0	3.5	3.0	1.0		
	3750	TYKW	21	GRF	0325.0	0343.0	120.0	3.0	1.5		
	9400	TYKW	5	S	0335.0	0336.2	2.5	3.0	1.0		
	3750	TYKW	5	S	0438.3	0438.7	4.0	3.0	1.5		
	1000	TYKW	45	C	0500.2	0500.4	.5	27.0	3.0		
	1000	TYKW	5	S	0502.0	0502.4	1.0	190.0	13.0		
	200	HIRA	46	C	0513.5	0514.4	1.2	33.0	12.0		0
	200	GORK	4	S/F	0513.8	0514.8	1.5	25.0			
	3750	TYKW	20	GRF	0544.0	0546.0	50.0U	3.0	1.5		INTERFERENCE
	9400	TYKW	21	GRF	0544.0	0548.0	60.0	4.0	2.0		
	245	LEAR	47	GB	0614.0	0615.6	2.1	51.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	0616.0	0616.8	6.0	6.0	2.5		
	9100	GORK	1	S	0616.2	0617.2	3.2	8.0	4.0		
	245	LEAR	47	GB	0805.5	0805.6	.1	70.0			QL=5 ST=2 TYP=5
	930	BORD	8	S	0812.4	0812.7	.3	21.0	2.0		
	260	ONDR	8	S	0936.2	0936.3	.5	2.0			
	930	BORD	41	F	0945.0	0945.2	.2	48.0	2.0		
	260	ONDR	40	F	0945.5	0945.8	9.0	6.0			
	430	KRAK	42	SER	1021.5	1031.5	33.5	22.0			
	260	ONDR	42	SER	1031.5	1038.0	11.5	9.0			
	33	UPIC	45	C	1036.9	1038.0	2.6				
	29	UPIC	45	C	1037.0	1037.1	2.5				
	808	ONDR	40	F	1113.0	1116.5	18.0	6.0	5.0		
	260	ONDR	7	C	1142.3	1142.5	11.0	24.0	3.0		
	260	ONDR	7	C	1204.0	1212.0	21.0	31.0	2.0		
	33	UPIC	45	C	1211.1	1211.9	1.2				
	113	POTS	4	S/F	1211.2	1211.7	.7	120.0	5.0		III
	29	UPIC	45	C	1211.2	1212.0	1.2				
	260	ONDR	7	C	1224.5	1235.0	10.5U	32.0	2.0		
	113	POTS	8	S	1316.9	1317.0	.8	350.0	120.0		III
	9400	HUAN	22	GRF	1757.0	1804.9	30.8	3.7	1.2		0
	9400	HUAN	20	GRF	1847.5	1852.1	10.7	4.4	1.9		0
	9400	HUAN	20	GRF	1928.2	1931.5	11.8	5.0	2.0		0
	2695	PENT	20	GRF	2100.0	2130.0	115.0	3.4	2.6		
	9400	HUAN	2	S/F	2125.0	2127.0	3.6	17.5	6.9		L
	9400	TYKW	45	C	2258.0	2302.6	12.0	57.0	13.0		RAIN
	3750	TYKW	5	S	2300.0	2302.4	13.0	2.5	1.0		
	8800	PALE	47	GB	2301.8	2302.3	2.3	57.0			QL=6 ST=2 TYP=5
	17000	NOBE	7	C	2302.0	2303.7	25.0	45.0			0
	15400	PALE	8	S	2302.3	2302.6	1.8	40.0			QL=5 ST=2 TYP=3
	9400	TYKW	29	PBI	2310.0		40.0	8.0	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
06	3750	TYKW	5	S	2320.0	2321.3	3.0	5.0	3.0		
	3750	TYKW	29	PBI	2323.0		50.0	2.0	1.0		
07	200	GORK	43	NS	0752.0		36.0		5.0		
	100	GORK	43	NS	0809.0		51.0		5.0		
	127	TORN	44	NS	0810.0E	0816.2	55.0D	90.0	6.0		V=1
	9400	TYKW	5	S	0112.0	0113.4	4.0	79.0	15.0		
	8800	PALE	47	GB	0113.1	0113.3	2.0	82.0			QL=6 ST=2 TYP=5
	17000	NOBE	1	S	0113.1	0113.5	2.0	73.0			L
	15400	PALE	47	GB	0113.3	0113.3	.7	82.0			QL=5 ST=2 TYP=5
	9400	TYKW	29	PBI	0116.0		6.0	4.0	2.0		
	9400	TYKW	5	S	0200.0	0201.2	3.0	4.0	1.5		
	9400	TYKW	5	S	0210.5	0211.3	3.0	4.0	1.5		
	9400	TYKW	5	S	0249.5	0251.3	3.5	37.0	10.0		
	17000	NOBE	1	S	0251.0	0251.3	1.0	59.0			0
	8800	PALE	8	S	0251.1	0251.1	.4	20.0			QL=6 ST=2 TYP=3
	15400	PALE	8	S	0251.1	0251.3	.5	46.0			QL=5 ST=2 TYP=3
	9400	TYKW	29	PBI	0253.0		10.0	8.0	4.0		
	9395	PEKG	8	S	0300.0	0300.6	1.0	106.0	39.0		
	9400	TYKW	5	S	0355.5	0355.7	.5	14.0	4.0		
	2840	PEKG			0404.0	0406.7		62.4			
	9395	PEKG			0427.0	0431.2		99.0			
	113	POTS	8	S	0800.7	0801.0	.4	280.0	90.0		
	245	LEAR	4	S/F	0835.3	0835.3	.1D	11.0			QL=6 ST=2 TYP=3
	260	ONDR	42	SER	1120.5	1124.0	4.0	7.0			
	260	ONDR	4	S/F	1140.5	1141.5	3.5	18.0	3.0		
	430	KRAK	8	S	1201.7	1201.7	.2	8.0			
	260	ONDR	8	S	1224.2	1224.8	.5	5.0			
	536	ONDR	8	S	1224.5	1224.5	.2	7.0			
	9400	HUAN	20	GRF	1253.5	1302.8	12.1	4.4	1.9		0
	9400	TYKW	45	C	2155.0	2203.5	15.0	120.0	18.0		
08	245	LEAR	8	S	0129.0	0129.8	1.1	11.0			QL=6 ST=2 TYP=3
	810	KRAK	4	S/F	0806.5	0807.5	2.5	113.0	13.0		
	430	KRAK	2	S/F	0809.0	0809.7U	1.5	22.0U	9.0		
	245	LEAR	4	S/F	0810.8	0810.8	11.0	15.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0833.8	0834.0	.2	16.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0856.5	0856.6	.1	28.0			QL=6 ST=2 TYP=3
	260	ONDR	41	F	1131.0	1201.0	39.0	5.0			
	260	ONDR	46	C	1214.0	1216.8	4.0	15.0	11.0		
	536	ONDR	8	S	1234.8	1234.8	.1	6.0			
	245	LEAR	8	S	2358.1	2358.3	.2	28.0			QL=6 ST=2 TYP=3
09	200	HIRA	44	NS	2039.0E	2300.0	677.0D	25.0	10.0		MR
	100	HIRA	44	NS	2039.0E	2347.0	677.0D	280.0	120.0		SR
	208	VORO	44	NS	2300.0E		300.0D		12.0		
	245	LEAR	8	S	0023.1	0023.1	2.0	20.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0244.8	0244.8	20.0	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0308.0	0308.0	.6	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0503.5	0503.5	.1	16.0			QL=6 ST=3 TYP=3
	245	LEAR	8	S	0559.1	0559.1	.2	8.0			QL=6 ST=2 TYP=3
	9395	PEKG	40	F	0614.0	0616.5	5.0	17.8	5.8		
	245	LEAR	8	S	0622.5	0622.6	.1	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0659.8	0659.8	.2	27.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0708.6	0708.8	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0723.0	0723.1	.1	46.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0731.8	0731.8	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0810.3	0810.3	.2	19.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0818.3	0818.5	.3	30.0			QL=6 ST=2 TYP=3
	260	ONDR	6	S	0830.5	0831.0	1.0	15.0	4.0		
	245	LEAR	47	GB	0856.1	0856.1	.2	63.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0942.3	0942.5	.3	72.0			QL=6 ST=2 TYP=5
	260	ONDR	8	S	1040.3	1040.5	.5	5.0			
	430	KRAK	8	S	1142.7	1142.7	.1	15.0			
	810	KRAK	8	S	1142.7	1142.8	.2	9.0			
	930	BORD	41	F	1505.6	1505.6	1.0	25.0	1.0		
	245	PALE	8	S	2151.8	2152.0	.7	33.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	2235.8	2235.8	3.0	64.0			QL=6 ST=2 TYP=5
	3750	TYKW	20	GRF	2312.0	2315.0	40.0	2.0	1.0		
	2000	TYKW	5	S	2313.0	2315.0	5.0	2.0	.7		
	245	LEAR	4	S/F	2358.3	0000.3	2.8	18.0			QL=6 ST=3 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

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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	100	GORK	44	NS	0457.0E		453.0D		10.0		
	200	GORK	44	NS	0458.0E		452.0D		5.0		
	221	ABST	44	NS	0500.0E	0732.0	240.0D	10.0			
	260	ONDR	44	NS	0754.0E	1049.0U	433.0D	27.0			
	245	LEAR	43	NS	0811.0	0955.5	117.0D	34.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1645.0	1808.1	665.0D	44.0			QL=6 ST=2 TYP=1
	1000	TYKW	5	S	0018.0	0018.2	.6	3.0	1.0		
	9395	PEKG	3	S	0057.0	0059.6	6.5	11.0	1.7		
	500	HIRA	45	C	0132.0	0133.4	4.0	15.0	5.0		0
	1000	TYKW	5	S	0132.7	0133.1	.7	3.0	1.0		
	245	LEAR	8	S	0241.3	0241.5	.2	10.0			QL=6 ST=2 TYP=3
	9395	PEKG	45	C	0252.4	0258.6	12.6	11.4	4.7		
	245	LEAR	8	S	0330.1	0330.5	.5	13.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0352.0	0356.0	45.0	2.0	1.0		
	208	VORO	4	S/F	0352.0	0353.0	2.0	200.0D			
	200	HIRA	46	C	0352.3	0352.8	2.6	310.0	28.0		0
	1000	TYKW	45	C	0352.4	0353.3	5.5	9.0	2.5		
	245	LEAR	47	GB	0352.5	0352.8	1.8	270.0			QL=6 ST=2 TYP=5
	2000	TYKW	45	C	0352.5	0354.3	7.0	10.0	3.0		
	500	HIRA	45	C	0352.7	0355.6	4.3	110.0	15.0		ML
	3750	TYKW	5	S	0412.0	0413.1	5.0	2.0	.7		
	200	GORK	4	S/F	0530.0	0531.1	1.5	25.0D			
	100	GORK	4	S/F	0530.0	0531.2	2.3	70.0D			
	245	LEAR	8	S	0530.6	0530.8	1.0	17.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0532.8	0533.0	.3	43.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0702.8	0702.8	.2	26.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0725.5	0725.6	.1	26.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0810.8	0810.8	.2	18.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0855.3	0855.5	.3	33.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	1055.8	1056.0	.3	67.0			
	113	POTS	42	SER	1112.8	1112.9	14.0	200.0	1.0		
	930	BORD	41	F	1222.6	1223.0	1.8	99.0	3.0		
	430	KRAK	42	SER	1247.8	1247.8	.6	66.0			
	808	ONDR	8	S	1253.0	1253.0	.1	11.0			
	810	KRAK	8	S	1312.5	1312.6	.2	7.0			
	930	BORD	41	F	1407.6	1407.8	.5	72.0	2.0		
	930	BORD	41	F	1448.2	1448.6	.6	62.0	3.0		
	9400	HUAN	20	GRF	1612.9	1624.5	26.1	5.6	2.8		0
	2695	SGMR	8	S	1702.8	1703.5	1.8	31.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1720.0	1745.0	100.0	3.0	1.5		
	245	SGMR	47	GB	1728.1	1729.1	6.2	470.0			QL=6 ST=2 TYP=5
	245	PALE	49	GB	1729.0	1729.1	4.1	520.0			QL=5 ST=2 TYP=6
	410	SGMR	8	S	1729.0	1729.1	1.1	38.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1743.8	1753.8	25.9	2.8	1.0		0
	245	PALE	47	GB	1836.6	1836.8	1.2	320.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1836.6	1836.8	1.7	230.0			QL=6 ST=2 TYP=5
	2800	OTTA	240	R	1930.0	2020.0	50.0	3.8	2.2		
	2695	PENT	20	GRF	2200.0	2250.0	90.0	2.4	1.2		
	245	LEAR	47	GB	2246.0	2246.1	.1	95.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2341.1	2341.1	.2	90.0			QL=6 ST=2 TYP=5
	245	LEAR	4	S/F	2358.3	0000.3	2.8	18.0			QL=6 ST=2 TYP=3
11	200	GORK	44	NS	0526.0E		276.0D		5.0		
	100	GORK	44	NS	0527.0E		171.0D		5.0		
	260	ONDR	44	NS	0709.0E	1004.5U	470.0D	18.0			
	245	PALE	43	NS	1645.0	1847.6	660.0D	29.0			QL=6 ST=2 TYP=1
	15400	PALE	8	S	0320.6	0321.1	1.4	37.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0512.8	0513.0	.3	23.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0644.0	0644.1	.1	18.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0652.8	0652.8	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0707.3	0707.3	.2	77.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0729.8	0730.0	.3	40.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0752.3	0752.3	.2	47.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0836.8	0836.8	.2	52.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0843.3	0843.5	.3	72.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0900.0	0900.1	.1	100.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0922.6	0922.8	.2	130.0			QL=1 ST=2 TYP=5
	245	LEAR	47	GB	0945.8	0945.8	.2	75.0			QL=1 ST=2 TYP=5
	810	KRAK	8	S	1004.7	1004.8	.3	18.0			
	430	KRAK	8	S	1004.8	1004.9	.2	9.0			
	810	KRAK	8	S	1120.7	1120.8	.2	8.0			

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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
11	610	SGMR	49	GB	1456.8	1458.1	6.0	600.0			QL=6 ST=2 TYP=6
	410	SGMR	47	GB	1457.3	1458.5	2.7	239.0			QL=6 ST=2 TYP=5
	2800	OTTA	1	S	1724.0	1725.0	3.0	2.2	1.5		
	245	LEAR	47	GB	2220.3	2220.5	.3	80.0			QL=6 ST=2 TYP=5
	3750	TYKW	28	PRE	2233.0	2236.0	4.0	1.5	1.0		
	3750	TYKW	45	C	2237.0	2239.2	5.0	12.0	5.0		
	9400	TYKW	5	S	2238.0	2239.2	15.0	6.0	2.0		
	2695	PENT	1	S	2238.0	2239.3	2.0	2.4	1.0		
	3750	TYKW	29	PBI	2242.0		20.0	4.0	2.0		
	245	LEAR	47	GB	2244.1	2244.1	.2	60.0			QL=6 ST=2 TYP=5
12	200	GORK	44	NS	0458.0E		250.0D		5.0		
	245	PALE	43	NS	1645.0	1922.8	659.0D	61.0			QL=6 ST=2 TYP=1
	245	LEAR	8	S	0002.1	0002.1	.2	25.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0115.6	0115.8	.2	50.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0139.5	0139.6	.1	25.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0240.0	0243.0	30.0	4.0	2.0		
	2000	TYKW	5	S	0240.5	0241.3	8.0	1.5	.5		
	245	LEAR	8	S	0249.3	0249.3	.2	35.0			QL=6 ST=2 TYP=3
	204	IZMI	41	F	0619.0	0619.4	3.5	330.0			
	245	LEAR	8	S	0655.1	0655.3	.2	33.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0702.6	0702.8	.2	18.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0717.1	0717.3	.2	90.0			QL=1 ST=2 TYP=5
	245	LEAR	47	GB	0739.6	0739.8	.2	50.0			QL=5 ST=2 TYP=5
	245	LEAR	47	GB	0802.3	0802.3	.2	63.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0809.1	0809.3	.2	48.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0825.3	0825.3	.2	42.0			QL=1 ST=2 TYP=3
	245	LEAR	47	GB	0831.8	0831.8	.2	50.0			QL=5 ST=2 TYP=5
	245	LEAR	47	GB	0847.8	0847.8	.2	110.0			QL=1 ST=2 TYP=5
	260	ONDR	8	S	0904.5	0905.0	.7	15.0			
	430	KRAK	42	SER	0907.3	0907.8	3.7	47.0			
	245	LEAR	8	S	0909.8	0910.0	.3	35.0			QL=1 ST=2 TYP=3
	260	ONDR	8	S	1148.8	1149.0	.8	6.0			
	9400	HUAN	20	GRF	1338.9	1352.8	23.2	4.0	2.4		0
	2800	OTTA	8	S	1909.9	1910.0	.8	3.4	1.7		
	245	PALE	47	GB	1944.8	1944.8	.3	130.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1944.8	1944.8	.3	92.0			QL=6 ST=2 TYP=5
	3750	TYKW	5	S	2300.0	2300.4	1.0	2.0	.7		
13	245	LEAR	43	NS	0124.5	0551.3	524.5D	98.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0452.0E		201.0D		5.0		
	221	ABST	43	NS	0500.0	0535.0	70.0D	15.0			
	100	GORK	43	NS	0721.0		157.0		5.0		
	127	TORN	43	NS	0842.0	1022.6	136.0	20.0	1.0		V=0
	3750	TYKW	20	GRF	0020.0	0050.0	100.0	2.0	1.0		
	2000	TYKW	20	GRF	0030.0	0055.0	60.0	2.0	1.0		
	245	LEAR	47	GB	0053.1	0053.1	.2	55.0			QL=1 ST=2 TYP=5
	200	HIRA	41	F	0522.0	0532.0	17.0	61.0			0
	245	LEAR	8	S	0655.3	0655.8	.7	28.0			QL=6 ST=2 TYP=3
	430	KRAK	42	SER	1042.7	1043.0	3.8	17.0			
	260	ONDR	41	F	1137.0	1145.5	9.0	31.0			
	430	KRAK	42	SER	1138.5	1139.5	1.5	37.0			
	260	ONDR	20	GRF	1152.5		2.0		4.0		
	9400	HUAN	22	GRF	1224.3	1229.7	23.4	4.2	1.1		0
	430	KRAK	8	S	1255.3	1255.5	.3	7.0			
	930	BORD	41	F	1311.6	1311.8	.2	28.0	2.0		
14	260	ONDR	43	NS	1000.0	1105.0	300.0D	12.0			
	245	LEAR	43	NS	2209.0	2343.8	721.0D	110.0			QL=6 ST=2 TYP=1
	245	LEAR	47	GB	0007.6	0007.8	.2	110.0			QL=5 ST=2 TYP=5
	1000	TYKW	5	S	0014.5	0015.0	1.0	295.0	20.0		
	3750	TYKW	5	S	0014.5	0015.1	1.5	68.0	5.0		
	2000	TYKW	5	S	0014.6	0014.9	2.0	28.0	5.0		
	9400	TYKW	5	S	0014.7	0014.9	.6	10.0	3.0		
	1415	PALE	8	S	0014.8	0014.8	.5	33.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	0014.8	0014.8	.3	20.0			QL=6 ST=2 TYP=3
	2695	PENT	3	S	0014.8	0015.0	1.0	48.0	12.0		
	2695	PALE	8	S	0014.8	0015.0	.5	47.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	0014.8	0015.0	.5	26.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0102.3	0102.3	.2	18.0			QL=5 ST=2 TYP=3
	9400	TYKW	5	S	0151.0	0152.8	3.0	16.0	3.0		

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
14	3750	TYKW	5	S	0152.0	0152.7	3.0	25.0	4.0		
	9395	PEKG	1	S	0152.0	0152.9	2.0	8.4	2.0		
	2840	PEKG	3	S	0152.0	0153.0	2.0	24.0	4.6		
	2000	TYKW	5	S	0152.5	0152.8	1.5	16.0	4.0		
	1000	TYKW	5	S	0152.5	0153.0	2.0	3.0	1.0		
	4995	PALE	8	S	0152.6	0152.8	.5	20.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	0152.6	0152.8	1.0	30.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0154.0		7.0	4.0	2.0		
	2000	TYKW	29	PBI	0154.0		25.0	2.0	1.0		
	3750	TYKW	29	PBI	0155.0		20.0	3.0	1.5		
	9395	PEKG	3	S	0439.0	0439.7	2.0	24.0	6.6		
	930	BORD	41	F	0812.0	0812.7	.8	32.0	1.0		
	810	KRAK	8	S	1052.3	1052.5	.2	29.0			
	430	KRAK	42	SER	1252.3	1257.5	15.0	22.0			
	430	KRAK	8	S	1338.5	1338.7	.5	34.0			
	2800	OTTA	20	GRF	1815.0	1905.0	105.0	4.4	2.2		
	2800	OTTA	20	GRF	2010.0	2017.0	15.0	1.8	.8		
15	221	ABST	44	NS	0500.0E	0828.0	240.0D	19.0			
	260	ONDR	44	NS	0717.0E	1051.0	448.0D	30.0			
	245	LEAR	43	NS	2208.0	2328.5	723.0D	63.0			QL=5 ST=2 TYP=1
	3750	TYKW	20	GRF	0140.0	0152.0	40.0	2.0	1.0		
	9400	TYKW	45	C	0455.3	0455.7	1.7	310.0	40.0		
	9400	TYKW	29	PBI	0457.0		20.0	4.0	2.0		
	2000	TYKW	20	GRF	0540.0	0550.0	30.0	3.0	1.0		
	3750	TYKW	20	GRF	0540.0	0550.0	30.0	3.0	1.5		
	9400	TYKW	5	S	0629.0	0630.0	3.0	12.0	3.0		
	113	POTS	41	F	0956.5	0958.2	2.2	500.0	1.0		III
	245	LEAR	8	S	0957.3	0957.3	.2	21.0			QL=6 ST=2 TYP=3
	3100	CRIM	1	S	1142.0	1144.0	7.0	11.0	4.0		
	950	GORK	22	GRF	1143.9	1152.1	9.3	19.0			
	1470	POTS	40	F	1147.0	1149.0	8.0	10.0			
	9500	POTS	20	GRF	1147.0	1152.0	9.0	10.0			
	930	BORD	46	C	1147.0	1152.3	6.0	36.0	4.0		
	2950	GORK	21	GRF	1147.8	1150.0	10.0	3.9			
	3000	POTS	3	S	1148.0	1148.5	2.0	9.0			
	2950	GORK	1	S	1148.7	1149.0	1.1	3.9			
	536	ONDR	46	C	1149.0	1150.5	4.5	34.0	13.0		
	610	SGMR	47	GB	1149.1	1152.1	3.9	85.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1150.6	1151.5	2.5	58.0			QL=6 ST=2 TYP=5
	2800	OTTA	46F	C	2036.5	2037.5	11.0	7.2	2.0		
	245	SGMR	47	GB	2036.6	2037.0	1.2	100.0			QL=6 ST=2 TYP=5
	610	SGMR	4	S/F	2036.8	2038.3	3.0	24.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	2037.0	2037.1	2.6	51.0			QL=6 ST=2 TYP=5
	9400	HUAN	4	S/F	2037.0	2037.7	21.1	15.7	9.9		L
	4995	SGMR	4	S/F	2037.1	2037.6	2.2	40.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	2037.3	2037.6	1.8	30.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	2037.3	2037.6	2.0	38.0			QL=6 ST=2 TYP=3
	9400	HUAN	30	PBI	2039.1	2039.1	19.9	6.6	3.5		L
	2695	SGMR	4	S/F	2041.1	2041.5	6.4	23.0			QL=6 ST=2 TYP=3
	4995	SGMR	4	S/F	2041.1	2043.1	3.7	21.0			QL=6 ST=2 TYP=3
	610	SGMR	47	GB	2041.1	2043.3	6.0	47.0			QL=6 ST=2 TYP=5
	9400	HUAN	2	S/F	2041.1	2043.8	3.2	9.2	4.1		L
	1415	SGMR	4	S/F	2041.5	2042.8	2.6	22.0			QL=6 ST=2 TYP=3
	410	SGMR	4	S/F	2042.6	2042.8	4.4	37.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	2043.3	2043.5	1.8	100.0			QL=6 ST=2 TYP=5
	9400	TYKW	45	C	2126.0E	2126.6U	2.5D	30.0U	13.0D		
	2000	TYKW	45	C	2126.0E	2126.6U	2.5D	14.0U	6.0D		
	3750	TYKW	45	C	2126.0E	2126.6U	2.5D	16.0U	7.0D		
	1000	TYKW	45	C	2126.0E	2126.7U	2.5D	7.0U	3.0D		
16	260	ONDR	44	NS	0755.0E	0834.5	245.0D	33.0			
	245	LEAR	43	NS	2229.6	0028.6	701.4	36.0			QL=6 ST=2 TYP=1
	2000	TYKW	5	S	0532.0	0536.6	15.0	2.0	.7		
	3750	TYKW	5	S	0533.0	0537.0	20.0	2.0	1.0		
	9400	TYKW	5	S	0619.5	0619.7	.7	10.0	4.0		
	430	KRAK	42	SER	0809.0	0832.3	60.0	325.0			
	950	GORK	46	C	0830.2	0831.3	2.7	20.0			
	950	GORK			0830.2	0835.4		11.0			
	5200	BERN	21	GRF	0832.8	0834.0	20.0	29.0			
	3100	BERN	21	GRF	0832.8	0834.0	20.0	51.0			

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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
16	8400	BERN	20	GRF	0832.8	0834.3	20.0	21.0			
	1415	ATHN	4	S/F	0832.8	0834.5	6.7	25.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0833.0	0834.3	4.0	12.0			
	1470	POTS	4	S/F	0833.0	0834.4	3.5	23.0			
	3000	POTS	4	S/F	0833.0	0834.5	2.5	37.0			
	930	BORD	46	C	0833.0	0834.6	3.0	23.0	5.0		
	2950	GORK	21	GRF	0833.0	0835.3	126.0	26.0			
	810	KRAK	1	S	0833.3	0833.8	1.2	19.0	9.0		
	2950	GORK	3	S	0833.5	0834.3	1.6	5.2	2.6		
	245	LEAR	8	S	0833.6	0834.1	.7	37.0			QL=6 ST=2 TYP=3
	650	GORK	46	C	0833.8	0834.2	2.0	8.5			
	650	GORK			0833.8	0835.4		9.0			
	9500	POTS	1	S	0834.0	0834.2	2.0	9.0			
	810	KRAK	8	S	0834.5	0834.8	.5	19.0			
	6100	KISV	29	PBI	0837.0	0837.0	23.0	6.0			
	1470	POTS	20	GRF	0931.0	0933.0	44.0	3.0			
	6100	KISV	21	GRF	0945.0	0947.7	27.0	5.0			
	9500	POTS	20	GRF	0945.0	0948.0	35.0	5.0			
	430	KRAK	42	SER	1058.0	1128.2	50.0	22.0			
	430	KRAK	42	SER	1252.5	1320.0	66.0	34.0			
	33	UPIC	45	C	1314.8	1315.0	2.4				
	29	UPIC	45	C	1314.9	1315.1	2.1				
	113	POTS	4	S/F	1315.0	1315.1	.3	130.0	20.0		III
	2800	OTTA	1	S	1454.4	1455.3	2.5	1.8	.9		
	2800	OTTA	4	S/F	1629.5	1631.5	4.0	53.0	13.2		
	930	BORD	46	C	1629.6	1629.6	4.0	29.0	4.0		
	9400	HUAN	4	S/F	1630.7	1631.5	2.4	30.8	13.0		L
	9400	HUAN	29	PBI	1633.1	1633.1	6.8	5.6	2.2		0
	2800	OTTA	1	S	2122.2	2122.9	1.5	3.8			
	245	LEAR	47	GB	2321.0	2321.1	.1	96.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2324.6	2325.1	1.5	180.0			QL=6 ST=2 TYP=5
	2000	TYKW	8	S	2326.3	2326.4	.3	3.0	1.0		
17	200	GORK	44	NS	0452.0E		201.0D		5.0		
	221	ABST	44	NS	0500.0E	0540.0	240.0D	15.0			
	260	ONDR	44	NS	0823.0E	1003.0	384.0D	21.0			
	245	SGMR	43	NS	1120.0	2011.0	617.0D	200.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2207.0	0309.0	724.0D	43.0			QL=1 ST=3 TYP=1
	245	LEAR	47	GB	0206.6	0207.6	1.4	58.0			QL=6 ST=2 TYP=5
	2000	TYKW	45	C	0207.2	0208.2	1.5	6.0	1.5		
	9395	PEKG	8	S	0444.0	0444.6	1.0	50.0	17.3		
	2000	TYKW	45	C	0449.0	0450.3	4.0	12.0	1.5		
	9395	PEKG	20	GRF	0514.0	0622.6	94.0	23.8	2.5		
	430	KRAK	8	S	1016.3	1016.5	.2	43.0			
	430	KRAK	8	S	1018.7	1018.8	.2	19.0			
	430	KRAK	42	SER	1122.3	1122.5	.5	39.0			
	234	POTS	4	S/F	1350.8	1351.2	1.4	140.0	15.0		
18	245	PALE	43	NS	2025.0	2038.3	433.0D	38.0			QL=6 ST=2 TYP=1
	500	HIRA	45	C	0626.0	0627.4	2.0	400.0	40.0		0
	950	GORK	4	S/F	0626.3	0627.1	2.0	10.0			
	650	GORK	46	C	0626.3	0627.3	2.2	15.0			
	650	GORK			0626.3	0628.0		27.0			
	1000	TYKW	42	SER	0626.4	0627.2	2.0	22.0	2.5		
	2000	TYKW	5	S	0627.0	0627.2	.7	57.0	9.0		
	3750	TYKW	5	S	0627.0	0627.3	.7	1.5	.5		
	536	ONDR	40	F	0921.5	0932.0	11.5	3.0			
	260	ONDR	40	F	0921.5	0932.5	11.5	15.0			
	430	KRAK	8	S	0922.3	0922.5	.3	19.0			
	930	BORD	41	F	0931.3	0931.7	.5	14.0	2.0		
	430	KRAK	8	S	0931.5	0931.7	.3	62.0			
	808	ONDR	7	C	0931.5	0932.0	1.5	16.0			
	810	KRAK	8	S	0931.8	0931.8	.2	10.0			
	430	KRAK	8	S	1007.0	1007.2	.2	9.0			
	810	KRAK	8	S	1007.3	1007.4	.2	11.0			
	430	KRAK	8	S	1014.8	1014.8	.2	10.0			
	810	KRAK	8	S	1015.2	1015.3	.2	17.0			
	930	BORD	41	F	1023.0	1023.1	.3	48.0	2.0		
	260	ONDR	40	F	1036.8	1036.8	1.5	2.0			
	9400	HUAN	1	S	1251.0	1255.2	7.2	3.9	1.1		0
	430	KRAK	8	S	1340.2	1340.3	.2	18.0			

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
18	9400	HUAN	23	GRF	1837.0	1857.4	36.5	7.8	2.9		0
	2800	OTTA	20	GRF	1840.0	1847.0	50.0	3.8	1.7		
	9400	HUAN	1	S	1851.2	1851.7	1.6	5.2	2.6		0
	245	LEAR	8	S	2251.1	2251.6	.5	13.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	2324.8	2325.0	.3	119.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	2342.6	2342.8	.2	16.0			QL=6 ST=2 TYP=3
19	245	LEAR	43	NS	0001.5	0004.8	205.6	77.0			QL=1 ST=2 TYP=1
	245	LEAR	44	NS	2205.0E	0016.6	670.8D	58.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0007.0	0007.9	2.0	8.0	3.0		
	3750	TYKW	21	GRF	0512.0	0539.0	70.0	4.0	2.0		
	2000	TYKW	20	GRF	0515.0	0523.0	65.0	3.0	1.5		
	3750	TYKW	5	S	0519.0	0522.0	10.0	6.0	2.0		
	221	ABST	45	C	0725.2	0748.0	25.0	39.0	30.0		
	536	ONDR	46	C	0810.5	0814.5	8.5	84.0	64.0		
	536	ONDR	29	PBI	0819.0	0819.0	7.0	12.0	6.0		
	536	ONDR	48	C	0826.0	0836.5	20.8	80.0	34.0		
	536	ONDR	46	C	0846.0	0901.5	27.2	195.0	156.0		
	536	ONDR	29	PBI	0914.0	0914.0	11.5	14.0	8.0		
	260	ONDR	8	S	0936.5	0937.0	1.0	6.0			
	536	ONDR	46	C	1046.2	1103.5	28.0	49.0	41.0		
	6100	KISV			1133.0	1134.4		6.0			
┌	6100	KISV	45	C	1133.0	1139.5	10.0	11.0			
└	9400	HUAN	1	S	1138.9	1139.3	2.3	13.4	5.6		L
	536	ONDR	29	PBI	1140.0	1142.5	19.0	6.0	4.0		
	430	KRAK	4	S/F	1142.0	1142.8	1.5	480.0D			
	260	ONDR	20	GRF	1152.0		4.5				
	260	ONDR	42	SER	1217.0	1219.0	2.5	3.0			
	430	KRAK	42	SER	1321.5	1326.8U	23.2	40.0			
	536	ONDR	40	F	1333.0	1335.0	4.0	7.0			
	9400	HUAN	22	GRF	1402.5	1410.7	21.7	4.2	1.2		0
	9400	HUAN	8	S	1452.8	1453.1	1.0	28.2	10.1		L
	2800	OTTA	21	GRF	1520.0	1600.0	100.0	2.0	1.0		
	2800	OTTA	8	S	1520.5	1520.7	.5	4.0			
	9400	HUAN	22	GRF	1534.5	1556.0	46.7	4.9	1.8		0
	930	BORD	41	F	1535.3	1536.7	2.8	15.0	3.0		
	245	PALE	8	S	1731.0	1731.1	.5	27.0			QL=6 ST=2 TYP=3
	9400	HUAN	22	GRF	1754.1	1804.0	28.1	8.5	3.0		L
	9400	HUAN	21	GRF	1908.6	1922.0	47.0	4.2	3.1		0
	9400	HUAN	1	S	1919.1	1920.1	1.8	9.2	4.5		0
	15400	PALE	8	S	2006.6	2007.1	1.0	44.0			QL=6 ST=2 TYP=3
20	208	VORO	44	NS	0000.0E		240.0D		2.0		
	430	KRAK	43	NS	0823.5	0920.0	155.5	37.0			
┌	410	PALE	43	NS	1705.0	2035.1	635.0D	42.0			QL=6 ST=2 TYP=1
├	245	PALE	43	NS	1705.0	2122.6	635.0D	130.0			QL=6 ST=2 TYP=1
├	245	LEAR	43	NS	2204.0	0818.8	729.0D	93.0			QL=6 ST=2 TYP=1
└	208	VORO	44	NS	2300.0E		300.0D		5.0		
	500	HIRA	22	GRF	0000.0E	0027.6	146.0D	20.0	8.0		MR
	245	LEAR	8	S	0144.1	0144.3	1.2	40.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0510.0	0525.0	60.0	2.0	1.0		
	9400	TYKW	5	S	0600.4	0600.6	.6	12.0	3.0		
	536	ONDR	40	F	0836.0		16.0	3.0			
	536	ONDR	40	F	0922.5		55.0	6.0			
	536	ONDR	40	F	1028.0		47.0	7.0			
	536	ONDR	40	F	1145.0	1157.0	15.0	16.0			
	245	SGMR	49	GB	1315.3	1315.6	1.5	1899.0			QL=6 ST=2 TYP=6
	430	KRAK	42	SER	1338.5	1340.8	3.2	11.0			
	260	ONDR	8	S	1443.8	1443.8	.7	4.0			
	410	SGMR	4	S/F	1511.1	1511.1	2.5	42.0			QL=6 ST=2 TYP=3
	410	SGMR	8	S	1515.6	1516.1	1.7	44.0			QL=6 ST=2 TYP=3
┌	9400	HUAN	21	GRF	1606.1	1612.3	13.0	2.7	1.9		0
├	2800	OTTA	8	S	1613.0	1613.2	.5	1.0	.5		
└	9400	HUAN	1	S	1613.0	1613.5	1.2	6.8	2.4		L
	2800	OTTA	20	GRF	1640.0	1750.0	105.0	3.0	1.5		
	9400	HUAN	1	S	1733.0	1733.2	1.2	4.1	2.2		0
	410	PALE	8	S	2034.8	2035.0	.8	41.0			QL=5 ST=2 TYP=3
	245	PALE	47	GB	2043.6	2043.8	.7	100.0			QL=5 ST=2 TYP=5
	245	PALE	47	GB	2048.3	2048.3	.5	93.0			QL=5 ST=2 TYP=5
┌	410	PALE	8	S	2055.1	2055.3	.5	39.0			QL=5 ST=2 TYP=3
└	245	PALE	47	GB	2055.6	2055.8	.5	50.0			QL=5 ST=2 TYP=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
20	245	SGMR	8	S	2059.5	2059.6	1.1	24.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	2059.8	2100.8	4.2	71.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2100.1	2101.3	1.9	100.0			QL=5 ST=2 TYP=5
	245	SGMR	47	GB	2121.0	2121.1	2.8	100.0			QL=6 ST=2 TYP=5
	3750	TYKW	20	GRF	2200.0	2245.0	110.0	4.0	2.0		
	2000	TYKW	5	S	2339.4	2339.8	1.0	2.0	.5		
	245	LEAR	47	GB	2342.8	2342.8	.3	54.0			QL=6 ST=2 TYP=5
21	260	ONDR	43	NS	1100.0	1155.0U	140.0D	10.0			
	245	LEAR	43	NS	2216.6	2248.8	88.0	97.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		240.0D		1.0		
	9400	TYKW	5	S	0033.7	0034.6	4.3	267.0	35.0		
	3750	TYKW	5	S	0034.0	0034.7	4.0	30.0	8.0		
	8800	PALE	47	GB	0034.0	0034.6	2.8	300.0			QL=6 ST=2 TYP=5
	17000	NOBE	4	S/F	0034.0	0034.6	3.0	305.0			R
	15400	PALE	47	GB	0034.1	0034.6	2.0	390.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	0034.3	0034.6	1.5	87.0			QL=6 ST=2 TYP=5
	3750	TYKW	29	PBI	0038.0		40.0	2.0	1.0		
	9400	TYKW	29	PBI	0038.0		25.0	5.0	2.0		
	3750	TYKW	21	GRF	0130.0	0212.0	110.0	3.0	1.0		
	9400	TYKW	5	S	0133.0	0134.2	10.0	6.0	1.5		
	9395	PEKG	41	F	0137.0	0148.3	13.5	16.7	3.6		
	3750	TYKW	5	S	0239.0	0241.0	6.0	1.0	.5		
	3750	TYKW	5	S	0247.0	0249.0	10.0	1.5	.7		
	9400	TYKW	5	S	0333.0	0336.5	11.0	3.0	1.5		
	3750	TYKW	5	S	0334.0	0336.2	10.0	1.5	.5		
	200	HIRA	46	C	0334.3	0334.8	1.1	65.0	21.0		0
	3750	TYKW	28	PRE	0428.0	0500.0	32.0	2.0	1.0		
	2000	TYKW	45	C	0500.0	0506.3	12.0	13.0	5.0		
	9400	TYKW	5	S	0500.0	0506.3	10.0	10.0	4.0		
	3750	TYKW	45	C	0500.0	0506.3	12.0	15.0	8.0		
	2840	PEKG	3	S	0500.0	0506.6	10.0	25.0	8.6		
	9395	PEKG	20	GRF	0500.0	0506.7	21.0	7.1	3.0		
	1000	TYKW	45	C	0501.0	0506.0	11.0	6.0	2.0		
	500	HIRA	45	C	0504.6	0505.9	2.0	19.0	8.0		SL
	245	LEAR	4	S/F	0504.8	0505.8	2.2	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0510.0		65.0	5.0	2.0		
	2840	PEKG	29	PBI	0510.0		26.0	11.5	4.4		
	3750	TYKW	29	PBI	0512.0		90.0	6.0	3.0		
	2000	TYKW	29	PBI	0512.0		90.0	4.0	2.0		
	500	HIRA	7	C	0529.3	0530.0	1.2	20.0	6.0		WL
	245	LEAR	47	GB	0531.5	0531.6	1.1	189.0			QL=6 ST=2 TYP=5
	2950	GORK	20	GRF	0540.5	0757.0	380.0D	20.0			
	6100	KISV	21	GRF	0647.2	0651.1	14.0	5.0			
	9100	GORK	20	GRF	0714.0	0754.4	158.0	21.0			
	1470	POTS	23	GRF	0723.0	0732.6	182.0	23.0			
	3000	POTS	23	GRF	0725.0	0758.0	53.0	25.0			
	950	GORK	22	GRF	0727.0	0732.4	17.5	8.0			
	3100	CRIM	20	GRF	0727.0	0755.0	135.0	16.0	5.0		
	6100	KISV	21	GRF	0727.5	0813.0	86.0	19.0			
	650	GORK	22	GRF	0728.0	0737.3	20.7	5.0			
	9500	POTS	20	GRF	0728.0	0754.0	122.0	16.0			
	200	GORK	21	GRF	0730.0		77.0				
	200	GORK	40	F	0730.8	0732.8	7.3	30.0			
	100	GORK	4	S/F	0731.0	0733.9	10.6	70.0D			
	2000	TYKW	45	C	0733.0	0735.8	4.0D	72.0U	4.0D		
	100	GORK	27	RF	0747.7	0814.7	232.0	45.0			
	650	GORK	45	C	0750.2	0752.0	9.8	3.0			
	650	GORK			0750.2	0757.0		9.0			
	430	KRAK	45	C	0754.3	0757.0	4.0	106.0	39.0		
	200	GORK	2	S/F	0754.9	0757.7	4.3	10.0			
	245	LEAR	47	GB	0755.6	0756.6	4.0	78.0			QL=6 ST=2 TYP=5
	930	BORD	8	S	0844.2	0844.4	.4	110.0	2.0		
	430	KRAK	42	SER	0911.5	0918.3	6.8U	20.0			
	930	BORD	8	S	1015.4	1015.7	.3	29.0	2.0		
	260	ONDR	8	S	1015.5	1016.0	1.0	8.0			
	2695	ATHN	8	S	1022.1	1022.5	1.4	29.0			QL=2 ST=2 TYP=3
	430	KRAK	8	S	1059.2	1059.4	.5	15.0			
	260	ONDR	8	S	1136.0	1136.5	1.0				
	536	ONDR	46	C	1136.0	1136.6	1.5	78.0			
	430	KRAK	8	S	1136.2	1136.3	.3	160.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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	SGMR	49	GB	1136.3	1136.6	1.5	5700.0			QL=6 ST=2 TYP=6
	6100	KISV	2	S/F	1136.3	1136.6	1.0	9.0			
	234	POTS	8	S	1136.5	1136.7	.5	55000.0	2000.0		III
	260	ONDR	8	S	1304.5	1304.5	1.0	152.0			
	234	POTS	4	S/F	1304.6	1304.7	.6	250.0	25.0		III
	113	POTS	8	S	1305.2	1305.2	.3	350.0	100.0		III
	430	KRAK	8	S	1347.0	1347.0	.1	13.0			
	808	ONDR	8	S	1354.0	1354.3	1.0	11.0			
	2800	OTTA	1	S	1357.5	1358.3	2.0	6.2	2.1		
	810	KRAK	8	S	1358.8	1358.8	.2	52.0			
	9400	HUAN	22	GRF	1536.4	1603.6	49.0	5.5	1.2		0
	9400	HUAN	20	GRF	1643.0	1649.8	17.9	3.4	1.9		0
	9400	HUAN	1	S	1807.2	1808.0	1.6	2.7	1.6		0
	2800	OTTA	1	S	2001.0	2002.5	3.0	7.4	2.6		
	9400	HUAN	1	S	2001.6	2003.0	2.5	12.4	6.2		L
	4995	SGMR	4	S/F	2001.8	2002.8	2.3	24.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2002.1	2002.6	1.0	21.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	2002.5	2002.6	.3	11.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	2004.1	2004.1	8.5	4.8	2.3		L
	2695	PENT	1	S	2115.5	2117.2	3.0	2.0	.8		
	2695	PENT	1	S	2156.5	2157.3	2.0	2.8	1.4		
	9400	TYKW	21	GRF	2250.0	2306.0	50.0	6.0	3.0		
	3750	TYKW	21	GRF	2250.0	2314.0	55.0	2.0	1.0		
	3750	TYKW	5	S	2307.5	2308.4	3.0	14.0	3.0		
	2000	TYKW	5	S	2307.5	2308.4	2.5	5.0	1.5		
	2695	PENT	1	S	2308.0	2308.5	1.5	6.4	2.8		
	9400	TYKW	45	C	2308.0	2308.5	2.0	4.0	2.0		
	245	LEAR	47	GB	2308.1	2308.5	.7	58.0			QL=6 ST=3 TYP=5
	3750	TYKW	21	GRF	2350.0	2358.0	45.0	1.5	.7		
	9400	TYKW	21	GRF	2351.0	0002.0	30.0	4.0	2.0		
22	260	ONDR	43	NS	1140.0		185.0D	135.0			
	245	LEAR	43	NS	2229.3	0823.3	703.7	52.0			QL=5 ST=2 TYP=1
	3750	TYKW	5	S	0014.0	0014.3	1.5	4.0	1.0		
	9400	TYKW	5	S	0014.0	0014.4	3.0	30.0	6.0		
	15400	PALE	47	GB	0014.1	0014.3	.5	67.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0014.2	0014.3	.5	26.0	5.0		
	17000	NOBE	1	S	0014.3	0014.5	1.5	58.0			R
	3750	TYKW	21	GRF	0058.0	0111.0	40.0	2.0	1.0		
	9400	TYKW	21	GRF	0058.0	0113.0	40.0	3.0	1.5		
	9400	TYKW	5	S	0114.0	0115.7	4.0	14.0	4.0		
	3750	TYKW	5	S	0114.5	0115.8	4.0	6.0	2.0		
	2000	TYKW	5	S	0115.0	0115.7	1.5	1.5	.5		
	4995	PALE	8	S	0115.3	0115.5	.3	13.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	0115.3	0115.5	1.0	23.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0158.8	0158.8	.2	21.0			QL=6 ST=3 TYP=3
	3750	TYKW	20	GRF	0220.0	0314.0	150.0	10.0	3.0		
	2000	TYKW	20	GRF	0240.0	0302.0	70.0	3.0	1.5		
	9400	TYKW	20	GRF	0244.0	0320.0	130.0	12.0	5.0		
	100	HIRA	46	C	0307.0	0321.4	41.0	29.0	8.0		0
	100	HIRA	41	F	0309.9	0312.0	5.6	390.0			WL
	1000	TYKW	5	S	0410.0	0410.6	2.0	1.5	.5		
	9100	GORK	21	GRF	0545.4	0612.8	56.0	13.0			
	1000	TYKW	45	C	0612.4	0612.8	1.0	14.0	3.0		
	6100	KISV	2	S/F	0612.6	0613.0	1.0	4.0			
	9100	GORK	1	S	0628.4	0628.6	.9	18.0	9.0		
	17000	NOBE	1	S	0628.5	0628.6	2.0	49.0			0
	15000	KISV	2	S/F	0628.5	0628.6	1.5	45.0			
	9400	TYKW	5	S	0628.5	0628.7	1.0	10.0	4.0		
	2950	GORK	20	GRF	0631.2	0751.0	135.0	5.9			
	245	LEAR	8	S	0833.0	0833.1	.1	32.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0855.6	0855.6	.2	21.0			QL=6 ST=2 TYP=3
	9100	GORK	21	GRF	0911.0	0911.6	12.8	11.0			
	6100	KISV	2	S/F	0911.0	0911.8	5.0	9.0			
	2950	GORK	1	S	0911.3	0912.0	2.0	3.5	1.7		
	650	GORK	1	S	0911.4	0911.7	.5	2.0			
	260	ONDR	8	S	0919.0	0919.2	.4	93.0			
	245	LEAR	47	GB	0919.1	0919.1	1.0	160.0			QL=6 ST=2 TYP=5
	9100	GORK	1	S	0921.2	0921.4	.7	11.0	5.0		
	430	KRAK	42	SER	0941.0	0959.5	26.5	88.0			
	260	ONDR	40	F	0951.0	0959.0	24.0	40.0			

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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
22	245	LEAR	4	S/F	0958.3	0959.3	2.5	48.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	1008.0	1008.3	1.0	5.0			
	430	KRAK	8	S	1138.2	1138.4	.2	14.0			
	9400	HUAN	20	GRF	1202.1	1210.6	8.5U	2.7	1.8		0
	430	KRAK	42	SER	1219.3	1219.5	8.5	36.0			
	2695	PALE	47	GB	2015.6	2015.6	.4	97.0			QL=6 ST=2 TYP=5
	9400	HUAN	1	S	2033.7	2034.2	1.8	11.6	4.0		R
	2800	OTTA	240	AR	2121.0	2123.0	2.0	3.0			
	2800	OTTA	1	S	2122.0	2123.0	1.0	2.0	1.0		
	9400	TYKW	5	S	2209.3	2209.7	1.0	34.0	7.0		
	3750	TYKW	21	GRF	2210.0	2320.0	210.0	7.0	3.0		
	245	LEAR	8	S	2212.3	2212.3	.2	40.0			QL=5 ST=2 TYP=3
	245	LEAR	47	GB	2309.6	2309.8	.2	96.0			QL=6 ST=2 TYP=5
	9400	TYKW	20	GRF	2350.0	0000.0	80.0	4.0	2.0		
	2000	TYKW	20	GRF	2355.0	0009.0	90.0	5.0	1.5		
	3750	TYKW	21	GRF	2355.0	0010.0	100.0	6.0	3.0		
23	200	GORK	43	NS	0840.0		195.0D		5.0		
	260	ONDR	44	NS	1000.0E		298.0D	24.0			
	245	SGMR	43	NS	1128.0	1516.8	600.0D	90.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2051.0E	0212.0	654.0D	20.0	10.0		ML
	245	LEAR	43	NS	2202.0	0137.8	732.0D	119.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		300.0D		13.0		
	3750	TYKW	45	C	0016.0	0017.3	2.5	3.0	1.0		
	200	HIRA	46	C	0042.1	0043.0	2.7	54.0	20.0		WL
	245	LEAR	47	GB	0043.0	0043.8	1.0	50.0			QL=6 ST=2 TYP=5
	208	VORO	4	S/F	0043.0	0044.0	3.0	44.0			
	9400	TYKW	5	S	0118.5	0119.0	1.5	4.0	1.5		
	3750	TYKW	5	S	0126.0	0127.9	7.0	3.0	1.0		
	3750	TYKW	21	GRF	0155.0	0320.0	200.0	5.0	2.0		
	2000	TYKW	20	GRF	0210.0	0240.0	80.0	2.0	1.0		
	3750	TYKW	5	S	0214.0	0215.4	6.0	2.0	1.0		
	9400	TYKW	20	GRF	0220.0	0226.5	30.0	5.0	2.0		
	3750	TYKW	5	S	0221.0	0225.7	13.0	4.0	1.5		
	3750	TYKW	5	S	0238.0	0241.5	8.0	4.0	1.5		
	9400	TYKW	20	GRF	0330.0	0350.0	60.0	5.0	2.0		
	3750	TYKW	21	GRF	0341.0	0353.0	35.0	4.0	2.0		
	2000	TYKW	20	GRF	0341.0	0353.0	65.0	1.5	.7		
	3750	TYKW	5	S	0344.0	0345.8	4.0	3.0	1.0		
	410	ATHN	49	GB	0421.1	1252.0	510.9D				QL=6 ST=2 TYP=7
	2000	TYKW	20	GRF	0510.0	0530.0	50.0	2.0	1.0		
	2950	GORK	20	GRF	0630.0	0745.0	137.0	8.1			
	6100	KISV	2	S/F	0744.0	0745.2	3.5	5.0			
	9100	GORK	1	S	0744.5	0745.1	5.2	10.0	5.0		
	650	GORK	1	S	0745.3	0745.5	1.0	2.6			
	245	LEAR	47	GB	0804.3	0804.5	.3	74.0			QL=6 ST=2 TYP=5
	2950	GORK	20	GRF	0959.4	1009.0	22.8	3.5			
	430	KRAK	8	S	1022.3	1022.3	.1	29.0			
	430	KRAK	42	SER	1131.8	1138.8	16.0	20.0			
	6100	KISV	45	C	1144.0	1146.8	10.0	8.0			
	6100	KISV			1144.0	1149.0		5.0			
	9500	POTS	8	S	1146.0	1146.2	.5	14.0			
	1470	POTS	1	S	1146.0	1146.5	1.0	3.0			
	430	KRAK	42	SER	1241.0	1254.5	16.0	63.0			
	2800	OTTA	240	AR	1250.0	1320.0	30.0	8.0	4.0		
	8800	ATHN	4	S/F	1252.0	1252.8	3.8	38.0			QL=6 ST=2 TYP=3
	4995	ATHN	47	GB	1252.0	1253.1	4.5	68.0			QL=2 ST=2 TYP=5
	3100	BERN	3	S	1252.4	1253.6	5.5	37.0			
	5200	BERN	4	S/F	1252.4	1253.6	5.5	93.0			
	8400	BERN	3	S	1252.4	1254.3	5.5	68.0			
	3000	POTS	4	S/F	1252.5	1253.6	7.0	29.0			
	9500	POTS	29	PBI	1252.5	1254.5	18.0	36.0			
	2695	ATHN	8	S	1252.6	1253.0	1.2	24.0			QL=2 ST=2 TYP=3
	8800	SGMR	4	S/F	1252.6	1253.6	3.7	44.0			QL=6 ST=2 TYP=3
	4995	SGMR	47	GB	1252.6	1253.6	5.0	72.0			QL=6 ST=2 TYP=5
	2800	OTTA	3	S	1252.7	1253.5	7.0	29.0	8.0		
	930	BORD	41	F	1252.8	1252.9	2.5	112.0	4.0		
	808	ONDR	42	SER	1253.0		2.5D	8.0			
	1470	POTS	3	S	1253.0	1253.5	2.0	6.0			
	2650	DWIN	1	S	1253.0	1254.0	2.0	20.0	10.0		
	1415	SGMR	8	S	1253.1	1253.5	1.4	19.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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
23	2695	SGMR	47	GB	1253.3	1253.5	2.3	70.0			QL=6 ST=2 TYP=5
	810	KRAK	42	SER	1253.3	1254.5	2.3	13.0			
	810	KRAK			1253.3	1255.5		28.0			
	536	ONDR	8	S	1253.5	1254.0	1.0D	38.0			
	610	SGMR	8	S	1254.1	1254.3	1.2	24.0			QL=6 ST=2 TYP=3
	9400	HUAN	22	GRF	1323.2	1349.2	49.3	13.9	8.1		0
	2800	OTTA	20	GRF	1325.0	1340.0	150.0	8.0	4.2		
	2800	OTTA	20	GRF	1655.0	1705.0	75.0	3.8	1.9		
	2800	OTTA	240	R	1820.0	1840.0	20.0	3.2	1.6		
	410	SGMR	4	S/F	1902.0	1904.3	3.1	34.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	1902.1	1902.3	.5	27.0			QL=6 ST=2 TYP=3
	610	SGMR	8	S	1902.1	1902.3	1.2	29.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	1902.1	1902.3	.5	32.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	1903.8	1904.3	.7	25.0			QL=6 ST=2 TYP=3
	610	PALE	47	GB	2050.8	2052.0	1.3	63.0			QL=5 ST=2 TYP=5
	2800	OTTA	1	S	2051.0	2052.0	2.5	3.2	1.6		
	9400	TYKW	5	S	2230.8	2231.1	.6	7.0	3.0		
	1000	TYKW	5	S	2254.7	2255.0	.8	3.0	1.0		
	1000	TYKW	5	S	2320.0	2320.3	1.0	6.0	1.5		
	1000	TYKW	45	C	2330.5	2331.6	5.0	5.0	1.5		
	2000	TYKW	5	S	2331.0	2331.4	1.0	2.0	.7		
24	200	GORK	44	NS	0454.0E		421.0D		10.0		
	204	IZMI	43	NS	0600.0		360.0	50.0			
	100	GORK	43	NS	0623.0		238.0		5.0		
	127	TORN	43	NS	0635.0		245.0D		20.0		V=1,DISTURBED
	260	ONDR	44	NS	0846.0E	1438.0	388.0D	67.0			
	245	SGMR	43	NS	1129.0	1555.0	597.0D	260.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1700.0	1744.8	630.0D	130.0			QL=6 ST=3 TYP=1
	245	LEAR	43	NS	2201.0	0740.8	733.0D	280.0			QL=1 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		300.0D		1.0		
	9400	TYKW	20	GRF	0018.0	0040.0	70.0	4.0	2.0		
	3750	TYKW	20	GRF	0019.0	0038.0	80.0	4.0	2.0		
	2000	TYKW	20	GRF	0025.0	0029.0	30.0	2.0	1.0		
	1000	TYKW	45	C	0027.8	0028.4	.8	5.0	1.0		
	245	LEAR	47	GB	0150.1	0150.3	1.2	110.0			QL=6 ST=2 TYP=5
	9400	TYKW	21	GRF	0152.0	0206.0	80.0	6.0	2.0		
	3750	TYKW	21	GRF	0200.0	0206.0	165.0	4.0	1.5		
	9400	TYKW	45	C	0200.5	0201.0	2.5	11.0	3.0		
	3750	TYKW	5	S	0239.5	0240.5	3.5	3.0	1.0		
	9400	TYKW	5	S	0240.0	0240.5	2.5	7.0	2.0		
	1000	TYKW	8	S	0240.0	0240.1	.3	4.0	1.0		
	9400	TYKW	5	S	0243.0	0243.2	1.0	3.0	1.0		
	3750	TYKW	5	S	0252.0	0259.0	25.0	2.0	1.0		
	1000	TYKW	45	C	0253.3	0253.4	.5	5.0	1.0		
	3750	TYKW	28	PRE	0357.0	0406.0	12.0	3.0	1.5		
	2000	TYKW	5	S	0409.0	0409.7	2.0	5.0	1.5		
	9400	TYKW	5	S	0409.0	0409.7	2.0	14.0	5.0		
	3750	TYKW	5	S	0409.0	0409.8	4.0	23.0	6.0		
	2840	PEKG	3	S	0409.0	0409.8	4.0	20.4	5.5		
	9395	PEKG	3	S	0409.0	0409.8	4.0	11.1	3.7		
	9400	TYKW	29	PBI	0411.0		7.0	4.0	2.0		
	9395	PEKG	3	S	0422.0	0423.6	5.0	10.4	4.7		
	9400	TYKW	5	S	0423.0	0423.4U	1.0U	370.0D	60.0U		
	500	HIRA	45	C	0423.8	0424.4	2.0	250.0	30.0		WR
	3750	TYKW	45	C	0424.0	0425.0	60.0	2.0	1.0		
	1000	TYKW	45	C	0424.0	0425.1	2.0	8.0	1.0		
	2000	TYKW	5	S	0424.7	0425.1	.6	23.0	5.0		
	9400	TYKW	5	S	0451.0	0451.6	2.0	5.0	1.5		
	1000	TYKW	45	C	0513.7	0513.9	.5	3.0	1.0		
	500	HIRA	8	S	0519.6	0520.0	.4	30.0			0
	2000	TYKW	5	S	0520.0	0520.2	1.0	6.0	1.0		
	1000	TYKW	5	S	0520.0	0520.2	1.0	2.0	.5		
	500	HIRA	8	S	0521.0	0521.0	.3	70.0			0
	9395	PEKG	3	S	0530.0	0534.8	16.0	29.0	6.7		
	9400	TYKW	45	C	0531.0	0535.6	10.0	27.0	10.0		
	3750	TYKW	5	S	0532.0	0535.7	6.0	12.0	5.0		
	2000	TYKW	5	S	0533.0	0536.0	20.0	2.0	1.0		
	9100	GORK	4	S/F	0533.0	0535.7	6.2	29.0			
	2950	GORK	1	S	0535.2	0536.2	3.1	7.3			
	1000	TYKW	5	S	0535.8	0535.9	.5	3.0	1.0		

OCTOBER 1982

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	3750	TYKW	30	PBI	0538.0		50.0	4.0	2.0		
	2840	PEKG	1	S	0538.0	0539.8	4.0	8.2	2.3		
	9400	TYKW	30	PBI	0541.0		40.0	6.0	3.0		
	9400	TYKW	5	S	0557.2	0557.4	.8	8.0	2.0		
	15000	KISV	40	F	0601.1	0602.2	2.0	20.0			
	6100	KISV	4	S/F	0601.2	0602.1	2.0	19.0			
	9100	GORK	3	S	0601.4	0602.2	1.2	40.0			
	9400	TYKW	5	S	0601.5	0602.2	1.5	34.0	9.0		
	2000	TYKW	5	S	0601.8	0602.1	1.0	2.0	.7		
	4995	ATHN	4	S/F	0601.8	0602.1	2.7	10.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	0601.8	0602.3	2.7	36.0			QL=6 ST=2 TYP=3
	2950	GORK	1	S	0601.9	0602.2	.6	3.7			
	3750	TYKW	29	PBI	0603.0E		15.0D	2.0D	1.0D		
	9400	TYKW	29	PBI	0603.0		10.0	3.0	1.5		
	4995	ATHN	4	S/F	0605.8	0607.5	4.8	13.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	0605.8	0607.5	4.8	29.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0605.8	0607.5	4.8	11.0			QL=2 ST=2 TYP=3
	1415	ATHN	4	S/F	0605.8	0607.5	4.8	4.0			QL=6 ST=2 TYP=3
	650	GORK	23	GRF	0606.0U	0756.0	213.0U	6.0			
	100	GORK	4	S/F	0626.4	0628.0	3.8	85.0D			
	113	POTS	4	S/F	0626.5	0628.0	4.0	200.0	30.0		III
	204	IZMI	41	F	0627.0	0628.3	1.5	400.0			
	9100	GORK	1	S	0635.1	0635.6	1.5	8.0			
	2950	GORK	21	GRF	0647.5	0735.0	250.0D	9.8			
	4995	ATHN	4	S/F	0657.5	0704.6	10.8	48.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	0701.5	0704.6	6.8	29.0			QL=6 ST=2 TYP=3
	1415	ATHN	4	S/F	0702.1	0704.6	6.2	4.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0702.1	0704.6	6.2	18.0			QL=2 ST=2 TYP=3
	1470	POTS	1	S	0703.5	0704.5	4.0	4.0			
	3000	POTS	4	S/F	0703.5	0704.6	4.0	14.0			
	9500	POTS	3	S	0703.5	0704.8	4.0	18.0			
	6100	KISV	4	S/F	0703.9	0704.4	2.0	25.0			
	5200	BERN	3	S	0703.9	0704.5	2.0	41.0			
	3100	BERN	3	S	0703.9	0704.5	2.0	14.0			
	9400	TYKW	5	S	0704.0	0704.6	2.0	20.0	6.0		
	3750	TYKW	5	S	0704.0	0704.6	2.0	17.0	5.0		
	9100	GORK	4	S/F	0704.0	0704.5	3.4	25.0			
	950	GORK	2	S/F	0704.0	0704.5	1.3	5.0			
	9395	PEKG	3	S	0704.0	0704.6	4.0	19.6	4.9		
	2840	PEKG	3	S	0704.0	0704.6	3.0	22.0	11.0		
	2950	GORK	1	S	0704.2	0704.6	1.2	8.5	4.0		
	8400	BERN	3	S	0704.2	0704.6	2.0	26.0			
	650	GORK	4	S/F	0704.3E	0704.5	.9D	70.0D			
	950	GORK	4	S/F	0730.7	0735.0	8.0	34.0			
	100	GORK	4	S/F	0731.9	0736.7	10.5	100.0D			
	1470	POTS	4	S/F	0733.5	0735.0	3.0	11.0			
	3000	POTS	40	F	0733.5	0735.4	2.5	11.0			
	200	GORK	46	C	0733.6	0735.8	7.5	110.0D			
	200	GORK			0733.6	0739.6		110.0D			
	1000	TYKW	45	C	0734.0	0735.1	4.0D	49.0	16.0D		
	650	GORK	4	S/F	0734.0	0735.0	2.5	28.0			
	245	LEAR	47	GB	0734.1	0736.5	7.7	119.0			QL=6 ST=2 TYP=5
	113	POTS	41	F	0735.0	0739.5	7.5	200.0	10.0		III
	204	IZMI	41	F	0736.0		6.0	80.0			
	650	GORK	40	F	0736.5	0740.5	8.1	6.0			
	430	KRAK	42	SER	0816.3	0816.5	32.0	83.0			
	6100	KISV	1	S	0818.0	0819.0	1.5	5.0			
	9100	GORK	20	GRF	0818.4	0827.3	10.2	12.0			
	2950	GORK	1	S	0818.6	0818.9	.9	7.3	3.5		
	6100	KISV	2	S/F	0825.7	0827.1	2.0	6.0			
	2950	GORK	1	S	0827.0	0827.3	.9	2.4	1.2		
	536	ONDR	40	F	0913.0		3.0	3.0			
	29	UPIC	46	C	0913.3	0915.6	2.5				
	33	UPIC	45	C	0913.4	0914.3	2.2				
	808	ONDR	45	C	1124.5	1125.5	1.0D	5.0	4.0		
	430	KRAK	8	S	1204.7	1204.8	.2	15.0			
	33	UPIC	2	S/F	1224.1	1224.2	.5				
	29	UPIC	4	S/F	1224.4	1224.5	.6				
	430	KRAK	42	SER	1255.5	1347.0	51.5	15.0			
	33	UPIC	45	C	1326.1	1326.1	2.1				
	29	UPIC	45	C	1326.2	1326.4	2.6				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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	113	POTS	8	S	1326.5	1326.5	.1	250.0	80.0		III
	9400	HUAN	1	S	1335.7	1336.2	1.5	8.0	3.2		0
	9500	POTS	1	S	1336.0	1336.2	.7	7.0			
	2800	OTTA	240	R	1350.0	1420.0	30.0	7.0	3.5		
	9400	HUAN	21	GRF	1350.6	1518.0	123.5	10.7	2.1		L
	610	SGMR	8	S	1405.6	1405.8	1.2	46.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	1405.6	1405.8	.4	15.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1405.6	1405.8	1.2	20.0			QL=6 ST=2 TYP=3
	536	ONDR	8	S	1406.0	1408.0	2.0U	19.0			
	2800	OTTA	21	GRF	1455.0	1515.0	75.0	7.0	3.0		
	2800	OTTA	4	S/F	1503.5	1504.4	2.0	22.6	11.3		
	9400	HUAN	2	S/F	1503.6	1503.9	1.6	13.3	6.5		0
	9400	HUAN			1503.6	1504.3		12.0			
	4995	SGMR	8	S	1503.8	1504.3	2.0	37.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1503.8	1504.3	2.3	34.0			QL=6 ST=2 TYP=3
	930	BORD	46	C	1504.2	1505.0	2.0	52.0	4.0		
	3100	BERN	45	C	1504.3	1511.2	12.0	138.0			
	5200	BERN	4	S/F	1504.3	1511.4	12.0	100.0			
	9400	HUAN	45	C	1510.2	1511.1	3.5	70.7	30.2		L
	2800	OTTA	4	S/F	1510.5	1511.2	4.0	60.0	20.0		
	8400	BERN	4	S/F	1510.6	1511.3	5.0	98.0			
	8800	ATHN	47	GB	1510.6	1511.5	1.9	54.0			QL=6 ST=3 TYP=5
	4995	ATHN	47	GB	1510.8	1511.3	2.0	75.0			QL=2 ST=2 TYP=5
	8800	SGMR	47	GB	1510.8	1511.3	3.5	91.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1510.8	1511.5	3.8	130.0			QL=6 ST=2 TYP=5
	2650	DWIN	45	C	1511.0	1511.0	2.0	170.0	50.0		
	2695	ATHN	47	GB	1511.0	1511.1	1.8	85.0			QL=2 ST=2 TYP=5
	2695	SGMR	47	GB	1511.1	1511.1	2.7	139.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1511.1	1511.3	1.2	71.0			QL=6 ST=2 TYP=5
	1415	SGMR	8	S	1511.8	1512.1	1.5	33.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1710.0	1735.0	70.0	4.6	3.3		
	9400	HUAN	1	S	1714.5	1715.6	1.9	6.7	4.8		0
	9400	HUAN	1	S	1756.6	1757.6	2.3	4.7	2.9		0
	2800	OTTA	1	S	1840.0	1840.3	1.5	6.6	3.3		
	500	HIRA	8	S	2122.2	2122.2	.6	270.0			WL
	410	PALE	49	GB	2122.3	2122.6	1.8	1100.0			QL=5 ST=2 TYP=6
	245	PALE	49	GB	2122.3	2122.6	.5	550.0			QL=5 ST=2 TYP=6
	610	PALE	8	S	2122.5	2122.8	.3	30.0			QL=5 ST=2 TYP=3
	500	HIRA	8	S	2123.6	2123.6	.3	230.0			WL
	9400	TYKW	21	GRF	2210.0	2228.0	45.0	3.0	1.5		
	3750	TYKW	5	S	2223.4	2223.7	1.0	3.0	1.0		
	9400	TYKW	5	S	2234.3	2234.7	1.0	5.0	2.0		
	9400	TYKW	5	S	2239.0	2239.3	4.0	13.0	3.0		
	1000	TYKW	5	S	2254.1	2254.2	.5	1.5	.5		
	1000	TYKW	5	S	2312.5	2312.8	.8	6.0	2.0		
	9400	TYKW	20	GRF	2315.0	2334.0	45.0	3.0	1.5		
	3750	TYKW	21	GRF	2315.0	2358.0	180.0	4.0	2.0		
	3750	TYKW	5	S	2329.0	2332.0	20.0	2.0	1.0		
25	200	HIRA	43	NS	0341.0	0455.5	246.0D	10.0	3.0		0
	200	GORK	44	NS	0454.0E		426.0D		5.0		
	100	GORK	44	NS	0454.0E		176.0D		5.0		
	221	ABST	44	NS	0500.0E	0720.0	240.0D	13.0			
	245	SGMR	43	NS	1130.0	1211.1	595.0	61.0			QL=6 ST=2 TYP=1
	127	TORN	43	NS	1142.0		118.0D		4.0		V=1,DISTURBED
	245	LEAR	43	NS	2201.0	0919.1	734.0D	75.0			QL=6 ST=2 TYP=1
	100	HIRA	43	NS	2227.0	0016.0	150.0	50.0	20.0		0
	208	VORO	44	NS	2300.0E	2332.0	300.0D	10.0			
	9400	TYKW	5	S	0015.0	0015.9	2.0	3.0	1.0		
	3750	TYKW	45	C	0025.0	0026.1	5.0	16.0	4.0		
	9400	TYKW	5	S	0025.5	0026.7	3.5	17.0	5.0		
	500	HIRA	7	C	0025.7	0026.3	.8	20.0	8.0		0
	2000	TYKW	5	S	0026.0	0026.2	2.0	3.0	1.0		
	1000	TYKW	5	S	0026.0	0026.2	1.5	5.0	1.0		
	4995	PALE	8	S	0026.0	0026.6	.8	17.0			QL=6 ST=2 TYP=3
	2840	PEKG	1	S	0026.0	0026.8	1.7	8.2	2.4		
	9395	PEKG	1	S	0026.0	0026.8	2.0	9.6	1.7		
	9400	TYKW	30	PBI	0029.0		35.0	3.0	1.5		
	3750	TYKW	29	PBI	0030.0		10.0	2.0	1.0		
	2000	TYKW	21	GRF	0035.0	0053.0	100.0	2.0	1.0		
	3750	TYKW	45	C	0042.0	0048.9	11.0	5.0	2.0		

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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
25	9400	TYKW	5	S	0046.0	0049.0	15.0	2.0	1.0		
	3750	TYKW	29	PBI	0053.0		25.0	2.0	1.0		
	245	PALE	8	S	0119.8	0120.0	.5	33.0			QL=6 ST=2 TYP=3
	2000	TYKW	20	GRF	0130.0	0135.0	40.0	2.0	1.0		
	3750	TYKW	20	GRF	0130.0	0138.0	45.0	3.0	1.5		
	9400	TYKW	5	S	0233.0	0239.0	20.0	4.0	2.0		
	3750	TYKW	5	S	0234.0	0241.5	25.0	2.0	1.0		
	3750	TYKW	28	PRE	0303.0	0326.0	23.0	6.0	2.0		
	9400	TYKW	21	GRF	0310.0	0350.0	220.0	18.0	6.0		
	2000	TYKW	28	PRE	0313.0	0318.0	5.0	2.0	1.0		
	1000	TYKW	45	C	0316.0	0337.5	34.0	141.0	20.0		
	2000	TYKW	45	C	0318.0	0334.4	32.0	63.0	18.0		
	500	HIRA	45	C	0321.4	0329.3	16.0	60.0	20.0		SL
	2840	PEKG	3	S	0324.0	0334.6	22.0	54.6	17.0		
	208	VORO	22	GRF	0325.0	0334.0	12.0	18.0			
	200	HIRA	46	C	0325.6	0332.8	12.7	34.0	11.0		WR
	3750	TYKW	45	C	0326.0	0334.6	16.0	47.0	23.0		
	9400	TYKW	5	S	0329.0	0334.5	11.0	11.0	4.0		
	245	LEAR	8	S	0334.3	0334.3	1.0	29.0			QL=6 ST=2 TYP=3
	3750	TYKW	30	PBI	0342.0		150.0	12.0	5.0		
	1000	TYKW	30	PBI	0350.0		85.0	2.0	1.0		
	2000	TYKW	30	PBI	0350.0		180.0	6.0	3.0		
	1000	TYKW	45	C	0353.2	0353.7	2.0	2.0	.5		
	9400	TYKW	5	S	0417.0	0417.7	2.0	8.0	1.5		
	2000	TYKW	21	GRF	0440.0	0512.0	70.0	4.0	2.0		
	3750	TYKW	21	GRF	0452.0	0512.5	65.0	5.0	2.0		
	650	GORK	23	GRF	0500.0E	0730.0	344.2D	6.5			
	9400	TYKW	5	S	0503.0	0508.0	15.0	3.0	1.0		
	1415	ATHN	4	S/F	0505.3	0508.3	5.8	49.0			QL=6 ST=3 TYP=3
	2695	ATHN	4	S/F	0505.8	0508.1	5.5	40.0			QL=2 ST=3 TYP=3
	3750	TYKW	45	C	0506.0	0507.7	3.0	3.0	1.0		
	8800	ATHN	47	GB	0506.3	0508.5	4.7	68.0			QL=6 ST=3 TYP=5
	4995	ATHN	4	S/F	0506.5	0508.3	4.8	44.0			QL=2 ST=3 TYP=3
	1000	TYKW	5	S	0507.4	0507.7	.6	18.0	3.0		
	9400	TYKW	45	C	0526.0	0529.6	5.0	13.0	6.0		
	3750	TYKW	45	C	0528.0	0529.5	5.0	13.0	5.0		
	2000	TYKW	45	C	0529.0	0530.0	2.0	3.0	.7		
	650	GORK	40	F	0529.0	0529.1	5.2	26.0			
	650	GORK			0529.0	0533.6		6.0			
	245	LEAR	8	S	0529.1	0529.1	1.2	21.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0531.0		40.0	4.0	2.0		
	9400	TYKW	5	S	0532.5	0533.3	3.0	5.0	1.5		
	3750	TYKW	30	PBI	0533.0		20.0	3.0	1.0		
	2000	TYKW	5	S	0533.0	0533.7	1.5	3.0	1.0		
	3750	TYKW	5	S	0533.3	0533.6	1.0	5.0	1.5		
	3750	TYKW	5	S	0536.0	0536.5	2.0	6.0	2.0		
	9400	TYKW	5	S	0536.0	0536.5	5.0	9.0	2.0		
	950	GORK	21	GRF	0558.0	0800.0	317.0	4.5			
	1470	POTS	4	S/F	0703.0	0705.3	2.5	14.0			
	650	GORK	2	S/F	0703.8	0705.2	1.6	8.0			
	2000	TYKW	45	C	0704.0	0705.2	2.5	20.0	4.0		
	3750	TYKW	45	C	0704.0	0711.0	10.0	29.0	5.0		
	2840	PEKG	3	S	0704.0	0711.4	9.0	33.4	8.6		
	2950	GORK	4	S/F	0707.1	0711.1	5.9	25.0			
	9500	POTS	21	GRF	0708.0	0711.3	14.0	17.0			
	650	GORK	4	S/F	0708.4	0711.1	4.3	57.0			
	3100	CRIM	1	S	0709.0	0710.0	3.0	28.0	9.0		
	1470	POTS	4	S/F	0709.0	0711.8	4.5	65.0			
	9400	TYKW	45	C	0710.0	0711.2	4.0	22.0	6.0		
	2000	TYKW	45	C	0710.0	0711.3	3.0	71.0	16.0		
	1000	TYKW	45	C	0710.0	0712.0	3.0	70.0	12.0		
	4995	ATHN	8	S	0710.0	0710.3	1.1	39.0			QL=2 ST=2 TYP=3
	2695	ATHN	8	S	0710.0	0710.6	1.5	27.0			QL=2 ST=2 TYP=3
	8800	ATHN	8	S	0710.0	0710.6	.8	15.0			QL=6 ST=2 TYP=3
	3000	POTS	4	S/F	0710.0	0710.8	3.0	29.0			
	1415	ATHN	47	GB	0710.1	0711.1	1.4	55.0			QL=6 ST=2 TYP=5
	6100	KISV	45	C	0710.2	0711.2	2.5	24.0			
	6100	KISV			0710.2	0712.4		8.0			
	950	GORK	46	C	0710.3	0711.2	2.4	38.0			
	950	GORK			0710.3	0711.9		77.0			
	5200	BERN	3	S	0710.5	0711.1	2.5	43.0			

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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
25	3100	BERN	4	S/F	0710.5	0711.2	2.5	27.0			
	8400	BERN	3	S	0710.5	0711.3	2.5	30.0			
	9100	GORK	2	S/F	0710.6	0711.2	4.9	23.0			
	650	GORK	2	S/F	0749.0	0749.3	.8	6.0			
	3100	CRIM	25	R	0811.0	0843.0		8.0			
	2950	GORK	20	GRF	0827.0	0827.3	.9	2.4	1.2		
	430	KRAK	42	SER	0829.2	0833.8	6.0	25.0			
	3100	CRIM	1	S	0910.0	0912.0	4.0	6.0	2.0		
	2950	GORK	3	S	0910.8	0912.3	3.2	7.4			
	536	ONDR	8	S	0921.5	0921.5	.1	4.0			
	650	GORK	4	S/F	0936.4	0936.6	.7	18.0			
	536	ONDR	8	S	0936.5	0936.8	1.0	6.0			
	430	KRAK	8	S	0936.8	0937.0	.4	93.0			
	950	GORK	2	S/F	0939.2	0939.7	1.0	15.0			
	950	GORK	2	S/F	0941.5	0942.0	.7	13.0			
	930	BORD	8	S	0941.6	0941.8	.3	103.0	4.0		
	3100	CRIM	1	S	1024.0	1025.5	2.0	6.0	2.0		
	6100	KISV	2	S/F	1024.5	1026.0	2.0	6.0			
	2950	GORK	1	S	1024.8	1026.0	1.6	5.0			
	808	ONDR	45	C	1106.5	1107.0	.5	22.0			
	1470	POTS	20	GRF	1120.0	1131.2	30.0	6.0			
	9500	POTS	21	GRF	1122.5	1131.5	30.0	22.0			
	6100	KISV	2	S/F	1130.7	1131.4	4.5	15.0			
	9100	GORK	22	GRF	1131.0	1131.4	20.4	14.0			
	9400	HUAN	1	S	1131.0	1131.5	1.5	14.0	5.6		L
	2950	GORK	20	GRF	1131.0	1133.2	16.3	7.4			
	930	BORD	41	F	1131.5	1131.7	.6	124.0	2.0		
	9400	HUAN	29	PBI	1132.5	1132.5	15.0	7.0	3.1		L
	430	KRAK	8	S	1132.8	1132.9	.2	43.0			
	930	BORD	41	F	1227.0	1227.4	.5	44.0	2.0		
	536	ONDR	8	S	1243.0	1243.5	1.0	11.0			
	9500	POTS	21	GRF	1252.5	1255.0	7.5	13.0			
	2800	OTTA	40	F	1253.0	1255.5	4.0	10.0			
	3000	POTS	42	SER	1253.0	1253.5	4.0	8.0			
	930	BORD	41	F	1253.0	1256.4	4.0	67.0	4.0		
	1470	POTS	42	SER	1253.0	1256.5	4.5	7.0			
	8800	SGMR	8	S	1253.1	1253.1	1.0	18.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1253.1	1253.5	1.5	22.0			QL=6 ST=2 TYP=3
	536	ONDR	8	S	1253.5	1253.5	.1	8.0			
	810	KRAK	4	S/F	1255.5	1256.3	1.0	180.0	15.0		
	808	ONDR	45	C	1256.0	1256.5	1.5	27.0			
	930	BORD	8	S	1329.0	1329.2	.1	31.0	1.0		
	245	SGMR	4	S/F	1528.8	1530.0	2.2	42.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1540.0	1610.0	135.0	11.4	4.0		
	9400	HUAN	20	GRF	1546.9	1608.7	60.4	12.6	4.6		0
	2800	OTTA	2	S/F	1556.0	1559.0	7.0	9.0	4.2		
	930	BORD	46	C	1556.7	1558.9	2.4	23.0	4.0		
	610	SGMR	47	GB	1557.6	1557.8	3.2	200.0			QL=6 ST=2 TYP=5
	1415	SGMR	4	S/F	1557.8	1559.0	4.5	29.0			QL=6 ST=2 TYP=3
	410	SGMR	8	S	1558.1	1558.6	1.7	21.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1559.3	1559.5	1.2	19.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1735.4	1747.6	20.2	2.8	1.3		0
	9400	HUAN	23	GRF	1834.8	1849.4	21.4	11.2	4.2		0
	9400	HUAN	1	S	1838.4	1838.7	1.4	4.2	2.8		0
	9400	HUAN	1	S	1844.2	1845.2	2.2	8.4	4.9		0
	9400	HUAN	20	GRF	1935.3	1945.7	23.6	5.6	1.8		0
	2800	OTTA	20	GRF	1940.0	2100.0	185.0	9.6	4.4		
	9400	TYKW	5	S	2230.4	2230.6	1.0	7.0	2.5		
	3750	TYKW	21	GRF	2245.0	0030.0	285.0	15.0	7.0		
	9400	TYKW	45	C	2248.0	2251.6	19.0	222.0	70.0		
	3750	TYKW	45	C	2249.0	2256.9	18.0	92.0	27.0		
	17000	NOBE	7	C	2249.4	2251.7	12.2	144.0			
	2000	TYKW	47	GB	2250.0	2256.4	17.0	1170.0	40.0		
	2695	PENT	40	F	2250.0	2306.0	30.0	104.0			
	1000	TYKW	47	GB	2251.0	2256.2	12.0	615.0	65.0		
	15400	PALE	47	GB	2252.1	2252.1	7.7	51.0			QL=6 ST=2 TYP=5
	410	PALE	8	S	2252.1	2252.3	1.0	20.0			QL=6 ST=2 TYP=3
	1415	PALE	49	GB	2253.1E	2253.6	17.2D	130.0			QL=2 ST=2 TYP=6
	8800	PALE	47	GB	2253.1E	2254.1	17.2D	130.0			QL=2 ST=2 TYP=5
	4995	PALE	47	GB	2253.3E	2254.1	10.0D	50.0			QL=2 ST=2 TYP=5
	2695	PALE	47	GB	2253.8E	2254.1	10.3D	23.0			QL=2 ST=2 TYP=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
25	17000	NOBE	29	PBI	2301.6	2301.6	54.0	59.0			0
	500	HIRA	48	C	2301.7	2308.6	38.0	3400.0	150.0		SL
	610	PALE	49	GB	2302.0	2304.6	8.3	900.0			QL=6 ST=2 TYP=6
	1000	TYKW	30	PBI	2303.0		310.0	8.0	4.0		
	1000	TYKW	45	C	2303.0	2304.7	4.0	14.0	3.0		
	9400	TYKW	30	PBI	2307.0		110.0	27.0	12.0		
	2000	TYKW	30	PBI	2307.0		270.0	9.0	4.0		
	3750	TYKW	30	PBI	2307.0		45.0	6.0	3.0		
	1000	TYKW	45	C	2307.0	2320.5	21.0	70.0	10.0		
	9400	TYKW	45	C	2308.5	2309.2	6.5	49.0	14.0		
	3750	TYKW	45	C	2308.5	2309.2	20.0	19.0	5.0		
	2000	TYKW	45	C	2308.5	2318.5	20.0	24.0	5.0		
	200	HIRA	27	RF	2313.0	2333.0	41.0	19.0	8.0		WL
	9400	TYKW	45	C	2315.0	2318.0	5.0	10.0	6.0		
	9400	TYKW	29	PBI	2320.0		25.0	4.0	2.0		
	410	PALE	47	GB	2321.3	2323.5	7.2	460.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	2324.8	2325.0	1.2	21.0			QL=6 ST=2 TYP=3
	1000	TYKW	42	SER	2331.0	2336.3	6.0	5.0	1.0		
	410	PALE	8	S	2333.6	2335.3	2.0	18.0			QL=6 ST=2 TYP=3
	610	PALE	4	S/F	2336.1	2337.0	2.4	16.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	2342.3	2342.6	.7	29.0			QL=6 ST=2 TYP=3
	1000	TYKW	42	SER	2343.8	2344.5	1.5	1.5	.3U		
	200	HIRA	46	C	2356.0	0016.2	78.0	230.0	26.0		WR
	200	HIRA			2356.0	0040.3		54.0			WR
26	260	ONDR	44	NS	0744.0E	1427.0	413.0D	158.0			
	33	UPIC	43	NS	0800.5		318.7				
	29	UPIC	43	NS	0800.5		318.8				
	127	TORN	43	NS	0808.0		214.0		1.0		V=1,DISTURBED
	200	GORK	43	NS	0813.0		227.0D		5.0		
	245	SGMR	43	NS	1131.0	1854.3	592.0	110.0			QL=6 ST=3 TYP=1
	245	PALE	43	NS	1702.0	2333.8	639.0D	139.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2054.0E	0219.0	650.0D	5.0	2.0		WL
	245	LEAR	43	NS	2200.0	0816.1	735.0D	180.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		300.0D		4.0		
	2000	TYKW	28	PRE	0000.0	0009.0	9.0	5.0	2.0		
	208	VORO	48	C	0002.0	0016.0	30.0	300.0			
	245	PALE	49	GB	0003.8	0007.6	21.8	59.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0004.1	0007.5	29.7	58.0			QL=6 ST=2 TYP=6
	1000	TYKW	45	C	0005.0	0014.3	13.0	43.0	10.0		
	500	HIRA	46	C	0008.6	0014.3	35.0	40.0	20.0		WR
	500	HIRA			0008.6	0022.3		25.0			WL
	2000	TYKW	45	C	0009.0	0014.2	9.0	27.0	10.0		
	410	PALE	47	GB	0010.1	0021.8	15.5	38.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	0012.6	0024.5	13.0	51.0			QL=6 ST=2 TYP=5
	610	PALE	4	S/F	0012.6	0024.5	13.0	23.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	0013.6	0013.6	12.0	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	30	PBI	0018.0		30.0	4.0	2.0		
	2000	TYKW	30	PBI	0018.0		125.0	4.0	2.0		
	1000	TYKW	47	GB	0019.0	0025.6	15.0	1270.0	260.0		
	2000	TYKW	45	C	0019.5	0025.8	25.0	10.0	3.0		
	3750	TYKW	45	C	0025.0	0025.8	3.0	64.0	13.0		
	9400	TYKW	5	S	0025.0	0025.8	3.0	73.0	10.0		
	9400	TYKW	30	PBI	0028.0		30.0	4.0	2.0		
	9400	TYKW	5	S	0029.0	0031.0	15.0	3.0	1.5		
	208	VORO	4	S/F	0037.0	0042.0	8.0	55.0			
	245	LEAR	47	GB	0038.6	0040.3	5.0	91.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0039.0	0040.7	5.0	20.0	5.0		
	245	PALE	4	S/F	0039.1	0041.8	4.0	119.0			QL=6 ST=2 TYP=3
	1415	PALE	4	S/F	0039.1	0041.8	4.0	11.0			QL=6 ST=2 TYP=3
	410	PALE	4	S/F	0039.1	0042.0	4.0	22.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0046.5	0046.9	1.5	5.0	1.5		
	3750	TYKW	5	S	0046.5	0047.0	1.5	5.0	1.5		
	245	PALE	8	S	0056.3	0056.8	1.0	17.0			QL=6 ST=2 TYP=3
	1000	TYKW	20	GRF	0100.0	0130.0	70.0	2.0	1.0		
	245	PALE	4	S/F	0101.3	0104.0	3.8	24.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0101.6	0103.6	2.0D	13.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0137.0	0138.0	2.0	3.0	1.0		
	245	LEAR	8	S	0202.0	0202.1	1.0	27.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0235.3	0235.7	1.0	7.0	2.0		
	245	LEAR	8	S	0253.6	0254.0	1.0	40.0			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
26	245	PALE	47	GB	0253.8	0254.0	.3	56.0			QL=6 ST=2 TYP=5
	9400	TYKW	20	GRF	0254.0	0325.0	80.0	4.0	2.0		
	9400	TYKW	5	S	0424.0	0424.4	1.0	6.0	1.5		
	9395	PEKG	1	S	0511.4	0512.2	1.6	7.6	1.7		
	430	KRAK	8	S	0801.9	0802.0	.2	20.0			
	100	GORK	4	S/F	0806.2	0811.1	5.5	120.0D			
	200	GORK	2	S/F	0808.3	0811.1	4.5	25.0			
	204	IZMI	4	S/F	0809.0	0811.1	3.0	41.0	17.0		
	204	IZMI	4	S/F	0847.1	0847.5	1.8	40.0	20.0		
	113	POTS	4	S/F	0847.2	0847.2	.5	1400.0	250.0		III
	100	GORK	4	S/F	0922.3	0922.7	1.4	120.0			
	200	GORK	2	S/F	0922.4	0922.7	1.0	7.0			
	430	KRAK	42	SER	0938.0	0940.7	33.3	9.0			
	430	KRAK	8	S	1049.0	1049.0	.2	40.0			
	930	BORD	8	S	1102.4	1102.5	.3	35.0	2.0		
	430	KRAK	42	SER	1113.5	1125.8	52.5	10.0			
	200	GORK	41	F	1120.9	1125.0	8.9	25.0D			
	200	GORK			1120.9	1129.2		25.0D			
	100	GORK	41	F	1121.0	1125.0	12.1	120.0D			
	100	GORK			1121.0	1129.0		120.0			
	113	POTS	42	SER	1124.5	1125.1	.8	200.0	2.0		III
	536	ONDR	27	RF	1131.0	1135.0	9.0				
	9400	HUAN	20	GRF	1225.2	1231.8	15.5	4.3	.2		0
	113	POTS	41	F	1242.6	1243.3	.9	200.0	7.0		III
	430	KRAK	42	SER	1244.5	1259.7	70.0	31.0			
	2800	OTTA	8	S	1314.9	1315.0	.7	9.8			
	234	POTS	4	S/F	1344.2	1344.3	.3	200.0	40.0		
	9400	HUAN	21	GRF	1404.8	1436.1	54.5	3.6	2.7		0
	2800	OTTA	240	AR	1415.0	1430.0	15.0	3.0	1.5		
	245	SGMR	8	S	1415.5	1415.6	1.5	33.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1415.6	1417.3	2.7	23.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1421.0	1423.0	6.0	2.6	1.3		
	9400	HUAN	1	S	1443.1	1444.0	1.6	5.8	2.5		0
	9400	HUAN	1	S	1525.0	1526.3	4.3	4.3	2.2		0
	9400	HUAN	1	S	1630.3	1630.8	2.5	3.6	1.6		L
	2800	OTTA	20	GRF	1920.0	2020.0	155.0	4.0	1.8		
	3750	TYKW	5	S	2204.0	2204.5	1.0	5.0	3.0		
	9400	TYKW	45	C	2204.0	2206.3	10.0	9.0	3.0		
	3750	TYKW	29	PBI	2205.0		9.0	2.0	1.0		
	3750	TYKW	5	S	2242.8	2243.1	1.5	3.0	1.0		
	3750	TYKW	5	S	2248.0	2250.0	10.0	2.0	1.0		
	3750	TYKW	20	GRF	2303.0	2312.0	50.0	6.0	2.0		
	9400	TYKW	20	GRF	2304.0	2306.0	30.0	6.0	3.0		
27	100	GORK	44	NS	0458.0E		73.0D		5.0		
	200	GORK	43	NS	0500.0		319.0D		10.0		
	221	ABST	44	NS	0500.0E	0511.2	240.0D	11.0			
	204	IZMI	43	NS	0600.0		360.0	40.0			
	260	ONDR	44	NS	0748.0E	1305.0	403.0D	40.0			
	245	SGMR	43	NS	1133.0	1944.0	589.0D	200.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		300.0D		1.0		
	3750	TYKW	5	S	0013.0	0020.0	25.0	2.0	1.0		
	9400	TYKW	5	S	0039.0	0039.7	2.0	3.0	1.0		
	1000	TYKW	5	S	0043.0	0043.2	1.0	11.0	2.0		
	9400	TYKW	5	S	0052.0	0052.7	2.0	10.0	5.0		
	3750	TYKW	5	S	0052.0	0052.7	3.0	12.0	4.0		
	410	PALE	8	S	0052.0	0052.1	.3	48.0			QL=6 ST=2 TYP=3
	9395	PEKG	3	S	0052.0	0052.8	1.3	10.6	2.3		
	9395	PEKG	21	GRF	0052.0	0058.9	13.0	4.8	1.0		
	8800	PALE	8	S	0052.5	0052.6	.5	20.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	0052.6	0052.8	.5	19.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0054.0		25.0	5.0	2.5		
	3750	TYKW	30	PBI	0055.0		70.0	3.0	1.5		
	9400	TYKW	5	S	0106.0	0108.0	5.0	3.0	1.0		
	3750	TYKW	20	GRF	0121.0	0130.0	40.0	5.0	2.0		
	9400	TYKW	5	S	0123.0	0125.6	10.0	2.5	1.0		
	3750	TYKW	28	PRE	0209.0	0404.0	115.0	10.0	5.0		
	3750	TYKW	45	C	0210.0	0213.4	8.0	3.0	1.0		
	9400	TYKW	5	S	0212.7	0213.4	3.0	4.0	1.5		
	3750	TYKW			0220.0	0224.0		5.0			
	3750	TYKW	45	C	0220.0	0235.0	30.0	6.0	2.5		

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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
27	9400	TYKW	5	S	0223.0	0226.8	9.0	4.0	1.5		
	2000	TYKW	20	GRF	0225.0	0235.0	30.0	2.0	1.0		
	9400	TYKW	5	S	0233.0	0242.0	25.0	3.0	1.5		
	2840	PEKG	1	S	0233.0	0235.2	4.0	3.7	2.0		
	9395	PEKG	1	S	0233.5	0235.4	3.5	4.8	1.0		
	9400	TYKW	5	S	0302.0	0307.0U	8.0	11.0D	5.0D		
	2000	TYKW	45	C	0303.5	0304.2	1.5D	10.0	3.0D		
	3750	TYKW	45	C	0303.5	0304.2	4.5	13.0	6.0		
	1000	TYKW	45	C	0303.7	0304.4	2.5	48.0	4.0		
	1000	TYKW	5	S	0307.7	0308.0	1.0	1.5	.5		
	3750	TYKW	29	PBI	0308.0		20.0	4.0	2.0		
	2000	TYKW	30	PBI	0309.0E		55.0D	3.0D	2.0D		
	9400	TYKW	29	PBI	0310.0		15.0	5.0	2.0		
	9400	TYKW	5	S	0330.0	0330.3	1.5	6.0	2.0		
	1000	TYKW	5	S	0333.0	0336.0	10.0	1.5	.5		
	9400	TYKW	5	S	0334.0	0343.0	18.0	5.0	2.0		
	3750	TYKW	5	S	0335.0	0342.0	20.0	2.0	1.0		
	9400	TYKW	28	PRE	0354.0	0356.5	10.0	4.0	2.5		
	9395	PEKG			0403.0	0405.2		30.0			
	9395	PEKG			0403.0	0405.4		53.0			
	9395	PEKG			0403.0	0405.8		93.6			
	9395	PEKG			0403.0	0406.2		117.9			
	9395	PEKG			0403.0	0407.3		164.1			
	9395	PEKG	45	C	0403.0	0407.8	9.0	109.5	48.0		
	9400	TYKW	45	C	0404.0	0407.3	10.0	174.0	44.0		
	3750	TYKW	45	C	0404.0	0407.8	12.0	140.0	40.0		
	2000	TYKW	45	C	0404.0	0408.9	10.0	181.0	30.0		
	2840	PEKG	45	C	0404.0	0405.4	10.0	36.9			
	2840	PEKG			0404.0	0408.2		94.8	34.3		
	2840	PEKG			0404.0	0408.8		90.8			
	17000	NOBE	7	C	0404.4	0406.2	4.6	139.0			L
	1000	TYKW	45	C	0405.0	0411.0	13.0	63.0	8.0		
	17000	NOBE	29	PBI	0409.0	0409.0	18.8	48.0			L
	9395	PEKG	29	PBI	0412.0		15.0	13.2	3.8		
	9400	TYKW	30	PBI	0414.0		130.0	12.0	6.0		
	2000	TYKW	30	PBI	0414.0		120.0	9.0	4.0		
	2840	PEKG	29	PBI	0414.0		13.0	11.4	6.8		
	3750	TYKW	30	PBI	0416.0		165.0	14.0	7.0		
	3750	TYKW	28	PRE	0417.0	0421.6	10.0	5.0	2.0		
	1000	TYKW	30	PBI	0418.0		100.0	5.0	2.5		
	2000	TYKW	5	S	0421.0	0421.5	1.5	5.0	1.5		
	1000	TYKW	5	S	0421.4	0421.8	1.0	2.0	.5		
	2000	TYKW	47	GB	0424.0	0438.2	36.0	570.0	160.0		
	500	HIRA	45	C	0424.7	0435.0	28.0	250.0	100.0		WR
	1000	TYKW	45	C	0426.0	0432.3	28.0	356.0	115.0		
	3750	TYKW	47	GB	0427.0	0437.8	43.0	720.0	175.0		
	2840	PEKG	45	C	0427.0	0429.3	33.0	140.8			
	9395	PEKG	47	GB	0427.0	0429.3	33.0	44.3			
	2840	PEKG			0427.0	0430.2		168.7			
	9395	PEKG			0427.0	0430.2		58.6			
	2840	PEKG			0427.0	0431.2		199.3			
	2840	PEKG			0427.0	0433.4		264.6			
	2840	PEKG			0427.0	0436.2		364.5	136.5		
	9395	PEKG			0427.0	0439.0		588.2	118.9		
	9395	PEKG			0427.0	0439.9		585.2			
	2840	PEKG			0427.0	0441.2		362.2			
	17000	NOBE	45	C	0427.8	0439.7	28.1	357.0			L
	9400	TYKW	47	GB	0428.0	0439.0	45.0	545.0	150.0		
	200	HIRA	46	C	0428.0	0440.7	31.0	450.0	76.0		WR
	245	LEAR	49	GB	0428.3	0428.6	18.8	530.0			QL=6 ST=3 TYP=6
	100	HIRA	46	C	0430.3	0434.3	19.0	2800.0	240.0		WL
	9395	PEKG			0433.8			243.8			
	17000	NOBE	29	PBI	0445.9	0455.9	17.0	39.0			O
	1000	TYKW	29	PBI	0454.0		10.0	3.0	1.5		
	2000	TYKW	29	PBI	0500.0		15.0	5.0	2.0		
	9395	PEKG	29	PBI	0500.0E		10.0D	39.9	18.2U		
	2840	PEKG	29	PBI	0500.0		27.0	17.0	5.2		
	3750	TYKW	29	PBI	0510.0		15.0	4.0	2.0		
	3750	TYKW	20	GRF	0532.0	0537.0	45.0	6.0	3.0		
	9400	TYKW	20	GRF	0533.0	0542.0	40.0	6.0	3.0		
	9100	GORK	2	S/F	0535.4	0536.3	6.1	8.0			

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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
27	430	KRAK	42	SER	0800.0E	0844.3	360.0D	58.0			
	430	KRAK			0800.0E	1033.8		16.0			
	430	KRAK			0800.0E	1055.2		69.0			
	430	KRAK			0800.0E	1301.2		50.0			
	9100	GORK	1	S	0931.1	0931.3	1.0	7.5			
	808	ONDR	8	S	1033.0	1033.0	1.0	22.0			
	930	BORD	8	S	1033.9	1034.0	.2	35.0	1.0		
	810	KRAK	8	S	1034.5	1034.5	.2	190.0			
	2950	GORK	20	GRF	1045.4	1051.0	18.0	6.2			
	9100	GORK	2	S/F	1045.8	1046.6	2.5	10.0			
	930	BORD	8	S	1231.7	1231.8	.2	35.0	1.0		
	113	POTS	41	F	1433.0	1433.0	.4	100.0	8.0		III
	2800	OTTA	20	GRF	1515.0	1525.0	15.0	2.2	1.1		
	9400	HUAN	23	GRF	1523.7	1552.8	34.3	4.2	2.0		0
	9400	HUAN	1	S	1545.0	1545.9	2.0	16.6	7.6		0
	2800	OTTA	1	S	1550.0	1555.0	10.0	2.6	1.3		
	9400	HUAN	23	GRF	1612.1	1620.7	30.9	8.3	5.5		0
	2800	OTTA	21	GRF	1625.0	1705.0	90.0	3.0	1.5		
	2800	OTTA	46F	C	1630.5	1633.0	6.0	21.4	5.4		
	9400	HUAN	2	S/F	1633.4	1634.0	1.8	17.3	5.3		R
	9400	HUAN	22	GRF	1650.0E	1655.8U	43.0D	9.7	6.1		0
	2800	OTTA	1	S	1724.0	1725.0	1.5	3.6			
	9400	HUAN	20	GRF	1725.5	1805.1	65.5	8.3	5.4		0
	610	PALE	8	S	1732.3	1732.5	.3	26.0			QL=6 ST=3 TYP=3
	245	PALE	8	S	1732.3	1732.5	.5	44.0			QL=6 ST=3 TYP=3
	410	PALE	47	GB	1732.3	1732.5	.5	51.0			QL=6 ST=3 TYP=5
	9400	HUAN	20	GRF	1849.8	1854.0	8.4	5.3	3.0		R
	9400	HUAN	1	S	1911.6	1912.2	2.7	8.3	2.9		L
	2800	OTTA	21	GRF	1935.0	2030.0	135.0	6.2	3.0		
	245	PALE	47	GB	1943.3	1944.0	1.0	390.0			QL=3 ST=2 TYP=5
	2800	OTTA	8	S	1943.9	1944.0	.5	4.0	2.0		
	2695	PENT	8	S	2013.0	2013.2	.8	2.0	1.0		
	2800	OTTA	3	S	2017.0	2020.0	10.0	13.8	4.6		
	9400	HUAN	3	S	2017.7	2019.8	3.3	27.7	15.4		0
	8800	SGMR	4	S/F	2018.3	2019.5	3.0	15.0			QL=6 ST=2 TYP=3
	4995	SGMR	4	S/F	2018.8	2019.8	2.3	32.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	2018.8	2019.8	1.7	34.0			QL=3 ST=2 TYP=3
	8800	PALE	8	S	2019.0	2019.8	1.3	32.0			QL=3 ST=2' TYP=3
	2695	PALE	8	S	2019.3	2019.8	.8	17.0			QL=3 ST=2 TYP=3
	2695	SGMR	4	S/F	2019.3	2019.8	2.5	23.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	2021.0	2021.0	18.0	6.9	3.4		0
	2695	PENT	3	S	2230.9	2231.1	1.5	17.6	5.0		
	1000	TYKW	45	C	2231.0	2231.1	1.0	31.0	5.0		
	3750	TYKW	5	S	2231.0	2231.3	1.0	14.0	6.0		
	2000	TYKW	5	S	2231.0	2231.3	2.0	47.0	15.0		
	3750	TYKW	29	PBI	2232.0		6.0	3.0	1.5		
	2000	TYKW	29	PBI	2233.0		5.0	3.0	1.5		
	1000	TYKW	5	S	2314.6	2315.0	1.0	4.0	1.0		
	3750	TYKW	21	GRF	2324.0	2332.0	110.0	4.0	2.0		
	3750	TYKW	5	S	2342.0	2342.7	2.0	3.0	1.0		
	9400	TYKW	5	S	2343.0	2343.3	1.0U	9.0	3.0U		
	3750	TYKW	5	S	2346.9	2347.1	1.5	8.0	2.0		
	9400	TYKW	5	S	2356.0	2356.7	2.0	8.0	2.0		
28	100	GORK	44	NS	0459.0E		301.0D		5.0		
	221	ABST	44	NS	0500.0E	0855.0	240.0D	15.0			
	200	GORK	43	NS	0627.0		223.0D		5.0		
	260	ONDR	44	NS	0735.0E	1122.0	425.0D	199.0			
	127	TORN	44	NS	0850.0E	1107.2	370.0D	110.0	19.0		V=1
	430	KRAK	44	NS	0907.0E	1049.5	303.0D	200.0			
	410	SGMR	43	NS	1133.0	1903.0	588.0D	60.0			QL=6 ST=2 TYP=1
	245	SGMR	43	NS	1133.0	1904.1	588.0D	169.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1721.6	1759.3	608.4D	239.0			QL=6 ST=2 TYP=1
	410	PALE	43	NS	1732.3	2024.6	597.7D	78.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		300.0D		3.0		
	9400	TYKW	21	GRF	0013.0	0030.0	60.0	6.0	3.0		
	3750	TYKW			0014.0	0016.4		10.0			
	2000	TYKW	21	GRF	0014.0	0018.0	50.0	2.0	1.0		
	3750	TYKW	45	C	0014.0	0029.7	50.0	14.0	4.0		
	9400	TYKW	5	S	0016.0	0016.4	3.0	6.0	2.0		
	9400	TYKW	5	S	0019.0	0019.4	3.0	6.0	2.0		

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28	1000	TYKW	45	C	0028.5	0029.8	2.0	14.0	2.5		
	2000	TYKW	5	S	0029.5	0029.7	1.0	2.0	.5		
	3750	TYKW	21	GRF	0123.0	0131.0	50.0	4.0	2.0		
	2000	TYKW	5	S	0129.0	0129.8	7.0	4.0	1.0		
	9400	TYKW	5	S	0129.0	0129.8	2.0	15.0	4.0		
	9400	TYKW	29	PBI	0131.0		6.0	3.0	1.5		
	208	VORO	40	F	0132.0	0136.0	25.0	200.0D			
	3750	TYKW	5	S	0155.7	0156.0	1.0	3.0	1.0		
	2000	TYKW	21	GRF	0245.0	0350.0	145.0	4.0	2.0		
	3750	TYKW	28	PRE	0245.0	0352.0	67.0	7.0	3.0		
	9400	TYKW	5	S	0328.0	0328.6	2.5	4.0	1.5		
	1000	TYKW	45	C	0344.8	0345.1	.5	5.0	1.5		
	9400	TYKW	21	GRF	0348.0	0404.0	45.0	7.0	3.0		
	9400	TYKW	5	S	0351.0	0352.5	5.0	40.0	6.0		
	1000	TYKW	45	C	0351.0	0356.7	11.0	8.0	1.5		
	9395	PEKG	3	S	0351.0	0352.6	7.0	38.7			
	3750	TYKW	45	C	0352.0	0352.5	18.0	23.0	11.0		
	2000	TYKW	45	C	0352.0	0358.0	8.0	6.0	3.0		
	2840	PEKG	1	S	0352.0	0352.6	1.5	5.7	2.8		
	17000	NOBE	1	S	0352.2	0352.6	1.5	35.0			L
	2840	PEKG	1	S	0356.5	0358.0	8.5	5.9	3.0		
	2000	TYKW	30	PBI	0400.0		30.0	3.0	1.5		
	2000	TYKW	45	C	0404.0	0407.0	5.0	10.0	1.5		
	1000	TYKW	45	C	0405.0	0405.8	17.0	19.0	1.5		
	3750	TYKW	29	PBI	0410.0		30.0	8.0	3.0		
	2000	TYKW	5	S	0413.0	0414.2	2.0	7.0	1.5		
	3750	TYKW	5	S	0443.0	0445.2	5.0	3.0	1.0		
	9400	TYKW	45	C	0444.5	0445.2	2.5	6.0	1.5		
	3750	TYKW	21	GRF	0515.0	0532.0	35.0	5.0	2.0		
	3750	TYKW	5	S	0517.0	0520.0	8.0	4.0	1.5		
	1000	TYKW	5	S	0525.0	0525.2	1.0	3.0	1.0		
	6100	KISV	2	S/F	0602.0	0602.7	1.0	7.0			
	9400	TYKW	5	S	0602.4	0602.7	.6	9.0	3.0		
	1000	TYKW	5	S	0604.3	0604.6	.7	2.0	.5		
	3750	TYKW	5	S	0604.3	0604.6	.7	3.0	1.0		
	9400	TYKW	5	S	0628.4	0628.7	1.5	8.0	2.0		
	9400	TYKW	5	S	0634.5	0634.7	.5	9.0	3.0		
	430	KRAK			0907.0E	1159.7		169.0			
	6100	KISV			1011.7	1013.0		7.0			
	9100	GORK	2	S/F	1011.7	1013.1	5.6	10.0			
	6100	KISV	45	C	1011.7	1014.5	6.0	8.0			
	536	ONDR	41	F	1030.0U		30.0U	4.0			
	930	BORD	8	S	1105.3	1105.4	.3	20.0	2.0		
	234	POTS	4	S/F	1140.9	1141.0	.3	220.0	80.0		
	950	GORK	46	C	1221.7	1222.8	6.0	42.0			
	950	GORK			1221.7	1226.1		18.0			
	650	GORK	4	S/F	1222.6	1222.7	.7	39.0			
	650	GORK	46	C	1225.4	1225.6	1.0	44.0			
	650	GORK			1225.4	1226.1		23.0			
	536	ONDR	41	F	1234.0		16.0	6.0			
	234	POTS	4	S/F	1329.1	1329.2	.1	125.0	30.0		
	2800	OTTA	21	GRF	1430.0	1510.0	105.0	4.0	2.0		
	2800	OTTA	1	S	1503.0	1503.8	1.0	3.6	1.8		
	2800	OTTA	20	GRF	1630.0	1730.0	130.0	5.6	3.0		
	2800	OTTA	20	GRF	1945.0	1950.0	20.0	3.8	1.9		
	9400	HUAN	20	GRF	1946.3	1951.0	18.5	7.0	2.6		L
	2695	PENT	20	GRF	2110.0	2120.0	25.0	2.2	1.1		
	500	HIRA	20	GRF	2155.0	2232.0	86.0	15.0	10.0		MR
	1000	TYKW	45	C	2217.0	2217.9	4.0	36.0	9.0		
	2695	PENT	1	S	2217.0	2218.0	5.0	9.6	3.2		
	3750	TYKW	5	S	2217.0	2218.2	3.0	6.0	2.0		
	200	HIRA	46	C	2217.3	2217.6	3.0	92.0	35.0		O
	2000	TYKW	5	S	2218.0	2218.0	3.0	13.0	5.0		
	2000	TYKW	29	PBI	2220.0		30.0	2.0	1.0		
	410	PALE	47	GB	2247.1	2247.3	.5	60.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	2258.0	2258.3	.7	3.0	1.0		
	3750	TYKW	5	S	2313.0	2315.3	8.0	3.5	1.0		
	1000	TYKW	5	S	2331.0	2331.2	.5	2.5	1.0		
	1000	TYKW	5	S	2332.0	2332.3	.7	2.0	.7		
29	200	GORK	44	NS	0502.0E		306.0D		5.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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
29	260	ONDR	44	NS	0742.0E		410.0D	62.0			
	430	KRAK	44	NS	0800.0E	0828.3	360.0D	140.0			
	204	IZMI	43	NS	0840.0		200.0	60.0			
	410	SGMR	43	NS	1135.0						
	245	SGMR	43	NS	1135.0	1512.0		46.0			QL=6 ST=3 TYP=1
	245	PALE	43	NS	1721.6	1759.3	608.4D	239.0			QL=6 ST=3 TYP=1
	410	PALE	43	NS	1730.0	0258.3	600.0D	51.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1730.0	1916.1	600.0D	320.0			QL=6 ST=2 TYP=1
	410	PALE	43	NS	1732.3	2024.6	597.7D	78.0			QL=6 ST=2 TYP=1
	208	VORO	44	NS	2300.0E		140.0D		4.0		
	3750	TYKW	5	S	0036.0	0038.4	12.0	2.0	1.0		
	3750	TYKW	5	S	0053.8	0054.0	1.0	2.5	1.0		
	208	VORO	40	F	0110.0U	0119.0	45.0U	200.0D			
	100	HIRA	42	SER	0112.5	0120.0	8.6	2900.0			WL
	1000	TYKW	21	GRF	0118.0	0233.0	160.0	4.0	2.0		
	1000	TYKW	5	S	0118.9	0119.0	.5	2.5	.7		
	610	PALE	47	GB	0119.0	0120.1	2.1	62.0			QL=6 ST=2 TYP=5
	500	HIRA	7	C	0119.7	0120.0	2.0	1000.0	400.0		ML
	1000	TYKW	45	C	0120.0	0120.2	3.0	23.0	6.0		
	9400	TYKW	5	S	0120.0	0120.3	1.0	4.0	1.0		
	3750	TYKW	45	C	0120.0	0120.5	2.0	14.0	6.0		
	2000	TYKW	45	C	0120.0	0120.6	5.0	12.0	3.0		
	9400	TYKW	21	GRF	0120.0	0127.0	60.0	3.0	1.5		
	4995	PALE	8	S	0120.0	0120.3	.5	10.0			QL=6 ST=2 TYP=3
	2840	PEKG	3	S	0120.0	0120.6	3.0	11.1	4.2		
	245	PALE	49	GB	0120.1	0120.1	.5	700.0			QL=6 ST=2 TYP=6
	410	PALE	47	GB	0120.1	0120.1	1.7	310.0			QL=6 ST=2 TYP=5
	1415	PALE	8	S	0120.1	0120.3	.5	29.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	0122.0		40.0	2.0	1.0		
	1000	TYKW	45	C	0123.0	0123.6	2.0	4.0	1.5		
	2000	TYKW	29	PBI	0125.0		45.0	2.0	1.0		
	3750	TYKW	20	GRF	0223.0	0241.0	55.0	2.0	1.0		
	234	POTS	4	S/F	0800.8	0801.0	.3	110.0	20.0		
	3100	CRIM	26	FAL	0900.0	1035.0		8.0			
	2800	OTTA	2	S/F	1315.5	1316.0	2.5	4.6	1.8		
	2800	OTTA	21	GRF	1345.0		125.0	11.6	7.8		
	1470	POTS	23	GRF	1345.0	1349.0	45.0	21.0			
	2800	OTTA	40	F	1347.0	1347.7	6.0	25.0			
	3000	POTS	23	GRF	1347.0		43.0				
	2650	DWIN	2	S/F	1347.0	1347.0	3.0	45.0	20.0		
	930	BORD	40	F	1347.0	1408.0	28.0	52.0	7.0		
	2695	SGMR	8	S	1347.3	1347.5	1.2	23.0			QL=6 ST=2 TYP=3
	1415	SGMR	4	S/F	1347.3	1348.8	3.2	33.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1347.4	1416.0U	46.4	15.0	10.8		0
	9500	POTS	20	GRF	1348.0	1420.0	52.0	12.0			
	2650	DWIN	29	PBI	1350.0		60.0	10.0	5.0		
	260	ONDR	45	C	1400.0	1403.0	15.0	31.0	20.0		
	260	ONDR			1400.0	1405.0		27.0			
	260	ONDR			1400.0	1408.0		40.0			
	260	ONDR			1400.0	1409.0		47.0			
	260	ONDR			1400.0	1411.0		34.0			
	245	SGMR	47	GB	1401.8	1409.3	11.2	60.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1405.0	1407.3	5.1	60.0			QL=6 ST=2 TYP=5
	1470	POTS	3	S	1406.3	1407.8	3.7	45.0			
	3000	POTS	3	S	1406.5	1407.3	2.5	27.0			
	1415	SGMR	47	GB	1406.8	1407.8	2.3	53.0			QL=6 ST=2 TYP=5
	2650	DWIN	1	S	1407.0	1408.0	4.0	28.0	10.0		
	2695	SGMR	8	S	1407.1	1407.3	1.4	24.0			QL=6 ST=2 TYP=3
	610	SGMR	4	S/F	1407.1	1408.1	5.5	38.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1407.5	1407.6	1.1	11.0			QL=6 ST=2 TYP=3
	113	POTS	8	S	1417.6	1417.7	.8	200.0	70.0		
	2800	OTTA	8	S	1514.0	1514.0	.5	5.0	1.6		
	610	SGMR	47	GB	1514.1	1514.1	1.2	51.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1605.0	1700.0	115.0	13.0	6.5		
	930	BORD	46	C	1611.0E	1644.0U	44.0D	302.0	7.0		
	610	SGMR	47	GB	1629.5	1629.6	1.5	370.0			QL=6 ST=2 TYP=5
	610	SGMR	49	GB	1640.3	1642.6	6.0	1600.0			QL=6 ST=2 TYP=6
	1415	SGMR	4	S/F	1643.0	1645.8	3.8	30.0			QL=6 ST=2 TYP=3
	410	SGMR	4	S/F	1643.6	1644.6	2.2	34.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1645.0	1646.8	3.0	19.0			QL=6 ST=2 TYP=3
	610	SGMR	49	GB	1650.6	1652.8	10.7	3399.0			QL=6 ST=2 TYP=6

OCTOBER 1982

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
29	1415	SGMR	49	GB	1650.8	1654.3	9.8	18000.0			QL=6 ST=2 TYP=6
	2695	SGMR	4	S/F	1651.1	1653.6	8.5	24.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	1651.6	1653.1	4.7	63.0			QL=6 ST=2 TYP=5
	4995	SGMR	8	S	1651.8	1652.0	1.0	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1652.0	1653.3	3.0	2.4	1.2		
	610	SGMR	47	GB	1702.3	1702.8	1.7	200.0			QL=6 ST=2 TYP=5
	2695	SGMR	4	S/F	1702.3	1704.6	11.8	20.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1702.6	1703.3	1.0	16.0			QL=6 ST=2 TYP=3
	2800	OTTA	8	S	1718.8	1719.0	.3	4.6			
	2695	SGMR	4	S/F	1745.6	1749.6	17.2	37.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1748.1	1748.1	1.9	270.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1748.1	1748.1	.4	440.0			QL=5 ST=2 TYP=5
	610	PALE	4	S/F	1751.1	1751.8	4.7	29.0			QL=5 ST=2 TYP=3
	610	SGMR	4	S/F	1751.1	1751.8	7.4	34.0			QL=6 ST=2 TYP=3
	410	SGMR	4	S/F	1752.6	1752.8	6.0	28.0			QL=6 ST=2 TYP=3
	245	PALE	49	GB	1807.1	1807.3	.5	3699.0			QL=5 ST=2 TYP=6
	245	PALE	8	S	1813.1	1813.3	.7	48.0			QL=5 ST=2 TYP=3
	245	PALE	47	GB	1823.8	1824.5	3.3	139.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	1902.0	1903.1	1.1	37.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	1904.1	1904.3	.5	72.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1909.8	1910.0	.5	99.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1913.5	1914.0	1.0	320.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1940.3	1940.3	.3	130.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1950.3	1950.3	.5	92.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2101.8	2102.0	.5	300.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2106.8	2107.0	.3	61.0			QL=6 ST=2 TYP=5
	3750	TYKW	21	GRF	2217.0	2220.0	40.0	3.0	1.0		
	2000	TYKW	21	GRF	2220.0	2230.0	40.0	2.0	1.0		
	2000	TYKW	45	C	2233.0	2235.6	10.0	6.0	2.0		
	3750	TYKW	5	S	2233.0	2236.0	10.0	4.0	1.5		
	1000	TYKW	45	C	2234.0	2235.6	5.0	24.0	3.0		
30	208	VORO	43	NS	0210.0		110.0D		2.0		
	200	GORK	44	NS	0500.0E		90.0D		5.0		
	221	ABST	44	NS	0500.0E	0606.0	240.0D	12.0			
	204	IZMI	43	NS	0915.0		165.0	20.0			
	200	GORK	43	NS	0916.0		161.0D		5.0		
	410	SGMR	43	NS	1137.0	1440.8	580.0	90.0			QL=6 ST=2 TYP=1
	245	SGMR	43	NS	1137.0	1511.8	580.0	500.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1652.0	1720.1	633.0D	64.0			QL=6 ST=2 TYP=1
	245	PALE	47	GB	0000.8	0001.0	.3	68.0			QL=6 ST=2 TYP=5
	100	HIRA	46	C	0104.0	0104.7	1.0	890.0	240.0		WL
	3750	TYKW	20	GRF	0143.0	0153.0	30.0	2.0	1.0		
	430	KRAK	42	SER	0800.0E	1149.0	360.0D	27.0			
	430	KRAK			0800.0E	1301.0		32.0			
	234	POTS	4	S/F	1040.7	1040.9	.5	200.0	30.0		
	234	POTS	4	S/F	1055.5	1055.5	.1	140.0	30.0		
	234	POTS	4	S/F	1145.7	1145.9	.2	150.0	30.0		
	610	SGMR	8	S	1304.6	1304.6	1.2	33.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1730.0	1731.0	7.0	2.2	1.0		
	410	PALE	8	S	1917.3	1917.5	.3	33.0			QL=6 ST=2 TYP=3
	410	PALE	47	GB	2025.1	2025.1	.7	66.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2025.1	2025.3	.7	16.0			QL=6 ST=3 TYP=5
	410	PALE	47	GB	2039.1	2039.3	.7	59.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2039.3	2039.5	.3	20.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2039.3	2039.6	.5	26.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2119.8	2120.1	.8	39.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2119.8	2120.3	.8	18.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2120.0	2120.1	.3	69.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	2230.0	2230.2	.5	9.0	3.0		
	1000	TYKW	5	S	2252.7	2253.0	.7	3.0	1.0		
	1000	TYKW	5	S	2335.0	2335.3	.7	28.0	8.0		
	3750	TYKW	5	S	2345.5	2346.7	3.0	2.5	1.0		
31	260	ONDR	44	NS	0723.0E		349.0D	24.0			
	245	PALE	43	NS	1820.0	2012.1	550.0D	100.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2058.0E	2214.0	180.0D	55.0	15.0		0
	3750	TYKW	20	GRF	0030.0	0037.0	40.0	2.0	1.0		
	3750	TYKW	5	S	0117.0	0117.8	3.0	2.0	.7		
	3750	TYKW	5	S	0520.0	0521.5	12.0	3.0	1.0		
	9400	TYKW	5	S	0602.0	0602.7	2.0	7.0	2.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1982

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
31	430	KRAK	42	SER	0831.5	0846.5	21.0	18.0			
	430	KRAK	42	SER	0952.0	1008.5	17.5	21.0			
	430	KRAK	42	SER	1107.5	1115.2	136.5	50.0			
	536	ONDR	8	S	1112.0	1112.0	.1	6.0			
	536	ONDR	8	S	1236.0	1236.0	.1	7.0			
	536	ONDR	8	S	1253.0	1253.0	.1	6.0			
	2800	OTTA	20	GRF	1730.0	1840.0	100.0	2.0	1.0		
	100	HIRA	46	C	2140.0	2142.0	4.7	540.0	50.0		0
	245	PALE	47	GB	2141.6	2141.8	2.5	119.0			QL=3 ST=2 TYP=5
	410	PALE	8	S	2141.8	2142.0	.5	24.0			QL=3 ST=2 TYP=3
	1415	PALE	8	S	2141.8	2142.1	.8	23.0			QL=3 ST=2 TYP=3

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

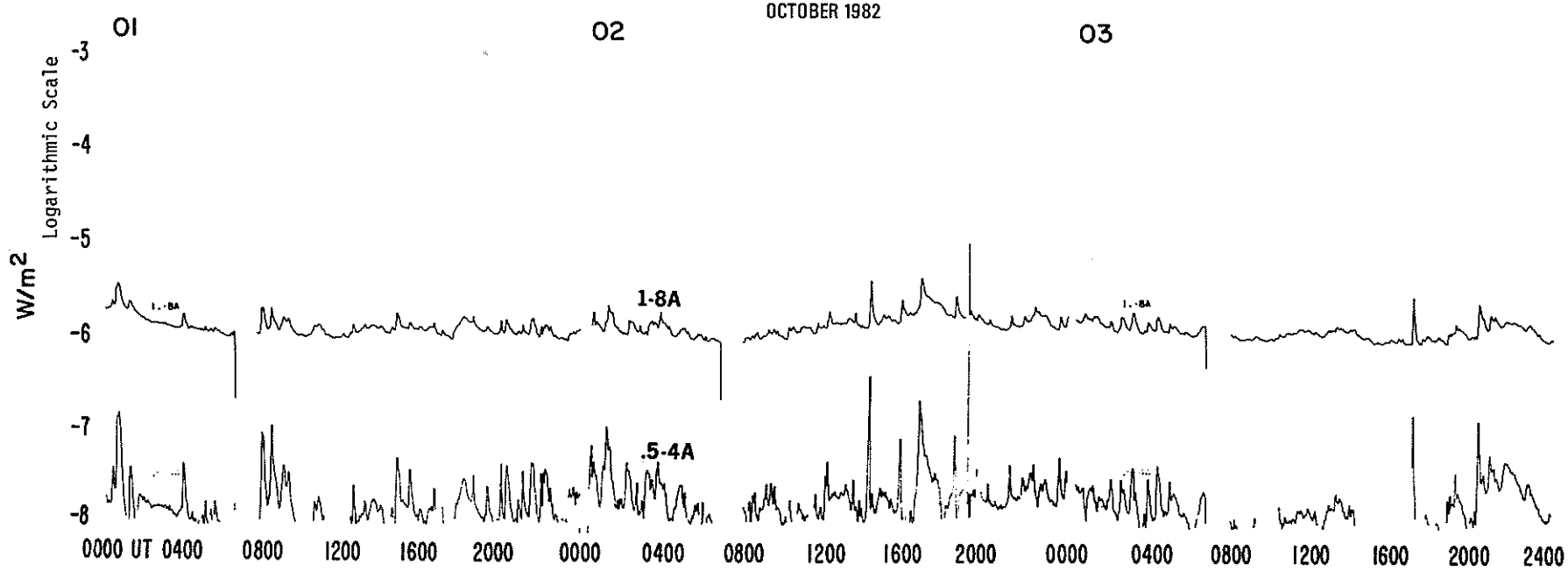
Explanation of Type Code:

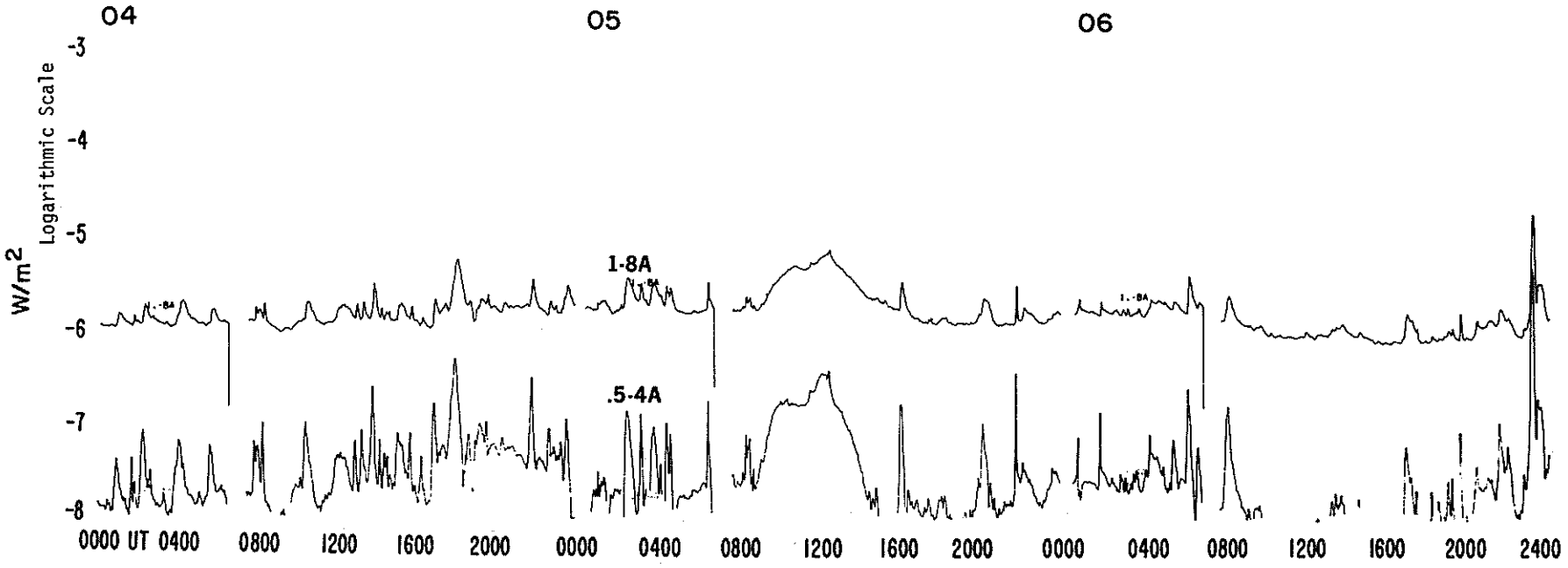
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of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

OCTOBER 1982





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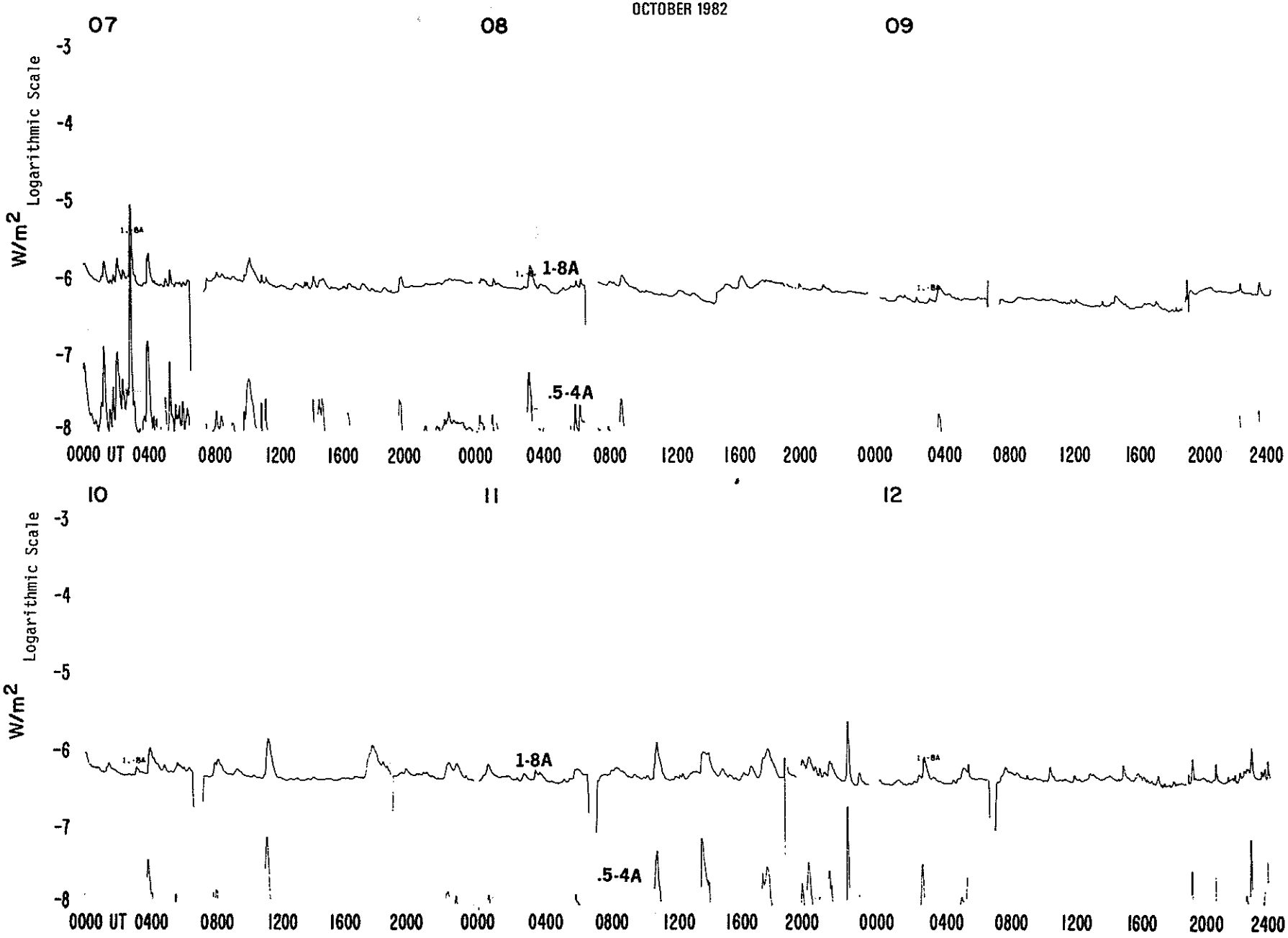
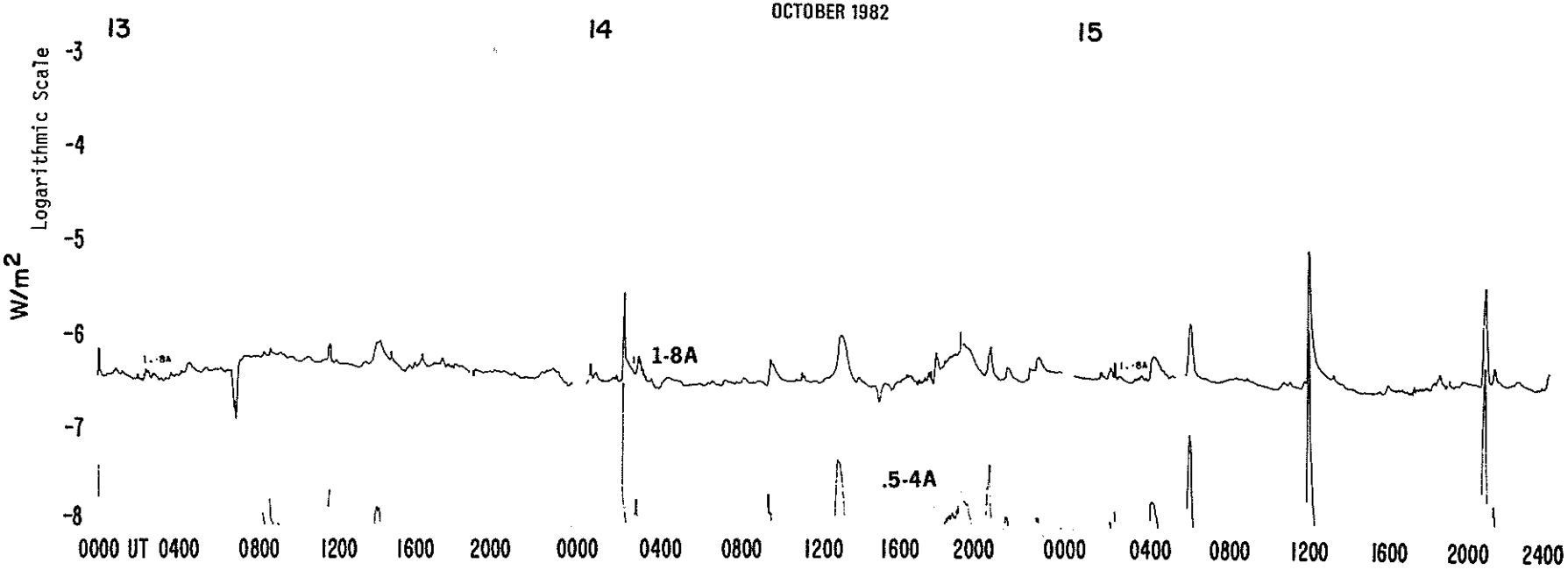
SMS-GOES X-RAYS

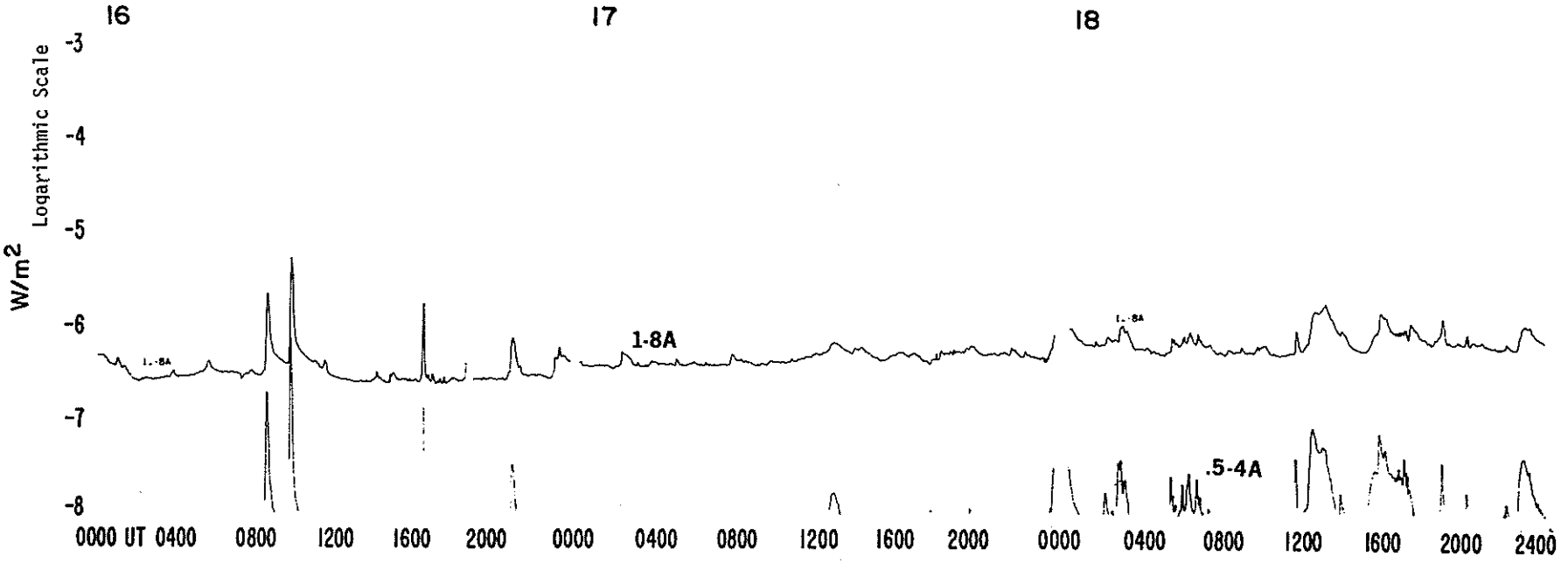
OCTOBER 1982



SMS-GOES X-RAYS

OCTOBER 1982





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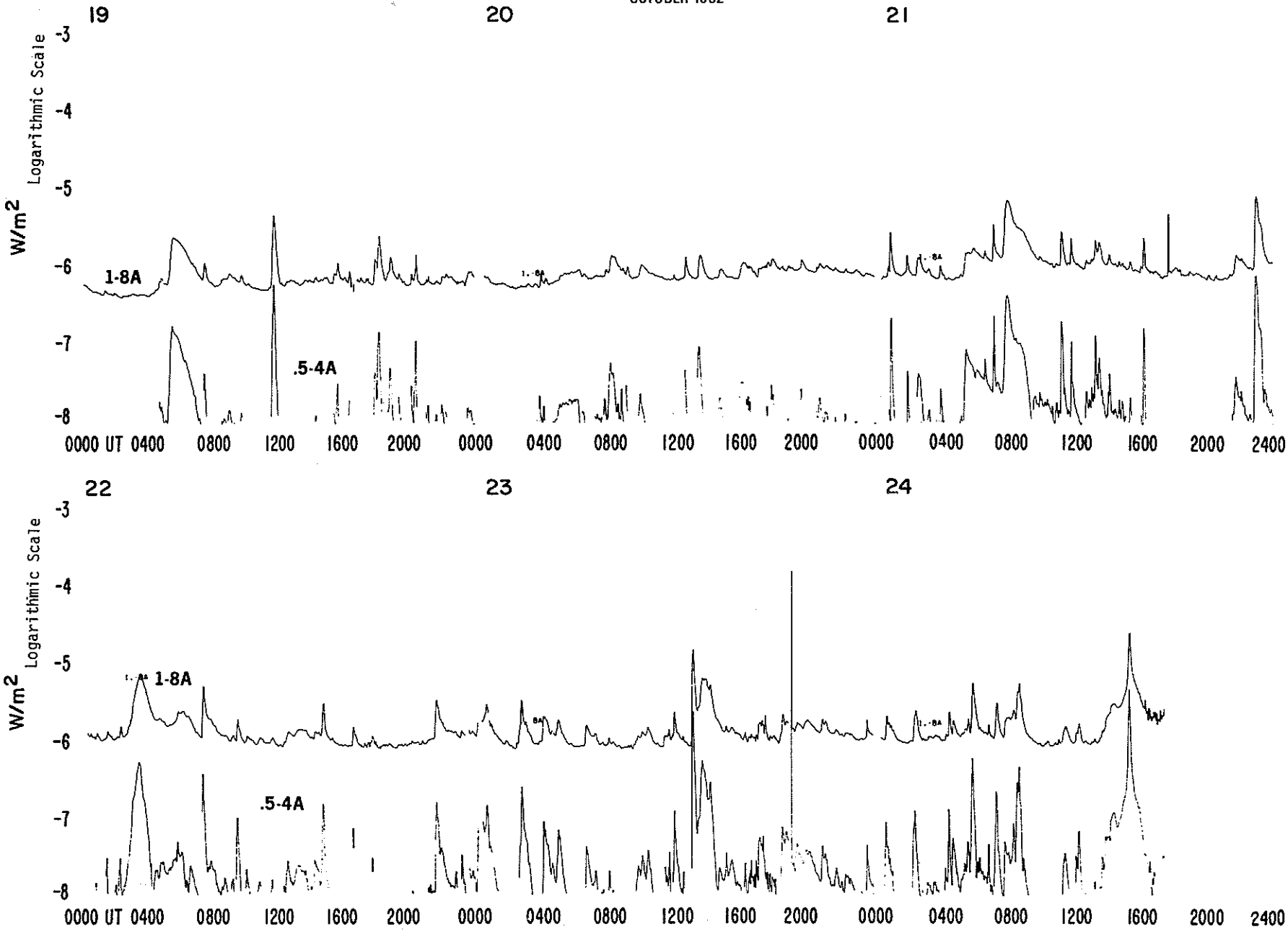
Oct 82

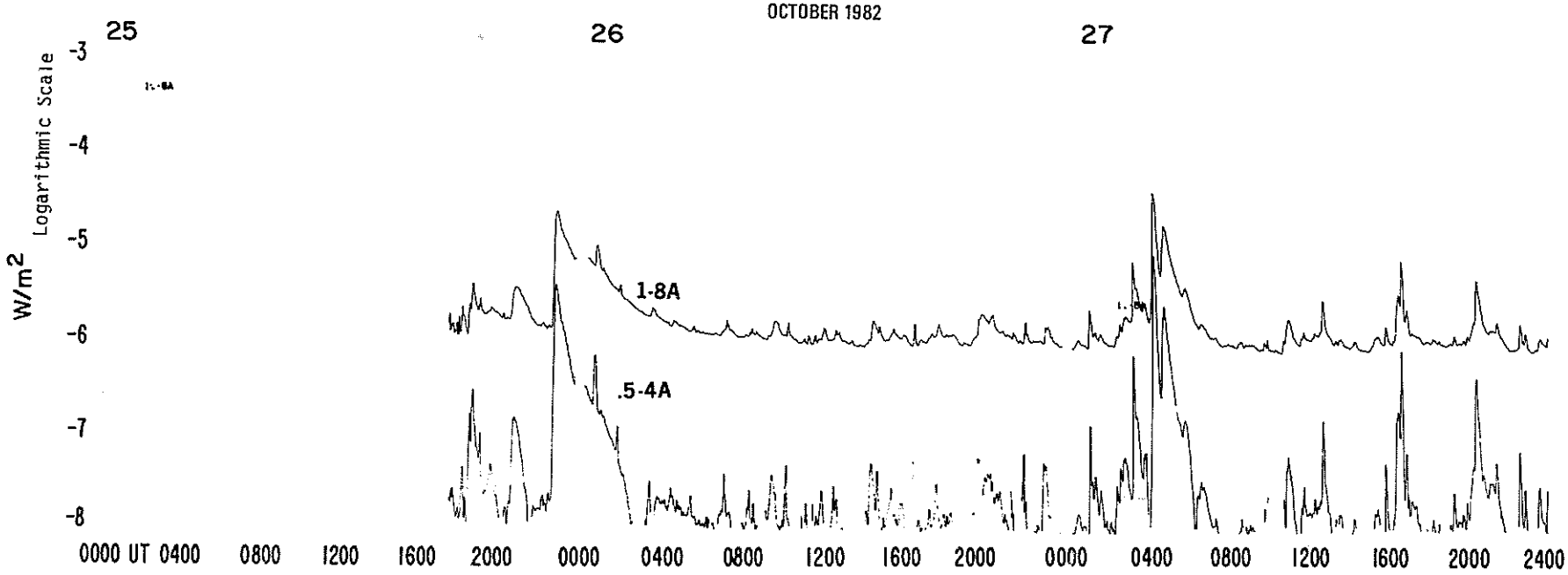
SMS-GOES X-RAYS

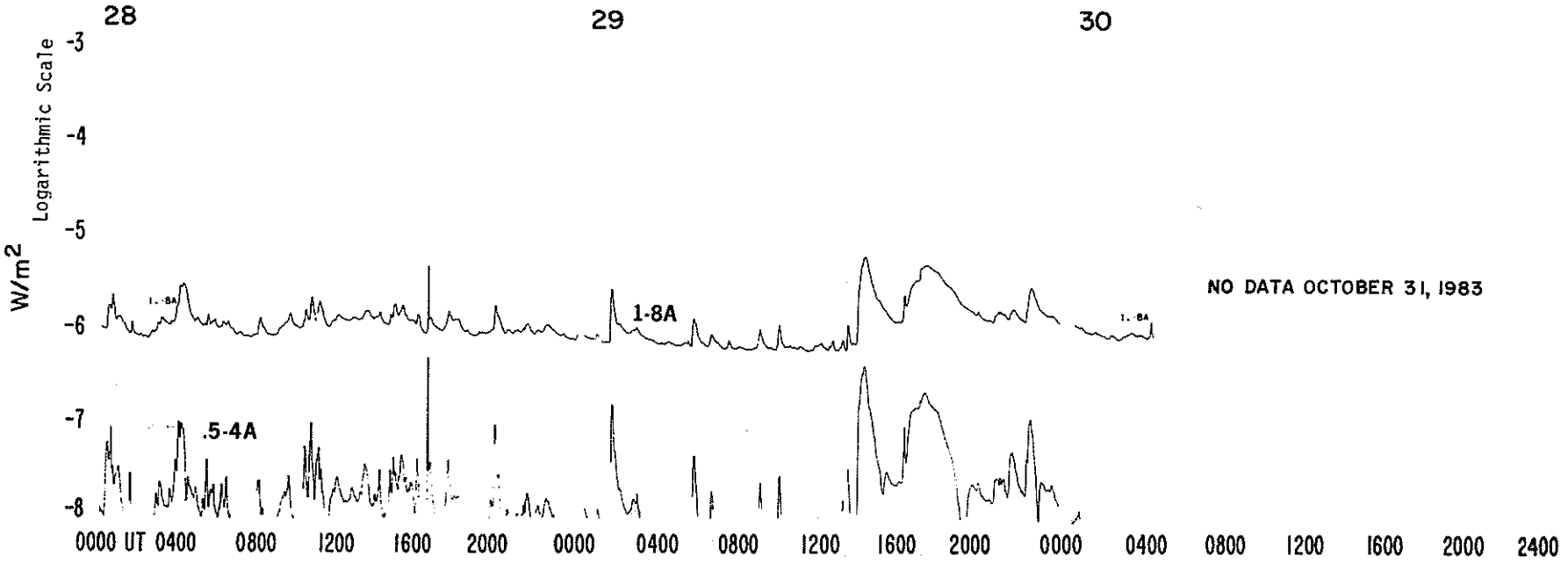
OCTOBER 1982



SMS-GOES X-RAYS

OCTOBER 1982





NO DATA OCTOBER 31, 1983

35 Oct 82

MASS EJECTIONS FROM THE SUN

October 1982

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
KHAR	Oct 07	0957E		1007D	282	1.00	H-alpha	S
KHAR	Oct 07	1003E		1130D	254	1.00	H-alpha	S
KHAR	Oct 07	1040E		1050D	282	1.00	H-alpha	S
KHAR	Oct 07	1053E		1110D	283	1.00	H-alpha	S
KHAR	Oct 08	0850E		0924D	254	1.00	H-alpha	S
HARV	Oct 11	1457.0		1459.0			Decimeter	IV
KHAR	Oct 15	1115E		1123D	111	0.75	H-alpha	S
KHAR	Oct 15	1144E		1206D	111	0.75	H-alpha	S
KHAR	Oct 15	1152E		1206D	270	0.55	H-alpha	S
HARV	Oct 15	2036.0		2046.0			Decimeter	IV
CULG	Oct 15	2045.0		2057.5			Meter	II
HARV	Oct 15	2045.0		2049.0			Meter	II
HARV	Oct 16	1636.0		1645.0			Meter	II
WEIS	Oct 21	0741.0		0748.5			46-80 MHz	II
KHAR	Oct 22	1158E		1230D	099	1.00	H-alpha	S
ABST	Oct 23	0648	0651	0656	084	0.55	H-alpha	SP
KHAR	Oct 24	0838E		0905D	045	0.22	H-alpha	S
KHAR	Oct 24	0838E		0853D	086	0.68	H-alpha	S
KHAR	Oct 24	0915E		0925D	087	0.73	H-alpha	S
KHAR	Oct 25	1000		1017	243	0.82	H-alpha	S
KHAR	Oct 25	1101E		1121	083	0.54	H-alpha	S
HARV	Oct 25	1558.0		1601.0			Decimeter	IV
HARV	Oct 25	2304.0		2305.0			Decimeter	IV
CULG	Oct 25	2322.5		2324.5			Meter	Possible II
CULG	Oct 26	0039.5		0051.0			Meter	II
KHAR	Oct 26	0940E		0957D	235	0.48	H-alpha	S
VORO	Oct 27	0011	0030	0052	032	0.18	H-alpha	S
VORO	Oct 27	0317	0339	0352	040	0.21	H-alpha	S
CULG	Oct 27	0412.0		0419.0			Meter	II
CULG	Oct 27	0428.5		0445.0			Decimeter	IV
CULG	Oct 27	0431.0		0446.0			Meter	IV
CULG	Oct 27	0433.5		0454.5			Meter	II
ABST	Oct 27	0639	0648	0652	264	0.54	H-alpha	SP
KHAR	Oct 27	0940E		0957D	235	0.048	H-alpha	S
HARV	Oct 28	2217.0		2219.0			Decimeter; meter	IV
HARV	Oct 29	1407.0		1412.0			Decimeter; meter	IV Pulsations
HARV	Oct 29	1644.0		1658.0			Decimeter	IV
VORO	Oct 31	2301	2309	2321	248	1	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
- BIGB = Big Bear
- BLEN = Bleien
- CULG = Culgoora
- DWIN = Dwingeloo
- GEOR = Georgiana
- HALE = Haleakala
- HAOC = High Altitude Observatory's SMM Coronagraph/Polarimeter
- HAOK = High Altitude Observatory's MARK-III Coronameter at Mauna Loa
- HARV = Harvard (Fort Davis)
- KHAR = Kharkov
- LEAR = Learmonth
- LVOV = Lvov
- MANI = Manila
- MITK = Mitaka
- NRLC = Naval Research Laboratory's White-Light Coronagraph Experiment on P78-1
- PALE = Palehua
- SGMR = Sagamore Hill
- TELV = Tel Aviv
- VORO = Voroshilov
- WEIS = Weissenau
- WEND = Wendelstein
- UDAI = Udaipur

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 Radioelectriques 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)

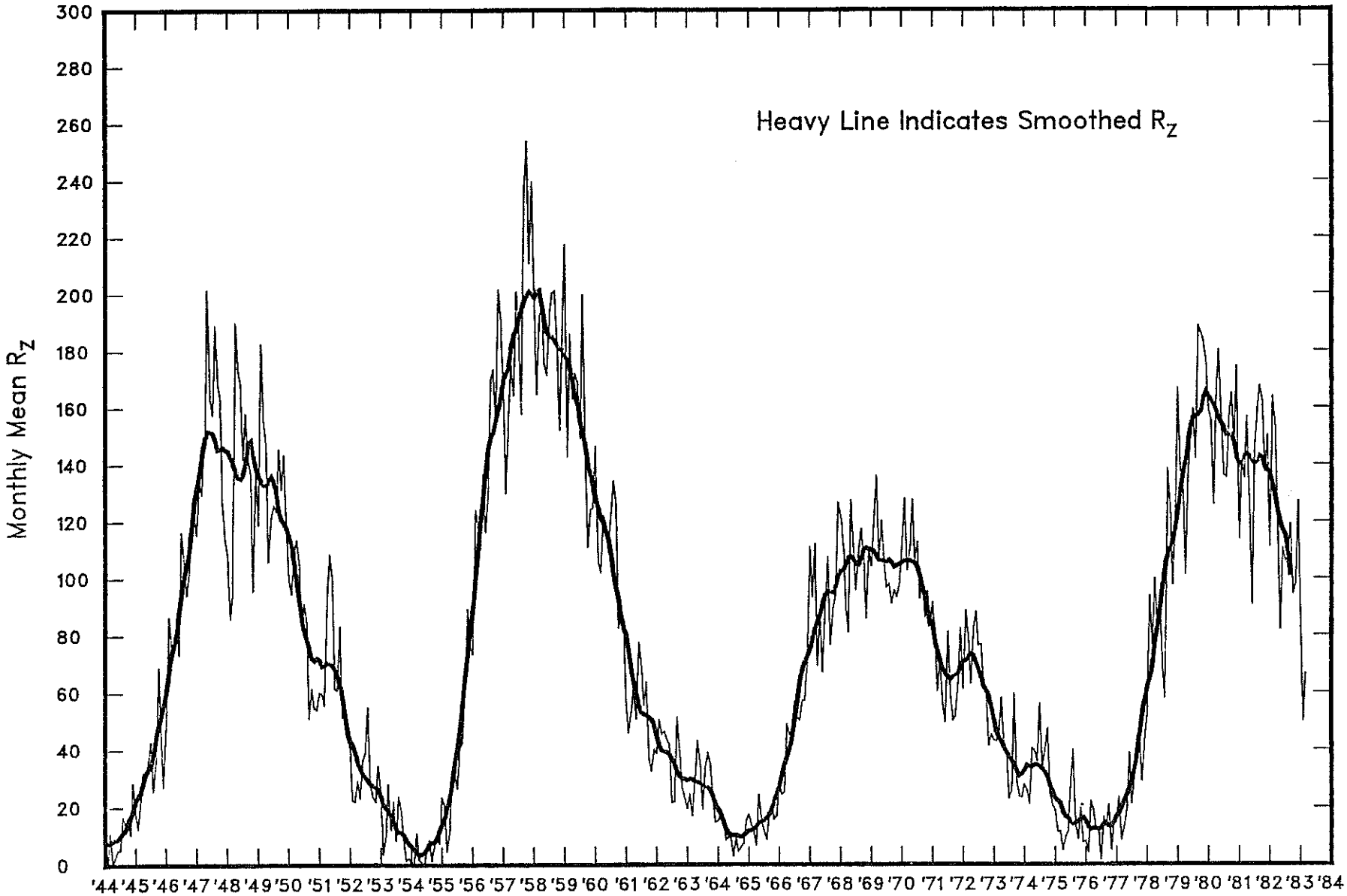
Netherlands: *Geomagnetic Data* IAGA Bulletin No. 12 (1932-69), No. 32 (since 1970) IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris V, France (annually)

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)

MONTHLY MEAN ZURICH SUNSPOT NUMBERS
January 1944 – March 1983



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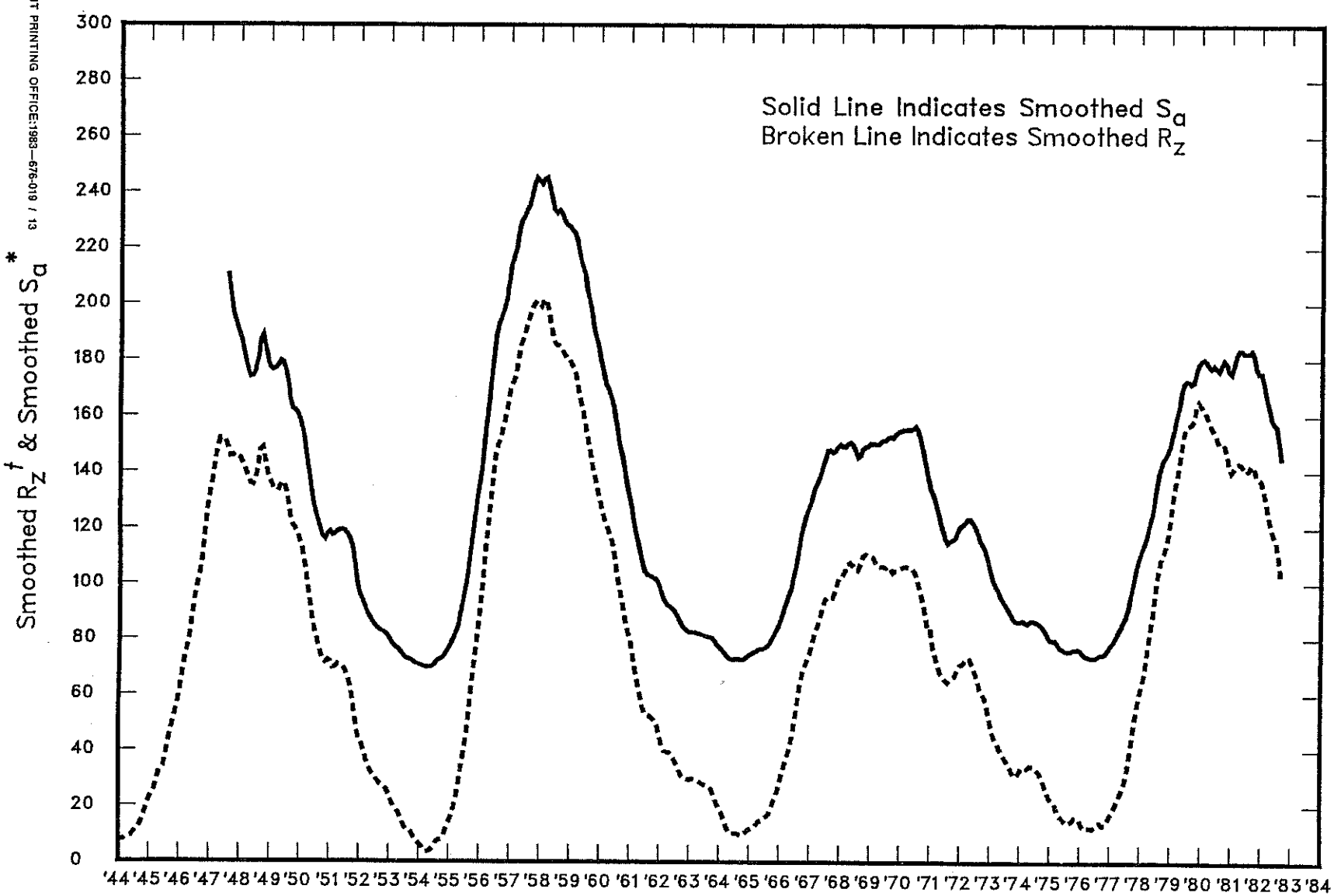
SUNSPOT NUMBERS AND 10.7 cm SOLAR RADIO FLUX
January 1944 – September 1982



* Solar Flux Units (10^{-22} W/m^2 Hz) Adjusted to 1 A.U., Ottawa Series D.

t Reduced Zürich Sunspot Numbers.

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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."