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NO. 429 MAY 1980

Part II (Comprehensive Reports)

DATA FOR
NOVEMBER 1979

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BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 429

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

CONTENTS

Part I (Prompt Reports)

	PAGE
Index for 1979-1980	2
Data for April 1980	3-37
Data for March 1980	38-148
Late Data	149-157
Solar Radio Emission Mar 1980	
21 and 43 cm East-West Solar Scans - Fleurs	
Cosmic Rays Alert/Deep River Feb 1980	
Geomagnetic Indices Feb 1980	
Geomagnetic Activity Indices	
Hourly Equatorial Dst Values	
Daily Solar Activity Centers Jan 1980	
Calcium Plages reissued	

Part II (Comprehensive Reports)

Index for 1979-1980	2
Data for November 1979	3-30
Note on delay of Solar Flare Data	4
Miscellaneous Data	31-38
Energetic Solar Particles Oct 1979	
IMP 8 Electrons, Protons and Alpha Particles	
Active Regions Aug 13 - Sep 9, 1979	
Synoptic Solar Map Aug 13 - Sep 9, 1979	

DETAILED COVERAGE FOR 1979-80 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1979 Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1980 Jan	Feb	Mar	Apr
A.	SOLAR AND INTERPLANETARY PHENOMENA													
A.1	Sunspot Drawings	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	4429A 42	
A.2a	Zurich Provisional Relative Sunspot Numbers Rz	417A 9	418A 11	419A 11	420A 11	421A 11	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9
A.2b	Zurich Final Sunspot Numbers Rz	428A 9	428A 9	428A 9	428A 9	428A 9	428A 9	428A 9	428A 9	428A 9				
A.2c	American Relative Sunspot Numbers RA	417A 9	418A 11	419A 11	420A 11	421A 11	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9
A.3a	Mt. Wilson Magnetograms	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	427A 44	429A 42	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	418A108	419A110	420A110	421A112	422A 11	423A110	424A112	425A108	428A150	427A112	428A102	429A104	
A.3c	Kitt Peak Magnetograms	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.3d	Mean Solar Magnetic Field (Stanford)	417A 36	418A 38	419A 38	420A 40	421A 40	422A 42	423A 40	424A 40	425A 36	426A 38	427A 38	428A 34	429A 35
A.3e	Stanford Magnetograms	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.4	H-alpha Filtergrams	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.5	Calcium Plage Drawings - Mt. Wilson	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.5a	Calcium Plage (Mt. Wilson) and Sunspot Regions	418A108	419A110	420A110	421A112	422A114	423A110	424A112	425A108	428A150	427A112	428A102	429A104	
A.5b	Mt. Wilson Daily Calcium Plage Indices	418A118	419A123	420A121	421A125	422A129	423A124	424A125	425A121	426A112	427A122	428A112	429A115	
A.6	H-alpha Synoptic Charts	418A 42	419A 43	420A 44	421A 44	422A 46	423A 44	424A 44	425A 40	426A 42	427A 42	428A 38	429A 39	
A.6b	Synoptic Chart and Active Regions (Paris)	426B 38	426B 39	426B 40	426B 41	427B 48	429B 38							
A.6c	Stanford Solar Magnetic Field Synoptic Charts	418A 43	419A 44	420A 46	421A 46	422A 48	423A 46	424A 46	425A 42	426A 44	427A 44	428A 40	429A 40	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	418A 45	419A 45	420A 48	421A 48	422A 50	423A 48	424A 48	425A 44	426A 46	427A 46	428A 42	429A 41	
A.7f	Helium D3 Chromosphere (Big Bear)	417A 33	418A 34	419A 34	420A 35	421A 37	422A 38	423A 41	425B 28	425A 37	426A 39	427A 39	428A 35	429A 36
A.7g	Helium Synoptic Maps (KPNO)	417A 32	418A 33	419A 33	420A 34	421A 36	423B 75	425A 46	425A 47	426A 48	427A 48			
A.7h	Coronal Line Emission (Sac Peak)	418A 48	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	417A 9	418A 11	419A 11	420A 11	421A 11	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	417A 9	418A 11	419A 11	420A 11	421A 11	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	417A 9	418A 11	419A 11	420A 11	422B 84	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9
A.9cb	8.6 mm Radio Maps of the Sun (NOSC - La Posta)	---	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.9d	2 cm Radio Maps of the Sun (NOSC - La Posta)	---	419A 48	420A 50	421A 50	422A 52	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	
A.10a	169 MHz - Interferometric Observations (Nancay)	417A 21	419B 52	420B 69	420A 24	422B 85	422A 25	423A 27	424A 25	426A148	426A 23	427A 23	428A 20	429A 22
A.10c	21 cm East-West Solar Scans (Fleurs)	417A 24	418A 25	420B 70	420A 27	421A 28	422A 28	423A 30	424A 28	425A 27	426A 26	427A 26	429A150	429A 25
A.10d	43 cm East-West Solar Scans (Fleurs)	417A 25	418A 26	420B 71	420A 28	421A 29	422A 29	423A 31	424A 29	425A 28	426A 27	427A 27	429A151	429A 26
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	417A 23	418A 24	419A 26	420A 26	421A 27	422A 27	423A 29	424A 27	425A 26	426A 25	427A 25	428A 22	429A 24
A.10f	3 cm East-West Solar Scans (Toyokawa)	417A 22	418A 23	419A 25	420A 25	421A 26	422A 26	423A 28	424A 26	425A 25	426A 24	427A 24	428A 21	429A 23
A.11k	Solar X-ray Radiation (SOLRAD 11)	418A122	419A126	420A124	421A129	422A133	423A128	426A158	---	---	---	---	---	---
A.11g	Solar X-ray (SMS/GOES) (graphs)	422B 31	423B 17	424B 29	425B 20	426B 24	427B 28	428B 24	429B 26					
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	---	---	---	---	---	---	---	---	---	---	---	---	---
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	---	---	---	---	---	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32
A.12e	Energetic Solar Particles (IMP H & J)	422B 26	424B 40	427B 37	426B 33	427B 42		429B 32						
A.13a	Solar Wind (Pioneers 6 & 7)	---	---	---	---	---	---	---	---	---	---	427A 32	428A 27	429A 32
A.13ab	Solar Wind (Pioneers 8 & 9)	---	---	---	---	---	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32
A.13d	Solar Wind from IPS Measurements	417A 37	418A 35	419A 35	420A 37	422B 89	422A 39	424B 36	424A 37	426A146	426A 34	427A 35	428A 30	
A.13e	Solar Plasma (IMP H & J)	422B 25	423B 17	424B 28	425B 19	426B 23	427B 27	428B 23	429B 25					
A.13f	Solar Wind (Pioneer 12 (Venus))	417A 31	418A 32	419A 32	420A 36	421A 35	422A 37	423A 37	424A 36	425A 32	426A 33	427A 34	428A 29	429A 33
A.17	Interplanetary Magnetic Field (Pioneer 8)	---	---	---	---	---	---	---	---	---	---	---	---	---
A.17	Interplanetary Magnetic Field (Pioneer 9)	---	---	---	---	---	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32
A.17	Interplanetary Magnetic Field (Pioneer 12)						423B 73	424B 38	425B 29	426A116	---	---	429A119	
A.17c	Inferred IP Magnetic Field	417A 34	418A 36	419A 36	420A 38	421A 38	422A 40	423A 38	424A 38	425A 34	426A 36	427A 36	428A 32	
A.18	Interplanetary Electric Field (Pioneer 8)	---	---	---	---	---	---	---	---	---	---	---	---	---
A.18	Interplanetary Electric Field (Pioneer 9)	---	---	---	---	---	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA													
B.52	Graphs of Transmission Frequency Range	418A166	419A168	420A166	421A165	422A178	423A174	424A154	425A152	426A142	427A154	428A140	429A146	
B.53	Quality Figures Based on Frequency Ranges	418A165	419A167	420A168	421A165	422A188	423A173	424A153	425A151	426A141	427A153	428A139	429A148	
C.	FLARE-ASSOCIATED EVENTS													
C.1a	Optical Observations Flares	417A 12	418A 14	419A 14	420A 14	421A 14	422A 14	423A 15	424A 15	425A 15	426A 15	427A 14	428A 15	429A 14
C.1ba	Optical Observations Flares (Standardized Data)													
C.1d	Flare Patrol Observations	417A 20	418A 23	419A 24	420A 23	421A 25	423B 72	423A 26	424A 24	425A 24	427A158	427A 22		
C.1d	Flare Patrol Observations													
C.1e	Flare Indices (by day)													
C.1f	Flare Indices (by Region)													
C.3	Solar Radio Waves - Outstanding Occurrences	422B 4	423B 4	424B 4	425B 5	426B 5	427B 5	428B 5	429B 5					
	Solar Radio Waves - Fixed Frequencies - Selected	417A 26	418A 28	419A 27	420A 29	421A 30	422A 30	423A 32	424A 30	425A 29	426A 28	427A 28	428A 23	429A 27
C.3t	43.25, 80 and 160 MHz Selected Bursts (Culgoora)													
C.4a	Solar Radio Spectral Obs. (Fort Davis)	420B 72	420B 75	420A139	423B 76	423B 78	423A143	426A149	426A153	426A117	427A126	428A116	429A120	
C.4d	Solar Radio Spectral Obs. (Culgoora)	418A137	419A142	420A139	421A145	422A149	423A143	424A130	425A125	426A117	427A126	428A116	429A120	
C.4e	Solar Radio Spectral Obs. (Weissenau)	418A137	419A142	420A139	422B 86	422A149	423A143	424A130	425A125	426A117	427A126	428A116	429A120	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	418A137	419A142	420A139	421A145	---	---	---	---	---	---	---	429A120	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	418A137	419A142	---	421A145	422A149	423A143	424A130	425A125	426A117	427A126	428A116	429A120	
C.4i	Solar Radio Spectral Obs. (Bleien)	418A137	419A142	---	---	422A149	423A143	424A130	425A125	426A117	427A126	428A116	429A120	
C.4j	Solar Radio Spectral Obs. (Manila)	418A137	419A142	420A139	421A145	422A149	---	424A130	425A125	426A117	427A126	---		
C.4k	Solar Radio Spectral Obs. (Learmonth)					422A149	423A143		425A125		427A126	428A116	429A120	
C.4l	Solar Radio Spectral Obs. (Palehua)					422A149	423A143		425A125		427A126	428A116	429A120	
C.5a	Solar X-ray (SMS/GOES) (graphs)	422B 31	423B 17	424B 29	425B 20	426B 24	427B 28	428B 24	429B 26					
C.6	Sudden Ionospheric Disturbances	418A119	419A124	420A122	421A126	422A130	423A125	424A126	425A122	426A113	427A123	428A113	429A116	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA													
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	418A158	419A160	420A160	421A159	422A170	423A166	424A147	425A144	426A133	427A148	429A154	429A142	
D.1ba	27-day Chart of Kp Indices	418A160	419A162	420A162	421A161	422A172	423A168	424A149	425A146	426A135	427A150	428A137	429A144	
D.1c	27-day Chart of C9	426A136	426A136	426A136	426A136	426A136	426A136	426A136	426A136	426A136				
D.1ca	aa graph 1868 - present	425A137	426A137	426A137	426A137	426A137	426A137	426A137	426A137	426A137				
D.1d	Principal Magnetic Storms	418A163	419A165	420A165	421A164	422A175	423A171	424A152	425A149	426A140	427A151	428A138	429A145	
D.1e	Reduced Magnetograms													
D.1f	Sudden Commencement and Solar Flare Effects	419B 63	419A166	421B 42	422B 90	422A177	423A172	425B 33	425A150	427A164	427A152			
D.1g	Equatorial Indices Dst	418A162	419A164	420A164	421A163	422A174	423A170	424A151	425A148	426A139	428A147	429A155		
D.1h	Geomagnetic Substorm Log (Boulder)	417A 38	418A 39	419A 39	420A 41	421A 41	422A 43	423A 42	424A 41	425A 38	426A 40	427A 40	428A 36	429A 37
F.	COSMIC RAYS													
F.1a	Cosmic Ray Neutron Counts (Deep River)	418A151	419A153	420A155	421A158	422A165	423A161	425B 32	427A159	427A159	428A146	429A153	429A137	
F.1b	Cosmic Ray Neutron Counts (Climax)	418A151	419A153	420A155	421A158	422A165	423A161	425B 32	425A143	426A132	428A146			
F.1e	Cosmic Ray Neutron Counts (Alert)	418A151	420B 78	420A155	421A158	422A165	423A161	425B 32	427A159	427A159	428A146	429A153	429A137	
F.1f	Cosmic Ray Neutron Counts (Calgary)													
F.1h	Cosmic Ray Neutron Counts (Thule)	419B 62	419A153	420A155	421A158	422A165	423A161	424A146	425A143	426A132	427A147	428A134	429A137	
F.1i	Cosmic Ray Neutron Counts (Kiel)	418A151	419A153	420A155	421A158	422A165	423A161	427A159	425A143	426A132	427A147	428A134	429A137	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	418A151	419A153	420A155	421A158	422A165	423A161	427A159	425A143	426A132	427A147	428A134	429A137	
F.1k	Cosmic Ray Neutron Counts (Kula)										---	---	---	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	419B 58	420B 79	420A155	421A158	423B 81	425B 32	425B 32	426A177	427A159	428A146			
H.	MISCELLANEOUS													
H.60	IUWDS Alert Decisions	417A 4	418A 5	419A 5	420A 5	421A 5	422A 4	423A 4	424A 4	425A 4	426A 4	427A 4	428A 4	429A 4
H.62	Abbreviated Calendar Record													

Notes:

"418A 48" listed under 1979 Apr means that the sunspot drawings for April 1979 were contained in *Solar-Geophysical Data* Number 418 - Part I, beginning on page 48.

A = Part I, B = Part II.

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

SGD 429 Part II (Comprehensive)

NOVEMBER 1979 DATA

Contents

	Page
Active Regions (Data not available at time of publication.)	
Synoptic Solar Maps (Data not available at time of publication.)	SEE NOTE ON PAGE 4.
Solar Flares (Data not available at time of publication.)	
Hα Solar Flares (Standardized Data)	
Daily Flare Indices	
Intervals of No Flare Patrol Observation	
Solar Radio Emission	
Outstanding Occurrences (Fixed Frequencies)	5-24
Energetic Solar Particles and Plasma	
IMP 8 Solar Wind Plasma	25
IMP 8 Electrons, Protons and Alpha Particles (Data not available at time of publication.)	
Solar X-ray Radiation	
SMS-GOES	26-30

NOTE ON SOLAR FLARE DATA DELAY:

Solar Flare data for publication are now over a year delayed from date of observation, rather than the usual six months. Several problems have caused this delay. A basic step of flare processing is using the Carte Synoptique de la Chromosphere to identify active centers. Because these Carte Synoptique data are also currently delayed, the Meudon Observatory staff, who performs this analysis, are hindered in their efforts. Meudon is also changing to another computer, which can mean computer program conversion problems that can delay the work. NGSDC is also working on some conversion problems.

A delay in the final listing of the solar flare data also delays the Daily Flare Index, the Regional Flare Index and the Abbreviated Calendar Record. We deeply regret this situation and hope it will improve in the near future. We ask for your patience in the interim.

For researchers who need the solar flare data more promptly, NGSDC has available "Preliminary" final listings of solar flares for April-August 1979. These fairly complete listings do not have the final Meudon corrections, and thus will not be published until we receive these corrections. However, they are available on request with the stipulation that they are recognized as "Preliminary" final listings when used in research projects. A fee may be charged for reproducing these data if a large demand ensues. Please contact the editor, Helen Coffey, for copies of these listings (phone: (303) 499-1000 X6223; FTS: 323-6223; Telex: SOLTERWARN BLDR 45897.)

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
01	202	IZMI	43	NS	0600.0		360.0D	55			
	127	TORN	43	NS	0640.0	1052.5	250.0D	500	3.3		V1,INCOMPLETE
	260	ONDR	44	NS	1015.0E		235.0D	37			
	200	HIRA	44	NS	2100.0E	0057	420.0D	25	10		ML
	100	HIRA	44	NS	2100.0E	0230	600.0D	70	25		
	2930	VORO	45	C	0030.0	0037	15.0	36			
	100	HIRA	46	C	0034.0	0035	4.0	3000	700		
	1415	MANI	4	S/F	0034.0	0036.4	5.0	24.9	8.3		
	200	HIRA	46	C	0034.2	0035	3.5	480	130		MR
	1400	SYDN	27	RF	0034.4	0035.8	5.2				
	4995	MANI	3	S	0034.7	0035.4	4.3	41.8	13.9		
	8800	MANI	3	S	0034.7	0035.4	4.3	30.2	10.1		
	2695	MANI	4	S/F	0034.7	0036.2	4.3	30.1	10.0		
	606	MANI	3	S	0035.0	0036.0	4.0	7.3	2.4		
	9100	GORK	20	GRF	0539.0	0546.0	9.5	8	3.5		
	3100	CRIM	21	GRF	0747.0	0840.0	53.0	11	4		
	930	BORD	40	F	0806.0	0808.3	16.0	24	5		
	950	GORK	22	GRF	0806.0	0816.0	15.4	14.3			
	650	GORK	23	GRF	0806.0		16.5				
	8400	BERN	3		0810.0	0815.3	32.0	97.0			
	9100	GORK	21	GRF	0810.8	0818.5	25.0	19.5	10		
	606	MANI	4	S/F	0811.0	0815.1	11.0	121.6	40.5		
	3100	CRIM	3	S	0812.0	0815.5	4.0	110	37		
	2950	GORK	21	GRF	0812.0	0812.8	11.2	7.8	3.9		
	1470	POTS	3	S	0812.0	0815.5	10.0	17			
	2695	MANI	4	S/F	0812.3	0815.6	9.7	88.8	29.6		
	4995	MANI	4	S/F	0812.3	0815.3	9.7	127.0	42.3		
	8800	MANI	3	S	0812.9	0815.6	9.1	68.0	22.7		
	2650	DWIN	3	S	0813.0	0815	8.0	50	30		
	10715	DWIN	3	S	0813.0	0815	7.0	70	40		
	650	GORK	46	C	0813.0	0814.6U	4.3	40 D			
	650	GORK			0813.0	0815.5U		40 D			
	1415	MANI	4	S/F	0813.0	0815.9	9.0	13.2	4.4		
	9500	POTS	3	S	0813.5	0815.0	6.5	72			
	3000	POTS	3	S	0813.5	0815.4	6.5	79			
	2950	GORK	3	S	0813.6	0815.1	5.2	69 D			
	9100	GORK	3	S	0813.8	0815.5	4.8	8.8	44		
	3100	CRIM	29	PBI	0816.0	0816.0	24.0	73			
	7000	SAOP	27	RF	1325.0		50.0	13.0			O
	2800	OTTA	20	GRF	1330.0	1355	140.0	7.6	4.2		
	9400	HUAN	20	GRF	1542.8	1550.8	16.0	6.2	1.9		O
	9400	HUAN	20	GRF	1644.6	1701.5	36.4	4.7	3.3		R
	2800	OTTA	20	GRF	1840.0	1950	270.0D	6.8			
02	202	IZMI	43	NS	0600.0		360.0D	45			
	260	ONDR	44	NS	0754.0E		370.0D	50	3		
	536	ONDR	43	NS	0857.0		307.0D	370	8		
	100	HIRA	44	NS	2100.0E	2221	600.0D	70	18		
	200	HIRA	44	NS	2100.0E	2300	600.0D	15	5		WL
	930	BORD	41	F	0747.8	0748	.5	28	3		
	930	BORD	41	F	0754.6	0754.9	.6	11	2		
	930	BORD	45	C	1104.8	1107.8	4.2	1595	10		
	808	ONDR	46	C	1105.0	1108	4.0	263	38		
	29	UPIC	45	C	1105.0	1105.6	1.9				
	33	UPIC	45	C	1105.0	1105.1	2.6				
	228	HARS	45	C	1106.2	1106.2	1.2	480	160		
	33	UPIC	45	C	1118.9	1118.9	2.0				
	930	BORD	45	C	1119.0	1119.3	1.0	319	6		
	3000	POTS	8	S	1119.0	1119.3	.8	8.0			
	1470	POTS	3	S	1119.0	1119.3	1.0	10			
	808	ONDR	8	S	1119.0	1119	.3	120			
	29	UPIC	45	C	1119.1	1119.4	1.4				
	9500	POTS	8	S	1119.2	1119.3	.3	7.8			
	650	GORK	3	S	1119.3	1119.7U	1.0	50 D			
	9100	GORK	1	S	1119.5	1119.6	1.2	19	3		
	7000	SAOP	8	S	1219.0	1219.2	.2	27.0			35R
	930	BORD	45	C	1239.5	1240	1.4	1650	10		
	33	UPIC	46	C	1239.6	1241	1.9				
	29	UPIC	46	C	1239.8	1241.3	2.1				
	1470	POTS	8	S	1240.0	1240.3	.8	9.1			
	3000	POTS	8	S	1240.0	1240.2	.7	7.0			
	808	ONDR	8	S	1240.2	1240.2	.3	250			
	808	ONDR	3	S	1304.3	1304.3	.2	65			
	930	BORD	45	C	1304.5	1304.7	.5	190	6		
	930	BORD	41	F	1308.0	1308.4	1.0	42	3		
	930	BORD	41	F	1351.0	1351.2	1.6	50	2		
	228	HARS	45	C	1403.2	1403.9	1.0	195	80		
	2800	OTTA	20	GRF	1430.0	1510	75.0	2.8	1.4		
	930	BORD	41	F	1450.3	1452.4	2.4	64	2		
	930	BORD	41	F	1507.4	1507.6	2.6	175	2		
	930	BORD	8	S	1514.7	1514.7	.2	13	2		
	9400	HUAN	1	S	1600.3	1601.1	1.7	8.2	4.6		O
	2800	OTTA	21	GRF	1610.0	1650	80.0	2.8	1.6		
	2800	OTTA	20	GRF	1637.0	1640	11.0	4.8	2.3		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
02	2800	OTTA	1	S	1757.0	1759	3.0	3.0	1.5		
	2800	OTTA	20	GRF	1920.0	2035	105.0	2.6	1.5		
	2695	PENT	20	GRF	2135.0	2155	45.0	2.6	1.3		
03	260	ONDR	44	NS	0730.0E		405.0D	50	2		
	127	TORN	44	NS	0800.0E		310.0D		.8		VO,DISTURBED
	200	HIRA	44	NS	2104.0E	0600	600.0D	20	15		WL
	1470	POTS	8	S	0758.8	0758.9	.6	17			
	2950	GORK	20	GRF	0801.0E	0801.4	16.6	4.4	2.2		
	202	IZMI	4	S/F	0810.5	0810.6	1.2	125	60		
	228	HARS	45	C	1440.0	1441.6	2.8	470	170		
	2650	DWIN	1	S	1441.0	1442	2.0	45	30		
	2800	OTTA	4	S/F	1441.5	1442.2	2.5	47.8	15.0		
	8400	BERN	1		1442.0	1442.6	1.5	20.0			
	2800	OTTA	20	GRF	1510.0	1517	20.0	4.6	2.3		
	7000	SAOP	45	C	1737.0	1802.1	52.0	42.0			7L INVERTED POL
	2800	OTTA	24	OAR	1746.0	1756	10.0	5.8			
	2800	OTTA	2	S/F	1746.0	1748.5	9.0	8.6	4.3		
	9400	HUAN	20	GRF	1800.3	1814.4	29.8	9.5	4.3		O
	2800	OTTA	3	S	1801.0	1802	5.0	15.0	7.2		
	2800	OTTA	1	S	1810.0	1811	4.0	5.8	2.9		
	2800	OTTA	21	GRF	1945.0	1958	48.0	3.6	1.8		
	2800	OTTA	1	S	1952.5	1953.5	4.0	2.8	1.4		
	2695	PENT	20	GRF	2045.0	2150	130.0D	7.4			
04	127	TORN	44	NS	0600.0E		540.0D		15		VO
	260	ONDR	44	NS	0820.0E		356.0D	61	5		
	200	HIRA	44	NS	2100.0E	0610	600.0D	35	15		WL
	100	HIRA			0228.0	0231.5		900			
	200	HIRA			0228.0	0231		80			WL
	100	HIRA	46	C	0228.0	0229	5.0	3800	400		
	200	HIRA	46	C	0228.0	0229	5.0	150	30		WL
	500	HIRA	48	C	0502.6	0508.4	30.0	600	150		O
	1415	MANI	4	S/F	0502.7	0506.7	21.8	45.0	15.0		
	606	MANI	47	GB	0503.2	0506.7	27.8	795.7	265.2		
	5730	IRKU	20	GRF	0506.0	0508.9	17.0	14	6		L
	2695	MANI	4	S/F	0506.0	0508.4	18.5	51.2	17.1		
	4995	MANI	3	S	0506.3	0508.6	17.3	27.9	9.3		
	200	HIRA			0510.0	0517		220			MR
	200	HIRA	45	C	0510.0	0512.5	17.0	11000	300		MR
	100	HIRA	46	C	0510.7	0511.6	1.5	5000	500		
	5730	IRKU	2	S	0807.0	0807.5	1.0	62	30		R
	9100	GORK	3	S	0807.1	0807.5	3.5	50	25		
	2950	GORK	20	GRF	0807.2	0807.5	26.4	3.5	1.7		
	8400	BERN	3		0807.3	0807.5	2.0	50.0			
	3100	CRIM	3	S	0838.0	0840.0	4.0	30	10		
	930	BORD	41	F	0919.4	0919.7	.5	55	2		
	2950	GORK	21	GRF	1033.0	1041.5	36.0	5.2	2.6		
	9100	GORK	21	GRF	1037.9	1039.4	13.6	16	5		
	2650	DWIN	1	S	1038.0	1039	4.0	260	150		
	930	BORD	45	C	1038.0	1038.6	4.0	308	7		
	7000	SAOP	3	S	1038.0	1038.8	2.2	73.0			20L
	8400	BERN	3		1038.0	1038.7	4.0	53.0			
	650	GORK	3	S	1038.1	1038.8	1.5	60			
	536	ONDR	2	S/F	1038.2	1038.2	2.0	46	20		
	29	UPIC	46	C	1038.2	1039.3	2.3				
	33	UPIC	46	C	1038.2		4.9				
	950	GORK	3	S	1038.3	1038.6	1.5	70 D			
	2950	GORK	3	S	1038.3	1038.6U	3.3	90			
	3000	POTS	3	S	1038.5	1038.5	4.0	215			
	9100	GORK	3	S	1038.6	1038.8	.8	39	19		
	127	TORN	47	GB	1039.0	1039.7	1.9	1100	550		
	650	GORK	29	PBI	1039.6	1039.4	3.3	2			
	950	GORK	29	PBI	1039.8	1040.0	8.4	3.5			
	2800	OTTA	20	GRF	1427.0	1445	70.0	5.2	3.0		
	2800	OTTA	22	GRF	1550.0	1620	40.0	3.4			
	2800	OTTA	1	S	1703.0	1703.7	2.0	2.6	1.3		
	2695	PENT	21	GRF	1703.0	1711	12.0	3.6	1.8		
	2800	OTTA	21	GRF	1735.0	1745	12.0	3.6	1.8		
	2800	OTTA	1	S	1736.0	1738	5.0	4.4	2.2		
	9400	HUAN	22	GRF	1743.1	1808.6	91.7	92.0	22.9		L
	9400	HUAN			1743.1	1811.5		99.0			
	2800	OTTA	21	GRF	1800.0	1845	120.0	5.2	2.7		
	2800	OTTA	45	C	1801.0	1806.2	24.0	86.0	41.5		
	7000	SAOP	45	C	1801.7	1811.5	22.0	132.0			O TWO BURSTS
	2695	BOUL	22	GRF	1804.5E	1812	19.0D	52	17		
	2800	OTTA	22	GRF	2040.0	2054	140.0	15.0	3.8		
	17000	NOBE	20	GRF	2348.4	2350.8	26.4	20			O
	1415	MANI	4	S/F	2348.8	2350.7	4.9	46.6	15.5		
	606	MANI	4	S/F	2348.8	2350.8	4.9	11.8	3.9		
	8800	MANI	4	S/F	2348.8	2350.2	4.9	38.8	12.9		
	2695	MANI	4	S/F	2348.8	2350.2	4.9	165.8	55.3		
	4995	MANI	4	S/F	2348.8	2350.2	4.3	77.6	25.9		
	100	HIRA	7	C	2349.0E	2350	26.0D	6000	180		
	200	HIRA	46	C	2349.0E	2350.1	4.0	340	85		WR

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
04	100	HIRA			2349.0E	2359		180			
	1400	SYDN	4	S/F	2349.3	2350.6	4.7				
	500	HIRA	3	S	2349.6	2350.8	4.0	12	7		WR
	700	SYDN	4	S/F	2350.0	2350.7	2.6				
05	202	IZMI	44	NS	0600.0E		360.0D	60			
	127	TORN	44	NS	0600.0E	0820.8	540.0D	600	.7		V2
	260	ONDR	44	NS	0810.0E		350.0D	105	8		
	536	ONDR	43	NS	0829.0		281.0	88			
	200	HIRA	44	NS	2100.0E	0100	600.0D	25	15		WL,WR
	100	HIRA	46	C	0016.9	0017.5	1.0	130	60		
	8800	MANI	4	S/F	0038.5	0040.1	1.8	19.4	6.5		
	4995	MANI	4	S/F	0038.5	0040.0	2.6	15.9	5.3		
	2695	MANI	3	S	0038.5	0040.1	2.8	7.8	2.6		
	200	HIRA	45	C	0039.6	0040.2	1.0	1000	275		WR
	700	SYDN	45	C	0039.8	0040.3	1.3				
	1400	SYDN	8	S	0039.9	0040.2	.9				
	100	HIRA	45	C	0039.9	0040.5	.8	2700	300		
	1415	MANI	4	S/F	0039.9	0040.1	1.1	106.4	35.5		
	606	MANI	8	S	0039.9	0039.9	4.2	354.0	23.6		SPIKE
	500	HIRA	46	C	0040.0	0040.0	2.5	1500	150		WL
	606	MANI	4	S/F	0158.0	0200.8	7.0	66.2	22.1		
	5730	IRKU			0200.5	0201.1	3.0	29			L
	5730	IRKU	45	C	0200.5	0200.8		35			L
	700	SYDN	2	S/F	0200.6	0201.3	1.5				
	500	HIRA	46	C	0200.6	0200.6	3.5	130	30		ML
	17000	NOBE	20	GRF	0200.6	0208.1	24.8	13			O
	1400	SYDN	2	S/F	0200.7	0200.9	1.0				
	1415	MANI	4	S/F	0200.7	0201.0	3.3	17.9	6.0		
	2695	MANI	4	S/F	0200.7	0201.0	2.3	23.4	7.8		
	8800	MANI	4	S/F	0200.7	0201.0	1.0	46.0	15.3		
	4995	MANI	4	S/F	0200.7	0201.0	2.3	43.2	14.4		
	100	HIRA	7	C	0223.6	0224.8	2.0	67	30		
	1400	SYDN	2	S/F	0344.5	0345.7	3.1				
	1415	MANI	1	S	0345.0	0346.0	2.5	9.4	3.1		
	2695	MANI	3	S	0345.0	0345.9	2.5	17.0	5.7		
	8800	MANI	1	S	0345.0	0345.8	2.5	8.4	2.8		
	4995	MANI	3	S	0345.0	0345.8	2.5	12.7	4.2		
	5730	IRKU	45	C	0528.0	0529.7	13.0	26	8		L
	5730	IRKU			0528.0	0533.5		22			L
	5730	IRKU			0528.0	0530.2		26			L
	4995	MANI	4	S/F	0528.5	0533.7	5.9	45.7	15.2		
	2695	MANI	4	S/F	0528.5	0533.3	5.9	57.5	19.2		
	8800	MANI	1	S	0532.3	0533.7	2.7	4.2	1.4		
	500	HIRA	45	C	0532.5	0533.3	2.0	300	100		MR
	1400	SYDN	45	C	0532.8	0533.4	1.9				
	700	SYDN	45	C	0532.9	0533.3	1.8				
	200	HIRA	46	C	0533.0	0533.4	1.3	3400	470		WR
	606	MANI	4	S/F	0533.0	0533.4	1.3	14.7	4.9		
	1415	MANI	4	S/F	0533.0	0533.3	2.0	175.8	58.6		
	100	HIRA	7	C	0533.5	0533.5	1.7	29000	2600		
	9100	GORK	20	GRF	0621.2	0625.5	10.8	6.5	2.5		
	3100	CRIM	24	R	0713.0	0836.0		12			
	202	IZMI	41	F	0812.0	0813.5	2.0	300			
	127	TORN	45	C	0812.5	0813.0	2.0	110	33		
	9100	GORK	20	GRF	0828.9	0921.3	65.3	7	2.5		
	202	IZMI	8	S	0829.5	0829.5	.7	800	500		
	930	BORD	41	F	1021.6	1022.3	.7	53	2		
	202	IZMI	41	F	1030.0	1030.0	5.0	1400			
	930	BORD	8	S	1030.6	1030.6	.1	61	1		
	260	ONDR	8	S	1030.7	1030.7	.3	206 D			
	930	BORD	41	F	1056.3	1056.5	.3	67	2		
	9100	GORK	1	S	1056.5	1057.0	1.0	4	2		
	202	IZMI	5	S	1148.7	1149.0	1.0	630	350		
	29	UPIC	4	S/F	1158.9	1159.4	1.3				
	202	IZMI	41	F	1159.0	1159.2	2.0	750			
	33	UPIC	4	S/F	1159.1	1159.1	1.1				
	930	BORD	41	F	1159.8	1200.1	.3	30	2		
	9400	HUAN	3	S	1211.1	1212.2	2.0	19.2	7.0		L
	2950	GORK	1	S	1211.2	1211.6	1.1	6.9			
	9100	GORK	1	S	1211.5	1212.5	1.6	17.5	8		
	3000	POTS	3	S	1211.6	1212.4	1.9	8.8			
	9500	POTS	3	S	1211.9	1212.3	1.1	16			
	950	GORK	1	S	1213.0	1213.3	.7	1			
	650	GORK	1	S	1213.0	1213.6	1.0	9.5			
	9400	HUAN	21	GRF	1240.4	1317.0	144.4	44.9	30.0		L
	7000	SAOP	45	C	1249.6	1303.0	140.0	75.0			O TWO BURSTS
	8400	BERN	45		1250.0	1303.0	25.0	52.0			
	10400	BERN	45		1250.0	1303.0	25.0	40.0			
	2800	OTTA	21	GRF	1250.0	1440	220.0	14.0	7.0		
	3000	POTS	42	SER	1255.0	1257.8	10.0	14			
	2800	OTTA	45	C	1255.0	1258	10.0	10.8	5.2		
	9500	POTS	42	SER	1255.0	1303	10.0	32			
	3000	POTS			1255.0	1303.1		14			
	9400	HUAN	3	S	1256.0	1257.8	3.2	28.8	13.3		L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

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05	9400	HUAN	3	S	1301.5	1303.3	3.4	41.6	19.2		O
	8400	BERN	8		1417.3	1418.0	1.5	37.0			
	10400	BERN	8		1417.3	1418.0	1.5	31.0			
	9400	HUAN	2	S/F	1417.3	1418.0	1.5	28.8	15.2		L
	2800	OTTA			1418.0E	1418	2.0D	9.4			
	930	BORD	41	F	1421.8	1421.8	2.4	30	2		
	2800	OTTA	1	S	1455.0	1455.5	2.0	3.2	1.8		
	9400	HUAN	2	S/F	1455.0	1455.8	1.9	12.8	10.5		L
	930	BORD	41	F	1522.0	1523.1	1.4	26	2		
	930	BORD	41	F	1525.0	1527.8	4.0	35	3		
	930	BORD	41	F	1609.8	1610.3	.5	47	2		
	2800	OTTA	2	S/F	1714.0	1715	2.0	4.8	2.6		
	2800	OTTA	1	S	1737.0	1737.2	1.0	3.6	1.8		
	2800	OTTA	4	S/F	1740.0	1741.4	4.0	66.0	8.8		
	7000	SAOP	4	S/F	1740.5	1741.4	2.4	48.0			28L
	2695	BOUL	4	SF	1741.5E	1742	1.5D	33	11		
	2800	OTTA	23	GRF	1750.0	1825	270.0	18.8	13.2		
	7000	SAOP	45	C	1811.5	1830.2	31.5	42.0			25L INVERTED PO
	2800	OTTA	4	S/F	1813.0	1819	8.0	11.8	5.9		
	2800	OTTA	45	C	1828.0	1830.2	4.0	16.4	5.3		
	2800	OTTA	22	GRF	1837.0	1838.5	11.0	6.2	3.1		
	2800	OTTA	8	S	1851.1	1851.1	.1	9.4			
	2800	OTTA	40	F	1921.0	1924	17.0	33.0			
	9400	HUAN	21	GRF	1940.2	1955.0	25.4	8.0	4.3		L
	9400	HUAN	2	S/F	1952.4	1953.1	1.7	11.1	7.4		L
	2800	OTTA	1	S	1953.0	1953.3	1.5	3.6	1.8		
	2695	PENT	4	S/F	2004.0	2004.5	4.0	37.6	9.4		
	9400	HUAN	2	S/F	2034.8	2035.8	4.2	15.9	7.8		L
	2800	OTTA	4	S/F	2035.1	2036	2.0	43.0	20.0		
	2695	BOUL	3	S	2036.0E	2037	2.5D	16	5		
	2800	OTTA	45	C	2045.5	2046.5	3.0	22.0	11.0		
	2800	OTTA	29	PBI	2048.5	2048.5	5.0	4.4	2.2		
	2800	OTTA	40	F	2105.0	2105.9	2.0	7.4			
	2695	PENT	8	S	2130.9	2130.9	.1	11.0			
	100	HIRA	42	SER	2139.4	2149	27.0	60000 D			
	2695	PENT	3	S	2142.5	2142.8	1.0	10.2	3.4		
	2695	PENT	4	S/F	2147.0	2149	6.0	65.0	15.0		
	200	HIRA	46	C	2148.0	2149	3.0	39000	2300		WR
	500	HIRA	46	C	2148.5	2148.7	4.0	700	100		MR
	9400	HUAN	4	S/F	2148.5	2149.1	1.8	95.4	33.5		L
	17000	NOBE	8	S	2148.8	2149.0	.4	62			L
	2695	BOUL	4	SF	2149.0E	2150	3.0D	61	20		
	9400	HUAN	3	S	2155.2	2155.8	2.4	20.7	7.6		L
	2695	PENT	1	S	2155.7	2156	3.0	8.0	3.0		
	2695	PENT	4	S/F	2200.5	2203	6.0	11.0	5.0		
	17000	NOBE	45	C	2201.0	2202.9	4.4	67			O
	9400	HUAN	4	S/F	2201.0	2203.0	4.0	62.0	22.8		L
	2695	PENT	240	R	2228.0	2240	12.0	5.4	2.7		
	700	SYDN	45	C	2312.1	2312.5	2.2				
	1400	SYDN	41	F	2314.5	2318.5	5.4				
	700	SYDN	41	F	2316.6	2317.2	17.4				
	700	SYDN			2316.6	2327.8					
	2930	VORO	45	C	2345.0	2350	15.0	192			
	500	HIRA	48	C	2346.7	2347.9	25.0	8600	500		WR
	100	HIRA	48	C	2346.8	2348.5	17.0	40000	1470		
	100	HIRA			2346.8	2356.2		4600			
	100	HIRA			2346.8	2351.8		4300			
	200	HIRA	48	C	2346.9	2350.2	10.0	8400	850		WR
	700	SYDN	48	C	2346.9	2348.1	24.8				
	8800	MANI	47	GB	2347.0	2347.5	7.6	1580.4	526.8		
	17000	NOBE	47	GB	2347.0	2347.3	1.3	2177			L
	1400	SYDN	48	C	2347.0	2348.5U	18.4				
	4995	MANI	47	GB	2347.0	2347.7	9.8	808.5	269.5		
	2695	MANI	47	GB	2347.2	2347.6	14.3	616.9	205.7		
	1415	MANI	4	S/F	2347.2	2348.9	14.3	472.5	157.5		
	17000	NOBE	29	PBI	2348.3	2348.2	7.5	76			O
06	202	IZMI	44	NS	0600.0E		360.0D	25			
	127	TORN	43	NS	0642.0	1050.5	500.0	530	9.5		V1
	260	ONDR	44	NS	0756.0E		354.0D	209 D	14		
	536	ONDR	44	NS	0756.0E		354.0D	130	6		
	33	UPIC	43	NS	0801.0		261.3				
	29	UPIC	43	NS	0801.1	0838.6	260.2				
	700	SYDN	40	F	0059.1	0101.1	4.3				
	1400	SYDN	40	F	0100.9	0101.6	1.4				
	1415	MANI	4	S/F	0101.0	0101.9	3.0	26.0	8.7		III
	700	SYDN	8	S	0145.7	0145.9	.3				
	1400	SYDN			0148.7	0229.9					
	1400	SYDN			0148.7	0239.2					
	1400	SYDN	42	SER	0148.7	0148.9	54.4				
	1400	SYDN			0148.7	0154.8					
	1400	SYDN			0148.7	0236.0					
	1400	SYDN			0148.7	0218.7					
	1400	SYDN			0148.7	0226.6					
	700	SYDN	45	C	0218.6	0218.8	.9				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
06	2695	MANI	1	S	0219.0	0219.1	1.0	4.3	1.4		
	1415	MANI	4	S/F	0219.0	0219.2	1.0	90.2	30.1		
	4995	MANI	1	S	0219.1	0219.2	.6	4.9	1.6		III
	2930	VORO	45	C	0225.0	0229	10.0	51			
	700	SYDN	2	S/F	0226.1	0226.5	.9				
	200	HIRA	42	SER	0226.6	0230.7	15.0	25000			O
	700	SYDN	8	S	0226.8	0226.9	.2				
	2695	MANI	4	S/F	0229.0	0230.5	4.0	48.9	16.3		
	1415	MANI	4	S/F	0229.0	0230.7	6.4	101.2	33.7		
	8800	MANI	4	S/F	0229.2	0230.5	3.8	23.1	7.7		
	4995	MANI	4	S/F	0229.2	0230.5	3.8	59.3	19.8		
	5730	IRKU	45	C	0230.0	0230.0	2.0	20	5		L
	5730	IRKU			0230.0	0230.8		9			
	500	HIRA	48	C	0230.0	0230.0	3.0	15000	3000		MR
	700	SYDN	48	C	0230.0	0230.2	4.4				
	1400	SYDN	45	C	0230.0	0230.2	6.6				
	2930	VORO	3	S	0250.0	0253	10.0	31			
	700	SYDN	42	SER	0252.6	0254.0	8.9				
	700	SYDN			0252.6	0300.5					
	17000	NOBE	7	C	0252.6	0254.0	3.7	24			L
	8800	MANI	3	S	0253.5	0254.6	4.5	18.5	6.2		
	2695	MANI	4	S/F	0253.5	0254.8	4.5	38.3	12.8		
	4995	MANI	3	S	0253.5	0254.7	4.5	24.7	8.2		
	1415	MANI	4	S/F	0253.5	0255.5	4.5	59.8	19.9		
	17000	NOBE	20	GRF	0304.7	0321.3	43.0	22			O
	5730	IRKU	21	GRF	0314.6	0315.5	4.0	17	5		L
	8800	MANI	3	S	0315.0	0316.5	5.0	18.5	6.2		
	4995	MANI	3	S	0315.0	0315.7	2.0	14.8	4.9		
	1415	MANI	4	S/F	0317.0	0318.2	4.5	159.2	53.1		
	2695	MANI	4	S/F	0318.0	0318.9	2.0	23.4	7.8		
	606	MANI	1	S	0318.0	0318.4	1.0	4.7	1.6		
	1415	MANI	4	S/F	0326.7	0327.1	5.3	103.9	34.6		III
	1415	MANI	4	S/F	0335.5	0339.7	8.0	174.8	58.3		
	1400	SYDN	40	F	0411.2	0413.5	5.0				
	700	SYDN	40	F	0413.0	0413.9	2.4				
	1415	MANI	4	S/F	0413.0	0419.3	6.7	27.6	9.2		III
	606	MANI	8	S	0414.0	0414.6	6.5	436.1	145.3		
	700	SYDN	48	C	0416.2	0417.9	3.2				
	17000	NOBE	45	C	0505.5	0517.6	28.0	480			L
	5730	IRKU			0506.0	0517.6		92 D			R
	5730	IRKU			0506.0	0528.1		71			L
	5730	IRKU			0506.0	0531.3		36			L
	5730	IRKU	45	C	0506.0	0509.0	29.0	92 D			L
	5730	IRKU			0506.0	0525.6		92 D			L
	8800	MANI	47	GB	0506.0	0518.2	29.4	877.8	292.6		
	2695	MANI	4	S/F	0506.0	0526.3	28.8	170.4	56.8		
	1415	MANI	47	GB	0506.0	0515.3	29.0	590.6	196.9		
	4995	MANI	4	S/F	0506.0	0518.2	29.1	432.3	144.1		
	1400	SYDN	48	C	0506.1	0510.9	32.2				
	1400	SYDN			0506.1	0513.8					
	35000	NAGO	28	PRE	0507.0	0514	7.0	15			
	200	HIRA	42	SER	0507.0	0510.2	6.0	2900			O
	100	HIRA	7	C	0507.2	0507.7	.8	800	540		
	500	HIRA	48	C	0508.4	0512.7	40.0	900	100		SR
	700	SYDN	48	C	0508.5	0512.3	25.5				
	606	MANI	4	S/F	0509.0	0513.5	24.5	323.8	107.9		
	9100	GORK	46	C	0512.0E	0516.0	215.0D	140 D			
	9100	GORK			0512.0E	0518.0		700			
	650	GORK			0514.0E	0523.2		50			
	650	GORK			0514.0E	0531.6		37			
	35000	NAGO	5	S	0514.0	0518	9.0	230			
	650	GORK			0514.0E	0528.1		80			
	650	GORK	46	C	0514.0E	0517.0	20.1	74			
	2950	GORK			0515.0E	0523.0		136			
	950	GORK	46	C	0515.0E	0515.0E	312.0E	55			
	2950	GORK			0515.0E	0526.7		108			
	950	GORK			0515.0E	0856.3		41			
	2950	GORK	46	C	0515.0E	0519.5	20.0E	134			
	950	GORK			0515.0E	0939.0		54			
	35000	NAGO	29	PBI	0523.0	0525	67.0	24			
	9100	GORK	29	PBI	0533.5	0533.8	61.4	24	10		
	17000	NOBE	29	PBI	0533.5	0533.8	66.0	54			O
	2950	GORK	29	PBI	0535.0E	0536.0	80.0	40			
	650	GORK	23	GRF	0537.1	0601.5	35.4	8.5			
	700	SYDN	8	S	0542.1	0542.2	.2				
	1400	SYDN	8	S	0542.2	0542.3	.2				
	650	GORK	1	S	0545.8	0546.5	1.3	4.5			
	2695	MANI	1	S	0555.0	0556.2	2.3	8.5	2.8		
	8800	MANI	3	S	0555.0	0555.4	2.0	13.9	4.6		
	4995	MANI	3	S	0555.0	0555.3	1.0	17.3	5.8		
	1415	MANI	1	S	0555.0	0555.4	1.3	2.8	1.0		
	606	MANI	1	S	0555.0	0555.4	1.0	10.2	3.4		
	650	GORK	1	S	0604.7	0605.2	1.4	11			
	5730	IRKU	20	GRF	0706.0	0708.8	11.0	43	16		
	202	IZMI	41	F	0711.5	0712.5	4.5	1000			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
06	202	IZMI	41	F	0725.2	0725.3	1.0	1370			
	1470	POTS	23	GRF	0740.0	0903.5	153.0	8.5			
	9500	POTS	23	GRF	0740.0	0815	148.0	38			
	930	BORD	8	S	0744.0	0744.2	.2	19	2		
	9100	GORK	21	GRF	0744.8		196.0D				
	3000	POTS	23	GRF	0745.0	0815	150.0	21			
	2950	GORK	21	GRF	0749.0						
	650	GORK	22	GRF	0752.6		128.7				
	3100	CRIM	47	GB	0758.0	0920.0	158.0	270	140		
	3100	CRIM			0758.0	0939.0		421			
	1470	POTS	8	S	0759.5	0759.7	.5	11			
	3000	POTS	3	S	0759.5	0800.0	1.5	29			
	2695	MANI	3	S	0759.5	0759.8	1.3	25.6	8.5		
	8800	MANI	1	S	0759.5	0759.8	1.3	9.2	3.1		
	606	MANI	3	S	0759.5	0759.8	.5	51.0	17.0		
	1415	MANI	3	S	0759.5	0759.7	.7	27.6	9.2		
	4995	MANI	3	S	0759.5	0759.9	1.3	42.0	14.0		
	930	BORD	8	S	0759.7	0759.7	.2	75	2		
	9100	GORK	1	S	0800.0	0800.3	.6	8.5	4		
	2950	GORK	1	S	0800.1	0800.2	.7				
	5730	IRKU			0803.0	0829.6		80			L
	5730	IRKU	45	C	0803.0	0804.9	44.0	19			L
	5730	IRKU			0803.0	0814.5		44			L
	5730	IRKU			0803.0	0827.9		89			L
	5730	IRKU			0803.0	0838.3		89			L
	9100	GORK	2	SF	0814.3	0814.8	1.5	19	9		
	202	IZMI	41	F	0823.5	0827.0	16.5	2600			
	930	BORD	40	F	0825.0	0826.9	15.0	94	8		
	8400	BERN	8		0825.0	0828.1	13.0	93.0			OPR
	127	TORN	42	SER	0825.5	0827.3	15.5	7800			
	1415	MANI	4	S/F	0825.5	0827.8	7.5	46.0	15.3		
	606	MANI	4	S/F	0825.5	0829.8	8.7	283.1	94.4		
	2695	MANI	4	S/F	0825.6	0827.8	7.4	61.8	20.6		
	2650	DWIN	1	S	0826.0	0828	6.0	50	25		
	8800	MANI	4	S/F	0826.0	0829.5	7.0	175.6	58.5		
	4995	MANI	4	S/F	0826.0	0827.8	7.0	59.3	19.8		
	202	IZMI	47	GB	0826.5	0827.0	1.0	2600	1400		
	9500	POTS	4	S/F	0826.5	0827.8	8.5	126			
	1470	POTS	4	S/F	0826.6	0827.9	5.9	55			
	2950	GORK	45	C	0826.7	0827.5	5.2	30			
	2950	GORK			0826.7	0830.0		12			
	3000	POTS	4	S/F	0826.8	0827.1	6.2	63			
	9100	GORK	4	SF	0827.0	0828.1	4.2	120			
	1470	POTS	8	S	0838.0	0838.4	.8	30			
	9500	POTS	8	S	0838.1	0838.2	.6	126			
	8800	MANI	3	S	0838.1	0838.3	.5	73.9	24.6		
	2695	MANI	3	S	0838.1	0838.3	.5	46.9	15.6		
	4995	MANI	3	S	0838.1	0838.3	.5	66.7	22.2		
	606	MANI	3	S	0838.1	0838.3	.5	53.6	17.9		
	1415	MANI	3	S	0838.1	0838.3	.5	32.2	10.7		
	8400	BERN	4		0838.2	0838.4	2.0	93.0			OPR
	3000	POTS	8	S	0838.2	0838.5	.8	57			
	2950	GORK	3	S	0838.5	0838.7	.5	37			
	9100	GORK	1	S	0851.5	0851.8	.7	6	3		
	9100	GORK	46	C	0853.2	0855.2	9.5	47			
	9100	GORK			0853.2	0859.4		59			
	8400	BERN	46		0853.4	0938.0U	135.0	160.0D			OPR
	9500	POTS	4	S/F	0853.8	0859.4	8.7	82			
	1470	POTS	4	S/F	0854.4	0856.0	2.3	20			
	930	BORD	41	F	0855.0	0856.3	2.0	69	4		
	3000	POTS	4	S/F	0855.0	0856.1	7.0	26			
	930	BORD	3	S	0913.0	0941	47.0	70	36		
	2650	DWIN	47	GB	0913.0	0938 U	60.0	400 D			
	10715	DWIN	47	GB	0913.0		60.0	220 D			
	9100	GORK	45	C	0913.5	0920.5	30.4	240			
	9100	GORK			0913.5	0937.8		260			
	2950	GORK	45	C	0913.5	0920.3	45.0	180			
	2950	GORK			0913.5	0938.2		300			
	9500	POTS	45	C	0913.5	0939	45.0	512			
	3000	POTS	46	C	0913.5	0938.5	57.0	600			
	1470	POTS	45	C	0913.5	0939	61.0	223			
	650	GORK	20	GRF	1007.9	1022.0	4.5	2			
	930	BORD	41	F	1101.0	1103.4	3.0	125	4		
	9400	HUAN	2	S/F	1101.1	1103.2	4.5	16.3	7.2		0
	202	IZMI	41	F	1101.3	1101.3	2.5	1400			
	9400	HUAN	20	GRF	1135.3	1149.0	36.8	14.6	7.8		L
	930	BORD	45	C	1137.0	1140.2	8.0	153	25		
	202	IZMI	46	C	1137.2	1137.2	5.6	550	300		
	127	TORN	48	C	1137.3	1142	5.8	620	86		
	8400	BERN	27		1215.0	1245.9	50.0	40.0			OPR
	7000	SAOP	1	S	1219.2	1220.0	1.0	8.0			26R
	7000	SAOP	41	F	1219.2						THREE BURSTS
	9400	HUAN	1	S	1224.7	1226.2	4.1	8.1	5.9		0
	7000	SAOP	1	S	1225.4	1226.9	2.8	10.0			29L
	7000	SAOP	45	C	1232.0	1245.9	17.0	18.0			20L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
06	9400	HUAN	2	S/F	1243.6	1244.4	3.2	11.4	6.0		O
	8400	BERN	27		1306.0	1318.6	30.0	20.0			OPR
	7000	SAOP	45	C	1308.4	1318.7		36.0			28L CALIBRATION
	9400	HUAN	22	GRF	1311.2	1318.6	21.6	26.0	9.3		L
	2800	OTTA	2	S/F	1316.5	1318.8	4.5	8.8	4.4		
	2800	OTTA	1	S	1336.0	1337	2.0	3.8	1.9		
	8400	BERN	1		1347.0	1348.0	2.5	20.0			OPR
	9400	HUAN	2	S/F	1347.0	1348.0	2.5	19.5	8.9		L
	930	BORD	45	C	1347.7	1348	.6	54	3		
	2800	OTTA	8	S	1348.0	1348.1	.4	6.6	3.3		
	7000	SAOP	45	C	1357.0	1449.6		1533.0			1L INVERTED POL
	2800	OTTA	24	OAR	1400.0	1435	35.0	6.8			
	8400	BERN	27		1400.0	1416.2	41.0	62.0			OPR
	2650	DWIN	1	S	1412.0	1415	5.0	50	30		
	9400	HUAN	20	GRF	1412.5	1416.4	24.2	29.3	15.3		R
	930	BORD	45	C	1413.0	1419.9	7.0	50	11		
	2800	OTTA	20	GRF	1418.0E	1420	15.0D	8.2			
	930	BORD	46	C	1444.0	1451	16.0	463	11		
	2800	OTTA	28	PRE	1445.0	1446.5	3.5	16.4	8.0		
	8400	BERN	46		1445.0	1450.0U	21.0	170.0D			OPR
	9400	HUAN	4	S/F	1445.7	1449.8	6.3	317.5	95.2		L
	2650	DWIN	45	C	1446.0	1450	9.0	230	100		
	10715	DWIN	45	C	1446.0	1450	8.0	180	100		
	228	HARS	48	C	1448.0	1448.8U	4.5	1000 D	200		
	2800	OTTA	45	C	1448.5	1450	5.5	268.0	77.0		
	2695	BOUL	4	SF	1449.0E	1450.5	5.5D	222	74		
	9400	HUAN	30	PBI	1452.0	1452.0	29.3	40.7	6.2		L
	2800	OTTA	29	PBI	1454.0	1454	12.0	14.2	4.8		
	10400	BERN	4		1506.0	1511.6	13.0	50.0			OPR
	8400	BERN	4		1506.0	1511.6	13.0	51.0			OPR
	930	BORD	45	C	1510.0	1512	3.0	25	8		
	9400	HUAN	4	S/F	1510.7	1511.7	5.6	47.2	24.1		L
	2800	OTTA	45	C	1510.8	1511.7	5.0	22.0	7.4		
	2800	OTTA	21	GRF	1555.0	1645	95.0	10.8	5.0		
	9400	HUAN	4	S/F	1630.6	1633.8	4.5	65.1	25.6		L
	2800	OTTA	3	S	1633.0	1633.7	1.5	11.0	3.8		
	9400	HUAN	29	PBI	1635.1	1635.1	43.6	11.4	6.8		O
	2800	OTTA	24	O R	1745.0	1900	75.0	10.8	5.4		
	9400	HUAN	21	GRF	1753.6	1912.8	199.1	42.3	27.3		L
	9400	HUAN	8	S	1830.0	1830.3	.6	47.2	27.8		L
	7000	SAOP	45	C	1849.0	1910.2	38.1	45.0			8L
	9400	HUAN	2	S/F	1901.3	1902.0	2.7	17.9	9.1		O
	9400	HUAN	4	S/F	1908.2	1910.3	3.9	34.2	13.0		L
	9400	HUAN	1	S	1915.8	1916.1	1.6	8.1	4.3		L
	2695	PENT	1	S	2011.5	2013	3.0	3.2	1.6		
	9400	HUAN	2	S/F	2048.8	2049.5	1.2	22.8	9.8		L
	2800	OTTA	1	S	2049.0	2049.7	1.0	3.6	2.0		
	2695	PENT	23	GRF	2055.0	2105	65.0	4.6	3.8		
	9400	HUAN	4	S/F	2055.7	2056.7	2.7	97.7	36.0		L
	2695	PENT	1	S	2140.2	2141.4	2.0	7.8	3.6		
	2695	PENT	4	S/F	2226.0	2228	6.0	37.6	14.2		
	1415	MANI	4	S/F	2226.3	2228.1	6.4	62.2	20.7		
	606	MANI	3	S	2227.5	2229.5	2.8	17.7	5.9		
	2695	PENT	45	C	2233.0	2235.4	7.0	16.0	8.0		
	35000	NAGO	20	GRF	2300.0	2330	59.0	28			
	700	SYDN	8	S	2300.6	2300.7	.3				
	700	SYDN	8	S	2308.9	2309.0	.3				
	606	MANI	8	S	2316.3	2322.3	7.7	461.9	154.0		SPIKE
	1415	MANI	4	S/F	2316.7	2319.3	7.3	27.1	9.0		
	700	SYDN	41	F	2317.0	2318.4	7.3				
	1400	SYDN	41	F	2317.7	2319.2	5.7				
	2695	MANI	1	S	2321.1	2323.4	5.9	7.2	2.4		
	4995	MANI	4	S/F	2321.1	2323.1	6.1	18.9	6.3		
	8800	MANI	4	S/F	2321.1	2322.3	5.9	23.4	7.8		
	2930	VORO	3	S	2341.0	2348	19.0	183 D			
07	200	HIRA	44	NS	0025.0E	0030	420.0D	70	40		WR
	100	HIRA	44	NS	0030.0E		420.0D		68		
	202	IZMI	44	NS	0600.0E		360.0D	40			
	127	TORN	43	NS	0640.0	1058	520.0D	530	5.1		V1
	260	ONDR	44	NS	0802.0E		361.0D	189	9		
	200	HIRA	44	NS	2100.0E	2300	600.0D	40	35		WR
	100	HIRA	44	NS	2100.0E	0450	600.0D	25	12		
	1400	SYDN	45	C	0009.1	0009.7	1.1				
	4995	MANI	4	S/F	0101.4	0102.3	6.4	32.4	10.8		
	8800	MANI	4	S/F	0101.4	0102.9	7.1	73.5	24.5		
	17000	NOBE	20	GRF	0101.9	0102.9	28.0	19			L
	35000	NAGO	20	GRF	0105.0	0115	65.0	18			
	606	MANI	4	S/F	0110.6	0111.0	3.1	28.7	9.6		
	17000	NOBE	20	GRF	0139.9	0144.8	60.0	28			L
	35000	NAGO	20	GRF	0330.0	0350	50.0	15			
	8800	MANI	4	S/F	0345.3	0346.0	1.9	52.2	17.4		
	17000	NOBE	20	GRF	0345.3	0345.9	120.0	37			L
	4995	MANI	3	S	0345.3	0346.0	1.9	16.2	5.4		
	5730	IRKU	45	C	0345.5	0346.0		22			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
07	5730	IRKU			0345.5	0347.2		15			
	8800	MANI	3	S	0504.8	0506.9	3.4	75.0	25.0		
	4995	MANI	3	S	0504.9	0506.8	3.1	18.5	6.2		
	5730	IRKU			0506.5	0506.7		11			
	9100	GORK	4	SF	0519.0	0520.3	6.5	30			
	5730	IRKU			0519.1	0520.0		20			
	4995	MANI	3	S	0519.7	0520.3	2.2	16.2	5.4		
	8800	MANI	3	S	0519.7	0520.0	1.8	16.3	5.4		
	9100	GORK	21	GRF	0607.7	0640.9	108.0	26	10		
	17000	NOBE	21	GRF	0607.9	0615.0	33.0	16			O
	17000	NOBE	8	S	0608.1	0608.3	.4	58			L
	9100	GORK	1	S	0608.4	0608.6	.7	27	13		
	8800	MANI	3	S	0608.4	0608.7	.6	32.6	10.9		
	4995	MANI	1	S	0608.4	0608.7	.6	9.2	3.1		
	17000	NOBE	8	S	0609.4	0609.5	.4	29			O
	2950	GORK	20	GRF	0616.3	0709.0	108.0	13.4			
	202	IZMI	4	S/F	0637.5	0638.0	2.0	460	250		
	2950	GORK	20	GRF	0839.0	0920.0	150.0E	16	8		
	9100	GORK	21	GRF	0846.1	0927.9	145.0E	31	11		
	9500	POTS	22	GRF	0922.0	0923.5	58.0	13			
	9100	GORK	2	SF	0922.2	0923.7	3.0	12	5.5		
	33	UPIC	42	SER	1037.2	1039.5	101.6				
	29	UPIC	42	SER	1038.1	1217.4	100.8				
	9100	GORK	2	SF	1051.8	1052.4	1.3	12	6		
	536	ONDR	42	SER	1052.0		190.0	21			
	9500	POTS	3	S	1133.2	1134.9	5.3	21			
	10400	BERN	3		1133.3	1134.9	4.0	18.0			
	9400	HUAN	3	S	1133.3	1134.5	3.4	21.9	10.5		L
	8400	BERN	3		1133.3	1134.9	4.0	23.0			
	3000	POTS	4	S/F	1133.5	1134.6	5.0	46			
	1470	POTS	3	S	1133.8	1135.0	4.7	33			
	930	BORD	45	C	1134.0	1135	4.0	94	7		
	2650	DWIN	1	S	1134.0	1135	4.0	40	20		
	9500	POTS	22	GRF	1203.0	1209	32.0	17			
	9400	HUAN	22	GRF	1204.3	1209.3	26.7	20.2	10.1		L
	3000	POTS	20	GRF	1207.0	1218.4	53.0	11			
	127	TORN	47	GB	1216.0	1217.6	3.2	660	120		
	9400	HUAN	20	GRF	1247.8	1346.3	88.9	11.8	6.2		O
	7000	SAOP	40	F	1340.0						SUNSET
	9400	HUAN	22	GRF	1504.3E	1509.0	141.2	13.5	5.2		O
	2800	OTTA	22	GRF	1605.0	1735	120.0	5.8	3.8		
	9400	HUAN	22	GRF	1830.5	2034.3	169.3	77.5	23.4		L
	2800	OTTA	240	R	1850.0	1910	20.0	3.2	1.6		
	2800	OTTA	1	S	1946.0	1946.5	1.5	5.4	2.5		
	2800	OTTA	20	GRF	2000.0	2038	140.0	14.0	7.2		
	17000	NOBE	7	C	2213.0	2213.2	1.5	39			L
08	202	IZMI	44	NS	0600.0E		360.0D	35			
	127	TORN	43	NS	0640.0	1148.5	520.0D	220	60		V1
	536	ONDR	44	NS	0800.0E		354.0D	390 D	59		
	260	ONDR	44	NS	0800.0E		354.0D	182 D	34		
	33	UPIC	43	NS	0925.2	0938.2	127.5U				
	29	UPIC	43	NS	0927.4	1132.1	129.3U				
	100	HIRA	44	NS	2105.0E	0005	600.0D	180	56		
	200	HIRA	44	NS	2105.0E	0550	600.0D	85	55		WR
	17000	NOBE	21	GRF	0029.8	0033.4	43.0	11			O
	17000	NOBE	8	S	0032.8	0032.9	.3	18			O
	2930	VORO	45	C	0110.0	0115	20.0	199			
	2695	MANI	4	S/F	0110.0	0115.6	15.8	341.9	113.9		
	1415	MANI	4	S/F	0110.0	0116.4	25.0	108.1	36.0		
	8800	MANI	4	S/F	0111.5	0115.3	14.3	260.7	86.9		
	4995	MANI	4	S/F	0111.5	0115.2	14.3	231.0	77.0		
	606	MANI	4	S/F	0113.0	0122.2	20.5	76.2	25.4		
	500	HIRA	45	C	0113.0	0122.0	17.0	200	60		WL
	17000	NOBE	45	C	0113.3	0115.2	10.2	78			O
	5730	IRKU			0113.6	0120.7		87			L
	5730	IRKU	45	C	0113.6	0115.3	12.0	106			L
	35000	NAGO	21	GRF	0115.0	0204	75.0	33			
	200	HIRA	45	C	0115.2	0116	2.0	60	27		O
	200	HIRA	45	C	0117.6	0119.4	35.0	6600	82		O
	200	HIRA			0117.6	0121		150			O
	200	HIRA			0117.6	0126		130			O
	100	HIRA	46	C	0118.2	0119	1.8	17000	2400		
	17000	NOBE	29	PBI	0123.5	0123.6	36.0	33			O
	2930	VORO	45	C	0200.0	0205	10.0	116			
	606	MANI	4	S/F	0201.0	0204.0	4.0	29.5	9.8		
	5730	IRKU			0201.5	0208.6		41			L
	5730	IRKU	45	C	0201.5	0204.4	15.0	91	18		L
	17000	NOBE	46	C	0201.9	0204.4	9.4	274			L
	1415	MANI	4	S/F	0204.3	0204.5	6.4	11.8	3.9		
	4995	MANI	4	S/F	0204.3	0204.5	8.9	126.5	42.2		
	2695	MANI	4	S/F	0204.3	0204.5	7.3	56.2	18.7		
	8800	MANI	4	S/F	0204.3	0204.5	12.2	377.6	125.9		
	17000	NOBE	29	PBI	0211.3	0211.3	18.0	28			O
	17000	NOBE	20	GRF	0333.1	0336.4	22.0	16			L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
08	4995	MANI	2	S/F	0334.0	0334.2	3.0	6.9	2.3		
	1415	MANI	2	S/F	0334.1	0334.2	5.1	8.7	2.9		
	2695	MANI	2	S/F	0334.1	0334.2	2.9	6.2	2.1		
	8800	MANI	3	S	0334.8	0335.3	2.6	24.5	8.1		
	606	MANI	2	S/F	0337.7	0338.7	2.1	11.8	3.9		
	100	HIRA	46	C	0340.8	0341.9	2.2	230	90		
	2695	MANI	4	S/F	0428.3	0429.3	3.7	27.0	9.0		
	1415	MANI	4	S/F	0428.3	0429.3	2.9	30.8	10.2		
	5730	IRKU	22	GRF	0428.5	0430.4	12.0	16			L
	5730	IRKU			0428.5	0434.9		23			L
	4995	MANI	4	S/F	0428.6	0430.5	9.4	25.3	8.4		
	8800	MANI	4	S/F	0428.8	0432.0	9.2	64.4	21.4		
	606	MANI	4	S/F	0428.8	0429.1	7.5	28.3	9.4		
	17000	NOBE	46	C	0429.0	0430.3	11.0	43			L
	17000	NOBE	1	S	0452.2	0452.6	.8	19			R
	8800	MANI	4	S/F	0452.5	0452.9	2.0	42.9	14.3		
	4995	MANI	4	S/F	0452.7	0452.9	1.8	23.0	7.7		
	9100	GORK	23	GRF	0519.7E	0612.4	93.0D	15			
	950	GORK	4	SF	0526.0	0526.5	4.9	8.2			
	650	GORK	3	S	0526.6	0526.7	.4	32	16		
	17000	NOBE	1	S	0543.8	0544.1	.7	22			R
	5730	IRKU			0613.0	0615.7		25			L
	5730	IRKU	21	GRF	0613.0	0615.2	5.0	23	10		L
	9100	GORK	2	SF	0613.8	0616.0	3.5	29			
	4995	MANI	4	S/F	0614.2	0616.0	2.9	43.7	14.6		
	8800	MANI	4	S/F	0614.2	0616.0	2.9	30.7	10.2		
	2695	MANI	4	S/F	0615.0	0616.0	2.1	18.7	6.2		
	1415	MANI	4	S/F	0615.0	0616.3	2.1	11.1	3.7		
	606	MANI	4	S/F	0615.0	0622.9	12.0	6.7	2.2		
	606	MANI	8	S	0640.7	0641.7	13.3	180.3	60.1		SPIKE
	950	GORK	4	SF	0640.9	0641.0	3.7	16			
	5730	IRKU	45	C	0641.0	0641.5	7.0	25	15		L
	5730	IRKU			0641.0	0644.2		30			L
	1415	MANI	4	S/F	0641.0	0641.7	10.7	9.5	3.2		
	4995	MANI	4	S/F	0641.0	0641.7	10.7	23.0	7.7		
	2695	MANI	4	S/F	0641.0	0641.7	10.7	35.4	11.8		
	8800	MANI	4	S/F	0641.0	0644.2	10.7	39.9	13.3		
	2950	GORK	4	SF	0641.2	0641.8	5.4	11	5.5		
	650	GORK	41	F	0641.3	0642.3	3.4	80 D			
	650	GORK			0641.3	0644.2		80 D			
	9100	GORK	46	C	0641.4	0642.9	5.3	28			
	9100	GORK			0641.4	0644.4		49			
	9100	GORK	21	GRF	0703.7	0737.7	74.3	18	6		
	9500	POTS	4	S/F	0733.5	0735.0	3.5	46			
	9100	GORK	4	SF	0733.8	0735.6	3.5	39			
	650	GORK			0802.3	0905.3		340			
	650	GORK	47	GB	0802.3	0813.4	188.3	30			
	650	GORK			0802.3	0900.5		310			
	950	GORK	47	GB	0803.5	0812.6	222.0E	287			
	950	GORK			0803.5	0858.1		1490			
	950	GORK			0803.5	0908.0U		3700 D			
	950	GORK			0803.5	0924.2		290			
	2950	GORK	21	GRF	0809.6	0909.0	187.0E	90			
	10715	DWIN	45	C	0810.0	0812	5.0	210	70		
	930	BORD	45	C	0810.0	0812.1	11.0	966	30		
	1470	POTS	4	S/F	0810.0	0811.5	15.0	207			
	9500	POTS	4	S/F	0810.0	0811.7	8.0	313			
	8400	BERN	4		0810.2	0811.9	19.0	208.0			
	10400	BERN	4		0810.2	0811.9	19.0	260.0			
	9100	GORK	4	SF	0810.3	0812.3	3.8	110			
	5730	IRKU			0810.5	0812.3		85 D			L
	5730	IRKU	45	C	0810.5	0810.9	8.0	16			L
	5730	IRKU			0810.5	0813.0		84			L
	5730	IRKU			0810.5	0812.0		85 D			L
	606	MANI	4	S/F	0810.6	0813.0	8.7	90.9	30.3		
	4995	MANI	4	S/F	0810.6	0812.0	7.6	161.0	53.7		
	8800	MANI	4	S/F	0810.6	0812.0	7.6	233.3	77.8		
	1415	MANI	4	S/F	0810.6	0811.7	7.6	648.8	216.3		
	2695	MANI	4	S/F	0810.6	0813.0	7.6	187.2	62.4		
	2650	DWIN	45	C	0811.0	0813	9.0	330	100		
	127	TORN	48	C	0811.3	0812.0	2.5	330	87		
	2950	GORK	45	C	0811.4	0812.8	3.8	174			
	2950	GORK			0811.4	0813.4		168			
	3000	POTS	4	S/F	0811.5	0812.9	11.0	172			
	202	IZMI	45	C	0812.5	0813.5	2.5	1700	700		
	9500	POTS	23	GRF	0828.0	1001.4	242.0	139			
	9100	GORK	23	GRF	0829.4		167.0				
	1470	POTS	23	GRF	0830.0	0937.5	235.0	44			
	3000	POTS	23	GRF	0830.0	0937.3	230.0	97			
	930	BORD		PRE	0832.0	0839	17.5	570	120		
	1415	MANI	4	S/F	0833.0	0840.7	20.0	227.1	75.7		
	606	MANI	4	S/F	0833.0	0850.8	29.0	94.4	31.5		
	1470	POTS	46	C	0838.0	0915.5	57.0	940			
	127	TORN	27	RF	0838.0		91.0	100 U			
	202	IZMI	25	R	0840.0	0848.5	80.0	850	350		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
08	930	BORD			0849.5	0910.5		6236			
	930	BORD			0849.5	0851		3550			
	930	BORD			0849.5	0905		7400			
	930	BORD			0849.5	0902		7400			
	930	BORD			0849.5	0900.5		6191			
	930	BORD			0849.5	0859		3550			
	930	BORD		GB	0849.5	0907.7	30.5	9664	3473		
	9100	GORK	4	SF	0913.7	0915.7	3.5	42			
	8400	BERN	3		0914.5	0915.3	4.0	32.0			
	10400	BERN	3		0914.5	0915.3	4.0	28.0			
	930	BORD		PBI	0920.0	0924	24.0	793	130		
	9100	GORK	1	S	0937.8	0938.0	.5	13.5	6.5		
	9100	GORK	3	S	0942.0	0942.3	1.5	31	15		
	10715	DWIN	1	S	1000.0	1001	3.0	30	20		
	9100	GORK	3	S	1001.5	1001.9	2.0	35			
	10715	DWIN	45	C	1019.0		16.0	170 D			
	2650	DWIN	45	C	1021.0	1022	2.0	320 D			
	1470	POTS	4	S/F	1021.0	1025.0	5.0	128			
	3000	POTS	4	S/F	1021.4	1022.4	1.6	124			
	8400	BERN	27		1021.8	1022.7	13.0	22.0			OPR
	10400	BERN	27		1021.8	1022.7	13.0	10.0			OPR
	2950	GORK	4	SF	1021.9	1022.7	1.2	126			
	9100	GORK	1	S	1022.3	1023.1	3.8	17			
	9400	HUAN	28	PRE	1048.6E	1120.5	31.9	158.3	32.6		L
	7000	SAOP	45	C	1118.0	1121.6		1748.0			1R
	8400	BERN	47		1118.6	1121.8	85.0	1482.0			
	35000	BERN	47		1118.6	1121.8	85.0	2000.0			
	10400	BERN	47		1118.6	1121.8	85.0	1400.0			
	930	BORD	45	C	1119.0	1122	20.0	1260	315		
	9400	HUAN	45	C	1120.5	1121.8	14.4	2149.3	345.8		L
	228	HARS	48	C	1121.5	1123.0U	7.0	2800 D	400		
	113	POTS	41	F	1121.8	1122.6	6.4	14000	200		
	1470	POTS	4	S/F	1122.0E	1123 U	8.0D	373 U			
	202	IZMI	48	C	1122.7	1124.5	7.3	4700	2000		
	9400	HUAN	30	PBI	1134.9	1134.9	298.4	142.0	23.3		L
	2800	OTTA	21	GRF	1300.0E		300.0D	22.2			
	9400	HUAN	1	S	1333.6	1334.3	1.5	9.8	5.2		0
	2800	OTTA	2	S/F	1338.0	1342	8.0	8.0	4.0		
	9400	HUAN	20	GRF	1638.0	1643.1	45.8	11.4	5.8		0
	7000	SAOP	3	S	1641.7	1643.4	2.8	16.0			9L
	2800	OTTA	20	GRF	1804.0	1815	35.0	3.6			
	2800	OTTA	27A	RF	1900.0		230.0	10.6	9.0		
	2800	OTTA	24	R	1900.0	1907	7.0	10.6	5.3		
	2800	OTTA	24P	R	1907.0		183.0	10.6			
	2800	OTTA	1	S	1926.0	1928	3.0	4.2	2.1		
	2800	OTTA	21	GRF	2010.0	2045	45.0	6.8	3.4		
	2695	PENT	4	S/F	2014.0	2014.8	2.0	13.0	6.4		
	2800	OTTA	8	S	2029.4	2029.7	.4	26.0			
	2695	PENT	20	GRF	2116.0	2120	28.0	11.4	5.6		
	2695	PENT	3	S	2155.5	2156	1.0	211.0			
	2695	PENT	26	FAL	2210.0	2250	40.0	-10.6	-5.3		
	4995	MANI	47	GB	2329.8	2331.9	22.2	514.8	171.6		
	17000	NOBE			2329.8		3.3	137			L
	8800	MANI	47	GB	2329.8	2331.7	21.5	574.6	191.5		
	2695	MANI	4	S/F	2330.1	2332.0	18.9	267.9	89.3		
	1400	SYDN	3	S	2330.7	2332.0	4.9				
	35000	NAGO	5	S	2331.0	2332	3.0	29			
	1415	MANI	4	S/F	2331.3	2340.9	16.7	34.8	11.6		
	17000	NOBE	30	PBI	2333.1	2333.1	65.0	41			0
	35000	NAGO	29	PBI	2334.0	2334	86.0	13			
	606	MANI	4	S/F	2336.4	2341.5	8.6	27.6	9.2		
	500	HIRA	46	C	2339.5	2341.4	3.0	450	150		WR
	1400	SYDN	4	S/F	2339.7	2340.3	4.2				
	17000	NOBE	4	S/F	2339.7	2340.2	2.0	60			L
	700	SYDN	45	C	2340.0	2341.4	4.9				
09	202	IZMI	44	NS	0600.0E		360.0D	60			
	127	TORN	44	NS	0620.0E	1408.7	510.0D	300	43		V1,INCOMPLETE
	113	POTS	43	NS	0700.0	1245	453.0D	70			
	260	ONDR	44	NS	0810.0E		346.0D	104	8		
	536	ONDR	44	NS	0810.0E		346.0D	39			
	200	HIRA	44	NS	2105.0E	0600	600.0D	240	120		ML
	100	HIRA	44	NS	2105.0E	0600	600.0D	700	210		
	606	MANI	8	S	0219.8	0223.9	5.6	141.5	47.1		SPIKE
	700	SYDN	45	C	0223.0	0223.9	1.7				
	4995	MANI	3	S	0223.1	0224.0	6.7	18.6	6.2		
	1415	MANI	1	S	0223.8	0224.0	1.9	3.6	1.2		
	2695	MANI	3	S	0223.8	0224.0	1.3	12.6	4.2		
	5730	IRKU			0242.0	0250.0		18			L
	5730	IRKU			0242.0	0246.6		16			L
	5730	IRKU			0242.0	0248.5		27			L
	5730	IRKU	45	C	0242.0	0243.4	11.0	16	11		L
	8800	MANI	4	S/F	0242.1	0248.6	9.1	34.7	11.6		
	2695	MANI	4	S/F	0242.1	0248.6	9.1	37.8	12.6		
	4995	MANI	4	S/F	0242.1	0248.6	9.1	44.3	14.7		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
09	17000	NOBE	20	GRF	0242.6	0248.6	15.0	9			O
	1415	MANI	1	S	0242.7	0248.6	8.5	3.6	1.2		
	5730	IRKU			0302.0	0305.3		50 D			R
	5730	IRKU			0302.0	0306.5		50 D			L
	5730	IRKU			0302.0	0304.0		48 D			L
	5730	IRKU	45	C	0302.0	0302.5	14.0	8			L
	8800	MANI	47	GB	0302.0	0304.9	24.3	4579.2	1526.4		
	4995	MANI	47	GB	0302.0	0304.8	24.3	1869.6	623.2		
	2695	MANI	47	GB	0302.0	0304.9	23.8	1512.6	504.2		
	700	SYDN	45	C	0302.2	0305.8U	28.3				
	17000	NOBE	47	GB	0302.9	0304.9	4.5	6061			L
	35000	NAGO	47	GB	0303.0	0305	4.0	2610			
	200	HIRA	48	C	0303.0	0305.0	8.0	29000	2730		O
	1400	SYDN	3	S	0303.3	0306.0U	21.1				
	606	MANI	47	GB	0303.3	0305.5	25.7	1958.8	652.9		SPIKE
	1415	MANI	47	GB	0303.3	0305.1	24.5	939.9	313.3		
	500	HIRA	48	C	0303.4	0305.6	38.0	28000	1500		ML,MR
	100	HIRA	48	C	0303.4	0305.0	14.0	40000 D	3540 D		
	35000	NAGO	29	PBI	0307.0	0307	8.0	22			
	17000	NOBE	29	PBI	0307.4	0307.4	11.0	61			O
	950	GORK	21	GRF	0545.0		29.3				
	9100	GORK	23	GRF	0545.3		80.0U				
	17000	NOBE	20	GRF	0546.1	0547.0	10.0	28			L
	500	HIRA	46	C	0546.3	0546.5	1.0	2800	700		ML
	9100	GORK	1	S	0546.5	0547.2	1.5	38	20		
	606	MANI	4	S/F	0546.5	0547.4	9.0	30.5	10.1		
	8800	MANI	3	S	0546.5	0547.4	12.0	34.7	11.5		
	100	HIRA	7	C	0546.6	0547.2	.9	10000	2600		
	950	GORK	3	S	0546.7	0547.5	2.5	17			
	650	GORK	23	GRF	0546.8		33.1				
	2950	GORK	1	S	0546.8	0547.2	1.9	18	9		
	3100	CRIM	3	S	0547.0	0547.5	2.0	24	7		
	5730	IRKU	1	S	0547.0	0547.4	3.0	18	6		L
	1415	MANI	3	S	0547.0	0547.7	11.7	14.2	4.7		
	4995	MANI	3	S	0547.0	0547.5	2.0	18.6	6.2		
	2695	MANI	3	S	0547.0	0547.7	2.0	21.0	7.0		
	5730	IRKU	21	GRF	0552.0	0557.7	7.0	10	4		L
	17000	NOBE	7	C	0557.0	0557.3	4.0	43			L
	9100	GORK	2	SF	0557.1	0557.4	.9	32	16		
	606	MANI	4	S/F	0601.5	0603.4	6.9	250.2	83.4		
	9100	GORK	4	SF	0601.9	0603.6	6.3	1120			
	5730	IRKU			0602.0	0603.6		68			R
	35000	NAGO	5	S	0602.0	0604	5.0	150			
	5730	IRKU	45	C	0602.0	0602.9	7.0	41			R
	5730	IRKU			0602.0	0605.3		84			R
	5730	IRKU			0602.0	0604.0		336			L
	3100	CRIM	3	S	0602.0	0603.5	8.0	225	70		
	202	IZMI	47	GB	0602.0	0604.0	6.5	1800	850		
	5730	IRKU			0602.0	0603.8		68 D			R
	200	HIRA	45	C	0602.0	0604.0	6.6	7500	300		ML
	4995	MANI	4	S/F	0602.0	0603.9	6.4	454.4	151.5		
	8800	MANI	47	GB	0602.0	0604.2	11.0	1113.9	371.3		
	17000	NOBE	47	GB	0602.0	0603.5	4.0	2300			L
	950	GORK	4	SF	0602.1	0604.0	3.9	120			
	100	HIRA			0602.1	0602.2		1500			
	100	HIRA	7	C	0602.1	0603.8	3.0	18000	2450		
	2950	GORK	3	S	0602.2	0603.6	5.[illegible]	360	180		
	500	HIRA	46	C	0602.2	0603.1	4.0	6500	1000		ML
	2695	MANI	4	S/F	0602.3	0603.8	7.0	287.7	95.9		
	1415	MANI	4	S/F	0602.3	0603.8	8.7	169.1	56.4		
	650	GORK	46	C	0602.5	0603.2U	3.5	85 D			
	650	GORK			0602.5	0605.1		77			
	17000	NOBE	29	PBI	0606.0	0606.6	8.0	38			O
	35000	NAGO	29	PBI	0607.0	0607	6.0	27			
	9100	GORK	1	S	0630.6	0630.8	.8	18	9		
	3100	CRIM	3	S	0638.0	0638.5	1.0	24	7		
	5730	IRKU	2	S	0638.3	0638.4	3.0	15	3		R
	2950	GORK	1	S	0638.3	0638.4	.9	21	10		
	9100	GORK	1	S	0638.3	0638.5	.8	26	13		
	4995	MANI	3	S	0638.5	0638.6	.9	25.6	8.5		
	2695	MANI	3	S	0638.5	0638.7	.8	14.7	4.9		
	8800	MANI	3	S	0638.5	0638.7	.8	31.2	10.4		
	950	GORK	1	S	0709.5	0709.9	1.1	2.5			
	202	IZMI	2	S/F	0737.0	0737.5	.7	760	500		
	3000	POTS	3	S	0924.0	0924.7	2.5	42			
	9500	POTS	3	S	0924.0	0924.4	2.0	12			
	3100	CRIM	3	S	0924.0	0924.5	3.0	45	11		
	2650	DWIN	1	S	0924.0	0925	2.0	40	30		
	650	GORK	1	S	0924.3	0924.5	1.3	6	3		
	2950	GORK	3	S	0924.3	0924.8	2.2	46	23		
	9100	GORK	1	S	0924.4	0926.0	2.3	13	5		
	1470	POTS	1	S	0924.5	0924.8	1.0	5.2			
	9400	HUAN	20	GRF	1219.5	1230.3	36.1	8.1	4.4		O
	9400	HUAN	21	GRF	1306.0	1350.3	77.0	9.7	6.8		L
	2800	OTTA	23	GRF	1310.0	1355	115.0	6.4	3.6		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
09	9400	HUAN	1	S	1341.8	1343.1	2.5	6.4	6.1		O
	2800	OTTA	4	S/F	1352.2	1352.8	1.5	19.0	4.8		
	9400	HUAN	1	S	1352.7	1353.3	1.8	4.8	4.5		O
	113	POTS	4	S/F	1407.9	1408.0	.6	850	85		
	930	BORD	41	F	1441.0	1441.5	.6	68	2		
	2800	OTTA	23	GRF	1510.0	1645	190.0	8.0	4.0		
	9400	HUAN	23	GRF	1530.1	1610.2	73.5	17.8	3.1		L
	930	BORD	41	F	1541.7	1542.7	1.3	27	2		
	9400	HUAN	3	S	1618.0	1618.6	1.2	46.8	16.5		L
	2800	OTTA	8	S	1752.3	1752.5	.5	4.8	2.4		
	9400	HUAN	21	GRF	1910.4	1929.4	53.6	21.0	11.8		L
	7000	SAOP	45	C	1922.6	1933.0	25.8	41.0			O
	2800	OTTA	46F	C	1923.3	1927	6.7	22.0	11.0		
	9400	HUAN	2	S/F	1926.0	1927.8	2.5	22.6	12.7		L
	2800	OTTA	29	PBI	1930.0	1930	7.0	8.2	4.1		
	9400	HUAN	4	S/F	1931.8	1932.8	2.3	27.4	10.3		O
	2800	OTTA	24O	R	1950.0	1954	4.0	7.4			
	9400	HUAN	20	GRF	2027.5	2037.9	16.8	19.4	8.1		O
	2800	OTTA	24O	R	2030.0	2050	20.0	12.0	6.0		
	9400	HUAN	4	S/F	2113.2	2114.4	2.4	22.6	15.6		O
	2695	PENT	21	GRF	2122.0	2159	80.0D	20.0			
	2695	PENT	3	S	2124.2	2125	3.0	28.0	9.4		
	9400	HUAN	21	GRF	2144.3	2155.5	29.8	33.9	17.5		L
	9400	HUAN	1	S	2156.8	2157.9	1.7	12.9	7.4		L
	9400	HUAN	45	C	2200.3	2205.0	7.1	209.8	96.8		L
	2695	PENT	45	C	2200.5	2201.5	8.0	46.8	21.0		
	2930	VORO	45	C	2325.0	2329	30.0	161 D			
10	202	IZMI	44	NS	0600.0E		360.0D	80			
	127	TORN	44	NS	0620.0E	0632 U	520.0D	2000	52		V1,INCOMPLETE
	113	POTS	44	NS	0633.0E	0706	461.0D	385			
	536	ONDR	44	NS	0800.0E		360.0D	65	5		
	260	ONDR	44	NS	0800.0E		360.0D	135	12		
	100	HIRA	44	NS	2108.0E	0215	600.0D	50	27		
	200	HIRA	44	NS	2108.0E	2325	600.0D	140	55		ML
	100	HIRA	44	NS	2109.0E	0600	600.0D	120	25		
	200	HIRA	44	NS	2109.0E	0517	600.0D	140	50		WR
	100	HIRA	45	C	0237.8	0238.2	.9	10000	5000		
	200	HIRA	45	C	0238.0	0238.4	.6	1400	790		O
	500	HIRA	22	GRF	0239.0	0304	114.0	30	16		SR
	606	MANI	4	S/F	0410.1	0411.1	5.4	21.7	7.2		
	650	GORK	21	GRF	0634.8	0652.4	34.6	25			
	202	IZMI	48	C	0636.5	0638.5	6.0	4300	2000		
	950	GORK	21	GRF	0638.0	0654.0	40.0	16			
	9100	GORK	47	GB	0640.4	0642.2	6.7	2600			
	2950	GORK	46	C	0640.5	0642.1	5.8	490			
	2950	GORK			0640.5	0645.6		195			
	17000	NOBE	47	GB	0640.7	0642.0	4.4	11770			L
	950	GORK			0641.0	0643.7		203			
	3100	CRIM			0641.0	0703.0		30 D			
	650	GORK	46	C	0641.0	0641.6	6.8	310			
	950	GORK	45	C	0641.0	0642.6	12.0	22.1			
	650	GORK			0641.0	0643.5		330			
	3100	CRIM	45	C	0641.0	0642.0	122.0	30 D			
	500	HIRA	48	C	0641.0	0643.5	3.0	48000	5000		WL,MR
	200	HIRA	48	C	0641.0	0643.5	7.0	45000	750		O
	4995	MANI	47	GB	0641.0	0642.7	33.3	2918.2	972.7		
	2695	MANI	47	GB	0641.0	0642.8	33.5	1848.4	616.1		
	1415	MANI	47	GB	0641.3	0642.8	29.9	680.6	226.9		
	8880	MANI	47	GB	0641.5	0642.7	32.8	2741.1	913.7		
	606	MANI	47	GB	0641.7	0644.1	33.6	1925.8	641.9		SPIKE
	2950	GORK	30	PBI	0646.3	0646.4	28.0	26			
	9100	GORK	30	PBI	0647.1	0647.7	30.5U	6			
	650	GORK	4	SF	0701.8	0703.8	4.7	46			
	950	GORK	4	SF	0701.8	0703.7	7.0	12			
	2950	GORK	2	SF	0701.8	0703.2	5.9	20			
	9100	GORK	2	SF	0702.6	0705.7	5.2	14	6		
	9100	GORK	1	S	0831.9	0832.2	1.0	8	4		
	8400	BERN	3		0906.9	0907.5	6.0	56.0			
	10400	BERN	3		0906.9	0907.5	6.0	56.0			
	10715	DWIN	3	S	0907.0	0908	3.0	70	40		
	9100	GORK	3	S	0907.2	0907.5	2.3	50	25		
	9500	POTS	3	S	0907.2	0907.5	3.8	63			
	202	IZMI	4	S/F	1021.5	1022.0	1.0	800	600		
	202	IZMI	4	S/F	1034.0	1034.5	1.0	700	500		
	9500	POTS	8	S	1105.3	1105.3	.4	39			
	10400	BERN	46		1157.4	1219.0	40.0	182.0			
	8400	BERN	46		1157.4	1219.0	40.0	140.0			
	7000	SAOP	45	C	1158.0						EQUIP PROBLEMS
	3000	POTS	42	SER	1159.0	1219.2	29.0	119			
	9500	POTS	42	SER	1159.0	1218.9	36.0	225			
	9400	HUAN	21	GRF	1159.2	1221.6	39.5	50.5	14.5		L
	9400	HUAN	4	S/F	1200.5	1202.6	5.2	47.2	25.8		R
	113	POTS	42	SER	1201.0	1209.7	9.0	840	1		
	9400	HUAN	45	C	1214.1	1218.9	6.6	291.4	88.1		L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
10	10715	DWIN	45	C	1216.0	1219	10.0	140	80		
	930	BORD	45	C	1216.6	1218.7	4.4	1184	20		
	2650	DWIN	45	C	1217.0	1219	8.0	100	50		
	1470	POTS	3	S	1217.0	1219.2	5.0	43			
	33	UPIC	4	S/F	1218.3	1219.1	2.7				
	29	UPIC	4	S/F	1218.4	1218.9	2.8				
	2800	OTTA	24OAR		1250.0	1330	40.0	41.0	20.5		
	3000	POTS	25	R	1302.0	1315.4	62.0	42			
	9400	HUAN	20	GRF	1302.1	1328.0	95.4	34.2	16.2		0
	8400	BERN	20		1308.1	1323.1	60.0	35.0			
	10400	BERN	20		1308.1	1340.0	52.0	28.0			
	9500	POTS	20	GRF	1310.0	1325.0	54.0	28			
	1470	POTS	25	R	1311.5	1315.9	53.0	66			
	930	BORD	45	C	1314.0	1314.8	7.0	150	20		
	29	UPIC	4	S/F	1314.5	1315.1	2.7				
	33	UPIC	4	S/F	1314.7	1315.5	2.3				
	2800	OTTA	4	S/F	1314.7	1315.2	5.0	24.0	12.0		
	2800	OTTA	22	GRF	1428.0	1438	13.0	5.0	2.6		
	2800	OTTA	21	GRF	1510.0	1525	30.0	5.6	3.2		
	9400	HUAN	21	GRF	1520.8	1528.3	16.5	14.6	8.0		L
	930	BORD	41	F	1521.0	1521.2	1.6	35	2		
	7000	SAOP	45	C	1521.0	1526.8	3.4	79.0			11R
	930	BORD	45	C	1526.0	1527.3	4.0	34	4		
	2800	OTTA	3	S	1526.0	1526.5	4.0	37.4	10.0		
	9400	HUAN	4	S/F	1526.2	1526.7	1.9	50.5	25.6		L
	2800	OTTA	20	GRF	1548.0	1551	20.0	8.4	2.8		
	9400	HUAN	21	GRF	1600.3	1640.0	188.3	22.8	12.4		L
	2800	OTTA	21	GRF	1620.0	1640	90.0	7.0	4.0		
	9400	HUAN	2	S/F	1620.5	1621.9	3.9	19.5	10.9		0
	2800	OTTA	4	S/F	1621.0	1621.6	4.0	26.0	6.6		
	9400	HUAN	2	S/F	1714.7	1715.4	1.7	16.3	6.8		0
	2800	OTTA	26A	FAL	1805.0	1910	65.0	-13.8	-6.9		
	7000	SAOP	4	S/F	1826.6	1831.6	4.4	238.0			3R
	9400	HUAN	3	S	1830.0	1831.9	7.6	107.4	34.2		L
	2695	BOUL	3	S	1831.0E	1831.5	1.5D	75	25		
	2800	OTTA	3	S	1831.0	1831.7	5.0	132.0	36.0		
	2800	OTTA	8	S	2025.1	2025.4	.6	10.4	5.2		
	2800	OTTA	21	GRF	2040.0	2100	35.0	4.2	2.1		
	2800	OTTA	1	S	2055.9	2056.1	1.0	5.2	2.6		
	2695	PENT	20	GRF	2128.0	2134	12.0	9.4	3.6		
	2695	PENT	20	GRF	2142.0	2147	18.0	9.4	4.6		
	100	HIRA	46	C	2151.2	2151.8	1.8	1500 U	380 U		
	606	MANI	8	S	2327.5	2327.7	3.8	162.0	54.0		SPIKE
	2695	MANI	3	S	2327.5	2328.3	2.5	42.7	14.2		
	8800	MANI	3	S	2327.5	2328.1	1.5	30.3	10.1		
	4995	MANI	3	S	2327.5	2328.2	2.5	30.6	10.2		
	1415	MANI	4	S	2327.5	2328.3	5.0	49.1	16.4		
	500	HIRA	4	S/F	2327.6	2328.0	1.0	10000	3500		
	17000	NOBE	8	S	2327.8	2328.2	.4	31			L
11	202	IZMI	44	NS	0600.0E		360.0D	55			
	113	POTS	44	NS	0640.0E	1212	455.0D	20			
	127	TORN	43	NS	0640.0	1129 U	320.0D	870	19		V1,INCOMPLETE
	536	ONDR	44	NS	0753.0E		377.0D	104	6		
	260	ONDR	44	NS	0753.0E		377.0D	172	15		
	35000	NAGO	20	GRF	0130.0	0230	140.0	15			
	9100	GORK	2	SF	0515.1	0515.7	2.7	12	5		
	650	GORK	3	S	0520.8	0521.3	1.2	21	10		
	5730	IRKU	20	GRF	0528.0	0533.5	9.0	16	8		L
	9100	GORK	21	GRF	0530.5		360.0				
	9100	GORK	2	SF	0531.7	0533.3	2.5	10.5			
	650	GORK	2	SF	0602.2E	0604.0	6.0	8.5	4		
	2950	GORK	21	GRF	0602.8	0607.1	10.7	28			
	3100	CRIM	3	S	0603.0	0605.0	7.0	38 D			
	950	GORK	4	SF	0604.0	0606.0	4.3	23			
	2950	GORK	3	S	0604.2	0606.0	2.8	62			
	5730	IRKU	22	GRF	0604.3	0606.0	8.0	31	10		L
	9100	GORK	1	S	0604.8	0605.9	2.0	12	6		
	650	GORK	20	GRF	0648.0	0708.3	25.8	4			
	3100	CRIM	1	S	0648.0	0649.0	3.0	15	5		
	9100	GORK	2	SF	0648.4	0648.8	1.0	10.5			
	3100	CRIM	1	S	0745.5	0747.0	5.0	8	3		
	930	BORD	8	S	0754.7	0754.7	1.0	18	1		
	930	BORD	45	C	0820.8	0821.3	.5	29	4		
	3100	CRIM	3	S	0844.0	0845.5	2.0	40	10		
	930	BORD	41	F	0844.0	0844.3	2.0	43	3		
	2650	DWIN	1	S	0844.0	0844	2.0	45	20		
	2950	GORK	2	SF	0844.1	0844.3	1.7	63			
	2950	GORK	41	F	0857.0	0857.8	4.8	9			
	650	GORK	40	F	0857.0	0900.1	19.6	11.5			
	650	GORK			0857.0	0915.2		9.5			
	9500	POTS	42	SER	0857.0	0900.4	4.0	35			
	2950	GORK			0857.0	0905.0		36			
	9100	GORK	1	S	0857.1	0857.7	1.5	11	5.5		
	1470	POTS	42	SER	0857.5	0857.7	3.5	17			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
11	3100	CRIM	1	S	0858.0	0858.5	1.0	12	4		
	3100	CRIM	3	S	0859.5	0900.5	3.0	37	10		
	9100	GORK	4	SF	0859.6	0900.5	1.2	44			
	10400	BERN	4		0859.6	0900.7	2.0	15.0			OPR
	8400	BERN	4		0859.6	0900.7	2.0	40.0			OPR
	950	GORK	4	SF	0900.0	0900.3	.7	17 D			
	2650	DWIN	1	S	0900.0	0900	1.0	35	20		
	3000	POTS	3	S	0900.0	0900.5	1.0	24			
	930	BORD	41	F	0900.2	0900.2	.5	125	3		
	950	GORK	4	SF	0940.5	0941.6	2.0	27 D			
	930	BORD	41	F	0940.6	0941.6	2.0	151	10		
	3000	POTS	3	S	0940.6	0942.0	1.6	8			
	8400	BERN	1		0940.6	0941.8	2.0	25.0			OPR
	10400	BERN	1		0940.6	0941.8	2.0	6.0			OPR
	1470	POTS	1	S	0941.0	0942.0	2.0	3.2			
	9500	POTS	3	S	0941.0	0941.6	2.0	16			
	3100	CRIM	1	S	0941.0	0941.5	2.0	12	4		
	9100	GORK	1	S	0941.1	0941.5	1.2	19	9.5		
	2950	GORK	1	S	0941.3	0941.8	1.4	9			
	650	GORK	4	SF	0958.1	0959.0	2.7	24			
	950	GORK	2	SF	0958.4	0959.0	1.1	8.5			
	930	BORD	41	F	0958.4	0959.1	1.0	17	3		
	3100	CRIM	1	S	0958.5	0959.5	1.0	17	5		
	1470	POTS	4	S/F	0958.5	0959.1	1.0	25			
	3000	POTS	8	S	0958.8	0959.0	.7	12			
	2650	DWIN	3	S	1048.0	1049	4.0	120	50		
	7000	SAOP	45	C	1048.0	1048.9	8.2	39.0			41R
	650	GORK	3	S	1048.6	1048.8	.5	66	30		
	930	BORD	45	C	1048.6	1048.7	2.4	2275	15		
	1470	POTS	3	S	1048.6	1049.1	4.4	52			
	950	GORK	3	S	1048.6	1048.9	1.5	30 D			
	2950	GORK	3	S	1048.7	1048.9	.9	113			
	10400	BERN	1		1048.7	1049.0	1.5	12.0			OPR
	8400	BERN	1		1048.7	1049.0	1.5	45.0			OPR
	9500	POTS	1	S	1048.8	1048.9	1.2	10			
	9100	GORK	1	S	1048.8	1048.9	.5	21	10.5		
	3000	POTS	3	S	1048.9	1049.0	3.1	102			
	3100	CRIM	3	S	1049.0	1049.5	5.0	52	15		
	2950	GORK	29	PBI	1049.6	1049.6		18			
	650	GORK	3	S	1055.2	1055.4	.4	15			
	930	BORD	41	F	1106.6	1106.8	1.4	43	7		
	1470	POTS	4	S/F	1106.8	1107.0	1.2	7.5			
	930	BORD	8	S	1116.7	1116.7	.2	43	2		
	9100	GORK	1	S	1121.3	1121.5	.5	10	5		
	930	BORD	41	F	1122.6	1122.6	.5	16	2		
	930	BORD	41	F	1134.8	1135.2	1.0	115	5		
	930	BORD	8	S	1142.7	1142.7	.2	15	2		
	29	UPIC	2	S/F	1142.8	1143.1	.6				
	33	UPIC	2	S/F	1143.0	1143.1	.5				
	29	UPIC	4	S/F	1144.5	1144.6	.7				
	33	UPIC	4	S/F	1144.5	1144.5	.5				
	930	BORD	41	F	1202.0	1204.8	3.0	26	2		
	930	BORD	42	SER	1246.0	1249	14.0	151	4		
	7000	SAOP	45	C	1253.0	1255.1	4.4	35.0			25R
	1470	POTS	3	S	1254.5	1255.1	1.5	8.9			
	2800	OTTA	3	S	1254.5	1255	3.5	17.8	6.0		
	3000	POTS	3	S	1254.7	1255.0	1.3	12			
	9500	POTS	29	PBI	1254.8	1255.0	4.2	14			
	8400	BERN	8		1254.8	1255.0	3.0	30.0			OPR
	10400	BERN	8		1254.8	1255.0	3.0	30.0			OPR
	2800	OTTA	20	GRF	1301.0	1307	12.0	10.0	5.0		
	930	BORD	41	F	1309.0	1311.5	3.0	58	2		
	113	POTS	4	S/F	1311.1	1311.5	1.3	420	35		
	1470	POTS	42	SER	1322.5	1325.3	5.5	10			
	3000	POTS	3	S	1325.0	1325.4	1.0	8			
	2800	OTTA	8	S	1325.0	1325.3	.6	12.8	6.4		
	930	BORD	45	C	1325.2	1325.3	.4	1368	4		
	113	POTS	4	S/F	1329.3	1330.0	1.2	400	25		
	2800	OTTA	20	GRF	1330.0	1420	140.0	10.4	5.2		
	930	BORD	41	F	1458.4	1458.5	.4	62	2		
	930	BORD	41	F	1516.7	1516.8	.5	35	3		
	930	BORD	41	F	1520.3	1520.6	2.0	40	4		
	930	BORD	41	F	1533.0	1533.5	.8	1600	4		
	2800	OTTA	21	GRF	1600.0	1700	90.0	7.0	3.4		
	2800	OTTA	4	S/F	1609.0	1612	7.0	19.0	9.5		
	7000	SAOP	45	C	1610.0	1616.5		16.0			0
	9400	HUAN	23	GRF	1619.3	1655.6	101.9	18.9	7.2		R
	2800	OTTA	1	S	1649.7	1650.1	4.0	5.0	2.4		
	9400	HUAN	2	S/F	1757.4	1758.0	3.7	15.5	6.6		0
	7000	SAOP	45	C	1757.6	1758.2	2.0	25.0			11R
	2800	OTTA	3	S	1758.0	1758.5	2.5	11.2	4.0		
	2800	OTTA	260	FAL	1805.0	1850	40.0	11.0	5.5		
	2800	OTTA	8	S	1935.2	1935.3	.8	5.0	2.5		
	2800	OTTA	3	S	2040.0	2041.3	3.0	12.2	3.4		
	9400	HUAN	22	GRF	2127.8	2136.8	18.9	24.1	12.8		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
11	2695	PENT	3	S	2131.0	2132	4.0	13.8	3.2		
	2695	PENT	1	S	2136.5	2136.7	2.0	5.0	2.4		
	2695	PENT	1	S	2139.4	2140	1.5	4.0	3.0		
	9400	HUAN	3	S	2201.2	2201.8	2.8	22.3	10.8		L
	2695	PENT	3	S	2201.6	2202	1.5	33.0	11.0		
	2695	PENT	8	S	2209.4	2209.6	.5	14.2			
	17000	NOBE	20	GRF	2240.5	2303.4	45.0	15			O
	35000	NAGO	20	GRF	2315.0	2317	45.0	18			
	2930	VORO	3	S	2325.0	2328	10.0	56			
12	202	IZMI	44	NS	0600.0E		360.0D	60			
	113	POTS	44	NS	0633.0E	0659	97.0D	70			
	536	ONDR	44	NS	0754.0E		362.0D	65	7		
	260	ONDR	44	NS	0754.0E		362.0D	209 D	18		
	200	HIRA	44	NS	2110.0E	0206	600.0D	20	10		WL
	17000	NOBE	23	GRF	0102.1	0119.0	48.0	15			O
	2930	VORO	3	S	0125.0	0128	10.0	113			
	8800	MANI	4	S/F	0127.0	0128.6	5.0	461.0	153.7		
	4995	MANI	4	S/F	0127.0	0128.4	7.0	219.6	73.2		
	100	HIRA	48	C	0127.3	0128.5	4.0	35000	5100		
	500	HIRA	46	C	0127.3	0127.7	5.5	600	80		WL
	606	MANI	4	S/F	0127.3	0128.1	6.7	168.5	56.2		
	2695	MANI	4	S/F	0127.3	0128.6	5.2	241.7	80.6		
	1415	MANI	4	S/F	0127.3	0128.5	6.7	336.6	112.2		
	200	HIRA	42	SER	0127.6	0128.2	12.0	5000			MR
	1400	SYDN	4	S/F	0127.6	0128.4	4.8				
	17000	NOBE	4	S/F	0127.6	0128.1	3.4	192			R
	700	SYDN	3	S	0127.6	0128.7	3.9				
	35000	NAGO	5	S	0128.0	0129	6.0	37			
	5730	IRKU			0136.0	0139.0		7			R
	5730	IRKU			0136.0	0137.4		24			R
	5730	IRKU			0136.0	0138.1		17			R
	5730	IRKU			0136.0	0137.1		32			L
	5730	IRKU			0136.0	0137.8		20			L
	5730	IRKU			0136.0	0137.6		21			L
	5730	IRKU			0136.0	0137.3		29			L
	5730	IRKU	45	C	0136.0	0136.8	7.0	10			R
	202	IZMI	8	S	0715.3	0915.3	.7	2400	1800		
	202	IZMI	4	S/F	0751.7	0752.0	1.5	750	450		
	9100	GORK	1	S	0807.5	0807.9	1.3	5.5	2.5		
	930	BORD	41	F	0807.6	0807.8	.7	60	2		
	9100	GORK	1	S	0833.0	0833.3	.6	4	2		
	9500	POTS	1	S	0916.5	0917.5	2.5	7.3			
	1470	POTS	3	S	0916.5	0917.9	2.5	7.5			
	113	POTS	8	S	0916.6	0917.5	.9	12000	4000		
	950	GORK	2	SF	0917.0	0917.5	2.2	8.5			
	9100	GORK	2	SF	0917.1	0917.4	4.9	6.5	3		
	650	GORK	22	GRF	0917.2		178.0E		7		
	9100	GORK	1	S	0927.1	0927.4	.7	5.5	2.5		
	930	BORD	41	F	1041.7	1043.3	2.3	130	3		
	3100	CRIM	1	S	1042.0	1043.0	5.0	20	7		
	9500	POTS	20	GRF	1052.0	1106	83.0	14			
	9100	GORK	20	GRF	1053.5	1128.8	62.0	14	6		
	1470	POTS	20	GRF	1102.0	1113	58.0	3.2			
	3000	POTS	20	GRF	1105.0	1106	68.0	7			
	930	BORD	8	S	1116.3	1116.3	.2	25	2		
	930	BORD	41	F	1333.2	1333.4	.8	19	2		
	7000	SAOP	3	S	1353.4	1354.2		13.0			26R
	2800	OTTA	1	S	1400.0	1401	2.0	3.6	1.6		
	7000	SAOP	3	S	1414.0	1414.2	33.0	30.0			O
	2800	OTTA	8	S	1441.7	1441.9	.7	7.2	3.6		
	7000	SAOP	20	GRF	1659.0	1701.0		10.0			54R TWO BURSTS
	2800	OTTA	4	S/F	1936.0	1945	16.0	107.0	48.4		
	9400	HUAN	22	GRF	1940.1	1957.0	71.7	29.8	28.5		L
	2800	OTTA	29	PBI	1952.0	1952	115.0	28.4	7.2		
13	260	ONDR	44	NS	0755.0E		361.0D	172	6		
	536	ONDR	44	NS	0755.0E		361.0D	13			
	200	HIRA	45	C	0046.3	0046.5	1.0	460	250		WR
	100	HIRA	7	C	0046.4	0047.0	1.6	810	200		
	9100	GORK	1	S	0608.2	0608.7	1.6	9.3	5.5		
	2950	GORK	1	S	0608.2	0608.6	.8	7.4			
	950	GORK	1	S	0608.3	0608.8	1.1	6			
	650	GORK	1	S	0608.4	0609.0	1.2	3	1.5		
	9100	GORK	1	S	0704.0	0704.1	1.1	7.8	4		
	113	POTS	41	F	0747.0	0747.3	1.8	300	30		
	202	IZMI	45	C	0748.5	0749.5	1.5	1380	800		
	113	POTS	4	S/F	1008.3	1008.9	1.7	2500	250		
	228	HARS	45	C	1008.5	1008.8	1.0	400	110		
	202	IZMI	47	GB	1008.5	1009.0	.7	1900	1200		
	930	BORD	41	F	1016.7	1017.1	.5	15	2		
	3100	CRIM	1	S	1118.0	1122.5	10.0	4	1		
	7000	SAOP	41	F	1220.0						TWO BURSTS
	7000	SAOP	1	S	1220.0	1220.6		8.0			43L
	7000	SAOP	27	RF	1224.0			5.0			O

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
13	127	TORN	45	C	1234.3	1236.2	4.3	12	3		
	7000	SAOP	21	GRF	1422.0						
	7000	SAOP	21	GRF	1422.0			10.0			0
	2800	OTTA	45	C	1510.0	1510.5	5.0	19.2	7.0		
	9400	HUAN	2	S/F	1510.1	1510.7	1.9	18.6	11.0		0
	7000	SAOP	45	C	1510.4E	1510.4	3.2	23.0			12L
	9400	HUAN	29	PBI	1512.2	1512.2	19.8	4.6	.8		0
	9400	HUAN	20	GRF	1538.5	1601.8	46.1	3.1	1.9		0
	2800	OTTA	8	S	1638.9	1638.9	.1	7.2			
	2800	OTTA	22	GRF	1720.0	1734	25.0	4.2	1.8		
	2800	OTTA	40	F	1814.0	1822.8	13.0	7.8			
	9400	HUAN	2	S/F	1820.6	1822.6	5.6	10.9	3.1		R
	7000	SAOP	45	C	1821.0	1822.7	3.2	13.0			16R
	9400	HUAN	21	GRF	1854.7	1908.4	26.4	6.2	2.3		R
	2800	OTTA	40	F	1903.0	1913.5	22.5	14.2			
	9400	HUAN	1	S	1903.0	1904.0	2.4	7.8	3.3		0
	2800	OTTA	21	GRF	1935.0	2000	41.0	3.6			
	7000	SAOP	3	S	1944.0	1944.9	5.4	18.0			16R
	9400	HUAN	2	S/F	1957.7	2001.3	5.1	14.0	6.8		R
	2695	PENT	20	GRF	2000.0	2002.5	15.0	10.4			
	2695	PENT	21	GRF	2018.0	2120	90.0	4.2	2.4		
	2800	OTTA	1	S	2037.3	2037.7	2.0	6.2	3.0		
	100	HIRA	7	C	2128.1	2128.6	1.2	950	160		
14	260	ONDR	44	NS	0743.0E		372.0D	195	5		
	536	ONDR	43	NS	0847.0		303.0	46			
	500	HIRA	41	F	0232.0	0232.6	3.0	200			WR
	100	HIRA	42	SER	0232.0	0237.8	13.0	290			
	1415	MANI	3	S	0439.6	0440.2	1.4	10.6	3.5		
	4995	MANI	3	S	0439.6	0440.1	.9	10.4	3.5		
	2695	MANI	3	S	0439.6	0440.1	.9	21.2	7.1		
	3100	CRIM	21	GRF	0736.0	0848.0	197.0	10	3		
	202	IZMI	41	F	0847.2	0849.8	2.6	265			
	113	POTS	8	S	0847.3	0847.5	.4	385	130		
	2950	GORK	1	S	0849.0	0849.3	1.0	3.7	1.8		
	10400	BERN	3		0930.2	0931.8	2.0	12.0			OPR
	8400	BERN	3		0930.2	0931.8	2.0	30.0			OPR
	930	BORD	45	C	0931.0	0931.8	2.0	31	4		
	1470	POTS	3	S	0931.2	0931.8	1.3	22			
	9100	GORK	1	S	0931.2	0932.4	1.9	15	7.5		
	9500	POTS	1	S	0931.5	0931.9	.7	8.4U			
	950	GORK	4	SF	0931.5	0932.1	1.5	17.5			
	3000	POTS	1	S	0931.5	0932.0	1.0	6			
	3100	CRIM	1	S	0931.5	0932.2	1.0	9	3		
	2950	GORK	1	S	0931.8	0932.4	1.3	5.5			
	650	GORK	3	S	0933.8	0934.0	.7	3.6	2.5		
	202	IZMI	8	S	0942.1	0942.2	.3	800	500		
	202	IZMI	8	S	0945.7	0945.7	.2	860	600		
	808	ONDR	3	S	1012.5	1013.2	1.5	40	10		
	3000	POTS	3	S	1112.2	1112.8	5.3	25			
	950	GORK	5	S	1112.4	1112.9	5.0	44			
	7000	SAOP	3	S	1112.4	1112.7	1.8	24.0			6R
	2950	GORK	3	S	1112.5	1112.7	2.4	23	10		
	1470	POTS	3	S	1112.5	1113.2	6.0	25			
	202	IZMI	47	GB	1112.5	1112.6	.7	1100	700		
	113	POTS	41	F	1112.5	1113.1	1.6	280	20		
	9500	POTS	3	S	1112.5	1112.7	2.5	14 U			
	650	GORK	4	SF	1112.5	1112.7	2.5	23.6	19		
	9100	GORK	1	S	1112.5	1112.7	.9	21	10		
	930	BORD	45	C	1112.6	1112.9	6.0	78	9		
	8400	BERN	3		1112.6	1112.8	2.5	30.0			OPR
	10400	BERN	3		1112.6	1112.8	2.5	12.0			OPR
	3100	CRIM	1	S	1113.0	1113.2	2.0	22	7		
	2650	DWIN	1	S	1113.0	1113	2.0	30	20		
	7000	SAOP	20	GRF	1214.0	1215.2	21.6	9.0			0
	228	HARS	45	C	1223.8	1224.3	1.0	160	30		
	228	HARS	45	C	1227.5	1227.5	1.5	170	25		
	930	BORD	41	F	1250.0	1250.3	1.2	139	2		
	2800	OTTA	21	GRF	1325.0	1400	75.0	5.8	3.8		
	7000	SAOP	45	C	1326.6	1331.7	43.0	31.0			24L
	3000	POTS	3	S	1330.0	1331.7	5.0	23			
	9500	POTS	3	S	1330.0	1331.4	5.0	14 U			
	2800	OTTA	3	S	1330.0	1331.8	4.5	14.2	6.8		
	8400	BERN	27		1330.0	1331.8	7.0	40.0			OPR
	10400	BERN	27		1330.0	1331.8	7.0	15.0			OPR
	9400	HUAN	4	S/F	1330.0	1331.8	3.1	21.6	12.2		L
	1470	POTS	1	S	1331.0	1331.5	2.0	3			
	9400	HUAN	29	PBI	1333.1	1333.1	36.1	10.0	4.8		L
	2800	OTTA	20	GRF	1443.0	1448	17.0	6.8	3.6		
	9400	HUAN	20	GRF	1452.1	1527.8	118.9	15.0	7.7		L
	2800	OTTA	20	GRF	1540.0	1610	60.0	3.4	1.7		
	9400	HUAN	28	PRE	1815.3	2022.8	127.5	11.6	5.9		L
	9400	HUAN	45	C	2022.8	2024.4	7.5	196.4	92.7		L
	2800	OTTA	4	S/F	2023.0	2025	22.0	107.0	41.0		
	2695	BOUL	3	S	2024.0E	2027	6.5D	81	27		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
14	9400	HUAN	29	PBI	2030.3	2030.3	35.5	46.6	19.1		L
	2800	OTTA	29	PBI	2045.0	2045	65.0	13.2	6.0		
	4995	MANI	4	S/F	2226.4	2227.5	3.4	37.6	12.5		
	1415	MANI	3	S	2226.4	2227.3	2.8	14.6	4.9		
	2695	MANI	4	S/F	2226.4	2227.5	2.4	24.6	8.2		
	8800	MANI	4	S/F	2226.5	2227.8	2.3	71.7	23.9		
15	260	ONDR	44	NS	0900.0E		290.0D	29	2		
	700	SYDN	45	C	0026.0	0026.3	1.0				
	1400	SYDN	2	S/F	0026.2	0026.4	1.1				
	700	SYDN	8	S	0030.9	0031.1	.4				
	700	SYDN	45	C	0531.8	0532.6	1.2				
	1400	SYDN	45	C	0531.9	0532.6	1.8				
	606	MANI	2	S/F	0532.0	0533.0	1.6	2.2	1.0		
	4995	MANI	3	S	0532.3	0532.6	1.7	22.0	7.3		
	1415	MANI	4	S/F	0532.3	0533.0	1.7	45.9	15.3		
	2695	MANI	3	S	0532.3	0532.6	1.7	25.1	8.4		
	8800	MANI	2	S/F	0532.3	0532.6	1.7	11.1	3.7		
	650	GORK	40	F	0740.6	0741.4	2.4	5			
	930	BORD	41	F	0741.0	0742.4	2.0	22	3		
	950	GORK	4	SF	0741.2	0742.4	2.3	11			
	2950	GORK	3	S	0741.3	0742.6	1.5	19			
	9100	GORK	21	GRF	0741.3						
	10400	BERN	3		0741.3	0742.5	6.0	30.0			OPR
	9500	POTS	3	S	0742.0	0742.5	3.0	35			
	9100	GORK	1	S	0742.2	0742.6	1.0	34	17		
	3000	POTS	8	S	0742.5	0742.6	.5	15			
	1470	POTS	8	S	0742.5	0742.8	.5	5.5			
	2950	GORK	29	PBI	0742.8	0742.8	6.3	5.5			
	650	GORK	4	SF	0751.9	0753.2	2.9	29	4		
	950	GORK	2	SF	0752.0	0753.3	2.9	8.5			
	1415	MANI	2	S/F	0752.0	0753.8	2.5	8.1	2.7		
	606	MANI	4	S/F	0752.0	0753.4	2.5	51.8	17.3		
	2695	MANI	2	S/F	0752.7	0753.7	1.8	4.2	1.4		
	4995	MANI	2	S/F	0752.7	0753.8	1.8	6.6	2.2		
	2950	GORK	1	S	0752.8	0753.3	1.5	4.6	2.3		
	930	BORD	45	C	0753.0	0753.4	1.0	22	2		
	202	IZMI	47	GB	0811.7	0811.7	.5	1580	1000		
	10400	BERN	8		1004.0	1007.1	5.0	70.0			OPR
	9100	GORK	3	S	1006.9	1007.3	1.7	64	32		
	3100	CRIM	3	S	1007.0	1008.5	7.0	27	9		
	2650	DWIN	3	S	1007.0	1008	8.0	140	50		
	9500	POTS	29	PBI	1007.0	1007.2	7.0	46			
	3000	POTS	29	PBI	1007.0	1007.0	12.0	116			
	930	BORD	45	C	1007.0	1007.4	3.0	55	6		
	10715	DWIN	3	S	1007.0	1007	1.0	60	40		
	2950	GORK	3	S	1007.1	1007.3	9.1	60 E			
	930	BORD	41	F	1230.7	1231.2	.5	16	2		
	2800	OTTA	20	GRF	1353.0		97.0	7.2	3.6		
	2800	OTTA	8	S	1538.5	1538.5	.2	7.8			
	2800	OTTA	8	S	1547.0	1547.2	.3	4.2	2.0		
	2800	OTTA	22	GRF	1640.0	1652	200.0	18.2	7.0		
	9400	HUAN	20	GRF	1646.4	1702.6	65.1	11.3	7.1		O
	2800	OTTA	4	S/F	2021.2	2025	6.8	167.0	40.0		
	9400	HUAN	4	S/F	2021.4	2024.6	4.2	88.8	41.1		R
	2695	BOUL	4	SF	2022.0E	2025	5.0D	132	44		
	9400	HUAN	29	PBI	2025.6	2025.6	36.*	30.7	24.3		O
	2800	OTTA	30	PBI	2028.0	2028	35.0	14.4	7.0		
	2800	OTTA	45	C	2030.8	2031.7	5.0	9.4	8.0		
	2695	PENT	21	GRF	2115.0		95.0D	28.0			
	9400	HUAN	21	GRF	2132.5	2155.0	42.3	240.5	82.0		R
	2695	PENT	8	S	2138.4	2138.4	.1	31.0			
	100	HIRA	46	C	2139.0	2139.6	112.0	600	33		
	200	HIRA	46	C	2139.0	2144	22.0U	90	19		O
	100	HIRA			2139.0	2147.4		500			
	100	HIRA			2139.0	2231.0		380			
	2695	PENT	47	GB	2139.0	2151.8	31.0	920.0	281.0		
	9400	HUAN	45	C	2139.0	2151.2	15.5	393.8	210.0		R
	500	HIRA	46	C	2140.0	2152.3	28.0	350	50		
	1400	SYDN	2	S/F	2211.0	2211.1	.5				
	700	SYDN	2	S/F	2212.4	2212.6	.7				
	2695	PENT	4	S/F	2222.0	2225	4.0	12.6	5.0		
16	260	ONDR	44	NS	0810.0E		306.0D	172	21		
	127	TORN	43	NS	0955.0		240.0D		1.7		V1,INCOMPLETE
	202	IZMI	43	NS	1000.0		120.0	60			
	113	POTS	4	S/F	0701.0	0701.2	1.7	150	15		
	202	IZMI	4	S/F	0702.5	0703.0	1.3	70	40		
	2650	DWIN	45	C	0830.0	0830	2.0	130	30		
	930	BORD	41	F	0920.8	0920.9	.3	52	2		
	950	GORK	1	S	0944.1	0944.3	1.2	3.6			
	650	GORK	1	S	0944.2	0944.4	.7	5.1	3.5		
	3000	POTS	20	GRF	0950.0	1017.2	130.0	14			
	1470	POTS	20	GRF	0950.0	1003.5	160.0	10			
	9500	POTS	20	GRF	0955.0	1017.2	140.0	15			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
16	3100	CRIM	24	R	0956.0	1010.0		10			
	228	HARS	28	PRE	0957.0	0958.4	4.5	80	20		
	9100	GORK	22	GRF	0957.5	1104.7	64.0	25			
	2950	GORK	20	GRF	0959.7	1009.7	43.0	9.2	4.5		
	536	ONDR	46	C	1000.7	1003.5	5.5	58	33		
	930	BORD	41	F	1001.0	1003.1	5.0	17	4		
	950	GORK	4	SF	1001.1	1004.6	13.0	10			
	228	HARS	47	GB	1001.5	1003.5	9.0	150	40		
	650	GORK	4	SF	1007.0	1009.0	5.8	72	51		
	650	GORK	2	SF	1122.6	1122.8	.8	22.7	18		
	113	POTS	4	S/F	1312.6	1313.5	2.4	190	15		
	7000	SAOP	40	F	1413.0		260.0				
	2800	OTTA	20	GRF	1453.0	1454	35.0	3.6	1.8		
	2800	OTTA	260	FAL	1740.0	1830	50.0	-5.2	-2.6		
	2800	OTTA	1	S	1841.0	1841.4	1.0	2.4	1.2		
	2800	OTTA	4	S/F	1857.0	1857.2	1.0	32.0	16.0		
	2695	PENT	20	GRF	2015.0	2150	140.0D	13.0			
17	127	TORN	43	NS	0650.0		320.0D		17		V1,INCOMPLETE
	260	ONDR	44	NS	0815.0E		310.0D	192	25		
	200	HIRA	44	NS	2117.0E	0049	600.0D	30	10		WR
	100	HIRA			0214.0	0310		39			
	100	HIRA			0214.0	0240		34			
	200	HIRA	27	RF	0214.0	0242.2	90.0	1300	170		WR
	100	HIRA	46	C	0214.0	0302.2	72.0	70	6		
	500	HIRA	46	C	0222.8	0237.7	22.0	45	16		WR
	536	ONDR	2	S/F	0840.8	0840.8	1.5	18			
	930	BORD	41	F	0939.0	0939.5	1.0	22	2		
	950	GORK	1	S	1018.4	1018.8	1.2	2			
	650	GORK	1	S	1018.6	1019.0	1.2	28	2		
	10400	BERN	27		1132.0	1209.1	90.0	21.0			OPR
	9500	POTS	22	GRF	1133.0	1208.5	62.0	19			
	7000	SAOP	45	C	1133.0	1208.6	63.0	24.0			6R THREE BURSTS
	3000	POTS	20	GRF	1134.0	1153.3	61.0	17			
	9400	HUAN	20	GRF	1134.4	1208.8	148.2	36.4	11.8		O
	536	ONDR	41	F	1137.0	1221.7	108.0	58	19		
	234	POTS	45	C	1144.0	1226	152.0D	350			
	1470	POTS	21	GRF	1148.0	1152.5	42.0	11			
	930	BORD	46	C	1148.0	1205	21.0	1430	25		
	202	IZMI	48	C	1149.0	1152.0	12.5	200	75		
	29	UPIC	46	C	1149.2	1152.2	7.2				
	228	HARS	28	PRE	1149.5	1154.0	36.0U	200	40		
	33	UPIC	46	C	1149.5	1152.1	6.4				
	113	POTS	45	C	1150.0	1152	147.0D	245			
	1470	POTS	4	S/F	1203.5	1207.2	5.0	938			
	228	HARS	47	GB	1225.0	1229.0	150.0U	450	90 U		SUNSET
	127	TORN	27	RF	1226.0U		105.0D		90		INCOMPLETE
	234	POTS	8	S	1315.6	1315.7	.5	450	150		
	234	POTS	8	S	1331.8	1332.2	1.2	350	120		
	9400	HUAN	20	GRF	1421.7	1432.0	21.4	3.5	2.1		O
	2800	OTTA	240	R	1820.0	1850	30.0	4.6	2.3		
18	260	ONDR	44	NS	0800.0E		317.0D	27	3		
	200	HIRA	44	NS	2117.0E	2220	500.0D	20	5		WR
	2950	GORK	20	GRF	0658.6	0705.7	44.3	5.4	4.5		
	9100	GORK	20	GRF	0659.0	0709.1	21.7	14	7		
	202	IZMI	2	S/F	0733.0	0733.0	1.0	350	100		
	113	POTS	27	RF	0754.0	0830	113.0	28	8		
	202	IZMI	41	F	0850.0	0850.3	3.5	330			
	3000	POTS	20	GRF	1010.0	1016.8	20.0	12			
	9500	POTS	20	GRF	1010.0	1022	25.0U	6.4			
	2950	GORK	1	S	1014.0	1017.0	4.9	9.1	4.5		
	536	ONDR	2	S/F	1014.0	1015.7	2.0	21	2		
	1470	POTS	20	GRF	1014.0	1016.5	16.0	4.0			
	9100	GORK	2	SF	1014.2	1016.4	4.6	23	12		
	950	GORK	1	S	1018.8	1019.1	.7	3			
	9100	GORK	28	PRF	1057.9	1059.8	5.1	11	5		
	930	BORD	45	C	1102.0	1107.4	7.0	42	9		
	7000	SAOP	45	C	1103.0	1105.6	2.6	399.0			19L
	2650	DWIN	45	C	1104.0	1105	5.0	90	50		
	3000	POTS	4	S/F	1104.0	1105.6	4.5	102			
	10715	DWIN	45	C	1104.0	1105	5.0	135	60		
	808	ONDR	45	C	1104.0	1107.2	5.0	28	7.5		
	9500	POTS	29	PBI	1104.0	1105.5	36.0	249			
	536	ONDR	41	F	1104.0	1105	11.0	14	4		
	9400	HUAN	4	S/F	1104.4	1105.5	5.4	197.8	67.0		L
	650	GORK			1104.5	1107.9		6.5			
	650	GORK	46	C	1104.5	1105.4	5.5	16	4		
	950	GORK			1104.5	1107.9		21			
	1470	POTS	4	S/F	1104.5	1106.9	4.0	31			
	950	GORK	45	C	1104.5	1106.2	4.5	16.6			
	2950	GORK	4	SF	1104.6	1106.2	4.2	267			
	9100	GORK	3	S	1104.7	1106.1	8.5	290			
	33	UPIC	46	C	1105.1	1105.4	3.9				
	29	UPIC	46	C	1105.4	1107.2	3.3				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
18	113	POTS	27	RF	1113.0	1128	157.0	25	7		
	7000	SAOP	20	GRF	1213.8			10.0			14R
	2800	OTTA	1	S	1321.0	1322	2.0	7.2	3.5		
	228	HARS	45	C	1321.3	1321.6	1.0	340	60		
	2800	OTTA	1	S	1356.0	1356.1	2.0	4.8	2.4		
	2800	OTTA	21	GRF	1620.0	1637	55.0	6.0	3.0		
	2800	OTTA	1	S	1622.0	1622.5	1.0	2.8	1.8		
	7000	SAOP	20	GRF	1635.0	1641.7		11.0			14R TWO BURSTS
	2800	OTTA	22	GRF	1850.0	1940	70.0	4.6			
19	260	ONDR	44	NS	0800.0E		345.0D	24			
	200	HIRA	44	NS	2117.0E	0125	420.0D	25	10		WR
	202	IZMI	41	F	0711.0	0711.5	2.5	480			
	9100	GORK	1	S	0819.8	0821.8	2.5	8	4		
	2950	GORK	1	S	0819.9	0821.0	2.5	10.9	6		
	10400	BERN	8		0904.7	0905.1	2.0	30.0			OPR
	9100	GORK			1121.9		15.0D				
	1470	POTS	22	GRF	1125.0	1234.8	134.0	58			
	1470	POTS			1125.0	1301.7		58			
	9500	POTS	22	GRF	1142.0	1301.4	128.0	56			
	10715	DWIN	27	RF	1145.0	1205	100.0	40	20		
	7000	SAOP	20	GRF	1145.0			73.0			0 CAL 2 BURSTS
	2650	DWIN	27	RF	1145.0	1205	100.0	55	20		
	2950	GORK			1145.2	1155.8		58			
	2950	GORK	46	C	1145.2	1148.7	14.1	29			
	3000	POTS	22	GRF	1146.0	1304.0	107.0	64			
	8400	BERN	20		1146.5	1301.3	135.0	41.0			OPR
	10400	BERN	20		1146.5	1301.3	135.0	45.0			OPR
	3100	CRIM			1148.0	1230.5		32 U			
	3100	CRIM			1148.0	1236.0		81 U			
	3100	CRIM	7	C	1148.0	1151.0	72.0D	37 U			
	930	BORD	41	F	1152.7	1152.8	3.3	19	2		
	650	GORK	1	S	1157.0	1159.0	3.0	4.4	2.5		
	950	GORK	5	S	1157.2	1159.3	5.0	16			
	9400	HUAN	22	GRF	1159.0	1300.2	99.3	60.6	26.6		L
	930	BORD	40	F	1226.0	1303.7	54.0	89	30		
	2800	OTTA	3	S	1254.0E	1304	26.0	46.0			
	2800	OTTA	30	PBI	1320.0	1320	220.0	15.4	7.2		
	2800	OTTA	20	GRF	1527.0	1532	45.0	9.6	3.2		
	2800	OTTA	20	GRF	1829.0	1830	25.0	3.4	1.7		
	2800	OTTA	20	GRF	1905.0	1930	70.0	2.8	1.4		
	2695	PENT	20	GRF	2020.0	2100	90.0	4.8	3.0		
20	260	ONDR	44	NS	0800.0E		347.0D	32			
	200	HIRA	44	NS	2118.0E	0211	400.0D	10	5		WR
	2950	GORK	1	S	0608.2	0608.3	3.9	3.8	1.5		
	1415	MANI	1	S	0608.8	0609.5	2.2	4.6	1.5		
	2695	MANI	3	S	0608.8	0609.3	3.5	32.6	10.8		
	4995	MANI	3	S	0608.8	0609.3	3.5	29.8	9.9		
	930	BORD	41	F	1222.4	1222.8	.6	18	2		
	2800	OTTA	21	GRF	1440.0	1517	80.0	7.0	3.8		
	2800	OTTA	1	S	1506.0	1506.5	1.0	2.4	1.2		
	7000	SAOP	40	F	1512.0		15.0				
	2800	OTTA	20	GRF	1700.0	1805	115.0	8.0	3.8		
	7000	SAOP	3	S	1707.6	1709.9	15.0	13.0			0
	9400	HUAN	20	GRF	1737.4	1803.1	55.1	6.8	4.8		0
	2800	OTTA	1	S	1958.0	1959.2	3.0	2.6	1.0		
	2695	PENT	26O	FAL	2005.0	2100	55.0	7.8	3.9		
21	260	ONDR	44	NS	0845.0E		295.0D	57	3		
	9100	GORK	21	GRF	0611.7	0709.5	347.0E	22			
	950	GORK	40	F	0632.0	0659.6	48.6	33			
	2950	GORK	21	GRF	0632.7	0649.8	257.0	11.6			
	650	GORK			0640.0	0652.7		22			
	650	GORK	22	GRF	0640.0	0650.3	22.0	30	6		
	650	GORK			0640.0	0654.8		17			
	650	GORK			0640.0	0656.9		19			
	606	MANI	4	S/F	0648.6	0650.1	12.2	33.6	11.2		
	1415	MANI	4	S/F	0649.2	0654.6	11.1	10.1	3.4		
	500	HIRA	46	C	0649.4	0650.2	9.6	46	15		0
	4995	MANI	4	S/F	0650.1	0654.6	7.9	91.0	30.3		
	100	HIRA	46	C	0650.7	0655.7	14.0	910	90		
	100	HIRA			0650.7	0651.0		230			
	100	HIRA			0650.7	0700.1		200			
	2695	MANI	4	S/F	0650.9	0654.5	9.4	79.9	26.6		
	3100	CRIM			0651.0	0655.0		73			
	3100	CRIM	7	C	0651.0	0653.0	9.0	25	24		
	2950	GORK			0651.4	0654.8		89			
	2950	GORK	46	C	0651.4	0652.5	8.0	21.5			
	8800	MANI	4	S/F	0653.8	0654.7	4.4	84.4	28.1		
	5730	IRKU	2	S	0654.2	0655.0	7.0	38	14		L
	9100	GORK	4	SF	0654.4	0655.3	3.3	39	19		
	228	HARS	45	C	0857.9	0901.6	7.9	280	115		
	536	ONDR	3	S	0954.3	0954.3	.3	12			
	2650	DWIN	45	C	1101.0	1105	6.0	370	50		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	FLUX DENSITY NEAN	INT	POLARIZATION OR REMARKS
21	536	ONDR	42	SER	1224.0	1242.7	24.0	15			
	7000	SAOP	40	F	1252.0		74.0				
	2800	OTTA	20	GRF	1350.0	1430	125.0	4.2	2.4		
	2800	OTTA	20	GRF	1605.0	1607	45.0	2.4	1.2		
22	260	ONDR	44	NS	0810.0E		338.0D	40	2		
	200	HIRA	44	NS	2120.0E	2211	280.0D	20	10		WR
	1415	MANI		S	0732.3	0732.4	3.0	3 52.9	10.1		
	606	MANI	4	S/F	0733.3	0733.6	1.0	41.8	13.9		
	228	HARS	45	C	0946.4	0946.4	.4	275	140		
	930	BORD	8	S	1051.0	1051.1	.2	21	2		
	33	UPIC	42	SER	1116.6	1151.5	83.6				
	29	UPIC	42	SER	1116.7	1127.2	86.2				
	7000	SAOP	40	F	1331.0		269.0				
	9400	HUAN	20	GRF	1751.5	1802.7	64.0	5.0	4.7		R
23	260	ONDR	44	NS	0800.0E		351.0D	11			
	200	HIRA	44	NS	2121.0E	2321	320.0D	10	5		WR
	100	HIRA	46	C	0502.0	0502.2	.9	105	60		
	536	ONDR	8	S	0906.4	0906.4	.3	35			
	3100	CRIM	3	S	1006.0	1011.5	20.0	60	20		
	7000	SAOP	45	C	1209.5	1211.4	5.2	165.0			1L
	2650	DWIN	45	C	1210.0	1211	7.0	60	30		
	930	BORD	3	S	1210.0	1212.2	9.0	28	10		
	10715	DWIN	45	C	1210.0	1211	7.0	100	40		
	10400	BERN	46		1210.2	1211.4	8.0	123.0			
	3000	POTS	4	S/F	1210.5	1211.5U	7.5	56 U			
	9500	POTS	4	S/F	1210.5	1211.2	11.0	122			
	9400	HUAN			1210.7	1211.8		167.6			
	9400	HUAN	45	C	1210.7	1211.4	6.4	174.8	69.8		L
	1470	POTS	3	S	1210.8	1212.3	16.0	58			
	10400	BERN	3		1233.1	1233.9	2.0	12.0			
	2800	OTTA	20	GRF	1335.0	1420	140.0	5.6	2.8		
	2800	OTTA	260	FAL	1720.0	1750	30.0	-3.8	-2.0		
24	260	ONDR	44	NS	0800.0E		360.0D	21			
	200	HIRA	43	NS	2240.0	0540	480.0D	35	5		WR
	2695	MANI	3	S	0258.1	0259.4	6.5	11.4	3.8		
	4995	MANI	4	S/F	0258.1	0259.1	6.5	33.3	11.1		
	1415	MANI	4	S/F	0258.2	0300.8	4.0	63.3	21.1		
	606	MANI	4	S/F	0258.9	0259.1	3.4	86.4	28.8		
	5730	IRKU	21	GRF	0259.0	0259.5	6.0	26	10		L
	8800	MANI	4	S/F	0259.0	0259.3	4.7	51.0	17.0		
	17000	NOBE	3	S	0259.4	0300.0	4.8	28			O
	9100	GORK	1	S	0605.6	0606.0	.8	8	4		
	2950	GORK	1	S	0605.7	0606.0	5.3	8.7	4		
	9100	GORK	22	GRF	0608.1	0608.8	14.7	7			
	202	IZMI	41	F	0659.5	0700.0	2.0	235			
	202	IZMI	41	F	0716.2	0716.7	1.5	150			
	536	ONDR	8	S	0835.4	0835.4	.3	34			
	113	POTS	41	F	0946.6	0946.6	1.1	250	3		
	3000	POTS	20	GRF	1012.0	1017.3	18.0	6.2			
	1470	POTS	20	GRF	1014.0	1017.4	4.0	4.7			
	2950	GORK	1	S	1016.0	1017.0	2.0	4.5	2		
	9100	GORK	20	GRF	1016.1	1020.2	10.8	4.5			
	202	IZMI	41	F	1037.0	1039.5	9.5	2000			
	2800	OTTA	20	GRF	1550.0	1650	120.0	3.8	2.0		
	2800	OTTA	260	FAL	1800.0	1835	35.0	-3.4	-1.7		
25	260	ONDR	44	NS	0842.0E		321.0D	44	3		
	113	POTS	27	RF	0728.0E	0814	312.0D	15			
	113	POTS	4	S/F	1003.1	1006.8	5.8	1200	60		
	127	TORN	47	GB	1004.4	1006.8	4.6	1900	500		
	228	HARS	45	C	1004.6	1006.4	3.6	115	45		
	202	IZMI	41	F	1005.0	1006.5	3.7	330			
	2950	GORK	1	S	1005.1	1006.9	3.8	8.4	4		
	1470	POTS	3	S	1005.5	1007.0	3.0	9.4			
	3000	POTS	3	S	1005.5	1007.0	3.0	10			
	2800	OTTA	20	GRF	1350.0	1425	75.0	3.4			
	2800	OTTA	22	GRF	1525.0		165.0	3.4			
26	260	ONDR	42	SER	1040.0	1044.4	24.0	19			
	536	ONDR	3	S	1043.0	1043	.2	29			
	930	BORD	41	F	1212.8	1213.3	.5	24	2		
	9400	HUAN	20	GRF	1743.7	1843.8	84.6	11.3	5.4		O
29	606	MANI	4	S/F	0523.0	0523.3	1.6	110.7	36.9		
	1415	MANI	2	S/F	0523.0	0523.3	1.6	6.4	2.1		
	2695	PENT	21	GRF	2040.0	2120	60.0D	4.2			
	2800	OTTA	2	S/F	2051.0	2052.5	3.0	6.6	3.3		
	9400	HUAN	1	S	2051.3	2052.8	4.0	8.2	4.1		O
30	260	ONDR	43	NS	0920.0		270.0D	27			
	113	POTS	41	F	1202.3	1203.4	1.2	100	1		
	930	BORD	41	F	1514.5	1514.8	.5	105	2		
	930	BORD	41	F	1547.7	1548.1	.5	40	2		
	2800	OTTA	20	GRF	1735.0	1815	85.0	2.2	1.1		

Reports are received routinely from the following observatories:

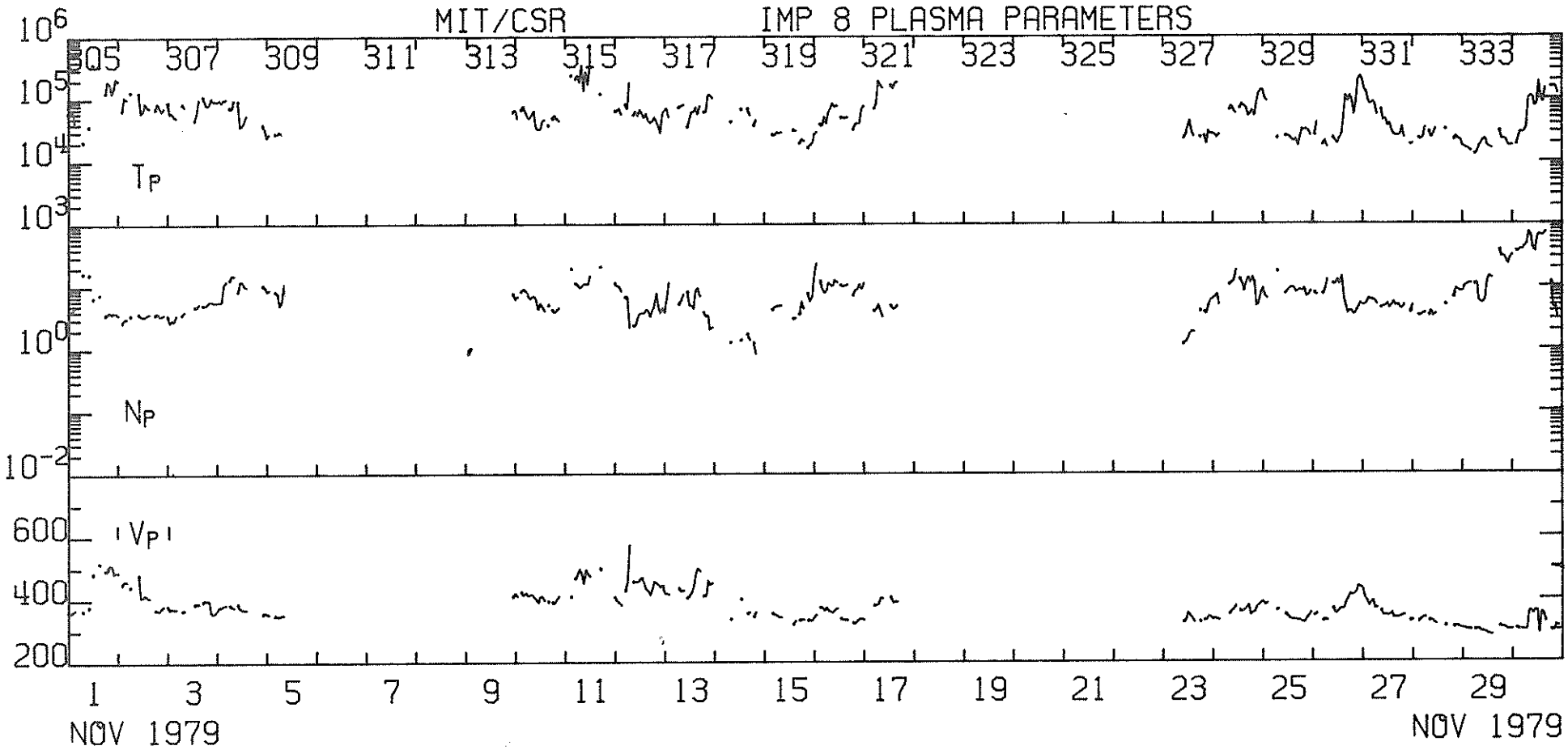
ARCE = Arecibo
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SOAP = Sao Paulo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

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

IMP 8 SOLAR WIND PLASMA

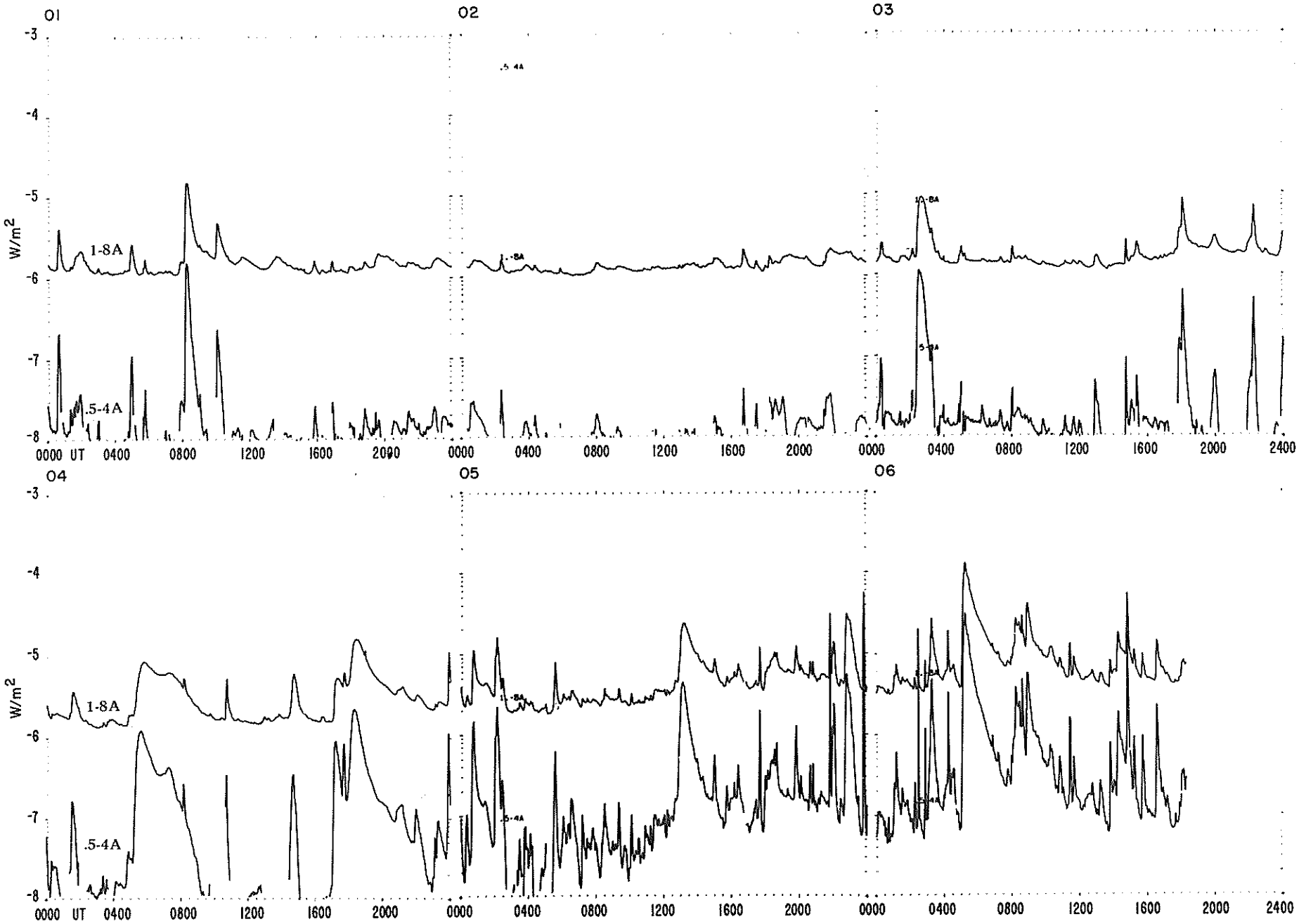
NOVEMBER 1979



25
Nov 79

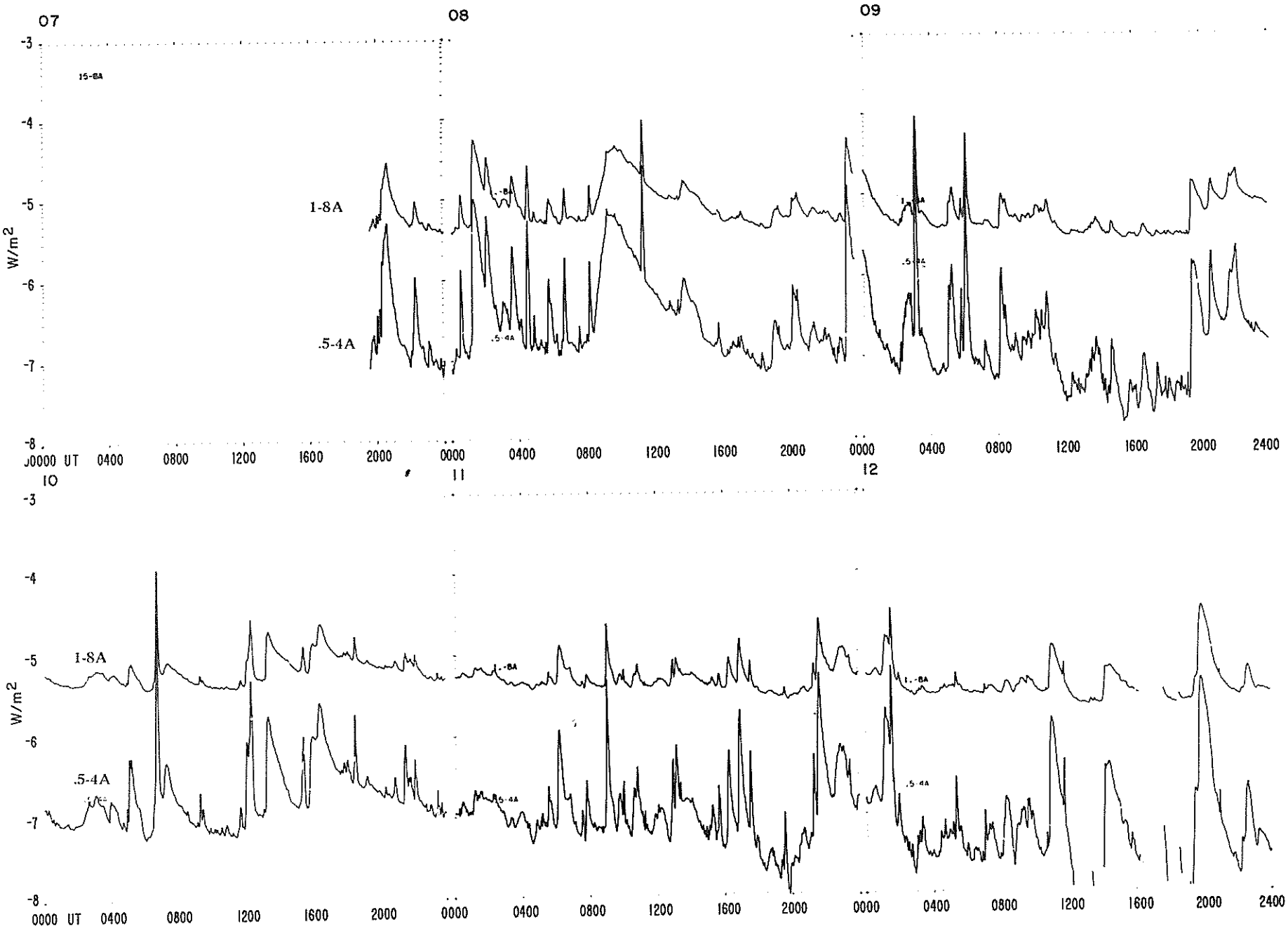
SMS-GOES X-RAYS

NOVEMBER 1979



SMS-GOES X-RAYS

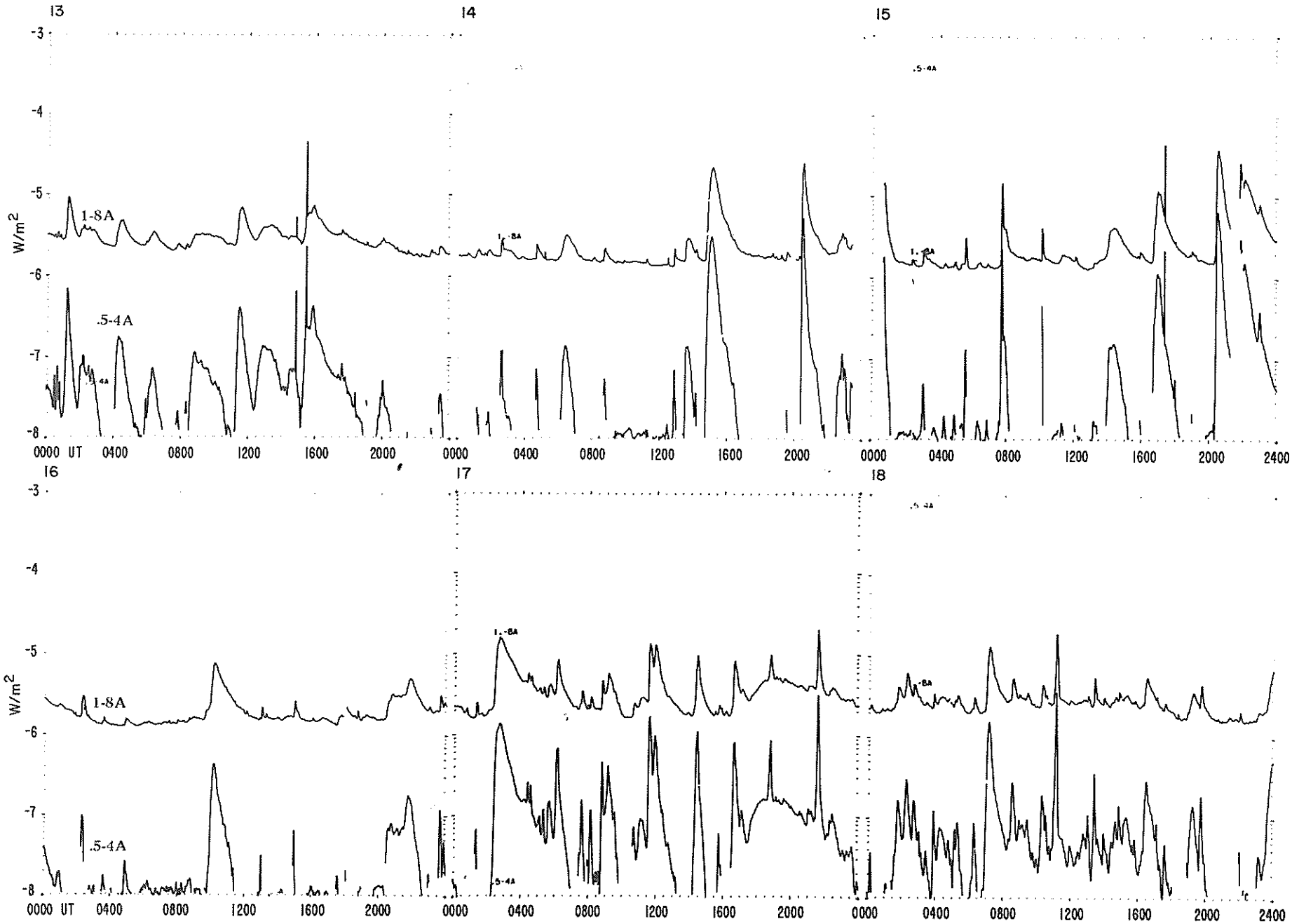
NOVEMBER 1979



27 Nov 79

SMS-GOES X-RAYS

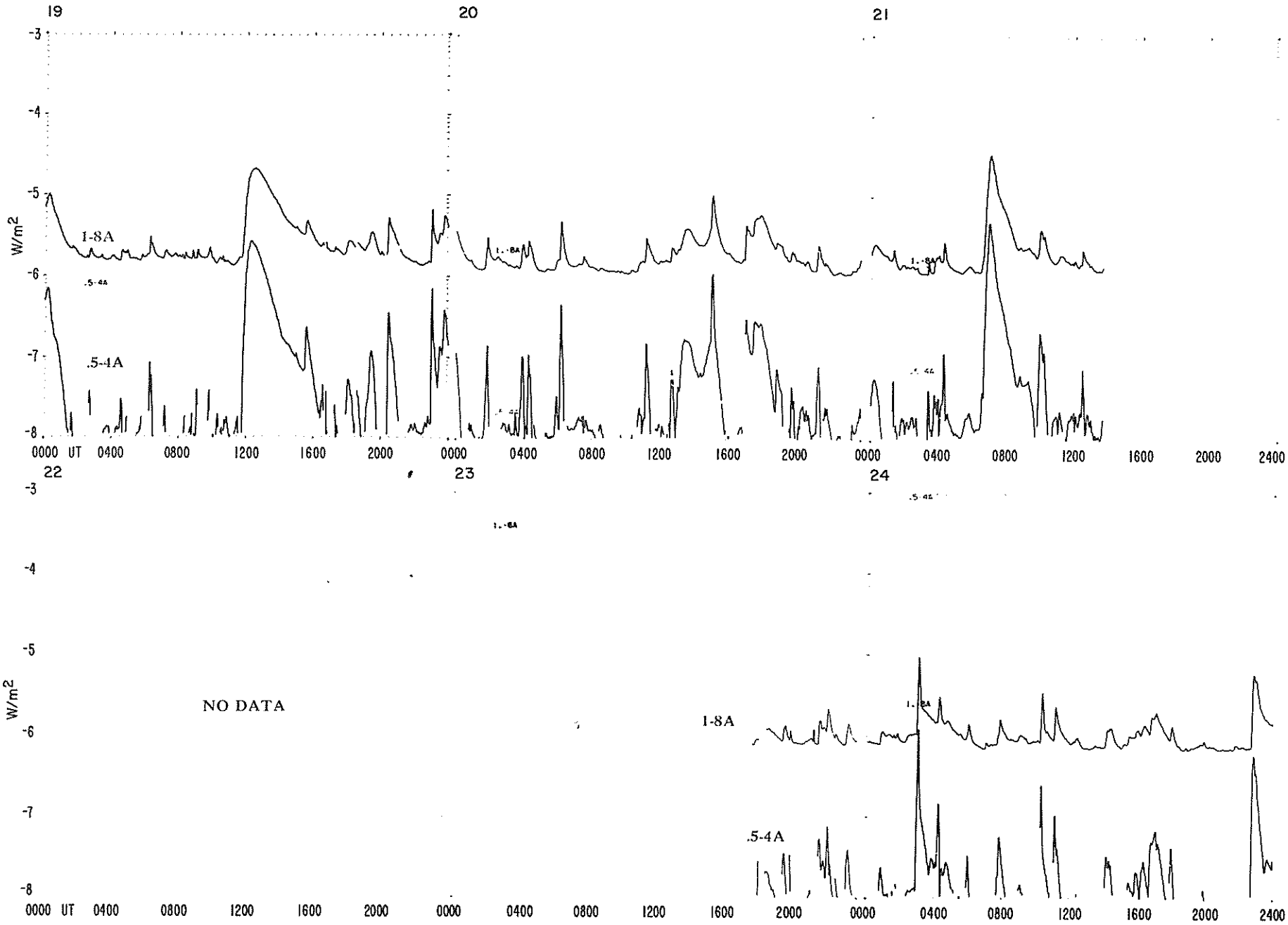
NOVEMBER 1979



28
Nov 79

SMS-GOES X-RAYS

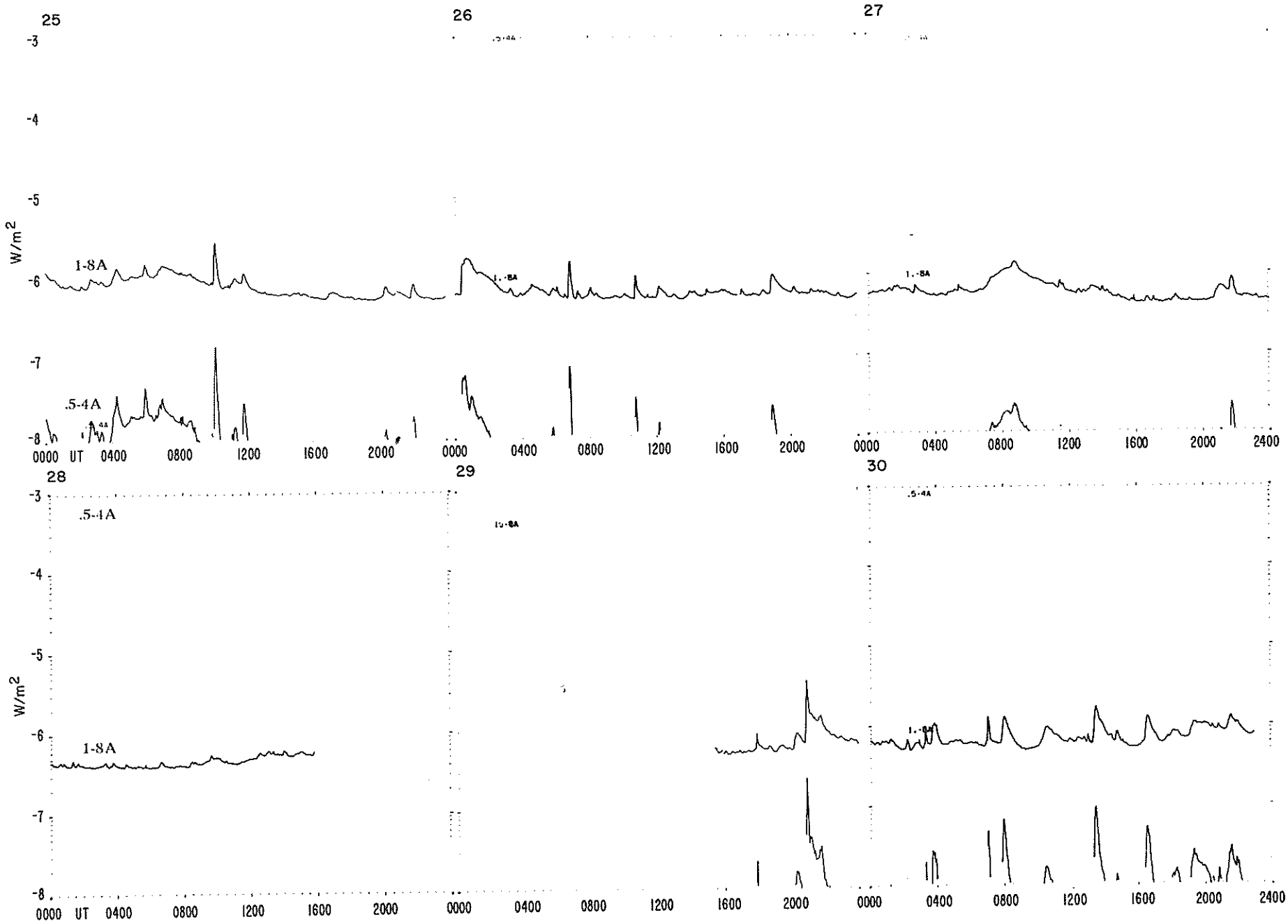
NOVEMBER 1979



29 Nov 79

SMS-GOES X-RAYS

NOVEMBER 1979



SGD 429 Part II (Comprehensive)

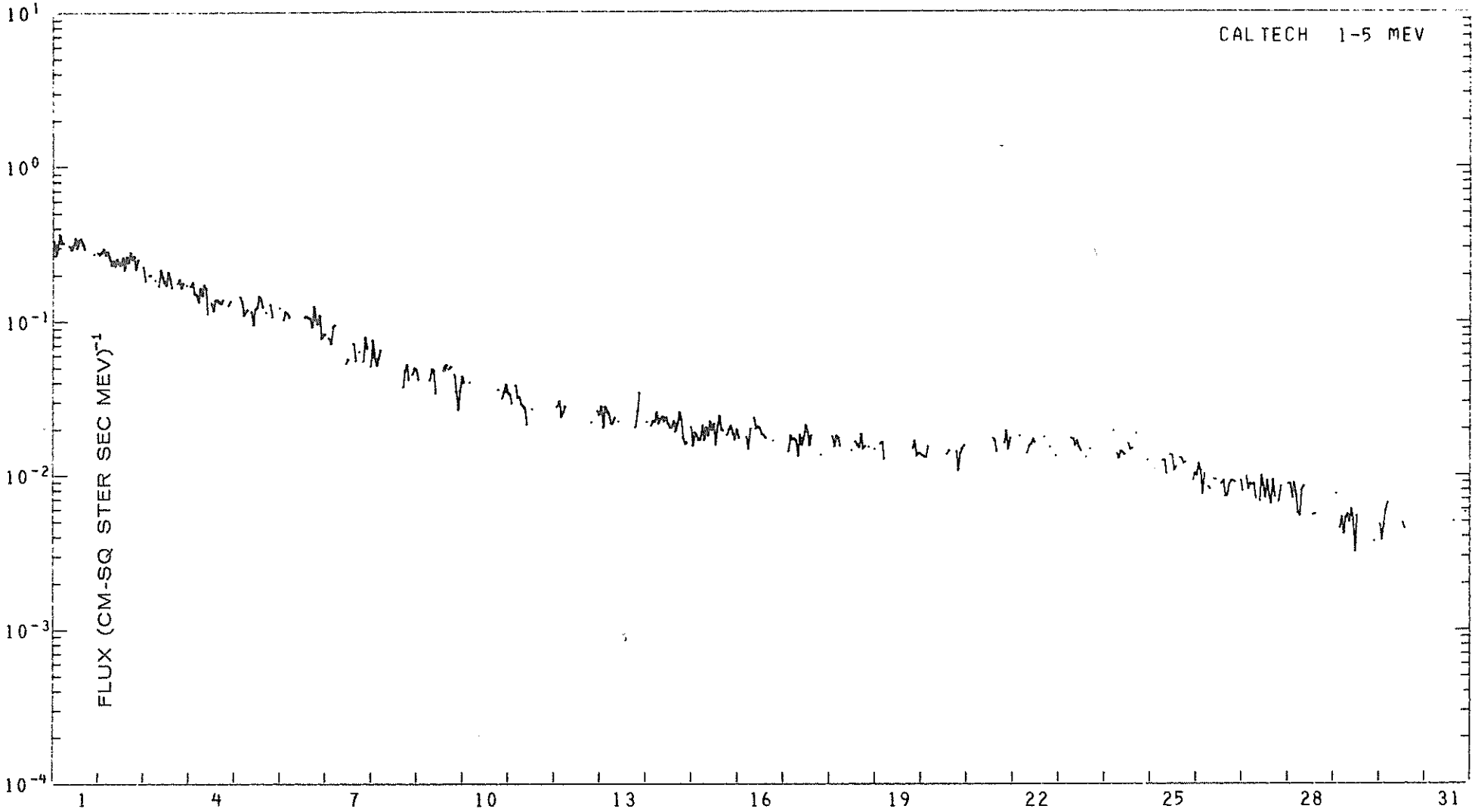
MISCELLANEOUS DATA

Contents

	Page
Energetic Solar Particles October 1979 IMP 8 Electrons, Protons, and Alpha Particles	32-36
Active Regions August 13 - September 9, 1979	37
Synoptic Solar Maps August 13 - September 9, 1979	38

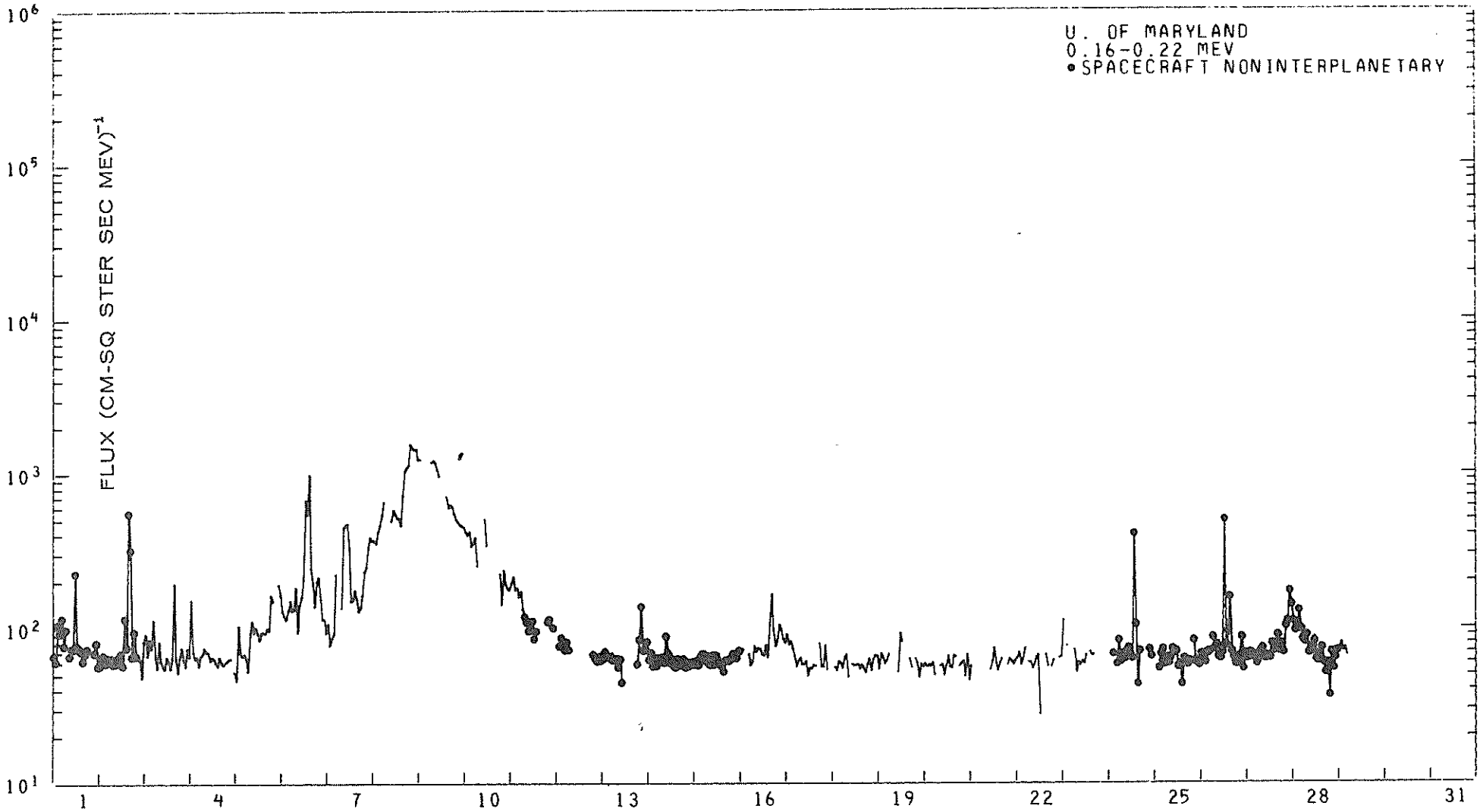
IMP 8 ELECTRONS

OCTOBER 1979



IMP 8 LOW ENERGY PROTONS

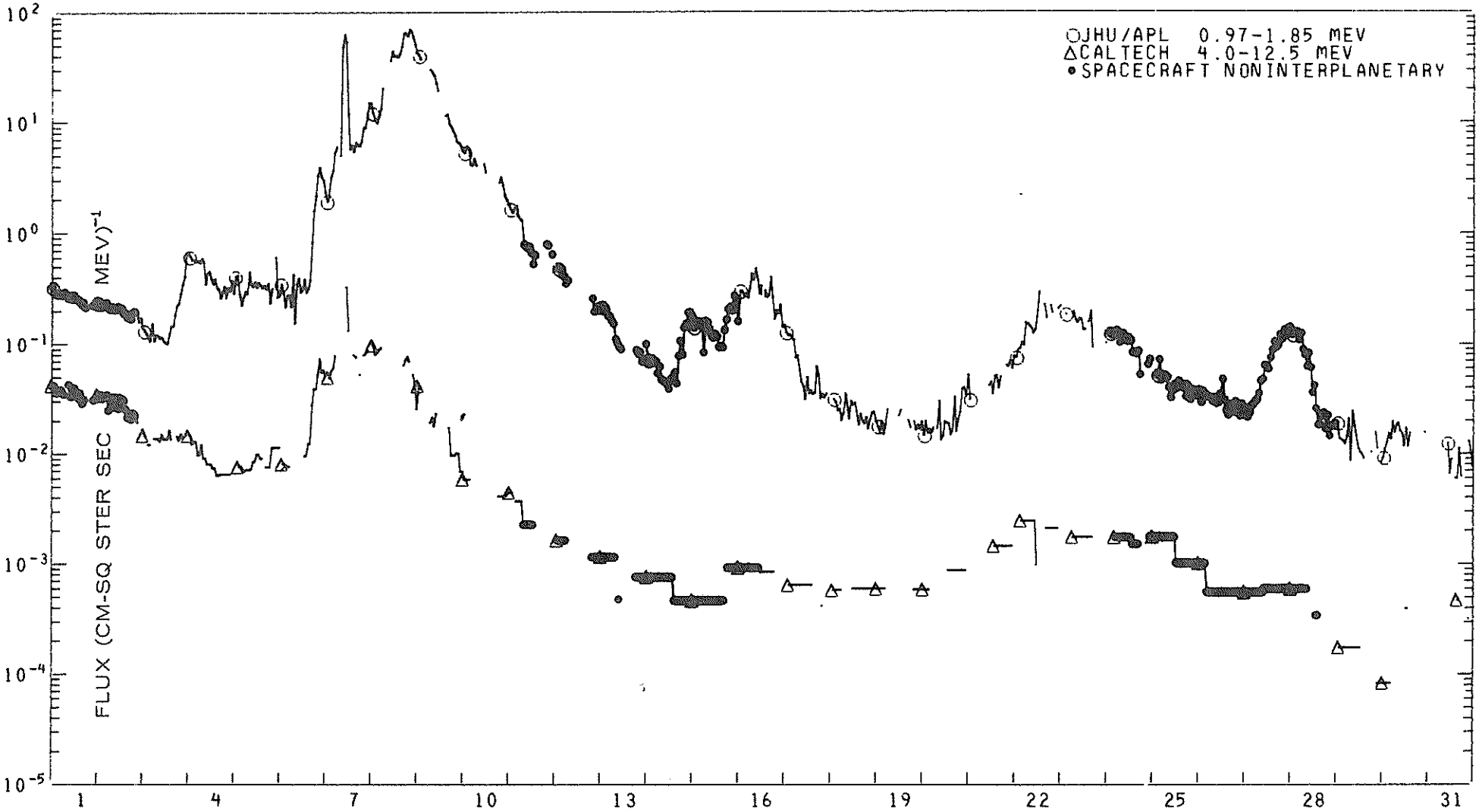
OCTOBER 1979



33
Misc
Oct 79

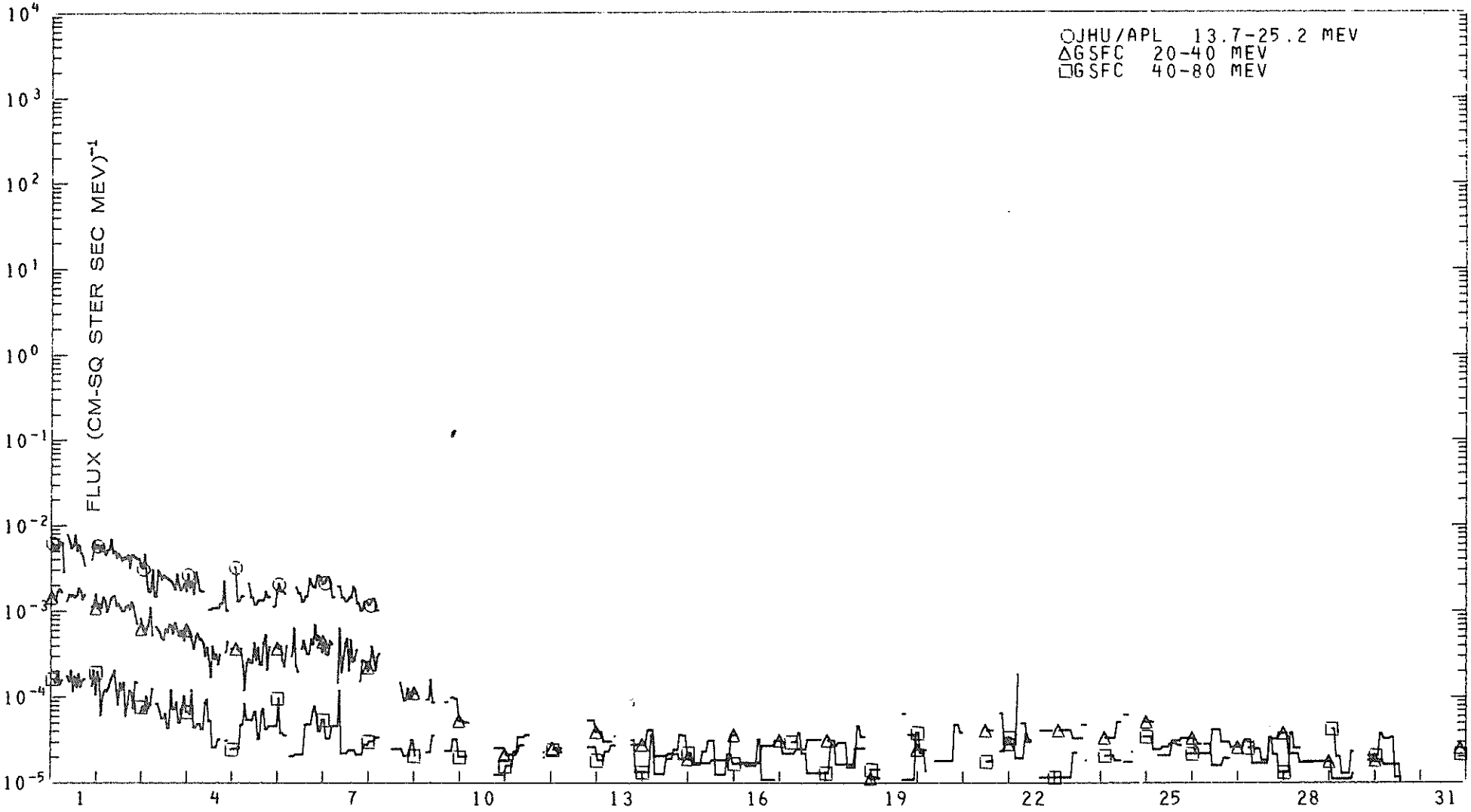
IMP 8 INTERMEDIATE ENERGY PROTONS

OCTOBER 1979



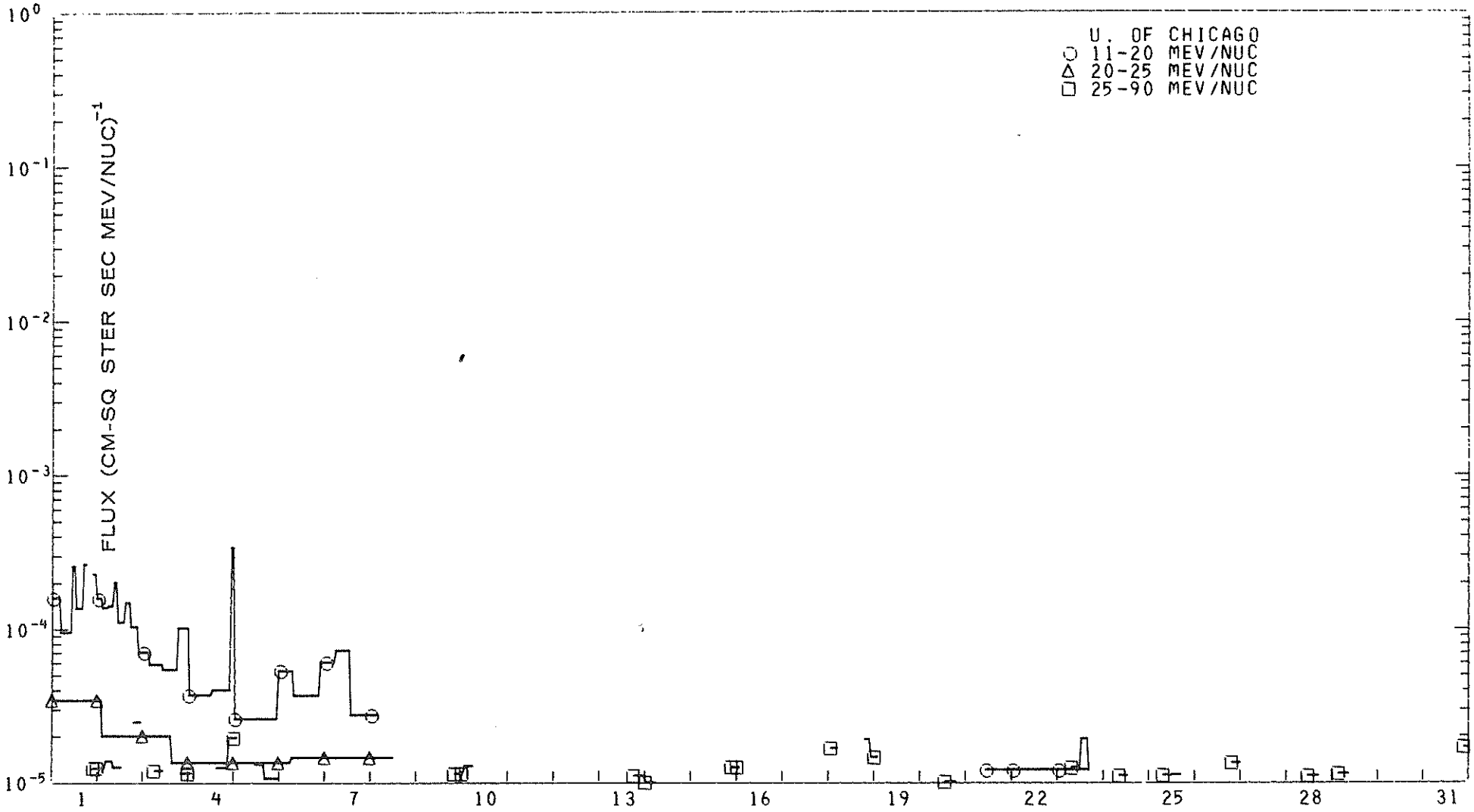
IMP 8 HIGH ENERGY PROTONS

OCTOBER 1979



35
Misc
Oct 79

IMP 8 ALPHA PARTICLES
OCTOBER 1979



ACTIVE REGIONS

CARRINGTON ROTATION 1685

(August 13 to September 9, 1979)

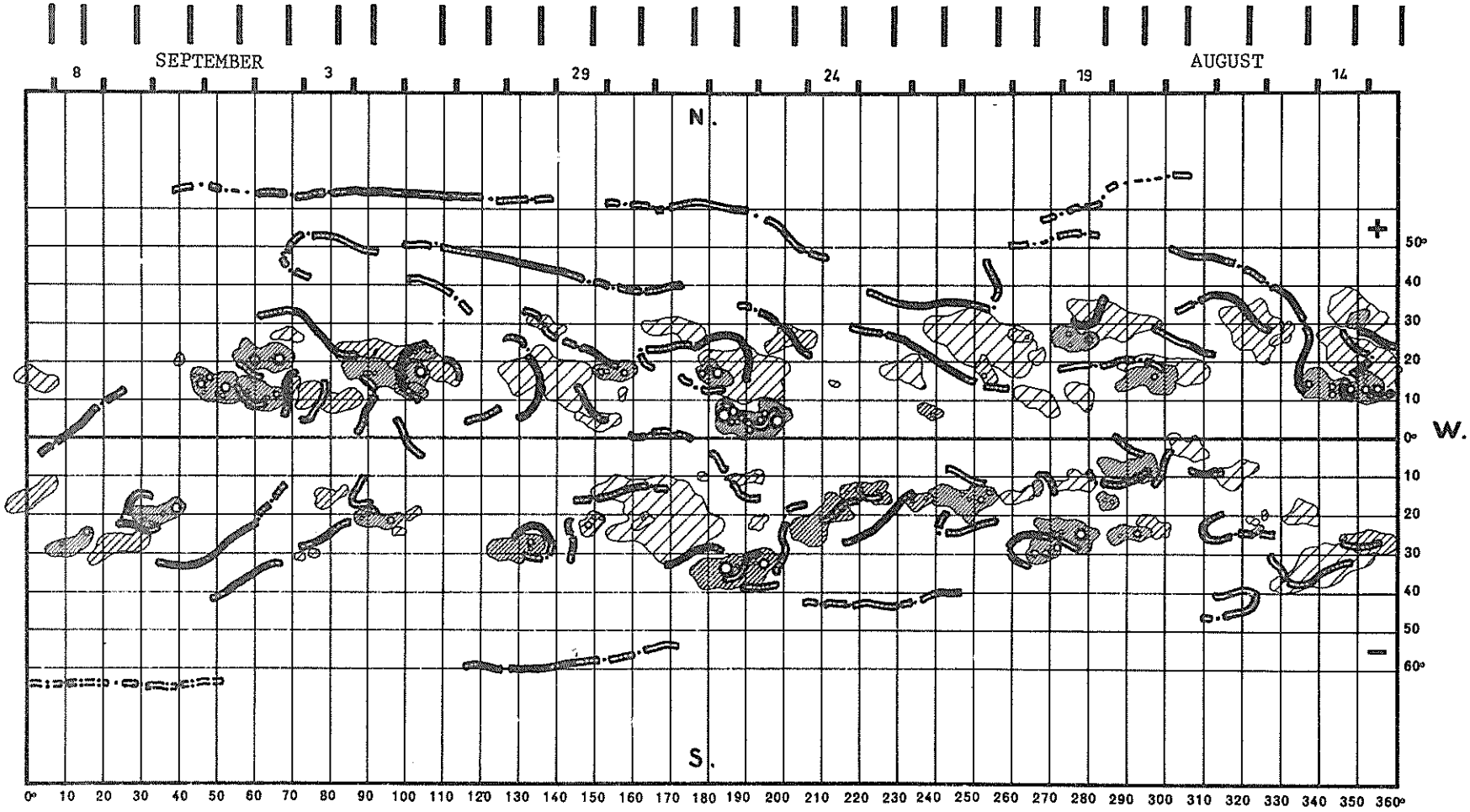
Region No.	Coordinates Lat	Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1684	Activity at West Limb
1	14°N	354°	4	>6		1	decreasing
2	26 S	354	2	>6			decreasing
3	21 N	351	1	>6	x		dispersed
4	32 N	351	1	>6	x		decreasing
5	14 N	343	5	>6		6	increasing
6	19 S	336	1	>6	x		dispersed
7	27 N	331	1	+6	x		dispersed
8	29 N	324	1	>6	x	9	dispersed
9	21 S	323	1	+5	x		disappeared
10	23 S	298	1	>6	x		disappeared
11	16 N	296	2	>6			decreasing
12	8 S	292	1	>6	x	14	dispersed
13	25 S	291	3	+4			decreasing
14	31 N	287	1	>6	x	13	dispersed
15	16 S	285	2	-2			(?)
16	26 N	277	3	0			decreasing
17	11 S	276	1	>6	x		disappeared
18	25 S	273	7	>6			decreasing
19	22 N	267	1	+6	x		dispersed
20	13 S	267	1	-6	x		(?)
21	15 S	262	1	>6	x		decreasing
22	27 N	262	2	-1			stable
23	17 N	254	3	>6			decreasing
24	17 S	248	3	>6		18	decreasing
25	7 N	239	2	>6			disappeared
26	16 S	236	2	+2			decreasing
27	14 S	222	3	>6		20	decreasing
28	21 S	210	1	>6	x		decreasing
29	27 N	202	1	>6	x		dispersed
30	22 S	194	1	-1	x		dispersed
31	4 N	193	9	>6			decreasing
32	10 S	190	2	+2			decreasing
33	17 N	190	1	>6	x	25-26	dispersed
34	34 S	188	6	>6			decreasing
35	17 N	181	4	+2			decreasing
36	22 S	163	1	>6			dispersed
37	17 N	156	2	0			stable
38	4 N	151	1	>6	x	37	dispersed
39	23 S	150	2	>6			(?)
40	29 N	137	1	>6	x		decreasing
41	29 S	130	2	>6			decreasing
42	7 N	110	1	+6	x		disappeared
43	22 N	105	2	>6			decreasing
44	12 N	102	2	+1			decreasing
45	20 S	102	1	>6	x		dispersed
46	25 S	99	2	+2	x		disappeared
47	21 N	98	1	>6	x	47	decreasing
48	16 N	95	4	>6			decreasing
49	22 S	94	2	+1			decreasing
50	15 S	80	1	>6	x	48	dispersed
51	10 N	80	1	>6	x		decreasing
52	30 S	76	1	>6	x		disappeared
53	31 S	72	1	+3	x		disappeared
54	27 N	69	1	>6	x	49	dispersed
55	21 N	63	5	>6			decreasing
56	11 N	62	3	>6	x		decreasing
57	13 N	50	5	+4			decreasing
58	20 N	40	1	+3	x		disappeared
59	20 S	35	4	>6			decreasing
60	27 S	25	1	>6		56	stable
61	28 S	12	2	-2			decreasing
62	15 N	3	1	>6	x	60	dispersed
63	15 S	2	1	>6	x		decreasing

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1684

AUGUST 13 to SEPTEMBER 9, 1979

MEUDON OBSERVATORY



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

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