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Solar - Geophysical Data

NO. 421 SEPTEMBER 1979

Part II (Comprehensive Reports)

DATA FOR
MARCH 1979

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BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 421

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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

SGD 421 Part II (Comprehensive)

MARCH 1979 DATA

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ACTIVE REGIONS

CARRINGTON ROTATION 1678

(February 3 to March 2, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1677	Activity at West Limb
1	12°N	360°	+4	2			disappeared
2	7 N	357	+3	2			decreasing
3	10 N	356	>6	4		(1)	decreasing
4	22 N	356	>6	2			dispersed
5	14 N	351	>6	2			decreasing
6	19 S	347	>6	1	x	(2)	decreasing
7	14 S	340	>6	6			decreasing
8	22 S	330	>6	1	x		decreasing
9	16 S	325	>6	2	x	(6)	decreasing
10	16 N	318	>6	1	x	(8)	dispersed
11	16 N	300	-6	1	x	(9)	stable
12	36 N	295	>6	1	x		decreasing
13	14 N	292	+1	3			stable
14	20 S	288	>6	3			decreasing
15	16 N	285	>6	3		(11)	decreasing
16	19 S	275	+4	3			stable
17	27 N	273	>6	1	x	(10)	decreasing
18	31 S	264	>6	1	x	(15)	dispersed
19	24 N	258	-1	1	x		disappeared
20	25 S	250	>6	1	x	(22)	decreasing
21	13 S	241	+2	1	x		decreasing
22	19 S	237	>6	3			decreasing
23	36 S	224	+5	2			decreasing
24	9 S	218	+3	1	x		dispersed
25	35 S	218	+3	2			decreasing
26	25 S	215	>6	1	x	(28)	dispersed
27	11 N	214	>6	2		(27)	dispersed
28	20 N	207	+2	3			decreasing
29	25 S	204	>6	1	x		dispersed
30	24 S	201	+1	2			decreasing
31	17 S	200	>6	x			disappeared
32	28 N	187	>6	1	x		dispersed
33	8 N	180	+1	4			stable
34	17 N	177	>6	5			stable
35	15 S	175	+4	2			decreasing
36	22 S	167	-3	1	x		stable
37	2 N	166	>6	2			decreasing
38	16 S	165	-1	1	x		stable
39	20 N	164	>6	2		(34)	decreasing
40	7 N	154	>6	1	x	(38)	decreasing
41	14 S	150	>6	1	x	(41)	dispersed
42	17 N	150	>6	7			stable
43	15 N	139	>6	3		(45)	decreasing
44	27 S	134	>6	3			decreasing
45	13 S	113	>6	1	x		decreasing
46	23 N	111	>6	1	x		decreasing
47	19 S	100	>6	1	x		dispersed
48	26 N	98	>6	1	x		dispersed
49	19 S	94	0	2			decreasing
50	29 S	87	>6	1	x	(51)	dispersed
51	25 S	83	>6	2			decreasing
52	33 S	75	0	3			decreasing
53	12 N	74	+2	1	x		disappeared
54	23 S	73	>6	1	x	(54)	dispersed
55	25 S	70	>6	2			decreasing
56	14 S	63	>6	1	x		dispersed
57	37 N	58	>6	3			decreasing
58	19 S	50	+1	2			decreasing
59	10 N	15	>6	1	x		dispersed
60	33 S	13	-2	2			decreasing
61	23 N	29	>6	1	x		decreasing
62	11 N	19	>6	1	x		dispersed
63	22 S	17	>6	2			decreasing
64	17 S	14	-2	3			increasing
65	10 N	7	>6	1	x	(61) (3)	decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1679

(March 2 to March 30, 1979)

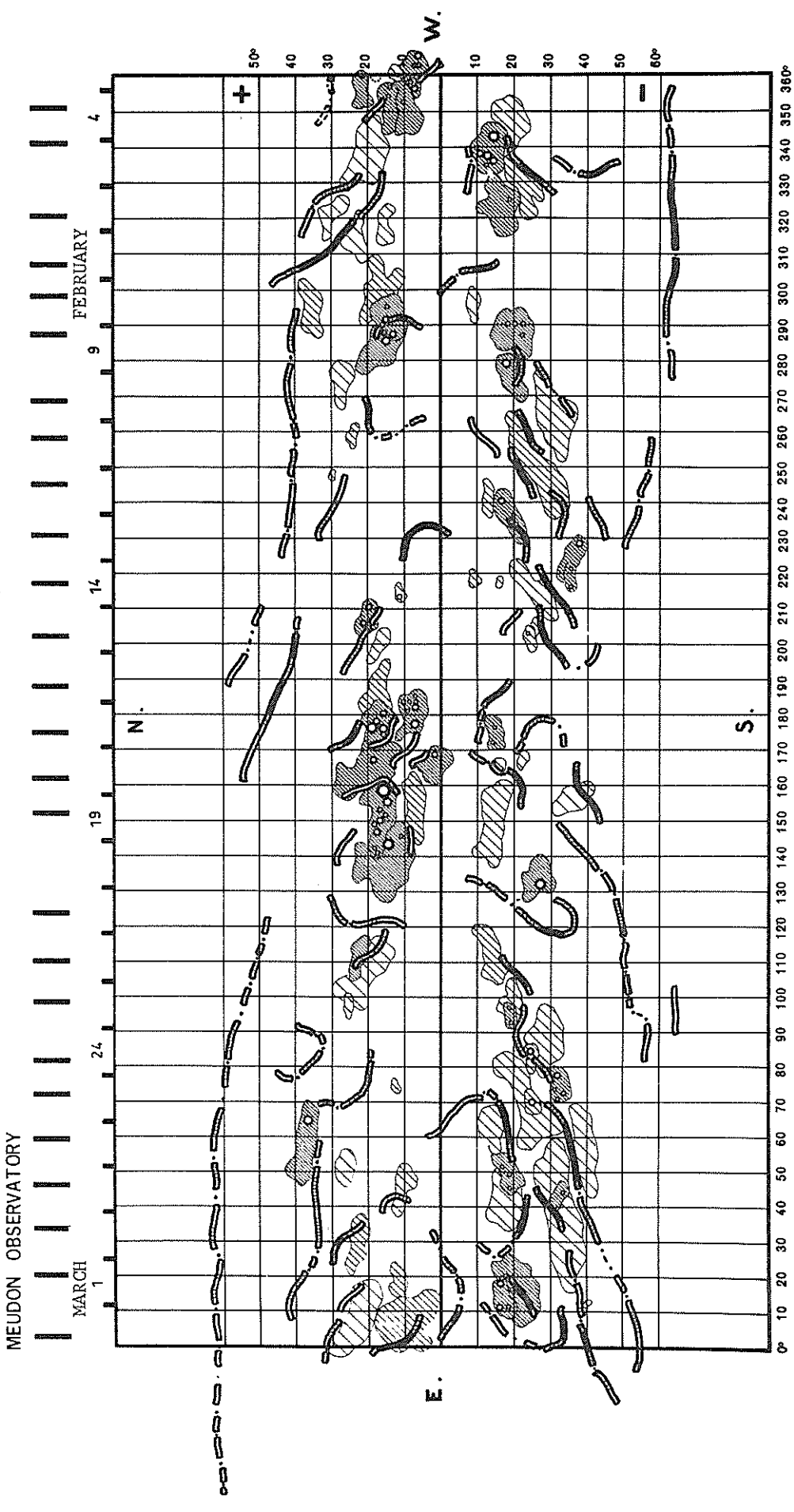
Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1678	Activity at West Limb
1	15°S	353°	>6	1	x		decreasing
2	16 N	350	>6	1	x	(3,4,5)	dispersed
3	23 S	349	>6	3			decreasing
4	36 N	349	+2	3			decreasing
5	23 S	341	+4	2			decreasing
6	15 S	332	>6	1	x	(7,9)	decreasing
7	9 N	326	>6	2			decreasing
8	25 N	324	+4	1	x		dispersed
9	20 S	320	>6	2			decreasing
10	24 S	319	>6	1	x	(8)	decreasing
11	21 S	315	0	2			decreasing
12	23 N	311	0	3			decreasing
13	17 N	304	>6	1	x	(11)	decreasing
14	12 N	296	>6	2			decreasing
15	17 N	290	>6	3		(13)	decreasing
16	21 S	289	>6	1	x	(14)	dispersed
17	11 S	288	+2	2			decreasing
18	12 N	287	+4	3			decreasing
19	16 S	285	>6	2			decreasing
20	17 S	281	+3	2			decreasing
21	19 N	277	>6	1	x	(15)	decreasing
22	22 S	271	>6	1	x	(16)	dispersed
23	17 N	261	>6	1	x		dispersed
24	11 N	253	+3	1	x		stable
25	24 S	252	>6	1	x		dispersed
26	14 S	248	>6	2			decreasing
27	19 N	246	>6	1	x		decreasing
28	25 N	244	+3	2			stable
29	22 S	238	>6	1	x		dispersed
30	29 S	225	>6	2			decreasing
31	24 S	211	+1	2			decreasing
32	19 N	201	+6	1	x		decreasing
33	21 S	201	+6	1	x		dispersed
34	27 S	198	-2	1	x		decreasing
35	32 S	198	0	1	x		dispersed
36	33 N	187	0	1	x		disappeared
37	10 N	185	>6	1	x	(33)	decreasing
38	28 N	180	+3	1	x		decreasing
39	19 N	172	>6	1	x	(34)	decreasing
40	7 N	171	>6	1	x		decreasing
41	41 N	166	+2	2			decreasing
42	21 N	159	-2	2			decreasing
43	10 N	157	>6	1	x	(40)	decreasing
44	30 N	157	>6	1	x		dispersed
45	12 N	154	-5	2			(?)
46	18 N	152	>6	2		(42)	decreasing
47	15 S	138	>6	2			dispersed
48	23 S	137	-2	2			decreasing
49	15 S	135	-2	2			stable
50	12 S	134	>6	3			decreasing
51	17 N	133	>6	1	x		decreasing
52	8 N	131	+1	3			stable
53	29 S	126	>6	1	x	(44)	dispersed
54	14 S	122	>6	1	x	(45)	dispersed
55	7 N	120	>6	3			decreasing
56	14 N	114	-2	1	x		stable
57	13 S	111	>6	2			stable
58	23 N	110	>6	1	x		decreasing
59	24 N	107	+1	2			decreasing
60	27 N	107	>6	1	x		decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1679

(March 2 to March 30, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1678	Activity at West Limb
61	8°N	106°	+2	2			decreasing
62	31 N	92	+5	1	x		disappeared
63	28 S	86	>6	3			decreasing
64	25 N	75	>6	1	x		decreasing
65	31 S	60	>6	3			decreasing
66	31 S	56	>6	1	x	(54)	dispersed
67	20 S	51	>6	1	x	(58)	dispersed
68	7 N	35	>6	5			decreasing
69	36 S	30	>6	1	x		decreasing
70	40 N	25	>6	1	x	(57)	dispersed
71	12 N	16	>6	1	x	(62)	decreasing
72	22 S	16	>6	1	x	(63)	decreasing
73	19 S	10	>6	1	x	(64)	decreasing
74	22 N	6	+3	1	x		dispersed
75	13 S	5	+4	2			increasing


SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1678
FEBRUARY 3 TO MARCH 2, 1979
MEUDON OBSERVATORY
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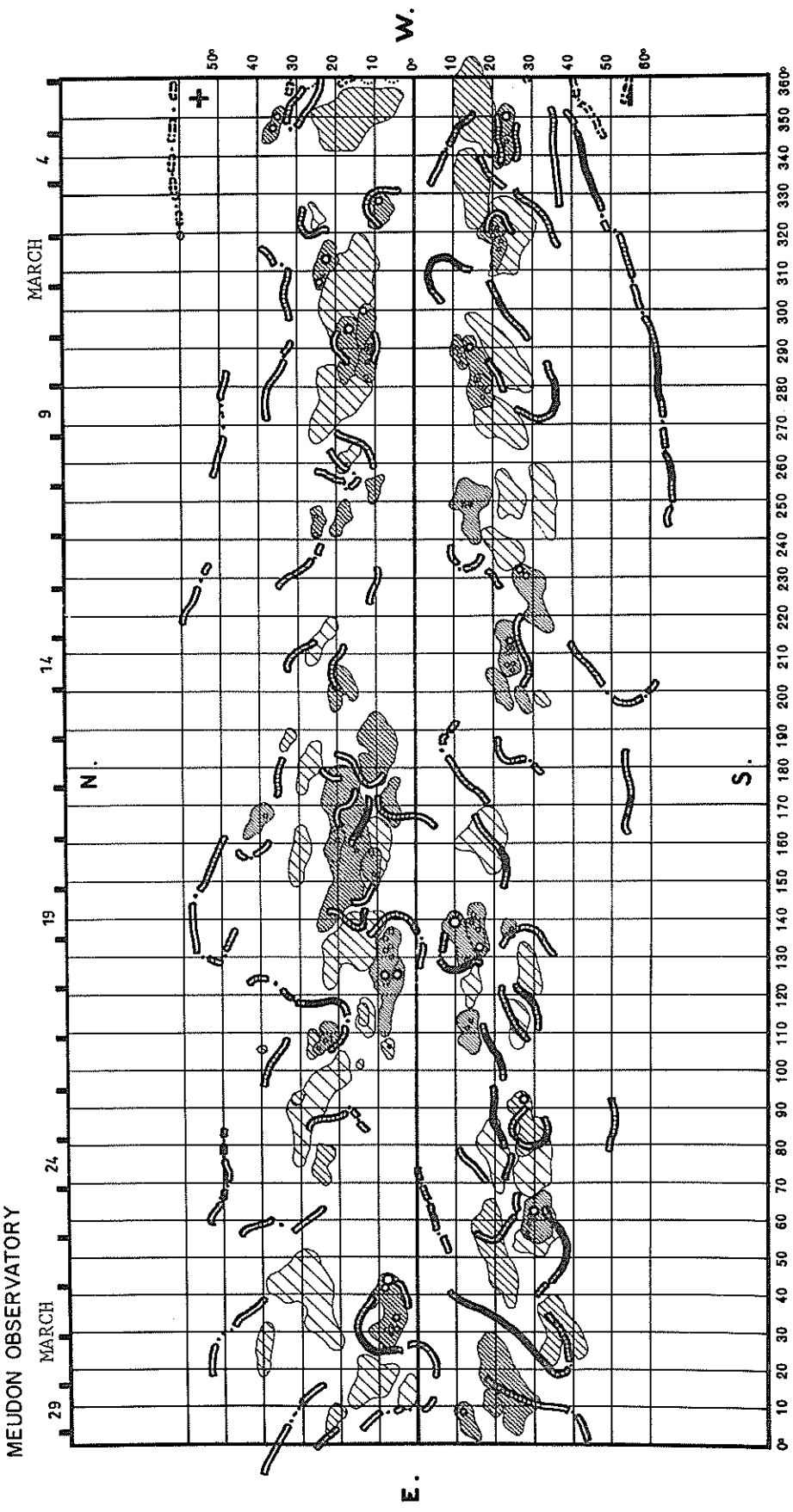
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1679
MARCH 2 TO MARCH 30, 1979
MEUDON OBSERVATORY
MARCH
MARCH
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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22}Wm^{-2}Hz^{-1}$		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
1	4995	BOUL	4	SF	0019.5	0020	1.5	12	4		
	5730	IRKU	1	S	0333	0304.4	4	12	1		
	234	POTS	8	S	0648.6	0648.7	.4	210	50		
	10400	BERN	46	C	0839	1015.1	285	175			
	8400	BERN	46	C	0839	1015.1	285	290			
	8400	BERN	46		0839	1015.1	285	770			8?
	10400	BERN	46		0839	1015.1	285	500			
	6100	KISV	32	ABS	0928	0947	32	-2			
	127	TORN			1030.5	1022.1		540			
	127	TORN	43	GB	1000.5	1009.6	33	820			
	113	POTS	46	C	1004.1	1022.5	36	700			
	100	GORK			1005 E	1014.8		3000			
	100	GORK	46	C	1005 E	1009	36	270			
	200	GORK	27	RF	1005.2	1016.1	41	130			
	202	IZMI	25	R	1006	1015.3	18	130	40		
	9100	GORK	21	GRF	1006.3	1027	69.3	37.5	31.5		
	650	GORK	29	PBI	1006.6E	1018.7	37.2	39			
	650	GORK			1006.6E	1016.7		310			
	650	GORK	45	C	1006.6E	1010	12	45			
	6100	KISV			1006	1016.3		63			
	6100	KISV			1006	1014.5		69			
	6100	KISV			1006	1014		66			
	6100	KISV	45	C	1006	1012	19	31			
	9500	BERL	49	GB	1007	1018	75	463			
	3000	BERL	49	GB	1007	1018	70	350 U			
	1470	BERL	49	GB	1007.5	1015.7	68	135			
	15000	KISV	47	GB	1007	1017	58	359			
	10715	OWIN	45	C	1007		50	280 D			
	2650	OWIN	45	C	1007		20	160 D			
	4995	ATHN	15	CGB	1008.1	1017.7		526.6			
	4995	ATHN	15	CGB	1008.1	1015.2	54.8	468.6	140.6		
	2695	ATHN	14	C	1008.2	1017.7		329.6			
	2695	ATHN	14	C	1008.2	1015.9	53.9	292.2	87.6		
	1415	ATHN	4	S/F	1008.2	1015	54	144.3	43.3		
	29	UPIC	48	C	1008.4	1010	22.7				
	950	GORK			1008.6	1016.8		97			
	950	GORK	46	C	1008.6	1015.1	11	78			
	33	UPIC	48	C	1008.8		20.5				
	536	ONDR	29	PBI	1008	1034	35	11	9		
	536	ONDR	48	C	1008	1015.8	17	416 D	41		
	808	ONDR	29	PBI	1008	1034	34	21	16		
	808	ONDR	48	C	1008	1016.7	19	132	47		
	930	BORD	45	C	1008	1017.2	15	86	29		
	2950	GORK	30	PBI	1009 E	1027.2	24.7	54			
	2950	GORK			1009 E	1020.8		393			
	2950	GORK			1009 E	1017.5		766			
	2950	GORK	46	C	1009 E	1016.1	18 D	649			
	8800	ATHN	15	CGB	1009.1	1017.5		705.7			
	8800	ATHN	15	CGB	1009.1	1015.1	53.3	739	221.7		
	9100	GORK			1010.5	1017.3		252			
	9100	GORK	46	C	1010.5	1015.1	16.5	451			
	950	GORK	30	PBI	1019.7	1033	28.3	8			
	930	BORD	46	C	1027	1035.2	16	49	8		
	950	GORK	45	C	1033.8	1034.1	2.8	28			
	950	GORK			1033.8	1035.2		38			
	3000	BERL	3	S	1130	1134.4	7.5	24			
	1470	BERL	3	S	1130.5	1132.6	6.5	5			
	7000	SAOP	20	GRF	1130.5	1134.5	14.2	16			25L
	2650	OWIN	1	S	1130		7	20	10		
	6100	KISV	4	S/F	1130	1134.2	7	10			
	2950	GORK	5	S	1131	1134.4	5.8	30	15		
	9100	GORK	20	GRF	1132.3	1134.4	14.4	10	3.5		
	9500	BERL	1	S	1133.5	1134.4	2.5	8			
	6100	KISV	24	R	1137			4			
	245	SGHR	6	S	1253	1253.4	1.8	35.7	10.7		
	4995	BOUL	20	GRF	1253	1301.5	23.5	9	3		
	2800	OTTA	21	GRF	1450	1512	45	2.8	1.4		
	2800	OTTA	40	F	1454.5	1456.5	12	3.2			
	2800	OTTA	24	R	1550	1553	3	2.6	1.3		
	2800	OTTA	27	RF	1550		57	2.6	2.4		
	2600	OTTA	24P	R	1553		47	2.6			
	2600	OTTA	26	FAL	1640	1647	7	-2.6	-1.3		
	2800	OTTA	240	R	2015	2115	60	6	3		
	700	SYDN	1	S	2346.2	2346.4	.7	18			
2	1415	MANI	4	S/F	0017.9	0020.2	5.1	17.1	6.7		
	1415	SYDN	1	S	0020.2	0020.4	.5	7			
	2695	MANI	3	S	0020.4	0020.7	1	12.7	6.3		
	2695	PENT	3	S	0020	0020.3	1	11.6	5.8		
	5730	IRKU	2	S	0336	0338	6	36	8		
	2695	MANI	3	S	0336.9	0338.2	3.6	27.2	13.6		
	1415	MANI	3	S	0338	0338.5	1.5	8.1	3		
	2950	GORK	20	GRF	0532 U	0551	41.3	25			
	6100	KISV	20	RF	0635	0637.3	55	4			

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	9100	GORK	20	GRF	0639.5	0653.2	42.9	9	3		
	113	PCTS	42	SER	0724.4	0737.3	13	315	1		
	930	BORD	46	C	0844	0844.5	1	30	4		
	6100	KISV	1	S	0930	0932.3	5	2			
	930	BORD	46	C	0932	0932.5	1.3	34	4		
	127	TORN	40	F	0939.7	0941.2	3.5	30			
	930	BORD	46	C	1020.7	1020.7	.2	11	2		
	33	UPIC	8	S	1038.1	1033.1	.4				
	29	UPIC	8	S	1036.3	1038.5	.3				
	808	ONDR	42	SER	1109	1133.4	90	140			
	930	BORD	46	C	1109	1109.5	2	194	3		
	6100	KISV	8	S	1120.3	1120.5	1	4			
	9100	GORK	1	S	1133.5	1133.8	1.3	4.5	2		
	930	BORD	46	C	1133	1133	.5	263	4		
	9100	GORK	1	S	1139.4	1139.8	1.6	4.5	2		
	930	BORD	45	C	1224.6	1224.6	.3	145	2		
	9100	GORK	1	S	1225	1225.3	1	10	5		
	536	ONDR	3	S	1225.3	1225.3	.2	15			
	260	ONDR	8	S	1225.5	1225.5	.2	27			
	7000	SAOP	45	C	1235	1239.9	6	10.5			O
	930	BORD	46	C	1237.8	1236.2	2.4	232	3		
	930	BORD	8	S	1332.5	1332.5	.1	21	1		
	2800	OTTA	1	S	1334	1336	9	3.6	1.2		
	2800	OTTA	8	S	1605.2	1605.4	.3	5.4	2.7		
	930	BORD	41	F	1605.3	1605.3	1.4	32	2		
	2800	OTTA	20	GRF	1730	1745	55	2.4	1.6		
	9400	HUAN	20	GRF	1829.2	1934.8	65.6	17	9		L
	2800	OTTA	1	S	2015	2016.5	10	1.6	.8		
	2800	OTTA	40	F	2125.8	2126	5	21			
	2695	BOUL	3	S	2126 E	2126.5	1 D	17	6		
	2695	PENT	8	S	2347	2347.2	.5	2.2	1.1		
3	200	GORK	4	SF	0555.8	0556.3	1.6	30			
	100	GORK	4	SF	0556	0557.3	1	8			
	6100	KISV	8	S	0653.3	0653.4	2	2			
	3100	CRIM			0701	0701.5	1	2	.5		
	3100	CRIM	25		0818	1000		7			
	260	ONDR	46	C	0820	0824.7	10	13	2.1		
	6100	KISV	8	S	0945	0950.3	7	4			
	3100	CRIM			0950	0950	1	7	2		
	6100	KISV	46	C	1102	1103	3	2			
	260	ONDR	8	S	1157.6	1157.6	.2	18			
	260	ONDR	8	S	1212.6	1212.6	.2	29			
	2800	OTTA	1	S	1712	1715.5	8	2.5	1		
	9400	HUAN	21	GRF	1754	1911.5	77.5	13.4	8.9		C
	4995	BOUL	3	S	1814	1822.5	11.5	24	8		
	2800	OTTA	21	GRF	1808	1820	95	7.2	3.4		
	2695	SGMR	3	S	1811.4	1823.1	16.6	22.9	6.9		
	4995	SGMR	3	S	1813.5	1822.5	14.5	21.3	6.4		
	8800	SGMR	3	S	1814.9	1822.7	13.1	19	5.7		
	606	SGMR	1	S	1815	1816.9	3	1.3	0.4		
	1415	SGMR	1	S	1815.2	1817.9	4.9	4.5	1.4		
	410	SGMR	6	S	1816	1816.9	2	6.4	1.9		
	245	SGMR	6	S	1816.1	1816.8	1.8	9	2.7		
	15400	SGMR	3	S	1817	1822.9	14.2	17.9	5.4		
	7000	SAOP	20	GRF	1817.2	1823	14.6	16.5			C
	9400	HUAN	2	S/F	1821.7	1825.3	3.6	15.1	9.3		L
	2800	OTTA	3	S	1821	1822.8	5	10.8	5.4		
	2695	PENT	20	GRF	2000	2015.3	60	3	1.3		
	2695	PENT	240	R	2210	2255	45	4	2		
4	260	ONDR	45	C	1028.7	1030.5	3	34	11		
	536	ONDR	2	S/F	1028.8	1029.3	1	17			
	228	HARS	45	C	1029	1030.5	2.5	80	35		
	930	BORD	45	C	1032.8	1032.9	.2	15	2		
	260	ONDR	42	SER	1142	1159.5	51	27			
	536	ONDR	3	S	1233.5	1233.5	.2	15			
	2800	OTTA	20	GRF	1510	1535	60	3.6	2		
	2800	OTTA	1	S	2209	2213	3	7.8	3		
	2695	PENT	8	S	2247.9	2248	.5	2.4	1		
5	200	HIRA	42	SER	0028	0028	12	45	15		WL
	100	HIRA	42	SER	0028	0028.5	10	200	50		SL
	260	ONDR	43	NS	1218	1224.3	172 D	15			
	2800	OTTA	21	GRF	1355	1444	465	26	13		
	1470	BERL	20	GRF	1421	1441	59	13			
	3000	BERL	20	GRF	1426	1443.5	54	31			
	1415	SGMR	20	GRF	1427.5	1443.2	46.5	9.2	3.7		SWF
	4995	SGMR	20	GRF	1439	1433.1	39	10.8	4.3		SWF
	2695	SGMR	20	GRF	1429	1444	39	16.8	6.7		SWF
	8800	SGMR	20	GRF	1439	1432	39	8.6	3.4		SWF
	9500	BERL	20	GRF	1429	1435	51	15			
	9400	HUAN	20	GRF	1410.2	1517.6E	67.4	22.6	15.8		R
	7000	SAOP	40	F	1420						
	606	SGMR	3	S	1421.7	1423.6	22.3	85.5	34.2		SWF

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	410	SGMR	6	S	1421.9	1422.3	22.1	12.7	5.1		SWF
	536	ONDR	46	C	1421	1423.9	7	34	13		
	2800	OTTA	20	GRF	1520	1526	40	5.8	2.9		
	930	BORO	41	F	1531	1531.4	.4	19	2		
	9400	HUAN	20	GRF	1934	2023.8	49.8	13.4	8		R
	200	HIRA	44	NS	2100 E	0150	705 D	60	10		ML
6	2695	PENT	8	S	0013.3	0013.7	.7	3.4	1.7		
	9930	VORO	45	C	0256	0257	15	237			
	200	GORK	44	NS	0433 E		387 D		5		
	221	ABST	44	NS	0600	0749.2	180	8			
	202	IZMI	43	NS	0700		360	30			
	260	ONDR	44	NS	0723 E		459 D	27			
	245	SGMR	44	NS	1118 E	1428.8	462 D	18.2			CONT
	6100	KISV	20	GRF	0851	0852	14	2			
	808	ONDR	46	C	1419	1420.7	11	121	53		
	930	BORO	45	C	1419	1419.8	13	208	25		
	7000	SAOP	40	F	1431						
	536	ONDR	41	F	1433.5	1436.5	3	13			
	2800	OTTA	20	GRF	1440	1450	65 D	3.2			
	2800	OTTA	20	GRF	1720	1838	200	8.4	4.8		CONT
	2800	OTTA	21	GRF	2140	2209	95	7	3.5		
	2800	OTTA	2	S/F	2206.3	2207.5	1.8	5.8	4.4		
7	6100	KISV	27	RF	0635	0642	60	3			
	260	ONDR	42	SER	1222	1437.1	155	27			
	2800	OTTA	240	R	1300	1303	3	3.8	1.9		
	2695	SGMR	1	S	1339.3	1339.4	1.1	1 U	0.3U		
	4995	SGMR	1	S	1339.6	1339.9	.6	9.6	2.9		
	7000	SAOP	40	F	1505						
	2800	OTTA	20	GRF	1528	1531	14	3.2	1		
	2800	OTTA	20	GRF	1552	1610	33	2.8	1.4		
	2800	OTTA	22	GRF	1635	1710	125	5.2	2.6		
8	200	GORK	43	NS	0530 E		522 D		5		
	127	TORN	44	NS	0739 E	0936.6	450 D	220	3		V1
	113	POTS	8	S	0730.8	0730.8	.1	120	40		
	221	ABST	45	C	0748	0751.5	10	17	8		
	260	ONDR	46	C	0752.5	0757	16	98	5		
	113	POTS	8	S	0757.8	0757.9	.3	250	80		
	9500	BERL	1	S	1014	1015	2.5	5			
	6100	KISV	1	S	1014.3	1015	3	2			
	1420	BERL	4	S/F	1014.5	1014.8	1	5			
	6100	KISV	1	S	1100.3	1101.3	6	2			
	260	ONDR	4	S/F	1100	1101.3	4.5	29	5		
	1420	BERL	1	S	1101	1101.3	1	4			
	3300	BERL	3	S	1101	1101.4	1	7.9			
	6100	KISV	1	S	1136.7	1139	4	2			
	260	ONDR	2	S/F	1144.6	1144.8	1	7			
	7000	SAOP	40	F	1300	1328.5		11			45R
	2800	OTTA	21	GRF	1515	1530	40	2.8	1.4		
	2800	OTTA	1	S	1524.5	1525.5	3	1.6	.8		
	1420	BOUL	3	S	2137.5E	2138	1 D	12	4		
9	700	SYDN	45	C	0157.8	0157.9	.6	22			
	9100	GORK	20	GRF	0659.2	0712	29.9	6.5	2.5		
	6100	KISV	2	S/F	09.5	0906.2	3	2			
	260	ONDR	43	NS	0912	1105.8	287	18			
	92500	BERN	46	C	0940.4	1024.8	180	28 U			
	10400	BERN	46	C	0940.4	1024.8	180	366 D			
	8400	BERN	46	C	0940.4	1024.8	180	395 D			
	10400	BERN	46		0940.4	1024.8	180	1060 D			
	92500	BERN	46		0940.4	1024.8	180	370 U			
	8400	BERN	46		0940.4	1024.8	180	508 D			
	6100	KISV	2	S/F	0943	0947.5	7	4			
	3100	CRIM	28	PF	0945	1017	32	5			
	930	BORO	45	C	0957	1059.4	74	884	75		
	950	GORK	28	PRE	1009	1013.2	53	10			
	650	GORK	28	PRE	1009	1014.3	7.4	3.2	1.5		
	808	ONDR			1012	1022.3		394			
	808	ONDR	45	C	1012	1059.6	54	566	166		
	650	GORK	48	C	1016.7	1022.8	49.7	1150			
	650	GORK			1016.7	1103.4		290			
	650	GORK			1016.7	1100		410			
	650	GORK	30	PBI	1016.7	1106.4	35.6E	6.5			
	9500	BERL	49	GB	1017	1024.9	103	1140			
	3100	CRIM	47	B	1017	1035.5	56	412	100		
	3100	CRIM	29	PB	1017	1113	47	15			
	3100	CRIM			1017	1051.5		403			
	4995	ATHN	15	CGB	1017.2	1051		718.6	215.6		
	4995	ATHN	15	CGB	1017.2	1024.8	61.8	908	272.4		
	8800	ATHN	15	CGB	1017.5	1024.8	62.5	2908.3	872.5		
	3000	BERL	49	GB	1017.5	1052	82	525 U			
	2950	GORK			1017.6	1051.4		490 D			
	2950	GORK			1017.6	1034.6		500 D			

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	2950	GORK		1017.6	1030.3		476			
	2950	GORK	47 GB	1017.6	1021.9	72 E	450			
	9100	GORK	48 C	1017.9	1025.7	72	1545 E			
	9100	GORK		1017.9	1051.9		662			
	9100	GORK		1017.9	1035.1		527			
	9100	GORK		1017.9	1030.2		773			
	9100	GORK		1017.9	1028.8		986			
	6100	KISV	47 GB	1017	1025	98	312			
	6100	KISV		1017	1029.5		251			
	6100	KISV		1017	1028.3		262			
	6100	KISV		1017	1022.5		262			
	6100	KISV		1017	1022.1		266			
	6100	KISV		1017	1050.4		69			
	6100	KISV		1017	1034.4		215			
	950	GORK	48 C	1018	1022.8	50	180			
	950	GORK		1018	1103.4		58			
	950	GORK		1018	1100		190 D			
	10715	DWIN	47 GB	1018		60	270 D			
	1415	ATHN	14 C	1019.8	1051.2	58.6	345.9	103.8		
	2695	ATHN	15 CGB	1019.8	1051.2	62.7	715.6	214.7		
	1470	BERL	49 G3	1020.5	1054.4	60	235			
	536	ONDR	49 G3	1020	1022.3	50	328	65		
	536	ONDR		1020	1103.2		124			
	2650	DWIN	47 G3	1020		70	140 D			
	15000	KISV	47 GB	1020	1024.4	55	332			
	15000	KISV		1020	1028.3		360			
	15000	KISV		1020	1023		692			
	15000	KISV		1020	1051.3		334			
	15000	KISV		1020	1029.5		199			
	228	HARS	48 C	1021	1025	25	40	15		
	127	TORN	45 C	1021.3	1023.1	30 U	250	9		
	200	GORK		1021.4	1023.2		25 D			
	200	GORK	46 C	1021.4	1022	32	25			
	200	GORK		1021.4	1035.1		55			
	200	GORK		1021.4	1025		150			
	200	GORK		1021.4	1024.5		180			
	260	ONDR	48 C	1021.5	1023.2	18.5	138	51		
	33	UPIC	42 SER	1021.5	1023.2	43.5				
	202	IZMI	25 R	1021.5	1023	15.5	255	50		
	29	UPIC	42 SER	1021.6	1023.4	43.8				
	100	GORK		1021.7	1041.2		180 D			
	100	GORK		1021.7	1025		600			
	100	GORK	46 C	1021.7	1023.4	34	170 D			
	234	POTS	47 GB	1021	1031.6	29	70			
	113	POTS	47 GB	1021	1025	34	56			
	202	IZMI	41 F	1102.5	1106	4	55			
	113	POTS	41 F	1102.6	1102.8	4.2	2800	50		
	100	GORK		1102.9	1104.5		750			
	100	GORK	45 C	1102.9	1103.3	5	230 D			
	200	GORK		1103	1106.3		135			
	200	GORK	41 F	1103	1103.4	5.7	95			
	650	GORK	1 S	1123.1	1123.4	.9	5			
	1470	BERL	46 C	1156.5	1207	18	51			
	536	ONDR	46 C	1156.5	1202.7	18	28	16		
	808	ONDR	46 C	1156	1202.8	17	36	49		
	930	BORD	45 C	1156	1203	18	94	31		
	3003	BERL	20 GRF	1201	1211.5	15	7			
	7000	SAOP	45 C	1330						
	7000	SAOP	40 F	1410						
	2800	OTTA	21 GRF	1440	1444	30	1.6	.6		
	2800	OTTA	1 S	1442.7	1443	1	3.6	1.8		
	2650	DWIN	8 S	1612			90	60		
	7000	SAOP	40 F	1640						
	2800	OTTA	240 R	1840	1847	7	3	1.5		
	2800	OTTA	20 GRF	2035	2100	35	1.6	.6		
	2800	OTTA	21 GRF	2135	2157	55	3.4	1.7		
	2809	OTTA	1 S	2146.5	2149	4	2.8	2.1		
10	221	ABST	7 S	0631	0631.9	1	17	6		
	260	ONDR	2 S/F	1056.6	1057.3	1.5	6			
	234	POTS	41 F	1159.6	1159.8	1.2	200	7		
	113	POTS	41 F	1159.7	1159.9	1	100	7		
	260	ONDR	4 S/F	1159	1200	1.5	125	5		
	260	ONDR	3 S	1255.2	1255.2	.2	8			
	2800	OTTA	1 S	1351	1352	1.5	2.4	1.2		
	260	ONDR	6 S	1518.8	1518.8	.2	22			
	2800	OTTA	20 GRF	1520	1645	125	2	1		
	1420	BOUL	3 S	1644 E	1644.5	1 D	12	4		
	2800	OTTA	20 GRF	1750	1810	50	2.4	1.4		
	2800	OTTA	1 S	2210	2209.3	2	2.6	1.4		
	2800	OTTA	1 S	2206	2206.2	2	2	1		
11	606	MANI	1 S	0520.2	0520.6	.9	6.7	2.2		
	1415	MANI	1 S	0520.3	0521.3	1.7	4.8	1.6		
	2695	MANI	1 S	0520.3	0521.7	1.1	5.1	1.7		IG

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	200	GORK			0524.4	0527.4		120 D			
	200	GORK	45	C	0524.4	0524 U	6	30 D			
	4995	ATHN	3	S	0524.7	0526.1	2.8	21.2	6.3		
	2695	ATHN	3	S	0525	0526	2.1	33.9	10.2		
	200	HIRA	46	C	0525	0526	3	500	100		WL
	100	HIRA	46	C	0525	0525.8	4	15000	5000		C
	100	GORK			0525.5	0527.4		320			
	100	GORK	45	C	0525.5	0526 U	4.5	90 D			
	8800	ATHN	2	GRF	0525.6	0526.1	1.8	6.4	3.8		
	650	GORK	1	S	0525.7	0525.8	.6	11.5			
	9100	GORK	1	S	0525.8	0526	1.1	10.5	5		
	3100	CRIM	3		0526	0526.5	1	26	9		
	6100	KISV			0645	0657		2			
	6100	KISV	21	GRF	0645	0725	120	9			
	6100	KISV			0645	0709.3		8			
	6100	KISV			0645	0737.3		6			
	3100	CRIM	41		0653	0657	10	7	2		
	113	POTS	46	C	0657.6	0658.6	4.4	230	25		
	3100	CRIM			0736	0710		5	2		
	3100	CRIM	45	C	0736	0708	5	3	1		
	9100	GORK	20	GRF	0717.2	0726	26	10	3.5		
	260	ONDR	42	SER	0753	0838.6	46	18			
	3100	CRIM	1		0957	1000.1	4	3	1		
	6100	KISV	20	GRF	1025	1106.2	80	6			
	650	GORK	20	GRF	1030.3	1038.1	16.7	6	3		
	950	GORK			1033.9	1040.4		21			
	950	GORK	45	C	1033.9	1037.7	10	31			
	3100	CRIM	1		1034	1038	10	18	6		
	3100	CRIM	29	PB	1034	1044	70	6			
	2695	ATHN	2	GRF	1034 U	1038	10.6U	22.8	13.7U		
	808	ONDR	45	C	1034	1037.6	11	26	16		
	930	BORD	3	S	1034	1037.8	10	27	14		
	1415	ATHN	2	GRF	1035 U	1038	8.7U	36	21.6U		
	2950	GORK	3	S	1035.2	1038.1	9.3	23	10		
	33	UPIC	46	C	1035.7	1040.5	6.8				
	2650	DWIN	4	SF	1035	1038	10	30	20		
	4995	ATHN	3	S	1036 U	1038.8	5.6U	6.9	2.1U		
	29	UPIC	46	C	1036.2	1040.9	6.8				
	9100	GORK	20	GRF	1036.6	1054.8	55	14	5		
	260	ONDR	42	SER	1036	1041.2	20	9			
	127	TORN	40	F	1036	1045.9	18 U	5.2			
	1470	BERL	3	S	1037	1037.5	7	21 U			
	3000	BERL	3	S	1040 E	1041	6 D	18 U			
	1415	ATHN	2	GRF	1546.6	1552.8	16.4	14.4	5.6		
	4995	ATHN	2	GRF	1548.8	1559.7	19.6	18.3	11		
	2695	ATHN	2	GRF	1552.1	1600.7	11.8	22.6	13.7		
	2800	OTTA	22	GRF	1552	1603	350	15	7.5		
	4995	BOUL	20	GRF	1555.5	1612	70	17	6		
	9400	HUAN	20	GRF	1557.7	1650.5	52.8	9.6	5.5		C
	2695	BOUL	20	GRF	1559 E	1619	65 D	16	5		
12	202	IZMI	41	F	0754.3	0754.3	2.7	100			
	260	ONDR	42	SER	0958	1051.6	150	28			
	113	POTS	41	F	1051	1051.5	.4	3500	300		
	202	IZMI	4	S/F	1051	1051.5	.6	225	60		
	100	GORK	8	S	1051.1	1051.6	.9	210			
	33	UPIC	4	S/F	1051.2	1051.4	.5				
	29	UPIC	4	S/F	1051.2	1051.5	.7				
	2695	PENT	23	GRF	2150	2220	120	3.4			
	2800	OTTA	4	S/F	2211	2212	2	11.2	3.7		
13	260	ONDR	42	SER	1026	1045.2	34	33			
	3100	CRIM	5		1053	1101	31	8	3		
	9400	HUAN	21	GRF	1300	1449.3	109.3	23.5	8.1		R
	8400	BERN	23	GRF	1321.6	1327.2	32	8			
	10400	BERN	23	GRF	1321.6	1327.2	32	4			
	8400	BERN	23		1321.6	1327.2	32	21			OPR
	10400	BERN	23		1321.6	1327.2	32	11			OPR
	8800	SGMR	3	S	1322.8	1330.7	13.2	22.4	9		SWF
	7000	SAOP	45	C	1323.5	1327.2	17.4	27			41L
	2695	SGMR	3	S	1323.7	1330.7	12.3	24.8	9.9		SWF
	4995	SGMR	3	S	1323.8	1330.3	12.2	30.4	12.2		SWF
	1415	SGMR	3	S	1324.8	1330.4	11.2	15.7	6.3		SWF
	2695	ATHN	2	GRF	1324.6	1326.9	9.3	18.5	11.1		
	4995	ATHN	2	GRF	1324.8	1326.9	9.2	26.3	15.6		
	2800	OTTA	45	C	1324	1330.5	11	16.6	8.3		
	8800	ATHN	2	GRF	1325	1326.8	8.8	21.6	13		
	808	ONDR	46	C	1325.5	1327.3	8.5	49	8.5		
	9400	HUAN	2	S/F	1325.7	1328.8	3.1	15.1	9.2		C
	1470	BERL	22	GRF	1325	1330.5	11	13			
	3000	BERL	22	GRF	1325	1327	10	21			
	9500	BERL	22	GRF	1325	1326.8	31	14			
	2650	DWIN	4	SF	1325	1330	10	15	5		
	930	BORD	41	F	1325	1327.1	9	38	5		
	606	SGMR	3	S	1326	1330.4	9.8	62.9	25.2		SWF

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	536	ONDR	46	C	1326	1330.5	10	24	6.5		
	2800	OTTA	8	S	1429.9	1429.9	.1	4			
	2800	OTTA	8	S	1438.3	1438.4	.7	3.2	2.8		
	9400	HUAN	1	S	1622	1623.4	1.4	11.8	7.1		RLR
	2800	OTTA	20	GRF	1700	1721	65	3.2	2.1		
	2695	PENT	240	R	2000	2015	15	2.6	1.3		
	2800	OTTA	21	GRF	2120	2127	30	2.2	1.8		
	2800	OTTA	8	S	2145.1	2145.5	.8	2.8	1.4		
	2695	PENT	21	GRF	2205	2212	40	2.6	1.3		
	2800	OTTA	1	S	2212.5	2213.1	1	3.4	1.7		
14	3100	CRIM	20		0939	1046	245	9	3		
	260	ONDR	43	NS	1038		268 D	34			
	2800	OTTA	21	GRF	1332	1338	31	4.2	2.1		
	2800	OTTA	1	S	1334.5	1336	3	5	2.5		
	113	POTS	4	S/F	1422.1	1422.3	.5	125	20		
	9490	HUAN	1	S	1735	1707	2	12.8	4.6		L
	2800	OTTA	8	S	1748.1	1748.1	.3	4.2			
	2800	OTTA	20	GRF	2110	2148	70	2.2	1.4		
15	200	GORK	43	NS	0457		480		5		
	221	ABST	44	NS	0700	0841.5	120	9			
	260	ONDR	44	NS	0734 E		444 D	27			
	127	TORN	44	NS	0820 E	1153.6	403 D	7.6	2		VG
	245	SGMR	44	NS	1131 E	1110.1	479 D	43.6			S
	3100	CRIM	20		0728 E	0748	169	20	7		
	15000	KISV	20	GRF	0730	0750	60	18			
	6100	KISV	20	GRF	0730	0750	173	11			
	9100	GORK	20	GRF	0734.9	0756.4	63.1	13.5	6		
	2800	OTTA	20	GRF	1310	1330	35	3	1.5		
	9400	HUAN	20	GRF	1311.4	1406.3	54.9	5	1.9		L
	2800	OTTA	20	GRF	1430	1445	80 D	3			
16	700	SYON	4	S	0027	0028.5	5.1	72			
	500	HIRA	46	C	0027.1	0028	3	100	40		HR
	200	HIRA	46	C	0027.5	0028	2.5	45000	1000		WL
	1415	MANI	4	S/F	0027.5	0028.4	5	26.9	8.1		
	1420	BOUL	4	SF	0027.5E	0028	2.50	31	10		
	606	MANI	4	S/F	0027.8	0028.6	3.5	27.8	9.3		
	2695	PENT	4	S/F	0027.8	0028.5	1.2	23	10		
	2695	MANI	4	S/F	0027.8	0028.6	2.2	21.7	7.2		I
	4995	BOUL	4	SF	0027	0028	3.5	36	12		
	100	HIRA	46	C	0028	0028.2	4	50000	5000		WL
	1415	SYDN	45	C	0028	0028.3	1.7	35			
	2695	BOUL	3	S	0028 E	0029	2.50	23	8		
	100	HIRA	46	C	0325.8	0326	2	500	100		WR
	200	HIRA	46	C	0326	0326.5	3	200	70		WR
	200	GORK	44	NS	0436 E		500 E		5		
	260	ONDR	44	NS	0734 E		441 D	34	3		
	245	SGMR	44	NS	1130 E	1444.9	480 D	91			S
	410	SGMR	44	NS	1130 E	1548.8	480 D	28.9			S
	100	GORK	4	SF	0446.3	0451.2	3	80 D			
	200	GORK	4	SF	0451.2	0452 U	1.9	20 D			
	650	GORK			0523	0535.3	22	180			
	650	GORK			0523	0536.6		180			
	700	SYDN	45	C	0523	0534.5	18	100			
	950	GORK	45	C	0524	0533.5		34			
	950	GORK			0524	0527		48			
	950	GORK	45	C	0524	0526.4U	14	60 D			
	606	MANI	4	S/F	0524.9	0536.7	16.9	124	47.7		
	500	HIRA	45	C	0532	0536.6	10	30	14		WL
	200	GORK	8	S	0734.7	0735	.8	18			
	3100	CRIM	20		0751	0952	189	20	7		
	6100	KISV	27	RF	0800	0900	180	6			
	100	GORK			0915.2	0916.8		135			
	100	GORK	45	C	0915.2	0916	2.6	170			
	100	GORK	8	S	1025.6	1025.9	.7	230			
	9400	HUAN	3	S	1127.7	1129.1	1.4	22.5	9.3		L
	29	UPIC	45	C	1150.4	1151.1	2.7				
	127	TORN	45	C	1150.4	1151	2.2	270	14		
	33	UPIC	45	C	1150.5	1151	2.3				
	113	POTS	4	S/F	1150.5	1151.1	1	630	40		
	202	IZMI	7	C	1150.5	1151	1.3	130	50		
	228	HARS	1	S	1150.5	1150.8	.5	68	19		
	234	POTS	4	S/F	1150.7	1151.2	.8	120	25		
	200	GORK	3	S	1150.8	1151 U	1.5	30 D			
	100	GORK	3	S	1150.8	1151 U	2.2	200 D			
	33	UPIC	45	C	1354.1	1354.4	2.1				
	29	UPIC	45	C	1354.1	1354.5	1.9				
	113	POTS	41	F	1355.5	1355.6	.4	100	10		
	4995	SGMR	20	GRF	1418.5	1433.3	36.5	19.9	8		SWF
	7000	SAOP	40	F	1420						
	9400	HUAN	20	GRF	1420.3	1603.7	103.4	13.9	6.1		C
	2695	SGMR	20	GRF	1420.3	1425.6	34.7	21.6	8.6		SWF
	2800	OTTA	21	GRF	1420	1445	275	12.4	6		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	1415	SGMR	20	GRF	1422.1	1425.6	32.9	6.7	2.7		SWF
	8400	BERN	20		1422.3	1426.8	40	18			OPR
	8400	BERN	20	GRF	1422.3	1426.8	40	7			
	4995	BOUL	20	GRF	1422.5	1431.5	17	20	7		
	9500	BERL	20	GRF	1422	1427.5	20	12			
	8800	ATHN	2	GRF	1423.2	1426.7	14	18.3	11		
	8800	SGMR	20	GRF	1423.7	1431.7	21.3	25.2	10.1		SWF
	2695	ATHN	3	S	1424	1424.9	10.4	19.8	5.9		
	15400	SGMR	20	GRF	1424	1434	16	14.2	5.7		SWF
	4995	ATHN	2	GRF	1424.4	1427.3	22.1	16.3	9.8		
	1470	BERL	4	S/F	1424.5	1425.5	3.5	7.9			
	3800	BERL	4	S/F	1424.5	1425	4.5	17			
	2650	OHIN	4	SF	1424	1425	5	20	10		
	2800	OTTA	4	S/F	1424	1424.6	4	15.8	5.2		
	228	HARS	45	C	1616.5	1619.5	3.5	106	37		
	2800	OTTA	20	GRF	2030	2025	80	5	2.5		
17	221	ABST	44	NS	0630	0823	180	14			
	260	ONDR	44	NS	0753 E		431 D	67	3		
	245	SGMR	43	NS	1301	1711.5	359 D	74			
	202	IZMI	6	S	0723.5	0724	1	30	35		
	2800	OTTA	20	GRF	1500	1535	30	3.8	2.5		
	2800	OTTA	20	GRF	1730	1806	70	3.8	1.5		
	2695	PENT	20	GRF	2150	2210	70	3.2	1.6		
18	200	HIRA	43	NS	0130	0350	470 D	10	5		MR
	100	GORK	43	NS	0500		420		5		
	221	ABST	44	NS	0600	0803.2	180	9			
	200	GORK	44	NS	0633 E		510 E		5		
	202	IZMI	43	NS	0700		360	35			
	260	ONDR	44	NS	0710 E		463 D	25	2		
	127	TORN	44	NS	0720 E	0934	460 D	10	1		VD
	245	SGMR	44	NS	1057 E	1250.1	483 D	55.2			
	410	SGMR	44	NS	1057 E	1143.5	483 D	16.2			
	536	ONDR	4	S/F	0618	0820	3	24	5.6		
	3100	GRIM	24		0836	0956		8			
	9400	HUAN	21	GRF	1413.7	1542	88.3	15	6.4		R
	4995	BOUL	21	GRF	1417.5	1423.5	82	32	11		
	4995	SGMR	3	S	1418.3	1421.3	11.9	43.6	17		SWF
	2800	OTTA	4	S/F	1418.5	1424	13	20.4	10.2		
	2695	SGMR	3	S	1418.8	1423.9	12.2	29.9	12		SWF
	2695	ATHN	1	F	1418.8	1422	12.2	21.6	10.8		
	3000	BERL	29	PBI	1418.8	1424.5	37 D	27			
	2800	OTTA	21	GRF	1418	1445	210 D	12			
	4995	ATHN	1	F	1419	1421.5	10.9	32.6	16.3		
	1415	SGMR	20	GRF	1419.1	1424.8	10.4	7.2	2.9		SWF
	8800	ATHN	1	F	1419.5	1422	10.4	26.6	13.3		
	8800	SGMR	3	S	1419.5	1424.4	12.5	24.1	9.6		SWF
	9500	BERL	20	GRF	1419	1423.4	36 D	20			
	1470	BERL	20	GRF	1419	1425.5	36 D	7.9			
	9400	HUAN	1	S	1423	1425.2	2.2	10	4.8		R
	2800	OTTA	23	GRF	1755	1805	80	4.4	2.8		
	2800	OTTA	2	S/F	1756	1757.7	3	5.6	2.4		
	1420	BOUL	3	S	1757.5E	1758	1.5D	5	1		
	2800	OTTA	26	FAL	2120	2140	20	-4.4	-2.2		
19	200	GORK	44	NS	0430 E		510 E		5		
	260	ONDR	44	NS	0730 E		450 D	27			
	245	SGMR	44	NS	1054 E	1214.2	486 D	45.1			
	410	SGMR	44	NS	1054 E	1419.9	486 D	24.4			
	228	HARS	45	C	0944	0944.2	.5	50	12		
	9100	GORK	20	GRF	0955.7	1002	15.7	6	2		
	2800	OTTA	20	GRF	1230	1250	40	3.8	2.2		
	2800	OTTA	240	R	1430	1447	17	2.4	1.2		
	930	BORD	41	F	1443.3	1443.4	.2	24	2		
	930	BORD	41	F	1501.6	1501.7	.2	16	3		
	7000	SAOP	20	GRF	1611		18	31.5			D
	7000	SAOP			1654	1659	19	389			29R
	7000	SAOP			1654	1656.8	19	389			26R
	7000	SAOP	46	C	1654						
	10400	BERN	46	C	1654	1656.8	16 D	80			
	8400	BERN	46	C	1654	1656.8	16 D	86			
	8400	BERN	46		1654	1656.8	16 D	228			18R
	10400	BERN	46		1654	1656.8	16 D	242			
	1420	BOUL	45	C	1654.5E	1657	6 D	204	58 U		
	605	SGMR	3	S	1654.5	1657.6	17.5	75.3	23		SWF
	1415	SGMR	3	S	1654.5	1656.7	13	211.2	53		SWF
	410	SGMR	6	S	1654.9	1655.5	14.1	144	44		SWF
	4995	BOUL	28	PRE	1654	1657	4	69	23 U		
	2695	BOUL	45	C	1654	1653	10	235	79 U		
	2800	OTTA	46F	C	1654	1657	14	220	73		
	930	BORD	45	C	1654	1656	14	124	35		
	228	HARS	45	C	1655	1655	.5	60	22		
	245	SGMR	6	S	1655.4	1655.7	15.4	25.5	7.8		SWF
	4995	BOUL	4	SF	1658	1659.5	4	234	78 U		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2695	BOUL	4	SF	1659	1700	2 U	227	76 U		
	1420	BOUL	29	PBI	1700.5	1700.5	5.5	41	14 U		
	2800	OTTA	30	PBI	1708	1708	220	15.8			
	2800	OTTA	21	GRF	1634	1955	125	5	2.5		
	2800	OTTA	1	S	1835.9	1836	1	7	3.5		
	2800	OTTA	21	GRF	2100	2105	70	3.2	2.7		
	2800	OTTA	1	S	2109.4	2110.7	2.5	4.4	2.2		
	2695	PENT	26	FAL	2330	2405	35	-5.6	-2.8		
20	200	HIRA	43	NS	0330	0510	325 D	8	2		SR
	221	ABST	44	NS	0630	0725.8	180	9			
	202	IZMI	43	NS	0700		360	20			
	260	ONDR	44	NS	0727 E		459 D	34	2		
	245	SGMR	44	NS	1053 E	1124.1	487 D	9.2			
	410	SGMR	44	NS	1053 E	1113.2	487 D	5.2			
	6100	KISV	4	S/F	0614	0615.3	3	10			
	5730	IRKU	1	S	0615	0615.8	4	13	3		
	930	BORO	45	C	1018.8	1018.8	.2	15	2		
	950	GORK	1	S	1056.1	1057	1.6	5			
	2950	GORK	1	S	1056.3	1057	1.2	6.4	3.2		
	3100	CRIM	25		1143	1240.5	177	26			
	228	HARS	45	C	1208	1208.5	1	110	40		
	228	HARS	45	C	1209.5	1209.8	.7	65	30		
	228	HARS	1	S	1211	1211.2	.5	70	30		
	9500	BERL	20	GRF	1215	1300	115	18			
	3000	BERL	20	GRF	1216	1240.3	164 D	28			
	1470	BERL	20	GRF	1217	1240	163 D	8.1			
	2800	OTTA	27A	RF	1225		255	4	3.7		
	2800	OTTA	24	R	1225	1230	5	4	2		
	9400	HUAN	20	GRF	1229	1431.6	122.6	26.7	7.8		R
	2800	OTTA	24P	R	1230		250	4			
	2800	OTTA	23	GRF	1231	1237	65	5.4	2.7		
	2695	SGMR	20	GRF	1233.6	1235.2	26.4	11.6	5.8		
	8800	SGMR	20	GRF	1234.2	1255.6	25.8	15.1	7.5		
	4995	SGMR	20	GRF	1234.7	1255.3	25.3	12.6	6.3		
	4995	ATHN	2	GRF	1234.7	1240.4	44.8	11.2	6.7		
	1415	ATHN	2	GRF	1234.8	1243	14	8.8	5.3		
	2695	ATHN	2	GRF	1235.2	1240.1	12	9.9	6		
	8800	ATHN	2	GRF	1237	1245.7	42.5	22.3	13.4		
	1415	SGMR	20	GRF	1239.7	1256.9	20.3	8.8	4.4		
	2800	OTTA	1	S	1239.8	1240.4	1.5	5.4	2.7		
	7000	SAOP	40	F	1600						
	9400	HUAN	20	GRF	1609.5	1645.7	36.2	7.8	5		R
	2800	OTTA	26	FAL	1640	1710	30	-4	-2		
	2800	OTTA	1	S	1932	1932.8	1	1.8			
	2800	OTTA	1	S	2030.1	2030.5	1.5	2.4	1.4		
	2800	OTTA	240	AR	2030	2031.8	1.8	2.4			
	4995	BOUL	4	SF	2307.5	2309.5	4.5	31	10		
	2695	PENT	4	S/F	2308.5	2310	7	49	13		
	8800	MANI	4	S/F	2308.5	2310.2	3.4	99.2	33.1		
	2695	MANI	4	S/F	2308.5	2310.2	5.2	47.7	15.9		
	1415	MANI	4	S/F	2308.8	2310.2	5.4	31.3	10.4		
	606	MANI	4	S/F	2309	2309.8	3	22.6	7.5		
	500	HIRA	46	C	2309.1	2309.7	3	77	44		WL
	1415	SYDN	45	C	2309.1	2309.4	4.6	30			
	700	SYDN	45	C	2309.1	2309.9	3.3	35			
	1420	BOUL	4	SF	2309 E	2309.5	5 D	48	16		
21	700	SYDN	4	S	0112.5	0112.7	.5	42			
	5730	IRKU	22	GRF	0223	0225	6	9	5		
	1415	MANI	4	S/F	0244	0245.7	10	82.4	27.5		
	8800	MANI	4	S/F	0244.3	0245.3	5.9	135.1	46		
	2695	MANI	4	S/F	0244.5	0245.3	8.6	133.4	44		
	606	MANI	4	S/F	0244.5	0244.9	4.3	86.9	28.9		
	200	HIRA	46	C	0244.5	0245	1.5	1500	300		G
	1415	SYDN	4	S	0244.6	0245.8	11	81			
	700	SYDN	4	S	0244.6	0245.9	5.4	220			
	5730	IRKU	2	S	0244.8	0245.5	6	79	17		
	500	HIRA	46	C	0245 E	0245.1U	4 D	200 U	50 U		ML
	200	HIRA	46	C	0248.5	0249	2	1200	400		G
	100	HIRA	46	C	0249	0249.1	1	300	150		
	200	GORK	43	NS	0700		360		5		
	260	ONDR	44	NS	0730 E		450 D	23			
	245	SGMR	44	NS	1051 E	1612.3	489 D	14.9			
	410	SGMR	44	NS	1051 E	1328.3	489 D	22.8			
	3100	CRIM	1		0702	0705.5	5	10	3		
	6100	KISV			0705	0715		12			
	6100	KISV	45	C	0705	0717	35	26			
	3100	CRIM	31	ABC	0707	0749	73	6	2		
	10400	BERN	2	S/F	0714	0717.3	6	5			
	8400	BERN	2	S/F	0714	0717.3	6	14			
	10400	BERN	2		0714	0717.4	6	12			
	8400	BERN	2		0714	0717.4	6	37			72
	2950	GORK	20	GRF	0714.9	0717.9	11.2	9.3	4.5		
	9100	GORK	21	GRF	0715.1	0715.9	13	9.5	3.5		

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	5730	IRKU		0715	0718.1		33			
	5730	IRKU	45 C	0715	0716.2	12	10.	6		
	9100	GORK	1 S	0717.6	0718.2	.9	17.5	8.5		
	3100	CRIM	21 E	0830	0900	238	6	2		
	3100	CRIM	1	1001	1002	4	6	2		
	127	TORN	40 F	1056 U	1101.9	16 J	4.9	.3		
	3100	CRIM	28 PE	1205	1302		9			
	2800	OTTA	21 GRF	1248	1302	170	14.8			
	9400	HUAN	28 PRE	1253.8	1300.5D	6.7	4.9	4		O
	8800	ATHN	2 GRF	1253.8	1307.6	44.6	82.4	49.5		
	4995	ATHN	2 GRF	1254	1307.6	41	107.2	64.3		
	2695	ATHN	2 GRF	1258	1307.5	34.7	53.3	32		
	8400	BERN	3	1259	1307.4	34	76			14R
	10400	BERN	3	1259	1307.4	34	52			
	10400	BERN	3 S	1259	1307.4	34	18			
	8400	BERN	3 S	1259	1307.4	34	28			
	4995	SGMR	3 S	1259.7	1307.3	18.5	39.8	11.9		
	15400	SGMR	3 S	1300	1307.4	21.3	30	9.1		
	7000	SAOP	45 C	1300	1307.4	26.6	111			45R
	1415	SGMR	3 S	1300.5	1307.3	13.1	58	17.4		
	2695	SGMR	3 S	1300.5	1307.8	12.9	44.9	13.5		
	8800	SGMR	3 S	1300.5	1307.2	18.5	70	21		
	1415	ATHN	1 F	1300.9	1307.2	23.3	63.6	31.8		
	2650	OWIN	4 SF	1300	1318	25	40	20		
	10715	OWIN	4 SF	1300	1308	20	40	20		
	9500	BERL	29 PBI	1301	1307.3	29	51			
	2800	OTTA	4 S/F	1304.5	1307.5	10	32	12		
	9400	HUAN	3 S	1304.5E	1310.6	6.1	62.6	42		R
	1470	BERL	7 C	1305	1307.4	7.5	43			
	3000	BERL	3 S	1305.5	1307.4	7.8	45			
	606	SGMR	3 S	1305.6	1309.2	4.7	17.3	5.2		
	808	ONDR	46 C	1305	1307.6	7	55	14.6		
	930	BORO	46 C	1305	1306	6	97	10		
	536	ONDR	4 S/F	1306	1309	4	30	2.8		
	9400	HUAN	29 PBI	1310.6	1508.5	117.9	29.6	7.9		R
	7000	SAOP	40 F	1440						
	2800	OTTA	21 GRF	2040	2120	250	15.8	7.9		
	9400	HUAN	20 GRF	2041.3	2146.5	67.2	21.4	11.5		R
	2695	PENT	20 GRF	2242	2248	78	5.4	2.5		
	2695	BOUL	4 SF	2310 E	2311	3.5D	51	17		
22	530	HIRA	46 C	0058.8	0059.9	6	750	79		ML
	606	MANI	4 S/F	0059.2	0059.9	5.7	38.1	12.7		
	2695	PENT	4 S/F	0059.5	0100.2	3	35	12		
	8800	MANI	4 S/F	0059.5	0101.2	5.6	76.6	25.6		
	1415	SYDN		0059.6	0104.4		5			
	1415	SYDN	42 SER	0059.6	0100.6	6.6	18			
	2695	MANI	4 S/F	0059.7	0101.2	6.8	29.3	9.7		
	1415	MANI	4 S/F	0059.9	0101	6.1	18.5	6.2		
	700	SYDN	42 SER	0059.9	0100.3	6.6	34			
	700	SYDN		0059.9	0104.5		9			
	700	SYDN		0059.9	0103.3		6			
	2930	VORO	45 C	0320	0327	15	87			
	5730	IRKU		0322.5	0328.1		32			
	5730	IRKU		0322.5	0326 U		62 D			
	5730	IRKU		0322.5	0325 U		62 D			
	5730	IRKU	45 C	0322.5	0324 U	24	62 D			
	1415	SYDN	4 S	0323.2	0325.3	6.9	28			
	2695	MANI	4 S/F	0323.3	0327.4	7.5	64.9	21.6		
	700	SYDN	2 S	0324.1	0324.6	3.9	25			
	1415	MANI	4 S/F	0324.3	0326	6	23.7	7.9		
	8800	MANI	4 S/F	0324.8	0327.4	4	120.8	40.3		
	35000	NAGO	23 GRF	0325	0327	22	25			
	260	ONDR	44 NS	0718 E		460 D	18			
	4995	SGMR	45 C	1334	1343.1		81.6			SWF
	4995	SGMR	45 C	1334	1340.3	19.8	116	34.8		SWF
	7000	SAOP	46 C	1335	1340.6	30.2	131			26R
	10400	BERN	23	1335.3	1340.6	46	59			
	8400	BERN	23	1335.3	1340.6	46	67			15R
	10400	BERN	23 GRF	1335.3	1340.6	46	21			
	8400	BERN	23 GRF	1335.3	1340.6	46	27			
	4995	ATHN	14 C	1335.4	1340.7	26.5	103	30.9		
	15400	SGMR	3 S	1335.6	1340.5	23.2	47	16.5		SWF
	2695	SGMR	3 S	1336.5	1340.8	13.8	122	36.6		SWF
	2695	ATHN	4 S/F	1336.8	1340.4	15.9	124.7	37.4		
	2800	OTTA	4 S/F	1336	1340.5	15	104	30		
	8800	ATHN	14 C	1337	1343.5		88.7	26.6		
	8800	ATHN	14 C	1337	1340.6	25.3	93.7	28.1		
	3000	BERL	4 S/F	1337	1340.2	15	94			
	9400	HUAN	4 S/F	1337.1	1348	10.9	79.5	45.4		R
	1415	SGMR	45 C	1337.8	1340.2	16.3	75.4	22.6		SWF
	1415	SGMR	45 C	1337.8	1345.2		70.2			SWF
	4995	BOUL	45 C	1337	1340.5	12	54	18		
	808	ONDR		1337	1339.5		46			
	808	ONDR	45 C	1337	1345.2	13	55	15		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME GT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	933	BORO	45	C	1337	1345.2	15	86	15		
	1470	BERL	4	S/F	1338	1340.3	12	81			
	9500	BERL	4	S/F	1338	1340.7	30	71			
	1415	ATHN	14	C	1338.2	1345.3		66.3	19.9		
	1415	ATHN	14	C	1338.2	1339.9	15.9	79.6	23.9		
	8800	SGMR	45	C	1338.3	1343.2		76.5			SWF
	3800	SGMR	45	C	1338.3	1340.3	13.1	91.6	30		SWF
	1420	BOUL	45	C	1338 E	1340	8.50	72	24		
	2650	DWIN	4	SF	1338	1340	20	170	50		
	10715	DWIN	4	SF	1338	1340	25	50	20		
	606	SGMR	3	S	1339	1339.9	5.9	10.6	3.2		SWF
	2695	BOUL	4	SF	1339.5E	1341.5	6 D	133	44		
	536	ONDR	6	S	1340.4	1340.4	.3	26			
	9400	HUAN	29	PBI	1348	1358	130	29.8	11.2		R
	9400	HUAN			1348	1343.5		72.9			R
	2800	OTTA	29	PBI	1351	1351	150	13.4	10.8		
	7000	SAOP	40	F	1457						
	2800	OTTA	240	R	1735	1750	45	3.6	1.8		
	410	SGMR	7	S	1817.4	1819.2	6.1	333	90.9		SWF
	606	SGMR	47	GB	1817.5	1818.7	5.9	1790	537		SWF
	9400	HUAN	45	C	1817.8	1826.8	9	405.7	135.3		R
	1415	SGMR	3	S	1817.9	1819.5	6.1	36.1	10.8		SWF
	4995	SGMR	3	S	1818	1819.2	5.2	132	30.7		SWF
	8800	SGMR	3	S	1818	1819.3	4	305	91.4		SWF
	2695	SGMR	3	S	1818	1819.6	6	64	19.2		SWF
	7000	SAOP	45	C	1818	1820.4	2.8	233			15R
	35000	SGMR	3	S	1818.4	1820	4.6	123	36.8		SWF
	1420	BOUL	3	S	1818.5E	1820	4 D	37	12		
	2800	OTTA	4	S/F	1818.5	1819.1	5	92.4	28		
	15400	SGMR	3	S	1818.6	1820.2	5.4	322	96.6		SWF
	245	SGMR	6	S	1818.6	1819.2	4.9	40.3	12.1		SWF
	4995	BOUL	45	C	1818	1818.5	3	88	29		
	2695	BOUL	45	C	1819.5E	1820.5	3 D	73	24		
	2800	OTTA	20	GRF	1835	2000	195	7.6	5		
	7000	SAOP	24	R	1856.5						D
	7000	SAOP	8	S	1856.5	1914.2	.3	160			4R
	2695	MANI	4	S/F	2337.1	2340.3	5.4	13.4	4.5		
	606	MANI	4	S/F	2337.3	2340.1	3.8	99.2	24.8		
	1415	MANI	4	S/F	2337.8	2340.4	5.4	13	4.2		
	4995	BOUL	3	S	2338.5	2339.5	2	13	4		
	500	HIRA	46	C	2339.1	2340.4	1.5	500	150		G
	2695	PENT	3	S	2339.5	2340.3	2.5	10.6	3.6		
	1415	SYDN	4	S	2339.7	2340.3	1.4	11			
	700	SYDN	4	S	2339.8	2340.5	1.4	29			
	1420	BOUL	3	S	2340 E	2340.5	1 D	12	4		
	2695	BOUL	3	S	2341 E	2341.5	1 D	13	4		
23	1415	MANI	4	S/F	0236.3	0238	3.4	22.3	7.4		
	606	MANI	4	S/F	0237.6	0237.9	.4	91.5	17.6		
	8400	BERN	46		0640	0647.3	17	324			9R
	10400	BERN	46		0640	0647.3	17	371			
	10400	BERN	46	C	0640	0647.3	17	132			
	8400	BERN	46	C	0640	0647.3	17	122			
	4995	ATHN	4	S/F	0644.2	0646.3	7.1	246.4	73.9		
	8800	ATHN	4	S/F	0644.2	0646.3	6.1	426.6	128		
	1415	ATHN	4	S/F	0644.2	0646.5	6.6	134.1	40.2		
	2695	ATHN	4	S/F	0644.2	0646.4	7	275.8	82.8		
	6100	KISV			0645	0848.2		70			
	6100	KISV	46	C	0645	0647.1	15	139			
	2950	GORK	3	S	0645	0647.2	4.5	250			
	950	GORK			0645	0647.6		65			
	950	GORK			0645	0647.1		100			
	950	GORK	46	C	0645	0645.1	5.7	70			
	2950	GORK	29	PBI	0645	0649.5	16.2	18			
	650	GORK			0645	0647.1		280			
	650	GORK			0645	0646.4U		80 D			
	650	GORK	46	C	0645	0645.1U	6	80 D			
	9100	GORK	29	PBI	0645.1	0649.4	23.7	16.5	6		
	9100	GORK	4	SF	0645.1	0647.3	4.3	295			
	500	HIRA	46	C	0645.1	0647.3	5	415	100		WL
	606	MANI	4	S/F	0645.2	0645.3	4.4	382.4	40		
	1415	MANI	4	S/F	0645.3	0647.6	11.9	120	40		
	2695	MANI	4	S/F	0645.3	0647.5	7.3	202.1	67.4		
	8800	MANI	4	S/F	0645.3	0647.4	7.2	382.1	127.4		
	3100	CRIM	3		0646	0648.5	8	256	80		
	15000	KISV	46	C	0646.3	0647	6	366			
	35000	NAGO	5	S	0646	0648	4	29			
	3000	BERL	4	S/F	0646	0648.1	3	133 U			
	9500	BERL	4	S/F	0646	0648.6	6	250 U			
	1470	BERL	4	S/F	0646	0647.8	9 U	89 U			
	202	IZMI	5	S	0647.3	0647.3	.4	1600	800		
	200	GORK	46	C	0648.6	0650.3	7.6	70			
	200	GORK			0648.6	0652		1150			
	221	ABST	45	C	0649.8	0651.5	2.5	38	19		
	202	IZMI	47	GB	0650.5	0651.2	2	1200	600		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22}Wm^{-2}\ Hz^{-1}$		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	234	POTS	4	S/F	0650.8	0651.7	1.8	2800	250		
	100	GORK	46	C	0651.2	0652	7.1	2400			
	100	GORK			0651.2	0657.6		5000			
	100	GORK			0651.2	0656.6		2400			
	113	POTS	42	SER	0651.6	0657.5U	6.1	1000	30		
	127	TORN	45	C	0652.9	0655	3.6	160 U	25 U		
	260	ONDR	44	NS	0706 E		474 D	118			
	410	SGMR	43	NS	1440	1707.6	260 D	536			
	245	SGMR	43	NS	1440	1236	260 D	294			
	3100	CRIM	3		0838	0840	4	50	17		
	2950	GORK	3	S	0838.6	0839.6	3.2	94			
	2695	ATHN	4	S/F	0838.9	0839.7	4.6	56	16.8		
	3000	BERL	3	S	0839	0839.8	3	91			
	9100	GORK	20	GRF	0839.2	0845.8	12	6.5	2.5		
	4995	ATHN	4	S/F	0839.2	0839.7	4.3	75	15		
	6100	KISV	8	S	0839.3	0840	1	5			
	2650	OWIN	4	SF	0839	0840	4	90	30		
	930	BORD	8	S	0841.2	0841.2	.1	21	2		
	228	HARS	45	C	0901	0901.5	1.5	175	70		
	228	HARS	45	C	0916.3	0916.5	1	135	50		
	536	ONDR	8	S	0935.3	0935.3	.3	32			
	228	HARS	45	C	1039.5	1039.8	1	430	150		
	234	POTS	8	S	1039.9	1039.9	.3	1300	250		
	202	IZMI	8	S	1040	1040	.3	800	300		
	228	HARS	45	C	1141.3	1141.5	.5	290	70		
	202	IZMI	4	S/F	1141.5	1142	.5	300	100		
	234	POTS	42	SER	1141.7	1141.9	4.6	420	1		
	113	POTS	8	S	1141.9	1141.9		600	300		
	234	POTS	8	S	1205.4	1205.4	.1	350	120		
	7000	SADP	40	F	1335						D
	228	HARS	45	C	1627.5	1628	3	115	40		
	228	HARS	45	C	1708	1708.5	1.5	240	100		
	2800	OTTA	20	GRF	1740	1746	15	2.2	1.1		
	2800	OTTA	40	F	1900	1907	28	8			
	9400	HUAN	21	GRF	1929.5	2234.4	184.9	23	17.9		R
	2800	OTTA	21	GRF	1935	2100	265	8.8	4.4		
	4995	BOUL	45	C	2043	2045.6	11	33	11		
	9400	HUAN	3	S	2044.6	2048.1	3.5	24.6	18.9		R
	2800	OTTA	4	S/F	2044	2046.5	8	32.4	10.8		
	2695	BOUL	4	SF	2045 E	2048	5 D	30	10		
	4995	BOUL	45	C	2224.5	2226.5	4	35	12		
	1415	MANI	4	S/F	2224.7	2227.4	5.3	39.1	13		
	9400	HUAN	3	S	2225	2229.7	4.7	47.6	23.9		R
	500	HIRA	46	C	2225.4	2227	3	105	30		D
	2695	MANI	4	S/F	2225.9	2227.4	4.1	66.8	22.1		
	606	MANI	4	S/F	2225.9	2227.3	3.1	279.6	94		
	2695	PENT	4	S/F	2225	2227	7	72	18		
	8800	MANI	4	S/F	2226.3	2227.2	2.7	99.9	33.5		
	2695	BOUL	45	C	2226.5E	2228	3 D	64	21		
	1420	BOUL	4	SF	2226 E	2227	2.5D	35	12		
24	500	HIRA	46	C	0130	0130.6	2.3	35	8		WL
	200	GORK	44	NS	0433		447		5		
	127	TORN	44	NS	0630 E	1021.9	510 D	7	4		VD
	260	ONDR	44	NS	0718 E		442 D	44			
	410	SGMR	43	NS	1315.1	1752.6	344.9D	34.8			
	245	SGMR	43	NS	1315.5	1752	344.5D	411			
	200	GORK	46	C	0524.8	0525.6	10.3	18 D			
	200	GORK			0524.8	0530.4		75			
	200	GORK			0524.8	0528.6		100			
	100	GORK	4	SF	0534.3	0535.8	1.9	115			
	200	GORK	8	S	0612.3	0612.5	.4	55			
	100	GORK	8	S	0612.3	0612.5	.7	120 D			
	100	GORK	8	S	0627.4	0627.7	.8	130 D			
	9100	GORK	21	GRF	0717.8	0725	30.7	9	3.5		
	650	GORK	4	SF	0718.3	0721	3.3	215			
	15000	KISV	46	C	0718	0721.1	6	172			
	10400	BERN	4	S/F	0719.9	0721.1	8	80			
	8400	BERN	4	S/F	0719.9	0721.1	8	100			
	8400	BERN	4		0719.9	0721.1	8	266			4R
	10400	BERN	4		0719.9	0721.1	8	235			
	6100	KISV	46	C	0719	0721.3	9	93			
	6100	KISV			0719	0723		20			
	6100	KISV			0719	0722.3		28			
	6100	KISV			0719	0722		32			
	3000	BERL	4	S/F	0720.1	0721.1	4.9	100			
	2695	MANI	4	S/F	0720.2	0721.2	4.8	119.7	39.9		
	8800	MANI	4	S/F	0720.2	0721.2	4.8	318.6	106.2		
	1415	MANI	4	S/F	0720.2	0721	5.8	73.8	24.6		
	606	MANI	4	S/F	0720.2	0720.4	2.3	352	117.3		
	9500	BERL	4	S/F	0720.3	0720.9	3.7	233			
	1470	BERL	4	S/F	0720.3	0721.5	4.7	60			
	500	HIRA	46	C	0720.3	0720.4	1.6	88	48		WL
	2950	GORK	3	S	0720.4	0721	6.8	82			
	9100	GORK	4	SF	0720.4	0721.3	3.6	279			

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	1415	ATHN	4 S/F	0720.4	0721.3	4.1	58.7	17.6		
	2695	ATHN	4 S/F	0720.4	0721.3	5.3	110.7	33.2		
	4995	ATHN	4 S/F	0720.5	0721.4	9.1	149.5	44.9		
	8800	ATHN	4 S/F	0720.5	0721.3	9.1	334.8	100.4		
	3100	CRIM	3	0721.5	0722	5	100	30		
	950	GORK	5 S	0720.5	0721.6	4.2	112			
	536	ONDR	41 F	0720	0720.4	21	124	3		
	308	ONDR	4 S/F	0720	0721.3	4	92	31		
	10715	OWIN	4 SF	0720	0721	4	160	80		
	2650	OWIN	4 SF	0720	0721	5	110	50		
	200	GORK	8 S	0725.7	0726	.6	20			
	228	HARS	45 C	0735	0735.3	.8	100	30		
	3100	CRIM	24	0800	1020		5			
	7000	SAOP	24 R	1148.6						G
	9400	HUAN	28 GRF	1336.6	1351.2	44.6	7.9	5.2		R
	410	SGMR	6 S	1315.1	1317.1	2.5	166	49.8		
	245	SGMR	40 GB	1315.5	1317	1.9	932	280		
	536	ONDR	4 S/F	1315.5	1317	5	228	10		
	234	POTS	4 S/F	1315.5	1316.7	1.8	1000	50		
	4995	SGMR	3 S	1315.7	1316.6	6.1	13.4	4		
	8800	SGMR	1 S	1315.7	1316.6	7.3	5.8	1.7		
	606	SGMR	3 S	1315.8	1316.8	2	381	114		
	260	ONDR	45 C	1315	1316.8	5	206	32		
	3000	BERL	4 S/F	1316	1317.1	2.5	34			
	7000	SAOP	3 S	1316	1316.8	2	16			S6R
	228	HARS	45 C	1316.2	1317	1.5	575	250		
	1415	SGMR	3 S	1316.3	1316.8	1.5	68.6	20.6		
	2695	ATHN	1 F	1316.4	1317.2	1.6	69.9	35		
	4995	ATHN	2 GRF	1316.4	1317	2.3	13.6	8.2		
	8800	ATHN	2 GRF	1316.4	1317	1.1	9.4	5.7		
	1415	ATHN	1 F	1316.5	1317	1.3	73.1	36.6		
	1470	BERL	4 S/F	1316.5	1317.1	1.5	56			
	9500	BERL	1 S	1316.5	1317.5	1.7	9.7			
	2695	SGMR	3 S	1316.7	1317.3	1.5	55.5	16.7		
	808	ONDR	2 S/F	1316	1317.2	2	48	19		
	2650	OWIN	45 C	1316	1317	2	80	20		
	930	BORO	45 C	1316	1316.8	2	76	15		
	2800	OTTA	21 GRF	1410	1450	230	11.4			
	9400	HUAN	28 PRE	1420.2	1441.6	21.4	17.5	3.2		O
	10400	BERN	46 C	1440	1442.7	33	37			
	8400	BERN	46 C	1440	1442.7	33	26			
	10400	BERN	46	1440	1442.7	33	139			
	8400	BERN	46	1440	1442.7	33	69			O
	7000	SAOP	45 C	1440	1446.7	52	94			O
	4995	BCUL	45 C	1440.5	1446.5	10	39	13		
	4995	SGMR	45 C	1441.5	1442.3	10.5	43	17		S,SWF
	4995	SGMR	45 C	1441.5	1446.7		56			S,SWF
	8800	ATHN	2 GRF	1441.5	1454	12.5	138.6	65.1		
	4995	ATHN	2 GRF	1441.6	1447	12.6	47.7	28.6		
	2695	ATHN	2 GRF	1441.6	1443	9.6	14.7	8.8		
	15400	SGMR	3 S	1441.6	1443	7.2	244	49		S,SWF
	9400	HUAN	45 C	1441.6	1449.5	7.9	119.1	44.6		R
	8800	SGMR	45 C	1441.7	1442.5	10.3	125	38		S,SWF
	8800	SGMR	45 C	1441.7	1446.7		92			S,SWF
	2800	OTTA	2 S/F	1441	1446.8	9	9	4.9		
	10715	OWIN	45 C	1441	1443	15	110	40		
	2695	BCUL	20 GRF	1443 E	1448	15.5D	11	4		
	9400	HUAN	29 PBI	1449.5	1602.2	72.7	19	11.4		O
	7000	SAOP	40 F	1650						O
	4995	BCUL	3 S	1720	1721	3	15	5		
	7000	SAOP	3 S	1721	1721.8	1.2	16			S6R
	228	HARS	45 C	1721.2	1721.8	1.2	300	150		
	2800	OTTA	1 S	1721	1722	2	9.8	4.9		
	2695	PENT	2 S/F	2156	2159	6	5	2.5		
25	8800	MANI	4 S/F	0039.5	0040.9	8.8	252.8	84.3		
	4995	BCUL	4 SF	0039	0040	4	113	38		
	2695	MANI	3 S	0040	0041.1	8.3	30.1	10		
	1415	MANI	4 S/F	0040.5	0042.9	5.5	41.6	4.9		
	2695	PENT	45 C	0040	0041	8	32.6	17.6		
	35000	NAGO	5 S	0040	0040	2	49			
	35000	NAGO	30 PBI	0042	0047	14	11			
	2695	PENT	29 PBI	0048	0048	40 D	14			
	500	HIRA	42 SER	0452.4	0458	9	345			C
	9100	GORK	22 GRF	0522.5	0530	12.9	9			
	530	HIRA	46 C	0529	0529.8	1.3	1400	340		C
	650	GORK	4 SF	0529.3	0529.5	1.2	78	23		
	950	GORK	1 S	0529.4	0530	1.2	7			
	200	GORK	8 S	0529.7	0529.9	.7	15			
	3100	CRIM	24	0644	0710		10			
	9100	GORK	20 GRF	0546.7	0652.2	44	22	9.5		
	6100	KISV	20 GRF	0646	0652.3	14	9			
	2950	GORK	21 GRF	0649.4	0654.7	220	6			
	260	ONDR	44 NS	0720 E		460 D	12			
	536	ONDR	43 NS	0856		324	260			

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	410	SGMR	44	NS	1044 E	1543.5	496 D	47			
	245	SGMR	44	NS	1044 E	1824.7	496 D	338			
	650	GORK	1	S	0857.4	0857.5	.5	5	2.5		
	9100	GORK	1	S	0909.2	0910.1	5.3	5	2.5		
	650	GORK	1	S	0909.7	0909.9	.3	11.5	6		
	6100	KISV	1	S	0914	0915	2	3			
	650	GORK	3	S	0941.6	0941.8	.6	37	18		
	9100	GORK	1	S	0945.6	0946.2	1.7	4	2		
	650	GORK	22	GRF	0945.6	0950.7	13.2	24	10		
	2950	GORK	3	S	0953.6	0954.6	28	17	5		
	3000	BERL	3	S	1022.7	1024.9	3.3	16			
	6100	KISV	3	S	1022	1024.3	5	20			
	10400	BERN	3	S	1023	1024.4	8	5			
	8400	BERN	3	S	1023	1024.4	8	10			
	9500	BERL	3	S	1023	1024.5	4	19			
	10400	BERN	3		1023.1	1024.4	8	15			
	8400	BERN	3		1023.1	1024.4	8	27			J
	8800	ATHN	2	GRF	1023.2	1024.4	5.3	37.8	22.7		
	1415	ATHN	4	S/F	1023.2	1024	4	73.6	22.1		
	4995	ATHN	2	GRF	1023.2	1024.4	4.1	25.1	15		
	2695	ATHN	2	GRF	1023.5	1024.5	3	6.7	4		
	1420	BERL	4	S/F	1023.5	1024.4	2	78			
	9100	GORK	3	S	1023.6	1024.6	4.8	27.5	13.5		
	950	GORK	1	S	1024	1024.1	.4	4	2		
	650	GORK	46	C	1155.9	1156.1	1.8D	74			
	650	GORK			1155.9	1156.9		100			
	808	ONDR	42	SER	1156	1157	4	80			
	930	BORD	42	SER	1156	1156.7	3.6	111	2		
	808	ONDR	3	S	1417.1	1417.1	.2	30			
	9400	HUAN	2	S/F	1631.8	1634.3	2.6	21.6	8.5		R
	4995	BCUL	4	SF	1631	1633	3	20	7		
	2800	OTTA	1	S	1632	1633.4	3	8.2	2.8		
	7000	SAOP	46	C	1756.5	1811.3	20.7	615			3L
	245	SGMR	6	S	1757.3	1803.2	9.7	164	49.2		SWF
	4995	SGMR	3	S	1800.5	1808.9	13.9	410	123		SWF
	8800	SGMR	47	GB	1800.6	1808.8	15.2	776	233		SWF
	1415	SGMR	3	S	1800.7	1809.4	17.5	93.8	28.1		SWF
	9400	HUAN	45	C	1800.8	1811.3	10.5	501.3	147.4		L
	4995	BCUL	45	C	1800	1809	15.5	336	112		
	15400	SGMR	3	S	1802	1808.2	13	361	108		SWF
	606	SGMR	3	S	1802.2	1809.3	11.8	10.6	3.2		SWF
	2800	OTTA	4	S/F	1802.2	1809	13.8	325	63		
	410	SGMR	6	S	1802.4	1804	1.7	38.4	11.5		SWF
	2800	OTTA	21	GRF	1802	1907	180	17.4	9.2		
	2695	SGMR	3	S	1803.3	1809.6	15.5	356	107		SWF
	2695	BCUL	45	C	1803.5E	1810	11.5D	362	121		
	1420	BOUL	3	S	1807.5E	1809.5	8.5D	105	35		
	9400	HUAN	29	PBI	1811.3	1835.2	23.9	36.5	25.6		L
	2800	OTTA	29	PBI	1816	1816	14	9.8	3.2		
	9400	HUAN	21	GRF	1901.7	2050.2	108.5	21.6	10.7		G
	9400	HUAN	1	S	1946.5	1948.5	2	8.3	7		L
	9400	HUAN	2	S/F	2123.7	2125.4	1.7	10	9		R
	500	HIRA	46	C	2229.6	2230.5	1.5	235	75		O
26	700	SYDN	4	S	0015.9	0016.7	2.3	17			
	700	SYDN	8	S	0019.4	0020	.9	30			
	700	SYDN	4	S	0051.2	0051.7	1.4	17			
	5730	IRKU	2	S	0129	0136.7	13	72			
	2930	VORO	3	S	0133	0139	9	51			
	2695	MANI	3	S	0135.1	0136.7	4.2	42.4	14.1		
	1415	MANI	4	S/F	0135.3	0136.8	3.2	9.7	3		
	1415	SYDN	2	S	0135.5	0137	4	13			
	8800	MANI	3	S	0135.9	0136.5	1.6	36.5	12.1		
	5730	IRKU	29	PBI	0142		65	26			
	700	SYDN	8	S	0220.2	0220.2	.2	41			
	700	SYDN	8	S	0236	0236.9	1.2	125			
	5730	IRKU	22	GRF	0308.7	0317.8	14	18	8		
	500	HIRA	46	C	0316.9	0317.3	1	65	30		O
	9100	GORK	1	S	0526.6	0527	2	14	7		
	650	GORK	1	S	0549.3	0549.4	.5	1.1			
	9100	GORK	21	GRF	0551.5	0750.2	137.6	12	7		
	5730	IRKU	1	S	0706.5	0707.1	2	12			
	9100	GORK	1	S	0706.7	0707	.8	7.5	3.5		
	221	ABST	4	S/F	0746	0746.5	1	39	16		
	1420	BERL	20	GRF	0747	0757.5	25	2.4			
	10400	BERN	3	S	0747.8	0748.4	4	8			
	8400	BERN	3	S	0747.8	0748.4	4	10			
	10400	BERN	3		0747.8	0748.4	4	23			CPR
	8400	BERN	3		0747.8	0748.4	4	27			CPR
	3000	BERL	20	GRF	0748	0751	12	6.3			
	9500	BERL	29	PBI	0748	0749.4	21	19			
	9100	GORK	1	S	0748.1	0748.4	1	24	12		
	4995	ATHN	2	GRF	0748.1	0748.5	3.7	6.8	4.1		
	8800	ATHN	2	GRF	0748.2	0748.5	3.8	25.1	15		
	228	HARS	45	C	0749.5	0750	1.5	350	150		

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	260	ONDP	44	NS	0750 E		443 D	88	6		
	410	SGMR	44	NS	1042 E	1124.8	498 D	81			SWF
	245	SGMR	44	NS	1042 E	1334.4	498 D	249			SWF
	127	TORN	43	NS	1226 U	1305.7	154 D	18	14		VO
	950	GORK	1	S	0750.2	0750.5	1	2			
	200	GORK	4	SF	0750.2	0751.2	1.2	27			
	650	GORK	3	S	0750.3	0750.5	.5	12	6		
	234	POTS	4	S/F	0750.4	0750.6	.7	350	50		
	536	ONDR	42	SER	1121.5	1123	5	27			
	930	BORD	41	F	1121	1122.2	4	47	2		
	33	UPIC	4	S/F	1123.9		1.1				
	15000	KISV	46	C	1123	1211	57	300			
	15000	KISV	29	PBI	1123	1220	D	40			
	15000	KISV			1123	1152		110			
	29	UPIC	4	S/F	1124.1	1124.2	.7				
	7000	SAOP	46	C	1138	1211.7		778			BL
	9100	GORK	47	GB	1139.2	1152	80.8E	260			
	4995	ATHN	5	GB	1139.8	1211.1	45.2	679.8	203.9		
	8800	ATHN	5	GB	1140.8	1211.1	63.7	2051.9	615.6		
	950	GORK			1142.1	1147.5		30 D			
	950	GORK	46	C	1142.1	1143.7	35	30 D			
	950	GORK			1142.1	1210.5		90			
	808	ONDR	41	F	1142	1147.6	14	100	7		
	930	BORD	46	C	1142	1143.2	16	135	10		
	1415	SGMR	45	C	1144.8	1210.2		157			SWF
	1415	SGMR	45	C	1144.8	1152	31.7	12	47		SWF
	650	GORK	40	F	1145.9	1147.9	6.2	8			
	650	GORK			1145.9	1151.9		5			
	650	GORK			1145.9	1150.4		2.5			
	9500	BERL	28	PRE	1145	1152.1	12	214			
	6100	KISV			1145	1152		100			
	6100	KISV	46	C	1145	1209	40	114			
	6100	KISV	29	PBI	1145	1225	D	32			
	6100	KISV			1145	1212		114			
	8800	SGMR	47	GB	1147.1	1151.8	29	247	219		SWF
	8800	SGMR	47	GB	1147.1	1211		729			SWF
	15400	SGMR	45	C	1147.1	1210.7		262			SWF
	15400	SGMR	45	C	1147.1	1152.3	36.5	256	73		SWF
	4995	SGMR	47	GB	1147.3	1151.7	30.9	94	173		SWF
	4995	SGMR	47	GB	1147.3	1211		577			SWF
	9400	HUAN	45	C	1147.5	1203 D	15.5	247.9	67		L
	2950	GORK			1148.1	1211		240			
	2950	GORK			1148.1	1209.6		700			
	2950	GORK	47	GB	1148.1	1152	72 D	50			
	10400	BERN	46	C	1149.2	1210.8	50	100			
	8400	BERN	46	C	1149.2	1210.8	50	140			
	10400	BERN	46	C	1149.2	1152	50	60			
	8400	BERN	46	C	1149.2	1152	50	62			
	8400	BERN	46		1149.2	1210.8	50	375			SR
	8400	BERN	46		1149.2	1152	50	163			SR
	10400	BERN	46		1149.2	1152	50	165			
	10400	BERN	46		1149.2	1210.8	50	317			
	2695	ATHN	5	GB	1149.2	1211.2	35.3	519.1	155.7		
	1415	ATHN	4	S/F	1150	1210.2	27.5	172.9	51.9		
	3100	CRIM	3		1150	1152.5	6	35	12		
	2695	SGMR	45	C	1150.2	1152.5	27	49	149		SWF
	2695	SGMR	45	C	1150.2	1211.5		496			SWF
	3000	BEPL	28	PRE	1150	1152	5.5	42			
	1470	BERL	28	PRE	1150	1152.3	6	12			
	10715	DWIN	4	SF	1150	1153	6	170	100		
	2650	DWIN	4	SF	1151	1152	5	40	20		
	9500	BERL	28	PRE	1200	1210.8	40	492			
	3000	BERL	28	PRE	1200	1211	21	432 U			
	1470	BERL	28	PRE	1202	1210.9	18	154			
	650	GORK	28	PRE	1203.8	1204.4	.7	7.5	3.6		
	2650	DWIN	45	C	1203		20	130 D			
	650	GORK	4	SF	1204.6	1210.2	11.9	140			
	650	GORK	29	PBI	1204.6	1216.5U	43.5D	9			
	9400	HUAN	45	C	1206.5	1211.8	5.3	322.1	177.9		L
	808	ONDR	4	S/F	1206	1210	6	172	43		
	10715	DWIN	45	C	1207	1210	3	230 D			
	930	BORD	45	C	1207	1210	9	239	35		
	3100	CRIM	29	PB	1209	1216	60	16			
	3100	CRIM	47	B	1209	1210.5	16	426	120		
	9100	GORK			1210.6			480 D			
	9400	HUAN	29	PBI	1211.8	1253.4	41.6	70.2	9.7		L
	536	ONDR	4	S/F	1212	1212.5	2.5	169	21		
	127	TORN	45	C	1215.8	1217.6	2.8	140			
	113	POTS	4	S/F	1215.9	1216.8	1.9	210	25		
	536	ONDR	23	GRF	1225	1316	55	14	11		
	808	ONDR	23	GRF	1227	1237	34	48	22		
	234	POTS	41	F	1323.2	1324.3	1.5	230	8		
	9500	BERL	20	GRF	1405	1427	55 D	26			
	2800	OTTA	23	GRF	1435	1455	100	10.8	6		
	3000	BERL	20	GRF	1436	1450	54 D	16			

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	9400	HUAN	20 GRF	1409.1	1511.5D	62.4	39.6	21.9		L
	8800	ATHN	2 GRF	1413.6	1436.7	50.1	34.6	20.7		
	4995	ATHN	2 GRF	1413.6	1436.2	50.1	12.8	7.7		
	10400	BERN	20	1414	1427	86	24			
	8400	BERN	20	1414	1427	86	33			OPR
	10400	BERN	20	1414	1427	86	8			
	8400	BERN	20	1414	1427	86	12			
	1470	BERL	20 GRF	1415	1453	45 D	6.7			
	2800	OTTA	26 FAL	1645	1705	20	-2.8	-1.4		
	606	SGMR	3 S	1653	1653.2	.3	15	3		SWF
	245	SGMR	48 GB	1653	1653.2	.5	638	128		SWF
	410	SGMR	6 S	1653	1653.1	.4	146	29		SWF
	2800	OTTA	28 GRF	1715	1800	95	5	2.6		
	2695	PENT	26 FAL	1842	1908	16	-2.4	-1.2		
	2800	OTTA	21 GRF	2035	2040	55	3.6	1.8		
	2695	PENT	2 S/F	2013	2013.5	3	6	3		
	2800	OTTA	6 S	2139.8	2110	.5	2.8	1.4		
	2800	OTTA	1 S	2139.5	2141	3	4.4	2.4		
	4995	BOUL	3 S	2139.5	2140.5	3	15	5		
	2695	MANI	4 S/F	2357	2359.6	5.5	40.7	9		
	500	HIRA	46 C	2357.2	2359.6	3	100	26		WRWL
	1415	SYDN	42 SER	2357.4	2358	3.7	60			
	700	SYDN		2357.4	2359.8		93			
	700	SYDN	42 SER	2357.4	2359.2	3.5	43			
	700	SYDN	42 SER	2357.4	2358	3.5	32			
	1415	SYDN		2357.4	2359.7		228			
	1415	SYDN		2357.4	2359.1		106			
	2695	PENT	45 C	2357.5	2400	5.3	40	11.2		
	1420	BOUL	42 SER	2357.5E	2359.5	3 D	409	136		
	606	MANI	4 S/F	2357.5	2359.7	2.9	56.7	18.9		
	1415	MANI	4 S/F	2357.5	2359.7	4	279.7	55.5		
	2695	BOUL	45 C	2358 E	0000.5	4 D	36	12		
	4995	BOUL	6 S	2358	2359	2.5	51	17		
	8800	MANI	4 S/F	2359.3	2359.6	.8	55.3	18.4		
27	500	HIRA	46 C	0007.4	0010	4	77	24		SL
	500	HIRA	46 C	0025.2	0026	3	360	50		WL
	5730	IRKU		0540	0556.4		30			
	5730	IRKU		0540	0553.5		36			
	5730	IRKU		0540	0548.4		41			
	5730	IRKU	45 C	0540	0546.4	31	23			
	5730	IRKU		0540	0607.5		135			
	5730	IRKU		0540	0602.3		92			
	9100	GORK	25 R	0543.3		407 E	13.5			
	3100	CRIM	28 PB	0544	0548.5	12	20	7		
	4995	ATHN	2 GRF	0544.5	0548.5	13.8	36.7	22		
	2695	ATHN	2 GRF	0544.7	0548.5	13.2	10.1	6.1		
	8800	ATHN	2 GRF	0544.8	0548.5	14.2	108.7	65.2		
	200	GORK	43 NS	0545		120 E		5		
	221	ABST	44 NS	0600	0814	180	12			
	260	ONOR	44 NS	0710 E		478 D	30	3		
	245	SGMR	43 NS	1040 E	1550	500 D	83.8			CONT
	410	SGMR	43 NS	1040 E	1455.9	500 D	221			CONT
	536	ONOR	43 NS	1120		220 D	36			
	606	SGMR	43 NS	1310.9	1351	349.1D	22.4			CONT
	2950	GORK	21 GRF	0545	0548.7	54	17			
	9100	GORK		0545	0607.4		312			
	9100	GORK		0545	0603.7		234			
	9100	GORK	46 C	0545	0548.6	28	140			
	35000	NAGO	5 S	0545	0549	14	100			
	3100	CRIM	1	0556	0557	2	9	3		
	35000	NAGO	5 S	0559	0608	28	149			
	4995	ATHN	14 C	0600.2	0607.6	24.5	162	48.6		
	8800	ATHN	14 C	0600.2	0607.6	24.3	197.6	59.3		
	1415	ATHN	2 GRF	0600.4	0605.2	15.6	48.4	29		
	2695	ATHN	2 GRF	0600.4	0606.2	16.7	74.1	44.5		
	3100	CRIM	29 PB	0600.5	0608.5		19			
	3100	CRIM	3	0600.5	0606	8	104	30		
	2950	GORK	3 S	0600.6	0606.3	10.6	138			
	8800	MANI	4 S/F	0600.9	0607.6	10.5	266.2	156.6		
	2695	MANI	4 S/F	0601	0606.5	10.7	72.1	40.1		
	10400	BERN	4	0601 E	0607.4	14 D	37 D			
	8400	BERN	4	0601 E	0607.4	14 D	32 D			
	8400	BERN	4	0601 E	0607.4	14 D	85 D			
	1415	MANI	4 S/F	0601	0605.6	10.7	34	17		
	10400	BERN	4	0601 E	0607.4	14 D	107 D			
	950	GORK		0602.1	0607.3		29			
	950	GORK	45 C	0602.1	0606.1	14	37			
	650	GORK	4 SF	0604	0606.2	3.6	14			
	500	HIRA	46 C	0605.5	0605.7	1	22	10		G
	606	MANI	3 S	0605.7	0606.5	1.5	15.7	5.3		
	200	GORK	4 SF	0608.3	0608.6	.9	25			
	234	POTS	8 S	0638.5	0638.6	.1	260	50		
	5730	IRKU	1 S	0713	0713.3	1	8	3		
	9100	GORK	1 S	0713.1	0713.3	.9	9	4.5		

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	6100	KISV	4 S/F	0713	0713.2	2	7			
	202	IZMI	45 C	0810.8	0815.2	6.7	1410	600		
	221	ABST	46 C	0811	0814	5	67	24		
	808	ONDR	45 C	0811.4	0812.5	3	152	74		
	260	ONDR	46 C	0811.5		8.5	212 D	77		
	228	HARS	48 C	0811.5	0814 U	10	550	70		
	113	POTS	45 C	0811.9	0811.9	12	700	20		
	234	POTS	45 C	0811.8	0812.7	6	1700	200		
	536	ONDR	4 S/F	0811	0813.3	9	14	7.8		
	930	BORO	45 C	0811	0812.5	3	99	30		
	1470	BERL	3 S	0814	0816.2	6	5.5			
	3000	BERL	3 S	0814	0816	5	10			
	234	POTS	8 S	0848.5	0848.5	.2	630	160		
	536	ONDR	3 S	0848.6	0848.6	.3	22			
	260	ONDR	8 S	0848	0848	.3	212 D			
	1470	BERL	41 F	1001.4	1001.6	2.1	6.2			
	234	POTS	42 SER	1110.4	1119.5	10	175	2		
	7600	SAOP	45 C	1116	1123.6	44	67			C
	2950	GORK	21 GRF	1117	1121	49	13			
	3000	BERL	7 C	1118	1123.5	59	37			
	3100	CRIM		1118.5	1123.5	34	100	33		
	127	TORN	45 C	1119.4	1120.9	40 U	110			
	2695	SGMR	3 S	1120	1123	15	58.8	17.6		3S
	2695	ATHN	4 S/F	1120	1123.6	18.8	86.3	25.9		
	4995	SGMR	3 S	1120.2	1122.8	14.5	70.5	21.2		3S
	33	UPIC	46 C	1120.2	1123.2	11.1				
	29	UPIC	46 C	1120.2	1123.4	11.4				
	1470	BERL	31 ABS	1120.5	1130	35	11			
	4995	ATHN	4 S/F	1120.5	1123.7	36.9	73.4	22		
	10400	BERN	23	1120.6	1134.8	76	20			
	8400	BERN	23	1120.6	1134.8	76	27			C
	10400	BERN	23	1120.6	1134.8	76	7			
	8400	BERN	23	1120.6	1134.8	76	10			
	8800	SGMR	3 S	1120.8	1122.4	14.5	20.8	6.2		3S
	6100	KISV	45 C	1120	1130	17	19			
	6100	KISV	29 PBI	1120	1137	23	10			
	6100	KISV		1120	1135		15			
	2950	GORK		1121	1135		26			
	2950	GORK		1121	1130.3		36			
	2950	GORK	46 C	1121	1124.1	19.2	48			
	8800	ATHN	2 GRF	1121	1123.8	37	38.9	23.3		
	1415	ATHN	2 GRF	1121.2	1121.9	17.1	4.6	2.7		
	9100	GORK	40 F	1121.7	1123.7	17.5	40			
	9500	BERL	22 GRF	1121	1135	69	26			
	650	GORK	20 GRF	1124	1133.1	24	7.6			
	29	UPIC	2 S/F	1152.6	1153.1	1.1				
	33	UPIC	2 S/F	1152.8	1153	.6				
	2650	DWIN	45 C	1218	1223	30	90	30		
	1470	BERL	3 S	1222.5	1223	1.5	6.7			
	2650	DWIN	45 C	1307	1308	3	60	20		
	9400	HUAN	21 GRF	1514.3	1641	86.7	4.9	2.3		R
	9400	HUAN	1 S	1628.9	1630.3	1.4	8.2	6.6		R
	2800	OTTA	240 R	1835	1930	95	3.6	1.8		
	2800	OTTA	20 GRF	2105	2155	100	2.6	1.3		
28	700	SYDN		0508.7	0513					
	700	SYDN	40 F	0508.7	0510.4	6.5	28			
	500	HIRA	46 C	0510	0514.3	9	70	30		ML
	221	ABST	43 NS	0511	0534	45	32			
	3100	CRIM	1	0543.5	0544	1	10	3		
	2950	GORK	1 S	0543.7	0544.1	1.5	6			
	950	GORK		0636.2	0610.2		4			
	950	GORK	45 C	0636.2	0636.4	4.2	2			
	650	GORK		0636.3	0639.4U		27 D			
	650	GORK	45 C	0636.3	0636.4	5.2	8.5			
	650	GORK		0636.3	0640.5		20			
	2950	GORK	29 PBI	0643	0645.2	27	10	3.5		
	2950	GORK	3 S	0643	0644.2	2.2	20	10		
	3100	CRIM	1	0643	0644	4	20	7		
	950	GORK	1 S	0644	0645	5.6	2			
	260	ONDR	44 NS	0716 E		464 D	44			
	245	SGMR	44 NS	1038 E	1119.4	502 D	17.6			
	413	SGMR	44 NS	1038 E	1829.6	502 D	32.7			
	930	BORO	46 C	1232.6	1233	.8	31	2		
	2800	OTTA	20 GRF	1240	1325	230	6.2	3.3		
	930	BORO	41 F	1332	1334.8	3	34	2		
	2800	OTTA	20 GRF	1720	1850	195	3.6	1.8		
	2695	PENT	20 GRF	2215	2255	135	3.4	1.7		
29	950	GORK	1 S	0651.8	0656.6	12.2	6	3		
	3100	CRIM	22 PE	0710	0747		27			
	260	ONDR	44 NS	0713 E		464 D	50			
	245	SGMR	44 NS	1039 E	1622.2	501 D	45.1			
	413	SGMR	44 NS	1039 E	1328.3	501 D	14.1			
	10400	BERN	20	0717	0735.7	35	10			

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	8400	BERN	20		0717	0735.7	85	12			
	8400	BERN	20		0717	0735.7	85	33			D
	10400	BERN	20		0717	0735.7	85	29			
	3000	BERL	20	GRF	0718	0749	77	20			
	6100	KISV	24	R	0720	0740 D		16			
	950	GORK	22	GRF	0721.6	0725.1	9.3	4			
	2950	GORK	20	GRF	0721.8	0725.8	89	15	6		
	1470	BERL	20	GRF	0721	0749.2	69	7			
	650	GORK	40	F	0722.5	0723.1	7.5	4.5			
	9100	GORK	25	R	0722.5		337 E	18			
	650	GORK			0722.5	0728.8		2.5			
	650	GORK			0722.5	0725.1		3.2			
	9500	BERL	20	GRF	0723	0740.2	66	23			
	15000	KISV	27	RF	0725	0730.2	10	13			
	8800	ATHN	1	F	0812.4	0815	4.9	74.1	37.1		
	9500	BERL	3	S	0950.1	0950.7	2.4	27			
	9100	GORK	3	S	0951.2	0951.4	.8	38	19		
	3100	CRIM	3		1052.5	1103	14	21	10		
	8800	ATHN	2	GRF	1054.1	1102.5	21.2	39	23.4		
	6100	KISV	27	RF	1054	1103.2	66	10			
	2950	GORK	20	GRF	1055.2	1104.6U	99 D	20 U			
	2695	ATHN	2	GRF	1055.9	1103.5	14.8	18.7	11.2		
	950	GORK	45	C	1056	1057	16.7	3.6			
	950	GORK			1056	1104		6			
	4995	ATHN	2	GRF	1056.1	1103.4	14.2	23.4	14		
	1415	ATHN	2	GRF	1056.2	1103.5	13	22.3	13.4		
	9500	BERL	20	GRF	1057.5	1115.5	38	6.7			
	3000	BERL	3	S	1059	1103.2	10	11			
	1470	BERL	3	S	1101	1102.8	8	8.5			
	15000	KISV	1	S	1114.3	1152.2	3	5			
	2800	OTTA	20	GRF	1230	1252	70	2.6	1.3		
	228	HARS	48	C	1248	1248.5U	7	350	30		
	245	SGMR	7	S	1248.5	1250.8	4.5	451	90.2		
	410	SGMR	6	S	1248.6	1250.6	4.4	43.5	8.7		
	234	POTS	41	F	1249.2	1249.6	4.3	350	4		
	260	ONDR	46	C	1249	1251.8	6	128	24		
	1415	SGMR	3	S	1250.1	1250.6	3.9	27.5	5.5		
	606	SGMR	3	S	1250.2	1252.2	3.3	131	26.2		
	3000	BERL	1	S	1251	1252.5	2	5.9			
	536	ONDR	45	C	1251	1251.5	2.5	68	8		
	808	ONDR	45	C	1251	1251.6	2	60	5		
	930	BORO	46	C	1251	1251.4	2	131	15		
	1470	BERL	4	S/F	1252	1252.1	1.5	13			
	4995	BOUL	45	C	1802	1802.5	5.5	42	14		
	2800	OTTA	1	S	1848	1849	3	3.6	1.6		
	2800	OTTA	20	GRF	1950	2000	15	1.8	.9		
	2800	OTTA	20	GRF	2015	2022	25	3.6	1.8		
	2800	OTTA	20	GRF	2117	2122	20	1.8			
	2695	PENT	20	GRF	2300	2312	95	9.4	4.5		
30	5730	IRKU	1	S	0037	0038.2	5	17	5		
	4995	BOUL	3	S	0037.5	0038.5	2.5	15	5		
	1415	SYDN			0038.4	0039.9					
	1415	SYDN	40	F	0038.4	0038.7	1.7	9			
	2695	PENT	1	S	0038.5	0039.1	2	9.4	5.7		
	700	SYDN	8	S	0039.7	0039.9	.5	28			
	2695	MANI	4	S/F	0409	0410	2.7	12	4.1		
	1415	MANI	4	S/F	0409	0410	3.8	4.9	1.7		
	9100	GORK	1	S	0523.8	0524.3	.6	11.5	5.5		
	6100	KISV	20	GRF	0606	0606.4	12	8			
	500	HIRA	46	C	0604.8	0606.7	7	14	6		
	9100	GORK	20	GRF	0609.7	0611.8	15.2	9.5	3.5		
	9100	GORK	1	S	0633.6	0636.4	6.4	4	2		
	15000	KISV	1	S	0730	0736.4	15	9			
	4995	ATHN	3	S	0734.3	0736.7	8.3	43.4	13		
	10400	BERN	3		0734.7	0736.2	6	15			
	8400	BERN	3		0734.7	0736.2	6	35			
	10400	BERN	3		0734.7	0736.2	6	5			
	8400	BERN	3		0734.7	0736.2	6	13			
	2695	ATHN	3	S	0735.2	0736.6	5.6	25.5	7.8		
	8800	ATHN	3	S	0735.4	0736.5	4.8	28.4	8.5		
	3000	BERL	3	S	0735.5	0736.5	3	23			
	9500	BERL	3	S	0735.7	0736.5	1.8	17			
	2950	GORK	3	S	0735.7	0736.6	4.3	30	7		
	6100	KISV	8	S	0735	0736.3	23	26			
	5730	IRKU	2	S	0736	0736.6	6	38	6		
	9100	GORK	29	PBI	0736	0737.1	7.9	8			
	9100	GORK	1	S	0736	0736.6	1.1	23.5	11.5		
	1470	BERL	1	S	0736	0737.3	2	3.9			
	2950	GORK	1	S	0754	0754.9	3	7.8	3.2		
	9100	GORK	1	S	0845.2	0846.5	4.5	5.5	2.5		
	245	SGMR	44	NS	1034 E	1109.1	506 D	233			
	410	SGMR	43	NS	1132	1602.4	478 D	15.8			
	202	IZMI	7	C	1107.5	1108	1	500	200		
	228	HARS	48	C	1107.9	1108	4.6	600	300		

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MARCH 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	260	ONDR	42	SER	1157	1158.5	233	152			
	245	SGMR	6	S	1222.1	1222.6	.8	270	54		
	410	SGMR	6	S	1222.1	1222.4	1	60	12		
	234	POTS	4	S/F	1233.3	1233.9	.3	175	30		
	228	HARS	8	S	1322	1322.5	1	200 D	75		
	234	POTS	4	S/F	1322.5	1322.6	.5	350	60		
	7000	SAOP	40	F	1735						
	9400	HUAN	2	S/F	2054.5	2057.2	2.7	14.5	8		L
	2800	OTTA	20	GRF	2100	2105	30	3.6	1.8		
	1415	MANI	4	S/F	2306.7	2314.1	14.6	133.4	34.5		
	2695	PENT	3	S	2306	2313.7	14	73	36		
	2695	MANI	4	S/F	2307.4	2313.6	15.4	66	21		I
	4995	BOUL	45	C	2307.5	2313	11.5	21	7		
	2695	BOUL	4	SF	2309 E	2314.5	12 D	55	22		
	500	HIRA	46	C	2310	2313.6	7	8	4		MR
	606	MANI	3	S	2311	2314.2	9.2	12.2	4.1		
	1420	BOUL	4	SF	2311.5E	2313.5	3.50	201	67		
	2695	PENT	29	PBI	2320	2320	110 D	21			
31	9100	GORK	2	SF	0540.9	0543	2.7	9	4.5		
	9100	GORK	21	GRF	0543.5	0609.2	155	16	5		
	2950	GORK	21	GRF	0550.7	0553.4	36	6.6			
	2950	GORK	1	S	0553.4	0554.6	3.5	9			
	6100	KISV	4	S/F	0602	0608.4	13	4			
	15000	KISV	45	C	0604	0608.3	16	49			
	15000	KISV			0604	0614.3		14			
	10400	BERN	3		0606.8	0608.3	14	12			
	8400	BERN	3		0606.8	0608.3	14	8			
	10400	BERN	3		0606.8	0608.3	14	34			
	8400	BERN	3		0606.8	0608.3	14	22			
	9100	GORK	3	S	0608.4	0608.5	.6	34	17		
	9100	GORK	1	S	0614.2	0614.6	.7	7	3.5		
	9100	GORK	1	S	0635.7	0635.9	.6	9.5	4.5		
	15000	KISV	8	S	0635	0635.3	5	18			
	9100	GORK	40	F	0813.2	0836.2	35.5	16			
	15000	KISV	8	S	0823.5	0824	1	7			
	9500	BERL	3	S	0823.9	0824	1.1	12			
	15000	KISV	8	S	0835.5	0836	1	11			
	10400	BERN	1		0835.5	0836	3	3			
	8400	BERN	1		0835.5	0836	3	4			
	8400	BERN	1		0835.5	0836	3	10			
	10400	BERN	1		0835.5	0836	3	8			
	9500	BERL	1	S	0836	0836.2	1.5	10			
	3100	CRIM	25		0908	0934		13			
	202	IZMI	8	S	0930.2	0933.2	.2	125	60		
	234	POTS	8	S	0930.2	0930.3	.1	175	60		
	260	ONDR	8	S	0930.2	0930.2	.2	29			
	15000	KISV			0931	0935.3		13			
	15000	KISV	45	C	0931	0934	9	21			
	1470	BERL			0932	0934.5		6.8			
	1470	BERL	41	F	0932	0932.9	2.6	6.8			
	10400	BERN	3		0932.4	0937.7	10	5			
	8400	BERN	3		0932.4	0937.7	10	4			
	10400	BERN	3		0932.4	0937.7	10	18			
	8400	BERN	3		0932.4	0937.7	10	11			
	3100	CRIM	1		0933.5	0934	1	10	3		
	9500	BERL	1	S	0933.5	0934	1.5	10			
	9100	GORK	2	SF	0933.8	0934.1	3.3	9.5			
	3000	BERL	3	S	0934	0934.2	1	6.6			
	2950	GORK	1	S	0934.1	0934.2	1.9	3.3			
	15000	KISV	4	S/F	0950	0955.2	12	19			
	9100	GORK	20	GRF	1029.2	1029.9	9.8	6.5	2.5		
	10400	BERN	23		1100.4	1131.8	50	6			
	8400	BERN	23		1100.4	1131.8	50	10			
	8400	BERN	23		1100.4	1131.8	50	26			
	10400	BERN	23		1100.4	1131.8	50	18			
	6100	KISV	21	GRF	1105	1138	45	8			
	6100	KISV			1105	1116		7			
	7000	SAOP	40	F	1115						
	9100	GORK	20	GRF	1117.1	1119	10	9	4		
	9100	GORK	20	GRF	1128	1132	17 F	17			
	536	ONDR	43	NS	1131.5	1246.8	226	43	6		
	245	SGMR	43	NS	1230	1713.6	390 D	228			
	410	SGMR	43	NS	1230	1547.6	390 D	229			
	260	ONDR	43	NS	1230		168 D	21	7		
	9500	BERL	29	PBI	1131.5	1132	11	15			
	4995	ATHN	2	GRF	1131.6	1132.5	1.7	9.2	5.5		
	8800	ATHN	2	GRF	1131.6	1132.3	12.7	15.1	9		
	2695	ATHN	2	GRF	1131.6	1132.4	1.7	6.1	3.7		
	3000	BERL	3	S	1131.8	1132.5	2	6.6			
	2950	GORK	1	S	1131.9	1132.5	1.1	5	2.5		
	1470	BERL	1	S	1132.5	1132.7	.5	2.3			
	10400	BERN	1		1209.7	1210.1	1.5	11			
	8400	BERN	1		1209.7	1210.1	1.5	12			
	10400	BERN	1		1209.7	1210.1	1.5	4			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 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 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	8400	BERN	1		1209.7	1210.1	1.5	5			
	9500	BERL	1	S	1210	1210.3	.7	7.5			
	3300	BERL	1	S	1225.5	1225.6	.6	5.7			
	1470	BERL	4	S/F	1225.6	1226.5	1.4	7.8			
	2800	OTTA	21	GRF	1235	1256	90	9.4	6.8		
	9400	HUAN	20	GRF	1237	1323.7	46.7	10.6	5		G
	10400	BERN	3		1305	1307.7	9	11			
	8400	BERN	3		1305	1307.7	9	16			
	8400	BERN	3		1305	1307.7	9	44			
	10400	BERN	3		1305	1307.7	9	33			
	1415	SGMR	3	S	1305.2	1308.2	5.6	36.1	25.8		
	1420	BOUL	45	C	1306.5E	1307.5	1.5D	122	41 U		
	4995	BOUL	4	SF	1306.5U	1307.5	2 U	40	13 U		
	1470	BERL	4	S/F	1306.5	1308.5	3.5	80			
	3000	BERL	4	S/F	1306.6	1307.9	2.9	43			
	1415	ATHN	4	S/F	1306.6	1308.1	5.3	39.6	28.1		
	4995	SGMR	3	S	1306.7	1307.6	2.9	44.8	13.4		
	8800	SGMR	3	S	1306.8	1307.8	2.8	46.4	13.9		
	7000	SAOP	6	S	1307	1308	.6	53			11L
	606	SGMR	3	S	1307.1	1310.7	5.9	33.3	9.9		
	2695	ATHN	4	S/F	1307.4	1307.8	5.8	55.3	16.6		
	4995	ATHN	3	S	1307.5	1308	2.7	41.6	12.5		
	8800	ATHN	3	S	1307.5	1307.9	4.7	45.2	13.6		
	15400	SGMR	3	S	1307.6	1307.9	1.3	15.2	4.6		
	2695	SGMR	3	S	1307.7	1308.3	1.9	50.4	15.1		
	2800	OTTA	4	S/F	1307	1308	2	30	7.5		
	9500	BERL	8	S	1308.1	1308.4	.6	25			
	2695	BOUL	4	SF	1309 E	1309.5	1.5D	65	22 U		
	113	POTS	41	F	1344.9	1344.9	3.7	150	2		
	33	UPIC	45	C	1347.5	1347.8	1.3				
	29	UPIC	45	C	1347.8	1348.2	1.5				
	2800	OTTA	23	GRF	1505	1706	250	11.4	5.5		
	2800	OTTA	1	S	1513	1514	2	4	2		
	10400	BERN	23		1553.6	1555.1	6	3			
	8400	BERN	23		1553.6	1555.1	6	4			
	8400	BERN	23		1553.6	1555.1	6	10			
	10400	BERN	23		1553.6	1555.1	6	6			
	9400	HUAN	20	GRF	1656.8	1802.3	65.5	7.5	4.2		L
	4995	SGMR	20	GRF	1657.7	1715.1	38.3	12.3	6.2		
	2695	SGMR	20	GRF	1658.9	1715.1	35.1	3.5	1.7		
	8800	SGMR	45	C	1700	1737		15.6			
	8800	SGMR	45	C	1700	1715.5	53.1	12.3	7.6		
	15400	SGMR	20	GRF	1701	1713.6	34.9	8.8	4.4		
	2800	OTTA	20	GRF	1943	2013	110	8.6	4.3		
	9400	HUAN	20	GRF	1957.7	2116.5	78.8	12.1	6.3		L
	2800	OTTA	3	S	2205	2207	2	17.6	9.4		
	4995	BOUL	8	S	2206	2206.5	1	34	11		
	2695	BOUL	4	SF	2207 F	2207.5	1 D	40	13		
	2800	OTTA	29	P3I	2208	2208	4	3.4	1.7		
	2695	PENT	21	GRF	2315	2421	130	8.6	4.3		
	4995	BOUL	45	C	2317	2320	5	242	61		
	8800	MANI	4	S/F	2318	2320.2U	1 D	236.8U	70 U		WER
	2695	MANI	4	S/F	2318	2320.2U	1 D	158.4U	50 U		TAGE
	2695	PENT	46F	C	2318	2319.5	9	140	35		
	2695	BOUL	45	C	2319 E	2320	3.5D	184	61		
	9400	NAGO	22	GRF	2320	2325	20	21			

Reports received from the following observatories:

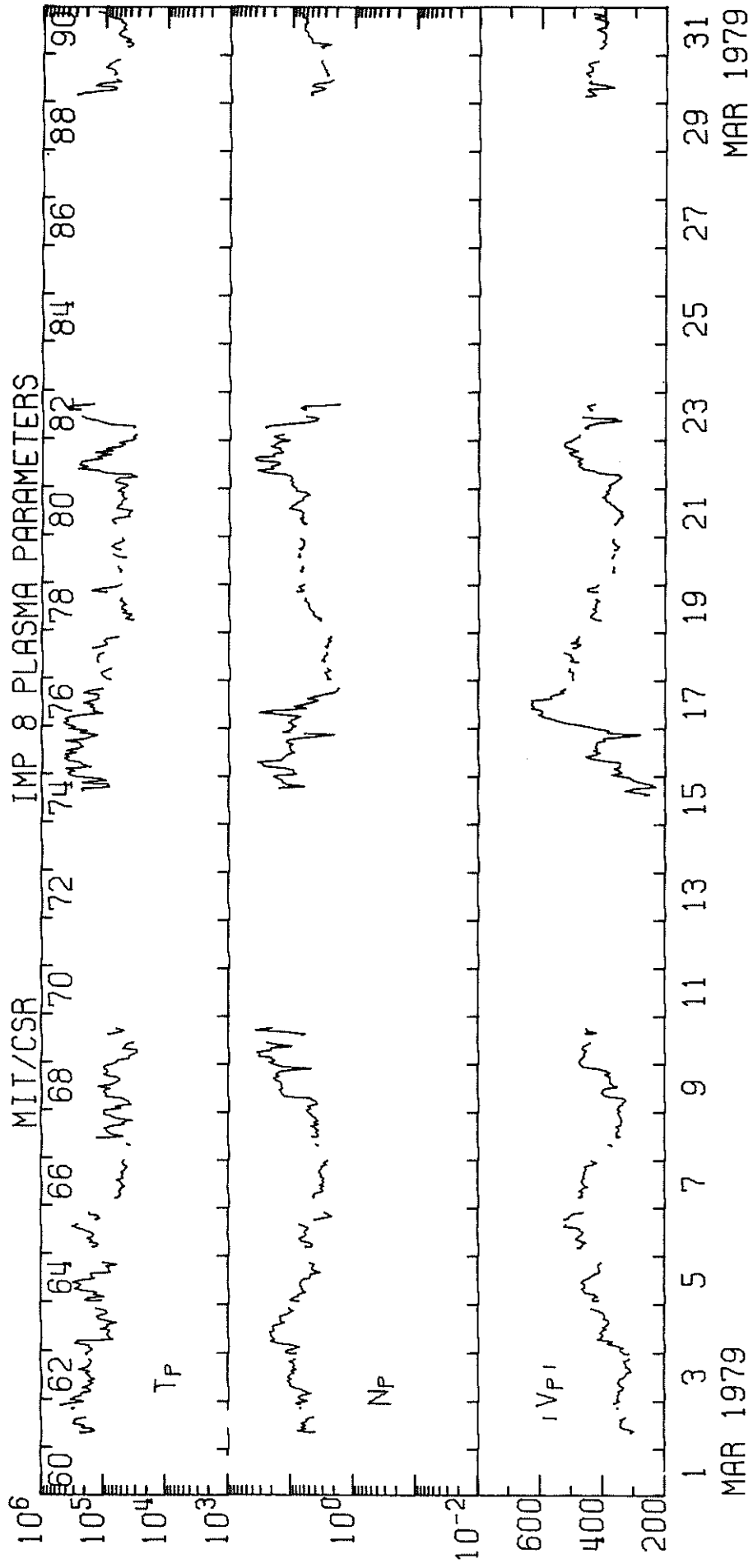
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

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

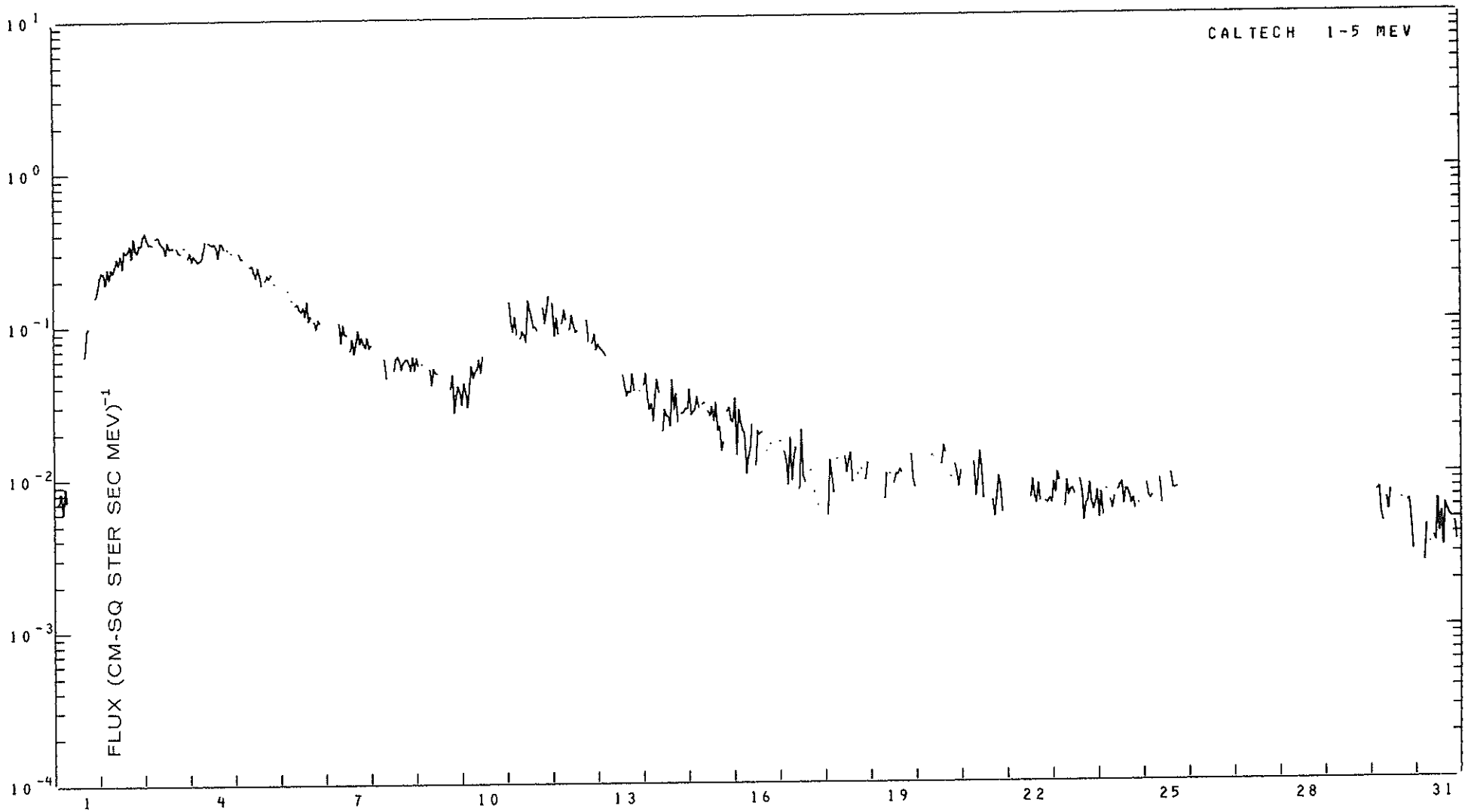
MARCH 1979



30 Mar 79

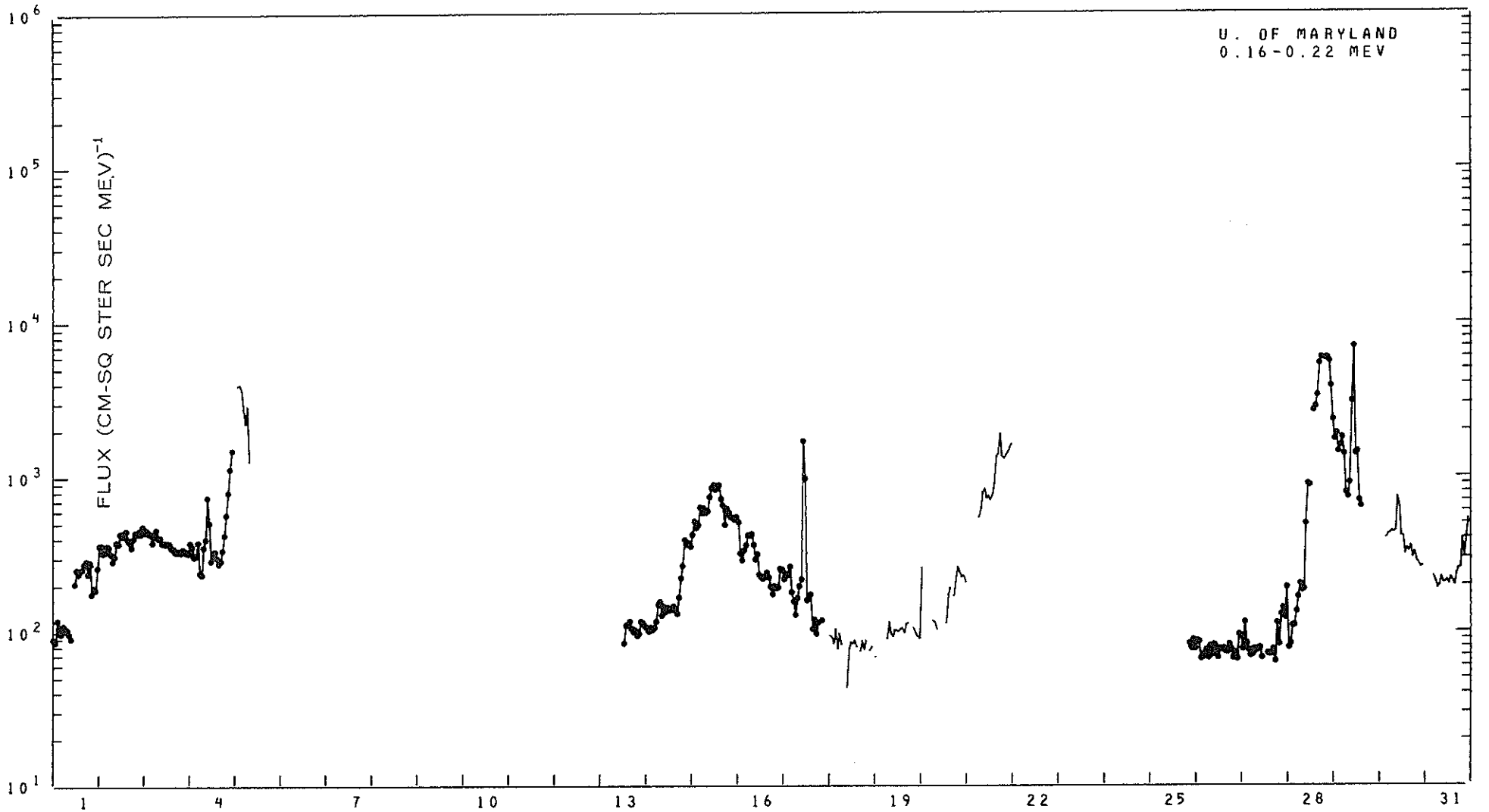
IMP 8 ELECTRONS

MARCH 1979



IMP 8 LOW ENERGY PROTONS

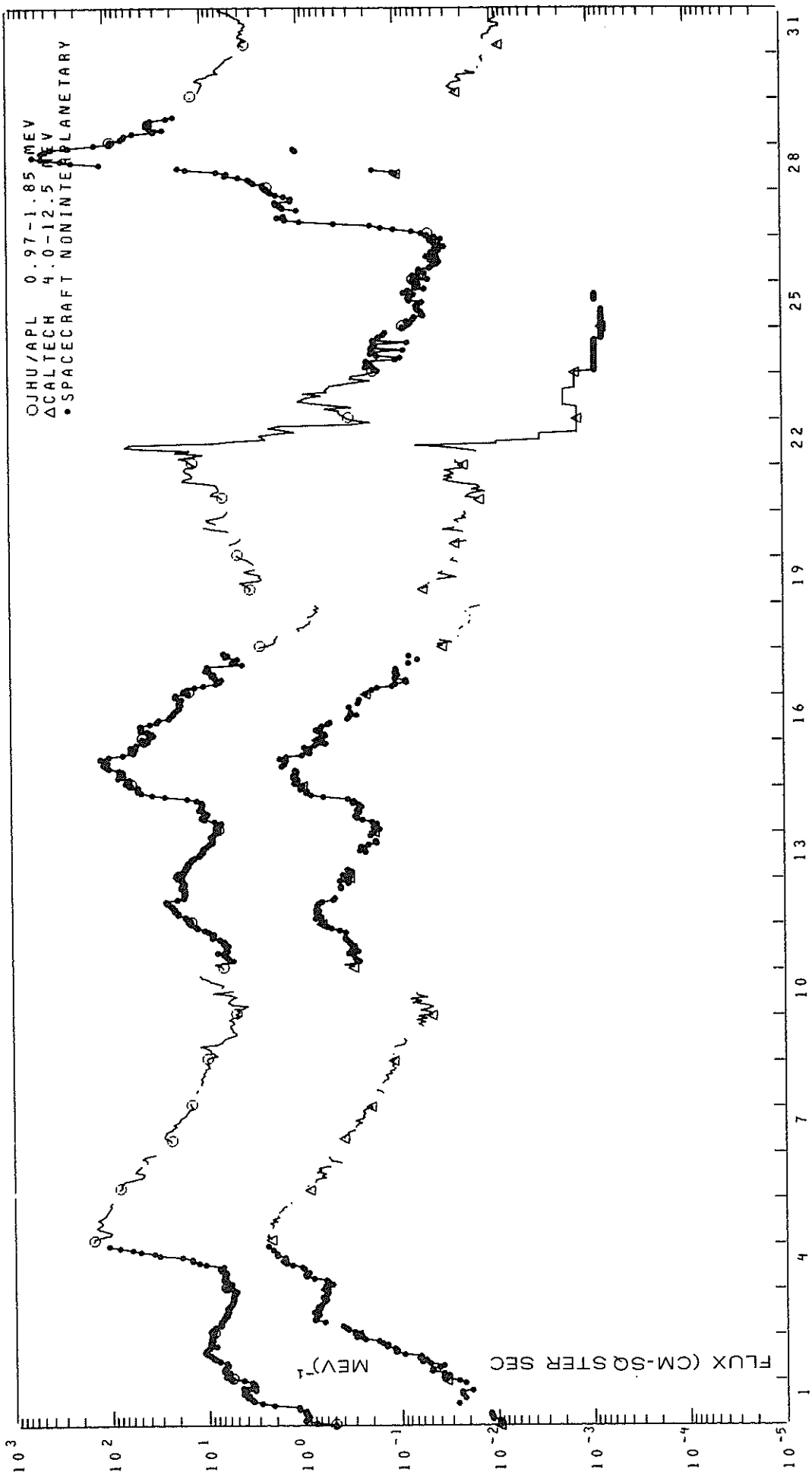
MARCH 1979



31 Mar 79

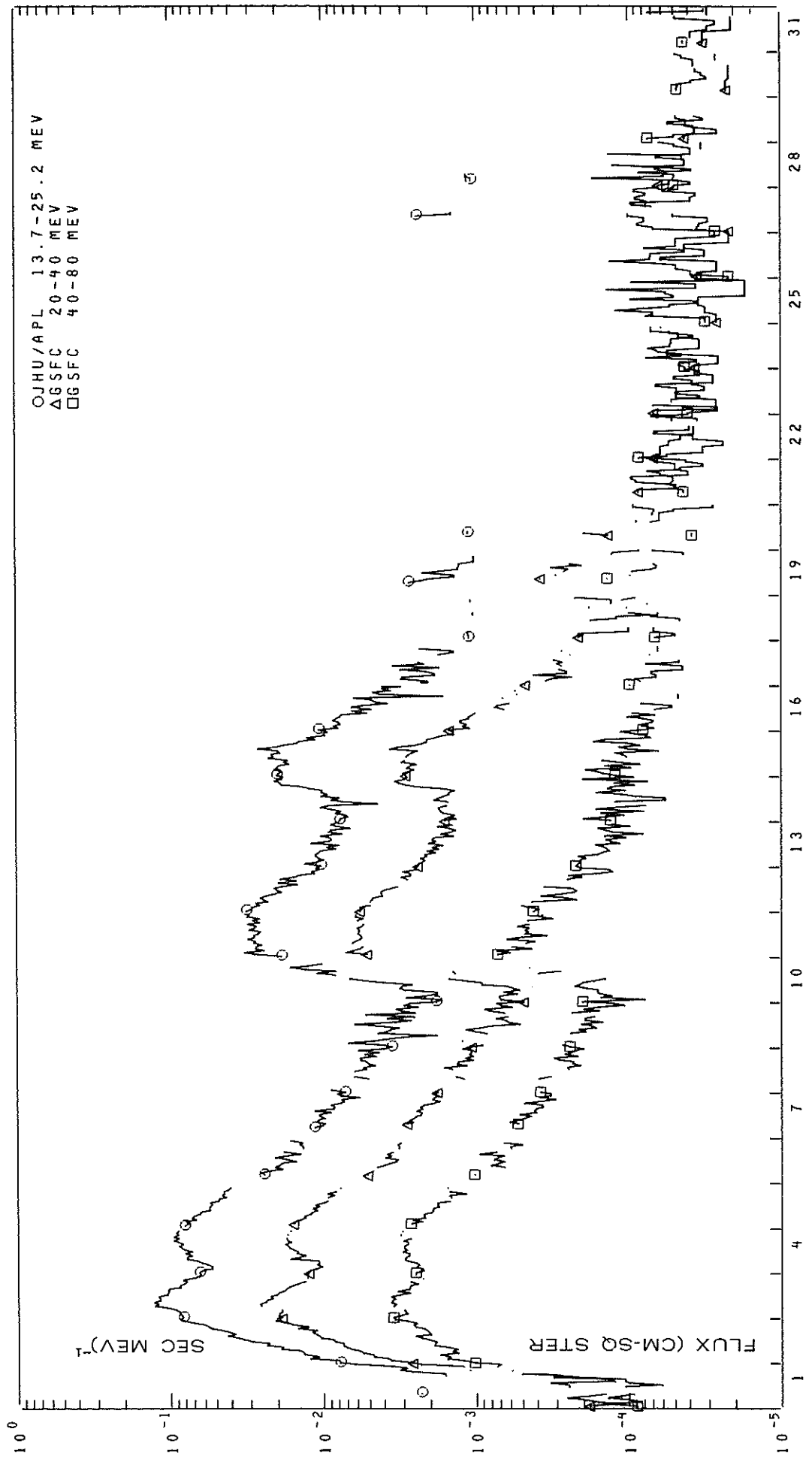
IMP 8 INTERMEDIATE ENERGY PROTONS

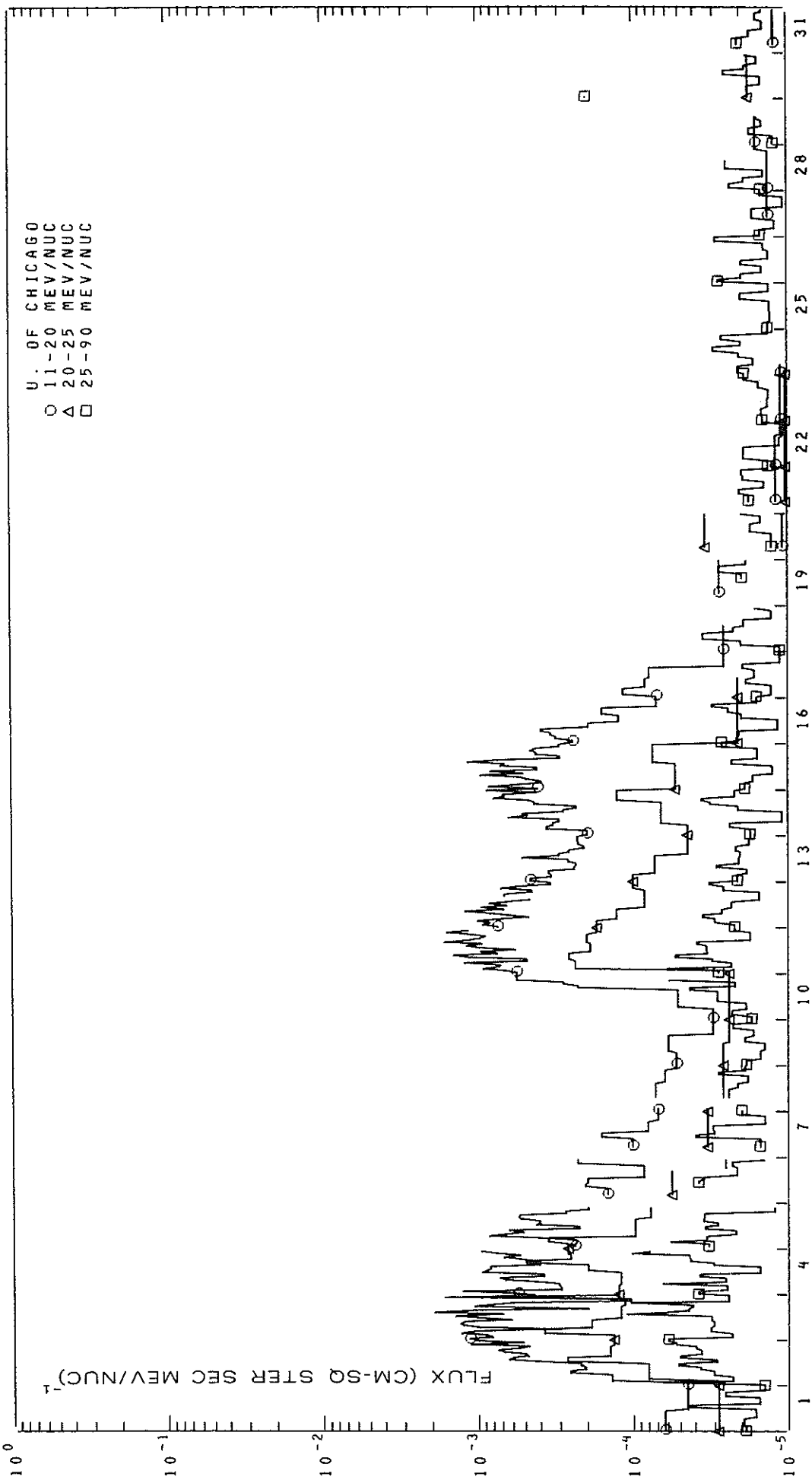
MARCH 1979

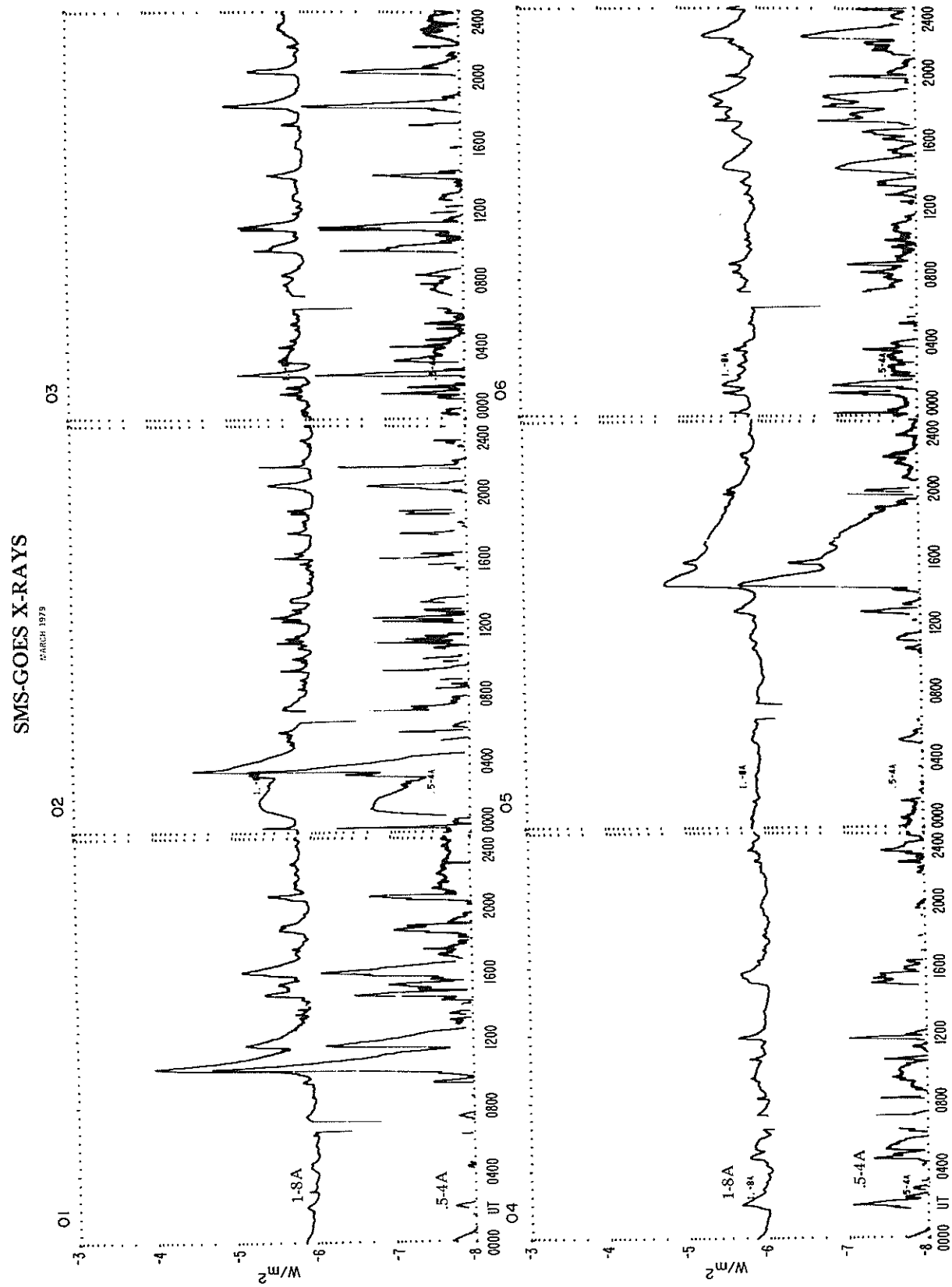


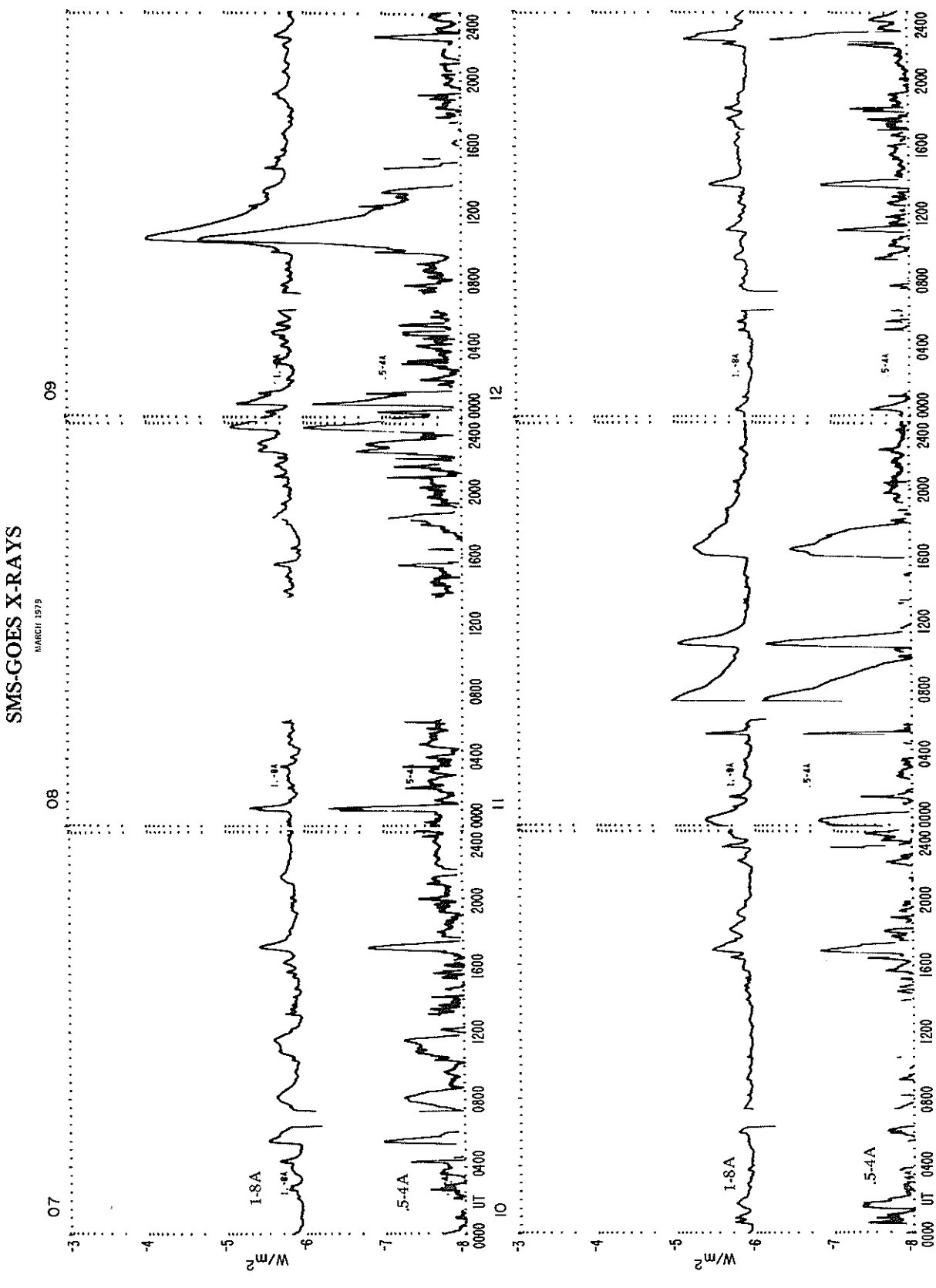
IMP 8 HIGH ENERGY PROTONS

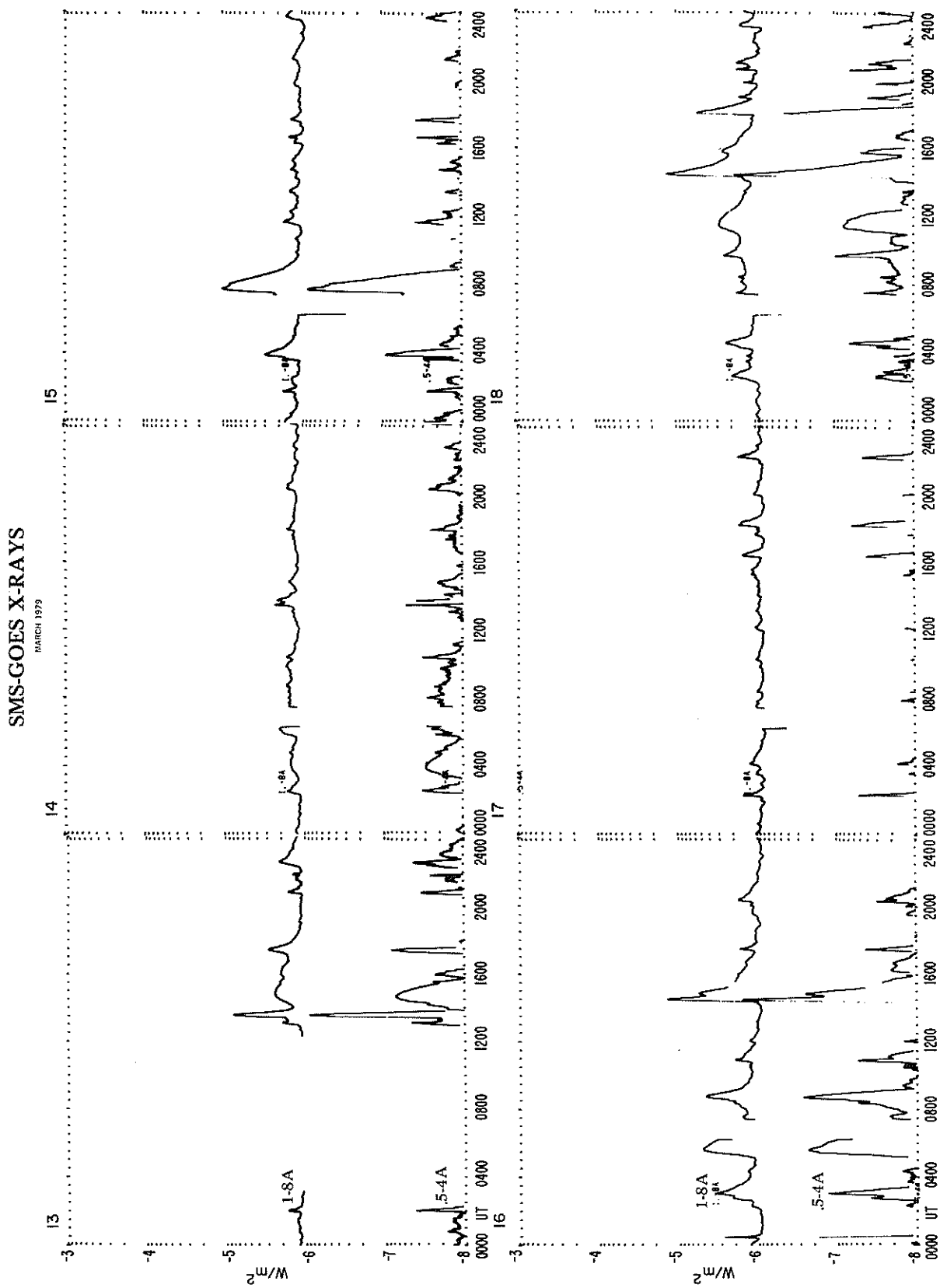
MARCH 1979

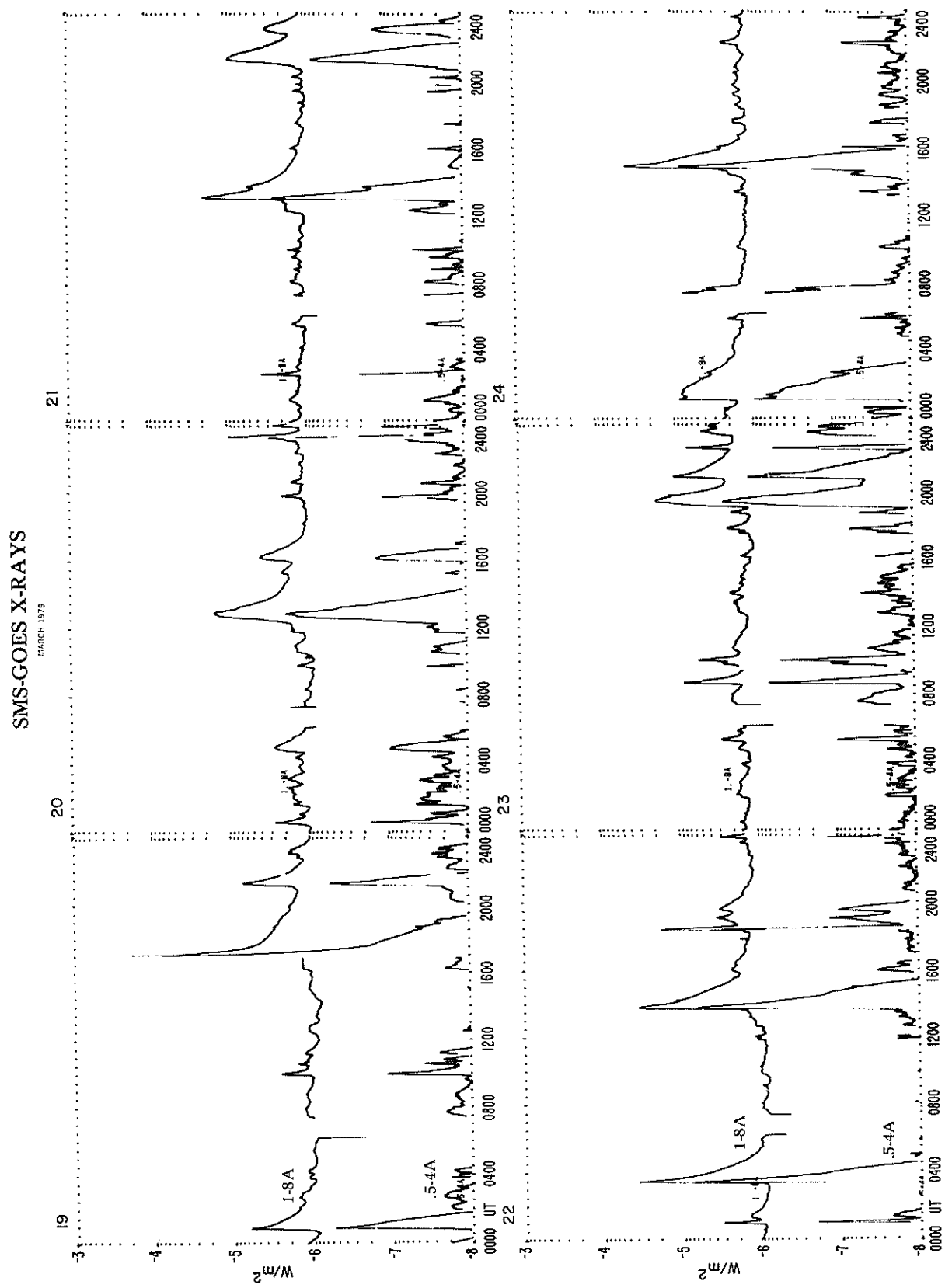


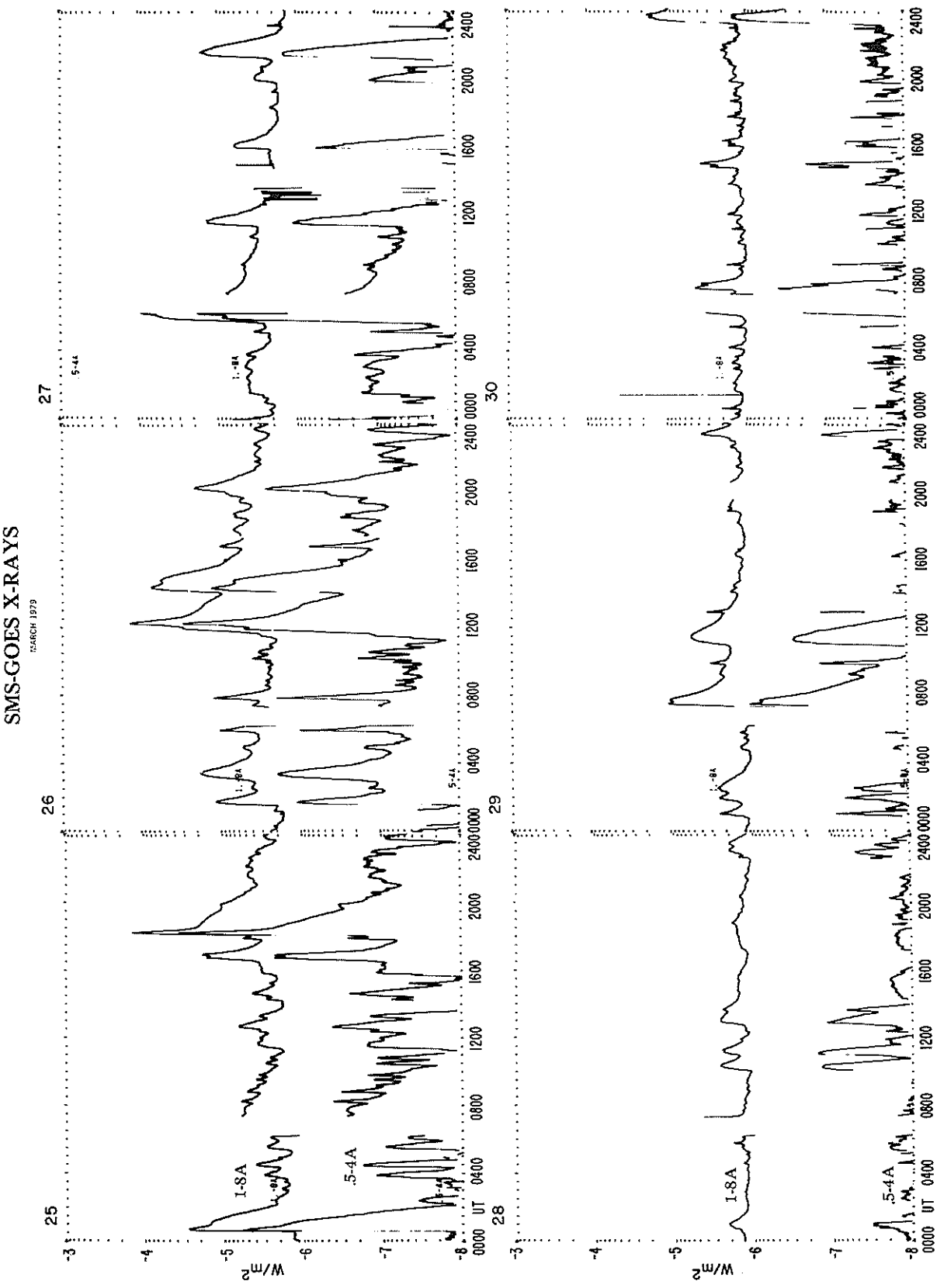

IMP 8 ALPHA PARTICLES
MARCH 1979
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV/NUC)$^{-1}$
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
1
4
7
10
13
16
19
22
25
28
31

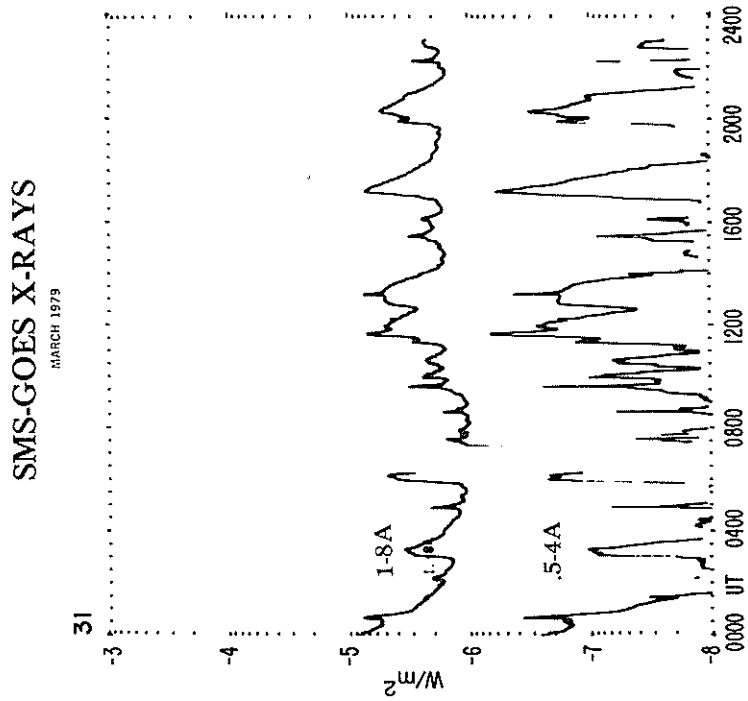

SMS-GOES X-RAYS
MARCH 1979
01
02
03
04
05
06
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400 0000 2400 0000 0400 0800 1200 1600 2000 2400


SMS-GOES X-RAYS
MARCH 1979
07
08
09
10
11
12
1-8A
.5-4A
W/m²
UT
0000
0400
0800
1200
1600
2000
2400


SMS-GOES X-RAYS
MARCH 1979
13
14
15
16
17
18
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400 0000
1-8A
.5-4A
W/m²


SMS-GOES X-RAYS
MARCH 1979
19
20
21
22
23
24
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400 0000 0400 0800 1200 1600 2000 2400 0000 0400 0800 1200 1600 2000 2400


SMS-GOES X-RAYS
MARCH 1979
25
26
27
28
29
30
1-8A
.5-4A
W/m²
UT
0000
0400
0800
1200
1600
2000
2400


SMS-GOES X-RAYS
MARCH 1979
31
-3
-4
-5
-6
-7
-8
W/m²
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
2400

SGD 421 Part II (Comprehensive)

MISCELLANEOUS DATA

Contents

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JUNE 1979

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS

The meaning of the station symbols is given in the IAGA-News nr. 16.
Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

06 1927 A: SOD DOB NUR ESK WNG WIT HAD DOU VIC HRB MMB EBR FRD
HAZ KSA KNY QUE CZT KGL DUM; B: NGK KAK; C: KNY

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

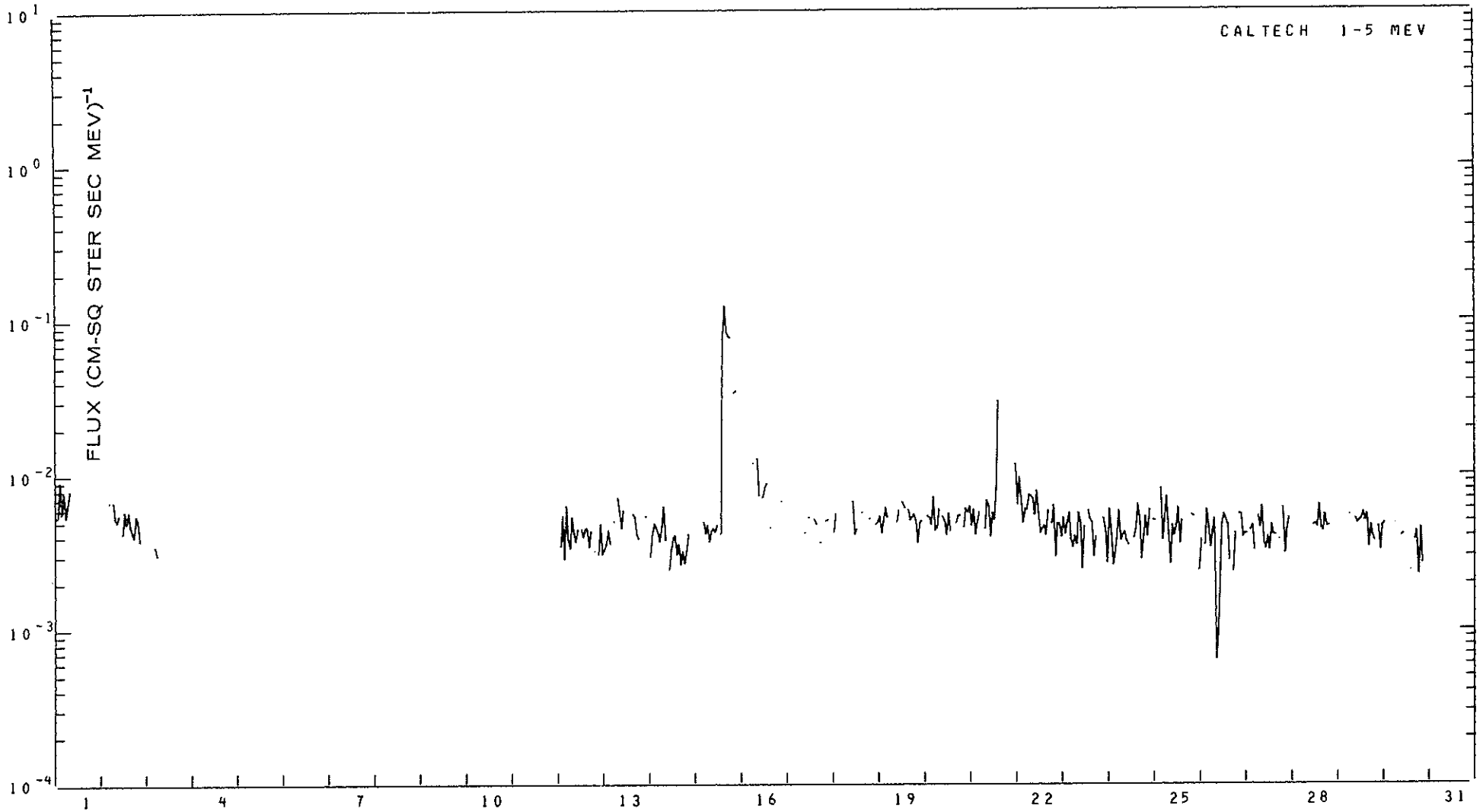
03	1432 - 1438	HAZ	
04	0348 - 0418	MMB	KAK HAZ KNY
05	0508 - 0640	MMB	EBR? KAK HAZ KNY
10	0858 - 0938	HAZ	
17	0513 - 0547	NGK	EBR?
17	0943 - 0959	NGK	
18	0623 - 0630	HAZ	
20	1237 - 1304	NGK	(bs: A: KSA)
25	1008 - 1026	QUE	

Very unusual events

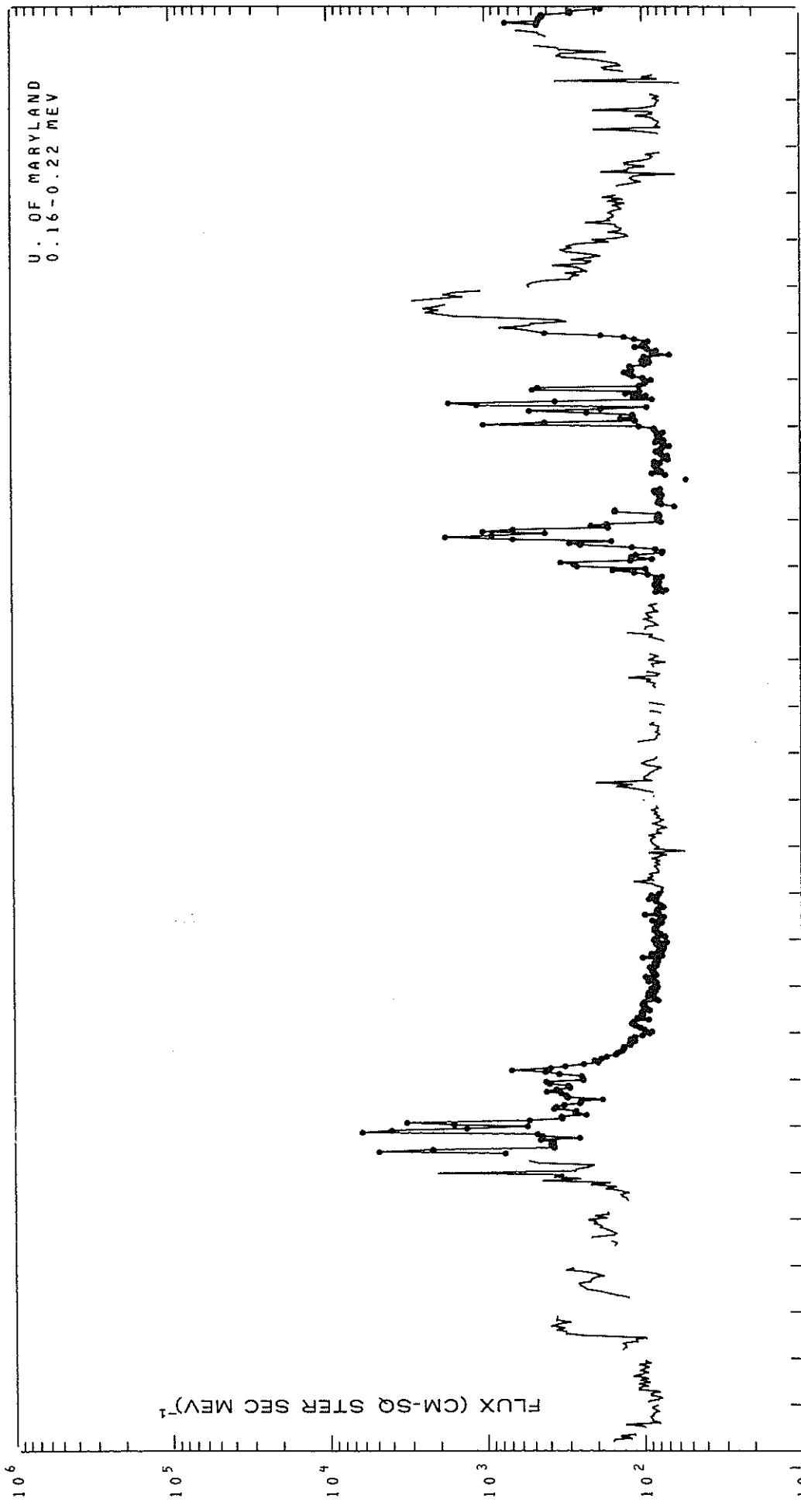
none

IMP 8 ELECTRONS

JANUARY 1979

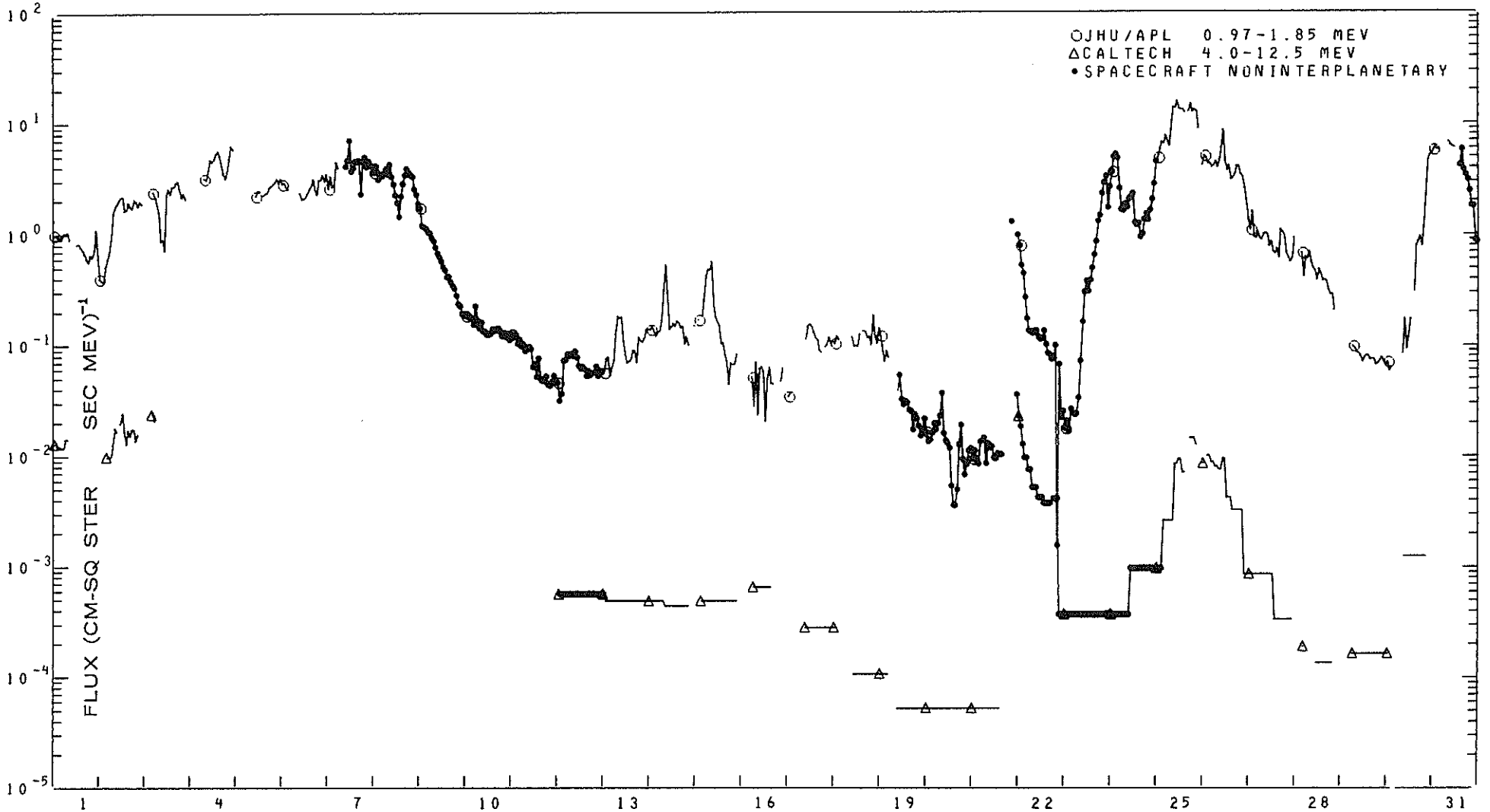


43
Misc
Jan 79

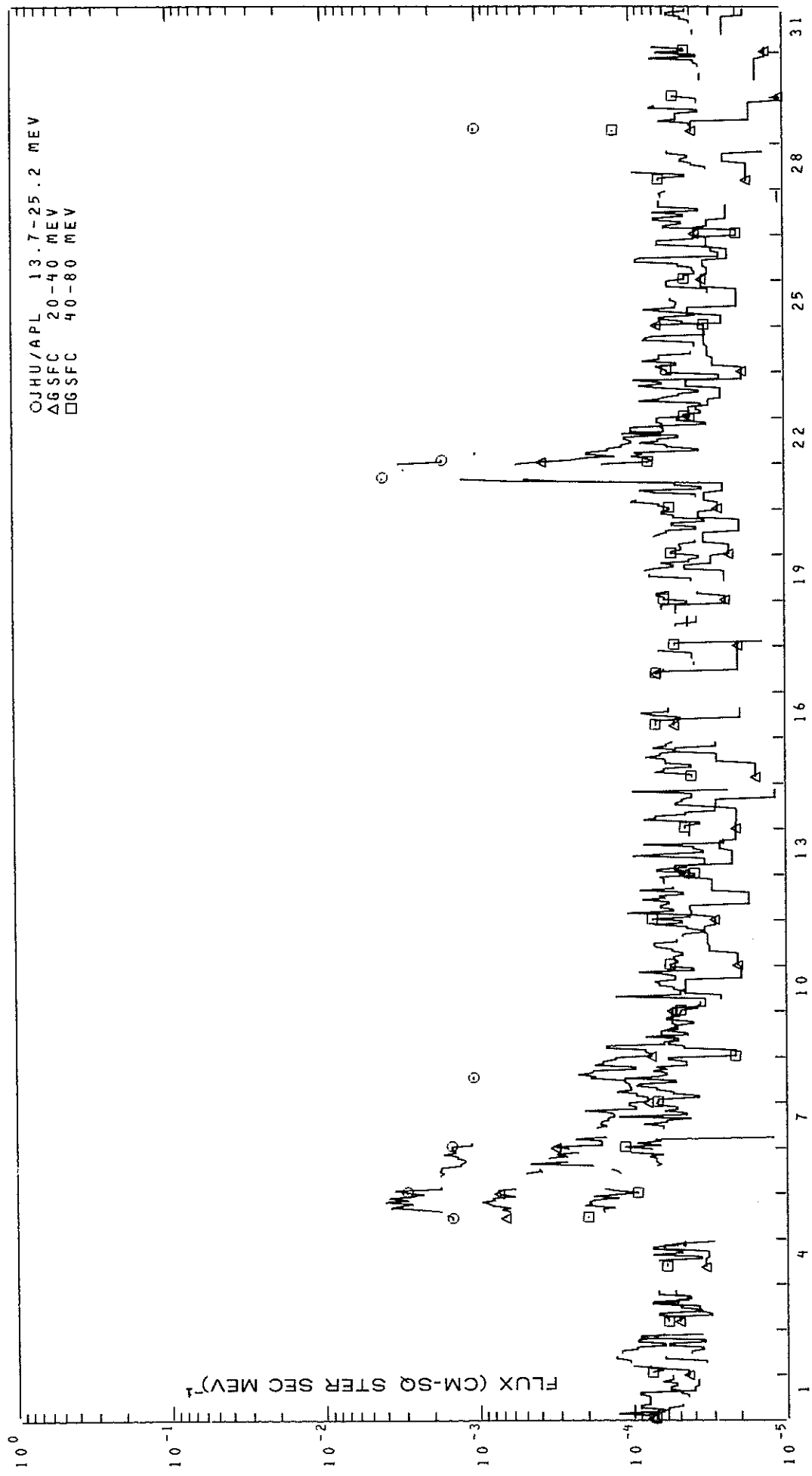

IMP 8 LOW ENERGY PROTONS
JANUARY 1979
U. OF MARYLAND
0.16-0.22 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁶
10⁵
10⁴
10³
10²
10¹
1
4
7
10
13
16
19
22
25
28
31

IMP 8 INTERMEDIATE ENERGY PROTONS

JANUARY 1979



45
Misc
Jan 79


IMP 8 HIGH ENERGY PROTONS
JANUARY 1979
○JHU/APL 13.7-25.2 MEV
△GSFC 20-40 MEV
□GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
1
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10
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16
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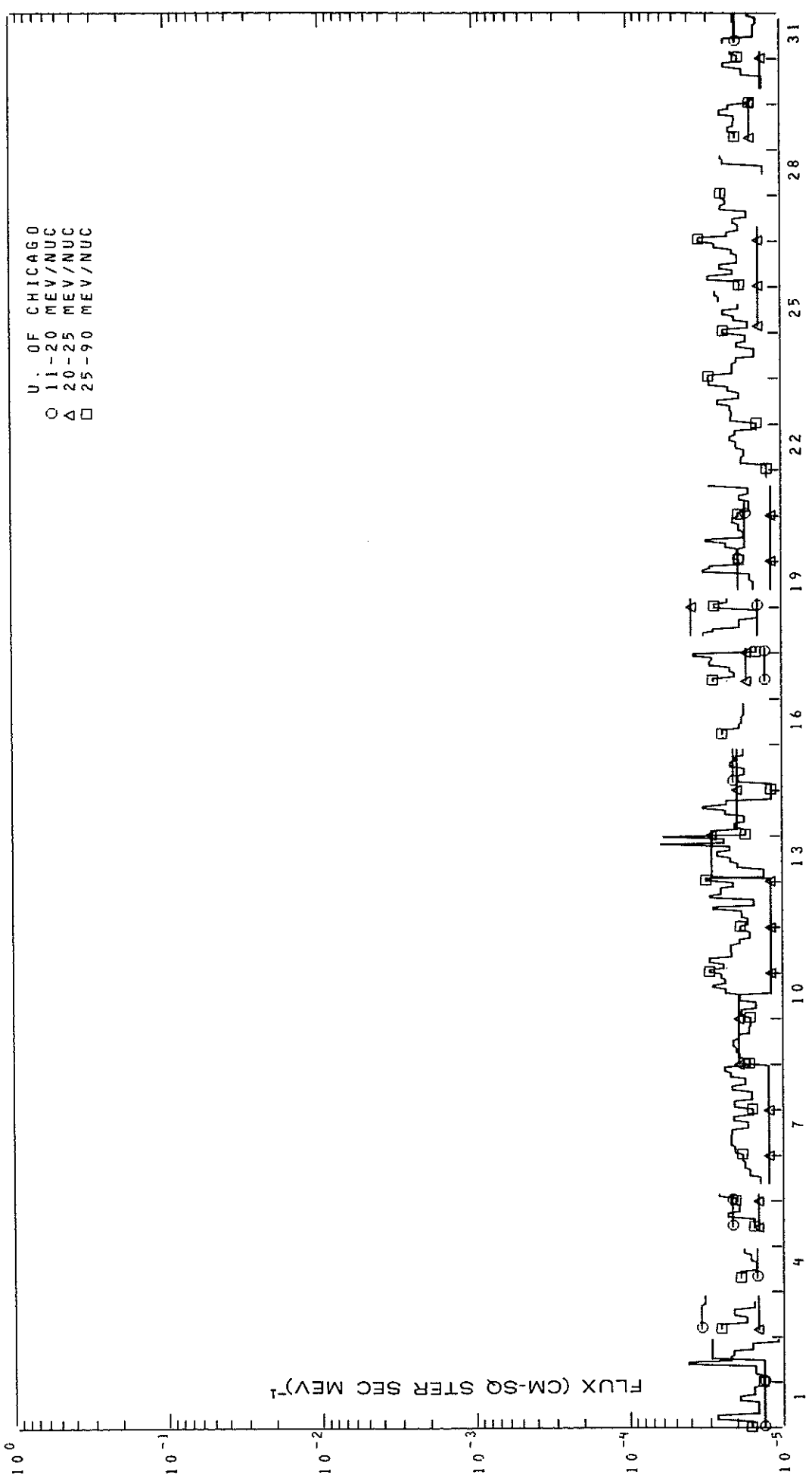
31


IMP 8 ALPHA PARTICLES
JANUARY 1979
U. OF CHICAGO
○ 11-20 MEV/NUC
△ 20-25 MEV/NUC
□ 25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
1
4
7
10
13
16
19
22
25
28
31

SOLAR-TERRESTRIAL ACTIVITY 1978

The charts for 1978 on the following four pages present a continuation of the 1976 graphs published in SGD 414 Part II, pages 62-65, and of those for 1977 published in SGD 415 Part II, pages 78-81. Each diagram here is similar to the STAC-A Yearly Charts for 1967, 1968 and 1969, prepared by T. Obayashi of the Interdisciplinary Analysis Center for Solar-Terrestrial Activity, Science Council of Japan. Observations available in World Data Center A for Solar-Terrestrial Physics have been used to construct these 1978 graphs in half yearly form on two charts per year. They clearly indicate the trend of increasing solar activity since the June 1976 sunspot minimum, and one can easily select individual days of outstanding events. The comments below describe the sources of each kind of observation. Completed diagrams for 1979 will appear in the Miscellaneous section of Part II no earlier than June of 1980.

Graph 1

2800 MHz Flux: Daily values of the 2800 MHz solar flux (S) in units of 10^{-22} Wm^{-2} Hz^{-1} were furnished by A.E. Covington and M.B. Bell of the Astrophysics Branch National Research Council of Canada, Ottawa. Each vertical line indicates the largest burst of the day, and its length equals the square root of the peak flux.

1-8 Å X-Ray Flux: The burst intensity of the solar x-ray flux in Wm^{-2} for the largest event of the day is plotted as a vertical line. Both solid and dashed vertical lines represent data acquired by the GOES satellites and were provided by R.F. Donnelly of NOAA's Space Environment Laboratory. The dashed entries highlight values taken from the *Preliminary Report and Forecast of Solar Geophysical Data* that G.R. Heckman of the Space Environment Laboratory publishes weekly.

Hα Flare Importance: The importance of the largest Hα solar flare of the day is plotted as a vertical line. Solid lines denote observations taken from the grouped flare reports published in the Comprehensive part of *Solar-Geophysical Data*.

IMP 8 Proton Flux: Vertical lines indicate the peak proton flux to the nearest power of 10 in cm^{-2} sr^{-1} s^{-1} MeV^{-1} as observed by IMP 8 between 19.8 and 40.1 MeV. F.B. McDonald and T.T. von Rosenvinge of NASA's Goddard Space Flight Center furnished these data.

Solar Wind Bulk Speed: The plotted daily values of the solar wind bulk speed in km s^{-1} were estimated from the graphical data provided by H. Bridge, A. Lazarus and J. Sullivan of MIT. Values shown here emphasize the minima and maxima that occur on time scales of less than a day. They do not represent a strict average for each day.

Graph 2

Stanford Mean Magnetic Field: The solar magnetic field daily means in μT represent a weighted average of the net magnetic field over the visible disk of the Sun. Positive values denote a mean solar magnetic field pointing away from the Sun; negative values a field directed toward the Sun. P.H. Sherrer of the Stanford Solar Observatory, Stanford University, submitted these observations.

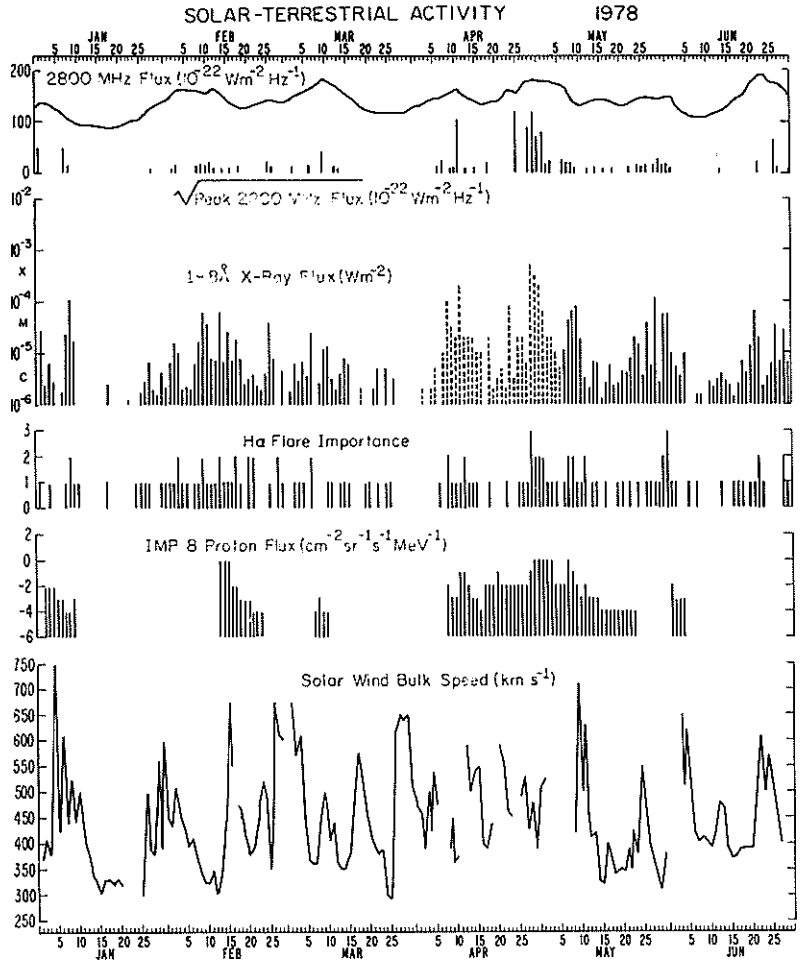
Inferred IMF: The inferred interplanetary magnetic field (IMF) direction is indicated as a horizontal bar: T = toward the Sun and A = away from the Sun. These polarities were derived from variations on the Thule and Vostok magnetograms. G.R. Heckman of the NOAA Space Environment Laboratory and S. Mansurov of IZMIRAN in Moscow supplied these measurements.

Deep River NM Corrected Rates: The Deep River Neutron Monitor (NM) daily average counting rates corrected for barometric pressure have been plotted with a scaling factor of 3000. M.D. Wilson of the National Research Council of Canada provided the original data.

aa Index: The daily geomagnetic *aa* index furnished by the Institut de Physique du Globe in Paris, was computed from the 3-h K indices (converted to the amplitude of the magnetic field) at two antipodal observatories.

Provisional Equatorial Dst: This magnetic index characterizes quiet-time and storm-time variations in the geomagnetic field owing to the ring current in the magnetosphere. The charts show daily averages of the provisional hourly Dst prepared by M. Sugiura, NASA GSFC and D.J. Poros, Computer Sciences Corporation, Silver Spring, MD.

50
Misc
1978


SOLAR-TERRESTRIAL ACTIVITY 1978
JAN
FEB
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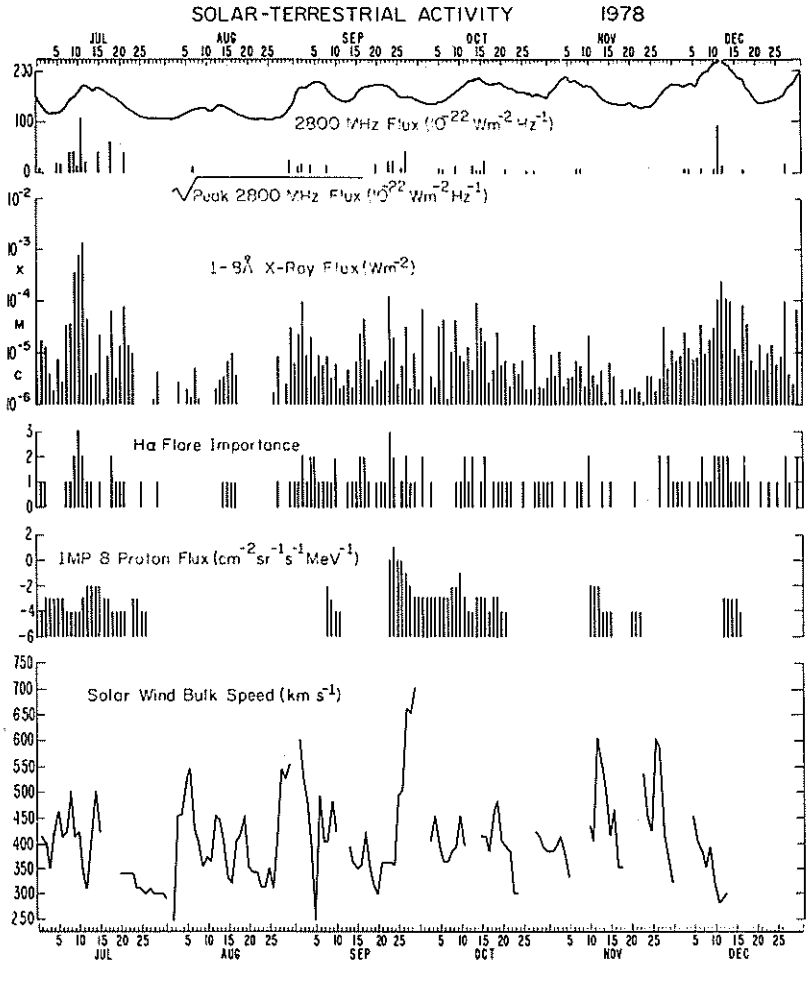
MAY
JUN
2800 MHz Flux (10^{-22} Wm^{-2} Hz^{-1})
√Peak 2800 MHz Flux (10^{-22} Wm^{-2} Hz^{-1})
1-8Å X-Ray Flux (Wm^{-2})
X
M
C
Hα Flare Importance
IMP 8 Proton Flux (cm^{-2} sr^{-1} s^{-1} MeV^{-1})
Solar Wind Bulk Speed (km s^{-1})


SOLAR-TERRESTRIAL ACTIVITY 1978
JUL
AUG
SEP
OCT
NOV
DEC
2800 MHz Flux (10^{-22} Wm^{-2} Hz^{-1})
√Peak 2800 MHz Flux (10^{-22} Wm^{-2} Hz^{-1})
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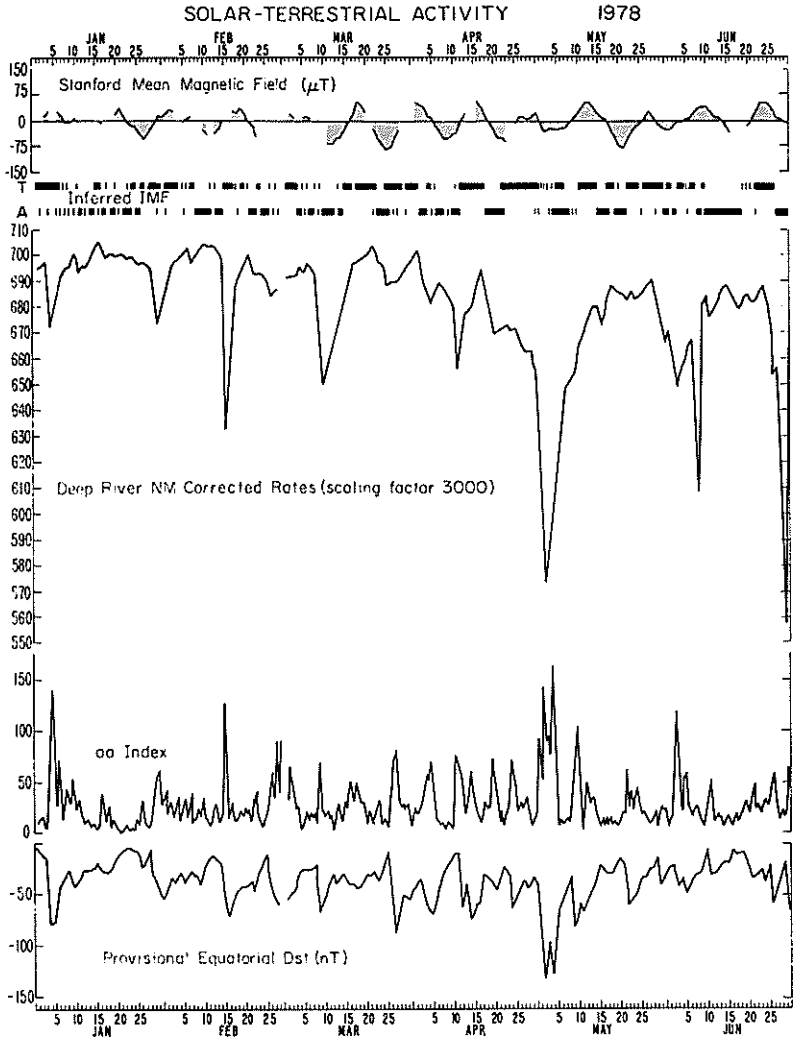
Hα Flare Importance
IMP 8 Proton Flux (cm^{-2} sr^{-1} s^{-1} MeV^{-1})
Solar Wind Bulk Speed (km s^{-1})


SOLAR-TERRESTRIAL ACTIVITY 1978
JAN
FEB
MAR
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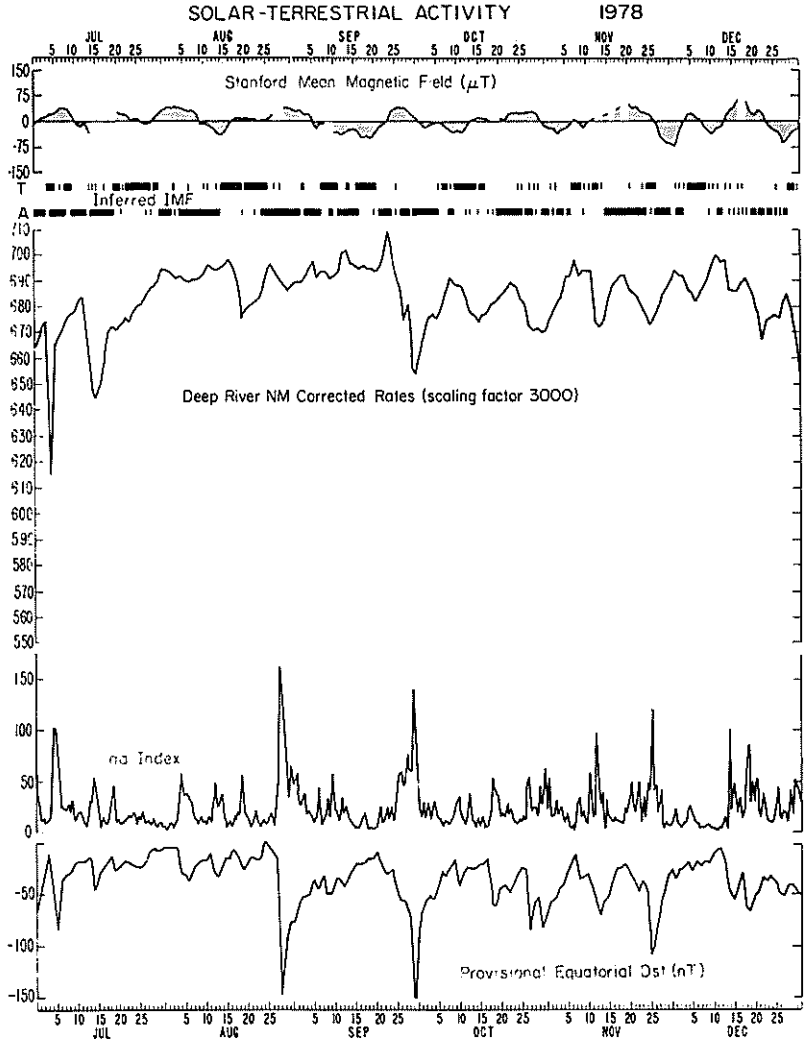
MAY
JUN
Stanford Mean Magnetic Field (μT)
Inferred IMF
Deep River NM Corrected Rates (scaling factor 3000)
aa Index
Provisional Equatorial Dst (nT)


SOLAR-TERRESTRIAL ACTIVITY 1978
JUL
AUG
SEP
OCT
NOV
DEC
Stanford Mean Magnetic Field (μT)
T
A
Inferred IMF
Deep River NM Corrected Rates (scaling factor 3000)
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Provisional Equatorial Dst (nT)

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WORLD DATA CENTER A
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