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Solar - Geophysical Data

NO. 419 JULY 1979

Part II (Comprehensive Reports)

DATA FOR
JANUARY 1979
DECEMBER 1978

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 419

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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—— = no data available.
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SGD 419 Part II (Comprehensive)

JANUARY 1979 DATA

Contents

ACTIVE REGIONS

CARRINGTON ROTATION 1676

(December 10, 1978 to January 7, 1979)

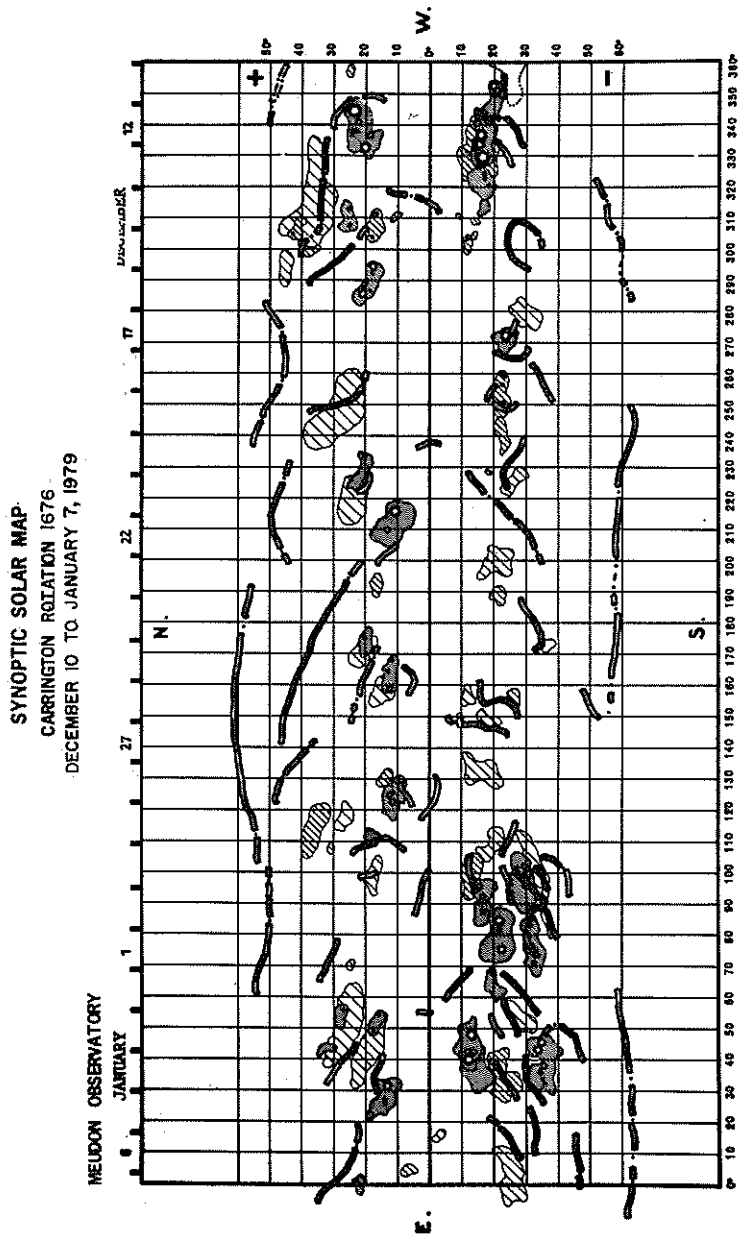
Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1675	Activity at West Limb
1	25°N	359°	+6	1	x		disappeared
2	20 S	349	+1	4			decreasing
3	22 N	340	+5	8			decreasing
4	17 S	336	>6	8			decreasing
5	15 S	332	>6	2			decreasing
6	16 S	322	+1	2			decreasing
7	16 S	314	+1	1	x		decreasing
8	11 N	311	-3	1	x		dispersed
9	26 N	311	>6	2			dispersed
10	17 N	308	-2	2			decreasing
11	41 N	307	>6	2			decreasing
12	11 S	302	+3	2			dispersed
13	37 N	300	>6	1	x	(9)	disappeared
14	45 N	295	>6	1	x	(9)	dispersed
15	19 N	289	6	5			stable
16	23 S	272	>6	4			decreasing
17	22 S	254	>6	2			decreasing
18	22 S	241	>6	1	x		decreasing
19	21 N	229	>6	2			decreasing
20	26 S	226	+4	1	x		dispersed
21	12 N	212	>6	5			decreasing
22	21 S	200	>6	1	x	(30)	dispersed
23	17 N	192	+5	1	x		dispersed
24	21 S	189	>6	1	x		increasing
25	20 N	174	0	2			decreasing
26	37 S	173	-3	1	x		decreasing
27	13 N	164	>6	3			decreasing
28	12 S	157	-2	1	x		disappeared
29	26 S	157	+1	1	x		decreasing
30	17 S	149	>6	1	x		disappeared
31	16 S	132	>6	1	x	(42)	dispersed
32	14 N	130	>6	1	x	(43)	dispersed
33	10 N	127	0	2			decreasing
34	12 N	124	>6	3			stable
35	36 N	114	>6	1	x		decreasing
36	18 N	111	-1	1			increasing
37	20 S	109	>6	1	x		decreasing
38	31 N	108	>6	1	x		disappeared
39	13 S	99	>6	1	x		decreasing
40	18 N	99	>6	1	x		dispersed
41	28 S	97	>6	4		(17)	decreasing
42	17 S	95	>6	4		(49)	decreasing
43	36 S	92	0	1	x		dispersed
44	17 S	87	>6	2			decreasing
45	37 S	84	>6	1	x		dispersed
46	22 S	80	+4	6			stable
47	32 S	78	+4	3			decreasing
48	20 S	64	>6	2			stable
49	28 N	54	-4	2			increasing
50	17 N	52	-3	2			increasing
51	12 S	45	>6	7			decreasing
52	19 N	43	>6	1	x	(58+59)	dispersed
53	32 N	43	-4	1	x		(?)
54	36 S	39	>6	6			decreasing
55	15 S	37	>6	1	x	(60)	decreasing
56	22 S	35	>6	2			decreasing
57	14 N	28	>6	3			decreasing
58	7 N	4	-1	1	x		dispersed
59	26 S	3	>6	1	x	(64)	dispersed
60	22 N	0	-4	2			increasing

ACTIVE REGIONS

CARRINGTON ROTATION 1677

(January 7 to February 3, 1979)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1676	Activity at West Limb
1	9°N	348°	+6	6			decreasing
2	16 S	347	>6	1	x		decreasing
3	25 N	342	>6	3			decreasing
4	26 S	337	>6	1	x		dispersed
5	23 N	335	>6	1	x	(3)	decreasing
6	18 S	330	>6	5		(4+5)	stable
7	12 S	328	-3	4			increasing
8	19 N	316	>6	1	x		dispersed
9	18 N	303	>6	3			decreasing
10	22 N	290	>6	1	x	(15)	decreasing
11	16 N	289	>6	5			decreasing
12	10 S	286	>6	1	x		decreasing
13	22 S	280	>6	3			decreasing
14	12 N	278	-2	2			decreasing
15	27 S	273	>6	1	x	(16)	decreasing
16	14 N	271	0	2			decreasing
17	27 N	269	>6	1	x		dispersed
18	27 N	264	+5	2			dispersed
19	21 N	261	+5	1	x		disappeared
20	26 S	261	>6	2			dispersed
21	16 S	256	>6	1	x		decreasing
22	22 S	253	+5	5			decreasing
23	29 S	251	-3	1	x		stable
24	24 S	235	>6	1	x		decreasing
25	14 N	230	-3	1	x		stable
26	21 N	227	+1	2			decreasing
27	10 N	216	>6	4		(21)	decreasing
28	22 S	214	0	3			decreasing
29	22 N	209	+6	1	x		dispersed
30	29 S	207	>6	1	x		dispersed
31	17 S	193	+6	1	x		disappeared
32	20 N	180	>6	3			decreasing
33	34 S	177	+1	2			decreasing
34	18 N	173	>6	5			decreasing
35	10 N	171	+1	1	x		stable
36	14 S	169	>6	3			decreasing
37	8 N	167	-3	2			decreasing
38	8 N	156	+3	2			decreasing
39	18 S	155	+6	2			dispersed
40	28 S	150	-1	2			dispersed
41	12 S	145	>6	4			decreasing
42	26 S	142	+5	2			decreasing
43	18 S	141	>6	1	x		disappeared
44	10 N	137	-4	2			stable
45	15 N	136	>6	5			stable
46	12 N	130	>6	1	x	(33+34)	decreasing
47	17 N	115	-5	2			(?)
48	21 N	114	>6	4			decreasing
49	15 S	104	>6	5			decreasing
50	30 S	94	>6	1	x		dispersed
51	27 S	90	>6	4			decreasing
52	24 N	80	+3	2			disappeared
53	28 S	73	>6	1	x		dispersed
54	22 S	72	>6	3		(46)	decreasing
55	31 S	60	>6	1	x	(47)	dispersed
56	26 N	58	>6	1	x		dispersed
57	14 S	53	>6	1	x	(51)	decreasing
58	16 S	41	>6	1	x	(51)	dispersed
59	28 S	37	>6	1	x		dispersed
60	25 S	16	>6	1	x	(55)	dispersed
61	17 N	5	>6	2			decreasing


SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1676
DECEMBER 10 TO JANUARY 7, 1979
MEUDON OBSERVATORY
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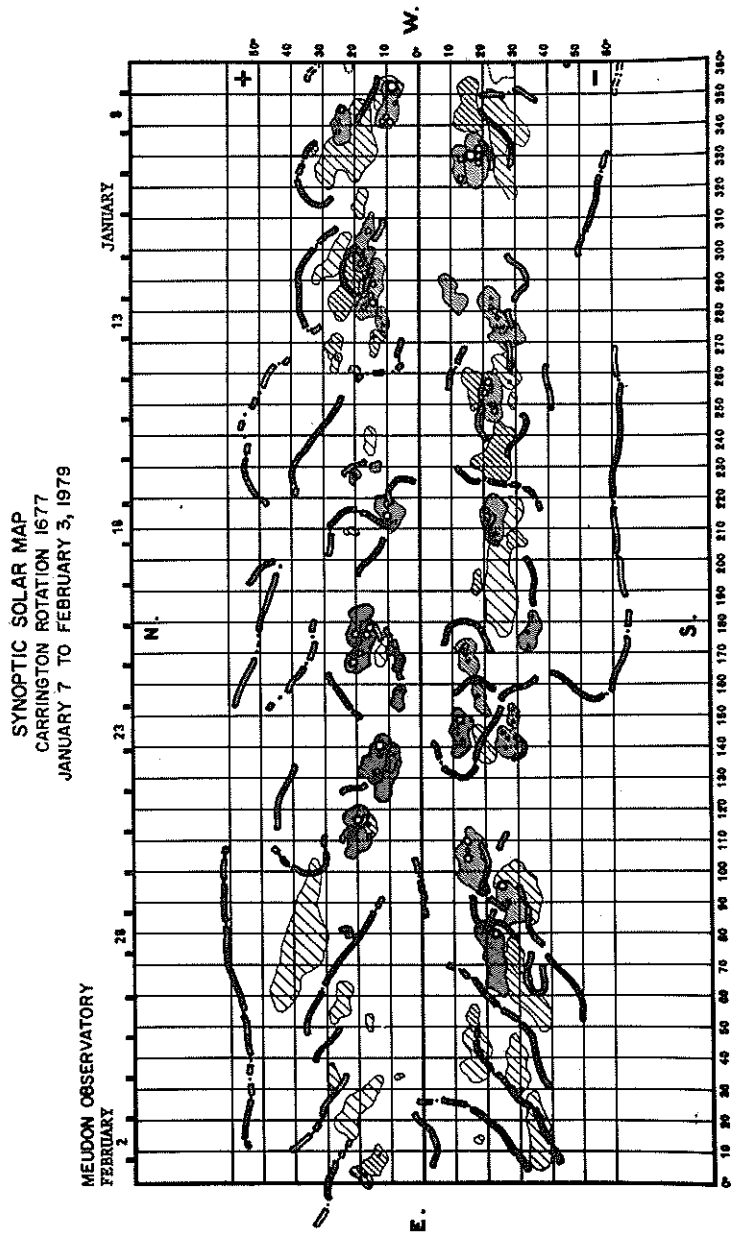
SYNOPTIC SOLAR MAP
CARRINGTON ROTATION 1677
JANUARY 7 TO FEBRUARY 3, 1979
MEUDON OBSERVATORY
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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 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	6100	KISV	45 C	0847	0852	10	8			
	8800	ATHN	3 S	0850.6	0852.2	10.6	31.2	9.3		
	9500	BERL	3 S	0851	0852	4	15			
	4995	ATHN	3 S	0851.1	0852.2	6	12.7	3.8		
	10400	BERN	1	0851.4	0852.1	4	11			OPR
	10400	BERN	1 S	0851.4	0852.1	4	4	11		OPR
	3000	BERL	3 S	0851.5	0853.3	7.5	9.5			
	15000	KISV	1 S	0851	0852	4	4			
	260	ONDR	44 NS	0903 E		305 D	61	3		
	245	SGMR	44 NS	1218 E	1906.3	537 D	23.4			
	1470	BERL	8 S	0908.5	0909.4	1	39			
	7000	SAOP	24 R	1118.5						0
	7000	SAOP	24 R	1341						0
	9400	HUAN	20 GRF	1444.3	1508.3	24	6.8	2.5		0
	2800	OTTA	20 GRF	1625	1720	115	3.8	1.9		
	7000	SAOP	24 R	1738.2						0
	2800	OTTA	20 GRF	1912	1917	15	2	1		
	7000	SAOP		1928						0
	9400	HUAN	20 GRF	1935.9	2019.6	43.7	5.1	4.6		0
	2695	PENT	24 R	1935	1950	15	4	2		
	2695	PENT	27F RF	1935		135	4	3.4		
	2695	PENT	24P R	1950		95	4			
	9400	HUAN	2 S/F	2002.8	2004.4	1.6	10.2	4.3		L
	2695	PENT	26 FAL	2125	2150	25	-4	-2		
2	100	HIRA	7 C	0553.7	0554.5	2	700	200		
	200	HIRA	46 C	0553	0555	4	1500	200		HL
	200	HIRA	46 C	0638	0639	2	1800	300		0
	100	HIRA	46 C	0638.8	0639.3	2	100	60		HL
	202	IZMI	43 NS	0700		300	50			
	221	ABST	44 NS	0730	0756	90	9			
	260	ONDR	44 NS	0844 E		288 D	88	7		
	202	IZMI	41 F	0803.7	0803.8	1.3	265			
	113	POTS	1 S	0804.7	0804.7	.2	210	70		
	113	POTS	4 S/F	0849.7	0849.9	.4	1400	280		
	202	IZMI	8 S	0849.8	0849.8	.8	220	110		
	3100	CRIM	24 R	0854	1132		11			
	113	POTS	7 C	0920.3	0920.4	.5	200	40		
	202	IZMI	7 C	0920.4	0920.5	1.5	235	140		
	113	POTS	4 S/F	1139.6	1139.7	.2	1200	300		
	9100	ARCE	21 GRF	1204.2	1249.8	102				
	10400	BERN	2 S/F	1207.2	1208.4	3	4	10		OPR
	10400	BERN	2	1207.2	1208.4	3	10			OPR
	930	BORD	41 F	1207.5	1208	1.7	207	2		
	9500	BERL	1 S	1207.5	1208.5	1.5	7.1			
	808	ONDR	2 S/F	1207.5	1208.6	2	40	2.5		
	7000	SAOP	2 S/F	1207.6	1208.5		17			R
	9100	ARCE	1 S	1207.6	1208.6	1.8				
	245	SGMR	44 NS	1218 E	1553.1	538 D	504			
	410	SGMR	43 NS	1547	1701.6	329 D	34.4			
	113	POTS	41 F	1304.2	1306.1	5.9	600	15		
	245	SGMR	7 S	1306.3	1307.1	4.2	303	91		
	410	SGMR	6 S	1306.3	1307	2.6	39	8		
	237	TRST	41 F	1306.9	1306.9	.1	570			0
	606	SGMR	3 S	1307	1308.6	1.8	23	7		
	930	BORD	41 F	1308.7	1308.7	1	18	2		
	113	POTS	41 F	1339.6	1339.9	.3	700	50		
	237	TRST	41 F	1406.6	1407	1.1	11175			24R
	245	SGMR	48 GB	1406.9	1407.2	1.2	4290	858		
	410	SGMR	6 S	1407	1407.2	.8	23	5		
	8800	SGMR	3 S	1410.4	1410.5	.2	311	93.4		
	9100	ARCE	8 S	1419.6	1419.7	.6				
	245	SGMR	6 S	1427.6	1431.2	4.4	102	30.6		
	410	SGMR	6 S	1427.6	1427.6	4.4	39.9	12		
	930	BORD	41 F	1428.2	1429	2	21	2		
	606	SGMR	3 S	1429	1403.1	2.1	24.6	7.4		
	606	SGMR	3 S	1450.1	1450.6	.7	45	9		
	2800	OTTA	240 R	1500	1520	20	2.6	33		
	410	SGMR	6 S	1542.6	1442.7	.9	165	33		
	245	SGMR	7 S	1543.4	1443.5	1.7	380	76		
	7000	SAOP	2 S/F	1551.5	1552.8		100			R
	2800	OTTA	1 S	1552	1553	1.5	1.2	.6		
	2800	OTTA	20 GRF	1715	1750	50	2.2	1.4		
	245	SGMR	7 S	1746.9	1750.1	4.6	260	78		3G
	410	SGMR	6 S	1747.1	1748.1	5.9	160	48		3G
	606	SGMR	3 S	1748.2	1751.1	3.6	30	6		3G
	410	SGMR	7 C	1823.8	1831.3		18.8			
	410	SGMR	7 C	1823.8	1824.8	12	30.2	9.1		
	606	SGMR	45 C	1824.2	1830.3		12.8			
	606	SGMR	45 C	1824.2	1824.5	8.5	38.5	11.6		
	245	SGMR	7 C	1824.2	1830.1		27.2			
	245	SGMR	7 C	1824.2	1825	6.6	96	28.8		
	9400	HUAN	20 GRF	1824.5	1912.3	47.8	8.5	6.3		0
	2800	OTTA	45 C	1824	1825	7	3.8	1.9		

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	7000	SAOP	24 R	1826.7						O
	7000	SAOP	24 R	1849						O
	2800	OTTA	20 GRF	1920	1955	70	8	4.4		
	7000	SAOP	24 R	1944.4						O
	606	SGMR	3 S	1958.3	1958.4	.2	42.8	12.8		
	606	SGMR	3 S	2049.4	2051.1	1.8	63	18.9		
	245	SGMR	7 S	2049.8	2050.1	1.4	354	106		
	1420	BOUL	45 C	2156.5E	2157	6.5D	8	3		
	100	HIRA	41 F	2240	2253.5	24	3500			HL
	200	HIRA	41 F	2242	2247	8	1000			HL
	500	HIRA	46 C	2246	2247	2.4	85	40		HL
	200	HIRA	46 C	2331	2332	4	3000	1000		HL
	100	HIRA	46 C	2331	2332	4	25000	5000		O
3	200	HIRA	46 C	0246.5	0248	3	1400	400		HL
	100	HIRA	46 C	0247	0247.5	2	300	100		O
	5730	IRKU	1 S	0359.3	0359.7	15	2			
	200	HIRA	41 F	0602.5	0604	9	500			HL
	100	HIRA	41 F	0603	0611	20	5000			HL
	5730	IRKU	1 S	0604	0605	1	2			
	6100	KISV	8 S	0604	0605	2	14			
	6100	KISV	2 S/F	0650	0651.2	2	4			
	260	ONDR	44 NS	0825 E		325 D	74			
	410	SGMR	44 NS	1218 E	1236.1	539 D	98			3G
	245	SGMR	44 NS	1218 E	1719.4	539 D	126			3G
	3100	CRIM	20 GRF	0837	0929	62	4	1		
	536	ONDR	41 F	0921.8	0924	3	25			
	237	TRST	41 F	0932	0932.9	1.2	310			O
	408	TRST	45 C	0932.8	0932.9	.3	120			
	9100	ARCE	8 S	1022.7	1022.8	.5				
	408	TRST	8 S	1025.7	1025.7	.1	120 D	39		
	408	TRST	41 F	1037.2	1037.4	.4	97 D			
	9100	GORK	2 SF	1041.4	1042.3	1	8	4		
	930	BORD	41 F	1041.5	1042.1	1	21	3		
	650	GORK	2 SF	1041.6	1041.7	1	8	4		
	950	GORK	2 SF	1041.6	1042.2	1.2	6.4			
	202	IZMI	41 F	1041.7	1042	.5	200			
	408	TRST	48 C	1041.7	1041.8	.6	95 D			
	237	TRST	41 F	1042	1042.1	.2	105			O
	408	TRST	41 F	1100.3	1100.6	.4	69			
	536	ONDR	41 F	1100.8	1100.8	14	20			
	237	TRST	41 F	1100.9	1101	.6	185 D			O
	408	TRST	42 SER	1110.2	1112.8	4.7	94 D			
	3000	BERL	20 GRF	1110	1139	47	10			
	408	TRST	42 SER	1134.6	1138.6	9	140 D			
	9500	BERL	22 GRF	1135	1150.3	23	11			
	113	POTS	41 F	1138.5	1138.6	.7	600	40		
	237	TRST	41 F	1138.5	1138.5	.5	65			12R
	202	IZMI	8 S	1138.5	1138.5	.5	190	80		
	29	UPIC	45 C	1138.6	1138.9	1.2				
	33	UPIC	45 C	1138.6	1138.8	.9				
	930	BORD	41 F	1138	1138.7	3	48	3		
	1470	BERL	8 S	1138	1138.7	2.3	49			
	237	TRST	5 S	1141	1141	.1	250	85		14R
	930	BORD	8 S	1216.7	1216.7	1	12	1		
	408	TRST	4 S/F	1217.5	1217.6	.4	43	10		
	9100	ARCE	8 S	1224.8	1224.9	.6				
	408	TRST	4 S/F	1237	1237.1	.4	270	67		
	536	ONDR	41 F	1237	1237	28	14			
	408	TRST	4 S/F	1240.6	1240.8	.2	180	45		
	10400	BERN	2 S/F	1253.5	1254.3	2	3	9		OPR
	7000	SAOP	1 S	1253.5	1254.5					O
	10400	BERN	2	1253.5	1254.3	2	9			OPR
	245	SGMR	6 S	1411.6	1416.5	6.4	166	49.8		5
	606	SGMR	3 S	1411.8	1412	5.9	101	30.3		5
	410	SGMR	48 GB	1412	1415.5		243			5
	410	SGMR	48 GB	1412	1412.1	5.7	941	282		5
	930	BORD	45 C	1412	1412.2	1	34	3		
	237	TRST	5 S	1416.3	1416.4	.1	205	80		O
	2800	OTTA	20 GRF	1432	1438	12	1.4	.7		
	2800	OTTA	8 S	1451.2	1453.5	.7	1.8			
	930	BORD	45 C	1512.2	1512.7	1	106	7		
	2800	OTTA	8 S	1512.3	1512.5	.7	3.2	2.7		
	2800	OTTA	24 R	1520	1550	30	6.6	3.8		
	2800	OTTA	27A RF	1520		230	6.6	5.8		
	930	BORD	46 C	1544	1545	30 D	288			
	606	SGMR	45 C	1545.1	1612.8	81.9	497	20		
	606	SGMR	45 C	1545.1	1627.9		88			3G,SMF
	2800	OTTA	8 S	1548.6	1548.6	.1E	15.6			
	2800	OTTA	24P R	1550		175	6.6			
	245	SGMR	7 C	1554	1646.4		67			3G,SMF
	245	SGMR	7 C	1554	1626.1		313			3G,SMF
	245	SGMR	7 C	1554	1605	73	33	12.5		3G,SMF
	410	SGMR	48 GB	1554.4	1608.6	72.6	289	242		3G,SMF
	410	SGMR	48 GB	1554.4	1646.3		78			3G,SMF

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	410	SGMR	48 GB	1554.4	1628		606			3G,SWF
	2800	OTTA	20 GRF	1555	1602.3	40	10	6		
	7000	SAOP	3 S	1601.6	1602.4					D
	2800	OTTA	21 GRF	1645	1721	110	11			
	410	SGMR	29 PBI	1707	1710.4	113.4	60	24		
	7000	SAOP	20 GRF	1806						D
	2800	OTTA	22 GRF	1807	1815	25	5.4	3		
	2800	OTTA	26 FAL	1845	1910	25	-6.6	-3.3		
	2800	OTTA	26 FAL	1930	2000	30	-3	-1.5		
	2695	PENT	240 R	2010	2030	20	4	2		
	4995	BOUL	3 S	2114.5	2116	3	42	14		
	9400	HUAN	20 GRF	2144	2156.3	11.7	10.4	6.4		D
	2695	PENT	21 GRF	2144	2149	13	4	2		
	2695	PENT	3 S	2145	2145.7	1	13.2	6.6		
	1420	BOUL	1 S	2145 E	2145.5	2.50	8	3		
	2695	BOUL	3 S	2146 E	2147	2 D	13	4		
4	260	ONDR	44 NS	0850 E		307 D	54			
	245	SGMR	43 NS	1316	2006.8	482 D	110			
	410	SGMR	43 NS	1316	1537.6	482 D	56.3			
	237	TRST	41 F	0856.9	0857	.3	225			8L
	202	IZMI	8 S	0857	0857	.2	170	70		
	3100	CRIM	20 GRF	0943.5	1007	66	3	1		
	237	TRST	41 F	0946.5	0946.9	.5	108			3L
	930	BORD	45 C	1000.7	1000.8	.4	31	3		
	536	ONDR	42 SER	1027	1029.6	4	27			
	33	UPIC	45 C	1114.8	1115.1	3.1				
	113	POTS	41 F	1114.9	1117.1	2.8	300	30		
	29	UPIC	45 C	1115.2	1115.5	2.8				
	9400	HUAN	20 GRF	1318.6	1705.6	226	12	6.3		D
	237	TRST	41 F	1319.2	1319.5	.8	105			6L
	113	POTS	41 F	1323.7	1323.9	.5	600	75		
	606	SGMR	3 S	1418.8	1419.9	1.4	65	13		
	2800	OTTA	20 GRF	1420 E	1553	230 D	7.8			
	9400	HUAN	21 GRF	1827.5	1858	90.5	7.4	5.3		D
	2800	OTTA	240 R	1905	2005	60	8.4	4.2		
	9400	HUAN	3 S	1935.7	1937.5	2.2	18.5	8.6		R
	200	HIRA	44 NS	2150 E	2310	190 D	8	3		SR
5	9100	GORK	20 GRF	0708.3	0709	11.6	10	5		
	2950	GORK	1 S	0708.5E	0709	7.3	10.5	5		
	5730	IRKU	1 S	0708	0709	1	16			R
	5730	IRKU	29 PBI	0709.5		21	10			R
	260	ONDR	44 NS	0830 E		333 D	28			
	127	TORN	43 NS	1036	1228.1	234 D	60	8		V1
	100	GORK	43 NS	1042		52 D		10		
	410	SGMR	44 NS	1218 E	1846.6	541 D	291			
	245	SGMR	44 NS	1218 E	1523.3	541 D	6.6			
	6100	KISV	2 S/F	0851.3	0852.3	3	2			
	6100	KISV	4 S/F	0909.3	0911	4	3			
	113	POTS	27 RF	1052	1154	156	70	15		
	408	TRST	41 F	1117.7	1118.2	.8	87 D			
	9400	HUAN	20 GRF	1343.7	1434.5	50.8	11.1	7.2		D
	7000	SAOP	1 S	1423	1424.5		63			R
	2800	OTTA	1 S	1424	1424.4	1	5.2	2.6		
	9400	HUAN	20 GRF	1517.8	1638.8	81	9.5	4.5		D
	2800	OTTA	20 GRF	1520	1535	30	2.4	1.8		
	2800	OTTA	26 FAL	1640	1740	60	-3	-1.5		
	2800	OTTA	21 GRF	1820	1847	95	10.6	5		
	9400	HUAN	20 GRF	1825.9	2025.7	119.8	25.4	13.4		D
	7000	SAOP	20 GRF	1829.4						D
	4995	BOUL	28 PRE	1829.5	1832.5	12	22	7		
	2800	OTTA	3 S	1829	1832	13	13.4	6.5		
	2695	BOUL	22 GRF	1830.5E	1833	27 D	17	6		
	4995	BOUL	4 SF	1841.5	1843.5	3.5	45	15		
	4995	BOUL	29 PBI	1845	1845	15.5	2	1		
	2695	PENT	1 S	2028	2029	2	2.8	1.4		
	4995	BOUL	3 S	2053.5	2055.5	3	17	6		
6	2695	MANI	4 S/F	0009.1	0009.8	3.4	10.5	3.5		
	606	MANI	4 S/F	0009.5	0010.8	3	20.7	6.9		
	1415	MANI	47 GB	0009.6	0010.8	5.4	1175	40		
	200	GORK	43 NS	0627 E		303 D		5		
	260	ONDR	44 NS	0933 E		271 D	25			
	127	TORN	43 NS	1147	1151.2	60 U	42	1.6		V1
	410	SGMR	44 NS	1218 E	1639.2	542 D	47.3			3G
	245	SGMR	44 NS	1218 E	1945	542 D	55.4			3G
	221	ABST	7 C	0710	0710.8	10	23	11		
	127	TORN	40 F	0940 U	0957	22	13			
	2650	DWIN	45 C	1019	1020	2	25	5		
	9500	BERL	1 S	1117.5	1118	1	5.8			
	3000	BERL	7 C	1117.7	1119.6	3.3	14			
	1470	BERL	7 C	1117.9	1120.5	3.1	11			3G
	6100	KISV	8 S	1118	1118.3	1	3			3G
	9100	ARCE	8 S	1153	1153.1	.6				
	9100	ARCE	1 S	1206	1206.2	.6				
	2800	OTTA	2 S/F	1454	1454.3	1	2.4			

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	2800	OTTA	8	S	1748.8	1749	.3	3.2			
	9400	HUAN	20	GRF	2055.3	2116.8	21.5	5.1	3.9		O
	2695	PENT	1	S	2055	2056	10	2.8	1.4		
7	6100	KISV	8	S	0642	0642.2	1	4			
	260	ONDR	2	S/F	1024.6	1025.2	1.5	10	1.4		
	127	TORN	41	F	1103.5	1103.9	6	19			
	113	POTS	6	S	1108.9	1108.9	.2	850	100		
	410	SGMR	44	NS	1218 E	1314.3	542 D	88.1			3G
	245	SGMR	44	NS	1218 E	1444	542 D	74.7			3G
	260	ONDR	2	S/F	1227.3	1228	1.5	13			
	9400	HUAN	20	GRF	1718.8	1747.8	29	9.9	4		O
	2800	OTTA	240	R	1900	1935	35	4	2		
	200	HIRA	43	NS	2343	0215	480 D	40	25		ML
8	2930	USSU	47	GB	0220	0238	55	306			
	2695	MANI	47	GB	0224	0237.9	37.5	575	190.8		
	500	HIRA	46	C	0224.8	0233.9	28	90	30		HR
	4995	MANI	47	GB	0225.3	0238.1	36.4	1149	383		
	5730	IRKU			0225	0232.9		280			L
	5730	IRKU	47	GB	0225	0229.4	30	100			L
	5730	IRKU			0225	0238		800			
	8800	MANI	47	GB	0226.4	0238.2	35.2	963.3	321.1		
	1415	MANI	4	S/F	0227	0238.7	33	106.9	35.6		
	200	HIRA	46	C	0228	0234	19	100	80		HR
	100	HIRA	48	C	0231	0232.5	26	7000	100		O
	35000	NAGO	20	GRF	0234	0244	42	167			
	200	GORK	44	NS	0625 E		305 D		5		
	202	IZMI	43	NS	0700		300	50			
	127	TORN	44	NS	0740 E	1319.1	410 D	11	.5U		VO
	221	ABST	43	NS	0800	0809.5	60	13			
	260	ONDR	44	NS	0824 E		347 D	42			
	410	SGMR	44	NS	1218 E	2022.4	544 D	13.4			
	245	SGMR	44	NS	1218 E	1632.8	544 D	155			
	3100	CRIM	20	GRF	0807	1020	263 D	12	4		
	9400	HUAN	21	GRF	1353.8	1529.7	95.9	9.8	5.8		O
	7000	SAOP	4	S/F	1405	1407.6	1.2	25			R
	7000	SAOP	21	GRF	1405						
	7000	SAOP	4	S/F	1405						
	7000	SAOP	21	GRF	1405						
	4995	ATHN	3	S	1405.5	1407.5	6.3	28	8.4		
	8800	ATHN	3	S	1405.7	1407.3	6.1	35.1	10.5		
	7000	SAOP	41	F	1406						
	7000	SAOP	1	S	1406	1407.2		49			R
	9400	HUAN	3	S	1406.8	1408.2	1.4	22.8	13.8		R
	10400	BERN	8	S	1407.1	1407.6	22	7	16		
	10400	BERN	8		1407.1	1407.6	22	16			
	9100	ARCE	1	S	1407	1407.9	2				
	7000	SAOP	4	S/F	1441	1441.9	1.4	30			L
	8800	ATHN	3	S	1441.1	1441.5	6.3	39.5	11.9		
	4995	ATHN	4	S/F	1441.2	1441.5	6.2	55.9	16.8		
	4995	SGMR	3	S	1441.2	1441.3	.8	30.1	9		
	10400	BERN	8		1441.3	1441.8	4	23			
	10400	BERN	8	S	1441.3	1441.8	4	8	23		
	9100	ARCE	3	S	1441.5	1441.9	1.8				
	9400	HUAN	4	S/F	1441.5	1442.2	.7	34.1	19.8		L
	2800	OTTA	3	S	1441.5	1441.9	1.5	11.4	5.7		
	2800	OTTA	23	GRF	1520	1540	50	2.4			
	2800	OTTA	1	S	1551.5	1552.5	2	1.4	.7		
	7000	SAOP	24	R	1559						O
	7000	SAOP	24	R	1648						O
9	5730	IRKU	1	S	0345	0345.8	1	170			
	6100	KISV	4	S/F	0637	0637.4	2	3			
	202	IZMI	43	NS	0700		300	30			
	200	GORK	44	NS	0715 E		120		5		
	221	ABST	43	NS	0800	0818.8	60	19			
	260	ONDR	44	NS	0802 E		378 D	46	6		
	127	TORN	44	NS	0840 E	1049.4	150 U	10	.5		VO
	245	SGMR	44	NS	1218 E	1306.6	545 D	152			
	410	SGMR	44	NS	1218 E	1306.6	545 D	16.2			
	6100	KISV	4	S/F	0725	0732.3	15	5			
	2800	OTTA	1	S	1654	1654	1.5	5.8	2.7		
	9400	HUAN	20	GRF	1837.3	1915.6	28.3	10.2	5.3		L
	7000	SAOP	20	GRF	1906.4			42			L
	2800	OTTA	1	S	1907.5	1908	7	4	1.8		
	2695	PENT	20	GRF	2000	2030	60	2.8	1.4		
	245	SGMR	6	S	2027.8	2027.9	.3	116	23		
	410	SGMR	6	S	2027.8	2027.9	.4	23	5		
	200	HIRA	44	NS	2150 E	0430	595 D	55	15		ML
10	200	GORK	44	NS	0624 E		32.9		10		
	202	IZMI	44	NS	0700		300	60			
	221	ABST	44	NS	0700	0834.5	120	10			
	127	TORN	44	NS	0740 E	0913.5	380 D	830	4		V1

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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
	260	ONDR	44	NS	0810 E		346 D	104			
	245	SGHR	44	NS	1217 E	1534.2	547 D	233			
	410	SGHR	44	NS	1217 E	1733.8	547 D	25			
	6100	KISV	45	C	0721.5	0722	3	2			
	3100	CRIM	26	FAL	1057	1210	73	12	4		
	9400	HUAN	20	GRF	1539.2	1557.2	18	6.4	3.1		O
	9400	HUAN	20	GRF	1809.5	2021	131.5	19.4	13.2		O
	2800	OTTA	21	GRF	1840	1940	70	3.8	2		
	2800	OTTA	8	S	1843	1843	.5	1.4	.7		
	2800	OTTA	1	S	1849.5	1850.2	2	3.6	1.8		
	9400	HUAN	20	GRF	2048.5	2131.9	43.4	16.1	9.4		O
	2695	PENT	21	GRF	2050	2110	70 D	8.4			
	1420	BOUL	1	S	2056 E	2056.5	1 D	8	3		
	2695	PENT	1	S	2057.5	2058	1	3	1.5		
	200	HIRA	44	NS	2150 E	0540	595 D	90	50		HL
	4995	BOUL	3	S	2159	2251	4	11	4		
11	2695	MANI	4	S/F	0057	0100.1	5.3	22.3	7.4		I
	1415	MANI	4	S/F	0057.6	0059	8.4	92.3	30.7		
	5730	IRKU	3	S	0530	0536	10	10			R
	2950	GORK	4	SF	0647.5U	0648.9	6.4	25	12		
	9100	GORK			0647.7	0650	9.4	17	6.5		
	9100	GORK	3	S	0647.7	0648.9	2.4	90	45		
	2695	MANI	3	S	0647.9	0648.9	2.1	15.6	5.2		
	8800	MANI	3	S	0647.9	0648.9	2.1	106.8	35.6		
	5730	IRKU	2	S	0647	0648.7	7	39	9		R
	4995	MANI	3	S	0648	0649	3	16.6	5.5		
	1415	MANI	1	S	0648.1	0649	1.9	4.9	1.6		
	606	MANI	4	S/F	0648.3	0649	1.1	74.4	24.8		
	4995	ATHN	2	GRF	0648.7	0649.5	2.5	22	13.2		
	8800	ATHN	2	GRF	0648.7	0649.5	2.4	68.3	41		
	2695	ATHN	2	GRF	0648.7	0649.5	2.5	6.3	3.8		
	221	ABST	44	NS	0700	0709.8	120	20			
	202	IZMI	44	NS	0700		300	45			
	127	TORN	44	NS	0740 E	1019.4	410 D	32	3		V1
	260	ONDR	44	NS	0830 E		329 D	179	13		
	245	SGHR	44	NS	1217 E	1405.2	548 D	335			3
	410	SGHR	44	NS	1217 E	1429.3	548 D	93.3			3
	8400	BERN	42	SER	0741	0743.2	15	88	250		
	10400	BERN	42	SER	0741	0743.2	15	73	211		
	10400	BERN	42		0741	0743.1	15	211			
	3100	CRIM	3	S	0741	0742.5	7	120	40		
	8400	BERN	42		0741	0743.1	15	250			13R
	9100	GORK			0741.7	0746.6		209			
	9100	GORK	46	C	0741.7	0743	16.3	199			
	9100	ARCE	46	C/F	0741.8	0747	7.9				
	9100	ARCE			0741.8	0743.3	4.3				
	2950	GORK			0742.3	0746.9		113			
	2950	GORK	46	C	0742.3	0743.4	7.2	147			
	950	GORK	46	C	0742.5	0742.8	.70	30			
	9500	BERL	46	C	0742.5	0747	7.5	150			
	1470	BERL	46	C	0742.5	0743.5	6.5	53			
	3000	BERL	46	C	0742.5	0743.4	6.5	133			
	8800	MANI	4	S/F	0742.8	0743.4	6.9	270.6	180.4		
	2695	MANI	4	S/F	0742.9	0743.8	7.2	127.4	84.9		
	5730	IRKU			0742	0747		160			
	5730	IRKU			0742	0745.6		52			
	5730	IRKU			0742	0744		100			
	5730	IRKU	47	GB	0742	0743.3	20	115			
	1415	MANI	4	S/F	0743	0744.1	8.2	32.2	21.5		
	650	GORK	45	C	0743.1	0743.2	.9D	20 E			
	650	GORK			0743.1	0743.5		20 E			
	4995	MANI	4	S/F	0743.2	0743.8	7.5	105.9	70.6		
	1415	ATHN	2	GRF	0743.3	0744.6	21.3	59.1	35.4		
	2695	ATHN	14	C	0743.4	0744.4	21.8	126.8	38		
	4995	ATHN	14	C	0743.4	0747.5		116.6			
	8800	ATHN	14	C	0743.4	0744	20.9	289.7	86.9		
	4995	ATHN	14	C	0743.4	0744	20.8	116.6	35		
	8800	ATHN	14	C	0743.4	0747.5		236.3			
	9100	ARCE			0746.1	0747	3.6				
	9100	ARCE	29	PBI	0749.7						ATH ATT
	113	POTS	8	S	0815.1	0815.2	.1	200	70		
	10400	BERN	4	S/F	1123.4	1126.1	13	9	26		
	10400	BERN	4		1123.4	1126.1	13	26			
	8800	ATHN	1	F	1124	1127.1	10.3	48.1	24		
	4995	ATHN	1	F	1124	1127.8	9.7	25.1	12.5		
	9500	BERL	4	S/F	1124	1127.4	16	27			
	9400	HUAN	3	S	1124.2	1156.8	32.6	39.4	10.8		R
	9100	GORK	2	SF	1124.5	1127.5	5.7	29	12		
	3000	BERL	3	S	1125	1127.5	6	11			
	3100	CRIM	1	S	1125	1127	4.5	10	3		
	808	ONDR	4	S/F	1125.2	1125.2	1	75			
	9100	ARCE	3	S	1125.9	1127.1	3.7				
	930	BORD	41	F	1125	1125.2	.5	66	2		
	10715	DWIN	45	C	1125	1128	5	25	10		

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	1470	BERL	3	S	1143.5		1143.7	1		6.8			
	930	BORD	45	C	1145.6		1145.8	.4		21	2		
	7000	SAOP	46	C	1225								
	7000	SAOP			1225		1227.4			23			R
	7000	SAOP			1225		1226.8			14			R
	7000	SAOP	4	S/F	1225		1235.8						0
	9500	BERL	31	ABS	1234		1235.8	10		31			
	10400	BERN	3	S	1234.7		1235.7	12		10	30		
	10400	BERN	3		1234.7		1235.8	12		30			
	9400	HUAN	3	S	1234.8		1238.2	3.4		41	17.2		L
	3000	BERL	1	S	1235		1236	5		5.9			
	9100	ARCE	3	S	1235.2		1236.1	2.4					
	1470	BERL	8	S	1235.5		1236	.7		42			
	9100	ARCE	29	PBI	1237.6			6.5					
	9400	HUAN	29	PBI	1238.2		1258.5	20.5		9.8	2.2		0
	2800	OTTA	21	GRF	1445		1515	65		2.4	1.6		
	2800	OTTA	8	S	1508		1508	.2		10.2			
	2800	OTTA	26A	FAL	1640		1705	25		-3.2	-1.6		
	9400	HUAN	3	S	1658.5		1700.7	2.2		27.9	11		0
	7000	SAOP	4	S/F	1659		1659.6	1		13			L
	2800	OTTA	1	S	1659		1659.7	3		5.6	3.8		
	2800	OTTA	20	GRF	1739		1741	35		2.8	1.4		
	2800	OTTA	26	FAL	1902		1910	8		-1.6	-.8		
	200	HIRA	44	NS	2150	E	0605	595	D	190	50		0
	500	HIRA	27	RF	2312		0132	228		20	5		0
12	4995	MANI	4	S/F	0025		0027.7	7.5		80.3	53.3		
	2695	MANI	4	S/F	0025.3		0027.7	7.7		35.8	23.8		
	8800	MANI	4	S/F	0025.9		0027	4.6		96.3	64.2		
	1415	SYDN	27	RF	0026.3		0028	3.8					
	221	ABST	44	NS	0600		0608	180		9			
	200	GORK	44	NS	0630	E		330			20		
	202	IZMI	44	NS	0700			300		90			
	127	TORN	44	NS	0740	E	1318.9	420	D	180	16		V1
	260	ONDR	44	NS	1007	E		245	D	108	8		
	245	SGMR	44	NS	1217	E	1313.8	550	D	670			
	410	SGMR	44	NS	1217	E	1707.8	550	D	43			
	113	POTS	44	NS	1241	E	1408	91	D	70			
	606	SGMR	43	NS	1400		1614.4	447	D	11			
	3100	CRIM	21	GRF	0953		1012	69		4	1		
	6100	KISV	1	S	1018.3		1019	2		2			
	6100	KISV	4	S/F	1030		1029.3	10		9			
	1470	BERL	42	SER	1031		1035	5		22			
	9500	BERL	1	S	1032		1034.7	4		7.1			
	3100	CRIM	1	S	1033		1033.5	1		3	1		
	808	ONDR	2	S/F	1033.3		1034.6	2		45	3.8		
	15000	KISV	2	S/F	1033		1034.5	3		5			
	3100	CRIM	3	S	1034.5		1035	1.5		16	5		
	3000	BERL	3	S	1034.5		1034.8	.8		31			
	2950	GORK	3	S	1034.8		1035.2	1.1		42	21		
	950	GORK	4	SF	1034.8		1035.1	1		27			
	2650	DWIN	45	C	1034		1034.5	1		50	20		
	6100	KISV	4	S/F	1040		1047	10		18			
	10400	BERN	4		1045.4		1047	4		18			
	10400	BERN	4	S/F	1045.4		1047	4		6	18		
	15000	KISV	4	S/F	1045		1046.3	5		10			
	3100	CRIM	1	S	1046		1046.5	1.5		5	2		
	10715	DWIN	1	S	1046		1046.5	1		15	5		
	9100	GORK	2	SF	1049.7		1050	1.1		27	12		
	15000	KISV	4	S/F	1058.3		1059.5	2		18			
	10400	BERN	8		1059		1059.8	4		26			
	7000	SAOP	4	S/F	1059		1059.1	1.1		45			R
	10400	BERN	8	S	1059		1059.8	4		9	26		
	8800	ATHN	2	GRF	1059.2		1059.4	10.1		27.5	16.5		
	2695	ATHN	2	GRF	1059.2		1059.4	9.9		3.7	2.2		
	4995	ATHN	2	GRF	1059.2		1059.4	10.6		20.9	12.5		
	3100	CRIM	1	S	1059.5		1059.8	1		5	2		
	930	BORD	46	C	1059.6		1059.8	.4		235	2		
	9100	GORK	4	SF	1059.7		1100.1	1.6		38	16		
	6100	KISV	4	S/F	1059		1059.5	3		19			
	10715	DWIN	1	S	1059		1059.5	1		20	5		
	10400	BERN	4	S/F	1103.6		1106.3	8		6	16		
	10400	BERN	4		1103.6		1106.3	8		16			
	6100	KISV	4	S/F	1105		1107	5		18			
	3100	CRIM	1	S	1106		1106.2	1		3	1		
	3000	BERL	1	S	1106		1106	1		4.3			
	9500	BERL	3	S	1106		1106.4	1		16			
	7000	SAOP	45	C	1106		1106.2			10			R
	10715	DWIN	1	S	1106		1106.5	1		10	5		
	930	BORD	46	C	1134.5		1134.7	1		98	4		
	808	ONDR	42	SER	1226.6		1226.6	2.5		242			
	536	ONDR	42	SER	1226		1227.1	3		143			
	3000	BERL	1	S	1227.3		1227.8	1.2		5.2			
	1470	BERL	8	S	1227.5		1228	1		18			
	606	SGMR	47	GB	1227.5		1227.7	2.3		700	210		

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	245	SGMR	6 S	1227.7	1228.2	51.8	132	39.6		
	408	TRST	42 SER	1227.7	1228.1	1.8	380			
	930	BORO	46 C	1228.7	1228.8	.5	195	3		
	536	ONDR	42 SER	1328	1330.6	4	273			
	930	BORC	42 SER	1329.6	1329.7	3.6	49	3		
	245	SGMR	6 S	1330	1330.6	1.9	140	28		
	410	SGMR	6 S	1330	1330.5	3.4	14	3		
	606	SGMR	3 S	1330.7	1331.3	1.4	160	32.6		
	2800	OTTA	2 S/F	1525	1527	5	5.6	1.8		
	606	SGMR	47 GB	1526	1526.1	1.9	517	155		
	7000	SAOP	45 C	1526	1527.1		43			L
	410	SGMR	48 GB	1526.1	1526.2	2.1	5930	1780		
	245	SGMR	6 S	1526.1	1526.2	.7	191	57.3		
	930	BORO	41 F	1526	1526.2	.5	74	3		
	9400	HUAN	20 GRF	1555.3	1649.8	54.5	6	2.6		D
	7000	SAOP	45 C	1620	1623.4		21			R
	606	SGMR	3 S	1621.8	1621.9	.3	16.2	4.9		
	2800	OTTA	1 S	1621.8	1621.9	1.5	1.2	.5		
	2800	OTTA	2 S/F	1635.9	1636.1	6	2.6	1.3		
	2800	OTTA	20 GRF	1740	1800	60	3.4	2.2		
	2695	PENT	1 S	2112	2114	8	1.4	.7		
	4995	BOUL	45 C	2152.5	2154	4	22	7		
	9400	HUAN	1 S	2153.5	2155.4	1.9	10	7.3		R
	9400	HUAN	8 S	2156.2	2157	.8	68.5	26.3		R
13	5730	IRKU	1 S	0257	0258.5	3	8			R
	221	ABST	44 NS	0600	0731	120	28			
	200	GORK	44 NS	0630 E		330		20		
	202	IZMI	44 NS	0700		300	80			
	127	TORN	44 NS	0740 E	1248	420 D	49	6		V1
	260	ONDR	44 NS	0820 E		335 D	148	13		
	245	SGMR	44 NS	1216 E	1646.1	552 D	138			
	410	SGMR	44 NS	1216 E	1610.1	552 D	63.3			
	6100	KISV		0650	0701		7			
	6100	KISV		0650	0656.3		5			
	6100	KISV		0650	0652		3			
	6100	KISV	42 SER	0650	0708	35	21			
	15000	KISV	2 S/F	0658	0700.4	6	6			
	9100	GORK	1 S	0659.8	0700.5	3.4	9.6	4		
	5730	IRKU	1 S	0700	0701	3	5			L
	4995	ATHN	3 S	0706.2	0708.2	10.8	39.2	17.8		
	8800	ATHN	4 S/F	0706.3	0708.2	8.5	51	15.3		
	2695	ATHN	3 S	0707.2	0708.1	7.6	9.4	2.8		
	9100	GORK	21 GRF	0707.2E	0714.7	150 D	10.7	4.5		
	2950	GORK	3 S	0707.2	0708	2.8	19	9		
	650	GORK	4 SF	0707.3	0707.3	.3	46	23		
	950	GORK	1 S	0707.5	0708.1	2	2.8	1.4		
	9100	GORK	2 SF	0707.5	0708	16.4	22.5	11		
	15000	KISV	3 S	0707	0708	4	14			
	5730	IRKU	2 S	0707	0708.1	2	27			L
	5730	IRKU	29 PBI	0709.3		40	7			L
	2950	GORK	20 GRF	0715.5	0736	36.7	11	4		
	9100	GORK	20 GRF	0731.6	0738.7	16.4	10	3.5		
	113	POTS	45 C	0823.4	0827.2	5.8	350	25		
	6100	KISV	1 S	0830	0833.5	6	4			
	9100	GORK	1 S	0833	0833.5	2.1	8	4		
	113	POTS	42 SER	0859.3	0901.8	3.2	200	3		
	15000	KISV	1 S	1009	1011	6	5			
	113	POTS	42 SER	1022.6	1022.9	.7	700	18		
	6100	KISV	4 S/F	1102	1108	13	7			
	6100	KISV	2 S/F	1135	1136.1	5	3			
	9100	ARCE	21 GRF	1146.9	1200.6	34				
	10400	BERN	46 C	1147.5	1155	30	19	55		OPR
	10400	BERN	46 C	1147.5	1150.8	30	15	45		OPR
	10400	BERN	46	1147.5	1155	30	55			OPR
	10400	BERN	46	1147.5	1150.8	30	45			OPR
	9400	HUAN		1147.7	1156		62.5			
	9400	HUAN		1147.7	1155.1		60.8			
	9400	HUAN	46 C	1147.7	1210.5	22.8	55.6	21.3		LRL
	6100	KISV	42 SER	1147	1156	82	30			
	6100	KISV		1147	1155.1		17			
	6100	KISV		1147	1153		16			
	6100	KISV		1147	1152		13			
	6100	KISV		1147	1151		17			
	15000	KISV		1147	1156.3		56			
	15000	KISV		1147	1152		38			
	15000	KISV		1147	1151		36			
	15000	KISV	42 SER	1147	1155	28	64			
	7000	SAOP	45 C	1148	1155.5		12			L
	9100	ARCE	1 S	1149.1	1149.2	.5				
	1415	ATHN	3 S	1149.5	1155.1	10.5	39.1U	11.7U		
	2695	ATHN	3 S	1149.8	1156.1	15.8	30.4	9.1		
	8800	ATHN	4 S/F	1149.8	1155.8	21.9	66.6	20		
	4995	ATHN	3 S	1149.9	1155.9	12.7	40.3	12.1		
	808	ONDR	41 F	1149	1150.5	9	55	5.3		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	1470	BERL	45 C	1150	1155.4	8	53			
	3000	BERL	45 C	1150	1156.1	10	34			
	9500	BERL	45 C	1150	1155.8	22	56			
	650	GORK		1150	1157.7		45			
	650	GORK		1150	1155.9		160			
	650	GORK	41 F	1150	1150.8	12	100			
	2950	GORK		1150.1	1155		42			
	2950	GORK	46 C	1150.1	1151	7.3	27			
	9100	ARCE		1150.2	1150.9	4.4				
	9100	ARCE	46 C/F	1150.2	1156	9.2				
	930	BORD	46 C	1150	1152.5	8	125	5		
	536	ONDR	48 C	1150	1155.6	14	296	58		
	10715	DWIN	45 C	1150 U	1155 U	8	50	15		
	2650	DWIN	45 C	1150 U	1156 U	8	40	10		
	9100	ARCE		1154.6	1156	4.8				
	950	GORK	45 C	1154.6	1155.3	3.5	23			
	950	GORK		1154.6	1156.2		22			
	408	TRST	45 C	1156	1156.1	.3	210 D			
	237	TRST	41 F	1156.1	1156.1	.2	1105			2R
	234	POTS	5 S	1156.1	1156.2	.2	1200	250		
	408	TRST	47 GB	1157	1201.5	7.8	80			
	200	GORK	8 S	1158	1158 U	1.4	400 D			
	100	GORK	46 C	1158.1	1158.7	6	230 D			
	100	GORK		1158.1	1202.1		2000			
	202	IZMI	45 C	1158.2	1158.2	1	850	400		
	113	POTS	46 S	1158.2	1200.3	3.4	150	15		
	127	TORN	46 C	1159	1159.6	2	130	40		
	7000	SAOP	4 S/F	1224	1225.1	2.8	15			R
	9100	ARCE	1 S	1224.8	1225.1	1.6				
	7000	SAOP	1 S	1226	1227.2	3.8				
	9100	ARCE	8 S	1316.5	1316.7	.7				
	10400	BERN	23 GRF	1324.7	1327.3	54	9	27		OPR
	10400	BERN	23	1324.7	1327.3	54	27			OPR
	9400	HUAN	21 GRF	1325.7	1707.6	221.9	39.9	11.1		0
	9400	HUAN	3 S	1326.7	1328.2	1.5	17.4	8.4		0
	9500	BERL	3 S	1327	1327.3	2	17			
	9100	ARCE	3 S	1327.2	1327.4	1.6				
	9100	ARCE	20 GRF	1334.5	1347	46.5				
	3000	BERL	20 GRF	1338	1342.5D	22	12			
	9500	BERL	20 GRF	1340	1344	18	10			
	1470	BERL	1 S	1341	1342.5	3	5.4			
	2800	OTTA	26A FAL	1605	1815	130	-9.2	-5		
	9400	HUAN	3 S	1637.3	1639	1.7	15.6	8.1		R
	7000	SAOP	1 S	1651	1652	11	43			R
	2800	OTTA	1 S	1651.2	1651.8	1	2.4	1.2		
	4995	BOUL	3 S	1651	1651.5	1.5	11	4		
	9400	HUAN	20 GRF	1756.5	1811.6	15.1	5.2	4.2		0
	4995	BOUL	28 PRE	1801.5	1806.5	16	22	7		
	7000	SAOP	4 S/F	1815	1818	3.5	29			R
	4995	BOUL	8 S	1816.5	1817.5	2	69	23		
	15400	SGHR	3 S	1817.1	1817.8	2.2	43.7	13.1		SHF
	9400	HUAN	4 S/F	1817.1	1819.3	2.2	60.8	26.2		R
	2695	SGHR	3 S	1817.9	1818.1	1.3	43.4	13		SHF
	4995	SGHR	3 S	1817.9	1818.2	1.3	36	10.8		SHF
	2800	OTTA	3 S	1817	1818	3	27	7		
	8800	SGHR	3 S	1818.2	1818.3	1.2	51.9	15.6		SHF
	2695	BOUL	3 S	1818.5E	1819	1.5D	25	8		
	4995	BOUL	29 PBI	1818.5	1818.5	18.5	16	5		
	4995	BOUL	4 SF	1837.5	1838.5	1.5	13	4		
	4995	BOUL	3 S	1839.5	1841	2	13	4		
	4995	BOUL	3 S	1845	1847	3	16	5		
	2800	OTTA	240AR	1850	1920	30	8	4		
	2800	OTTA	1 S	1903	1903.5	2	2.4	1.2		
	7000	SAOP	45 C	1906	1932.3		14			L
	2800	OTTA	1 S	1906.5	1907	1	2.8	1.4		
	2800	OTTA	8 S	1908.8	1908.8	.2	18			
	9400	HUAN	21 GRF	1911.8	2106.4	114.6	22.6	8.3		0
	9400	HUAN	45 C	1930.3	1937	6.7	66	41.1		LORL
	9400	HUAN		1930.3	1934.2		90.3			
	4995	BOUL	45 C	1930.5	1932	7	88	29		
	1420	BOUL	28 PRE	1931.5E	1932.5	2 D	25	8		
	15400	SGHR	3 S	1931.8	1934.1	4.4	67.1	20.1		SHF
	2800	OTTA	45 C	1931	1934.5	8	56	19.2		
	4995	SGHR	3 S	1932	1932.6	6.8	72	21.6		SHF
	2695	SGHR	3 S	1932.1	1934.5	4.3	68.2	20.5		SHF
	8800	SGHR	3 S	1932.4	1932.6	3.8	51.9	15.6		SHF
	2695	BOUL	28 PRE	1932.5E	1933.5	2.5D	47	16		
	1420	BOUL	3 S	1933.5E	1934	2 D	34	11		
	1420	BOUL	29 PBI	1935.5	1935.5	24 U	4	1		
	2695	BOUL	3 S	1935 E	1935.5	1.5D	54	18		
	2695	BOUL	29 PBI	1936.5E	1936.5	3.5D	6	2		
	2800	OTTA	30 PBI	1939	1939	120	9.6	4.8		
	2800	OTTA	1 S	2046	2046.5	1	6.8	3.4		
	200	HIRA	44 NS	2150 E	0650	595 D	60	10		WL
	2695	BOUL	3 S	2306.5E	2308	2.5D	41	14		

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14	5730	IRKU	2 S	0237	0237.5	4	15			
	5730	IRKU	1 S	0510.5	0511.4	3	9			
	500	HIRA	46 C	0538.3	0538.5	2	25	15		HR
	200	GORK	44 NS	0627 E		330		5		
	221	ABST	44 NS	0700	0741	120	14			
	202	IZMI	43 NS	0700		220	30			
	100	GORK	43 NS	0715		280 D		5		
	127	TORN	44 NS	0750 E	0824.4	410 D	84	4		VO
	260	ONDR	44 NS	0820 E		350 D	61	3		
	245	SGMR	44 NS	1216 E	1751.4	553 D	224			3G
	410	SGMR	44 NS	1216 E	1803.4	553 D	12.8			3G
	650	GORK	4 SF	0803.7	0808.7	5.7	16.5	4		
	950	GORK		0803.7	0808.7		26			
	950	GORK	45 C	0803.7	0807.4	8.6	12			
	2950	GORK	1 S	0808.6	0809.4	1.8	4.2	2		
	234	POTS	4 S/F	0813.7	0814	.6	190	10		
	9100	GORK	21 GRF	0815	0822	24	7.6	3.5		
	9100	GORK	1 S	0834.7	0835.3	.8	9	4.5		
	127	TORN	45 C	0855.7	0855.8	.8	47	20		
	100	GORK	45 C	0857	0857.7	1.3	880			
	100	GORK		0857	0857.8		700			
	237	TRST	41 F	0927.1	0927.2	.3	95			2L
	536	ONDR	45 C	0943.5	0945	2	260			
	6100	KISV	4 S/F	0943.5	0945.3	6	5			
	15000	KISV	1 S	0944.3	0945.3	5	6			
	408	TRST	41 F	0944.4	0944.9	1	500			
	9100	GORK	1 S	0944.8	0945.1	.9	13	6.5		
	9100	ARCE	1 S	0945	0945.5	1.2				
	930	BORD	41 F	1044.4	1045.7	2.2	28	2		
	408	TRST	8 S	1050.6	1050.6	.1	110			
	536	ONDR	45 C	1050	1051.3	1.5	162			
	408	TRST	7 C	1051	1052.8	4	23			
	9100	GORK	1 S	1117.6	1118.2	.7	5.3	2.7		
	536	ONDR	4 S/F	1125.2	1125.8	1	377 D			
	408	TRST	4 S/F	1125.9	1126.1	.4	110 D			
	6100	KISV	8 S	1149	1155	16	82			
	9400	HUAN	3 S	1152.8	1203.6	10.8	447	92.1		R
	9100	GORK		1153.4	1153.9	3.5	78			
	9100	GORK		1153.4	1154.4		76			
	2695	ATHN	4 S/F	1153.8	1154.9	23.6	325.5	97.7		
	4995	ATHN	4 S/F	1153.8	1155.1	31.7	283.6	85.1		
	8800	ATHN	5 GB	1153.9	1154.9	27.5	668	200.4		
	3000	BERL	3 S	1154	1154.9	16	300			
	1470	BERL	3 S	1154	1155.2	19	350			
	9500	BERL	3 S	1154.2	1154.9	3.3	445			
	10400	BERN	8 S	1154.2	1154.9	4.5	145	421		
	8400	BERN	8 S	1154.2	1154.9	4.5	160	418		
	408	TRST	45 C	1154.2	1154.6	4.1	210 D			
	8400	BERN	8	1154.2	1154.9	4.5	418			3R
	10400	BERN	8	1154.2	1154.9	4.5	421			
	1415	ATHN	4 S/F	1154.3	1154.8	24.7	466.8	140		
	808	ONDR	4 S/F	1154.3	1154.3	6	323	42		
	930	BORD	45 C	1154.3	1155	4.7	105	20		
	9100	ARCE	3 S	1154.4	1155	3.6				
	2950	GORK	3 S	1154.4	1154.9	3	209			
	650	GORK	3 S	1154.4	1154.6U	3.6	100 D			
	202	IZMI	8 S	1154.5	1154.5	.5	210	100		
	536	ONDR	4 S/F	1154	1154	6	351	53		
	15000	KISV	8 S	1154	1154.4	6	806 D			
	260	ONDR	4 S/F	1155.5	1156.6	2.5	206 D	60		
	2650	DWIN	45 C	1155 U		6	130 D			
	237	TRST	47 GB	1156.3	1157.3	1.2	1435			0
	234	POTS	46 C	1156.3	1157.3	1.2	700	50		
	202	IZMI	7 C	1156.7	1157.2	1.4	170	60		
	200	GORK	8 S	1157	1157.8	1.5	340			
	127	TORN		1158.9	1200.8		32			
	127	TORN	7 C	1158.9	1159.6	2.7	38	4		
	9100	ARCE	29 PBI	1158		23.5				
	408	TRST	8 S	1224.1	1224.1	.1	480	160		
	7000	SAOP	45 C	1255	1256.4		39			R
	8400	BERN	45 C	1255.4	1256.5	10	16	45		
	10400	BERN	45 C	1255.4	1256.5	10	16	49		
	8400	BERN	45	1255.4	1256.5	10	45			15R
	10400	BERN	45	1255.4	1256.5	10	49			
	9100	ARCE		1255.6	1256.7	2				
	9100	ARCE	46 C/F	1255.6	1256.7	4.3				
	8800	ATHN	14 C	1255.7	1256.6	18.6	56.8	17.1		
	9500	BERL	4 S/F	1256	1256.3	19	50			
	9400	HUAN	45 C	1256.1	1316.6	10.5	77.5	20.8		R
	4995	ATHN	13 C	1256.2	1257.6	12.4	35.2	10.6		
	9100	ARCE		1257.6	1257.8	2.3				
	3000	BERL	3 S	1259	1302	7	26			
	1470	BERL	4 S/F	1259.7	1300.5	7.3	69			
	2695	ATHN	14 C	1259.7	1300.1	8.9	68	20.4		

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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 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	1415	ATHN	14	C	1259.7	1301.7		48.4	14.5		
	1415	ATHN	14	C	1259.7	1300.4	8.6	55.8	16.7		
	930	BORD	46	C	1259.8	1259.9	4.2	515	8		
	9100	ARCE	29	PBI	1259.9	1301	55				
	808	ONOR	8	S	1300	1300	.2	182			
	2650	OWIN	45	C	1301 U	1302 U	8	90	20		
	2800	OTTA	23	GRF	1435	1650	255	8.4	4.2		
	7000	SAOP	1	S	1453	1453	1.8	17			L
	2800	OTTA	1	S	1537.5	1539	2.5	2.8	1.4		
	7000	SAOP	4	S/F	1549	1550.3	5.6	10			L
	2800	OTTA	1	S	1608.5	1609	2	3.4	1.2		
	4995	BOUL	45	C	1659.5	1701	4.5	17	6		
	7000	SAOP	4	S/F	1700	1701.4	6	9			L
	9400	HUAN	20	GRF	1829.3	1924.8	55.5	8	3.8		O
	2800	OTTA	26	FAL	1850	2010	80	-12.8	-6.4		
	4995	BOUL	3	S	2213	2214.5	2.5	11	4		
	700	SYDN	4	S	2227.8	0028.9	2.4				
	4995	BOUL	4	SF	2303.5	2308	5.5	53	18		
	2695	MANI	4	S/F	2304.5	2307.7	5.3	35.3	11.7		
	1415	SYDN	40	F	2305.8	2307.4	3.6				
	700	SYDN	40	F	2305.9	2307.3	2.4				
	2695	PENT	4	S/F	2305	2307.5	5	35	12		
	8800	MANI	4	S/F	2306	2307.6	3.1	282.3	94.1		
	4995	MANI	4	S/F	2306.2	2307.6	3	61.2	20.4		
	606	MANI	4	S/F	2306.5	2307.7	1.8	21.3	7.1		
	1415	MANI	4	S/F	2306.6	2307.8	3.2	40.2	13.4		
	1420	BOUL	45	C	2306 E	2307	2.5D	109	36		
	1420	BOUL	8	S	2309 E	2309	1 D	81	27		
15	700	SYDN	8	S	0101.4	0101.5	.3				
	700	SYDN	8	S	0442.6	0442.7	.2				
	700	SYDN	40	F	0456.4	0457.7	1.4				
	6100	KISV	4	S/F	0635	0641	25	20			
	9100	GORK	4	SF	0637.9	0640.5	5.1	56	28		
	15000	KISV	4	S/F	0638	0641.2	17	20			
	5730	IRKU			0638	0639.9		42			R
	5730	IRKU	45	C	0638	0639.3	18	23			R
	5730	IRKU			0638	0644.4		18			R
	5730	IRKU			0638	0641.8		56			R
	5730	IRKU			0638	0641.2		64			R
	5730	IRKU			0638	0640.8		67			R
	2950	GORK	3	S	0639 U	0640.5	3	24			
	2950	GORK	29	PBI	0639 U	0642	8.6	15			
	2695	ATHN	2	GRF	0639.2	0641.3	6.7	20.1	12.1		
	4995	ATHN	2	GRF	0639.2	0641.3	7.5	42.4	25.5		
	8800	ATHN	2	GRF	0639.2	0641.2	7.2	41.2	24.7		
	8800	ATHN	1	F	0659.3	0723.2	63	78.3	39.1		
	4995	ATHN	1	F	0659.5	0723.5	62.1	60.6	30.3		
	6100	KISV	4	S/F	0705	0722.3	45	18			
	15000	KISV	4	S/F	0710	0723	25	20			
	9100	GORK	21	GRF	0714.7	0723.2	40	38	14		
	5730	IRKU			0714	0720.2		29			R
	5730	IRKU			0714	0719.2		29			R
	5730	IRKU			0714	0717.9		28			R
	5730	IRKU	45	C	0714	0716.5	13	28			R
	5730	IRKU			0714	0725		24			R
	5730	IRKU			0714	0723.9		30			R
	5730	IRKU			0714	0722.7		43			R
	2950	GORK	21	GRF	0715	0720	24.2	28			
	2695	ATHN	2	GRF	0715.4	0723.5	47	26.8	16.1		
	9100	GORK	1	S	0715.9	0716.1	1	13	6.5		
	2950	GORK	4	SF	0720.5	0722.6	4.9	30	13		
	9100	GORK	1	S	0722	0722.3	1.2	14	6.5		
	5730	IRKU	29	PBI	0727		21	17			R
	260	ONOR	44	NS	0815 E		361	51			
	410	SGHR	44	NS	1216 E	1516.8	554 D	22.8			
	245	SGHR	44	NS	1216 E	1432.2	554 D	15.2			
	113	POTS	4	S/F	0931.1	0931.6	.6	150	18		
	9100	ARCE	29	PBI	1005.5	1011.1	34				
	6100	KISV	40	F	1038	1048	12	4			
	6100	KISV	4	S/F	1055	1102	20	52			
	15000	KISV	4	S/F	1055	1059.3	24	58			
	3100	GRIM	3	S	1058	1102	6	64	21		
	3100	GRIM	29	PBI	1058	1104	27.5	11.5	4		
	7000	SAOP	45	C	1058	1102		36.2			R
	1415	ATHN	2	GRF	1058.9	1101.5	24.3	31.3	18.8		
	2695	ATHN	2	GRF	1059	1101.5	26.8	80.3	48.2		
	4995	ATHN	2	GRF	1059	1101.5	26	135.1	81.1		
	8800	ATHN	2	GRF	1059	1101.5	26.9	134.2	80.5		
	10400	BERN	2		1059.1	1101.7	37	90			OPR
	10400	BERN	2	S/F	1059.1	1101.7	37	30	90		OPR
	9100	ARCE	4	S/F	1059.6	1102.1	5.9				
	9100	GORK	21	GRF	1059.7	1110.5	36.3	24.6	11		
	3000	BERL	4	S/F	1100	1101.9	7.5	89			
	9500	BERL	29	PBI	1100	1101.6	30	110			

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	1470	BERL	4 S/F	1100	1102.2	12	32			
	2950	GORK	29 PBI	1100.5	1104.9	11.2	19			
	2950	GORK	4 SF	1100.5	1101.2	4.8	60 D			
	9100	GORK	5 S	1100.7	1101.8	4.4	129	60		
	10715	OHIN	45 C	1100	1102	6	100	50		
	2650	OHIN	45 C	1100	1102	8	90	40		
	950	GORK	6 S	1101	1101.9	4.8	5.7	2.8		
	536	ONDR	3 S	1101.7	1101.7	.2	21			
	9400	HUAN	45 C	1101.8E	1106.2	4.4	125.6	73.2		R
	237	TRST	41 F	1102.2	1102.3	.1	85			3R
	113	POTS	2 S/F	1124.4	1124.5	.1	100	30		
	408	TRST	4 S/F	1133.8	1133.8	.2	31			
	237	TRST	41 F	1134.4	1134.5	.3	155			0
	536	ONDR	42 SER	1153	1212.6	52	75			
	408	TRST	3 S	1223.3	1223.3	.1	100	33		
	237	TRST	42 SER	1238.2	1238.4	1.6	740			2R
	237	TRST		1238.2	1239.5		150			0
	1415	ATHN	4 S/F	1334.3	1335.9	4.6	93.8	28.2		
	2695	ATHN	4 S/F	1334.4	1335.5	4.4	117.4	35.2		
	4995	ATHN	4 S/F	1334.4	1335.5	4.7	131.2	39.4		
	8800	ATHN	4 S/F	1334.5	1335.5	4.5	181.9	54.6		
	536	ONDR	48 C	1334.5	1335.8	8	91	18		
	1470	BERL	46 C	1334.5	1336.8	11	79			
	10400	BERN	4 S/F	1334.8	1335.9	11	50	145		OPR
	2800	OTTA	4 S/F	1334.8	1336	4	102	26		
	10400	BERN	4	1334.8	1335.9	11	145			OPR
	3000	BERL	4 S/F	1334.9	1335.7	4.1	102			
	260	ONDR	48 C	1334	1338	7.5	222 O	12		
	7000	SAOP	4 S/F	1335	1336	1.5	17.6			R
	9500	BERL	3 S	1335	1335.8	5	137			
	606	SGHR	3 S	1335	1336.5	12.2	56.6	22.6		3G
	1415	SGHR	3 S	1335	1336.5	2.9	89	35.6		3G
	15400	SGHR	3 S	1335.1	1335.9	1.8	131	52.4		3G
	113	POTS	42 SER	1335.2	1336.2	6.2	2100	110		
	9400	HUAN	3 S	1335.2	1339.2	4	187.8	47.3		R
	29	UPIC	45 C	1335.2	1336.6	1.8				
	9100	ARCE	4 S/F	1335.3	1336.1	3.8				
	33	UPIC	45 C	1335.5	1336.5	1.8				
	8800	SGHR	3 S	1335.5	1335.8	1.4	198	79.2		3G
	2695	SGHR	3 S	1335.5	1335.8	2.5	127	50.8		3G
	4995	SGHR	3 S	1335.5	1335.8	2.5	97.8	39.1		3G
	410	SGHR	48 GB	1335.5	1338.6	11.5	1290	516		3G
	237	TRST	42 SER	1335.9	1335.9	6.1	1760			0
	237	TRST		1335.9	1339.5		3450			0
	237	TRST		1335.9	1338.7		760			2L
	234	POTS	42 SER	1335.9	1339.3	6	900	7		
	930	BORD	45 C	1335	1336.5	9	78	9		
	808	ONDR	46 C	1335	1336.2	10	68	34		
	10715	OHIN	45 C	1335	1336	4	140	50		
	2650	OHIN	45 C	1335	1336	4	120	40		
	245	SGHR	7 S	1336	1336.1	11	355	142		3G
	9400	HUAN	20 GRF	1359.2	1447.3	48.1	7.4	5.3		0
	2800	OTTA	21 GRF	1615	1700	100	4.2	2.1		
	2800	OTTA	1 S	1651.4	1651.6	1	4.8	2		
	2800	OTTA	20 GRF	1810	1845	100	3.4	1.7		
	7000	SAOP	45 C	2005	2025.3					
	4995	BOUL	4 SF	2005	2007	8	41	14		
	9400	HUAN	20 GRF	2006.9	2030.5	23.6	11	5.1		R
	2695	PENT	4 S/F	2006	2007.7	4	31	15.5		
	2695	BOUL	3 S	2008 E	2008.5	2 D	40	13		
	2695	BOUL	29 PBI	2009.5E	2009.5	20.5D	19	6		
	2800	OTTA	30 PBI	2010	2010	100	8.8	4.4		
	4995	BOUL	29 PBI	2012.5	2012.5	29	14	5		
	4995	BOUL	45 C	2024.5	2025	3	16	5		
	2800	OTTA	4 S/F	2024	2025.6	5	19.8	4.8		
	1420	BOUL	3 S	2025 E	2025.5	1.5D	12	4		
	1420	BOUL	29 PBI	2026.5	2026.5	4.5	4	1		
	2695	BOUL	3 S	2026 E	2026	.5D	33	11		
	2695	BOUL	42 SER	2128 E	2129	3 D	27	9		
	4995	BOUL	3 SF	2228	2229.5	3.5	16	5		
	2695	PENT	1 S	2233	2233.5	1	5.6	2.8		
	700	SYDN	45 C	2300.8	2301.2	.8				
16	700	SYDN	8 S	0014.2	0014.4	.3				
	700	SYDN	8 S	0421.6	0421.8	.4				
	700	SYDN	1 S	0424.3	0424.4	.2				
	700	SYDN	8 S	0424.7	0424.8	.3				
	700	SYDN	1 S	0428.7	0428.8	.2				
	6100	KISV	1 S	0620	0631	30	6			
	200	GORK	44 NS	0624 E		330 D		5		
	260	ONDR	44 NS	0806 E		363 D	40			
	245	SGHR	44 NS	1215 E	1346.1	556 D	54			
	6100	KISV		0725	0745.3		15			
	6100	KISV		0725	0741.3		36			
	6100	KISV		0725	0739		40			

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	6100	KISV	45	C	0725	0742.3	35	73			
	15000	KISV	45	C	0725	0742	35	79			
	3100	CRIM	3	S	0730	0738	30	21	7		
	9100	GORK	22	GRF	0732.2	0746.7	26.6	14	7		
	2695	MANI	47	GB	0736.2	0738.4	10.6	544	23		
	2695	MANI	4	S/F	0736.2	0742.2		68			
	950	GORK	21	GRF	0736.8	0740	7.1	7			
	2950	GORK			0736.8	0742.1		114			
	2950	GORK	46	C	0736.8	0738.3	7.2	117			
	9100	GORK	45	C	0737.2	0739.3	9	48	27		
	9100	GORK			0737.2	0742.3	135				
	9100	GORK			0737.2	0741.2		45			
	5730	IRKU			0737.5	0742.4		110			
	5730	IRKU			0737.5	0741.4		50			
	5730	IRKU	45	C	0737.5	0739.3	30 D	56			
	2695	ATHN	14	C	0737.5	0742.4		60.3			
	2695	ATHN	14	C	0737.5	0739.5	11.9	60.3	18.1		
	9500	BERL	45	C	0737.5	0741.6	6.5	102			
	1470	BERL	45	C	0737.5	0739.5	6	29			
	3000	BERL	45	C	0737.5	0738.4	6	206			
	4995	ATHN	14	C	0737.6	0742.4		130			
	4995	ATHN	14	C	0737.6	0739.5	10	74.9	22.5		
	1415	ATHN	2	GRF	0737.6	0739.6	10.2	55.4	33.3		
	8800	ATHN	14	C	0737.8	0742.5		141.4			
	8800	ATHN	14	C	0737.8	0739.5	10.5	49.9	15		
	10400	BERN	45		0738.2	0740.3	11	24			OPR
	10400	BERN	45		0738.2	0743.4	11	69			OPR
	10400	BERN	45	C	0738.2	0743.4	11	24	69		OPR
	10400	BERN	45	C	0738.2	0740.3	11	8	24		OPR
	650	GORK	4	SF	0738.4	0739.2	3	24	4		
	606	MANI	4	S/F	0738.5	0739.3	5.4	93.7	31.2		
	8800	MANI	4	S/F	0738.9	0742.4	6.3	152.7	50.9		
	4995	MANI	4	S/F	0739	0742.3	8.8	95.8	31.9		
	950	GORK	3	S	0739	0739.5	1.1	30			
	1415	MANI	4	S/F	0739.3	0739.5	5.2	35.7	11.9		
	8400	BERN	45		0741	0743.4	11	66			OPR
	8400	BERN	45	C	0741	0743.4	11	25	66		OPR
	6100	KISV	20	GRF	0809	0813	11	4			
	3100	CRIM	21	GRF	0810	0932	134	6	2		
	9100	GORK	20	GRF	0811.8	0819	26	7.5	4		
	6100	KISV	2	S/F	0847	0851	9	2			
	3100	CRIM	1	S	0849	0851	5	3	1		
	6100	KISV	2	S/F	0900	0903	10	7			
	9100	GORK	1	S	0902.5	0903.3	6.4	9	4.5		
	6100	KISV	2	S/F	0915	0919.3	10	6			
	3100	CRIM	1	S	0916.5	0919	4	10	3		
	2950	GORK	20	GRF	0917	0919.3	9	18	9		
	3000	BERL	3	S	0917.4	0919	6.1	11			
	9100	GORK	20	GRF	0918.2	0919.3	21	6.5	3		
	1470	BERL	8	S	0918.5	0919	1	26			
	930	BORD	45	C	0918.5	0919	1.5	18	3		
	950	GORK	1	S	0918.6	0918.9	.8	10.6	5.3		
	408	TRST	47	GB	0950.4	0956.7	10	100			
	127	TORN	40	F	0950	0954.3	6	9	.7		
	9100	ARCE	1	S	0957.9	0958.1	.9				
	234	POTS	28	PRE	1000	1005	20	210	35		
	9100	ARCE	1	S	1002.6	1002.8	.9				
	9100	GORK	21	GRF	1035.9	1040	31	47	8		
	9500	BERL	29	PBI	1036	1036.9	22	166			
	9100	ARCE	45	C	1036.3	1037.2	4.8				
	9100	ARCE			1036.3	1037.2	1.9				
	3000	BERL	4	S/R	1036.5	1039	4	53			
	9100	GORK	46	C	1036.5	1037	3.5	173			
	2950	GORK	29	PBI	1036.5	1042	8.5	14			
	2950	GORK	4	S	1036.5	1039.1	5.4	98	46		
	9100	GORK			1036.5	1039					
	3100	CRIM	3	S	1036.5	1039	4.5	48	16		
	3100	CRIM	29	PBI	1036.5	1041	10.5	16	5		
	10715	DWIN	45	C	1036	1039	8	130	50		
	2650	DWIN	45	C	1036	1039	7	35	15		
	9100	ARCE			1038.2	1039.1	2.9				
	9100	ARCE	29	PBI	1041.1		21				
	408	TRST	8	S	1217.7	1217.7	.1	71	23		
	9400	HUAN	21	GRF	1250.3	1401.8	71.5	6.7	4.4		0
	9400	HUAN	3	S	1311.6	1312.8	1.2	21.7	9.8		L
	9400	HUAN	1	S	1349.8	1350.8	1	9.2	8.4		L
	410	SGHR	6	S	1358.5	1359	.8	69.4	20.7		
	245	SGHR	6	S	1358.5	1359.2	.9	230	69		
	2800	OTTA	27	RF	1430		180	3	2.6		
	2800	OTTA	24	R	1430	1440	10	3	1.5		
	2800	OTTA	24P	R	1440		135	3			
	410	SGHR	6	S	1553.3	1554	2.5	206	61.8		
	245	SGHR	6	S	1553.6	1554.5	1.7	206	61.8		

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	606	SGMR	1 S	1553.8	1554	.4	4.2	1.3		
	2800	OTTA	26 FAL	1655	1730	35	-3	-1.5		
	2800	OTTA	1 S	1749.5	1750	2	4.6	2.3		
	2800	OTTA	29 PBI	1751.5	1751.5	20	2.4	1.8		
	9400	HUAN	20 GRF	1756.7	1832.8	36.1	3.3	2.8		O
	1420	BOUL	1 S	1823 E	1823.5	2 D	9	3		
	9400	HUAN	20 GRF	1840.1	1916	35.9	16.7	9.8		O
	2800	OTTA	240 R	1840	1846	6	4	2.6		
	4995	BOUL	3 SF	1852	1854.5	6	29	10		
	2800	OTTA	23 GRF	1853	1854.5	105	5.4			
	2800	OTTA	1 S	1854.8	1855.1	1	8.2	4		
	9400	HUAN	3 S	1917.6	1919.7	2.1	20	5.5		L
	2800	OTTA	2 S/F	1937.7	1939.4	3	4			
	7000	SAOP	4 S/F	1953	1955.1	3.8	21			L
	2695	PENT	240 R	2140	2205	25	5	2.5		
	200	HIRA	44 NS	2150 E	2330	595 D	40	20		MR
	2695	PENT	4 S/F	2243.2	2244.5	4	19	9.2		
	1415	SYDN	27 RF	2243.4	2244.7	2.8				
	1420	BOUL	3 S	2243.5E	2244.5	3 D	12	4		
	700	SYDN	27 RF	2243.8	2244.4	1.2				
	2695	BOUL	3 S	2244 E	2245	2.5D	27	9		
17	6100	KISV	45 C	0635	0640	10	5			
	6100	KISV	45 C	0655	0659.3	10	4			
	221	ABST	43 NS	0800	0822	60	9			
	260	ONDR	44 NS	0810 E		366 D	20			
	245	SGMR	44 NS	1215 E	1436.9	557 D	34			
	3100	CRIM	1 S	0904.5	0904.7	1	6	2		
	8800	ATHN	2 GRF	0938.4	0941.6	11.6	9.7	5.8		
	2695	ATHN	2 GRF	0940.9	0945.7	10.8	16.3	9.8		
	4995	ATHN	2 GRF	0940.9	0945.8	8.9	23.2	13.9		
	6100	KISV	2 S/F	0940	0946	10	9			
	3100	CRIM	1 S	0944	0945.2	2.5	10	3		
	3000	BERL	3 S	0944	0945.5	3.5	14			
	9500	BERL	1 S	0944.5	0945.5	4.5	8.7			
	9100	ARCE	20 GRF	0944.6	0945.8	19				
	9100	GORK	1 S	0945	0945.6	2.2	8.9	4		
	2950	GORK	1 S	0945	0945.7	1.5	9.8	4.9		
	9400	HUAN	20 GRF	1240.7	1336.5	55.8	6.7	2.9		O
	9400	HUAN	20 GRF	1413	1450.7	37.7	8.4	4.3		O
	8800	SGMR	3 S	1420.2	1420.7	.7	343	103		
	2800	OTTA	1 S	1437	1437.5	1.5	1.4	.7		
	2650	DWIN	45 C	1515		17	150 D			
	9400	HUAN	20 GRF	1557.1	1636.3	39.2	16.8	7		R
	4995	BOUL	3 S	1603	1605	6	13	4		
	2800	OTTA	20 GRF	1605	1607	20	8	2.6		
	930	BORO	45 C	1606	1606.5	2	38	5		
	2695	PENT	20 GRF	2047	2051.5	23	3.2	1.4		
	2695	PENT	8 S	2212.7	2213	.7	3.2	1.6		
18	700	SYDN	8 S	0443.8	0444.1	.4				
	700	SYDN	45 C	0504.2	0504.3	.8				
	200	GORK	44 NS	0639 E		318 D		5		
	100	GORK	43 NS	0658		69		5		
	221	ABST	44 NS	0700	0755.2	120	7			
	127	TORN	44 NS	0750 E	0958.2	280 U	20	.3		VO
	260	ONDR	44 NS	0810 E		372 D	20			
	245	SGMR	44 NS	1214 E	1701.9	560 D	32.7			
	8800	ATHN	3 S	1230.7	1230.8	6.4	47	14.1		
	113	POTS	8 S	1247.2	1247.2	.1	150	50		
	9400	HUAN	20 GRF	1344.6	1445.4	60.8	10.1	6.8		O
	9400	HUAN	20 GRF	1525.6	1635.5	69.9	10.9	4.8		O
	930	BORO	8 S	1558.2	1558.2	.1	35	1		
	9400	HUAN	20 GRF	1735.7	1809.2	33.5	5	3.9		R
	2800	OTTA	1 S	1833	1834.2	3	1.4			
	7000	SAOP	22 GRF	1846	1847.2	5.2				
19	6100	KISV	4 S/F	0701.3	0702	4	3			
	260	ONDR	44 NS	0813 E		353 D	74			
	245	SGMR	44 NS	1213 E	1309	562 D	372			
	127	TORN	43 NS	1215 U	1326.5	145 D	36	.2U		V1
	410	SGMR	43 NS	1446	1550.6	409 D	10.6			
	536	ONDR	2 S/F	1113.4	1115.3	2.5	21	2		
	808	ONDR	2 S/F	1113.6	1115	2	22			
	6100	KISV	21 GRF	1113	1137	23	13			
	1470	BERL	4 S/F	1114	1115.3	2	7.4			
	3000	BERL	3 S	1114	1114.8	2	7.3			
	650	GORK		1114.2	1115.1		3			
	650	GORK	45 C	1114.2	1114.8	1.4	4.5			
	408	TRST	41 F	1114.4	1114.6	1.7	110			
	260	ONDR	4 S/F	1114.6	1115.4	3	128	15.8		
	950	GORK	2 SF	1114.6	1115.4	2.2	11			
	237	TRST	41 F	1114.8	1115.2	.9	275 D			2R
	930	BORO	45 C	1114	1115.6	2	24	3		
	234	POTS	2 S/F	1115.1	1115.2	.5	100	20		

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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
	7000	SAOP	1	S	1136	1137	2.2				
	4995	ATHN	3	S	1136.3	1136.9	2	15.5	4.6		
	8800	ATHN	3	S	1136.4	1136.9	1.7	9.2	2.7		
	9100	GORK	1	S	1136.5	1137.1	2.2	14	7		
	9500	BERL	1	S	1136.5	1137	2.5	8.6			
	3000	BERL	3	S	1136.5	1137	1.5	8.2			
	2950	GORK	1	S	1136.7	1137.2	.8	6.8	3.4		
	9100	ARCE	1	S	1136.9	1137.2	3.7				
	3100	CRIM	1	S	1137	1137.3	1.5	6	3		
	237	TRST	41	F	1238.7	1238.9	.3	625			0
	234	POTS	2	S/F	1238.7	1238.9	.2	200	15		
	237	TRST	5	S	1308.9	1308.9	.1	360	13		0
	9400	HUAN	21	GRF	1314.2	1506.2	112	14.8	6.2		0
	7000	SAOP	21	GRF	1337						
	8800	ATHN	2	GRF	1339.8	1340.5	2.4	18.3	11		
	4995	ATHN	2	GRF	1339.9	1341	4.6	18.1	10.8		
	7000	SAOP	3	S	1340						
	9400	HUAN	3	S	1340	1342.7	2.7	19.8	11.9		R
	3000	BERL	3	S	1340	1345	7.5	8.2			
	9500	BERL	2	S/F	1340	1341	2.5	16			
	9100	ARCE	3	S	1340.1	1341.1	2.3				
	10400	BERN	3	S	1340.5	1341.4	3	5	14		OPR
	10400	BERN	3		1340.5	1341.4	3	14			OPR
	10715	OWIN	1	S	1340	1341	2	10	5		
	9100	ARCE	29	PBI	1342.4		30.7				
	2800	OTTA	240	R	1430	1440	10	2	.8		
	4995	BOUL	8	S	1510.5	1511.5	3	51	17		
	2800	OTTA	240	R	1530	1545	15	4	2		
	930	BORD	45	C	1550.2	1550.4	.5	22	2		
	2800	OTTA	1	S	1550	1550.4	1	6	1.6		
	2800	OTTA	240	R	1705	1740	35	5.6			
	2800	OTTA	21	GRF	1750	1843	55	4	1.8		
	2800	OTTA	8	S	1831.6	1831.6	.1	2			
	9400	HUAN	20	GRF	1833.1	1850.8	17.7	8.4	3.3		0
	2695	PENT	20	GRF	1940	2007	75	3.6	1.8		
	2695	PENT	240	R	2115	2135	20	3.6	1.8		
20	200	GORK	43	NS	0803		240		5		
	260	ONDR	44	NS	0816 E		354 D	34			
	410	SGMR	44	NS	1213 E	1316	563 D	14			
	245	SGMR	44	NS	1213 E	1311.1	563 D	55			
	3100	CRIM	1	S	0919	0919.5	1.5	3	1		
	3100	CRIM	25	R	1010	1103	141 D	7			
	3100	CRIM	3	S	1103	1106	6	8	3		
	2695	ATHN	2	GRF	1103.6	1106.2	7.4	25.7	15.4		
	4995	ATHN	2	GRF	1104	1106.2	5.8	21.9	13.1		
	8800	ATHN	2	GRF	1104	1107.2	7	22.6	13.5		
	7000	SAOP	1	S	1104.3	1106	3.6				
	9100	ARCE	1	S	1104.5	1106.5	4.7				
	9500	BERL	29	PBI	1104	1106.4	31	7			
	2650	OWIN	1	S	1104	1106	5	10	5		
	6100	KISV	4	S/F	1104	1106.3	6	9			
	3000	BERL	29	PBI	1105	1107.3	30	13			
	1470	BERL	29	PBI	1105	1106.4	26	5			
	113	POTS	8	S	1202.7	1202.8	.1	280	90		
	930	BORD	8	S	1207.5	1207.5	.1	31	1		
	9400	HUAN	20	GRF	1208	1334.2	86.2	11.6	3.7		0
	9100	ARCE	1	S	1421.5	1422	1.4				
	9100	ARCE	21	GRF	1421.5	1433.6	23.5				
	2800	OTTA	20	GRF	1710	1720	15	2.4	1.2		
	2695	PENT	20	GRF	2103	2104	25	2.8	1.4		
	2695	PENT	20	GRF	2130	2150	20	3.6	1.8		
21	221	ABST	44	NS	0700	0808.8	60	9			
	200	GORK	43	NS	0727 E		270 D		5		
	260	ONDR	44	NS	0750 E		410 D	67	9		
	100	GORK	43	NS	0911		36		10		
	410	SGMR	44	NS	1212 E	1501.5	565 D	66.6			3
	245	SGMR	44	NS	1212 E	1449	565 D	348			3
	3100	CRIM	20	GRF	0746	0753	15	12	4		
	10400	BERN	3	S	0755.8	0756.1	1.2	8	24		OPR
	10400	BERN	3		0755.8	0756.1	1.2	24			OPR
	9100	GORK	1	S	0756.2	0756.4	.5	16	8		
	650	GORK	41	F	0816.6	0817	3	4			
	650	GORK			0816.6	0819.1		1.5			
	3100	CRIM	24	R	0822	1022		18			
	9100	GORK	20	GRF	0844	0932.6	143.4	14	6		
	650	GORK	20	GRF	0856.1	0907.8	62	19	5		
	127	TORN	41	F	0908	0925.5	37 U	32	6		
	200	GORK	27	RF	0921.4	0932.5	59	30			
	6100	KISV	21	GRF	0923	0932	23	6			
	6100	KISV			0923	0944		4			
	6100	KISV	2	S/F	1046.3	1047.3	2	6			
	4995	ATHN	4	S/F	1309	1313.7	9.3	136.2	40.9		
	1415	SGMR	3	S	1309.2	1313.7	11.8	76	22.8		3,SHF

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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 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	8800	ATHN	4 S/F	1310.5	1313.7	12.1	87	26.1		
	260	ONDR	46 C	1311.5	1314.4	5	111	38		
	9400	HUAN	4 S/F	1311.6	1317.8	6.2	70.4	22.7		R
	7000	SAOP	4 S/F	1311.7	1313.6					O
	245	SGMR	48 GB	1311.9	1314.8	4.7	639	192		3,SWF
	2695	ATHN	4 S/F	1312	1313.7	11.3	146.7	44		
	10400	BERN	4 S/F	1312	1313.5	5.5	23	68		
	3000	BERL	4 S/F	1312	1313.2	5	140			
	9500	BERL	4 S/F	1312	1313.5	4.5	67			
	1470	BERL	4 S/F	1312	1313.9	8	69			
	1415	ATHN	4 S/F	1312.1	1317.8	5.9	80.8	24.2		
	10400	BERN	4	1312.1	1313.5	5.5	68			
	15400	SGMR	3 S	1312.2	1313.3	2.6	42.2	12.7		3,SWF
	9100	ARCE	3 S	1312.2	1313.8	2.8				
	127	TORN		1312.4	1318.8		270			
	127	TORN	48 C	1312.4	1315.7	12.5	180	75		
	4995	SGMR	3 S	1312.4	1313.7	3.2	53	15.9		3,SWF
	2695	SGMR	3 S	1312.5	1313.9	4	108	32.4		3,SWF
	410	SGMR	6 S	1312.5	1314.3	3.3	33.3	10		3,SWF
	29	UPIC	45 C	1312.5	1313.9	1.5				
	237	TRST	47 GB	1312.5	1314.6	3.7	1245			O
	33	UPIC	45 C	1312.6	1314.2	3.2				
	2650	DWIN	45 C	1312		8	120 D			
	10715	DWIN	45 C	1312	1314	4	60	20		
	808	ONDR	4 S/F	1312	1313.1	3	71	37		
	930	BORC	46 C	1312	1312.8	7	104	10		
	2800	OTTA	4 S/F	1312	1313.5	6	130	35		
	606	SGMR	3 S	1312.5	1314.3	4.2	140	42		3,SWF
	8800	SGMR	3 S	1313.4	1313.7	2.6	85.2	25.6		3,SWF
	234	POTS	46 C	1313.1	1314.5	3	420	20		
	113	POTS	48 C	1313.2	1318.5	11	800	70		
	536	ONDR	45 C	1313	1313	5	12	6.7		
	9100	ARCE	29 PBI	1315		12				
	9400	HUAN	21 GRF	1414.7	1539.8	85.1	7.2	3.9		R
	2800	OTTA	21 GRF	1420 E	1445	155 D	6.6			
	2695	ATHN	2 GRF	1508.8	1512.3	8.7	19.6	11.7		
	10400	BERN	3	1509.1	1511.9	6	43			
	10400	BERN	3 S	1509.1	1511.9	6	15	43		
	4995	ATHN	3 S	1510.9	1512.1	6	39.3	11.8		
	8800	ATHN	3 S	1511.4	1512	6.1	41.2	12.4		
	2800	OTTA	1 S	1511.5	1511.8	1.5	1.4	.7		
	8800	SGMR	3 S	1511.6	1511.9	1.6	42.6	12.8		3G
	4995	SGMR	3 S	1511.6	1512	2	21.2	63.6		3G
	9100	ARCE	3 S	1511.6	1512	3				
	9400	HUAN	3 S	1511.6	1516	4.4	54.1	15.1		R
	2800	OTTA	20 GRF	1740	1753	30	3.4	1.7		
	2800	OTTA	240 R	1820	1830	10	4.2	2.1		
	2800	OTTA	22 GRF	1855	2110	210	10.6	5.3		
22	100	GORK	44 NS	0623 E		124		5		
	200	GORK	44 NS	0624 E		170		5		
	221	ABST	44 NS	0700	0742	120	7			
	127	TORN	44 NS	0750 E	1314.3	410 D	37	.5		V1
	260	ONDR	44 NS	0810 E		375 D	34			
	410	SGMR	44 NS	1211 E	1440.7	568 D	27.6			
	245	SGMR	44 NS	1211 E	1455.4	568 D	155			
	3100	CRIM	1 S	0649	0650	4	7	2		
	100	GORK		0824.2	0824.9	1.8	190			
	100	GORK		0824.2	0825.4		190			
	3100	CRIM	25 R	0905	1045		18			
	650	GORK	21 GRF	0954.8		23				
	1470	BERL	28 GRF	0955	1003.5	25	18			
	3000	BERL	20 GRF	0955	1004.4	95	12			
	10400	BERN	20 GRF	0956.9	1013.5	84	5	14		OPR
	8400	BERN	20 GRF	0956.9	1013.5	84	4	10		OPR
	10400	BERN	20	0956.9	1013.5	84	14			OPR
	8400	BERN	20	0956.9	1013.5	84	10			OPR
	9500	BERL	20 GRF	0956	1016.5	99	15			
	9100	GORK	20 GRF	0957.5	1014.5	55.7	14	8		
	408	TRST	47 GB	1001	1002.2	8.4	100			
	950	GORK	4 SF	1001.4U	1002.1	4.8	3.4			
	650	GORK		1001.9U	1004.3		33			
	650	GORK	46 C	1001.9U	1002.5	4.7	25	12		
	536	ONDR	46 C	1002	1003.8	5	58	42		
	808	ONDR	41 F	1002	1004.2	4.5	13	6		
	930	BORC	8 S	1050.7	1050.7	.1	14	1		
	202	IZMI	41 F	1117	1133.5	21	70			
	536	ONDR	2 S/F	1342.3	1343.2	1.5	17			
	2800	OTTA	8 S	1750	1750.5	.6	5.8			
	7000	SAOP	1 S	1755	1756.3		41			R
	2800	OTTA	1 S	1755.7	1756.5	5	4.6	1.6		
	2800	OTTA	21 GRF	1821	1825	55	6.6	3		
	2800	OTTA	1 S	1823	1823.5	1.5	5.8	2.6		
	2695	BOUL	3 S	1824 E	1825	2.50	14	5		
	9400	HUAN	20 GRF	1922.7	2008.8	46.1	10.2	5.4		R

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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		
	9400	HUAN	20 GRF	2014.6	2049.5	34.9	6.8	5.6		O
	200	HIRA	44 NS	2145 E	2330	615 D	60	10		MR
23	5730	IRKU	1 S	0441.3	0441.5	1	11			
	5730	IRKU		0633	0643.3		7			
	5730	IRKU		0633	0640.4		8			
	5730	IRKU	3 S	0633	0637	17	6			
	6100	KISV		0633	0637		4			
	6100	KISV	21 GRF	0633	0640.3	13	6			
	100	GORK	43 NS	0642		300 D		5		
	221	ABST	44 NS	0700	0825.8	120	7			
	127	TORN	44 NS	0750 E	1226.5	410 D	7.6	1.5		VO
	260	ONDR	44 NS	0815 E		339 D	34			
	245	SGMR	44 NS	1211 E	1234.8	569 D	52.1			3G
	410	SGMR	44 NS	1211 E	1445	569 D	110			3G
	606	SGMR	43 NS	1434.4	1447	425.6D	41.3			3G
	100	GORK	3 S	0655	0656 U	1.6	120 D			
	3100	CRIM	1 S	0834	0835	2	3	1		
	113	POTS	41 F	0915	0915.1	1.4	150	7		
	100	GORK		0915.3	0916		250			
	100	GORK	46 C	0915.3	0915.5	2.2	250			
	237	TRST	41 F	1021.9	1022	.4	135 D			12R
	202	IZMI	7 C	1022	1022.4	.6	205	120		
	234	POTS	2 S/F	1022	1022.2	.3	250	25		
	113	POTS	41 F	1022	1022	.9	1700	250		
	33	UPIC	45 C	1022.2		.9				
	100	GORK		1022.2	1023.2		230			
	100	GORK	46 C	1022.2	1022.5	1.5	230 D			
	29	UPIC	45 C	1022	1023	1.3				
	29	UPIC	4 S/F	1201.6	1203	2				
	33	UPIC	4 S/F	1202.4	1202.7	1				
	536	ONDR	2 S/F	1236.6	1237.5	1.5	14			
	113	POTS	41 F	1312.1	1312.9	.8	100	2		
	29	UPIC	4 S/F	1312.3	1313.1	1.4				
	33	UPIC	4 S/F	1313.5		1				
	33	UPIC	2 S/F	1334.4	1334.7	.9				
	29	UPIC	2 S/F	1334.6	1335.3	1				
	930	BORO	46 C	1411	1411.2	1.2	245	4		
	29	UPIC	45 C	1442.9	1443.4	1.6				
	33	UPIC	45 C	1442.9	1443.2	1.7				
	930	BORO	41 F	1443	1447	4.3	22	4		
	9400	HUAN	21 GRF	1455.5	1646.9	111.4	10.2	6.6		R
	2800	OTTA	240 R	1500	1535	35	8.4			
	9400	HUAN	3 S	1533.5	1534.8	1.3	23.8	10.4		L
	2695	PENT	2 S/F	1715	1718	9	6.2			
	2800	OTTA	1 S	1755	1755.5	2.5	3.8	1.9		
	2800	OTTA	8 S	1820.3	1820.6	.5	1.4	.7		
	2800	OTTA	1 S	1832	1832.1	1	2.2	1.1		
	9400	HUAN	4 S/F	2001.8	2012.4	10.6	37.4	14		ROL
	2695	PENT	4 S/F	2006	2008.5	5	11.4	3.8		
	9400	HUAN	3 S	2031.4	2032.9	1.5	56.1	29.2		L
	1420	BOUL	3 S	2031.5E	2032.5	2.5D	41	14		
	2800	OTTA	3 S	2031.9	2032.2	2.1	103	34.2		
	4995	BOUL	3 S	2031	2032	3	98	33		
	606	SGMR	3 S	2032	2032.3	2.8	19.5	7.8		3S
	1415	SGMR	3 S	2032	2032.4	1.2	142	56.8		3S
	2695	SGMR	3 S	2032	2032.1	1.4	120	48		3S
	4995	SGMR	3 S	2032	2032.2	1.5	97	38.8		3S
	245	SGMR	48 GB	2032	2032.2	3	1040	416		3S
	410	SGMR	48 GB	2032	2032.2	1.1	1030	412		3S
	2695	BOUL	3 S	2032.9E	2033.5	2.5D	118	40		
	9400	HUAN	29 PBI	2032.9	2048	15.1	13.6	3.9		L
	2800	OTTA	29 PBI	2034	2034	10	4	1.8		
24	15000	KISV	4 S/F	0000	0914		26			
	700	SYON	45 C	0314.7	0314.9	.5				
	1415	SYON	1 S	0345.9	0346	.2				
	700	SYON	4 S	0345.9	0346.2	.4				
	1415	SYON	1 S	0346.2	0346.3	.2				
	5730	IRKU	1 S	0414.5	0417.5	4	9			
	1415	SYON	27 RF	0415.5	0417	3.5				
	2695	MANI	4 S/F	0417.3	0420.1	5	21.3	7.1		IG
	1415	MANI	4 S/F	0418.6	0420.7	4.4	19.8	6.6		
	5730	IRKU		0431	0435.3		9			L
	5730	IRKU	1 S	0431	0433.2	6	12			L
	221	ABST	44 NS	0700	0742.5	120	9			
	260	ONDR	44 NS	0800 E		378 D	78			
	410	SGMR	44 NS	1210 E	1243.2	571 D	135			
	606	SGMR	44 NS	1210 E	1300.1	571 D	146			
	245	SGMR	44 NS	1210 E	2106.5	571 D	223			
	3100	CRIM	25 R	0708	0952		10			
	2950	GORK	20 GRF	0812	0817.6	8.2	11	5		
	9100	GORK	20 GRF	0815.1	0824	24.8	9	4		
	9100	GORK	21 GRF	0907.5	0914.5	23.5	9	4		
	10400	BERN	4 S/F	0911.1	0913.8	23	15	43		

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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 $10^{-22}Wm^{-2}Hz^{-1}$ MEAN	INT	POLARIZATION OR REMARKS
	8400	BERN	4	S/F	0911.1	0913.8	23	17	45		
	10400	BERN	4		0911.2	0913.8	23	43			
	8400	BERN	4		0911.2	0913.8	23	45			12L
	536	ONDR	46	C	0911.5	0912.6	3.5	143	11		
	3000	BERL	3	S	0912	0913.9	3	16			
	8800	ATHN	2	GRF	0912	0913.8	7.1	47.8	28.7		
	3100	CRIM	1	S	0912	0913.5	3	11	3		
	2950	GORK	21	GRF	0912	0914.5	8.8	9	4.5		
	650	GORK			0912	0913.8		11			
	650	GORK	45	C	0912	0912.6	6	37			
	950	GORK	4	S/F	0912	0912.7	3.1	18			
	9100	ARCE	4	S/F	0912.3	0914	4				
	2695	ATHN	2	GRF	0912.4	0913.9	6.9	18.1	10.9		
	4995	ATHN	2	GRF	0912.5	0913.8	6.6	23.2	13.9		
	9500	BERL	4	S/F	0912.5	0913.7	2.5	32			
	930	BORD	46	C	0912	0912.8	1	41	4		
	2950	GORK	4	S/F	0913	0914	1.5	18	10		
	237	TRST	41	F	0913.1	0913.2	.2	245			5R
	260	ONDR	8	S	0913	0913	.3	172			
	2650	DWIN	45	C	0913	0914	2	15	10		
	10715	DWIN	45	C	0913	0914	2	20	10		
	6100	KISV			0917.3	0913.1		7			
	6100	KISV	45	C	0917.3	0913.4	18	23			
	100	GORK	8	S	0922	0922.2	.6	220 D			
	113	POTS	2	S/F	0922	0922	.2	200	40		
	237	TRST	41	F	1016.1	1016.9	1.2	305			10R
	202	IZMI	41	F	1017	1025.2	11	95			
	237	TRST	42	SER	1022.3	1023.2	2.7	135			14R
	234	POTS	8	S	1026.9	1027	.1	120	40		
	113	POTS	42	SER	1028.5	1031.1	18	300	1		
	7000	SAOP	21	GRF	1130						
	7000	SAOP	21	GRF	1130						
	7000	SAOP	4	S/F	1130						
	7000	SAOP	4	S/F	1130	1224.7		52			L
	536	ONDR	42	SER	1149	1259.6	74	52			
	237	TRST			1158.5	1159.5		1090			11R
	237	TRST	42	SER	1158.5	1158.8	1.3	275			12R
	234	POTS	41	F	1158.7	1159.5	1	350	6		
	113	POTS	8	S	1159.4	1159.5	.2	100	30		
	202	IZMI	41	F	1159.5	1200.2	1.5	200			
	3100	CRIM	7	C	1217.5	1224	132	16	5		
	9400	HUAN	21	GRF	1220.5	1254.8	34.3	22.6	11.6		0
	1470	BERL	3	S	1222.5	1225.4	4	13			
	3000	BERL	4	S/F	1223	1225.4	6.5	52			
	9500	BERL	20	GRF	1223	1224.9	55	24			
	10400	BERN	3	S	1223.3	1224.6	7.5	5	14		
	10400	BERN	3		1223.3	1224.6	7.5	14			
	4995	ATHN	2	GRF	1223.6	1224.4	10.9	36.7	22		
	9400	HUAN	2	S/F	1223.6	1226.2	2.6	20.9	17.4		L
	2695	ATHN	2	GRF	1223.7	1225	10.3	47.7	28.6		
	808	ONDR	8	S	1223.8	1223.8	.3	72			
	9100	ARCE	3	S	1223.9	1225.2	2.5				
	8800	ATHN	2	GRF	1224	1224.5	10.5	23.6	14.1		
	29	UPIC	45	C	1224.6	1225.6	1.2				
	33	UPIC	45	C	1224.7	1225.7	1.2				
	234	POTS	4	S/F	1224.7	1224.8	.9	100	10		
	930	BORD	45	C	1224	1224.5	2	54	5		
	9100	ARCE	29	PBI	1226.4	1230.9	24				
	408	TRST	42	SER	1242.9	1243.2	.7	270			
	113	POTS	4	S/F	1255	1255.1	.2	100	10		
	9400	HUAN	20	GRF	1310.6	1431	80.4	5.2	1.5		0
	237	TRST	41	F	1328.5	1328.9	.5	150			6R
	2800	OTTA	21	GRF	1859.5	1904	20	2	1		
	2800	OTTA	1	S	1900	1901	2	3.2	1.4		
	2800	OTTA	1	S	1910.5	1912.5	6	9.4	3.2		
	4995	BOUL	3	S	1910.5	1911.5	4.5	11	4		
	1420	BOUL	1	S	1911 E	1912.5	3 D	8	3		
	2695	PENT	20	GRF	2000	2001.5	20	2.4	1.2		
	2695	PENT	1	S	2054	2055.5	4	1.6	.7		
	2695	PENT	20	GRF	2135	2200	60	4	2.2		
	2695	PENT	1	S	2256	2256.5	1.7	6.4	3.2		
25	200	HIRA	43	NS	0250	0720	310 D	65	15		ML
	100	GORK	44	NS	0615 E		305 D		5		
	202	IZMI	43	NS	0700		140	50			
	200	GORK	44	NS	0715 E		90 D		10		
	127	TORN	44	NS	0720 E	0957.3	440 D	140	7		V2
	260	ONDR	44	NS	0818 E		357 D	57	8		
	5730	IRKU			0317	0322		14			
	5730	IRKU	45	C	0317	0317.9	12	2			
	5730	IRKU			0317	0328.8		15			
	5730	IRKU			0317	0327.5		17			
	5730	IRKU			0317	0326.1		13			
	5730	IRKU			0317	0323.1		15			
	35000	NAGO	20	GRF	0326	0332	19	8			

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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
	1415	MANI	2	S/F	0327	0327.3	2.4	6.3	2.1		IG
	606	MANI	4	S/F	0327	0327.2	2.6	143.5	33.3		
	5730	IRKU	29	PBI	0329.3		28	10			
	950	GORK	2	S/F	0722.6	0725	3	7.5			
	1415	MANI	?	S/F	0722.7	0724.2	4.9	9.9	3.3		
	650	GORK	40	F	0724	0727.5	8.4	9.5			
	3100	CRIM	3	S	0724.5	0725	1.5	30	10		
	2950	GORK	3	S	0724.7	0725.1	1.4	38	19		
	8800	ATHN	3	S	0724.7	0725	2.9	30.1	9		
	2695	ATHN	3	S	0724.7	0725	1.8	21.7	6.5		
	4995	ATHN	3	S	0724.8	0725	6.7	49	14.7		
	1415	ATHN	3	S	0724.8	0725.1	1.4	13.6	4.1		
	9100	GORK	3	S	0724.8	0725.1	2.8	29	14		
	6100	KISV	4	S/F	0724	0725	7	6			
	606	MANI	1	S	0725.5	0725.7	.6	3.4	1.1		
	4995	MANI	3	S	0725.5	0725.7	2.1	37.7	12.6		I
	2695	MANI	3	S	0725.5	0725.7	2	19.2	6.4		
	15000	KISV	4	S/F	0726	0726	.5	12			
	3100	CRIM	1	S	0728	0729	1.5	11	4		
	950	GORK	1	S	0728.7	0729.3	1.8	6.6	3.3		
	6100	KISV	4	S/F	0821	0821.3	6	3			
	6100	KISV	1	S	0924.5	0925.3	2	2			
	6100	KISV	1	S	0951.1	0951.3	4	3			
	33	UPIC	45	C	0955.9	0957.3	1.8				
	29	UPIC	45	C	0956.1	0957.6	1.8				
	100	GORK	4	SF	0956.2	0957.3	1.5	380			
	100	GORK	41	F	1010.9	1011.4	6	55			
	100	GORK			1010.9	1016.7		180			
	100	GORK			1010.9	1014.4		75			
	200	GORK	8	S	1011.3	1011.5	.4	90			
	29	UPIC	8	S	1016.3	1016.5	.4				
	408	TRST	42	SER	1016.3	1016.5	2.1	180 D			
	237	TRST	41	F	1016.3	1016.5	.2	265			16R
	33	UPIC	8	S	1016.5	1016.6	.5				
	113	POTS	4	S/F	1026.4	1026.5	1.8	1500	60		
	234	POTS	42	SER	1026.4	1026.5	1.8	175	1		
	950	GORK	2	S/F	1040.8	1041.6	1.2	6.6			
	930	BORD	45	C	1041	1041.7	1	15	2		
	7000	SAOP	46	C	1047	1100.4		55			L
	200	GORK	46	C	1055.7	1056.6	7.3	100			
	100	GORK			1055.7	1101.5		970			
	100	GORK			1055.7	1058		95 D			
	100	GORK			1055.7	1056.7	7	100			
	200	GORK			1055.7	1101.8		50			
	650	GORK	4	SF	1055.8	1100.1	7.2	23	5.4		
	650	GORK	4	SF	1055.8	1100.1	7.2	23	5.4		
	10400	BERN	20		1056.1	1100.3	13	16			OPR
	8400	BERN	20		1056.1	1100.3	13	35			OPR
	8400	BERN	20	GRF	1056.1	1100.3	13	13	35		OPR
	10400	BERN	20	GRF	1056.1	1100.3	13	6	16		OPR
	202	IZMI	41	F	1056.5	1056.7	5.7	180			
	237	TRST			1056.6	1059.9		255			14R
	237	TRST	42	SER	1056.6	1056.7	3.8	730			39R
	234	POTS	42	SER	1056.7	1056.7	3.6	420	2		
	113	POTS	46	C	1056.7	1057.8	5.5	200	15		
	1470	BERL	4	S/F	1058	1101.3	4.5	6.3			
	2950	GORK	3	S	1058.4	1059.8	4.1	33	16		
	3100	CRIM	3	S	1058.5	1059.8	4	16	4		
	9100	GORK	1	S	1058.8	1100.3	4.4	24	10		
	4995	ATHN	3	S	1058.8	1100.2	4.5	35.6	10.7		
	1415	ATHN	2	GRF	1058.8	1100.8	5.8	7.7U	4.3U		
	536	ONDR	46	C	1058	1059.6	4	15	5.6		
	2650	DWIN	1	S	1058	1100	5	15	10		
	3000	BERL	3	S	1059	1100	4	23			
	9500	BERL	3	S	1059	1100.4	6	21			
	2695	ATHN	3	S	1059	1100.4	4.2	16.3	4.9		
	950	GORK	2	S/F	1059.2	1059.4	2.5	3.3			
	9100	ARCE	3	S	1059.3	1100.7	6				
	8800	ATHN	3	S	1059.5	1100.6	3.6	25.5	7.6		
	10715	DWIN	45	C	1059	1100	6	10	5		
	33	UPIC	4	S/F	1101.5	1101.6	.8				
	29	UPIC	4	S/F	1101.6	1102	.7				
	6100	KISV	4	S/F	1101	1104.5	9	23			
	234	POTS	42	SER	1139.5	1145.5	8.6	200	1		
	3100	CRIM	3	S	1142	1144	5	31	10		
	113	POTS	8	S	1145.5	1145.5	.1	100	30		
	2650	DWIN	45	C	1150	1154	6	100	20		
	8800	ATHN	3	S	1151	1154.5	9.3	20.4	6.1		
	2695	ATHN	4	S/F	1151.2	1154.1	11.7	78.2	23.5		
	7000	SAOP	4	S/F	1151.5	1154		30			L
	9500	BERL	1	S	1152	1154	2.5	10			
	3000	BERL	3	S	1152	1153.6	6	50			
	4995	ATHN	3	S	1152	1154.3	12.5	48.3	14.5		
	2950	GORK	3	S	1152.8	1153.7	3.5	47	23		
	6100	KISV	4	S/F	1152	1154.4	8	17			

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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
	1470	BERL	1 S	1153	1154	2	4.6			
	9400	HUAN	4 S/F	1153	1154.8	1.8	23.6	6.7		L
	9100	ARCE	1 S	1153.5	1154.1	1.4				
	9100	GORK	1 S	1155.7	1156.5	2.8	11.5	5.5		
	113	POTS	4 S/F	1205.6	1205.7	.6	100	15		
	234	POTS	8 S	1206.5	1206.6	.3	420	140		
	408	TRST	45 C	1246.7	1246.8	.4	520			
	113	POTS	8 S	1247	1247.1	.1	100	30		
	2650	DWIN	45 C	1415		35	120 D			
	7000	SAOP	46 C	1416	1417.8		9			L
	8800	ATHN	4 S/F	1416	1418.1	18.4	96.7	29		
	8400	BERN	4	1416.2	1417.9	9	83			OPR
	10400	BERN	4	1416.2	1417.9	9	42			OPR
	8400	BERN	4 S/F	1416.2	1417.9	9	31	83		OPR
	10400	BERN	4 S/F	1416.2	1417.9	9	14	42		OPR
	4995	ATHN	4 S/F	1416.3	1418.2	18.2	157.5	47.2		
	2695	ATHN	4 S/F	1416.5	1417.9	8.2	274.4	82.3		
	9400	HUAN	4 S/F	1416.6	1419.3	2.7	64	37.7		L
	9100	ARCE	4 S/F	1416.7	1418.1	3.5				
	1415	ATHN	3 S	1416.8	1418.6	8.2	24.9U	7.5U		
	10715	DWIN	45 C	1416	1418	20	40	10		
	9400	HUAN	29 PBI	1419.3	1458.3	39	16.8	9.1		L
	9100	ARCE	29 PBI	1420.2		17				
	2800	OTTA	21 GRF	1440 E		30 D	6.4			
	2800	OTTA	4 S/F	1441	1445	5	10.2	2.6		
	410	SGHR	43 NS	1720	2113	262 D	6.5			
	2695	PENT	20 GRF	2010	2053	130	7	3.6		
26	5730	IRKU	1 S	0552	0554	3	10			
	5730	IRKU		0552	0554.7		10			
	234	POTS	8 S	0752.7	0752.8	.1	120	40		
	3100	CRIM	21 GRF	0805	1002	265	12	3		
	260	ONDR	44 NS	0842 E		338 D	94	6		
	202	IZMI	43 NS	1015		105	50			
	3100	CRIM	1 S	0902.5	0903	1.5	4	1		
	234	POTS	42 SER	0908.5	0908.6	4.6	120	1		
	234	POTS	42 SER	1012.5	1012.5	9.5	140	1		
	536	ONDR	3 S	1045.8	1045.8	.2	14			
	536	ONDR	2 S/F	1056.8	1057.2	1	26	10		
	29	UPIC	42 SER	1113.4	1137	25				
	33	UPIC	42 SER	1113.6	1136.5	24.8				
	113	POTS	8 S	1113.6	1113.7	.1	300	100		
	7000	SAOP	24 R	1127						0
	9500	BERL	1 S	1142.5	1143.3	1.5	7.1			
	3000	BERL	3 S	1142.5	1143.5	1.5	11			
	2695	ATHN	3 S	1142.8	1143.6	10.4	9.5	2.6		
	4995	ATHN	3 S	1142.9	1143.2	3.7	8.8	2.6		
	1470	BERL	4 S/F	1143	1144.4	2	15			
	9100	ARCE	1 S	1143.2	1143.4	1.8				
	1415	ATHN	3 S	1143.2	1143.4	1.9	18.5U	5.5U		
	930	BORD	46 C	1143.3	1143.5	.4	143	3		
	536	ONDR	8 S	1143.3	1143.3	.3	221			
	237	TRST	46 C	1143.5	1143.6	.5	2095	85		5R
	408	TRST	45 C	1143.5	1143.6	1.1	120 D			
	234	POTS	2 S/F	1143.6	1143.7	.6	1400	280		
	260	ONDR	8 S	1143.8	1143.8	.3	199			
	6100	KISV	45 C	1143	1143.1	1	5			
	3100	CRIM	1 S	1144	1145	2	8	2		
	245	SGHR	44 NS	1208 E	1901.2	576 D	165			3G
	410	SGHR	44 NS	1208 E	1733.1	576 D	25.1			3G
	7000	SAOP	40 F	1325						
	113	POTS	42 SER	1411	1412	5.6	1400	70		
	7000	SAOP	8 S	1411.8	1412.1	.3	38			L
	8400	BERN	8 S	1411.9	1412.1	.4	5	14		OPR
	10400	BERN	8 S	1411.9	1412.1	.4	4	10		OPR
	8400	BERN	8	1411.9	1412.1	.4	14			OPR
	10400	BERN	8	1411.9	1412.1	.4	10			OPR
	237	TRST	5 S	1412.3	1412.4	.3	56	3		4R
	9100	ARCE	1 S	1412	1412.3	.8				
	9400	HUAN	20 GRF	1421.8	1457	35.2	6.4	2.6		L
	2800	OTTA	20 GRF	1600	1625	50	3.4	1.7		
	2800	OTTA	1 S	1752	1754	10	3.8	1.9		
	9400	HUAN	20 GRF	1901.7	1943.3	41.6	3.2	1.4		0
	2800	OTTA	240AR	2020	2050	30	3.8	1.9		
	2800	OTTA	20 GRF	2029	2032	11	4	2		
	200	HIRA	43 NS	2300	0605	540 D	75	15		WRNL
27	221	ABST	44 NS	0600	0805.8	180	16			
	200	GORK	44 NS	0600 E		348		5		
	202	IZMI	44 NS	0700		300	65			
	100	GORK	43 NS	0711		70		5		
	127	TORN	44 NS	0720 E	0806.3	440 D	630	3		V1
	260	ONDR	44 NS	0836 E		326 D	202	10		
	245	SGHR	44 NS	1207 E	1843.7	578 D	755			3,5,SWF
	410	SGHR	44 NS	1207 E	1946.4	578 D	45.1			3,5,SWF

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
	200	HIRA 44 NS		2145 E	2330	615 D	60	20		HR
	100	GORK 41 F		0602.2	0602.8	4.5	70			
	100	GORK		0602.2	0605.9		70 D			
	100	GORK 41 F		0627.2	0629.5	31	135			
	100	GORK 41 F		0627.2	0639.4		140 D			
	100	GORK		0627.2	0638.2		140 D			
	100	GORK		0627.2	0659		140 D			
	100	GORK		0627.2	0652.6		140 D			
	100	GORK		0627.2	0651.4		140 D			
	3100	CRIM 25 R		0715	0733		7			
	3100	CRIM 1 S		0743	0743.2	.5	3	1		
	113	POTS 4 S/F		0756.3	0756.3	.5	200	20		
	100	GORK 8 S		0756.7	0756.8	.3	180 D			
	202	IZMI 45 C		0805.8	0806	1.3	760	300		
	237	TRST 41 F		0806	0806.4	.8	2490			23R
	234	POTS 4 S/F		0806	0806.4	.9	1400	120		
	113	POTS 4 S/F		0806.1	0806.1	.9	700	35		
	930	BORD 46 C		0806.2	0806.5	.6	50	3		
	100	GORK 45 C		0806.5	0806.7	1	185 D			
	100	GORK		0806.5	0806.9		185 D			
	3100	CRIM 20 GRF		0821	0830	70	7	2		
	6100	KISV 20 GRF		0827	0830	48	6			
	15000	KISV 20 GRF		0827	0834	39	8			
	9100	GORK 20 GRF		0828.6	0840.8	31.4	8.5	4		
	237	TRST 41 F		0848.8	0849.5	1.2	525			D
	234	POTS 42 SER		0848.9	0849.5	8.8	175	1		
	930	BORD 46 C		0924.5	0924.8	1	80	3		
	237	TRST 47 GB		0924.7	0924.8	.5	200			43R
	234	POTS 42 SER		0948.5	0950.2	6.7	280	4		
	113	POTS 2 S/F		0954.8	0954.9	.4	1400	100		
	200	GORK 8 S		1000	1008	1.1	45 D			
	100	GORK 45 C		1001.5	1001.5	.9	250			
	100	GORK		1001.5	1002		290			
	113	POTS 2 S/F		1002.1	1002.4	.7	20000	70		
	234	POTS 2 S/F		1002.1	1002.4	.7	3500	350		
	237	TRST 41 F		1002.2	1002.5	.6	6080			27R
	408	TRST 41 F		1002.2	1002.5	.8	320 D			
	930	BORD 41 F		1002.4	1002.5	.4	17	2		
	6100	KISV 20 GRF		1033	1037	17	4			
	9100	GORK 20 GRF		1036.5	1039.8	8.3	6	2.5		
	234	POTS 8 S		1045.9	1045.9	.4	240	12		
	113	POTS 46 C		1054.3	1054.9	1.3	1000	70		
	33	UPIC 42 SER		1054.4		36.4				
	100	GORK		1054.7	1055.4		310 D			
	100	GORK 46 C		1054.7	1055.1	1.7	310			
	29	UPIC 42 SER		1054	1120.7	37				
	7000	SAOP 4 S/F		1057.3	1058.5		28			L
	4995	ATHN 2 GRF		1057.9	1058.5	1.9	16.7	10		
	6100	KISV 8 S		1057	1058.1	8	12			
	2650	DWIN 1 S		1057	1058	2	10	5		
	1470	BERL 1 S		1058	1058.4	1	7.1			
	3000	BERL 3 S		1058	1058.5	1	12			
	9500	BERL 1 S		1058	1058.8	1	4.4			
	2695	ATHN 2 GRF		1058.1	1058.5	2.1	9.9	6		
	9100	GORK 1 S		1058.5	1059	.9	10	5		
	200	GORK 41 F		1106	1106.8	10	40 D			
	200	GORK		1106	1119.5		40 D			
	200	GORK		1106	1113.5		40 D			
	113	POTS 42 SER		1112	1120.5	29	9000	80		
	234	POTS 42 SER		1112.6	1120.5	9.3	4000	40		
	237	TRST 41 F		1112.6	1112.8	.4	420			36R
	930	BORD 45 C		1112.7	1113	.3	18	2		
	237	TRST 41 F		1118.3	1118.7	.7	1870			43R
	202	IZMI 45 C		1118.5	1118.8	.5	400	200		
	930	BORD 45 C		1118.5	1118.7	.5	50	2		
	100	GORK		1119.1	1121.2U		310 D			
	100	GORK 41 F		1119.1	1119.6	4.3	310 D			
	100	GORK		1119.1	1122.1		310 D			
	202	IZMI 4 GB		1120.2	1120.2	.7	1360	700		
	237	TRST 41 F		1120.4	1120.5	.4	9070			27R
	408	TRST 45 C		1120.4	1120.6	.7	110 D			
	930	BORD 45 C		1120.4	1120.4	.5	22	3		
	100	GORK 45 C		1135.4	1135.5	.6	300			
	100	GORK		1135.4	1135.7		300 D			
	100	GORK 8 S		1140.9	1141	.3	300			
	237	TRST 42 SER		1209.2	1209.7	6.6	520			72R
	237	TRST		1209.2	1215.6		890			35R
	237	TRST		1209.2	1214.6		28500			21R
	237	TRST		1209.2	1211.2		935			34R
	29	UPIC 42 SER		1209.4	1215	36.9				
	113	POTS 42 SER		1209.4	1214.6	12	14000	200		
	234	POTS 42 SER		1209.6	1214.6	6.5	18000	250		
	33	UPIC 42 SER		1209.6		36.7				
	408	TRST 41 F		1214.4	1214.8	.6	140			
	930	BORD 45 C		1215.4	1215.6	.4	26	2		

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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		
	113	POTS	8 S	1259.4	1259.4	.1	100	30		
	237	TRST	1 F	1358	1358.4	.7	503			6L
	7000	SAOP	40 F	1552	1558		18			L
	930	BORD	46 C	1557.5	1557.9	3	198	11		
	2800	OTTA	2 S/F	1557.5	1558	2	9.6	2.4		
	1420	BOUL	45 C	1557.5E	1558	2.5D	26	9		
	2695	BOUL	3 S	1558.5E	1559.5	2 D	11	4		
	2800	OTTA	1 S	1715.5	1716.2	1	3.2	1.6		
	7000	SAOP	46 C	1739	1749.3		11			R
	2695	PENT	240 R	1745	1825	40	3.8	1.9		
	9400	HUAN	21 GRF	1759.5	1909.6	70.1	25.3	15.6		0
	2800	OTTA	21 GRF	1837	1846	23	3.8	1.9		
	4995	BOUL	3 SF	1847	1849	3.5	33	11		
	410	SGMR	6 S	1848	1848.9	5	74.2	29.7		
	606	SGMR	3 S	1848	1848.5	1.5	81.3	32.5		
	9400	HUAN	4 S/F	1848.2	1850.3	2.1	27	17.9		R
	1420	BOUL	3 S	1848.5E	1849	2.5D	13	4		
	2800	OTTA	4 S/F	1848	1849.3	2.5	16	7.8		
	2695	BOUL	3 S	1849 E	1850.5	3 D	13	4		
	1420	BOUL	3 S	1851 E	1851.1	1 D	13	4		
	2695	PENT	21 GRF	1910	2050	230 D	16			
	2695	PENT	1 S	2229.5	2229.8	1.5	4	2		
	2695	PENT	20 GRF	2237	2239	13	5.2	3		
	2695	PENT	8 S	2325.5	2325.8	.5	24	12		
28	2695	MANI	3 S	0306.1	0307.1	2.6	26	8.6		
	606	MANI	8 S	0306.7	0307	.6	463.7	154.6		
	1415	MANI	3 S	0306.7	0307.2	2.3	8	2.7		
	4995	MANI	1 S	0306.8	0307.2	1	3.5	1.2		
	4995	MANI	3 S	0522.7	0523	1	157.1	52.4		
	1415	MANI	3 S	0522.7	0523	1	18.7	6.2		
	2695	MANI	3 S	0522.7	0523	1	133.2	44.4		
	8800	MANI	8 S	0522.7	0522.9	.6	322.7	107.6		I
	100	GORK	44 NS	0556 E		364 D		15		
	200	GORK	44 NS	0600 E		354 D		5		
	221	ABST	44 NS	0700	0757.5	120	16			
	127	TORN	44 NS	0720 E	1323.5	440 D	15	10		V1
	260	ONDR	44 NS	0828 E		364 D	208 D	9		
	245	SGMR	44 NS	1206 E	1216.4	580 D	484			3G
	410	SGMR	44 NS	1206 E	1227.6	580 D	151			3G
	606	SGMR	44 NS	1206 E	1921.2	580 D	78			3G
	200	HIRA	44 NS	2145 E	0535	615 D	30	10		MR
	200	GORK		0612.5	0617		170			
	200	GORK	46 C	0612.5	0614.3	5	30 D			
	100	GORK		0614.1	0617.1		1750			
	100	GORK	41 F	0614.1	0614.5	1.2	2000			
	6100	KISV	8 S	0803.2	0803.2	1	3			
	9100	GORK	2 SF	0803.3	0803.4	1.1	13	5.5		
	237	TRST	47 GB	0838.5	0838.8	1.5	480			17R
	6100	KISV	1 S	0914	0915	2	4			
	9100	GORK	1 S	0919.6	0919.9	1.5	6.5	3		
	536	ONDR	42 SER	0946.8	0950.5	24	14			
	237	TRST	41 F	0957.4	0957.7	.6	3750			29R
	234	POTS	2 S/F	0957.5	0957.7	.7	5000	200		
	100	GORK	8 S	0957.5	0958 U	1.2	380 D			
	200	GORK	8 S	0957.5	0957.8	.8	40 D			
	650	GORK	3 S	0957.6	0957.6	.2	19	9.5		
	113	POTS	2 S/F	0957.6	0957.8	.9	4200	1000		
	408	TRST	7 C	0957.6	0957.7	.4	380 D			
	237	TRST	46 C	1010.5	1010.5	.1	565	18		11R
	234	POTS	2 S/R	1010.5	1010.5	.1	210	50		
	408	TRST	8 S	1035.3	1035.3	.1	110			
	237	TRST	47 GB	1040	1041	2	360			39R
	650	GORK	3 S	1041.7	1042	.5	36	18		
	6100	KISV	1 S	1055.5	1056	1	4			
	237	TRST	41 F	1214.7	1215.7	1.1	2680			36R
	234	POTS	42 SER	1214.7	1215.5	15	1000	1		
	930	BORD	41 F	1226.7	1227.6	1.3	25	2		
	113	POTS	2 S/F	1226.9	1227.6	2.8	300	10		
	408	TRST	41 F	1227.3	1227.5	1.2	410			
	237	TRST	41 F	1227.3	1227.5	.5	1640			27R
	536	ONDR	41 F	1227.5	1252	29	29	1		
	237	TRST	41 F	1228.1	1228.2	.5	300			35R
	237	TRST	47 GB	1242.2	1242.7	.8	500			25R
	930	BORD	8 S	1242.6	1242.6	.2	52	1		
	410	SGMR	6 S	1250.1	1251	1.7	157	47.1		
	245	SGMR	48 GB	1250.2	1251.1	2.4	901	270		
	408	TRST	45 C	1250.3	1250.9	2.1	480			
	606	SGMR	3 S	1250.5	1251.8	5.4	27.6	8.9		
	930	BORD	45 C	1250.6	1252	4.4	51	5		
	234	POTS	2 S/F	1250.6	1250.9	2.3	14000	3000		
	1470	BERL	3 S	1250.7	1251.1	3.3	9.5			
	237	TRST	47 GB	1250.7	1250.8	3.7	9065			9R
	237	TRST		1250.7	1252.2		1380			36R
	2695	ATHN	2 GRF	1250.7	1251	1.6	3.2	1.9		

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	1415	ATHN	2 GRF	1250.8	1251	1.5	12.4	7.4		
	113	POTS	2 S/F	1250.8	1250.9	1.8	80000	9999		
	237	TRST	41 F	1301.2	1301.4	.6	930			0
	7000	SAOP	4 S/F	1307.6	1309.3	10.4	9			L
	7000	SAOP	41 F	1307.6						
	9500	BERL	29 PBI	1308	1309	22	127			
	10400	BERN	46 C	1308.3	1309.2	17	49	143		OPR
	10400	BERN	46	1308.3	1309.2	17	143			OPR
	9100	ARCE	4 S/F	1308.6	1309.4	3.4				
	8800	ATHN	4 S/F	1308.8	1309.5	14.5	155.1	46.5		
	8800	SGHR	3 S	1308.8	1309.1	2.2	150.1	45		
	15400	SGHR	3 S	1308.8	1309.1	2	167	50.1		
	4995	SGHR	3 S	1308.8	1309.1	2.2	24.8	7.4		
	4995	ATHN	3 S	1308.9	1309.3	13.9	30	18		
	10715	DWIN	45 C	1308	1309	22	130	20		
	9100	ARCE	29 PBI	1312		18.4				
	7000	SAOP	20 GRF	1335						0
	237	TRST	41 F	1357.9	1358	.1	350			0
	930	BORD	41 F	1411.6	1411.8	.8	20	2		
	7000	SAOP	4 S/F	1421	1422		53			R
	10400	BERN	3 S	1421.2	1421.9	6	6	19		OPR
	10400	BERN	3	1421.2	1421.9	6	19			OPR
	9400	HUAN	3 S	1421.4	1427.2	5.8	26.5	7.8		ROL
	8800	ATHN	3 S	1421.5	1422	3.6	31	9.3		
	4995	ATHN	3 S	1421.6	1422.1	3.2	32.5	9.8		
	4995	SGHR	3 S	1421.6	1421.9	1.6	60	18		
	8800	SGHR	3 S	1421.6	1421.8	1.6	24.8	7.4		
	2695	ATHN	3 S	1421.7	1422	2.8	16.1	4.8		
	2800	OTTA	1 S	1421.7	1422.1	1.5	9.6	3.2		
	9100	ARCE	3 S	1421.7	1422.2	3.5				ATN ATT
	10715	DWIN	1 S	1421	1422	3	20	10		
	2650	DWIN	1 S	1421	1422	2	10	5		
	15400	SGHR	1 S	1422.5	1422.8	.6	9.4	2.8		
	237	TRST	47 GB	1435	1435.1	1.9	955			29R
	237	TRST		1435	1436.5		505			17R
	930	BORD	8 S	1435	1435	.2	25	1		
	7000	SAOP	20 GRF	1438						0
	930	BORD	46 C	1438.7	1439.1	.5	83	4		
	2800	OTTA	1 S	1517.5	1518.2	1.5	2.6	1.3		
	9400	HUAN	1 S	1638.2	1640.2	2	9.5	6.3		R
	7000	SAOP	2 S/F	1731.2	1732.6	.6	42			L
	9400	HUAN	4 GRF	1803.2	1807.4	4.2	58.7	24.8		R
	2695	SGHR	3 S	1803.5	1805.2	2.3	11.4	3.4		
	245	SGHR	48 GB	1803.8	1804.8	1.7	528	158		
	4995	BOUL	3 SF	1803	1804.5	3.5	51	17		
	15400	SGHR	3 S	1804	1805.1	2.8	39	11.7		
	4995	SGHR	3 S	1804.1	1805.1	2.4	48.6	14.6		
	606	SGHR	3 S	1804.1	1805.2	3.3	12.2	3.7		
	1415	SGHR	3 S	1804.2	1805.2	1.9	21.8	6.5		
	410	SGHR	6 S	1804.2	1808.2	5	17.8	5.3		
	8800	SGHR	3 S	1804.5	1805.2	2.3	66.5	20		
	1420	BOUL	3 S	1804 E	1805.5	3 D	23	8		
	2695	BOUL	1 S	1805.5E	1806.5	2 D	9	3		
	7000	SAOP	3 S	1822.8	1823.2	.8	71			L
29	4995	MANI	4 S/F	0204	0206.4	4	27.5	9.2		
	1415	MANI	2 S/F	0204	0205.4	3.7	5.2	1.7		
	2695	MANI	4 S/F	0204.9	0205.1	2.5	20.2	6.7		
	100	GORK	44 NS	0554 E		96 D		10		
	200	GORK	44 NS	0600 E		90		5		
	127	TORN	44 NS	0720 E	1138.6	440 D	85	14		V1
	260	ONDR	44 NS	0815 E		387 D	155	6		
	245	SGHR	44 NS	1205	1334.7	583 D	236			3G
	410	SGHR	44 NS	1205	2052.8	583 D	67.5			3G
	221	ABST	45 C	0608.5	0609	3	43	16		
	5730	IRKU	1 S	0608.5	0609.4	1.5	9			
	6100	KISV	1 S	0608	0609.2	2	3			
	200	GORK	8 S	0609	0609 U	1.4	65 D			
	6100	KISV	2 S/F	0828	0831	7	3			
	408	TRST	42 SER	1029.8	1034.7	18.1	120 D			
	3100	CRIM	1 S	1140	1148.5	1	16	4		
	8800	ATHN	2 GRF	1143.4	1147.8	7.9	15.5	9.3		
	1415	ATHN	3 S	1147	1148.5	6.1	30.1	9		
	2695	ATHN	3 S	1147.4	1148.5	2.9	19.3	5.8		
	113	POTS	4 S/R	1147.5	1148.6	3	28000	1400		
	4995	ATHN	3 S	1147.8	1148.6	2.9	7.4	2.2		
	234	POTS	2 S/R	1147.9	1148.5	1	1400	25		
	1470	BERL	3 S	1148	1148.6	2	23			
	3000	BERL	3 S	1148	1148.5	1.5	22			
	408	TRST	45 C	1148	1148.2	1	160 D			
	127	TORN	47 GB	1148.2	1148.5	1	1200	420		
	930	BORD	45 C	1148.2	1148.7	2.8	80	5		
	33	UPIC	4 S/F	1148.7		1.4				
	29	UPIC	2 S/F	1148.8	1148.9	1.1				
	808	ONDR	45 C	1148	1148.6	1.5	90	25		

SOLAR RADIO EMISSION
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JANUARY 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
	2650	DWIN	1	S	1148	1148.5	1	25	10		
	237	TRST	41	F	1149	1149.5	1	1950			29R
	127	TORN	8	S	1205.7	1205.8	.5	230	110		
	234	POTS	8	S	1205.7	1205.9	.3	150	50		
	113	POTS	2	S/R	1205.7	1205.9	.5	1400	250		
	3100	CRIM	1	S	1212	1215	17	7	2		
	536	ONDR	42	SER	1333	1405.5	53	42			
	237	TRST	41	F	1335.6	1335.7	.4	410			0
	808	ONDR	4	S/F	1338.4	1338.4	.6	70			
	410	SGMR	6	S	1338.4	1338.5	.9	37.5	15		3G
	606	SGMR	3	S	1338.4	1338.5	.6	122	48.8		3G
	245	SGMR	6	S	1338.4	1338.5	1	60.7	24.3		3G
	930	BORO	45	C	1338.6	1338.6	.4	194	2		
	234	POTS	42	SER	1344.6	1349.6	5.2	280	1		
	127	TORN	45	C	1348.4	1349.6	2.3	330	30		
	113	POTS	4	S/F	1349.2	1349.7	1	2000	400		
	237	TRST	41	F	1350.2	1350.6	.7	740			35R
	606	SGMR	3	S	1417.8	1429	47.2	52.1	16		
	8800	SGMR	3	S	1427.9	1428.2	1.5	122	37		
	2800	OTTA	4	S/F	1601.5	1602.5	5	18	6		
	4995	BOUL	1	S	1601	1603	4	10	3		
	1420	BOUL	3	S	1602 E	1603.5	4.5D	12	4		
	2695	BOUL	3	S	1603 E	1603.5	2.5D	24	8		
	4995	SGMR	3	S	1647	1650.7	8.5	23.4	7		
	4995	BOUL	3	S	1648	1650.5	5.5	23	8		
	7000	SAOP	46	C	1649	1650.8		32			R
	8800	SGMR	3	S	1649.6	1650.8	3.4	19.4	5.8		
	2800	OTTA	1	S	1649	1650.5	6	9.4	3		
	2695	SGMR	3	S	1650	1651	1	10.6	3.2		
	7000	SAOP	4	S/F	1734.6	1735.6	1.6	30			L
	2800	OTTA	8	S	1735.4	1735.7	.5	1.6	.8		
	2800	OTTA	20	GRF	1950	1956	30	2.6	1.3		
	2695	PENT	1	S	2139	2139.7	1	5.2	2.6		
	2695	PENT	29	PBI	2140	2140	8	2	1		
30	127	TORN	44	NS	0720 E	1132.4	440 D	84	2		V0
	221	ABST	44	NS	0800	0836	60	18			
	260	ONDR	44	NS	0822 E		346 D	18			
	245	SGMR	43	NS	1425	1425.2	444 D	484			
	410	SGMR	43	NS	1425	1432.8	444 D	271			
	8800	ATHN	1	F	0919.7	0925	8.1	60.1	30.1		
	6100	KISV	4	S/F	1054	1054.2	1	2			
	2950	GORK	21	GRF	1103.6	1105.2	14.2	8	4		
	2950	GORK	4	SF	1105.5	1106.7	4.2	39			
	3100	CRIM	3	S	1106	1109	15	23	7		
	3000	BERL	29	PBI	1106	1109.3	14	36			
	2650	DWIN	45	C	1106	1109	6	40	20		
	7000	SAOP	4	S/F	1107.4	1109	4	27			R
	1470	BERL	20	GRF	1107.5	1110	7.5	3.5			
	2695	ATHN	3	S	1107.7	1108.3	7.1	5.9	1.8		
	6100	KISV	29	PBI	1107	1110	50	5			
	6100	KISV	45	C	1107	1109	3	12			
	4995	ATHN	3	S	1108	1109.7	3.5	26.7	8		
	8800	ATHN	4	S/F	1108	1109.2	3.3	72.4	21.7		
	9500	BERL	20	GRF	1108	1109.5	72	7.4			
	237	TRST	41	F	1231	1231.1	.3	68			0
	237	TRST	42	SER	1425	1425.1	7.8	1185			7R
	237	TRST			1425	1432.7		320			35R
	237	TRST			1425	1429.3		315			45R
	2695	PENT	8	S	1425	1425.3	.5	3.2	1.6		
	2800	OTTA	20	GRF	1527	1530	30	3.8	2		
	2800	OTTA	21	GRF	1600		160	4.6	2.6		
	2800	OTTA	8	S	1650	1650.3	.8	4.4			
	2800	OTTA	2	S/F	2054.2	2054.5	1	4.6			
	200	HIRA	24	R	2140 E	0320	630 D	50	20		ML
31	127	TORN	44	NS	0720 E	0846.2	440 D	110	16		V0
	260	ONDR	44	NS	0813 E		371 D	40			
	221	ABST	43	NS	0828	0850	25	8			
	410	SGMR	43	NS	1332	1455.3	498 D	44.4			
	245	SGMR	43	NS	1332.1	1941.4	497.9D	41.1			
	237	TRST	41	F	0920.2	0920.7	.8	320			7L
	237	TRST	41	F	0924	0924.2	.3	370			0
	33	UPIC	45		1010.9	1011.5	.7				
	536	ONDR	8	S	1011.7	1011.7	.2	153			
	29	UPIC	2	S/F	1011	1011.4	.5				
	408	TRST	41	F	1142.4	1142.4	3.1	93			
	237	TRST	41	F	1143.6	1143.6	.1	290			16L
	536	ONDR	2	S/F	1406	1406.8	1	49			
	237	TRST	42	SER	1409.3	1409.4	1.2	710			85R
	2800	OTTA	21	GRF	1442	1521	140	10	5.6		
	2800	OTTA	3	S	1443	1445.5	9	16.8	5.6		
	2650	DWIN	1	S	1443	1445	7	20	10		
	2800	OTTA	2	S/F	1502	1504	6	4.4	2.2		
	2800	OTTA	22	GRF	1601.5	1611	11	2.2	1.1		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

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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
	2800	OTTA	1 S	1613.5	1617	6.5	4.4	2.6		
	4995	BOUL	1 S	1614	1616	5	10	3		
	2800	OTTA	21 GRF	1800	1825	95	3	1.5		
	2800	OTTA	1 S	1917	1917.3	1	2.8	1.4		
	2800	OTTA	1 S	1942	1945	6	1.8	.9		
	2800	OTTA	22 GRF	2045	2137	135	5.4	3.9		

Reports received from the following observatories:

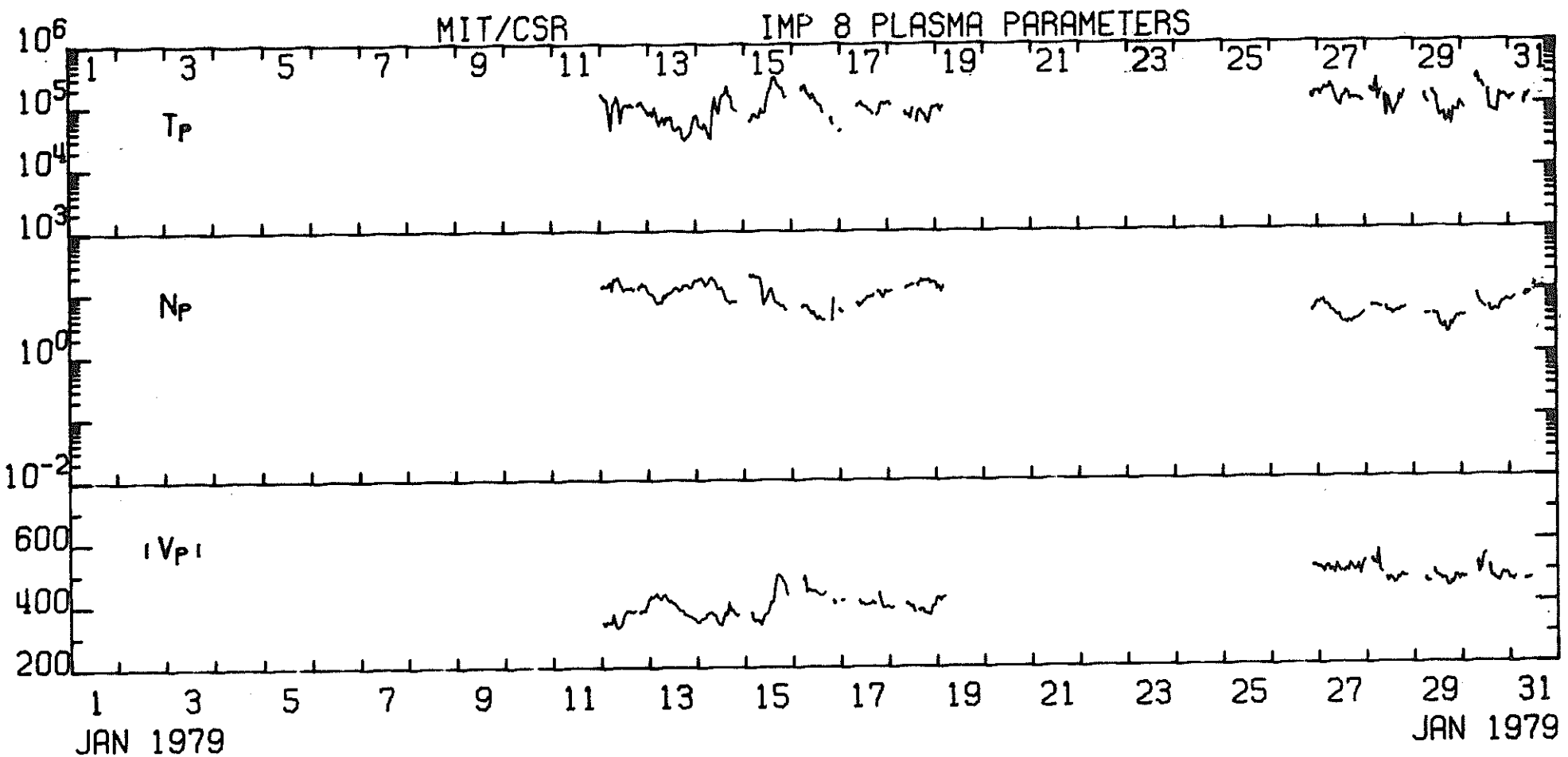
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton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

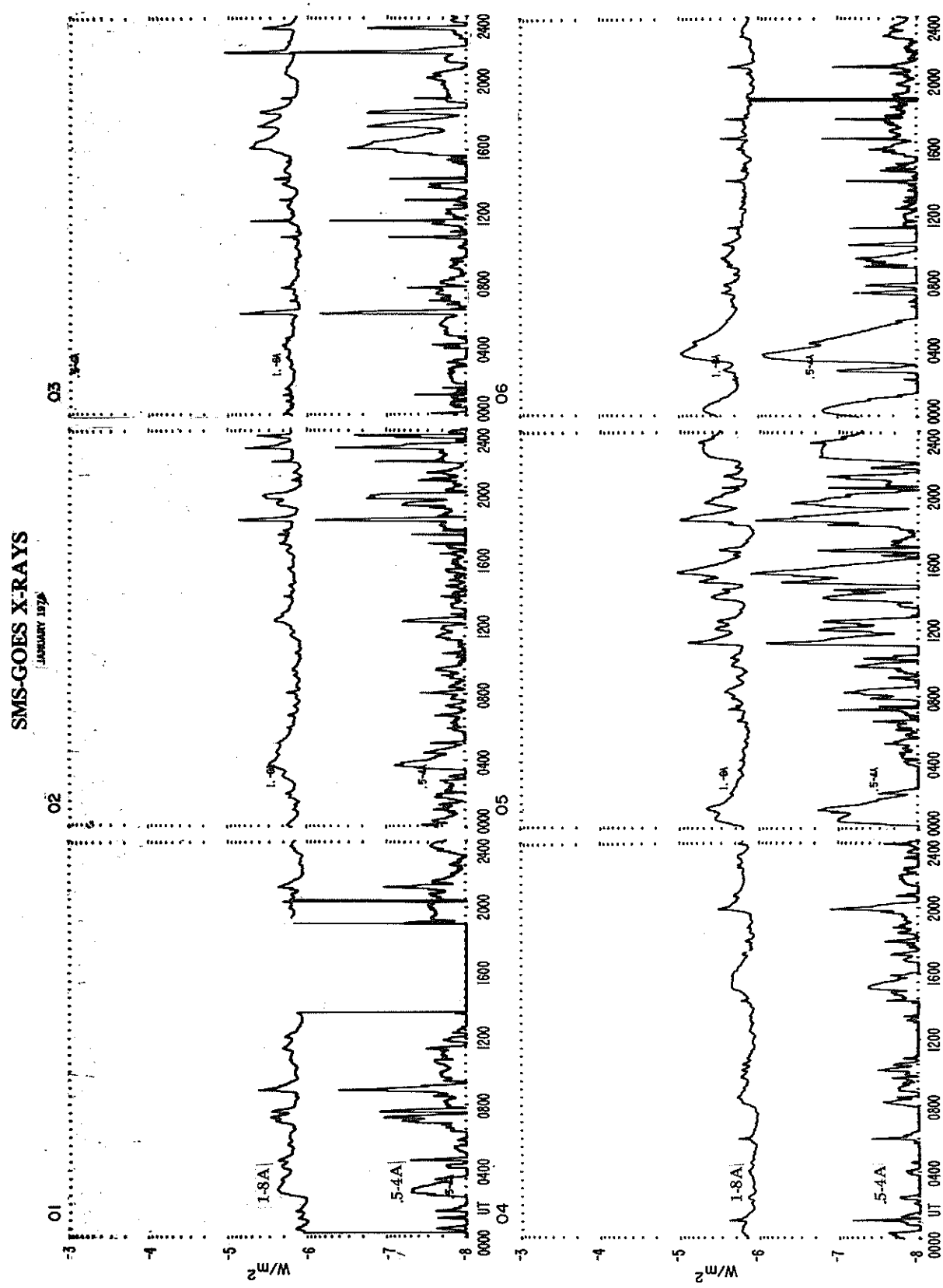
Explanation of Type Code:

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

JANUARY 1979




SMS-GOES X-RAYS
JANUARY 1979
01
02
03
04
05
06
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
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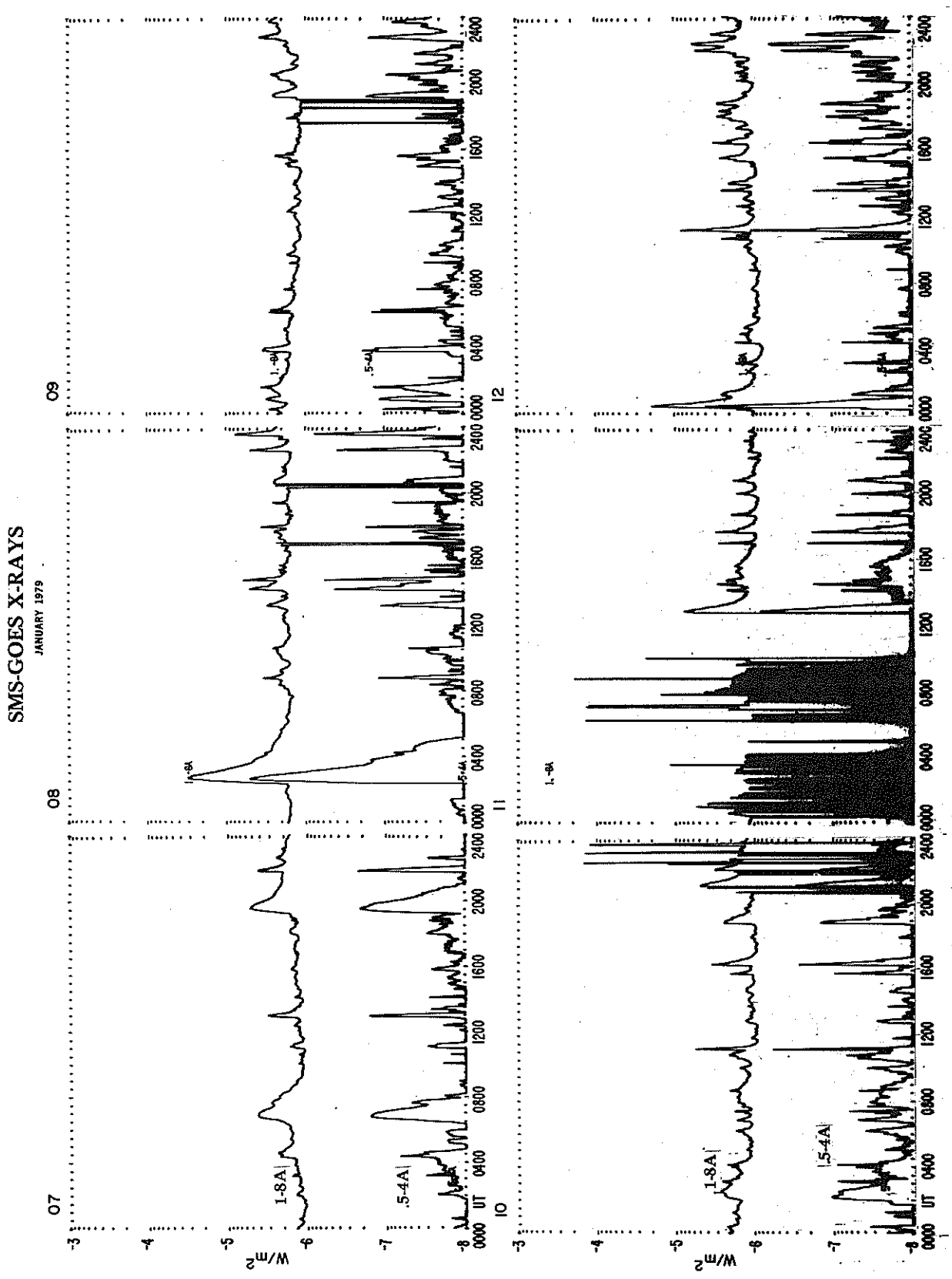
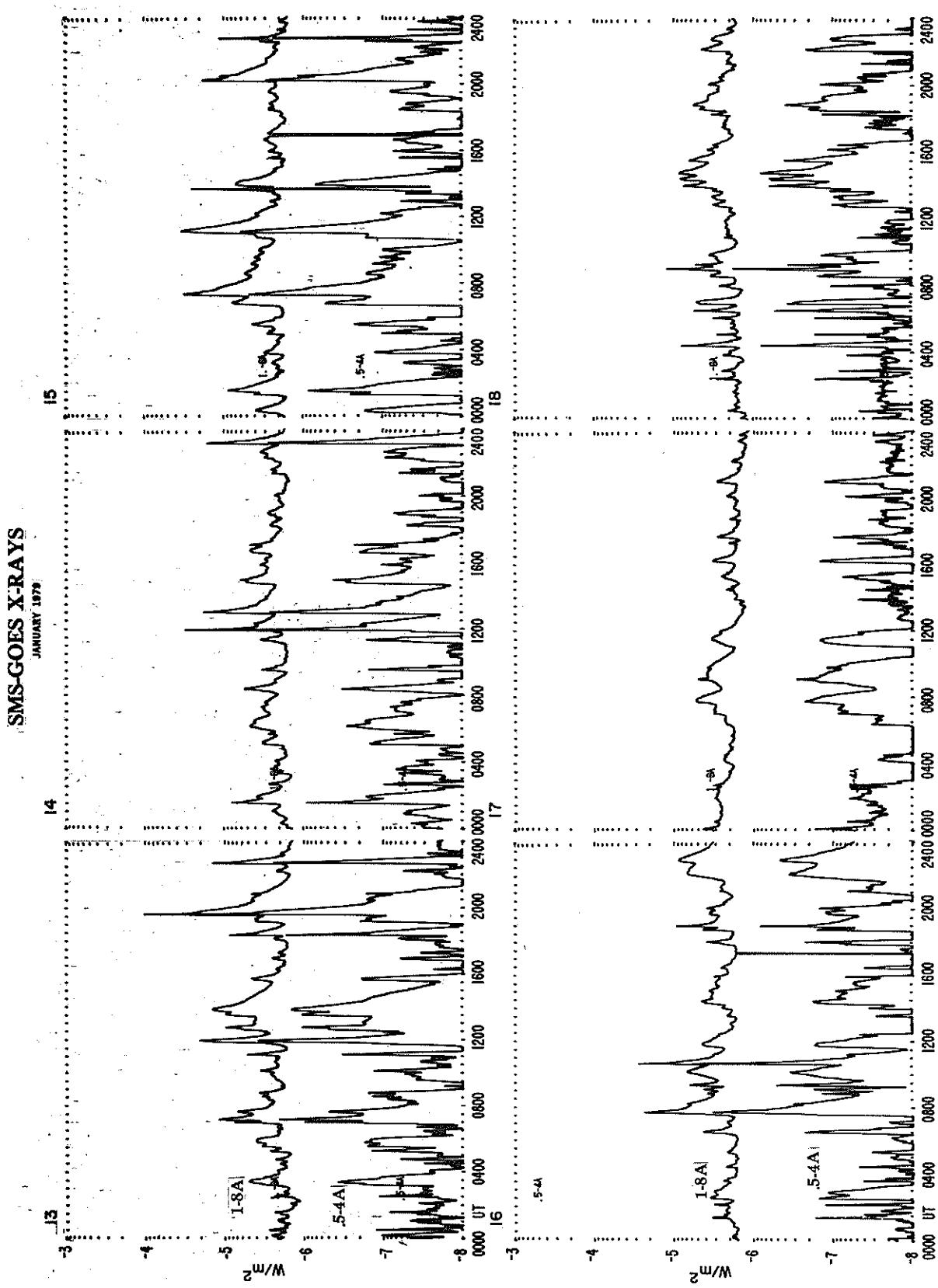
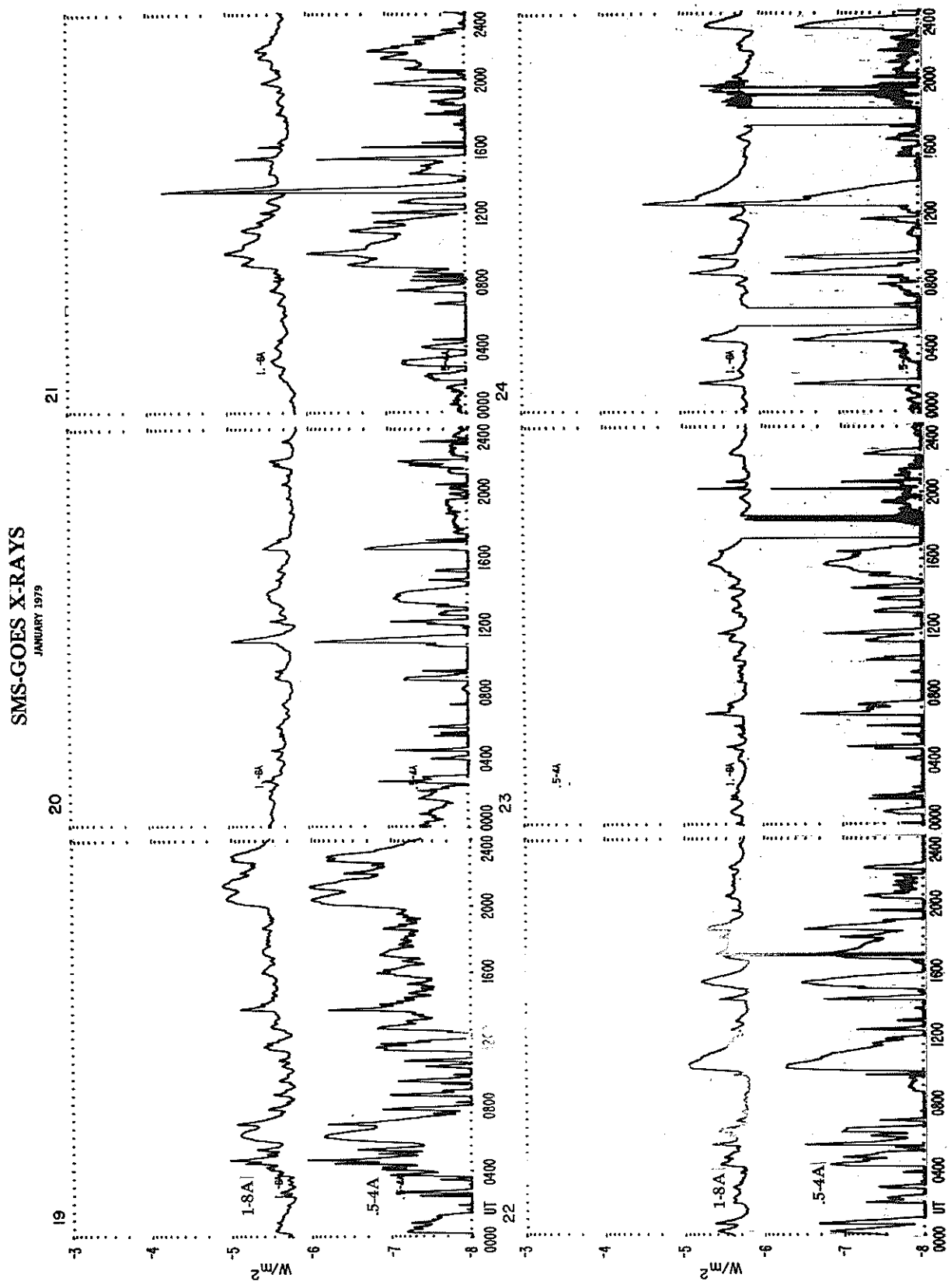
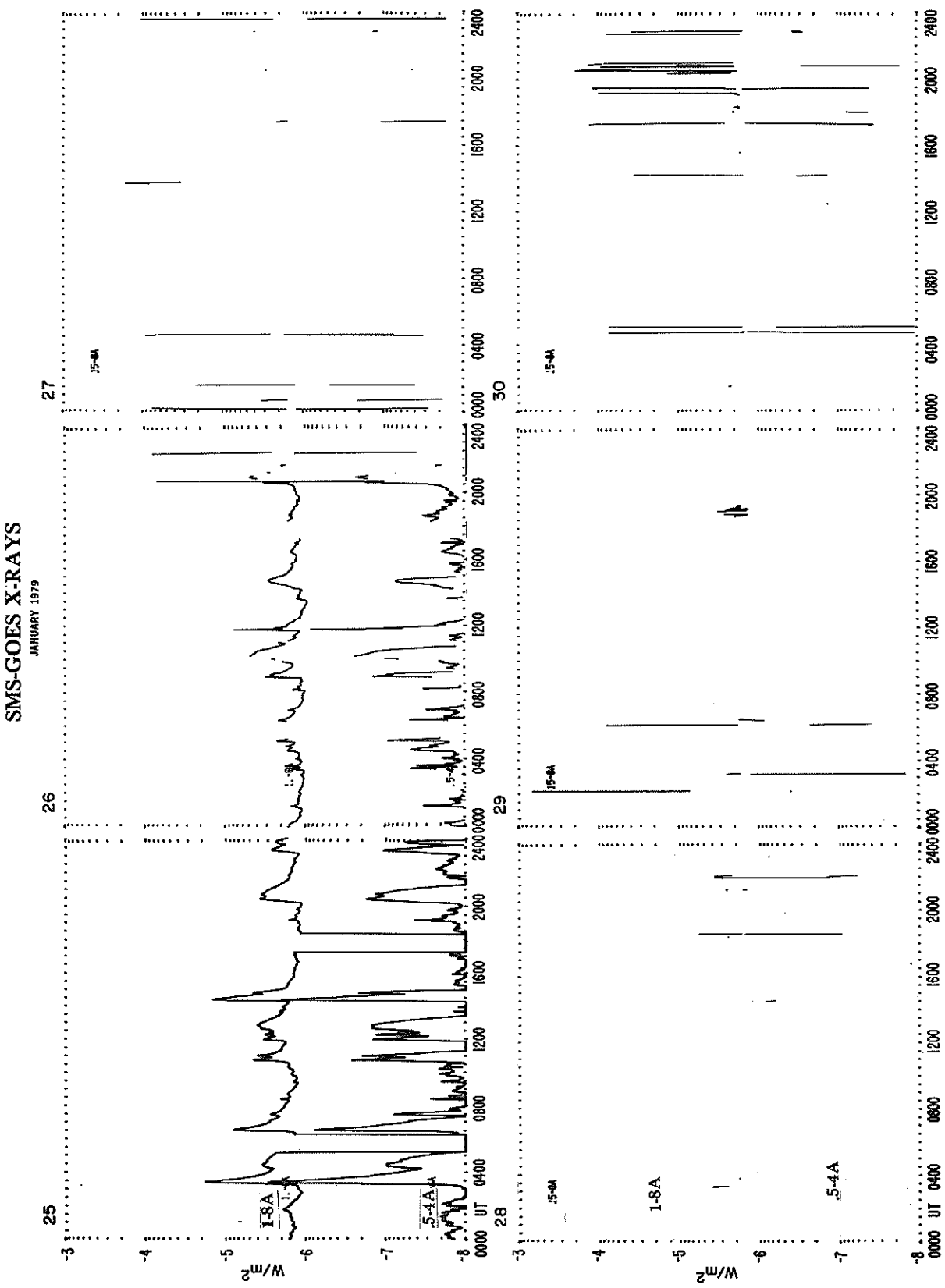
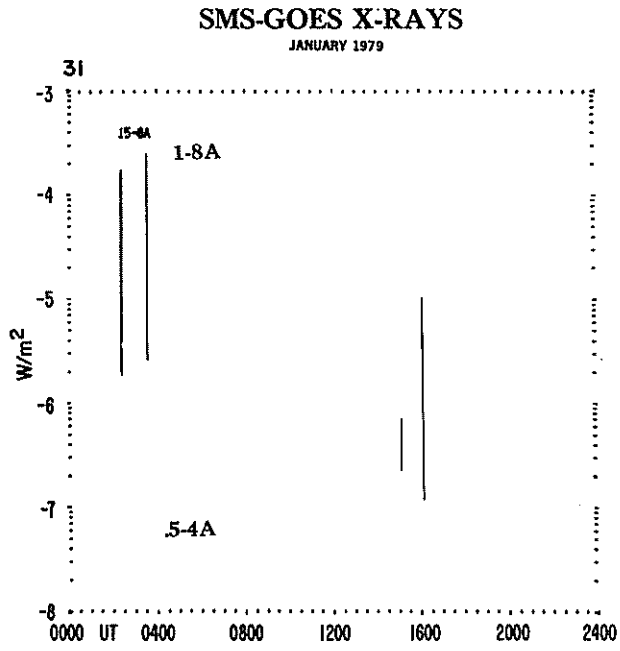

SMS-GOES X-RAYS
JANUARY 1979
07
08
09
10
11
12
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400


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


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


SMS-GOES X-RAYS
JANUARY 1979
25
26
27
28
29
30
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400 0000 2400


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

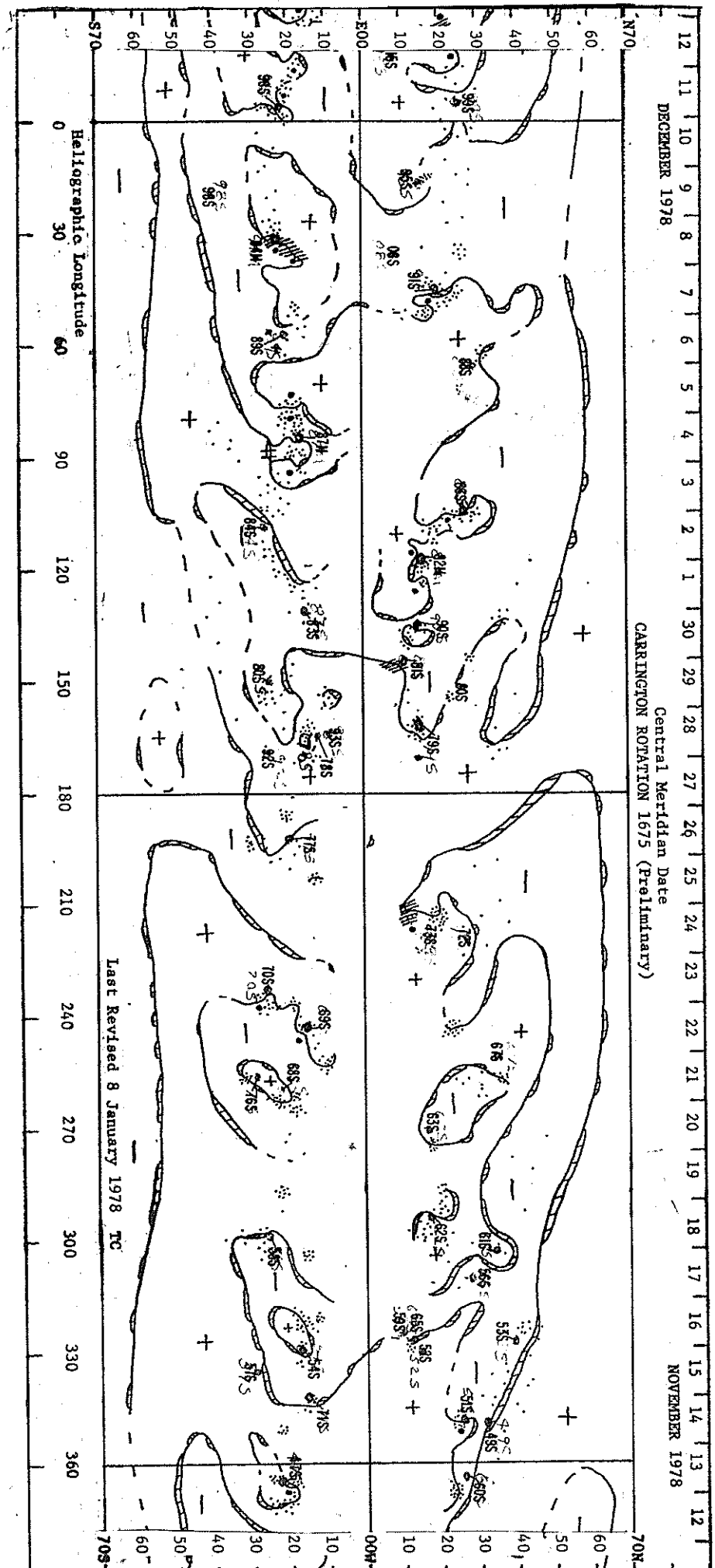
SGD 419 Part II (Comprehensive)

DECEMBER 1978 DATA

Contents

ABBREVIATED CALENDAR RECORD

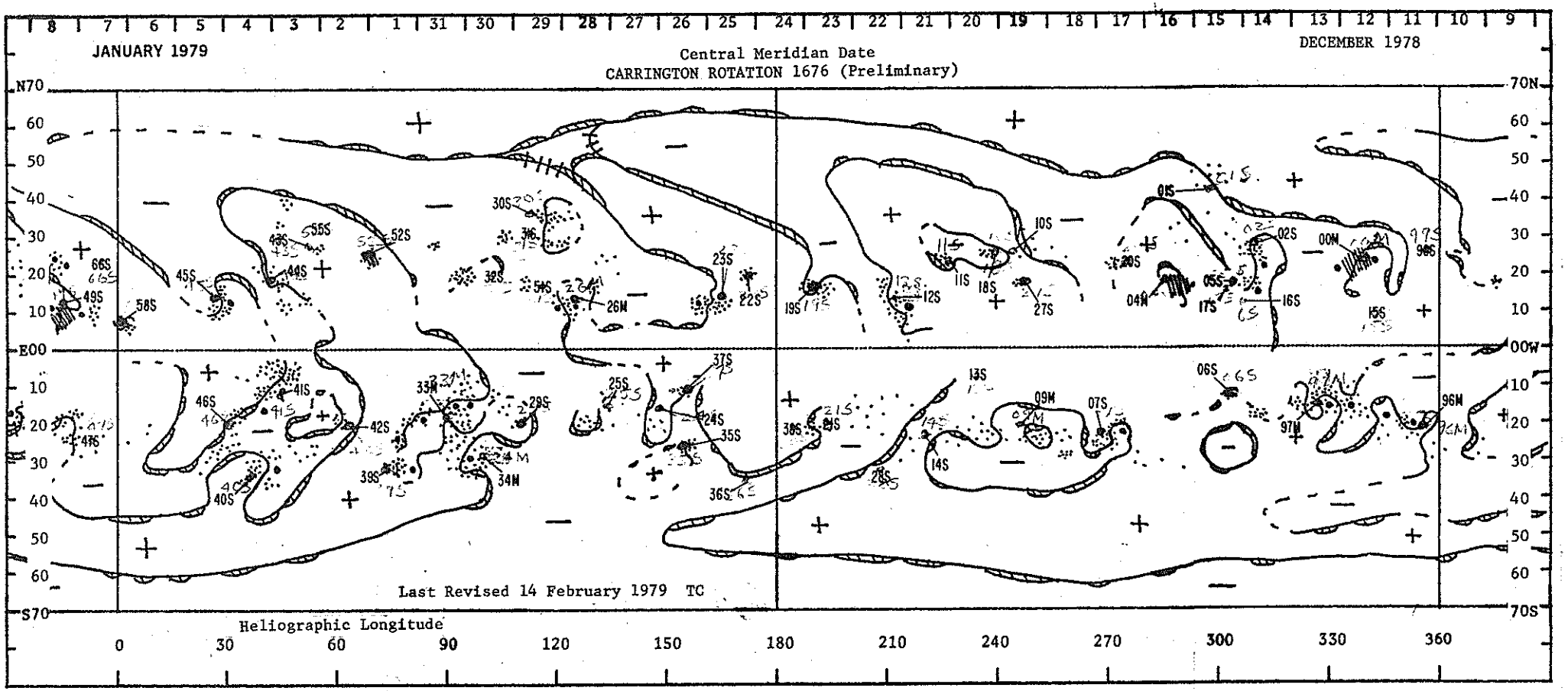
Hα SYNOPTIC CHART



ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

DECEMBER 1978- JANUARY 1979



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Dec 78

ABBREVIATED CALENDAR RECORD

DECEMBER 1978

Dec. 1, 1978

FLARES	1n/87
Bursts m	ns; noise storm
Ap 11 Kp	2-, 3+, 3+, 3o, 3o, 2-, 1o, 1o
Green Corona	E. Limb 7 days earlier: NE- no data; SE- no data; W. Limb 7 days later: NW- no data; SW- no data
Indices	Rz: 110 (Final); 10 cm flux: 171; Flare: 38/23.6; Ca: no data; Ip: 0; Ia: 0
Solar Regions	
Sunspots	

Dec. 2, 1978

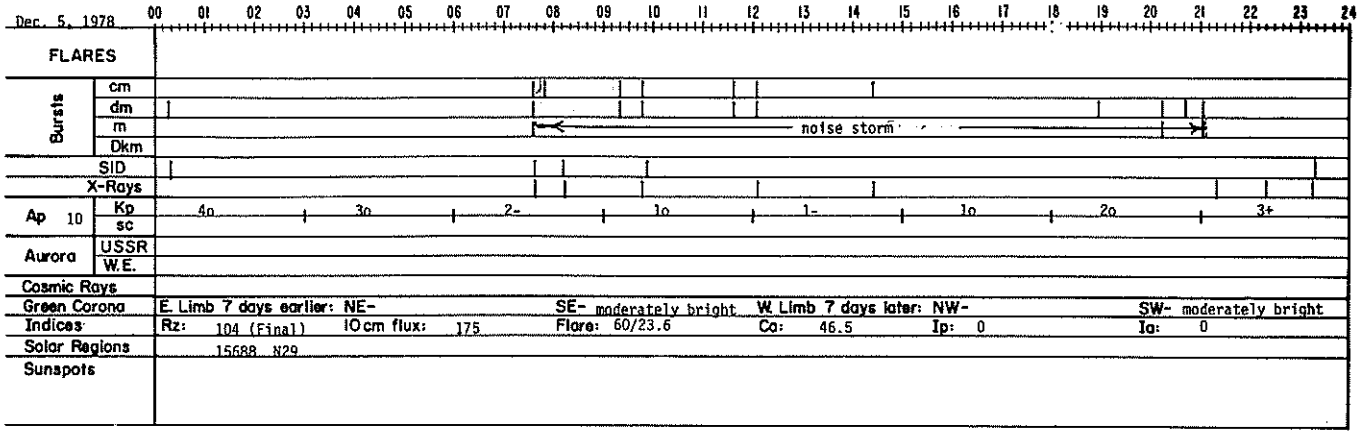
FLARES	1n/87; 1n/87
Bursts m	ns; noise storm
Ap 3Q5 Kp	1+, 1-, 0+, 1-, 1-, 0+, 0+, 1+
Green Corona	E. Limb 7 days earlier: NE- moderately bright; SE moderately bright; W. Limb 7 days later: NW- moderately bright; SW- very bright
Indices	Rz: 110 (final); 10 cm flux: 172; Flare: 98/22.7; Ca: No data; Ip: 0; Ia: 0
Solar Regions	15682 N16; 15684 S27 (2&3); 15686 N26
Sunspots	20326 N13 (αp) 5 CMP Dec 1; 20329 N12 (αp) 4; (20335) N17 (αp) 2; (20333) S28 (αp) 3; (20338) S31 (β) 3; 20327 N22 (αp) 4; (20328) N28 (αp) 2

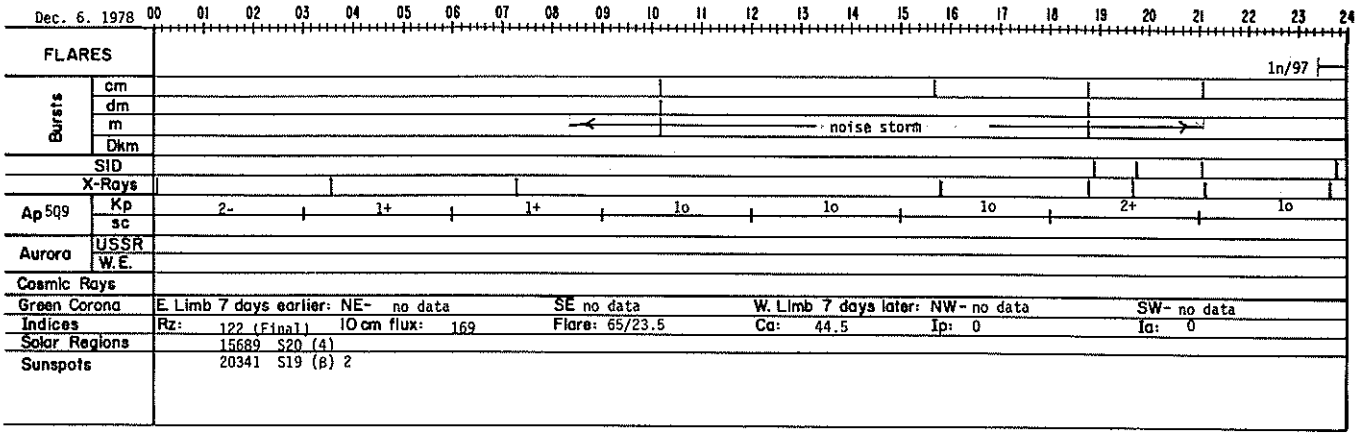
Dec. 3, 1978

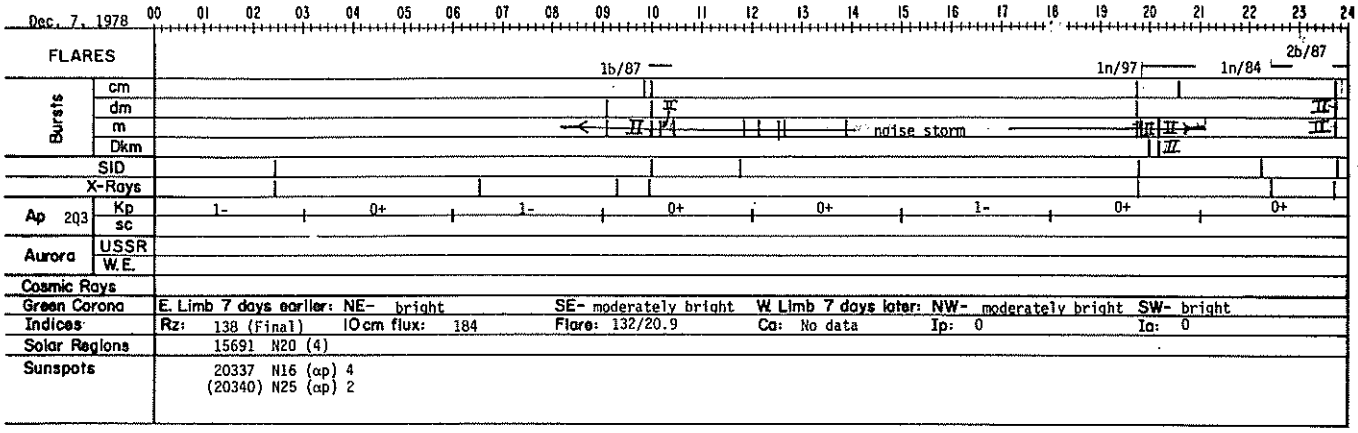
FLARES	
Bursts m	noise storm; IV
Ap 5Q8 Kp	2o, 2o, 0o, 1-, 1-, 2-, 1+, 2-
Green Corona	E. Limb 7 days earlier: NE-; SE- bright; W. Limb 7 days later: NW-; SW- very bright
Indices	Rz: 117 (Final); 10 cm flux: 169; Flare: 23/21.4; Ca: no data; Ip: 0; Ia: 0
Solar Regions	
Sunspots	

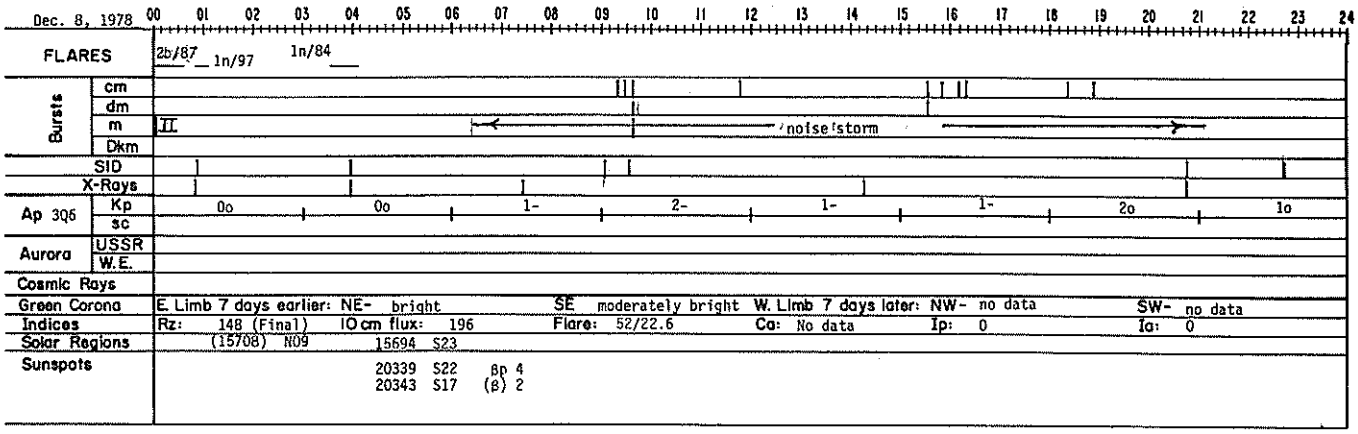
Dec. 4, 1978

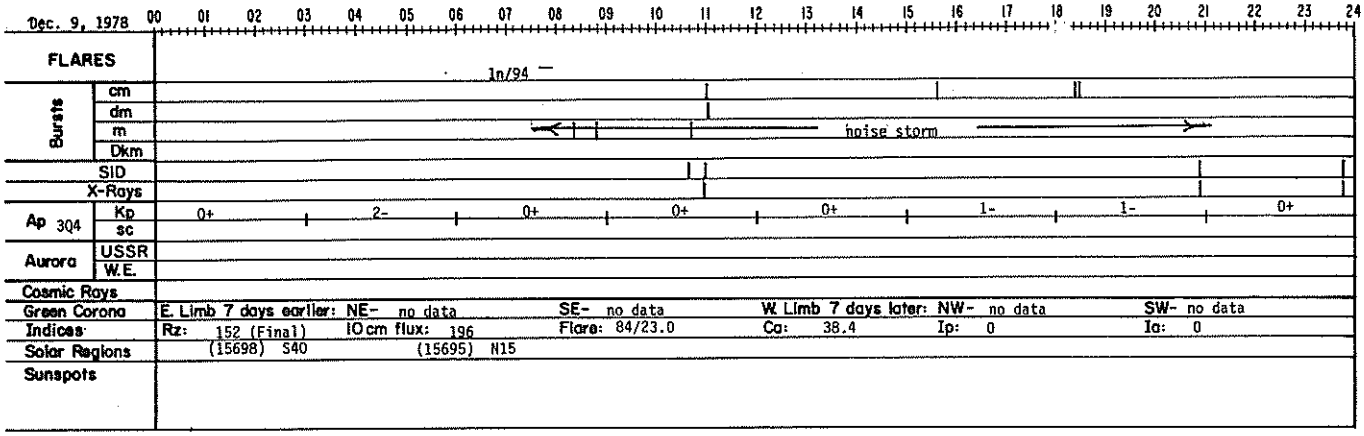
FLARES	1n/94
Bursts dm	IV; IV; II
Bursts m	II; IV; noise storm; II
Ap 12 Kp	2-, 2+, 2o, 3+, 3o, 3o, 3o, 3-
Green Corona	E. Limb 7 days earlier: NE- no data; SE no data; W. Limb 7 days later: NW-; SW- very bright
Indices	Rz: 115 (Final); 10 cm flux: 170; Flare: 52/22.2; Ca: 48.9; Ip: 0; Ia: 1
Solar Regions	15687 S17 (2)
Sunspots	20332 S18 (βγ) 4; 20334 S19 (βp) 4

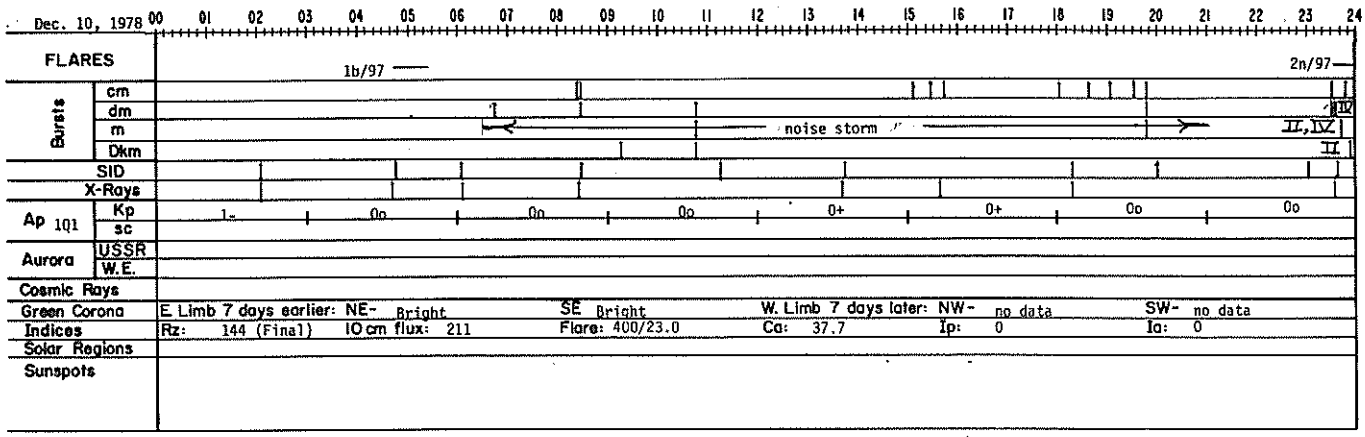

Dec. 5, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 10
Kp
sc
4o 3o 2- 1o 1- 1o 2o 3+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE- moderately bright W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 104 (Final) 10cm flux: 175 Flare: 60/23.6 Ca: 46.5 Ip: 0 Ia: 0
Solar Regions
15688 N29
Sunspots

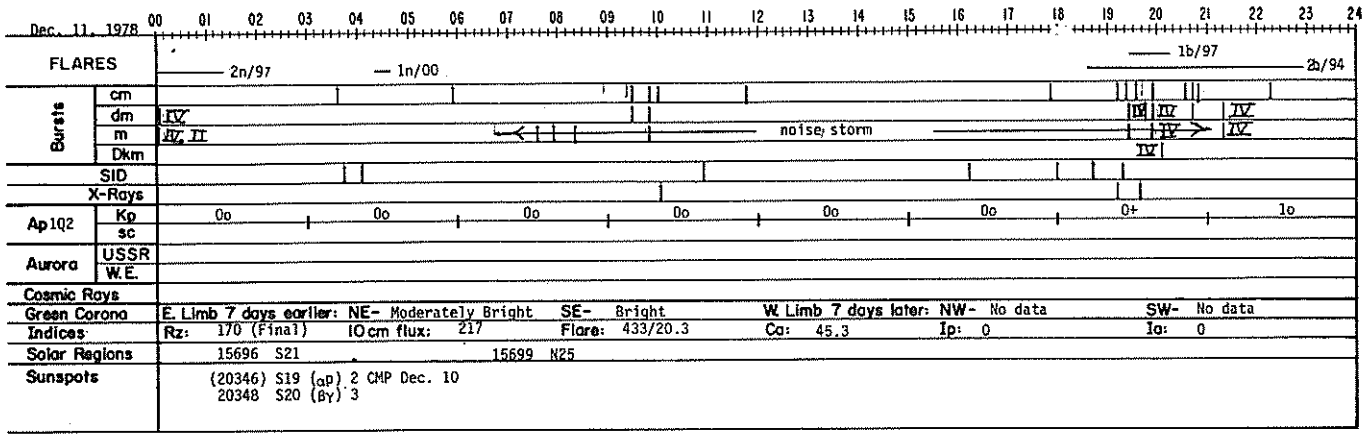

Dec. 6, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 509
Kp
sc
2- 1+ 1+ 1o 1o 1o 2+ 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 122 (Final) 10cm flux: 169 Flare: 65/23.5 Ca: 44.5 Ip: 0 Ia: 0
Solar Regions
15689 S20 (4)
Sunspots
20341 S19 (β) 2

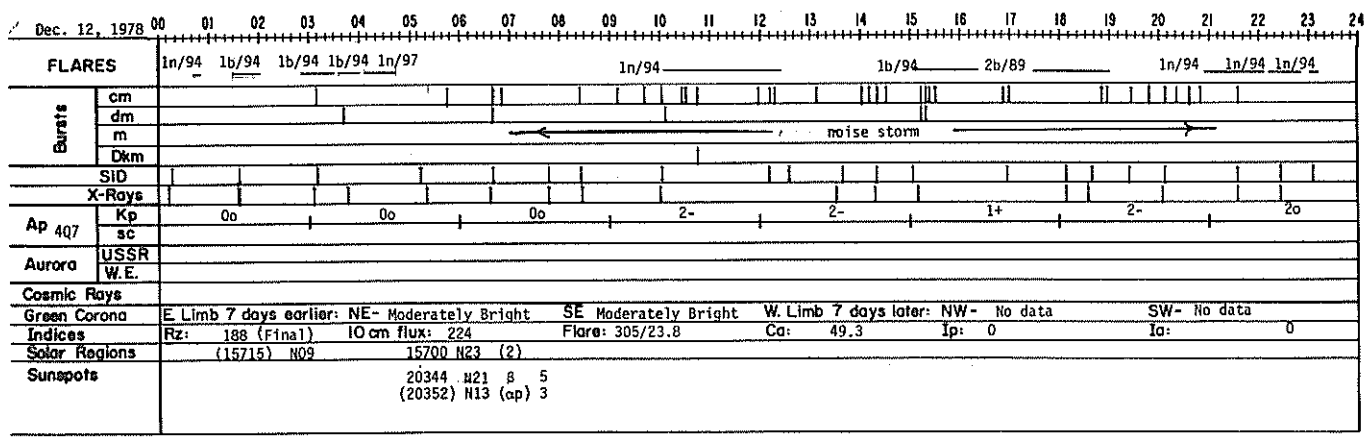

Dec. 7, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/87
1n/97
1n/84
2b/87
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 203
Kp
sc
1- 0+ 1- 0+ 0+ 1- 0+ 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- moderately bright W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 138 (Final) 10cm flux: 184 Flare: 132/20.9 Ca: No data Ip: 0 Ia: 0
Solar Regions
15691 N20 (4)
Sunspots
20337 N16 (αp) 4
(20340) N25 (αp) 2

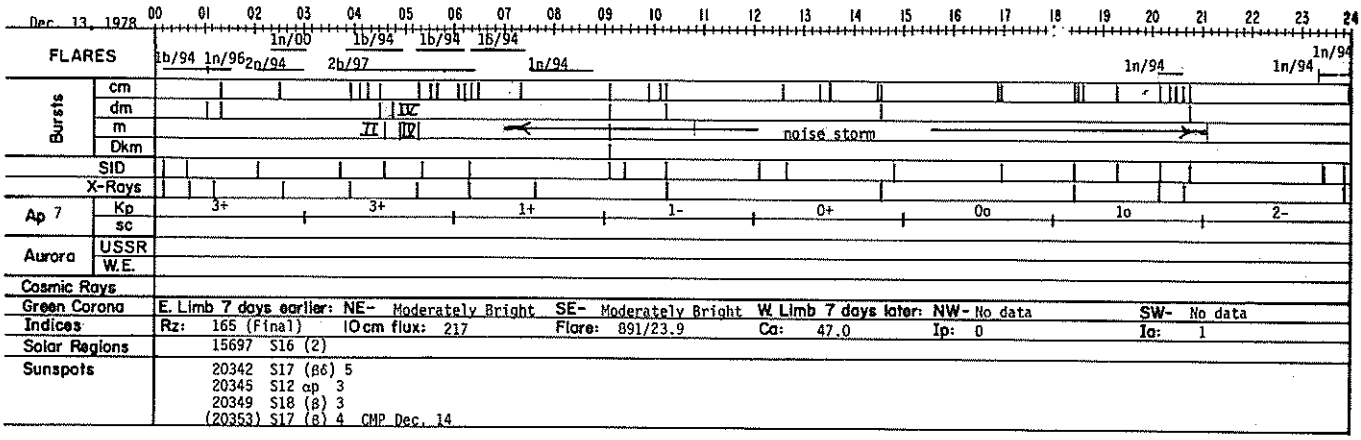

Dec. 8, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2b/87
1n/97
1n/84
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 306
Kp
sc
0o 0o 1- 2- 1- 1- 2o 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 148 (Final) 10cm flux: 196 Flare: 52/22.6 Ca: No data Ip: 0 Ia: 0
Solar Regions
(15708) N09 15694 S23
Sunspots
20339 S22 βp 4
20343 S17 (β) 2

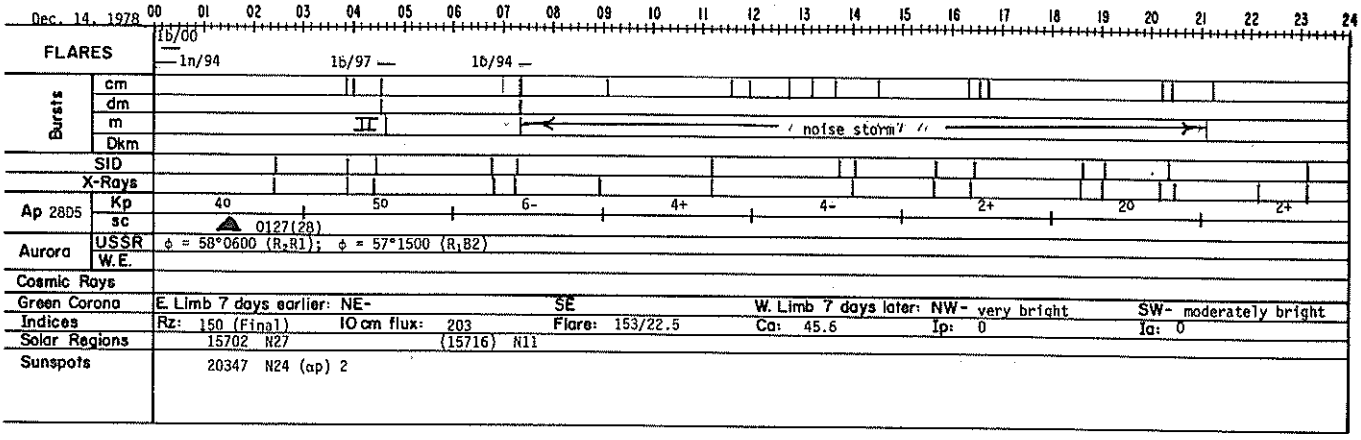

Dec. 9, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/94
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 304
Kp
sc
0+ 2- 0+ 0+ 0+ 1- 1- 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E Limb 7 days earlier: NE- no data SE- no data
W Limb 7 days later: NW- no data SW- no data
Indices
Rz: 152 (Final) 10cm flux: 196 Flare: 84/23.0 Ca: 38.4 Ip: 0 Ia: 0
Solar Regions
(15698) S40 (15695) N15
Sunspots

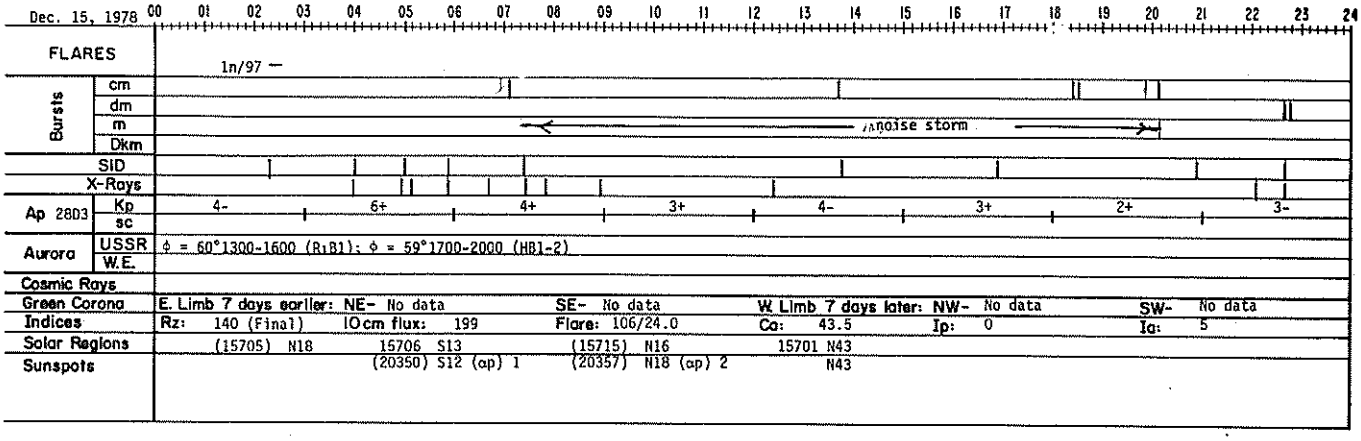

Dec. 10, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/97
2n/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 101
Kp
sc
1- 0o 0o 0o 0+ 0+ 0o 0o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E Limb 7 days earlier: NE- Bright SE Bright
W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 144 (Final) 10cm flux: 211 Flare: 400/23.0 Ca: 37.7 Ip: 0 Ia: 0
Solar Regions
Sunspots

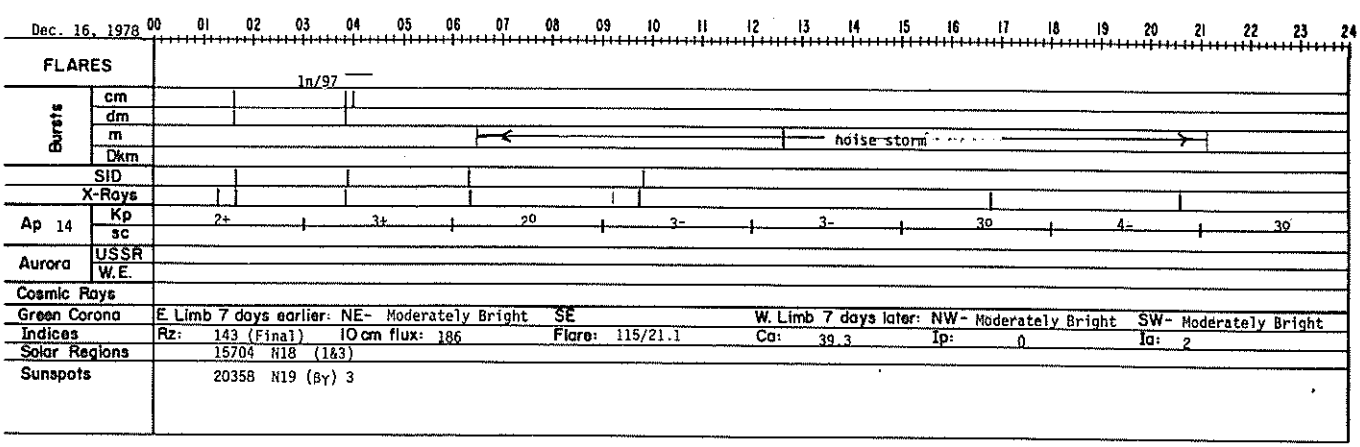

Dec. 11, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2n/97
1n/00
1b/97
2b/94
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 102
Kp
sc
0o 0o 0o 0o 0o 0o 0+ 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE- Bright
W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 170 (Final) 10cm flux: 217 Flare: 433/20.3 Ca: 45.3 Ip: 0 Ia: 0
Solar Regions
15696 S21 15699 N25
Sunspots
(20346) S19 (αp) 2 CMP Dec. 10
20348 S20 (βγ) 3

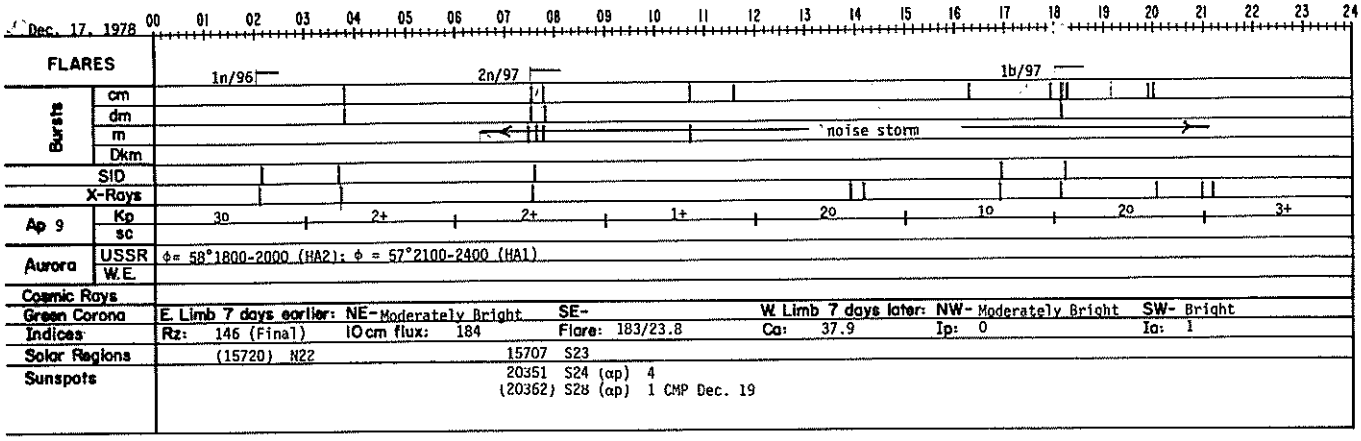

Dec. 12, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/94 1b/94 1b/94 1b/94 1n/97
1n/94
1b/94
2b/89
1n/94 1n/94 1n/94
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 407
Kp
sc
0o 0o 0o 2- 2- 1+ 2- 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E Limb 7 days earlier: NE- Moderately Bright SE Moderately Bright
W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 188 (Final) 10cm flux: 224 Flare: 305/23.8 Ca: 49.3 Ip: 0 Ia: 0
Solar Regions
(15715) N09 15700 N23 (2)
Sunspots
20344 N21 β 5
(20352) N13 (αp) 3

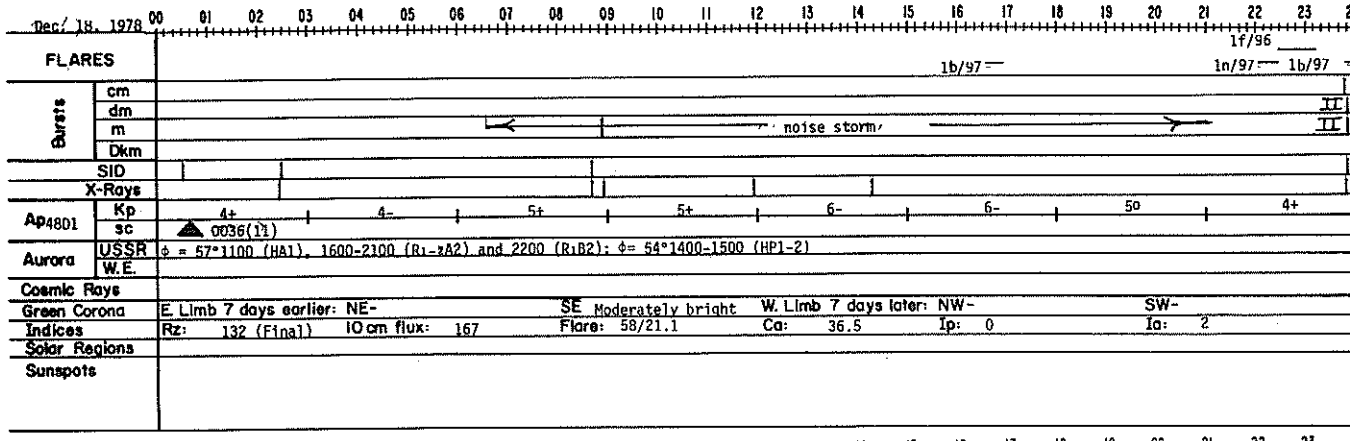

Dec. 13, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/94 1n/96 2n/94 1n/00 2b/97 1b/94 1b/94 1b/94 1n/94 1n/94 1n/94 1n/94
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 7
Kp
sc
3+ 3+ 1+ 1- 0+ 0o 1o 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE- Moderately Bright W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 165 (Final) 10cm flux: 217 Flare: 891/23.9 Ca: 47.0 Ip: 0 Ia: 1
Solar Regions
15697 S16 (2)
Sunspots
20342 S17 (β6) 5
20345 S12 αp 3
20349 S18 (β) 3
(20353) S17 (β) 4 CMP Dec. 14

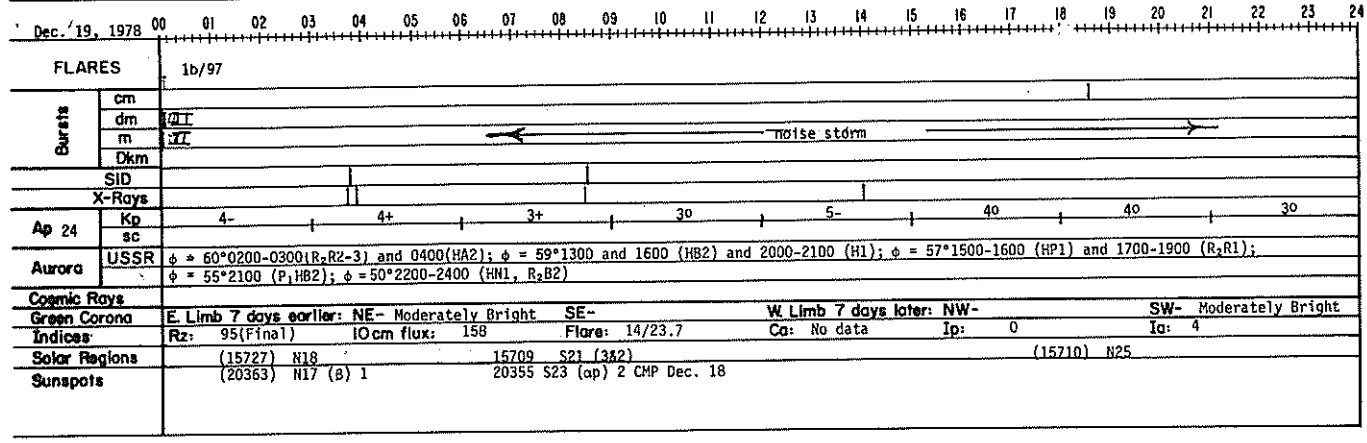

Dec. 14, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/00 1n/94 1b/97 1b/94
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 2805
Kp
sc
4o 5o 6- 4+ 4- 2+ 2o 2+
0127(28)
Aurora
USSR
φ = 58°0600 (R2R1); φ = 57°1500 (R1B2)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- very bright SW- moderately bright
Indices
Rz: 150 (Final) 10cm flux: 203 Flare: 153/22.5 Ca: 45.6 Ip: 0 Ia: 0
Solar Regions
15702 N27 (15716) N11
Sunspots
20347 N24 (αp) 2

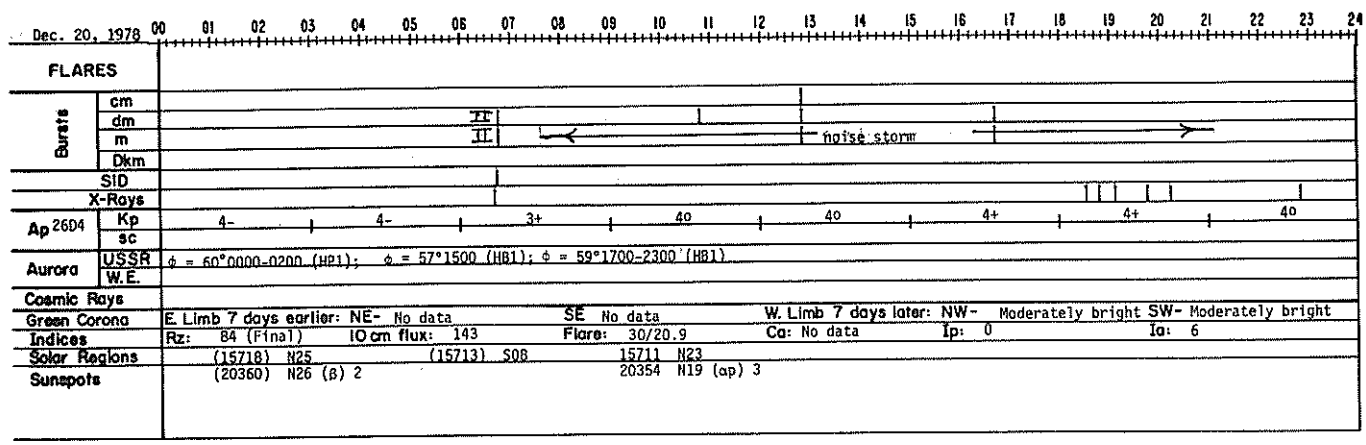

Dec. 15, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 2803
Kp
sc
4- 6+ 4+ 3+ 4- 3+ 2+ 3-
Aurora
USSR
φ = 60°1300-1600 (R1B1); φ = 59°1700-2000 (HB1-2)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- No data SE- No data W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 140 (Final) 10cm flux: 199 Flare: 106/24.0 Ca: 43.5 Ip: 0 Ia: 5
Solar Regions
(15705) N18 15706 S13 (15715) N16 15701 N43
Sunspots
(20350) S12 (αp) 1 (20357) N18 (αp) 2 N43

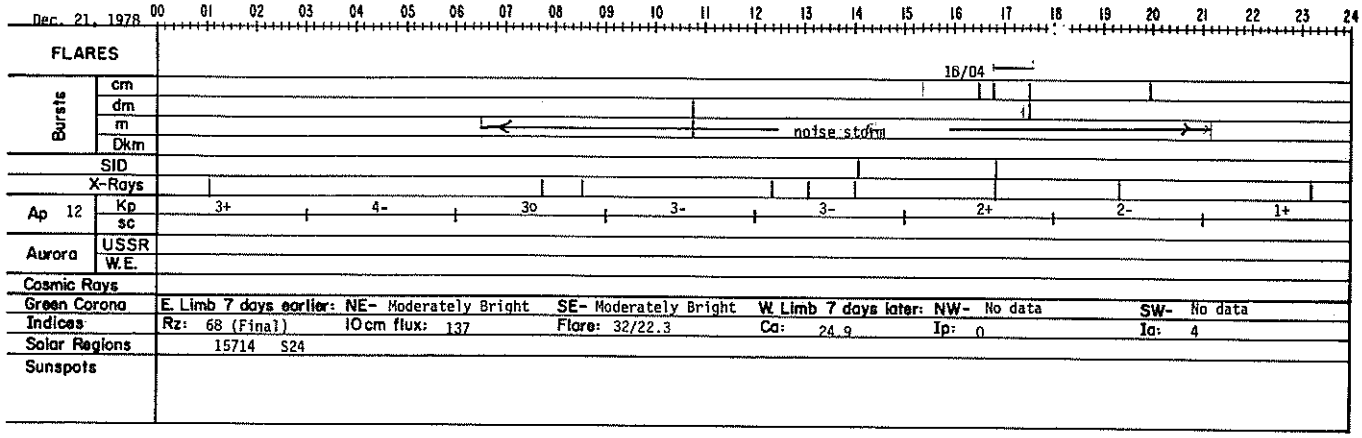

Dec. 16, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 14
Kp
sc
2+ 3+ 2o 3- 3- 3o 4- 3o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE W. Limb 7 days later: NW- Moderately Bright SW- Moderately Bright
Indices
Rz: 143 (Final) 10cm flux: 186 Flare: 115/21.1 Ca: 39.3 Ip: 0 Ia: 2
Solar Regions
15704 N18 (1&3)
Sunspots
20358 N19 (βγ) 3

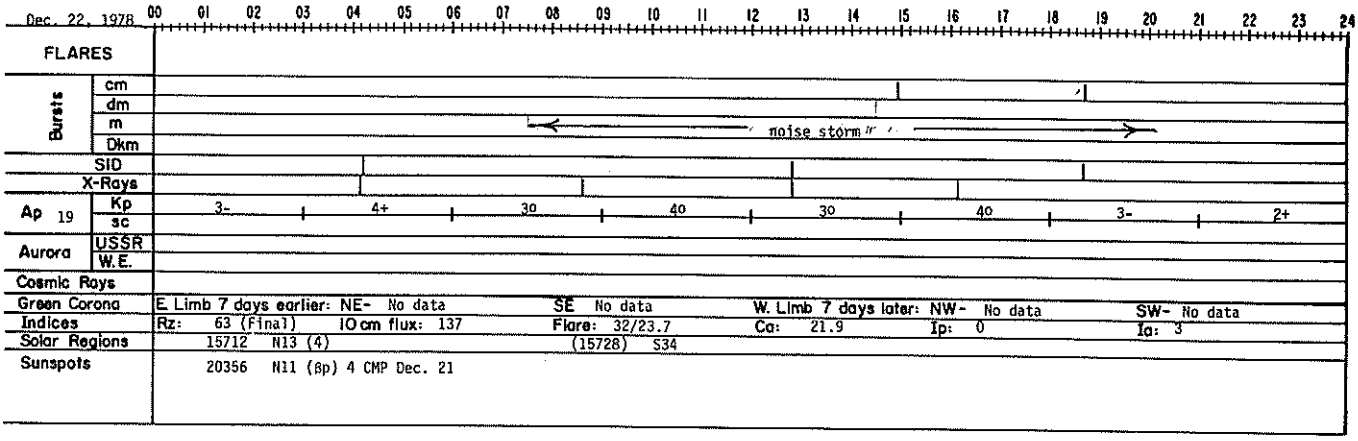

Dec. 17, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/96
2n/97
1b/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 9
Kp
sc
3o 2+ 2+ 1+ 2o 1o 2o 3+
Aurora
USSR
W.E.
ϕ= 58°1800-2000 (HA2); ϕ = 57°2100-2400 (HA1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE-
W. Limb 7 days later: NW- Moderately Bright SW- Bright
Indices
Rz: 146 (Final) 10cm flux: 184 Flare: 183/23.8 Ca: 37.9 Ip: 0 Ia: 1
Solar Regions
(15720) N22 15707 S23
Sunspots
20351 S24 (αp) 4
(20362) S28 (αp) 1 CMP Dec. 19

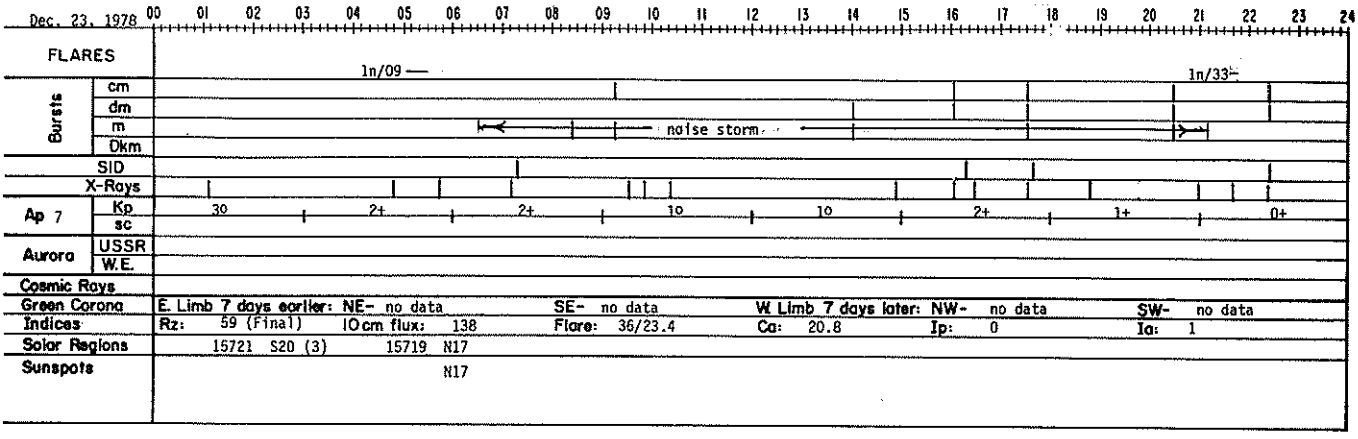

Dec. 18, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/96
1b/97
1n/97
1b/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 4801
Kp
sc
4+ 4- 5+ 5+ 6- 6- 5o 4+
0036(11)
Aurora
USSR
W.E.
ϕ = 57°1100 (HA1), 1600-2100 (R1-2A2) and 2200 (R1B2); ϕ= 54°1400-1500 (HP1-2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE Moderately bright
W. Limb 7 days later: NW-
SW-
Indices
Rz: 132 (Final) 10cm flux: 167 Flare: 58/21.1 Ca: 36.5 Ip: 0 Ia: 2
Solar Regions
Sunspots

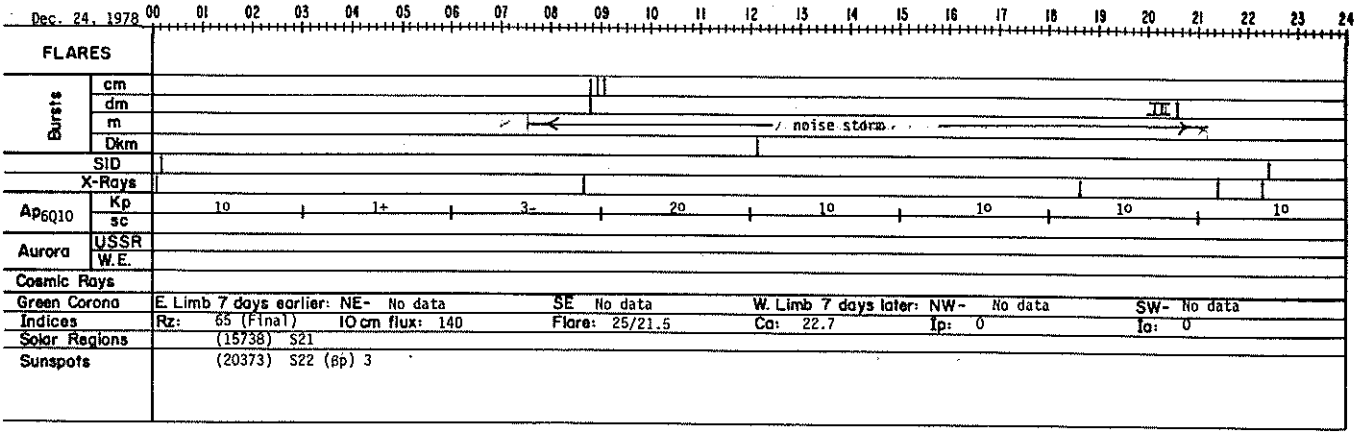

Dec. 19, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/97
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 24
Kp
sc
4- 4+ 3+ 3o 5- 4o 4o 3o
Aurora
USSR
W.E.
ϕ = 60°0200-0300(R2R2-3) and 0400(HA2); ϕ = 59°1300 and 1600 (HB2) and 2000-2100 (H1); ϕ = 57°1500-1600 (HP1) and 1700-1900 (R2R1);
ϕ = 55°2100 (P1HB2); ϕ = 50°2200-2400 (HN1, R2B2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE-
W. Limb 7 days later: NW- SW- Moderately Bright
Indices
Rz: 95(Final) 10cm flux: 158 Flare: 14/23.7 Ca: No data Ip: 0 Ia: 4
Solar Regions
(15727) N18 15709 S21 (3B2) (15710) N25
Sunspots
(20363) N17 (β) 1 20355 S23 (αp) 2 CMP Dec. 18

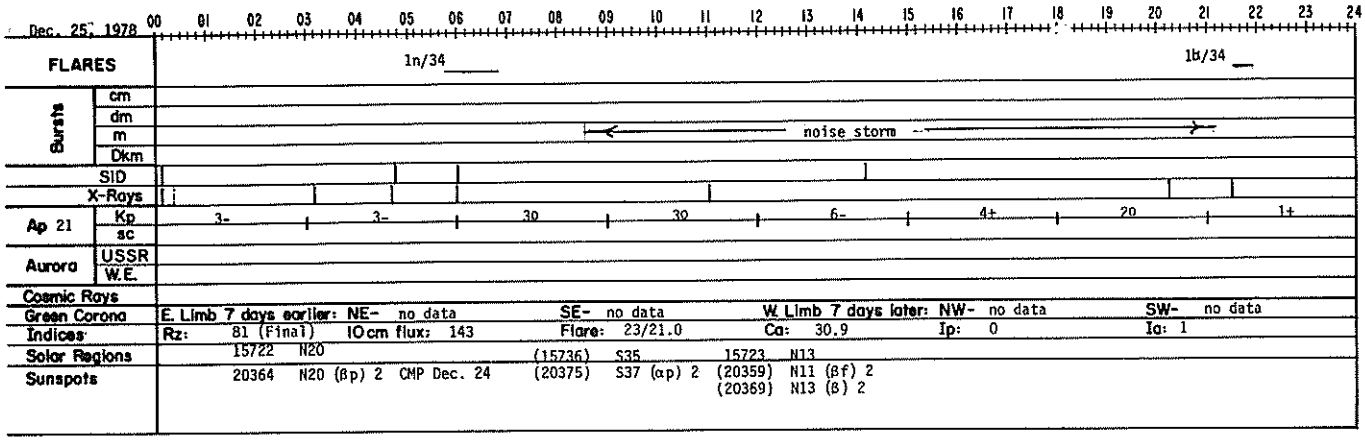

Dec. 20, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 2604
Kp
sc
4- 4- 3+ 4o 4o 4+ 4+ 4o
Aurora
USSR
W.E.
ϕ = 60°0000-0200 (HP1); ϕ = 57°1500 (HB1); ϕ = 59°1700-2300 (HB1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- No data
SE No data
W. Limb 7 days later: NW- Moderately bright SW- Moderately bright
Indices
Rz: 84 (Final) 10cm flux: 143 Flare: 30/20.9 Ca: No data Ip: 0 Ia: 6
Solar Regions
(15718) N25 (15713) S08 15711 N23
Sunspots
(20360) N26 (β) 2 20354 N19 (αp) 3

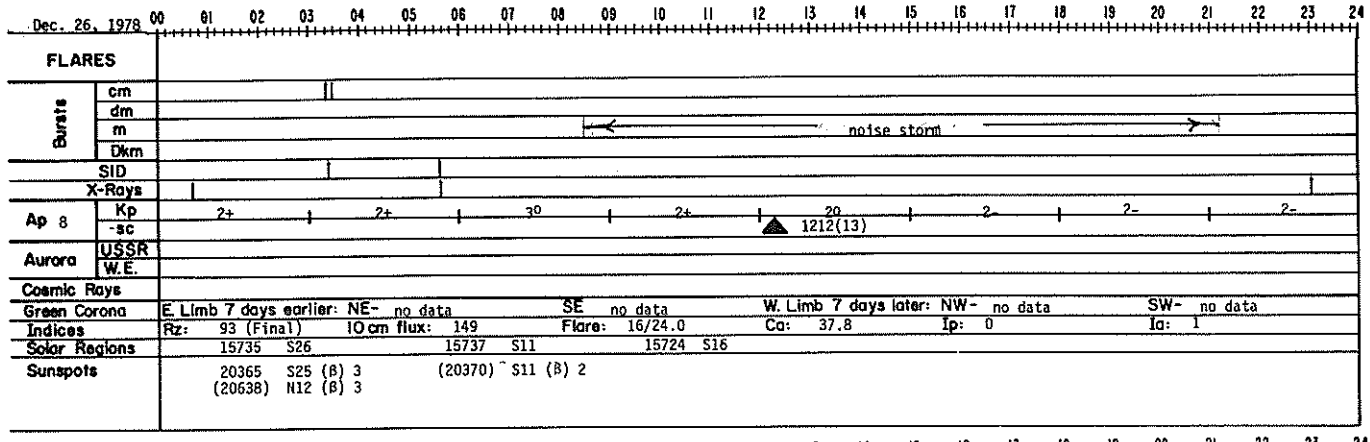

Dec. 21, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
16/04
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 12
Kp
sc
3+ 4- 3o 3- 3- 2+ 2- 1+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE- Moderately Bright W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 68 (Final) 10cm flux: 137 Flare: 32/22.3 Ca: 24.9 Ip: 0 Ia: 4
Solar Regions
15714 S24
Sunspots

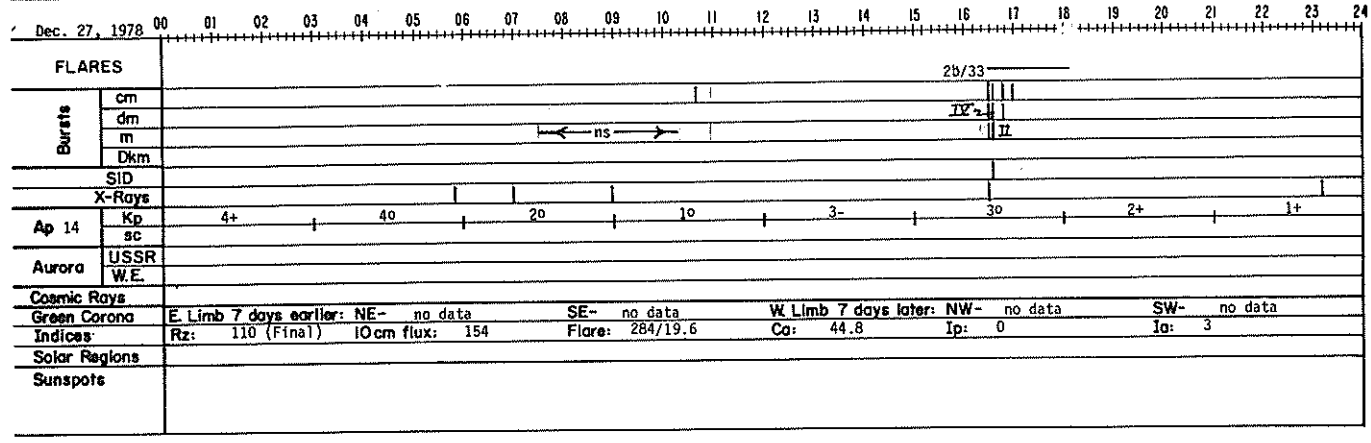

Dec. 22, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 19
Kp
sc
3- 4+ 3o 4o 3o 4o 3- 2+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- No data SE No data W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 63 (Final) 10cm flux: 137 Flare: 32/23.7 Ca: 21.9 Ip: 0 Ia: 3
Solar Regions
15712 N13 (4) (15728) S34
Sunspots
20356 N11 (βp) 4 CMP Dec. 21

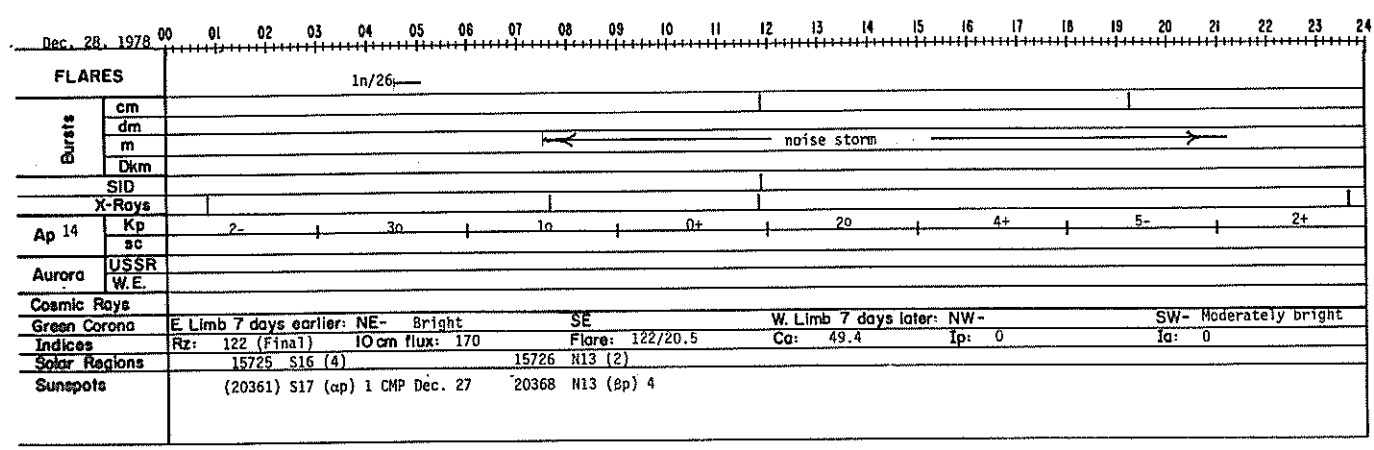

Dec. 23, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/09
1n/33
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 7
Kp
sc
3o 2+ 2+ 1o 1o 2+ 1+ 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 59 (Final) 10cm flux: 138 Flare: 36/23.4 Ca: 20.8 Ip: 0 Ia: 1
Solar Regions
15721 S20 (3) 15719 N17
Sunspots
N17

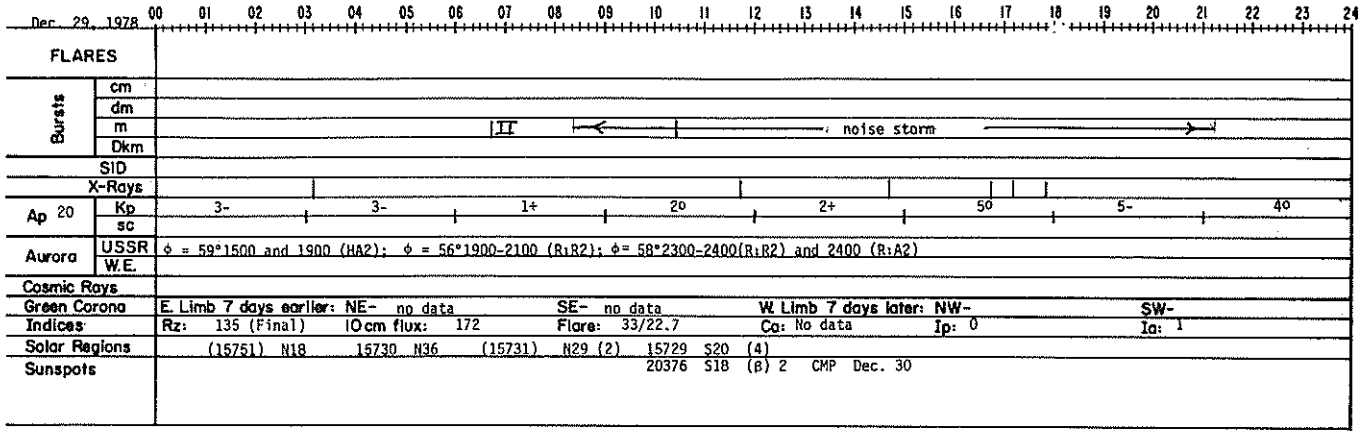

Dec. 24, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
III
SID
X-Rays
Ap6Q10
Kp
sc
1o 1+ 3- 2o 1o 1o 1o 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- No data SE No data W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 65 (Final) 10cm flux: 140 Flare: 25/21.5 Ca: 22.7 Ip: 0 Ia: 0
Solar Regions
(15738) S21
Sunspots
(20373) S22 (βp) 3

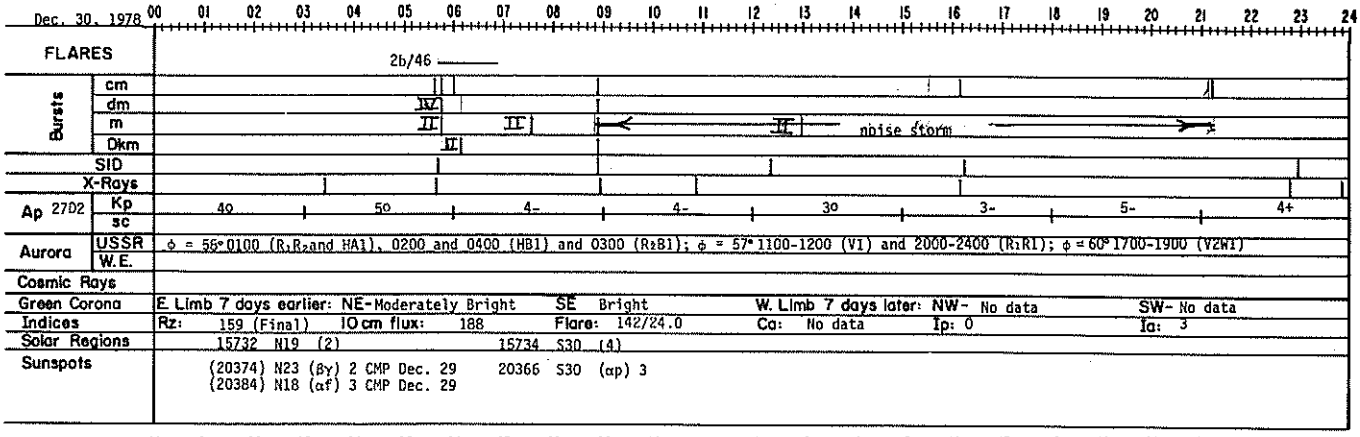

Dec. 25, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/34
1b/34
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 21
Kp
sc
3- 3- 3o 3o 6- 4+ 2o 1+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 81 (Final) 10cm flux: 143 Flare: 23/21.0 Ca: 30.9 Ip: 0 Ia: 1
Solar Regions
15722 N20 (15736) S35 15723 N13
Sunspots
20364 N20 (βp) 2 CMP Dec. 24 (20375) S37 (αp) 2 (20359) N11 (βf) 2
(20369) N13 (β) 2

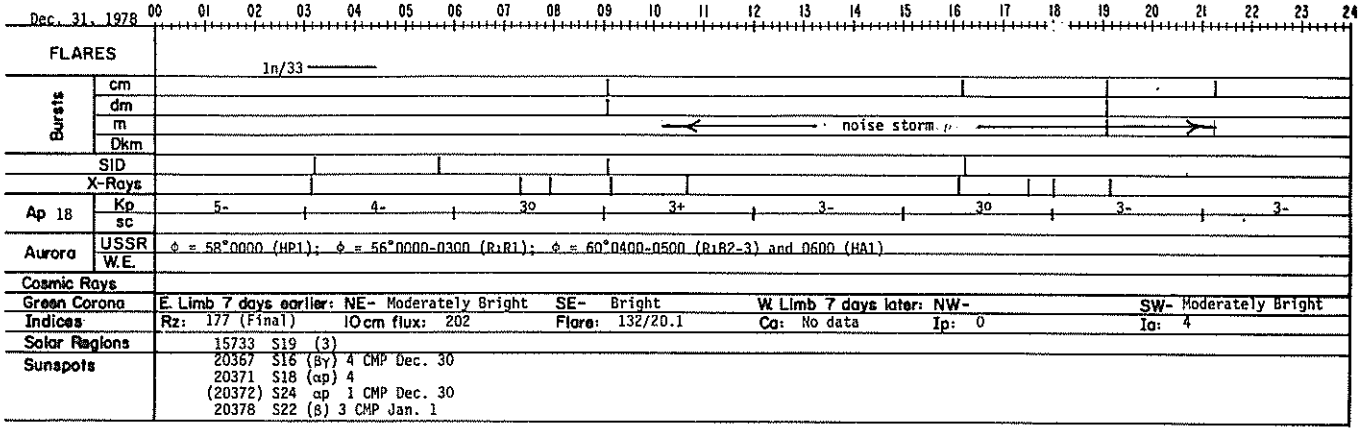

Dec. 26, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 8
Kp
sc
2+ 2+ 3o 2+ 2o 1212(13) 2- 2- 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 93 (Final) 10cm flux: 149 Flare: 16/24.0 Ca: 37.8 Ip: 0 Ia: 1
Solar Regions
15735 S26 15737 S11 15724 S16
Sunspots
20365 S25 (β) 3 (20370) S11 (β) 2
(20638) N12 (β) 3


Dec. 27, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2b/33
Bursts
cm
dm
m
Dkm
ns
SID
X-Rays
Ap 14
Kp
sc
4+ 4o 2o 1o 3- 3o 2+ 1+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 110 (Final) 10cm flux: 154 Flare: 284/19.6 Ca: 44.8 Ip: 0 Ia: 3
Solar Regions
Sunspots


Dec. 28, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/26
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 14
Kp
sc
2- 3o 1o 0+ 2o 4+ 5- 2+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Bright SE W. Limb 7 days later: NW- SW- Moderately bright
Indices
Rz: 122 (Final) 10cm flux: 170 Flare: 122/20.5 Ca: 49.4 Ip: 0 Ia: 0
Solar Regions
15725 S16 (4) 15726 N13 (2)
Sunspots
(20361) S17 (αp) 1 CMP Dec. 27 20368 N13 (βp) 4


Dec. 29, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 20
Kp
3- 3- 1+ 20 2+ 50 5- 40
sc
Aurora
USSR
W.E.
ϕ = 59°1500 and 1900 (HA2); ϕ = 56°1900-2100 (R1R2); ϕ= 58°2300-2400(R1R2) and 2400 (R1A2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW-
Indices
Rz: 135 (Final) 10cm flux: 172 Flare: 33/22.7 Ca: No data Ip: 0 Ia: 1
Solar Regions
(15751) N18 15730 N36 (15731) N29 (2) 15729 S20 (4)
Sunspots
20376 S18 (β) 2 CMP Dec. 30


Dec. 30, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2b/46
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 27D2
Kp
4o 5o 4- 4- 3o 3- 5- 4+
sc
Aurora
USSR
W.E.
ϕ = 56°0100 (R1R2and HA1), 0200 and 0400 (HB1) and 0300 (R2B1); ϕ = 57°1100-1200 (V1) and 2000-2400 (R1R1); ϕ = 60°1700-1900 (V2W1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-Moderately Bright SE Bright W. Limb 7 days later: NW- No data SW- No data
Indices
Rz: 159 (Final) 10cm flux: 188 Flare: 142/24.0 Ca: No data Ip: 0 Ia: 3
Solar Regions
15732 N19 (2) 15734 S30 (4)
Sunspots
(20374) N23 (βγ) 2 CMP Dec. 29 20366 S30 (αp) 3
(20384) N18 (αf) 3 CMP Dec. 29


Dec. 31, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/33
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 18
Kp
5- 4- 3o 3+ 3- 3o 3- 3-
sc
Aurora
USSR
W.E.
ϕ = 58°0000 (HP1); ϕ = 56°0000-0300 (R1R1); ϕ = 60°0400-0500 (R1B2-3) and 0600 (HA1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- Moderately Bright SE- Bright W. Limb 7 days later: NW- SW- Moderately Bright
Indices
Rz: 177 (Final) 10cm flux: 202 Flare: 132/20.1 Ca: No data Ip: 0 Ia: 4
Solar Regions
15733 S19 (3)
Sunspots
20367 S16 (βγ) 4 CMP Dec. 30
20371 S18 (αp) 4
(20372) S24 αp 1 CMP Dec. 30
20378 S22 (β) 3 CMP Jan. 1

SGD 419 Part II (Comprehensive)

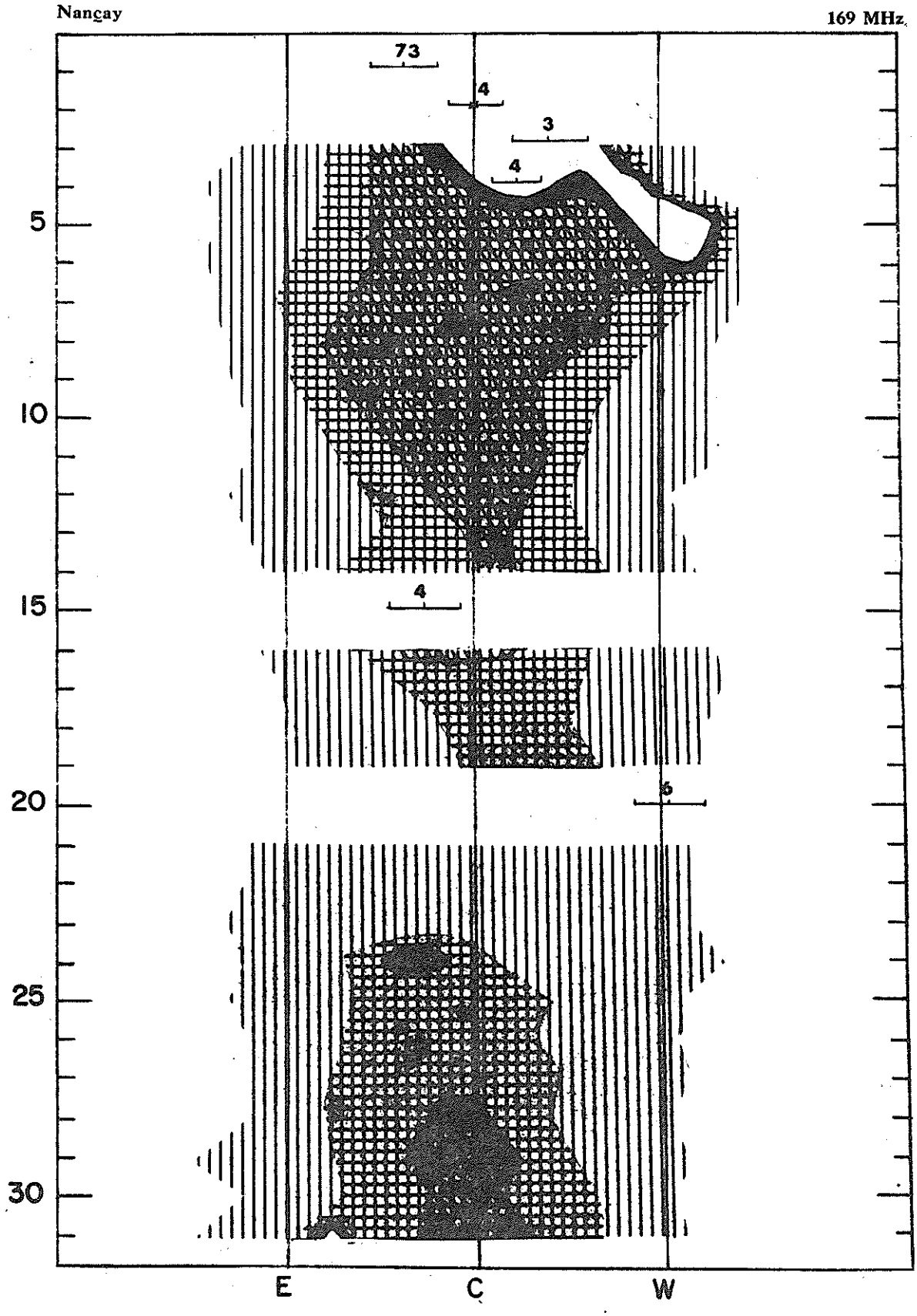
Miscellaneous Data

Contents

52
Misc
May 79

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

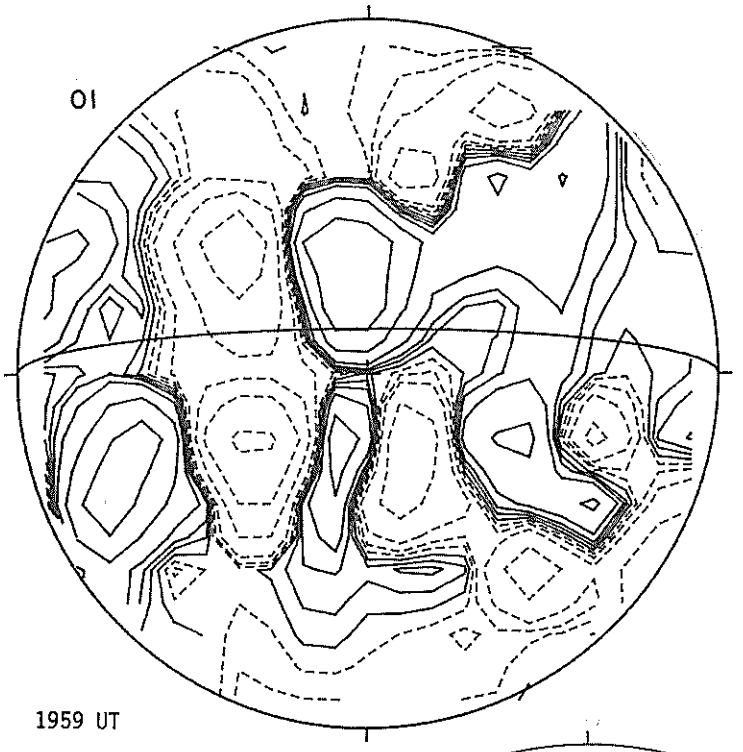
MAY 1979

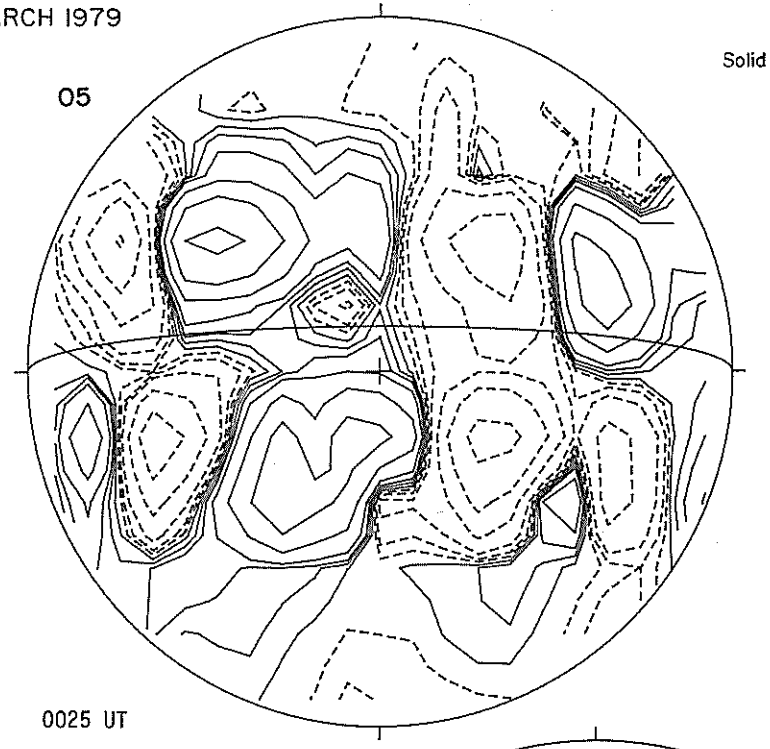


STANFORD

MAGNETOGRAMS

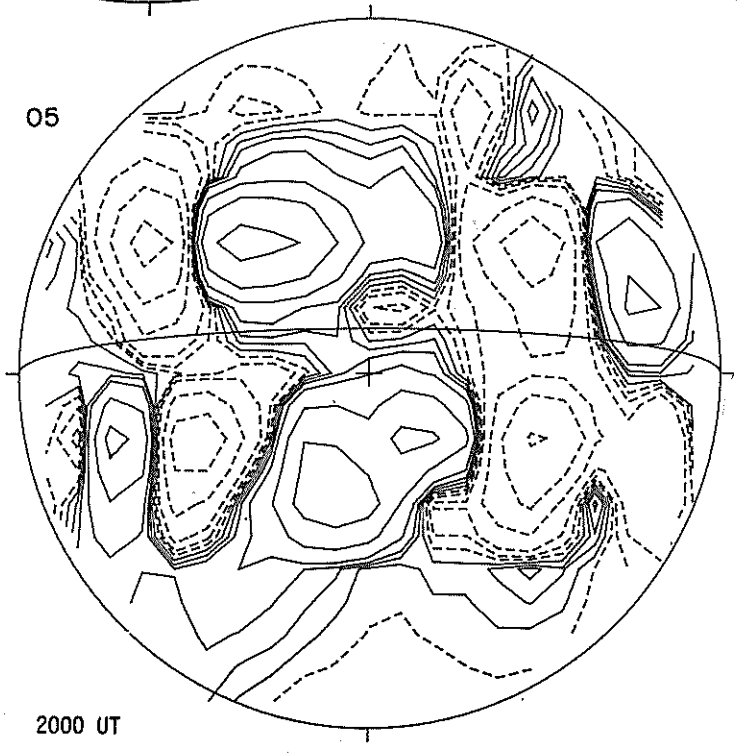
MARCH 1979

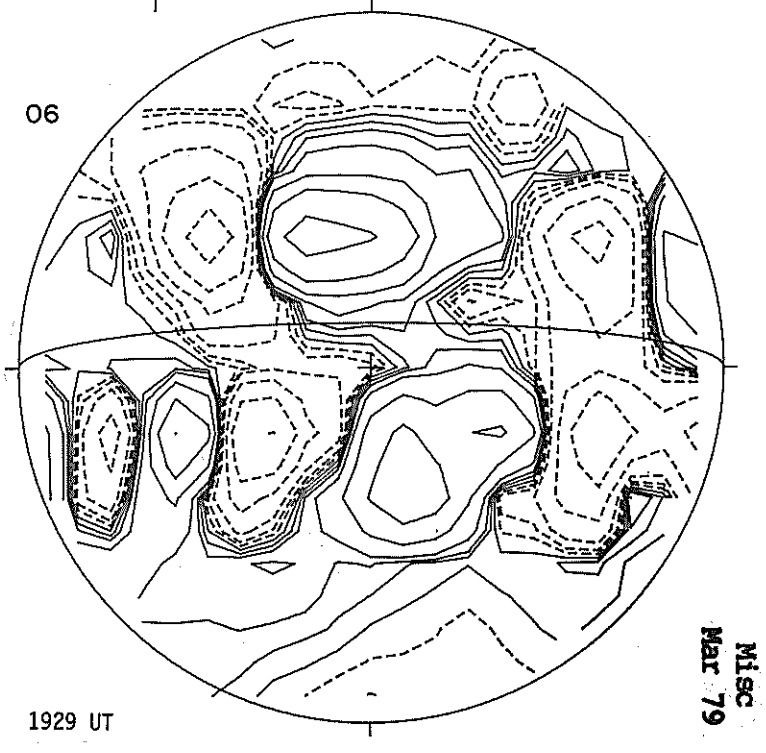




Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200
• • •





53
Misc
Mar 79

STANFORD

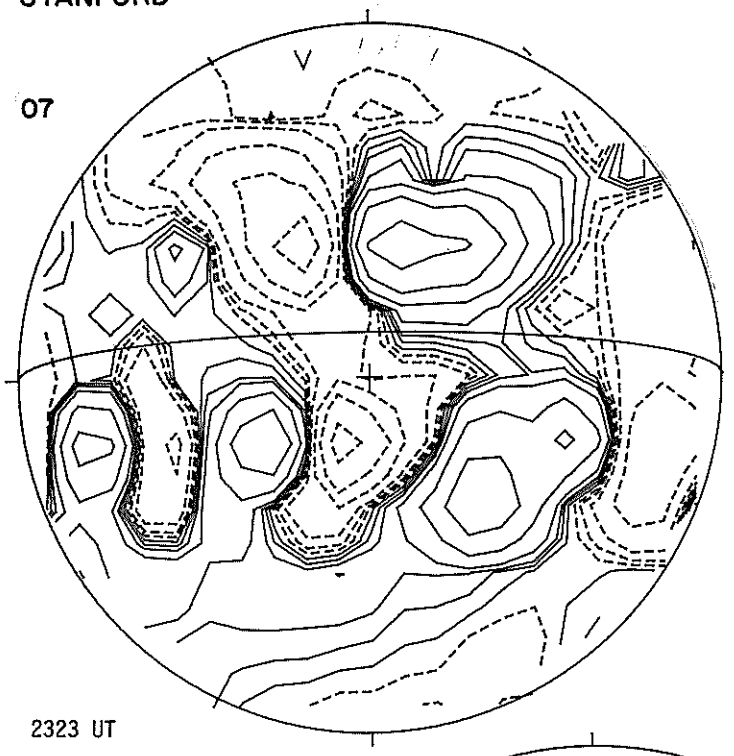
MAGNETOGRAMS
MARCH 1979

54
Misc
Mar 79

Solid - Plus; zero level
Dashed - Minus

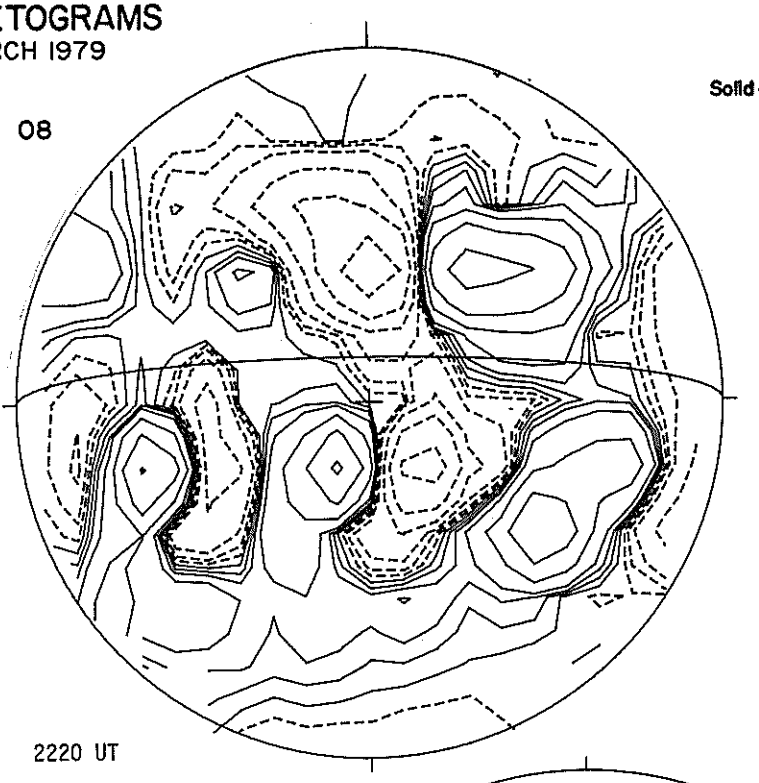
Levels
0 μT
± 50
± 100
± 200
• • •

07



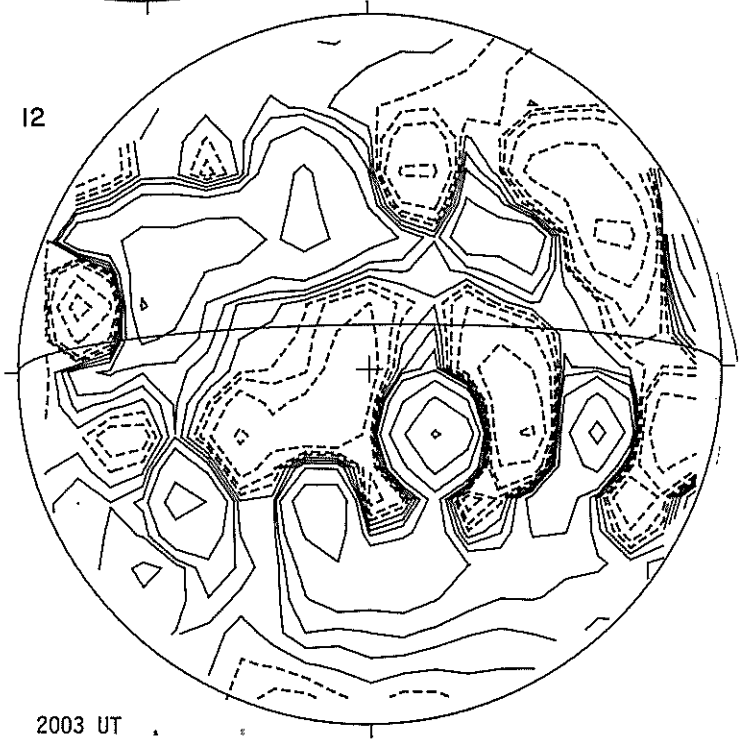
2323 UT

08



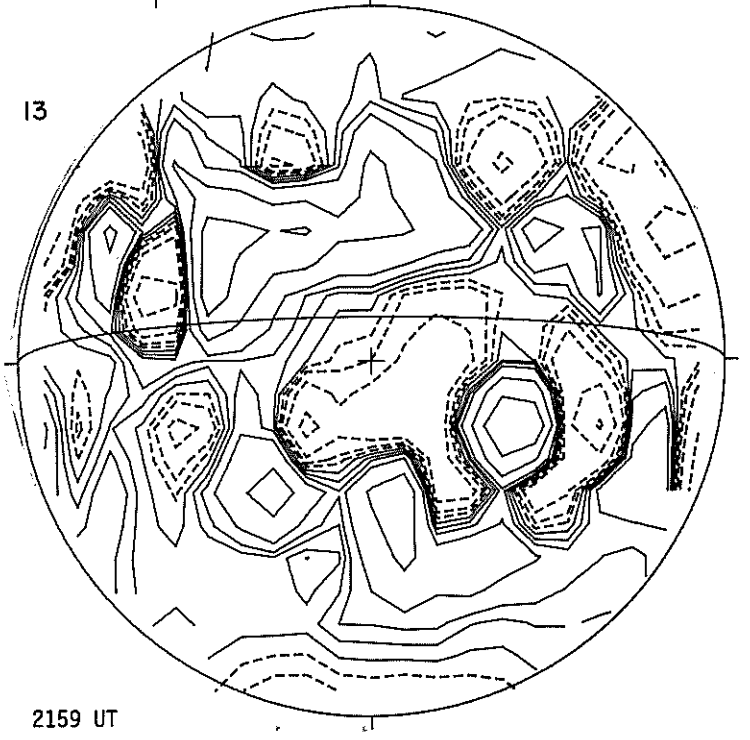
2220 UT

12



2003 UT

13

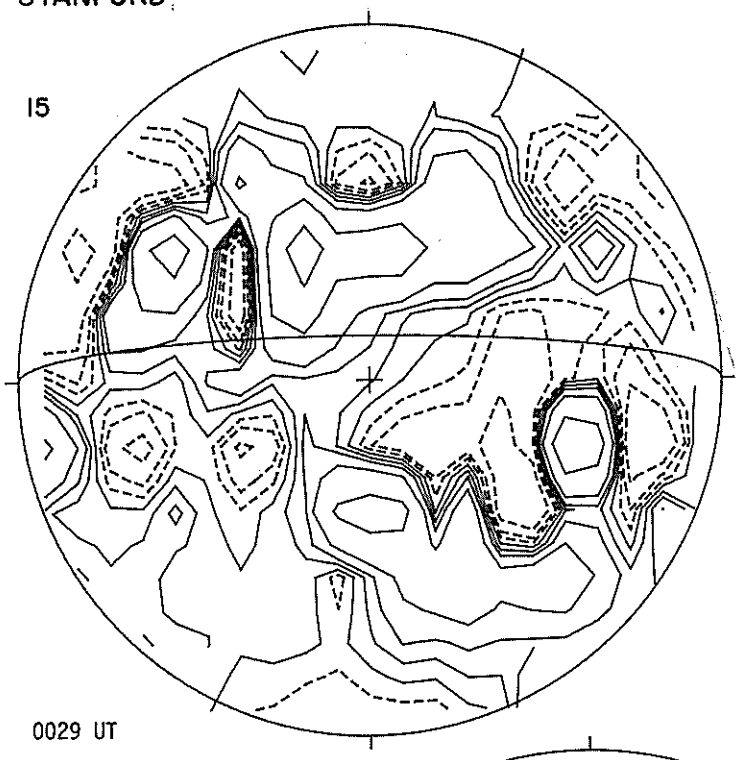


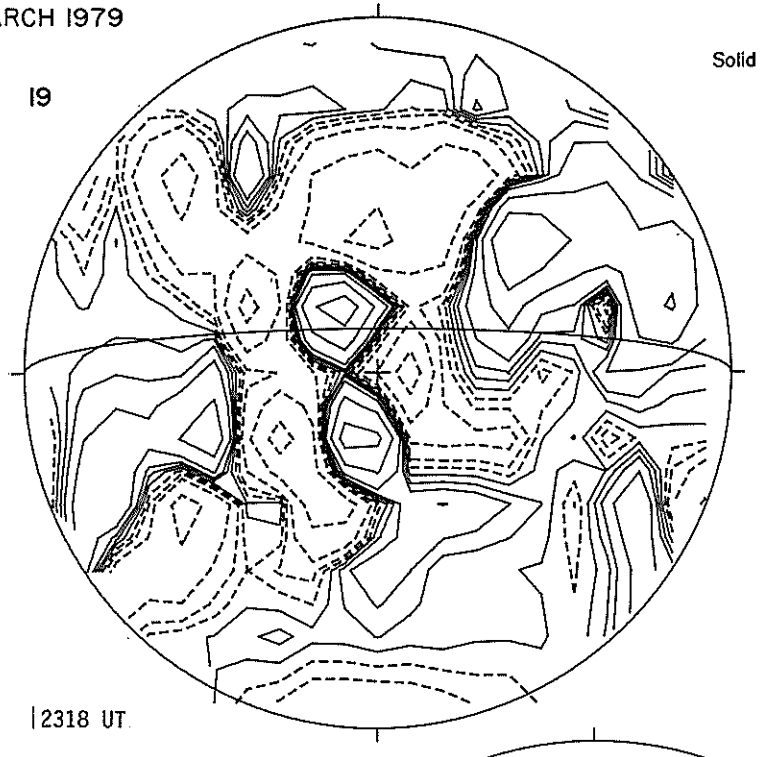
2159 UT

STANFORD

MAGNETOGRAMS

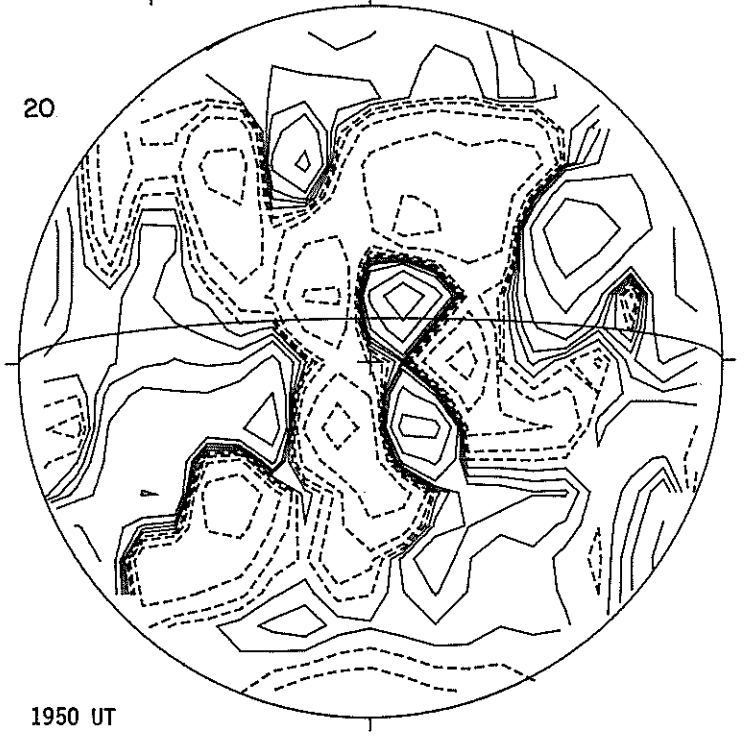
MARCH 1979

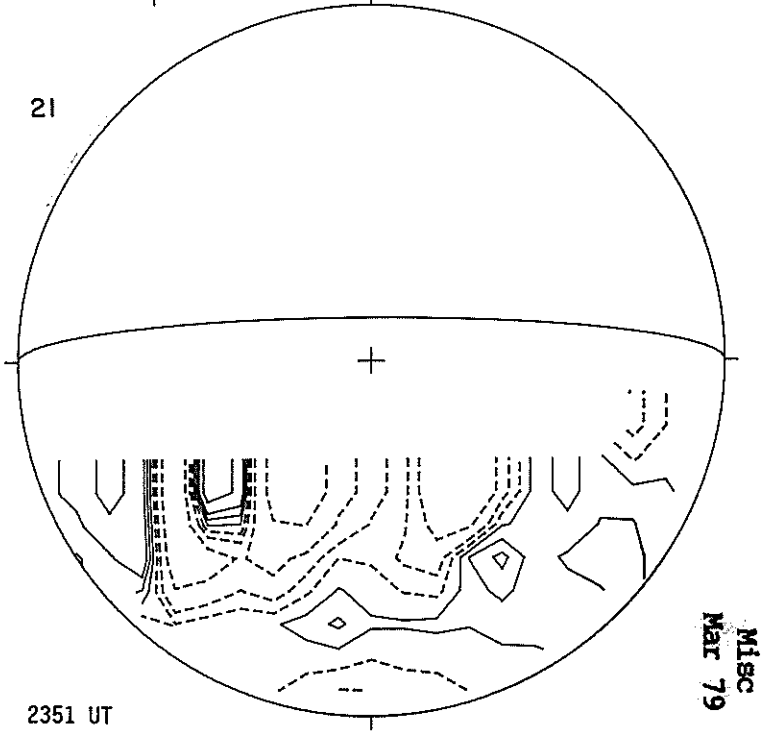




Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200





55
Misc
Mar 79

STANFORD

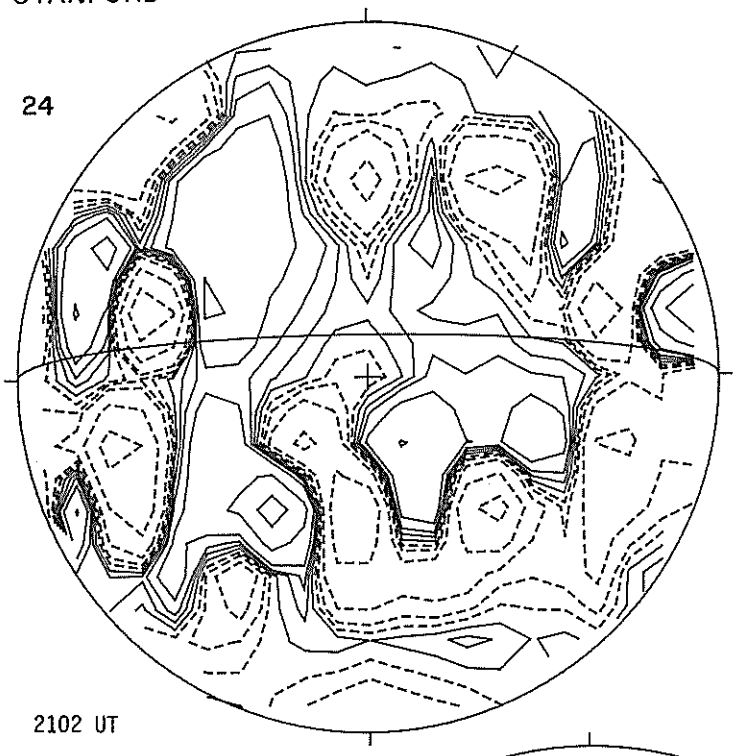
MAGNETOGRAMS
MARCH 1979

56
Misc
Mar 79

Solid - Plus; zero level
Dashed - Minus

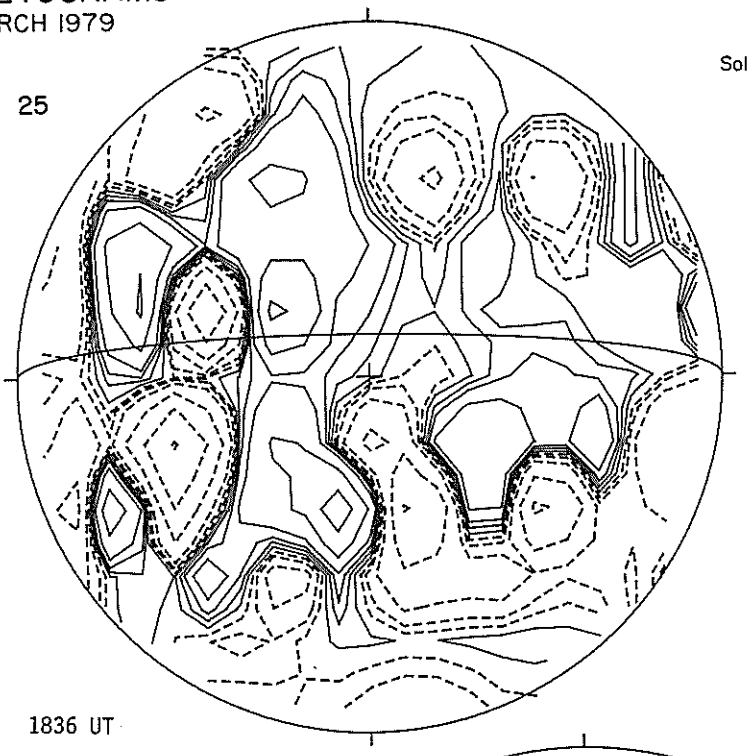
Levels
0 μT
± 50
± 100
± 200

24



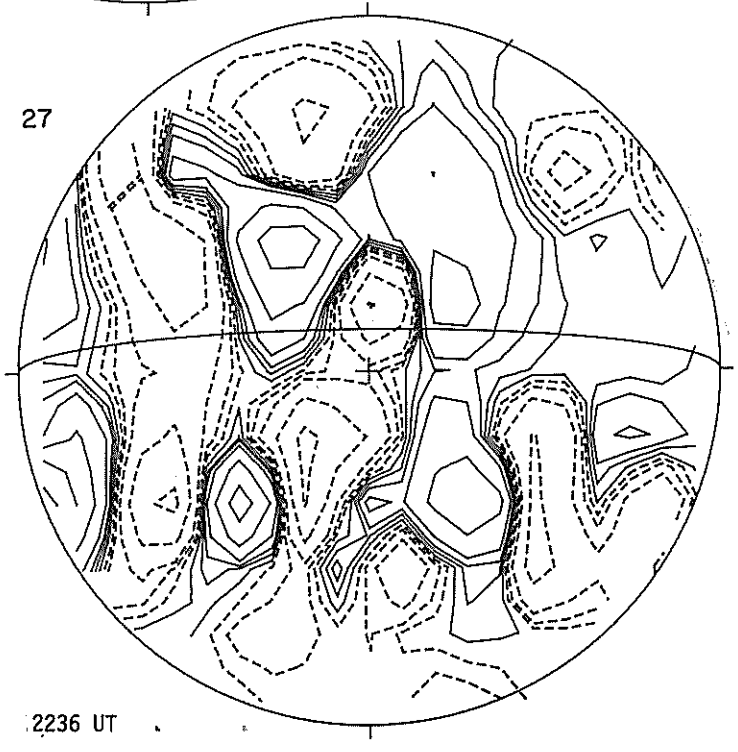
2102 UT

25



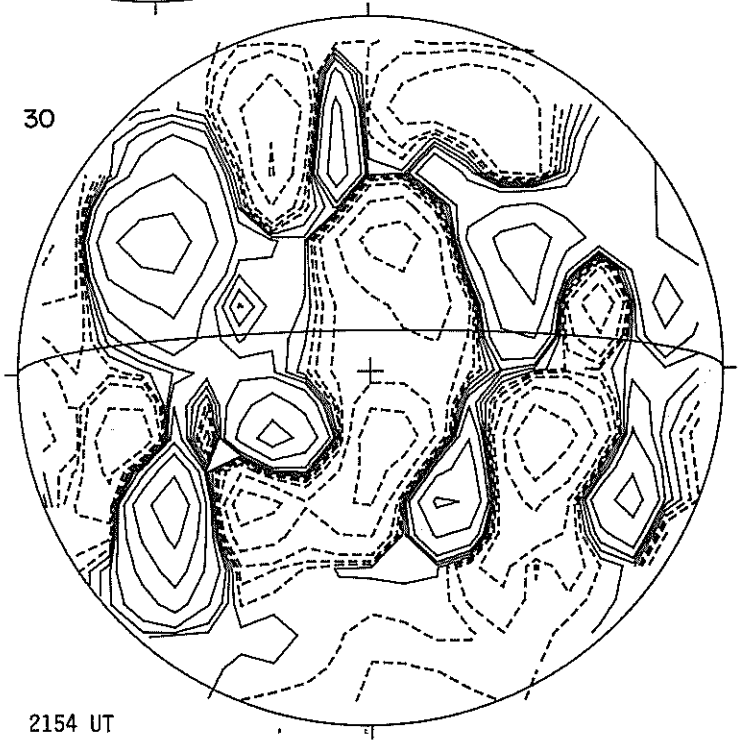
1836 UT

27



2236 UT

30



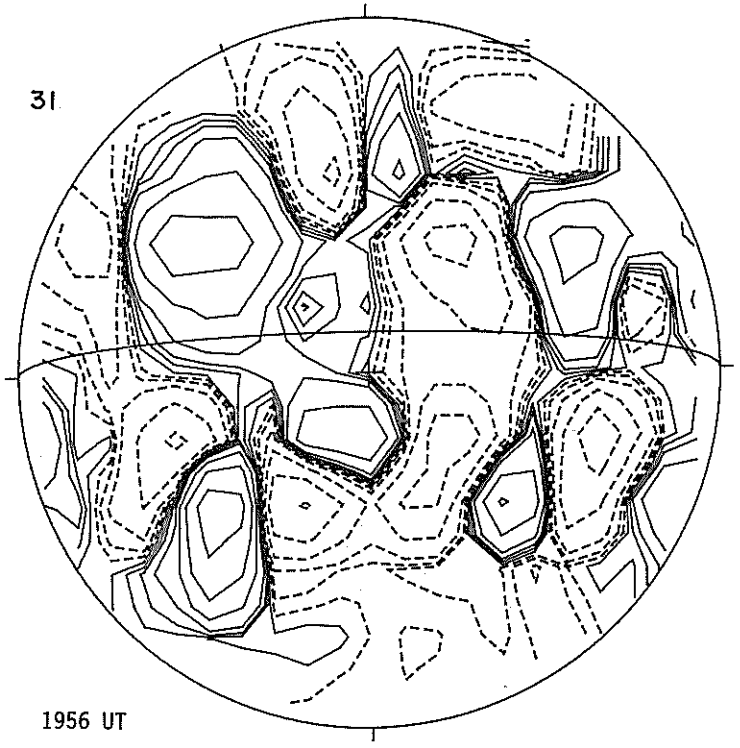
2154 UT

STANFORD

MAGNETOGRAMS

MARCH 1979

31



1956 UT

Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200
•
•
•

COSMIC RAY INDICES
(Neutron Monitors)
APRIL 1979

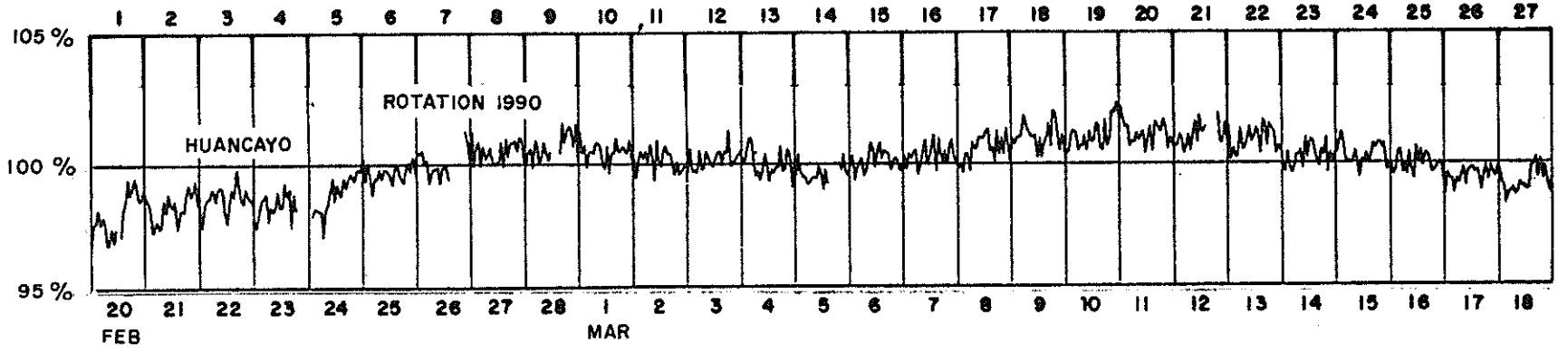
April 1979	HUANCAYO Average cts/hr
1	1722.7
2	1722.6 (36)
3	1718.4
4	1715.7
5	1687.1
6	1685.5
7	1687.6
8	1702.5
9	1702.5 (38)
10	1705.3
11	1714.5
12	1712.1
13	1708.7
14	1714.8 (34)
15	1715.0
16	1719.1 (38)
17	1721.2
18	1720.5
19	1722.3
20	1726.8
21	1726.9
22	1715.9
23	1709.7
24	1711.3
25	1697.1
26	1687.5
27	1698.4
28	1707.3
29	1712.5
30	1724.8
MEAN	1710.5

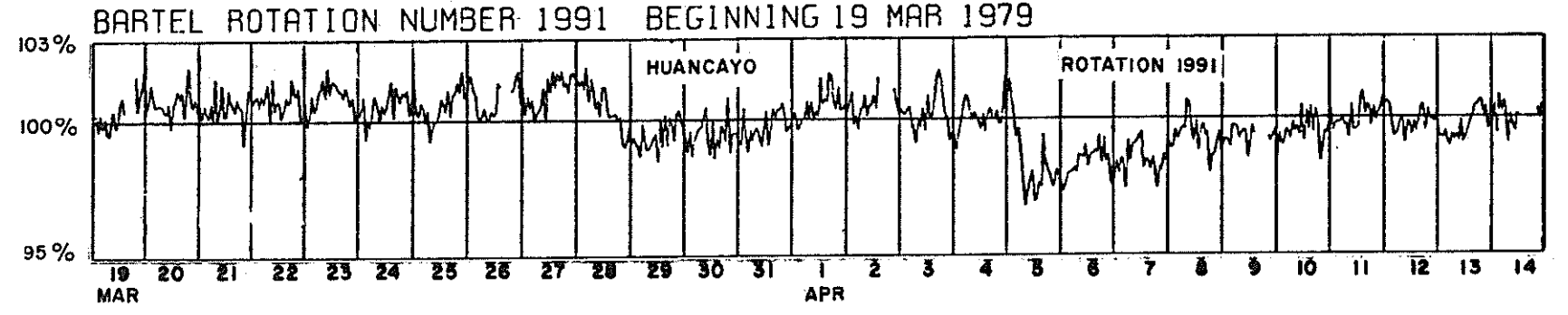
( ) is the number of section hours at Huancayo if sum of both sections is less than 40 hours.

Scaling Factor at Huancayo is 100.

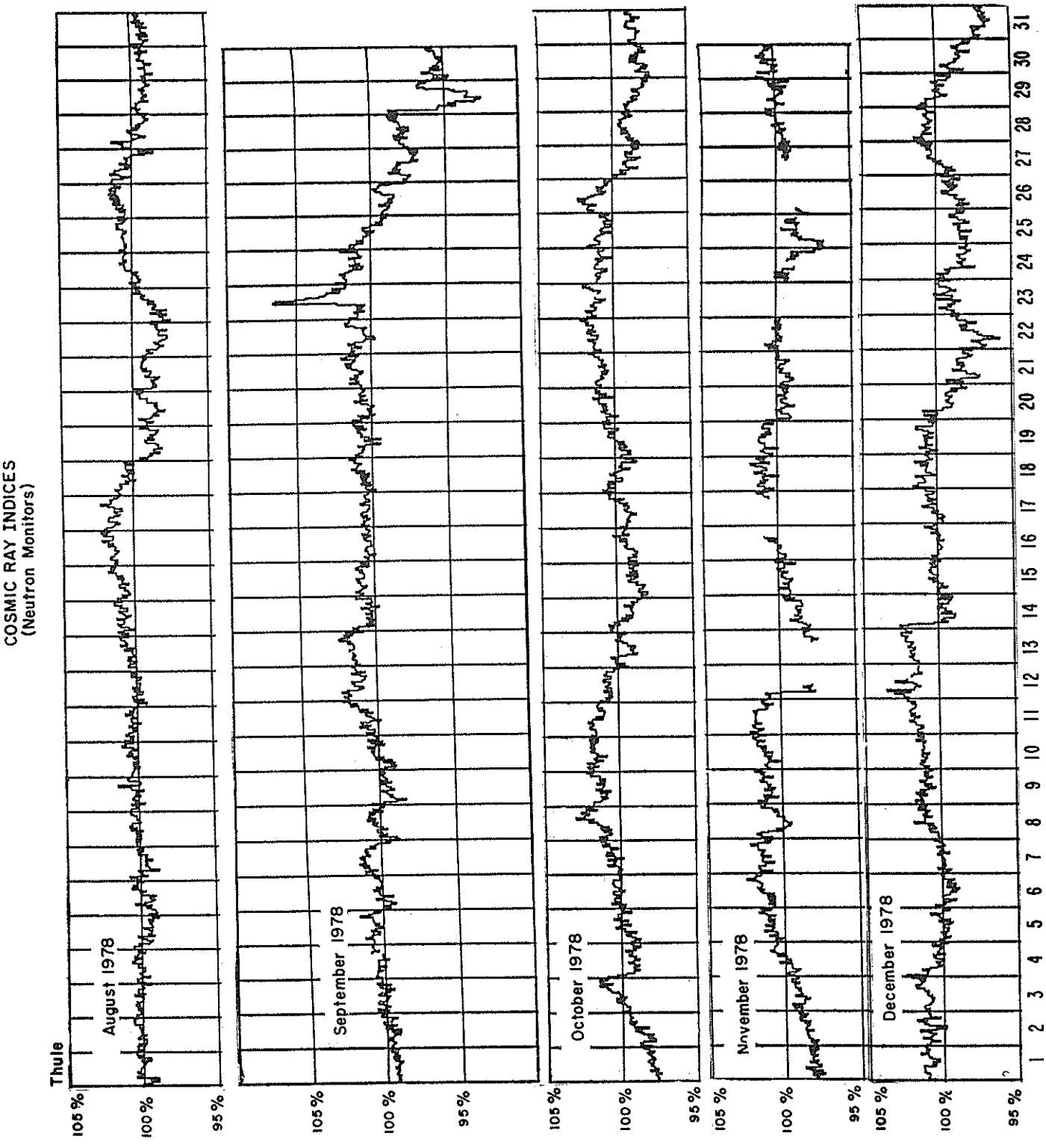
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotations 1990-1991 (February - April 1979)

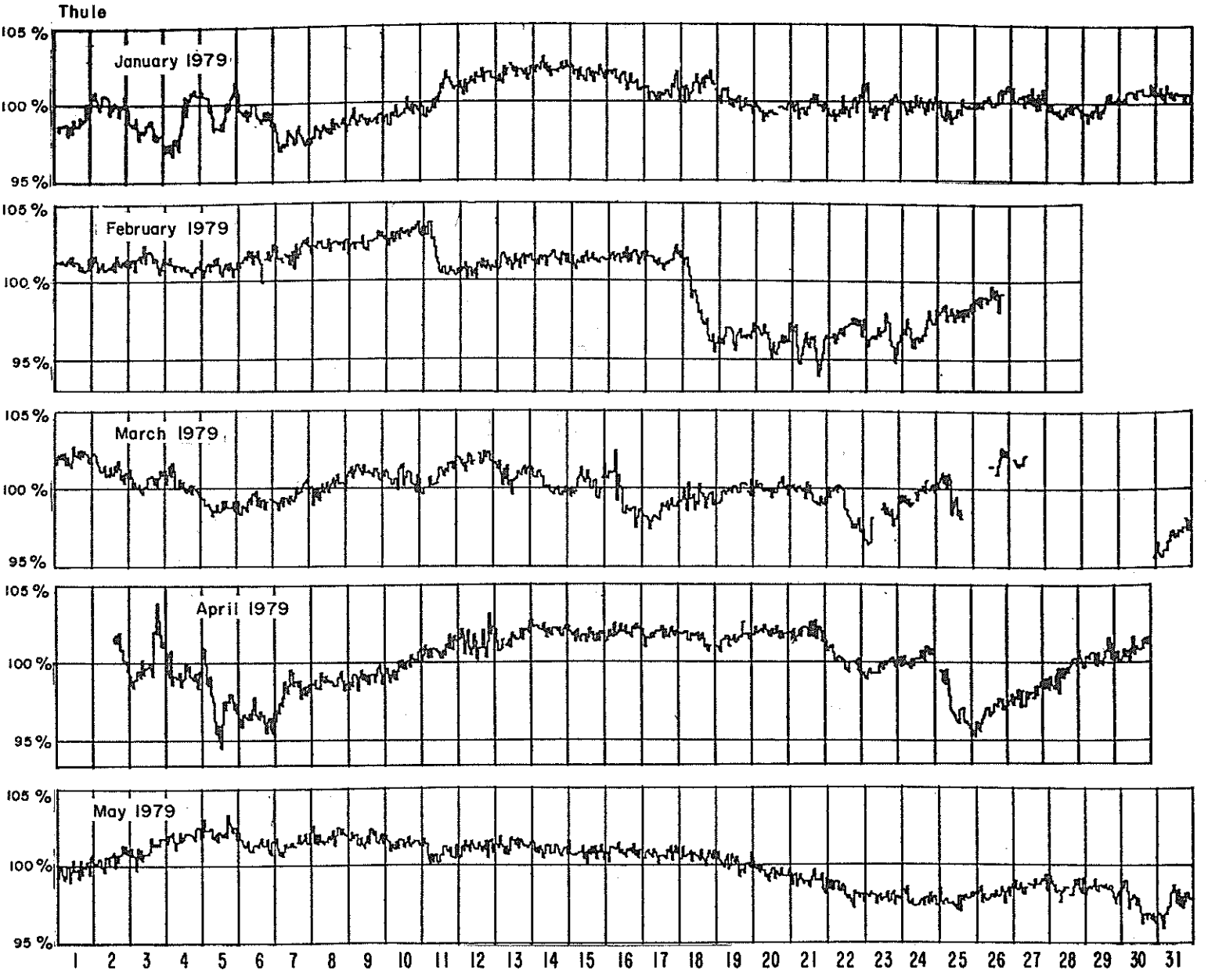




60
Misc
Aug-Dec 78



COSMIC RAY INDICES
(Neutron Monitors)



COSMIC RAY INDICES
(Thule Neutron Monitor)

	1978					1979			
Day	August	September	October	November	December	January	February	March	April
	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr	Average cts/hr
1	4511.5	4505.9	4239.6	4290.3	4402.4	4341.7	4391.3	4395.7	0.0
2	4521.8	4522.5	4277.5	4312.5	4395.9	4400.5	4390.1	4361.5	4218.5
3	4519.3	4540.5	4345.4	4335.3	4409.4	4328.8	4402.1	4328.0	4188.7
4	4518.0	4555.0	4298.4	4376.8	4384.3	4342.3	4381.4	4320.9	4147.8
5	4493.6	4565.7	4314.1	4414.5	4352.5	4382.8	4380.4	4257.3	4075.4
6	4498.6	4536.6	4336.1	4432.8	4340.9	4370.8	4404.7	4265.5	4028.2
7	4502.2	4570.1	4350.0	4435.1	4354.8	4296.2	4420.2	4285.1	4101.5
8	4523.9	4539.6	4395.4	4395.0	4392.8	4319.4	4441.4	4310.0	4126.2
9	4525.0	4513.9	4383.1	4421.3	4402.4	4347.7	4450.9	4350.5	4139.0
10	4529.2	4534.6	4396.3	4424.3	4406.3	4366.6	4473.1	4338.1	4170.8
11	4528.4	4575.2	4388.8	4439.2	4428.2	4414.7	4404.4	4337.6	4214.7
12	4509.5	4600.6	4353.4	4343.2	4437.5	4458.4	4375.0	4387.4	4238.2
13	4532.2	4607.7	4308.3	4288.5	4438.3	4477.5	4397.5	4348.8	4246.7
14	4549.3	4558.1	4301.7	4316.5	4353.3	4489.9	4402.8	4319.3	4268.9
15	4554.5	4574.1	4268.3	4353.1	4362.3	4476.3	4398.3	4317.4	4251.7
16	4577.6	4553.2	4292.1	4373.5	4357.4	4459.3	4410.5	4288.6	4261.0
17	4572.5	4556.9	4303.5	4411.0	4365.0	4425.3	4402.7	4240.7	4255.2
18	4534.9	4567.0	4318.8	4415.1	4390.0	4443.4	4259.1	4279.7	4245.4
19	4455.0	4562.6	4321.3	4406.5	4381.5	4397.6	4190.4	4300.8	4240.9
20	4460.7	4556.6	4359.5	4354.1	4325.5	4371.7	4180.4	4307.0	4260.3
21	4466.1	4585.9	4366.1	4352.5	4273.8	4382.7	4157.0	4291.9	4260.6
22	4435.2	4574.9	4388.4	4370.9	4247.9	4377.8	4208.1	4257.2	4187.1
23	4452.5	4637.4	4384.5	0.0	4320.3	4388.8	4185.3	4212.4	4164.1
24	4517.0	4595.8	4364.5	4325.2	4291.8	4386.9	4205.3	4292.1	4192.1
25	4539.4	4542.1	4356.5	4296.5	4282.0	4371.6	4254.7	4297.3	4060.5
26	4554.6	4488.1	4374.3	4298.8	4302.5	4406.0	4295.6	4393.0	4039.1
27	4529.5	4427.7	4281.1	4346.2	4356.0	4408.3	0.0	4383.7	4090.1
28	4500.6	4444.0	4285.3	4360.8	4384.4	4375.3	0.0	0.0	4144.3
29	4478.4	4316.0	4257.3	4371.1	4352.2	4382.1		0.0	4196.3
30	4475.0	4328.2	4243.4	4393.9	4289.2	4423.6		4116.0	4213.1
31	4479.5		4264.8		4220.4	4419.3		4168.0	
MEAN	4511.1	4534.5	4326.3	4367.6	4354.8	4394.6	4340.8	4301.7	4180.2

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

APRIL 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)

01	2150:	A:	NUR WIT VIC FUR MMB EBR HUA MPO;
		B:	DUM;
		C:	KAK HAZ KNY KGL (bps: A: WNG? - pil: A: MMB)
03	1001:	A:	MMB KSA;
		B:	NUR WNG WIT VIC KAK HAZ KNY HUA MPO CZT KGL DUM;
		C:	WIT EBR (si: A: SOD)
05	0156:	A:	SOD NUR ESK WNG WIT VIC FUR DOU MMB EBR TOL KSA HAZ HUA MPO CZT KGL DUM;
		B:	NGK HAD KAK KNY (pil: A: MMB - pc2/3/4: A: MMB)
24	2358:	A:	SOD NUR ESK WNG WIT HAD DOU VIC FUR MMB EBR KAK KSA HAZ HUA MPO CZT KGL;
		B:	NGK KNY DUM (bp: B: TOL - pil: A: MMB)

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

03 0118 - 0138 HAZ

03 0415 - 0440 MMB KAK HAZ KNY

16 0511 - 0523 HAZ

27 0642 - 0725 KNY

27 1630 - 1708 WNG

Very unusual events

none

64
Misc
Dec 78

Hα SOLAR FLARES

DECEMBER 1978

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
284 YUNN	01	0200	0205	0210	N13	W80	.985	15673	25.1	10	-N		C				Y5
285 CULG	01	0210	0215	0221	N08	W17	.315	15681	29.8	11	-F		C	0215	30	.3	Y5
286 RAMY	01	1214E	1214	1259	S17	E31	.580	15687	3.8	45D	-N	2	C		19		Y5
	01	1228	1237	NO FLARE PATROL													
GRP70287	01	1436	1448 1458	1508	S17	E33	.604	15687	4.1	32	1N						E
HTPR	01	1436	1448	1508	S17	E36	.639	15687	4.3	32	1N		C	1448	180	2.2	E
RAMY	01	1450E	1458U	1507	S17	E30	.567	15687	3.9	17D	-B	3	C		80		
	01	1551	1558	NO FLARE PATROL													
	01	0000	0009	NO FLARE PATROL													
GRP70288	01	1955+0	1955+1	2011	S16	E32	.585	15687	4.2	16	-B				90	1.1	
RAMY	01	1955	1955	2017	S17	E34	.616	15687	4.4	22	-B	3	C		133		FDE
HOLL	01	1955	1956	2005	S16	E31	.573	15687	4.2	10	-B	3	C		58		
GRP70289	01	2205	2233+2	2257	S16	E26	.511	15687	3.9	52	-N						
PALE	01	2205	2233	2256	S17	E27	.531	15687	3.9	51	-B	3	C		118		DE F
CULG	01	2229E	2235	2257	S15	E26	.504	15687	3.9	28D	-F		P	2235	20	.2	
GRP70290	01	2342+2	2345+1	0006	S17	E25	.507	15687	3.9	24	-N						
CULG	01	2342	2345	0006	S17	E23	.483	15687	3.7	24	-N		C	2345	60	.7	
VORO	01	2343	2345	0002	S16	E25	.499	15687	3.9	19	-N		C	2349	99	1.1	E
PALE	01	2344	2346	0013D	S17	E27	.531	15687	4.0	29D	-B	3	C		31		DE F
GRP70291	02	0244>9	0253 0300	0311	S17	E24	.494	15687	3.9	27	-F						F
CULG	02	0244	0253	0307	S17	E23	.482	15687	3.8	23	-F		C	0253	70	.8	F
YUNN	02	0255	0300	0315	S18	E25	.514	15687	4.0	20	-N		C				
GRP70292	02	0338>9	0407 0441+3	0500	S17	E27	.530	15687	4.2	82	1N				240	2.8	F
CULG	02	0338	0441	0516	S18	E28	.550	15687	4.3	98	-N		C	0441	150	1.8	
YUNN	02	0358	0444	0500	S18	E24	.503	15687	4.0	62	1N		C		292	173.0	
MANI	02	0405E	0407U	0422D	S17	E30	.566	15687	4.4	17D	-N	3	V		50	.6	
PEKG	02	0435E	0441	0500	S16	E29	.547	15687	4.4	25D	1B		P		294	178.0	
MANI	02	0438E	0438U	0455	S15	E24	.477	15687	4.0	17D	-N	3	V		100	1.2	F
GRP70293	02	0547+2	0549 0555+7	0626	S16	E24	.485	15687	4.0	39	1N				280	3.2	FU
YUNN	02	0547	0555	0625	S18	E23	.491	15687	4.0	38	1N		C		283	162.0	
PEKG	02	0548	0557	0626	S15	E26	.503	15687	4.2	38	2N		P		505	293.0	U
CULG	02	0549	0602	0637	S17	E24	.494	15687	4.0	48	1N		C	0602	210	2.4	F
MANI	02	0549	0549U	0615D	S15	E25	.490	15687	4.1	26D	-N	3	V		120	1.4	F
GRP70294	02	0733+2	0739+2	0808	S16	E27	.522	15687	4.3	35	-N						
CULG	02	0733	0741	0812D	S16	E27	.522	15687	4.3	39D	-N		C	0741	40	.5	
TEHR	02	0735	0739	0743D	S18	E29	.561	15687	4.5	8D	-B	1	C		127		FDE
KANZ	02	0740E		0803	S16	E26	.510	15687	4.3	23D	-N	1					
295 KANZ	02	0917	0920	0942	S17	E26	.518	15687	4.3	25	-N	1					Y5
296 RAMY	02	1403	1404	1414	S26	W46	.786	15692	29.1	11	-N	2	C		34		Y5
	02	1442	1504	NO FLARE PATROL													
297 RAMY	02	1520	1525	1527	S20	E31	.599	15687	5.0	7	-N	2	C		69		Y5
298 RAMY	02	1523	1524	1534	S26	W47	.795	15692	29.1	11	-N	2	C		16		Y5
	02	1609	1626	NO FLARE PATROL													
299 RAMY	02	1713	1714	1720	S26	W48	.803	15692	29.1	7	-N	2	C		34		Y5
300 RAMY	02	1843	1844	1853	S17	E22	.470	15687	4.4	10	-N	3	C		42		F Y5
301 RAMY	02	1911	1917	1924	S17	E22	.470	15687	4.4	13	-B	3	C		36		Y5
	02	2221	2255	NO FLARE PATROL													
	02	0142	0148	NO FLARE PATROL													

Hα SOLAR FLARES

DECEMBER 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP70302	02	2315+1	2317+1	2330	S16	W61	.887	15678	28.4	15	-N				35	.7	DJ	
CULG	02	2315	2318	2337	S16	W60	.879	15678	28.5	22	-N		C	2318	40	.9		
VORO	02	2316	2317	2322	S17	W63	.903	15678	28.2	6	-N		C	2317	27		DJ	
303 KANZ	03	0747	0751	0754	S25	W56	.865	15692	29.1	7	-F	1						Y5
304 KANZ	03	0917	0921	0928	N18	W25	.501	15682	1.5	11	-N	2						Y5
GRP70305	03	1048+3	1116 1151	1205	N20	E54	.831	15691	7.5	77	-N						J	
KANZ	03	1048	1116	1158	N19	E52	.810	15691	7.4	70	-N	2					EF	
LVOV	03	1051	1151	1211	N22	E57	.861	15691	7.7	80	1F		C	1151	200	3.9	J	
306 KANZ	03	1134	1134	1142	S23	E67	.935	15694	8.5	8	-B	2					D	Y5
	03	1501	1514	NO FLARE PATROL														
307 RAMY	03	1542	1546	1550	S18	E04	.327	15687	4.0	8	-N	3	C		29			Y5
308 HUAN	03	1628	1631	1634	S18	E03	.324	15687	3.9	6	-F	1	C	1631	40	.4	E	Y5
GRP70309	03	1839+0	1839+1	1845	S23	E65	.923	15694	8.7	6	-N				20			
PALE	03	1839E	1839U	1845	S23	E64	.917	15694	8.6	60	-N	3	C		15			
HOLL	03	1839	1839	1844	S23	E66	.929	15694	8.7	5	-N	3	C		19			
RAMY	03	1839	1840	1846	S23	E65	.923	15694	8.7	7	-B	3	C		19			
310 RAMY	03	1938	1939	1952	N17	E44	.723	15691	7.1	14	-N	3	C		35		F	Y5
GRP70311	03	2032	2033	2044	S23	E65	.923	15694	8.7	12	-B				50			
PALE	03	2032	2033U	2042	S22	E65	.922	15694	8.7	10	-B	3	C		40		DE	
HOLL	03	2036E	2036U	2044	S23	E65	.923	15694	8.7	8D	-B	1	C		37			
RAMY	03	2037E	2037U	2045D	S25	E64	.920	15694	8.7	8D	-B	3	C		69			
	03	2307	0132	NO FLARE PATROL														
312 PEKG	04	0202	0204	0206	S16	E05	.297	15687	4.5	4	-F		P		126	66.0	E	Y5
313 PEKG	04	0545	0549	0600	S23	E62	.904	15694	8.9	15	1N		P		147	166.0	E	Y5
314 KANZ	04	0935	0935	0939	S22	E47	.778	15694	7.9	4	-F	1						Y5
315 KANZ	04	1054	1054	1105	S23	E57	.867	15694	8.7	11	-B	1						Y5
316 KANZ	04	1105	1105	1112	S15	W06	.286	15687	4.0	7	-F	1						Y5
317 KANZ	04	1229	1229	1237	S23	E58	.875	15694	8.9	8	-F	2						Y5
GRP70318	04	1320+0	1320+4	1327	S23	E58	.875	15694	8.9	7	-B				20	.4	D	
RAMY	04	1320	1324	1325D	S23	E53	.835	15694	8.5	5D	-B	3	V		19			
HUAN	04	1320	1322	1326	S23	E59	.882	15694	9.0	6	-N	2	C	1322	20	.4	D	
KANZ	04	1320	1320	1327	S23	E58	.875	15694	8.9	7	-B	2						
319 HUAN	04	1415	1418	1425	S16	W06	.302	15687	4.1	10	-F	1	C	1418	20	.2	D	Y5
GRP70320	04	1453+4	1509	1550	S18	W08	.344	15687	4.0	57	-N						EU	
RAMY	04	1453E	1509	1550	S18	W08	.344	15687	4.0	57D	1B	3	C		465		U F	
HUAN	04	1457		1520D	S17	W06	.317	15687	4.2	23D	-N	2	P	1512	120	1.3	E	
MCMA	04	1529E		1532D	S18	W08	.344	15687	4.0	3D	-N		P	1529	150	1.6	E	
321 RAMY	04	1522	1523	1531	S20	E05	.360	15687	5.0	9	-B	3	C		63		F	Y5
GRP70322	04	1550	1552	1605	S24	E54	.846	15694	8.7	15	-B				60	1.1	H	
RAMY	04	1550	1552	1605	S23	E50	.809	15694	8.4	15	-B	3	C		84		F	
MCMA	04	1558E		1604D	S25	E58	.879	15694	9.0	6D	-N		P	1558	35	.8	DH	
323 RAMY	04	1716	1729	1738	S18	W10	.358	15687	4.0	22	-N	3	C		27			Y5
324 HUAN	04	1718		1727	S23	E57	.867	15694	9.0	9	-F	1	C					Y5
325 HUAN	04	1753		1814	S23	E57	.867	15694	9.0	21	-F	1	C					Y5
326 RAMY	04	1819	1819	1829	S30	W23	.610	15684	3.0	10	-N	3	C		29			Y5
GRP70327	04	1844	1846	1857	S24	E51	.821	15694	8.6	13	-B						EH	
RAMY	04	1844	1846	1857	S23	E47	.781	15694	8.3	13	-B	3	C		91		H	
MCMA	04	1852E		1855D	S25	E56	.864	15694	9.0	3D	1B		P	1853	100	2.1	EH	

Hα SOLAR FLARES

DECEMBER 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	04	2127	2145	NO FLARE PATROL													
	04	0207	0225	NO FLARE PATROL													
	04	0254	0310	NO FLARE PATROL													
	04	0316	0328	NO FLARE PATROL													
	04	0523	0600	NO FLARE PATROL													
	04	0818	0826	NO FLARE PATROL													
328 CULG	04	2257	2307	2316	N14	W80	.985	15679	29.0	19	-F		C	2307	40		Y5
GRP70329	05	0011+3	0018+1 0037	0055	S25	E46	.779	15694	8.5	44	-B				110	1.7	H
CULG	05	0011	0019	0102	S26	E51	.827	15694	8.8	51	1N		C	0019	120	2.0	
VORO	05	0014	0018	0033	S24	E41	.727	15694	8.1	19	-B		C	0018	108	1.8	DH
VORO	05	0034	0037	0047	S24	E41	.727	15694	8.1	13	-B		C	0037	90	1.5	DH
330 VORO	05	0114	0116	0125	S20	W03	.352	15687	4.8	11	-N		C	0116	27	.3	D Y5
331 CULG	05	0349	0355	0406	S26	E50	.818	15694	8.9	17	-F		C	0355	40	.7	Y5
GRP70332	05	0715>9	0746+3 0758	0822	S18	W17	.420	15687	4.0	67	-N						U
YUNN	05	0715	0749	0820	S18	W16	.410	15687	4.1	65	-N		C		173	91.0	
CULG	05	0733	0758U	0800D	S17	W20	.443	15687	3.8	27D	-N		P	0758	110	1.2	U
MANI	05	0742E	0746U	0810D	S18	W16	.410	15687	4.1	28D	-N	3	P		60	.6	F
ABST	05	0815E	0815	0823	S18	W19	.442	15687	3.9	8D	-F		P	0815	131	1.5	BE
333 CULG	05	0733E	0734U	0800D	S30	E45	.793		8.7	27D	-F		P	0734	60	.9	F Y5
334 CULG	05	0754	0755U	0800D	S27	W34	.678	15684	2.8	6D	-F		P	0755	40	.5	Y5
335 RAMY	05	1228	1236	1245	S18	W20	.453	15687	4.0	17	-B	3	C		24		F Y5
336 RAMY	05	1426	1427	1433	S18	W21	.464	15687	4.0	7	-N	3	C		42		F Y5
337 RAMY	05	1426	1428	1430	S23	E38	.691	15694	8.5	4	-N	3	C		23		Y5
338 RAMY	05	1637	1637	1641	S30	W35	.708	15684	3.1	4	-N	3	C		17		Y5
	05	1835	1838	NO FLARE PATROL													
GRP70339	05	1839	1847+0	1903D	S18	W23	.487	15687	4.1	24	-B				150	1.7	U
HOLL	05	1839	1847	2003	S18	W23	.487	15687	4.1	84	1B	2	C		207		U
RAMY	05	1843E	1847	1903	S18	W24	.499	15687	4.0	20D	-B	3	C		104		DE
340 RAMY	05	1940	1942	2013	S30	W36	.717	15684	3.1	33	-N	3	C		30		F Y5
	05	2103	2125	NO FLARE PATROL													
GRP70341	05	2244>9	2320+2	2334	S18	W25	.511	15687	4.1	50	-B				120	1.4	EJ
CULG	05	2244	2322	2334	S16	W25	.494	15687	4.1	50	-N		C	2322	140	1.6	
HOLL	05	2315	2320	0000	S18	W25	.511	15687	4.1	45	-B	1	C		103		
VORO	05	2318E		2329	S18	W26	.523	15687	4.0	11D	-B		C	2318	116	1.3	EJ
342 CULG	05	2327	2334	0000	N17	E14	.368	15691	7.0	33	-N		C	2334	130	1.4	Y5
GRP70343	06	0006+0	0008+1	0017	S30	W39	.742	15684	3.1	11	-N				130	1.9	EJ
CULG	06	0006	0009	0023	S30	W40	.750	15684	3.0	17	-F		C	0009	100	1.5	
VORO	06	0006	0008	0010	S30	W39	.742	15684	3.1	4	1B		C	0008	161	2.3	EJ
344 VORO	06	0124	0126	0131	S16	W24	.481	15687	4.3	7	-N		C	0126	45	.5	EJ Y5
345 CULG	06	0359	0407	0422	S20	W18	.452	15687	4.8	23	-F		C	0407	30	.3	F Y5
346 CULG	06	0419	0421	0450	S24	E73	.964	15696	11.7	31	-F		C	0421	50		Y5
GRP70347	06	0428	0433	0454	S25	E31	.632	15694	8.5	26	-F						F
CULG	06	0428	0433	0454	S25	E32	.642	15694	8.6	26	-F		C	0433	70	.9	F
PURP	06	0435E		0435D	S25	E31	.632	15694	8.5		1F		C				
348 YUNN	06	0505	0525	0620	S18	W28	.545	15687	4.1	75	-N		C				Y5
349 KANZ	06	0920	0935	1008	S15	W36	.626	15687	3.7	48	-F	1					Y5
GRP70350	06	0931+5	0935+2	0940	S31	W45	.797	15684	3.0	9	-F						
KANZ	06	0931	0935	0939	S31	W45	.797	15684	3.0	8	-F	1					
HTPR	06	0936	0937	0941	S32	W46	.810	15684	3.0	5	-F		C	0937	30	.4	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP70351	06	1040+1	1047+1	1059	S17	W32	.587	15687	4.0	19	-F						E	
KANZ	06	1040	1047	1056	S17	W30	.563	15687	4.2	16	-F	1						
HTPR	06	1041	1048	1101	S18	W34	.617	15687	3.9	20	-F		C	1048	30	.4	E	
GRP70352	06	1139>9	1142 1219	1225	S10	E90	1.000	15697	13.2	46	-F							
KANZ	06	1139	1142	1228	S11	E90	1.000	15697	13.2	49	-F	1						
HTPR	06	1217	1219	1222	S10	E90	1.000	15697	13.3	5	-F		C	1219	20			
353 RAMY	06	1347	1348	1354	S30	W46	.801	15684	3.1	7	-N	3	C		64			Y5
354 HTPR	06	1430	1448	1505	S20	E54	.835	15696	10.7	35	-F		C	1448	20	.3		Y5
355 RAMY	06	1545	1546	1555	S30	W47	.809	15684	3.1	10	-N	3	C		36			Y5
	06	1559	1605	NO FLARE PATROL														
	06	1823	1835	NO FLARE PATROL														
GRP70356	06	1846+8	1854+3	1911	S17	W37	.647	15687	4.0	25	-N				70	.9		
MCMA	06	1846E	1857	1900D	S17	W38	.659	15687	3.9	14D	-N	*	C	1857	70	1.0	E	
RAMY	06	1854	1854	1911	S18	W37	.652	15687	4.0	17	-B	*	C		74		F	
357 MCMA	06	1847	1850	1900D	S24	E24	.554	15694	8.6	13D	-B		C	1850	50	.6	E	Y5
	06	1912	1920	NO FLARE PATROL														
	06	0633	0640	NO FLARE PATROL														
358 MCMA	06	1935		1948D	N21	E85	.997	15700	13.2	13D	-N		P	1938			E	Y5
GRP70359	06	1938+4	1943	2002	S17	W37	.647	15687	4.0	24	-B				150	2.0	HU	
MCMA	06	1938E		1948D	S17	W38	.659	15687	4.0	10D	-N		P	1940	100	1.4	EH	
RAMY	06	1942	1943	2002	S18	W37	.652	15687	4.0	20	1B	2	C		213		U F	
360 RAMY	06	1949	1950	1955	S30	W49	.825	15684	3.2	6	-N	2	C		44			Y5
GRP70361	06	2000E	2017 2030	2135	N20	E78	.980	15700	12.7	95	?B							
CULG	06	2000E	2017	2135	N20	E80	.986	15700	12.8	95D	?B		C	2017	200			
	IMP.2 IMP.S																	
PALE	06	2024E	2030U	2135D	N21	E76	.974	15700	12.6	71D	-N	3	C		41		DE	
GRP70362	06	2002+0	2006+2	2021	S27	W51	.829	15684	3.0	19	-F				35	.6		
CULG	06	2002	2006	2017	S25	W53	.839	15684	2.9	15	-F		C	2006	40	.7		
RAMY	06	2002	2008	2025	S30	W49	.825	15684	3.2	23	-N	2	C		27			
GRP70363	06	2100+2	2107+5	2134	S15	E79	.983	15697	12.8	34	-B							
PALE	06	2100	2112	2136D	S16	E79	.983	15697	12.8	36D	-N	3	C		56		DE	
CULG	06	2102	2107	2132	S15	E80	.986	15697	12.9	30	1B		C	2107	140			
364 CULG	06	2103	2114	2120	N14	W68	.931	15682	1.8	17	-F		C	2114	60	1.5		Y5
GRP70365	06	2325	2342+2	0001	S14	E77	.976	15697	12.8	36	1N						J	
CULG	06	2325	2344	0030	S15	E77	.976	15697	12.8	65	1F		C	2344	80			
VORO	06	2335E		2350D	S14	E78	.980	15697	12.8	15D	1F		C	2338	233		EJ	
PALE	06	2340	2342	2358	S14	E77	.976	15697	12.8	18	-B	3	C		28		FDE	
MANI	06	2355E	2355U	0001D	S14	E78	.980	15697	12.8	6D	-F	2	V		20	.5	F	
366 CULG	07	0144	0147	0156	S16	E80	.986	15697	13.1	12	-F		C	0147	40			Y5
367 CULG	07	0218	0228	0240	N23	E03	.391	15691	7.3	22	-F		C	0228	40	.4		Y5
368 CULG	07	0246	0255	0316	S19	W05	.338	15689	6.7	30	-F		C	0255	20	.2		Y5
369 CULG	07	0346	0353	0409	N18	W01	.307	15691	7.1	23	-N		C	0353	40	.4		Y5
GRP70370	07	0420+9	0456 0503	0540	S18	W42	.708	15687	4.0	80	-F							
YUNN	07	0420	0503	0532	S18	W42	.708	15687	4.0	72	-N		C					
CULG	07	0429	0511	0547	S15	W48	.764	15687	3.6	78	-F		C	0511	60	.9		
PURP	07	0450E	0456	0500D	S20	W37	.662	15687	4.4	10D	-F		C					
371 CULG	07	0515	0516	0522	N14	W73	.959	15682	1.7	7	-N		C	0516	30			Y5
372 CULG	07	0556	0601	0611	S22	W05	.385	15689	6.9	15	-N		C	0601	110	1.2		Y5
373 CULG	07	0618	0633	0659	N14	W77	.976	15682	1.5	41	-F		C	0633	30			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX HER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP70374	07	0703+8	0723+6	0740	S16	E76	.973	15697	13.0	37	-N							
YUNN	07	0703	0729	0744	S16	E74	.964	15697	12.8	41	-N		C					
CULG	07	0711	0723	0736	S16	E78	.980	15697	13.1	25	1F		C	0723	100			
375 YUNN	07	0807	0821	0829	S16	E74	.964	15697	12.9	22	-N		C					Y5
GRP70376	07	0820+3	0832 0855	0909	N21	E67	.931	15700	12.4	49	-F						D	
HTPR	07	0820	0832	0845	N21	E70	.947	15700	12.6	25	-F		C	0832	30	.7		
KANZ	07	0823		0932	N21	E67	.931	15700	12.4	69	-N	1						
ABST	07	0853E	0855	0909D	N21	E67	.931	15700	12.4	16D	-F		P	0855	70		D	
377 KANZ	07	0908	0920	0932	S30	W55	.869	15684	3.3	24	-F	2						Y5
GRP70378	07	0956+2	1000	1023	S16	W47	.756	15687	3.9	27	1B						E	
KANZ	07	0956	1000	1023	S15	W47	.753	15687	3.9	27	1B	2						
HTPR	07	0958		1000D	S17	W48	.769	15687	3.8	2D	1B		C	1000	180	2.7	E	
379 KHAR	07	1132E		1210D	N18	E68	.934	15700	12.6	38D	?N		P	1138	110		BHQ	Y5
	IMP.1 NO : KANZ																	
380 KHAR	07	1148	1152	1205	N23	W03	.391	15691	7.3	17	-F		P	1155	100		D	Y5
381 LVOV	07	1227	1230	1237	S16	W50	.787	15687	3.8	10	-F		C	1230	100	1.8	D	Y5
382 KANZ	07	1307	1311	1319	S30	W57	.882	15684	3.3	12	-F	1						Y5
	07	1349	1428	NO FLARE PATROL														
	07	1558	1604	NO FLARE PATROL														
	07	1611	1647	NO FLARE PATROL														
383 HUAN	07	1717		1724	S15	E66	.920	15697	12.7	7	-F	1	C					Y5
	07	1822	1835	NO FLARE PATROL														
	07	1909	1912	NO FLARE PATROL														
	07	1918	1923	NO FLARE PATROL														
	07	1928	1950	NO FLARE PATROL														
384 CULG	07	1950E	2002U	2055	S14	E74	.964	15697	13.4	65D	1N		P	2002	180		B	Y5
385 CULG	07	2033	2035	2042	N24	W07	.420	15691	7.3	9	-B		C	2035	160	1.8	V	Y5
386 CULG	07	2055	2107	2113D	N18	W11	.356	15691	7.0	18D	-N		C	2107	40	.4		Y5
	07	2113	2214	NO FLARE PATROL														
387 CULG	07	2224	2231	2251	S27	W68	.943	15684	2.8	27	1N		C	2231	90			Y5
388 CULG	07	2317	2321	2338	S22	E04	.382	15694	8.3	21	-N		C	2321	10	.1		Y5
GRP70389	07	2341	2346 2357	0035	S15	W57	.851	15687	3.7	54	2B				320	6.1		
VORO	08	0024E		0035	S15	W58	.859	15687	3.7	110	-N		C	0024	45	.8	D	
CULG	07	2341	2346	0041	S13	W58	.857	15687	3.6	60	2B		C	2346	390	7.4		
MITK	07	2345E		0032	S16	W56	.844	15687	3.8	47D	1B		C	2345	250	4.3		
PALE	07	2354E	2357	0013D	S16	W52	.807	15687	4.1	19D	-B	2	C		26		FDE	
390 YUNN	08	0022	0052	0120	S23	E02	.392	15694	8.2	58	-N		C					Y5
GRP70391	08	0048+2	0050+2	0104	S16	E67	.927	15697	13.1	16	1N				90		DJ	
VORO	08	0048	0050	0059	S15	E67	.926	15697	13.1	11	1N		C	0050	81		DJ	
MITK	08	0050	0052	0108	S17	E68	.934	15697	13.1	18	1B		C	0052	110			
392 YUNN	08	0110		0208	S18	W53	.820	15687	4.1	58	-N		C					Y5
393 YUNN	08	0243	0250	0310	S30	W66	.936	15684	3.2	27	-F		C					Y5
GRP70394	08	0332>9	0401+2	0410	S28	W71	.958	15684	2.8	38	1N				130			
YUNN	08	0332	0403	0410	S30	W67	.941	15684	3.1	38	-N		C		110	97.0		
CULG	08	0357	0401	0410	S26	W75	.973	15684	2.5	13	1N		C	0401	150			
395 VORO	08	0348	0349	0353	S16	W61	.885	15687	3.6	5	-N		C	0349	45	.9	OH	Y5
396 YUNN	08	0407	0410	0430	N21	E56	.853	15700	12.4	23	-N		C					Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP70397	08	0438+9	0450+3	0508	S16	W58	.861	15687	3.8	30	-N							
CULG	08	0438	0450	0510	S14	W62	.890	15687	3.5	32	-N		C	0450	40	.9		
YUNN	08	0447	0453	0505	S19	W55	.840	15687	4.1	18	-N		C					
398 YUNN	08	0538	0542	0600	N21	E55	.845	15700	12.4	22	-N		C					Y5
GRP70399	08	0612+1	0614+1	0622	S16	W59	.869	15687	3.8	10	-N							
CULG	08	0612	0614	0626	S13	W63	.897	15687	3.5	14	-N		C	0614	50	1.1		
YUNN	08	0613	0615	0618	S19	W55	.840	15687	4.1	5	-N		C					
400 PEKG	08	0625	0627	0630	S30	W68	.946	15684	3.2	5	-N		P		942	42.0	D	Y5
401 CULG	08	0641	0644	0653	S27	W74	.969	15684	2.7	12	-F		C	0644	20			Y5
402 YUNN	08	0725	0745	0750	N21	E54	.836	15700	12.4	25	-N		C					Y5
403 YUNN	08	0840	0852	0913	N21	E53	.827	15700	12.3	33	-N		C					Y5
404 YUNN	08	0932	0940	0953D	S17	E59	.870	15697	12.8	21D	-N		C					Y5
	08	1306	1311	NO FLARE PATROL														
	08	1340	1342	NO FLARE PATROL														
405 HUAN	08	1351		1438D	S22	W04	.380	15694	8.3	47D	-F	1	P	1355	75	.8	E	Y5
	08	1400	1409	NO FLARE PATROL														
	08	1438	1510	NO FLARE PATROL														
	08	1746	1755	NO FLARE PATROL														
406 PALE	08	1809	1826	1841	S23	W07	.407	15694	8.2	32	-N	3	C		30		DE	Y5
GRP70407	08	1902+1	1905+0	1910	S30	W77	.981	15684	3.0	8	-N				20			
PALE	08	1902	1905	1910	S30	W77	.981	15684	3.0	8	-B	3	C		22		DE	
HOLL	08	1903	1905	1909	S30	W77	.981	15684	3.0	6	-N	3	C		19		F	
	08	1924	1931	NO FLARE PATROL														
	08	0920	0940	NO FLARE PATROL														
408 HOLL	08	1952	1954	2000	S30	W77	.981	15684	3.1	8	-B	3	C		40			Y5
409 HOLL	08	2006	2007	2011	S15	E54	.823	15697	12.9	5	-N	3	C		18		F	Y5
GRP70410	08	2043	2043 2103	2106D	S22	W07	.391	15694	8.3	23	-B							
HOLL	08	2043	2043	2106	S22	W07	.391	15694	8.3	23	-B	3	C		30		F	
HUAN	08	2046E		2056D	S22	W07	.391	15694	8.3	10D	-N	1	P	2049	85	.9	E	
CULG	08	2050E	2103	2136	S21	W08	.381	15694	8.3	46D	-F		P	2103	60	.7		
GRP70411	09	0021+3	0025+0	0031	S17	W70	.945	15687	3.8	10	-N				50			
CULG	09	0021	0025	0035	S17	W70	.945	15687	3.8	14	-N		C	0025	70			
PALE	09	0024	0025	0027	S18	W70	.945	15687	3.8	3	-N	3	C		42			
GRP70412	09	0030	0035+1	0049	S17	W12	.352	15694	8.1	19	-N							
YUNN	09	0030	0035	0055	S17	W12	.352	15694	8.1	25	-N		C					
PALE	09	0031E	0036	0043	S17	W12	.352	15694	8.1	12D	-N	3	C		26			
413 CULG	09	0059	0137U	0140D	N33	W80	.989	0	3.0	41D	?N		P	0137	120		S	Y5
	IMP.1 NO : PALE MANI																	
GRP70414	09	0108+2	0112+1	0117	N24	E43	.745	15700	12.3	9	-N				110	1.7	U	
CULG	09	0108	0113	0130	N23	E43	.740	15700	12.3	22	-N		C	0113	120	1.8	T	
PURP	09	0110	0112	0115	N24	E52	.827	15700	12.9	5	-F		C					
PALE	09	0112E	0113	0117	N24	E42	.735	15700	12.2	5D	-B	3	C		100		U	
415 YUNN	09	0127	0130	0155	S29	W75	.974	15684	3.4	28	-N		C					Y5
416 CULG	09	0450	0453	0502	N23	E40	.710	15700	12.2	12	-F		C	0453	60	.8	T	Y5
417 CULG	09	0533	0534	0550	N19	E41	.701	15700	12.3	17	-F		C	0534	50	.7	T	Y5
418 YUNN	09	0647	0705	0743	N21	E42	.721	15700	12.4	56	?N		C		188	144.0		Y5
	IMP.1 NO : CULG																	
GRP70419	09	0738+5	0741+4	0755	S17	W17	.403	15694	8.0	17	1N				220	2.4	D	
CULG	09	0738	0741	0803	S17	W18	.414	15694	8.0	25	-B		C	0741	150	1.7		
PEKG	09	0740	0741	0750	S17	W17	.403	15694	8.0	10	1N		P		294	160.0	D	
YUNN	09	0743	0745	0755	S17	W15	.382	15694	8.2	12	-N		C					

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
420 YUNN	09	0805	0807	0930	N21	E41	.710	15700	12.4	85	?N		C		251	186.0		Y5
	IMP.1 NO : HTPR																	
421 KANZ	09	0935	0939	0941	S29	W80	.988	15684	3.4	6	-B	1					D	Y5
422 KANZ	09	0958	1001	1004	S29	W80	.988	15684	3.4	6	-B	1					D	Y5
423 HTPR	09	1040	1042	1048	S17	E47	.758	15697	13.0	8	-F		C	1042	10	.2		Y5
424 HTPR	09	1043	1053	1115	N24	E33	.644	15700	11.9	32	-F		C	1053	50	.6	E	Y5
GRP70425	09	1056+2	1101+2	1127	S14	E43	.704	15697	12.7	31	-N				140	2.0	E	
KANZ	09	1056	1103	1125	S13	E43	.701	15697	12.7	29	1N	2						
HTPR	09	1058	1101	1128	S14	E39	.656	15697	12.4	30	-B		C	1101	140	1.8	E	
MONT	09	1104E	1104	1119D	S14	E44	.716	15697	12.8	15D	-N		C	1104	150			
426 HUAN	09	1518		1528	N23	E41	.720	15700	12.7	10	-F	1	C	1522	30	.4		Y5
427 HUAN	09	1545	1549	1553	S25	W14	.475	15694	8.6	8	-F	1	C	1549	20	.2	D	Y5
	09	1643	1656	NO FLARE PATROL														
	09	0816	0858	NO FLARE PATROL														
	09	0920	0926	NO FLARE PATROL														
428 RAMY	09	1834	1835	1918	N21	E36	.656	15700	12.5	44	-F	3	C		24		F	Y5
GRP70429	09	1933>9	1937	2020	N21	E36	.656	15700	12.5	47	-F							
RAMY	09	1933	1937	2026	N21	E36	.656	15700	12.5	53	-N	3	C		26		F	
HUAN	09	2007		2014	N21	E37	.667	15700	12.6	7	-F	2	C	2010	60	.8	E	
430 RAMY	09	1934	1935	1947	S19	W21	.469	15694	8.2	13	-F	3	C		23			Y5
431 RAMY	09	2000	2006	2023	S19	W21	.469	15694	8.3	23	-F	3	C		43		F	Y5
GRP70432	09	2050+1	2051+2	2103	N21	E35	.645	15700	12.5	13	-N				50	.7	F	
RAMY	09	2050	2051	2112	N21	E35	.645	15700	12.5	22	-B	3	C		46		F	
HOLL	09	2050	2051	2103	N22	E35	.651	15700	12.5	13	-B	2	C		29		F	
HUAN	09	2051	2053	2059	N21	E36	.656	15700	12.6	8	-F	1	C	2053	65	.9	E	
433 HOLL	09	2146	2146	2151	S16	W25	.490	15694	8.0	5	-N	2	C		19		F	Y5
434 CULG	09	2340	2356	0017	S16	E39	.664	15697	12.9	37	-F		C	2356	30	.4		Y5
435 VORO	10	0119	0120	0126	S16	W28	.527	15694	8.0	7	-F		C	0120	54	.6	DHJ	Y5
436 VORO	10	0138	0140	0153	N17	W38	.659	15691	7.2	15	-F		C	0140	45	.6		Y5
GRP70437	10	0204+2	0207+4	0218	S31	W90	1.000	15684	3.3	14	-N						DH	
VORO	10	0204	0211	0218	S32	W90	1.000	15684	3.3	14	-N		C	0211	45		DH	
PALE	10	0206	0207	0208D	S31	W90	1.000	15684	3.3	2D	-N	2	C					
MANI	10	0207E	0207U	0215D	S30	W90	1.000	15684	3.3	8D	-F	3	P					
438 YUNN	10	0205	0214	0218	S19	W77	.977	15687	4.3	13	?N		C					Y5
	IMP.1 NO : MANI VORO																	
GRP70439	10	0210+2	0211+2	0216	S14	E36	.618	15697	12.8	6	-N						D	
VORO	10	0210	0211	0216	S13	E36	.614	15697	12.8	6	-N		C	0211	54	.6	D	
YUNN	10	0212	0213	0215	S16	E37	.639	15697	12.9	3	-N		C					
440 VORO	10	0325	0328	0336	N14	W40	.670	15691	7.1	11	-N		C	0328	18	.2	D	Y5
441 VORO	10	0352	0355	0359D	S14	E42	.692	15697	13.3	7D	-F		P	0355	90	1.2		Y5
GRP70442	10	0444+1	0446+4 0515	0525	S15	E37	.635	15697	13.0	41	1B				190	2.5		
PEKG	10	0444	0446	0510	S16	E37	.639	15697	13.0	26	1B		P		168	109.0		
YUNN	10	0445	0450	0522	S16	E36	.627	15697	12.9	37	2N		C		220	140.0		
PURP	10	0445E	0450	0528	S15	E37	.635	15697	13.0	43D	1B		C					
PEKG	10	0513	0515	0525	S15	E43	.707	15697	13.4	12	-N		P		42	29.0	D	
443 PURP	10	0640E	0641	0643D	S14	E34	.593	15697	12.8	3D	-F		C					Y5
GRP70444	10	0824+1	0824+6	0836	S12	E36	.610	15697	13.0	12	-N							
HTPR	10	0824	0828	0836	S10	E36	.603	15697	13.1	12	-N		C	0828	80	1.0	E	
KANZ	10	0824E	0824	0830	S10	E39	.643	15697	13.3	6D	-B	2						
KANZ	10	0824	0830	0834	S15	E34	.598	15697	12.9	10	-F	2					F	
YUNN	10	0825	0830	0844	S16	E34	.603	15697	12.9	19	1N		C		220	148.0		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.	
445 YUNN	10	0840	0900	0915	S17	W28	.534	15694	8.3	35	-N		C				Y5
446 KANZ	10	1016	1016	1026	S17	W28	.534	15694	8.3	10	-F	1					Y5
GRP70447	10	1044+2	1053+3	1103	N17	W44	.727	15691	7.1	19	-F						
KANZ	10	1044	1056	1103	N18	W43	.720	15691	7.2	19	-N	2					
HTPR	10	1046	1053	1103	N16	W45	.735	15691	7.1	17	-F		C	1053	20	.3	
448 KANZ	10	1048	1056	1101	S17	W29	.546	15694	8.3	13	-F	2					Y5
GRP70449	10	1108+0	1112+3	1130	S14	E29	.527	15697	12.6	22	-F					E	
HTPR	10	1108	1112	1135	S14	E27	.501	15697	12.5	27	-F		C	1112	30	.3	E
KANZ	10	1108	1115	1125	S15	E31	.559	15697	12.8	17	-N	2					
GRP70450	10	1147	1227 1234	1305	S17	W31	.571	15694	8.2	78	-N					F	
KANZ	10	1147	1227	1305	S17	W31	.571	15694	8.2	78	-N	1					
RAMY	10	1233E	1234	1238D	S18	W32	.589	15694	8.1	50	-B	2	C		44	F	
GRP70451	10	1309+4	1313+2	1326	S10	E35	.590	15697	13.2	17	-N					E	
KANZ	10	1309	1313	1329	S09	E37	.614	15697	13.3	20	-B	2					
HTPR	10	1313	1315	1322	S11	E33	.567	15697	13.0	9	-N		C	1315	50	.6	E
452 HUAN	10	1503E		1549D	S18	W34	.613	15694	8.1	460	-N	2	P	1505	50	.6	Y5
GRP70453	10	1503+1	1505	1508	N21	E26	.546	15700	12.6	5	-F						
HTPR	10	1503	1505	1508	N21	E26	.546	15700	12.6	5	-F		C	1505	40	.4	
HUAN	10	1504		1508D	N22	E27	.566	15700	12.7	4D	-F	2	P	1507	110	1.3	
454 HOLL	10	1634	1634	1641	S16	W34	.603	15694	8.1	7	-N	2	C		25	F	Y5
455 MCMA	10	1658	1659	1710	N21	E28	.568	15700	12.8	12	-N		C	1659	80	1.0	E Y5
	10	1746	1756	NO FLARE PATROL													
	10	0522	0531	NO FLARE PATROL													
	10	0626	0652	NO FLARE PATROL													
	10	0743	0800	NO FLARE PATROL													
GRP70456	10	1810+7	1820	1828	S15	E30	.546	15697	13.0	18	-N				130	1.5	HU
MCMA	10	1810E		1823D	S14	E32	.567	15697	13.2	13D	-N		P	1820	125	1.6	EH
HOLL	10	1817	1820	1828	S16	E28	.527	15697	12.9	11	-B	2	C		127		U F
457 HOLL	10	1827	1827	1831	S18	W53	.819	15689	6.8	4	-N	2	C		62	F	Y5
GRP70458	10	1832+2	1836 1919+7	1947	S19	W34	.619	15694	8.2	75	-N					FU	
HOLL	10	1832	1919	1932	S16	W35	.615	15694	8.1	60	-B	2	C		102	U	
RAMY	10	1834	1836	1852	S23	W32	.623	15694	8.4	18	-N	2	C		61		
RAMY	10	1926	1926	1935	S23	W33	.634	15694	8.3	9	-N	2	C		19	F	
HOLL	10	1933	1947	1958	S16	W36	.627	15694	8.1	25	-B	*	C		120	F	
459 HOLL	10	1844	1846	1848	S18	W53	.819	15689	6.8	4	-N	2	C		32	F	Y5
GRP70460	10	1939+1	1940+2	1950	S15	E27	.507	15697	12.8	11	-N				70	.8	F
HOLL	10	1939	1942	1946	S16	E27	.514	15697	12.8	7	-B	3	C		75	F	
RAMY	10	1940	1940	1953	S15	E27	.507	15697	12.8	13	-N	2	C		65	F	
GRP70461	10	1950+8	2001+3 2028	2045	S17	W36	.632	15694	8.1	55	-B				70	.9	Z
RAMY	10	1950	2001	2034	S23	W33	.634	15694	8.4	44	-B	*	C		26		
HOLL	10	1958	2002	2042	S16	W36	.627	15694	8.1	44	-B	*	C		114	Z F	
CULG	10	2000E	2004U	2100	S15	W35	.610	15694	8.2	60D	-N	*	C	2004	70	.9	
PALE	10	2010E		2013D	S18	W36	.637	15694	8.1	3D	-N	*	C		65	DE	
RAMY	10	2028	2028	2045	S18	W41	.695	15694	7.8	17	-N	*	C		107	F	
462 RAMY	10	2001	2001	2031	S15	E27	.507	15697	12.9	30	-N	2	C		68		Y5
463 CULG	10	2105	2113	2121	N22	E15	.448	15700	12.0	16	-F		C	2113	60	.7	Y5
464 CULG	10	2109	2110	2134	N18	W50	.792	15691	7.1	25	-F		C	2110	60	.9	Y5
GRP70465	10	2229+4	2237 2245	2300	S18	E12	.364	15696	11.8	31	-N					F	
CULG	10	2229	2245	2253U	S19	E11	.369	15696	11.8	24D	-N		C	2245	100	1.1	F
HOLL	10	2233	2237	2300	S18	E14	.382	15696	12.0	27	-B	2	C		103	F	
466 CULG	10	2258	2309	2338	S10	E19	.363	15697	12.4	40	-N	*	C	2309	60	.7	Y5

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
467 VORO	10	2327E		2338	S18	E09	.339	15696	11.7	11D	?N		C	2327	367	4.0	BJ	Y5
	IMP.1	NO : CULG		HOLL														
GRP70468	10	2332+0	2357+6 2422	0119	S13	E29	.522	15697	13.2	107	2N						IJ	
PEKG	11	0007E	0022	0050	S11	E30	.525	15697	13.3	43D	2N	*	P		547	320.0	E	
PURP	11	0036	0043	0133	S13	E29	.521	15697	13.2	57	1N	*	C					
VORO	10	2332	2403	0107	S14	E27	.501	15697	13.0	95	2F	*	P	2403	708	8.2	EJ	
CULG	10	2332	2357	0130U	S13	E28	.508	15697	13.1	118D	2N	*	C	2357	620	7.1	FI	
PALE	10	2338E	2339	2342D	S13	E33	.575	15697	13.5	4D	-N	*	C		47		FDE	
469 VORO	10	2337	2338	2339	S16	W40	.675	15694	8.0	2	-N		C	2338	18	.2	D	Y5
GRP70470	11	0035>9	0042 0054	0105	S18	W90	1.000	15687	4.3	30	-N						HJ	
CULG	11	0035	0042	0108	S16	W90	1.000	15687	4.3	33	1N		C	0042	60			
VORO	11	0053	0054	0102	S20	W90	1.000	15687	4.3	9	-N		C	0054	81		HJ	
471 VORO	11	0141	0142	0145	S16	W40	.675	15694	8.1	4	-N		C	0142	18	.2	DJ	Y5
472 VORO	11	0150	0150	0153	S16	W40	.675	15694	8.1	3	-N		C	0150	27	.3	DJ	Y5
473 CULG	11	0216	0218	0222	S20	E21	.476	15697	12.7	6	-N		C	0218	120	1.4		Y5
GRP70474	11	0341+1	0347+5	0404	S17	E23	.471	15697	12.9	23	-F							
CULG	11	0341	0347	0411	S18	E23	.480	15697	12.9	30	-F		C	0347	70	.8		
YUNN	11	0342	0352	0357	S16	E23	.463	15697	12.9	15	-N		C					
475 YUNN	11	0350	0352	0410	S17	W39	.667	15694	8.2	20	-N		C					Y5
GRP70476	11	0406+7	0410+6	0434	S16	E23	.463	15697	12.9	28	-N				170	1.9	E	
CULG	11	0406	0416	0500	S16	E23	.463	15697	12.9	54	-N	*	C	0416	140	1.6		
PEKG	11	0409	0413	0430	S15	E23	.454	15697	12.9	21	1N	*	P		210	118.0	E	
YUNN	11	0409	0410	0437	S16	E23	.463	15697	12.9	28	-N	*	C		157	89.0		
PURP	11	0413	0414	0430	S16	E22	.450	15697	12.8	17	-N	*	C					
GRP70477	11	0420+3	0425+0	0439	N24	E16	.483	15700	12.4	19	1N				210	2.4	E	
YUNN	11	0420	0425	0442	N21	E19	.474	15700	12.6	22	-F		C					
CULG	11	0422	0425	0540	N26	E16	.508	15700	12.4	78	1N		C	0425	220	2.5		
PURP	11	0422	0425	0436	N23	E16	.471	15700	12.4	14	-N		C					
PEKG	11	0423	0425	0435	N25	E13	.474	15700	12.2	12	1N		P		210	120.0	E	
478 YUNN	11	0502	0503	0507	N21	E18	.465	15700	12.6	5	-N		C					Y5
479 YUNN	11	0620	0622	0625	S19	E10	.359	15696	12.0	5	-N		C					Y5
480 YUNN	11	0652	0700	0740	S17	W40	.679	15694	8.3	48	-N		C					Y5
481 YUNN	11	0758	0815	0828	N21	E17	.455	15700	12.6	30	-N		C					Y5
482 MONT	11	0926E	0926	0934	S17	W42	.702	15694	8.2	8D	-N		C	0926	70			Y5
483 MONT	11	1003	1007	1035	S17	W42	.702	15694	8.3	32	-N		C	1007	70		E	Y5
GRP70484	11	1055	1057	1123	S14	E19	.394	15697	12.9	28	-N						E	
MONT	11	1055	1057	1125	S14	E19	.394	15697	12.9	30	-N		C	1057	180		E	
KANZ	11	1102E		1121	S14	E19	.394	15697	12.9	19D	-N	2					E	
485 HTPR	11	1156E		1206D	S10	E22	.405	15697	13.1	10D	-F		C	1159	10	.1		Y5
	11	1206	1214	NO FLARE PATROL														
	11	1240	1255	NO FLARE PATROL														
	11	1311	1338	NO FLARE PATROL														
	11	1355	1451	NO FLARE PATROL														
486 RAMY	11	1532	1533	1537D	S18	W48	.770	15694	8.0	5D	-N	2	C		18			Y5
	11	1537	1556	NO FLARE PATROL														
	11	1603	1702	NO FLARE PATROL														
	11	0616	0626	NO FLARE PATROL														
	11	0825	0835	NO FLARE PATROL														
	11	0850	0900	NO FLARE PATROL														
	11	0920	0926	NO FLARE PATROL														
487 BIGB	11	1710	1713	1720	N26	E09	.466	15700	12.4	10	-N		C	1713	65			Y5
488 BIGB	11	1720	1723	1731	N22	E14	.442	15700	12.8	11	-N		C	1723	50			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP70489	11	1750+0	1814+0	1832	S19	W49	.783	15694	8.1	42	1N				160	2.6	UZ	
RAMY	11	1750	1814	1832	S19	W51	.802	15694	7.9	42	-B	3	C		141		DE	
BIGB	11	1750	1814	1825	S19	W49	.783	15694	8.1	35	-N		C	1814	390			
HOLL	11	1807E	1814	2325	S16	W48	.764	15694	8.2	318D	1N	3	C		162		Z U	
GRP70490	11	1806+6	1810+3	1824	N21	E11	.406	15700	12.6	18	-N				100	1.1	F	
RAMY	11	1806	1810	1823	N21	E11	.406	15700	12.6	17	-B	3	C		95		F	
BIGB	11	1807	1811	1825	N20	E12	.399	15700	12.7	18	-N		C	1811	130			
HOLL	11	1812	1813	1824	N21	E11	.406	15700	12.6	12	-N	3	C		59		F	
GRP70491	11	1833>9	1921+4 1947	2157	S16	W50	.785	15694	8.0	204	2B				700	11.3	UZ	
HOLL	11	1807E	1925	2325	S16	W48	.764	15694	8.2	318D	2B	*	C		888		Z U	
RAMY	11	1833	1947	2100	S19	W52	.812	15694	7.9	147	1B	*	C		305		DE	
BIGB	11	1911	1921	2113	S18	W50	.790	15694	8.0	122	-N	*	C	1921	520			
CULG	11	2000E	2000E	2210	S15	W48	.762	15694	8.2	130D	2N	*	P	2000	390	6.3		
BIGB	11	2122	2134	2143	S16	W53	.814	15694	7.9	21	-N	*	C	2134	25			
GRP70492	11	1923>9	1928 1942+6	2014	S15	E14	.344	15697	12.9	51	1B						UZ	
HOLL	11	1833	1942	2018	S17	E14	.368	15697	12.8	105	2B	3	C		859		Z U	
BIGB	11	1923	1928U	1928D	S15	E15	.356	15697	12.9	5D	-N		C	1928	120			
BIGB	11	1930	1948	2010	S15	E16	.367	15697	13.0	40	1N		C	1948	230			
RAMY	11	1934	1942	1957D	S15	E14	.344	15697	12.9	23D	1B	2	C		317		DE	
493 BIGB	11	2001	2005	2012	N19	E09	.363	15700	12.5	11	-N		C	2005	35			Y5
	IMP.1 NO : HOLL CULG																	
494 BIGB	11	2210	2224	2255	S18	W53	.819	15694	7.9	45	?N	*	C	2224	195			Y5
495 HOLL	11	2221	2222	2253	N21	E08	.387	15697	12.5	32	-N	3	C		26		F	Y5
496 HOLL	11	2221	2222	2226	S17	E12	.349	15700	12.8	5	-B	3	C		24			Y5
GRP70497	11	2257+1	2307+4	2338	S20	E02	.338	15696	12.1	41	-N				60	.6		
BIGB	11	2257	2311	2346	S21	E03	.356	15696	12.2	49	-N		C	2311	65			
CULG	11	2258	2307	2330	S20	E01	.336	15696	12.0	32	-N		C	2307	60	.7		
498 MITK	12	0008	0016	0028	S19	W53	.820	15694	8.0	20	?F		C	0016	120	2.1	ET	Y5
	IMP.1 NO : CULG																	
499 MITK	12	0040	0042	0049	S19	W53	.820	15694	8.1	9	1N		C	0042	130	2.2	T	Y5
500 PEKG	12	0125E	0128	0133	S17	E23	.470	15697	13.8	8D	-N		P		126	72.0	E	Y5
GRP70501	12	0129+1	0135+2 0143	0200	S18	W52	.809	15694	8.2	31	1B				260	4.4	E	
MITK	12	0129	0137	0220	S19	W53	.820	15694	8.1	51	1B		C	0137	210	3.6	T	
YUNN	12	0130		0130D	S17	W52	.806	15694	8.2		1N		C		236	208.0		
PEKG	12	0135E	0135	0158	S17	W52	.806	15694	8.2	23D	2B		P		336	283.0	E	
PURP	12	0138	0143	0200	S20	W55	.840	15694	7.9	22	2N		C		491	408.0		
502 YUNN	12	0245		0245D	S16	E10	.315	15697	12.9		?N		C		330	169.0		Y5
	IMP.1 NO : MITK																	
GRP70503	12	0250>9	0309+4	0330	S19	W54	.829	15694	8.1	40	1B				180	3.2	E	
PEKG	12	0250	0309	0325	S17	W54	.825	15694	8.1	35	1B		P		210	182.0	E	
PURP	12	0300	0310	0330	S21	W54	.834	15694	8.1	30	1N		C					
MITK	12	0308	0313	0340	S19	W54	.829	15694	8.1	32	1B		C	0313	150	2.6	T	
GRP70504	12	0335>9	0347+8	0400	S18	W54	.827	15694	8.1	25	1B							
PEKG	12	0335	0352	0358	S18	W54	.827	15694	8.1	23	1B		P		126	112.0	E	
MITK	12	0343	0347	0400	S18	W56	.845	15694	8.0	17	-B		C	0347			DT	
PURP	12	0347	0355	0401	S21	W54	.834	15694	8.1	14	1B		C					
GRP70505	12	0404	0433	0443D	S13	E15	.333	15697	13.3	39	1N						F	
MITK	12	0404	0433	0540	S13	E15	.333	15697	13.3	96	1N		C	0433	210	2.3	F	
MANI	12	0435E	0435U	0443	S13	E16	.345	15697	13.4	8D	-N	3	C		30			
506 YUNN	12	0432		0432D	S17	W54	.825	15694	8.1		?N		C		281	221.0		Y5
	IMP.1 NO : MITK																	
507 MITK	12	0456	0459	0501	S18	W57	.854	15694	7.9	5	-F		C	0459			ET	Y5
GRP70508	12	0505	0507 0525	0539	S17	W56	.843	15694	8.0	34	-B							
MITK	12	0505	0507	0541	S18	W57	.854	15694	7.9	36	-B		C	0507			ET	
MANI	12	0523E	0525	0536	S16	W55	.833	15694	8.1	13D	-N	3	C		30		F	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
509 MITK	12	0547	0558	0618D	S18	W57	.854	15694	8.0	31D	?N		C	0558	200	3.9	ET	Y5
	IMP.1 NO : MANI																	
510 MANI	12	0645	0646	0655	S17	W54	.825	15694	8.2	10	-N	3	C		40			Y5
GRP70511	12	0646+0	0650+1	0656	S15	E07	.277	15697	12.8	10	-N							
YUNN	12	0646	0651	0657	S16	E08	.299	15697	12.9	11	-N		C					
MANI	12	0646	0650	0654	S14	E06	.255	15697	12.7	8	-N	3	C		20			
	12	0725	0735	NO FLARE PATROL														
GRP70512	12	0747	0755 0845	0930	S17	W56	.843	15694	8.1	103	-N						E	
YUNN	12	0747	0845	0930	S17	W55	.834	15694	8.2	103	1N		C		204	191.0		
MANI	12	0753E	0755	0804D	S16	W57	.851	15694	8.1	11D	-B	3	C		50			
ATHN	12	0825E	0825	0853	S17	W57	.852	15694	8.1	28D	-N	1		0825	66	1.1		
KHAR	12	0855E		0935D	S17	W56	.843	15694	8.2	40D	1N		P	0900	145		BET	
GRP70513	12	0838+8	0850+1	0853	N21	00	.367	15700	12.4	15	-F							
YUNN	12	0838	0850	0852	N22	E03	.386	15700	12.6	14	-N		C					
HTPR	12	0846	0851	0854	N20	W02	.352	15700	12.2	8	-F		C	0851	20	.2		
514 YUNN	12	0912	0922	0925	S16	E07	.292	15697	12.9	13	-N		C					Y5
GRP70515	12	0928+2	0959 1011	1045	S14	E06	.255	15697	12.8	77	-N						EK	
YUNN	12	0928	0950	0950Q	S16	E07	.292	15697	12.9	22D	-N		C					
HTPR	12	0930	0959	1010	S11	E10	.250	15697	13.1	40	-F		C	0959	30	.3		
HTPR	12	1005	1011	1045	S14	E02	.236	15697	12.6	40	-N		C	1011	140	1.4	EK	
516 YUNN	12	0945	0949	0955	S17	W55	.834	15694	8.3	10	?N		C		157	138.0		Y5
	IMP.1 NO : HTPR																	
GRP70517	12	1002>9	1033 1159	1223	S17	W60	.877	15694	7.9	141	1N						E	
WEND	12	1002E		1152D	S17	W56	.843	15694	8.2	110D	2N		V		600	11.6	E	
HTPR	12	1024	1033	1100	S17	W60	.877	15694	7.9	36	-N		C	1033	100	2.0		
RAMY	12	1139E	1159	1312	S19	W71	.951	15694	7.2	93D	-B	2	C		71		F	
KHAR	12	1140E		1205D	S17	W57	.852	15694	8.2	25D	-F		P	1143	55		ET	
HUAN	12	1235		1255D	S16	W62	.891	15694	7.9	20D	-N	1	P	1237	30	.6		
HUAN	12	1300E		1331	S17	W62	.892	15694	7.9	31D	-F	1	P					
518 RAMY	12	1133	1133	1140	S15	E06	.270	15697	12.9	7	-N	2	C		46			Y5
GRP70519	12	1210+1	1211+2	1234	S16	E07	.292	15697	13.0	24	-N				40	.4	K	
HTPR	12	1210	1213	1236	S16	E07	.292	15697	13.0	26	-N		C	1213	60	.6	EK	
RAMY	12	1211	1211	1234	S15	E05	.264	15697	12.9	23	-B	3	C		44		F	
HUAN	12	1211	1213	1221	S16	E08	.299	15697	13.1	10	-N	2	C	1213	25	.3	D	
GRP70520	12	1231+3	1233+1	1253	N20	00	.350	15700	12.5	22	-N				45	.5		
RAMY	12	1231	1233	1305	N21	E00	.367	15700	12.5	34	-B	3	C		48		F	
HTPR	12	1234	1234	1240	N20	E01	.351	15700	12.6	6	-F		C	1234	40	.4	E	
GRP70521	12	1328+2	1332+0 1339	1400	S24	W55	.850	15694	8.4	32	-N						F	
RAMY	12	1328	1332	1401	S24	W55	.850	15694	8.4	33	-B	*	C		101		F	
HTPR	12	1330	1332	1400	S24	W55	.850	15694	8.4	30	-F	*	C	1332	20	.3		
HUAN	12	1330	1339	1354	S23	W54	.839	15694	8.5	24	-N	*	C	1339	60	1.1		
GRP70522	12	1402+0	1403+1	1406	N20	W06	.364	15700	12.1	4	-N				60	.6	E	
RAMY	12	1402	1403	1406	N21	E00	.367	15700	12.6	4	-B	3	C		78			
HTPR	12	1402	1404	1408	N20	W07	.368	15700	12.1	6	-N		C	1404	40	.4	E	
HUAN	12	1402	1403	1405	N20	W06	.364	15700	12.1	3	-N	2	C	1403	60	.6		
GRP70523	12	1412+0	1412+1	1416	N24	W06	.426	15700	12.1	4	-F							
HTPR	12	1412	1413	1416	N24	W07	.429	15700	12.1	4	-F		C	1413	10	.1		
HUAN	12	1412	1412	1415	N24	W06	.426	15700	12.1	3	-F	1	C	1412	50	.5		
524 RAMY	12	1414	1418	1425	S19	W72	.955	15689	7.2	11	-B	3	C		31			Y5
GRP70525	12	1414+4	1418+1	1433	S23	W55	.847	15694	8.5	19	-N				70	1.3		
RAMY	12	1414	1418	1440	S24	W55	.850	15694	8.5	26	-B	3	C		102		F	
HUAN	12	1418	1419	1426	S23	W56	.855	15694	8.4	8	-N	1	C	1419	50	.9	E	
GRP70526	12	1423+1	1424 1440	1515	N20	W02	.352	15700	12.4	52	-N						E	
HUAN	12	1423	1424	1441D	N21	E01	.367	15700	12.7	18D	-N	2	P	1424	65	.7	E	
HTPR	12	1424	1440	1515	N20	W05	.360	15700	12.2	51	-N		C	1440	130	1.3	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP70527	12	1503>9	1514+4 1556	1620	S18	W61	.886	15694	8.1	77	1B						EKUZ	
HUAN	12	1503	1518	1543	S17	W60	.877	15694	8.1	40	1B	*	C	1518	200	4.1	E	
RAMY	12	1503	1514	1636	S19	W73	.960	15694	7.2	93	2B	*	C		423			
HOLL	12	1509	1514	1634D	S16	W59	.867	15694	8.2	85D	2B	*	C		508		Z U	
HTPR	12	1514		1526D	S18	W62	.893	15694	8.0	12D	1B	*	C	1515	120	2.4	EFK	
MCMA	12	1521E		1521D	S18	W59	.870	15694	8.2		1B	*	P	1521	150	3.2	E	
BIGB	12	1551U	1556	1605	S18	W62	.893	15694	8.0	14D	1N	*	P	1556	180			
GRP70528	12	1503+0	1604 1618	1634	S22	W14	.430	15696	11.6	91	-N						E	
HUAN	12	1503		1555	S22	W16	.447	15696	11.4	52	-N	2	C	1540	100	1.1	E	
HTPR	12	1503		1526D	S22	W15	.438	15696	11.5	23D	-F		C	1510	50	.5	E	
HOLL	12	1515	1618	1634D	S19	W11	.365	15696	11.8	79D	1B	3	C		393		FDE	
MCMA	12	1521E		1521D	S23	W15	.451	15696	11.5		-N		P	1521	35	.4	E	
BIGB	12	1556	1604	1635	S23	W13	.435	15696	11.7	39	-N		C	1604	160			
529 HUAN	12	1525	1534	1547	S11	E07	.218	15697	13.2	22	-N	2	C	1534	30	.3		Y5
530 RAMY	12	1617	1620	1638	S11	E09	.238	15697	13.4	21	-B	3	C		33			Y5
531 HUAN	12	1635		1652	S24	W15	.464	15696	11.6	17	-N	1	P	1646	130	1.5	E	Y5
532 RAMY	12	1637	1641	1654	S19	W73	.960	15689	7.2	17	-B	3	C		24			Y5
GRP70533	12	1652	1654 1708	1729	S13	E05	.233	15697	13.1	37	-B							
RAMY	12	1652	1708	1721	S15	E02	.253	15697	12.9	29	-B	3	C		42			
RAMY	12	1653	1654	1729	S11	E08	.228	15697	13.3	36	-N	3	C		54			
534 RAMY	12	1655	1702	1718	S19	W73	.960	15689	7.2	23	-B	3	C		49			Y5
GRP70535	12	1726	1836+0	1900D	S19	W74	.965	15689	7.2	94	2B				240			
RAMY	12	1726	1836	1840D	S19	W74	.965	15689	7.2	74D	1B	4	C		98			
PALE	12	1836E	1836U	1900D	S17	W64	.907	15689	8.0	24D	2B	3	C		315			
PALE	12	1836E	1836U	1840D	S20	W77	.977	15689	7.0	4D	2B	2	V		237			
GRP70536	12	1730	1730+1	1742	S13	E05	.233	15697	13.1	12	-B							
RAMY	12	1730	1730	1735	S11	E08	.228	15697	13.3	5	-N	3	C		21			
RAMY	12	1731	1731	1742	S15	E02	.253	15697	12.9	11	-B	4	C		22			
537 RAMY	12	1753	1754	1801	N21	W02	.368	15700	12.6	8	-B	4	C		85			Y5
538 HUAN	12	1754	1755	1757	S18	W60	.878	15694	8.2	3	-N	2	C	1755	25	.5	D	Y5
GRP70539	12	1841+9	1841 1856	1908	N21	W03	.370	15700	12.6	27	-B							
PALE	12	1841E	1841U	1900D	N21	W04	.372	15700	12.5	19D	-B	3	C		80			
RAMY	12	1850	1856	1908	N21	W03	.370	15700	12.6	18	-B	4	C		70			
540 RAMY	12	1841	1844	1859	S17	E14	.367	15697	13.8	18	-N	4	C		41			Y5
541 PALE	12	1926E	2018	2032D	S18	W65	.914	15694	7.9	66D	-N	3	C		104		DE	Y5
GRP70542	12	2008	2012	2029	S13	E04	.227	15697	13.1	21	-B							
RAMY	12	2008	2012	2029	S11	E07	.218	15697	13.4	21	-B	3	C		105			
RAMY	12	2012	2012	2023	S15	E01	.251	15697	12.9	11	-B	3	C		60			
GRP70543	12	2053>9	2053 2136+1	2205D	S18	W66	.921	15694	7.9	72	1N				100		E	
PALE	12	2053E	2053U	2056	S18	W65	.914	15694	8.0	3D	1B	3	C		256		DE	
PALE	12	2056E	2136U	2300D	S19	W67	.928	15694	7.8	124D	1B	3	C		132		DE	
BIGB	12	2133	2137	2140	S19	W66	.922	15694	7.9	7	-N		C	2137	65			
BIGB	12	2137E	2137	2140	S19	W66	.922	15694	8.0	3D	-N		C	2137	65			
BIGB	12	2148	2158	2205	S17	W65	.914	15694	8.0	17	-N		C	2158	40			
GRP70544	12	2130	2136+2	2150	S18	W05	.312	15697	12.5	20	-N				100	1.0		
BIGB	12	2130	2138	2150	S17	E00	.284	15697	12.9	20	-N		C	2138	100			
PALE	12	2136E	2136U	2149D	S20	W10	.372	15697	12.2	13D	-B	3	C		105			
545 BIGB	12	2200	2201	2202	N24	W19	.510	15699	11.5	2	-N		C	2201	90			Y5
546 BIGB	12	2202	2213	2218	N22	W14	.443	15700	11.9	16	-N		C	2213	50			Y5
547 BIGB	12	2210	2228	2251	S17	W65	.914	15694	8.0	41	1N		C	2228	180			Y5
548 BIGB	12	2244	2245	2248	S14	E00	.233	15697	12.9	4	-N		C	2245	20			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP70549	12	2300+1	2306+1	2311D	S17	W67	.927	15694	7.9	11	1N				200		U
BIGB	12	2300	2306	2311	S17	W68	.933	15694	7.9	11	1N	*		2306	130		
PALE	12	2301	2307	2357D	S18	W66	.921	15694	8.0	56D	1B	*	C		270		UDE
GRP70550	13	0011+4	0014+5 0040+8	0103	S18	W67	.927	15694	8.0	52	1B						Z
MITK	13	0011	0014	0024	S19	W68	.934	15694	7.9	13	1N		C	0014	100		
MANI	13	0014E	0014U	0055	S17	W68	.932	15694	7.9	41D	-B	3	C		40		
PURP	13	0015	0019	0035	S21	W67	.930	15694	8.0	20	1N		C				
PALE	13	0017E	0018U	0103D	S18	W67	.927	15694	8.0	46D	1B	3	C		161		DE F
MITK	13	0034	0040	0102	S18	W68	.933	15694	7.9	28	1N		C	0040	110		EZ
PURP	13	0040	0048	0110	S21	W67	.930	15694	8.0	30	1N		C				
YUNN	13	0042E	0042	0042D	S17	W63	.899	15694	8.3		1B		C		188	205.0	
GRP70551	13	0105+0	0111+3 0121	0132	S22	W21	.494	15696	11.5	27	1N				350	4.0	Z
MITK	13	0105	0114	0129	S22	W21	.494	15696	11.5	24	1N		C	0114	260	3.1	Z
PURP	13	0105	0111	0132	S26	W22	.545	15696	11.4	27	2N		C		453	259.0	
YUNN	13	0105	0121	0152	S19	W15	.399	15696	11.9	47	1B		C		314	186.0	
GRP70552	13	0155+4	0206+9	0230	S16	W01	.266	15697	13.0	35	-N						
YUNN	13	0155	0215	0230	S16	E00	.265	15697	13.1	35	-N		C				
PURP	13	0159	0206	0230	S17	E02	.284	15697	13.2	31	1N		C				
MANI	13	0210E	0210U	0224D	S15	W04	.257	15697	12.8	14D	-N	3	C		20		
CULG	13	0218E	0218E	0244	S16	W03	.270	15697	12.9	26D	-N		P	0218	90	.9	B
	13	0156	0202	NO FLARE PATROL													
GRP70553	13	0202E	0211+0 0235+4	0259	S17	W68	.932	15694	8.0	57	2N				240		EZ
PURP	13	0150	0239	0308	S21	W68	.935	15694	8.0	78	1N	*	C				
MITK	13	0202E	0211	0220	S18	W69	.939	15694	7.9	18D	1N	*	C	0211	170		TZ
MANI	13	0210E	0211	0224D	S16	W69	.938	15694	7.9	14D	-B	*	C		60		
PURP	13	0216	0239	0307	S21	W68	.935	15694	8.0	51	2F	*	C		301		
CULG	13	0218E	0237	0256	S16	W68	.932	15694	8.0	38D	2N	*	C	0237	300	7.5	
MITK	13	0226	0235	0302	S18	W69	.939	15694	7.9	36	1N	*	C	0235	150		ET
PEKG	13	0228E	0235	0256	S18	W68	.933	15694	8.0	28D	2B	*	P		210		E
GRP70554	13	0218>9	0234+4	0302	N20	W06	.366	15700	12.6	44	1N				290	3.1	FU
CULG	13	0218E	0238	0258D	N20	W05	.362	15700	12.7	40D	1N		P	0238	210	2.3	U
MITK	13	0224	0234	0309	N20	W06	.366	15700	12.7	45	1N		C	0234	200	2.2	F
YUNN	13	0225	0235	0305	N21	W07	.386	15700	12.6	40	1N		C		377	204.0	
PEKG	13	0228	0235	0254	N21	W07	.386	15700	12.6	26	2N		P		631	339.0	U
GRP70555	13	0248+4	0254+1	0258	S20	E09	.363	15697	13.8	10	-F						E
YUNN	13	0248	0255	0258	S17	E09	.319	15697	13.8	10	-N		C				
CULG	13	0251	0254	0258D	S20	E08	.357	15697	13.7	7D	-F		C	0254	120	1.3	
MITK	13	0252	0255	0257	S20	E10	.370	15697	13.9	5	-F		C	0255			E
556 CULG	13	0333E	0333U	0337	S10	E01	.164	15697	13.2	4D	-N		P	0333	40	.4	Y5
GRP70557	13	0340+7	0431 0445>9	0622	S15	E01	.249	15697	13.2	162	2B						I
CULG	13	0340	0501	0816D	S14	E03	.237	15697	13.4	276D	2B		C	0501	910	9.6	FI
YUNN	13	0347	0455	0658	S16	W03	.270	15697	12.9	191	3N		C		1258	652.0	
PEKG	13	0411	0445	0615	S14	E05	.246	15697	13.5	124	3B		P		1389	654.0	
TEHR	13	0429E	0431U	0527	S11	W05	.199	15697	12.8	58D	1B	2	C		222		F
TEHR	13	0429E	0431U	0436D	S11	W05	.199	15697	12.8	7D	1B	2	C		222		
PURP	13	0507E		0507D	S20	E02	.333	15697	13.4		2N		C		1132	580.0	
MANI	13	0521E	0521U	0534D	S15	W01	.249	15697	13.1	13D	1B	3	C		400		FOE
MITK	13	0555E		0613D	S13	E03	.220	15697	13.5	18D	1F		P	0555	240	2.5	E
ABST	13	0601E	0607	0649D	S17	E08	.312	15697	13.9	48D	-F		P	0607	87	1.0	D
MANI	13	0646	0650	0654	S14	E06	.253	15697	13.7	8	-N	3	C		20		
GRP70558	13	0349+8	0408+2	0453	S17	W69	.938	15694	8.0	64	1B				180		DJ
PURP	13	0349	0409	0427D	S21	W69	.941	15694	8.0	38D	3B		C		415		
CULG	13	0352	0410	0454	S15	W69	.937	15694	8.0	62	1B		C	0410	170		J
PEKG	13	0355	0415	0453	S17	W69	.938	15694	8.0	58	-N		P		63		D
MITK	13	0357	0408	0427D	S18	W70	.944	15694	7.9	30D	1B		C	0408	190		T
TEHR	13	0429E	0431U	0447	S16	W76	.972	15694	7.5	18D	-B	2	C		95		
	13	0427	0429	NO FLARE PATROL													
559 SPURIOUS DATA. GROUP DELETED.																	
560 MANI	13	0435E	0435U	0443	S13	E16	.344		14.4	8D	-N	3	C		30		Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP70561	13	0513+7	0519+6	0609	S17	W71	.949	15694	7.9	56	1B						K	
TEHR	13	0513	0520U	0731	S16	W73	.959	15694	7.7	138	-B	2	C		95		F	
CULG	13	0516	0519	0608	S15	W70	.943	15694	8.0	52	1B		C	0519	110		K	
PEKG	13	0517	0519	0555	S17	W70	.944	15694	8.0	38	1N		P		252		E	
YUNN	13	0520	0525	0610	S17	W66	.920	15694	8.3	50	1N		C		188			
MANI	13	0521E	0521U	0534D	S17	W73	.959	15694	7.7	13D	-B	3	C		60			
562 MANI	13	0523E	0525	0536	S16	W55	.832		9.1	13D	-N	*	C		30		F	Y5
563 CULG	13	0600	0607	0615	N21	W88	1.000	15691	6.7	15	-F		C	0607	20			Y5
GRP70564	13	0617+1	0618+7	0722	S17	W69	.938	15694	8.1	65	1B						IJ	
TEHR	13	0513	0623U	0731	S16	W73	.959	15694	7.7	138	1B	*	C		159		F	
ABST	13	0601D	0618	0647	S17	W69	.938	15694	8.1	46D	-N	*	C	0618	87		D	
CULG	13	0617	0624	0722	S15	W71	.948	15694	7.9	65	1B	*	C	0624	160		F	
PEKG	13	0617	0620	0715	S17	W69	.938	15694	8.1	58	2B	*	P		463		E	
YUNN	13	0618	0625	0730	S17	W66	.920	15694	8.3	72	2N	*	C		314			
ABST	13	0618	0623	0639	S18	W66	.921	15694	8.3	21	1N	*	C	0623	175		EIJ	
565 MANI	13	0645	0646	0655	S17	W54	.825		9.2	10	-N	*	C		40			Y5
GRP70566	13	0728	0737 0831+1	0844	S16	W68	.932	15694	8.2	76	1N						F	
CULG	13	0728	0737	0805	S16	W70	.943	15694	8.1	37	1N	*	C	0737	120		F	
MANI	13	0754E	0755	0804D	S16	W57	.850	15694	9.1	10D	-B	*	C		60			
YUNN	13	0756	0832	0945	S17	W67	.926	15694	8.3	109	1N	*	C		157			
KANZ	13	0828	0831	0844	S16	W72	.954	15694	8.0	16	-B	*						
567 KANZ	13	0847	0858	0909	N22	W20	.498	15700	11.9	22	-F	1						Y5
GRP70568	13	0856+2	0904+5	0922	S16	W07	.290	15697	12.8	26	-F							
YUNN	13	0856	0909	0925	S16	W04	.273	15697	13.1	29	-N		C					
MONT	13	0856	0904	0912D	S16	W07	.290	15697	12.8	16D	-F		C	0904	50			
KANZ	13	0858	0906	0918	S15	W07	.275	15697	12.8	20	-F	2						
569 KANZ	13 IMP.1	1014 NO : CATA	1024	1032D	S16	W70	.943	15694	8.2	18D	?N	1						Y5
570 RAMY	13	1202	1213	1225	S19	W84	.995	15694	7.2	23	-B	3	C		25			Y5
571 RAMY	13	1215	1215	1219	S17	E04	.290	15697	13.8	4	-N	3	C		22		F	Y5
572 RAMY	13	1234	1234	1241	S15	W08	.282	15697	12.9	7	-B	3	C		33		F	Y5
573 RAMY	13	1408	1408	1410	S19	W85	.996	15694	7.2	2	-B	3	C		13			Y5
GRP70574	13	1432	1432	1458	S19	W20	.452	15696	12.1	26	-B				90	1.0	E	
RAMY	13	1432	1432	1502	S19	W21	.463	15696	12.0	30	-B	3	C		87		DE	
HUAN	13	1435E		1454	S20	W20	.462	15696	12.1	19D	-N	1	C	1437	90	1.0	E	
575 RAMY	13	1442	1450	1451	S19	W85	.996	15694	7.2	9	-B	3	C		7		F	Y5
576 HUAN	13	1527		1532	S14	W15	.342	15697	12.5	5	-F	1	C					Y5
GRP70577	13	1622+1	1623+4	1634	S15	W12	.319	15697	12.8	12	-N							
BIGB	13	1610	1627	1650	S16	W12	.332	15697	12.8	40	-N		C	1627	130			
RAMY	13	1622	1623	1632	S15	W10	.300	15697	12.9	10	-B	3	C		40			
HUAN	13	1623		1634	S15	W13	.330	15697	12.7	11	-F	1	C					
578 RAMY	13	1627	1631	1653	S19	W86	.998	15694	7.2	26	-B	3	C		26			Y5
GRP70579	13	1655+2	1704 1719	1741	S15	W10	.300	15697	13.0	46	-N							
BIGB	13	1655	1719	1740	S16	W10	.313	15697	13.0	45	-N		C	1719	170			
RAMY	13	1657	1704	1741	S15	W11	.309	15697	12.9	44	-B	3	C		69			
580 BIGB	13	1707	1708	1722	N21	W13	.424	15700	12.7	15	-N		C	1708	100			Y5
GRP70581	13	1717+0	1718+2	1734	S18	W83	.993	15694	7.5	17	-B							
RAMY	13	1717	1718	1733	S19	W86	.998	15694	7.3	16	-B	3	C		12			
BIGB	13	1717	1720	1734	S17	W80	.986	15694	7.7	17	1N		C	1720	60			
582 RAMY	13	1736	1741	1744	S19	W86	.998	15694	7.3	8	-B	3	C					Y5
583 RAMY	13	1746	1750	1759	S17	E01	.282	15697	13.8	13	-N	3	C		53			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP70584	13	1747+9	1800+0	1814	S15	W11	.309	15697	12.9	27	-N				80	.8		
BIGB	13	1747	1800	1822	S16	W12	.332	15697	12.8	35	-N		C	1800	100			
RAMY	13	1756	1800	1805	S15	W11	.309	15697	12.9	9	-B	3	C		74			
GRP70585	13	1802+1	1826+4	1856	S18	W83	.993	15694	7.5	54	-N							
RAMY	13	1802	1826	1906	S19	W87	.999	15694	7.2	64	-B	3	C					
BIGB	13	1803	1830	1845	S17	W80	.986	15694	7.8	42	-N		C	1830	35			
GRP70586	13	1820	1902 1937	1950	N23	E11	.437	15702	14.6	90	-N							
BIGB	13	1820	1902	1950	N23	E12	.444	15702	14.7	90	-N		C	1902	30			
BIGB	13	1918	1937	1950	N23	E11	.437	15702	14.6	32	-N	*	C	1937	40			
GRP70587	13	1834+4	1837+1	1849	S16	W12	.332	15697	12.9	15	-N							
BIGB	13	1834	1838	1851	S16	W13	.342	15697	12.8	17	-N		C	1838	100			
BIGB	13	1835	1837	1847	S17	W13	.355	15697	12.8	12	-N		C	1837	100			
RAMY	13	1838	1838	1846	S15	W11	.309	15697	13.0	8	-B	3	C		41			
GRP70588	13	1906E	1925+2	1942	S17	W81	.988	15694	7.7	36	-B							
BIGB	13	1846	1927	1948	S16	W76	.972	15694	8.1	62	1N	*	C	1927	60			
RAMY	13	1906	1925	1935	S19	W87	.999	15694	7.3	29	-B	*	C					
589 BIGB	13	1918	2002	2018	S17	W13	.355	15697	12.8	60	-N		C	2002	110			Y5
590 RAMY	13	1952	1952	2006	S19	W88	.999	15694	7.2	14	-B	3	C					Y5
GRP70591	13	2007+2	2011+3	2035	S17	W80	.986	15694	7.8	28	1N							
BIGB	13	2007	2011	2037	S17	W80	.986	15694	7.8	30	1N		C	2011	65			
RAMY	13	2008	2011	2035	S19	W88	.999	15694	7.2	27	-B	3	C				FDE	
CULG	13	2009	2014	2029	S13	W78	.979	15694	8.0	20	1N		C	2029	50			
GRP70592	13	2024>9	2043+3	2057	S17	W13	.355	15697	12.9	33	-N				160	1.7		
BIGB	13	2024	2046	2107	S17	W13	.355	15697	12.9	43	-N	*	C	2046	130			
CULG	13	2031	2043	2056	S17	W14	.365	15697	12.8	25	-N	*	C	2043	130	1.4		
RAMY	13	2034	2046	2057D	S15	W13	.330	15697	12.9	23D	1B	*	C		222		FDE	
593 BIGB	13	2027	2028	2040	N22	W28	.580	15700	11.8	13	-N		C	2028	25			Y5
594 RAMY	13	2037	2045	2057D	S17	W01	.282	15697	13.8	20D	-B	*	C		94			Y5
595 BIGB	13	2044	2047	2052	N26	W26	.596	15700	11.9	8	-N		C	2047	25			Y5
596 BIGB	13	2100	2227	2240	S16	W80	.985	15694	7.9	100	-N		C	2227	50			Y5
GRP70597	13	2120	2152 2257	2257D	S29	W21	.570		12.3	97	-N							
BIGB	13	2120	2152	2152D	S29	W19	.554		12.5	32D	-N		C	2152	30			
BIGB	13	2147	2257	2257D	S29	W24	.594		12.1	70D	-N		C	2257	40			
598 BIGB	13	2121	2123	2133	S16	W14	.353	15697	12.8	12	-N		C	2123	60			Y5
GRP70599	13	2138+2	2142+0	2152	N24	W27	.587	15700	11.9	14	-F				60	.7	F	
CULG	13	2138	2142	2150	N25	W26	.587	15700	12.0	12	-F		C	2142	50	.7	F	
BIGB	13	2140	2142	2153	N24	W28	.597	15700	11.8	13	-N		C	2142	65			
600 BIGB	13	2159	2220	2220D	S24	W27	.575	15696	11.9	21D	-N		C	2220	50			Y5
601 BIGB	13	2223	2310	2320	N23	W21	.519	15700	12.4	57	-N		C	2310	20			Y5
602 BIGB	13	2228	2253	2313	S16	W15	.364	15697	12.8	45	-N		C	2253	40			Y5
GRP70603	13	2319+4	2328+6	2340	S15	W80	.985	15694	8.0	21	1N				110			
CULG	13	2319	2328	2342	S14	W80	.985	15694	8.0	23	1N		C	2328	120			
BIGB	13	2323	2337	2334	S17	W80	.986	15694	8.0	11	1N		C	2337	100			
GRP70604	13	2323+2	2331+2 2342	0014	S14	W10	.286	15697	13.2	51	-N				50	.5		
BIGB	13	2323	2331	2340	S19	W04	.322	15697	13.7	17	-N		C	2331	65			
CULG	13	2325	2333	0024	S14	W12	.307	15697	13.1	59	-N		C	2333	40	.4		
BIGB	13	2325	2342	0003	S10	W14	.289	15697	12.9	38	-N		C	2342	30			
605 BIGB	13	2327	2333	2357	N20	W17	.446	15700	12.7	30	-N		C	2333	130			Y5
GRP70606	13	2343>9	2357+4 2408	0025	S17	W80	.986	15694	8.0	42	1N				120		K	
PEKG	14	0005	0008	0025	S21	W78	.980	15694	8.2	20	1B		P		105		D	
BIGB	13	2343	2357	0012	S17	W80	.986	15694	8.0	29	1N		P	2357	130			
CULG	13	2353	2401	0048	S16	W80	.985	15694	8.0	55	1N		C	2401	120		FK	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONQ	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP70607	14	0010+0	0013+1	0028	N24	W29	.606	15700	11.8	18	1B				180	2.3	E	
CULG	14	0010	0014	0030	N25	W28	.607	15700	11.9	20	-B		C	0014	120	1.6		
PEKG	14	0010	0013	0025	N23	W31	.621	15700	11.7	15	1B		P		252	159.0	E	
GRP70608	14	0115+0	0121+0	0134	S15	W16	.363	15697	12.9	19	-N							
CULG	14	0115	0121	0137	S15	W18	.387	15697	12.7	22	-F		C	0121	110	1.2		
YUNN	14	0115	0121	0130	S16	W14	.351	15697	13.0	15	1N		C					
609 VORO	14	0207	0207	0210	S18	W05	.308	15697	13.7	3	-N		C	0207	63	.6	D	Y5
610 VORO	14	0221	0222	0223	N23	W24	.549	15700	12.3	2	-N		C	0222	45	.5	D	Y5
611 VORO	14	0222	0230	0238	S18	W90	1.000	15694	7.3	16	-N		C	0230	99		EHJ	Y5
612 VORO	14	0246	0247	0250	S17	W16	.385	15697	12.9	4	-F		C	0247	45	.5	E	Y5
GRP70613	14	0350+5	0352+4	0410	S17	W82	.991	15694	8.0	20	-N				60			
VORO	14	0350	0352	0405D	S18	W90	1.000	15694	7.4	15D	-N		C	0352	99			
YUNN	14	0351	0355	0410	S17	W78	.979	15694	8.3	19	1N		C					
PEKG	14	0354	0356	0410	S20	W85	.996	15694	7.8	16	-N		P		42		D	
TEHR	14	0355	0355U	0408D	S15	W80	.985	15694	8.2	13D	-B	1	C		64		FDE	
GRP70614	14	0428+4	0433+2	0448	S14	W18	.378	15697	12.8	20	1B							
CULG	14	0428	0433	0514	S12	W21	.402	15697	12.6	46	1B		C	0433	180	2.0		
PEKG	14	0432	0435	0448	S13	W21	.409	15697	12.6	16	1B		P		414	185.0	E	
YUNN	14	0432	0435	0447	S16	W16	.374	15697	13.0	15	1N		C					
TEHR	14	0438E	0438U	0442D	S15	W14	.340	15697	13.1	4D	-B	1	C		159		FDE	
GRP70615	14	0717+5	0723+2	0731	S17	W82	.991	15694	8.2	14	1B						K	
CULG	14	0654	0730	0820D	S15	W85	.996	15694	7.9	86D	1B		C	0730	70		K	
PEKG	14	0717	0723	0729	S18	W85	.996	15694	7.9	12	1B		P		168		E	
PURP	14	0718	0724	0728	S21	W80	.986	15694	8.3	10	1B		C					
TEHR	14	0722	0724U	0735D	S15	W80	.985	15694	8.3	13D	-B	1	C		64		FDE	
YUNN	14	0722	0725	0730	S17	W80	.985	15694	8.3	8	1N		C					
616 ISTA	14	0736		0745	S25	W76	.974	15694	8.6	9	-F						D	Y5
GRP70617	14	0900+3	0903	0909	S13	W16	.343	15697	13.2	9	-N							
TEHR	14	0900	0903	0908	S15	W14	.340	15697	13.3	8	-B	2	C		95		FDE	
ISTA	14	0903		0910	S11	W19	.366	15697	13.0	7	-F						D	
	14	1005	1015	NO FLARE PATROL														
	14	1031	1055	NO FLARE PATROL														
	14	1100	1115	NO FLARE PATROL														
	14	0408	0415	NO FLARE PATROL														
	14	0433	0438	NO FLARE PATROL														
	14	0442	0447	NO FLARE PATROL														
	14	0500	0508	NO FLARE PATROL														
	14	0545	0555	NO FLARE PATROL														
	14	0602	0606	NO FLARE PATROL														
618 RAMY	14	1258	1300	1310	S24	E40	.709	15707	17.5	12	-N	3	C		25			Y5
619 HTPR	14	1339	1343	1350	S19	W17	.418	15697	13.3	11	-F		C	1343	30	.3	E	Y5
620 HTPR	14	1412	1415	1422	S17	W20	.431	15697	13.1	10	-F		C	1415	10	.1		Y5
GRP70621	14	1419	1433+1	1448	S17	W33	.592	15696	12.1	29	-F						E	
HTPR	14	1419	1433	1445	S18	W34	.610	15696	12.0	26	-F		C	1433	20	.2		
MCMA	14	1428E	1434	1451D	S17	W33	.592	15696	12.1	23D	-N		C	1434	60	.8	E	
GRP70622	14	1622+1	1625+0	1631	S18	W90	1.000	15694	7.9	9	-N							
BIGB	14	1622	1625	1631	S18	W90	1.000	15694	7.9	9	-N		C	1625	35			
RAMY	14	1623	1625	1630	S19	W90	1.000	15694	7.9	7	-B	3	C					
623 MCMA	14	1649E		1653D	S16	W23	.459	15697	13.0	4D	-N		P	1650	60	.7	E	Y5
GRP70624	14	1837+2	1840+1	1846	N22	W29	.592	15700	12.6	9	-N				30	.4	F	
BIGB	14	1837	1841	1846	N12	W28	.509	15700	12.7	9	-N		C	1841	20			
HOLL	14	1838	1840	1846	N23	W31	.621	15700	12.5	8	-N	3	C		41		F	
RAMY	14	1839	1840	1843	N21	W29	.584	15700	12.6	4	-N	3	C		31		F	
625 RAMY	14	1900E	1918	1945	S15	W25	.477	15697	12.9	45D	-N	3	C		26		F	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP70626	14	2024+1	2033+7 2110	2145	S15	W25	.477	15697	13.0	81	-N				110	1.3	FZ	
BIGB	14	2018	2040	2149	S16	W28	.523	15697	12.7	91	-N		C	2040	60			
RAMY	14	2024	2034	2119D	S15	W26	.490	15697	12.9	55D	-B	3	C		142		F	
CULG	14	2024	2038	2134	S15	W26	.490	15697	12.9	70	-N		C	2038	100	1.2	F	
HOLL	14	2025	2033	2142	S15	W25	.477	15697	13.0	77	-B	3	C		126		Z F	
BIGB	14	2025	2146	2110U	S26	W23	.553	15697	13.1	45D	-N		C	2146	25			
CULG	14	2120	2122	2145	S15	W18	.387	15697	13.5	25	-F		C	2122	30	.3		
627 BIGB	14	2149	2150	2151	S17	W28	.530	15697	12.8	2	-N		C	2150	50			Y5
628 BIGB	14	2207	2219	2235	S25	W21	.524		13.3	28	-N		C	2219	60			Y5
GRP70629	14	2213+0	2214+1	2221	N21	W33	.628	15700	12.5	8	-N				30	.4	F	
HOLL	14	2123	2214	2216D	N23	W33	.642	15700	12.4	53D	-B	*	V		76			
BIGB	14	2213	2214	2222	N21	W33	.628	15700	12.5	9	-N	*	C	2214	25			
HOLL	14	2213	2214	2216D	N23	W33	.642	15700	12.5	3D	-B	*	C		76			
PALE	14	2214E	2215	2219	N21	W32	.617	15700	12.5	5D	-N	*	C		20		F	
GRP70630	14	2233	2247	2256	S17	W28	.530	15697	12.8	23	-N							
BIGB	14	2233	2247	2254	S17	W28	.530	15697	12.8	21	-N		C	2247	50			
BIGB	14	2244	2247	2256	S17	W28	.530	15697	12.8	12	-N		C	2247	60			
631 BIGB	14	2237	2240	2243	S27	W21	.546		13.4	6	-N		C	2240	20			Y5
632 BIGB	14	2310	2311	2312	S22	W90	1.000	15694	8.2	2	-N		C	2311	25			Y5
GRP70633	14	2342+0	2343+0	2351	S20	W42	.711	15696	11.8	9	-N							
BIGB	14	2342	2343	2345	S22	W41	.710	15696	11.9	3	-N		C	2343	35			
VORO	14	2342	2343	2351	S20	W42	.711	15696	11.8	9	-N		C	2343	125	1.8	E	
PALE	14	2343E	2343U	0005	S19	W43	.718	15696	11.8	22D	-B	3	C		74		FDE	
634 VORO	14	2349	2351	2354	S17	W28	.530	15697	12.9	5	-F		C	2351	45	.5	D	Y5
635 VORO	14	2355	2356	0000	S20	W41	.701	15696	11.9	5	-N		C	2356	36	.5	D	Y5
GRP70636	15	0059+6	0108+1	0124	S11	W33	.564	15697	12.6	25	-F				140	1.7	E	
CULG	15	0059	0109	0130	S11	W34	.577	15697	12.5	31	-F		C	0109	100	1.2		
VORO	15	0105	0108	0117	S12	W32	.554	15697	12.6	12	1F		C	0108	188	2.3	E	
637 PEKG	15	0149	0150	0155	N15	W37	.641	15700	12.3	6	-F		P		42	27.0	D	Y5
638 PEKG	15	0206	0207	0215	N21	W35	.651	15700	12.5	9	-F		P		42	27.0	D	Y5
639 VORO	15	0216	0219	0225	S23	W90	1.000	15694	8.3	9	-N		C	0219	90		J	Y5
GRP70640	15	0217+3	0221+2	0232	S12	W34	.581	15697	12.5	15	1N				210	2.6	E	
CULG	15	0217E	0223	0242	S11	W33	.564	15697	12.6	25D	-N		C	0223	80	1.0		
VORO	15	0217	0222	0228	S12	W34	.581	15697	12.5	11	1F		C	0222	323	3.9	E	
PEKG	15	0220	0221	0230	S12	W35	.594	15697	12.5	10	1N		P		210	130.0	E	
PURP	15	0220	0221	0233	S14	W39	.653	15697	12.2	13	-N		C					
641 VORO	15	0236	0237	0240	S17	W30	.554	15697	12.9	4	-F		C	0237	36	.4	D	Y5
642 CULG	15	0314	0324	0400	S15	W32	.568	15697	12.7	46	-N		C	0324	40	.5		Y5
GRP70643	15	0400	0401+4	0412	N22	W34	.647	15700	12.6	12	-N				90	1.2		
PEKG	15	0400	0405	0410	N22	W34	.647	15700	12.6	10	-N		P		126	83.0		
CULG	15	0401E	0401E	0414D	N23	W33	.643	15700	12.7	13D	-N		P	0401	60	.8	F	
MITK	15	0402E	0405	0412	N22	W34	.647	15700	12.6	10D	-F		C	0405			E	
644 CULG	15	0435	0445	0510	S14	W30	.536	15697	12.9	35	-F		C	0445	40	.5		Y5
645 TEHR	15	0645	0647	0655	N22	W36	.668	15700	12.6	10	-N	1	C		64		FDE	Y5
GRP70646	15	0852+5	0858+2	0908	N22	W38	.689	15700	12.5	16	-N							
MONT	15	0852	0858	0908	N22	W41	.720	15700	12.3	16	-F		C	0858	50		E	
TEHR	15	0857	0900	0907	N22	W36	.668	15700	12.7	10	-B	1	C		127		FDE	
647 RAMY	15	1205	1206	1210	N21	W38	.683	15700	12.7	5	-N	3	C		40			Y5
648 RAMY	15	1238	1238	1245	N21	W39	.694	15700	12.6	7	-N	3	C		28			Y5
GRP70649	15	1303	1342	1517	N21	W43	.736	15700	12.3	134	-N						E	
RAMY	15	1303	1342	1517	N21	W40	.705	15700	12.5	134	-B	3	C		106			
MCMA	15	1341E		1351D	N21	W43	.736	15700	12.3	10D	-N		P	1349	50	.8	E	
KANZ	15	1342E		1353D	N23	W43	.745	15700	12.3	11D	-F	1						

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
650 RAMY	15	1443	1443	1454	S22	E44	.740	15709	18.9	11	-F	3	C		26			Y5
GRP70651	15	1452+3	1457+5 1542	1610	S14	W29	.523	15697	13.4	78	-N						E	
MCMA	15	1452	1502	1610D	S14	W28	.510	15697	13.5	78D	-N		C	1502	150	1.8	E	
RAMY	15	1455	1457	1609	S15	W36	.619	15697	12.9	74	-B	3	C		31			
RAMY	15	1457	1542	1637	S11	W31	.536	15697	13.3	100	-N	3	C		65			
HTPR	15	1506E		1532	S14	W29	.523	15697	13.5	26D	-N		C	1510	40	.4	E	
652 RAMY	15	1526	1533	1619	N21	W40	.705	15700	12.6	53	-B	3	C		34			Y5
653 RAMY	15	1529	1531	1539	S22	E44	.740	15709	18.9	10	-F	3	C		38			Y5
654 RAMY	15	1654	1656	1700	S15	W37	.632	15697	12.9	6	-B	3	C		20			Y5
655 RAMY	15	1657	1659	1704	N21	W41	.715	15700	12.6	7	-N	3	C		20			Y5
656 BIGB	15	1706	1720	1723	N19	W16	.428		14.5	17	-N		C	1720	30			Y5
657 BIGB	15	1807	1809	1813	S23	E30	.596	15707	18.0	6	-N		C	1809	20			Y5
GRP70658	15	1820+3	1826	1902	S13	W36	.611	15697	13.1	42	-N				80	1.0		
MCMA	15	1820	1826	1902D	S13	W36	.611	15697	13.1	42D	-N		C	1826	60	.8	E	
HUAN	15	1823		1843	S13	W36	.611	15697	13.1	20	-F	1	C					
RAMY	15	1830E	1830U	1933D	S11	W32	.550	15697	13.4	63D	-B	2	C		96		F	
659 BIGB	15	1840	1846	1855	N19	W16	.428		14.6	15	-N		C	1846	20			Y5
660 RAMY	15	1848	1849	1854	S22	E42	.719	15709	18.9	6	-F	2	C		35			Y5
GRP70661	15	1937E	1951 1957	2046	S12	W42	.683	15697	12.7	69	-N							
MCMA	15	1937E		1958D	S16	W42	.696	15697	12.7	21D	-F		C	1941	80	1.1	E	
RAMY	15	1948E	1957	2001D	S12	W42	.683	15697	12.7	13D	-B	2	C		110		F	
RAMY	15	1948E	1951	2001D	S12	W42	.683	15697	12.7	13D	-N	2	C		73		F	
CULG	15	2001E	2005	2046	S10	W44	.703	15697	12.5	45D	1N		C	2005	200	2.8		
662 CULG	15	2055	2115	2136	S14	W42	.689	15697	12.7	41	-N		C	2115	40	.6		Y5
663 CULG	15	2105	2110	2125	S24	E40	.708	15709	18.9	20	-F		C	2110	60	.8		Y5
664 CULG	15	2105	2110	2118	N23	W59	.884	15699	11.5	13	-F		C	2110	20	.4		Y5
GRP70665	15	2239	2248	2355	S14	W39	.653	15697	13.0	76	-B							
CULG	15	2239	2248	2355	S13	W40	.662	15697	12.9	76	-B		C	2248	120	1.7		
HOLL	15	2259E	2259U	2312D	S15	W39	.656	15697	13.0	13D	-B	1	C		115		DE	
GRP70666	16	0116+2	0119+0	0124	S16	W43	.706	15697	12.8	8	-F						D	
CULG	16	0116	0119	0125	S15	W43	.703	15697	12.8	9	-N		C	0119	140	1.9		
MITK	16	0118	0119	0122	S17	W44	.721	15697	12.8	4	-F		C	0119			D	
GRP70667	16	0350+4	0355+6	0421	S14	W35	.601	15697	13.5	31	1N				340	4.3	IU	
CULG	16	0350	0401	0618	S13	W35	.597	15697	13.5	148	1N		C	0401	410	5.1	FIU	
MITK	16	0352	0355	0432	S14	W35	.601	15697	13.5	40	-N		C	0355			E	
PURP	16	0353	0356	0356D	S14	W34	.588	15697	13.6	5D	2B		C		340	208.0		
PEKG	16	0353	0400	0413	S14	W34	.588	15697	13.6	17	1N		P		168	103.0		
YUNN	16	0354	0357	0404	S16	W41	.683	15697	13.1	10	1N		C					
668 PEKG	16	0544	0546	0548	S22	E39	.687	15709	19.2	4	-F		P		105	66.0	D	Y5
GRP70669	16	0617	0619+1	0631	N23	W53	.837	15700	12.3	14	-N							
CULG	16	0617	0620	0637	N25	W55	.859	15700	12.1	20	-N		C	0620	60	1.1		
PURP	16	0619E	0619	0625	N21	W52	.823	15700	12.4	6D	-N		C					
670 PURP	16	0625E	0625	0630	S16	W38	.647	15697	13.4	5D	-F		C					Y5
671 PURP	16	0714	0715	0724	S22	E37	.665	15709	19.1	10	?N		C					Y5
	IMP.1 NO : CULG CATA																	
672 HTPR	16	0941	0949	1005	S14	W48	.757	15697	12.8	24	-F		C	0949	120	1.8	E	Y5
GRP70673	16	1651+0	1652+1	1657	N22	W57	.867	15700	12.4	6	-N				60	1.2		
RAMY	16	1651	1653	1658	N22	W57	.867	15700	12.4	7	-B	3	C		76		F	
MCMA	16	1651	1652	1656	N22	W58	.875	15700	12.4	5	-N		C	1652	40	1.0	E	
674 RAMY	16	1707	1708	1710	N19	W05	.352	15704	16.3	3	-F	3	C		26			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
675 RAMY	16	1715	1720	1735	N19	W05	.352	15704	16.3	20	-N	3	C		60			Y5
676 RAMY	16	1740	1743	1749	N19	W05	.352	15704	16.4	9	-F	3	C		29		F	Y5
677 RAMY	16	1806	1806	1816	S18	W38	.656	15697	13.9	10	-N	3	C		20		F	Y5
678 RAMY	16	1808	1810	1819	S22	E29	.576	15709	18.9	11	-B	3	C		72		F	Y5
679 MCMA	16	1815E		1857	N19	W06	.356	15704	16.3	42D	-N		C	1835	80	.9	E	Y5
GRP70680	16	1900+1	1905	1917	N19	W06	.356	15704	16.3	17	-N				50	.5		
MCMA	16	1900		1907D	N19	W06	.356	15704	16.3	7D	-N		P	1902	50	.5	E	
RAMY	16	1901	1905	1917	N19	W06	.356	15704	16.3	16	-B	3	C		55		F	
681 RAMY	16	1957	1958	2003	N22	W58	.875	15700	12.5	6	-N	2	C		39			Y5
	16	2029	2036	NO FLARE PATROL														
682 RAMY	16	2036	2040	2050	S15	W51	.791	15697	13.0	14	-N	2	C		31			Y5
	16	2102	2343	NO FLARE PATROL														
	16	0642	0650	NO FLARE PATROL														
683 VORO	17	0020	0021	0032	S16	W48	.761	15697	13.4	12	?F		C	0021	188	2.9	E	Y5
	IMP.1 NO ‡ MITK																	
684 VORO	17	0036	0037	0042	S22	E24	.520	15709	18.8	6	-F		C	0037	116	1.3	D	Y5
685 VORO	17	0119	0120	0123	S23	E30	.594	15709	19.3	4	-F		C	0120	81	1.0	D	Y5
GRP70686	17	0202+3	0207+3	0228	S20	W73	.960	15696	11.6	26	1N						E	
VORO	17	0202	0207	0238	S20	W71	.950	15696	11.8	36	-N		C	0216	161		E	
PURP	17	0204	0209	0227	S21	W76	.972	15696	11.4	23	1N		C					
YUNN	17	0205	0210	0228	S20	W73	.960	15696	11.6	23	1N		C					
GRP70687	17	0248	0251+3	0304	N24	E36	.683	15710	19.8	16	-N						E	
VORO	17	0248	0251	0303	N24	E34	.662	15710	19.7	15	-N		C	0251	81	1.1	E	
PURP	17	0251E	0254	0304	N24	E39	.712	15710	20.0	13D	-N		C					
GRP70688	17	0256+1	0258+1	0304	S22	E24	.520	15709	18.9	8	-N						E	
VORO	17	0256	0258	0307	S21	E24	.511	15709	18.9	11	-F		C	0258	134	1.5	E	
YUNN	17	0257	0259	0303	S22	E24	.520	15709	18.9	6	-N		C					
PURP	17	0257	0258	0304	S23	E27	.561	15709	19.1	7	-N		C					
689 PEKG	17	0320	0324	0328	N19	W12	.396	15704	16.2	8	-F		P		168	91.0	E	Y5
GRP70690	17	0343+2	0349+9	0406	N20	W10	.396	15704	16.4	23	-N						E	
VORO	17	0343	0349	0402	N21	W09	.404	15704	16.5	19	-N		C	0349	152	1.7	E	
YUNN	17	0345	0349	0405	N19	W12	.396	15704	16.3	20	-N		C					
MANI	17	0350E	0350U	0402D	N18	W10	.367	15704	16.4	12D	-N	3	C		20			
PURP	17	0353E	0354	0415	N19	W10	.381	15704	16.4	22D	-N		C					
PEKG	17	0354	0358	0406	N21	W11	.417	15704	16.3	12	-B		P		168	92.0	E	
691 MANI	17	0559E	0559U	0604D	S25	E06	.416	15707	17.7	5D	-N	3	C		15			Y5
692 ABST	17	0720	0722	0730	N17	W28	.545	15717	15.2	10	-F		C	0722	87	1.0	D	Y5
GRP70693	17	0729+4	0741+3	0805	S15	W51	.790	15697	13.5	36	2N				340	5.6	IUZ	
ABST	17	0729	0744D	0808	S14	W50	.778	15697	13.6	39	2N		P	0744	346	5.9	EZ	
CULG	17	0732	0742	0757D	S14	W51	.788	15697	13.5	25D	2B		P	0742	430	6.9	FU	
YUNN	17	0733	0742	0810	S16	W56	.840	15697	13.1	37	2N		C					
TEHR	17	0733	0743	0806	S15	W51	.790	15697	13.5	33	1B	1	C		286		F	
MANI	17	0734E	0741	0754	S17	W48	.764	15697	13.7	20D	1B	3	C		250		FDE	
HTPR	17	0737E		0810D	S15	W51	.790	15697	13.5	33D	2N		C	0738	400	6.2	EI	
694 HTPR	17	0828	0830	0845	S17	W42	.698	15697	14.2	17	-F		C	0830	10	.1		Y5
695 ABST	17	0831	0834	0845E	N18	W14	.400	15704	16.3	14D	-N		P	0834	174	1.8	EJ	Y5
696 HTPR	17	0850	0853	0928	S22	E30	.586	15709	19.6	38	-F		C	0853	40	.5		Y5
697 HTPR	17	1050	1051	1055	N17	W34	.617	15717	14.9	5	-F		C	1051	30	.4		Y5
698 HTPR	17	1101	1103	1111	N17	W34	.617	15717	14.9	10	-F		C	1103	30	.4	E	Y5
699 RAMY	17	1217	1218	1241	N18	W16	.419	15704	16.3	24	-B	3	C		24			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP70700	17	1357	1358 1427	1524	N18	W16	.419	15704	16.4	87	-B						F	
RAMY	17	1357	1358	1524	N18	W16	.419	15704	16.4	87	-N	3	C		52		F	
RAMY	17	1357	1427	1524	N18	W16	.419	15704	16.4	87	-B	3	C		151		F	
GRP70701	17	1432+1	1434 1500	1528	S24	E24	.539	15709	19.4	56	-N						FK	
HTPR	17	1432		1515D	S24	E25	.549	15709	19.5	43D	-F		C	1439	30	.3	FK	
MCMA	17	1432	1500	1535	S23	E22	.508	15709	19.3	63	-N		C	1500	75	.9	E	
RAMY	17	1433	1434	1521	S25	E24	.548	15709	19.4	48	-B	3	C		86		F	
702 MCMA	17	1507	1512	1522	S17	W62	.891	15697	13.0	15	-F		C	1512	30	.8	D	Y5
703 RAMY	17	1526	1532	1537	N18	W17	.429	15704	16.4	11	-N	3	C		21			Y5
GRP70704	17	1545+4	1552+0	1601	S17	W49	.774	15697	14.0	16	-B				70	1.1		
MCMA	17	1545	1552	1604	S17	W49	.774	15697	14.0	19	-B		C	1552	100	1.6	E	
RAMY	17	1549	1552	1558	S18	W49	.777	15697	14.0	9	-B	3	C		50		F	
GRP70705	17	1549+1	1550+0	1556	N22	W68	.940	15700	12.6	7	-B				25		D	
MCMA	17	1549	1550	1557	N24	W70	.953	15700	12.4	8	-B		C	1550	25	1.0	D	
RAMY	17	1550	1550	1554	N20	W66	.927	15700	12.7	4	-B	3	C		20			
706 RAMY	17	1553	1557	1634	N18	W18	.440	15704	16.3	41	-B	3	C		68		F	Y5
707 MCMA	17	1607	1608	1617	S17	W49	.774	15697	14.0	10	-F		C	1608	50	.8	D	Y5
708 MCMA	17	1609	1613	1624	S14	W60	.872	15697	13.2	15	-N		C	1613	40	.9	E	Y5
GRP70709	17	1645+1	1650 1656+1	1717	N18	W19	.450	15704	16.3	32	-B						EK	
MCMA	17	1645	1656	1702D	N18	W20	.461	15704	16.2	17D	-B		C	1656	100	1.2	EK	
RAMY	17	1646	1650	1653	N18	W18	.440	15704	16.3	7	-B	3	C		73		F	
RAMY	17	1654	1657	1717	N18	W18	.440	15704	16.4	23	1B	3	C		239		DE	
710 RAMY	17	1718	1719	1730	N18	W18	.440	15704	16.4	12	-N	3	C		25		F	Y5
711 RAMY	17	1731	1735	1755	N18	W19	.450	15704	16.3	24	-B	3	C		59		F	Y5
GRP70712	17	1800+7	1808+3	1833	S15	W62	.889	15697	13.1	33	1B				110	2.4		
MCMA	17	1800E	1811	1833	S14	W60	.872	15697	13.3	33D	1B		C	1811	100	2.4	E	
RAMY	17	1807	1808	1850	S16	W62	.890	15697	13.1	43	-B	3	C		120		DE	
PALE	17	1821E	1821U	1826	S15	W64	.904	15697	13.0	5D	-B	3	C		110		FDE	
GRP70713	17	1800>9	1824+1	1838	N18	W19	.450	15704	16.3	38	-B							
MCMA	17	1800	1824	1833	N18	W20	.461	15704	16.3	33	-N	*	C	1824	80	1.0	E	
RAMY	17	1815	1825	1838	N18	W19	.450	15704	16.3	23	-B	*	C		143			
PALE	17	1821E	1825	1849	N19	W19	.461	15704	16.3	28D	1B	*	C		234		FDE	
GRP70714	17	1850+5	1907 1915	1935	N18	W19	.450	15704	16.4	45	-N							
PALE	17	1850E	1915U	1934	N19	W20	.472	15704	16.3	44D	-N	3	C		68		FDE	
RAMY	17	1855	1907	1936	N18	W19	.450	15704	16.4	41	-B	3	C		75			
715 RAMY	17	1912	1920	1934	S16	W63	.897	15697	13.1	22	-B	3	C		14		F	Y5
716 PALE	17	1935	1936	1939	N19	W20	.472	15704	16.3	4	-N	3	C		47			Y5
GRP70717	17	1957+3	1957 2024	2047	N18	W22	.483	15704	16.2	50	-N							
HUAN	17	1957	1957	2002	N17	W24	.497	15704	16.0	5	-N	2	C	1957	35	.4		
PALE	17	2000	2024	2057	N19	W20	.472	15704	16.3	57	-B	3	C		134		FDE	
HUAN	17	2031		2037	N17	W25	.509	15704	16.0	6	-F	1	C					
718 PALE	17	2011E	2013	2017D	S15	W65	.911	15697	13.0	6D	-N	3	C		42		FDE	Y5
GRP70719	17	2057+3	2102 2113	2128	S16	W65	.911	15697	13.0	31	-N							
CULG	17	2057	2113	2128	S15	W65	.911	15697	13.0	31	1N		C	2113	80	2.0		
PALE	17	2058	2102	2128	S16	W65	.911	15697	13.0	30	-B	3	C		97		FDE	
HUAN	17	2100		2107D	S16	W68	.931	15697	12.8	7D	-F	1	P					
720 PALE	17	2111	2114	2133	N19	W21	.482	15704	16.3	22	-N	3	C		93		DE	Y5
GRP70721	17	2128+1	2129+0	2135	S22	E20	.478	15709	19.4	7	-F				40	.5		
CULG	17	2128	2129	2136	S22	E21	.488	15709	19.5	8	-F		C	2129	50	.6		
PALE	17	2129	2129	2134	S22	E20	.478	15709	19.4	5	-N	3	C		30		DE	

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
	17	2210	2221	NO FLARE PATROL														
GRP70722	17	2247	2252+0	2305	N18	W21	.472	15704	16.4	18	-F				35	.4		
CULG	17	2247	2252	2259	N18	W20	.461	15704	16.4	12	-F		C	2252	30	.3		
PALE	17	2250E	2252	2310D	N19	W22	.493	15704	16.3	20D	-N	3	C		41		FDE	
723 CULG	18	0033	0036	0041	S15	W65	.910	15697	13.1	8	-F		C	0036	40			Y5
GRP70724	18	0224>9	0240	0250D	S19	E17	.412	15709	19.4	26	-F				150	1.6	EJ	
CULG	18	0224	0240	0329	S20	E17	.423	15709	19.4	65	-F	*	C	0240	170	1.9		
VORO	18	0241		0250	S19	E18	.423	15709	19.5	9	-N	*	C	0242	125	1.4	EJ	
725 CULG	18	0226	0230	0244	N24	W85	.998	15700	11.7	18	-N		C	0230	20			Y5
GRP70726	18	0259+0	0301+5	0309	S17	W67	.925	15697	13.1	10	-N				40		D	
CULG	18	0259	0306	0313	S17	W69	.937	15697	12.9	14	-N		C	0306	30			
VORO	18	0259	0301	0304	S18	W66	.919	15697	13.2	5	-N		C	0301	45		D	
727 CULG	18	0427	0430	0441	S13	W67	.923	15697	13.2	14	-F		C	0430	80			Y5
728 CULG	18	0510	0522	0609	S27	W04	.439	15707	17.9	59	-F		C	0522	30	.3		Y5
729 CULG	18	0521	0524	0532	N23	W21	.526	15704	16.6	11	-F		C	0524	40	.5	T	Y5
730 CULG	18	0543	0552	0612	N22	W85	.997	15700	11.9	29	-F		C	0552	30			Y5
731 TEHR	18	0859E	0900U	0912	S17	W58	.858	15697	14.0	13D	-B	2	C		95			Y5
	18	1305	1346	NO FLARE PATROL														
	18	1409	1416	NO FLARE PATROL														
732 RAMY	18	1416	1418	1444	S16	W74	.963	15697	13.0	28	-B	2	C		33		F	Y5
733 MCMA	18	1545	1548	1552	N16	W76	.974	15700	13.0	7	-N		C	1548			D	Y5
734 MCMA	18	1633	1636	1656	N12	W85	.997	15697	12.3	23	1B		C	1636			AR	Y5
	18	1702	1711	NO FLARE PATROL														
	18	1738	1815	NO FLARE PATROL														
	18	1846	2000	NO FLARE PATROL														
	18	2119	2125	NO FLARE PATROL														
	18	0120	0122	NO FLARE PATROL														
735 CULG	18	2202	2212	2227	S10	W90	1.000	15697	12.2	25	1N		C	2212	80			Y5
736 CULG	18	2227	2242	2313	S24	W90	1.000	15696	12.2	46	1F		C	2242	60			Y5
GRP70737	18	2346+2	2348+2	0004	S12	W90	1.000	15697	12.2	18	1B				140		E	
CULG	18	2346	2348	0005	S10	W90	1.000	15697	12.2	19	1B		C	2348	100			
VORO	18	2347E		2356	S12	W90	1.000	15697	12.2	9D	-N		C	2347	188		E	
MANI	18	2348	2350	0004	S20	W90	1.000	15697	12.2	16	1B	3	C					
738 CULG	18	2351	2401	0028	S27	W15	.492	15707	17.9	37	-F		C	2401	40	.5		Y5
GRP70739	19	0021	0034+3	0046	N11	E41	.677	15712	22.1	25	-N				50	.7	F	
CULG	19	0021	0037	0047	N11	E42	.689	15712	22.2	26	-N		C	0037	70	1.0		
PALE	19	0032E	0034	0044	N12	E41	.680	15712	22.1	12D	-N	3	C		42		F	
GRP70740	19	0117+4	0122 0129	0134	N20	W36	.659	15704	16.4	17	-F						EJ	
CULG	19	0117	0129	0140	N20	W35	.648	15704	16.4	23	-F		C	0129	60	.8		
VORO	19	0121	0122	0128	N20	W38	.681	15704	16.2	7	-N		C	0122	72	1.0	EJ	
GRP70741	19	0340+2	0343+1	0406	N22	W37	.682	15704	16.4	26	-F				45	.6	D	
CULG	19	0340	0344	0406	N23	W37	.688	15704	16.4	26	-F		C	0344	40	.6		
VORO	19	0342	0343	0345D	N21	W37	.676	15704	16.4	3D	-N		C	0343	54	.7	D	
742 CULG	19	0354	0400	0407	S12	W85	.996	15697	12.8	13	-N		C	0400	30			Y5
743 CULG	19	0644	0650	0659	N23	E27	.586	15711	21.3	15	-N		C	0650	50	.6		Y5
744 CULG	19	0743	0748	0804	N23	W39	.709	15704	16.4	21	-N		C	0748	70	1.0		Y5
GRP70745	19	0830	0836+1	0845	S17	W76	.971	15697	13.7	15	-B						F	
YUNN	19	0830	0837	0846	S16	W82	.990	15697	13.2	16	1N		C					
TEHR	19	0833E	0836	0844	S18	W70	.943	15697	14.1	11D	-B	2	C		95		F	

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	
	19	1420	1424	NO FLARE PATROL													
746 RAMY	19	1839	1839	1852	N18	W45	.747	15704	16.4	13	-N	3	C		20		Y5
747 RAMY	19	1940	1941	1947	S18	W78	.979	15697	14.0	7	-N	3	C				Y5
	19	2113	2125	NO FLARE PATROL													
748 VORO	20	0053	0054	0059	S19	W80	.985	15697	14.0	6	-N		C	0054	45	1.8	DH Y5
749 CULG	20	0527	0532	0547	N08	E20	.376	15712	21.7	20	-N		C	0532	30	.3	Y5
750 ABST	20	0738	0741	0750E	N19	W56	.854	15704	16.1	120	-F		P	0741	87	1.7	DJ Y5
	20	1215	1225	NO FLARE PATROL													
	20	1240	1250	NO FLARE PATROL													
	20	1315	1325	NO FLARE PATROL													
	20	1500	1612	NO FLARE PATROL													
751 RAMY	20	1621	1622	1624	N11	E17	.359	15712	22.0	3	-N	2	C		26		H Y5
	20	1634	1648	NO FLARE PATROL													
	20	1705	1804	NO FLARE PATROL													
	20	1814	1823	NO FLARE PATROL													
752 HOLL	20	2011	2015	2024	N19	W61	.893	15704	16.3	13	-N	2	C		20		Y5
753 CULG	20	2115	2120	2125	N12	E10	.289	15712	21.6	10	-F		C	2120	20	.2	Y5
GRP70754	20	2145>9	2202+1 2215	2226	N11	E15	.333	15712	22.0	41	-N				60	.6	
CULG	20	2145	2203	2235	N11	E09	.265	15712	21.6	50	-N		C	2203	40	.4	
PALE	20	2155E	2203	2218	N11	E15	.333	15712	22.0	23D	-B	2	C		77		FDE
HOLL	20	2155	2202	2226	N12	E15	.344	15712	22.0	31	-N	2	C		52		
CULG	20	2212	2215	2220	N12	E10	.289	15712	21.7	8	-N		C	2215	60	.6	
755 CULG	20	2200	2203	2209	N23	W70	.953	15704	15.7	9	-F		C	2203	20		Y5
756 HOLL	20	2213	2213	2216	N19	W62	.900	15704	16.3	3	-N	2	C		15		F Y5
GRP70757	20	2249+2	2252+1	2258	N21	W66	.929	15704	16.0	9	-N				40		
CULG	20	2249	2252	2259	N23	W70	.953	15704	15.7	10	-N		C	2252	40		
HOLL	20	2251	2253	2257	N19	W62	.900	15704	16.3	6	-N	2	C		38		
758 CULG	20	2316	2318	2328	N12	E09	.279	15712	21.6	12	-N		C	2318	80	.8	Y5
759 CULG	21	0025	0035	0056	N18	W85	.997	15717	14.6	31	-F		C	0035	20	.2	Y5
760 PALE	21	0040	0042	0044	N19	W64	.914	15704	16.2	4	-N	3	C		22		Y5
761 YUNN	21	0052	0057	0125	N21	W63	.911	15704	16.3	33	-N		C				Y5
762 YUNN	21	0147	0153	0235	N21	W64	.917	15704	16.3	48	-N		C				Y5
GRP70763	21	0247	0353 0458	0522	N19	W66	.927	15704	16.2	155	-N						
YUNN	21	0247	0353	0459	N21	W65	.923	15704	16.2	132	-N		C				
CULG	21	0455E	0458	0509	N18	W68	.938	15704	16.1	140	-N		P	0458	40		
YUNN	21	0502	0507	0534	N21	W65	.923	15704	16.3	32	-N		C				
764 VORO	21	0304	0304	0305	N11	E07	.249	15712	21.7	1	-F		C	0304	36	.4	D Y5
765 YUNN	21	0604	0632	0707	N21	W66	.929	15704	16.3	63	?N		C		110		Y5
	IMP.1 NO : MITK CULG																
GRP70766	21	0730+8	0730 0754	0812	S25	W46	.767	15707	17.9	42	-N						
TEHR	21	0730E	0730U	0743D	S27	W46	.775	15707	17.9	13D	-N	1	C		64		FDE
YUNN	21	0738	0754	0808	S25	W46	.767	15707	17.9	30	-N		C				
CULG	21	0745E	0745E	0815	S23	W45	.750	15707	17.9	30D	-F		C	0745	70	1.1	
	21	1130	1145	NO FLARE PATROL													
	21	1210	1233	NO FLARE PATROL													
	21	1258	1312	NO FLARE PATROL													
767 RAMY	21	1312E	1314	1317	N10	E56	.838	15723	25.8	5D	-N	3	C		18		Y5

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	21	1413	1448	NO FLARE PATROL													
	21	0652	0705	NO FLARE PATROL													
	21	0755	0757	NO FLARE PATROL													
	21	0905	0907	NO FLARE PATROL													
768 RAMY	21	1451	1451	1501	N10	E55	.829	15723	25.7	10	-N	3	C		16		Y5
GRP70769	21	1645+1	1649+1	1732	N18	W71	.954	15704	16.4	47	1B				120		FU
RAMY	21	1645	1649	1722	N18	W71	.954	15704	16.4	37	-B	2	C		92		F
HOLL	21	1646	1650	1742	N19	W71	.954	15704	16.4	56	1B	3	C		152		U F
770 PALE	21	1858	1859	1906	S25	W53	.830	15707	17.8	8	-N	3	C		14		Y5
GRP70771	21	1905+2	1907+1	1912	N19	W72	.959	15704	16.4	7	-B				20		
RAMY	21	1905	1907	1914	N21	W72	.961	15704	16.4	9	-B	2	C		19		
PALE	21	1907	1908	1911	N19	W74	.968	15704	16.2	4	-B	3	C		29		
HOLL	21	1907	1908	1912	N19	W72	.959	15704	16.4	5	-B	3	C		24		
772 RAMY	21	1925	1927	1939	S23	W36	.655	15709	19.1	14	-N	2	C		36		Y5
773 CULG	21	2055	2106	2120	S22	W52	.814	15707	18.0	25	-F		C	2106	60	1.0	L Y5
GRP70774	21	2136+1	2139+0	2143	N19	W73	.964	15704	16.4	7	-B				30		F
HOLL	21	2136	2139	2143	N19	W73	.964	15704	16.4	7	-B	3	C		25		F
PALE	21	2137	2139	2142	N19	W73	.964	15704	16.4	5	-B	3	C		32		
775 CULG	21	2247	2302U	2331	S22	W42	.715	15709	18.8	44	-F		C	2302	50	.7	Y5
GRP70776	21	2347+0	2348+2	2355	N19	W90	1.000	15717	15.2	8	-F				40		
VORO	21	2347	2348	2353	N18	W90	1.000	15717	15.2	6	-F		C	2348	45		
CULG	21	2347	2350	2357	N20	W90	1.000	15717	15.2	10	-F		C	2350	30		
777 VORO	22	0104	0107	0117	N12	E02	.240	15712	22.2	13	-N		C	0107	134	1.4	EJ Y5
778 VORO	22	0138	0139	0145	N12	E50	.783	15723	25.8	7	-N		C	0139	63	1.0	EJ Y5
GRP70779	22	0300+3	0306+5	0322	N12	W01	.238	15712	22.0	22	-F				110	1.1	EJ
CULG	22	0300	0311	0333	N12	E00	.238	15712	22.1	33	-F		C	0311	80	.8	
VORO	22	0303	0306	0310	N12	W02	.240	15712	22.0	7	-N		C	0306	152	1.6	EJ
780 CULG	22	0342	0349	0357	N09	W04	.199	15712	21.9	15	-F		C	0349	20	.2	Y5
GRP70781	22	0357>9	0427+3	0502	N21	W77	.980	15704	16.4	65	-N						
CULG	22	0357	0430U	0451D	N22	W80	.989	15704	16.2	54D	1N		P	0430	70		
YUNN	22	0423	0427	0502	N20	W75	.973	15704	16.6	39	-N		C				
782 KHAR	22	1045		1100	N20	W85	.997	15704	16.1	15	-F		P	1052			D Y5
783 RAMY	22	1257	1308	1317	S23	W45	.749	15709	19.2	20	-B	3	C		84		F Y5
	22	1323	1326	NO FLARE PATROL													
	22	1327	1344	NO FLARE PATROL													
784 RAMY	22	1620	1620	1629	N24	W32	.648	15718	20.3	9	-N	2	C		53		F Y5
785 RAMY	22	1720	1720	1727	N24	W32	.648	15718	20.3	7	-N	2	C		22		F Y5
786 HCMA	22	1836	1840	1846	N28	E90	1.000	15731	29.5	10	-N		C	1840			DH Y5
GRP70787	22	2000>9	2000 2055	2102	N26	W35	.691	15718	20.2	62	-N						D
BIGB	22	2000E	2000	2107U	N26	W34	.682	15718	20.3	67D	-N		P	2000	65		
BIGB	22	2054	2055	2056	N26	W36	.701	15718	20.2	2	-N		C	2055	10		D
GRP70788	23	0502>9	0512+8	0527	S23	W58	.866	15709	18.9	25	1N				150	3.1	E
YUNN	23	0502	0512	0530	S23	W56	.850	15709	19.0	28	2N		C		361		
PEKG	23	0510	0515	0524	S23	W57	.858	15709	18.9	14	1N		P		168	160.0	E
TEHR	23	0514	0520	0524	S23	W61	.888	15709	18.6	10	-B	1	C		127		DE
MANI	23	0516E	0516U	0625	S26	W60	.886	15709	18.7	69D	-N	3	C		20		
	23	1402	1414	NO FLARE PATROL													
	23	1417	1427	NO FLARE PATROL													
	23	0345	0400	NO FLARE PATROL													
789 RAMY	23	1550	1551	1603	N11	E28	.510	15723	25.8	13	-B	3	C		32		F Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP70790	23	1626+2	1628+1	1638	N27	E73	.969	15731	29.2	12	-N						E	
MCMA	23	1626	1628	1643	N27	E75	.977	15731	29.3	17	-N		C	1628			E	
RAMY	23	1628	1629	1633	N28	E72	.966	15731	29.1	5	-N	3	C		12			
791 BIGB	23	1818	1831	1846	N28	E77	.983	15731	29.5	28	-N		C	1831	15		E	Y5
792 BIGB	23	1903	1938	1945	N16	W16	.405	15712	22.6	42	-N	*	C	1938	40		EG	Y5
GRP70793	23	1903+2	1911+6	1924	N17	W58	.868	15727	19.4	21	-N						F	
RAMY	23	1903	1917	1924	N17	W59	.876	15727	19.4	21	-N	3	C		84		F	
HOLL	23	1905	1911	1924	N17	W58	.868	15727	19.4	19	-N	3	C		21			
794 RAMY	23	1932	1935	1946	N17	W59	.876	15727	19.4	14	-N	3	C		78		F	Y5
795 BIGB	23	1957	2006	2008	N12	E72	.955	15726	29.2	11	-N		P	2006	10		D	Y5
GRP70796	23	2136	2138	2143	S17	E90	1.000	15733	30.6	7	1N							
BIGB	23	2136	2141	2138	S16	E90	1.000	15733	30.7	2	1N		C	2141	60			
CULG	23	2140E	2140E	2145	S18	E90	1.000	15733	30.7	5D	-F		P	2140	40		B	
797 BIGB	23	2137	2158	2206	N12	E72	.955	15726	29.3	29	-N		C	2158	40			Y5
798 BIGB	23	2221	2223	2232	N17	W64	.912	15727	19.1	11	-N		C	2223	15		EG	Y5
799 BIGB	23	2229	2230	2237	S14	E90	1.000	15733	30.7	8	?N		C	2230	65			Y5
	IMP.1 NO : HOLL CULG PALE																	
800 CULG	23	2249	2301	2310	S21	W70	.944	15709	18.7	21	-F		C	2301	30			Y5
801 BIGB	23	2305	2318	2329	N11	E25	.470	15723	25.8	24	-N		C	2318	40			Y5
802 BIGB	23	2307	2310	2315	S15	E90	1.000	15733	30.7	8	-N		C	2310	15			Y5
803 BIGB	23	2321	2339	2342	N12	E69	.939	15726	29.1	21	-N		C	2339	50			Y5
804 CULG	24	0006	0009	0013	S18	E90	1.000	15733	30.8	7	-N		C	0009	20			Y5
805 CULG	24	0245	0249	0255	S14	E52	.796	15725	28.0	10	-F		C	0249	30	.5	G	Y5
806 VORO	24	0352	0354	0400D	N16	W65	.918	15727	19.3	8D	-F		C	0354	36		D	Y5
807 CULG	24	0523E	0530	0540	N18	E11	.387	15722	25.0	17D	-N		C	0530	40	.4		Y5
808 KHAR	24	0955E		1005D	S15	E85	.996	15733	30.8	10D	-F		P	1002			D	Y5
	24	1045	1115	NO FLARE PATROL														
	24	1120	1138	NO FLARE PATROL														
	24	1225	1231	NO FLARE PATROL														
	24	0400	0420	NO FLARE PATROL														
	24	0545	0547	NO FLARE PATROL														
	24	0920	0950	NO FLARE PATROL														
	24	0028	0038	NO FLARE PATROL														
	24	0050	0126	NO FLARE PATROL														
809 BIGB	24	1819	1822	1831	S31	E86	.997	15734	31.2	12	-N		C	1822	20			Y5
810 BIGB	24	1819	1825	1835	S09	E80	.984	15733	30.8	16	-N	*	C	1825	15		D	Y5
811 PALE	24	2043	2044	2054	N19	E02	.360	15722	25.0	11	-N	3	C		37		DE	Y5
812 BIGB	24	2114	2205	2223	N12	E54	.824	15726	28.9	69	-N		C	2205	10		D	Y5
813 BIGB	24	2207	2227	2239	S20	E90	1.000	15733	31.7	32	?N		C	2227	130			Y5
	IMP.1 NO : HOLL																	
GRP70814	24	2315	2318 2321	2330	N09	E09	.245	15723	25.6	15	-N							
BIGB	24	2315	2318	2322	N11	E09	.272	15723	25.6	7	-N		C	2318	50			
BIGB	24	2319	2321	2330	N08	E09	.233	15723	25.6	11	-N		C	2321	30			
815 VORO	25	0146		0149	N12	E07	.272	15723	25.6	3	-F		C	0146	90	.9	EH	Y5
816 VORO	25	0306	0307	0312	N13	E49	.776	15726	28.8	6	-F		C	0307	72	1.1	DJ	Y5
817 TEHR	25	0453	0456	0508D	N12	E50	.784	15726	29.0	15D	-B	1	C		95		FDE	Y5
818 YUNN	25	0547	0605	0650	S30	E68	.939	15734	30.3	63	1N		C		157			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	25	1052	1300	NO FLARE PATROL														
	25	1324	1409	NO FLARE PATROL														
GRP70819	25	2022+0	2022+0	2026	S16	E69	.935	15733	31.0	4	-N				30			
PALE	25	2022	2022	2024	S15	E71	.946	15733	31.2	2	-N	3	C		17		DE	
HOLL	25	2022	2022	2027	S17	E68	.929	15733	30.9	5	-N	3	C		38			
GRP70820	25	2131+2	2136+0	2154	S29	E64	.916	15734	30.7	23	1B				120		H	
HOLL	25	2131	2136	2152	S30	E62	.905	15734	30.5	21	-B	3	C		76			
PALE	25	2133	2136	2155D	S28	E67	.932	15734	30.9	22D	1B	3	C		171		H	
	25	2251	2255	NO FLARE PATROL														
	25	0508	0514	NO FLARE PATROL														
821 MANI	26	0327E	0327U	0334	S15	E60	.870	15733	30.6	7D	-B	3	C		100		F	Y5
822 MITK	26	0538		0547D	S17	E64	.903	15733	31.0	9D	?F		C	0546	180	4.1	E	Y5
	IMP.1 NO ± MANI																	
GRP70823	26	1108+1	1108+2	1113	S16	E54	.818	15733	30.5	5	-F						D	
KANZ	26	1108	1108	1112	S16	E55	.827	15733	30.6	4	-N	2					D	
HTPR	26	1109	1110	1113	S17	E54	.819	15733	30.5	4	-F		C	1110	30	.5		
824 HTPR	26	1426	1428	1438	S19	E52	.804	15733	30.5	12	-F		C	1428	40	.6		Y5
825 HTPR	26	1438	1441	1505	S15	E57	.844	15733	30.9	27	-F		C	1441	20	.4		Y5
GRP70826	26	1828	1831 1901	1933	S16	E61	.879	15733	31.3	65	-N							
BIGB	26	1828	1831	1933	S16	E61	.879	15733	31.3	65	-N		C	1831	10		D	
BIGB	26	1859	1901	1902	S16	E62	.887	15733	31.4	3	-N		C	1901	10		D	
827 BIGB	26	1945	1951	1957	S17	E53	.810	15733	30.8	12	-N		C	1951	50			Y5
GRP70828	26	1958	2007+3 2022	2038	S15	E56	.835	15733	31.0	40	-N						E	
BIGB	26	1958	2007	2011	S17	E55	.829	15733	31.0	13	-N		C	2007	10		D	
BIGB	26	2004	2022	2049	S14	E57	.843	15733	31.1	45	-N		C	2022	50			
BIGB	26	2006	2010	2026	S14	E57	.843	15733	31.1	20	-N		P	2010	40		E	
829 BIGB	26	2028	2031U	2031D	S14	E60	.869	15733	31.4	3D	-N		P	2031	30			Y5
830 BIGB	26	2300	2304	2315	S16	E54	.818	15733	31.0	15	-N		C	2304	50		D	Y5
831 BIGB	26	2301	2307	2346	S24	E54	.833	15734	31.0	45	-N		C	2307	60			Y5
	27	1014	1025	NO FLARE PATROL														
	27	1030	1100	NO FLARE PATROL														
	27	1110	1132	NO FLARE PATROL														
	27	0448	0523	NO FLARE PATROL														
	27	0537	0558	NO FLARE PATROL														
	27	0611	0700	NO FLARE PATROL														
	27	0707	0755	NO FLARE PATROL														
	27	0815	0901	NO FLARE PATROL														
832 RAMY	27	1236	1237	1246	S18	E51	.792	15733	31.4	10	-N	3	C		22			Y5
833 RAMY	27	1551	1551	1554	S15	E41	.674	15733	30.7	3	-N	3	C		22			Y5
GRP70834	27	1626+1	1631+7	1804	S13	E43	.693	15733	30.9	98	2B						U	
RAMY	27	1626	1637	1813	S13	E41	.669	15733	30.8	107	3B	3	C		1700		U F	
BIGB	27	1626	1638	1755	S12	E43	.691	15733	30.9	89	2N		C	1638	650			
HOLL	27	1627	1631	1634D	S16	E43	.701	15733	30.9	7D	2B	3	C		393		UDE	
835 RAMY	27	1629	1633	1642	S18	E71	.947	15733	2.0	13	-B	3	C		51		F	Y5
GRP70836	27	1759+0	1800+1	1803	S22	W46	.753	15738	24.3	4	-N				20	.3		
PALE	27	1759	1801	1802	S23	W46	.756	15738	24.3	3	-N	3	C		17		DE	
RAMY	27	1759	1800	1804	S22	W47	.763	15738	24.2	5	-N	3	C		19			
837 BIGB	27	2003	2017	2041	S32	E65	.925	15739	1.7	38	-N		C	2017	20			Y5
838 BIGB	27	2116	2123	2127	S27	E39	.705	15734	30.8	11	-N		C	2123	10		D	Y5
839 BIGB	27	2148	2212	2220	S32	E62	.908	15739	1.6	32	-N		C	2212	10			Y5
840 BIGB	27	2307	2311	2320	S32	E62	.908	15739	1.6	13	-N		C	2311	15			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
841 BIGB	27	2340	2341	2344	S34	E90	1.000	15740	3.7	4	-N		C	2341	15			Y5
842 VORO	28	0012	0017	0036	S28	W20	.528	15735	26.5	24	-F		C	0017	99	1.1	EJ	Y5
GRP70843	28	0045+1	0047+3	0109	S14	E39	.645	15733	31.0	24	-B						EJ	
VORO	28	0045	0050	0106	S13	E38	.630	15733	30.9	21	1N		C	0050	206	2.6	EJ	
PALE	28	0046	0047	0111D	S15	E41	.673	15733	31.1	25D	-B	3	C		41		DE	
GRP70844	28	0432	0443+7	0503	N13	E09	.307	15726	28.9	31	1N				250	2.6		
YUNN	28	0432	0450	0510	N11	E09	.279	15726	28.9	38	1N		C		361	192.0		
CULG	28	0438E	0443U	0452D	N13	E09	.307	15726	28.9	14D	-N		P	0443	180	1.9	F	
PEKG	28	0444	0448	0456	N13	E09	.307	15726	28.9	12	1F		P		210	111.0	E	
845 HTPR	28	0737E		0856	S14	E32	.554	15733	30.7	79D	-F		C	0738	40	.5	E	Y5
846 HTPR	28	1033	1035	1046	S32	E54	.853	15739	1.5	13	-N		C	1035	20	.3		Y5
847 HTPR	28	1055	1059	1107	N18	E12	.401	15732	29.4	12	-F		C	1059	40	.4	E	Y5
848 HTPR	28	1106	1109	1113	S32	E53	.846	15739	1.4	7	-F		C	1109	30	.5		Y5
849 HTPR	28	1116		1128D	S30	E27	.610	15734	30.5	12D	-F		C	1121	20	.2		Y5
GRP70850	28	1152+1	1154+0	1204	S35	E88	.999	15740	4.1	12	-B						A	
HTPR	28	1152	1154	1203	S35	E90	1.000	15740	4.2	11	1B		C	1154	100		A	
RAMY	28	1153	1154	1204	S35	E86	.997	15740	3.9	11	-N	2	C					
851 HTPR	28	1235	1238	1243	S30	E52	.832	15739	1.4	8	-N		C	1238	30	.5		Y5
852 RAMY	28	1328	1328	1350	N11	E04	.243	15726	28.9	22	-N	3	C		23			Y5
GRP70853	28	1356+5	1359+2	1407	S15	E30	.532	15733	30.8	11	-N						E	
HTPR	28	1356	1359	1410	S15	E28	.505	15733	30.7	14	-N		C	1359	60	.6	E	
RAMY	28	1401	1401	1404	S15	E33	.571	15733	31.1	3	-N	3	C		24			
	28	1458	1513	NO FLARE PATROL														
854 RAMY	28	1501	1534	1625	N11	E03	.239	15726	28.9	84	-B	2	C		53			Y5
855 MCMA	28	1532E	1542	1551	S29	W90	1.000	15714	21.9	19D	-N		C	1542			E	Y5
	28	1607	1615	NO FLARE PATROL														
856 RAMY	28	1626	1629	1649	N11	E03	.239	15726	28.9	23	-N	2	C		39			Y5
857 RAMY	28	1629	1632	1634	S32	E50	.823	15739	1.4	5	-F	2	C		18			Y5
858 RAMY	28	1637	1638	1643	S32	E50	.823	15739	1.4	6	-F	2	C		32			Y5
859 MCMA	28	1703		1708D	S13	E30	.522	15733	31.0	5D	-F		P	1707	80	1.0	E	Y5
860 RAMY	28	1744	1747	1750	S22	W62	.892	15738	24.1	6	-N	2	C		14			Y5
	28	1749	1751	NO FLARE PATROL														
	28	1752	1830	NO FLARE PATROL														
861 RAMY	28	1836	1836	1841	N11	E02	.236	15726	28.9	5	-N	2	C		33			Y5
	28	1846	1856	NO FLARE PATROL														
	28	1913	1917	NO FLARE PATROL														
862 RAMY	28	1920	1925	1928	N11	E01	.234	15726	28.9	8	-N	2	C		31			Y5
863 RAMY	28	2003	2003	2010	N11	E01	.234	15726	28.9	7	-N	2	C		23			Y5
GRP70864	28	2024+0	2030+4	2048	S33	E47	.804	15739	1.4	24	-N				45	.8		
RAMY	28	2024	2034	2042D	S32	E47	.799	15739	1.4	18D	-B	2	C		50			
CULG	28	2024	2030	2048	S34	E48	.816	15739	1.4	24	-F		C	2030	40	.7		
865 CULG	28	2105	2109U	2112D	S31	E32	.663	15734	31.3	7D	-F		P	2109	30	.4		Y5
	28	2112	2120	NO FLARE PATROL														
	28	0335	0438	NO FLARE PATROL														
	28	0452	0514	NO FLARE PATROL														
	28	0517	0522	NO FLARE PATROL														
	28	0540	0615	NO FLARE PATROL														

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
866 CULG	28	2128	2132	2151	S20	E15	.388	15729	30.0	23	-F		C	2132	40	.4		Y5
GRP70867	28	2134	2141 2157	2210	S21	W66	.919	15738	23.9	36	-N							
CULG	28	2134	2141	2210	S20	W69	.936	15738	23.7	36	-N		C	2141	40			
PALE	28	2154E	2157U	2158D	S23	W64	.907	15738	24.1	4D	-B	3	C		32		DE	
868 CULG	28	2211	2214	2222	N23	E14	.484	15732	30.0	11	-F		C	2214	20	.2	G	Y5
869 CULG	28	2244	2247	2254	S20	W70	.942	15738	23.7	10	-N		C	2247	40			Y5
870 CULG	28	2246	2248	2257	S27	W90	1.000	15714	22.2	11	-N		C	2248	20			Y5
871 CULG	28	2322	2330	2341	N36	E07	.630	15730	29.5	19	-F		C	2330	40	.5		Y5
872 VORO	29	0003	0006	0010	N10	W03	.224	15726	28.8	7	-N		C	0006	179	1.8	DHJ	Y5
873 VORO	29	0041	0043	0047	S25	W70	.944	15738	23.8	6	-F		C	0043	54		EJ	Y5
874 VORO	29	0202	0203	0206	S35	E88	.998	15740	4.7	4	-N		C	0203	72		DJ	Y5
875 VORO	29	0204	0206	0212	S25	W70	.944	15738	23.8	8	-F		C	0210	36		D	Y5
GRP70876	29	0240+3	0246+4	0302	N11	W05	.250	15726	28.7	22	-N						DJ	
YUNN	29	0240	0250	0305	N11	W04	.245	15726	28.8	25	-N		C					
VORO	29	0243	0246	0258	N11	W06	.257	15726	28.7	15	-N		C	0246	90	.9	DJ	
GRP70877	29	0305+6	0309+4	0322	S19	E13	.354	15729	30.1	17	-F						E	
YUNN	29	0305	0309	0325	S19	E13	.354	15729	30.1	20	-N		C					
VORO	29	0311	0313	0318	S19	E13	.354	15729	30.1	7	-F		C	0313	54	.5	E	
878 CULG	29	0516	0531	0540	S22	W63	.899	15738	24.5	24	-F		C	0531	40		K	Y5
879 CULG	29	0612	0617	0635	S35	E44	.789	15739	1.6	23	-N		C	0617	70	1.1		Y5
	29	1230	1240	NO FLARE PATROL														
	29	1250	1311	NO FLARE PATROL														
880 RAMY	29	1350	1352	1357	S22	W73	.958	15738	24.1	7	-N	2	C		33			Y5
	29	1600	1604	NO FLARE PATROL														
881 HUAN	29	1615		1620	S34	E37	.727	15739	1.5	5	-F	1	C					Y5
	29	1649	1652	NO FLARE PATROL														
	29	1840	1843	NO FLARE PATROL														
	29	1846	1848	NO FLARE PATROL														
	29	1903	1910	NO FLARE PATROL														
	29	1928	1958	NO FLARE PATROL														
882 BIGB	29	2011	2017	2020	S12	E73	.955	15741	4.3	9	-N		C	2017	40			Y5
883 BIGB	29	2037	2042	2046	N90	E15	1.001	0	31.0	9	-N		C	2042	20			Y5
884 BIGB	29	2104	2107	2111	N12	W16	.368	15726	28.7	7	-N		C	2107	30			Y5
885 BIGB	29	2154	2208	2215	S17	E80	.984	15741	4.9	21	-N		C	2208	20			Y5
GRP70886	29	2233+3	2240+0	2253	S12	E68	.927	15741	4.0	20	-N				35			
CULG	29	2233	2240	2259	S13	E68	.927	15741	4.0	26	-N		C	2240	40			
BIGB	29	2236	2240	2246	S11	E69	.933	15741	4.1	10	-N		C	2240	25			
	29	2409	0000	NO FLARE PATROL														
	29	0457	0505	NO FLARE PATROL														
887 VORO	30	0034	0036	0041	N11	W29	.529	15726	27.8	7	-F		C	0036	18	.2	D	Y5
888 CULG	30	0050	0052	0059D	S20	E75	.966	15746	4.7	9D	-F		P	0052	40			Y5
889 YUNN	30	0321	0329	0440	S12	E63	.891	15741	3.9	79	?B		C		126			Y5
	IMP.1 NO : MITK VORO																	
GRP70890	30	0541+8	0600+8	0652	S20	E66	.917	15746	4.2	71	2B				380		EU	
YUNN	30	0541	0600	0706	S20	E66	.917	15746	4.2	85	3B		C		472			
MITK	30	0546	0602	0641	S21	E75	.966	15746	4.9	55	1B		C	0602	180		E	
MANI	30	0549	0607	0620	S20	E67	.924	15746	4.3	31	2B	2	C		300		U	
TEHR	30	0604E	0608U	0702	S12	E63	.891	15746	4.0	58D	3B	2	C		732		U	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
891 YUNN	30	0735	0746	0815	S29	E07	.455	15734	30.8	40	?N		C		188	102.0		Y5
	IMP.1 NO : MANI																	
892 KANZ	30	1037	1041	1044	S11	E61	.875	15741	4.0	7	-F	1						Y5
893 KANZ	30	1051	1051	1104	S29	E05	.449	15734	30.8	13	-F	1						Y5
894 RAMY	30	1200	1202	1220	S32	E27	.626	15739	1.5	20	-N	3	C		25			Y5
895 RAMY	30	1216	1220	1234	N13	E74	.966	15745	5.1	18	-N	3	C		16			Y5
896 HTPR	30	1232	1233	1235	S20	E18	.417	15733	31.9	3	-F		C	1233	10	.1		Y5
GRP70897	30	1329+3	1332+3	1342	S33	E01	.504	15734	30.6	13	-N						E	
HTPR	30	1329	1335	1345	S34	E01	.519	15734	30.6	16	-N		C	1335	130	1.6	E	
KANZ	30	1331	1334	1341	S33	E01	.504	15734	30.6	10	-F	1						
RAMY	30	1332	1332	1342	S31	E04	.477	15734	30.9	10	-N	3	C		28			
898 RAMY	30	1507	1507	1511	N11	W23	.449	15726	28.9	4	-N	3	C		32			Y5
899 RAMY	30	1609	1611	1627	N11	W24	.463	15726	28.9	18	-B	3	C		80			Y5
900 RAMY	30	1725	1725	1728	S22	E19	.449	15733	1.2	3	-N	3	C		20			Y5
901 RAMY	30	1833	1847	1855	S22	E19	.449	15733	1.2	22	-N	3	C		33			Y5
	30	1855	1856	NO FLARE PATROL														
902 BIGB	30	1913	1914	1918	S18	E11	.320	15733	31.6	5	-N		C	1914	15			Y5
903 CULG	30	2054	2101	2110	S25	E01	.379	15734	30.9	16	-F		C	2101	30	.3		Y5
904 BIGB	30	2123	2132	2137	S12	E20	.372	0	1.4	14	-N		C	2132	10			Y5
GRP70905	30	2250>9	2306 2314	2328	S12	E54	.812	15741	4.0	38	-N							
CULG	30	2250	2314	2334	S13	E54	.813	15741	4.0	44	1N		C	2314	120	2.0		
PALE	30	2305	2306	2321	S11	E54	.811	15741	4.0	16	-N	2	C		66		DE	
GRP70906	30	2324+8	2330+3	2344	S22	E16	.419	15733	1.2	20	-N							
CULG	30	2324	2330	2351	S24	E17	.452	15733	1.2	27	-N		C	2330	100	1.1		
PALE	30	2332	2333	2336	S21	E15	.397	15733	1.1	4	-N	2	C		28		DE	
907 VORO	30	2346E		0100	S26	E01	.395	15734	31.1	74D	?F		C	2358	269	2.9	BEJ	Y5
	IMP.1 NO : PALE CULG MITK																	
908 VORO	31	0146	0148	0151	N13	E68	.935	15745	5.2	5	-F		C	0148	27		D	Y5
GRP70909	31	0152+4	0156+3	0205	N11	W31	.556	15726	28.8	13	-F				40	.5	DJ	
CULG	31	0152	0159	0207	N12	W32	.575	15726	28.7	15	-F		C	0159	40	.5		
VORO	31	0156	0156	0203	N11	W31	.556	15726	28.8	7	-N		C	0156	36	.4	DJ	
GRP70910	31	0302+8	0313+2	0425	S20	E10	.337	15733	31.9	83	1N				340	3.7	EJL	
YUNN	31	0302	0314	0425	S23	E13	.403	15733	1.1	83	2B		C		472	252.0		
CULG	31	0308	0315	0436	S20	E09	.330	15733	31.8	88	1B		C	0315	230	2.4	FL	
VORO	31	0309	0314	0340D	S19	E11	.332	15733	1.0	31D	1N		C	0314	349	3.7	EJ	
MITK	31	0310	0313	0346	S20	E10	.337	15733	31.9	36	1N		C	0313	320	3.5	E	
911 CULG	31	0450	0456	0527	N13	E68	.935	15745	5.3	37	-F		C	0456	40			Y5
912 CULG	31	0451	0457	0506	S12	E51	.780	15741	4.0	15	-F		C	0457	30	.5		Y5
913 CULG	31	0540	0551	0626	S15	W06	.234	15733	30.8	46	-F		C	0551	40	.4	T	Y5
914 CULG	31	0714	0722	0737	S13	E50	.771	15741	4.1	23	-N		C	0722	30	.5		Y5
915 CULG	31	0734	0744U	0744	N13	E65	.916	15745	5.2	10	-F		P	0744	60	150.0		Y5
916 YUNN	31	0751	0757	0810	S32	E14	.530	15739	1.4	19	-N		C					Y5
917 TEHR	31	0802	0805	0812	N13	E64	.910	15745	5.1	10	-B	2	C		95			Y5
918 YUNN	31	0836	0843	0857	S23	E10	.380	15733	1.1	21	-N		C					Y5
919 YUNN	31	0903	0910	0937	S23	E10	.380	15733	1.1	34	-N		C					Y5
	31	1208	1214	NO FLARE PATROL														

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Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS		
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.			
920 RAMY	31	1213E	1214	1245	S32	E14	.530	15739	1.6	32D	-N	2	C		74		U F		Y5
	31	1310	1507	NO FLARE PATROL															
921 RAMY	31	1316	1316	1321	N12	E60	.878	15745	5.1	5	-N	3	C		23				Y5
922 RAMY	31	1446	1447	1507	S12	E45	.713	15741	4.0	21	-N	3	C		2P				Y5
	31	1543	1602	NO FLARE PATROL															
923 HUAN	31	1611		1613	S23	E06	.358	15733	1.1	2	-F	1	C				E		Y5
	31	1613	1628	NO FLARE PATROL															
924 RAMY	31	1645	1650	1657	S23	E06	.358	15733	1.1	12	-N	2	C		45				Y5
	31	1711	1756	NO FLARE PATROL															
925 RAMY	31	1726	1727	1741	S23	E06	.358	15733	1.2	15	-N	2	C		80				Y5
GRP70926	31	1905+1	1906+0	1910	N14	E61	.889	15745	5.4	5	-N								
BIGB	31	1905	1906	1910	N16	E65	.920	15745	5.7	5	-N		C	1906	60				
RAMY	31	1906	1906	1909	N12	E57	.853	15745	5.1	3	-B	2	C		19				
	31	1912	1930	NO FLARE PATROL															
927 BIGB	31	2030	2035	2040	S22	W02	.329	15733	31.7	10	-N		C	2035	15				Y5
	31	2108	2117	NO FLARE PATROL															
928 CULG	31	2117	2117	2133	S33	W06	.510	15734	31.4	16	-F		C	2117	30	.3			Y5
GRP70929	31	2158+1	2202+1	2217	S36	E45	.799	15740	4.3	19	-N				70	1.2	F		
CULG	31	2158	2203	2223	S36	E45	.799	15740	4.3	25	-N		C	2203	100	1.7	F		
BIGB	31	2159	2202	2211	S36	E46	.807	15740	4.4	12	-N		C	2202	50				
	31	2313	2320	NO FLARE PATROL															
930 CULG	31	2321	2336	2358	S18	W01	.262	15733	31.9	37			C	2336	40	.4			Y5
931 BIGB	31	2323	2325	2329	N16	E62	.899	15745	5.6	6	-N		C	2325	10				Y5

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

DAILY FLARE INDICES

Includes all Flares

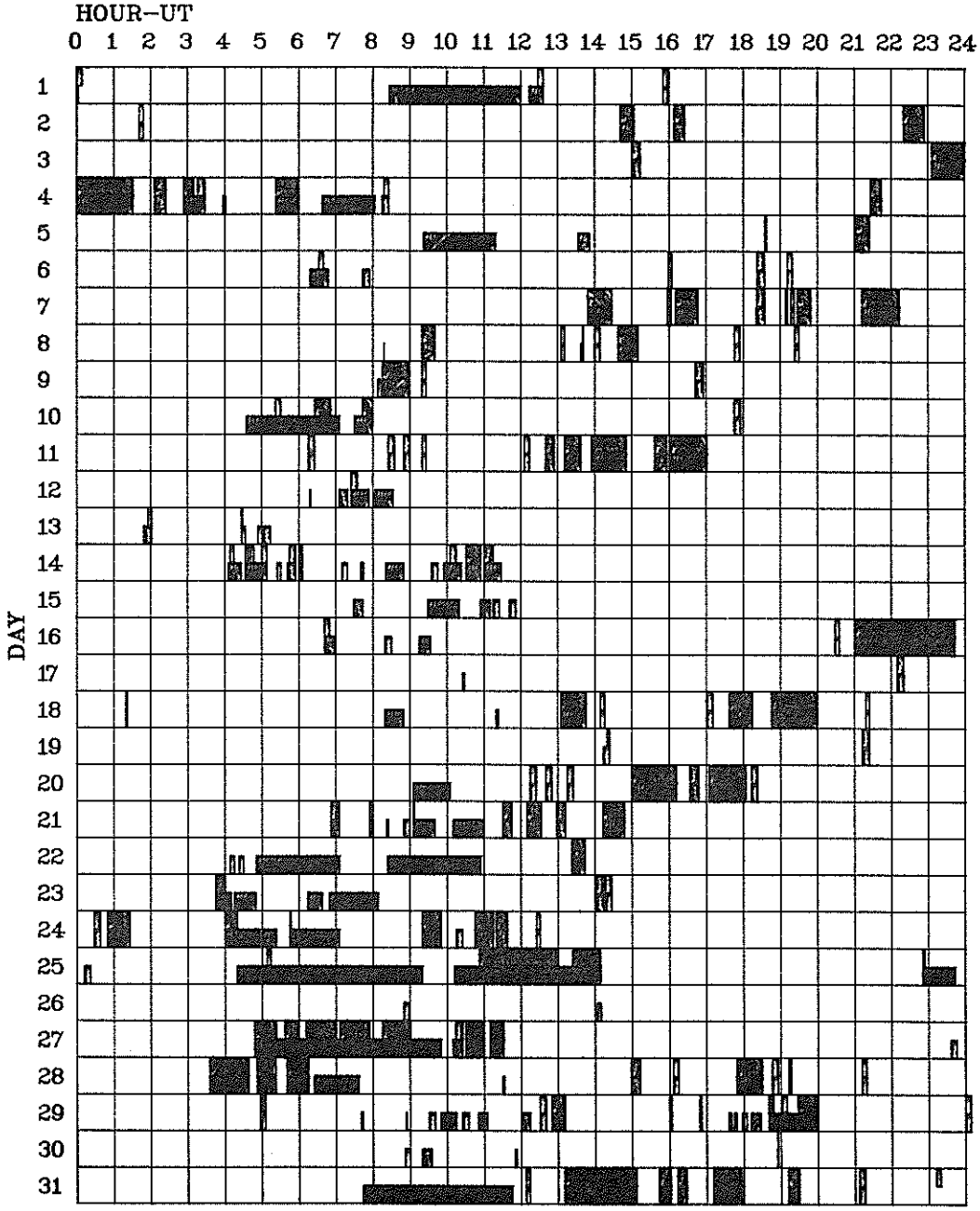
NOVEMBER 1978

Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
781201	37.63	23.6	781212	305.33	23.8	781223	35.73	23.4
781202	98.39	22.7	781213	891.15	23.9	781224	24.70	21.5
781203	23.24	21.4	781214	153.01	22.5	781225	22.52	21.0
781204	51.60	22.2	781215	105.66	24.0	781226	15.83	24.0
781205	59.85	23.6	781216	114.70	21.1	781227	283.73	19.6
781206	64.77	23.5	781217	183.27	23.8	781228	122.36	20.5
781207	132.16	20.9	781218	58.36	21.1	781229	33.26	22.7
781208	51.62	22.6	781219	14.00	23.7	781230	141.66	24.0
781209	84.38	23.0	781220	29.97	20.9	781231	131.51	20.1
781210	400.32	23.0	781221	31.93	22.3			
781211	433.31	20.3	781222	31.93	23.7			

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

DECEMBER 1978



Observatories included in total patrol:

Abastumani	Herstmonceux	Kharkov	Monte Mario	Tehran
Athenes	Holloman	Locarno	Palehua	Upice
Big Bear	Huancayo	Lvov	Peking	Voroshilov
Bucharest	Istanboul	Manila	Purple Mt.	Wendelstein
Culgoora	Kandilli	McMath-Hulbert	Ramey	Yunnan
Haute Provence	Kanzelhohe	Mitaka	Tashkent	Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

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REGIONAL FLARE INDEX

INCLUDES ALL FLARES

NOVEMBER 1978

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15631	S14	78/11/01.9	78/10/25	78/11/07	24.63	1.76	8
15630	N16	78/11/02.1	78/11/02	78/11/05	7.51	1.88	3
15629	N30	78/11/02.6	78/11/02	78/11/02	17.10	17.10	1
15635	S24	78/11/04.7	78/10/31	78/11/11	184.86	15.40	55
15645	S22	78/11/06.4	78/11/05	78/11/09	11.02	2.20	5
15656	N24	78/11/07.3	78/11/13	78/11/13	.86	.86	1
15641	S 9	78/11/07.7	78/11/02	78/11/14	277.64	21.36	79
15642	S22	78/11/09.7	78/11/03	78/11/11	14.99	1.67	3
15643	N19	78/11/10.5	78/11/05	78/11/17	605.56	46.58	79
15647	S23	78/11/13.3	78/11/07	78/11/16	10.38	1.04	3
15651	N24	78/11/14.5	78/11/11	78/11/20	26.57	2.66	12
15671	S17	78/11/14.9	78/11/17	78/11/17	3.43	3.43	1
15654	S19	78/11/15.8	78/11/11	78/11/18	5.29	.66	2
15653	N38	78/11/16.0	78/11/19	78/11/22	22.98	5.74	25
15662	N16	78/11/18.5	78/11/24	78/11/24	.84	.84	1
15668	S22	78/11/21.2	78/11/16	78/11/20	18.23	3.65	5
15667	N34	78/11/21.9	78/11/15	78/11/15	.84	.84	1
15669	S17	78/11/22.4	78/11/16	78/11/27	60.08	5.01	19
15670	S27	78/11/23.3	78/11/16	78/11/25	6.39	.64	5
15672	N25	78/11/24.2	78/11/21	78/11/21	17.10	17.10	1
15673	N15	78/11/24.5	78/11/19	78/12/01	69.44	5.34	34
15677	S20	78/11/26.3	78/11/22	78/11/22	1.90	1.90	1
15678	S14	78/11/28.3	78/11/28	78/12/02	6.10	1.22	2
15679	N15	78/11/28.5	78/11/22	78/12/04	25.72	1.98	11
15692	S27	78/11/29.3	78/12/02	78/12/03	6.80	3.40	4
15681	N10	78/11/29.9	78/11/25	78/12/01	19.97	2.85	6
15690	N14	78/11/30.6	78/11/24	78/11/27	5.65	1.41	4

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