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Solar - Geophysical Data

NO. 431 JULY 1980

Part II (Comprehensive Reports)

DATA FOR
JANUARY 1980
JUNE 1979

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BOULDER, COLORADO

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Solar-Geophysical Data, 426 Part I (or Part II), pages, February 1980, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 431

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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Notes:

"419A 48" listed under 1979 MAY means that the sunspot drawings for MAY 1979 were contained in *Solar-Geophysical Data* 104

A = Part I, B = Part II.

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

SGD 431 Part II (Comprehensive)

JANUARY 1980

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NOTE ON DELAY OF GROUPED SOLAR FLARE DATA:

Beginning with this issue, we will publish the final listing of solar flare data 13 months from date of observation, rather than the usual 6 months, in a separate section of Part II. We plan to continue this 13-month delay until Solar Cycle 21 passes well through its maximum. The Daily Flare Index and the Regional Flare Index will go to 13- and 14-month delays, respectively, while the Abbreviated Calendar Record will be suspended indefinitely. We deeply regret this situation, but the volume of data recorded during sunspot maximum and computer conversion problems at the Meudon Observatory and at NGSDC have forced this new schedule on us.

For researchers who need the comprehensive solar flare data more promptly, NGSDC has available "preliminary" listings from April through October 1979. These complete tabulations lack the final Meudon corrections, and thus will not be published until we receive them. Nevertheless, printouts for the April-October 1979 period are available on request with the stipulation that they be recognized as "preliminary" when used in research projects. A fee may be charged for reproducing these data if a large demand ensues. Please contact the editor, Helen Coffey, for copies of these listings [Phone: (303) 497-6223; Telex: SOL-TERWARN BLDR 45897].

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
01	3750	TYKW	21	GRF	0418.0	0440	60.0	4	2		
	2000	TYKW	5	S	0418.0	0419.8	5.0	3	.5		
	3750	TYKW	5	S	0418.0	0419.6	8.0	2.5	1		
	2000	TYKW	20	GRF	0430.0	0445	30.0	2	1		
	3750	TYKW	45	C	0446.5	0449.7	10.0	4	1.5		
	7000	SAOP	1	S	1453.0	1453.6		10.0			32L
	2800	OTTA	23	GRF	1715.0	1807	130.0	20.0	7.0		
	7000	SAOP	45	C	1734.0	1806.6	38.0	40.0			8R
	9400	HUAN		S	1746.9	1810.4	100.3	26.6	13.2		R
	2800	OTTA	4	S/F	1747.0	1748	2.0	11.4	3.8		
	2695	PENT	20	GRF	2053.0	2054	17.0	3.2	1.6		
02	2000	TYKW	45	C	0126.0	0128.4	5.0	55	15		
	3750	TYKW	45	C	0126.0	0128.0	5.0	38	10		
	1000	TYKW	45	C	0126.0	0129.0	5.0	110	10		
	1400	SYDN	27	RF	0126.9	0129.2	3.6				
	9400	TYKW	20	GRF	0127.0	0129	85.0	8	2.5		
	17000	NOBE	20	GRF	0127.2	0129.0	12.0	4			0
	700	SYDN	40	F	0127.7	0129.0	2.4				
	2000	TYKW	29	PBI	0131.0		80.0	4	2		
	3750	TYKW	29	PBI	0131.0		80.0	7	3		
	2000	TYKW	21	GRF	0310.0	0410	165.0	4	2		
	3750	TYKW	21	GRF	0310.0	0410	160.0	6	3		
	9400	TYKW	21	GRF	0310.0	0410	160.0	6	3		
	2000	TYKW	5	S	0311.0	0314	8.0	2.5	1		
	1000	TYKW	45	C	0326.0	0328.0	5.0	9	1.5		
	3750	TYKW	45	C	0327.0	0328.9	5.0	13	4		
	2000	TYKW	45	C	0327.0	0329.2	5.0	11	4		
	9400	TYKW	5	S	0327.0	0329	5.0	5	1.5		
	3750	TYKW	5	S	0338.0	0341	15.0	3	1		
	2000	TYKW	45	C	0339.0	0341.1	4.0	4	1		
	3750	TYKW	5	S	0525.0	0525.5	7.0	2	.5		
	2000	TYKW	5	S	0548.0	0548.8	5.0	1.5	.5		
	9400	TYKW	5	S	0600.0	0600.5	1.0	16	3		
	100	GORK	46	C	0738.7	0739.8U	4.0	40 D			
	100	GORK			0738.7	0740.7U		50 D			
	100	GORK			0738.7	0741.6U		50 D			
	200	GORK	4	S/F	0739.3	0740.8	34.0	40 D			
	650	GORK	40	F	0739.6	0739.7	26.0	44			
	650	GORK			0739.6	0741.6		11			
	127	TORN	45	C	0739.6	0742.9	3.4	50	12		
	260	ONDR	3	S	0942.4	0942.4	.2	13			
	430	KRAK	1	S	1042.0	1042.5	1.5	10	4		
	810	KRAK	1	S	1042.3	1042.5	.5	5			
	2650	DWIN	41	F	1128.0	1129	2.0	30	10		
	127	TORN	7	C	1240.6	1241	1.0	130	50		
	260	ONDR	45	C	1240.7	1244.2	4.0	11	1		
	430	KRAK	8	S	1336.2	1336.3	.3	35			
	810	KRAK	1	S	1340.5	1340.8	.3	8			
	930	BORD	46	C	1426.0	1426.4	.7	179	4		
	930	BORD	41	F	1443.0	1443.1	.3	29	2		
	930	BORD	41	F	1449.5	1449.9	1.0	143	6		
	930	BORD	41	F	1456.6	1456.6	.5	149	3		
	9400	HUAN		S	1902.0	1916.6	31.9	5.0	4.2		3
	2800	OTTA	1	S	1947.0	1948	5.0	3.0	1.2		
03	3750	TYKW	5	S	0225.0	0226	2.0	2	1		
	3750	TYKW	5	S	0358.0	0359.6	25.0	3	1		
	2000	TYKW	5	S	0358.0	0359.6	20.0	1.5	.5		
	204	IZMI	41	F	1027.5	1028.1	2.5	235			
	127	TORN	40	F	1028.8	1031.6	18.5	40			
	930	BORD	41	F	1155.8	1156.2	.5	32	2		
	127	TORN	42	SER	1155.9	1156.9	11.0	64			
	430	KRAK	42	SER	1156.0	1206.5	11.0	36			
	260	ONDR	42	SER	1156.0	1206.2	11.0	37			
	930	BORD	8	S	1327.6	1327.6	.1	50	1		
	113	POTS	4	S/F	1352.3	1352.4	8.0	200	5		III
	2800	OTTA	23	GRF	1445.0	1715	245.0	10.6	5.3		
	2800	OTTA	3	S	1655.5	1656	2.0	12.0	5.0		
	9400	HUAN		S	1700.2	1715.6	33.4	6.1	2.2		3
	2800	OTTA	20	GRF	1955.0	2030	45.0	2.2	1.4		
04	100	GORK	44	NS	0621.0E		100.0D		5		
	200	GORK	43	NS	0633.0		297.0		5		
	127	TORN	43	NS	0736.0	1020.8	424.0D	25			V0
	260	ONDR	44	NS	0820.0E		336.0D	62	5		
	3750	TYKW	5	S	0115.0	0121.7	20.0	2.5	.7		
	3750	TYKW	5	S	0232.0	0234.5	10.0	3	1		
	2000	TYKW	5	S	0232.0	0234.6	20.0	1.5	.5		
	3750	TYKW	21	GRF	0320.0	0420	160.0	7	3		
	2000	TYKW	21	GRF	0320.0	0420	200.0	7	3		
	9400	TYKW	21	GRF	0330.0U	0410 U	150.0U	12 U	6 U		RAIN
	5730	IRKU	1	S	0522.5	0523.3	3.0	6			L
	9400	TYKW	5	S	0522.8	0523.3	5.0	100	25		

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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
04	17000	NOBE	3	S	0522.9	0523.3	4.4	68			L
	2000	TYKW	5	S	0529.5	0530.5	3.5	3	1		
	3750	TYKW	5	S	0530.0	0531	4.0	3	1		
	3100	CRIM	21	GRF	0752.0	1006.0	278.0D	16	5		
	234	POTS	4	S/F	0917.1	0917.2	.3	340	10		
	430	KRAK	42	SER	0936.0		51.0	25			
	536	ONDR	42	SER	0950.5	0957.2	27.0	13			
	930	BORD	8	S	1013.0	1013	.1	30	1		
	3100	CRIM	1	S	1139.0	1140.0	2.0	6	2		
	7000	SAOP	45	C	1242.0	1254.8	111.4	27.0			8R
	9500	POTS	2	S/F	1252.5	1254.9	3.5	7.6			
	1470	POTS	4	S/F	1252.5	1254.9	5.5	27			
	930	BORD	41	F	1252.9	1253.3	2.6	19	2		
	9400	HUAN		S	1253.0	1255.0	3.2	9.7	5.7		0
	2650	DWIN	2	S/F	1253.0	1255	4.0	30	15		
	3000	POTS	4	S/F	1253.0	1254.9	5.0	25			
	430	KRAK	4	S/F	1327.0	1327.0	1.0	54	18		
	536	ONDR	42	SER	1327.0	1331.4	5.0	9			
	2800	OTTA	21	GRF	1505.0	1528	140.0	6.0	3.8		
	7000	SAOP	20	GRF	1507.2	1540.5	44.0	16.0			0
	2800	OTTA	3	S	1517.0	1520	5.5	10.4	4.0		
	9400	HUAN		S	1518.8	1541.4	38.3	4.8	3.4		R
	2800	OTTA	1	S	1753.0	1754	2.0	2.2	1.0		
	2800	OTTA	8	S	1911.8	1911.8	.1	5.6			
05	100	HIRA	43	NS	0315.0	0418	110.0	60	20		
	127	TORN	44	NS	0810.0E	1321.5	390.0D	11	3		V0
	260	ONDR	44	NS	0820.0E		330.0D	138	3		
	3750	TYKW	5	S	0425.0	0425.9	2.0	1.5	.5		
	2000	TYKW	21	GRF	0504.0	0530	90.0	5	3		
	3750	TYKW	20	GRF	0504.0	0522	80.0	4	2		
	9400	TYKW	20	GRF	0505.0	0522	70.0	7	3		
	6100	KISV	4	S/F	0626.0	0627	2.0	6			
	234	POTS	3	S	0646.9	0647.2	.6	300	100		III
	3100	CRIM	20	GRF	0924.0	1114.0	141.0D	18	6		
	127	TORN	7	C	0953.7	0954.4	1.8	110	18		
	113	POTS	4	S/F	0953.9	0954.0	1.1	150	15		III
	3000	POTS	20	GRF	1020.0	1126.8	6.8D	11			
	1470	POTS	20	GRF	1020.0	1111.3	150.0	6.8			
	9500	POTS	20	GRF	1031.0	1110	129.0	17			
	204	IZMI	41	F	1127.5	1129.5	3.0	100			
	234	POTS	4	S/F	1129.5	1129.6	.6	250	8		III
	113	POTS	4	S/F	1129.6	1129.6	.8	150	5		III
	930	BORD	41	F	1253.7	1254.4	.8	39	2		
	2800	OTTA	23	GRF	1435.0	1532	130.0	9.6	4.8		
	9400	HUAN		S	1521.2	1534.0	46.8	7.8	4.6		0
	7000	SAOP	20	GRF	1530.0			8.0			0
	2800	OTTA	8	S	1543.9	1544	.8	4.0	2.0		
	2800	OTTA	240	R	1652.0	1727	35.0	5.2	2.6		
	2800	OTTA	1	S	1756.0	1756.6	1.0	2.2	1.1		
	2800	OTTA	21	GRF	1835.0	1845	45.0	3.4	1.7		
	2800	OTTA	4	S/F	1839.2	1840.5	4.0	11.8	4.0		
	9400	HUAN		S	1840.2	1915.7	43.6	6.3	4.5		0
	7000	SAOP	40	F	1909.0						
	2800	OTTA	20	GRF	1935.0		55.0	3.4			
06	100	HIRA	44	NS	0027.0E	0619	420.0D	150	30		
	200	GORK	44	NS	0618.0E		312.0D		10		
	100	GORK	43	NS	0634.0		295.0E		10		
	127	TORN	44	NS	0650.0E	1006.9	480.0D	390	60		V1
	204	IZMI	43	NS	0700.0		300.0	75			
	260	ONDR	44	NS	0820.0E		343.0D	81	15		
	100	HIRA	44	NS	2148.0E	2237	580.0D	450	120		
	200	HIRA	44	NS	2148.0E	0505	580.0D	20	10		ML
	100	HIRA	46	C	0156.0	0156.7	1.2	3000	1100		
	3750	TYKW	5	S	0227.5	0228.1	2.0	2	.7		
	2000	TYKW	5	S	0227.5	0228.4	2.0	1.5	.5		
	100	HIRA	46	C	0419.2	0420.9	2.8	800	260		
	3750	TYKW	45	C	0426.0	0512	60.0	5	2		
	100	GORK			0621.0E	0630.5		30			
	100	GORK	46	C	0621.0E	0628.5	13.0D	75			
	930	BORD	45	C	0829.6	0835	22.4	2981	900		
	3100	CRIM	21	GRF	0832.0	1000.0	193.0D	20	7		
	6100	KISV	4	S/F	0857.0	0903.7	31.0	16			
	9100	GORK	21	GRF	0900.0	1011.2	120.0	15	7.5		
	930	BORD	41	F	0900.8	0903.5	3.8	207	2		
	200	GORK	4	S/F	0902.0E	0903.4U	18.0D	40 D			
	2650	DWIN	1	S	0903.0	0903	1.0	40	30		
	650	GORK			0903.3	0904.3		75			
	650	GORK	40	F	0903.3	0903.5	13.0	3			
	950	GORK	4	S/F	0903.4	0903.6	11.0	59			
	2950	GORK	4	S/F	0903.4	0903.6	27.0	38			
	3000	POTS	8	S	0903.4	0903.6	.6	35			
	1470	POTS	8	S	0903.4	0903.6	.6	32			
	6100	KISV	24	R	0930.0	0930		4			

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06	113	POTS	42	SER	1000.0	1006.8	15.0	550	10		III
	2950	GORK	20	GRF	1006.0	1009.1	22.0	11	5		
	6100	KISV	45	C	1006.0	1009.5	4.0	10			
	6100	KISV			1006.0	1011		9			
	950	GORK	2	S/F	1006.4	1009.5	6.0	55			
	810	KRAK	42	SER	1006.5	1009.5	6.0	40	14		
	930	BORD	42	SER	1006.5	1008.4	5.0	131	5		
	810	KRAK			1006.5	1010.2		36			
	650	GORK	2	S/F	1006.6	1011.0	59.0	20			
	33	UPIC	46	C	1006.7	1009	7.8				
	29	UPIC	46	C	1006.7	1007	4.7				
	536	ONDR	42	SER	1006.8	1007.3	5.0	52			
	200	GORK	46	C	1007.0E	1011.1	15.0D	100 D			
	200	GORK			1007.0E	1012.4		400			
	100	GORK			1008.0E	1012.3		3000			
	100	GORK			1008.0E	1011.3		5300			
	100	GORK	46	C	1008.0E	1009.0	65.0D	1000			
	3100	CRIM	1	S	1008.5	1009.0	5.0	10	3		
	9100	GORK	1	S	1008.9	1009.1	18.0	68	34		
	430	KRAK	8	S	1009.0	1009.0	.2	510 D			
	430	KRAK	8	S	1011.5	1012.0	.8	40			
	3100	CRIM	1	S	1018.5	1019.0	3.0	7	2		
	29	UPIC	41	F	1041.2	1046.6	5.9				
	33	UPIC	41	F	1041.9	1046.8	5.1				
	113	POTS	8	S	1227.9E	1228.0	.2D	3000			III
	234	POTS	4	S/F	1254.0	1254.0	.2	240	30		
	7000	SAOP	40	F	1345.0		93.0				
	234	POTS	4	S/F	1354.5	1354.8	.3	260	25		
	9400	HUAN		S	1400.1	1411.0	17.9	7.2	5.2		0
	2800	OTTA	20	GRF	1420.0	1450	115.0	5.6	2.8		
	2800	OTTA	24O	R	1645.0	1700	15.0	3.0	1.5		
	2800	OTTA	20	GRF	1725.0	1735	20.0	2.2	1.1		
	2800	OTTA	20	GRF	1815.0	1837	55.0	4.8	2.6		
	9400	HUAN		S	1821.0	1840.6	37.1	8.6	6.7		0
	9400	HUAN		S	2114.3	2115.1	3.8	10.0	5.2		R
	9400	HUAN		C	2123.8	2126.8	12.5	196.7	78.2		1
	9400	HUAN		PBI	2136.3	2136.3	28.4	17.2	7.6		1
07	200	GORK	44	NS	0622.0E		278.0D		5		
	100	GORK	44	NS	0625.0E		235.0D		10		
	127	TORN	43	NS	0700.0	1134.9	460.0D	100	20		V1
	260	ONDR	44	NS	0850.0E		312.0D	179	10		
	9400	TYKW	5	S	0019.0	0019.4	1.0	5	2		
	3750	TYKW			0150.0	0234		10			
	9400	TYKW	5	S	0150.0	0152.5	25.0	11	3		
	3750	TYKW	45	C	0150.0	0246.0	75.0	14	3.5		
	2000	TYKW			0220.0	0246.0		8			
	2000	TYKW	45	C	0220.0	0231.2	70.0	10	2.5		
	9400	TYKW	5	S	0221.5	0221.7	1.5	4	1		
	100	HIRA	42	SER	0224.7	0229.2	11.0	870			
	1000	TYKW	45	C	0228.5	0231.2	9.0	8	1.5		
	1000	TYKW	45	C	0244.0	0246.0		16	1.5		
	9400	TYKW	5	S	0244.0	0246.2	15.0	7	2.5		
	9400	TYKW	5	S	0258.3	0258.5	.5	11	3		
	3750	TYKW	5	S	0310.0	0323	30.0	2	.5		
	3750	TYKW	45	C	0605.8	0606.2	5.0	15	1.5		
	100	GORK	4	S/F	0642.7	0643.3	18.0	340			
	650	GORK	3	S	0654.1	0654.3	4.0	12	6		
	3750	TYKW	5	S	0656.0	0657.5	6.0	10	2		
	9400	TYKW	5	S	0656.0	0657.3	6.0	23	4		
	6100	KISV	4	S/F	0656.0	0657.5	14.0	13 D			
	9100	GORK	23	GRF	0656.7	0736.4	82.0	10	5		
	2950	GORK	3	S	0656.9	0657.5	22.0	135			
	1000	TYKW	45	C	0657.0	0657.1	1.0	65	7		
	2000	TYKW	45	C	0657.0	0657.2	1.0	12	3		
	950	GORK	2	S/F	0657.0	0657.4	13.0	27			
	15000	KISV	4	S/F	0657.0	0657.5	3.0	3			
	9100	GORK	1	S	0657.1	0657.5	9.0	23	12		
	6100	KISV	4	S/F	0733.0	0735.5	12.0	11			
	2950	GORK	1	S	0735.6	0736.0	12.0	4.5	2		
	950	GORK	2	S/F	0811.3	0811.7	6.0	15			
	650	GORK	1	S	0811.4	0811.7	5.0	55			
	6100	KISV	4	S/F	0823.0	0825.5	22.0	10			
	9100	GORK	20	GRF	0824.9	0825.4	15.0	8	4		
	9100	GORK	20	GRF	0856.0	1012.3	81.0	19	9		
	3100	CRIM	20	GRF	0913.0	0936.0	197.0D	13	4		
	2950	GORK	20	GRF	0916.4	1012.3	91.0	13			
	950	GORK	2	S/F	1010.0	1010.3	13.0	66			
	650	GORK	3	S	1010.0	1010.1	4.0	27	8		
	930	BORD	8	S	1010.7	1010.7	.2	39	2		
	2950	GORK	1	S	1055.4	1058.2	45.0	65	3		
	7000	SAOP	20	GRF	1057.0	1100.3		11.0			0
	6100	KISV	4	S/F	1058.0	1100.5	5.0	7			
	930	BORD	8	S	1102.3	1102.3	.1	71	1		
	950	GORK	4	S/F	1114.6	1115.0	6.0	31			

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07	950	GORK	4	S/F	1118.8	1119.6	1.0	29			
	7000	SAOP	46	C	1121.0	1313.8	80.0	147.0			9R
	930	BORD	41	F	1151.6	1151.8	.4	15	2		
	930	BORD	46	C	1309.0	1313.8	6.5	39	5		
	9500	POTS	4	S/F	1310.0	1313.8	7.5	127			
	9400	HUAN		C	1310.1	1313.8	10.4	147.7	51.4		R
	10400	BERN	4		1310.3	1313.8	9.0	140.0			ONLY PAPER REC
	10715	DWIN	2	S/F	1311.0	1313	6.0	50	30		
	2650	DWIN	1	S	1311.0	1313	4.0	25	15		
	3000	POTS	4	S/F	1311.2	1313.7	4.8	22			
	1470	POTS	4	S/F	1311.4	1313.1	4.6	63			
	810	KRAK	4	S/F	1312.0	1313.5	3.5	235	21		
	930	BORD	8	S	1552.8	1552.8	.1	36	1		
	2800	OTTA	20	GRF	1735.0	1756	28.0	4.4	2.2		
	2800	OTTA	21	GRF	1805.0	1823	30.0	5.2	2.6		
	9400	HUAN		S	1816.5	1817.3	1.7	14.6	11.6		0
	9400	HUAN		S	1820.6	1826.3	20.4	20.1	9.5		0
	2800	OTTA	1	S	1825.5	1826	2.0	5.4	2.7		
	2800	OTTA	21	GRF	1856.0	2000	100.0	3.2	1.7		
	2800	OTTA	4	S/F	1857.0	1901.5	8.0	22.0	7.4		
	2800	OTTA	29	PBI	1905.0	1905	20.0	6.6	4.9		
	9400	HUAN		S	1941.2	2015.0	71.5	10.9	7.0		0
08	127	TORN	43	NS	0812.0	0851.2	236.0	16	9		V0
	100	GORK	43	NS	0817.0		30.0		5		
	100	GORK	43	NS	1030.0		90.0E		5		
	3750	TYKW	21	GRF	0354.0	0433	135.0	13	6		
	2000	TYKW	45	C	0358.0	0359.9	14.0	12	2.5		
	3750	TYKW	45	C	0358.0	0359.9	14.0	5	1		
	2000	TYKW	21	GRF	0358.0	0434	125.0	9	4		
	9400	TYKW	21	GRF	0358.0	0433	120.0	11	5		
	9400	TYKW	5	S	0358.0	0400	14.0	5	2		
	1000	TYKW	45	C	0358.0	0359.9	6.0	8	1.5		
	700	SYDN	8	S	0411.9	0412.1	.6				
	3750	TYKW	5	S	0412.0	0413.0	2.0	85	25		
	9400	TYKW	5	S	0412.0	0413.0	2.0	105	30		
	2000	TYKW			0412.0	0413.0		11			
	2000	TYKW	45	C	0412.0	0413.5	2.0	13	4.5		
	4995	MANI	3	S	0412.4	0413.5	2.2	123.1	41.0		
	17000	NOBE	7	C	0412.5	0413.0	1.4	111			R
	2695	MANI	3	S	0412.7	0413.4	1.5	27.6	9.2		
	8800	MANI	3	S	0412.8	0413.5	2.5	128.4	42.8		
	17000	NOBE	29	PBI	0413.8	0413.8	26.0	9			0
	9400	TYKW	29	PBI	0414.0		15.0	7	3		
	2000	TYKW	29	PBI	0414.0		15.0	1.5	.5		
	3750	TYKW	29	PBI	0414.0		15.0	5	2		
	3750	TYKW	5	S	0441.0	0446	15.0	3	1		
	2000	TYKW	5	S	0442.0	0445	20.0	3	1		
	9400	TYKW	5	S	0442.0	0446	8.0	2	1		
	100	GORK			0656.5	0709.5		80 D			
	100	GORK	41	F	0656.5	0659.6	153.0	80 D			
	100	GORK			0656.5	0705.6		80			
	200	GORK	4	S/F	0718.0	0718.6	10.0	25			
	6100	KISV	1	S	0750.5	0751	1.0	3			
	430	KRAK	42	SER	0759.0		122.0	39			
	6100	KISV	24	R	0802.0	0807	36.0	6			
	3100	CRIM	28	RPE	0827.0	0917.0	99.0	14	5		
	9100	GORK	21	GRF	0828.1	1027.4	212.0E	55			
	260	ONDR	41	F	0834.0	0840	10.0	9	4		
	2950	GORK	21	GRF	0836.6	1055.0	174.0	30			
	6100	KISV	27	RF	0838.0	0844	21.0	9			
	650	GORK	40	F	0847.5		215.0	6			
	200	GORK	3	S	0847.6	0847.7	3.0	25 D	10		
	100	GORK	4	S/F	0848.0	0849.7	34.0	40			
	10400	BERN	1		0858.8	0900.4	9.0	9.0			ONLY PAPER REC
	15000	KISV	4	S/F	0859.5	0900.7	4.0	8			
	6100	KISV	4	S/F	0859.5	0900.5	4.0	8			
	9100	GORK	1	S	0859.6	0859.9	24.0	9	45		
	10400	BERN	47		1002.6	1009.7	40.0	680.0			ONLY PAPER REC
	15000	KISV			1005.0	1010.0		700			
	15000	KISV			1005.0	1024.0		45			
	15000	KISV			1005.0	1050		15			
	15000	KISV	47	GB	1005.0	1008.2	55.0	900			
	9500	POTS	29	PBI	1005.0	1009.9	140.0	684			
	15000	KISV			1005.0	1008.7		880			
	15000	KISV			1005.0	1007.7		830			
	15000	KISV			1005.0	1032.7		26			
	15000	KISV			1005.0	1030		40			
	15000	KISV			1005.0	1010.8		650			
	6100	KISV			1005.5	1010		380			
	6100	KISV			1005.5	1024.2		55			
	6100	KISV			1005.5	1030		60			
	6100	KISV			1005.5	1051		24			
	6100	KISV	47	GB	1005.5	1011	85.0	620			
	9100	GORK			1005.7	1009.8		770			

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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
08	9100	GORK			1005.7	1010.6		690			
	9100	GORK	46	C	1005.7	1008.6	12.0	650			
	2950	GORK			1005.8	1030.0		80			
	2950	GORK	46	C	1005.8	1008.3	30.0	170			
	2950	GORK			1005.8	1010.6		190			
	2950	GORK			1005.8	1024.0		74			
	2950	GORK			1005.8	1014.2		120			
	2650	DWIN	45	C	1006.0	1011	50.0	180	80		
	3000	POTS	46	C	1006.0	1010.5	86.0	194			
	1470	POTS	46	C	1006.0	1023.3	82.0	411			
	10715	DWIN	45	C	1006.0	1008	35.0	250	150		
	3100	CRIM			1006.0	1051.0		48			
	3100	CRIM	45	C	1006.0	1011.0	49.0	140	46		
	3100	CRIM			1006.0	1024.0		72			
	3100	CRIM			1006.0	1030.0		42			
	950	GORK	46	C	1007.0	1051.0		112			
	950	GORK			1007.0	1023.0		297			
	950	GORK	46	C	1007.0	1013.6	50.0	117			
	950	GORK			1007.0	1031.6		182			
	430	KRAK	48	C	1007.0	1010.8	39.0	366	33		
	430	KRAK			1007.0	1023.0		174			
	930	BORD	45	C	1007.0	1023	67.0	459	90		
	650	GORK			1007.6	1050.5		73			
	650	GORK			1007.6	1030.4		80			
	650	GORK	46	C	1007.6	1010.9	684.0	168			
	650	GORK			1007.6	1104.8U		190 D			
	650	GORK			1007.6	1023.0		76			
	810	KRAK			1008.0	1011.0		159			
	810	KRAK	46	C	1008.0	1009.0	13.5	182	50		
	810	KRAK			1008.0	1014.0		167			
	536	ONDR	48	C	1008.5	1010.6	51.0	202	42		
	260	ONDR	48	C	1009.3		51.0	219 D	45		
	200	GORK			1009.7	1017.5		7000			
	200	GORK	46	C	1009.7	1014.5	82.0	14500			
	204	IZMI	48	C	1010.5	1014.0	29.5	2670	1500		
	234	POTS	49	GB	1011.0	1014.5	49.0	1900	120		II+III+IV
	113	POTS	49	GB	1011.0	1013.3	49.0	5000	70		II+III+IV
	127	TORN	42	SER	1011.4	1014 D	10.5	380 D	200		SATURATED
	100	GORK			1012.6	1017.6		13000			
	100	GORK	46	C	1012.6	1013.5	11.0	1700 D			
	127	TORN	27	RF	1021.1	1024.5	28.0	48	33		
	810	KRAK	45	C	1021.5	1023.0	22.5	246	76		
	810	KRAK			1021.5	1031.5		136			
	9100	GORK	2	S/F	1028.5	1030.0	58.0	30			
	810	KRAK	4	S/F	1044.0	1050.7	17.0	123	36		
	430	KRAK	4	S/F	1046.0	1049.5	11.5	68	21		
	29	UPIC	4	S/F	1049.2	1051.5	5.9				
	33	UPIC	45	C	1049.9	1051.4	6.1				
	3100	CRIM	29	PBI	1055.0	1055.0	95.0	22			
	7000	SAOP	20	GRF	1112.7	1125.0	28.0	17.0			Ø
	650	GORK	1	S	1120.6	1125.1	4.0	5	25		
	930	BORD	8	S	1143.5	1143.5	.1	139	1		
	113	POTS	41	F	1149.4	1149.6	1.4	150	1 E		III
	930	BORD	8	S	1232.1	1232.2	.2	14	1		
	7000	SAOP	20	GRF	1425.0		40.6	16.0			Ø
	2800	OTTA	23	GRF	1515.0	1533	250.0	12.4	8.0		
	930	BORD	41	F	1515.6	1515.7	.2	18	2		
	7000	SAOP	3	S	1528.0	1531.5	11.0	34.0			9L
	9400	HUAN		S	1530.6	1531.5	1.8	19.6	11.7		Ø
	2800	OTTA	1	S	1531.0	1531.4	1.0	7.6	3.8		
	930	BORD	8	S	1604.7	1604.7	.1	19	1		
	930	BORD	8	S	1605.4	1605.4	.1	21	1		
	7000	SAOP	20	GRF	1701.0		38.0	17.0			Ø
	9400	HUAN		S	1708.3	1726.4	32.7	10.7	8.1		Ø
	2800	OTTA	21	GRF	2020.0	2040	50.0	14.4	7.0		
	9400	HUAN		S	2021.2	2032.4	36.4	17.8	10.2		R
	2800	OTTA	4	S/F	2025.0	2028.3	10.0	142.0	35.6		
	9400	HUAN		C	2026.7	2028.1	3.1	48.2	20.3		R
	9400	HUAN		C	2155.1	2156.0	3.5	94.6	45.2		R
	9400	TYKW	28	PRE	2355.0	2355.7	32.0	18	4		
09	127	TORN	43	NS	1133.0	1138.9	86.0	50	.5U		V1
	3750	TYKW	45	C	0020.0	0032.3	18.0	190	35		
	2000	TYKW	47	GB	0025.0	0032.3	13.0	650	50		
	9400	TYKW	45	C	0027.0	0032.8	11.0	430	100		
	1415	MANI	4	S/F	0027.4	0032.4	10.2	289.9	96.6		
	4995	MANI	4	S/F	0027.6	0032.9	12.7	195.2	65.1		
	35000	NAGO	5	S	0028.0	0033	4.0	92			
	8800	MANI	47	GB	0028.8	0032.9	9.6	500.8	166.9		
	17000	NOBE	28	PRE	0028.9	0030.4	1.4	33			Ø
	2695	MANI	4	S/F	0029.2	0033.3U	9.0	135.2	43.1		
	1000	TYKW	45	C	0030.0	0032.2	18.0	77	15		
	1400	SYDN	45	C	0030.1	0032.2	15.3				
	17000	NOBE	46	C	0030.4	0032.8	5.3	329			R
	700	SYDN	27	RF	0030.8	0033.3	10.9				

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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
09	606	MANI	4	S/F	0031.0	0033.3	6.4	30.5	10.1		
	500	HIRA	46	C	0031.0	0033.1	9.0	30	16		WR
	200	HIRA	46	C	0033.6	0034.0	20.0	115	17		0
	200	HIRA			0033.6	0036.6		150			0
	35000	NAGO	29	PBI	0034.0	0034	28.0	45			
	17000	NOBE	29	PBI	0035.7	0035.7	26.0	58			R
	100	HIRA	42	SER	0035.9	0037.0	10.0	600			
	3750	TYKW	30	PBI	0038.0		170.0	14	4		
	2000	TYKW	29	PBI	0038.0		170.0	8	1.5		
	9400	TYKW	30	PBI	0038.0		80.0	40	10		
	9400	TYKW	5	S	0127.0	0127.3	2.0	6	2		
	9400	TYKW	20	GRF	0250.0	0257	40.0	4	2		
	9400	TYKW	28	PRE	0333.0	0335	4.0	3	1.5		
	3750	TYKW	45	C	0333.0	0357.8	50.0	9	2		
	9400	TYKW	5	S	0337.0	0337.6	3.0	45	13		
	17000	NOBE	3	S	0337.2	0337.5	1.9	48			R
	9400	TYKW	29	PBI	0340.0		60.0	4	1.5		
	2000	TYKW	5	S	0356.0	0400	14.0	2	1		
	3750	TYKW	20	GRF	0430.0	0440	40.0	2	1		
	2000	TYKW	20	GRF	0430.0	0440	40.0	1	.5		
	2000	TYKW	45	C	0540.0	0547.2	90.0	7	2		
	9400	TYKW	21	GRF	0540.0	0547	100.0D	6	4 D		
	3750	TYKW	45	C	0540.0	0547.2	90.0	8	5.5		
	1000	TYKW	45	C	0543.0	0545.2	5.0	6	2		
	9400	TYKW	5	S	0642.0	0643.2	3.0	6	3		
	9400	TYKW	29	PBI	0645.0		35.0	4	2		
	3100	CRIM	24	R	0805.0	1007.5		30			
	430	KRAK	42	SER	0845.0		30.0	33			
	430	KRAK	40	F	0956.0		145.0	33	6		
	204	IZMI	8	C	0959.5	0959.5	.4	700	450		
	2650	DWIN	1	S	1002.0	1002	1.0	60	50		
	2650	DWIN	8	S	1028.0			80			
	260	ONDR	41	F	1040.0	1138.6	121.0	26	2		
	113	POTS	41	F	1053.2	1053.2	1.8	700	1		III
	6100	KISV	32	ABS	1055.0	1117	22.0	-8			
	930	BORD	8	S	1056.0	1056	.1	51	1		
	6100	KISV			1117.0	1138.5		10			
	6100	KISV			1117.0	1150		9			
	6100	KISV			1117.0	1136		11			
	6100	KISV			1117.0	1121.5		9			
	6100	KISV			1117.0	1119		7			
	6100	KISV	46	C	1117.0	1130		14			
	10400	BERN	3		1129.7	1129.8	.6	12.0			ONLY PAPER REC
	8400	BERN	3		1129.7	1129.8	.6	15.0			ONLY PAPER REC
	15000	KISV	8	S	1129.7	1129.8	1.0	13			
	930	BORD	8	S	1135.0	1135	.1	23	1		
	430	KRAK	42	SER	1225.0		60.0	30			
	9400	HUAN		S	1341.7	1342.3	1.2	17.7	12.5		R
	9400	HUAN		S	1343.5	1344.0	1.3	12.9	8.7		R
	2800	OTTA	240	R	1420.0	1500	40.0	6.6	3.3		
	2800	OTTA	21	GRF	1505.0		220.0	6.2	3.6		
	2800	OTTA	20	GRF	1729.0	1733	15.0	3.2	1.6		
	2695	PENT	240	R	2020.0	2040	20.0	4.0	2.0		
	2800	OTTA	20	GRF	2045.0	2057	50.0	5.0	2.4		
	3750	TYKW	5	S	2330.0	2330.3	1.0	3	1		
10	100	GORK	43	NS	0636.5		291.0E		10		
	127	TORN	43	NS	0700.0U	0848	460.0D	41	2.5		V0
	200	GORK	43	NS	0701.0		191.0		5		
	260	ONDR	44	NS	0823.0E		332.0D	24	2		
	200	HIRA	44	NS	2150.0E	0635	580.0D	40	10		MR
	9400	TYKW	21	GRF	0131.0	0218.7	115.0	17	4		
	2000	TYKW	20	GRF	0133.0	0146	60.0	5	1.5		
	3750	TYKW	21	GRF	0133.0	0231	105.0	9	5		
	100	HIRA	42	SER	0342.0	0345.8	5.7	710			
	200	HIRA	46	C	0342.5	0345.6	5.3	1000	150		0
	3750	TYKW	45	C	0345.0	0346.3	2.0	57	6		
	2000	TYKW	45	C	0345.0	0345.9	2.0	6	2		
	1000	TYKW	45	C	0345.0	0345.9	2.0	5	2		
	500	HIRA	46	C	0345.0	0345.3	2.0	47	15		WR
	5730	IRKU	1	S	0440.0	0449.0	4.0	10			
	9400	TYKW	28	PRE	0442.0	0449	15.0	5	3		
	3750	TYKW	28	PRE	0447.0	0449	10.0	6	3		
	5730	IRKU	45	C	0456.3	0459.0	15.0	19			L
	5730	IRKU			0456.3	0504.7		150			L
	5730	IRKU			0456.3	0508.9		292			L
	5730	IRKU			0456.3	0507.2		303			L
	3750	TYKW			0457.0	0519.1		355			
	2000	TYKW	47	GB	0457.0	0529.7	120.0	2050	160		
	2000	TYKW			0457.0	0520.9		920			
	9400	TYKW			0457.0	0519.1		115			
	2000	TYKW			0457.0	0525.2		420			
	9400	TYKW			0457.0	0531.3		180			
	3750	TYKW	45	C	0457.0	0531.1	90.0	445	110		
	2000	TYKW			0457.0	0556.2		260			

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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
10	3750	TYKW			0457.0	0509.1		415			
	2000	TYKW			0457.0	0507.2		200			
	9400	TYKW	45	C	0457.0	0507.2	90.0	375	90		
	17000	NOBE	28	PRE	0457.1	0502.0	5.3	24			0
	2695	MANI	47	GB	0457.5	0529.2	82.5	3328.0	1030.0		
	4995	MANI	47	GB	0457.5	0508.1	75.5	524.2	174.7		
	700	SYDN			0500.0	0559 D					
	700	SYDN	48	C	0500.0	0511.0	68.2D				
	700	SYDN			0500.0	0601 D					
	700	SYDN			0500.0	0517 D					
	700	SYDN			0500.0	0512 D					
	700	SYDN			0500.0	0555 D					
	1415	MANI	47	GB	0501.2	0529.7	78.1	1125.0	357.1		
	500	HIRA	48	C	0501.4	0532.4	114.0	2700	500		WL,SR
	1400	SYDN			0501.6	0516 D					
	1400	SYDN			0501.6	0504.7U					
	1400	SYDN	48	C	0501.6	0513 D	66.3D				
	1400	SYDN			0501.6	0555 D					
	8800	MANI	47	GB	0501.8	0508.0	70.2	526.7	175.6		III
	1000	TYKW	47	GB	0502.0	0530.3	120.0	2450	400		
	1000	TYKW			0502.0	0556.6		1290			
	1000	TYKW			0502.0	0514.8		870			
	1000	TYKW			0502.0	0539.2		770			
	1000	TYKW			0502.0	0509.3		455			
	1000	TYKW			0502.0	0519.3		1950			
	1000	TYKW			0502.0	0526.2		1740			
	606	MANI	47	GB	0502.3	0532.3	114.2	2125.0	672.0		
	17000	NOBE	45	C	0502.4	0507.2	25.0	149			0
	200	HIRA	48	C	0503.0	0512.6	150.0D	1700	170		WR,SUNSET
	200	HIRA			0503.0	0644.0		550			SR
	200	HIRA			0503.0	0556.0		440			WL
	200	HIRA			0503.0	0531.0		800			WR
	200	HIRA			0503.0	0625.8		940			MR
	35000	NAGO	7	C	0504.0	0509	86.0D	38			
	100	HIRA	48	C	0508.4	0513.2	140.0D	40000 D	570 U		SUNSET
	100	HIRA			0508.4	0530.0		4000			
	5730	IRKU	29	PBI	0511.0		16.0	134			L
	17000	NOBE	45	C	0527.7		74.0	34 D			R
	5730	IRKU	20	GRF	0527.8	0531.8	24.0	171			L
	3100	CRIM	47	GB	0553.0U	0558.5	31.0	125	40		
	100	GORK	46	C	0625.0E	0629.1	116.0D	180			
	100	GORK	46	C	0625.0E	0634.0		320			
	3750	TYKW	29	PBI	0627.0		20.0	9	4		
	9400	TYKW	29	PBI	0627.0		50.0D	23	15 D		
	200	GORK			0634.0E	0643.8		1600			
	200	GORK	46	C	0634.0E	0639.6	27.0D	400 D			
	204	IZMI	48	C	0649.0U	0653.0	13.0	775	300		
	127	TORN	27	RF	0740.5	0820.7	59.0	60	33		
	113	POTS	8	S	0759.8	0759.8	.2	800	250		III
	234	POTS	8	S	0759.8	0759.8	.1	150	50		III
	113	POTS	8	S	0848.2	0848.3	.2	175	60		III
	6100	KISV	20	GRF	0850.0	0857	15.0	6			
	6100	KISV	27	RF	0937.0	0949	33.0	4			
	536	ONDR	42	SER	1006.7	1006.7	4.0	12			
	127	TORN	8	S	1010.9	1011.4	1.0	150	74		
	113	POTS	4	S/F	1011.2	1011.3	.4	200	30		III
	29	UPIC	8	S	1011.4	1011.6	.6				
	33	UPIC	8	S	1011.4	1011.6	1.0				
	536	ONDR	45	C	1221.3	1222.7	3.0	12	1.8		
	7000	SAOP	20	GRF	1300.0		217.0	29.0			0,TWO BURSTS
	536	ONDR	2	S/F	1313.0	1314.3	3.0	11	1		
	2800	OTTA	240	R	1430.0	1540	70.0	9.2	4.8		
	9400	HUAN		S	1552.8	1607.0	56.5	14.4	4.3		R
	2800	OTTA	24	R	1614.0	1625	11.0	4.0	2.0		
	2800	OTTA	27	RF	1614.0		106.0	4.0	3.6		
	9400	HUAN		S	1616.7	1617.4	2.0	12.8	7.8		R
	2800	OTTA	24P	R	1625.0		85.0	4.0			
	2800	OTTA	26	FAL	1750.0	1800	10.0	-4.0	-2.0		
	2800	OTTA	21	GRF	1825.0	1920	225.0	24.4	14.4		
	7000	SAOP	20	GRF	1835.0		70.0	30.0			0
	2800	OTTA	40	F	1835.5	1838.2	11.0	6.6			
	9400	HUAN		S	1844.0	1924.0	129.2	22.4	14.5		0
	9400	HUAN		S	1903.4	1903.8	1.4	12.8	7.7		0
	2800	OTTA	2	S/F	2043.0	2044	2.0	2.0	.9		
	9400	HUAN		S	2150.2	2150.8	1.4	60.8	23.5		1
	2695	PENT	3	S	2206.0	2206.8	4.0	15.0	4.0		
	9400	TYKW	5	S	2335.0	2335.4	1.0	25	8		
	3750	TYKW	5	S	2335.0	2335.4	2.0	10	3		
	9400	TYKW	29	PBI	2336.0		15.0	4	2		
11	100	HIRA	43	NS	0415.0	0440	210.0D	55	24		
	200	GORK	44	NS	0625.0E		335.0D		10		
	100	GORK	44	NS	0633.0E		90.0D		10		
	127	TORN	44	NS	0650.0E	1350.8	480.0D	79			V1
	260	ONDR	44	NS	0810.0E		345.0D	67	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	MEAN	INT	POLARIZATION OR REMARKS
11	9400	TYKW	21	GRF	0010.0	0019.5	110.0	12	4		
	2000	TYKW	20	GRF	0010.0	0027	110.0	5	2.5		
	3750	TYKW	21	GRF	0015.0	0027	105.0	8	3		
	200	GORK	4	S/F	0630.9	0634.3	34.0	400 D			
	650	GORK	1	S	0638.1	0638.2	3.0	14	7		
	950	GORK	4	S/F	0638.1	0638.1	9.0	43			
	234	POTS	4	S/F	0802.8	0803.2	.8	720	80		III
	204	IZMI	7	C	0803.0	0803.5	1.0	825	500		
	113	POTS	42	SER	0803.1	0803.2	9.6	200	3		III
	3100	CRIM	21	GRF	0833.0	0922.0		7	2		
	2950	GORK	21	GRF	0906.0	0911.2	41.0	4			
	430	KRAK	4	S/F	0914.0	0916.0	3.0	201	81		
	810	KRAK	4	S/F	0914.3	0916.2	2.5	55	20		
	536	ONDR	4	S/F	0914.5	0915.7	2.5	36	5		
	930	BORD	46	C	0914.5	0916.1	2.5	67	7		
	3100	CRIM	1	S	0914.5	0915.5	3.0	9	3		
	1470	POTS	4	S/F	0914.6	0916.2	2.4	96			
	950	GORK	4	S/F	0914.7	0916.7	27.0	42			
	650	GORK	4	S/F	0914.7	0916.1	26.0	27	8		
	2950	GORK	1	S	0915.0	0915.4	24.0	13	6		
	260	ONDR	4	S/F	0915.0	0916.3	2.5	142	27		
	6100	KISV	8	S	0915.0	0916	3.0	10			
	2650	DWIN	41	F	0915.0	0915	2.0	30	20		
	9100	GORK	21	GRF	0915.1	0916.7	26.0	65	3		
	808	ONDR	2	S/F	0915.2	0916.5	2.5	15	3		
	234	POTS	4	S/F	0915.3	0916.1	2.2	750	6		III
	15000	KISV	1	S	0915.5	0916	2.0	4			
	9100	GORK	1	S	0916.2	0916.4	9.0	16	8		
	6100	KISV	1	S	0924.5	0924.7	1.0	2			
	6100	KISV	4	S/F	1000.0	1003.5	18.0	17			
	2950	GORK	21	GRF	1000.4	1004.7	98.0	45	2		
	1470	POTS	20	GRF	1002.5	1010.4	23.0	3.8			
	9500	POTS	29	PBI	1002.5	1003.6	25.0	11			
	9100	GORK	2	S/F	1002.9	1004.0	14.0	17	8		
	3100	CRIM	1	S	1003.0	1003.5	1.0	7	2		
	650	GORK	3	S	1003.6	1003.8	6.0	50	17		
	950	GORK	5	S	1003.7	1004.0	5.0	37			
	2950	GORK	1	S	1003.8	1004.0	7.0	12	6		
	9100	GORK	29	PBI	1004.3	1004.4	13.0	10			
	9100	GORK	1	S	1024.3	1024.4	8.0	6	3		
	930	BORD	8	S	1101.4	1101.4	.1	49	1		
	6100	KISV	28	PRE	1108.0	1125	27.0	3			
	6100	KISV	4	S/F	1137.0	1147		24			
	7000	SAOP	45	C	1140.4	1145.2	18.0	30.0			0,TWO BURSTS
	3100	CRIM	3	S	1143.0	1145.0	17.0	15	5		
	9500	POTS	20	GRF	1144.0	1145.3	19.0	15			
	3000	POTS	20	GRF	1145.0	1145.5	13.0	11			
	33	UPIC	8	S	1250.9	1251	.5				
	29	UPIC	8	S	1250.9	1251	.5				
	113	POTS	8	S	1251.0	1251.0	.1	700	250		III
	7000	SAOP	4	S/F	1258.0	1300.1	4.0	21.0			0
	7000	SAOP	46	C	1347.0	1356.5	10.8	148.0			3R
	9500	POTS	29	PBI	1356.0	1356.6	9.0D	351			
	9500	POTS	3	S	1356.2	1356.7	1.8	214			
	9500	POTS	29	PBI	1356.3	1356.5	8.7D	426			
	2800	OTTA	3	S	1356.4	1356.6	1.0	19.6	9.8		
	930	BORD	46	C	1546.0	1549.4	5.0	49	5		
	2800	OTTA	20	GRF	1622.0	1700	60.0	3.6			
	7000	SAOP	40	F	1622.0		128.0				
	2800	OTTA	20	GRF	1736.0	1743	60.0	3.6	1.8		
	2800	OTTA	3	S	1850.0	1852.2	10.0	63.0	19.8		
	7000	SAOP	3	S	1851.0	1852.3	9.4	35.0			0
	9400	HUAN		S	1851.1	1852.5	3.7	17.1	10.2		0
	9400	HUAN		PBI	1854.8	1854.8	43.4	7.1	4.3		0
	2800	OTTA	29	PBI	1900.0	1920	20.0	4.4	1.8		
	2695	PENT	20	GRF	1930.0	2005	90.0	3.6			
	9400	HUAN		S	2026.8	2027.3	1.5	11.4	6.9		0
	2695	PENT	21	GRF	2114.0	2120	25.0	4.2	2.6		
	9400	HUAN		S	2114.5	2115.2	1.6	75.5	28.5		R
	2800	OTTA	3	S	2114.5	2115.3	2.0	16.8	8.4		
	9400	HUAN		PBI	2116.1	2116.1	22.6	14.2	7.5		0
	1000	TYKW	45	C	2348.3	2348.6	.6	60	15		
	1000	TYKW	5	S	2357.3	2357.8	1.0	8	2		
12	200	GORK	43	NS	0627.0		273.0E		5		
	127	TORN	44	NS	0710.0E	0850.6	440.0D	55	.5		V1
	100	GORK	44	NS	0810.0E		170.0D		10		
	260	ONDR	44	NS	0810.0E		375.0D	44	3		
	3750	TYKW	20	GRF	0020.0	0035	40.0	5	2		
	9400	TYKW	20	GRF	0020.0	0035	40.0	7	2		
	1000	TYKW	5	S	0034.0	0035.0	1.5	22	4		
	3750	TYKW	20	GRF	0120.0	0153	80.0	3	1		
	9400	TYKW	21	GRF	0120.0	0150	80.0	3	1.5		
	9400	TYKW	5	S	0221.0	0221.3	1.5	3	1		
	9400	TYKW	5	S	0254.0	0255.0	2.0	4	1.5		

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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
12	3750	TYKW	45	C	0308.0	0315.4	15.0	25	8		
	5730	IRKU	2	S	0308.5	0315.4	9.5	29			L
	1000	TYKW	45	C	0310.0	0313.2	8.0	5	2		
	2000	TYKW	45	C	0312.0	0315	10.0	3.5	1.5		
	9400	TYKW	5	S	0312.0	0315.4	10.0	35	13		
	17000	NOBE	20	GRF	0312.3	0315.5	23.4	21			0
	5730	IRKU	29	PBI	0318.0		9.0	11			L
	9400	TYKW	30	PBI	0322.0		33.0	6	4		
	3750	TYKW	30	PBI	0323.0		32.0	4	4		
	5730	IRKU			0354.5	0357.0		24 D			L
	5730	IRKU	45	C	0354.5	0355.5	4.0	10			L
	1000	TYKW	45	C	0355.0	0355.4	1.0	9	3		
	2000	TYKW	45	C	0355.0	0355.6	4.0	2	.5		
	3750	TYKW	45	C	0355.0	0357.0	7.0	25	9		
	9400	TYKW	45	C	0355.0	0357.0	5.0	38	13		
	4995	MANI	3	S	0355.3	0357.4	4.2	48.5	16.2		
	17000	NOBE	20	GRF	0355.4	0356.8	12.0	8			0
	5730	IRKU	29	PBI	0359.5		11.0	5			L
	9400	TYKW	30	PBI	0400.0		100.0	8	3		
	3750	TYKW	29	PBI	0402.0		100.0	8	4		
	9400	TYKW	5	S	0415.5	0416.3	1.5	3	1		
	3750	TYKW	5	S	0619.0	0620.9	6.0	5	1.5		
	9400	TYKW	5	S	0619.0	0620.4	3.0	4.5	1.5		
	9100	GORK	21	GRF	0642.8	0805.7	206.0	16	8		
	6100	KISV	8	S	0654.0	0654.5	1.0	5			
	9100	GORK	1	S	0655.0	0655.2	7.0	75	35		
	6100	KISV	29	PBI	0655.0		8.0	2			
	2950	GORK	21	GRF	0657.0U						
	6100	KISV	4	S/F	0703.0	0711.5	14.0	6			
	6100	KISV	27	RF	0717.0	0736	29.0	4			
	6100	KISV	8	S	0746.0	0747	3.0	10			
	3100	CRIM	1	S	0746.0	0747.0	3.0	19	6		
	2950	GORK	1	S	0746.9	0747.5	21.0	15	7		
	9100	GORK	2	S/F	0747.0	0747.5	3.0	9	45		
	650	GORK	1	S	0748.4	0748.7	13.0	3			
	2950	GORK	1	S	0821.7	0822.5	21.0	35	15		
	930	BORD	41	F	0835.8	0836.5	1.0	26	3		
	950	GORK	2	S/F	0836.4	0836.8	11.0	36			
	650	GORK	3	S	0836.6	0837.1	2.0	20			
	650	GORK	3	S	0842.1	0842.4	1.0	21			
	113	POTS	4	S/F	0921.7	0921.8	.7	150	3		III
	430	KRAK			0943.5	0953.7		69			
	430	KRAK	45	C	0943.5	0949.7	16.2	61	31		
	650	GORK	20	GRF	0945.0	0954.8	15.0	13	4		
	536	ONDR	3	S	0947.0	0954	11.0	52			
	33	UPIC	2	S/F	0948.0	0948.5	1.4				
	6100	KISV	8	S	1000.5	1001.5	2.0	10			
	15000	KISV	8	S	1001.0	1001.5	1.0	6			
	9100	GORK	1	S	1001.9	1002.2	8.0	9	45		
	6100	KISV	29	PBI	1002.0		3.0	3			
	6100	KISV	32	ABS	1005.0	1025	49.0	-4			
	536	ONDR	1	S	1028.3	1028.3	.3	15			
	430	KRAK	2	S/F	1028.5	1028.5	.5	21			
	650	GORK	3	S	1028.8	1029.1	5.0	30	9		
	29	UPIC	1	S	1051.8	1052	.5				
	29	UPIC	1	S	1051.8	1052	.4				
	6100	KISV	46	C	1054.0	1055.5	16.0	10			
	9400	HUAN		S	1118.3	1200.3	61.0	19.0	10.2		1
	6100	KISV			1120.0	1145		17			
	6100	KISV			1120.0	1155		30			
	6100	KISV	46	C	1120.0	1122		47			
	9500	POTS	29	PBI	1121.2	1122.0	13.0	19			
	9400	HUAN		S	1121.4	1122.0	1.8	17.2	14.0		R
	3000	POTS	29	PBI	1121.5	1122.0	5.0	20			
	1470	POTS	40	F	1121.5	1122.4	4.0	3.7			
	10400	BERN	20		1121.6	1122.1	10.0	10.0			ONLY PAPER REC
	15000	KISV	3	S	1121.7	1121.8	2.0	8			
	810	KRAK	4	S/F	1121.7	1122.3	.5	65			
	536	ONDR	1	S	1124.3	1124.3	.3	21			
	7000	SAOP	3	S	1125.0	1127.3	4.4	52.0			9R
	430	KRAK	46	C	1152.5	1155.3	7.0	155	20		
	536	ONDR	45	C	1152.5	1154.5	5.0	24	2		
	3000	POTS	20	GRF	1153.0	1154.5	5.0	8			
	9500	POTS	4	S/F	1154.0	1157.0	8.5	53			
	10715	DWIN	1	S	1154.0	1157	5.0	20	10		
	10400	BERN	4		1154.1	1157.1	24.0	38.0			ONLY PAPER REC
	1470	POTS	42	SER	1154.6	1156.5	3.4	8.3			
	9400	HUAN		S	1154.8	1157.2	3.8	55.2	27.0		1
	7000	SAOP	46	C	1158.7	1202.2	6.4	58.0			6L
	536	ONDR	8	S	1251.8	1251.8	.3	28			
	430	KRAK	8	S	1253.3	1253.3	.1	26			
	930	BORD	8	S	1312.4	1312.4	.1	17	1		
	2650	DWIN	1	S	1340.0	1341	5.0	20	10		
	2800	OTTA	4	S/F	1340.0	1341.5	8.0	23.4	7.8		
	9400	HUAN		S	1340.3	1341.2	2.3	24.1	13.1		0

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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
12	9500	POTS	4	S/F	1340.5	1342	4.0	17			
	3000	POTS	4	S/F	1340.5	1341.8	5.5	30			
	10400	BERN	20		1340.7	1341.8	7.0	11.0			ONLY PAPER REC
	9400	HUAN		PBI	1342.6	1342.6	22.4	6.9	4.4		0
	7000	SAOP	45	C	1345.6	1346.4	5.0	41.0			0
	2650	DWIN	45	C	1359.0	1400	6.0	165	50		
	2800	OTTA	4	S/F	1359.2	1359.9	4.0D	156.0			
	536	ONDR	8	S	1359.2	1359.2	.3	42			
	930	BORD	46	C	1359.4	1400	8.6	64	15		
	9500	POTS	3	S	1359.5	1359.9	1.0	11			
	3000	POTS	4	S/F	1359.5	1400.0	4.5	121			
	1470	POTS	4	S/F	1359.5	1400.0	4.5	84			
	113	POTS	42	SER	1359.7	1401.3	3.5	200	1		III
	234	POTS	4	S/F	1359.9	1400.2	.3	580	120		III
	7000	SAOP	45	C	1404.2	1405.2	13.0	35.0			17R
	2800	OTTA	21	GRF	1510.0	1620	160.0	12.2	5.8		
	2800	OTTA	1	S	1547.5	1548	1.5	5.2	2.6		
	7000	SAOP	3	S	1552.4	1553.4	8.0	22.0			0
	2800	OTTA	8	S	1602.1	1602.5	.5	20.8			
	9400	HUAN		S	1648.2	1648.6	1.4	19.0	8.0		0
	7000	SAOP	4	S/F	1652.6	1653.6	4.4	28.0			0
	2800	OTTA	20	GRF	1830.0	1900	70.0	4.0	3.4		
	2800	OTTA	8	S	1832.3	1832.5	.5	3.6	1.8		
	9400	HUAN		S	1833.2	1854.8	65.2	17.2	4.3		0
	9400	HUAN		S	1849.0	1849.4	1.3	27.6	12.7		0
	7000	SAOP	3	S	1853.9	1854.7	2.8	27.0			0
	7000	SAOP	1	S	1915.0	1915.2	5.8	10.0			0
	2800	OTTA	8	S	1930.2	1930.5	.8	2.6			
	2800	OTTA	21	GRF	2000.0	2025	40.0	3.6	1.8		
	9400	HUAN		S	2013.6	2013.8	.9	27.6	13.1		0,SPIKE
	2695	PENT	3	S	2014.0	2014	1.5	31.0	7.8		
	2800	OTTA	45	C	2020.0	2021	4.0	34.4	9.6		
	9400	HUAN		S	2020.1	2020.7	1.7	29.3	13.4		0
	9400	HUAN		PBI	2021.8	2021.8	35.2	5.2	1.4		0
	2695	PENT	26O	FAL	2040.0	2047	7.0	-3.6	-1.8		
	2695	PENT	26O	FAL	2120.0	2210	50.0	-9.6			
13	260	ONDR	44	NS	0830.0E		355.0D	30			
	3750	TYKW	45	C	0018.0	0019.7	3.0	40	5		
	1000	TYKW	45	C	0018.5	0019.7	3.0	52	12		
	2000	TYKW	45	C	0018.5	0019.7	3.0	35	7		
	1415	MANI	4	S/F	0019.2	0020.2	2.2	50.4	16.8		
	17000	NOBE	1	S	0019.2	0019.4	.6	14			0
	2695	MANI	3	S	0019.2	0020.2	3.1	33.5	11.2		
	606	MANI	1	S	0019.8	0020.1	.6	7.6	2.5		
	4995	MANI	3	S	0019.9	0020.2	1.6	12.2	4.1		III
	3750	TYKW	29	PBI	0021.0		35.0	4	2		
	3750	TYKW	5	S	0320.0	0321.3	3.0	17	10		
	9400	TYKW	5	S	0320.0	0321.3	3.0	57	25		
	2000	TYKW	20	GRF	0320.0	0325	30.0	3	1.5		
	4995	MANI	3	S	0320.0	0321.8	6.7	46.5	15.5		
	8800	MANI	3	S	0320.3	0321.8	6.4	56.8	18.9		
	2695	MANI	3	S	0321.2	0323.7	3.8	17.4	5.6		
	3750	TYKW	30	PBI	0323.0		125.0	10	5		
	9400	TYKW	30	PBI	0323.0		120.0	21	10 U		
	35000	NAGO	20	GRF	0325.0	0357	73.0	23			
	9400	TYKW	5	S	0342.0	0345	15.0	9	3		
	2000	TYKW	5	S	0418.0	0418.6	2.0	1	.3		
	1415	MANI	8	S	0441.7	0442.1	.8	11.4	3.8		III
	606	MANI	3	S	0441.7	0443.3	5.3	28.4	9.5		
	6100	KISV	3	S	0652.0	0653	3.0	4			
	9100	GORK	21	GRF	0727.5	0838.5	213.0E	19	9		
	6100	KISV	24	R	0728.0	0730		4			
	15000	KISV	32	ABS	0730.0	0740	10.0	-8			
	6100	KISV	32	ABS	0735.0	0741	10.0	-5			
	15000	KISV	20	GRF	0743.0	0743	5.0	8			
	6100	KISV	32	ABS	0749.0	0753	5.0	-3			
	6100	KISV	28	PRE	0755.0	0801.3		3			
	15000	KISV	8	S	0801.2	0801.5	2.0	14			
	6100	KISV	8	S	0801.3	0801.5	1.0	6			
	6100	KISV	24	R	0801.7	0830	28.0	3			
	3100	CRIM	25	R	0829.0	0929.0		12			
	127	TORN	41	F	0849.4	0904.9	23.5	14			
	536	ONDR	8	S	0928.2	0928.2	.3	27			
	810	KRAK	8	S	0928.3	0928.3	.5	46			
	930	BORD	41	F	0928.4	0928.5	.3	17	2		
	6100	KISV	32	ABS	0950.0	1002	18.0	-4			
	113	POTS	4	S/F	0951.7	0951.7	.3	550	50		
	127	TORN	42	SER	1005.9	1021.5	17.8	33			
	3100	CRIM	1	S	1008.5	1019.0	3.0	10	3		
	9500	POTS	28	PRE	1012.5	1019.5	14.0	31			
	9100	GORK	1	S	1012.9	1013.7	27.0	10	5		
	6100	KISV	46	C	1013.0	1020	10.0	16			
	6100	KISV			1013.0	1013.3		4			
	33	UPIC	45	C	1018.1	1019	3.8				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
13	3000	POTS	3	S	1018.2	1019.5	3.8	8.9			
	1470	POTS	4	S/F	1018.5	1019.5	3.5	15			
	9100	GORK	4	S/F	1018.7	1019.6	33.0	34			
	10400	BERN	21		1018.8	1019.6	6.0	23.0			ONLY PAPER REC
	950	GORK	2	S/F	1018.9	1019.4	9.0	6			
	930	BORD	41	F	1019.6	1019.6	.2	12	2		
	810	KRAK	8	S	1019.7	1019.7	.3	16			
	113	POTS	4	S/F	1034.7	1034.7	.2	1400	500		III
	29	UPIC	45	C	1047.3	1047.9	1.8				
	33	UPIC	45	C	1047.5	1047.8	1.8				
	113	POTS	42	SER	1047.7	1048.9	1.2	150	1 E		III
	6100	KISV			1105.0	1122		6			
	6100	KISV	4	S/F	1105.0	1006.5	2.0	8			
	1470	POTS	1	S	1105.5	1106.8	2.5	2.8			
	9500	POTS	1	S	1106.0	1106.8	2.0	6.1			
	15000	KISV	8	S	1117.0	1119.5	3.0	19			
	810	KRAK	2	S/F	1119.0	1119.5	1.0	12	6		
	3000	POTS	3	S	1121.5	1122.0	1.5	7.8			
	1470	POTS	1	S	1121.5	1122.2	1.5	2.8			
	930	BORD	41	F	1121.8	1121.8	1.0	28	2		
	9500	POTS	1	S	1121.9	1122.2	1.1	3.1			
	6100	KISV	4	S/F	1140.0	1159		2			
	930	BORD	41	F	1225.4	1225.4	1.0	18	2		
	810	KRAK	4	S/F	1254.0	1255.0	1.0	42	21		
	9400	HUAN		S	1448.6	1449.5	3.8	7.2	3.8		0
	2800	OTTA	1	S	1449.0	1449.9	1.5	7.8	4.0		
	7000	SAOP	4	S	1454.3	1454.9	1.3	21.0			0
	9400	HUAN		S	1509.6	1515.7	58.2	9.0	3.9		0
	930	BORD	41	F	1614.6	1616.2	2.0	42	2		
	2800	OTTA	40	F	1620.0	1620.7	.8	26.0			
	9400	HUAN		S	1620.3	1621.2	1.4	61.3	26.1		1
	9400	HUAN		PBI	1621.7	1621.7	33.6	3.6	3.0		0
	9400	HUAN		S	1703.7	1704.2	2.0	23.4	10.5		R
	2695	PENT	3	S	1704.0	1704.3	1.0	12.4	6.2		
	7000	SAOP	4	S/F	1708.0	1709.4	2.6	42.0			28R
	2800	OTTA	21	GRF	1727.0	1750	40.0	3.6	1.8		
	2800	OTTA	1	S	1728.0	1729	2.0	3.0	1.5		
	9400	HUAN		S	1800.7	1832.3	59.6	30.6	20.8		0
	2800	OTTA	23	GRF	1810.0	1920	170.0	15.0	7.5		
	9400	HUAN		S	1814.0	1814.8	1.7	10.8	9.0		0
	9400	HUAN		S	1825.1	1825.7	1.2	12.6	7.2		0
	9400	HUAN		S	1834.8	1836.3	3.5	9.0	6.9		0
	7000	SAOP	45	C	1909.7	1931.0	47.6	41.0			4R,TWO BURSTS
	2800	OTTA	1	S	1913.0	1913.3	1.5	4.4	2.2		
	9400	HUAN		S	1928.1	2014.1	81.7	21.6	8.6		1
	2800	OTTA	8	S	1932.3	1932.7	.7	4.4	2.2		
	2695	PENT	1	S	2006.3	2007	3.0	5.2	3.5		
	2695	PENT	260	FAL	2115.0	2150	35.0	-6.6	-3.3		
14	260	ONDR	44	NS	0822.0E		357.0D	115	5		
	100	HIRA	44	NS	2150.0E	2250	150.0D	15	6		
	200	HIRA	44	NS	2150.0E	0610	580.0D	10	5		WL
	9400	TYKW	5	S	0105.6	0106.0	1.0	12	2		
	3750	TYKW	5	S	0111.0	0113.0	4.0	19	4		
	9400	TYKW	5	S	0112.0	0113.0	3.0	10	3		
	2000	TYKW	5	S	0112.0	0113.0	2.0	1.5	.5		
	3750	TYKW	29	PBI	0115.0		30.0	3	1		
	9400	TYKW	29	PBI	0115.0		30.0	5	2.5		
	3750	TYKW	5	S	0150.0	0200	30.0	6	2		
	9400	TYKW	5	S	0203.0	0203.3	1.0	22	4		
	3750	TYKW	5	S	0447.0	0447.6	3.0	3	1		
	2000	TYKW	5	S	0447.0	0447.8	2.0	1	.3		
	5730	IRKU	1	S	0617.0	0620.7	7.0	17			
	9400	TYKW	5	S	0619.0	0620.8	3.0	20	7		
	6100	KISV	4	S/F	0619.0	0620.7	3.0	15			
	3750	TYKW	5	S	0620.0	0621.0	2.0	8	3		
	2000	TYKW	5	S	0620.0	0621.0	2.0	1.5	.5		
	3100	CRIM	1	S	0620.0	0621.0	2.0	14	4		
	15000	KISV	4	S/F	0620.0	0621	2.0	13			
	3750	TYKW	29	PBI	0622.0		30.0	2	1		
	9400	TYKW	29	PBI	0622.0		35.0	8	4		
	6100	KISV	27	RF	0622.0	0641	40.0	11			
	9100	GORK	20	GRF	0633.5	0644.1	26.0	9	35		
	3100	CRIM	1	S	1022.0	1122.5	2.0	9	3		
	430	KRAK	8	S	1058.5	1059.0	1.0	139			
	6100	KISV	3	S	1101.0	1102	2.0	4			
	930	BORD	41	F	1153.7	1154.2	1.0	36	2		
	430	KRAK	40	F	1157.0	1218.5	24.5	30	5		
	127	TORN	42	SER	1216.4	1217.4	15.0	570			
	113	POTS	4	S/F	1216.6	1217.3	1.6	100	20		
	430	KRAK	46	C	1221.5	1222.0	5.0	177	24		
	810	KRAK	46	C	1222.0	1224.0	3.5	161	35		
	536	ONDR	45	C	1222.0	1222.3	4.5	52	12		
	930	BORD	41	F	1222.0	1223.6	3.2	113	5		
	808	ONDR	45	C	1222.0	1223.6	4.0	55	4		

SOLAR RADIO EMISSION
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JANUARY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
14	1470	POTS	4	S/F	1223.5	1223.6	1.5	8.4			
	930	BORD	8	S	1241.4	1241.5	.2	19	2		
	430	KRAK	41	F	1247.5	1252.2	7.7	25	8		
	430	KRAK	1	S	1311.0	1311.7	1.0	5	2		
	430	KRAK	4	S/F	1315.5	1316.2	1.2	229	30		
	234	POTS	4	S/F	1315.8	1316.1	.8	500	50		
	430	KRAK	41	F	1319.3	1319.5	2.0	77	19		
	430	KRAK			1319.3	1320.5		49			
	430	KRAK			1353.5	1357.5		68			
	430	KRAK	46	C	1353.5	1354.5	6.5	161	14		
	536	ONDR	2	S/F	1356.7	1357.3	1.5	22	2.8		
	9400	HUAN		S	1637.3	1638.5	2.5	24.1	14.4		0
	7000	SAOP	4	S/F	1637.4	1638.4	3.8	32.0			8R
	2800	OTTA	3	S	1637.5	1638.7	5.0	20.2	5.0		
	9400	HUAN		PBI	1639.8	1639.8	27.5	6.9	4.7		0
	2800	OTTA	27A	RF	1947.0		160.0	4.6	3.9		
	2800	OTTA	24	R	1947.0	1951	4.0	4.6	2.0		
	2800	OTTA	24P	R	1951.0		112.0	4.6			
	2800	OTTA	46F	C	2034.0	2045	27.0	91.0	37.0		
	2800	OTTA	30	PBI	2101.0	2101	30.0	9.0	4.4		
	2800	OTTA	22	GRF	2106.0	2107.5	14.0	13.0	4.4		
	2695	PENT	26	FAL	2143.0	2227	44.0	-4.6	-2.3		
	2695	PENT	1	S	2220.0	2220.5	2.0	4.4	2.2		
15	100	HIRA	43	NS	0324.0	0550	250.0D	50	13		
	100	GORK	44	NS	0630.0E		330.0D		5		
	200	GORK	44	NS	0631.0E		329.0D		15		
	127	TORN	44	NS	0810.0E	1051	232.0D	20	2		V0
	260	ONDR	44	NS	0826.0E		344.0D	64	5		
	200	HIRA	44	NS	2149.0E	2243	600.0D	5	2		WL
	3750	TYKW	5	S	0242.0	0244	6.0	1.5	.5		
	2000	TYKW	45	C	0338.5	0340.5	3.0	9	1		
	1000	TYKW	45	C	0338.5	0340.6	3.5	8	2		
	3750	TYKW	21	GRF	0420.0	0520	120.0	7	3		
	9400	TYKW	20	GRF	0455.0	0510	80.0	4	2		
	2000	TYKW	20	GRF	0455.0	0510	80.0	4	2		
	930	BORD	41	F	0758.0	0758.4	.5	44	2		
	3100	CRIM	24	R	0828.0	0929.0		7			
	204	IZMI	8	S	1118.2	1118.2	.5	600	450		
	430	KRAK	8	S	1118.5	1118.7	.5	15			
	234	POTS	4	S/F	1118.8	1119.0	.4	1400	300		
	260	ONDR	8	S	1118.8	1118.8	.3	192			
	234	POTS	8	S	1134.3	1134.4	.1	220	70		
	204	IZMI	8	S	1134.3	1134.3	.3	400	300		
	430	KRAK	2	S/F	1137.8	1138.2	.7	21			
	234	POTS	42	SER	1203.2	1205.2	2.1	220	5		
	930	BORD	41	F	1221.3	1221.4	.2	36	2		
	7000	SAOP	45	C	1258.4	1259.6	1.6	15.0			10R,TWO BURSTS
	9400	HUAN		S	1608.8	1617.0	56.8	9.2	5.6		R
	2695	PENT	20	GRF	2000.0	2055	65.0	2.8	1.4		
	9400	TYKW	5	S	2241.0	2245.0	8.0	8	3		
16	200	GORK	44	NS	0620.0E		280.0D		10		
	100	GORK	43	NS	0637.0		260.0		5		
	260	ONDR	44	NS	0836.0E		342.0D	20			
	200	HIRA	44	NS	2149.0E	2250	600.0D	7	3		WL
	3750	TYKW	21	GRF	0010.0	0029	70.0	4	2		
	3750	TYKW	5	S	0010.0	0012.2	6.0	3	1		
	2000	TYKW	5	S	0017.0	0018	3.0	3	1		
	1000	TYKW	45	C	0031.0	0031.4	2.0	14	3		
	3750	TYKW	45	C	0031.0	0031.3	3.0	15	3		
	2000	TYKW	45	C	0031.0	0031.4	1.0	8	1.5		
	9400	TYKW	21	GRF	0038.0	0042	60.0	5	2		
	3750	TYKW	45	C	0038.5	0041.6	12.0	4.5	1		
	100	GORK	4	S/F	0611.3	0613.5	46.0	100 D			
	9100	GORK	1	S	0626.2	0630.0	51.0	63	3		
	6100	KISV	24	R	0700.0	0848		9			
	950	GORK	2	S/F	0833.0	0835.0	25.0	10			
	6100	KISV	32	ABS	0905.0	0930	31.0	-4			
	6100	KISV	32	ABS	1004.0	1008	4.0	-5			
	2950	GORK			1006.0	1012.8		40			
	2950	GORK	46	C	1006.0	1012.2	12.0	50			
	810	KRAK	23	GRF	1007.5	1011.5	6.0	37	10		
	3000	POTS	28	PRE	1008.0	1012.4	8.0	43			
	1470	POTS	28	PRE	1008.0	1012.4	8.0	28			
	2650	DWIN	2	S/F	1008.0	1012	8.0	50	20		
	6100	KISV			1008.0	1013		16			
	3100	CRIM	3	S	1008.0	1012.0	10.0	28	9		
	6100	KISV	46	C	1008.0	1012.3	6.0	16			
	6100	KISV			1008.0	1010.5		4			
	950	GORK	2	S/F	1008.2	1011.6	52.0	25			
	650	GORK	2	S/F	1009.2	1011.6	54.0U	31	7		
	930	BORD	45	C	1010.0	1011.4	5.0	31	12		
	536	ONDR	2	S/F	1010.5	1011.4	2.5	19	9.5		
	808	ONDR	3	S	1010.8	1011.7	2.5	25	8		

SOLAR RADIO EMISSION
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JANUARY 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	POLARIZATION OR REMARKS
16	9500	POTS	1	S	1011.5	1013.0	2.5	7.6			
	9100	GORK	20	GRF	1011.6	1012.3	19.0	9	45		
	100	GORK	4	S/F	1012.2	1014.2	31.0	100 D			
	33	UPIC	45	C	1012.3	1012.4	1.0				
	29	UPIC	45	C	1012.5	1012.5	1.2				
	127	TORN	47	GB	1217.1	1217.7	1.2	580	290		
	113	POTS	4	S/F	1227.1	1227.4	.4	700	70		III
	234	POTS	4	S/F	1227.3	1227.4	.2	200	20		III
	9400	HUAN		S	1348.8	1407.2	61.5	6.0	4.0		0
	2800	OTTA	20	GRF	1600.0	1640	60.0	2.0	1.0		
	2800	OTTA	240	R	1710.0	1750	40.0	3.6			
	2800	OTTA	21	GRF	1810.0	1950	160.0	3.6	1.8		
	2800	OTTA	1	S	2037.5	2038	1.5	3.2	1.6		
17	200	GORK	44	NS	0627.0E		333.0D		5		
	100	GORK	43	NS	0628.0		330.0		5		
	127	TORN	44	NS	0820.0E	1053.4	320.0D	55			V1
	260	ONDR	44	NS	0842.0E		336.0D	27			
	430	KRAK	8	S	0906.5	0906.5	.2	16			
	430	KRAK	41	F	0919.0	0922.0	6.0	52	13		
	204	IZMI	41	F	0923.5	0924.3	1.7	360			
	9100	GORK	1	S	1117.0	1117.4	9.0	17	8		
	2800	OTTA	20	GRF	1745.0	1810	25.0	3.2	1.6		
	9400	HUAN		S	1757.7	1817.9	46.6	5.6	3.1		0
	9400	HUAN		S	2134.6	2141.1	21.2	8.4	3.3		0
18	260	ONDR	44	NS	0820.0E		367.0D	74	5		
	204	IZMI	41	F	0827.3	0831.5	6.2	300			
	113	POTS	42	SER	0827.6	0831.7	5.7	5000	15		III
	234	POTS	41	F	0831.1	0831.1	.6	200	1 E		III
	260	ONDR	8	S	0849.3	0849.3	.3	216			
	930	BORD	8	S	1100.7	1100.7	.1	19	1		
	127	TORN	4	S/F	1134.7	1135.4	1.7	130	80		
	33	UPIC	45	C	1134.7	1134.7	1.0				
	113	POTS	4	S/F	1134.8	1134.8	1.0	200	35		III
	29	UPIC	45	C	1134.9	1135.1	1.0				
	2800	OTTA	1	S	1519.0	1521	5.0	3.0	1.2		
	2800	OTTA	8	S	1618.1	1618.1	.1	11.2			
	2800	OTTA	1	S	1641.0	1642.2	3.0	3.0	1.5		
	2800	OTTA	21	GRF	1950.0	2020	140.0	4.4	3.6		
	2695	PENT	8	S	2124.0	2124.2	.3	5.4			
19	200	GORK	44	NS	0604.0E		326.0D		5		
	260	ONDR	44	NS	0927.0E		289.0D	16			
	1000	TYKW	5	S	0100.0	0100.7	2.0	7	1		
	2000	TYKW	5	S	0100.0	0100.9	1.5	4.5	1.5		
	1000	TYKW	45	C	0110.5	0111.5	1.5	7	1		
	204	IZMI	41	F	0755.5	0804.0	24.0	480			
	2950	GORK	1	S	0906.9	0907.6	55.0	14	3		
	3000	POTS	3	S	0907.0	0908	2.2	14			
	3100	CRIM	3	S	0907.0	0907.5	3.5	16	5		
	1470	POTS	1	S	0907.5	0908	1.5	23			
	2800	OTTA	45	C	1424.2	1424.7	2.0	3.4	1.7		
	2800	OTTA	1	S	1703.0	1704	2.0	6.4	3.0		
	2800	OTTA	1	S	1747.5	1749	2.0	2.0	1.0		
	9400	HUAN		S	1804.1	1818.2	38.7	5.0	3.2		0
	2800	OTTA	1	S	1809.0	1810.5	5.0	5.0	1.7		
	2800	OTTA	20	GRF	1900.0	1910	25.0	3.6	1.8		
20	3750	TYKW	45	C	0056.0	0100.2	20.0	4	1		
	1000	TYKW	45	C	0056.5	0056.7	2.0	12	2.5		
	2000	TYKW	45	C	0058.0	0100.5	5.0	2	.5		
	1000	TYKW	45	C	0058.5	0100.0	5.0	10	1.5		
	260	ONDR	42	SER	0930.0	0953	48.0	10			
	260	ONDR	45	C	1301.3	1301.3	1.0	28			
	2800	OTTA	20	GRF	1805.0	1813	70.0	2.4	1.8		
21	260	ONDR	44	NS	0820.0E		355.0D	17	2		
	127	TORN	43	NS	0823.0	1354.8	377.0	92	21		V1
	200	GORK	44	NS	0826.0E		216.0D		10		
	100	GORK	43	NS	0838.6		201.0E		10		
	15000	KISV	27	RF	0820.0	0850	60.0	17			
	950	GORK	20	GRF	0824.8	0835.3	167.0	5	25		
	9500	POTS	20	GRF	0825.0	0850	95.0	14			
	3000	POTS	20	GRF	0825.0	0835.5	65.0	16			
	1470	POTS	22	GRF	0825.0	0831.8	25.0	17			
	6100	KISV	24	R	0825.0	0831	6.0	6			
	650	GORK	20	GRF	0825.6	0837.8	177.0	6	25		
	2950	GORK	20	GRF	0826.8	0835 U	75.0	20	10		
	3100	CRIM	7	C	0827.0	0832.0	16.0	26	8		
	9100	GORK	20	GRF	0830.8	0852.0	62.0	10	5		
	6100	KISV	27	RF	0831.0	0854	39.0	7			
	100	GORK	4	S/F	0836.0	0837.1	26.0	120			
	113	POTS	27	RF	0839.0	0822.5	337.0D	200			RISE+I
	3100	CRIM	24	R	0840.0E	0840.0	72.0D	18			

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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
21	930	BORD	41	F	1043.5	1043.6	.2	18	2		
	930	BORD	8	S	1149.0	1149	.1	13	1		
	930	BORD	41	F	1548.6	1548.8	.8	20	3		
22	100	GORK	44	NS	0600.0E		354.0D		5		
	127	TORN	44	NS	0710.0E	1459.3	470.0D	87	3.5		V1
	260	ONDR	44	NS	0822.0E		352.0D	24	2		
	5730	TOKU	20	GRF	0440.0	0445.5	14.0	11			
	3750	TYKW	5	S	0607.0	0607.7	4.0	5	1		
	2000	TYKW	5	S	0607.0	0607.8	2.0	1.5	.5		
	6100	KISV	8	S	0607.0	0607.5	2.0	6			
	3750	TYKW	5	S	0634.5	0635.4	2.5	5	2.5		
	2000	TYKW	5	S	0634.5	0635.5	2.5	3	1.5		
	6100	KISV	4	S/F	0635.5	0636	4.0	5			
	9400	TYKW	5	S	0636.5	0636.8	.6	7	3		
	3750	TYKW	29	PBI	0637.0		25.0	2	1		
	2000	TYKW	29	PBI	0637.0		20.0	1.5	.5		
	3100	CRIM	24	R	0745.0	0900.0	75.0	7			
	6100	KISV	1	S	1123.5	1123.8	2.0	3			
	930	BORD	8	S	1232.3	1232.3	.1	15	1		
	930	BORD	8	S	1301.5	1301.5	.1	37	1		
	2800	OTTA	2	S/F	1503.0	1503.5	2.0	2.0			
	2800	OTTA	240	R	1524.0	1530	6.0	3.0	1.5		
	9400	HUAN		S	1530.7	1548.2	59.0	6.8	3.3		0
	2800	OTTA	22	GRF	1535.0	1605	135.0	2.6			
	2800	OTTA	2	S/F	1801.0	1803	6.0	1.8	.9		
	2800	OTTA	21	GRF	1840.0	1910	175.0	3.6	1.8		
	2800	OTTA	4	S/F	1858.0	1859	5.0	20.0	10.0		
	7000	SAOP	45	C	1858.3	1858.8	13.0	37.0			22R
23	200	GORK	44	NS	0549.0E		371.0D		15		
	204	IZMI	43	NS	0700.0		300.0	50			
	127	TORN	44	NS	0710.0E	1109.1	450.0D	160	6		V1
	100	GORK	43	NS	0750.0		250.0E		5		
	260	ONDR	44	NS	0810.0E		367.0D	88	6		
	33	UPIC	43	NS	1013.9	1014	161.7				
	29	UPIC	43	NS	1014.2	1111.3	161.0				
	200	HIRA	44	NS	2147.0E	0047	600.0D	20	5		0
	606	MANI	3	S	0150.3	0150.8	.9	35.4	11.8		
	2695	MANI	3	S	0150.5	0151.1	1.2	13.1	4.4		
	1415	MANI	3	S	0150.8	0151.1	1.9	6.2	2.1		
	4995	MANI	1	S	0150.9	0151.2	.9	4.5	1.5		
	3750	TYKW	5	S	0151.0	0151.4	2.0	8	2		
	2000	TYKW	5	S	0151.0	0151.4	2.0	9	2		
	1000	TYKW	5	S	0151.0	0151.4	3.0	4	1		
	3750	TYKW	5	S	0323.0	0324.8	3.0	11	3		
	9400	TYKW	5	S	0324.0	0324.7	2.0	13	4		
	9400	TYKW	29	PBI	0326.0		35.0	2	1		
	3750	TYKW	29	PBI	0326.0		40.0	4	2		
	9400	TYKW	20	GRF	0430.0	0446	90.0	7	2.5		
	3750	TYKW	20	GRF	0430.0	0446	90.0	8	3		
	2000	TYKW	21	GRF	0430.0	0446	90.0	4.5	1		
	17000	NOBE	20	GRF	0437.0	0454.2	55.0	7			0
	650	GORK	4	S/F	0746.4	0747.4	48.0	22	4		
	200	GORK			0747.0	0748.9		95			
	200	GORK	46	C	0747.0	0747.8	52.0	95 D			
	950	GORK	4	S/F	0747.0	0747.2	58.0	12			
	100	GORK	45	C	0747.1	0747.4	32.0	120			
	100	GORK			0747.1	0748.0		120			
	2950	GORK	1	S	0747.4	0747.6	12.0	8	4		
	3100	CRIM	25	R	0841.0	1200 D	199.0D	18			
	3100	CRIM	1	S	0902.0	0904.5	3.0	12	4		
	6100	KISV	4	S/F	0914.0	0916	3.0	6			
	15000	KISV	27	RF	0914.0	0916	22.0	6			
	9100	GORK	20	GRF	0914.4	0916.4	155.0	8	4		
	2950	GORK	21	GRF	0914.8	0917.0	12.0	3	15		
	2950	GORK	2	S/F	0916.0	0916.3	7.0	16			
	6100	KISV	29	PBI	0917.5	0917.5	13.0	4			
	113	POTS	42	SER	1109.0	1109.3	2.7	200	3		III
	9400	HUAN		S	1220.3	1254.3	48.0	8.9	2.3		0
	113	POTS	4	S/F	1251.5	1252.1	3.2	200	20		III
	3000	POTS	3	S	1252.5	1253.8	2.5	13 U			
	1470	POTS	1	S	1253.0	1253.5	2.0	3.0			
	930	BORD	41	F	1253.0	1254.7	2.0	17	2		
	7000	SAOP	3	S	1253.2	1254.0	2.0	14.0			0
	9500	POTS	1	S	1253.5	1254.0	1.5	7.6			
	3100	CRIM	1	S	1255.0	1256.0	2.0	13	4		
	234	POTS	4	S/F	1325.4	1325.6	.2	200	40		III
	930	BORD	41	F	1511.6	1511.6	.4	27	2		
	930	BORD	41	F	1514.6	1514.6	.3	23	2		
	9400	HUAN		S	1637.3	1706.5	36.0	11.9	5.0		1
	7000	SAOP	40	F	1646.0		42.0				0
	2800	OTTA	21	GRF	1703.0		105.0	2.6			
	9400	HUAN		S	1723.1	1738.0	33.2	12.6	8.2		R
	2800	OTTA	21	GRF	1728.0	1738	32.0	3.6	1.8		

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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	MEAN	INT	POLARIZATION OR REMARKS
23	7000	SAOP	45	C	1732.2	1734.6	12.4	53.0			33R,TWO BURSTS
	9400	HUAN		S	1733.5	1734.4	2.5	31.2	9.5		R
	2800	OTTA	4	S/F	1734.1	1737	5.0	77.0	25.0		
	2800	OTTA	260	FAL	1900.0	1905	5.0	-2.4	-1.2		
	2800	OTTA	20	GRF	1925.0	1930	33.0	3.0	1.5		
24	100	HIRA	43	NS	0020.0	0107	150.0	70	20		
	200	GORK	43	NS	0556.0		364.0D		5		
	260	ONDR	44	NS	0820.0E		358.0D	84	9		
	127	TORN	43	NS	1103.0U	1203.8	380.0D	130	1		V1
	200	HIRA	44	NS	2145.0E	0023	190.0D	140	60		ML
	100	HIRA	44	NS	2145.0E	2210	600.0D	700	70		
	3750	TYKW	21	GRF	0030.0	0050	210.0	5	3		
	9400	TYKW	21	GRF	0030.0	0050.3	210.0	10	2		
	2000	TYKW	21	GRF	0030.0	0050	210.0	2	1		
	2000	TYKW			0058.0	0059.8		16			
	3750	TYKW	45	C	0058.0	0058.9	5.0	18	8		
	9400	TYKW			0058.0	0100.5		25			
	1000	TYKW	45	C	0058.0	0058.4	5.0	30	4		
	9400	TYKW	45	C	0058.0	0059.0	4.0	25	12		
	3750	TYKW			0058.0	0100.5		18			
	2000	TYKW			0058.0	0059.0		14			
	2000	TYKW	45	C	0058.0	0100.5	6.0.	20	6		
	1400	SYDN	40	F	0058.2	0100.4	3.7				
	700	SYDN	2	S	0100.0	0100.4	.9				
	9400	TYKW	29	PBI	0102.0		30.0	8	4		
	3750	TYKW	29	PBI	0103.0		30.0	4.5	2.5		
	700	SYDN	4	S	0106.2	0106.6	.4				
	2000	TYKW	5	S	0159.0	0200.5	11.0	5	1		
	3750	TYKW	5	S	0200.0	0200.3	1.0	3	1		
	3750	TYKW	5	S	0225.0	0226.9	25.0	4	1		
	1400	SYDN	8	S	0225.7	0226.6	1.9				
	2000	TYKW	45	C	0226.0	0226.5	2.0	14	4		
	700	SYDN	45	C	0226.0	0226.9	1.5				
	1000	TYKW	5	S	0226.0	0226.8	2.0	6	2		
	3750	TYKW	5	S	0428.0	0430	5.0	1	.4		
	9400	TYKW	29	PBI	0448.0		7.0	2	1		
	3750	TYKW	5	S	0456.0	0457	6.0	1.5	.5		
	3750	TYKW	21	GRF	0456.0	0540	120.0	4	2		
	2000	TYKW	5	S	0456.5	0457.3	3.0	1	.3		
	2000	TYKW	20	GRF	0505.0	0530	50.0	1	.5		
	3750	TYKW	5	S	0519.0	0519.6	1.5	3	1		
	9400	TYKW	5	S	0519.0	0519.6	2.0	8	2		
	5730	IRKU	1	S	0524.2	0524.7	2.0	5			
	950	GORK	3	S	0615.9	0616.0	12.0	8	4		
	3750	TYKW	5	S	0628.0	0630	10.0	1	.5		
	6100	KISV	4	S/F	0644.0		11.0	5 D			
	9400	TYKW	5	S	0646.0	0646.9	2.0	9	4		
	5730	IRKU	1	S	0646.3	0646.9	1.5	4			
	15000	KISV	4	S/F	0646.5	0647	4.0	14			
	9100	GORK	1	S	0715.9	0717.7	67.0	11	5		
	5730	IRKU	1	S	0717.0	0717.8	4.0	5			
	6100	KISV	4	S/F	0717.0	0717.8	2.0	8			
	15000	KISV	3	S	0717.5	0718	1.0	8			
	6100	KISV	29	PBI	0718.5	0718.5	7.0	4			
	6100	KISV	4	S/F	0800.0	0806.7	8.0	17			
	2950	GORK	20	GRF	0803.3	0806.5	228.0	6			
	9100	GORK	21	GRF	0803.7	0809.2	158.0	6	3		
	15000	KISV	1	S	0806.0	0806.5	1.0	11			
	3100	CRIM	1	S	0806.0	0806.5	2.0	5	2		
	9100	GORK	1	S	0806.1	0806.6	15.0	13	7		
	6100	KISV	29	PBI	0808.0	0808	30.0	8			
	15000	KISV	32	ABS	0821.0	0837	15.0	-3			
	930	BORD	8	S	0825.5	0825.5	.2	25	2		
	930	BORD	8	S	0902.5	0902.6	.2	31	2		
	6100	KISV			0908.0	0959.5		13			
	6100	KISV			0908.0	1036		14			
	6100	KISV			0908.0	1114.5		9			
	6100	KISV			0908.0	0937		9			
	6100	KISV			0908.0	0915		7			
	6100	KISV	46	C	0908.0	0954.3	46.3D	18			
	9100	GORK	2	S/F	0913.7	0914.8	57.0	7	3		
	15000	KISV	3	S	0913.7	0914.7	4.0	9			
	15000	KISV	27	RF	0920.0	0951	40.0	9			
	9100	GORK	21	GRF	0933.9	0959.5	86.0	16			
	15000	KISV	27	RF	0935.0	0937.5	16.0	6			
	3100	CRIM	24	R	0935.0	1015.0		8			
	9500	POTS	3	S	0954.0	0954.2	1.0	11			
	9100	GORK	1	S	0954.0	0954.3	7.0	15	7		
	3000	POTS	8	S	0954.0	0954.1	.5	8.0			
	2950	GORK	1	S	0954.0	0954.3	4.0	77	35		
	1470	POTS	8	S	0954.0	0954.2	.5	3.1			
	15000	KISV	8	S	0954.0	0954.3	1.0	9			
	2950	GORK	20	GRF	0957.0	1019.1	34.0	45	2		
	15000	KISV	27	RF	0957.0	0959.5	24.0	9			

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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
24	430	KRAK	40	F	1246.0	1256.0	76.0D	55	8 D		
	9400	HUAN		S	1339.9	1345.0	13.0	7.3	4.6		0
	113	POTS	42	SER	1356.1	1356.6	3.1	150	1 E		
	2800	OTTA	21	GRF	1535.0	1615	90.0	7.6	3.8		
	2800	OTTA	3	S	1540.5	1543	4.5	13.8	7.4		
	7000	SAOP	20	GRF	1540.6		44.0	21.0			4R
	9400	HUAN		S	1541.2	1603.5	59.5	17.6	7.9		R
	2800	OTTA	29	PBI	1545.0	1545	9.0	5.0	2.5		
	2800	OTTA	1	S	1603.5	1604	1.5	2.0	1.0		
	2800	OTTA	20	GRF	1830.0	1930	140.0	4.4	2.2		
	7000	SAOP	3	S	1930.0	1930.5		13.0			19L
25	200	GORK	44	NS	0553.0E		329.0D		5		
	100	GORK	44	NS	0557.0E		324.0D		5		
	127	TORN	44	NS	0700.0E	1323	460.0D	22	1		V1
	260	ONDR	44	NS	0820.0E		359.0D	94	7		
	204	IZMI	43	NS	1040.0		120.0	35			
	100	GORK	4	S/F	0559.2	0600.5	22.0	70			
	100	HIRA	45	C	0630.0	0630.8	2.6	3600	420		
	100	GORK			0630.5	0631.2U		100 D			
	950	GORK	3	S	0630.5	0631.5	17.0	28	14		
	100	GORK	45	C	0630.5	0630.9	1 14.0	100 D			
	1000	TYKW	45	C	0630.5	0631.7	2.0	85	10		
	650	GORK	4	S/F	0630.6	0631.5	24.0	49	10		
	536	ONDR	42	SER	0849.0	0849.6	14.0	10			
	430	KRAK	41	F	0854.0	0949.2	123.0	268	3		
	930	BORD	41	F	1002.7	1002.7	.3	39	2		
	6100	KISV	1	S	1138.0	1139.5	5.0	3			
	1470	POTS	8	S	1139.0	1139.4	.7	5.1			
	430	KRAK	41	F	1217.5	1235.5	41.5	33	2		
	536	ONDR	42	SER	1234.7	1340.8	97.0	31			
	430	KRAK	8	S	1309.0	1309.0	.3	10			
	430	KRAK	40	F	1315.0	1342.3	35.5	9	4		
	9400	HUAN		S	1413.1	1515.4	87.3	7.3	3.1		1
	930	BORD	41	F	1425.0	1425.3	.4	10	2		
	2800	OTTA	8	S	1425.3	1425.5	.3	2.2	1.1		
	930	BORD	42	SER	1429.3	1432.8	7.9	226	4		
	9400	HUAN		S	1429.5	1429.8	1.7	9.1	5.5		0
	2800	OTTA	1	S	1429.8	1430	1.0	3.6	1.7		
	2800	OTTA	1	S	1432.5	1433	1.0	4.4	2.2		
	930	BORD	46	C	1444.0	1447.1	6.0	225	9		
	2800	OTTA	1	S	1444.0	1444.6	1.0	6.8	3.0		
	7000	SAOP	46	C	1444.0	1447.4		14.0			20L
	9400	HUAN		S	1446.3	1447.1	1.3	11.0	7.3		1
	2800	OTTA	45	C	1446.3	1447.3	2.0	21.8	10.0		
	2800	OTTA	21	GRF	1525.0	1645	195.0	9.0	6.5		
	9400	HUAN		S	1536.6	1537.2	1.6	5.5	3.6		0
	930	BORD	41	F	1539.6	1540	3.4	16	3		
	9400	HUAN		S	1554.6	1616.0	117.4	11.0	7.4		0
	9400	HUAN		S	1600.3	1601.2	1.5	12.8	7.3		0
	7000	SAOP	41	F	1600.7						
	7000	SAOP	3	S	1600.7	1601.6		16.0			0
	2800	OTTA	1	S	1600.8	1601.3	1.0	7.2	3.6		
	7000	SAOP	4	S/F	1607.0	1608.2	19.0	25.0			0
	9400	HUAN		S	1607.2	1608.0	1.4	18.3	6.6		0
	2800	OTTA	3	S	1607.5	1608	2.0	10.2	4.8		
	930	BORD	8	S	1609.4	1609.4	.1	27	1		
	7000	SAOP	21	GRF	1636.6						
	7000	SAOP	21	GRF	1636.6			9.0			0
	2800	OTTA	1	S	1656.6	1657	1.0	1.8	.9		
	2800	OTTA	1	S	1700.0	1700.4	1.0	5.4	2.7		
	7000	SAOP	3	S	1700.7E	1700.7		16.0			15L
	9400	HUAN		S	1717.5	1719.2	4.3	42.0	16.6		0
	7000	SAOP	46	C	1717.8	1719.6	16.6	41.0			0
	2800	OTTA	45	C	1717.8	1719.4	4.2	18.2	8.0		
	2800	OTTA	29	PBI	1722.0	1722	6.0	3.6	1.8		
	2800	OTTA	8	S	1827.5	1827.7	.5	5.4	1.8		
	2800	OTTA	8	S	1837.0	1837.3	.5	7.0	3.0		
	7000	SAOP	1	S	1920.3	1921.7		9.0			30R
	2800	OTTA	4	S/F	1920.9	1921.5	1.8	21.8	7.2		
	2695	PENT	1	S	2009.0	2009.9	1.5	2.0	1.0		
	2800	OTTA	47	GB	2050.0	2154.8	80.0	1045.0	314.0		
	9400	HUAN		C	2057.5	2100.2	9.8	2105.8	534.5		R
	9400	HUAN		PBI	2107.3	2107.3	96.0	276.0	110.8		0
	9400	HUAN		S	2122.8	2129.5	8.5	279.7	158.0		R
	9400	HUAN		S	2134.5	2135.6	3.8	118.8	84.1		R
	200	HIRA	48	C	2142.0E	2147 U	123.0D	210 U	30 U		ML,SUNRISE
	100	HIRA	48	C	2142.0E	2147 U	154.0D	1000 U	200 U		SUNRISE
	500	HIRA	48	C	2145.0E		125.0D	100 D			ML,SUNRISE
	2695	PENT	30	PBI	2210.0	2210	70.0D	37.0			
	2695	PENT	40	F	2211.0	2218.2	11.0	28.0			
	1000	TYKW	45	C	2215.0E	2303.8	100.0D	450	20 U		
	1000	TYKW			2215.0E	2242.1		300			
	9400	TYKW	20	GRF	2220.0E	2220	100.0D	50 U	25 U		
	3750	TYKW	20	GRF	2225.0E	2225	95.0D	20 U	10 U		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
25	2000	TYKW	45	C	2225.0E	2250	95.0D	25 U	8 U		
	606	MANI	4	S/F	2245.3	2304.8	32.2	102.5	34.6		
	2800	OTTA	1	S	2248.0	2250.5	4.0	8.8	4.4		
	1415	MANI	4	S/F	2248.4	2303.7	26.6	353.6	117.9		
26	200	GORK	44	NS	0647.0E		283.0D		5		
	260	ONDR	44	NS	0836.0E		314.0D	50	4		
	100	HIRA	44	NS	2143.0E	0432	620.0D	150	54		
	200	HIRA	44	NS	2143.0E	0442	620.0D	85	35		WR
	2000	TYKW	20	GRF	0030.0	0120	190.0	5	2		
	1000	TYKW	21	GRF	0030.0	0120	190.0	5	1.5		
	3750	TYKW	20	GRF	0030.0	0130	150.0	5	2		
	9400	TYKW	21	GRF	0100.0	0130	100.0	4	2		
	9400	TYKW	5	S	0150.0	0151	7.0	4	1		
	1000	TYKW	45	C	0225.0	0248.6	30.0	13	2		
	9400	TYKW	5	S	0410.0	0411	2.0	5	2		
	3750	TYKW	5	S	0410.0	0411.1	3.0	9	3.5		
	9400	TYKW	29	PBI	0412.0		45.0	2	1		
	3750	TYKW	29	PBI	0413.0		45.0	3.5	2		
	2950	GORK	40	F	0611.0E		45.0D				
	15000	KISV	32	ABS	0632.5	0644.5	13.0	-9			
	6100	KISV	32	ABS	0638.0	0652	17.0	2			
	5730	IRKU			0656.0	0704.4		11			R
	5730	IRKU			0656.0	0704.9		32 D			R
	5730	IRKU	45	C	0656.0	0659.0	10.0	32 D			R
	650	GORK	20	GRF	0657.6	0704.3	209.0	10	5		
	2950	GORK	23	GRF	0657.9	0824.0	180.0E	10			
	2000	TYKW			0658.0	0659.2		1			
	3750	TYKW	45	C	0658.0	0703.3	11.0	80	6		
	2000	TYKW			0658.0	0707.6		19			
	9100	GORK	29	PBI	0704.5	0704.5	218.0	14			
	2000	TYKW	45	C	0658.0	0703.4	11.0	57	7		
	9400	TYKW			0658.0	0704.1		25			
	9100	GORK	46	C	0658.0	0659.3	65.0	44			
	9400	TYKW	45	C	0658.0	0659.2	11.0	38	7		
	9100	GORK			0658.0	0704.0		27			
	3750	TYKW			0658.0	0659.2		15			
	6100	KISV	45	C	0658.3	0659.3	7.0	38			
	6100	KISV			0658.3	0703.5		11			
	6100	KISV			0658.3	0704		14			
	3100	CRIM	1	S	0658.5	0659.5	1.5	7	2		
	15000	KISV	45	C	0658.7	0704.3	6.0	21			
	15000	KISV			0658.7	0703.5		18			
	15000	KISV			0658.7	0659.7		15			
	950	GORK	4	S/F	0701.8	0703.2	3.0	10			
	2950	GORK	4	S/F	0701.9	0704.0	29.0	24			
	1000	TYKW	45	C	0702.0	0703.5	7.0	25	6		
	2695	MANI	4	S/F	0702.0	0704.2	4.1	39.2	13.0		
	1415	MANI	4	S/F	0702.0	0703.7	7.2	86.0	28.6		
	8800	MANI	4	S/F	0702.0	0703.7	2.3	32.6	10.8		
	3100	CRIM	1	S	0702.0	0704.0	3.0	10	3		
	4995	MANI	4	S/F	0702.0	0704.1	3.0	32.2	10.7		
	6100	KISV	29	PBI	0705.0	0705	12.0	8			
	3100	CRIM	1	S	0707.0	0707.5	2.0	5	2		
	9400	TYKW	29	PBI	0709.0		30.0	7	4		
	3750	TYKW	29	PBI	0709.0		20.0	3	1.5		
	113	POTS	8	S	0736.0	0736.1	.1	180	60		III
	15000	KISV	24	R	0705.0	0705		9			
	200	GORK	4	S/F	0815.0	0815.4	9.0	30 D			
	234	POTS	41	F	0838.9	0840.8	2.0	500	5		
	15000	KISV	32	ABS	0905.0	0923	24.0	-6			
	113	POTS	8	S	0954.2	0954.2	.1	200	70		III
	536	ONDR	2	S/F	1022.2	1022.8	1.0	13			
	430	KRAK	42	SER	1022.7	1023.0	16.0	24			
	430	KRAK	40	F	1044.0		55.0				
	33	UPIC	1	S	1108.0	1108.1	.4				
	100	GORK	41	F	1108.1	1108.2	45.0	100 D			
	100	GORK			1108.1	1111.0		100 D			
	29	UPIC	1	S	1108.2	1108.4	.4				
	127	TORN	4	S/F	1110.1	1110.9	2.0	350	170		
	33	UPIC	4	S/F	1110.1	1111.3	2.5				
	29	UPIC	4	S/F	1110.2	1111.2	2.6				
	3000	POTS	3	S	1137.5	1138.1	1.5	14 U			
	9500	POTS	1	S	1137.8	1138.2	1.2	4.6			
	1470	POTS	1	S	1138.0	1138.2	.5	1.9			
	7000	SAOP	1	S	1138.0	1138.4		9.0			18L
	3000	POTS	3	S	1151.0	1151.5	1.0	32 U			
	7000	SAOP	1	S	1303.4	1304.1		9.0			18R
	7000	SAOP	3	S	1331.0	1342.4	18.4	20.0			16L
	430	KRAK	27	RF	1340.5	1343.5	4.5	7	3		
	536	ONDR	2	S/F	1341.3	1342.2	2.0	10	1		
	9500	POTS	1	S	1341.5	1342.2	1.5	3.1			
	3000	POTS	3	S	1341.5	1342.1	1.0	9 U			
	1470	POTS	4	S/F	1341.5	1342.3	2.1	5.9			
	2800	OTTA	45	C	1341.8	1342.2	2.0	6.8	2.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
26	33	UPIC	8	S	1409.4	1409.5	.6				
	29	UPIC	8	S	1409.5	1409.7	.5				
	2800	OTTA	27A	RF	1420.0		220.0	3.8	3.4		
	2800	OTTA	24	R	1420.0	1450	30.0	3.8	1.9		
	2800	OTTA	24P	R	1450.0		170.0	3.8			
	9400	HUAN		S	1524.7	1539.0	82.3	9.1	.9		1
	2800	OTTA	20	GRF	1617.0	1623	30.0	2.2	1.1		
	2800	OTTA	26	FAL	1740.0	1800	20.0	-3.8	-1.9		
	7000	SAOP	1	S	1925.5	1926.3		9.0			18R
	2695	PENT	1	S	2202.0	2204	3.0	6.6	4.0		
	2695	PENT	29	PBI	2205.0	2205	29.0	3.6	1.8		
27	200	GORK	44	NS	0558.0E		329.0D		30		
	100	GORK	44	NS	0600.0E		327.0D		10		
	204	IZMI	43	NS	0700.0		300.0	50			
	127	TORN	44	NS	0710.0E	1151.6	450.0D	7100	44		V1
	260	ONDR	44	NS	0900.0E		316.0D	135	19		
	200	HIRA	44	NS	2218.0E	0705	620.0D	10	2		WR
	3750	TYKW	21	GRF	0058.0	0100	60.0	2	.5		
	9400	TYKW	20	GRF	0058.0	0059.3	60.0	5	2		
	5730	IRKU	45	C	0234.7	0235.8	2.3	5			L
	5730	IRKU			0234.7	0236.3		18			L
	5730	IRKU			0234.7	0236.1		14			L
	1000	TYKW	5	S	0235.0	0236.2	8.0	9	2.5		
	2000	TYKW	5	S	0235.0	0236.1	4.0	21	8		
	3750	TYKW	45	C	0235.0	0236.1	3.0	21	7		
	9400	TYKW	45	C	0235.0	0236.2	2.0	14	2		
	2695	MANI	3	S	0235.2	0235.8	2.9	17.1	5.7		
	1415	MANI	3	S	0235.2	0236.0	3.8	10.8	3.5		
	606	MANI	1	S	0235.2	0236.0	2.8	8.3	2.7		
	4995	MANI	3	S	0235.2	0236.1	2.2	24.8	8.2		
	9400	TYKW	30	PBI	0237.0		63.0	3	2		
	5730	IRKU	29	PBI	0237.0		20.0	4			L
	3750	TYKW	30	PBI	0238.0		62.0	4	2.5		
	2000	TYKW	30	PBI	0239.0		63.0	4	3		
	2000	TYKW	5	S	0316.0	0318.5	10.0	2	.7		
	3750	TYKW	45	C	0316.5	0318.3	8.0	5	1.5		
	4995	MANI	4	S/F	0339.3	0344.0	15.4	120.4	40.1		
	9400	TYKW	45	C	0340.0	0344.2	40.0	125	35		
	3750	TYKW	45	C	0340.0	0344.2	30.0	75	20		
	5730	IRKU	45	C	0340.0	0342.7	10.0	29			L
	5730	IRKU			0340.0	0345.7		46			L
	5730	IRKU			0340.0	0344.7		96			L
	8800	MANI	4	S/F	0341.8	0344.0	6.7	89.1	29.7		
	2695	MANI	4	S/F	0341.8	0344.2	6.7	52.8	17.6		
	2000	TYKW	45	C	0342.0	0344.0	28.0	23	12		
	17000	NOBE	45	C	0342.0	0344.0	5.0	51			L
	1415	MANI	1	S	0342.5	0344.1	4.7	5.7	19.1		
	1000	TYKW	45	C	0343.0	0344.1	4.0	3	1		
	17000	NOBE	20	GRF	0347.1	0352.7	128.0	17			L
	3750	TYKW	30	PBI	0410.0		180.0D	17	12 D		
	2000	TYKW	30	PBI	0410.0		180.0D	10	8 D		
	9400	TYKW	30	PBI	0440.0		180.0D	25	20 D		
	2000	TYKW	20	GRF	0520.0	0523	40.0	1.5	.8		
	3750	TYKW	5	S	0520.0	0522.2	30.0	12	3.5		
	9400	TYKW	5	S	0520.0	0522.2	40.0	17	6		
	9100	GORK	21	GRF	0611.2	0640.5	80.0	14	7		
	9100	GORK	1	S	0706.0	0708.2	46.0	13	4		
	6100	KISV	3	S	0916.5	0917.2	4.0	4			
	9100	GORK	20	GRF	1014.0		46.0E				
	7000	SAOP	46	C	1141.8			853.0D			11R,ATTENUATION
	3000	POTS	45	C	1145.0	1151.2	38.0	1033 U			
	10715	DWIN	45	C	1145.0	1151	21.0	300 D			
	2650	DWIN	45	C	1145.0	1151	21.0	500 D			
	9500	POTS	45	C	1145.0	1151.2	39.0	1100			
	6100	KISV	45	C	1145.3		50.0	180 D			
	10400	BERN	47		1145.3	1151.2	40.0	1246.0			ONLY PAPER REC
	15000	KISV	45	C	1145.7		29.0	60 D			
	1470	POTS	45	C	1146.0	1151.4	32.0	206			
	930	BORD	46	C	1148.0	1156.4	18.0	542	30		
	536	ONDR	48	C	1148.5	1155.5	16.0	143	42		
	430	KRAK			1149.5	1204.0		75			
	430	KRAK	48	C	1149.5	1156.7	67.0	131	22		
	810	KRAK			1149.5	1156.2U		850 D			
	430	KRAK			1149.5	1249.0		66			
	810	KRAK	48	C	1149.5	1152.2	17.5	73	44 D		
	810	KRAK			1149.5	1202.5		39			
	234	POTS	45	C	1152.0	1209	133.0D	150			II+IV
	113	POTS	45	C	1152.0	1153	148.0D	700			II+IV
	33	UPIC	42	SER	1154.7	1204.2	14.1				
	29	UPIC	42	SER	1155.5	1158.2	12.5				
	536	ONDR	29	PBI	1204.5	1215.8	53.0	11	9		
	930	BORD	8	S	1252.7	1252.8	.3	50	2		
	930	BORD	41	F	1257.1	1257.3	.4	99	2		
	430	KRAK	29	PBI	1257.5	1336.5	56.5	58	3		

SOLAR RADIO EMISSION
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JANUARY 1980

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
27	2800	OTTA	23	GRF	1330.0	1350	330.0	15.0	7.5		
	536	ONDR	42	SER	1331.0	1346.3	30.0	32			
	7000	SAOP	45	C	1340.7	1346.3	13.0	29.0			32L
	9400	HUAN		S	1342.1	1349.8	32.6	12.3	5.6		1
	9500	POTS	29	PBI	1343.0	1347.4	19.0	19			
	3000	POTS	29	PBI	1343.0	1347.5	22.0D	18 U			
	1470	POTS	29	PBI	1343.0	1347.5	2.0	9			
	10400	BERN	21		1343.6	1347.5	20.0	12.0			ONLY PAPER REC
	2800	OTTA	1	S	1345.5	1347.7	3.0	7.6	5.6		
	9400	HUAN		S	1345.6	1347.3	2.7	18.5	11.8		1
	810	KRAK	8	S	1346.5	1346.5	.1	14			
	7000	SAOP	20	GRF	1452.8			6.0			0
	7000	SAOP	45	C	1813.7	1816.2	11.0	57.0			13R
	9400	HUAN		S	1814.8	1816.3	2.8	35.4	17.8		R
	2800	OTTA	3	S	1815.0	1816.3	4.0	23.6	7.8		
	9400	HUAN		PBI	1817.6	1817.6	19.6	10.8	6.0		0
	2800	OTTA	29	PBI	1819.0	1819	10.0	3.8	2.0		
	2800	OTTA	1	S	1910.0	1911	2.5	2.0	1.0		
	3750	TYKW	5	S	2332.0	2334.6	5.0	64	18		
	9400	TYKW	5	S	2332.0	2334.5	5.0	135	30		
	4995	MANI	4	S/F	2332.5	2334.8	4.9	73.4	24.5		
	2695	MANI	4	S/F	2333.3	2334.8	2.9	119.1	39.7		
	2000	TYKW	45	C	2333.5	2334.6	3.0	115	15		
	17000	NOBE	21	GRF	2333.9	2335.2	48.0	15			0
	8800	MANI	4	S/F	2333.9	2334.8	2.4	16.5	5.5		
	1415	MANI	1	S	2334.1	2334.8	3.3	5.8	1.9		
	17000	NOBE	1	S	2334.3	2334.6	.6	22			R
	2000	TYKW	29	PBI	2336.5		40.0	3	1.5		
	9400	TYKW	29	PBI	2337.0		40.0	13	5		
	3750	TYKW	29	PBI	2337.0		40.0	8	3		
28	200	GORK	44	NS	0700.0E		300.0D		10		
	127	TORN	44	NS	0710.0E	1232.5	450.0D	26			V1
	260	ONDR	44	NS	0807.0E		381.0D	101	12		
	9400	TYKW	45	C	0246.0	0301.8	24.0	35	12		
	3750	TYKW	45	C	0247.0	0304.6	23.0	27	10		
	2000	TYKW	45	C	0253.0	0304.6	17.0	14	6		
	5730	IRKU			0257.0U	0306.5		15			R
	5730	IRKU			0257.0U	0301.8		17			R
	5730	IRKU	45	C	0257.0U	0301.3	15.0	16			R
	5730	IRKU			0257.0U	0304.5		17			R
	1000	TYKW			0259.5	0301.8		27			
	1000	TYKW	45	C	0259.5	0303.4	10.5	27	8		
	1415	MANI	4	S/F	0259.5	0304.4	8.6	16.3	5.4		
	606	MANI	4	S/F	0303.0	0306.0	4.5	122.4	40.8		
	3750	TYKW	30	PBI	0310.0		100.0	6	2		
	9400	TYKW	30	PBI	0310.0		50.0	8	4		
	2000	TYKW	30	PBI	0310.0		100.0	5	1.5		
	1000	TYKW	30	PBI	0310.0		30.0	2	1		
	1000	TYKW	5	S	0320.0	0321.0	3.0	13	2		
	2000	TYKW	5	S	0320.5	0321.0	2.5	4.5	1		
	3750	TYKW	45	C	0333.0	0334.6	15.0	3	1		
	5730	IRKU	21	GRF	0334.0	0338.9	11.0	5			R
	9400	TYKW	5	S	0337.0	0338.4	4.0	4	1		
	9400	TYKW	5	S	0352.0	0352.7	3.0	9	3		
	5730	IRKU	1	S	0711.5	0712.2	1.0	5			
	6100	KISV	8	S	0715.5	0716	3.0	9			
	9100	GORK	1	S	0715.6	0716.1	2.0	13	6		
	9100	GORK	21	GRF	0731.0	0739.8	33.0	18	55		
	5730	IRKU	2	S	0732.3	0733.6	3.0	21			
	2695	MANI	3	S	0733.7	0738.5	6.9	38.1	12.7		
	4995	MANI	3	S	0733.7	0738.3	6.8	58.8	19.6		
	2950	GORK	20	GRF	0735.2	0738.6	105.0	14	30		
	3100	CRIM	3	S	0736.0	0738.0	3.0	17	5		
	3750	TYKW	5	S	0737.0U	0738.2	3.0U	20	6 U		
	6100	KISV	8	S	0737.0	0738	2.0	25			
	9100	GORK	1	S	0738.0	0738.5	1.8	28	14		
	950	GORK	1	S	0738.2	0739.0	18.0	17	8		
	9100	GORK	21	GRF	0856.5	0913.0	285.0	10			
	9500	POTS	4	S/F	0905.0	0905.2	3.0	20			
	6100	KISV	8	S	0905.0	0905.5	10.0	8			
	10400	BERN	1		0905.0	0905.8	2.0	11.0			ONLY PAPER REC
	6100	KISV			0905.0	0913		5			
	9100	GORK	2	S/F	0905.2	0906.0	15.0	16	8		
	430	KRAK	8	S	0955.8	0955.8	.1	9			
	536	ONDR	45	C	0955.8	0955.8	1.5	25			
	430	KRAK	1	S	1054.8	1055.0	.5	7			
	7000	SAOP	20	GRF	1138.0	1143.0		10.0			23R,TWO BURSTS
	930	BORD	41	F	1154.0	1154.2	.7	122	2		
	3000	POTS	3	S	1155.9	1156.5	1.1	9.3			
	9500	POTS	1	S	1156.0	1156.5	2.0	6.1			
	6100	KISV	3	S	1156.0	1156.5	2.0	4			
	430	KRAK	1	S	1330.5	1330.7	.3	7			
	7000	SAOP	45	C	1332.5	1335.8	22.6	28.0			0,TWO BURSTS
	9500	POTS	4	S/F	1333.0	1336	5.0	12			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
28	9400	HUAN		S	1333.2	1335.5	4.6	11.8	7.0		0
	3000	POTS	3	S	1335.0	1336	3.0	8.3			
	2800	OTTA	1	S	1335.0	1336	2.0	4.0	2.0		
	536	ONDR	8	S	1412.7	1412.7	.3	63			
	7000	SAOP	3	S	1440.8	1441.5	4.6	17.0			0
	10400	BERN	1		1441.0	1441.3	4.0	12.0			ONLY PAPER REC
	2800	OTTA	1	S	1537.5	1539	2.5	4.4	3.0		
	7000	SAOP	45	C	1543.0	1547.6	7.0	17.0			0,TWO BURSTS
	7000	SAOP	40	F	1613.0						
	9400	HUAN		S	1849.0	1849.8	2.7	25.6	13.1		0
	7000	SAOP	4	S/F	1849.2	1849.8	4.8	28.0			11R
	2800	OTTA	20	GRF	1850.0	1907	35.0	2.4	1.4		
	9400	HUAN		PBI	1851.7	1851.7	4.4	9.8	5.9		0
	2800	OTTA	1	S	1932.8	1933.2	1.0	3.0	1.5		
	2800	OTTA	20	GRF	2027.0	2035	27.0	3.0	1.5		
	2695	PENT	21	GRF	2108.0	2120	52.0	6.0	3.0		
	9400	HUAN		S	2110.4	2120.5	15.1	27.5	9.8		R
	2800	OTTA	4	S/F	2114.0	2117	6.0	21.4	7.1		
	9400	HUAN		S	2115.6	2116.8	3.8	15.7	13.5		R
	2695	PENT	1	S	2228.0	2229.2	2.0	4.2	2.1		
	2695	PENT	1	S	2249.5	2253	7.0	4.6	2.6		
	3750	TYKW	5	S	2305.0	2315	20.0	3	1		
	9400	TYKW	5	S	2305.0	2315	25.0	6	3		
	100	HIRA	46	C	2314.7	2315.4	2.2	430	140		
29	260	ONDR	44	NS	0822.0E		360.0D	15			
	9400	TYKW	45	C	0349.0	0352.8	15.0	21	6		
	3750	TYKW	45	C	0351.0	0353.1	13.0	9	3		
	9400	TYKW	30	PBI	0404.0		40.0	4	2		
	3750	TYKW	30	PBI	0404.0		50.0	3	1.5		
	2000	TYKW	5	S	0412.0	0412.5	7.0	11	2.5		
	3750	TYKW	5	S	0412.0	0412.4	8.0	28	4		
	9400	TYKW	5	S	0412.0	0412.3	1.0	10	2.5		
	3750	TYKW	45	C	0425.0	0428.6	11.0	4	1		
	9400	TYKW	5	S	0438.5	0438.8	1.0	4	1		
	3750	TYKW	5	S	0438.5	0438.8	3.0	10	2.5		
	1000	TYKW	5	S	0438.6	0438.8	.4	75 U	20 U		
	2000	TYKW	5	S	0438.7	0438.8	1.5	3	1		
	9400	TYKW	5	S	0510.0	0510.2	1.0	7	2		
	9100	GORK	1	S	0618.9	0621.1	5.0	8	4		
	2950	GORK	20	GRF	0637.4	0642.2	386.0	50	25		
	9100	GORK	22	GRF	0639.0	0643.4	15.0	15	35		
	9400	TYKW	45	C	0642.0	0643.4	5.0	13	3		
	9100	GORK	20	GRF	0703.0	0704.6	139.0	16	45		
	6100	KISV	45	C	0703.5	0704.7	10.0	6			
	6100	KISV			0703.5	0707		5			
	9400	TYKW	5	S	0704.0	0704.7	10.0	15	4		
	9100	GORK	1	S	0838.0	0839.3	63.0	7	3		
	3100	CRIM	21	GRF	0919.0	0954.0	211.0D	24			
	6100	KISV			0923.0	0944.5		17			
	6100	KISV	45	C	0923.0	0941	22.0	17			
	2950	GORK	20	GRF	0923.1	0949.3	165.0	14			
	9100	GORK	20	GRF	0928.8	0951.0	100.0E	26			
	10400	BERN	20		0941.0	0951.0	43.0	15.0			ONLY PAPER REC
	6100	KISV	29	PBI	0945.0	0945	20.0	14			
	650	GORK	2	S/F	1045.4	1046.7	15.0	5	25		
	950	GORK	2	S/F	1045.5	1046.7	16.0	10			
	3000	POTS	8	S	1207.8	1208.2	.9	2.3			
	2650	DWIN	8	S	1208.0	1151		100			
	1470	POTS	1	S	1208.0	1208.5	1.0	1.9			
	3100	CRIM	1	S	1208.0	1208.5	1.0	18	5		
	7000	SAOP	40	F	1211.0						0
	7000	SAOP	20	GRF	1316.7	1324.5	16.6	19.0			0,TWO BURSTS
	7000	SAOP	3	S	1424.4	1424.9		12.0			0
	2800	OTTA	8	S	1424.9	1425	.4	3.2	1.6		
	9400	HUAN		S	1530.1	1530.4	3.5	23.0	12.2		R
	10400	BERN	1		1530.2	1530.5	2.5	13.0			ONLY PAPER REC
	7000	SAOP	3	S	1530.2	1530.6	2.0	17.0			19R
	2800	OTTA	1	S	1557.0	1558.5	3.0	8.0	2.7		
	7000	SAOP	3	S	1642.0	1643.2	3.2	17.0			0
	9400	HUAN		S	1642.3	1642.9	2.3	15.9	7.3		0
	9400	HUAN		S	1729.7	1747.4	33.6	17.7	8.8		R
	7000	SAOP	46	C	1731.3	1737.3	24.0	83.0			4R
	2800	OTTA	46F	C	1732.0	1737.5	40.0	45.4	17.4		
	9400	HUAN		S	1736.7	1737.3	5.0	83.1	29.9		R
	9400	HUAN		S	1736.7	1737.3	5.0	83.1	29.9		R
	9400	HUAN		S	1827.6	1841.5	29.0	8.8	3.7		R
	2695	PENT	20	GRF	2120.0	2130	22.0	2.2	1.6		
	9400	HUAN		S	2128.7	2129.8	2.9	23.0	15.1		1
	9400	HUAN		S	2201.6	2203.0	2.5	44.2	19.7		R
	2695	PENT	1	S	2202.0	2203	3.0	3.4	1.7		
30	9400	TYKW	5	S	0405.0	0405.3	3.0	5	2		
	9400	TYKW	5	S	0619.5	0620.5	4.0	5	1		
	3750	TYKW	5	S	0620.0	0620.5	5.0	3	1		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
30	1000	TYKW	45	C	0620.0	0620.5	1.0	22	5		
	260	ONDR	42	SER	0821.0E	0843.8	31.0D	74			
	3100	CRIM	20	GRF	0844.0	1054.0		12	4		
	260	ONDR	42	SER	1100.0	1106.3	52.0	22			
	7000	SAOP	3	S	1243.8	1244.6		11.0			13R
	10400	BERN	1		1404.1	1404.5	2.0	12.0			ONLY PAPER REC
	260	ONDR	45	C	1405.0	1406.8	4.0	22	2		
	930	BORD	42	SER	1435.5	1436.1	2.8	158	2		
	2800	OTTA	20	GRF	1537.0	1543	15.0	3.2	1.6		
	9400	HUAN		S	1540.2	1546.2	17.4	5.0	1.9		0
	7000	SAOP	40	F	1608.0		54.0				0
	9400	HUAN		S	1641.0	1655.3	25.4	13.4	5.8		0
	2800	OTTA	3	S	1642.5	1644	8.0	41.0	9.0		
	2800	OTTA	21	GRF	1720.0	2000	320.0	14.0	7.0		
	7000	SAOP	20	GRF	1728.0	1736.9	54.0	30.0			39R
	9400	HUAN		S	1730.0	1737.5	84.1	18.4	11.9		R
	2800	OTTA	3	S	1733.0	1737	10.0	34.2	17.1		
	2800	OTTA	29	PBI	1743.0	1743	70.0	16.8	8.2		
	9400	HUAN		S	2023.2	2023.7	5.5	11.7	6.9		0
	9400	HUAN		S	2206.5	2207.1	2.1	26.8	15.3		R
	700	SYDN	40	F	2254.6	2255.0	2.3				
31	3750	TYKW	21	GRF	0050.0	0130	180.0	5	2		
	3750	TYKW	5	S	0102.0	0105.2	20.0	7	1.5		
	2000	TYKW	45	C	0104.0	0105.1	2.0	10	2.5		
	9400	TYKW	21	GRF	0120.0	0130	150.0	4	2		
	3750	TYKW	45	C	0134.0	0135.0	12.0	8	1.5		
	2000	TYKW	5	S	0134.5	0135	2.0	1.5	.5		
	700	SYDN	41	F	0314.5	0316.8	3.7				
	2000	TYKW	5	S	0316.5	0316.7	2.0	2.5	.5		
	1000	TYKW	5	S	0316.5	0316.7	1.0	9	2		
	3750	TYKW	5	S	0316.5	0316.8	1.0	2.5	.7		
	9400	TYKW	5	S	0329.5	0330.0	2.0	9	2		
	3750	TYKW	21	GRF	0435.0	0500	80.0	9	5		
	2000	TYKW	20	GRF	0435.0	0453	80.0	3.5	2		
	9400	TYKW	20	GRF	0438.0	0500	90.0	11	6		
	3100	CRIM	25	R	0737.0	1004.0		18			
	2950	GORK	21	GRF	0800.0	0817.0	250.0E				
	15000	KISV	21	GRF	0807.0	0809	23.0	9			
	9100	GORK	20	GRF	0807.3	0809.6	39.0	10	4		
	6100	KISV	21	GRF	0808.0	0809	52.0	8			
	234	POTS	8	S	0816.7	0816.7	.1	100	8		III
	536	ONDR	42	SER	0950.0	1017	120.0	91			
	930	BORD	8	S	0950.6	0950.7	.2	23	1		
	930	BORD	8	S	1017.1	1017.1	.2	104	1		
	9100	GORK	20	GRF	1033.0	1044.9	25.0	9	25		
	6100	KISV	8	S	1044.0	1044.7	3.0	8			
	260	ONDR	8	S	1106.2	1106.2	.3	202			
	6100	KISV	45	C	1107.0	1111	11.0	12			
	9100	GORK	20	GRF	1107.9	1108.5	105.0	7	2		
	9500	POTS	20	GRF	1110.0	1114	28.0	4.5			
	7000	SAOP	45	C	1110.0	1111.4	5.4	16.0			20R
	3100	CRIM	3	S	1110.5	1113.0	3.0	28	9		
	3000	POTS	4	S/F	1110.7	1111.4	2.3	25 U			
	1470	POTS	4	S/F	1110.7	1111.5	5.3	17			
	930	BORD	46	C	1111.0	1112.1	3.0	95	4		
	2950	GORK	3	S	1111.2	1111.8	20.0	25			
	950	GORK	4	S/F	1117.2	1119.2	38.0	29			
	6100	KISV	3	S	1125.0	1126	3.0	4			
	6100	KISV	24	R	1135.0	1149	14.0	4			
	15000	KISV	24	R	1140.0	1149	9.0	14			
	9100	GORK	21	GRF	1146.4	1152.0	23.0E	16			
	3000	POTS	4	S/F	1148.7	1150.0	4.3	45 U			
	9500	POTS	4	S/F	1148.7	1150.0	2.3	39			
	1470	POTS	4	S/F	1149.0	1151.2	9.0	32			
	930	BORD	46	C	1149.0	1149.7	4.0	203	11		
	2650	DWIN	2	S/F	1149.0	1150	5.0	50	35		
	7000	SAOP	45	C	1149.0	1150.2	25.2	86.0			8R
	6100	KISV			1149.0	1151		37			
	3100	CRIM	3	S	1149.0	1152 U	4.0	23	7		
	6100	KISV	45	C	1149.0	1150.5	1.5D	67			
	15000	KISV	8	S	1149.0	1150.3	2.0	15			
	10400	BERN	3		1149.2	1150.3	12.0	37.0			ONLY PAPER REC
	9400	HUAN		S	1149.4	1150.2	2.4	40.9	23.3		R
	2950	GORK	45	C	1149.4	1150.6	30.0	45			
	2950	GORK			1149.4	1151.4		33			
	810	KRAK	4	S/F	1149.5	1150.5	4.7	76	12		
	9100	GORK	4	S/F	1149.7	1150.6	19.0	55			
	950	GORK	4	S/F	1149.8	1150.2	9.0	46			
	15000	KISV	20	GRF	1150.5	1155	10.0	10			
	9400	HUAN		PBI	1151.8	1151.8	18.1	10.7	4.6		0
	260	ONDR	8	S	1200.8	1200.8	.2	19			
	260	ONDR	42	SER	1255.3	1255.3	85.0	61			
	7000	SAOP	45	C	1332.6	1334.7	7.0	23.0			20L
	2800	OTTA	21	GRF	1340.0	1545	320.0	18.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1980

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
31	930	BORD	8	S	1357.2	1357.2	.1	49	1		
	7000	SAOP	40	F	1528.0		16.0				0
	7000	SAOP	40	F	1556.0		6.0				0
	7000	SAOP	45	C	1629.2	1630.1	3.0	35.0			0
	2800	OTTA	2	S/F	1629.5	1631.5	3.0	3.2	1.6		
	2800	OTTA	1	S	2027.5	2028.5	1.5	4.6	2.3		

Reports are received routinely from the following observatories:

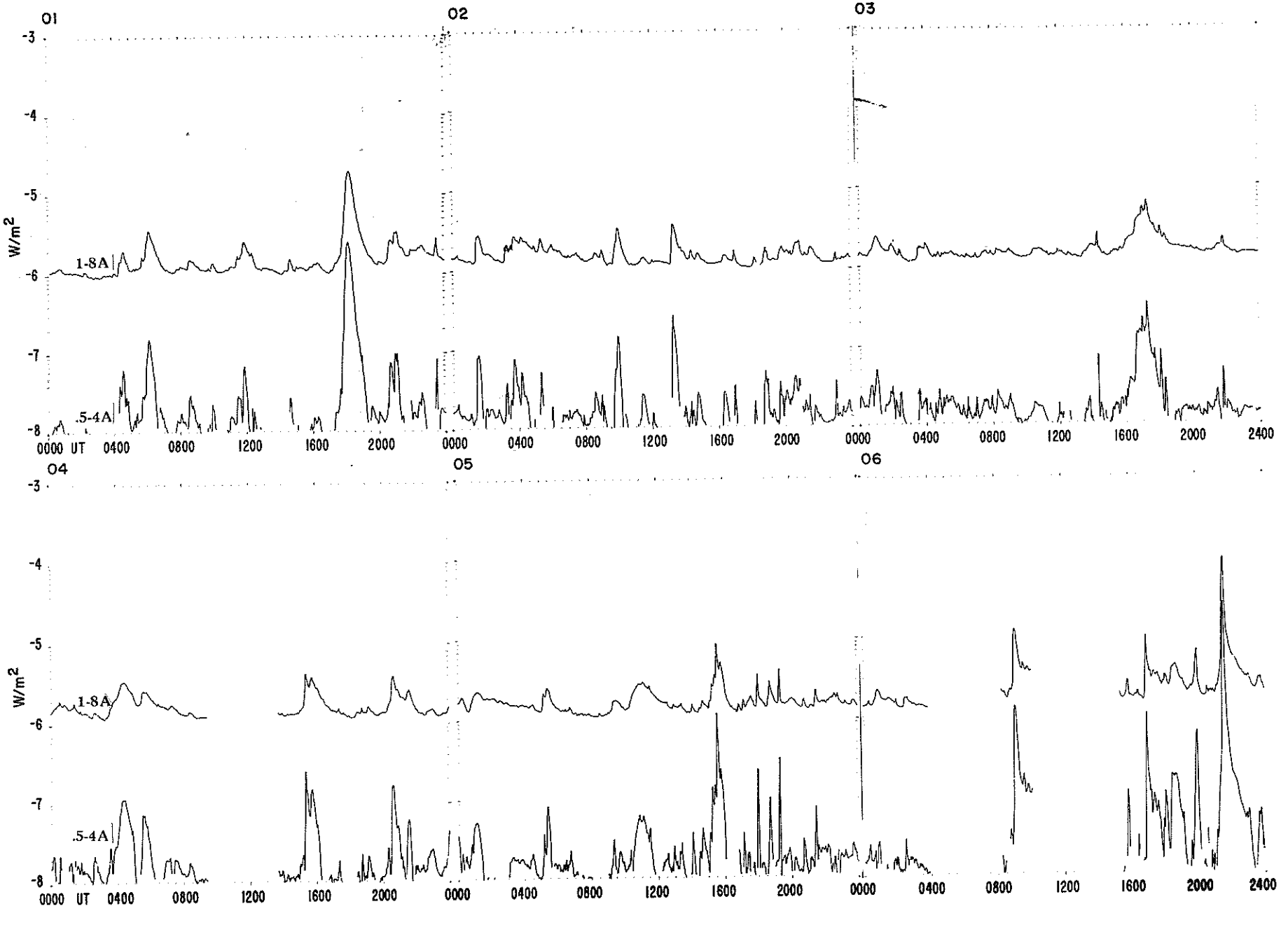
ARCE = Arcetri
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam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

Explanation of Type Code:

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

SMS-GOES X-RAYS

JANUARY 1980



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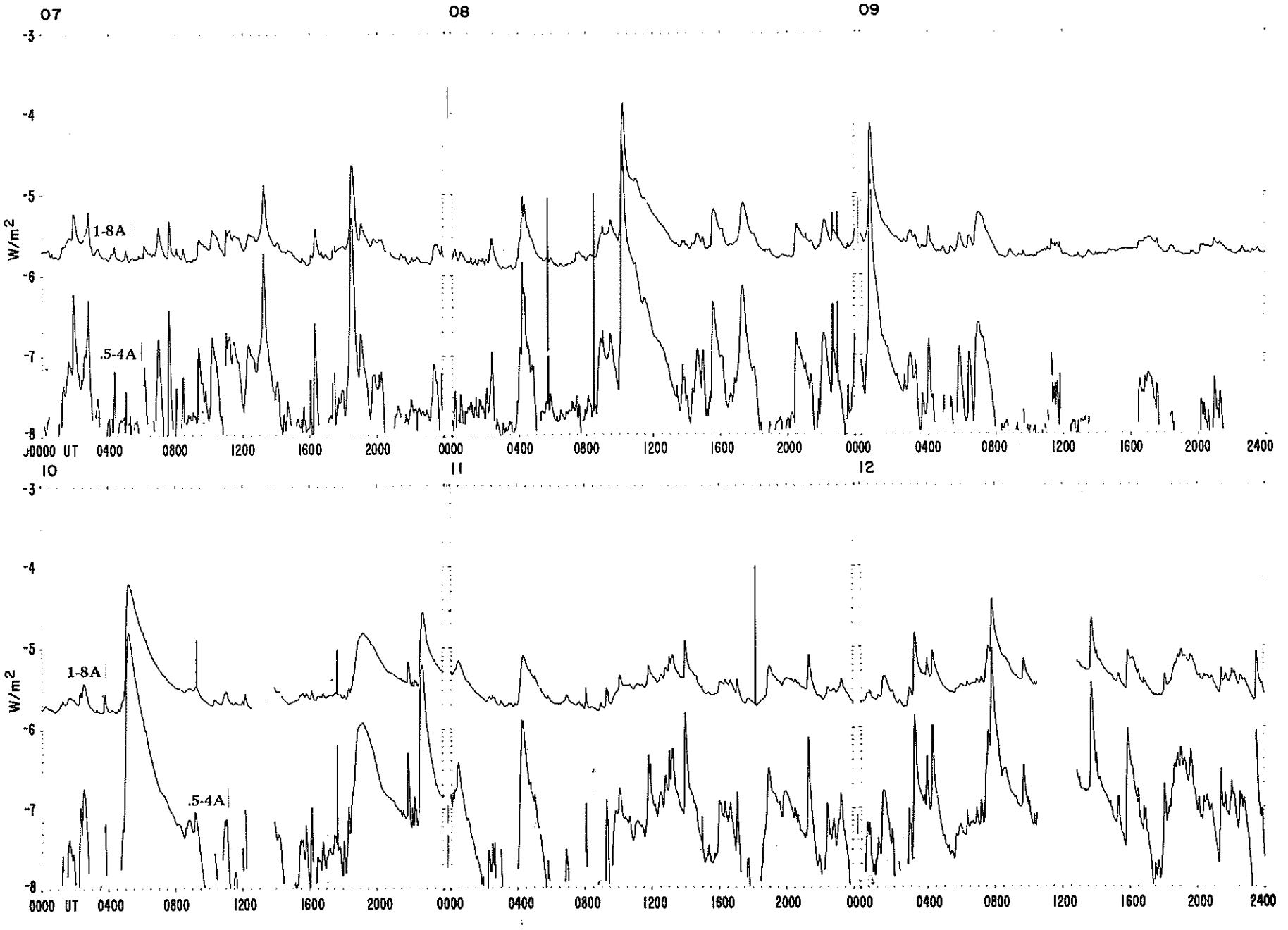
Jan 80

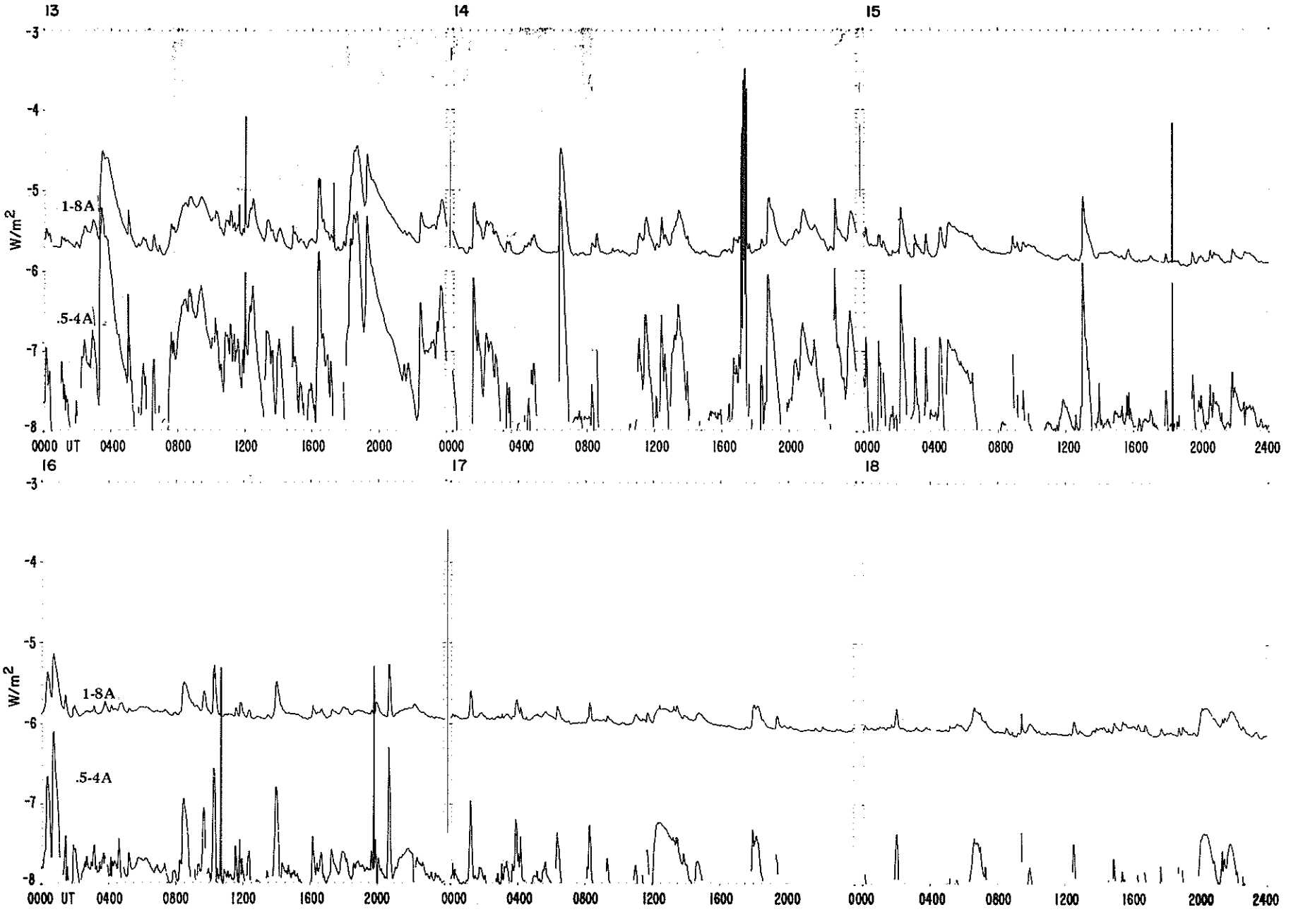
SMS-GOES X-RAYS

JANUARY 1980



SMS-GOES X-RAYS

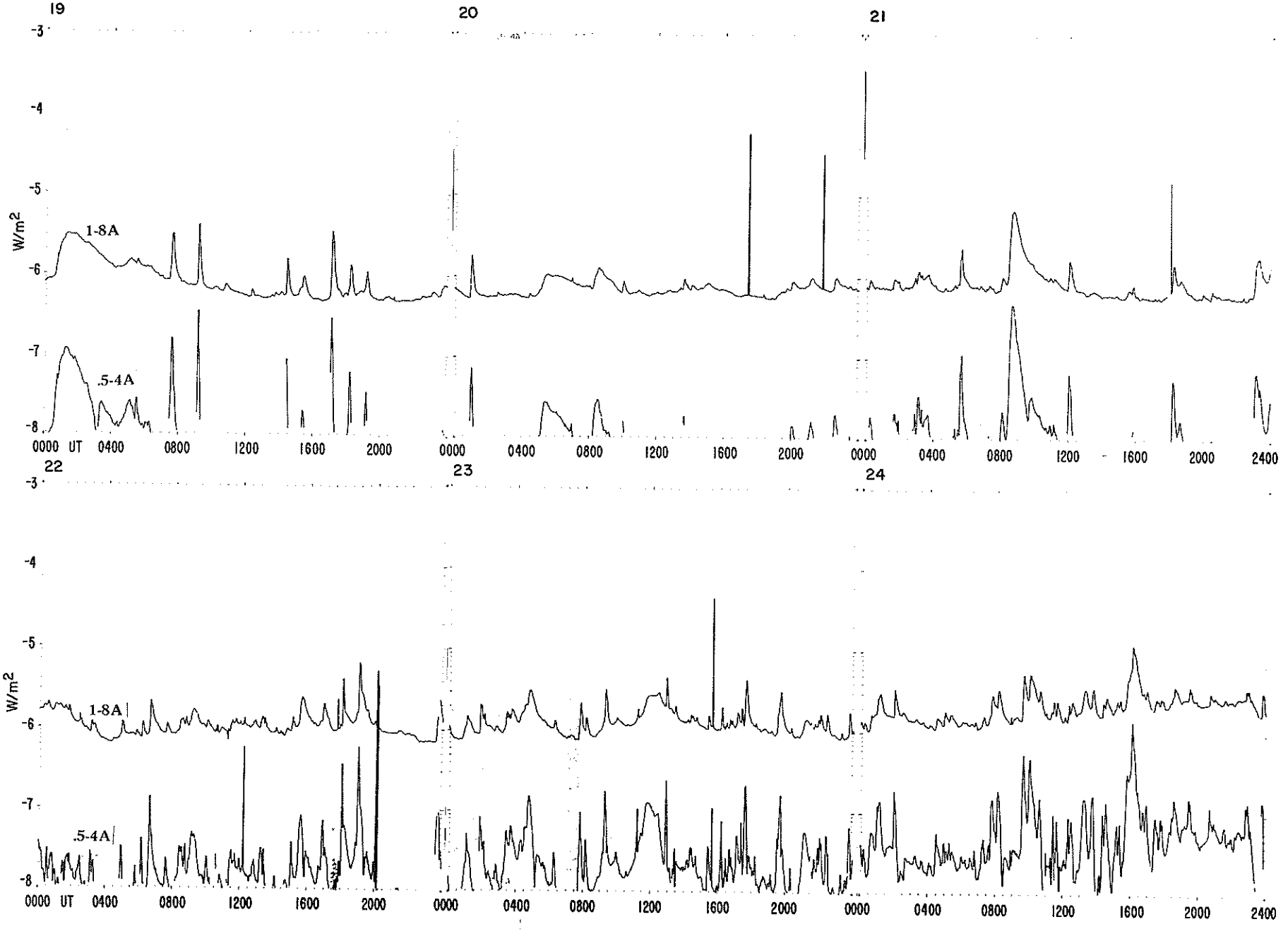
JANUARY 1980



29 Jan 80

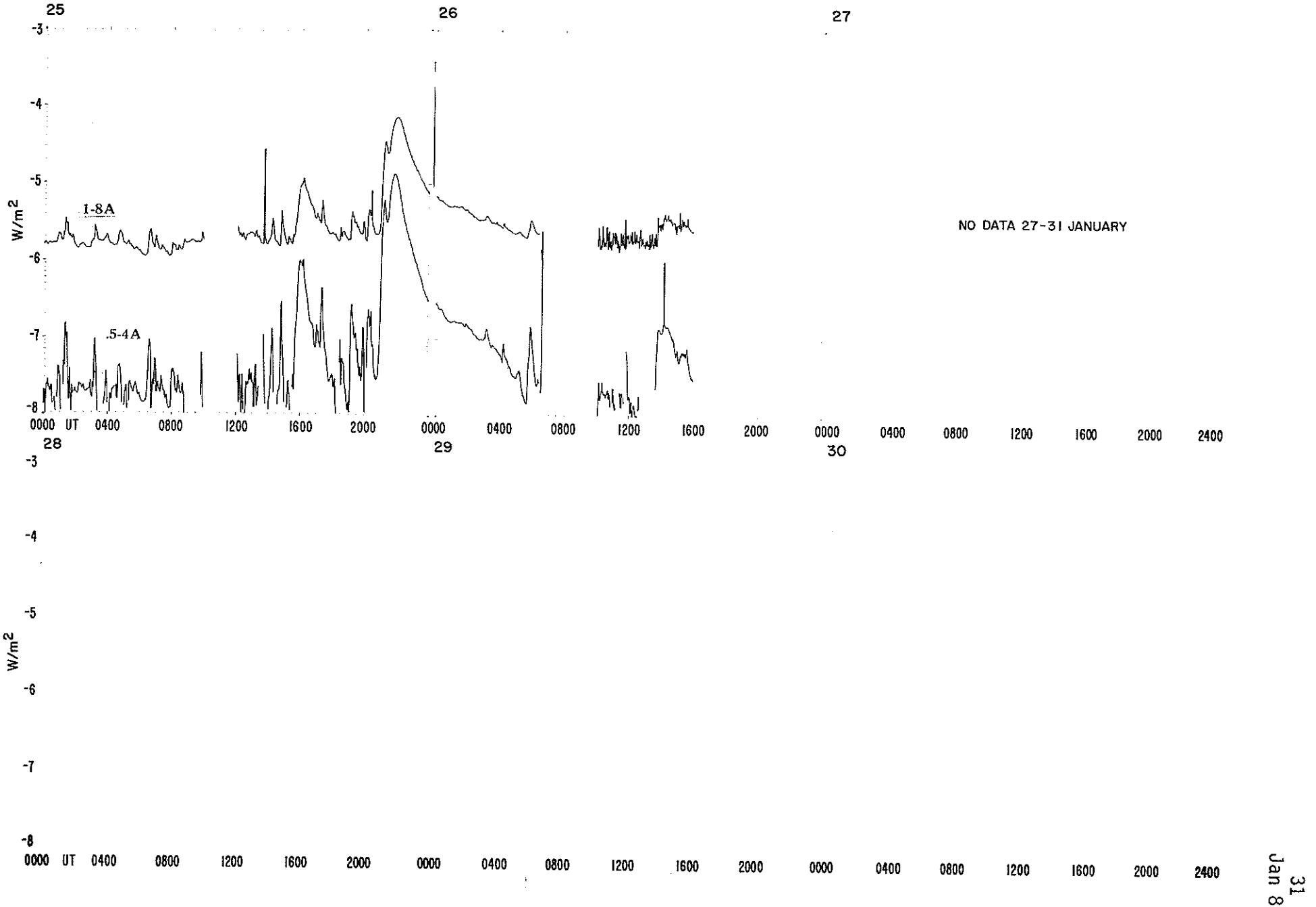
SMS-GOES X-RAYS

JANUARY 1980



SMS-GOES X-RAYS

JANUARY 1980



SGD 431 Part II (Comprehensive)

JUNE 1979 DATA

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Hα SOLAR FLARES

JUNE 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
4 CULG	01	0052	0055	0103	N21	E73	.963	16051	6.5	11	-N		C	0055	30			ZX
5 CULG	01	0053	0056	0110	S20	E85	.996	16052	7.4	17	-F		C	0058	20		T	ZX
6 CULG	01	0110	0117	0129	N23	W63	.911	16031	27.3	19	-F		C	0117	50			ZX
7 CULG	01	0128	0131	0140	S32	W19	.689	16040	30.6	12	-F		C	0131	20	.3		ZX
8 CULG	01	0236	0244	0315	N26	W23	.569	16041	30.4	39	-N		C	0244	110	1.4		ZX
GRF75009	01	0558+2	0602+4	0625	N15	E70	.945	16051	6.5	27	1N				110		DIJ	
ABST	01	0556	0602	0625	N17	E70	.946	16051	6.5	27	1N		C	0602	131		DJ	
YLNN	01	0600	0606	0627	N14	E70	.944	16051	6.5	27	1N		C		142			
KIEV	01	0602E		0615D	N14	E78	.980	16051	7.1	13D	1N		P	0602	100		DI	
ATHN	01	0605E	0605	0614D	N14	E68	.933	16051	6.4	9D	-N	1		0605	82	2.0		
CATA	01	0605E	0605	0620	N16	E69	.940	16051	6.4	15D	1B	2	P	0605	84			
10 ABST	01	0703	0704	0711	N23	E70	.951	16051	6.5	8	?N		C	0704	87		DV	ZX
	IMP.1	NO : KIEV	CATA															
11 ABST	01	0720	0721	0723	N17	E72	.956	16051	6.7	3	?N		C	0721	87		DJV	ZX
	IMP.1	NO : KIEV	MITK	MONT	CATA	KANZ												
12 KANZ	01	0725	0725	0733	N15	E38	.652	16046	4.2	8	-N	3					D	ZX
GRF75013	01	0808+3	0810+3	0814	N20	E69	.943	16051	6.5	6	-N				80		J	
MONT	01	0808	0810	0812	N17	E69	.941	16051	6.5	4	-N		C	0810	80		E	
ABST	01	0811	0813	0816	N23	E70	.951	16051	6.6	5	1N		C	0813	87		DJ	
14 ABST	01	0849	0852	0906	N17	E70	.946	16051	6.6	17	?N		C	0852	87		DJ	ZX
	IMP.1	NO : KIEV	MONT	CATA	KANZ													
15 MONT	01	1008	1009	1012	N17	E68	.935	16051	6.5	4	-F		C	1009	50		E	ZX
16 KHAR	01	1223E		1230D	N17	E70	.946	16051	6.8	7D	-F		P				D	ZX
17 KHAR	01	1305E		1311D	N18	E66	.924	16051	6.5	6D	-F		P				E	ZX
18 KHAR	01	1315E		1318D	N21	E68	.938	16051	6.7	3D	-F		P				D	ZX
	01	1353	1405	NO FLARE PATROL														
19 KHAR	01	1411E	1415	1429D	N22	E63	.909	16051	6.3	18D	-F		P				D	ZX
20 BIGB	01	1431	1432	1436	S17	E75	.968	16052	7.2	5	-N	3	C	1432	30			ZX
21 MCMA	01	1441	1450	1515D	N15	E33	.591	16046	4.1	34D	-F		C	1450	40	.5	E	ZX
22 MCMA	01	1455	1508	1530D	N15	E65	.914	16051	6.5	35D	-N		C	1508	50	1.2	E	ZX
GRF75023	01	1547+1	1550+0	1601	S20	E75	.969	16052	7.3	14	-N				50		E	
BIGB	01	1547	1550	1601	S19	E75	.969	16052	7.3	14	-N	3	C	1550	60			
MCMA	01	1548	1550	1600	S21	E76	.973	16052	7.4	12	1F		C	1550	50	2.4	E	
GRF75024	01	1602+1	1604+2	1626	N16	E64	.908	16051	6.5	24	-B				80	1.9	E	
MCMA	01	1602	1606	1630D	N15	E65	.914	16051	6.5	28D	-N		C	1606	60	1.5	E	
BIGB	01	1603	1604	1621	N18	E64	.911	16051	6.5	18	1B	3	C	1604	100	2.4		
GRF75025	01	1644+6	1651+7	1744	S25	E70	.949	16052	6.9	60	1B				80		E	
			1715															
MCMA	01	1644		1651D	S27	E66	.930	16052	6.6	7D	1N		P	1651	70	2.1	E	
BIGB	01	1645	1651	1734	S25	E70	.949	16052	6.9	49	-B	3	C	1651	50			
PALE	01	1650	1658	1714	S21	E70	.946	16052	7.0	24	1B	3	C		120		DE	
PALE	01	1715	1715	1754	S21	E70	.946	16052	7.0	39	-N	3	C		31		F	
GRF75026	01	1647+7	1657+1	1718	N15	E31	.563	16046	4.0	31	-N				100	1.2	F	
BIGB	01	1647	1658	1715	N16	E32	.584	16046	4.1	28	-N	3	C	1658	80	1.0		
PALE	01	1654	1657	1721	N14	E30	.547	16046	4.0	27	-B	3	C		125		F	
GRF75027	01	1651>9	1716	1803	N18	E64	.911	16051	6.5	72	-B						F	
			1754															
PALE	01	1651	1716	1805	N19	E64	.912	16051	6.5	74	-B	3	C		24		F	
BIGB	01	1716	1726	1749	N18	E60	.882	16051	6.2	33	-B	3	C	1726	30	.6		
BIGB	01	1751	1754	1800	N18	E68	.936	16051	6.8	9	-N	3	C	1754	80			

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRF75028	01	1815+2	1819+1	1838	N19	E64	.912	16051	6.6	23	-B				35	.8		
BIGB	01	1815	1820	1831	N17	E66	.923	16051	6.7	16	-B	3	C	1820	20			
PALE	01	1817	1819	1900	N19	E64	.912	16051	6.6	43	-B	3	C		50		F	
MCMA	01	1835E		1838D	N20	E60	.885	16051	6.3	3D	-F		P	1835	15	.4	D	
29 MCMA	01	1931E		1931D	N18	E60	.882	16051	6.3		-N		P	1931	30	.6	E	ZX
30 PALE	01	1945	1945	1951	N14	E28	.521	16046	3.9	6	-N	3	C		49		F	ZX
31 PALE	01	1949	1949	2104D	N19	E63	.905	16051	6.6	75D	-N	3	C		58		F	ZX
32 HOLL	01	2113	2116	2120	N21	E59	.879	16051	6.3	7	-N	2	C		39			ZX
33 CULG	01	2125E	2131U	2137	N20	W90	1.000	16031	26.1	12D	-F		P	2131	50			ZX
GRF75034	01	2326>9	2343+1	0018	N11	E69	.931	16056	7.1	52	-N				35			
CULG	01	2326	2343	0018	N11	E69	.937	16056	7.2	52	-N		C	2343	50			
BIGB	01	2342	2344	2344E	N12	E67	.925	16056	7.0	2D	-N	2	P	2344	20			
35 CULG	01	2355	2356	0020	N09	W90	1.000	0	26.2	25	-F		C	2356	20			ZX
36 CULG	02	0057E	0104	0131	N25	E60	.894	16051	6.5	34D	-F		P	0104	50	1.2	T	ZX
GRF75037	02	0158+5	0200+6	0216	N25	E59	.887	16051	6.5	18	-N				80	1.7	DH	
CULG	02	0158	0200	0222	N25	E60	.894	16051	6.6	24	-F		C	0200	60	1.4	T	
VORO	02	0203	0206	0209	N26	E58	.882	16051	6.4	6	1N		C	0206	99	2.1	DH	
38 CULG	02	0226	0228	0242	N22	E55	.849	16051	6.2	16	-F		C	0228	20	.4	T	ZX
GRF75039	02	0249>9	0323+1	0334	N18	E54	.831	16051	6.2	45	1F						E	
CULG	02	0249	0324	0340	N14	E56	.842	16051	6.3	51	1N		C	0324	100	2.1	T	
TACH	02	0320	0323	0328	N22	E52	.824	16051	6.0	8	1F		V	0323	260	4.9	E	
GRF75040	02	0353	0401	0408	N21	E53	.830	16051	6.1	15	-N				70	1.2	D	
CULG	02	0353	0401	0411	N23	E55	.852	16051	6.3	18	-N		C	0401	60	1.1	T	
TACH	02	0400E		0404	N20	E52	.818	16051	6.1	4D	-N		V	0400	88	1.7	D	
GRF75041	02	0458+3	0502+1	0513	N25	E59	.897	16051	6.6	15	-N				70	1.5	DV	
CULG	02	0458	0503	0516	N25	E59	.887	16051	6.6	18	-N		C	0503	50	1.0	T	
ABST	02	0501	0502	0510	N26	E59	.889	16051	6.6	9	-N		C	0502	87	1.9	DV	
42 CULG	02	0513	0515	0523	N09	E66	.916	16056	7.2	10	-N		C	0515	30			ZX
43 CULG	02	0521	0530	0600	N22	E33	.633	16046	4.7	39	-N		C	0530	140	1.9		ZX
44 CULG	02	0538	0552	0607	S19	E68	.934	16052	7.3	29	-N		C	0552	30		T	ZX
45 ABST	02	0707	0710	0715	N18	E64	.910	16051	7.1	8	?F		C	0710	87		EJ	ZX
	IMP.1	NO : CATA																
GRF75046	02	0820E	0824	0828	N21	E52	.821	16051	6.2	8	-N						E	
ISTA	02	0820E		0825	N23	E52	.827	16051	6.2	5D	-B		V				E	
ATHN	02	0821E	0824	0831	N19	E52	.815	16051	6.2	10D	-N	1		0824	49	.7		
GRF75047	02	0852+1	0854+4	0907	S17	E65	.913	16052	7.2	15	-N				70		DJ	
ABST	02	0852	0854	0904	S16	E65	.913	16052	7.2	12	1N		C	0854	87		DJ	
KHAR	02	0852E	0855	0855D	S19	E66	.922	16052	7.3	3D	-F		P				D	
KANZ	02	0852	0858	0910	S18	E65	.914	16052	7.2	18	-N	2					D	
MONT	02	0853	0856	0908	S18	E66	.921	16052	7.3	15	-N		C	0856	70		D	
ATHN	02	0853	0856	0906	S10	E60	.869	16052	6.9	13	-B	3	C		48		DE	
GRF75048	02	0907+3	0908+3	0924	S23	E67	.932	16052	7.4	17	-N				60		DHLV	
ABST	02	0907	0908	0920	S24	E65	.921	16052	7.3	13	1N	*	C	0908	87		DV	
MONT	02	0909	0911	0921	S24	E68	.938	16052	7.5	12	-N	*	C	0911	50		DH	
ZURI	02	0909	0909	0913	S23	E67	.932	16052	7.4	4	-F	*	C	0909	60			
CATA	02	0910	0910	0930	S23	E67	.932	16052	7.4	20	-B	*	C	0910	56			
KANZ	02	0910	0910	0926	S23	E67	.932	16052	7.4	16	-N	*					DL	
KHAR	02	0913S	0913	0920D	S24	E68	.938	16052	7.5	7D	-F	*	P				D	
KHAR	02	0933E	0933	0943D	S19	E72	.955	16052	7.8	10D	-F		P					
GRF75049	02	0949+4	0953+1	1004	N16	E57	.854	16051	6.7	15	-F						E	
MONT	02	0949	0954	1004	N15	E59	.869	16051	6.8	15	-F		C	0954	50		E	
KANZ	02	0950	0954	1009	N16	E57	.854	16051	6.7	19	-F	2						
WEND	02	0950E		1004	N16	E56	.845	16051	6.6	14D	-N		C				D	
KHAR	02	0953	0953	1000	N16	E58	.862	16051	6.8	7	-F		P				E	

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP75050	02	1032+5	1035+4	1112	N16	E22	.459	16046	4.1	40	-F						E	
ZURI	02	1032	1037	1057D	N16	E23	.471	16046	4.2	25D	-F		P	1037	140	1.7		
CATA	02	1035	1035	1050D	N15	E21	.438	16046	4.0	15D	-N	2	P	1035	56	.6		
KHAR	02	1036E	1039	1112D	N16	E23	.471	16046	4.2	36D	-F		P				E	
KANZ	02	1037	1037	1112	N16	E21	.447	16046	4.0	35	-F	1						
GRP75051	02	1037+5	1042+3	1052	N13	E61	.783	16051	7.0	15	-F							
ZURI	02	1037	1043	1051	N14	E60	.876	16051	6.9	14	1F		C	1043	120	2.6		
KANZ	02	1041	1045	1054	N13	E61	.883	16051	7.0	13	-N	2						
KHAR	02	1042	1042	1052	N13	E63	.893	16051	7.2	10	-F		P					
52 KHAR	02	1125E	1128	1135D	N21	E49	.793	16051	6.2	10D	-F		P				D	ZX
52 KHAR	02	1125E	1125	1135D	N16	E58	.862	16051	6.8	10D	-F		P				E	ZX
53 CATA	02	1135	1140	1150D	N17	E51	.801	16051	6.3	15D	-N	2	P	1140	67	1.1		ZX
53 KHAR	02	1135	1141	1215D	N17	E53	.820	16051	6.5	40D	-F		P					ZX
54 KANZ	02	1154	1159	1207	S20	E66	.923	16052	7.4	13	-N	3						ZX
54 KHAR	02	1155	1155	1208	S21	E66	.924	16052	7.4	13	-F		P					ZX
GRP75055	02	1157>9	1208+2	1215D	S14	E70	.942	16052	7.7	18	-F						D	
KANZ	02	1157	1210	1215D	S11	E64	.902	16052	7.3	18D	1F	3						
KHAR	02	1208	1208	1211D	S18	E76	.972	16052	8.2	3D	-F		P				D	
56 KHAR	02	1240	1243	1257D	N17	E57	.855	16051	6.8	17D	-F		P					ZX
57 KHAR	02	1253E		1312D	S21	E73	.961	16052	8.0	19D	-F		P				D	ZX
58 KHAR	02	1257E		1318D	N22	E55	.849	16051	6.7	21D	-F	*	P				D	ZX
59 KHAR	02	1328E		1332D	N15	E20	.425	16046	4.1	4D	-F		P				D	ZX
GRP75060	02	1342	1447+7 1619	1621	N20	E49	.790	16051	6.2	159	-B				110	1.8	E	
RAMY	02	1342	1448	1433D	N19	E50	.797	16051	6.3	71D	-B	*	V		106		FDE	
KHAR	02	1354E	1354	1431D	N20	E51	.809	16051	6.4	37D	-N	*	P				E	
HOLL	02	1421E	1443	1725	N21	E47	.774	16051	6.1	184D	-B	*	C		107		FDE	
HOLL	02	1421E	1619	1725	N21	E47	.774	16051	6.1	184D	-N	*	C		64		FDE	
KHAR	02	1438E	1450	1455D	N19	E50	.797	16051	6.4	17D	1B	*	P	1450	150	2.8	E	
BIGB	02	1442	1447	1513	N20	E47	.771	16051	6.1	31	-B	*	C	1447	80	1.2		
BIGB	02	1444	1454	1556	N27	E50	.823	16051	6.4	72	-B	*	C	1454	90	1.4		
MCMA	02	1520E		1621D	N16	E46	.768	16051	6.2	61D	-N	*	P	1520	50	.8	E	
GRP75061	02	1413+0	1421	1454	S25	E55	.852	16052	6.7	41	-N				90	1.7	E	
BIGB	02	1413	1421	1453	S25	E55	.852	16052	6.7	40	-N	2	C	1421	80	1.4		
KANZ	02	1413		1417D	S25	E55	.852	16052	6.7	4D	-F	1					E	
KHAR	02	1415E		1455D	S25	E56	.860	16052	6.8	40D	1N		P	1425	110	2.2	E	
62 HOLL	02	1527	1529	1553	S26	E57	.870	16052	6.9	26	-N	2	C		29		DE	ZX
63 HOLL	02	1635	1635	1646	N15	E17	.389	16046	4.0	11	-B	3	C		30		DE	ZX
GRP75064	02	1738+0	1741 1751	1831	N16	E17	.400	16046	4.0	53	-B						F	
PALE	02	1738	1751	1824	N14	E16	.367	16046	3.9	46	-B	3	C		143		F	
BIGB	02	1738	1741	1837	N18	E19	.444	16046	4.2	59	-B	2	C	1741	40	.4		
65 BIGB	02	1840	1847	1858	N23	E57	.868	16051	7.1	18	-N	2	C	1847	30	.6		ZX
GRP75066	02	1858+2	1859+3	1937	N15	E16	.378	16046	4.0	39	-N						F	
PALE	02	1858	1859	1937	N14	E19	.355	16046	3.9	39	-N	3	C		20		F	
BIGB	02	1900	1902	1902D	N16	E18	.411	16046	4.1	2D	-N	1	P	1902	60	.6		
GRP75067	02	1945+2	1948	1954	N26	E50	.819	16051	6.6	9	-B				40	.7		
BIGB	02	1945	1947	1947D	N26	E50	.819	16051	6.6	2D	-B	2	P	1947	40	.6	E	
HOLL	02	1947	1948	1954	N26	E50	.819	16051	6.6	7	-B	3	C		43		F	
GRP75068	02	2009>9	2031+4	2043	N19	E49	.787	16051	6.5	34	-N				35	.6	F	
PALE	02	2009	2035U	2045D	N19	E50	.797	16051	6.6	36D	-N	3	C		47		F	ZX
HOLL	02	2031	2031	2041	N20	E48	.760	16051	6.5	10	-B	3	C		20			ZX
GRP75069	02	2024>9	2037+0	2130	S21	E55	.842	16052	7.0	66	1B				160	3.0		
HOLL	02	2024	2037	2130	S21	E55	.842	16052	7.0	66	1B	3	C		200		FDE	
PALE	02	2035	2037	2040D	S21	E55	.842	16052	7.0	5D	1B	3	V		131		F	
BIGB	02	2035E	2035	2035D	S26	E52	.830	16052	6.8		1B	1	P	2035	160	2.7		
70 PALE	02	2045	2045	2048	N19	E50	.797	16051	6.6	3	-N	3	C		22		F	ZX
71 CULG	02	2139E	2141	2152	S22	E65	.918	16052	7.8	13D	-F		P	2141	40	.9		ZX
72 CULG	02	2245	2253	2340	N20	E50	.800	16051	6.7	55	-N		C	2255	100	1.6	KFT	ZX

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP75073	02	2259>9	2316+1	2338	N16	E15	.378	16046	4.1	39	-N				110	1.2		
CULG	02	2259	2316	2346	N15	E15	.367	16046	4.1	47	-N		C	2316	110	1.3	F	
VORO	02	2313	2317	2329	N17	E15	.390	16046	4.1	16	-B		C	2317	116	1.4	D	
74 CULG	02	2324	2327	2335	N10	E56	.336	16056	7.2	11	-F		C	2327	30	.5		ZX
75 CULG	02	2334	2336	2355	S20	E62	.896	16052	7.6	21	-F		C	2336	50	1.0	KF	ZX
GRP75076	03	0009>9	0039	0041D	S18	E59	.870	16052	7.4	32	-F						J	
CULG	03	0009	0042	0130	S21	E58	.867	16052	7.4	81	1F		P	0042	150	3.1		
VORO	03	0038	0039	0041	S16	E60	.876	16052	7.5	3	-F		C	0039	45	1.1	J	
GRP75077	03	0129+4	0136+2	0159	N14	E50	.783	16051	6.8	30	2B				430	6.9	IJV	
CULG	03	0129	0138	0215	N13	E50	.781	16051	6.8	46	2B		C	0138	320	5.3	VFIT	
VORO	03	0133	0136	0152	N18	E50	.793	16051	6.8	19	2N		C	0136	358	6.0	E	
PALE	03	0133E		0158	N19	E47	.766	16051	6.6	25D	1B	3	C				FDE	
VORO	03	0133	0137	0159	N10	E50	.775	16051	6.8	26	1N		C	0137	179	3.0	EJ	
GRP75078	03	0148+2	0153+4	0225	N17	E14	.379	16046	4.1	37	1N				210	2.3	EJ	
CULG	03	0136	0153	0235	N17	E14	.379	16046	4.1	59	-N		C	0153	160	1.7	F	
VORO	03	0148	0155	0225	N18	E15	.401	16046	4.2	37	1N		C	0155	403	4.7	EJ	
MITK	03	0150	0157	0219	N17	E13	.369	16046	4.1	29	1N		C	0157	210	2.3	E	
79 PALE	03	0157	0158	0201	N25	W50	.815	16041	30.3	4	-N	3	C		102			ZX
GRP75080	03	0218+3	0223+0	0244D	N20	E43	.729	16051	6.3	26	1N				150	2.2	DK	
CULG	03	0218	0223	0320	N18	E44	.732	16051	6.4	62	-N		C	0223	120	1.7	TK	
VORO	03	0221	0223	0244	N22	E42	.728	16051	6.2	23	1N		C	0223	179	2.7	D	
81 CULG	03	0349	0350	0415	N15	E48	.765	16051	6.8	26	-N		C	0350	90	1.4	T	ZX
82 CULG	03	0523	0527	0615D	N15	E47	.754	16051	6.7	52D	-N		P	0527	120	1.8	KFT	ZX
83 CULG	03	0544	0557	0615D	N08	E50	.772	16056	7.0	31D	-N		P	0557	30	.5		ZX
GRP75084	03	0842+8	0905+2 0937+3	1113	N18	E39	.676	16051	6.3	151	2N				660	8.9	EIO	
WEND	03	0842	0937	1115	N17	E41	.695	16051	6.4	153	2N		C	0937	660	9.4	CF	
KIEV	03	0845	0905	1025D	N18	E40	.688	16051	6.4	100D	2N		P	0905	400		EI	
KANZ	03	0849	0939	1111	N17	E39	.672	16051	6.3	142	2N	3						
KHAR	03	0850	0907	1050D	N20	E37	.664	16051	6.1	120D	2N		P	0912	700	10.2	EO	
CATA	03	0935E	0940	1010D	N18	E38	.655	16051	6.2	35D	2B	2	P	0940	674	9.3		
GRP75085	03	0907+6	0920+4 0940	1119	S26	E47	.787	16052	6.9	132	1B						ELO	
KHAR	03	0907	0920	1035D	S26	E48	.796	16052	7.0	88D	2B	*	P	0920	390	6.1	ELO	
WEND	03	0910	0924	1116	S17	E53	.816	16052	7.4	126	1N	*	C	0924	150	2.7	CE	
KANZ	03	0913	0923	1121	S27	E47	.791	16052	6.9	128	1B	*					F	
CATA	03	0935E	0940	1010D	S29	E44	.774	16052	6.7	35D	1B	*	P	0940	168	2.7		
GRP75086	03	0910+6	0915 0923	0935	S30	W47	.804	16040	30.9	25	-N						DG	
WEND	03	0910		0930	S30	W46	.796	16040	30.9	20	-N		C				CDG	
KHAR	03	0914E	0915	0924D	S30	W48	.812	16040	30.8	10D	-F		P	0915	40	.8		
KANZ	03	0915	0923	0935	S32	W47	.813	16040	30.9	19	-N	1						
KHAR	03	0925E		0940D	S29	W48	.808	16040	30.8	15D	-F		P	0928	55	1.0	D	
87 KHAR	03	1136E	1138	1145D	S29	W48	.808	16040	30.9	9D	-F		V	1138			D	ZX
88 KHAR	03	1203E	1203	1213D	N23	E42	.732	16051	6.7	10D	-F		P				D	ZX
89 KHAR	03	1210E	1210	1213D	N20	W56	.852	16041	30.3	3D	-F		P				D	ZX
GRP75090	03	1310E	1347+6	1400	N19	E40	.692	16051	6.5	50	-N				60	.8		
NCMA	03	1310E	1347	1403	N18	E36	.642	16051	6.2	53D	-F		C	1347	70	1.0	EF	
KHAR	03	1313E		1350D	N17	E41	.695	16051	6.6	37D	-F		P	1340	110	1.6		
KHAR	03	1340E	1353	1353D	N22	E40	.707	16051	6.6	13D	-F		P				D	
HOLL	03	1345	1352	1357	N22	E40	.707	16051	6.6	12	-B	3	C		49			
91 KHAR	03	1340E	1340	1343D	S21	E49	.783	16052	7.2	3D	-F		P				D	ZX

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP75092	03	1433+0	1434+4	1521	N20	E33	.619	16051	6.1	48	-B				120	1.5	U	
RAMY	03	1433	1437	1441D	N20	E33	.619	16051	6.1	8D	-B	3	V		145		UDE	
LVOV	03	1433	1438	1503	N20	E33	.619	16051	6.1	30	-F		C	1438	100	1.5		
MCMA	03	1433	1435	1545D	N19	E33	.613	16051	6.1	72D	-B		C	1435	100	1.4	E	
BIGB	03	1433	1434	1505	N20	E33	.619	16051	6.1	32	-B	3	C	1434	150	1.8		
HOLL	03	1433	1434	1536	N21	E35	.648	16051	6.2	63	-B	3	C		83		F	
WEND	03	1446E		1447D	N19	E35	.636	16051	6.2	1D	-N		C	1447	75	1.0		
GRP75093	03	1758+1	1801+1	1818	S20	E47	.765	16052	7.3	20	-N				50	.8	H	
HOLL	03	1758	1802	1830	S20	E48	.775	16052	7.3	32	-B	3	C		53			
PALE	03	1758E		1825D	S21	E43	.728	16052	7.0	27D	-B	3	C				H F	
MCMA	03	1759E	1801	1805	S22	E48	.782	16052	7.3	6D	-N		C	1801	35	.5	D	
BIGB	03	1759	1801	1810	S20	E47	.765	16052	7.3	11	-N	2	P	1801	70	1.1		
94 BIGB	03	1801E	1301	1916	N18	E30	.571	16051	6.0	15D	-N	1	P	1801	30	.4		ZX
95 MCMA	03	1919E	1920	1935D	N21	E38	.680	16051	6.7	16D	-N		C	1920	30	.4	E	ZX
96 MCMA	03	2026E		2100	N18	E37	.653	16051	6.6	34D	-B		C	2038	100	1.4	E	ZX
97 MCMA	03	2030	2031	2038D	S22	E47	.772	16052	7.4	8D	-N		C	2031	40	.6	E	ZX
98 VORO	03	2258	2259	2304	N16	E00	.283	16046	4.0	6	-N		C	2259	90	.9	D	ZX
GRP75099	04	0025+1	0026+1 0036	0050	N20	E32	.607	16051	6.4	25	-N						F	
PALE	04	0025	0026	0102D	N20	E32	.607	16051	6.4	37D	-N	3	C		25		F	
PALE	04	0025	0036	0102D	N20	E32	.607	16051	6.4	37D	-F	3	C		20		F	
VORO	04	0026	0027	0038	N20	E32	.607	16051	6.4	12	1N		C	0027	161	2.1		
100 CULG	04	0058	0109	0128	S23	E29	.590	16052	6.2	30	-F		C	0109	40	.5		ZX
101 CULG	04	0116	0143	0238	S21	E53	.826	16052	8.0	82	-F		C	0143	80	1.4		ZX
102 CULG	04	0143	0150	0200	N08	E39	.640	16056	7.0	17	-F		C	0150	40	.5		ZX
103 CULG	04	0302	0313	0332	S27	E39	.719	16052	7.1	30	-N		C	0313	30	.4		ZX
GRP75104	04	0340+7	0356 0405+4	0510	N19	E30	.577	16051	6.4	90	2B				900	10.9	FIJKUZ	
CULG	04	0340U	0407	0514D	N18	E30	.570	16051	6.4	94D	3N		C	0407	1400	17.2	ZI	
MITK	04	0346	0407	0503D	N20	E30	.584	16051	6.4	77D	2B		C	0407	740	9.2	FTZ	
YUNN	04	0347	0405	0500	N19	E30	.577	16051	6.4	73	3B		C		1447			
MANI	04	0352E	0356	0505D	N19	E30	.577	16051	6.4	73D	2B	3	C		450		U F	
MANI	04	0352E	0408	0505D	N19	E30	.577	16051	6.4	73D	2N	3	V		700		U F	
PALE	04	0353E	0409	0432D	N20	E30	.584	16051	6.4	39D	2B	2	C		701		F	
MANI	04	0405E	0408U	0410D	N19	E30	.577	16051	6.4	5D	2N	2	P		700	8.8		
MANI	04	0405E	0405U	0410D	N19	E30	.577	16051	6.4	5D	2N	2	P		450	5.7	UF	
ABST	04	0457E	0457	0545D	N14	E26	.492	16051	6.2	48D	-N		P	0457	87	1.0	D	
ABST	04	0457E	0457	0545D	N22	E27	.567	16051	6.2	48D	1N		P	0457	174	2.2	EJ	
ABST	04	0457E	0457	0545D	N20	E30	.584	16051	6.5	48D	-N		P	0457	87	1.1	D	
ABST	04	0457E	0457	0545D	N17	E26	.514	16051	6.2	48D	-N		P	0457	87	1.0	D	
WEND	04	0518E		0519D	N21	E29	.580	16051	6.4	1D	-N		C				B	
105 ABST	04	0542E	0543	0545D	N16	W17	.397	0	3.0	3D	-N		P	0543	87	.9	DJ	ZX
106 BUCA	04	0605	0606	0641	S19	E46	.752	16052	7.7	36	-N		C	0606	32	.5	D	ZX
GRP75107	04	0655	0700	0704	S25	E35	.667	16052	6.9	9	-N				80	1.1	D	
CATA	04	0655	0700	0705	S26	E35	.674	16052	6.9	10	-B	2	C	0700	84	1.1		
BUCA	04	0700E		0702	S25	E35	.667	16052	6.9	2D	-N		P	0702	85	1.2	CD	
GRP75108	04	0705	1356 1415	1440	N20	E26	.539	16051	6.2	455	-N						K	
KANZ	04	0724	0727	0731	S22	E39	.619	16051	7.2	7	-N	2					D	
CATA	04	0730	0730	0735	S22	E39	.631	16051	7.2	5	-N	2	C	0730	45	.6		
GRP75109	04	1349E	1415	1440	N20	E26	.539	16502	6.5	51	-N						EK	
MCMA	04	1349E	1356	1440	N20	E26	.539	16052	6.5	51D	-N			1356	80	.9		
MCMA	04	1349E	1415	1440	N20	E26	.539	16052	6.5	51D	-N		C	1415	100	1.2	EK	
	04	1115	1154	NO FLARE PATROL														
110 MCMA	04	1459	1502	1536	N17	W07	.320	16046	4.1	39	-N		C	1502	40	.4	E	ZX

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75111	04	1514+7	1525+5	1607D	N18	E22	.475	16051	6.3	53	-N				50	.6	E	
MCMA	04	1514	1525	1644D	N18	E23	.487	16051	6.4	90D	-N		C	1525	60	.7	E	
BIGB	04	1521	1530	1607	N18	E21	.464	16051	6.2	46	-N	3	C	1530	50	.6		
112 BIGB	04	1601	1602	1618	S19	E46	.752	16052	8.1	17	-N	3	C	1602	60	.9	E	ZX
GRP75113	04	1632>9	1633	1802	N17	E22	.466	16051	6.3	90	-N						E	
			1655															
BIGB	04	1632	1633	1704	N18	E21	.464	16051	6.3	32	-N	*	C	1633	30	.3		
MCMA	04	1645	1707	1755D	N18	E23	.487	16051	6.4	70D	-B	*	C	1707	150	1.8	E	
BIGB	04	1651	1655	1802	N14	E23	.453	16051	6.4	71	-N	*	C	1655	70	.7		
114 BIGB	04	1710	1714	1730	N15	W10	.313	16046	4.0	20	-N	3	C	1714	60	.6		ZX
GRP75115	04	1803	1804	1823	N19	E25	.519	16051	6.6	20	-N				60	.7	E	
BIGB	04	1803	1804	1824	N20	E25	.527	16051	6.6	21	-N	3	C	1804	60	.7	E	
MCMA	04	1805E		1822	N18	E25	.510	16051	6.6	17D	-N		C	1809	55	.6	E	
116 BIGB	04	1927	1928	1936	N21	E25	.536	16051	6.7	9	-N	2	C	1928	50	.6		ZX
GRP75117	04	1939	1940	2007	N19	E20	.463	16051	6.3	28	-N						E	
			1952															
BIGB	04	1939	1940	2007	N19	E19	.452	16051	6.2	28	-N	1	C	1940	90	1.0		
BIGB	04	1951	1952	1956	N21	E16	.445	16051	6.0	5	-N	1	C	1952	30	.3		
MCMA	04	1956E		2007D	N18	E23	.487	16051	6.6	11D	1N		C	1956	200	2.4	E	
118 BIGB	04	2003	2005	2034	S36	E40	.782	16063	7.8	31	-F	1	P	2005	30	.4	G	ZX
119 BIGB	04	2005	2007	2011	N11	E14	.308	16062	5.9	6	-F	1	C	2007	30	.3		ZX
GRP75120	04	2014+7	2018+0	2028	N19	E21	.473	16051	6.4	14	-N				50	.6	E	
MCMA	04	2014E	2018	2026D	N18	E25	.510	16051	6.7	12D	-N		C	2018	60	.7	E	
BIGB	04	2017	2018	2028	N19	E21	.473	16051	6.4	11	-N	1	C	2018	50	.6		
BIGB	04	2021	2024	2024D	N19	E19	.452	16051	6.3	30	-N	1	P	2024	50	.5		
121 BIGB	04	2151	2153	2203	N17	E18	.419	16051	6.3	12	-N	2	C	2153	50	.5		ZX
GRP75122	05	0034	0037+5	0056	N18	E15	.398	16051	6.1	22	-F				30	.3		
BIGB	05	0034	0037	0058	N18	E16	.408	16051	6.2	24	-F	2	C	0037	40	.4		
PALE	05	0041E	0042U	0053	N18	E15	.398	16051	6.2	12D	-N	2	C		19			
GRP75123	05	0124	0133	0211	N20	E16	.451	16051	6.4	47	1N						FK	
			0145															
MITK	05	0124		0202D	N20	E17	.441	16051	6.3	38D	1N		C	0200	450	5.1	FT	
BIGB	05	0125E	0125	0140	N20	E13	.451	16051	6.4	15D	-N	1	P	0125	100	1.1		
MANI	05	0130E	0133U	0220D	N20	E18	.451	16051	6.4	50D	-N	3	P		150	1.7	F	
MANI	05	0134E	0145U	0220D	N20	E18	.451	16051	6.4	46D	1N		P		300	3.4		
CULG	05	0206E	0206E	0247	N18	E18	.429	16051	6.4	41D	1N		P	0206	340	3.8	FB	
124 MANI	05	0134E	0134U	0143	N07	E29	.497	16056	7.2	9D	-F	3	P		80	.9		ZX
GRP75125	05	0455+5	0514>9	0838	N17	E14	.376	16051	6.3	223	2B						FHIJKU	
			0729+3															
MITK	05	0455E	0526	0742D	N18	E14	.388	16051	6.3	167D	2B		C	0526	990	11.1	FTZ	
ISTA	05	0455		0740	N18	E14	.388	16051	6.3	165	3B		V				EK	
TACH	05	0458	0521	0846	N18	E15	.398	16051	6.3	228	3B		C	0514	1238	13.8	EJKZ	
YUMN	05	0500	0518	0550	N15	E14	.351	16051	6.3	50	2B		C		1044			
MANI	05	0508E	0529U	0632	N20	E16	.432	16051	6.4	84D	1N	3	C		420		U F	
MANI	05	0508E	0514	0632	N20	E16	.432	16051	6.4	84D	1N	3	P		260	2.9	FU	
CULG	05	0509E	0521	0550D	N18	E15	.398	16051	6.3	49D	2B		P	0521	920	10.4	UYFI	
KIEV	05	0530E	0540	0640	N17	E13	.366	16051	6.2	70D	2N		C	0540	900	10.1	EI	
BUCA	05	0600E		0825	N18	E12	.370	16051	6.2	145D	2B		C	0605	1074	11.9		
WEND	05	0605E	0607	0849D	N17	E12	.356	16051	6.2	164D	1N		C	0607	300	3.3	FHJT	
KANZ	05	0655E	0732	0932	N18	E13	.379	16051	6.3	157D	1N	3					F	
MONT	05	0729E	0729	0918	N19	E14	.401	16051	6.4	109D	-N		C	0729	220		B	
MANI	05	0807E	0807U	0833D	N19	E15	.410	16051	6.5	26D	-N	3	C		60		F	
MANI	05	0807E	0907U	0833D	N19	E15	.410	16051	6.5	26D	-F	3	P		60	.6	F	
KHAR	05	0840E		0900D	N16	E14	.363	16051	6.4	20D	-N		P	0848	150	1.6		
ABST	05	0928E	0928	0938D	N15	E14	.351	16051	6.4	10D	-N		P	0928	87	.9	BD	
126 KANZ	05	1010	1022	1046	S36	E35	.747	16063	8.0	36	-F	2						ZX
127 CATA	05	1015	1015	1025	S17	E90	1.000	16065	12.2	10	?N	2	C	1015	45			ZX
	IMP.1	NO :	KANZ	MONT	ZURI													
128 KANZ	05	1038	1038	1047	S19	E36	.643	16052	8.1	9	-F	2						ZX

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75129	05	1304	1315	1350	S20	E35	.637	16052	8.2	46	1N						EJ	
			1330															
LVOV	05	1304	1315	1350	S20	E36	.648	16052	8.2	46	1N		C	1315	350	4.8	EJ	
ZURI	05	1314E	1330	13400	S20	E34	.625	16052	8.1	260	1N		P	1330	250	3.3		
GRP75130	05	1400>9	1455	1538	S20	E35	.637	16052	8.2	98	-N						F	
MCMA	05	1400E		14500	S21	E34	.632	16052	8.1	500	1B		C	1400	160	2.0	F	
BIGB	05	1437	1455	1538	S20	E37	.659	16052	8.4	61	-F	3	C	1455	120	1.5		
131 MCMA	05	1436E		14430	N20	E10	.382	16051	6.4	70	-F	*	C	1438	40	.4	E	ZX
132 MCMA	05	1436E		14470	S19	E90	1.000	16065	12.4	110	-F		C	1443				ZX
GRP75133	05	1541	1551+1	1631	S23	E11	.425	16052	6.5	50	-N				60	.7	EH	
BIGB	05	1541	1551	1631	S23	E12	.432	16052	6.6	50	-N	3	C	1551	60	.7		
MCMA	05	1544E	1552	16060	S24	E11	.439	16052	6.5	220	-N		C	1552	60	.7	EH	
134 MCMA	05	1649E		17040	S18	E90	1.000	16065	12.5	150	?B		P	1652				ZX
	IMP.1	NO : BIGB	HOLL															
135 BIGB	05	1824	1832	1835	S19	E90	1.000	16065	12.5	11	-N	2	C	1832	40			ZX
136 BIGB	05	1901	1902	1905	S19	E90	1.000	16065	12.5	4	-N	2	C	1902	30			ZX
137 BIGB	05	2012	2013	2018	N21	E04	.368	16051	6.1	6	-F	2	C	2013	30	.3		ZX
138 BIGB	05	2016	2017	2018	S19	E90	1.000	16065	12.6	2	-B	2	C	2017	20			ZX
139 BIGB	05	2038	2039	2046	S18	E18	.424	16052	7.2	8	-B	2	C	2039	50	.5		ZX
140 BIGB	05	2103	2105	2128	S17	W23	.472	16061	4.2	25	-N	2	C	2105	60	.7		ZX
141 CULG	05	2242	2251	2322	S19	E17	.425	16052	7.2	40	-N		C	2251	60	.7	H	ZX
GRP75142	06	0024+2	0027+6	0052	S20	E26	.535	16052	8.0	28	-N				60	.7	F	
CULG	06	0024	0033	0100	S20	E24	.512	16052	7.8	36	-N		C	0033	90	1.1	F	
PALE	06	0026	0027	0044	S20	E28	.557	16052	8.1	18	-B	3	C		39		F	
143 CULG	06	0056	0101	0146	S24	E08	.425	16052	6.6	50	-F		C	0101	40	.4		ZX
144 BIGB	06	0125	0126	01260	S21	E25	.532	16052	7.9	10	-N	1	P	0126	40	.5		ZX
145 CULG	06	0256	0300	0306	N16	E90	1.000	16067	12.9	10	-N		C	0300	30		T	ZX
146 CULG	06	0316	0320	03410	S25	E06	.432	16052	6.6	250	-N		P	0320	70	.8		ZX
GRP75147	06	0355E	0357	0415	S19	E14	.397	16052	7.2	20	1N						FL	
CULG	06	0355E	0357	04190	S16	E14	.360	16052	7.2	240	1N		P	0357	440	5.0	L	
PALE	06	0405E	0405U	0411	S23	E14	.449	16052	7.2	60	-N	3	C		74		F	
148 CULG	06	0545	0549	0605	N16	E89	1.000	16067	12.9	20	1B		C	0549	80		T	ZX
GRP75149	06	0608+7	0614	0700	S23	E03	.392	16052	6.5	52	-F				100	1.1		
CULG	06	0608	0614	06150	S24	E04	.410	16052	6.6	70	-N		P	0614	100	1.1		
BUCA	06	0615		0700	S23	E03	.392	16052	6.5	45	-F		C	0620	107	1.2		
150 CATA	06	0705	0710	0720	S18	E90	1.000	16065	13.0	15	?F	2	C	0710	45			ZX
	IMP.1	NO : KIEV	MITK	KANZ														
GRP75151	06	0727+3	0735+2	0817	N17	E79	.983	16067	12.2	50	-N						D	
KANZ	06	0727	0737	0817	N17	E78	.980	16067	12.2	50	-N	*					D	
CATA	06	0730	0735	07550	N17	E80	.986	16067	12.3	250	1N	*	P	0735	112			
GRP75152	06	0727+8	0735	07500	S15	E88	.999	16065	12.9	23	-N							
KANZ	06	0727	0817	0837	S15	E86	.998	16065	12.8	70	-B	3						
CATA	06	0735	0735	0750	S16	E90	1.000	16065	13.1	15	-N	2	C	0735	39			
153 KANZ	06	0940	0948	0956	S17	E87	.999	16065	12.9	16	-B	3						ZX
154 LVOV	06	1201	1210	1240	N15	E76	.972	16067	12.2	39	?N		C	1210	100			ZX
	IMP.1	NO : TELV																

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GRF75155	06	1433+2	1440+5	1517	N14	W07	.271	16051	6.1	44	-N				100	1.0	E	
LVOV	06	1433	1443	1504	N13	W07	.256	16051	6.1	31	1N	*	C	1443	300	3.3	E	
BIGB	06	1434	1442	1525	N14	W07	.271	16051	6.1	51	-N	2	C	1442	90	.9		
MCMA	06	1434E	1445	1525	N14	W07	.271	16051	6.1	51D	-B		C	1445	120	1.3	E	
HOLL	06	1435	1440	1509	N21	W02	.361	16051	6.5	34	-B	3	C		52			
HOLL	06	1437	1442	1454	N10	W09	.233	16051	5.9	17	-B	*	C		27			
GRF75156	06	1457>9	1500	1606	N15	E80	.986	16067	12.6	69	-N						E	
BIGB	06	1457	1500	1606	N16	E80	.986	16067	12.6	69	-N	3	C	1500	40			
MCMA	06	1528		1531D	N14	E80	.986	16067	12.6	3D	-N		C	1530			E	
157 HUAN	06	1606	1607	1610	S32	W90	1.000	16040	30.9	4	-N	1	C	1607	25		D	ZX
GRF75158	06	1642+2	1645+1	1656	N17	00	.294	16051	6.7	14	-N				40	.4		
MCMA	06	1642	1645	1700	N17	W01	.294	16051	6.6	18	-N		C	1645	40	.4	E	
HOLL	06	1644	1646	1652	N17	E00	.294	16051	6.7	8	-N	3	C		44		F	
159 HOLL	06	1654	1657	1703	N10	W11	.257	16062	5.9	9	-N	3	C		22			ZX
160 KANZ	06	1657E		1709	N16	E75	.969	16067	12.3	12D	-F	1						ZX
161 BIGB	06	1730	1733	1800	N17	E80	.986	16067	12.7	30	-B	3	C	1733	130		AK	ZX
GRF75162	06	1750>9	1810+0	1854	S21	E08	.380	16052	7.3	64	-N				100	1.1	E	
MCMA	06	1750	1810	1845	S21	E13	.414	16052	7.7	55	-N		C	1810	100	1.1	E	
BIGB	06	1805	1810	1902	S22	E03	.376	16052	7.0	57	-N	3	C	1810	100	1.0		
163 BIGB	06	1806	1808	1827	N17	E80	.986	16067	12.8	21	-B	3	C	1808	80		AK	ZX
GRF75164	06	1856+0	1857+1	1904	S17	E86	.998	16065	13.2	8	-N				30		AD	
BIGB	06	1856	1857	1905	S17	E85	.996	16065	13.2	9	-B	3	C	1857	40		A	
HUAN	06	1856	1858	1903	S18	E87	.999	16065	13.3	7	-N	1	C	1858	20		D	
GRF75165	06	1909	1911+1	1925	S20	E05	.350	16052	7.2	16	-B				30	.3	U	
BIGB	06	1909	1912	1927	S19	E05	.334	16052	7.2	18	-B	3	C	1912	40	.4		
PALE	06	1910E	1911	1922	S21	E06	.370	16052	7.2	12D	-B	3	C		20		U	
166 BIGB	06	2001	2005	2021	N17	E80	.986	16067	12.8	20	-B	3	C	2005	120		K	ZX
167 BIGB	06	2031	2040	2111	S15	E80	.966	16065	12.9	40	-N	3	C	2040	40			ZX
GRF75168	06	2039+3	2042+4	2126	N09	E08	.209	16056	7.5	47	-N				50	.5		
PALE	06	2039	2042	2046D	N08	E05	.165	16056	7.2	7D	-N	3	C		26		F	
BIGB	06	2042	2046	2126	N09	E08	.209	16056	7.5	44	-N	3	C	2046	70	.7		
HUAN	06	2042		2053D	N09	E08	.209	16056	7.5	11D	-F	1	P				D	
GRF75169	06	2105	2111	2139	N17	E71	.950	16067	12.2	34	1B						A	
BIGB	06	2105	2111	2139	N16	E70	.945	16067	12.1	34	1B	3	C	2111	190		A	
PALE	06	2106E	2106U	2106D	N18	E72	.956	16067	12.3		-N	3	C		55		FDE	
170 BIGB	06	2211	2214	2228	N08	E06	.175	16056	7.4	17	-F	3	C	2214	30	.3		ZX
171 BIGB	07	0002E	0002	0006	S15	E80	.986	16065	13.0	4D	-N	3	C	0002	20			ZX
172 BIGB	07	0007	0019	0057	S15	E80	.986	16065	13.0	50	-N	3	C	0019	30			ZX
173 BIGB	07	0014	0016	0027	N17	E75	.969	16067	12.6	13	-N	3	C	0016	60			ZX
174 CULG	07	0041	0046	0115	N12	W07	.239	16051	6.5	34	-N		C	0046	120	1.2	L	ZX
175 BIGB	07	0050	0052	0101	N15	E70	.944	16067	12.3	11	-N	3	C	0052	40			ZX
176 BIGB	07	0109	0119	0128	N06	E75	.966	0	12.7	19	-N	3	C	0119	50			ZX
GRF75177	07	0124+4	0127+1	0143D	S18	E85	.997	16065	13.4	19	1N				90		A	
CULG	07	0124	0128	0143D	S18	E85	.997	16065	13.4	19D	1N		C	0128	90			
BIGB	07	0124	0127	0137E	S18	E85	.997	16065	13.4	13D	-B	3	C	0127	110		A	
HANI	07	0128	0128U	0134D	S18	E73	.960	16065	12.9	6D	-N	3	P		40	1.0		
178 CULG	07	0134	0137	0143D	S18	W52	.811	16061	3.2	9D	-F		C	0137	30	.4		ZX
	07	0144	0151	NO FLARE PATROL														
	07	0209	0216	NO FLARE PATROL														
GRF75179	07	0244E	0244	0307D	N21	W01	.358	16051	7.0	23	-N						F	
HANI	07	0244E	0244U	0307D	N21	W01	.358	16051	7.0	23D	-N	3	P		50	.5	F	
HANI	07	0244E	0244U	0307D	N21	W01	.358	16051	7.0	23D	-N	3	V		50		F	

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	07	0332	0339	NO FLARE PATROL														
	07	0439	0450	NO FLARE PATROL														
180 ABST	07	0510E	0516	0522D	N15	E70	.944	16067	12.5	12D	1F		P	0517	87		DJ	ZX
181 ABST	07	0548	0559	0602	N12	E69	.937	16067	12.4	14	-F		C	0559	87		DJ	ZX
GRP75182	07	0625E	0625	0631D	N15	E69	.938	16067	12.4	6	1F				90		D	
ABST	07	0625E	0625	0631	N16	E70	.944	16067	12.5	6D	1F		P	0626	87		D	
MANI	07	0630E	0632	0707	N15	E68	.932	16067	12.4	37D	-N	3	V		90			
MANI	07	0630E	0632	0707	N15	E68	.932	16067	12.4	37D	-F	3	P		90	1.9		
GRP75183	07	0627>9	0658+1	0724	N20	W14	.410	16051	6.2	57	-F						D	
MANI	07	0627	0658	0712D	N20	W13	.402	16051	6.3	45D	-F	3	P		20	.2		
ABST	07	0655	0659	0724	N20	W16	.429	16051	6.1	29	-F		C	0659	87	1.0	D	
MANI	07	0657E	0658	0712D	N20	W13	.402	16051	6.3	15D	-N	3	V		20			
GRP75184	07	0630E	0631	0715D	S18	E74	.965	16065	12.8	45	-N							
MANI	07	0630E	0631	0715D	S18	E74	.965	16065	12.8	45D	-B	3	V		30			
MANI	07	0630E	0631	0715D	S18	E74	.965	16065	12.8	45D	-N	3	P		30	.7		
GRP75185	07	0652E	0653	0657	S16	W54	.825	16061	3.2	5	-F							
MANI	07	0652E	0653	0657	S16	W54	.825	16061	3.2	5D	-N	3	V		15			
MANI	07	0652E	0653	0657	S16	W54	.825	16061	3.2	5D	-F	3	P		15	.2		
GRP75186	07	0753+3	0755+3 0811	0824	N16	E64	.907	16067	12.1	31	-N						JV	
ATHN	07	0753E	0755	0827	N15	E61	.884	16067	11.9	34D	-N	1		0755	33	.3		
ABST	07	0756	0758	0803D	N19	E68	.935	16067	12.4	7D	-F		P	0758	87		D	
ABST	07	0810	0811	0820	N15	E66	.920	16067	12.3	10	1N		C	0811	87		DJV	
187 KHAR	07	0851E		0907D	N17	E70	.945	16067	12.6	16D	-F		P				D	ZX
188 KHAR	07	0857E		0904D	S17	W56	.845	16061	3.2	7D	-F		P				D	ZX
GRP75189	07	0910	0913+1	0917	N15	E65	.913	16067	12.3	7	-N						DJ	
ABST	07	0910	0913	0917	N15	E66	.920	16067	12.3	7	1N		C	0913	87		DJ	
KHAR	07	0911E	0914	0917D	N16	E65	.914	16067	12.3	6D	-N		P				D	
190 KHAR	07	1019	1020	1033	S13	W90	1.000	16053	31.7	14	-F		P	1020			EH	ZX
191 KHAR	07	1100E	1102	1115D	S12	W90	1.000	16053	31.7	15D	-F		P	1102			DH	ZX
192 KHAR	07	1105	1108	1125	N16	E67	.927	16067	12.5	20	?F		P	1110	160		H	ZX
	IMP.1 NO : CATA																	
193 KHAR	07	1135	1136	1155D	S12	W90	1.000	16053	31.7	20D	-F		V	1136			DH	ZX
194 KHAR	07	1209E		1216D	N16	E67	.927	16067	12.5	7D	-F		P					ZX
195 KHAR	07	1312E	1312	1322D	S18	W04	.317	16052	7.3	10D	-N		P				E	ZX
196 HUAN	07	1340		1352	S14	W90	1.000	16053	31.8	12	-F	1	C	1346	20		D	ZX
GRP75197	07	1354+6	1403	1418	N20	W46	.757	16046	4.1	24	-N							
HUAN	07	1354		1418	N20	W45	.747	16046	4.2	24	-F	1	C				E	
HOLL	07	1400	1403	1416	N15	W48	.763	16046	4.0	16	-N	3	C		31		F	
BIGB	07	1405E	1405	1444	N20	W45	.757	16046	4.1	39D	1B	3	P	1405	180	2.7		
GRP75198	07	1442+0	1447+2	1504	S18	E61	.887	16065	12.2	22	-N				60	1.3	E	
BIGB	07	1442	1449	1504	S18	E61	.887	16065	12.2	22	-N	3	C	1449	80	1.7		
HOLL	07	1442	1447	1507	S19	E61	.889	16065	12.2	25	-B	3	C		37			
HUAN	07	1442		1501	S18	E63	.902	16065	12.3	19	-F	1	C				E	
KANZ	07	1444E	1449	1456D	S18	E61	.887	16065	12.2	12D	-N	2						
199 BIGB	07	1509	1516	1528	N16	W22	.453	16051	6.0	19	-F	3	C	1516	50	.6		ZX
GRP75200	07	1709+9	1714+5	1740	S24	W04	.412	16052	7.4	31	-N				30	.3	F	
BIGB	07	1709	1714	1741	S25	W02	.424	16052	7.6	32	-N	*	C	1714	40	.4		
PALE	07	1718	1719	1739	S23	W06	.403	16052	7.3	21	-N	*	C		23		F	
201 HUAN	07	1710	1711	1718	S13	W90	1.000	16053	1.0	8	-F	1	C	1711	20		D	ZX
202 BIGB	07	1723	1732	1811	N24	E49	.800	16064	11.4	48	?F	*	C	1732	130	2.0		ZX
	IMP.1 NO : HUAN HOLL PALE																	
203 HOLL	07	1730	1732	1743	N20	W17	.438	16051	6.5	13	-B	3	C		26			ZX

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204 BIGB	07	1734	173_	1745	S16	E70	.944	16065	13.0	11	-N	3	C	1738	30			ZX
205 HUAN	07	1736		1748	S13	W90	1.000	16053	1.0	12	-F	1	C	1745	20		D	ZX
GRP75206	07	1745>9	1748	1831	N16	E58	.860	16067	12.1	46	-F							
PALE	07	1745	1748	1835	N16	E60	.877	16067	12.2	50	-N	*	C		26		FDE	
HUAN	07	1823		1826	N16	E56	.843	16067	12.0	3	-F	*	C					
207 PALE	07	1748	1749	1755	S16	E68	.933	16065	12.8	7	-N	3	C		18		F	ZX
208 HOLL	07	1750	1752	1807	N20	W18	.448	16051	6.4	17	-N	3	C		26		F	ZX
209 HUAN	07	1812		1818	S14	W90	1.000	16053	1.0	6	-F	1	C	1816	20	.3	D	ZX
210 PALE	07	1825	1826	1834	S16	E67	.927	16065	12.8	9	-N	3	C		22		FDE	ZX
211 HUAN	07	1841	1842	1846	S14	W90	1.000	16053	1.0	5	-F	1	C	1842	20		D	ZX
GRP75212	07	1904+2	1906+1	1914	N08	W08	.196	16056	7.2	10	-N				20	.2	F	
HOLL	07	1904	1906	1914	N08	W08	.196	16056	7.2	10	-N	3	C		20			
BIGB	07	1905	1907	1928	N05	W10	.193	16056	7.0	23	-N	3	C	1907	90	.9		
PALE	07	1906	1906	1911	N08	W08	.196	16056	7.2	5	-N	3	C		21		F	
213 BIGB	07	1941	1943	1949	N14	W23	.449	16051	6.1	8	-F	3	C	1943	40	.5		ZX
214 HOLL	07	1944	1945	1957	S18	W58	.864	16061	3.5	13	-N	3	C		17			ZX
215 CULG	07	2206	2211	2217	S09	W09	.220	16060	7.2	11	-F		C	2211	40	.4		ZX
216 CULG	07	2253	2255U	2255C	S19	W11	.373	16052	7.1	20	-F		P	2255	50	.5		ZX
217 BIGB	07	2259	2302	2303E	S21	W03	.362	16052	7.7	40	-F	3	C	2302	40	.4		ZX
GRP75218	07	2322>9	2337+2	0021	N20	W21	.480	16051	6.4	59	1B						FZ	
CULG	07	2322	2339	0022	N21	W21	.490	16051	6.4	60	1N		C	2339	180	2.1	F	
HOLL	07	2331	2337	0020	N20	W21	.480	16051	6.4	49	1B	3	C		195		Z F	
BIGB	07	2334	2337	0000E	N19	W22	.481	16051	6.3	260	-B	3	C	2337	140	1.5		
GRP75219	07	2352+0	2355+1	0005	N02	E08	.143	16057	8.6	13	-F				45	.5		
CULG	07	2352	2356	0005	N03	E08	.148	16057	8.6	13	-N		C	2356	60	.6	T	
BIGB	07	2352	2355	0000E	N02	E08	.143	16057	8.6	80	-F	3	C	2355	30	.3		
220 CULG	08	0058	0059	0108	N20	E28	.557	16058	10.1	10	-F		C	0059	20	.2		ZX
221 CULG	08	0134	0137	0147	N18	E61	.887	16067	12.6	13	-N		C	0137	30	.6	T	ZX
222 CULG	08	0227	0233	0258	S22	W03	.380	16052	7.9	31	-N		C	0233	140	1.6	FL	ZX
223 CULG	08	0235	0244	0301	N03	E07	.131	16057	8.6	26	-F		C	0244	90	.9	T	ZX
224 CULG	08	0251	0255	0329	S18	E53	.821	16065	12.1	38	-F		C	0255	20	.3		ZX
225 CULG	08	0312	0317	0331	N12	E49	.766	16067	11.8	19	-F		C	0317	20	.3		ZX
226 CULG	08	0337	0350U	0417	N13	E33	.576	16058	10.6	40	-F		C	0350	10	.1		ZX
227 CULG	08	0418	0420	0423	S20	W13	.404	16052	7.2	5	-F		C	0420	70	.8		ZX
228 CULG	08	0611	0612	0614D	S20	W18	.450	16052	6.9	30	-N		P	0612	50	.6		ZX
GRP75229	08	0708+0	0715+0	0746	S21	W07	.378	16052	7.8	38	1N						EIJ	
KIEV	08	0708	0715	0750	S22	W09	.404	16052	7.6	42	2N		C	0715	500	5.7	EI	
ABST	08	0708	0715	0742	S21	W05	.370	16052	7.9	34	1N		C	0715	305	3.3	EJ	
ATHN	08	0720E	0720	0731D	S23	W10	.424	16052	7.6	110	-N	1		0720	84	.9		
ISTA	08	0721E		0731	S21	E00	.361	16052	8.3	10D	2N		V				F	
KANZ	08	0728E		0751	S21	W08	.383	16052	7.7	230	-N	1					B	
230 ISTA	08	0721E		0738	N16	E57	.852	16067	12.6	17D	-F		V				D	ZX
231 KANZ	08	0751	0755	0815	N20	W29	.568	16051	6.2	24	-N	2						ZX
GRP75232	08	0851+4	0859+0	0914	N19	W28	.549	16051	6.3	23	-N							
KANZ	08	0851	0859	0918	N18	W28	.542	16051	6.3	27	-N	2						
YUNN	08	0855	0859	0910	N20	W28	.557	16051	6.3	15	1N		C		193			

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GRF75233	08	0918+4	0919+3	0935	N20	W32	.603	16051	6.0	17	-N						DJV	
ABST	08	0918	0919	0930	N21	W32	.610	16051	6.0	12	-N		C	0919	87	1.2	DJV	
KANZ	08	0922	0922	0939	N20	W32	.603	16051	6.0	17	-N	2					D	
234 KANZ	08	1006	1014	1030	S27	W15	.511	16052	7.3	24	-F	1						ZX
GRF75235	08	1042+3	1047+0	1100	N17	W25	.497	16051	6.6	18	-F							
KANZ	08	1042	1047	1051D	N17	W25	.497	16051	6.6	9D	-N	1					E	
KHAR	08	1045	1047	1100	N17	W26	.510	16051	6.5	15	-F		P	1049	65	.8	D	
236 KHAR	08	1138	1139	1155	S25	W12	.465	16052	7.6	17	-F		P	1144	90	1.0	D	ZX
	08	1200	1236	NO FLARE PATROL														
GRP75237	08	1452+8	1504+0	1516	N18	W28	.542	16051	6.5	24	-N				50	.6	E	
MCMA	08	1452	1504	1518	N19	W28	.549	16051	6.5	26	-B		C	1504	50	.6	E	
ZURI	08	1500	1504	1516	N18	W28	.542	16051	6.5	16	-B		C	1504	60	.7		
HUAN	08	1500		1510	N17	W27	.522	16051	6.6	10	-F	1	C	1503	35	.4	E	
238 MCMA	08	1542		1548D	S21	W11	.402	16052	7.8	6D	-N		C	1548	40	.4	E	ZX
GRF75239	08	1602+2	1606	1617	S21	E51	.810	16065	12.5	15	-F						E	
MCMA	08	1602	1606	1620	S20	E53	.825	16065	12.6	18	-F		C	1606	40	.7	E	
HUAN	08	1604		1614	S23	E50	.807	16065	12.4	10	-F	1	C					
240 MCMA	08	1752	1759	1808	S21	W11	.402	16052	7.9	16	-N		C	1759	50	.6	E	ZX
GRF75241	08	1818	1820	1837	N17	E49	.778	16067	12.4	19	-N							
			1836															
HUAN	08	1818	1820	1828	N18	E51	.801	16067	12.6	10	-N	1	C	1820	20	.3	D	
MCMA	08	1828E	1836	1845	N16	E48	.765	16067	12.4	17D	-F		C	1836	30	.5	E	
GRP75242	08	1825	1825	1931	S21	W11	.402	16052	7.9	66	-N						E	
			1854															
PALE	08	1825	1825	1849	S22	W12	.423	16052	7.9	24	-N	3	C		51		FDE	
MCMA	08	1836E	1854	1944D	S21	W11	.402	16052	8.0	68D	-N		C	1854	100	1.1	E	
PALE	08	1914	1915	1917	S22	W12	.423	16052	7.9	3	-N	3	C		25		FDE	
243 MCMA	08	1828E	1837	1855	N22	W26	.551	16051	6.8	27D	-F		C	1837	25	.3	D	ZX
244 MCMA	08	1901E	1915	1921D	N20	W28	.557	16051	6.7	20D	-N		C	1915	60	.8	E	ZX
245 MCMA	08	1912	1914	1917D	N03	W03	.072	16057	8.6	5D	-F		C	1914	30	.3	E	ZX
246 MCMA	08	2022E	2022	2029D	S17	E17	.406	16069	10.1	7D	-N		C	2022	30	.3	E	ZX
GRP75247	08	2039	2043+0	2056D	N03	W02	.061	16057	8.7	17	-N				45	.5		
MCMA	08	2039	2043	2055D	N03	W03	.072	16057	8.6	16D	-N		C	2043	40	.4	E	
PALE	08	2043E	2043U	2056D	N03	W02	.061	16057	8.7	13D	-N	3	C		49		F	
GRP75248	08	2133>9	2135	2324	N22	W33	.626	16051	6.4	111	1N				210	2.7	U	
			2236+8															
HOLL	08	2133	2135	2213	N20	W33	.614	16051	6.4	40	-N	3	C		41			
CULG	08	2210	2244	2329U	N22	W33	.628	16051	6.4	79D	1N		C	2244	240	3.1		
HOLL	08	2220	2236	2318	N24	W33	.641	16051	6.5	58	-B	3	C		175		U	
249 CULG	08	2258	2301	2319	S18	W13	.378	16052	8.0	21	-F		C	2301	40	.4		ZX
250 CULG	08	2308	2327	2347	N19	W69	.941	16046	3.8	39	-F		C	2327	70			ZX
251 CULG	08	2324	2326	2330	S18	E42	.708	16065	12.1	6	-F		C	2326	10	.1		ZX
GRP75252	08	2344	0006+7	0123	N23	W32	.624	16051	6.6	99	1N						ELU	
			2451															
BIGB	09	0000E	0006	0058	N21	W30	.586	16051	6.8	58D	-N	2	P	0006	140	1.7		
MITK	09	0037E		0123D	N21	W29	.575	16051	6.9	46D	1N	*	P	0037	230	2.9	E	
BIGB	09	0042	0051	0101	N28	W36	.697	16051	6.3	19	-F	*	C	0051	60	.8		
CULG	08	2344	2413U	0202D	N23	W32	.624	16051	6.6	138D	1N		C	2413	360	4.5	LU	
GRF75253	09	0018+4	0031	0202D	N18	W67	.928	16046	4.0	104	-N							
			0044															
CULG	09	0018	0044	0202D	N19	W69	.940	16046	3.8	104D	-N		C	0044	70			
BIGB	09	0022	0031	0101E	N18	W66	.922	16046	4.1	39D	-N	2	P	0031	50			
254 CULG	09	0029	0031	0042	S26	W25	.583	16052	7.1	13	-F		C	0031	90	1.2		ZX
255 CULG	09	0121	0126	0200	N04	W08	.153	16057	8.5	39	-F		C	0126	40	.4		ZX

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256 CULG	09	0126	0129	02020	N25	E43	.747	0	12.3	36D	-N		P	0129	50	.7	L	ZX
257 CULG	09	0145	0147	0158	S18	E50	.793	16065	12.8	13	-F		C	0147	30	.5		ZX
	09	0151	0157	NO FLARE PATROL														
258 CULG	09	0157E	0159	0202D	S16	E14	.364	16069	10.1	5D	-F		P	0159	20	.3		ZX
259 PALE	09	0211E	0224U	02290	N15	E39	.659	16067	12.0	18D	-N	3	C		32			ZX
	09	0213	0219	NO FLARE PATROL														
260 MITK	09	0252	0254	0310	S21	W16	.445	16052	7.9	18	-F		C	0254			E	ZX
261 CULG	09	0335E	0338	0400	S20	E50	.798	16065	12.9	25D	-N		C	0338	40	.7		ZX
262 CULG	09	0342	0343	0350	S21	W17	.454	16052	7.9	8	-F		C	0343	120	1.4	LT	ZX
263 CULG	09	0408	0410	0414	S18	W14	.389	16052	8.1	6	-F		C	0410	20	.2	LT	ZX
264 CULG	09	0418	0421	0429	S22	W17	.466	16052	7.9	11	-N		C	0421	120	1.4	LT	ZX
265 CULG	09	0425	0427	0433	S29	E51	.836	0	13.0	8	-F		C	0427	50	.8		ZX
266 CULG	09	0429	0433	0444	S26	W31	.640	16052	6.9	15	-N	*	C	0433	70	.9		ZX
267 CULG	09	0458E	0507	0523	S29	W30	.656	0	7.0	25D	-N		C	0507	20	.3	K	ZX
GRP75268	09	0511+1	0513	0527	N17	E23	.472	16058	10.9	16	-N						D	
CULG	09	0511	0513	0535	N16	E23	.463	16058	10.9	24	-N	*	C	0513	20	.2		
ISTA	09	0512		0519	N18	E23	.481	16058	10.9	7	-N	*	V				D	
269 ISTA	09	0512		0519	N17	W45	.735	16051	5.8	7	-N		V				D	ZX
270 CULG	09	0517	0527	0541	N18	W71	.950	16046	3.9	24	?F		C	0527	80		F	ZX
	IMF.1	NO : TACH		ABST														
GRP75271	09	0519+2	0523+1	0543	N18	E39	.672	16067	12.1	24	-N						JK	
CULG	09	0519	0523	0545D	N19	E37	.654	16067	12.0	26D	-N		P	0523	60	.8	K	
ABST	09	0521	0524	0540	N16	E43	.710	16067	12.4	19	-N		C	0524	87	1.3	DJ	
ABST	09	0521	0524	0540	N19	E38	.665	16067	12.1	19	-F		C	0524	87	1.2	D	
272 ISTA	09	0525		0537	S17	E49	.780	16065	12.9	12	-N		V				E	ZX
273 ISTA	09	0621		0631	N19	W43	.721	16051	6.0	10	-B		V				D	ZX
GRP75274	09	0720+0	0721+1	0726	N20	W45	.746	16051	5.9	6	-N				100	1.5	EV	
ABST	09	0720	0721	0724	N21	W45	.750	16051	5.9	4	-N		C	0721	131	1.9	EV	
MONT	09	0720	0722	0726	N18	W45	.739	16051	5.9	6	-N		C	0722	100		E	
ATHN	09	0722E	0722	0726	N20	W43	.725	16051	6.1	4D	-N	1		0722	21	.2		
275 ABST	09	0755	0756	0820	N24	W45	.762	16051	6.0	25	-N		C	0756	87	1.4	DV	ZX
275 CATA	09	0800E	0800	0805	N23	W44	.748	16051	6.0	5D	-N	2	P	0800	56	.8		ZX
GRP75276	09	0756	0757	0830	N24	W36	.671	16051	6.6	34	1N						EV	
276 ABST	09	0756	0757	0820	N25	W36	.678	16051	6.6	24	1N		C	0757	174	2.4	EV	ZX
276 CATA	09	0800E	0805	0840	N24	W36	.671	16051	6.6	40D	-B	2	P	0805	112	1.5		ZX
277 WEND	09	0802		0816	N15	E41	.683	16067	12.4	14	-N		C				E	ZX
278 ABST	09	0825	0832	0840	S25	W30	.622	16052	7.1	15	-F		C	0832	87	1.2	D	ZX
279 ZURI	09	0848	0848	0900	S26	W29	.621	16052	7.2	12	-F		C	0848	80	1.1		ZX
280 ABST	09	0848	0850	0855	N16	E42	.698	16067	12.5	7	-F		C	0850	87	1.3	DJ	ZX
281 ABST	09	0906	0911	0925	N21	E85	.997	16070	15.8	19	?N		C	0911	87		ADJ	ZX
	IMF.1	NO : WEND		ZURI														
282 ZURI	09	1006	1008	10160	S21	W21	.493	16052	7.8	10D	-F		P	1008	60	.7		ZX
283 ZURI	09	1010	1010	10160	N20	W45	.746	16051	6.0	6D	-F		P	1010	60	.9		ZX
	09	1145	1206	NO FLARE PATROL														
284 LVOV	09	1206	1210	1232	S19	W21	.473	16052	7.9	26	1N		C	1210	200	2.3	J	ZX
285 KANZ	09	1233	1237	1247	S25	W33	.652	16052	7.0	14	-N	1						ZX

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GRP75286	09	1327	1348	1412	N18	W49	.780	16051	5.9	45	-N						FJ	
			1358															
KANZ	09	1327	1348	1412D	N17	W48	.767	16051	6.0	45D	-N	1					F	
HOLL	09	1336E	1336U	1411	N18	W49	.780	16051	5.9	35D	-B	3	C		43		F	
LVOV	09	1348	1358	1434	N20	W52	.814	16051	5.7	46	-N		C	1358	100	1.9	DJ	
GRP75287	09	1555+1	1558+3	1620	N18	W50	.790	16051	5.9	25	-B				70	1.1	E	
MCMA	09	1555E	1601	1613	N18	W51	.800	16051	5.8	18D	-N		C	1601	80	1.3	E	
HOLL	09	1556	1559	1620	N19	W44	.732	16051	6.4	24	-B	3	C		68			
BIGB	09	1556	1558	1624	N17	W50	.788	16051	5.9	28	-B	3	C	1558	60	1.0		
288 BIGB	09	1624	1625	1632	N22	W49	.792	16051	6.0	8	-B	3	C	1625	10	.2	D	ZX
289 HOLL	09	1704	1706	1711	S21	W24	.525	16052	7.9	7	-N	3	C		62			ZX
GRP75290	09	1832+1	1835+0	1848	N17	W52	.807	16051	5.9	16	-B				70	1.2	E	
BIGB	09	1832	1835	1854	N17	W53	.817	16051	5.8	22	-B	3	C	1835	100	1.0		
MCMA	09	1833	1835	1841	N18	W51	.800	16051	5.9	8	-B		C	1835	50	.8	E	
291 BIGB	09	1855	1857	1904	S25	W38	.702	16052	6.9	9	-N	2	C	1857	50	.5		ZX
GRP75292	09	2038+0	2040+2	2052	N23	W45	.758	16051	6.5	14	-N				35	.5	F	
BIGB	09	2038	2042	2055	N23	W45	.758	16051	6.5	17	-N	1	P	2042	30	.4		
HOLL	09	2038	2040	2048	N24	W45	.762	16051	6.5	10	-N	3	C		39		F	
GRP75293	09	2040	2041	2043D	N15	E27	.507	16067	11.9	3	-F				30	.3	E	
HUAN	09	2040	2041	2043	N14	E26	.487	16067	11.8	3	-F	1	C	2041	30	.3	E	
BIGB	09	2042E	2042	2050	N15	E26	.494	16067	11.8	8D	-N	2	P	2042	30	.3		
BIGB	09	2049	2059	2123	N19	E29	.560	16067	12.0	34	-F	2	C	2059	50	.6		
GRP75294	09	2206+4	2219+0	2323	N24	W43	.742	16051	6.7	77	-N						F	
			2241+3															
CULG	09	2206	2241	0001	N25	W45	.766	16051	6.5	115	1N		C	2241	260	3.7		
BIGB	09	2209	2219	2318	N24	W40	.712	16051	6.9	69	-B	3	P	2219	140	1.9		
HOLL	09	2210	2219	2309	N24	W42	.732	16051	6.8	59	-N	3	C		137		F	
BIGB	09	2217	2242	2337	N26	W48	.797	16051	6.3	80	-N	3	P	2242	90	1.4		
PALE	09	2219	2219	2234	N24	W43	.742	16051	6.7	15	-N	3	C		72		F	
PALE	09	2243	2244	2253	N24	W43	.742	16051	6.7	10	-N	3	C		39		F	
GRP75295	09	2235+4	2239+2	2303	N19	E27	.536	16067	12.0	28	1B				190	2.2		
PALE	09	2235	2239	2302	N19	E27	.536	16067	12.0	27	1B	3	C		210		FDE	
BIGB	09	2235	2240	2307	N19	E26	.525	16067	11.9	32	-B	3	P	2240	160	1.8		
CULG	09	2235	2241	2304	N18	E28	.541	16067	12.0	29	1B		C	2241	230	2.8		
HOLL	09	2237	2239	2304	N19	E27	.536	16067	12.0	27	1B	3	C		198		FDE	
MANI	09	2239E	2239	2248	N18	E27	.529	16067	12.0	9D	-B	3	V		100		F	
MANI	09	2239	2239	2248	N18	E27	.529	16067	12.0	9	-N	3	P		100	1.2	F	
296 CULG	09	2257	2314	0000	N25	E73	.964	16070	15.4	63	-F		C	2314	40			ZX
GRP75297	09	2329+3	2332+1	2346	N16	E31	.565	16067	12.3	17	-N				40	.5	F	
CULG	09	2329	2333	2340	N16	E33	.590	16067	12.5	11	-N		C	2333	40	.5		
PALE	09	2331	2332	2346	N19	E27	.536	16067	12.0	15	-B	3	C		54		F	
BIGB	09	2331	2332	2345	N17	E31	.571	16067	12.3	14	-N	3	P	2332	20	.2		
HOLL	09	2332	2332	2349	N16	E31	.565	16067	12.3	17	-B	3	C		38		F	
298 CULG	09	2341	2349	0002	S21	W31	.602	16052	7.7	21	-F		C	2349	60	.8		ZX
299 CULG	09	2356	2359	0005	N22	E29	.583	16067	12.2	9	-N		C	2359	40	.5		ZX
300 CULG	09	2358	2402	0012	S20	E34	.629	16065	12.5	14	-F		C	2402	10	.1		ZX
301 CULG	10	0059	0108	0121	S17	E42	.706	16065	13.2	22	-N		C	0108	20	.3		ZX
302 CULG	10	0332	0404	0509	N23	W46	.767	16051	6.7	97	1F		C	0404	230	3.7	L	ZX
GRP75303	10	0456+4	0500+3	0525	N03	W22	.377	16057	8.6	29	-N				90	1.0	E	
CULG	10	0456	0500	0528	N04	W22	.379	16057	8.6	32	-N		C	0500	90	1.0		
ABST	10	0500	0503	0521	N02	W23	.392	16057	8.5	21	-N		C	0503	87	1.0	E	
304 CULG	10	0514	0544	0609	N25	W90	1.000	16046	3.5	55	-F		C	0544	30			ZX
GRF75305	10	0523+5	0532+1	0543	N10	W39	.642	16056	7.3	20	-F						DJ	
CULG	10	0523	0533	0548	N10	W39	.642	16056	7.3	25	-F		C	0533	20	.3		
ABST	10	0528	0532	0538	N10	W39	.642	16056	7.3	10	-F		C	0532	87	1.2	DJ	
306 ABST	10	0607	0609	0614	N14	E29	.526	16067	12.4	7	-N		C	0609	96	1.1	DJ	ZX

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
GRF75307	10	0640+5	0643+2	0659	N23	W57	.864	16051	6.0	19	1N				220	4.4	DJSV	
ISTA	10	0640	0643	0655	N20	W58	.866	16051	5.9	15	2B		V				SV	
WEND	10	0641		0657	N23	W55	.848	16051	6.2	16	-N		C	0644	50	1.0	C	
ABST	10	0641	0644	0700	N23	W60	.886	16051	5.8	19	2N		C	0644	262	5.3	DJ	
CATA	10	0645	0645	0700	N25	W57	.868	16051	6.0	15	1B	2	C	0645	224	4.6		
308 ABST	10	0704	0709	0731	N05	W25	.429	16057	8.4	27	-F		C	0709	157	1.8	E	ZX
309 ABST	10	0717	0719	0733	N06	W40	.647	16056	7.3	16	-F		C	0719	96	1.3	DJ	ZX
GRP75310	10	0759+6	0805	0820	N07	W38	.622	16056	7.5	21	-N				80	1.0	E	
WEND	10	0759		0820	N07	W38	.622	16056	7.5	21	-N		C	0804	45	5.0	CE	
ISTA	10	0801		0810	N06	W37	.607	16056	7.6	9	-N		V				E	
CATA	10	0805	0805	0820	N09	W39	.640	16056	7.4	15	-N	2	C	0805	112	1.5		
GRP75311	10	0801+5	0804+2 0849>9	1023	N22	W46	.763	16051	6.9	142	3B						FHIJKL	
ABST	10	0801	0806	0815	N16	W39	.663	16051	7.4	14	-F		C	0806	87	1.2	DJ	
WEND	10	0804		0908D	N26	W47	.788	16051	6.8	64D	2B		C	0902	690	12.0	CFI	
KANZ	10	0804	0804	0818	N16	W40	.674	16051	7.3	14	-B	2					E	
ABST	10	0806	0855	1020	N25	W50	.811	16051	6.6	134	3N		C	0855	1048	18.2	FJL	
ISTA	10	0806		0950	N21	W45	.749	16051	7.0	104	3B		V				FKLV	
KANZ	10	0808	0902	1030	N24	W47	.780	16051	6.8	142	3B	3						
CATA	10	0810	0849	1020	N27	W45	.774	16051	7.0	130	3B	2	C	0849	1292	21.0	FHK	
MANI	10	0825E	0825U	0900D	N20	W48	.776	16051	6.8	35D	-N	2	V		110		F	
MANI	10	0825E	0825U	0900D	N20	W48	.776	16051	6.8	35D	-F	2	P		110	1.2	F	
KHAR	10	0900E	0900	1127D	N25	W51	.819	16051	6.6	147D	3N		P	0906	1300	143.0	BCEHOZ	
GRF75312	10	0855>9	0858 0955+7	1021	N24	E69	.944	16070	15.5	86	-N						DJ	
ABST	10	0855	0858	1021	N24	E70	.949	16070	15.6	86	1N	*	C	0858	87		DJ	
KANZ	10	0954	1002	1020	N24	E68	.939	16070	15.5	26	-F	*						
KHAR	10	0954E	0955	1025D	N24	E69	.944	16070	15.6	31D	-F	*	P	0954	100		D	
313 KHAR	10	0948F	0950	1015D	N16	E26	.500	16067	12.4	27D	-F		P	0953	90	1.1	DH	ZX
314 KHAR	10	1013E	1013	1017D	S20	E28	.562	16065	12.5	4D	-F		P				D	ZX
	10	1154	1241	NO FLARE PATROL														
315 MCMA	10	1413		1417	N20	W60	.881	16051	6.1	4	-N		C	1413	30	.6	D	ZX
GRP75316	10	1451+4	1455+5	1512	N06	W13	.244	16058	9.6	21	-N				160	1.6	EGU	
BIGB	10	1451	1455	1534	N05	W12	.222	16058	9.7	43	-N	2	C	1455	160	1.7	G	
MCMA	10	1452		1509D	N05	W13	.238	16058	9.6	17D	-N		C	1457	140	1.4	E	
HUAN	10	1452		1504	N05	W14	.254	16058	9.6	12	-F	1	C				E	
HOLL	10	1453	1458	1524	N07	W13	.251	16058	9.6	31	-B	3	C		129		U F	
LVOV	10	1455	1500	1504	N07	W14	.266	16058	9.6	9	1N		C	1500	200	2.2	E	
317 HOLL	10	1455	1500	1515	N03	W26	.440	16057	8.7	20	-N	3	C		26		F	ZX
318 HOLL	10	1504	1504	1520	S12	W33	.574	16052	8.2	16	-N	3	C		27		F	ZX
GRF75319	10	1504+2	1505	1511	N20	W60	.881	16051	6.1	7	-B				45	1.0	D	
BIGB	10	1504	1505	1511	N20	W60	.881	16051	6.1	7	-B	2	C	1505	50	1.0		
MCMA	10	1506		1509D	N20	W60	.881	16051	6.1	3D	-F		P	1506	35	.7	D	
GRP75320	10	1505+8	1506 1514	1522	S25	W45	.770	16052	7.3	17	-N				20	.3	D	
BIGB	10	1505	1506	1534	S27	W46	.788	16052	7.2	29	-B	*	C	1506	20	.3	D	
MCMA	10	1506		1509D	S17	W47	.760	16052	7.1	3D	-N	*	P	1509	30	.5	D	
HUAN	10	1506		1520	S27	W45	.779	16052	7.3	14	-F	*	C				D	
HOLL	10	1513	1514	1522	S23	W37	.681	16052	7.9	9	-N	*	C		20		F	
321 HOLL	10	1609	1611	1628	N18	E25	.503	16067	12.5	19	-N	3	C		26		F	ZX
322 HUAN	10	1634		1645D	N18	W90	1.000	16046	3.9	11D	-F	1	P					ZX
GRP75323	10	1730+3	1732+2	1747	S24	W50	.811	16052	7.0	17	-N						F	
BIGB	10	1730	1732	1752	S25	W51	.823	16052	6.9	22	-B	2	C	1732	80	1.3		
HOLL	10	1733	1734	1742	S23	W50	.808	16052	7.0	9	-N	3	C		22		F	
GRF75324	10	1733+3	1739 1810	1821	N24	E65	.921	16070	15.6	48	-N						G	
HOLL	10	1733	1810	1816	N27	E71	.956	16070	16.1	43	-N	3	C				F	
BIGB	10	1736	1739	1830	N24	E65	.921	16070	15.6	54	-N	2	C	1739	50		G	
MCMA	10	1759E		1821D	N23	E65	.920	16070	15.6	22D	-F		P	1805	25	.6	D	

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GRP75325	10	1759+1	1803+3	1842	S17	E29	.551	16065	12.9	43	-B				150	1.8	UZ	
MCMA	10	1759E		1821D	S19	E30	.577	16065	13.0	22D	-B		P	1805	125	1.6	E	
BIGB	10	1800	1806	1838	S18	E29	.558	16065	12.9	38	1B	2	C	1806	190	2.2		
HOLL	10	1800	1803	1846	S16	E30	.557	16065	13.0	46	-B	3	C		171		Z U	
PALE	10	1801E	1805U	1819D	S17	E27	.527	16065	12.8	18D	-N	2	C		130		FDE	
326 BIGB	10	1859E	1900	1927	N20	W63	.903	16051	6.1	28D	-N	2	P	1900	30			ZX
327 BIGB	10	2111	2113	2126	N20	W63	.903	16051	6.2	15	-N	2	C	2113	40	.4		ZX
328 BIGB	10	2158	2159	2205	S36	W54	.882	0	6.9	7	-F	2	C	2159	30	.5		ZX
329 PALE	10	2201E	2202U	2214D	N18	E18	.422	16067	12.3	13D	-N	2	C		47		FDE	ZX
330 BIGB	10	2218	2219	2235	N20	W13	.397	16058	10.0	17	-N	2	C	2219	40	.4		ZX
GRP75331	10	2239+0	2240+0	2249	N19	W59	.872	16051	6.5	10	-N				50	1.0		
BIGB	10	2239	2240	2249	N19	W60	.880	16051	6.4	10	-N	2	C	2240	70	1.4		
MANI	10	2239E	2240	2248D	N19	W58	.864	16051	6.6	9D	-B	3	V		40			
MANI	10	2239E	2240	2248D	N19	W58	.864	16051	6.6	9D	-N	3	P		40	.7		
332 CULG	10	2256	2301	2319	N18	W20	.444	16058	9.5	23	-F		C	2301	40	.4		ZX
333 CULG	10	2320	2326	2341	N02	W31	.516	16057	8.6	21	-F		C	2326	30	.3		ZX
GRP75334	10	2358>9	0006+3	0013	N19	W61	.888	16051	6.4	15	-N				90	2.0		
BIGB	11	0002	0006	0013	N19	W60	.880	16051	6.5	11	1F	2	C	0006	130	2.7		
PALE	11	0008	0009	0011	N18	W61	.886	16051	6.4	3	-N	2	C		20			
CULG	10	2358	2406	0021	N20	W61	.889	16051	6.4	23	-N		C	2406	90	1.9		
335 CULG	11	0033	0037	0046	S16	W50	.788	16052	7.3	13	-F		C	0037	20	.3		ZX
GRP75336	11	0055+3	0101+3 0111	0135	N19	W61	.887	16051	6.5	40	-N				30	.7		
CULG	11	0055	0104	0140	N18	W60	.878	16051	6.5	45	-N		C	0104	40	.8	T	
BIGB	11	0058	0101	0108	N19	W60	.880	16051	6.5	10	-N	2	C	0101	20	.4		
BIGB	11	0110	0111	0129	N20	W63	.903	16051	6.3	19	-N	2	C	0111	20	.5		
337 CULG	11	0100	0115	0151	S25	W51	.824	16052	7.2	51	-F		C	0115	40	.8	T	ZX
338 CULG	11	0117	0119	0123	N20	E12	.387	16067	12.0	6	-F		C	0119	30	.3		ZX
339 CULG	11	0136	0140	0153	S16	W13	.357	16069	10.1	17	-F		C	0140	30	.3	G	ZX
340 CULG	11	0146	0150	0213	N19	W60	.880	16051	6.6	27	-N		C	0150	60	1.3	KT	ZX
341 CULG	11	0146	0152	0231	N18	E27	.527	16067	13.1	45	-N	*	C	0152	130	1.5	SH	ZX
342 CULG	11	0214	0226	0232	S21	W59	.879	16052	6.7	18	-N		C	0226	30	.6	T	ZX
343 CULG	11	0230	0238	0252	N23	E60	.886	16070	15.6	22	-N		C	0238	30	.7		ZX
344 CULG	11	0314	0316	0349	N19	W61	.887	16051	6.6	35	-N		C	0316	50	1.1	T	ZX
345 CULG	11	0314	0323	0333	N11	W32	.552	16057	8.7	19	-F		C	0323	10	.1		ZX
346 CULG	11	0319	0323	0335	N16	E16	.376	16067	12.3	16	-F		C	0323	40	.4	T	ZX
347 CULG	11	0340	0346	0354	N20	E15	.413	16067	12.3	14	-F		C	0346	30	.3		ZX
348 CULG	11	0407	0417	0512	S26	W54	.852	16052	7.1	65	-F		C	0417	40	.8	T	ZX
349 CULG	11	0422	0427	0504	S21	E21	.496	16065	12.8	42	-N		C	0427	50	.6		ZX
350 CULG	11	0442	0454	0532	N21	W59	.875	16051	6.8	50	-F		C	0454	60	1.3	KFT	ZX
GRP75351	11	0443	0452 0501	0532	N17	E15	.377	16067	12.3	49	-N						FJK	
CULG	11	0443	0452	0527	N17	E16	.387	16067	12.4	44	-N		C	0452	80	.9	KFT	
ABST	11	0454E	0501	0530	N16	E17	.388	16067	12.5	36D	-F		P	0501	87	1.0	FJ	
ABST	11	0454E	0501	0537	N15	E14	.342	16067	12.3	43D	-F		P	0501	87	1.0	DJ	
ABST	11	0508	0510	0516	N19	E14	.391	16067	12.3	8	-F		C	0510	87	1.0	D	
352 KANZ	11	0756	0756	0803	S20	E28	.563	16065	13.4	7	-N	3					D	ZX

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GRP75353	11	0852+1	0854+3	0910	S17	E20	.444	16065	12.9	18	-F				70	.8	EJV	
MONT	11	0852	0854	0904	S18	E21	.466	16065	12.9	12	-F		C	0854	50		E	
KANZ	11	0852	0856	0913	S17	E20	.444	16065	12.9	21	-F	1						
ABST	11	0853	0854	0905	S18	E22	.477	16065	13.0	12	-N		C	0854	87	1.0	DJV	
ABST	11	0856	0857	0910	S16	E18	.411	16065	12.7	14	-N		C	0857	87	1.0	DV	
GRP75354	11	1013+7	1020+0	1034	N20	E11	.379	16067	12.3	21	1N				210	2.3	E	
MONT	11	1013	1020	1032	N20	E11	.379	16067	12.3	19	1N		C	1020	250			
KHAR	11	1016E		1024D	N20	E12	.387	16067	12.3	8D	1F		P	1017	220	2.4	E	
KANZ	11	1016	1020	1035	N20	E11	.379	16067	12.3	19	-N	1						
CATA	11	1020	1020	1025D	N20	E12	.387	16067	12.3	5D	-N	2	P	1020	168	1.8		
GRP75355	11	1054+0	1100+2	1111	N20	E13	.395	16067	12.4	17	-N						E	
KANZ	11	1054	1102	1117	N20	E11	.379	16067	12.3	23	-N	2						
MONT	11	1054	1100	1105	N20	E16	.423	16067	12.7	11	-N		C	1100	80		E	
GRP75356	11	1054+5	1102+0	1109	N21	W74	.965	16051	5.9	15	-N							
KANZ	11	1054	1102	1109	N20	W71	.951	16051	6.1	15	-N	*						
MONT	11	1059	1102	1108	N23	W78	.981	16051	5.6	9	-N	*	C	1102	110			
GRP75357	11	1223+2	1225+4	1243	N20	W75	.969	16051	5.9	20	1B							
KANZ	11	1223	1229	1252	N20	W75	.969	16051	5.9	29	1B	1						
ZURI	11	1225	1225	1233	N20	W76	.973	16051	5.8	8	1B		C	1225	100			
358 ZURI	11	1229	1235	1243	S25	W52	.832	16052	7.6	14	-F		C	1235	50	.9		ZX
359 MCMA	11	1355	1402	1420D	S25	W53	.841	16052	7.6	25D	-N		C	1402	60	1.2	E	ZX
360 MCMA	11	1356	1400	1409	N21	E10	.386	16067	12.3	13	-N		C	1400	80	.9	E	ZX
361 MCMA	11	1428	1442	1450	N23	E51	.813	16070	15.4	22	-N		C	1442	40	.7	E	ZX
GRP75362	11	1541>9	1555+0	1604	N23	E52	.821	16070	15.6	23	-N				40	.7	G	
HOLL	11	1541	1555	1604	N25	E52	.827	16070	15.6	23	-B	3	C		54		F	
BIGB	11	1553	1555	1615	N23	E52	.821	16070	15.6	22	-N	2	C	1555	40	.7	G	
MCMA	11	1555E	1555	1601	N23	E51	.813	16070	15.5	6D	-N		C	1555	40	.7	E	
GRP75363	11	1745+0	1746+1	1818	S25	W55	.857	16052	7.6	33	-N				60	1.2	E	
BIGB	11	1745	1747	1818	S26	W55	.859	16052	7.6	33	-N	3	C	1747	50	.5		
MCMA	11	1745E	1746	1805D	S25	W55	.857	16052	7.6	20D	-N		C	1746	80	1.6	E	
GRP75364	11	1747+1	1752+1	1809	N22	W81	.989	16051	5.7	22	1B						A	
BIGB	11	1747	1753	1809	N21	W78	.980	16051	5.9	22	1B	3	C	1753	200		A	
MCMA	11	1748	1752	1805D	N23	W85	.996	16051	5.4	17D	1B		C	1752			A	
365 BIGB	11	1850	1851	1859	N18	E08	.328	16067	12.4	9	-B	3	C	1851	20	.2		ZX
GRP75366	11	1905+4	1915	1932	N23	E51	.813	16070	15.6	27	-N				45	.8	EG	
MCMA	11	1905E		1917D	N23	E51	.813	16070	15.6	12D	-N		C	1917	50	.9	E	
BIGB	11	1909	1915	1932	N23	E52	.821	16070	15.7	23	-N	3	C	1915	40	.7	G	
367 BIGB	11	1913	1916	1940	S23	W53	.835	16052	7.8	27	-N	3	C	1918	30	.5		ZX
368 VORO	11	2116E	2115	2125D	N20	W75	.969	16051	6.3	9D	-F		P	2116	108		E	ZX
369 BIGB	11	2219	2220	2225	S19	E12	.388	16065	12.8	6	-F	3	C	2220	30	.3		ZX
GRP75370	11	2259	2300	2323	S24	W60	.891	16052	7.5	24	-F							
			2311															
CULG	11	2259	2300	2325	S25	W60	.893	16052	7.5	26	-F		P	2300	60	1.4		
VORO	11	2308E	2311	2321	S24	W60	.891	16052	7.5	13D	1F		C	2311	179	4.1		
371 CULG	11	2327	2332	2350	S24	W70	.951	16052	6.7	23	-N		C	2332	70			ZX
372 BIGB	11	2334	2338	2349	N26	E90	1.000	16091	18.7	15	-N	3	C	2338	40			ZX
GRP75373	11	2336+1	2337+1	2345	N20	W80	.986	16051	6.0	9	-N						D	
CULG	11	2336	2337	2346	N21	W80	.986	16051	6.0	10	-N		C	2337	40			
VORO	11	2336	2338	2345	N20	W80	.986	16051	6.0	9	-N		C	2338	90		D	
BIGB	11	2337	2338	2340	N20	W80	.986	16051	6.0	3	-N	3	C	2338	20			
GRP75374	12	0012+2	0015+0	0019	N20	W80	.986	16051	6.0	7	-N				70		DH	
CULG	12	0012	0015	0025	N20	W80	.986	16051	6.0	13	-N		C	0015	50			
VORO	12	0013	0015	0019	N20	W80	.986	16051	6.0	6	-F		C	0015	108		DH	
BIGB	12	0014	0015	0017	N20	W78	.980	16051	6.2	3	-N	2	C	0015	50			
375 VORO	12	0140	0142	0150	S24	W60	.892	16052	7.6	10	?F		C	0142	116	2.7		ZX
	IMP.1	NO : CULG	PALE															

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
376 CULG	12	0156	0202	0212	S25	W61	.901	16052	7.5	16	1N		C	0202	120	2.9	UY	ZX
GRP75377	12	0247	0249+1	0300	N20	W86	.998	16051	5.7	13	1F						H	
VORO	12	0247	0250	0300D	N21	W88	.999	16051	5.5	13D	1F		C	0250	179		H	
MANI	12	0249E	0249U	0300	N20	W85	.996	16051	5.7	11D	1B	3	C					
MANI	12	0249E	0249	0300	N20	W85	.996	16051	5.7	11D	1N	3	P					
	12	0305	0315	NO FLARE PATROL														
378 CULG	12	0548	0549	0555	N14	E03	.237	16067	12.5	7	-N		C	0549	50	.5		ZX
379 ABST	12	0625	0628	0632	N15	E01	.249	16067	12.3	7	-F		C	0628	87	.9	DJ	ZX
GRP75380	12	0647+1	0652	0652D	S25	W65	.926	16052	7.4	5	-N						H	
ISTA	12	0647		0652	S24	W66	.930	16052	7.3	5	-N		V				D	
KANZ	12	0648	0652	0726	S26	W65	.927	16052	7.4	38	-N	1					FH	
381 KANZ	12	0652	0700	0715	N29	E90	1.000	16091	19.0	23	-N	2						ZX
382 CATA	12	0830	0830	0845	S20	W61	.892	16052	7.8	15	-N	2	C	0830	28	.6		ZX
383 KHAR	12	1038E		1055D	S25	W65	.926	16052	7.6	17D	-F		P	1038	80		D	ZX
384 KHAR	12	1120	1122	1137D	S25	W65	.926	16052	7.6	17D	-F		V	1122			EH	ZX
	12	1204	1205	NO FLARE PATROL														
385 HUAN	12	1258		1306	N27	E90	1.000	16091	19.3	8	-F	1	C	1302	20		D	ZX
386 HUAN	12	1301	1304	1306	S23	E90	1.000	0	19.3	5	-N	1	C	1304	30			ZX
387 HUAN	12	1322		1329	N25	E90	1.000	16091	19.3	7	-F	1	C	1322	15		D	ZX
388 HUAN	12	1354		1413	N25	E90	1.000	16091	19.3	19	-F	1	C	1403	20		D	ZX
389 HUAN	12	1421	1423	1428	N25	E90	1.000	16091	19.3	7	-F	1	C	1423	20		D	ZX
390 HUAN	12	1438		1450	N25	E90	1.000	16091	19.4	12	-F	1	C	1444	20		D	ZX
GRP75391	12	1445+4	1500	1521	S18	E05	.330	16065	13.0	36	-F				70	.7	E	
MCMA	12	1445E		1516D	S18	E05	.330	16065	13.0	31D	-F		C	1501	80	.9	E	
KANZ	12	1447		1500D	S18	E05	.330	16065	13.0	13D	-F	1						
BIGB	12	1449	1500	1521	S17	E05	.314	16065	13.0	32	-F	2	C	1500	60	.6		
392 MCMA	12	1452E		1549D	S23	W66	.929	16052	7.7	57D	-F		C	1452	50	1.4	E	ZX
393 BIGB	12	1504	1507	1517	S25	E68	.942	0	17.7	13	-B	2	C	1507	10			ZX
394 HUAN	12	1517	1524	1532	N25	E90	1.000	16091	19.4	15	-F	1	C	1524	15		D	ZX
395 HUAN	12	1541		1552	N25	E90	1.000	16091	19.4	11	-F	1	C	1545	20		D	ZX
GRP75396	12	1545+2	1548+0	1610	N13	W07	.245	16067	12.1	25	-F				50	.5	E	
MCMA	12	1545	1548	1610	N14	W07	.260	16067	12.1	25	-N		C	1548	40	.4	E	
BIGB	12	1547	1548	1548D	N13	W07	.245	16067	12.1	10	-F	2	P	1548	70	.7		
397 HUAN	12	1608	1609	1615	N18	W90	1.000	16051	5.9	7	-F	1	C	1609	20		D	ZX
GRP75398	12	1649+3	1652+2	1658	N20	W90	1.000	16051	6.0	9	-F				25		D	
HUAN	12	1649	1652	1657	N20	W90	1.000	16051	6.0	8	-F	1	C	1652	20		D	
BIGB	12	1652	1654	1658	N20	W90	1.000	16051	6.0	6	-N	2	C	1654	30			
GRP75399	12	2049+3	2055+0	2105	N19	W89	1.000	16051	6.2	16	-N							
BIGB	12	2049	2053	2105	N19	W90	1.000	16051	6.1	16	-N	3	C	2055	40			
HOLL	12	2052	2055	2104	N20	W89	1.000	16051	6.2	12	-N	3	C					
GRP75400	12	2112+1	2113+0	2118D	N16	W06	.283	16067	12.4	6	-N				45	.5	F	
BIGB	12	2112	2113	2118	N16	W06	.283	16067	12.4	6	-N	3	C	2113	40	.4		
HOLL	12	2113	2113	2212	N17	W07	.305	16067	12.4	59	-B	3	C		53		F	
401 BIGB	12	2129	2133	2156	S16	W50	.789	16052	9.1	28	-N	3	P	2133	30	.5		ZX
GRP75402	12	2231+6	2234+4	2244	S14	00	.253	16065	12.9	13	-F				30	.3		
HOLL	12	2231	2234	2240	S17	E00	.303	16065	12.9	9	-N	3	C		29			
BIGB	12	2237	2239	2247	S11	W01	.202	16065	12.9	10	-F	3	C	2238	30	.3		

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403 HOLL	12	2347	2351	0014	S17	W01	.303	16065	12.9	27	-N	3	C		57			ZX
GRP75404	13	0004+1	0010+3	0044	S25	W73	.966	16052	7.5	40	-N				50		J	
SIGG	13	0004	0011	0053	S25	W73	.966	16052	7.5	49	-B	2	C	0011	50			
HOLL	13	0005	0010	0034	S22	W68	.940	16052	7.9	29	-B	3	C		35		F	
VORO	13	0008E	0013	0020D	S25	W75	.973	16052	7.4	120	1F		P	0013	179		EJ	
405 VORO	13	0145	0147	0153	S17	W02	.307	16065	12.9	8	-N		C	0147	90	.9	E	ZX
406 VORO	13	0151	0151	0156	N08	W58	.350	16057	8.7	5	1F		C	0151	134	2.6		ZX
407 VORO	13	0232	0233	0239	S17	W02	.307	16065	13.0	7	-F		C	0233	134	1.4	E	ZX
408 VORO	13	0241	0243	0253	N15	W25	.477	16058	11.2	12	1F		C	0243	269	3.1	EL	ZX
GRP75409	13	0352	0400+2	0423	N22	E68	.936	16073	18.3	31	1N				180		FH	
YUNN	13	0352	0402	0420	N21	E66	.923	16073	18.1	28	1B		C		129			
TACH	13	0355E	0400	0426	N24	E70	.948	16073	18.4	310	1N		C	0358	244		FH	
410 TACH	13	0430	0435	0446	N23	E31	.608	16070	15.5	16	1F		C	0440	244	3.2	F	ZX
411 CULG	13	0548E	0553U	0615D	N11	W80	.985	16056	7.2	270	?F		P	0553	100			ZX
	IMP.1	NO :	TACH	CATA	HTPR	ABST												
GRP75412	13	0602>9	0611>9	0629	N16	W12	.330	16067	12.4	27	-N				110	1.2	EJK	
ABST	13	0602	0613	0625	N17	W13	.353	16067	12.3	23	-N		P	0613	96	1.1	DJ	
CULG	13	0603	0611	0616D	N15	W12	.318	16067	12.4	130	-B		P	0611	110	1.1	F	
HTPR	13	0608	0612	0630	N16	W13	.341	16067	12.3	22	-F		C	0612	60	.6	E	
ABST	13	0608	0613	0615	N18	W09	.332	16067	12.6	7	-N		P	0613	87	.9	EJK	
CATA	13	0615	0615	0630	N16	W12	.330	16067	12.4	15	-F	2	C	0615	112	1.2		
ATHN	13	0616E	0618	0627	N14	W12	.305	16067	12.4	110	-N	1		0618	114	1.4		
PUPP	13	0620	0622	0624	N16	W12	.330	16067	12.4	4	-N							
GRP75413	13	0834+6	0840+2	0904	N23	E30	.597	16070	15.6	30	-N				70	.9	E	
KANZ	13	0834	0842	0902	N23	E30	.597	16070	15.6	28	-N	3						
ISTA	13	0836		0854	N23	E30	.597	16070	15.6	18	-N		V				D	
ATHN	13	0837	0840	0854	N22	E30	.589	16070	15.6	17	-B	1		0840	82	.9		
ATHN	13	0837	0840	0854	N22	E30	.589	16070	15.6	17	-B	3	C		80		DE	
CATA	13	0840	0840	0910	N24	E30	.605	16070	15.6	30	-B	2	C	0840	56	.7		
HTPR	13	0844E		0918	N23	E28	.575	16070	15.5	260	-N		C	0846	50	.6	E	
KHAR	13	0847E		0910D	N23	E31	.608	16070	15.7	230	-F		P	0900	80	1.0	BE	
GRP75414	13	0846+4	0850+3	0909	N12	W17	.346	16067	12.1	23	-F				45	.5	E	
HTPR	13	0846	0853	0905	N13	W17	.355	16067	12.1	19	-F		C	0853	30	.3	E	
KANZ	13	0846	0850	0913	N12	W18	.360	16067	12.0	27	-N	3						
KHAR	13	0847E		0920D	N12	W18	.360	16067	12.0	330	-F		P	0900	80	.8	BD	
ISTA	13	0847		0857	N11	W15	.310	16067	12.2	10	-F		V				E	
CATA	13	0850	0850	0910	N12	W17	.346	16067	12.1	20	-N	2	C	0850	56	.6		
415 KANZ	13	0902	0913	0921	N14	E75	.967	16076	19.0	19	-F	3						ZX
GRP75416	13	0914+3	0917	0940	S12	W07	.251	16065	12.9	26	-F						E	
HTPR	13	0914		0916D	S12	W08	.259	16065	12.8	2D	-F		C	0916	40	.4	E	
KANZ	13	0917	0917	0940	S12	W07	.251	16065	12.9	23	-F	3						
417 KHAR	13	0920E		0945D	N26	E63	.910	16073	18.1	25D	-F		P	0930			DT	ZX
418 KANZ	13	0932	0936	0948	S19	W12	.391	16065	12.5	16	-F	*						ZX
419 KHAR	13	0945	0945	0952D	N28	E67	.936	16091	18.4	7D	-F		V	0946			DT	ZX
420 KHAR	13	0950E	1008	1112D	N21	W90	1.000	16051	6.7	82D	?N		P	1008			EHK	ZX
	IMP.1	NO :	CATA	KANZ	HTPR													
421 KHAR	13	1017E		1030D	N16	E90	1.000	16092	20.2	13D	-F		V	1022			DLT	ZX
422 KHAR	13	1042E	1050	1133D	N16	E90	1.000	16092	20.2	51D	-F		P	1050			DLT	ZX
423 KHAR	13	1045E		1128D	N26	W34	.660	16064	10.9	43D	?F		P	1101	160	2.3	EL	ZX
	IMP.1	NO :	CATA															
424 KHAR	13	1111	1111	1142D	N24	E65	.920	16073	18.3	31D	?F		P	1117	100	2.2	DT	ZX
	IMP.1	NO :	CATA	KANZ														

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GRP75425	13	1112+5	1120+1	1132	N19	W15	.398	16067	12.3	20	-N						EL	
KHAR	13	1112		1132D	N18	W15	.386	16067	12.3	20D	1F		P	1117	200	2.1	EL	
CATA	13	1115	1120	1130	N20	W15	.410	16067	12.3	15	-N	2	C	1120	67	.7		
KANZ	13	1117	1121	1133	N19	W16	.408	16067	12.3	16	-N	1					E	
	13	1208	1209	NO FLARE PATROL														
426 HOLL	13	1357	1358	1409	S17	W09	.340	16065	12.9	12	-B	3	C		57			ZX
GRP75427	13	1405+3	1429+2	1459	N24	E61	.894	16073	18.2	54	-N				60	1.3	D	
HOLL	13	1405	1430	1457	N25	E65	.921	16073	18.5	52	-N	3	C		82			
BIGB	13	1408	1431	1500	N24	E61	.894	16073	18.2	52	-N	2	C	1431	60	1.2		
MCMA	13	1426	1429	1446D	N22	E58	.868	16073	18.0	20D	-F		C	1429	30	.7	D	
428 HOLL	13	1413	1443	1450	N17	W17	.396	16067	12.3	37	-N	3	C		28			ZX
GRP75429	13	1429+1	1430+1	1435	S16	W07	.311	16065	13.1	6	-F				25	.3		
HOLL	13	1429	1430	1435	S17	W09	.340	16065	12.9	6	-N	3	C		29			
BIGB	13	1430	1431	1434	S15	W06	.290	16065	13.2	4	-F	2	C	1431	20	.2		
GRP75430	13	1437+0	1438+2	1446	S12	W09	.269	16065	12.9	9	-N				60	.6	E	
BIGB	13	1437	1438	1446	S11	W09	.255	16065	12.9	9	-N	2	C	1438	60	.6		
HOLL	13	1437	1438	1446	S12	W09	.269	16065	12.9	9	-N	3	C		39			
MCMA	13	1437	1440	1446D	S12	W10	.278	16065	12.9	9D	-N		C	1440	75	.8	E	
GRP75431	13	1454+2	1506+5	1601	N15	W17	.375	16067	12.3	67	1B				220	2.4	EU	
HOLL	13	1454	1508	1605	N17	W17	.396	16067	12.3	71	1B	3	C		290		UDE	
BIGB	13	1455	1506	1601	N14	W17	.365	16067	12.3	66	-B	2	C	1506	100	1.1		
HUAN	13	1456		1539D	N14	W18	.378	16067	12.3	43D	1N	1	P	1507	220	2.4	E	
RAMY	13	1509E	1511	1513D	N17	W17	.396	16067	12.4	4D	1B	3	V		218			
MCMA	13	1523E		1552	N13	W20	.395	16067	12.1	29D	-B		P	1523	100	1.1	BE	
GRP75432	13	1524+1	1526+1	1536	N20	W39	.678	16058	10.7	12	-N				80	1.1		
BIGB	13	1524	1526	1538	N21	W41	.705	16058	10.6	14	-B	2	C	1526	110	1.5		
HOLL	13	1525	1526	1536	N18	W39	.669	16058	10.7	11	-B	3	C		110			
HUAN	13	1525	1527	1531	N20	W40	.689	16058	10.6	6	-F	1	C	1527	40	.5	D	
MCMA	13	1525	1527	1536	N20	W39	.678	16058	10.7	11	-B		C	1527	50	.7	E	
GRP75433	13	1625+2	1626+7	1655	S18	W10	.361	16065	12.9	30	-N				40	.4	E	
MCMA	13	1625	1630	1655	S18	W10	.361	16065	12.9	30	-N		C	1630	40	.4	E	
HOLL	13	1625	1626	1655	S17	W10	.347	16065	12.9	30	-B	3	C		38			
BIGB	13	1627	1633	1653	S18	W09	.354	16065	13.0	26	-N	2	C	1633	40	.4		
GRP75434	13	1726+2	1728+2	1736	N23	E59	.878	16073	18.2	10	-N				30	.6		
PALE	13	1726	1729	1730D	N23	E59	.878	16073	18.2	4D	-N	3	C		35		F	
MCMA	13	1726	1728	1735	N23	E58	.870	16073	18.1	9	-N		C	1728	25	.6	D	
HOLL	13	1728	1730	1736	N25	E64	.915	16073	18.5	8	-B	3	C		26			
435 BIGB	13	2034E	2035	2109	N15	E87	.999	16092	20.4	35D	-B	3	P	2035	50			ZX
GRP75436	13	2148+3	2155+6	2214	N24	E58	.872	16073	18.3	26	-B						F	
BIGB	13	2148	2201	2218	N23	E55	.846	16073	18.0	30	-B	3	C	2201	80	1.4		
HOLL	13	2151	2155	2209	N25	E61	.896	16073	18.5	18	-B	3	C		20		F	
437 BIGB	13	2215	2216	2236	N14	E87	.999	16092	20.5	21	-B	3	C	2216	20			ZX
438 BIGB	13	2243	2245	2258	N14	E87	.999	16092	20.5	15	-B	3	C	2245	20			ZX
439 CULG	14	0031	0034	0036	S18	E51	.805	16074	17.8	5	-F		C	0034	20	.3		ZX
GRP75440	14	0102>9	0114+3	0138	N23	E20	.491	16070	15.5	36	-N						FGU	
CULG	14	0102	0116	0152	N23	E20	.491	16070	15.5	50	1N		C	0116	170	2.0		
PALE	14	0108	0114	0131	N24	E18	.484	16070	15.4	23	-B	3	C		51		U F	
PURP	14	0111	0113	0113	N19	E20	.449	16070	15.5	2	1N							
HOLL	14	0111	0116	0133	N25	E20	.514	16070	15.5	22	-B	3	C		74			
BIGB	14	0111	0115	0137	N25	E20	.514	16070	15.5	26	-F	2	C	0115	50	.5	G	
YUNN	14	0112	0117	0143	N21	E24	.513	16070	15.9	31	1N		C		225			
441 CULG	14	0125	0131	0143	S25	W13	.481	16065	13.1	18	-F		C	0131	30	.3	G	ZX
442 CULG	14	0217	0227	0239	S28	W12	.516	0	13.2	22	-F		C	0227	30	.3	G	ZX
443 CULG	14	0309	0313	0319	N27	E71	.955	16091	19.5	10	-F		C	0313	40		T	ZX
444 CULG	14	0310	0320	0345	N02	E85	.996	0	20.5	35	?F		C	0320	140		SG	ZX
	IMP.1 NO 1 PALE																	

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445 CULG	14	0500	0503	0508	N27	E70	.950	16091	19.5	8	-F		C	0503	30		T	ZX
446 CULG	14	0626E	0633U	0641D	N16	W36	.624	16067	11.6	15D	1N		P	0633	320	4.2		ZX
447 PURP	14	0805	0806	0815	N25	E50	.808	16073	18.1	10	?B							ZX
	IMP.1 NO : MONT																	
GRP75449	14	0837+3	0837+3	0905	S13	W21	.423	16065	12.8	28	-N				120	1.3	EK	
MONT	14	0837E	0837	0844D	S13	W21	.423	16065	12.8	7D	-N		C	0837	110			
CATA	14	0840	0840	0900D	S13	W22	.436	16065	12.7	20D	-N	2	P	0840	140	1.6		
HTPR	14	0848E		0905	S14	W21	.432	16065	12.8	17D	-F		C	0850	50	.5	EK	
449 KHAR	14	0910E	0920	0930D	S30	W90	1.000	0	7.6	20D	-F		P	0919			DL	ZX
450 KHAR	14	0933E	0937	0945D	N30	E68	.943	16091	19.5	12D	?F		P	0938	100		H	ZX
	IMP.1 NO : HTPR MONT																	
451 KHAR	14	0947E	0949	1025D	N14	E64	.903	16076	19.2	38D	?F		P	0948	100		EL	ZX
	IMP.1 NO : HTPR MONT																	
452 KHAR	14	0950E	0954	1007D	N14	E78	.979	16092	20.3	17D	-F		P	0954			L	ZX
453 KHAR	14	1056E		1111D	S18	W18	.437	16065	13.1	15D	-F		V	1056				ZX
454 KHAR	14	1114E		1130D	S30	W90	1.000	0	7.7	16D	-F		V	1120				ZX
455 KHAR	14	1158E		1212D	S17	W21	.459	16065	12.9	14D	-F		V	1158				ZX
456 KHAR	14	1203E		1212D	N14	E78	.979	16092	20.4	9D	-F		V	1204				ZX
457 HOLL	14	1325	1325	1353	S20	W24	.522	16065	12.8	28	-N	3	C		34			ZX
458 HOLL	14	1332	1333	1415	N17	W29	.541	16067	12.4	43	-N	3	C		24			ZX
GRP75459	14	1637+5	1642+5	1700	S18	W22	.481	16065	13.0	23	-N				40	.5	E	
HTPR	14	1637	1642	1700	S18	W22	.481	16065	13.0	23	-F		C	1642	50	.5	E	
MCMA	14	1640	1647	1715	S18	W22	.481	16065	13.0	35	-N		C	1647	40	.5	E	
HOLL	14	1642	1645	1653	S17	W23	.483	16065	13.0	11	-N	3	C		29		F	
GRP75460	14	1803+6	1810+0	1823	S17	W24	.495	16065	13.0	20	-N				20	.2	F	
MCMA	14	1803E		1818D	S18	W22	.481	16065	13.1	15D	-N		C	1810	20	.2	E	
HOLL	14	1809	1810	1821	S17	W23	.483	16065	13.0	12	-N	3	C		37		F	
PALE	14	1809	1810	1824D	S17	W24	.495	16065	13.0	15D	-N	3	C		19		F	
HOLL	14	1810	1810	1819	S12	W27	.496	16065	12.7	9	-N	3	C		25		F	
GRP75461	14	2109+7	2114+2	2136D	N15	W46	.738	16067	11.4	27	-N				25	.4		
BIGB	14	2109	2114	2215	N15	W46	.738	16067	11.4	66	-N	2	C	2114	30	.4		
HOLL	14	2116	2116	2136	N16	W46	.741	16067	11.4	20	-N	3	C		19			
GRP75462	14	2241+2	2244+0	2301	S15	W27	.516	16065	12.9	20	-N				35	.4		
HOLL	14	2241	2244	2301	S17	W26	.519	16065	13.0	20	-B	3	C		37			
CULG	14	2243	2244	2300	S14	W28	.522	16065	12.8	17	-F		C	2244	30	.4		
GRP75463	14	2245+7	2251+7	2311	N22	E41	.709	16073	18.0	26	-N				40	.6		
HOLL	14	2245	2251	2311	N24	E41	.718	16073	18.0	26	-N	3	C		40			
CULG	14	2247	2258U	2308	N21	E41	.704	16073	18.0	21	-F		C	2258	30	.4		
BIGB	14	2252	2255	2313	N22	E41	.709	16073	18.0	21	-N	2	C	2255	40	.5		
464 BIGB	14	2347	2349	2357	S23	W90	1.000	16052	8.2	10	-N	2	C	2349	30			ZX
465 CULG	15	0107E	0107E	0121D	S24	E27	.591	0	17.1	14D	-F		P	0107	60	.8	SFG	ZX
466 CULG	15	0227	0229	0250	N13	E71	.947	16092	20.4	23	-F		C	0229	30			ZX
467 CULG	15	0322	0329	0342	N15	W45	.726	16067	11.8	20	-N		C	0329	10	.2		ZX
468 CULG	15	0359	0403	0414	N29	E48	.805	16091	18.8	15	-N		C	0403	30	.5		ZX
469 HTPR	15	0501E		0625	N14	E62	.888	16092	19.9	84D	-F		C	0552	30	.6		ZX
GRP75470	15	0844	0846	0916	N25	E39	.703	16073	18.3	32	-N						DJ	
ABST	15	0844	0846	0912	N26	E40	.718	16073	18.4	28	-N		C	0846	87	1.3	DJ	
CATA	15	0910E	0910	0920D	N25	E39	.703	16073	18.3	10D	-N	2	P	0910	112	1.6		
471 KHAR	15	0938E		0952D	N16	W41	.683	16067	12.3	14D	-F		P	0945	55	.8		ZX
472 KHAR	15	0940E	0948	1007D	N14	E61	.880	16092	20.0	27D	?F		P	0945	220		H	ZX
	IMP.1 NO : ABST																	

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473 KHAR	15	0947E		1003D	N14	E50	.778	16076	19.2	16D	-F		V	0950			E	ZX
474 KHAR	15	0948E	0952	1010D	S17	W33	.604	16065	12.9	22D	?F		V	0952				ZX
	IMP.1 NO : ABST																	
475 KHAR	15	1037E	1040	1043D	N27	E43	.752	16091	18.7	6D	-F		P				D	ZX
476 KHAR	15	1053E	1054	1107D	N16	W42	.695	16067	12.3	14D	-F		P	1058	110	1.6	E	ZX
477 KHAR	15	1055	1055	1110D	N14	E50	.778	16076	19.2	15D	-F		P	1055			D	ZX
478 KHAR	15	1059E	1059	1115D	N16	E61	.882	16092	20.0	16D	-F		P	1059				ZX
479 KHAR	15	1100E	1115	1128	S04	W90	1.000	0	8.7	28D	?N		P	1115			AD	ZX
	IMP.1 NO : RAPY																	
480 KHAR	15	1128	1129	1145D	N24	E33	.634	16073	18.0	17D	-N		V	1129			L	ZX
481 KHAR	15	1222E		1252D	N22	E38	.676	16073	18.4	30D	-F		P	1222	80	1.1	L	ZX
GRP75482	15	1322+0	1327+3	1346	N22	E32	.610	16073	18.0	24	-N				25	.3		
MCMA	15	1322	1327	1358	N22	E32	.610	16073	18.0	36	-N		C	1327	30	.4	E	
HOLL	15	1322	1330	1333	N23	E32	.617	16073	18.0	11	-N	3	C		21		F	
483 MCMA	15	1410E	1422	1438D	N22	E32	.610	16073	18.0	28D	-N		C	1422	20	.3	D	ZX
484 BIGB	15	1418	1420	1454	N15	W60	.873	16058	11.1	36	-F	2	C	1420	80	1.6		ZX
485 BIGB	15	1458	1459	1505	S19	W41	.706	16065	12.5	7	-N	2	C	1459	20	.3		ZX
GRP75486	15	1528+8	1537+0	1543	N27	E40	.723	16091	18.6	15	-N				30	.4	EG	
BIGB	15	1528	1537	1538E	N28	E40	.729	16091	18.6	10D	-N	2	C	1537	20	.3	G	
MCMA	15	1533E	1537	1544	N27	E41	.733	16091	18.7	11D	-N		C	1537	40	.6	E	
HOLL	15	1536	1537	1541	N25	E38	.692	16091	18.5	5	-F	3	C		19			
487 BIGB	15	1624	1627	1709	N15	W45	.726	16067	12.3	45	-F	2	C	1627	60	.9		ZX
GRP75488	15	1627	1628	1647	N23	W02	.376	16070	15.5	20	-F				40	.4	EGJ	
BIGB	15	1627	1628	1645	N23	W03	.378	16070	15.5	18	-F	2	C	1628	30	.3	G	
MCMA	15	1630E		1649D	N23	W02	.376	16070	15.5	19D	-N		C	1630	50	.5	EJ	
GRP75489	15	1910+3	1915+0	1928	N12	W50	.775	16067	12.0	18	-N				40	.6		
BIGB	15	1910	1915	1928	N11	W50	.773	16067	12.0	18	-N	3	C	1915	110	1.8		
HOLL	15	1913	1915	1919	N12	W50	.775	16067	12.1	6	-N	3	C		35		F	
MCMA	15	1913		1928	N12	W50	.775	16067	12.1	15	-N		C	1915	35	.6	E	
490 MCMA	15	1913		1923	N22	E28	.565	16073	17.9	10	-F		C	1915	25	.3	E	ZX
GRP75491	15	1945+1	1947+1	1959	N19	W46	.749	16067	12.4	14	-N				60	.9	U	
MCMA	15	1945	1947	1959D	N19	W45	.739	16067	12.4	14D	-N		C	1947	60	.9	E	
BIGB	15	1946	1947	1955	N17	W47	.754	16067	12.3	9	-N	2	C	1947	50	.8		
HOLL	15	1946	1948	1959	N19	W46	.749	16067	12.4	13	-B	3	C		57		U F	
GRP75492	15	2129+0	2129	2150	N20	W47	.763	16067	12.4	21	-F							
			2137															
HOLL	15	2129	2129	2139	N20	W48	.773	16067	12.3	10	-N	3	C		17			
BIGB	15	2129	2137	2201	N21	W47	.766	16067	12.4	32	-F	2	C	2137	30	.5		
GRP75493	15	2147+1	2149+2	2200	N17	W47	.754	16067	12.4	13	-B				50	.8		
BIGB	15	2147	2149	2154	N17	W47	.754	16067	12.4	7	-B	2	C	2149	30	.5		
CULG	15	2147	2149	2200	N18	W45	.735	16067	12.5	13	-N		C	2149	50	.8		
HOLL	15	2148	2151	2204	N17	W47	.754	16067	12.4	16	-B	3	C		58			
494 CULG	15	2205	2234U	2259	S14	W85	.997	16069	9.5	54	-F		P	2234	30			ZX
495 CULG	15	2304	2306	2315	S33	E68	.952	0	21.1	11	-F		C	2306	20		G	ZX
496 CULG	15	2318	2320	2331	N19	W71	.950	16058	10.6	13	-F		C	2320	30			ZX
497 CULG	15	2339	2345	0027	N23	W07	.391	16070	15.5	48	-N		C	2345	100	1.1	G	ZX
498 CULG	16	0013	0022	0050U	N15	W50	.780	16067	12.3	37D	-F		C	0022	100	1.6		ZX
499 CULG	16	0026	0030	0037	N22	W41	.707	16067	12.9	11	-F		C	0030	60	.8		ZX

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500 CULG	16	0111	0111	0114	S12	E18	.377	16074	17.4	3	-N		C	0111	60	.7	ZX
501 CULG	16	0135	0139	0148	N15	W58	.856	16067	11.7	13	-F		C	0139	40	.6	ZX
502 CULG	16	0140	0229	0258	S13	W46	.740	16065	12.6	78	-N		C	0229	90	1.4	K ZX
GRP75503	16	0145+5	0151+1 0206	0227	N30	E37	.713	16091	18.8	42	-N						
CULG	16	0145	0151	0235	N32	E35	.709	16091	18.7	50	1N		C	0151	270	3.9	F
VORO	16	0150	0152	0204	N30	E35	.695	16091	18.7	14	-F		P	0152	54	.7	D
VORO	16	0205	0206	0218	N26	E43	.746	16091	19.3	13	-F		C	0206	63	.9	E
504 CULG	16	0230	0235	0244	N15	E55	.829	16092	20.2	14	-F		C	0235	40	.7	ZX
505 CULG	16	0345	0347	0357	N13	W55	.826	16067	12.0	12	-N		C	0347	70	1.2	ZX
GRP75506	16	0504+3	0509+1	0526	N14	W55	.828	16067	12.1	22	-F				80	1.4	E
CULG	16	0504	0510	0538	N13	W56	.836	16067	12.0	34	-N		C	0510	60	1.1	
ABST	16	0507	0509	0513	N16	W54	.821	16067	12.2	6	-F		C	0509	105	1.9	E
507 CULG	16	0523	0529	0538	N19	W79	.982	16058	10.3	15	-F		C	0529	30		ZX
508 CULG	16	0530	0531	0551	S18	E22	.483	16074	17.9	21	-F		C	0531	30	.3	ZX
509 ABST	16	0614	0617	0622	N20	W49	.782	16067	12.6	8	-F		C	0617	87	1.4	D ZX
510 TFLV	16	1029E	1032	1042	N15	W12	.313	0	15.5	13D	-F	1	C		61	.6	E ZX
511 KHAR	16	1325E		1331D	N14	W55	.828	16067	12.4	6D	-F		P				ZX
GRP75512	16	1340	1348+7 1413+5	1507	N23	E17	.460	16073	17.8	87	-N				130	1.5	EK
MCMA	16	1340	1418	1632D	N23	E17	.460	16073	17.8	172D	-N		C	1418	125	1.5	EK
MCMA	16	1340	1355	1632D	N23	E17	.460	16073	17.8	172D	-N			1355	70	.8	
KHAR	16	1348E	1348	1357D	N23	E19	.479	16073	18.0	9D	-F		P				E
KHAR	16	1354E		1410D	N24	E15	.456	16073	17.7	16D	-F		P				
BIGB	16	1411E	1413	1455	N23	E16	.451	16073	17.8	44D	-N	2	C	1413	180	1.9	
HOLL	16	1412	1416	1421	N23	E19	.479	16073	18.0	9	-N	3	C		42		F
HUAN	16	1412		1421	N23	E15	.443	16073	17.7	9	-F	1	C				E
KHAR	16	1440E		1440D	N24	E15	.456	16073	17.7		-F		P				
KHAR	16	1440E		1440D	N22	E16	.458	16073	18.0		-F		P				
GRP75513	16	1348+0	1350+1	1401	S13	W50	.783	16065	12.8	13	-F						D
MCMA	16	1348	1350	1359	S13	W50	.783	16065	12.8	11	-N		C	1350	25	.4	D
KHAR	16	1348E	1351	1403D	S13	W51	.793	16065	12.8	15D	-F		P				D
51- HOLL	16	1508	1514	1518	N23	E16	.451	16073	17.8	10	-N	3	C		26		ZX
514 BIGB	16	1510	1511	1530	N23	E15	.443	16073	17.8	20	-N	2	C	1511	60	.6	ZX
515 MCMA	16	1745	1749	1757	N23	E15	.443	16073	17.9	12	-N		C	1749	30	.3	D ZX
GRP75516	16	1803+4	1810+0	1844	N23	E14	.435	16073	17.8	41	-B				170	1.9	EUZ
MCMA	16	1803	1810	1857	N23	E15	.443	16073	17.9	54	-B		C	1810	125	1.5	E
BIGB	16	1806	1810	1850	N24	E14	.448	16073	17.8	44	-B	2	C	1810	140	1.5	
HOLL	16	1807	1810	1850	N21	E13	.400	16073	17.7	43	1B	3	C		266		Z U
PALE	16	1810E	1810U	1833	N22	E13	.413	16073	17.7	23D	-N	3	C		152		FDE
HUAN	16	1811E		1825	N23	E15	.443	16073	17.9	14D	1N	1	P	1811	180	2.0	E
517 HOLL	16	1806	1806	1814	S12	W55	.831	16065	12.6	8	-N	3	C		16		ZX
GRP75518	16	1832+4	1841>9	1912	S15	W52	.808	16065	12.9	40	-N						
MCMA	16	1832	1841	1915	S14	W52	.806	16065	12.9	43	-N		C	1841	80	1.4	E
BIGB	16	1832	1851	1922	S15	W53	.817	16065	12.8	50	-B	2	C	1851	100	1.7	
HOLL	16	1832	1846	1914D	S15	W55	.836	16065	12.6	42D	-B	3	V		124		F
HUAN	16	1836	1845	1900	S15	W54	.827	16065	12.7	24	-N	1	C	1845	60	1.0	E
PALE	16	1837E	1843U	1919D	S17	W51	.803	16065	13.0	42D	-N	3	C		32		FDE
HOLL	16	1842	1842	1852	S18	W51	.806	16065	13.0	10	-N	3	C		28		F
519 MCMA	16	1937E	1939	1950	N23	E14	.435	16073	17.9	13D	-N		C	1939	25	.3	D ZX
520 MCMA	16	1940	1941	1946	S18	E27	.541	16079	18.8	6	-F		C	1941	35	.4	ZX
521 BIGB	16	2002	2003	2007	N20	W60	.879	16067	12.3	5	-N	2	C	2003	30	.6	ZX
522 CULG	16	2151	2153	2200	N13	W58	.854	16067	12.6	9	-F		C	2153	90	1.9	ZX

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GRP75523	16	2218>9	2223+5	2246D	N24	E10	.420	16073	17.7	28	-F				100	1.1		
CULG	16	2218	2234	2321	N24	E10	.420	16073	17.7	63	-F		C	2234	130	1.5		
BIGB	16	2228	2223	2246	N24	E11	.426	16073	17.8	18	-F	2	C	2229	80	.8		
GRF75524	16	2236+0	2247	2346	N14	W63	.895	16067	12.2	70	1B						FJUY	
			2255															
BIGB	16	2236	2255	2346	N13	W62	.887	16067	12.3	70	2B	2	C	2255	250	5.5		
CULG	16	2236	2247	2321D	N15	W64	.904	16067	12.1	45D	1B		P	2247	180	4.1	UYFJ	
525 CULG	17	0454	0459	0507	S19	W53	.827	16065	13.2	13	-F		C	0459	40	.7		ZX
526 ABST	17	0648	0659	0704	N06	W25	.429	16078	15.4	16	-F		C	0659	87	1.0	DJ	ZX
527 ISTA	17	0655E		0710	N09	E09	.205	16082	18.0	15D	-F		V				E	ZX
GRP75528	17	0715+5		0850D	N06	W25	.429	16078	15.4	95	-F						JK	
ISTA	17	0715		0850	N06	W24	.413	16078	15.5	95	-N	*	V				EK	
ABST	17	0720	0857	0944	N06	W26	.444	16078	15.4	144	-F	*	C	0857	175	2.0	FJK	
GRF75529	17	0717+8	0730	0819	N23	E08	.393	16073	17.9	62	-N						EHJKL	
			0807															
ABST	17	0717	0730	0742	N23	E07	.388	16073	17.8	25	-F		C	0730	96	1.1	DHJ	
ISTA	17	0725		0820	N23	E09	.398	16073	18.0	55	-N		V				EK	
ABST	17	0805E	0807	0818	N23	E06	.383	16073	17.8	13D	-N		C	0807	148	1.6	DJL	
530 ABST	17	0827	0830	0834	N09	E08	.193	16082	18.0	7	-F		C	0830	87	.9	DJ	ZX
GRF75531	17	0911	0913	0943	N22	E04	.361	16073	17.7	32	1F						EJ	
			0931															
ABST	17	0911	0913	0942	N23	E06	.383	16073	17.8	31	1F		C	0913	236	2.6	EJ	
KHAR	17	0920E		0923D	N21	E00	.338	16073	17.4	3D	-F		P				DT	
KHAR	17	0927	0931	0943D	N23	E06	.383	16073	17.8	16D	-F		P	0931	45	.5	D	
532 KHAR	17	1000	1003	1008D	N21	E00	.338	16073	17.4	8D	-F		P	1003			DT	ZX
533 KHAR	17	1000	1011	1032D	N06	W26	.444	16078	15.5	32D	1N		P	1008	250	3.0	EK	ZX
534 KHAR	17	1037		1047D	N06	W26	.444	16078	15.5	10D	-N		P	1042			D	ZX
535 KHAR	17	1127E	1127	1130D	N08	E06	.157	16082	17.9	3D	-F		P				D	ZX
GRF75536	17	1130E	1137	1156D	N22	E01	.355	16073	17.6	26	-F							
KHAR	17	1130E		1137D	N23	E05	.380	16073	17.9	7D	-F		P				D	
KHAR	17	1133E	1137	1150D	N21	W01	.339	16073	17.4	17D	-F		P				DT	
KHAR	17	1133E	1137	1143D	N23	E03	.374	16073	17.7	10D	-F		P				D	
KHAR	17	1146E		1156D	N23	W01	.371	16073	17.4	10D	-F		P	1150	50	.5	D	
537 KHAR	17	1144E	1146	1200D	S17	W52	.813	16065	13.6	16D	-F		P	1150	90	1.6	DH	ZX
538 KHAR	17	1145E	1154	1200D	N06	W26	.444	16078	15.5	15D	?F		V	1154			E	ZX
	IMP.1	NO : RAMY																
539 RAMY	17	1222	1223	1225	N20	E07	.342	16073	18.0	3	-B	3	C		31			ZX
GRF75540	17	1500>9	1513+3	1527	S31	E90	1.000	0	24.4	27	-F							
MCMA	17	1500E	1513	1530D	S31	E90	1.000	0	24.4	30D	-F		C	1513				
BIGB	17	1512	1516	1523	S31	E90	1.000	0	24.4	11	-N	2	C	1516	50			
GRP75541	17	1546	1555	1621	S13	W64	.906	16065	12.9	35	-N						D	
BIGB	17	1546	1555	1621	S13	W64	.906	16065	12.9	35	-N	2	C	1555	40	.9		
MCMA	17	1604E		1611D	S13	W65	.913	16065	12.8	7D	-F		P	1607	30	.7	D	
GRP75542	17	1604+2	1608	1642	N06	W30	.505	16078	15.4	38	-N				60	.7	E	
MCMA	17	1604E		1643D	N07	W30	.507	16078	15.4	39D	-N		C	1607	80	.9	E	
BIGB	17	1606	1608	1641	N06	W30	.505	16078	15.4	35	-N	2	C	1608	40	.5		
543 BIGB	17	1748	1749	1803	S17	W70	.947	16065	12.5	15	-B	2	C	1749	50			ZX
GRP75544	17	1847+1	1853+0	1907	N22	00	.355	16073	17.8	20	-B				100	1.1		
BIGB	17	1847	1853	1908	N23	E01	.371	16073	17.9	21	-B	2	C	1853	90	.9		
HOLL	17	1848	1853	1906	N22	E00	.355	16073	17.8	18	-B	3	C		112			
GRF75545	18	0623	0624+3	0634	S17	W65	.918	16065	13.4	11	1N				140		DV	
ABST	18	0623	0624	0632	S17	W66	.924	16065	13.3	9	1N		C	0624	175	4.1	DV	
ATHN	18	0625E	0627	0636	S18	W64	.912	16065	13.5	11D	1N	1		0627	114	2.9		

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
546 ABST	18	0655	0657	0659	N14	E10	.277	16076	19.0	4	-F		C	0657	70	.7	D	ZX
547 ABST	18	0709	0711	0720	N21	W10	.374	16073	17.5	11	-F		C	0711	87	1.0	DJ	ZX
548 ABST	18	0735	0737	0750D	N30	W81	.989	16064	12.2	15D	?F		P	0737	79		AD	ZX
	IMP.1 NO : MITK MONT																	
549 HOLL	18	1613	1624	1630	S06	E75	.967	16088	24.3	17	-N	3	C					ZX
550 BIGB	18	1630	1632	1644	N07	E45	.710	0	22.1	14	-N	2	C	1632	50	.7		ZX
GRP75551	18	1811+0	1812+1	1829	S16	W72	.957	16065	13.4	18	-N						E	
MCMA	18	1811	1813	1828	S20	W73	.964	16065	13.3	17	-N		C	1813			E	
HOLL	18	1811	1812	1830	S13	W71	.950	16065	13.4	19	-B	3	C		78			
552 HOLL	18	1813	1813	1820	S06	E74	.962	16088	24.3	7	-N	3	C					ZX
553 HOLL	18	1842	1848	1854	S06	E74	.962	16088	24.3	12	-N	3	C					ZX
554 MCMA	18	2018	2020	2041	N22	W17	.446	16073	17.6	23	-N		C	2020	25	.3	D	ZX
GRP75555	18	2040+9	2049+2	2057	N08	W12	.236	16082	18.0	17	-N				70	.7	EJ	
HOLL	18	2040	2050	2130	N09	W13	.259	16082	17.9	50	-B	3	C		94		F	
MCMA	18	2045	2051	2058	N08	W10	.208	16082	18.1	13	-N		C	2051	50	.5	E	
VORO	18	2046	2049	2055	N08	W12	.236	16082	18.0	9	-N		C	2049	99	1.0	EJ	
BIGB	18	2047	2049	2057	N08	W12	.236	16082	18.0	10	-N	2	C	2049	70	.7		
HUAN	18	2049		2053	N07	W13	.244	16082	17.9	4	-F	1	C	2050	40	.4	E	
GRP75556	18	2050+6	2058+4	2134	N22	W15	.427	16073	17.7	44	1N				270	3.0	EJU	
HOLL	18	2050	2058	2156	N22	W14	.418	16073	17.8	66	1B	3	C		360		U F	
MCMA	18	2051	2102	2119D	N22	W15	.427	16073	17.7	28D	-B		C	2102	150	1.6	E	
RAMY	18	2052E	2059U	2104D	N23	W15	.440	16073	17.7	12D	1B	3	C		280		U F	
VORO	18	2054	2100	2123	N22	W15	.427	16073	17.7	29	1F		C	2101	385	4.3	EJ	
HUAN	18	2055	2100	2121	N22	W15	.427	16073	17.7	26	1N	1	C	2100	200	2.2	E	
BIGB	18	2056	2100	2145	N22	W15	.427	16073	17.7	49	1B	2	C	2100	240	2.5		
557 HOLL	18	2102	2103	2108	S13	W72	.955	16065	13.5	6	-N	3	C					ZX
558 HOLL	18	2132	2134	2146	N09	W13	.259	16082	17.9	14	-N	3	C		29			ZX
GRP75559	18	2354+1	2355+2	0003	S06	E69	.935	16088	24.2	9	-N				70		D	
VORO	18	2354	2355	2357	S07	E68	.929	16088	24.1	3	-N		C	2355	63		D	
HOLL	18	2355	2357	0009	S06	E70	.941	16088	24.2	14	-N	3	C		80			
560 VORO	19	0021	0022	0027	N22	W14	.417	16073	18.0	6	-N		C	0022	90	1.0	EJ	ZX
GRP75561	19	0042+1	0043+2	0052	S18	W77	.979	16065	13.3	10	-F				30		D	
VORO	19	0042	0043	0046	S20	W80	.988	16065	13.0	4	-F		C	0043	36		D	
HOLL	19	0043	0045	0052	S18	W76	.975	16065	13.3	9	-N	3	C					
MANI	19	0046E	0046U	0055D	S18	W77	.979	16065	13.3	9D	-N	2	V		20			
MANI	19	0046E	0046U	0055D	S18	W77	.979	16065	13.3	9D	-F	2	P		20	.5		
GRP75562	19	0042+5	0048+2	0105	S06	E69	.935	16088	24.2	23	-N				70			
HOLL	19	0042	0050	0106	S05	E69	.935	16088	24.2	24	-B	*	C		85			
VORO	19	0047	0048	0051	S07	E68	.930	16088	24.1	4	-N	*	C	0048	54		D	
PALE	19	0103E	0103U	0105D	S06	E74	.962	16088	24.6	2D	-N	*	C		41		F	
	19	0306	0502	NO FLARE PATROL														
563 ABST	19	0518	0521	0527	N24	W18	.477	16073	17.9	9	-F		C	0521	140	1.6	EJ	ZX
GRP75564	19	0607+1	0609	0617	N26	E02	.416	16091	19.4	10	-N							
ABST	19	0607	0609	0621	N27	E04	.435	16091	19.6	14	-N		C	0609	87	1.0	D	
ISTA	19	0608		0613	N26	E01	.415	16091	19.3	5	-B		V				E	
565 MONT	19	0732	0734	0738	N23	W19	.475	16073	17.9	6	-F		C	0734	50		E	ZX
GRP75566	19	0754+3	0804+1	0813	S07	E65	.909	16088	24.2	19	-F				50	1.2		
MONT	19	0754	0804	0814	S06	E63	.894	16088	24.1	20	-F		C	0804	50		E	
HTPR	19	0802	0805	0812	S08	E65	.910	16088	24.2	10	-F		C	0805	30	.6		
ABST	19	0802	0804	0807D	S07	E65	.909	16088	24.2	5D	1F		P	0804	96	2.3	D	
GRP75567	19	1306+4	1310+0	1322	N22	W22	.495	16073	17.9	16	-N				80	.9	E	
HTPR	19	1306	1310	1320	N23	W22	.505	16073	17.9	14	-B		C	1310	90	1.0	E	
MCMA	19	1306	1310	1324	N22	W23	.506	16073	17.8	18	-B		C	1310	60	.7	E	
HUAN	19	1309		1316	N22	W22	.495	16073	17.9	7	-F	1	C				E	
HOLL	19	1310	1310	1326	N22	W23	.506	16073	17.8	16	-B	3	C		91			

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568 HUAN	19	1313	1315	1324	N18	W90	1.000	16067	12.8	11	-F	1	C	1315	25		D	ZX
569 HOLL	19	1643	1644	1649	S05	E59	.860	16088	24.1	6	-N	3	C		27			ZX
570 BIGB	19	1726	1728	1737	S25	E26	.595	16083	21.7	11	-N	1	C	1728	40	.5	K	ZX
571 BIGB	19	1756	1757	1816	S23	E24	.557	16083	21.5	20	-N	1	C	1757	50	.6		ZX
572 BIGB	19	1835	1836	1842	S25	E26	.595	16083	21.7	7	-N	1	C	1836	40	.5	K	ZX
573 BIGB	19	2005	2006	2012	S25	E26	.595	16083	21.8	7	-B	1	C	2006	40	.5	K	ZX
574 HOLL	19	2038	2038	2053	S05	E59	.860	16088	24.3	15	-N	3	C		16			ZX
575 BIGB	19	2119	2120	2142	S28	E55	.869	16101	24.0	23	-N	1	C	2120	50	.9		ZX
GRP75576	19	2237+1	2238+0	2247	S21	E34	.645	16085	22.5	10	-B				15	.2	D	
BIGB	19	2237	2238	2247	S22	E33	.641	16085	22.4	10	-B	2	C	2238	10	.1	D	
HOLL	19	2238	2238	2247	S20	E36	.660	16085	22.6	9	-B	3	C		22			
577 ABST	20	0455E	0458	0500D	S22	E32	.631	16085	22.6	5D	-F		P	0458	140	1.9	DJ	ZX
578 ABST	20	0456	0459	0500D	N23	W37	.666	16073	17.4	4D	-F		P	0459	79	1.1	D	ZX
579 TELV	20	0933	0938	0950	N22	W19	.462	16091	19.0	17	-F	1	C		163	1.7		ZX
GRP75580	20	1041	1044+3	1056	N07	W35	.578	16082	17.8	15	-F						E	
HTPR	20	1041	1044	1054	N07	W36	.592	16082	17.7	13	-F		C	1044	10	.1		
KHAR	20	1043E	1047	1057D	N08	W34	.566	16082	17.9	14D	-F		P				E	
581 KHAR	20	1117E	1117	1123D	S25	E29	.625	16085	22.6	6D	-F		P				D	ZX
582 KHAR	20	1130E		1137D	N08	W36	.594	16082	17.8	7D	-F		P				D	ZX
583 MCMA	20	1308	1309	1328	S23	E28	.598	16085	22.6	20	-F		C	1309	30	.4	D	ZX
584 HOLL	20	1319	1319	1324	S07	E48	.751	16088	24.2	5	-N	3	C		23			ZX
585 MCMA	20	1401	1404	1410D	S23	E28	.598	16085	22.7	9D	-N		C	1404	20	.3	D	ZX
586 HOLL	20	1433	1435	1502	N07	W37	.606	16082	17.8	29	-N	3	C		26			ZX
587 MCMA	20	1605	1608	1611D	S07	E46	.728	16088	24.1	6D	-N		C	1608	20	.3	D	ZX
588 HOLL	20	1755	1756	1810	S21	E25	.549	16085	22.6	15	-B	4	C		29			ZX
589 HOLL	20	1910	1911	1921	N07	W39	.633	16082	17.9	11	-N	4	C		27			ZX
590 HUAN	20	2006	2006	2009	S25	E25	.587	16085	22.7	3	-F	1	C	2006	15	1.6	D	ZX
591 HOLL	20	2107	2108	2116	S23	E22	.539	16085	22.5	9	-N	3	C		30			ZX
592 HOLL	21	0041	0041	0050	N07	W41	.659	16082	18.0	9	-N	3	C		25			ZX
GRP75593	21	0150+1	0152+4	0228	S29	E52	.852	16089	25.0	38	-F				60	1.1	HJ	
VORO	21	0150	0152	0200D	S30	E52	.855	16089	25.0	10D	-F		C	0153	45	.8	EJ	
PALE	21	0151	0156	0228	S29	E52	.852	16089	25.0	37	-N	3	C		81		F H	
GRP75594	21	0219+0	0223+5	0235	S08	E41	.669	16088	24.2	16	-N						EHJS	
VORO	21	0219	0223	0235	S08	E43	.694	16088	24.3	16	-F		C	0223	90	1.2	EHJ	
PALE	21	0219	0228	0232D	S08	E40	.657	16088	24.1	13D	1B	3	C		272		DE S	
GRP75595	21	0643+1	0652+2	0709	S24	E15	.493	16085	22.4	26	-F						EJ	
HTPR	21	0643	0652	0715	S24	E15	.493	16085	22.4	32	-F		C	0652	20	.2	E	
ABST	21	0644	0654	0703	S24	E15	.493	16085	22.4	19	-F		C	0654	122	1.4	EJ	
GRP75596	21	0741+1	0743	0748	N19	W51	.797	16073	17.5	7	-F						DJ	
ABST	21	0741	0743	0750	N20	W52	.809	16073	17.4	9	-F		C	0743	70	1.2	DJ	
ISTA	21	0742		0746	N19	W50	.787	16073	17.6	4	-N		V				D	
597 ABST	21	0755	0757	0800	S23	E15	.480	16085	22.5	5	-F		C	0757	61	.7	DJ	ZX
598 ISTA	21	0830		0834	S24	E22	.551	16085	23.0	4	-F		V				D	ZX
599 ABST	21	0950	0958	1004D	N21	E24	.505	16086	23.2	14D	-F		P	0958	87	1.0	D	ZX
600 ABST	21	0955	0957	1004D	S25	E10	.476	16085	22.2	9D	-F		P	0957	114	1.3	EJ	ZX

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601 KHAR	21	1017E		1037D	S25	E10	.476	16085	22.2	20D	-F		P					ZX
	21	1249	1259	NO FLARE PATROL														
	21	1301	1311	NO FLARE PATROL														
GRF75602	21	1607+4	1610+2	1617	N21	W56	.846	16073	17.5	10	-N				20	.4	D	
BIGB	21	1607	1610	1617	N21	W56	.846	16073	17.5	10	-N	2	C	1610	20	.4		
MCMA	21	1607	1612	1617	N21	W56	.846	16073	17.5	10	-N		C	1612	25	.5	D	
HUAN	21	1611	1611	1616	N20	W57	.853	16073	17.4	5	-F	1	C	1611	20	.3	D	
GRF75603	21	1819+1	1836+2	1858	S29	E43	.781	16089	25.0	39	-B				70	1.1		
HOLL	21	1819	1836	1852	S28	E43	.775	16089	25.0	33	-B	3	C		69		F	
BIGB	21	1820	1837	1903	S29	E44	.789	16089	25.1	43	-B	2	C	1837	80	1.1		
PALE	21	1837	1838	1649D	S29	E43	.781	16089	25.0	12D	-N	3	C		32		FDE	
604 HOLL	21	2124	2129	2134	N07	W86	.997	16078	15.4	10	-N	3	C					ZX
	21	2141	2149	NO FLARE PATROL														
605 BIGB	22	0017	0019	0023	N24	W64	.911	16073	17.2	6	-N	2	C	0019	20	.5		ZX
	22	0146	0157	NO FLARE PATROL														
GRF75606	22	0446	0455+1	0530	N24	W59	.876	16073	17.8	44	2N				250	5.3	FJ	
TACH	22	0446	0456	0525	N24	W58	.868	16073	17.8	39	2N		C	0456	248	5.2	EJ	
ABST	22	0455E	0455	0724	N24	W61	.890	16073	17.6	149D	2N		P	0455	288		BF	
MANI	22	0455E	0455U	0530D	N22	W59	.872	16073	17.8	35D	-B	3	V		80		F	
MANI	22	0455E	0455U	0530D	N22	W59	.872	16073	17.8	35D	-N	3	V		80	1.5	F	
GRP75607	22	0527	0539	0702	N27	W54	.843	16073	18.2	95	-F						D	
			0620															
ABST	22	0527	0539	0649	N30	W51	.828	16073	18.4	82	-F		C	0539	87	1.5	D	
CATA	22	0605E	0620	0715D	N25	W58	.870	16073	17.9	70D	-N	2	P	0620	84	1.7		
GRP75608	22	1015+1	1019+1	1028	S29	E37	.731	16089	25.2	13	-F				60	.9	E	
CATA	22	1015	1020	1030	S29	E37	.731	16089	25.2	15	-N	2	C	1020	84	1.2		
MONT	22	1016	1019	1026	S29	E37	.731	16089	25.2	10	-F		C	1019	50		E	
GRF75609	22	1052	1059	1107	S07	E23	.416	16088	24.2	15	-N							
MONT	22	1052	1058	1106	S07	E23	.416	16088	24.2	14	-N		C	1058	70			
KANZ	22	1059E	1059	1107	S08	E23	.422	16088	24.2	8D	-F	1						
610 TELV	22	1111	1115	1118D	S20	E37	.673	0	25.2	7D	?B	3	C		490	6.3	U	ZX
	IMP.2 NC : MONT CATA																	
611 TELV	22	1126E	1142	1236	S21	E37	.679	0	25.3	70D	?N	3	C		367	4.7	U	ZX
	IMP.1 NO : MONT CATA																	
	22	1300	1302	NO FLARE PATROL														
GRF75612	22	1459+1	1500+1	1516	S07	E20	.372	16088	24.1	17	-F				30	.3		
BIGB	22	1459	1500	1522	S08	E20	.378	16088	24.1	23	-F	2	C	1500	30	.3		
HOLL	22	1500	1501	1509	S06	E20	.366	16088	24.1	9	-N	3	C		30			
613 HOLL	22	1630	1642	1653D	S19	W01	.356	16085	22.6	23D	-N	3	C		41		F	ZX
614 BIGB	22	1654	1700	1753	S09	E00	.188	0	22.7	59	-F	2	C	1700	50	.5		ZX
615 BIGB	22	1849	1850	1906	S27	E32	.672	16089	25.2	17	-N	2	C	1850	30	.4		ZX
GRP75616	22	2237+1	2239+1	2255	S19	W04	.361	16085	22.6	18	-F				50	.5	F	
CULG	22	2237	2240	2259	S19	W05	.365	16085	22.6	22	-N		C	2240	70	.8	F	
BIGB	22	2238	2239	2251	S20	W04	.377	16085	22.6	13	-F	2	C	2239	30	.3		
617 CULG	22	2241	2245	2305	N25	W80	.985	16073	16.9	24	?F		C	2245	100			ZX
	IMP.1 NO : BIGB PALE																	
618 CULG	22	2313	2320	2328	S28	E26	.628	16089	24.9	15	-F		C	2320	50	.7		ZX
GRF75619	23	0029+1	0032+0	0037	S11	E57	.849	16100	27.3	8	-F				35	.7	E	
VORO	23	0029	0032	0036	S12	E59	.868	16100	27.4	7	-F		C	0032	45	.9	E	
CULG	23	0030	0032	0036	S10	E55	.829	16100	27.1	8	-F		C	0032	20	.4	T	
GRP75620	23	0058+2	0100+4	0108	S11	E59	.867	16100	27.5	10	-F				20	.4	E	
VORO	23	0058	0100	0109	S12	E59	.868	16100	27.5	11	-F		C	0100	72	1.4	E	
HOLL	23	0100	0104	0106	S11	E57	.849	16100	27.3	6	-N	2	C		18			
CULG	23	0100	0102	0108	S10	E53	.865	16100	27.5	8	-F		C	0102	20	.4	T	

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621 CULG	23	0131	0138	0210	S34	E60	.919	0	27.6	39	?F		C	0138	220	5.1	SG	ZX
	IMP.1 NO : VORO MITK																	
622 CULG	23	0204	0207	0222	S20	E01	.374	16085	23.2	18	-F		C	0207	20	.3		ZX
623 CULG	23	0220	0223	0240	S10	E57	.848	16100	27.4	20	-F		C	0223	30	.6	KT	ZX
624 CULG	23	0257	0301	0400	S28	E25	.621	16089	25.0	63	?N		C	0301	180	2.4	U	ZX
	IMP.1 NO : MITK																	
625 CULG	23	0343	0344	0354	S20	E01	.374	16085	23.2	11	-N		C	0344	30	.4		ZX
626 CULG	23	0352	0403	0500	S20	W07	.391	16085	22.6	68	1N		C	0403	190	2.2	F	ZX
627 TELV	23	0832	0835	0841	N17	E35	.609	16093	26.0	9	-N	2	C		80	1.0		ZX
628 KHAR	23	0907E		0940D	N37	E63	.924	0	28.1	33D	-F		P	0910	50		D	ZX
629 KHAR	23	0948E		1025D	S17	E67	.932	16100	28.4	37D	-F		V	1012				ZX
630 TELV	23	1026	1027	1042	N18	E33	.590	16093	25.9	16	-N	2	C		80	.9		ZX
GRF75631	23	1130	1142	1226	N19	E33	.595	16093	26.0	56	?N							
			1153															
TELV	23	1130	1142	1226	N21	E35	.630	16093	26.1	56	?N	2	C		245	3.0		
	IMP.1 NO : HTPR																	
TELV	23	1149	1153	1159	N18	E32	.577	16093	25.9	10	-F	2	C		25	.3		
632 KHAR	23	1233E		1250D	N10	W39	.637	16092	20.6	17D	-F		P					ZX
633 HTPR	23	1411	1523	1545	S31	E21	.623	16089	25.2	94	-F		C	1423	20	.2	E	ZX
GRF75634	23	1727+7	1737+2	1807	S19	W14	.424	16085	22.7	40	-B				45	.5	F	
HOLL	23	1727	1737	1806	S19	W15	.432	16085	22.6	39	-B	3	C		48		F	
SIGB	23	1734	1739	1807	S19	W14	.424	16085	22.7	33	-B	2	C	1739	40	.4		
635 CULG	23	2355	2357	0012	N08	E32	.536	16093	26.4	17	-F		C	2357	30	.4		ZX
GRF75636	24	0018+5	0024+0	0032	S25	W23	.574	16085	22.3	14	-N				140	1.7	E	
CULG	24	0018	0024	0035	S25	W25	.592	16085	22.1	17	-N		C	0024	100	1.3		
VORO	24	0023	0024	0028	S26	W22	.577	16085	22.4	5	1F		C	0024	179	2.3	E	
637 CULG	24	0407	0524	0617D	N15	W50	.777	16092	20.4	130D	?N		C	0524	230	4.0	SFI	ZX
	IMP.1 NO : MITK WEND																	
GRF75638	24	0437>9	0500	0521	N14	E90	1.000	16104	30.9	44	-B						AH	
CULG	24	0446	0451	0510	S06	W03	.150	16104	24.0	24	1N		C	0451	300	3.1		
ISTA	24	0447		0550	S08	E01	.178	16104	24.3	63	-N		V				E	
GRF75639	24	0446+1	0451	0510D	S07	W01	.158	16088	24.1	24	-N						E	
ISTA	24	0437E		0510	N14	E90	1.000	16088	30.9	33D	1B	*	V				H	
CULG	24	0456	0500	0532	N14	E90	1.000	16088	1.0	36	-N	*	C	0500	20		H	
GRF75640	24	0518>9	0522	0554	N18	W17	.392	16086	22.9	36	-F						D	
CULG	24	0518	0522	0557	N19	W18	.414	16086	22.9	39	-F		C	0522	50	.5		
ISTA	24	0528		0550	N18	W17	.392	16086	23.0	22	-N		V				D	
641 TELV	24	0750	0757	0834	N22	E88	.999	16104	30.9	44	-N	2	C		30			ZX
642 KANZ	24	0926	0933	0950	N16	E80	.984	16104	30.4	24	-N	2						ZX
643 KHAR	24	0940E		0945D	S27	W26	.621	16085	22.5	5D	-F		V	0940			H	ZX
644 KANZ	24	1120	1120	1132	S03	W09	.179	16083	23.8	12	-F	2						ZX
645 KANZ	24	1258	1317	1351	N16	E90	1.000	16104	1.3	53	-N	2						ZX
GRF75646	24	1445+4	1451+1	1502	S26	W30	.647	16085	22.4	17	-N						F	
KANZ	24	1445	1452	1503	S26	W33	.675	16085	22.1	18	-N	2						
HOLL	24	1449	1451	1500	S26	W28	.629	16085	22.5	11	-N	3	C		32		F	
GRF75647	24	1602+2	1604+2	1611	N14	E85	.996	16104	0.0	9	-F						E	
MCMA	24	1602	1605	1611	N14	E85	.996	16104	1.0	9	-F		C	1605			E	
KANZ	24	1603	1606	1618	N12	E83	.992	16104	30.9	15	-F	1						
HOLL	24	1604	1604	1609	N15	E86	.997	16104	1.1	5	-F	3	C					
648 KANZ	24	1622	1626	1641	N22	E06	.355	16106	25.1	19	-F	2						ZX

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643 HOLL	24	1629	1630	1638	S24	W27	.602	16085	22.7	9	-N	3	C		42			ZX
GRF75650	24	1630+6	1637+1	1644	S03	W12	.225	16088	23.8	14	-N				50	.5		
HOLL	24	1630	1637	1643	S06	W08	.197	16088	24.1	13	-B	*	C		72		F	
KANZ	24	1630	1638	1649	S03	W13	.241	16088	23.7	19	-B	*						
MCMA	24	1632	1638	1644	S03	W13	.241	16088	23.7	12	-N	*	C	1638	35	.4	E	
BIGB	24	1636	1637	1643	S04	W11	.217	16088	23.9	7	-N	*	C	1637	30	.3		
651 HUAN	24	1631		1641	N15	E90	1.000	16104	1.4	10	-F	1	C					ZX
652 BIGB	24	1938	1939	1943	N17	E90	1.000	16104	1.6	5	-N	2	C	1939	30			ZX
653 BIGB	24	2128	2129	2143	S03	W15	.273	16088	23.8	15	-B	2	C	2129	30	.3		ZX
654 CULG	24	2233E	2233	2235	S24	W31	.641	16085	22.6	20	-N		P	2233	60	.8	L	ZX
655 CULG	24	2313	2325	2353	N18	W27	.514	16086	22.9	40	-F		C	2325	110	1.3		ZX
656 BIGB	24	2314	2316	2326	N22	E03	.345	16106	25.2	12	-F	2	C	2316	30	.3	G	ZX
657 CULG	24	2325	2328	2334	N32	W21	.586	0	23.4	9	-F	*	C	2328	20	.3		ZX
658 CULG	25	0041	0059	0118	N24	E57	.859	0	29.3	37	-F		C	0059	20	.4		ZX
659 CULG	25	0100	0110	0125	N13	W43	.693	16102	21.8	25	?N		C	0110	190	2.7	HF	ZX
	IMP.1 NO : BIGB																	
660 CULG	25	0105	0118	0133	N20	W68	.931	16092	19.9	28	-F		C	0118	40		G	ZX
661 CULG	25	0106	0113	0146	N02	W41	.656	0	22.0	40	-F	*	C	0113	40	.5	G	ZX
662 CULG	25	0124	0136	0300	N20	E88	.999	16104	1.7	96	2N		C	0136	180		T	ZX
663 CULG	25	0137	0143	0154	S28	E38	.736	0	27.9	17	-N		C	0143	40	.6		ZX
664 CULG	25	0217	0219	0258	S04	W18	.326	16088	23.7	41	-B		C	0219	120	1.2		ZX
665 CULG	25	0409	0416	0450	S05	W16	.301	16088	24.0	41	1N		C	0416	320	3.5	FL	ZX
666 CULG	25	0423	0426	0433	S19	W58	.873	0	20.8	10	-F		C	0426	20	.4		ZX
667 CULG	25	0558	0602	0618D	S04	W20	.357	16088	23.7	200	-N		P	0602	170	1.8	H	ZX
668 ABST	25	0608E	0615	0621	N15	W90	1.000	16086	18.5	13D	1F		P	0615	87		ADJ	ZX
669 ABST	25	0608E	0615	0734	N18	W32	.576	16076	22.9	86D	?F		P	0615	87	1.1	DJK	ZX
	IMP.1 NO : CULG KIEV CATA																	
670 ABST	25	0718	0723	0737	N10	E06	.171	16093	25.8	19	-F		C	0723	87	.9	DJ	ZX
GRF75671	25	0816+1	0827+1	0847	N09	E13	.252	16093	26.3	31	-F						E	
KANZ	25	0816	0828	0828D	N08	E13	.245	16093	26.3	12D	-F	1						
MONT	25	0817	0827	0847	N11	E13	.269	16093	26.3	30	-F		C	0827	60		E	
672 TELV	25	0913	0919	0934	N28	E66	.926	0	30.3	21	-N	2	C		80			ZX
	25	1150	1158	NO FLARE PATROL														
GRF75673	25	1605>9	1618+1	1633	S26	W46	.794	16085	22.2	28	-F				50	.8	E	
MCMA	25	1605E	1619	1635	S26	W46	.794	16085	22.2	30D	-F		C	1618	60	1.1	E	
BIGB	25	1615	1619	1631	S27	W47	.807	16085	22.2	16	-N	2	C	1619	40	.6		
GRF75674	25	1807+1	1809+2	1831	S03	W27	.461	16088	23.7	24	-F				25	.3	D	
MCMA	25	1807	1811	1830D	S03	W27	.461	16088	23.7	23D	-F		C	1811	25	.3	D	
BIGB	25	1808	1809	1831	S04	W27	.465	16088	23.7	23	-N	2	C	1809	20	.2		
675 HOLL	25	1927	1927	1939	S23	W41	.734	16085	22.7	12	-B	3	C		21			ZX
676 HOLL	25	2002	2003	2009	S23	W41	.734	16085	22.8	7	-N	3	C		28			ZX
677 MCMA	25	2037	2038	2043	N16	E65	.909	16104	30.7	6	-F		C	2038	30	.7	E	ZX
678 HOLL	25	2206	2208	2216	S12	E19	.400	16100	27.3	10	-N	3	C		21			ZX
679 CULG	25	2356	2400	0020	N11	E03	.162	16093	26.2	24	-N		C	2400	40	.4		ZX

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GRF75680	26	0021+5	0026+3	0034	N12	E64	.900	16104	30.8	13	-F				30	.7	F	
CULG	26	0021	0029	0036	N11	E63	.892	16104	30.7	15	-F		C	0029	40	1.0		
HOLL	26	0026	0026	0032	N14	E66	.915	16104	1.0	6	-N	3	C		15		F	
681 CULG	26	0126	0129	0140	N26	E25	.556	16098	27.9	14	-N		C	0129	70	.9		ZX
682 CULG	26	0422	0432	0445	N12	E69	.934	16104	1.4	23	-F		C	0432	40		H	ZX
683 CULG	26	0445	0449	0515	N23	W14	.419	16106	25.1	30	-N		C	0449	70	.8		ZX
GRF75684	26	0703+2	0708+4	0738	N16	E67	.922	16104	.3	35	1N				90		J	
			0729															
HTPR	26	0703	0708	0740	N20	E62	.891	16104	30.9	37	-N		C	0708	40	.8		
CATA	26	0705	0710	0745	N18	E65	.910	16104	1.2	40	-B	2	C	0710	56			
BUCA	26	0705		0734	N17	E68	.929	16104	1.4	29	1N		C	0707	107		E	
HTPR	26	0705	0708	0725	N14	E62	.885	16104	30.9	20	-N		C	0708	20	.4		
ISTA	26	0708E		0730	N19	E70	.942	16104	1.5	22D	3B		V				F	
MONT	26	0709E	0712	0731	N16	E66	.916	16104	1.2	22D	-N		C	0712	80			
CATA	26	0710	0710	0730	N13	E63	.893	16104	1.0	20	-N	2	C	0710	39	.9		
ABST	26	0728E	0729	0748D	N12	E73	.956	16104	1.8	20D	1F		P	0729	87		DJ	
GRF75685	26	0712+4	0720	0804	S25	W47	.799	16085	22.8	52	-N				90	1.5	JK	
			0741															
HTPR	26	0712	0720	0810	S25	W43	.764	16085	23.1	58	-N		C	0720	30	.3	E	
MONT	26	0714	0741	0801	S25	W46	.791	16085	22.9	47	-F		C	0741	50		E	
ISTA	26	0715E		0800	S26	W47	.804	16085	22.8	45D	1B		V				D	
BUCA	26	0716		0745	S28	W48	.820	16085	22.7	29	-F		C	0723	85	1.4		
ABST	26	0728E	0728	0838D	S24	W49	.813	16085	22.6	70D	-N		P	0728	87	1.5	DJK	
686 ABST	26	0743	0754	0802	S17	E29	.566	16100	28.5	19	-F		C	0754	131	1.6	FJ	ZX
687 ABST	26	0827	0832	0838D	N17	E70	.941	16104	1.6	11D	?F		P	0832	131		DJ	ZX
	IMP.1	NO :	HTPR	MONT	KIEV	CATA												
GRF75688	26	1018+4	1020+5	1036	N12	W62	.884	16102	21.8	18	-N				80	1.7	E	
HTPR	26	1018	1020	1026	N12	W62	.884	16102	21.8	10	-N		C	1020	50	1.0	E	
CATA	26	1020	1025	1033	N12	W62	.884	16102	21.8	13	-B	2	C	1025	84	1.8		
ATHN	26	1022	1024	1038	N13	W61	.877	16102	21.9	16	-N	1		1024	98	1.8		
KHAR	26	1024E		1100D	N08	W63	.891	16102	21.7	36D	1N		P	1032	250			
689 HOLL	26	1507	1507	1512	N11	W65	.907	16102	21.8	5	-N	4	C		20			ZX
GRF75690	26	1540+4	1544+1	1553	N10	W66	.913	16102	21.7	13	-N				30			
MCMA	26	1540	1545	1558	N11	W66	.914	16102	21.7	18	-F		C	1545	35	.9	E	
BIGB	26	1541	1544	1550	N10	W67	.920	16102	21.6	9	-B	1	C	1544	20			
HOLL	26	1543	1545	1556	N11	W65	.907	16102	21.8	13	-B	4	C		25			
HUAN	26	1544		1549	N10	W67	.920	16102	21.6	5	-F	1	C	1547	25		D	
GRF75691	26	1645+1	1646+1	1655	N19	W50	.784	16086	22.9	10	-N				30	.5	D	
BIGB	26	1645	1647	1657	N19	W50	.784	16086	22.9	12	-N	1	C	1647	40	.6		
MCMA	26	1646	1647	1655D	N22	W48	.773	16086	23.1	9D	-N		C	1647	20	.3	D	
HOLL	26	1646	1646	1650	N18	W50	.782	16086	22.9	4	-B	3	C		21			
GRF75692	26	1645+2	1647+1	1658	N10	W66	.913	16102	21.7	13	-B				25			
BIGB	26	1645	1647	1702	N10	W67	.920	16102	21.7	17	-B	*	C	1647	30			
HOLL	26	1647	1648	1654	N11	W66	.914	16102	21.7	7	-B	*	C		16			
693 BIGB	26	1757	1758	1808	S28	W70	.959	16107	21.5	11	-B	1	C	1758	20			ZX
GRF75694	26	2039+1	2041+2	2128	N10	W67	.920	16102	21.8	49	-N				50		FU	
			2050+3															
BIGB	26	2039	2050	2144	N10	W67	.920	16102	21.8	65	-B	1	C	2050	60			
MCMA	26	2040E	2043	2058D	N11	W68	.927	16102	21.8	18D	-F		C	2043	50	1.4	E	
HOLL	26	2040	2041	2128	N10	W70	.939	16102	21.6	48	-B	3	C		26		U F	
HOLL	26	2040	2053	2128	N10	W70	.939	16102	21.6	48	-N	3	C		51		U F	
PALE	26	2056	2059	2107	N10	W66	.913	16102	21.9	11	-N	3	C		16		F	
695 HOLL	26	2337	2337	2348	N11	W69	.933	16102	21.8	11	-B	3	C		14			ZX
	27	0102	0151	NO FLARE PATROL														
696 PURP	27	0103E	0103U	0147	N14	W12	.285	16093	26.1	44D	1B							ZX
697 PURP	27	0113	0115	0125	S13	E04	.274	16100	27.4	12	1B							ZX
	27	0201	0212	NO FLARE PATROL														
	27	0242	0254	NO FLARE PATROL														

Hα SOLAR FLARES

JUNE 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. CONQ	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRF75695	27	0831+0	0834+1	0849	N17	E75	.966	16108	2.0	18	-F				50			
MONT	27	0831	0834	0846	N17	E77	.974	16108	3.1	15	-F		C	0834	50		D	
KANZ	27	0831	0835	0852	N16	E75	.966	16108	3.0	21	-F	1						
HTPR	27	0833E		0849	N17	E72	.952	16108	2.8	16D	-F		C	0840	60		BE	
699 KHAR	27	0937E		0937D	N08	W77	.974	16102	21.6		-F		P					ZX
700 ABST	27	0952E	0954	0958D	S18	E14	.417	16100	28.5	6D	-F		P	0954	166	1.7	E	ZX
701 KHAR	27	0957		1020D	N20	E90	1.000	16117	4.2	23D	-F		P	0957			E	ZX
702 KHAR	27	1002	1004	1015	S14	E90	1.000	16112	4.2	13	-F		P	1004			D	ZX
703 TELV	27	1014	1016	1027	N13	E21	.396	0	29.0	13	-N	2	C		60	.6		ZX
704 KHAR	27	1108		1122	N19	E90	1.000	16117	4.2	14	-F		V	1110			D	ZX
GRF75705	27	1638+1	1639+3	1647	N16	E70	.940	16108	1.9	9	-F				35		E	
HOLL	27	1638	1639	1646	N16	E70	.940	16108	2.9	8	-F	3	C		28			
MCMA	27	1639	1642	1647	N16	E70	.940	16108	2.9	8	-N		C	1642	40	1.3	E	
706 BIGB	27	1824	1827	1841	S23	E90	1.000	16112	4.5	17	-B	2	C	1827	40			ZX
707 HOLL	27	1854	1855	1900	S26	W65	.933	16085	22.9	6	-N	3	C		16			ZX
708 BIGB	27	1948	1949	1958	S23	E90	1.000	16112	4.6	10	-N	2	C	1949	30			ZX
GRF75709	27	2056+2	2058	2140	S27	W70	.958	16085	22.6	44	-N						FU	
			2106+1															
BIGB	27	2056	2106	2151	S29	W73	.972	16085	22.4	55	-B	2	C	2106	100			
HOLL	27	2058	2058	2129	S24	W69	.951	16085	22.7	31	-N	3	C		22		F	
HOLL	27	2104	2107	2129	S28	W65	.936	16085	23.0	25	-N	3	C		16		U F	
	28	0107	0111	NO FLARE PATROL														
	28	0117	0150	NO FLARE PATROL														
	28	0204	0258	NO FLARE PATROL														
710 CATA	28	0535E	0535	0555	N16	E75	.965	16117	3.9	20D	-N	2	P	0535	56			ZX
GRF75711	28	0627E	0627	0643	N16	E94	.994	16117	3.6	16	?N						J	
			0633															
ABST	28	0627E	0627	0643	N17	E83	.992	16117	4.5	16D	?N		P	0627	87		DJ	
	IMP.1	NO : KIEV		KANZ	CATA	HTPR												
ABST	28	0632E	0633	0638	N15	E85	.995	16117	4.6	6D	1F		P	0633	79		DJ	
712 ABST	28	0702	0704	0712D	N17	E83	.992	16117	4.5	10D	?F		P	0704	87		DJ	ZX
	IMP.1	NO : KIEV		KANZ														
713 ISTA	28	0746E		0756	S29	W75	.979	16085	22.7	10D	?F		V				D	ZX
	IMP.1	NO : KANZ		HTPR	MONT	CATA												
GRF75714	28	0900+0	0901+1	0908	S23	E80	.990	16112	3.4	8	-N						E	
KANZ	28	0849	0902	0904D	S24	E77	.982	16112	4.1	15D	-N	2						
HTPR	28	0900	0901	0908	S19	E80	.989	16112	4.4	8	-N		C	0901	40		E	
MONT	28	0900	0902	0905	S24	E80	.990	16112	4.4	5	-N		C	0902	100			
KHAR	28	0905E		0912	S22	E80	.990	16112	4.4	7D	-F		P				B	
GRF75715	28	0922+4	0925	0934	S29	W89	1.000	16107	21.7	12	-F						D	
ABST	28	0922	0925	0928D	S28	W89	1.000	16107	21.7	6D	1F		P	0925	87		D	
KHAR	28	0926		0934	S30	W90	1.000	16107	21.6	8	-F		P	0926			D	
GRF75716	28	1012+0	1014+9	1038	S05	W60	.870	16088	23.9	26	1F						EGH	
KHAR	28	1012E	1023	1050D	S07	W58	.854	16088	24.1	38D	1F		P	1016	250	4.2	EH	
HTPR	28	1012	1014	1025	S05	W60	.870	16088	23.9	13	-F		C	1014	80	1.6	E	
KANZ	28	1013E	1019	1023D	S05	W61	.878	16088	23.9	10D	1N	1					FG	
717 TELV	28	1020	1024	1034	N15	E20	.396	0	29.9	14	-N	2	C		61	.6		ZX
718 TELV	28	1036	1041	1100	N17	W30	.542	16093	26.2	24	-N	2	C		147	1.7	U	ZX
719 KHAR	28	1040		1050D	N14	W90	1.000	16102	21.7	10D	-F		P	1041			D	ZX
720 TELV	28	1114	1138	1148	N16	W30	.537	16093	26.2	34	-N	2	C		98	1.0	K	ZX
721 KHAR	28	1123E		1130D	N18	E78	.977	16117	4.3	7D	-F		V	1123			D	ZX

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP75722	28	1404+2	1407+2	1431	S12	W17	.379	16100	27.3	27	-N				70	.8	E	
HOLL	28	1404	1409	1441	S12	W17	.379	16100	27.3	37	-N	3	C		80		F	
HTPR	28	1404	1407	1430	S10	W17	.359	16100	27.3	26	-N		C	1407	60	.6	E	
MCMA	28	1405	1408	1431	S12	W17	.379	16100	27.3	26	-N		C	1408	60	.7	E	
HUAN	28	1406		1424D	S13	W15	.367	16100	27.5	18D	-F	1	C				E	
723 HOLL	28	1411	1427	1503	N17	E75	.966	16117	4.2	52	-N	3	C					ZX
724 MCMA	28	1451	1455	1522D	N02	E74	.961	16111	4.2	31D	-F		C	1455	30	.9	E	ZX
725 HUAN	28	1543		1554	N03	E90	1.000	16115	5.4	11	-F	1	C	1547	20		D	ZX
726 HOLL	28	1624	1624	1636	N19	E32	.579	16104	1.1	12	-N	3	C		25			ZX
727 HUAN	28	2114		2120	N15	E31	.545	16104	1.2	6	-F	1	C	2118	10	.1	D	ZX
728 PALE	28	2146	2147	2156	N18	E32	.573	16104	1.3	10	-N	3	C		21		F	ZX
729 CULG	29	0048	0053	0134	S27	E78	.986	16112	4.9	46	-F		C	0053	30			ZX
730 CULG	29	0117E	0117U	0128	S07	W40	.657	16109	26.1	11D	-N		P	0117	60	.8	UC	ZX
GRP75731	29	0117+9	0127+1	0149	N19	E29	.541	16104	.2	32	1B				210	2.5	FU	
PALE	29	0117	0127	0148	N18	E29	.535	16104	1.2	31	1B	*	C		208		U F	
CULG	29	0117E	0128	0150	N19	E30	.553	16104	1.3	33D	1B	*	P	0128	260	3.1	FC	
BIGB	29	0126	0128	0132E	N19	E24	.479	16104	30.9	6D	-N	*	P	0128	80	.9		
732 CULG	29	0128	0134	0141	N27	W12	.453	16098	28.2	13	-F		C	0134	130	1.5	F	ZX
	29	0201	0239	NO FLARE PATROL														
733 ABST	29	0505E	0512	0626	N18	W40	.670	16093	26.2	81D	?N		P	0512	157	2.2	EJ	ZX
	IMP.1	NO : TACH																
734 ABST	29	0749	0752	0803	N15	W44	.708	16093	26.0	14	-F		C	0752	105	1.5	DJ	ZX
735 ABST	29	0912	0930	1005D	S19	W17	.459	16100	28.1	53D	-F		P	0930	96	1.1	DG	ZX
736 ABST	29	0953	0955	1005D	N04	E62	.882	16111	4.1	12D	?F		P	0955	122		D	ZX
	IMP.1	NO : HTPR	MONT	CATA	KANZ													
737 KHAR	29	1152E		1155D	N13	W46	.727	16093	26.0	3D	-F		P					ZX
GRP75738	29	1320+3	1324+0	1327	S25	E66	.937	16112	3.5	7	-N				30		D	
HTPR	29	1320	1324	1328	S26	E65	.933	16112	4.4	8	-N		C	1324	40	.4		
HUAN	29	1323	1324	1326	S25	E68	.947	16112	4.7	3	-N	1	C	1324	20		D	
GRP75739	29	1423+1	1426+2	1435	N23	W61	.886	16106	25.0	12	-F				30	.7	G	
HTPR	29	1423	1426	1430	N24	W57	.857	16106	25.3	7	-F		C	1426	20	.4	E	
HUAN	29	1423		1432	N23	W62	.893	16106	24.9	9	-F	1	C	1428	25	.9	D	
BIGB	29	1424	1426	1437	N22	W61	.885	16106	25.0	13	-N	2	C	1426	60	1.3		
KANZ	29	1424	1428	1439	N24	W61	.887	16106	25.0	15	-N	1					G	
GRP75740	29	1447+3	1450+2	1459	N14	E43	.694	16108	1.8	11	-N				30	.4	EG	
KANZ	29	1447	1452	1459	N14	E43	.694	16108	2.8	12	-N	1					G	
BIGB	29	1448	1450	1457	N15	E43	.697	16108	2.8	9	-N	2	C	1450	50	.7		
HOLL	29	1449	1450	1458	N14	E44	.706	16108	2.9	9	-B	3	C		33			
HTPR	29	1450	1451	1458	N14	E50	.773	16108	3.4	8	-F		C	1451	20	.3	E	
GRP75741	29	1738+0	1738+2	1759	N17	E43	.702	16108	2.0	21	-N				50	.7		
HOLL	29	1738	1738	1755	N17	E43	.702	16108	3.0	17	-N	3	C		38			
BIGB	29	1738	1740	1802	N17	E43	.702	16108	3.0	24	-N	2	C	1740	70	1.0		
GRP75742	29	1820+3	1825+1	1836	N20	E64	.904	16117	3.6	16	-B				70		E	
BIGB	29	1820	1826	1837	N19	E64	.903	16117	4.6	17	1B	2	C	1826	90	2.1		
HOLL	29	1823	1825	1835	N20	E64	.904	16117	4.6	12	-B	3	C		69		DE	
HUAN	29	1823E		1829D	N20	E64	.904	16117	4.6	6D	-N	1	P	1826	40		E	
743 BIGB	29	1853	1854	1926	N18	E22	.446	16104	1.4	33	-F	2	C	1854	30	.3		ZX
744 BIGB	29	2137	2138	2144	N21	W50	.768	16093	26.2	7	-N	2	C	2138	20	.3		ZX
745 CULG	29	2144E	2144U	2155	S19	W24	.530	16100	28.1	11D	-N		P	2144	80	1.0		ZX
GRP75746	29	2205+0	2208+1	2218	S28	E89	1.000	16112	5.6	13	-F				35			
CULG	29	2205	2209	2218	S30	E88	1.000	16112	6.5	13	-F		C	2209	30			
BIGB	29	2205	2208	2217	S26	E90	1.000	16112	6.7	12	-N	2	C	2208	40			

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRF75747	29	2236+0	2237+0	2243	N21	E58	.860	16117	3.3	7	-B				30	.6		
BIGB	29	2236	2237	2244	N21	E58	.860	16117	4.3	8	-B	2	C	2237	30	.6		
HOLL	29	2236	2237	2242	N19	E58	.857	16117	4.3	6	-B	3	C		36			
CULG	29	2236E	2237	2243	N21	E60	.876	16117	4.4	7D	-N		P	2237	30	.6		
GRF75748	29	2253+0	2255+6	2310	N17	E40	.667	16108	2.0	17	-N				80	1.1	U	
CULG	29	2253	2301	2310	N18	E40	.670	16108	3.0	17	-N		C	2301	100	1.3	U	
HOLL	29	2253	2255	2309	N16	E40	.663	16108	3.0	16	-N	3	C		65			
GRF75749	30	0006+0	0008+2	0025	N05	E53	.798	16111	3.0	19	-N				35	.6		
BIGB	30	0006	0008	0024	N05	E53	.798	16111	4.0	18	-N	2	C	0008	20	.3		
CULG	30	0006	0010	0026	N05	E54	.808	16111	4.1	20	-N		C	0010	50	.9		
750 CULG	30	0103E	0128	0200	S19	W26	.553	16100	28.1	52D	-N		P	0128	90	1.1	FK	ZX
751 CULG	30	0127	0135	0144	S14	W43	.717	16100	26.8	17	-F		C	0135	80	1.1		ZX
752 CULG	30	0331	0339	0352	N20	W54	.823	16093	26.1	21	-F		C	0339	60	1.1	T	ZX
753 CULG	30	0429	0434	0445	N18	E12	.330	16104	1.1	16	-N		C	0434	30	.4		ZX
754 ABST	30	0508	0522	0652	N18	W53	.810	16093	26.2	104	-F		C	0522	70	1.2	D	ZX
GRF75755	30	0538+1	0540+2	0545	N19	E38	.650	16108	2.1	7	-F				140	1.9	D	
ABST	30	0538	0540	0542	N20	E40	.678	16108	3.2	4	-F		C	0540	87	1.2	D	
CULG	30	0539	0542	0547	N19	E36	.626	16108	2.9	8	1F		C	0542	190	2.6		
GRF75756	30	0551+0	0559+3	0638	S28	E78	.987	16112	5.1	47	1F				130		F	
ABST	30	0551	0602	0638	S28	E79	.989	16112	6.2	47	1F		C	0602	175		F	
CULG	30	0551	0559	0619D	S28	E78	.987	16112	6.1	28D	1N		P	0559	90			
757 CULG	30	0553	0559	0608	S13	W47	.757	0	26.7	15	-F	*	C	0559	50	.8		ZX
GRF75758	30	0602+1	0607+6	0633	S18	W27	.555	16100	28.2	31	-N				90	1.1	EJ	
CULG	30	0546	0613	0619D	S17	W28	.559	16100	28.1	33D	-N	*	P	0613	120	1.5	F	
HTPR	30	0602	0611	0633	S18	W24	.522	16100	28.5	31	-F	*	C	0611	30	.3	E	
ABST	30	0602	0607	0633	S19	W27	.564	16100	28.2	31	1N	*	C	0607	175	2.2	EJ	
ISTA	30	0603		0625	S18	W29	.578	16100	28.1	22	1B	*	V				E	
CATA	30	0610	0610	0625D	S19	W27	.564	16100	28.2	15D	-B	*	P	0610	67	.8		
759 ABST	30	0829	0843	0854	N09	E90	1.000	16119	7.1	25	?F		C	0843	96		AD	ZX
	IMP.1	NO : HTPR	KIEV	CATA														
GRP75760	30	0927+5	0931+2	0944	N03	E46	.719	16111	2.8	17	-F				60	.9	J	
ABST	30	0927	0931	0942	N02	E47	.731	16111	3.9	15	-N		C	0931	87	1.3	DJ	
HTPR	30	0932	0933	0945	N05	E45	.706	16111	3.8	13	-F		C	0933	40	.6	E	
761 TELV	30	0949	0953	1006	N21	E90	1.000	16120	7.2	17	-B	3	C					ZX
762 HTPR	30	1215	1218	1222	N18	E43	.705	16117	3.7	7	-B		C	1218	150	2.0		ZX
763 HTPR	30	1425	1432	1445	S16	E63	.906	16112	5.3	20	-F		C	1432	30	.6		ZX
764 HTPR	30	1528	1532	1536	N18	E41	.682	16117	3.7	8	-F		C	1532	60	.8	E	ZX
765 HTPR	30	1615	1619	1625	N17	E38	.642	16117	3.5	10	-F		C	1619	50	.7		ZX
766 HTPR	30	1727	1729	1735	N05	E41	.656	16111	3.8	8	-F		C	1729	20	.3	E	ZX
767 HOLL	30	1835	1836	1844	N18	E45	.727	16117	4.1	9	-B	3	C		42			ZX
GRP75768	30	1850+1	1852+0	1900	S20	W32	.626	16100	28.4	10	-N				90	1.1		
BIGB	30	1850	1852	1900	S20	W32	.626	16100	28.4	10	-F	1	C		75	.9		
HOLL	30	1851	1852	1934	S19	W31	.608	16100	28.5	43	-B	3	C		104		F	
HUAN	30	1851		1855	S20	W35	.659	16100	28.2	4	-F	1	C				E	
769 CULG	30	2200	2302	2354	N19	W67	.923	16093	25.9	114	?N		P	2302	90	2.1	KFL	ZX
	IMP.1	NO : HOLL	MANI															
GRP75770	30	2210+3	2215+4	2240	N05	E40	.642	16111	2.9	30	-N						F	
CULG	30	2210	2217	2254	N05	E40	.642	16111	3.9	44	-N		C	2217	130	1.7	F	
BIGB	30	2212	2219	2240	N06	E49	.754	16111	4.6	28	1F	1	C		225	3.5		
HOLL	30	2213	2215	2238	N04	E38	.615	16111	3.8	25	-N	3	C		51			
771 CULG	30	2247	2250	2306D	N16	E37	.626	16117	3.7	19D	-F		P	2250	40	.6		ZX
772 CULG	30	2247	2251	2254D	S41	W04	.693	0	30.6	7D	-F		P	2251	70	1.0	G	ZX

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OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS
773 HOLL	30	2249	2249	2307	N15	E26	.476	16108	2.9	18	-F	3	C		25		ZX
774 CULG	30	2354	2405	0054	S16	E64	.913	16118	5.8	60	?N		C	2405	220	5.1	I ZX
	IMP.1	NO : HOLL		MANI													
GRP75775	30	2358	0002	0020	S17	W38	.674	16100	28.1	22	-F						
CULG	30	2358	2402	0020	S17	W38	.674	16100	28.1	22	-F		C	2402	80	1.0	
CULG	30	2358	2402	0020	S17	W38	.674	16100	28.1	22	-F		C	2402	80	1.0	

"REMARKS":

A = Eruptive prominence whose base is less than 90 degrees 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 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 H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

*

JUNE 1979

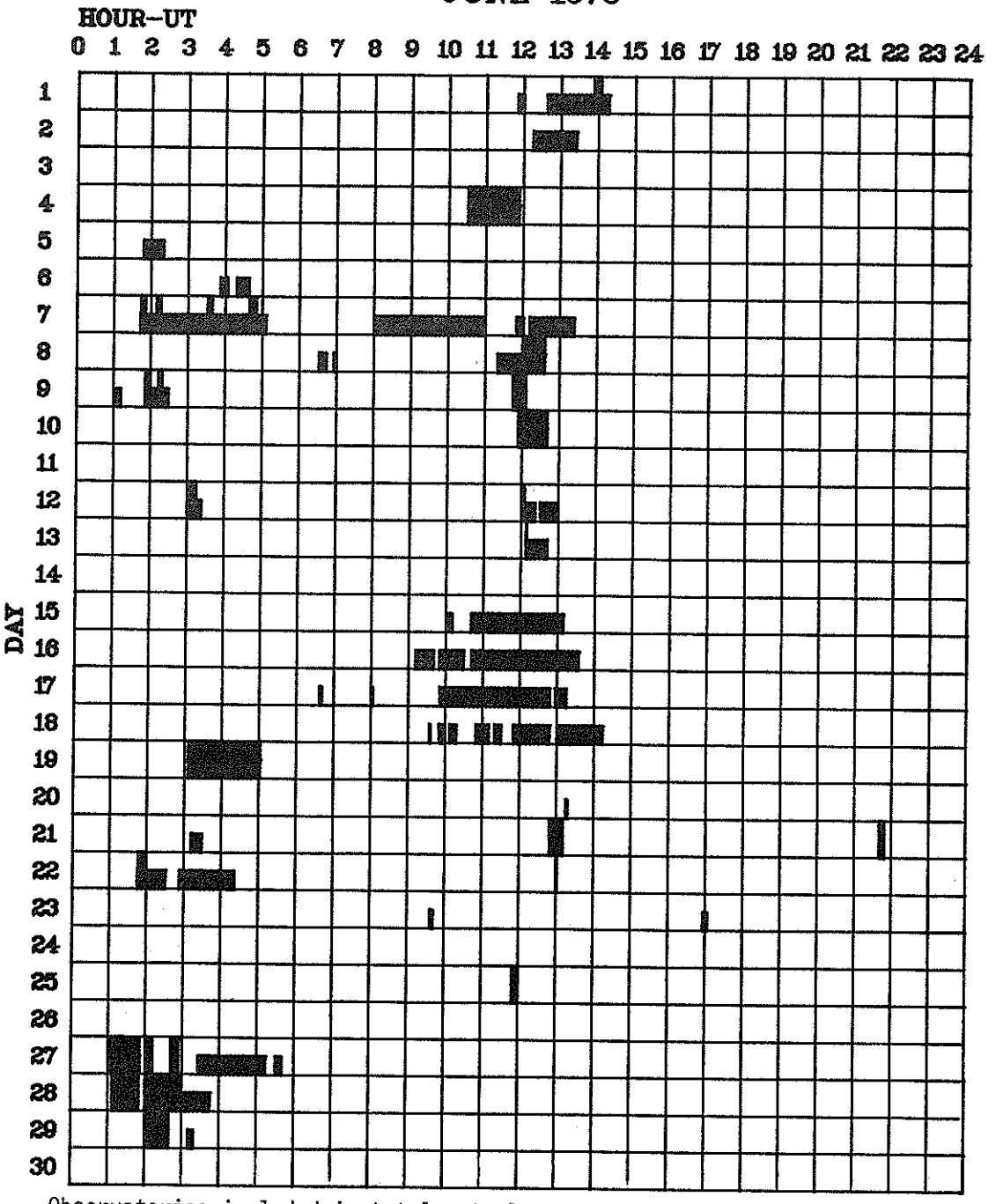
DAILY FLARE INDICES

Includes all Flares

Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790601	53.33	23.8	790611	127.89	24.0	790621	31.31	23.[illegible]
790602	109.47	24.0	790612	47.31	23.6	790622	60.54	23.8
790603	421.30	24.0	790613	144.95	24.0	790623	58.50	24.0
790604	496.85	23.4	790614	60.93	24.0	790624	69.51	24.0
790605	604.25	24.0	790615	53.21	24.0	790625	142.46	23.9
790606	95.37	24.0	790616	93.64	24.0	790626	30.41	24.0
790607	135.28	23.5	790617	117.38	24.0	790627	114.59	22.6
790608	165.00	23.4	790618	81.22	24.0	790628	36.38	22.5
790609	159.03	23.5	790619	45.56	22.1	790629	57.20	23.4
790610	2467.27	23.2	790620	46.23	24.0	790630	73.22	24.0

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE
JUNE 1979



Observatories included in total patrol:

Abastumani	Haute Provence	Kharkov	Mitaka	Tel Aviv
Athens	Holloman	Kiev	Monte Mario	Voroshilov
Big Bear	Huancayo	Locarno	Palehua	Wendelstein
Bucharest	Istanbul	Lvov	Purple Mt.	Yunnan
Catania	Kandilli	Manila	Ramey	Zürich
Culgoora	Kanzelhöhe	McMath-Hulbert	Tashkent	

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

SGD 431 Part II (Comprehensive)

MISCELLANEOUS DATA

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REGIONAL FLARE INDEX

Includes all Flares

MAY 1979

MC MATH PLAGE NO.	LAT	CMP CATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15973	S36	79/05/02.4	79/05/08	79/05/09	5.71	2.86	7
15974	N15	79/05/02.8	79/04/26	79/05/09	554.65	39.62	99
15976	N27	79/05/03.0	79/05/06	79/05/07	5.75	2.88	4
15978	S16	79/05/03.0	79/04/30	79/05/02	19.31	6.44	5
15984	S30	79/05/06.0	79/04/30	79/04/30	.84	.84	1
15982	S25	79/05/07.1	79/05/02	79/05/12	12.09	1.10	7
15986	N20	79/05/07.5	79/05/02	79/05/11	13.30	1.33	5
15989	N18	79/05/08.5	79/05/12	79/05/12	3.80	3.80	2
15987	S27	79/05/10.1	79/05/03	79/05/14	12.14	1.01	6
15990	N23	79/05/10.2	79/05/03	79/05/17	211.42	14.09	68
15992	N 6	79/05/11.5	79/05/05	79/05/16	233.83	19.49	57
15994	N19	79/05/11.6	79/05/07	79/05/15	1.69	.19	2
15991	N33	79/05/11.9	79/05/13	79/05/13	1.90	1.90	1
15996	S21	79/05/12.0	79/05/11	79/05/18	77.54	9.69	50
15995	N 4	79/05/12.6	79/05/07	79/05/11	56.49	11.30	19
15997	S33	79/05/13.1	79/05/07	79/05/14	10.82	1.35	6
15999	N17	79/05/13.6	79/05/08	79/05/19	66.30	5.53	41
16001	S16	79/05/13.7	79/05/08	79/05/18	51.62	4.69	17
16000	N 8	79/05/14.1	79/05/10	79/05/17	5.28	.66	2
16004	S27	79/05/14.5	79/05/11	79/05/11	3.38	3.38	1
16003	N30	79/05/14.7	79/05/09	79/05/20	17.33	1.44	13
16005	S15	79/05/15.0	79/05/09	79/05/21	19.03	1.46	12
16014	N15	79/05/15.8	79/05/10	79/05/22	173.44	13.34	50
16007	N23	79/05/15.8	79/05/12	79/05/22	9.50	.86	4
16017	S30	79/05/15.9	79/05/14	79/05/19	69.55	11.59	19
16018	N38	79/05/16.1	79/05/14	79/05/21	7.39	.92	6
16010	N13	79/05/17.3	79/05/10	79/05/19	63.26	6.33	22
16009	S15	79/05/17.5	79/05/15	79/05/15	2.59	2.59	1
16033	N21	79/05/17.9	79/05/21	79/05/24	2.74	.69	2
16013	S30	79/05/18.5	79/05/14	79/05/14	1.90	1.90	1
16021	S30	79/05/18.8	79/05/21	79/05/24	19.00	4.75	6
16012	N26	79/05/19.6	79/05/12	79/05/24	106.11	8.16	33
16015	N15	79/05/19.9	79/05/16	79/05/16	1.90	1.90	1
16023	S15	79/05/21.7	79/05/16	79/05/23	9.62	1.20	6
16020	N14	79/05/21.7	79/05/17	79/05/26	21.96	2.20	14
16024	N26	79/05/22.3	79/05/20	79/05/26	44.70	6.39	13
16028	N23	79/05/23.5	79/05/28	79/05/28	.84	.84	1
16029	N14	79/05/23.5	79/05/25	79/05/25	20.27	20.27	7
16025	S21	79/05/23.9	79/05/17	79/05/28	153.54	12.80	42

REGIONAL FLARE INDEX

Includes all Flares

MAY 1979

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
16026	S25	79/05/24.4	79/05/20	79/05/26	10.81	1.54	5
16042	N23	79/05/25.2	79/05/28	79/05/29	2.74	1.37	2
16030	S21	79/05/25.3	79/05/18	79/05/26	167.04	18.56	30
16031	N18	79/05/26.0	79/05/20	79/06/01	182.14	14.01	37
16032	S23	79/05/26.9	79/05/23	79/05/29	30.66	4.38	6
16034	S34	79/05/27.9	79/05/20	79/05/28	22.85	2.54	13
16036	N25	79/05/28.4	79/05/24	79/05/31	33.36	4.17	7
16045	S 8	79/05/29.4	79/05/30	79/05/30	5.28	5.28	1
16041	N17	79/05/29.8	79/05/24	79/06/03	83.76	7.61	25
16043	S22	79/05/30.0	79/05/27	79/05/27	3.44	3.44	1
16040	S32	79/05/30.0	79/05/23	79/06/06	42.48	2.83	23
16044	S20	79/05/30.8	79/05/26	79/05/31	12.96	2.16	6
16053	S14	79/05/31.7	79/06/07	79/06/07	6.76	6.76	8

ACTIVE REGIONS
CARRINGTON ROTATION 1687
(October 6 to November 3, 1979)

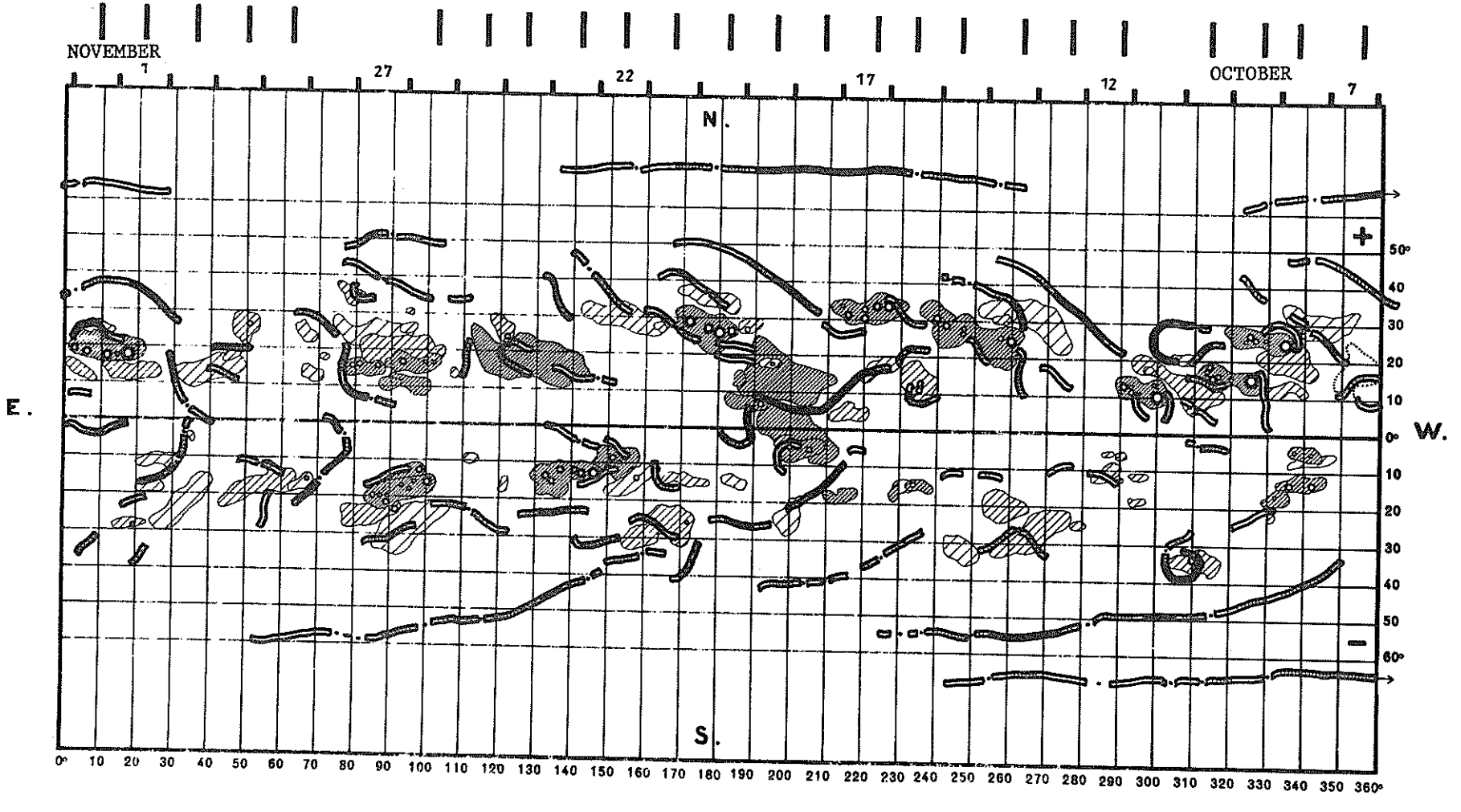
Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1686	Activity at West Limb
1	5°S	341°	2	-1			decreasing
2	13 S	340	3	+3			increasing
3	29 N	338	2	+1			decreasing
4	20 N	336	1	>6	x		decreasing
5	13 N	335	1	>6	x		decreasing
6	17 S	333	2	+6			decreasing
7	26 N	328	5	>6			decreasing
8	16 N	321	6	>6			decreasing
9	34 S	312	2	>6			decreasing
10	20 N	308	1	>6	x		dispersed
11	14 N	307	1	>6	x	10/11	dispersed
12	17 N	298	1	+2	x		dispersed
13	12 N	297	5	+6			decreasing
14	12 S	296	1	-2	x		disappeared
15	18 S	295	1	-2	x		increasing
16	6 S	291	1	-1	x		disappeared
17	11 S	287	1	>6	x	13	disappeared
18	25 S	279	1	-1	x		dispersed
19	27 S	267	1	>6	x	15	decreasing
20	20 S	259	1	>6	x		decreasing
21	30 N	258	1	+1	x		disappeared
22	27 N	251	4	>6			decreasing
23	32 S	247	1	>6	x		dispersed
24	32 N	240	2	>6			stable
25	14 S	236	2	-1			decreasing
26	13 N	235	3	>6			decreasing
27	17 S	229	1	+3	x		decreasing
28	17 N	225	1	>6	x		decreasing
29	33 N	222	6	+4			decreasing
30	5 N	217	1	>6	x		dispersed
31	18 S	214	1	+4	x		decreasing
32	5 S	203	2	>6			decreasing
33	0	202	1	>6	x		decreasing
34	13 N	198	1	>6	x	29/30	decreasing
35	18 N	195	2	+2			decreasing
36	7 N	189	2	>6			decreasing
37	28 N	189	2	+3			decreasing
38	13 N	186	1	-4	x		stable
39	14 S	185	1	>6	x		dispersed
40	35 N	178	1	>6	x		dispersed
41	27 N	177	7	>6			decreasing
42	14 S	172	1	>6	x		dispersed
43	26 S	165	2	>6			decreasing
44	14 S	158	2	>6			decreasing
45	30 N	156	1	>6	x	41	dispersed
46	10 S	153	2	>6			decreasing
47	13 S	140	6	>6			decreasing
48	19 N	128	1	>6	x	48/49/50	decreasing
49	26 N	121	2	>6			decreasing
50	9 S	113	1	-4	x		decreasing
51	14 N	108	1	>6	x		disappeared
52	15 N	97	3	0			stable
53	10 N	96	1	0			dispersed
54	13 S	94	2	>6			decreasing
55	18 S	94	5	>6			decreasing
56	20 N	93	1	>6	x	57	dispersed
57	10 N	90	1	-4			increasing
58	25 S	86	2	>6		69	decreasing
59	15 N	83	2	0			decreasing
60	34 N	79	1	-2	x		decreasing
61	17 N	72	1	-4	x		decreasing
62	13 N	69	1	>6	x		dispersed
63	24 N	67	1	>6	x		dispersed
64	17 S	66	2	-3			decreasing
65	17 S	56	1	>6	x	64	decreasing
66	26 N	50	2	>6			decreasing
67	18 N	46	1	-3	x		increasing
68	14 N	41	1	>6	x	66/67	dispersed
69	11 S	28	1	>6	x	69	dispersed
70	19 S	24	1	>6	x		dispersed
71	13 N	20	1	>6	x	70	decreasing
72	28 S	18	2	>6			decreasing
73	19 N	12	7	>6			decreasing
74	25 N	11	1	+1	x		disappeared
75	13 N	4	1	>6	x	72	dispersed

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1684

OCTOBER 6 - NOVEMBER 3, 1979

MEUDON OBSERVATORY



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Misc
Oct-Nov 79

SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

Belgium: *Bulletin d'Observations: Activite Solaire - Observations Radio-electriques Solaires - 600 MHz (Humain, Belgium)* Observatoire Royal de Belgique, Ave. Circulaire 3, Brussels, Belgium (monthly since 1962)

Canada: *Solar Noise Observations at 2800 Mc/s (Ottawa - ARO) and 2700 Mc/s (Penticton - DRAO)* Series C Monthly Report, National Research Council, Radio Astronomy Section Ottawa 7, Ontario, Canada (since 1947)

France: *Carte Synoptiques de la Chromosphere Solaire* Observatoire de Paris, 92 Meudon, France (monthly since 1931)

Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.D. (monthly since Jul 1957)

Italy: *Solar Phenomena - Monthly Bulletin and Photographic Supplement* Osservatorio Astronomica di Roma, Monte Mario, Rome, Italy (monthly since 1958) *Osservazion Solari, Solar Flux and Distinctive Events* Osservatorio Astronomico Di Trieste (quarterly since 1965) *Solar Observations made at Catania Astrophysical Observatory* (annually since 1967)

Japan: *Monthly Report of Solar Radio Emission* Radio Astronomy Section, Research Institute of Atmospherics, Nagoya University, Toyokawa, Japan (since 1956) *Solar Activity Chart* WDC-C2, Toyokawa Observatory, Nagoya University, Toyokawa, Japan (annually since 1968) *IAU Quarterly Bulletin on Solar Activity* Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan (since 1978)

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

Taiwan: *Report on Sunspot Observations* Taiwan Provincial Weather Bureau Observatory, Taipei, Taiwan (quarterly since 1957)

USSR: СОЛНЕЧНЫЕ ДАННЫЕ *(Solar Data)* USSR Academy of Science (monthly since 1958) КОСМИЧЕСКИЕ ДАННЫЕ *(Cosmic Data)* (monthly since 1962) *Magnetic Fields of Sunspots* (bimonthly since 1964)

USA: *Preliminary Report and Forecast of Solar-Geophysical Activity* Space Environment Services Center, NOAA, Boulder, Colorado 80303 USA (weekly) *Solar-Geophysical Data* NOAA, Boulder, Colorado 80303 USA (monthly since November 1956)

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UAG-2 "A Reevaluation of Solar Flares, 1964-1966", price 30 cents.
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UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects", price 65 cents.

UAG-6 "International Geophysical Calendars 1957-1969", price 30 cents.
UAG-7 "Observations of the Solar Electron Corona: February 1964-January 1968", price 15 cents.
UAG-8 "Data on Solar-Geophysical Activity October 24-November 6, 1968", price (includes Parts 1 & 2) $1.75.
UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena", price 55 cents.
UAG-10 "Atlas of Ionograms", price $1.50.

UAG-11 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).
UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970", price (includes Parts 1-3) $3.00.
UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969, price 50 cents.
UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major' Flares, 1955-1969", price 30 cents.
UAG-15 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-16 "Temporal Development of the Geographical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1969)", price 70 cents.
UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967-March 1970)", microfiche only, price 45 cents.
UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations", price 20 cents.
UAG-19 "Reevaluation of Solar Flares 1967", price 15 cents.
UAG-20 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972", price 70 cents.
UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970", price 75 cents.
UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, November 1972, 324 pages, price $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction, Second Edition, November 1972", Revision of Chapters 1-4, edited by W. R. Piggott and K. Rawer, NGSDC/EDS/NOAA, July 1978, 135 pages, price $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971", price (includes Parts 1 and 2) $2.00.
UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971", price 35 cents.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970", price 70 cents.
UAG-27 "High Speed Streams in the Solar Wind", price 15 cents.
UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events", price (includes Parts 1-3) $4.50.
UAG-29 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1968", price 75 cents.
UAG-30 "Catalogue of Data on Solar-Terrestrial Physics", price $1.75.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1969", price 75 cents.
UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969", price 35 cents.
UAG-33 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1967", price 75 cents.
UAG-34 "Absorption Data for the IGY/IGC and IQSY", price $2.00.
UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics", price 20 cents.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed Via Sudden Frequency Deviations During the ATM-SKYLAB Missions", price 55 cents.
UAG-37 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1966", price 75 cents.
UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics", price $1.60.
UAG-39 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1971", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, February 1975, 144 pages, price $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity For the Period of Skylab Observations, May, 1973-March, 1974", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, February 1975, 32 pages, price 56 cents.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20, October, 1964 - August, 1965", by Patrick S. McIntosh, NOAA Environmental Research Laboratories, and Jerome T. Nolte, American Science and Engineering, Cambridge, Massachusetts, March 1975, 25 pages, price 48 cents.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz 10 December 1971 through 21 March 1975", by James W. Warwick, George A. Dulk, and Anthony C. Riddle, Department of Astro-Geophysics, University of Colorado, Boulder, Colorado 80302, April 1975, 49 pages, price $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs", compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, May 1975, 159 pages, price $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973", by Werner Graf and Ronald N. Bracewell, Radio Astronomy Institute, Stanford University, Stanford, California 94305, May 1975, 183 pages, price $2.55.

UAG-45 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1972", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, May 1975, 144 pages, price $2.10.

UAG-46 "Interplanetary Magnetic Field Data 1963-1974", by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, June 1975, 382 pages, price $2.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1973", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, June 1975, 144 pages, price $2.10.

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)", [Reissue with quality images] by R. A. Howard, M. J. Koomen, D. J. Michels, R. Tousey, C. R. Detwiler, D. E. Roberts, R. T. Seal and J. D. Whitney, E. O. Hulbert Center for Space Research, NRL, Washington, D. C. 20375 and R. T. and S. F. Hansen, C. J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, Colorado 80303, February 1976, 200 pages, price $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado, August 1975, 125 pages, price $1.85.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Reduction", by W. R. Piggott, British Antarctic Survey, c/o SRC, Appleton Laboratory, Ditton Park, Slough, England, October 1975, 292 pages, price $4.00.

UAG-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304Å Spectroheliograms from the Manned Skylab Missions", by J. D. Bohlin and D. M. Rubenstein, E. O. Hulbert Center for Space Research, Naval Research Laboratory, Washington, D. C. 20375 U.S.A., November 1975, 30 pages, price 54 cents.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974", compiled by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, The University of Michigan, 895 Lake Angelus Road North, Pontiac, Michigan 48055 U.S.A., November 1975, 27 pages, price 60 cents.

UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radar Observatory (November 1966 - April 1969)", by W. L. Clark and T. E. Van Zandt, Aeronomy Laboratory, NOAA, Boulder, Colorado 80302 and J. P. McClure, University of Texas at Dallas, Dallas, Texas 75230, April 1976, 10 pages, price 33 cents.

UAG-54 "Catalog of Ionosphere Vertical Soundings Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado 80302, April 1976, 130 pages, price $2.10.

UAG-55 "Equivalent Ionospheric Current Representations by a New Method, Illustrated for 8-9 November 1969 Magnetic Disturbances", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, H. W. Kroehl, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, Colorado 80303, J. H. Allen, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, and S.-I. Akasofu, Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, April 1976, 91 pages, price $1.60.

UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971 Geomagnetic Storm", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701 (currently Guest worker at Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302), April 1976, 37 pages, price $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975", by R. B. Fritz, Space Environment Laboratory (currently with Wave Propagation Laboratory), NOAA, Boulder, Colorado 80302 USA, September 1976, 61 pages, price $1.04.

UAG-59 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1974", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, December 1976, 144 pages, price $2.16.

UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, July 1977, 57 pages, price $1.07.

UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976", edited by Helen E. Coffey and John A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, August 1977, 313 pages, price $2.95.

UAG-62 "Geomagnetic Data For February 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 55 pages, price $1.11.

UAG-63 "Geomagnetic Data for March 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 57 pages, price $1.11.

UAG-64 "Geomagnetic Data for April 1976 (AE(8) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, February 1978, 55 pages, price $1.00.

UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, and Processing" by G. K. Hartmann, Max-Planck-Institut für Aeronomie, D-3411 Katlenburg-Lindau 3, GFR, May 1978, 36 pages, price 75 cents.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3mm 1970-1973" by Earle B. Mayfield, Space Science Lab., and Fred I. Shimabukuro Electronics Res. Lab., The Ivan A. Getting Laboratories, The Aerospace Corp., El Segundo, California 90245, May 1978, 30 pages, price 75 cents.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pages, price 88 cents.

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, September 1978, 56 pages, price $1.41.

UAG-69 "Selected Disturbed D-Region Electron Density Profiles. Their relation to the undisturbed D region", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pages, price $1.29.

UAG-70 "Annotated Atlas of Hα Synoptic Charts for Solar Cycle 20 (1964-1974) Carrington Solar Rotations 1487-1616", by Patrick S. McIntosh, Space Environment Laboratory, ERL/NOAA, February 1979, 327 pages, price $3.50.

UAG-71 "Magnetic Potential Plots Over the Northern Hemisphere for 26-28 March 1976", by A.D. Richmond, SEL/ERL/NOAA, H.W. Kroehl, NGSDC/EDIS/NOAA, M.A. Henning, Lockheed Missiles and Space Co., Aurora, CO, and Y. Kamide, Kyoto Sangyo Univ., Kyoto, Japan, April 1979, 115 pages, price $1.50.

UAG-72 "Energy Release in Solar Flares, Proceedings of the Workshop on Energy Release in Flares, 26 February-1 March 1979, Cambridge, Massachusetts, U.S.A.", edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pages, price $1.50.

UAG-73 "Auroral Electrojet Magnetic Activity Indices AE(11-12) for January-June 1975", by J. H. Allen, C. C. Abston, J. E. Salazar and J. A. McKinnon, NGSDC/EDIS/NOAA, August 1979, 114 pages, price $1.75.

UAG-74 "ATS-6 Radio Beacon Electron Content Measurements at Ootacamund, India, October - July 1976", by S.D. Bouwer, K. Davies, R.F. Donnelly, R.N. Grubb, J.E. Jones and J.H. Taylor, NOAA Space Environment Laboratory, Boulder, CO, and R.G. Rastogi, M.R. Deshpande, H. Chandra and G. Sethia, Physical Research Laboratory, Ahmedabad, India, March 1980, 58 pages, price $2.50.

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

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."