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Solar - Geophysical Data

NO. 416 APRIL 1979

Part II (Comprehensive Reports)

DATA FOR
OCTOBER 1978
SEPTEMBER 1978

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 416

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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

OCTOBER 1978 DATA

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ACTIVE REGIONS

CARRINGTON ROTATION 1673

(September 20 to October 17, 1978)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1673	Activity at West Limb
1	15°S	353°	-2	2			decreasing
2	9 N	348	>6	1	x		dispersed
3	17 N	346	>6	1	x		disappeared
4	16 S	345	>6	1	x		dispersed
5	15 N	337	+5	4			decreasing
6	24 S	334	>6	3		(6)	decreasing
7	21 S	320	+5	2			disappeared
8	32 N	320	-2	1	x		decreasing
9	22 N	308	+4	2			decreasing
10	24 N	308	>6	3			decreasing
11	14 S	307	+4	4			decreasing
12	19 S	307	+3	2			decreasing
13	20 N	295	+2	2			decreasing
14	20 S	293	+6	1	x		disappeared
15	28 N	277	>6	5			decreasing
16	22 S	276	-6	1	x		(?)
17	13 S	253	+3	2			decreasing
18	22 N	250	>6	1	x	(16)	decreasing
19	19 S	244	+6	2			decreasing
20	13 S	239	>6	2			decreasing
21	28 N	239	>6	1	x		decreasing
22	13 N	234	-4	1	x		disappeared
23	17 S	231	>6	2			decreasing
24	17 S	226	+3	2			decreasing
25	36 N	216	>6	2			decreasing
26	17 N	215	>6	4		(25)	decreasing
27	15 N	201	-4	2			decreasing
28	38 N	201	>6	3			decreasing
29	22 S	199	>6	2			decreasing
30	23 S	194	>6	1	x	(28)	decreasing
31	16 N	193	>6	1	x		dispersed
32	31 S	182	>6	1	x	(29)	decreasing
33	18 S	171	>6	1	x		decreasing
34	31 N	167	0	2			decreasing
35	35 S	161	>6	1	x	(32+33)	dispersed
36	10 S	158	+2	2			decreasing
37	15 N	155	>6	5			decreasing
38	31 N	154	+2	1	x		decreasing
39	14 N	147	>6	2			decreasing
40	28 N	142	>6	1	x		decreasing
41	14 N	135	+3	2			decreasing
42	21 S	119	-1	6			increasing
43	25 S	119	+4	5			stable
44	23 N	103	+2	3			decreasing
45	33 N	85	>6	1	x		dispersed
46	34 N	84	-4	1	x		increasing
47	21 S	80	-3	2			decreasing
48	33 N	74	+2	1	x		disappeared
49	16 N	71	-1	2			decreasing
50	30 S	68	+5	2			decreasing
51	15 S	67	+6	2			decreasing
52	21 N	64	>6	2		(45)	decreasing
53	20 S	63	>6	2			decreasing
54	24 S	52	+5	2			decreasing
55	18 S	51	>6	2		(46)	decreasing
56	20 S	50	+1	6			decreasing
57	20 S	38	+3	2			disappeared
58	20 N	38	>6	4			stable
59	18 S	23	>6	5		(45)	decreasing
60	21 S	13	>6	5			stable
61	28 N	9	>6	4			decreasing
62	13 N	8	+1	2			disappeared
63	28 S	6	>6	1	x		dispersed
64	22 S	4	+6	3			decreasing

ACTIVE REGIONS

CARRINGTON ROTATION 1674

(October 17 to November 13, 1978)

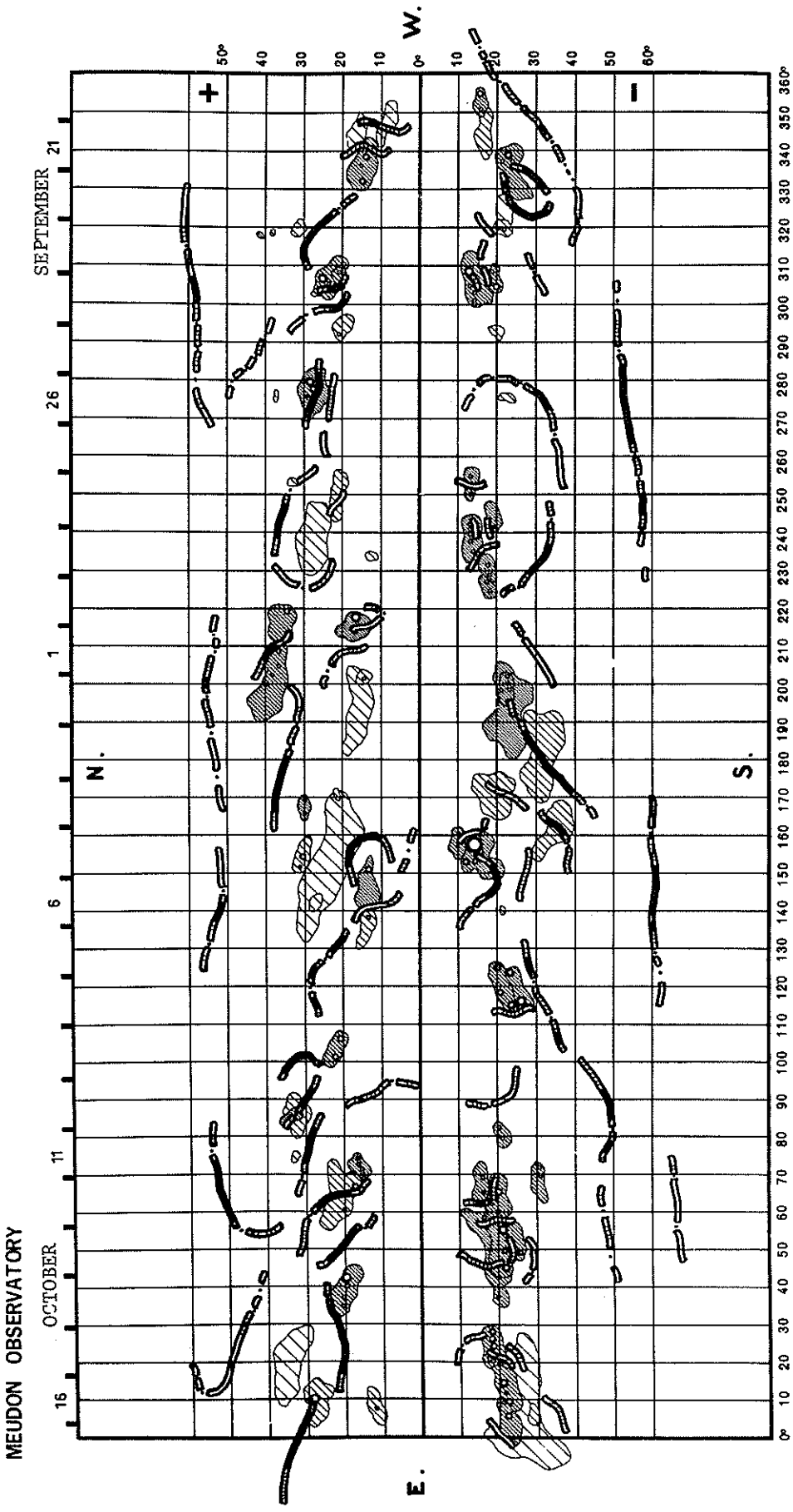
Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1674	Activity at West Limb
1	33°N	356°	>6	2			decreasing
2	37 N	349	>6	1	x		decreasing
3	15 N	338	-2	1	x		stable
4	25 S	337	+5	1	x		decreasing
5	14 N	332	>6	1	x	(5)	disappeared
6	19 S	326	+3	1	x		stable
7	18 N	324	>6	3			decreasing
8	30 N	316	>6	5			decreasing
9	18 S	309	>6	1	x	(11+12)	decreasing
10	28 S	309	>6	3			decreasing
11	23 N	303	>6	1	x	(10)	decreasing
12	19 N	300	+5	1	x		disappeared
13	15 N	294	+3	2			decreasing
14	33 N	284	+5	1	x		disappeared
15	22 S	275	>6	3			decreasing
16	32 N	270	>6	2			decreasing
17	26 N	264	>6	5			decreasing
18	15 S	250	+4	4			stable
19	28 S	246	-4	1	x		stable
20	14 N	243	>6	1	x		dispersed
21	18 N	234	+2	1	x		decreasing
22	22 N	214	+1	2			decreasing
23	38 S	212	+3	1	x		dispersed
24	22 N	211	>6	1	x		decreasing
25	18 N	208	>6	3			decreasing
26	26 S	205	>6	1	x		decreasing
27	19 S	198	>6	4			decreasing
28	37 N	194	>6	1	x	(25)	decreasing
29	20 S	185	>6	2		(30)	decreasing
30	39 N	173	>6	1	x	(28)	decreasing
31	33 S	172	>6	1	x	(32+35)	dispersed
32	21 S	170	>6	1	x	(33)	dispersed
33	34 N	169	-3	1	x		stable
34	13 N	162	+1	1	x		stable
35	11 S	160	>6	1	x	(36)	decreasing
36	15 S	159	>6	2		(37)	decreasing
37	30 N	150	>6	2			decreasing
38	15 N	148	>6	1	x		decreasing
39	11 S	147	+5	2			decreasing
40	18 S	125	>6	2			decreasing
41	5 N	122	+6	2			disappeared
42	25 S	113	>6	2		(42+43)	decreasing
43	22 S	96	+1	2			decreasing
44	25 N	81	-3	1	x		decreasing
45	13 S	79	>6	7			decreasing
46	19 S	62	>6	1	x	(53)	decreasing
47	37 N	60	+3	1	x		dispersed
48	23 S	48	>6	1	x	(54+56)	decreasing
49	22 N	46	+1	6			stable
50	19 S	44	+1	2			decreasing
51	17 N	43	>6	5			decreasing
52	25 N	30	>6	1	x	(58)	decreasing
53	37 S	25	-4	1	x		decreasing
54	21 S	23	>6	1	x	(59+60)	decreasing
55	10 N	20	+6	1	x		disappeared
56	26 N	4	+1	1	x		dispersed
57	24 S	3	>6	4			stable

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1673

SEPTEMBER 20 TO OCTOBER 17, 1978

MEUDON OBSERVATORY

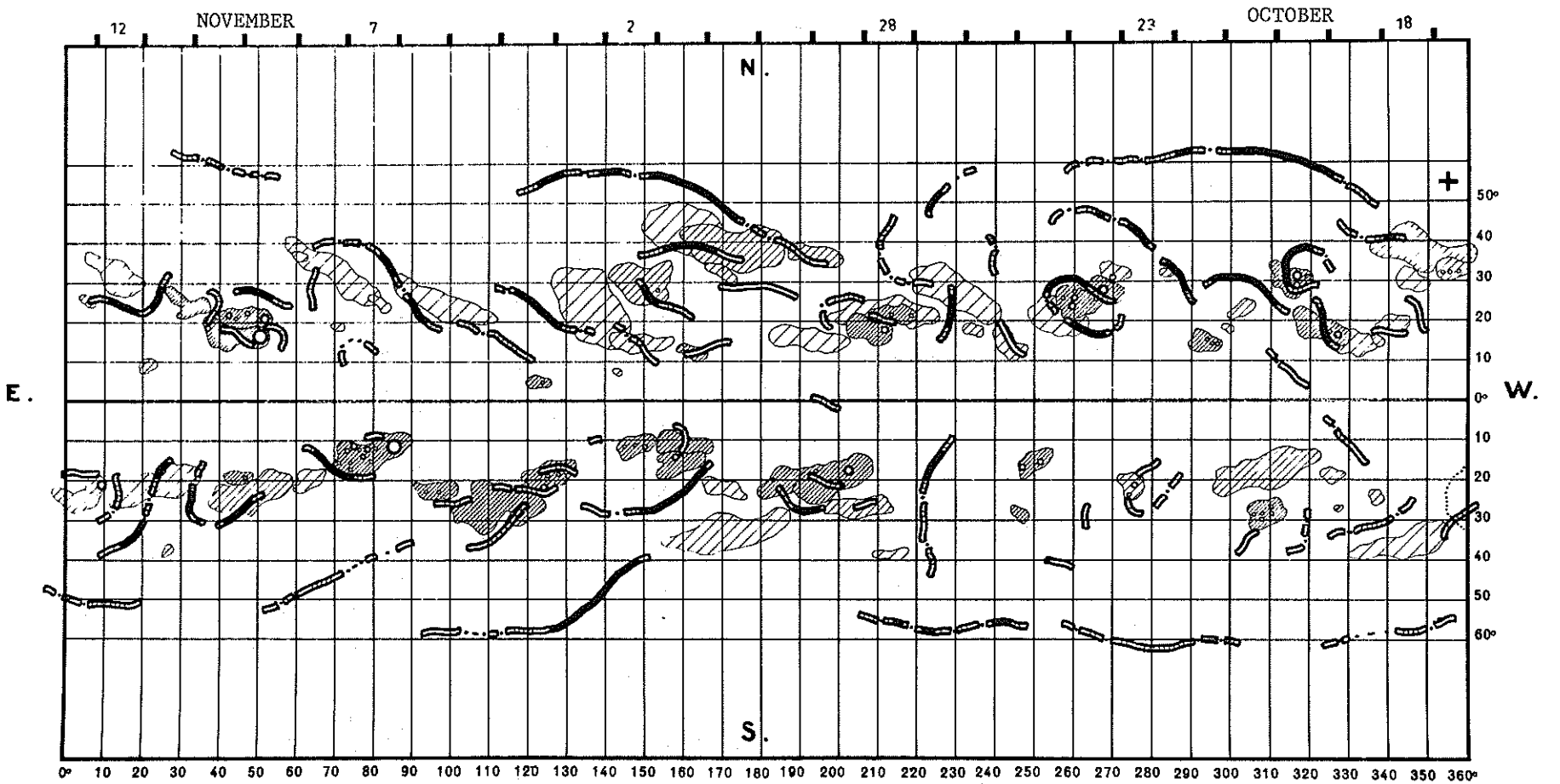


SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1674

OCTOBER 17 TO NOVEMBER 13, 1978

MEUDON OBSERVATORY



7 Oct 78

Hα SOLAR FLARES

OCTOBER 1978

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE OCT	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	01	0045	0052	NO FLARE PATROL														
	01	0057	0058	NO FLARE PATROL														
367 CULG	01	0152	0223	0415	S14	E60	.891	15570	5.6	143	?F		C	0223	160	3.6	K	Y5
	IMP 1 NO ‡ MITK1																	
368 CULG	01	0207	0222	0245	S16	W17	.474	15563	29.8	38	-N		C	0222	70	.8		Y5
369 CULG	01	0404	0411	0427	S13	W26	.537	15554	29.2	23	-F		C	0411	80	1.0		Y5
370 CULG	01	0435	0454	0530	S14	W31	.603	15554	28.9	55	?N		C	0454	160	2.0	FK	Y5
	IMP 1 NO ‡ MITK1																	
371 CULG	01	0526	0535	0609	S16	E38	.694	15566	4.1	43	-F		C	0535	40	.6		Y5
GRP69372	01	0653>9	0718 0730+3	0851	S13	E57	.866	15570	5.6	118	2N						EJUZ	
TEHR	01	0653	0730	0913	S10	E55	.841	15570	5.4	140	2B	2	C		668		Z U	
MITK	01	0658		0712D	S12	E58	.871	15570	5.6	14D	1N		C	0712	220	4.4	E	
BUCA	01	0700E	0730	0900	S14	E57	.868	15570	5.6	120D	2N		C	0730	537	11.7	U	
ISTA	01	0705		0845	S12	E59	.879	15570	5.7	100	1N			0730			F	
ATHN	01	0713	0718	0840	S15	E50	.810	15570	5.1	87	2N	1		0716	491	7.8		
CULG	01	0721E	0733U	0733D	S14	E57	.868	15570	5.6	12D	3B		P	0733	600	12.0	JU	
ABST	01	0732E	0732	0835	S15	E55	.854	15570	5.4	63D	3N		P	0732	696	14.2	EJ	
TACH	01	0733E		0807	S14	E60	.891	15570	5.8	34D	3F		V	0733	1061	24.2	U	
KHAR	01	0824E	0824	0950D	S14	E60	.891	15570	5.9	86D	1N		P				BE	
373 RAMY	01	1337	1343	1350	N30	W68	.925	15551	26.5	13	-N	4	C		15			Y5
374 CULG	01	2233	2247	2259	S12	W42	.717	15554	28.8	26	-F		C	2247	30	.4		Y5
375 CULG	02	0215	0226	0258	S20	W80	.992	15572	26.1	43	-N		C	0226	30			Y5
376 PALE	02	0225	0226	0229	N28	W79	.975	15551	26.2	4	-N	3	C		16		DE	Y5
GRP69377	02	0644	0647	0712	S11	E43	.723	15570	5.5	28	-N						D	
TEHR	02	0644	0647	0712	S12	E43	.727	15570	5.5	28	-N	2	C		63			
ISTA	02	0650E		0705D	S10	E43	.719	15570	5.5	15D	-N						D	
378 BUCA	02	0835		0849	S21	W85	.999	15572	26.0	14	-N		C	0836	43		D	Y5
	02	1235	1236	NO FLARE PATROL														
	02	1624	1637	NO FLARE PATROL														
379 CULG	02	2216	2219	2257	N14	E46	.716	15569	6.4	41	-F		C	2219	60	.8		Y5
380 CULG	03	0232	0235	0329	S20	W90	1.001	15572	26.4	57	-N		C	0235	40			Y5
381 CULG	03	0302	0309	0343D	N43	W10	.608	15557	2.4	41D	-F		C	0309	100	1.3	L	Y5
382 ISTA	03	0715		0745	S20	W57	.883	15556	29.0	30	-N						D	Y5
GRP69383	03	0755+0	0802 0810	0835	S17	W58	.883	15556	29.0	40	1N						J	
BUCA	03	0755	0802	0835	S17	W59	.890	15556	28.9	40	1N		C	0802	161	3.6		
ISTA	03	0755		0835	S20	W56	.876	15556	29.1	40	2B	*		0815			F	
ABST	03	0806E	0810	0825	S17	W58	.883	15556	29.0	19D	-N		P	0810	87	1.8	DJ	
GRP69384	03	0834+1	0837	0848	S07	E26	.489	15570	5.3	14	-F						J	
ABST	03	0834	0837	0850	S08	E26	.497	15570	5.3	16	-N	*	C	0837	87	1.0	DJ	
ISTA	03	0835		0845	S07	E27	.503	15570	5.4	10	-F	*					E	
385 ISTA	03	0835		0850	N17	E36	.597	15569	6.1	15	-N						E	Y5
386 HOLL	03	1422	1428	1454	N18	E35	.587	15569	6.2	32	1B	3	C		199		FOE	Y5
	03	1555	1606	NO FLARE PATROL														
387 PALE	03	1715	1755	1859	S12	E23	.492	15570	5.4	104	?B	3	C		221		U F	Y5
	IMP 1 NO ‡ HOLL1																	
	03	2008	2022	NO FLARE PATROL														
	03	2033	2041	NO FLARE PATROL														
	03	2052	2102	NO FLARE PATROL														
	03	2143	2152	NO FLARE PATROL														

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE OCT	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP69388	04	0058+1	0101+4	0126	S14	E22	.500	15570	5.7	28	-N						E
CULG	04	0058	0105	0135	S15	E22	.510	15570	5.7	37	1N		C	0105	300	3.5	
MITK	04	0059	0101	0117	S13	E23	.501	15570	5.8	18	-F		C	0101			E
389 CULG	04	0109	0118	0135	N25	E32	.584	15578	6.4	26	-N		C	0118	30	.4	Y5
390 VORO	04	0123E		0126	N22	E58	.847		8.4	30	-F		C	0124	27	.4	Y5
GRP69391	04	0328+5	0330+9	0354	S16	E21	.510	15570	5.7	26	-N				130	1.5	J
MITK	04	0328	0330	0358	S16	E23	.531	15570	5.9	30	-N		C	0330			E
CULG	04	0329E	0334U	0356D	S18	E21	.532	15570	5.7	270	-N		P	0334	130	1.5	
VORO	04	0330	0333	0356	S16	E24	.541	15570	5.9	26	1N		C	0333	188	2.2	EJ
TEHR	04	0333	0337	0343	S17	E17	.484	15570	5.4	10	-B	1	C		127		FDE
PALE	04	0337E	0339U	0341D	S12	E19	.446	15570	5.6	4D	-B	3	C		91		FDE
MANI	04	0347E	0347U	0350D	S17	E22	.531	15570	5.8	3D	-N	3	V		130	1.6	
	04	0423	0435	NO FLARE PATROL													
392 TEHR	04	0423	0428	0439	N28	E31	.592	15578	6.5	16	-B	1	C		63		UDE Y5
	04	0522	0530	NO FLARE PATROL													
393 KANZ	04	1019E	1019	1019D	N15	E26	.452	15569	6.4		-B		C				D Y5
394 MCMA	04	1411	1418	1428	S14	E08	.376	15570	5.2	17	-F		C	1418	40	.4	E Y5
395 MCMA	04	1609E		1611D	S09	E07	.294	15570	5.2	2D	-F		P	1609	50	.5	E Y5
GRP69396	04	1634+6	1640+2 1707	1717	S14	E13	.411	15570	5.7	43	-N				45	.5	ELU
MCMA	04	1634	1642	1721D	S15	E14	.433	15570	5.7	47D	-N		C	1642	50	.5	EL
HOLL	04	1640	1640	1652	S13	E13	.398	15570	5.7	12	-N	3	C		35		U F
HOLL	04	1707	1707	1713	S13	E13	.398	15570	5.7	6	-N	3	C		24		FDE
397 CULG	04	2305	2312	2330	S15	W13	.425	15566	4.0	25	-N		C	2312	30	.3	Y5
GRP69398	04	2319+0	2321+2 2344	0001	S11	E04	.309	15570	5.3	42	-N				90	.9	K
CULG	04	2319	2323	0007	S10	E02	.287	15570	5.1	48	-N		C	2323	60	.6	K
VORO	04	2319	2321	2327	S10	E04	.293	15570	5.3	8	-F		C	2321	116	1.2	
VORO	04	2343	2344	2355	S13	E08	.361	15570	5.6	12	-B		C	2344	72	.8	
399 VORO	05	0051	0053	0056	S14	E08	.375	15570	5.6	5	-B		C	0053	36	.4	Y5
400 CULG	05	0301	0309	0325	S15	E05	.376	15570	5.5	24	-F		C	0309	40	.4	Y5
401 CULG	05	0600	0602	0610	S12	E02	.320	15570	5.4	10	-F		P	0602	40	.4	Y5
	05	1148	1309	NO FLARE PATROL													
GRP69402	05	1335+2	1345 1356	1458	S17	E04	.405	15570	5.9	83	-N				170	1.8	EU
ZURI	05	1335	1338	1338D	S16	E04	.389	15570	5.9	3D	-F		P	1338	60	.7	
HTPR	05	1335	1345	1510	S18	E05	.423	15570	5.9	95	-N		C	1345	200	2.0	E
HOLL	05	1337	1407	1446	S13	E01	.335	15570	5.6	69	1B	3	C		186		U F
ZURI	05	1354E	1356	1404D	S16	E04	.389	15570	5.9	10D	1N		P	1356	290	3.2	
MCMA	05	1403E		1428D	S18	E04	.420	15570	5.9	25D	-N		P	1408	150	1.7	BEU
403 MCMA	05 IMP.1	1403E NO	HTPR2	1428D HOLL1	N37	W56	.859	15557	1.4	25D	?F		P	1408	100	2.1	B Y5
404 HOLL	05	2027	2030	2034	S13	W04	.341	15570	5.6	7	-N	3	C		28		Y5
	05	2118	2120	NO FLARE PATROL													
	05	2122	2132	NO FLARE PATROL													
405 HOLL	05	2231	2234	2244	S13	W05	.345	15570	5.6	13	-N	3	C		33		Y5
GRP69406	06	0123+3	0128+1 0210	0215	S12	W09	.351	15570	5.4	52	-F				50	.5	EJ
CULG	06	0123	0129	0209	S12	W12	.374	15570	5.2	46	-F		C	0129	50	.5	
VORO	06	0126	0128	0137	S13	W07	.353	15570	5.5	11	-N		C	0128	63	.7	EJ
VORO	06	0206	0210	0220	S13	W07	.353	15570	5.6	14	-N		C	0210	27	.3	DJ
407 CULG	06	0457	0500	0507	S17	E90	1.001	15587	13.0	10	-N		C	0507	30		T Y5
408. KANZ	06	0838	0843	0853	S14	W09	.380	15570	5.7	15	-F		C				L Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
GRP69409	06	0927+1	0929+1	0935	N17	W73	.950	15558	30.9	8	-F				35			
HTPR	06	0927	0929	0935	N17	W73	.950	15558	30.9	8	-F		C	0929	20			
ZURI	06	0928	0930	0935	N17	W74	.956	15558	30.8	7	-N		C	0930	50			
GRP69410	06	1315+3	1320+6	1345	S12	W15	.403	15570	5.4	30	-F						E	
HTPR	06	1315	1320	1350	S13	W15	.415	15570	5.4	35	-F		C	1320	20	.2	E	
ZURI	06	1318	1326	1340	S11	W16	.401	15570	5.4	22	-N		C	1326	160	1.8		
411 KANZ	06	1429	1434	1449	S18	E85	.999	15587	13.0	20	-N		C					Y5
412 KANZ	06	1452	1459	1507	N16	E71	.940	15583	11.9	15	-N		C				E	Y5
413 HTPR	06	1532	1546	1605	S16	E90	1.000	15587	13.4	33	-F		C	1546	40		AET	Y5
GRP69414	06	1646	1655 1716	1724	S15	E77	.982	15587	12.5	38	-B							
HOLL	06	1646	1655	1719	S14	E75	.975	15587	12.3	33	-B	3	C		38		FDE	
PALE	06	1714E	1716U	1729	S17	E80	.991	15587	12.7	150	-B	3	C		39		DE	
	06	1826	1832	NO FLARE PATROL														
	06	2025	2034	NO FLARE PATROL														
	06	2105	2114	NO FLARE PATROL														
415 CULG	06	2155	2159	2230	S15	W40	.708	15566	3.9	35	-F		C	2159	50	.7		Y5
416 VORO	07	0103	0104	0106	S13	W20	.466	15570	5.5	3	-N		C	0104	63	.6	J	Y5
417 VORO	07	0125	0126	0129	S13	W20	.466	15570	5.6	4	-N		C	0126	90	.9	J	Y5
	07	0428	0433	NO FLARE PATROL														
	07	0455	0500	NO FLARE PATROL														
GRP69418	07	0632+0	0632+3	0642	S19	E75	.978	15587	12.9	10	-F				30			
CULG	07	0632E	0632U	0643	S20	E80	.992	15587	13.3	110	-N		P	0632	30			
HTPR	07	0632	0635	0640	S18	E70	.957	15587	12.5	8	-F		C	0635	30	.7		
419 HTPR	07	1204	1207	1211	S18	E67	.942	15587	12.5	7	-F		C	1207	20	.5	E	Y5
420 KANZ	07	1347	1358	1415	S28	W40	.785	15564	4.6	28	-N		C				UG	Y5
GRP69421	07	1454>9	1513 1526	1532	S12	W29	.562	15570	5.4	38	-N							
KANZ	07	1454	1513	1531D	S11	W29	.555	15570	5.4	370	-B		C					
HTPR	07	1525	1526	1532	S14	W30	.589	15570	5.4	7	-F		C	1526	30	.3		
422 PALE	07	2200	2222	2227	S14	W31	.601	15570	5.6	27	-N	3	C		78		DE	Y5
423 CULG	07	2323	2326	2355	S21	E65	.936	15587	12.8	32	-F		C	2326	40	1.0		Y5
424 CULG	08	0000	0004	0017	S12	W49	.789		4.3	17	-F		C	0004	80	1.3		Y5
425 VORO	08	0019	0019	0022	S12	W36	.646	15570	5.3	3	-N		C	0019	54	.7	D	Y5
426 CULG	08	0024	0025	0050	S19	E58	.887	15587	12.4	26	?B		C	0025	100	2.1	V	Y5
	IMP↓1 NO ↓ VORO1 MITK1																	
427 VORO	08	0033	0034	0038	S14	W36	.658	15570	5.3	5	-N		C	0034	54	.7	D	Y5
428 CULG	08	0033	0103U	0119	S18	E90	1.001	15591	14.8	46	?F	*	C	0103	50		J	Y5
	IMP↓1 NO ↓ VORO1																	
429 VORO	08	0050	0051	0057	S13	W36	.652	15570	5.3	7	-N		C	0051	81	1.0	E	Y5
GRP69430	08	0100+3	0103 0110	0114D	S12	W36	.646	15570	5.3	14	-N						EJ	
VORO	08	0100	0103	0114	S13	W36	.652	15570	5.3	14	-N		C	0103	63	.8	EJ	
CULG	08	0103	0110	0150	S12	W37	.658	15570	5.3	47	-N		C	0110	50	.7		
GRP69431	08	0121+2	0123+1	0129	S13	W34	.628	15570	5.5	8	-B				160	2.0	J	
PALE	08	0121	0123	0124	S14	W33	.623	15570	5.6	3	1B	3	C		185		FDE	
VORO	08	0123	0124	0134	S13	W36	.652	15570	5.4	11	-N		C	0124	125	1.6	EJ	
432 CULG	08	0150	0211	0240	N14	E40	.643		11.1	50	-N		C	0211	90	1.2		Y5
433 CULG	08	0202	0215	0232	S12	W49	.789		4.4	30	-N		C	0215	80	1.3		Y5
434 VORO	08	0204	0204	0207	S14	W36	.658	15570	5.4	3	-N		C	0204	72	.9	D	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX HER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg		
	OCT																	
435 VORO	08	0255	0257	0301	S13	W36	.652	15570	5.4	6	-N		C	0257	81	1.0		Y5
436 VORO	08	0319	0322	0331	S13	W36	.652	15570	5.4	12	-N		C	0322	99	1.2		Y5
GRP69437	08	0337+5	0343+0	0350	S18	E70	.957	15587	13.4	13	-F						D	
CULG	08	0337	0343	0353	S19	E70	.958	15587	13.4	16	-F		C	0343	30			
VORO	08	0342	0343	0346	S18	E70	.957	15587	13.4	4	-F		C	0343	90		D	
438 VORO	08	0347	0349	0358	S13	W36	.652	15570	5.5	11	-N		C	0349	108	1.3	E	Y5
439 TEHR	08	0420E	0423	0441	S12	W34	.622	15570	5.6	21D	-B	2	C		95			Y5
440 CULG	08	0420	0424	0436	S13	W18	.444		6.8	16	-N		C	0424	40	.5		Y5
441 CULG	08	0528	0537	0548	S19	E69	.954	15587	13.4	20	-N		C	0537	20			Y5
GRP69442	08	0835+0	0837+4	0854	S16	E63	.915	15587	13.1	19	-N				60	1.4	D	
BUCA	08	0835		0850	S16	E65	.928	15587	13.2	15	-N		C	0841	43	1.3	D	
LOCA	08	0835	0837	0845	S17	E67	.941	15587	13.4	10	-N		V	0837	61	1.8		
ISTA	08	0835		0840	S15	E65	.926	15587	13.2	5	-F						D	
TEHR	08	0840E	0841U	0902	S18	E59	.892	15587	12.8	22D	-B	2	C		95		DE	
ISTA	08	0855		0858	S14	E56	.859	15587	12.6	3	-F						D	
443 KANZ	08	0931	0934	0938	S11	W40	.687	15570	5.4	7	-N		C					Y5
GRP69444	08	1054	1101	1114	S15	E50	.809	15587	12.2	20	-N						EJ	
KANZ	08	1054	1101	1113	S15	E49	.799	15587	12.1	19	-N		C					
ABST	08	1107E	1107	1115	S16	E52	.830	15587	12.4	8D	-N		P	1107	174	3.1	EJ	
445 KANZ	08	1054	1152	1235	S12	W42	.715	15570	5.3	101	-N		C					Y5
GRP69446	08	1336	1348+4	1409	S16	W41	.723	15570	5.5	33	-N				70	1.0	EK	
LVOV	08	1336	1348	1402	S11	W39	.676	15570	5.6	26	-N		C	1348	100	1.4	EK	
MCMA	08	1342E	1352	1415	S22	W44	.783	15570	5.3	33D	-N		C	1352	50	.8	E	
447 MCMA	08	1439	1440	1447	S22	W44	.783		5.3	8	-F		C	1440	40	.7	E	Y5
GRP69448	08	1439+4	1443+1	1500	S14	E49	.796	15587	12.3	21	-F						E	
KANZ	08	1439	1443	1459	S16	E49	.803	15587	12.3	20	-F		C					
MCMA	08	1443	1444	1500	S13	E50	.802	15587	12.4	17	-F		C	1444	70	1.2	E	
GRP69449	08	1759>9	1817+1	1821	S13	W43	.730	15570	5.5	22	-B				130	1.9		
PALE	08	1759	1818	1822	S14	W43	.735	15570	5.5	23	-B	3	C		138		DE	
HOLL	08	1815	1817	1820	S13	W43	.730	15570	5.5	5	-B	3	C		125			
450 PALE	08	1833	1840	1847	S15	E58	.877	15587	13.1	14	-N	3	C		27		DE	Y5
451 PALE	08	1837	1839	1841	S15	E48	.790	15587	12.4	4	-N	3	C		19		DE	Y5
452 PALE	08	1846	1856	1947	S15	E47	.780	15587	12.3	61	-N	3	C		89		DE	Y5
453 HOLL	08	1911	1912	1917	S13	W43	.730	15570	5.6	6	-N	3	C		36			Y5
454 PALE	08	1912	1914	1945	S14	E45	.756	15587	12.2	33	-B	*	C		141		DE F	Y5
GRP69455	08	2007+0	2007+0 2055	2103	S13	W44	.741	15570	5.5	56	-B							
PALE	08	2007	2007	2055D	S14	W44	.745	15570	5.5	48D	1N	3	C		211		DE F	
HOLL	08	2007	2007	2033	S13	W44	.741	15570	5.5	26	-B	3	C		31		FDE	
PALE	08	2007	2055	2055D	S14	W44	.745	15570	5.5	48D	1B	*	C		358		DE F	
HOLL	08	2054	2055	2103	S13	W44	.741	15570	5.6	9	-B	*	C		54			
456 PALE	08	2018	2019	2051D	S18	E51	.828	15587	12.7	33D	-N	3	C		65		DE	Y5
GRP69457	08	2151+2	2153+1	2203	S12	W46	.758	15570	5.5	12	-N				60	.9		
CULG	08	2151	2153	2207	S12	W48	.779	15570	5.3	16	-N		C	2153	70	1.1		
HOLL	08	2153	2154	2158	S13	W45	.751	15570	5.5	5	-B	3	C		50			
458 PALE	09	0001	0004	0009	S14	W46	.765	15570	5.6	8	-B	3	C		128		FDE	Y5
459 TEHR	09	0552	0555	0558	S11	W48	.775	15570	5.6	6	-B	2	C		95		DE F	Y5
460 ABST	09	0730	0733	0745	S17	E89	1.000	15591	16.0	15	1N		C	0733	87		AD	Y5
461 ABST	09	0800	0803	0815	S13	W53	.830	15570	5.4	15	-N		C	0803	87	1.6	DJ	Y5
462 TEHR	09	0841	0844	0850	S13	W51	.811	15570	5.5	9	-N	2	C		95		U F	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE OCT	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
463 ABST	09	0959	1001	1015	S13	W54	.839	15570	5.4	16	-N		C	1001	87	1.6	DJ	Y5
464 KANZ	09	1110	1113	1120	S12	W56	.854	15570	5.3	10	-F		C					Y5
465 ZURI	09	1300	1330	1352	S12	W56	.854	15570	5.3	52	-F		C	1330	80	1.6		Y5
GRP69466	09	1408+8	1417+1	1421	S18	E50	.819	15587	13.3	13	-F				30	.5		
MCMA	09	1408	1418	1425	S19	E50	.823	15587	13.3	17	-F		C	1418	40	.7	E	
KANZ	09	1413	1417	1421	S18	E49	.810	15587	13.3	8	-F		C					
HUAN	09	1416	1417	1420	S17	E51	.824	15587	13.4	4	-F	1	C	1417	20	.3	D	
GRP69467	09	1529+0	1531	1535	S11	W57	.860	15570	5.4	6	-F						D	
MCMA	09	1529	1531	1535	S12	W59	.878	15570	5.2	6	-F		C	1531	30	.6	D	
KANZ	09	1529		1529D	S11	W56	.851	15570	5.4		-F		C					
468 MCMA	09	1540	1540	1543	S12	W59	.878	15570	5.2	3	-N		C	1540	50	1.0	DV	Y5
469 MCMA	09	1543	1547	1625	S23	W18	.562	15582	8.3	42	-N		C	1547	80	1.0	E	Y5
470 MCMA	09	1552	1553	1617	N20	E68	.922	15589	14.8	25	-N		C	1553	30	.8	EH	Y5
471 MCMA	09	1554	1555	1604D	N15	E33	.552	15583	12.1	10D	-F		C	1555	15	.2	DH	Y5
472 HUAN	09	1720	1720	1723	S17	E88	1.000	15591	16.3	3	-F	1	C	1720	15		D	Y5
GRP69473	09	1951	2022+4	2137	S14	W61	.897	15570	5.3	106	1B				210	4.6	FKUZ	
HOLL	09	1951	2026	2105D	S18	W61	.905	15570	5.3	74D	1B	3	C		155		U F	
PALE	09	2010E	2022	2137	S14	W57	.867	15570	5.6	87D	1B	2	C		264		U F	
CULG	09	2056E	2056	2135D	S12	W64	.915	15570	5.1	39D	1N		P	2056	90	2.3	ZK	
474 CULG	09	2056E	2057	2102	S19	E45	.777	15587	13.2	6D	-F		C	2057	20	.3		Y5
GRP69475	09	2251	2254 2340	0001	S20	E73	.972	15591	15.4	70	-F							
CULG	09	2251	2254	0001	S19	E73	.971	15591	15.4	70	-F		C	2254	30			
CULG	09	2338	2340	2352	S21	E74	.976	15591	15.5	14	-F		C	2340	40			
476 CULG	09	2251	2255	2258	S19	E44	.768	15587	13.3	7	-N	*	C	2255	20	.3		Y5
477 CULG	09	2345	2348	0000	S10	W64	.912	15570	5.2	15	-N		C	2348	40	.9	T	Y5
	09	4435	0000	NO FLARE PATROL														
	09	0255	0307	NO FLARE PATROL														
	09	0310	0609	NO FLARE PATROL														
478 VORO	10	0033	0034	0040	S17	E74	.973	15591	15.6	7	-F		C	0034	54		D	Y5
479 CULG	10	0035	0041	0100	S24	W23	.611	15582	8.3	25	-F		C	0041	30	.4		Y5
480 CULG	10	0137	0144	0149	S11	W64	.913	15570	5.3	12	-N		C	0144	20	.5	T	Y5
481 VORO	10	0152	0153	0156	S25	W24	.629	15582	8.3	4	-N		C	0153	72	.9	DJ	Y5
GRP69482	10	0451+5	0455+2	0503	S10	W62	.898	15570	5.6	12	-N						V	
TEHR	10	0451	0455	0500	S10	W61	.890	15570	5.6	9	-B	1	C		95		FDE	
CULG	10	0456	0457	0505	S11	W64	.913	15570	5.4	9	-N		C	0457	40	.9	VT	
483 CULG	10	0507	0511	0520	N30	W63	.895	15577	5.5	13	-F		C	0511	10	.2		Y5
484 ABST	10	0554	0600	0615	N32	W61	.885	15577	5.7	21	-N		C	0600	87	2.0	DJ	Y5
GRP69485	10	0847+2	0848+2	0852	S10	W66	.925	15570	5.4	5	-F						DJ	
HTPR	10	0847	0848	0849	S13	W68	.941	15570	5.3	2	-F		C	0848	30	.9		
ABST	10	0849	0850	0855	S07	W65	.915	15570	5.5	6	-N		C	0850	87		DJ	
GRP69486	10	0956+5	1002+3	1028	N21	E56	.830	15589	14.6	32	1N				130	2.4	EJU	
TEHR	10	0956	1003	1012	N22	E61	.873	15589	15.0	16	-B	2	C		127		UDE	
HTPR	10	0959	1005	1030	N20	E54	.810	15589	14.5	31	1B		C	1005	140	2.6	E	
KANZ	10	0959	1003	1032	N22	E56	.831	15589	14.6	33	-F		C					
ABST	10	1000	1002	1030	N23	E56	.832	15589	14.6	30	1N		C	1002	131	2.4	EJ	
MONT	10	1001	1002	1024	N20	E57	.838	15589	14.7	23	-N		C	1002	60		E	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY			COND	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
	OCT									MIN.								
GRP69487	10	1008+2	1024+0 1030+4	1045	S12	W69	.945	15570	5.2	37	-N						E	
HTPR	10	1008	1013	1024	S13	W71	.957	15570	5.1	16	-F		C	1013	10			
MONT	10	1009	1024	1100D	S13	W70	.952	15570	5.2	51D	-N		C	1024	80		E	
KANZ	10	1010	1014	1048	S11	W68	.939	15570	5.3	38	-N		C					
HTPR	10	1022	1024	1034	S13	W69	.946	15570	5.3	12	-F		C	1024	20	.5		
TEHR	10	1030	1034	1045	S11	W64	.913	15570	5.6	15	-B	2	C		95		FDE	
KHAR	10	1030E	1030	1050D	S10	W70	.949	15570	5.2	20D	1F		P				E	
ZURI	10	1031E	1031	1037D	S12	W69	.945	15570	5.3	6D	1N		P	1031	90			
GRP69488	10	1115	1125	1132	S11	W67	.933	15570	5.4	17	-N				70		D	
LVOV	10	1115	1125	1134	S10	W66	.925	15570	5.5	19	-N		C	1125	100		D	
ZURI	10	1129E	1129	1130	S12	W69	.945	15570	5.3	1D	-F		P	1129	50			
489 ZURI	10	1243	1251	1309	S17	E74	.973	15591	16.1	26	-F		C	1251	40			Y5
490 ZURI	10	1247	1249	1253	S23	W30	.661	15582	8.3	6	-F		C	1249	80	1.1		Y5
GRP69491	10	1317+1	1322	1340	S16	E65	.927	15591	15.4	23	-F						EK	
HTPR	10	1317		1324D	S16	E66	.933	15591	15.5	7D	-F		C	1322	30	.6		
KANZ	10	1318	1322	1326	S16	E64	.921	15591	15.4	8	-F		C					
MCMA	10	1321E		1353	S20	E65	.934	15591	15.4	32D	-N		C	1350	50	1.5	EK	
492 ZURI	10	1423	1425	1427	S12	W71	.956	15570	5.3	4	-F		C	1425	50			Y5
493 ZURI	10	1529	1533	1535	S12	W71	.956	15570	5.3	6	-N		C	1533	60			Y5
494 MCMA	10	1535E	1542	1600D	S18	E64	.925	15591	15.4	25D	-F		C	1542	20	.5	E	Y5
495 MCMA	10	1607	1607	1608D	S11	W70	.950	15570	5.4	1D	-N		C	1607	20	.8	DV	Y5
496 MCMA	10	1610	1615	1622D	S18	E64	.925	15591	15.5	12D	-N		C	1615	15	.3	E	Y5
497 PALE	10	1734	1746	1758D	S24	W32	.688	15582	8.3	24D	-B	3	C		127		FDE	Y5
498 MCMA	10	1750	1752	1758	S18	E64	.925	15591	15.5	8	-F		C	1752	20	.7	E	Y5
499 MCMA	10	1917	1918	1922	S22	W36	.709	15582	8.1	5	-F		C	1918	40	.6	E	Y5
500 CULG	10	2108	2113	2128	S22	E61	.914	15591	15.5	20	-F		C	2113	30	.8		Y5
501 CULG	10	2142	2145	2152	S21	E61	.912	15591	15.5	10	-F		C	2145	30	.8		Y5
GRP69502	10	2153+0	2153+1	2202	S24	W34	.705	15582	8.4	9	-N				50	.7		
HOLL	10	2153	2154	2202	S24	W35	.714	15582	8.3	9	-N	3	C		52		F	
PALE	10	2153	2153	2200D	S24	W34	.705	15582	8.4	7D	-B	3	C		56		FDE	
503 CULG	10	2153	2156	2206	S11	W78	.983	15570	5.1	13	-F		P	2156	10			Y5
	10	2208	2218	NO FLARE PATROL														
	10	0400	0448	NO FLARE PATROL														
504 CULG	10	2251	2300	2319	S18	E27	.588	15587	13.0	28	-F		C	2300	10			Y5
505 CULG	10 IMP.1	2256 NO	2308 PALE1	0038 VORO1	S25	E60	.914	15591	15.5	102	?N		C	2308	90	2.2		Y5
506 VORO	10	2319	2320	2323	S13	W80	.990	15570	5.0	4	-N		C	2322	36			Y5
507 VORO	10	2334	2334	2336	S21	W36	.702	15582	8.3	2	-N		C	2334	54	.7	D	Y5
508 CULG	11	0158	0208	0234	S22	W37	.718	15582	8.3	36	-N		C	0208	80	1.1	FT	Y5
509 CULG	11	0255	0306	0323	S28	W40	.783	15582	8.1	28	-N		C	0306	70	1.1	FT	Y5
510 CULG	11	0338	0346	0410	S18	E53	.844	15591	15.1	32	-N		C	0346	60	1.1		Y5
511 CULG	11	0449	0453	0508	S25	W40	.764	15582	8.2	19	-N		C	0453	60	.9	T	Y5
512 CULG	11	0511	0543	0608	S15	E16	.445	15587	12.4	57	-F		C	0543	60	.7		Y5
513 CULG	11	0546	0603	0615	S07	W67	.928		6.2	29	-F		C	0603	40	1.0		Y5
514 KANZ	11	0752	0800	0820	S22	W40	.746	15582	8.3	28	-F		C					Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
GRP69515	11	0835+8	0845+5 0922	0947	S19	E32	.647	15587	13.8	72	2N				410	5.3	EHJKU	
HTPR	11	0835	0846	0945	S19	E34	.668	15587	13.9	70	1B		C	0846	350	4.5	EFK	
MONT	11	0836	0850	0956	S19	E32	.647	15587	13.8	80	2B		C	0850	600			
HERS	11	0838E	0845	0907	S19	E40	.728	15587	14.4	290	1F		P	0845	202	2.6	U	
BUCA	11	0840	0848	0900D	S20	E33	.665	15587	13.8	200	1N		C	0848	322	4.4		
TEHR	11	0843	0850	0938	S20	E30	.635	15587	13.6	55	2B	1	C		572		HDE	
LOCA	11	0850E		1010	S18	E32	.640	15587	13.8	80D	3N		P	0900	1243	16.7		
ABST	11	0920	0922	0950	S23	E30	.661	15587	13.6	30	1N	*	C	0922	174	2.4	EJ	
516 ABST	11	0842	0847	0855	S13	W43	.729		8.1	13	-N		C	0847	87	1.3	E	Y5
517 HTPR	11	0948	0952	1006	S20	E16	.508	15587	12.6	18	-F	*	C	0952	30	.3		Y5
518 ABST	11	0957	1002	1010	S20	W44	.772	15582	8.1	13	-N		C	1002	131	2.0	DJ	Y5
GRP69519	11	1101+0	1102+1	1108	S18	E50	.818	15591	15.2	7	-N				70	1.2	DJV	
HTPR	11	1101	1103	1106	S17	E50	.815	15591	15.2	5	-N		C	1103	60	.9		
ABST	11	1101	1102	1110	S19	E50	.822	15591	15.2	9	-N		C	1102	87	1.5	DJV	
GRP69520	11	1140+3	1145+3	1156	S19	E12	.467	15587	12.4	16	-N				30	.3		
KANZ	11	1140	1147	1158	S19	E12	.467	15587	12.4	18	-B		C					
HTPR	11	1140	1146	1156	S20	E15	.501	15587	12.6	16	-F		C	1146	20	.2	E	
RAMY	11	1143E	1145U	1151	S19	E13	.473	15587	12.5	8D	-B	2	C		28		F	
WEND	11	1143		1157	S19	E11	.460	15587	12.3	14	-F		V					
ZURI	11	1146E	1148	1154	S20	E12	.480	15587	12.4	8D	-N		P	1148	70	.8		
GRP69521	11	1240+4	1242+6	1255	S20	E51	.834	15591	15.4	15	-N							
RAMY	11	1240E	1242U	1252	S19	E52	.839	15591	15.4	120	-B	3	C		36			
HTPR	11	1241	1246	1255	S20	E49	.817	15591	15.2	14	-F		C	1246	20	.3		
KANZ	11	1244	1248	1256	S20	E51	.834	15591	15.4	12	-F		C					
ZURI	11	1244	1248	1254	S20	E53	.851	15591	15.5	10	-N		C	1248	90	1.8		
GRP69522	11	1437>9	1453	1604	S15	E13	.419	15587	12.6	87	-F				45	.5	K	
HTPR	11	1437		1604D	S16	E15	.449	15587	12.7	87D	-F		C	1503	40	.4	EK	
KANZ	11	1449		1520D	S15	E12	.411	15587	12.5	31D	-F		C					
MCMA	11	1451E	1453	1555	S15	E13	.419	15587	12.6	64D	-N		C	1453	30	.3	D	
HUAN	11	1457E		1613D	S15	E14	.428	15587	12.7	76D	-N	1	P	1505	50	.5	C	
GRP69523	11	1501+7	1517	1525	N16	W64	.894	15569	6.8	24	-F						E	
HTPR	11	1501	1517	1530	N16	W64	.894	15569	6.8	29	-F		C	1517	30	.6	E	
KANZ	11	1508		1520	N17	W65	.901	15569	6.8	12	-F		C					
	11	1923	1942	NO FLARE PATROL														
524 CULG	11	2053	2104	2140	N16	W67	.915	15569	6.8	47	-N		C	2104	50	1.3		Y5
525 CULG	11	2134E	2134E	2139	N35	E76	.966	15592	17.6	5D	-N		P	2134	60			Y5
	11	2207	2219	NO FLARE PATROL														
	11	0116	0137	NO FLARE PATROL														
526 CULG	11	2218	2222	2244	N35	E75	.962	15592	17.6	26	-N		C	2222	40			Y5
527 CULG	11	2305	2311	2353	N33	E80	.979	15592	18.0	48	?F		C	2311	80			Y5
	IMP.1 NO HOLL1																	
GRP69528	11	2347	2349 2404	0021	S21	W50	.830	15582	8.2	34	-F							
CULG	12	0002	0004	0021	S23	W52	.853	15582	8.1	19	-F		C	0004	30	.5	T	
CULG	11	2347	2349	0003	S20	W49	.817	15582	8.3	16	-F		C	2349	40	.7		
529 CULG	12	0105	0109	0124	N23	W37	.635	15588	9.3	19	-F		C	0109	40	.5	L	Y5
530 CULG	12	0121	0132	0231	N11	W90	1.000	15569	5.3	70	1N		C	0132	50			Y5
531 CULG	12	0122	0125	0133	S23	E46	.804	15591	15.5	11	-F		C	0125	20	.3		Y5
532 CULG	12	0202	0211	0223	N22	W38	.642	15588	9.2	21	-F		C	0211	20	.2		Y5
533 CULG	12	0440	0444	0517	S23	E43	.778	15591	15.4	37	-N		C	0444	60	1.0	J	Y5
534 CULG	12	0600	0603U	0603D	S23	W53	.861	15582	8.3	3D	1F		P	0603	100	2.0		Y5
GRP69535	12	0650+7	0706 0714	0733	N19	E26	.476	15589	14.2	43	-N							
CULG	12	0650	0714	0736D	N19	E27	.489	15589	14.3	46D	-N		P	0714	150	1.7	F	
HTPR	12	0657	0706	0730	N20	E26	.482	15589	14.2	33	-N		C	0706	140	1.5	E	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
536 CULG	12	0659	0703	0736D	N23	W39	.658	15588	9.4	37D	-N		P	0703	40	.5		Y5
537 HTPR	12	0952	0954	1055	N16	W04	.185	15583	12.1	63	-F		C	0954	20	.2	E	Y5
GRP69538	12	1146+1	1151+3	1200	N15	W77	.970	15569	6.7	14	-F							
KANZ	12	1146	1154	1202	N15	W80	.981	15569	6.5	16	-F		C					
HTPR	12	1147	1151	1157	N15	W75	.961	15569	6.9	10	-F		C	1151	80			
539 RAMY	12	1156	1158	1212	S14	W90	1.000	15570	5.7	16	-B	2	C					Y5
GRP69540	12	1307>9	1316	1330	S16	E36	.668	15591	15.2	23	-N						D	
HTPR	12	1307	1316	1333	S16	E37	.679	15591	15.3	26	-N		C	1316	50	.6	E	
KANZ	12	1317		1317	S15	E35	.651	15591	15.2		-B		C				D	
MCMA	12	1325E		1330	S16	E36	.668	15591	15.3	5D	-F		C	1326	20	.3	D	
GRP69541	12	1320	1324+1	1341	S18	E21	.527	15587	14.1	21	-N				60	.7	E	
HTPR	12	1320	1325	1400	S18	E21	.527	15587	14.1	40	-N		C	1325	60	.7	E	
RAMY	12	1322E	1324	1338	S18	E21	.527	15587	14.1	16D	-B	3	C		40		F	
WEND	12	1323E		1340	S19	E22	.547	15587	14.2	17D	-N		P				E	
MCMA	12	1325E		1342D	S19	E20	.529	15587	14.1	17D	-B		C	1326	90	1.1	E	
GRP69542	12	1440+2	1445+2	1454	S12	W90	1.000	15570	5.9	14	1B							
MCMA	12	1440	1445	1455D	S11	W90	1.000	15570	5.9	15D	1B		C	1445				
RAMY	12	1442	1447	1452	S14	W90	1.000	15570	5.9	10	1B	3	C					
GRP69543	12	1605+2	1609+3	1618	S21	E38	.721	15591	15.5	13	-N				80	1.1	ELU	
HTPR	12	1605		1613D	S22	E39	.736	15591	15.6	8D	-N		C	1608	70	.9	E	
MCMA	12	1606	1609	1620	S23	E38	.733	15591	15.5	14	-N		C	1609	80	1.2	EL	
HUAN	12	1607	1612	1618	S21	E40	.740	15591	15.7	11	1N	2	C	1612	180	2.3	E	
HOLL	12	1607	1609	1615	S16	E37	.679	15591	15.4	8	-N	3	C		83		U F	
544 MCMA	12	1624	1629	1641	S21	W60	.905	15582	8.2	17	-N		C	1629	60	1.5	E	Y5
545 HOLL	12	1839	1845	1854	N22	W45	.722	15588	9.4	15	-B	3	C		46		F	Y5
546 HUAN	12	1931		2015D	S19	E11	.459	15587	13.6	44D	-N	1	P	1937	65	.7	E	Y5
547 CULG	12	2022E	2029	2123	S18	E08	.428	15587	13.4	61D	-N		C	2029	60	.7		Y5
548 CULG	12	2031	2037	2127	N18	E23	.429	15589	14.6	56	-F		C	2037	140	1.6		Y5
549 CULG	12	2033	2042	2107	S17	E32	.632	15591	15.3	34	-F		C	2042	30	.4		Y5
550 CULG	12	2134	2144	2225	S19	W67	.943	15582	7.9	51	-N		C	2144	30		T	Y5
551 CULG	12	2231	2237	2301	S25	E28	.661		15.0	30	-F		C	2237	80	1.1		Y5
GRP69552	12	2255+2	2258 2308+6	2319	S19	W67	.943	15582	7.9	24	-F						J	
CULG	12	2255	2314U	2325	S19	W67	.943	15582	7.9	30	-F		C	2314	70	1.7	T	
VORO	12	2257	2258	2302	S20	W68	.950	15582	7.9	5	-F		C	2258	45		DJ	
VORO	12	2307	2308	2312	S20	W68	.950	15582	7.9	5	-N		C	2308	54		J	
553 VORO	12	2319	2321	2331	S22	W64	.931	15582	8.2	12	-N		C	2321	99		EJ	Y5
554 VORO	12	2334	2338	2350	S20	W68	.950	15582	7.9	16	-F		C	2338	45		E	Y5
555 VORO	12 IMP.1	2356 NO	2358 HOLL1	0029 CULG1	S20	W68	.950	15582	7.9	33	?N		C	2358	143		EJK	Y5
556 VORO	13 IMP.1	0032 NO	0034 CULG1	0039	S20	W68	.949	15582	7.9	7	?N		C	0034	196		EJ	Y5
557 VORO	13	0044	0058	0100	S20	W68	.949	15582	7.9	16	-N		C	0058	36		EJ	Y5
558 VORO	13	0108	0110	0115	S21	W67	.946	15582	8.0	7	-N		C	0110	63		EJ	Y5
559 VORO	13	0205	0207	0217	S20	W68	.949	15582	8.0	12	-F		C	0210	63		EJ	Y5
560 CULG	13	0206	0218	0244D	N20	E17	.369	15589	14.4	38D	-N		P	0218	90	1.0		Y5
GRP69561	13	0337+4	0338 0345	0348	S21	W64	.929	15582	8.4	11	-N						J	
VORO	13	0337	0338	0344	S20	W68	.949	15582	8.1	7	-F		C	0338	81		EJ	
TEHR	13	0341	0345	0351	S23	W60	.909	15582	8.7	10	-B	1	C		95		FOE	
	13	0400	0500	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
562 TEHR	13	0448	0451	0456	S23	W60	.909	15582	8.7	8	-B	1	C		64		FDE	Y5
563 TACH	13	0536E		0558D	S20	E04	.443	15587	13.5	22D	?N		C	0551	309	3.5	D	Y5
	IMP↓1 NO ↑ TEHR																	
564 TEHR	13	0543	0547	0607	S16	W11	.416	15587	12.4	24	?B	1	C		254		U F	Y5
	IMP↓1 NO ↑ TACH																	
GRP69565	13	0645	0700	0706	N16	W16	.319	15583	12.1	21	-F						D	
HTPR	13	0645	0700	0705	N17	W17	.341	15583	12.0	20	-F		C	0700	20	.2		
ISTA	13	0700E		0706	N16	W15	.305	15583	12.2	6D	-N						D	
566 TEHR	13	0729	0737	0743	S23	W61	.915	15582	8.7	14	-B	2	C		95		FDE	Y5
567 MONT	13	0804	0808	0817	S22	W69	.957	15582	8.2	13	-F		C	0808	60		E	Y5
GRP69568	13	0836+7	0840+3	0847	S21	W66	.940	15582	8.4	11	-B							
TEHR	13	0836	0840	0846	S23	W61	.915	15582	8.8	10	-B	2	C		95		FDE	
KANZ	13	0843	0843	0847	S20	W71	.963	15582	8.0	4	-B		C					
GRP69569	13	0845	0858	0928	S19	E05	.431	15587	13.7	43	-F						EH	
HTPR	13	0845	0858	0928	S20	E06	.449	15587	13.8	43	-F		C	0858	50	.5	E	
KHAR	13	0900E		0918D	S18	E05	.415	15587	13.8	18D	-F		P	0910			BH	
570 KHAR	13	0900E		0918D	S18	W75	.977	15582	7.8	18D	F		P	0907	120		B	Y5
	IMP↓1 NO ↑ HTPR2			HONT2	KANZ1	KIEV1												
571 ZURI	13	1041	1043	1057	S21	W65	.935	15582	8.6	16	-F		C	1043	80			Y5
GRP69572	13	1043+2	1045+0	1055	N16	W18	.346	15583	12.1	12	-F							
HTPR	13	1043	1045	1055	N16	W18	.346	15583	12.1	12	-F		C	1045	50	.5		
ZURI	13	1045	1045	1055	N16	W18	.346	15583	12.1	10	-N		C	1045	120	1.3		
573 ZURI	13	1049	1051	1103	S20	E06	.449	15587	13.9	14	-F		C	1051	90	1.1		Y5
574 KHAR	13	1107E	1107	1112D	S19	E07	.438	15587	14.0	5D	-F		V	1107			DL	Y5
575 ZURI	13	1139	1143	1145	S22	E02	.471	15587	13.6	6	-N		C	1143	50	.6		Y5
GRP69576	13	1155+3	1159+3	1207	S17	E01	.392	15587	13.6	12	-N				130	1.4		
TEHR	13	1155	1200	1208	S16	E01	.375	15587	13.6	13	-B	1	C		159		FDE	
WEND	13	1155		1204	S16	E00	.375	15587	13.5	9	-N		V					
ZURI	13	1157	1159	1209	S19	W01	.423	15587	13.4	12	-N		C	1159	120	1.4		
HTPR	13	1157	1159	1205	S19	E01	.423	15587	13.6	8	-F		C	1159	100	1.0		
KANZ	13	1158	1202	1213	S16	E02	.377	15587	13.6	15	-F		C					
577 WEND	13	1158		1210	N17	W19	.368	15583	12.1	12	-F		V				E	Y5
GRP69578	13	1202+5	1207+2	1216	S20	W73	.971	15582	8.0	14	-N				60		DH	
LVOV	13	1202	1207	1245	S20	W80	.992	15582	7.5	43	-F		C	1207	50		DH	
KANZ	13	1206	1209	1213	S20	W71	.963	15582	8.2	7	-N		C					
KHAR	13	1206E		1218D	S17	W75	.977	15582	7.9	12D	-F		P	1206	60		D	
ZURI	13	1207	1209	1213	S20	W71	.963	15582	8.2	6	-B		C	1209	60			
GRP69579	13	1233+3	1239>9	1350	S18	W01	.408	15587	13.4	77	2B						FJU	
TEHR	13	1233	1246	1247D	S16	E10	.409	15587	14.3	14D	2B	1	C		509		U U	
KANZ	13	1233	1249	1355	S18	W01	.408	15587	13.4	82	2N		C				U	
ZURI	13	1235	1239	1242	S22	W07	.483	15587	13.0	7	1N		C	1239	260	3.1		
LVOV	13	1235	1242	1350	S18	W02	.409	15587	13.4	75	2N		C	1242	500	5.7	J	
HTPR	13	1235	1239	1350	S14	W01	.343	15587	13.4	75	2B		C	1239	550	6.0	EF	
ZURI	13	1235	1242	1344	S19	W01	.423	15587	13.4	69	2B		C	1242	880	9.9		
RAMY	13	1236E	1239U	1358D	S20	E03	.441	15587	13.8	82D	1B	3	C		280		U F	
WEND	13	1236	1248	1344	S17	W01	.392	15587	13.5	68	2N		P		800	8.6	U	
HERS	13	1244E	1244D	1347	S20	E10	.467	15587	14.3	63D	1B		P	1251	317	3.5	U	
ZURI	13	1246	1249	1259	S23	W07	.497	15587	13.0	13	-N	*	C	1249	80	1.0		
HUAN	13	1253E		1302D	S18	E00	.407	15587	13.5	9D	1N	2	P	1253	200	2.2	U	
LOCA	13	1300E		1345	S17	E00	.391	15587	13.5	45D	1N		P	1300	428	4.8		
HUAN	13	1330E		1401	S18	W02	.409	15587	13.4	31D	-F	1	P	1355	60	.6		
580 ZURI	13	1240	1249	1259	S32	W16	.656	15586	12.3	19	-F		C	1249	100	1.4		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
GRP69581	13	1406+3	1410+2	1425	S19	E04	.428	15587	13.9	19	-N				80	.9		
HTPR	13	1406	1410	1425	S19	E03	.426	15587	13.8	19	-F		C	1410	80	.8		
KANZ	13	1407	1411	1425	S19	E04	.428	15587	13.9	18	-N		C				F	
HOLL	13	1409	1411	1423	S19	E04	.428	15587	13.9	14	-N	2	C		82		DE	
ZURI	13	1409	1410	1431	S20	E04	.443	15587	13.9	22	1N		C	1410	240	2.8		
HEND	13	1409		1420	S19	E07	.438	15587	14.1	11	-F		V				E	
HUAN	13	1409		1415	S20	E05	.446	15587	14.0	6	-F	1	C				E	
RAMY	13	1410E	1412U	1431D	S20	E05	.446	15587	14.0	210	-B	3	C		48		F	
582 ZURI	13	1535	1543	1545D	S15	W15	.435	15587	12.5	10D	?F		P	1543	330	3.8		Y5
	IMP	1 NO	HUAN1	HOLL1														
583 HUAN	13	1927		1947	S16	E26	.557	15591	15.8	20	-N	1	C	1933	25	.3	D	Y5
584 HUAN	13	1939	1941	1946	S23	W04	.489	15587	13.5	7	-F	1	C	1941	80	.9	E	Y5
585 HUAN	13	1955		2006	N15	W25	.440	15583	12.0	11	-F	1	C				E	Y5
586 CULG	13	2346	2352	0005	N17	W27	.479	15583	12.0	19	-F		C	2352	30	.4		Y5
587 CULG	14	0035	0038	0055	S18	W85	.999	15582	7.6	20	-F		C	0038	20			Y5
588 CULG	14	0100	0108	0150	S23	E18	.558	15591	15.4	50	?F		C	0108	200	2.4		Y5
	IMP	1 NO	MITK1	VORO1														
589 CULG	14	0103	0105	0112	S18	E00	.406	15587	14.0	9	-F		C	0105	40	.4		Y5
590 CULG	14	0103	0105	0111	N25	E90	.999	15597	20.8	8	-N		C	0105	20			Y5
591 CULG	14	0143	0144	0153	S20	W80	.992	15582	8.1	10	-N		C	0144	20		T	Y5
GRP69592	14	0150+2	0152+1	0200	N32	E48	.785	15592	17.7	10	-F				40	.7	F	
CULG	14	0150	0153	0205	N32	E48	.785	15592	17.7	15	-N		C	0153	30	.5	F	
VORO	14	0152	0152	0154	N32	E48	.785	15592	17.7	2	-F		C	0152	54	.8		
GRP69593	14	0151+1	0154+5	0210	N17	W27	.479	15583	12.1	19	-N				140	1.6	EJ	
VORO	14	0151	0154	0206	N17	W28	.493	15583	12.0	15	1N		C	0154	179	2.0	EJ	
CULG	14	0152	0159	0213	N17	W27	.479	15583	12.1	21	-N		C	0159	100	1.2		
594 CULG	14	0326	0332	0437	S20	W85	.999	15582	7.8	71	-N		C	0332	30		FT	Y5
GRP69595	14	0511>9	0519+5	0530	S19	E01	.422	15587	14.3	19	-N				90	1.0	JU	
CULG	14	0511	0519	0542	S19	E01	.422	15587	14.3	31	-N		C	0519	50	.6		
ABST	14	0518E	0521	0530	S20	E01	.438	15587	14.3	12D	-N		P	0521	87	.9	EJ	
TACH	14	0519	0521	0528	S20	E02	.439	15587	14.4	9	1N		C	0520	221	2.5	D	
TEHR	14	0521	0524	0530	S15	W02	.359	15587	14.1	9	-B	1	C		95		UDE	
GRP69596	14	0527+2	0530+1	0541	S21	E35	.690	15591	16.9	14	-N						DJ	
CULG	14	0527	0530	0537	S21	E35	.690	15591	16.9	10	-N		C	0530	30	.4		
ABST	14	0529	0531	0545	S21	E35	.690	15591	16.9	16	-N		C	0531	87	1.2	DJ	
597 CULG	14	0533	0539	0552	S18	W23	.545	15587	12.5	19	-F	*	C	0539	30	.4		Y5
598 CULG	14	0620	0622D	0622D	S22	W82	.996	15582	8.1	2D	-N		P	0622	30			Y5
599 ABST	14	0648	0651	0705	S23	E80	.993		20.3	17	?N		C	0651	87		DJ	Y5
	IMP	1 NO	HTPR2	MITK1														
GRP69600	14	0648+1	0652+0	0708	S20	E34	.673	15591	16.8	20	-N				90	1.2	J	
HTPR	14	0648	0652	0705	S20	E33	.663	15591	16.8	17	-N	*	C	0652	10	1.2	E	
ABST	14	0649	0652	0710	S21	E35	.690	15591	16.9	21	-N	*	C	0652	87	1.2	DJ	
601 CULG	14	0700E	0702	0714	S22	W82	.996	15582	8.1	14D	-N		P	0702	30			Y5
602 HTPR	14	0726	0727	0731	N22	E03	.281	15589	14.5	5	-F		C	0727	40	.4	E	Y5
603 KANZ	14	0809	0813	0818	S20	E33	.663	15591	16.8	9	-F		C					Y5
GRP69604	14	0845+1	0849+6	0901	S21	E35	.690	15591	17.0	16	-F						DJ	
KANZ	14	0845	0849	0901	S21	E35	.690	15591	17.0	16	-F		C					
ABST	14	0846	0855	0901	S21	E35	.690	15591	17.0	15	-N		C	0855	87	1.2	DJ	
605 HTPR	14	0855	0856	0900	S21	W12	.491	15587	13.5	5	-F		C	0856	20	.2		Y5
606 KANZ	14	0909	0915	0917	S20	E33	.663	15591	16.9	8	-F		C					Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	OCT																
GRP69607	14	0946+0	0953	1011	S21	E35	.690	15591	17.0	25	-F						J
KHAR	14	0933E		1012D	S23	E35	.705	15591	17.0	39D	-F		P	0939	65	1.0	D
ABST	14	0946	0953	1010	S21	E35	.690	15591	17.0	24	1N		C	0953	174	2.4	EJ
KANZ	14	0946		1000	S21	E34	.681	15591	17.0	14	-F		C				
ZURI	14	1001E	1001	1027	S22	E35	.698	15591	17.0	26D	-N		P	1001	80	1.2	
608 KHAR	14	1058E	1100	1124D	S23	E35	.705	15591	17.1	26D	-F		P	1100			D Y5
609 LVOV	14	1238	1248	1303	S19	W90	1.001	15582	7.8	25	?N		C	1248	100		OH Y5
	IMP.1 NO 1 HTPR2 KANZ1																
610 KANZ	14	1420	1420	1424	N21	W73	.951	15588	9.1	4	-F		C				Y5
GRP69611	14	1510		1616D	S17	W30	.609	15587	12.4	66	-F						E
HTPR	14	1510		1604D	S18	W30	.617	15587	12.4	54D	-F		C	1534	160	1.8	E
MCMA	14	1533E		1616D	S17	W31	.620	15587	12.3	43D	-N		C	1546	70	.9	E
GRP69612	14	2110	2113+0	2124	S20	E29	.623	15591	17.1	14	-N				80	1.0	
HOLL	14	2110	2113	2122	S20	E32	.653	15591	17.3	12	-N	3	C		91		
PALE	14	2112E	2113	2125	S21	E27	.613	15591	16.9	13D	-B	3	C		73		FDE
GRP69613	14	2342+1	2344+4	2353	S21	W87	1.000	15582	8.5	11	-N						
HOLL	14	2342	2344	2353D	S24	W87	1.000	15582	8.5	11D	-B	3	C				F
PALE	14	2343	2345	2348	S21	W84	.998	15582	8.7	5	-N	3	C		12		DE
MANI	14	2346E	2348U	2353D	S20	W90	1.001	15582	8.2	7D	-N	3	V				
	15	0149	0205	NO FLARE PATROL													
	15	0207	0216	NO FLARE PATROL													
614 PALE	15	0250	0255	0258	N21	W10	.308	15589	14.4	8	-N	3	C		53		F Y5
GRP69615	15	0350E	0356+4	0415	S20	W90	1.001	15582	8.4	25	1B						
TEHR	15	0310E	0400	0415	S21	W90	1.001	15582	8.4	65D	1B	1	C		127		
MANI	15	0353E	0356	0410D	S20	W90	1.001	15582	8.4	17D	1B	3	V				
616 ABST	15	0636	0637	0645	N23	W15	.381	15589	14.2	9	-F		C	0637	87	.9	DJV Y5
617 KANZ	15	0739	0740	0758	N21	W13	.337	15589	14.3	19	-N		C				Y5
618 ABST	15	0804E	0814	0820	N19	W45	.716	15583	12.0	16D	-F		P	0814	87	1.2	EJ Y5
619 KANZ	15	0836	0838	0845	N21	W16	.369	15589	14.2	9	-F		C				Y5
GRP69620	15	0856+7	0900+3	0909	N21	W12	.327	15589	14.5	13	-F						U
TEHR	15	0856E	0900	0906	N21	W09	.300	15589	14.7	10D	-N	1	C		127		U U
KANZ	15	0903	0903	0912	N21	W16	.369	15589	14.2	9	-F		C				
621 KANZ	15	0912	0915	0922	S16	W90	1.000	15582	8.6	10	-F		C				Y5
622 KANZ	15	0944	0949	1002	S19	W90	1.001	15582	8.7	18	-B		C				Y5
GRP69623	15	1010+5	1017	1031	S19	E04	.426	15591	15.7	21	-F						E
KHAR	15	1010E		1040D	S20	E05	.444	15591	15.8	30D	-F		P	1016	140	1.8	E
KANZ	15	1015	1017	1022	S18	E04	.410	15591	15.7	7	-F		C				
GRP69624	15	1010+5	1017+2	1031	S21	E23	.575	15591	17.1	21	-N						H
KHAR	15	1010E	1017	1040D	S23	E21	.580	15591	17.0	30D	1F		P	1016	175	2.2	EH
TEHR	15	1015	1019	1022	S19	E25	.574	15591	17.3	7	-B	1	C		64		FDE
GRP69625	15	1108	1114+6 1130+5	1147	S22	E20	.560	15591	17.0	39	1N						HJKO
ABST	15	1108	1114	1120	S23	E20	.572	15591	17.0	12	1N		C	1114	174	2.2	DJ
KHAR	15	1117E	1120	1206D	S23	E19	.564	15591	16.9	49D	1F		P	1127	210	2.6	EHKO
LVOV	15	1120E	1135	1205	S22	E21	.569	15591	17.0	45D	1N		C	1135	170	2.2	K
TEHR	15	1125E	1130	1137	S17	E25	.555	15591	17.4	12D	-B	1	C		127		FDE
KANZ	15	1132	1132	1140	S21	E19	.541	15591	16.9	8	-F		C				
GRP69626	15	1605+3	1608+0	1630	S20	W26	.593	15587	13.7	25	-N				130	1.6	E
HUAN	15	1605	1608	1635	S22	W27	.622	15587	13.6	30	-N	2	C	1608	140	1.8	E
HOLL	15	1608	1608	1624	S19	W25	.574	15587	13.8	16	-B	3	C		121		
GRP69627	15	1831+0	1833+1	1908	S20	W32	.653	15587	13.4	37	1B				350	4.6	FU
RAMY	15	1831E	1834	1910D	S20	W33	.663	15587	13.3	39D	1B	3	C		250		F
HOLL	15	1831	1833	1859	S22	W27	.622	15587	13.7	28	1N	3	C		291		U F
PALE	15	1831	1833	1834D	S20	W27	.603	15587	13.7	3D	2B	3	V		487		
PALE	15	1831	1833	1905	S20	W35	.683	15587	13.1	34	1B	3	C		390		U F
HUAN	15	1901E		1912	S20	W36	.693	15587	13.1	11D	-F	1	P				E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
628 HUAN	15	1930	1934	1939	N29	E63	.896	15598	20.5	9	-F	1	C					Y5
629 HOLL	15	2024	2025	2030	N16	W50	.766	15583	12.1	6	-N	3	C		24		F	Y5
630 HOLL	15	2052	2054	2104	N33	E61	.888	15598	20.4	12	-B	3	C		27		F	Y5
631 HOLL	15	2059	2059	2105	N16	W51	.777	15583	12.0	6	-N	3	C		19		F	Y5
GRP69632	16	0027+6	0044+1	0109	N28	E61	.881	15598	20.6	42	2N				230	5.2	EHJ	
MITK	16	0027	0045	0126	N29	E62	.889	15598	20.7	59	1B		C	0045	160	3.3	E	
VORO	16	0033	0044	0103	N28	E60	.874	15598	20.5	30	1N		C	0044	188		EJH	
CULG	16	0034E	0044	0115	N27	E60	.872	15598	20.5	410	2N		C	0044	280	5.6		
MANI	16	0043E	0044	0050	N30	E64	.904	15598	20.8	70	2N	3	V		300	6.0		
633 CULG	16	0134E	0135	0150	S19	W63	.919	15599	11.3	160	-F		P	0135	40	1.0		Y5
634 CULG	16	0218	02200	02200	N27	E60	.872	15598	20.6	20	-N		P	0219	90	1.9		Y5
635 VORO	16	0228		0235	N29	E58	.860	15598	20.5	7	?F		C	0232	179		EJ	Y5
	IMP.	1 NO	MITK1															
636 VORO	16	0256	0257	0259	N29	E55	.836	15598	20.2	3	-F		C	0257	81			Y5
637 VORO	16	0332	0332	0336	N28	E58	.858	15598	20.5	4	?N		C	0332	269		EJ	Y5
	IMP.	1 NO	MITK1															
638 VORO	16	0348	0352	0357	S22	W33	.677	15587	13.7	9	?F		C	0354	269	3.7	E	Y5
	IMP.	1 NO	MITK1															
639 CULG	16	0458	0506	0558	S22	W38	.725	15587	13.4	60	-N		C	0506	70	1.0	F	Y5
640 ABST	16	0622	0624	0636	S23	E02	.483	15591	16.4	14	-F		C	0624	96	1.1	D	Y5
GRP69641	16	0737+3	0741+4	0751	S21	E04	.455	15591	16.6	14	1N							
ISTA	16	0737E		0742	S22	E04	.471	15591	16.6	50	2N						F	
KANZ	16	0738	0741	0753	S21	E03	.454	15591	16.5	15	-B		C					
ABST	16	0739	0741	0752	S24	E04	.501	15591	16.6	13	1N		C	0741	227	2.7	E	
TEHR	16	0740E	0745	0749	S20	E09	.458	15591	17.0	90	-B	1	C		95		FDE	
BUCA	16	0740	0741	0751	S21	E02	.452	15591	16.5	11	-N		C	0741	171	2.0		
GRP69642	16	0804+0	0806+3	0812	S19	W34	.665	15587	13.8	8	-N				70	.9	D	
KANZ	16	0804	0808	0812	S19	W35	.675	15587	13.7	8	-N		C					
ABST	16	0804	0806	0811	S20	W37	.702	15587	13.6	7	-N		C	0806	79	1.1	D	
TEHR	16	0807E	0809	0811	S18	W32	.637	15587	13.9	40	-B	1	C		65		FDE	
ISTA	16	0808E		0813	S20	W34	.672	15587	13.8	50	-N						D	
GRP69643	16	0847+1	0848+1	0858	S15	W30	.592	15587	14.1	11	-F						D	
ABST	16	0847	0849	0856	S15	W30	.592	15587	14.1	9	-F		C	0849	52	.7	D	
KANZ	16	0848	0848	0859	S15	W31	.603	15587	14.0	11	-F		C					
GRP69644	16	0941+5	0950+0	1000	N27	E56	.841	15598	20.6	19	-N							
TEHR	16	0941	0950	0956	N26	E58	.855	15598	20.8	15	-B	1	C		95		FDE	
KANZ	16	0946	0950	1004	N29	E54	.828	15598	20.5	18	-N		C					
645 KANZ	16	1035	1035	1048	N26	W24	.508	15589	14.6	13	-N		C				LH	Y5
646 KANZ	16	1310	1310	1318	S21	E07	.464	15591	17.1	8	-F		C				D	Y5
647 KANZ	16	1314	1409	1429	S15	W56	.859	15587	12.4	75	?N		C				U	Y5
	IMP.	1 NO	HUAN1															
648 KANZ	16	1338	1405	1421	S07	W62	.892		11.9	43	?F		C					Y5
	IMP.	1 NO	HUAN1															
649 KANZ	16	1429	1433	1445	S19	W69	.953	15599	11.4	16	-F		C					Y5
GRP69650	16	1535+3	1536+3	1544	N29	E55	.836	15598	20.8	9	-N				40	.8	D	
MCMA	16	1535	1536	1541D	N28	E55	.834	15598	20.8	60	-N		C	1536	50	.9	D	
HUAN	16	1535		1545	N29	E55	.836	15598	20.8	10	-F	1	C	1535	30	.5		
HOLL	16	1538	1539	1542	N33	E51	.814	15598	20.5	4	-N	3	C		27			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
GRP69651	16	1645+5	1652+1 1741+0	1814	S20	W38	.712	15587	13.8	89	1B				270	3.8	FHU	
MCMA	16	1645E	1652	1734D	S18	W36	.679	15587	14.0	49D	-N		C	1652	80	1.1	EH	
RAMY	16	1650E	1653	1715	S20	W34	.672	15587	14.2	25D	-B	3	C		50		F H	
HOLL	16	1650	1741	1817	S22	W40	.744	15587	13.7	87	1B	3	C		318		U F	
PALE	16	1704	1706	1718	S20	W39	.722	15587	13.8	14	-N	3	C		59		DE	
PALE	16	1734	1741	1813	S21	W40	.738	15587	13.7	39	1B	3	C		229		U F	
MCMA	16	1751E		1815D	S18	W37	.689	15587	14.0	24D	1B		C	1751	150	2.1	E	
GRP69652	16	1942+1	1944+0	1952	S22	W44	.780	15587	13.5	10	-B				100	1.6	U	
HUAN	16	1942	1944	1951	S23	W48	.819	15587	13.2	9	1N	2	C	1944	130	2.3	E	
HOLL	16	1943	1944	1953	S22	W40	.744	15587	13.8	10	-B	3	C		77		U F	
	16	2024	2028	NO FLARE PATROL														
	16	2113	2141	NO FLARE PATROL														
GRP69653	16	2142	2145+0	2159	N32	E47	.777	15598	20.4	17	1B						U	
HOLL	16	2142	2145	2159	N33	E48	.790	15598	20.5	17	1B	3	C		369		U F	
PALE	16	2145E	2145U	2158	N31	E46	.765	15598	20.4	13D	1B	3	C		337		FDE	
GRP69654	16	2332+2	2335+6	0004	N30	E47	.770	15598	20.5	32	-N				60	1.0	J	
CULG	16	2332	2337	0007	N28	E50	.791	15598	20.7	35	-N		C	2337	40	.6		
HOLL	16	2333	2335	0001	N36	E47	.794	15598	20.5	28	-B	3	C		57			
VORO	16	2334	2335	2345	N30	E48	.779	15598	20.6	11	-B		C	2335	45	.7	J	
PALE	16	2334	2341	0006D	N31	E47	.774	15598	20.5	32D	-N	2	C		87		FDE	
GRP69655	17	0006>9	0018+6	0025	S18	W42	.759	15587	13.9	19	-N				70	1.0	J	
CULG	17	0006	0024	0101	S17	W42	.753	15587	13.9	55	-N		C	0024	80	1.1	F	
VORO	17	0017	0018	0022	S18	W40	.740	15587	14.0	5	-B		C	0018	72	1.0	J	
PALE	17	0022	0022	0025	S21	W43	.784	15587	13.8	3	-N	2	C		22		DE	
656 CULG	17	0123E	0124	0136	S20	W02	.482	15591	16.9	13D	-F		P	0124	60	.7		Y5
GRP69657	17	0328>9	0344+0	0404	S17	W43	.763	15587	13.9	36	-N				130	1.9	J	
CULG	17	0328	0344	0407D	S17	W44	.772	15587	13.8	39D	-N		C	0344	100	1.4		
VORO	17	0343	0344	0401	S18	W42	.759	15587	14.0	18	1N		C	0348	161	2.4	J	
658 CULG	17	0504	0512	0527	S18	W55	.870	15587	13.1	23	-F		C	0512	70	1.4		Y5
GRP69659	17	0656E		0725D	S20	W42	.770	15587	14.1	29	-N							
ISTA	17	0656E		0715D	S21	W42	.776	15587	14.1	19D	-N						F	
TEHR	17	0705E	0705U	0725D	S20	W40	.752	15587	14.3	20D	-B	1	C		95		DE	
ISTA	17	0710E		0722D	S20	W45	.796	15587	13.9	12D	-N						F	
660 KHAR	17	1055E		1106D	N24	E90	.998	15610	24.2	11D	-F		P	1058			DH	Y5
661 KHAR	17	1102	1108	1122D	S16	W52	.840	15587	13.6	20D	?F		P	1108	150	2.5	E	Y5
	IMP.1	NO	CATA1	LVOV1	ABST1													
662 KHAR	17	1118E	1120	1124D	N34	E39	.692	15598	20.4	6D	-F		P	1121	45	.7	E	Y5
GRP69663	17	1155+1	1156+2	1203	N33	E41	.706	15598	20.6	8	-F				35	.5	E	
KHAR	17	1155E	1158	1203D	N34	E39	.692	15598	20.4	8D	-F		P	1158	50	.7	E	
HTPR	17	1156	1156	1203	N32	E44	.730	15598	20.8	7	-F		C	1156	20	.3		
664 MCMA	17	1321	1330	1402	S18	W48	.813	15587	14.0	41	-N		C	1330	80	1.3	E	Y5
665 RAMY	17	1352E	1355	1403	N31	E61	.872		22.2	11D	-B	3	C		32		F	Y5
666 MCMA	17	1413	1420	1445	N30	E42	.702	15598	20.7	32	-N		C	1420	30	.4	D	Y5
GRP69667	17	1740E	1740+4	1751	S18	W51	.839	15587	13.9	11	-N				35	.6	D	
MCMA	17	1740E	1740	1754	S18	W52	.847	15587	13.8	14D	-N		C	1740	50	1.0	D	
RAMY	17	1741E	1744	1748	S18	W50	.830	15587	14.0	7D	-B	3	C		24			
668 RAMY	17	1751E	1756	1802	N13	W11	.201	15600	16.9	11D	-N	3	C		20			Y5
GRP69669	17	1902>9	1925	1941D	S18	W48	.813	15587	14.2	39	-F						E	
MCMA	17	1902	1925	1941D	S17	W49	.818	15587	14.1	39D	-F		C	1925	50	.9	E	
HUAN	17	1913		1933D	S19	W48	.818	15587	14.2	20D	-F	1	P					
670 HUAN	17	1922		1925	N27	E90	.998	15610	24.6	3	-F	1	C					Y5
671 HOLL	17	2035	2040	2044	N20	W46	.717	15589	14.4	9	-N	3	C		21			Y5
672 HOLL	17	2138	2139	2144	N20	E28	.489	15597	20.0	6	-N	3	C		46		U	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
673 HOLL	17	2211	2221	2241	S22	W55	.883	15587	13.8	30	-B	3	C		43		DE	Y5
674 CULG	17	2310	2323	2330	N24	E90	.998	15610	24.7	20	-F		C	2323	20			Y5
	17	2320	2322	NO FLARE PATROL														
	17	0449	0457	NO FLARE PATROL														
675 PALE	17	2334	2353	0006D	N31	E47	.755		21.5	32D	-F	2	C		44		FDE	Y5
GRP69676	18	0000+2	0004+1	0048	S19	W55	.862	15587	13.9	48	-B				90	1.7	F	
CULG	18	0000	0005	0048	S16	W55	.853	15587	13.9	48	-B		C	0005	100	1.8		
HOLL	18	0002	0004	0012D	S22	W56	.878	15587	13.8	10D	-B	2	C		82		F	
677 CULG	18	0105	0109	0113	S29	E90	1.001		24.8	8	-F		C	0109	20			Y5
GRP69678	18	0113+1	0118+0	0124	S23	W81	.994	15587	12.0	11	1F				110			
CULG	18	0113	0118	0125	S27	W83	.998	15587	11.8	12	1N		C	0118	130			
MITK	18	0114	0118	0123	S19	W80	.991	15587	12.1	9	1F		C	0118	100			
679 CULG	18	0432	0442	0457	S22	W52	.847	15587	14.3	25	-F		C	0442	80	1.5		Y5
680 KHAR	18	0850E		0905D	N23	E86	.995	15610	24.8	15D	-F		P	0857	60		DH	Y5
681 KHAR	18	0913E	0917	0920D	S24	W70	.963	15587	13.1	7D	-F		P	0917	65		D	Y5
682 KHAR	18	0927E		0933D	N24	W52	.800	15589	14.5	6D	-F		P	0927	55	1.0	DT	Y5
683 KHAR	18	0950E		1003D	N24	W52	.800	15589	14.5	13D	-F		P	0950	60	1.0	DT	Y5
684 KHAR	18	1018E	1021	1033D	N24	W52	.800	15589	14.5	15D	-N		P	1020	100	1.7	DT	Y5
685 KHAR	18	1043E		1047D	N23	E86	.995	15610	24.9	4D	-F		P	1043	45		D	Y5
686 KHAR	18	1050E	1053	1130D	N24	W52	.800	15589	14.6	40D	-F		P	1053	80	1.4	DT	Y5
	18	1305	1352	NO FLARE PATROL														
	18	0449	0455	NO FLARE PATROL														
	18	0716	0720	NO FLARE PATROL														
GRP69687	18	1716+3	1720+0	1735	N31	E24	.558	15598	20.5	19	-N				60	.7	E	
RAMY	18	1716	1720	1739	N31	E25	.567	15598	20.6	23	-B	3	C		64			
MCHA	18	1717E		1735D	N29	E24	.538	15598	20.5	18D	-N		C	1720	60	.7	E	
HOLL	18	1719	1720	1731	N31	E23	.549	15598	20.4	12	-N	3	C		23			
688 CULG	18	2051	2055	2112	N23	E27	.519		20.9	21	-F		C	2055	120	1.5		Y5
689 PALE	18	2141	2148	2349	N31	E22	.540	15598	20.6	128	-N	3	C		85		F	Y5
GRP69690	18	2141>9	2203+1	2235D	S29	E30	.708	15604	21.2	54	-B						U	
PALE	18	2141	2204	0039D	S28	E32	.715	15604	21.3	178D	1B	*	C		297		U	
CULG	18	2154	2203	2235	S30	E29	.710	15604	21.1	41	-N	*	P	2203	80	1.2		
691 PALE	18	2146	2146	2154	S21	W25	.591	15591	17.0	8	-B	3	C		29		DE	Y5
692 PALE	18	2222	2247	2340	S21	W29	.629	15591	16.8	78	-B	3	C		49		DE	Y5
693 CULG	18	2246	2248	2258	S28	E67	.955		24.0	12	-F		C	2248	30			Y5
694 VORO	19	0005	0007	0011	N24	E74	.957	15610	24.6	6	-F		C	0007	63		E	Y5
695 VORO	19	0042	0043	0046	N22	W58	.851	15589	14.7	4	-N		C	0043	27	.3	J	Y5
696 VORO	19	0057	0059	0106	N28	E19	.481	15598	20.5	9	-N		C	0102	72	.8	J	Y5
GRP69697	19	0104+7	0113+5	0130	S21	W32	.658	15591	16.6	26	-N							
PALE	19	0104	0113	0132	S21	W30	.638	15591	16.8	28	-B	3	C		58		DE	
CULG	19	0111	0118	0128	S21	W34	.678	15591	16.5	17	-N		C	0118	20	.3	T	
GRP69698	19	0119>9	0135+0	0143	N21	W60	.866	15589	14.6	24	-F				50	1.0		
CULG	19	0119	0135	0145	N23	W59	.860	15589	14.6	26	-F	*	C	0135	60	1.1		
PALE	19	0133	0135	0140	N19	W61	.873	15589	14.5	7	-N	*	C		35		DE	
699 CULG	19	0120	0131	0149	S17	W69	.950	15587	13.9	29	-F		C	0131	30			Y5
700 CULG	19	0157	0200	0202	S21	W34	.678	15591	16.5	5	-N		C	0200	30	.4	T	Y5
701 CULG	19	0222	0224	0250	S21	W34	.678	15591	16.5	28	-F		C	0224	50	.6	KT	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
702 CULG	19	0237	0241	0247	N23	W59	.860	15589	14.7	10	-F		C	0241	20	.4		Y5
703 CULG	19	0406	0409	0439	N25	E77	.970	15610	24.9	33	2N		C	0409	250		V	Y5
704 CULG	19	0418E	0419	0428	S21	W34	.678	15591	16.6	10D	-N		P	0419	60	.8	T	Y5
705 CULG	19	0454	0501	0510	N23	W62	.884	15589	14.6	16	-N		C	0501	70	1.4		Y5
706 ABST	19	0549	0551	0553	N20	W68	.923	15589	14.1	4	-F		C	0551	87		DJZ	Y5
707 CULG	19	0552	0555	0600	N28	E60	.874		23.7	8	-F		C	0555	50	1.0		Y5
708 CULG	19	0632	0638	0650	S21	W34	.678	15591	16.7	18	-F		C	0638	60	.8	T	Y5
GRP69709	19	0705+6	0712+3	0731	N27	E74	.957	15610	24.8	26	-N				45		D	
BUCA	19	0705		0735	N28	E74	.958	15610	24.8	30	-F		C	0715	32		D	
CULG	19	0705	0715	0733	N26	E75	.962	15610	24.9	28	-N		P	0715	30			
ABST	19	0709	0715	0728	N28	E83	.988	15610	25.5	19	1N		C	0715	87		D	
CULG	19	0711	0712	0721	N24	E62	.885	15610	23.9	10	-N		C	0712	60	.9		
GRP69710	19	0747+3	0751+1	0805	N28	E74	.958	15610	24.9	18	1N				130			
TEHR	19	0747	0751	0811	N29	E65	.910	15610	24.2	24	1B	1	C		159		F	
ABST	19	0748	0752	0805	N28	E83	.988	15610	25.6	17	1N		C	0752	105		D	
BUCA	19	0750	0751	0803	N28	E74	.958	15610	24.9	13	1N		C	0751	107			
GRP69711	19	1025+0	1030	1039	S20	W37	.700	15591	16.7	14	-F						D	
KHAR	19	1025E		1042D	S19	W38	.704	15591	16.6	17D	-F		V	1030			D	
HTPR	19	1025	1030	1035	S22	W37	.714	15591	16.7	10	-F		C	1030	20	.2		
712 HTPR	19	1035	1038	1043	N19	W65	.903	15589	14.6	8	-F		C	1038	20	.4		Y5
713 RAMY	19	1113	1113	1117	N27	E65	.908	15610	24.3	4	-N	2	C		19			Y5
GRP69714	19	1148+1	1153+1	1214	N27	E70	.938	15610	24.7	26	-N						F	
HTPR	19	1148	1153	1203	N27	E75	.962	15610	25.1	15	-N		C	1153	90			
RAMY	19	1149	1154	1225	N27	E65	.908	15610	24.4	36	-B	3	C		87		F	
715 RAMY	19	1204	1211	1225	N20	W67	.917	15589	14.5	21	-B	3	C		21			Y5
716 RAMY	19	1308	1321	1440	S22	W36	.704	15591	16.8	92	-B	3	C		127			Y5
717 RAMY	19	1407	1438	1519	N26	E65	.907	15610	24.5	72	-B	3	C		65			Y5
GRP69718	19	1606+0	1608+2	1632	N27	E68	.926	15610	24.8	26	1B				110			
HOLL	19	1606	1610	1625	N27	E68	.926	15610	24.8	19	1B	3	C		120		DE	
RAMY	19	1606	1608	1632	N26	E65	.907	15610	24.5	26	1B	3	C		112		DE	
HUAN	19	1633E		1637D	N28	E72	.948	15610	25.1	4D	-F	1	P					
719 PALE	19	1708	1709	1800	S21	W39	.726	15591	16.8	52	-B	3	C		57		DE	Y5
720 PALE	19	1755	1756	1807	N28	E65	.909	15610	24.6	12	-B	3	C		25		DE	Y5
721 PALE	19	1958E	2011U	2021	S21	W41	.746	15591	16.8	23D	-N	3	C		64		DE	Y5
722 CULG	19	2032	2034	2046	S20	W43	.759	15591	16.6	14	-F		C	2034	40	.6		Y5
723 CULG	19	2137	2150	2210	S17	W90	1.000	15587	13.2	33	-F		C	2150	30			Y5
724 PALE	19 IMP.1	2211E NO	2212 HOLL1	2243D CULG1	S21	W42	.755	15591	16.8	32D	?B	2	C		193		FDE	Y5
GRP69725	19	2355+2	2358 2408	0015D	S30	E16	.626	15604	21.2	20	-N						EKL	
CULG	19	2355	2408	0048	S31	E13	.624	15604	21.0	53	-N		C	2408	100	1.3		
VORO	19	2357	2358	0015	S29	E20	.637	15604	21.5	18	-N		C	2358	116	1.5	EKL	
726 CULG	20	0027	0050	0105	N28	W38	.675	15590	17.2	38	-F		C	0050	10	.1		Y5
GRP69727	20	0120+1	0136	0140D	S20	W42	.749	15591	16.9	20	1N				140	2.1	J	
VORO	20	0120E		0140	S26	W42	.782	15591	16.9	20D	1F		P	0131	188	2.9	E	
CULG	20	0121	0136	0210	S20	W48	.805	15591	16.5	49	1N		C	0136	140	2.2	J	
MANI	20	0128E	0128U	0135D	S20	W42	.749	15591	16.9	7D	-N	3	V		100	1.8	F	
GRP69728	20	0150+1	0201+2	0229	S30	E15	.620	15604	21.2	39	-B				140	1.8	J	
CULG	20	0150	0202	0237	S33	E14	.652	15604	21.1	47	1B	*	C	0202	160	2.1		
VORO	20	0151	0203	0220	S30	E21	.654	15604	21.7	29	-N	*	C	0203	143	1.9	EJ	
PALE	20	0201	0201	0209D	S28	E15	.595	15604	21.2	8D	-B	*	C		108		FDE	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	OCT																
GRP69729	20	0152>9	0158+5	0212	N31	E07	.444	15598	20.6	20	-N						J
CULG	20	0152	0202	0231	N28	E07	.398	15598	20.6	39	-N		C	0202	60	.7	F
VORO	20	0156	0158	0212	N31	E07	.444	15598	20.6	16	-F		C	0158	125	1.4	EJ
PALE	20	0203	0203	0207	N32	E07	.459	15598	20.6	4	-N	3	C		22		FDE
730 CULG	20	0207	0210	0221	N26	E63	.894	15610	24.8	14	-F		C	0210	30	.7	Y5
GRP69731	20	0310	0312+4	0324	N28	E61	.882	15610	24.7	14	-F				70	1.6	DH
VORO	20	0310	0312	0315	N29	E66	.916	15610	25.1	5	-F		C	0312	63		DH
PALE	20	0315E	0316U	0333D	N28	E57	.852	15610	24.4	18D	-N	3	C		92		DE
732 CULG	20	0335	033?	0352	N32	E11	.476	15598	21.0	17	-F		C	0339	20	.2	Y5
GRP69733	20	0339+0	0341+5	0404	S23	W45	.792	15591	16.8	25	-F						EJ
VORO	20	0339	0341	0356	S26	W45	.807	15591	16.8	17	1F		C	0341	134	2.2	EJ
CULG	20	0339	0346	0411	S20	W46	.787	15591	16.7	32	-F		C	0346	50	.8	
734 TEHR	20	0719	0723	0733	S23	W41	.756	15591	17.2	14	-B	2	C		127		Y5
735 HTPR	20	1041	1046	1130	N30	E00	.415	15598	20.4	49	1N		C	1046	450	5.0	EK Y5
736 HTPR	20	1108	1119	1130	N35	W40	.734	15592	17.5	22	-F		C	1119	30	.5	F Y5
	20	1200	1202	NO FLARE PATROL													
737 HTPR	20	1202E		1245D	N30	W01	.415	15598	20.4	43D	-F		C	1225	50	.6	Y5
738 HTPR	20	1231	1235	1245	S22	W48	.813	15591	16.9	14	-F		C	1235	20	.3	Y5
739 HTPR	20	1327	1330	1341	S24	W43	.780	15591	17.3	14	-F		C	1330	20	.3	Y5
GRP69740	20	1555+1	1557+1	1632	S23	W53	.858	15591	16.7	37	-N				60	1.1	E
MCMA	20	1555	1557	1619	S22	W53	.854	15591	16.7	24	-N		C	1557	60	1.2	E
HUAN	20	1556	1558	1645	S24	W54	.869	15591	16.6	49	-N	1	C	1558	70	1.3	
741 HUAN	20	1616	1618	1619	N29	E55	.838	15610	24.8	3	-F	2	C	1618	20	.3	D Y5
GRP69742	20	1638>9	1640 1706	1722	S21	W55	.867	15591	16.6	44	-B						EK
MCMA	20	1638	1706	1722	S20	W55	.864	15591	16.6	44	-B	*	C	1706			
MCMA	20	1638	1640	1722	S20	W55	.864	15591	16.6	44	-B	*	C	1640	50	1.1	EK
HUAN	20	1700		1706D	S22	W55	.870	15591	16.6	6D	-N	*	P	1705	35	.6	
743 MCMA	20	1745	1749	1757	S20	W55	.864	15591	16.6	12	-B		C	1749	50	1.1	E Y5
GRP69744	20	1754+0	1756+1	1806	S30	E07	.590	15604	21.3	12	-N				40	.5	E
PALE	20	1754E	1757	1804	S28	E07	.562	15604	21.3	10D	-N	3	C		31		DE
MCMA	20	1754	1756	1808	S31	E06	.601	15604	21.2	14	-N		C	1756	40	.5	E
HUAN	20	1756E		1806D	S30	E07	.590	15604	21.3	10D	-F	1	P	1800	35	.4	E
745 HOLL	20	1810	1813	1819	S22	W51	.838	15591	16.9	9	-N	3	C		51		Y5
746 PALE	20	1840	1843	1847	S23	W54	.865	15591	16.7	7	-N	3	C		31		DE Y5
747 PALE	20 IMP.1	2010 NO	2014 HOLL1	2050D	S23	W55	.873	15591	16.7	40D	?B	3	C		151		DE F Y5
748 PALE	20	2020	2023U	2049D	N28	E48	.774	15610	24.4	29D	-B	3	C		79		DE Y5
	20	2052	2109	NO FLARE PATROL													
GRP69749	20	2138	2144 2154	2159	S22	W53	.854	15591	16.9	21	1B						E
HOLL	20	2138	2144	2159	S22	W53	.854	15591	16.9	21	1B	3	C		185		DE
HOLL	20	2138	2154	2159	S22	W53	.854	15591	16.9	21	-N	3	C		18		DE
	20	2338	2340	NO FLARE PATROL													
	20	2344	2358	NO FLARE PATROL													
	20	0800	0845	NO FLARE PATROL													
	20	0852	0902	NO FLARE PATROL													
	20	0908	0912	NO FLARE PATROL													
750 CULG	21 IMP.1	0040E NO	0055 MITK1	0102D	N37	W37	.722	15592	18.3	22D	?F		P	0055	160	2.2	Y5
751 CULG	21	0049	0055	0101	S18	W59	.889	15591	16.6	12	-N		C	0055	10	.2	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE OCT	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
752 VORO	21	0158	0202	0245	S22	W60	.905	15591	16.6	47	?F		C	0202	125	2.7	EJ	Y5
	IMP. 1 NO 1 MITK1																	
GRP69753	21	0247		0330	N28	E48	.775	15610	24.7	43	-F						E	
MITK	21	0247		0322D	N28	E50	.793	15610	24.9	35D	-F		C	0253			E	
VORO	21	0259E		0330	N28	E48	.775	15610	24.7	31D	1F		C	0259	197	3.1	E	
MANI	21	0300E	0300U	0314D	N27	E45	.742	15610	24.5	14D	-N	3	V		100	1.5	F	
GRP69754	21	0554	0558 0627	0631	S21	W62	.915	15591	16.6	37	1N				150	3.6	EJK	
ABST	21	0554	0558	0646	S21	W61	.909	15591	16.7	52	1N		C	0558	201	4.6	FJK	
MITK	21	0558E		0616	S21	W62	.915	15591	16.6	18D	1N		C	0558	100	2.4	E	
MITK	21	0623	0627	0631D	S20	W63	.920	15591	16.5	8D	1N		P	0627	100	2.4	E	
GRP69755	21	0709+1	0711+3	0727	N29	W08	.419	15598	20.7	18	-F				60	.7	DJ	
HTPR	21	0709	0711	0725	N30	W08	.434	15598	20.7	16	-F		C	0711	40	.4		
ABST	21	0710	0714	0728	N29	W09	.424	15598	20.6	18	-F		C	0714	87	1.0	DJ	
756 HTPR	21	0732	0734	0737	N30	W10	.443	15598	20.6	5	-F		C	0734	40	.4		Y5
757 HTPR	21	0735	0741	0746	S32	W01	.608	15604	21.2	11	-F		C	0741	40	.5	E	Y5
758 ABST	21	1041	1045	1052	S20	W62	.913	15591	16.8	11	-N		C	1045	87	2.0	DJ	Y5
759 RAMY	21	1318	1336	1341	N15	E10	.237	15613	22.3	23	-N	3	C		20			Y5
GRP69760	21	1335+2	1341+1 1348	1420	N32	W08	.464	15598	21.0	45	-N				25	.3	D	
KANZ	21	1335	1348	1406D	N32	W08	.464	15598	21.0	31D	-N		C					
MCMA	21	1337	1341	1430D	N32	W08	.464	15598	21.0	53D	-N		C	1341	30	.3	D	
HTPR	21	1337	1342	1409	N33	W09	.482	15598	20.9	32	-F		C	1342	20	.2		
GRP69761	21	1356+1	1358+0	1423	S23	W66	.942	15591	16.6	27	-N						E	
RAMY	21	1324	1358	1500	S23	W67	.947	15591	16.5	96	1B	*	C		194		FDE	
HTPR	21	1356	1358	1410	S23	W66	.942	15591	16.6	14	-F	*	C	1358	30	.7	E	
KANZ	21	1357		1406D	S21	W65	.933	15591	16.7	9D	-N	*	C					
MCMA	21	1407E		1423D	S24	W70	.962	15591	16.3	16D	1N	*	C	1413	80	3.0	BE	
GRP69762	21	1423+3	1429+3	1448	S32	W04	.610	15604	21.3	25	-N				45	.6	E	
MCMA	21	1423E	1432	1453	S32	W05	.612	15604	21.2	30D	-N		C	1432	35	.4	E	
HTPR	21	1426	1429	1442	S32	W03	.609	15604	21.4	16	-N		C	1429	50	.6	E	
GRP69763	21	1551+2	1601+1 1620	1712	N30	W12	.455	15598	20.8	81	1N				210	2.4	U	
MCMA	21	1551	1602	1725D	N32	W11	.477	15598	20.8	94D	1N		C	1602	175	2.1	EU	
MCMA	21	1551	1620	1725D	N32	W11	.477	15598	20.8	94D	1N		C	1620	200	2.4		
RAMY	21	1553	1601	1659	N29	W13	.448	15598	20.7	66	1B	3	C		250		F	
	21	1906	1926	NO FLARE PATROL														
	21	1947	1953	NO FLARE PATROL														
764 RAMY	21	2028E	2031	2038	N19	E90	1.000	15619	28.6	10D	-B	3	C					Y5
	21	2042	2229	NO FLARE PATROL														
	21	0417	0447	NO FLARE PATROL														
	21	0508	0538	NO FLARE PATROL														
765 VORO	21	2325	2328	2337	S22	W72	.968	15591	16.6	12	-N		C	2328	81		E	Y5
GRP69766	21	2350+0	2357+2	0013	S25	W11	.534	15604	21.2	23	-F							
CULG	21	2350	2357	0001D	S25	W12	.539	15604	21.1	11D	-F		P	2357	40	.5		
MITK	21	2350	2359	0013	S26	W11	.547	15604	21.2	23	-F		C	2359				
767 VORO	22	0004	0006	0008	S21	W74	.975	15591	16.5	4	-N		C	0006	45		D	Y5
768 VORO	22	0053	0053	0056	S21	W74	.975	15591	16.5	3	-N		C	0053	45		D	Y5
769 VORO	22	0112	0116	0139	S21	W72	.967	15591	16.7	27	?F		C	0116	116		EJ	Y5
	IMP. 1 NO 1 MITK1																	
770 VORO	22	0221	0223	0226	S21	W76	.981	15591	16.4	5	-N		C	0223	45		D	Y5
GRP69771	22	0556+6	0604+2	0638	S23	E24	.599	15611	24.0	42	1B				190	2.4	HJ	
MITK	22	0556	0604	0641	S23	E24	.599	15611	24.0	45	1B		C	0604	250	3.2	E	
ABST	22	0558	0605	0630	S24	E24	.609	15611	24.0	32	1N		C	0605	174	2.2	FJ	
TEHR	22	0602	0606	0638	S22	E20	.554	15611	23.8	36	-B	2	C		150		H	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
772 ABST	22	0644E	0645	0654	N14	W45	.709	15617	18.9	10D	-F		P	0645	87	1.2	D	Y5
773 ABST	22	0644E	0645	0650	N17	W32	.551	15597	19.9	6D	-F		P	0645	87	1.1	D	Y5
	22	1025	1226	NO FLARE PATROL														
	22	2210	2215	NO FLARE PATROL														
	22	0905	0915	NO FLARE PATROL														
	22	0945	1005	NO FLARE PATROL														
774 CULG	23	0102	0107	0128	N23	E25	.499	15610	24.9	26	-F		P	0107	50	.6		Y5
GRP69775	23	0201+1	0204+2	0216	N18	E78	.974	15619	28.9	15	-F						D	
CULG	23	0201	0204	0220	N18	E79	.978	15619	29.0	19	-F		C	0204	10			
VORO	23	0202	0206	0211	N19	E78	.974	15619	28.9	9	-F		C	0206	45		D	
776 MITK	23	0224	0225	0245	N24	E24	.496	15610	24.9	21	-N		C	0225			E	Y5
777 VORO	23	0246	0248	0252	N19	E78	.974	15619	29.0	6	-F		C	0248	36		D	Y5
GRP69778	23	0321+1	0324+3	0340	N23	E23	.476	15610	24.9	19	-N				110	1.3	E	
VORO	23	0321	0324	0340	N24	E23	.485	15610	24.9	19	-N		C	0324	143	1.6	E	
CULG	23	0322	0327	0329D	N22	E23	.467	15610	24.9	7D	-N		P	0327	90	1.0		
779 CULG	23	0446E	0446E	0513D	N24	E15	.401	15610	24.3	27D	-F		P	0446	60	.7		Y5
GRP69780	23	0848+2		0902	S16	E90	1.000	15620	30.1	14	-N						A	
KANZ	23	0848E		0856	S17	E90	1.000	15620	30.1	8D	-N		C					
ISTA	23	0850		0907D	S15	E90	1.000	15620	30.1	17D	1N						A	
	23	1015	1036	NO FLARE PATROL														
	23	1054	1138	NO FLARE PATROL														
	23	1209	1227	NO FLARE PATROL														
	23	1245	1254	NO FLARE PATROL														
	23	1400	1409	NO FLARE PATROL														
	23	1445	1800	NO FLARE PATROL														
	23	1805	1829	NO FLARE PATROL														
	23	1834	1840	NO FLARE PATROL														
	23	1847	1853	NO FLARE PATROL														
	23	1934	2108	NO FLARE PATROL														
	23	0411	0413	NO FLARE PATROL														
	23	0433	0446	NO FLARE PATROL														
	23	0451	0505	NO FLARE PATROL														
	23	0513	0518	NO FLARE PATROL														
	23	0626	0655	NO FLARE PATROL														
	23	0712	0732	NO FLARE PATROL														
	23	0742	0815	NO FLARE PATROL														
781 VORO	23	2336	2338	2346	N24	E11	.367	15610	24.8	10	-F		C	2338	81	.8	E	Y5
782 CULG	24	0232	0306	0329	N26	E07	.373	15610	24.6	57	-F		C	0306	30	.3	F	Y5
GRP69783	24	0649E	0649+1	0659	S18	E64	.922	15620	29.1	10	-F				50			
CULG	24	0649E	0649U	0659	S19	E64	.924	15620	29.1	10D	-N		P	0649	60		C	
MANI	24	0649E	0650	0653D	S17	E65	.927	15620	29.2	4D	-F	3	V		50	1.0		
784 KANZ	24	0819	0823	0831	N17	E54	.810	15619	28.4	12	-B		C				DL	Y5
785 KHAR	24	0933E		0940D	N29	W49	.788	15598	28.7	7D	-F		P	0937	50	.8	D	Y5
	24	1548	1557	NO FLARE PATROL														
	24	0347	0358	NO FLARE PATROL														
	24	0043	0059	NO FLARE PATROL														
786 MCMA	24	1650	1651	1707D	N23	E04	.313	15610	25.0	17D	-F		C	1651	40	.4	E	Y5
787 PALE	24	2016	2017	2025	N24	E02	.325	15610	25.0	9	-B	3	C		115		FDE	Y5
788 CULG	24	2108	2111	2122	S20	E79	.989	15620	30.8	14	-F		C	2111	40		L	Y5
789 CULG	24	2130	2156	2210	S22	E80	.992	15620	30.9	40	?F		C	2156	70			Y5
	IMP-1 NO. PALE1																	
790 CULG	24	2221	2229	2240	S20	E78	.986	15620	30.8	19	-F		C	2229	30			Y5
GRP69791	24	2254+0	2255+1	2307	S21	E56	.873	15620	29.2	13	-N				60	1.2	D	
CULG	24	2254	2256	2312	S22	E56	.876	15620	29.2	18	-B		C	2256	60	1.3		
VORO	24	2254	2255	2301	S20	E56	.870	15620	29.2	7	-N		C	2256	72	1.3	D	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	OCT																	
GRP69792	24	2307+1	2309+2	2322	S20	E74	.974	15620	30.5	15	-F				30		D	
CULG	24	2307	2311	2326	S21	E77	.984	15620	30.7	19	-N		C	2311	30			
VORO	24	2308	2309	2318	S19	E72	.965	15620	30.4	10	-F		C	2309	27		D	
793 CULG	25	0031	0040	0047	S20	E75	.977	15620	30.6	16	-F		C	0040	30			Y5
794 CULG	25	0117	0123	0140	S18	E10	.424	15615	25.8	23	-F		C	0123	30	.3		Y5
GRP69795	25	0200+2	0235 0245	0318D	N28	W05	.397	15610	24.7	78	1N						FIJKLS	
CULG	25	0200	0245	0410	N28	W05	.397	15610	24.7	130	1N		C	0245	250	2.8	JSI	
VORO	25	0202	0235	0318	N28	E00	.390	15610	25.1	76	1N		C	0235	224	2.4	FJKL	
MANI	25	0206E	0206U	0218D	N28	W06	.401	15610	24.6	120	-N	3	V		80	.9		
796 CULG	25	0342	0349	0405	S21	E65	.932	15620	30.0	23	-N		C	0349	50			Y5
797 CULG	25	0345	0355	0420	S30	E70	.968	15628	30.4	35	-F		C	0355	20			Y5
798 CULG	25	0625E	0636	0645	S20	E70	.957	15620	30.5	20D	-N		P	0638	30			Y5
799 CULG	25	0714E	0723	0734D	S28	W57	.899	15604	21.0	20D	-N		P	0723	50	1.1		Y5
GRP69800	25	0737+2	0739+2	0748	N22	W04	.298	15610	25.0	11	-N						E	
HTPR	25	0737	0739	0750	N22	W04	.298	15610	25.0	13	-F		C	0739	70	.7	E	
KANZ	25	0739	0741	0745	N23	W04	.315	15610	25.0	6	-B		C				E	
GRP69801	25	0844+3	0849+2	0855	S20	E51	.829	15620	29.2	11	-F							
HTPR	25	0844	0849	0855	S20	E51	.829	15620	29.2	11	-F		C	0849	50	.8		
KANZ	25	0847	0851	0855	S20	E51	.829	15620	29.2	8	-F		C					
GRP69802	25	0858+1	0901+2	0908	S21	E68	.949	15620	30.5	10	-N						E	
KANZ	25	0858	0901	0908	S21	E68	.949	15620	30.5	10	-N		C					
HTPR	25	0859	0903	0907	S21	E69	.953	15620	30.5	8	-N		C	0903	70		E	
803 HTPR	25	0920	0921	0932	S20	E50	.821	15620	29.1	12	-F		C	0921	20	.3		Y5
GRP69804	25	1046+1	1047+0	1051	N23	W06	.323	15610	25.0	5	-N				80	.8	E	
HTPR	25	1046	1047	1053	N23	W05	.318	15610	25.1	7	-N		C	1047	90	1.0	E	
MONT	25	1046	1047	1051	N24	W06	.339	15610	25.0	5	-N		C	1047	70			
KANZ	25	1047	1047	1051	N23	W06	.323	15610	25.0	4	-N		C					
GRP69805	25	1139+7	1146+6	1224	S16	E62	.905	15620	30.1	45	-N				70	1.6	E	
HTPR	25	1139	1146	1205	S18	E62	.909	15620	30.1	26	-F		C	1146	50	1.0	E	
KANZ	25	1140	1152	1224D	S16	E59	.883	15620	29.9	44D	-N		C					
TEHR	25	1146	1149	1227	S16	E70	.953	15620	30.7	41	-B	2	C		95			
GRP69806	25	1152+2	1157+3	1216	S12	E90	1.000	15631	2.2	24	1B							
KANZ	25	1152	1200	1216	S12	E90	1.000	15631	1.2	24	-B		C					
HTPR	25	1154	1159	1210	S14	E90	1.000	15631	1.2	16	-N		C	1159	120			
TEHR	25	1155E	1157U	1235	S10	E90	1.000	15631	1.2	40D	2B	2	C		318			
GRP69807	25	1212+0	1212+0	1215	N17	E39	.643	15619	28.4	3	-F						E	
HTPR	25	1212	1212	1214	N18	E39	.646	15619	28.4	2	-F		C	1212	20	.3	E	
KANZ	25	1212	1212	1216	N17	E40	.655	15619	28.5	4	-F		C					
	25	1601	1612	NO FLARE PATROL														
	25	1615	1848	NO FLARE PATROL														
	25	1853	1904	NO FLARE PATROL														
	25	1928	1936	NO FLARE PATROL														
	25	1952	2003	NO FLARE PATROL														
	25	2024	2028	NO FLARE PATROL														
808 CULG	25	2123	2244U	0410	N37	E43	.773		29.1	407	?N		C	2244	370	5.9	GU	Y5
	IMP.2 NO ‡ PALE1																	
809 CULG	25	2158	2201	2206	N27	W29	.578		23.7	8	-N		C	2201	40	.5		Y5
GRP69810	25	2346+1	2349+1	0003	S27	W64	.937	15604	21.2	17	-N				60			
CULG	25	2346	2350	0010	S27	W67	.952	15604	21.0	24	-N		C	2350	60			
PALE	25	2347	2349	2355	S27	W62	.926	15604	21.3	8	-N	2	C		61		DE	
811 CULG	25	2357	2414	0040	N13	W50	.765	15613	22.2	43	-N		C	2414	50	.8		Y5
812 VORO	26	0056	0057	0101	S13	E80	.989	15631	1.0	5	-F		C	0057	27		HJ	Y5
813 VORO	26	0203	0204	0206	S18	E61	.902	15620	30.7	3	-F		C	0204	27	.5	D	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE OCT	START	MAX PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	26	1150	1155	NO FLARE PATROL														
	26	1200	1347	NO FLARE PATROL														
814 HTPR	26	1444	1446	1455	S18	E44	.756	15620	29.9	11	-F		C	1446	30	.4		Y5
	26	1531	1656	NO FLARE PATROL														
	26	1703	1756	NO FLARE PATROL														
	26	1800	1908	NO FLARE PATROL														
	26	1918	1954	NO FLARE PATROL														
815 PALE	26	1931E	1932U	2005D	S17	E48	.791	15620	30.4	34D	-B	3	C		71		DE	Y5
	26	2006	2037	NO FLARE PATROL														
	26	2206	2211	NO FLARE PATROL														
	26	2344	2358	NO FLARE PATROL														
	26	0335	0515	NO FLARE PATROL														
816 ZURI	27	0855	0905	0905D	N27	W36	.654	15610	24.7	10D	-F		P	0905	70	1.0		Y5
817 HTPR	27	1011	1013	1021	N26	W37	.659	15610	24.6	10	-F		C	1013	30	.4		Y5
818 HTPR	27	1112	1114	1130	N26	W38	.669	15610	24.6	18	-F		C	1114	20	.3		Y5
819 ZURI	27	1117E	1133	1143	S15	E66	.929	15631	1.4	26D	-N		P	1133	40			Y5
820 HTPR	27	1222	1229	1250	N26	W38	.669	15610	24.7	28	-F		C	1229	20	.3		Y5
GRP69821	27	1414+1	1419+3	1431	N27	W40	.695	15610	24.6	17	-F							
KANZ	27	1414	1422	1425	N27	W42	.716	15610	24.4	11	-F		C					
ZURI	27	1415	1419	1437	N27	W39	.685	15610	24.7	22	-N		C	1419	160	2.2		
GRP69822	27	1718	1722	1742	N18	E17	.361	15619	29.0	24	-N				80	.9	E	
MCMA	27	1718	1722	1743	N18	E18	.374	15619	29.1	25	-N		C	1722	80	1.0	E	
HUAN	27	1724E		1724D	N17	E17	.352	15619	29.0		-N	1	P	1724	60	.6	E	
PALE	27	1726E	1726U	1740	N19	E14	.336	15619	28.8	14D	-N	1	C		98			
	27	1945	2021	NO FLARE PATROL														
	27	0459	0505	NO FLARE PATROL														
	27	0506	0535	NO FLARE PATROL														
	27	0536	0605	NO FLARE PATROL														
823 PALE	27	2037	2038	2050D	N19	E12	.315	15619	28.8	13D	-B	2	C		186		FDE	Y5
824 PALE	27	2112	2116	2117	N19	E12	.315	15619	28.8	5	-N	3	C		23		FDE	Y5
GRP69825	27	2229+8	2232	2252	S18	E26	.565	15620	29.9	23	-B						J	
PALE	27	2229	2232	2300	S19	E26	.574	15620	29.9	31	1B	3	C		216		DE F	
VORO	27	2237		2244	S18	E26	.565	15620	29.9	7	-N		C	2237	90	1.0	J	
826 VORO	27	2309	2314	2321	S15	E28	.561	15620	30.1	12	-N		C	2314	72	.8	J	Y5
GRP69827	28	0056+2	0104+1	0117	N26	W48	.772	15610	24.4	21	1N				150	2.4	FJ	
CULG	28	0056	0104	0116	N27	W47	.765	15610	24.5	20	1N		P	0104	180	2.7	F	
VORO	28	0058	0105	0117	N26	W49	.781	15610	24.4	19	-N		C	0105	116	1.8	J	
828 VORO	28	0130	0140	0202	N25	W50	.788	15610	24.3	32	-N		C	0140	81	1.3	J	Y5
829 CULG	28	0413E	0417U	0417D	N18	E12	.304	15619	29.1	4D	-F		P	0417	60	.6		Y5
830 TEHR	28	0425	0430	0436	S15	W30	.584	15615	25.9	11	-B	4	C		64		FDE	Y5
GRP69831	28	0525E		0542	N18	E10	.283	15619	29.0	17	-N				190	2.0		
TACH	28	0525E		0540	N19	E10	.296	15619	29.0	15D	1F		P	0528	230	2.4	E	
TEHR	28	0528E	0528U	0543	N18	E10	.283	15619	29.0	15D	-B	4	C		159		FDE	
GRP69832	28	0938+2	0940+3	0947	N18	E09	.274	15619	29.1	9	-N							
MONT	28	0938	0940	0946	N19	E08	.279	15619	29.0	8	-N		C	0940	80		E	
TEHR	28	0940	0943	0947	N18	E10	.283	15619	29.2	7	-B	1	C		190		FDE	
	28	1200	1223	NO FLARE PATROL														
	28	1310	1340	NO FLARE PATROL														
	28	1345	1407	NO FLARE PATROL														
833 KANZ	28	1407E		1411D	N18	E06	.250	15619	29.0	4D	-B		C				E	Y5
	28	1411	1447	NO FLARE PATROL														
	28	1453	1456	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg		
	OCT																	
	28	1540	1604	NO FLARE PATROL														
GRP69834	28	1557	1604	1655	N19	E02	.248	15619	28.8	58	?N						U	
HOLL	28	1557	1604	1655	N20	E01	.263	15619	28.7	58	?B	3	C		612		U F	
	IMP.2 IMP.S																	
HUAN	28	1604E		1605D	N18	E04	.238	15619	29.0	1D	-N	2	P	1604	170	1.8	E	
	28	1605	1645	NO FLARE PATROL														
	28	1659	1909	NO FLARE PATROL														
	28	2001	2050	NO FLARE PATROL														
835 HOLL	28	2011	2013	2024	N23	W58	.855	15610	24.5	13	-B	4	C		61		F	Y5
	28	2101	2104	NO FLARE PATROL														
	28	0400	0413	NO FLARE PATROL														
	28	0417	0510	NO FLARE PATROL														
	28	0631	0705	NO FLARE PATROL														
	28	0710	0730	NO FLARE PATROL														
GRP69836	28	2318+2	2323+5	2351	N18	W01	.229	15619	28.9	33	-N				160	1.6	JK	
HOLL	28	2318	2326	2351	N18	W04	.238	15619	28.7	33	-N	2	C		100		F	
VORO	28	2319	2323	2348	N18	E00	.229	15619	29.0	29	1N		C	2323	287	3.0	EJK	
PALE	28	2320	2328	2351	N18	E01	.229	15619	29.0	31	-B	3	C		165		DE	
MANI	28	2333E	2333U	2347D	N19	W02	.248	15619	28.8	14D	-N	2	P		150	1.5	F	
837 VORO	28	2355	2356	2358	S16	W45	.756	15615	25.6	3	-B		C	2356	81	1.2	D	Y5
838 VORO	29	0004	0005	0008	S15	W44	.741	15615	25.7	4	-N		C	0005	72	1.0	DJ	Y5
839 VORO	29	0018	0018	0020	N17	W06	.236	15619	28.6	2	-N		C	0018	27	.3	D	Y5
840 VORO	29	0030	0032	0039	S17	W44	.750	15615	25.7	9	-N		C	0032	90	1.3	EJ	Y5
841 VORO	29	0146	0148	0152	N17	W06	.236	15619	28.6	6	-N		C	0148	63	.6	D	Y5
842 CULG	29	0359E	0408	0430	N27	W66	.917	15610	24.2	31D	-F		C	0408	70	1.6		Y5
	29	0433	0439	NO FLARE PATROL														I
843 KANZ	29	0906	0917	0930	N18	W90	1.000	15613	22.6	24	-N		C					Y5
844 KANZ	29	0910	0917	0928	S19	E08	.422	15620	30.0	18	-N		C				F	Y5
GRP69845	29	1315+1	1325+2	1355	N21	W13	.352	15619	28.6	40	-N						F	
ZURI	29	1315	1327	1411	N22	W11	.347	15619	28.7	56	-N		C	1327	90	1.0		
KANZ	29	1316	1327	1420	N20	W13	.340	15619	28.6	64	-N		C				F	
RAMY	29	1323E	1325	1339	N21	W13	.352	15619	28.6	16D	-B	2	C		26			
GRP69846	29	1402+1	1405+2	1422	N21	W16	.383	15619	28.4	20	-N				70	.8	F	
RAMY	29	1402	1405	1414	N21	W15	.372	15619	28.5	12	-B	3	C		68		F	
ZURI	29	1403	1407	1429	N22	W17	.405	15619	28.3	26	-N		C	1407	80	.9		
GRP69847	29	1534+3	1539	1544	S10	E52	.807	15631	3.5	10	-F				20	.3		
HUAN	29	1534		1542D	S12	E53	.822	15631	2.6	8D	-F	1	P	1537	20	.3	D	
RAMY	29	1537	1539	1544	S09	E52	.805	15631	2.6	7	-F	3	C		19		F	
GRP69848	29	1624+3	1628+1	1648	S18	E02	.387	15620	29.8	24	-N				30	.3		
HUAN	29	1624	1629	1640	S19	E05	.410	15620	30.1	16	-N	1	C	1629	25	.3	D	
RAMY	29	1624	1629	1701	S18	E01	.386	15620	29.8	37	-B	3	C		78		F	
MCMA	29	1624	1628	1655	S20	E04	.423	15620	30.0	31	-N		C	1628	30	.3	D	
HOLL	29	1627	1629	1641	S18	E01	.386	15620	29.8	14	-N	3	C		28		F	
849 RAMY	29	1744	1746	1755	N18	W13	.316	15619	28.8	11	-N	3	C		28			Y5
850 CULG	29	2152E	2152E	2206	N23	W22	.470	15619	28.3	14D	-F		P	2152	40	.4		Y5
851 CULG	29	2209	2212	2220	N36	E25	.627	15626	31.8	11	-F		C	2212	50	.6		Y5
GRP69852	30	0813+2	0818+0	0826	S16	W63	.911	15615	25.6	13	1N				100	2.4	D	
ABST	30	0813	0818	0826	S17	W63	.912	15615	25.6	13	1N		C	0818	96	2.3	D	
KANZ	30	0814	0818	0828	S15	W63	.909	15615	25.6	14	-N		C					
MONT	30	0815	0818	0826	S16	W62	.904	15615	25.7	11	-N		C	0818	100			
853 ABST	30	1024E	1036	1045D	N21	W29	.538	15619	28.3	21D	-F		P	1036	70	.9	D	Y5

Hα SOLAR FLARES

OCTOBER 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE OCT	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Dsk	CORR AREA Sq. Deg		
GRP69854	30	1252+2	1255+2	1301	S16	W65	.924	15615	25.7	9	-N							
RAMY	30	1252	1255	1300D	S17	W66	.931	15615	25.6	80	-B	4	C		74			
KANZ	30	1254	1257	1301	S16	W65	.924	15615	25.7	7	-F		C					
855 MCMA	30	1821	1825	1907	S26	W24	.622	15621	29.0	46	-F		C	1825	75	1.0	E	Y5
	30	2006	2030	NO FLARE PATROL														
	30	2120	2127	NO FLARE PATROL														
	30	2150	2200	NO FLARE PATROL														
	30	2205	2215	NO FLARE PATROL														
	30	2345	0047	NO FLARE PATROL														
	30	0400	0459	NO FLARE PATROL														
	31	0120	0248	NO FLARE PATROL														
856 VORO	31	0331	0335	0359	N18	W29	.521	15619	29.0	28	1F		C	0335	215	2.5	EJ	Y5
	31	0402	0531	NO FLARE PATROL														
	31	0545	0705	NO FLARE PATROL														
857 HTPR	31	0754	0757	0820	N18	W34	.586	15619	28.8	26	-N		C	0757	110	1.3	E	Y5
	31	0758	0803	NO FLARE PATROL														
GRP69858	31	0903+3	0910+3	0935	N20	W36	.620	15619	28.7	32	1N				240	3.1	E	
HTPR	31	0903	0910	0935	N22	W37	.641	15619	28.6	32	-N		C	0910	200	2.4	E	
MONT	31	0905	0913	0937D	N19	W34	.591	15619	28.8	320	-N		C	0913	220			
TACH	31	0906	0911	0931	N20	W36	.620	15619	28.7	25	1B		C	0911	309	4.1	E	
GRP69859	31	1024+3	1028+5	1100	S27	W31	.688	15621	29.1	36	-N						EL	
HTPR	31	1024	1028	1100	S27	W33	.705	15621	29.0	36	-F		C	1028	70	.6	E	
MONT	31	1027	1033	1100D	S28	W31	.696	15621	29.1	330	1N		C	1033	250			
WEND	31	1034E		1058	S26	W30	.671	15621	29.2	240	-N		P				L	
GRP69860	31	1327+6	1331+4 1342	1352	N19	W36	.616	15619	28.9	25	-N				30	.4	E	
HTPR	31	1327	1331	1352	N18	W36	.611	15619	28.9	25	-F		C	1331	20	.2	E	
MCMA	31	1332	1335	1358	N20	W36	.620	15619	28.9	26	-N		C	1335	40	.5	E	
KANZ	31	1333	1342	1346	N19	W35	.603	15619	28.9	13	-B		C				E	
861 KANZ	31	1410	1414	1422	S17	W25	.541	15620	29.7	12	-B		C				E	Y5
862 MCMA	31	1644	1647	1659	N18	W34	.586	15619	29.1	15	-F		C	1647	50	.6	E	Y5
863 MCMA	31	1720	1725	1735	N18	W34	.586	15619	29.2	15	-F		C	1725	50	.6	E	Y5
864 MCMA	31	1929	1934	1945	S29	E56	.893	15635	5.0	16	-F		C	1934	40	1.0	E	Y5
865 VORO	31	2346	2348	2354	S18	W29	.593	15620	29.8	8	-N		C	2348	81	.9	EH	Y5

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

DAILY FLARE INDICES

Includes all Flares

OCTOBER 1978

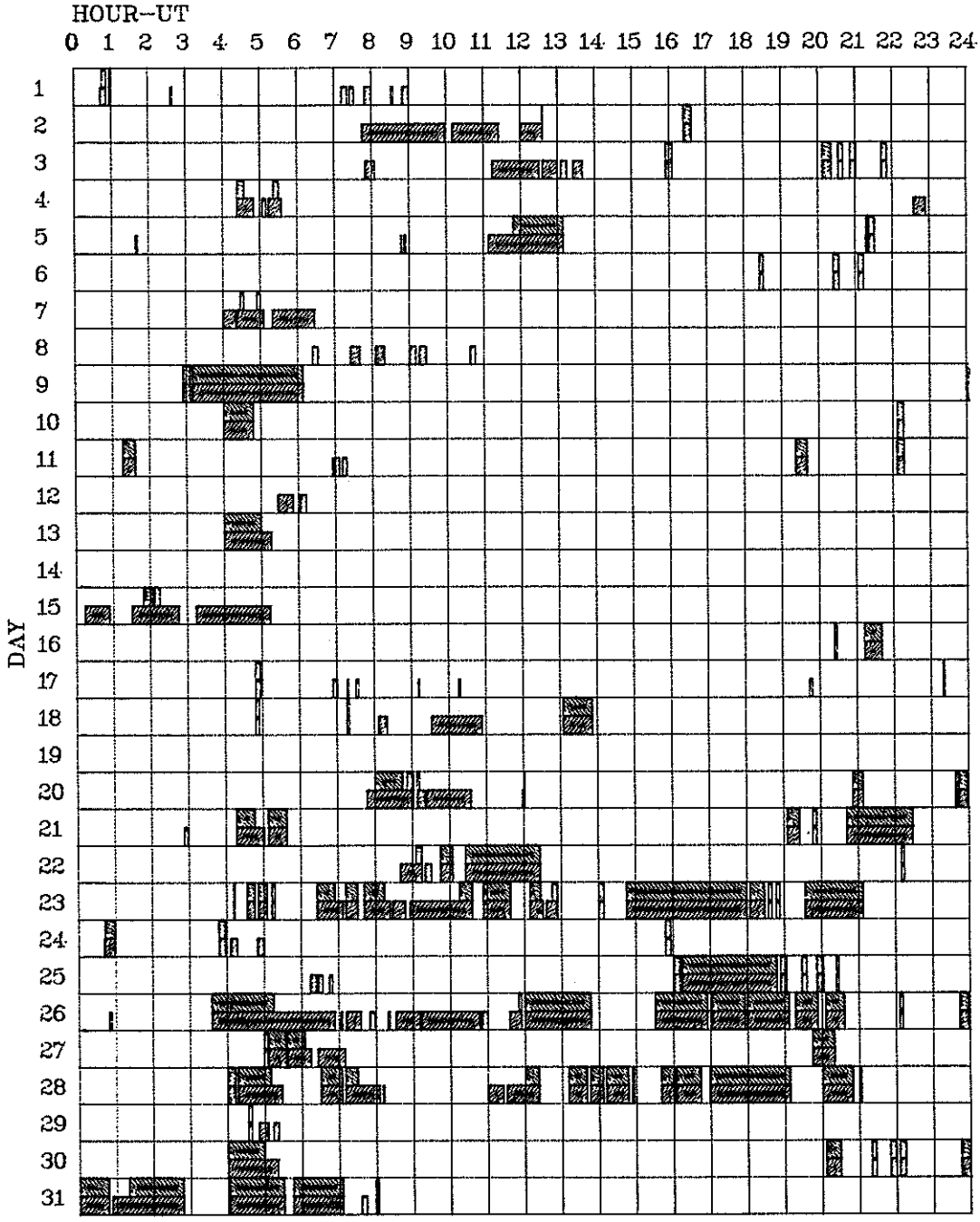
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
781001	79.80	23.9	781011	122.83	23.1	781021	63.02	20.8
781002	6.33	23.8	781012	69.67	24.0	781022	28.42	21.4
781003	50.88	23.1	781013	607.21	23.0	781023	33.37	15.0
781004	45.51	23.7	781014	61.96	24.0	781024	25.02	23.4
781005	41.64	22.5	781015	142.39	23.6	781025	72.88	20.7
781006	18.64	23.6	781016	132.95	23.5	781026	7.64	15.6
781007	17.62	23.8	781017	43.20	23.8	781027	32.27	22.3
781008	86.24	24.0	781018	42.76	23.1	781028	84.34	16.0
781009	56.82	41.4	781019	123.67	24.0	781029	42.02	23.9
781010	47.13	23.0	781020	93.57	22.4	781030	13.90	21.1
						781031	76.12	19.6

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1978



Observatories included in total patrol:

Abastumani	Herstmonceux	Kharkov	Mitaka	Upice
Athenes	Holloman	Kiev	Monte Mario	Voroshilov
Bucharest	Huancayo	Locarno	Palehua	Wendelstein
Catania	Istanboul	Lvov	Ramey	Zürich
Culgoora	Kandilli	Manila	Tashkent	
Haute Provence	Kanzelhohe	McMath-Hulbert	Tehran	

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

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1978

OCT 1978	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
1	3100	CRIM	29	PBI	0641	0810	210 D	30	10		
	3100	CRIM			0641	0746		140			
	3100	CRIM			0641	0730		260			
	3100	CRIM	47	GB	0641	0723.5	89	340	110		
	9100	GORK			0700.6	0723.6		368			
	9100	GORK	46	C	0700.6	0720	209	247			
	2950	GORK			0708.4	0804.8		138			
	2950	GORK			0708.4	0724.2		179			
	2950	GORK	47	GB	0708.4	0719.8	224 E	179			
	5730	IRKU			0710	0745.5		68			
	5730	IRKU			0710	0722.8		280			
	5730	IRKU			0710	0719.2		220			
	5730	IRKU	49	GB	0710	0716.4	80	35			
	650	GORK	48	C	0713.1	0750	30	12200			
	650	GORK			0713.1	0803.1		13200			
	650	GORK			0713.1	0758.6		8500			
	1415	MANI	47	GB	0713.1	0749.4	93.2	6600	2900		95MHZ
	3000	BERL	46	C	0713	0719.5	187	264			
	2650	OWIN	47	GB	0713		92	180 D			
	500	HIRA	48	C	0714	0803.6U	65 D	13000 U	2000 U		SR, SUNSET
	228	HARS	28	PRE	0715	0719	6.5	365	125		
	950	GORK			0715	0749.6		93000			
	950	GORK	46	C	0715	0746.8	88.7	1600			
	950	GORK			0715	0802.7		53000			
	200	GORK	46	C	0715.6	0720 U	100 D	150			
	200	GORK			0715.6	0806 U		1800			
	200	GORK			0715.6	0722.4		1280			
	200	GORK			0715.6	0832.8		500			
	234	POTS	45	C	0715	0805.6	157	4200			
	10715	OWIN	47	GB	0715	0723	60	220	100		
	202	IZMI	41	F	0716	0721.5	6.5	1000			
	127	TORN	49	GB	0716.2		12.4	2000 D	800 D		OFF SCALE
	606	MANI	47	GB	0716.3	0749.4	81.7	629.4	209.8		TAGE
	4995	MANI	4	S/F	0716.6	0719.5	16.1	92	30.7		
	29	UPIC	49	GB	0716.7	0723.5	28.1				
	9500	BERL	46	C	0716	0722.7	157	294			
	8800	MANI	4	S/F	0717.1	0719.5	14.1	201.6	67.2		NT
	33	UPIC	49	GB	0717.1	0723.2	32				
	33	UPIC	29	PBI	0717.1	0849.9	146.4				
	29	UPIC	29	PBI	0717.1	0923.2	157.1				
	200	HIRA	48	C	0717.2	0721.2	65 D	900	100 U		SR, SUNSET
	100	HIRA	48	C	0717	0725	65 D	40000 U	1000 U		SL, SUNSET
	113	POTS	45	C	0717	0724.7	160	9800	320		
	10400	BERN	4		0719 E	0722.8	100 D	245			OPR
	228	HARS	28	PRE	0721.5	0722	2	245	125		
	202	IZMI	25	R	0722.5	0734.5	28	440	150		
	228	HARS	46	C	0723.5	0730	13	200	120		
	930	BORD	47	GB	0726 E	0802 U	78 D	3486 D			SUNRISE
	127	TORN	43	NS	0728	0829	250 U	290	20		V=1
	200	GORK	44	NS	0911 E		100 D		5		
	245	SGMR	44	NS	1044 E	1128.4	556 D	40.9			
	410	SGMR	44	NS	1044 E	1207	556 D	16.3			
	228	HARS	46	C	0736.5	0741.5	13.5	285	170		
	228	HARS	47	GB	0750	0803 U	20	1470	510		
	202	IZMI	47	GB	0750.5	0805	19.5	1500	700		
	202	IZMI	25	R	0810	0831.5	50.5	300	100		
	228	HARS	46	C	0822.5	0824	2.5	180	110		
	228	HARS	46	C	0825	0830	7.5	340	180		
	228	HARS	46	C	0832.5	0837	17.5	180	90		
	9400	HUAN		S	1804.4	1804.7	1.3	19.8	8.5		0
	410	SGMR	6	S	1925.1	1926.9	1.7	9.9	4		
	245	SGMR	6	S	1925.1	1925.2	2.4	14	5.6		
	606	SGMR	3	S	1925.2	1927.1	2.1	26.4	10.6		
2	9400	HUAN		S	1324.8	1331.5	25	6.9	2.6		0
	9400	HUAN		S	1803.6	1815	44.6	10.3	9.1		L
3	3100	CRIM	20	CRF	0723	0834	204	9	3		
	127	TORN	45	C	0758.6	0759.5	4	470	160		
	113	POTS	45	C	0759	0800	9	700	100		
	202	IZMI	6	S	0759.5	0801	8	50	27		
	228	HARS	4	S/F	0801	0803.5	7	52	32		
	9400	HUAN		S	1324.4	1332.3	22	4.9	2.3		L
	2800	OTTA	21	GRF	1420	1429	120	4	2		
	9400	HUAN		S	1422.7	1433.7	40.3	9.7	2.6		0
	2800	OTTA	45	C	1423	1427	5.5	3.8	1.8		
	2695	SGMR	3	S	1522.1	1523.3	2.9	16.7	6.7		
	2800	OTTA	240	R	1700	1715	15	3.6	1.8		
	410	SGMR	43	NS	1714	1754.2	166 D	23			
	245	SGMR	43	NS	1714	1756	166 D	64.4			
	2800	OTTA	40	F	1753	1802.5	35	7.6			
	2800	OTTA	20	GRF	1940	1955	35	1.4	.7		
4	200	HIRA	7	C	0422.5	0423	1	130	30		0

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1978

OCT 1978	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
	100	HIRA	7 C	0422.8	0423	1.5	300	150		O
	29	UPIC	42 SER	0823.8	0829.1	13				
	33	UPIC	42 SER	0824	0829.3	12.7				
	228	HARS	45 C	1014	1015	3	105	32		
	33	UPIC	45 C	1014.4	1015.5	3.4				
	202	IZMI	4 S/F	1014.5	1015	2	110	80		
	113	POTS	45 C	1014.5	1016.1	3.4	1100	25		
	29	UPIC	45 C	1014.8	1016	3				
	29	UPIC	2 S/F	1021	1021.2	.6				
	33	UPIC	2 S/F	1021	1021.2	.6				
	410	SGMR	44 NS	1047 E	1504	553 D	21.8			3S
	245	SGMR	44 NS	1047 E	1138.2	553 D	17			3S
	33	UPIC	46 C	1050.8	1053.1	5.9				
	29	UPIC	46 C	1050.9	1053.2	5.6				
	113	POTS	2 S/F	1052	1052.4	5	140	7		
	33	UPIC	42 SER	1129.4	1130.8	10				
	29	UPIC	42 SER	1129.6	1130	9.9				
	9400	HUAN	S	1212.5	1230.3	29	5	1.5		O
	245	SGMR	6 S	1526.3	1529.4	3.6	50.6	20.2		S
	1415	SGMR	3 S	1527.5	1529	3.7	11.5	4.6		S
	410	SGMR	6 S	1527.5	1528.6	2.1	88.1	35.2		S
	606	SGMR	3 S	1527.7	1528.5	2.8	228	91.2		S
	2800	OTTA	1 S	1528	1529	2	1.4	.7		
	2800	OTTA	23 GRF	1630	1655	70	4	2		
	2800	OTTA	1 S	1638	1641	10	5	1.8		
	2695	BCUL	1 S	1639	1641.5	7.5	7	2		
	9400	HUAN	S	1713.7	1725	21.5	6.7	3.4		O
	9400	HUAN	S	2024.7	2034.1	21	10.1	6.6		L
	2695	PENT	20 GRF	2250	2330	60	2.4	1.4		
5	700	SYDN	42 SER	0136	0137.2	3.1				
	1400	SYDN	4 S	0136.5	0137.1	1				
	100	HIRA	46 C	0207.2	0208	3	850	400		O
	200	HIRA	46 C	0207.3	0208	2.8	90	50		WR
	700	SYDN	8 S	0208	0208.1	.3				
	113	POTS	45 C	0630	0632.4	15	2100	30		
	5730	IRKU	45 C	0630.5	0631.8	5	12	6		
	5730	IRKU		0630.5	0632.3		41			
	100	HIRA	46 C	0630.8	0632	11	8000	500		WL
	200	HIRA	46 C	0631	0632	7	2000	100		WR
	228	HARS	46 C	0631	0631.5	4	460	250		
	234	POTS	45 C	0631.2	0631.6	8.3	1500	50		
	202	IZMI	48 C	0631.3	0631.5	1.5	4800	1200		
	2950	GORK	3 S	0631.3	0632.1	2.2	67 D			
	2950	GORK	29 PBI	0631.3	0633.6	9.2	9	2.5		
	606	MANI	3 S	0631.3	0632.2	3.9	30.2	10.1		
	33	UPIC	4 S/F	0631.4	0632.3	1.7				
	500	HIRA	45 C	0631.5	0632.3	4	40	20		WR
	1415	MANI	3 S	0631.5	0632.2	8.8	86.4	28.8		
	2695	MANI	3 S	0631.5	0632.2	1.8	73.8	24.6		
	10400	BERN	3	0631.6	0632.5	4	17			OPR
	9100	GORK	2 SF	0631.6	0632.2	2.5	29	11		
	8400	BERN	3	0631.6	0632.5	4	27			OPR
	202	IZMI	41 F	0632.8	0633.5	5.2	185			
	3100	CRIM	1 S	0717	0718	5	2.5	1		
	3100	CRIM	21 CRF	0755	0757	191	5	2		
	29	UPIC	2 S/F	0940.3	0940.9	1.2				
	33	UPIC	2 S/F	0940.5	0940.9	1.8				
	808	ONDR	2 S/F	0944.5	0945.5	1.5	32			
	3000	BERL	20 GRF	0945.5	0946.5	12	2.5			
	930	BORD	8 S	0947.5	0947.6	.2	25	2		
	260	ONDR	45 C	0948.5	0949.5	2.5	47	5.4		
	202	IZMI	41 F	0949.7	0950.3	2.5	190			
	3100	CRIM	1 S	1112	1113	3.5	14	5		
	3000	BERL	4 S/F	1112.5	1113.2	7.5	22			
	33	UPIC	45 C	1112.5	1113.3	3				
	2950	GORK	3 S	1112.6	1113.3	3.6	22	11		
	29	UPIC	45 C	1112.7	1114.5	2.1				
	2650	DWIN	3 S	1112	1113	4	25	10		
	127	TORN	45 C	1112 U	1113.4	4 U	64	7 U		INCOMPLETE
	408	TRST	2 F/S	1113.6	1113.7	.2	73			
	408	TRST	2 F/S	1113.8	1114	.4	78			
	260	ONDR	2 S/F	1113	1113.6	1.5	11			
	536	ONDR	8 S	1113	1113	.3	55			
	33	UPIC	4 S/F	1122.4	1123	2				
	29	UPIC	2 S/F	1122.4	1123	1.6				
	228	HARS	45 C	1222	1222.5	1.5	80	30		
	808	ONDR	8 S	1223.5	1223.5	1	88	10		
	260	ONDR	45 C	1224.3	1226.4	3	67	3.3		
	1415	SGMR	1 S	1225	1225.7	2	8.5	3.4		
	536	ONDR	8 S	1225.5	1225.5	.5	78			
	606	SGMR	3 S	1225.7	1226.2	1.2	151	60.4		
	410	SGMR	6 S	1226	1226.7	3	47.7	19.1		
	245	SGMR	6 S	1226.2	1228	2.8	12.9	5.2		
	930	BORD	45 C	1226.4	1227.2	1.6	62	7		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1978

OCT 1978	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
	237	TRST	41	F	1227.5	1228.2	1	190			0
	2800	OTTA	21	GRF	1250	1342	280	12.5	4.9		
	410	SGMR	43	NS	1341.1	1650.2	378.9D	46.7			CONT
	245	SGMR	43	NS	1301.1	1650.2	378.9D	11.3			CONT
	113	POTS	45	C	1302.9	1304	3.1	20000	1500		
	33	UPIC	4	S/F	1302.9	1303.8	2.6				
	260	ONDR	45	C	1302	1302	3.5	216 D	18		
	228	HARS	8	S	1303	1303.5	1.5	600	250		
	234	POTS	45	C	1303.2	1304	1.6	2300	400		
	2800	OTTA	1	S	1303.5	1304	2	2.4	1		
	29	UPIC	4	S/F	1303.5	1304.1	1.5				
	245	SGMR	48	GB	1303.6	1304	3.4	1090	436		5
	237	TRST	41	F	1303.8	1303.9	.6	3050			0
	113	POTS	45	C	1316	1408	108 D	14			
	3000	BERL	4	S/F	1334	1405.2	71	105			
	7000	SAOP	4	S/F	1335.4	1405.2	77.7				4R
	9400	HUAN		S	1336.4	1421.5	114.7	10.2	5.4		0
	260	ONDR	28	PRE	1340	1348	21	12	5.8		
	228	HARS	45	C	1400	1404	15	210	90		
	410	SGMR	48	GB	1400.4	1404	27.6	565	226		3S,SWF
	260	ONDR	46	C	1400.5	1402	10	148	70		
	260	ONDR	29	PBI	1400.5	1413	30	16	9.5		
	808	ONDR	3	S	1401	1403	17	45	19		
	234	POTS	45	C	1402	1403.9	16	140	20		
	113	POTS	45	C	1402	1407.5	18	280	100		
	2800	OTTA	4	S/F	1402.2	1405	28	92	24		
	1415	SGMR	3	S	1402.3	1405.3	19.7	52.9	21.2		3S,SWF
	237	TRST	47	GB	1402.3	1403.9	30	365			25L
	245	SGMR	6	S	1402.4	1404.1	25.6	194	77.6		3S,SWF
	606	SGMR	3	S	1402.9	1404.2	17.1	74.4	29.8		3S,SWF
	4995	BCUL	45	C	1402	1404.5	32	87	29		
	536	ONDR	3	S	1402	1403.2	7	140	64		
	8400	BERN	20		1403	1405.6	57	36			OPR
	10400	BERN	20		1403	1405.6	57	30			OPR
	9400	HUAN		S	1403	1405.1	16.6	42.4	19.2		L
	4995	SGMR	3	S	1403.1	1405	18.9	93.9	37.6		3S,SWF
	8800	SGMR	3	S	1403.1	1405.2	16.9	27.3	10.9		3S,SWF
	2695	SGMR	3	S	1403.3	1405.3	20.7	106	42.4		3S,SWF
	2695	BCUL	20	GRF	1403.5E	1406	24.5U	93	31		
	1420	BCUL	20	GRF	1403 E	1405 U	17.5U	46	15		
	9500	BERL	4	S/F	1403	1405.5	33	35			
	2650	OWIN	3	S	1403	1405	30	100	30		
	930	BORD	4	S/F	1403	1404.8	21	46	8		
	9400	HUAN		S	1910.5	1916	13.3	6.8	2.9		0
	2800	OTTA	1	S	1942	1944	4	2.8	1		
	245	SGMR	7	S	1943	1943.1	2	262	105		CONT
	410	SGMR	6	S	1943.1	1943.8	1.9	31.3	12.5		CONT
	606	SGMR	3	S	1943.5	1943.7	1.5	31.6	12.6		CONT
	2800	OTTA	1	S	1948	1949.2	3	9.2	2		
	2695	PENT	20	GRF	2220	2235	70	2.4	1.6		
6	5730	IRKU	45	C	0451	0452	6	3	3		
	5730	IRKU			0451	0454.6		8			
	5730	IRKU	45	C	0500.3	0502.3	8.5	5	2		
	5730	IRKU			0500.3	0506.3		8			
	5730	IRKU			0500.3	0504.4		3			
	202	IZMI	8	S	0951.5	0951.5	.2	64	25		
	113	POTS	45	C	0951.5	0951.6	.4	700	200		
	536	ONDR	3	S	0951.5	0951.5	.3	29			
	260	ONDR	8	S	0952.5	0952.5	.3	29			
	260	ONDR	2	S/F	0959.2	1000	2	10	2.4		
	9500	BERL	20	GRF	1001	1007.5	12	6.5			
	3000	BERL	46	C	1001.5	1007	9.5	11			
	3100	CRIM	1	S	1001.5	1007	9	9	3		
	9100	GORK	1	S	1006.6	1007.3	3.6	10	5		
	930	BORD	42	SER	1008	1014.4	7	55	2		
	29	UPIC	3	S	1010.7	1011	.5				
	33	UPIC	3	S	1010.8	1011	.6				
	808	ONDR	1	S	1011.2	1011.2	.2	28			
	113	POTS	48	C	1023.8	1031.2	7.7	300	1		
	29	UPIC	2	S/F	1024.4	1024.8	.9				
	260	ONDR	2	S/F	1024	1025	1	8			
	2800	OTTA	20	GRF	1310	1323	40	2.8	1.4		
	260	ONDR	1	S	1330.2	1330.2	.3	9			
	9400	HUAN		S	1342.4	1406.4	36.3	4.8	2.8		R
	2800	OTTA	27A	RF	1455		250	2	1.7		
	2800	OTTA	24	R	1455	1515	20	2	1		
	2800	OTTA	24P	R	1515		205	2			
	245	SGMR	43	NS	1532	1541	268 D	13.3			
	410	SGMR	43	NS	1532	1532.8	268 D	50.2			
	410	SGMR	4	S/F	1541.9	1543.1	3.8	27.7	11.1		
	606	SGMR	4	S/F	1543.2	1543.3	1.8	60.3	24.1		
	2800	OTTA	3	S	1642.8	1644.5	5	12.4	9.8		
	7000	SAOP	46	C	1643	1654.7	123				5R
	245	SGMR	6	S	1643.1	1643.2	21.9	74.5	29.8		3S,SWF

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OCT 1978	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	1415	SGMR	3	S	1643.4	1654.7	19.6	275	110		3S,SMF
	606	SGMR	3	S	1644.5	1657.6	18.5	146	58.4		3S,SMF
	410	SGMR	49	GB	1645	1657.3	20	518	207		3S,SMF
	930	BORD	41	F	1646	1647.8	2.2	40	3		
	2800	OTTA	30	PBI	1647.8	1647.8	25	39	14.2		
	9400	HUAN		F	1650.5	1654.7	6.9	117	46.7		L
	2800	OTTA	2	S/F	1652.5	1655	8	5.6	2.8		
	4995	SGMR	3	S	1652.5	1654.7	9.5	92.1	36.8		3S,SMF
	2695	SGMR	3	S	1652.5	1655.1	9.5	36	14.4		3S,SMF
	8800	SGMR	3	S	1652.5	1654.7	9.5	91.3	36.5		3S,SMF
	15400	SGMR	3	S	1653.6	1655	6.4	71.5	28.6		3S,SMF
	930	BORD	46	C	1653	1654.6	7	126	10		
	9400	HUAN		PBI	1657.4	1657.4	34.2	11.2	5.4		L
	2800	OTTA	26	FAL	1840	1905	25	-2	-1		
	9400	HUAN		S	1908.4	1930	31.1	8	5.2		D
	2800	OTTA	3	S	2119.7	2120	1	27	7		
7	260	ONDR	43	NS	0800		398 D	50	4		
	200	GORK	43	NS	0810 E		180 E		5		
	245	SGMR	44	NS	1051 E	1209	549 D	20.8			
	410	SGMR	44	NS	1051 E	1616.2	549 D	16.8			
	7000	SAOP	22	GRF	1150.4	1317	15				D
	237	TRST	5	S	1206.1	1206.1	.1	115	30		2R
	9400	HUAN		S	1240.5	1244.6	11.8	4.8	.9		D
	9100	ARCE	7	S/F	1245.9	1247.2	3.4				
	9100	ARCE	1	S	1252.1	1252.2	.5				
	9100	ARCE	40	F	1313	1315.8	6.4				
	9100	ARCE	4	S/F	1326.4	1327.6	3.2				
	9100	ARCE	45	C	1333.5	1334.4	1.8				
	536	ONDR	8	S	1414	1414	.3	65			
	9400	HUAN		S	1501.8	1512.2	43	7.2	3.9		L
	2800	OTTA	240	R	1510	1630	40.	2.4	1.2		
	9400	HUAN		S	1523.3	1526.1	3.9	16	6.2		L
	9100	ARCE	20	GRF	1525	1526.5	8.5				
	2800	OTTA	1	S	1732	1735	6	1	.5		
	9400	HUAN		S	1827.3	1844.6	23.7	6.4	3.9		D
	2695	PENT	240	R	1910	2135	145	6.2	3.1		
	9400	HUAN		S	1956.8	2021.5	44.5	8	4.7		L
	200	HIRA	44	NS	2040 E	0140	690 D	60	20		MR
	2695	PENT	20	GRF	2205	2212	55	2	1		
8	200	GORK	44	NS	0436 E		370 E		10		
	127	TORN	43	NS	0834	0915.1	140 U	72	1.6		V=1
	100	GORK	43	NS	0846		140		5		
	260	ONDR	44	NS	0900 E		364 D	67			
	245	SGMR	44	NS	1052 E	1457.5	548 D	38.5			
	410	SGMR	44	NS	1052 E	1614.2	548 D	9.4			
	9100	ARCE	22	GRF	0704.8	0714.4	47.5				
	10400	BERN	4		0833.9	0835.8	9	114			
	3100	CRIM	3	S	0834	0835.5	9	19	6		
	3000	BERL	4	S/F	0834	0835.6	13	62			
	113	POTS	45	C	0834.3	0841.1	11	5000	300		
	200	GORK	46	C	0834.4	0835.1	7.3	30			
	200	GORK			0834.4	0839.3		490			
	100	GORK	46	C	0834.4	0841.9	11.5	64600	3000		
	9100	GORK	3	S	0834.5	0835 U	4.4	72 D			
	9500	BERL	4	S/F	0834.5	0835.7	11	93			
	234	POTS	45	C	0834.6	0838.4	7.9	1500	70		
	237	TRST	47	GB	0834.6	0835.9	4.4	1200			D
	237	TRST			0834.6	0838.4		1250			D
	237	TRST			0834.6	0837.3		850			D
	2950	GORK	20	GRF	0834.7	0835.8	76	53	28		
	606	MANI	4	S/F	0834.7	0835.7	4.2	97.2	32.4		
	1415	MANI	4	S/F	0834.7	0835.6	3.3	50	16.7		
	4995	MANI	4	S/F	0834.8	0836	3.1	66.9	22.3		
	2695	MANI	4	S/F	0834.8	0835.7	3	50.4	16.8		
	8800	MANI	4	S/F	0834.8	0835.8	2.4	74.9	25		I
	9100	ARCE	4	S/F	0834.8	0835.9	7				
	29	UPIC	4	S/F	0834.8	0835.7	3				
	33	UPIC	4	S/F	0834.9	0835.6	3.9				
	930	BORD	45	C	0834	0836	6	109	10		
	10715	OWIN	3	S	0836	0837	6	70	30		
	2650	OWIN	3	S	0836	0837	8	55	20		
	202	IZMI	45	C	0837.5	0838.5	3.5	1350	600		
	127	TORN	47	GB	0838	0840 U	7.7	790 D	190		OFF SCALE
	9100	GORK	1	S	0927.3	0930.4	5.4	14	7		
	9100	ARCE	20	GRF	0928.5	0931.4	13				
	33	UPIC	2	S/F	1005.6	1006.1	1.3				
	29	UPIC	2	S/F	1005.8	1006.1	1.4				
	9100	GORK			1043.6		7.1E				
	7000	SAOP	22	GRF	1130.4		9.6				D
	2800	OTTA	20	GRF	1310		50 D	1.8			
	9400	HUAN		S	1336.2	1349.4	31.1	10.2	3.2		D
	7000	SAOP	20	GRF	1339.4		5				D
	2800	OTTA	21	GRF	1437	1515	70 D	2.6			

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	2800	OTTA	1	S	1441.5	1443	3	1.4	.6		
	7000	SAOP	3	S	1442	1442.8	11.5				D
	9400	HUAN		S	1512.8	1533	36.2	5.1	3.8		D
	9400	HUAN		S	1538.2	1538.8	2.2	25.6	7.3		R
	9100	ARCE	3	S	1538.6	1539.1	2				
	2800	OTTA	1	S	1836.5	1837.5	1.5	1.6	.8		
	2800	OTTA	21	GRF	1845	2100	360 D	18.2			
	9400	HUAN		F	1935.7	2028.8	107.3	22.2	17.1		D
	2695	PENT	1	S	2017	2017.5	1.5	2.6	1.3		
9	200	HIRA	46	C	0024.5	0025	1.5	3000	150		MR
	500	HIRA	46	C	0024.6	0025.9	3	22	10		MR
	700	SYDN	4	S	0024.7	0025.8	3.5				
	1400	SYDN	45	C	0024.8	0025.4	3.2				
	100	HIRA	46	C	0025	0025.9	4	25000	3000		WL
	2695	PENT	3	S	0025	2425.8	4	37.6	9.4		
	9100	GORK	2	SF	0550.4	0551	7	12	4		
	113	POTS	45	C	0727.1	0727.6	1	150	7		
	237	TRST	41	F	0727.3	0727.5	.5	150			D
	260	ONDR	44	NS	0730 E		450 D	52			
	245	SGMR	44	NS	1052 E	1410.4	548 D	371			3,CONT
	410	SGMR	44	NS	1052 E	1443.4	548 D	86.4			3,CONT
	930	BORD	45	C	0731.7	0731.7	.2	11	2		
	9100	GORK	20	GRF	1106.4	1109	18.4	14	5		
	930	BORD	41	F	1116	1119.2	2	49	2		
	9100	GORK	21	GRF	1129.9	1131.8	11.4	6	2		
	3000	BERL	4	S/F	1130.5	1131	9.5	13			
	930	BORD	46	C	1130.5	1130.8	.9	221	2		
	7000	SAOP	4	S/F	1130.6	1131	20.5				29R
	9500	BERL	4	S/F	1130.7	1131	2.3	14			
	8900	BERN	4		1130.7	1131	.9	21			
	8400	BERN	4		1130.7	1131	.9	23			
	10400	BERN	4		1130.7	1131	.9	17			
	808	ONDR	8	S	1130.8	1130.8	.3	283			
	2950	GORK	3	S	1130.8	1131.1	1.5	15	7		
	9100	GORK	2	SF	1130.8	1131.1	.9	18	8.5		
	10715	DWIN	3	S	1131	1131.5	1	10	5		
	2650	DWIN	3	S	1131	1132	2	10	5		
	237	TRST	41	F	1206.4	1206.7	.6	195			D
	9100	GORK	2	SF	1227.2	1229.5	2.5	12	6		
	2800	OTTA	1	S	1247	1250	5	1.4	.7		
	7000	SAOP	20	GRF	1252.4		10				D
	9400	HUAN		S	1302.3	1417.6	95.7	6.6	1.5		D
	113	POTS	1	S	1325.7	1325.8	.8	200	70		
	237	TRST	41	F	1325.8	1325.9	.1	100			2R
	234	POTS	45	C	1410	1410.2	.7	280	70		
	237	TRST	41	F	1410.2	1410.3	.3	825			6L
	2800	OTTA	20	GRF	1540	1600	100	2.4	1.2		
	9400	HUAN		PRE	1748.5	1940.8	112.3	18.1	6.2		D
	2800	OTTA	20	GRF	1800	1835	95	2.2	1.6		
	4995	BCUL			1936	2026.5U		187	62		
	4995	BCUL			1936	2003.5U		166	55		
	4995	BDUL	21	GRF	1936	1951.5	129.5	187	62		
	7000	SAOP	46	C	1938.2	1951	362				3R
	2800	OTTA	2	S/F	1939.2	1939.5	1.5	1.2			
	9400	HUAN		C	1940.8	1951	67.8	333	114.5		L
	2800	OTTA			1945	1951	11.5	108			
	2800	OTTA	45	C	1945	2023.5	62	140	73		
	1420	BCUL	28	PRE	1948.5E	1951.5	10.5D	85	28		
	15400	SGMR	45	C	1948.8	2015.5		175			2,CONT,SHF
	15400	SGMR	45	C	1948.8	2001.8		129			2,CONT,SHF
	15400	SGMR	45	C	1948.8	1951	61.2	217	86.8		2,CONT,SHF
	245	SGMR	49	GB	1949.3	2014.2		121			2,CONT,SHF
	410	SGMR	7	C	1949.3	2014.1		35.7			2,CONT,SHF
	410	SGMR	7	C	1949.3	1952	60.9	99.7	39.9		2,CONT,SHF
	245	SGMR	49	GB	1949.4	1950.5	60.6	4060	1620		2,CONT,SHF
	4995	SGMR	45	C	1949.5	2016		187			2,CONT,SHF
	4995	SGMR	45	C	1949.5	2001.9		183			2,CONT,SHF
	4995	SGMR	45	C	1949.5	1915.2	59.5	187	74.8		2,CONT,SHF
	2695	BCUL			1949.5E	2033		201	67		
	2695	BCUL			1949.5E	2024.5		209	70		
	2695	BCUL	21	GRF	1949.5E	2016.5	84.5D	209	70		
	2695	BCUL			1949.5E	2002.5		177	59		
	2695	BCUL			1949.5E	1952		177	59		
	8800	SGMR	45	C	1949.6	2015.5		195			2,CONT,SHF
	8800	SGMR	45	C	1949.6	2001.8		220			2,CONT,SHF
	8800	SGMR	45	C	1949.6	1951.2	60.4	415	166		2,CONT,SHF
	2695	SGMR	45	C	1950.2	1951.2	59.1	128	66.4		2,CONT,SHF
	2695	SGMR	45	C	1950.2	2015.5		166			2,CONT,SHF
	2695	SGMR	45	C	1950.2	2001.8		134			2,CONT,SHF
	1415	SGMR	47	GB	1950.5	2016		2790			2,CONT,SHF
	1415	SGMR	47	GB	1950.5	1951.2	60.5	155	1120		2,CONT,SHF
	606	SGMR	45	C	1950.6	2015.9		49.9			2,CONT,SHF
	606	SGMR	45	C	1950.6	1952	60.4	79	31.6		2,CONT,SHF
	2800	OTTA			1956.5	2001.9	11.5	108			

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	1420	BCUL	49	GB	1959	2015	26.50	2086	695		
	2800	OTTA			2008	2015.5	12	137			
	2800	OTTA			2020	2023.5	27	140			
	1420	BCUL	29	PBI	2025.5	2030.5	22.50	31	10		
	200	HIRA	44	NS	2045 E	2145	225 D	25	10		MR
	2800	OTTA	30	PBI	2047	2047	170	18.2	8.2		
	9400	HUAN		PBI	2048.6	2048.6	106.2	49.4	27.6		L
	9400	HUAN		S	2057	2101.3	8.8	13.2	4		L
	2800	OTTA	20	GRF	2057	2102	16	14.6	7		
	9400	HUAN		S	2152.8	2204.2	21.5	14.8	8.7		D
10	113	POTS	45	C	0739	0740.3	2	140	10		
	260	ONDR	44	NS	0740 E		440 D	50			
	245	SGMR	44	NS	1054 E	1600.1	546 D	44.2			
	410	SGMR	44	NS	1054 E	1707.5	546 D	8.1			
	10715	DWIN	45	C	0907	0911	13	40	15		
	8400	BERN	3		0915.1	0916.6	8	12			
	10400	BERN	3		0915.1	0916.6	8	12			
	9100	ARCE	1	S	0916.2	0917	1.8				
	10400	BERN	45		1007	1010.7	12	50			
	8400	BERN	45		1007	1010.7	12	48			
	9500	BERL	4	S/F	1007.5	1010.6	9.5	55			
	3000	BERL	4	S/F	1007.5	1010.7	9.5	4.3			
	9100	GORK	46	C	1007.6	1008.2	3.7	31			
	9100	GORK	29	PBI	1007.6	1011.2	88	30	11		
	9100	GORK			1007.6	1010.8		64			
	9100	ARCE	45	C	1007.6	1011	6.4				
	9100	ARCE			1007.6	1018.2	1.9				
	9100	ARCE			1009.5	1011	4.5				
	9100	ARCE	30	PBI	1014		82				
	3000	BERL	20	GRF	1025	1033	65	6.4			
	2950	GORK	20	GRF	1027.4	1034.6	14.6	8	4		
	9500	BERL	20	GRF	1028	1033.5	82	23			
	8400	BERN	20		1028.1	1034.5	62	21			
	10400	BERN	20		1028.1	1034.5	62	18			
	9100	ARCE	20	GRF	1028.1	1034.6	32.7				
	930	BORD	42	SER	1119	1123	7	277	2		
	808	ONDR	41	F	1122.5	1122.5	2	48			
	2800	OTTA	23	GRF	1230	1320	260	3.2	1.6		
	2800	OTTA	1	S	1442	1443	2	1.2	.6		
	2800	OTTA	1	S	1533	1533.7	1	2.2	1.1		
	2800	OTTA	240	R	1810	1845	35	3.2	1.6		
	9400	HUAN		S	1826	1840	28.2	4.8	3.9		D
	2800	OTTA	1	S	1910	1912	5	7	2		
	2800	OTTA	20	GRF	1943	1950	20	2.6	1.3		
	2800	OTTA	20	GRF	2010	2030	40	1.6	.8		
	2695	PENT	22	GRF	2118	2220	110	3.6	1.8		
11	100	HIRA	43	NS	0420	0618	225 D	80	40		MR
	200	HIRA	43	NS	0430	0650	215 D	20	10		MR
	202	IZMI	43	NS	0600		360	58			
	100	GORK	44	NS	0633 E		294		10		
	200	GORK	44	NS	0645 E		100 E		5		
	127	TORN	44	NS	0700 E	0956.3	250 D	240	10		V=2
	260	ONDR	44	NS	0720 E		460 D	47			
	245	SGMR	44	NS	1055 E	1805.4	545 D	74.4			3
	410	SGMR	44	NS	1055 E	1424.6	545 D	8.9			3
	200	GORK	44	NS	1109 E		87 E		5		
	9500	BERL	1	S	0730	0730.4	2.5	9.1			
	9100	GORK	1	S	0730.2	0730.4	1.4	12	5.5		
	3000	BERL	20	GRF	0803	0847.6	282	28			
	2950	GORK	20	GRF	0804.7	0848 U	55 E	29 U			
	8400	BERN	20		0822.5	0900.3	90	17			OPR
	8900	BERN	20		0822.5	0900.3	90	16			OPR
	10400	BERN	20		0822.5	0900.3	90	18			OPR
	950	GORK	22	GRF	0833	0847.2	22	14			
	930	BORD	46	C	0834	0839.9	7	34	4		
	9100	GORK	20	GRF	0836.8	0858.5	87	22	11		
	3100	CRIM	29	PBI	0837	0856	95	19			
	3100	CRIM	7	C	0837	0848	18	26	9		
	113	POTS	45	GRF	0840	0842	17	700	100		
	9500	BERL	20	GRF	0840	0903	280	20			
	100	GORK	46	CU	0841.4	0843.4U	7.7	-1700 D			
	127	TORN	45	C	0850	0851.6	6.5	260	20		
	2650	DWIN	45	C	1118	1121	6	40	10		
	113	POTS	45	C	1120.8	1121.3	1.3	150	15		
	2650	DWIN	45	C	1129	1131	4	20	10		
	113	POTS	45	C	1140.5	1141.8	2.1	300	30		
	202	IZMI	5	S	1141	1141.5	1	120	50		
	33	UPIC	8	S	1141.5	1141.6	.6				
	29	UPIC	8	S	1141.7	1142.1	.7				
	808	ONDR	2	S/F	1145.5	1146.2	1.5	50			
	9400	HUAN		S	1215	1302	22.2	5	2.7		D
	2800	OTTA	20	GRF	1350	1530	280	10.2	6.1		
	9400	HUAN		S	1521.7	1539.7	30.5	6.7	2.1		D

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	2695	PENT	20 GRF	2055	2112	95	2.2	1.1		
	2695	PENT	1 S	2308.8	2309.3	1	4.6	2.3		
12	500	HIRA	27 RF	0129	0220	120	15	5		WL
	200	HIRA	27 RF	0142	0212	47	70	30		WRWL
	100	HIRA	27 RF	0150	0221	60	500	150		0
	35000	NAGO	20 GRF	0210	0226	28	13			
	200	GORK	44 NS	0430 E		510 E		5		
	100	GORK	44 NS	0430 E		310 D		5		
	202	IZMI	44 NS	0600		215	24			
	127	TORN	44 NS	0700 E	0958.7	360 D	42	3		V=1
	260	ONDR	44 NS	0720 E		453 D	40			
	245	SGMR	44 NS	1057 E	1632.7	543 D	55.7			
	410	SGMR	44 NS	1057 E	1415	543 D	5.8			
	237	TRST	41 F	0804.5	0804.6	.2	135			0
	100	GORK	41 F	0819.2	0819.6	2.2	40			
	100	GORK		0819.2	0820.8		40			
	100	GORK	41 F	0920	0920.9	5	40			
	100	GORK		0920	0923.9		40			
	2800	OTTA	20 GRF	1320	1325	30	1.6	.8		
	9100	ARCE	2 S/F	1335.9	1336.3	1.5				
	9100	ARCE	40 F	1403.2	1404.4	5				
	9100	ARCE	3 S	1420.8	1421.2	1.4				
	10400	BERN	3	1438.7	1439.2	1.5	12			
	8400	BERN	3	1438.7	1439.2	1.5	22			
	9100	ARCE	3 S	1438.9	1439.3	2.2				
	2800	OTTA	1 S	1454	1456	6	4	2		
	2800	OTTA	22 GRF	1533	1537.5	22	13	6.5		
	930	BORD	45 C	1623.7	1623.9	.9	22	2		
	2800	OTTA	27 RF	1835		140	3.2	2.9		
	2800	OTTA	24 R	1835	1843	8	3.2	1.1		
	2800	OTTA	24P R	1843		112	3.2			
	2800	OTTA	26 FAL	2035	2055	20	-3.2	-1.6		
	200	HIRA	44 NS	2045 E	0550	555 D	35	20		MR
	2695	PENT	1 S	2256	2257	2	3.2	2.2		
13	200	GORK	44 NS	0454 E		450 E		10		
	100	GORK	44 NS	0454 E		426		10		
	202	IZMI	44 NS	0600		360	90			
	260	ONDR	44 NS	0730 E		450 D	148	9		
	127	TORN	44 NS	0745 E	1002.4	410 D	250	130		V=2
	245	SGMR	44 NS	1058 E	1338.5	542 D	442			CONT
	410	SGMR	44 NS	1058 E	1319.3	542 D	652			CONT
	1415	SGMR	43 NS	1300	1357	300	48.4			CONT
	606	SGMR	43 NS	1300	1320.5	300	820			CONT
	950	GORK	1 S	0538.2	0542.1	5.7	4			
	1415	MANI	1 S	0538.6	0541.5	4.4	5.3	1.8		
	2950	GORK	29 PBI	0539	0544.2	9.6	11	6		
	2950	GORK	2 SF	0539	0542.1	5.1	24	12		
	3100	CRIM	1 S	0539	0542	6	22	7		
	2695	MANI	4 S/F	0539.2	0541.7	5.7	15.5	5.2		
	9500	BERL	20 GRF	0659	0734	81	13			
	3000	BERL	20 GRF	0700	0734	78	11			
	9100	ARCE	22 GRF	0727.8	0734.4	12.6				
	9100	GORK	20 GRF	0728.7	0734.2	10.4	15	7.5		
	9100	GORK	1 S	0745.7	0750.1	5.3	10	5		
	8400	BERN	20	0758.2	0804	58	15			
	10400	BERN	20	0758.2	0804	58	8			
	9100	GORK	20 GRF	0801.8	0804	10.9	14	6.5		
	9100	ARCE	23 GRF	0803.1	0812.2	22.6				
	9100	ARCE	1 S	0817.6	0817.9	1				
	1470	BERL	4 S/F	0937.3	0939	2.7	114			
	3100	CRIM	1 S	0937.5	0939.5	2	13	4		
	2950	GORK	1 S	0937.7	0939	1.8	10	5		
	3000	BERL	4 S/F	0938	0938.6	1.5	9.5			
	9500	BERL	1 S	0938	0938.4	1.5	3.9			
	9100	GORK	1 S	0938.3	0938.9	1.1	9	4.5		
	2650	DWIN	3 S	0938	0939	2	10	5		
	808	ONDR	45 C	1156.7	1157.2	3.5	40	10		
	9400	HUAN	S	1156.8	1158	3.9	35.8	12.6		0
	650	GORK	2 SF	1157.2	1158.5	1.9	22	8		
	3000	BERL	4 S/F	1157.4	1158	8.6	66			
	8400	BERN	3	1157.4	1158.1	5	45			
	8800	SGMR	3 S	1157.4	1158.2	2.6	60	18		
	10400	BERN	3	1157.4	1158.1	5	23			
	9100	ARCE	3 S	1157.4	1158.5	3				
	9500	BERL	4 S/F	1157.5	1157.8	3.5	27			
	1470	BERL	4 S/F	1157.5	1158.8	12	34			
	3100	CRIM	3 S	1157.5	1158.5	7	54	16		
	950	GORK	3 S	1157.5	1158.6	2.8E	13			
	2950	GORK	3 S	1157.5	1158.4U	3 E	85			
	1415	SGMR	3 S	1157.6	1158.7	3.6	50	15		
	606	SGMR	3 S	1157.7	1158.4	1.8	22	6.6		
	4995	SGMR	3 S	1157.8	1158.6	5.6	69	20.7		
	9100	GORK	1 S	1157.8	1158.3	3.9	31	16		

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	10715	DWIN	3 S	1157	1158	3	15	10		
	2650	DWIN	3 S	1157	1158	10	65	20		
	930	BORC	45 C	1157	1158.7	8	21	5		
	7000	SAOP	3 S	1158.1E	1158.1	76				13L
	2695	SGMR	3 S	1158	1158.8	8	77	23.1		
	536	ONDR	29 PBI	1228.5	1320	92	162	16		
	536	ONDR	49 GB	1228.5	1239.3	20	247	113		
	3100	CRIM	47 CB	1234	1237.5	13	410	120		
	3100	CRIM		1234	1241.5		240			
	1470	BERL	46 C	1234.5	1236.4	128	460			
	3000	BERL	46 C	1234.5	1237.8	130	113			
	808	ONDR	29 PBI	1234.5	1318.6	80	212	32		
	808	ONDR	49 GB	1234.5	1237.6	15	575	320		
	950	GORK	47 GB	1234.6		29 E	100 D			
	2950	GORK	47 GB	1234.7		33 E	140 E			
	650	GORK		1234.8	1239 U	255 E		-150		
	650	GORK	29 PBI	1234.8	1244.3	18.7E	70			
	606	SGMR	47 GB	1234.8	1238.9	25.2	841	340		SWF
	1415	SGMR	47 GB	1234.9	1237.5		470			3G,4,CONT,
	1415	SGMR	47 GB	1234.9	1235.2	25.1	540	220		SWF
	2800	OTTA	45 C	1234	1237.8	14	220			
	930	BORD	46 C	1234	1238.7	110	567	30		
	2650	DWIN	45 C	1234		20	150 D			
	200	GORK	46 C	1235	1240 U	30	100 D			
	200	GORK		1235	1303.5		1950			
	200	GORK		1235	1244 U		430 D			
	7000	SAOP	46 C	1235	1237.2	688.6				13L
	9500	BERL	4 S/F	1235	1238	129	168			
	410	SGMR	49 GB	1235.2	1238.4	24.8	2000	800		3G,4,CONT,
	9100	ARCE	4 S/F	1235.2	1238.1	5.5				
	9400	HUAN	C	1235.2	1237.8	5.1	601.4	161.8		R
	10400	BERN	4	1235.5	1238	75	375			
	8400	BERN	4	1235.5	1238	75	490			
	4995	SGMR	3 S	1235.6	1237.4	26.3	493	200		SWF
	2695	SGMR	3 S	1235.6	1236.5	24.4	384	150		3G,4,CONT,
	8800	SGMR	3 S	1235.6	1238.1	25.8	492	200		3G,4,CONT,
	15400	SGMR	3 S	1235.8	1237.9	23.7	312	120		SWF
	113	POTS	45 C	1236	1241	149 D	70000			
	100	GORK		1236	1244.5		999999			
	100	GORK	46 C	1236	1243.4	28	999999			
	245	SGMR	49 GB	1236.2	1238.9	23.8	268000 1	1000		SWF
	260	ONDR	49 GB	1236.5		10	202 D	168		
	234	POTS	45 C	1236.5	1238	146 D	23000			
	228	HARS	47 GB	1236.5	1339 U	36	4200 D	550		
	228	HARS		1236.5	1242.5	3 U	1000			
	35000	SGMR	3 S	1236.9	1239	22.8	242	72.6		3G,4,CONT,
	237	TRST	47 GB	1237.3	1237.8	210 D	43500			0
	237	TRST		1237.3	1239.5		20000			31L
	237	TRST		1237.3	1238.8		35000			5L
	408	TRST		1237.3	1238.2	9				
	127	TORN	49 GB	1237.5	1241 D	120 D	3200 D	750		SATURATION
	9400	HUAN	PBI	1240.3	1240.3	132.2	186.9	16.3		0
	33	UPIC	48 C	1240.4	1245	12.4				
	9100	ARCE	29 PBI	1241.2	1241.7	47				
	29	UPIC	48 C	1241	1245.1	10				
	228	HARS		1248.5	1251.5		360			
	2800	OTTA	29 PBI	1248	1248	112	17.2	6.4		
	228	HARS		1258.2	1300		170			
	228	HARS	46 C	1314	1316.2	4	240	110		
	228	HARS	46 C	1320.5	1321	3.5	300	80		
	9400	HUAN	S	1407	1415.7	23	6.5	2.3		R
	245	SGMR	6 S	1534	1535	6	73	29		CONT
	410	SGMR	48 GB	1535.9	1537.6	12.1	976	390		CONT
	10715	DWIN	45 C	1535		60	400 D			
	606	SGMR	3 S	1541.5	1542.8	7.5	77.7	31		CONT
	2800	OTTA	1 S	1645	1646	5	1.6	.8		
	9400	HUAN	S	1658.2	1715.7	48.1	8.1	3.4		R
	9400	HUAN	S	1821	1836.7	36	4.9	3.3		0
	9400	HUAN	S	1830.7	1831.6	2	17.9	7.3		L
	2800	OTTA	20 GRF	1920	1955	135	8.6	4.4		
	9400	HUAN	S	2046.8	2047.5	2.2	14.6	6.9		0
	9400	HUAN	S	2130	2130.7	1.6	27.6	12.5		L
	2800	OTTA	1 S	2130.3	2130.6	1	6	2.8		
14	100	GORK	44 NS	0427 E		393 D		5		
	200	GORK	44 NS	0427		400 E		10		
	200	HIRA	44 NS	0600 E	0700 U	120 D	30	30		ML
	260	ONDR	44 NS	0710 E		479 D	78	4		
	127	TORN	44 NS	0740 E	0817.6	410 D	76	6		V=1
	202	IZMI	43 NS	0836		159	95			
	245	SGMR	44 NS	1059 E	1448.7	541 D	72.2			SWF
	410	SGMR	44 NS	1059 E	1533.5	541 D	7.4			SWF
	3100	CRIM	3 S	0645	0651	10	15	5		
	3100	CRIM	29	0645	0655	225	10	4		
	8400	BERN	3	0648.5	0651.1	6	78			

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	8900	BERN	3	0648.5	0651.1	6	62			
	10400	BERN	3	0648.5	0651.1	6	51			
	9100	GORK	21 GRF	0649	0658	19	20	9		
	2950	GORK	3 S	0649.6	0651.2	4.2	33	15		
	9500	BERL	3 S	0650	0651	2.5	49			
	2695	MANI	3 S	0650	0651	3	29.4	9.8		
	650	GORK	4 SF	0650.3	0651.2	1.7	55	15		
	1415	MANI	4 S/F	0650.4	0651	1.3	57.6	19.2		
	606	MANI	3 S	0650.5	0650.9	1.1	21.7	7.2		
	4995	MANI	3 S	0650.5	0651.4	3.4	47	15.7		
	950	GORK	1 S	0650.5	0651.4	2	3.4	1.7		
	3000	BERL	3 S	0650.5	0651.2	2.5	31			
	1470	BERL	3 S	0650.5	0651.5	2	22			
	9100	GORK	3 S	0650.6	0651.3	1.8	65	32		
	100	GORK	41 F	0652	0652.1	7.3	190			
	100	GORK		0652	0656.8		1600			
	237	TRST	41 F	0724.7	0724.8	.3	125			0
	1415	MANI	4 S/F	0738.5	0738.6	1.5	51.8	17.3		
	237	TRST		0824.6	0837.2		265			0
	237	TRST		0824.6	0837		190			0
	237	TRST		0824.6	0832.7		210			0
	237	TRST	42 SER	0824.6	0828.5	27.3	195			0
	237	TRST		0824.6	0848.2		450			0
	237	TRST		0824.6	0848		425			0
	237	TRST		0824.6	0846		350			0
	9100	GORK	20 GRF	0840.8	0910.5	55	16	5.5		
	100	GORK		1039	1046.7		110			
	100	GORK	41 F	1039	1039.4	9.7	220			
	100	GORK		1039	1048.3		220			
	33	UPIC	4 S/F	1039.2	1039.4	.6				
	29	UPIC	4 S/F	1039.3	1039.6	.5				
	33	UPIC	4 S/F	1046.7	1046.7	.4				
	29	UPIC	4 S/F	1046.8	1046.9	.5				
	113	POTS	45 C	1212.7	1213.2	1.4	150	5		
	9400	HUAN	S	1226	1250	66	8.1	4.8		0
	7000	SAOP	4 S/F	1236.4	1246	23.5				20L
	9100	ARCE	21 GRF	1243.9	1249.7	38				
	10400	BERN	3	1244.4	1246	4	10			
	8400	BERN	3	1244.4	1246	4	19			
	8900	BERN	3	1244.4	1246	4	18			
	9500	BERL	20 GRF	1244	1246	69	15			
	9400	HUAN	S	1245	1246.1	2.2	9.4	5.7		R
	9100	ARCE	1 S	1245.2	1246.5	2				
	2800	OTTA	1 S	1245	1246.8	7	3.4	1.5		
	9100	ARCE	4 S/F	1359.5	1400.1	1				
	2800	OTTA	240 R	1435	1540	65	6.6	3.3		
	7000	SAOP	21 GRF	1442.8		12				0
	7000	SAOP	1 S	1451.7E	1451.7	8				38L
	2800	OTTA	20 GRF	1840	1935	100	4.2	2.1		
	9400	HUAN	S	2100.3	2127.2	35.5	23.8	12.4		R
	2800	OTTA	21 GRF	2105	2150	130	6.6	3.6		
	2800	OTTA	40 F	2108	2101	3.2	24			
	1420	BCUL	20 GRF	2326 E	2332.5	13 D	24	8		
	35000	NAGO	5 S	2330	2335	9	95			
	4995	BCUL	4 SF	2331	2335 U	9	114	38		
	2695	MANI	4 S/F	2332.2	2334	7.6	65.6	21.8		
	4995	MANI	4 S/F	2332.4	2335.2	7.3	119.7	39.9		
	2695	BOUL		2332.5E	2335.5		91	30		
	2695	BCUL	45 C	2332.5E	2334	11 D	91	30		
	8800	MANI	4 S/F	2332.7	2335.1	7.3	182.4	60.8		
	2695	PENT	4 S/F	2332	2334.8	12	68	22.6		
	1415	MANI	4 S/F	2333.8	2334	.5	16.9	5.6		
	35000	NAGO	29 PBI	2339	2345	97	8			
15	200	GORK	44 NS	0427 E		390 E		5		
	127	TORN	44 NS	0740 E	1104.1	410 D	75	6		V=1
	260	ONDR	44 NS	0810 E		394 D	40			
	100	GORK	43 NS	0837		140		5		
	245	SGMR	44 NS	1100 E	1522.5	540 D.	26.9			SWF
	410	SGMR	44 NS	1100 E	1608.3	540 D	72.9			SWF
	3100	CRIM	24 R	0636	0750		5			
	9100	GORK	20 GRF	0646.5	0659.9	26	11	4.5		
	930	BORD	41 F	0826.5	0826.5	1	42	2		
	100	GORK	41 F	0834.5	0834.8	2.3	80			
	100	GORK		0834.5	0836.3		220 D			
	29	UPIC	4 S/F	0835.3	0836.2	1.3				
	33	UPIC	4 S/F	0835.5	0836.1	1				
	202	IZMI	4 S/F	0835.7	0835.8	.6	110	60		
	113	POTS	45 C	0835.8	0836	1.2	500	50		
	536	ONDR	46 C	0900.5	0903	2.5	50			
	33	UPIC	45 C	0900.7	0903	2.8				
	29	UPIC	45 C	0900.8	0903.1	2.7				
	237	TRST	41 F	0902.1	0903.9	2	275			0
	1470	BERL	20 GRF	0920	0937	50	3			
	3000	BERL	22 GRF	0925	0940.7	35	14			

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	3100	CRIM		0930	0941		5			
	3100	CRIM	45 C	0930	0935	22	7	3		
	9500	BERL	22 GRF	0930	1029	159	22			
	10400	BERN	23	0931.1	1028.1	110	25			
	8400	BERN	23	0931.1	1028.1	110	24			
	9100	GORK	20 GRF	0932.6	1028.4U	92	30			
	100	GORK	46 C	1040	1040.9	2	230			
	33	UPIC	42 SER	1048.7	1106.1	62.2				
	29	UPIC	42 SER	1049	1106.3	62				
	100	GORK		1057.5	1059.1		225 D			
	100	GORK	45 C	1057.5	1058	3	225			
	9400	HUAN	S	1218.8	1422.6	152.5	6.4	1.4		0
	7000	SAOP	3 S	1603.6	1608.3	13				0
	9400	HLAN	S	1604	1610.3	14.7	4.8	3.4		0
	2800	OTTA	3 S	1607.5	1608.1	4.5	42	10		
	4995	BCUL	8 S	1607	1607.5	1	40	13		
	1420	BCUL	3 S	1607 E	1607.5	7 D	20	7		
	2695	BCUL	3 S	1608 E	1609	1.5D	16	5		
	2695	BCUL	29 PBI	1609.5	1609.5	3.5D	11	4		
	2800	OTTA	29 PBI	1612	1612	78	3.4	1.7		
	9400	HUAN	S	1740.8	1754.6	24.5	7.9	4.6		0
	9400	HUAN	S	1820.6	1843.5	37.6	14.3	7.1		0
	4995	BCUL	20 GRF	1822	1836	32	18	6		
	7000	SAOP	20 GRF	1829		14				0
	2800	OTTA	21 GRF	1829	1840	75	12.4	6.2		
	2800	OTTA	40 F	1830.5	1833.5	3	10.2			
	1420	BCUL	4 SF	1830.5E	1831.5	4 D	20	7		
	2800	OTTA	1 S	1949	1950	2	2.4	1.7		
	2800	OTTA	20 GRF	2005	2056	85	4.6	2.2		
16	200	GORK	44 NS	0430 E		510 E		5		
	100	GORK	44 NS	0431 E		47.		5		
	260	ONDR	44 NS	0738 E		425 D	28			
	245	SGMR	44 NS	1101 E	1918.1	539 D	18			
	410	SGMR	44 NS	1101 E	1632.5	539 D	23			
	9100	GORK	20 GRF	0624.5	0627.2	21	20	7.5		
	3100	CRIM	1 S	0804.5	0805.5	1.5	4	1		
	650	GORK	4 SF	0847.3	0848	2.5	53	15		
	200	GORK	8 S	0848	0848.7	1.4	30 D			
	950	GORK	1 S	0848.2	0848.6	.9	4	2		
	9500	BERL	22 GRF	0937	0953.5	96	21			
	2650	DWIN	45 C	0940	0947	9	30	10		
	930	BORD	8 S	0951.9	0951.9	.4	79	1		
	202	IZMI	4 S/F	1035.9	1036	.6	250	90		
	2800	OTTA	1 S	1446.5	1448	10	2.2	1		
	245	SGMR	6 S	1650.5	1651.2	7.5	161.6	48.5		
	2800	OTTA	20 GRF	1650	1651.5	15	3	1.5		
	410	SGMR	6 S	1651.1	1654	6.9	79.2	23.8		
	606	SGMR	3 S	1651.1	1654.3	6.9	62.4	18.7		
	2800	OTTA	20 GRF	1710	1738	110	8.8	4.4		
	4995	BCUL	45 C	1735	1737	19	45	15		
	4995	BCUL		1735	1742.5		22	7		
	1420	BCUL	2 SF	1745 E	1745.5	1.5D	8	3		
	2800	OTTA	1 S	1951	1953	10	2.2	1.1		
	200	HIRA	44 NS	2055 E	0430	660 D	15	5		ML
	9400	HUAN	S	2141.7	2145.5	19	321	113.3		R
	2800	OTTA	47 GB	2142	2145.2	5	586	66		
	4995	BCUL	4 SF	2142	2145.5	19.5	462	154		
	500	HIRA	46 C	2144.2	2145.3	3	45	20		WR
	1420	BCUL	3 S	2144 E	2145.5	4.5D	309	103		
	2695	PENT	29 PBI	2148	2148	15	4.4	2.2		
17	200	GORK	44 NS	0430 E		510		5		
	202	IZMI	44 NS	0600		360	50			
	100	GORK	43 NS	0605		175		5		
	260	ONDR	44 NS	0734 E		442 D	64	12		
	127	TORN	44 NS	0740 E	0936	410 D	240	3.2		V=0
	410	SGMR	44 NS	1102 E	1640.3	538 D	182			
	245	SGMR	44 NS	1102 E	1332.9	538 D	488			
	1470	BERL	22 GRF	0648	0655.8	22	6.6			
	2950	GORK	20 GRF	0650.2	0656	15.5	11	5		
	9500	BERL	20 GRF	0653	0711	69	7.9			
	408	TRST	2 F/S	1017.5	1017.6	.2	84			
	234	POTS	45 C	1332.1	1332.7	1.1	420	100		
	237	TRST	41 F	1332.6	1332.8	.3	1260			0
	237	TRST	41 F	1405.8	1406.9	1.2	125			0
	9400	HUAN	S	1752.9	1814.2	37.7	6.9	2.7		0
	200	HIRA	44 NS	2055 E	0040	660 D	30	10		ML
	2695	PENT	240 R	2134	2136	2	2.6	1		
18	700	SYDN	40 F	0000.8	0001.8	1.7				
	1400	SYDN	2 S	0001.6	0001.8	.9				
	200	GORK	44 NS	0500 E		480 E		5		
	100	GORK	44 NS	0500		480 D		5		
	202	IZMI	44 NS	0600		360	50			

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	127	TORN	44	NS	0700 E	0910.8	450 D	110	6.5		V=1
	260	ONDR	44	NS	0730 E		426 D	84	11		
	410	SGMR	44	NS	1104 E	1126	536 D	52			3
	245	SGMR	44	NS	1104 E	1650.8	536 D	47.8			3
	5730	IRKU	20	GRF	0537	0546.3	23	25	14		
	237	TRST	41	F	1103.1	1103.2	.4	75			0
	2800	OTTA	1	S	1816.2	1816.8	1	2.2	1.1		
	2800	OTTA	1	S	2052	2053.5	3.5	1.6	.8		
	2695	PENT	1	S	2159.5	2201.5	5	6.2	2		
19	4995	MANI	4	S/F	0406.9	0407.8	8.3	95.2	31.7		
	5730	IRKU	45	C	0407.1	0407.7	10	11	2		
	5730	IRKU			0407.1	0408.4		7			
	5730	IRKU			0407.1	0408.3		9			
	5730	IRKU			0407.1	0409.1		3			
	5730	IRKU			0407.1	0408.6		5			
	2695	MANI	4	S/F	0407.4	0408.3	3.2	30.8	10.3		
	35000	NAGO	5	S	0407.5	0408.5	1.5	20			
	35000	NAGO	29	PBI	0409	0410	9	7			
	200	GORK	44	NS	0448 E		490 E		5		
	260	ONDR	44	NS	0720 E		422 D	15			
	410	SGMR	44	NS	1105 E	1348.7	535 D	11			3
	245	SGMR	44	NS	1105 E	1810.3	535 D	45			3
	9100	GORK	20	GRF	0714	0716.8	8	9	3		
	1470	BERL			0737	0743.4		3.1			
	1470	BERL	24	R	0737	0741.6	23	4.2			
	9500	BERL	24	R	0740	0749.4	35	30			
	3000	BERL	24	R	0740	0750.5	20	17			
	9500	BERL			0740	0750.5		30			
	10400	BERN	4		0748.1	0750.6	6.5	34			
	8400	BERN	4		0748.1	0750.6	6.5	33			
	9100	GORK	4	SF	0748.2	0751	7.9	32	16		
	3100	CRIM	1	S	0748.5	0750.5	5	13	4		
	2650	DWIN	3	S	0749	0751	4	10	5		
	10715	DWIN	3	S	0749	0749	4	20	10		
	3100	CRIM	1	S	0906	0906.5	1	3.5	1		
	9500	BERL	20	GRF	1147	1153.7	23	9.3			
	9400	HUAN		S	1150.7	1153.4	8.1	8.1	3.9		R
	3000	BERL	20	GRF	1150	1154	10	3.1			
	9100	GORK	1	S	1152.5	1153.8	4.3	10	5		
	2800	OTTA	21	GRF	1330	1500	150	8			
	606	SGMR	3	S	1352.2	1354	3.6	25	7.5		
	536	ONDR	4	S/F	1352.8	1354.2	2.5	38	6		
	2800	OTTA	1	S	1352	1354	4	2.8	1.4		
	410	SGMR	6	S	1353.7	1354.3	2.2	27	8.3		
	245	SGMR	6	S	1354	1355.2	1.6	8.2	2.5		
	9400	HUAN		S	1401.5	1430.2	45.6	6.4	3.2		0
	8400	BERN	3		1437.1	1437.7	7	24			
	8900	BERN	3		1437.1	1437.7	7	25			
	10400	BERN	3		1437.1	1437.7	7	12			
	9500	BERL	2	S/F	1437.2	1437.5	1.6	8.3			
	9400	HUAN		S	1437.2	1437.8	1.5	19.4	7.2		R
	9100	ARCE	1	S	1437.3	1437.8	1.8				
	3000	BERL	4	S/F	1437.5	1438	1.5	10			
	2800	OTTA	1	S	1437	1437.8	3	3.4	1.2		
	113	POTS	48	C	1451.4E	1459.9	8.9D	150			
	2800	OTTA	1	S	1755.5	1756.2	1.5	2.8	1.4		
	606	SGMR	45	C	1856.6	1900		63.2			
	606	SGMR	45	C	1856.6	1856.9	3.8	82.8	25		
	245	SGMR	6	S	1900	1900.4	.5	134	40		
	410	SGMR	6	S	1900.2	1900.4	.6	178	53		
	245	SGMR	6	S	1928.7	1929.5	1.2	77.5	23		
	410	SGMR	6	S	1929	1929.5	1	118	35		
	606	SGMR	3	S	1929.1	1929.2	.4	107	42.8		
	2695	PENT	240	R	2020	2110	50	3.2	1.6		
20	200	GORK	44	NS	0436 E		490 E		5		
	260	ONDR	44	NS	0734 E		411 D	20	6		
	127	TORN	43	NS	1040 U	1223.1	230 D	16	3		V=0
	410	SGMR	44	NS	1106 E	1256.6	534 D	11			3G
	245	SGMR	44	NS	1106 E	1337.5	534 D	59.8			3G
	100	GORK	43	NS	1204		47		5		
	5730	IRKU	2	S	0436	0441.2	6	23			
	5730	IRKU	29	PBI	0442	0458	28	8			
	9100	GORK	20	GRF	0700.9	0833	218	33	10		
	536	ONDR	42	SER	0911.3	0938.2	40	43			
	2950	GORK	20	GRF	1040.7	1045	75	10	5		
	7000	SAOP	3	S	1135	1136.3	13				0
	10400	BERN	3		1135.5	1136.2	2.5	9			
	8400	BERN	3		1135.5	1136.2	2.5	12			
	8900	BERN	3		1135.5	1136.2	2.5	10			
	9100	GORK	1	S	1136	1136.3	1.3	13	6.5		
	9100	ARCE	1	S	1136	1136.6	2.3				
	200	GORK	27	RF	1145	1220	63	30			
	234	POTS	45	C	1147	1221	103	26	7		

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	113	POTS	45 C	1156	1240	89	10	3		
	10400	BERN	3	1228.3	1234.9	13	9			
	8400	BERN	3	1228.3	1234.9	13	13			
	8900	BERN	3	1228.3	1234.9	13	12			
	9100	ARCE	1 S	1234	1235.1	5.6				
	536	ONDR	41 F	1250	1252.8	6	45			
	2800	OTTA	8 S	1609.5	1609.8	.5	2.4	1.2		
	930	BORC	45 C	1609	1609.6	1	37	2		
	2800	OTTA	1 S	1644.5	1645	1	2	1		
	2800	OTTA	20 GRF	1656	1712	70	3.2	1.8		
	2800	OTTA	20 GRF	1830	1840	95	2.8	1.4		
21	5730	IRKU	1 S	0226	0231	13	7	2.5		
	5730	IRKU	45 C	0244	0246	20	2	6		
	5730	IRKU		0244	0250.7		7			
	5730	IRKU		0244	0249.4		12			
	5730	IRKU		0244	0255		12			
	5730	IRKU		0244	0251.8		6.5			
	200	GORK	44 NS	0457 E		360 E		5		
	260	ONDR	44 NS	0730 E		425 D	15			
	410	SGMR	44 NS	1107 E	1729.1	533 D	31.5			3G
	245	SGMR	44 NS	1107 E	1640	533 D	82.7			3G
	2950	GORK	1 S	0556.5	0557.6	2.1	5.4	2.7		
	9100	GORK	20 GRF	0557.3	0602.2	13.6	13	5		
	5730	IRKU		0557	0602.6		7			
	5730	IRKU	49 C	0557	0557.7	13	8.5	4		
	202	IZMI	8 S	0734.5	0734.5	.4	360	150		
	1470	BERL	4 S/F	1150	1150.5	1.5	13			
	2800	OTTA	23 GRF	1328	1422	120	7	3.5		
	2800	OTTA	1 S	1357	1357.5	3	2.8	1.2		
	2800	OTTA	46F C	1540	1601	7	58	17		
	9400	HUAN	S	1553	1611.2	62.5	16.3	9.5		R
	4995	BCUL	45 C	1555	1601	7.5	46	15		
	7000	SAOP	46 C	1556	1601.1	68				14L
	10400	BERN	46	1556.5	1601	10	40			
	8400	BERN	46	1556.5	1601	10	60			
	8900	BERN	46	1556.5	1601	10	57			
	245	SGMR	6 S	1557.1	1601	10.1	120	48		3G
	2695	BCUL	28 PRE	1557.5E	1558.5U	1.5D	15	5		
	410	SGMR	6 S	1557.7	1601.1	9.5	61.8	24.7		3G
	930	BORC	46 C	1557	1558.7	25	111	5		
	9400	HUAN	F	1558.1	1601.1	4.5	45.7	20.2		R
	606	SGMR	3 S	1558.4	1600	10.6	51.5	20.6		3G
	2695	BCUL	45 C	1559 E	1600	4 D	127	42		
	2695	BCUL		1559 E	1601.5		127	42		
	2695	BCUL	29 PBI	1603	1603	1 D	21	7		
	2800	OTTA	30 PBI	1603	1603	60	11.6	5.8		
	9400	HUAN	S	1605	1606.7	2.7	8.2	3.9		R
	2800	OTTA	1 S	1606	1607	2	2.4	1.2		
	200	HIRA	44 NS	2055 E	0600	660 D	35	5		ML
22	200	GORK	44 NS	0500 E		480 E		5		
	100	GORK	43 NS	0553		208		10		
	100	HIRA	43 NS	0556	0610	120 D	50	30		
	127	TORN	44 NS	0610 E	0824.3	500 D	78	3.4		V=1
	260	ONDR	44 NS	0756 E		404 D	20			
	245	SGMR	44 NS	1109 E	1801.8	531 D	69.5			3G
	410	SGMR	44 NS	1109 E	1412.6	531 D	7			3G
	200	GORK	27 RF	0551	0739	219	45			
	650	GORK	22 GRF	0551.8	0605.3	56	13	6		
	500	HIRA	27 RF	0552	0611	48	25	15		SR
	100	GORK	46 C	0822.8	0824	3.5	200			
	950	GORK	1 S	0830	0830.4	.6	5	2.5		
	650	GORK	1 S	0830.2	0830.3	.6	2.5			
	200	GORK	8 S	0830.2	0830.4	.6	30 D			
	237	TRST	41 F	0922.2	0922.2	1.2	100			SR
	100	GORK		0959	1001.3		200			
	100	GORK	45 C	0959	0959.9	3 U	200			
	237	TRST	41 F	1058.1	1058.9	.9	170			4R
	9400	HUAN	S	1357.5	1402.8	11.1	13	2.7		R
	2800	OTTA	20 GRF	1420	1510	110	1.8	1.2		
	2800	OTTA	20 GRF	1805	1810	15	1.4	.7		
	2800	OTTA	20 GRF	1835	1840	15	1.8	.9		
	2800	OTTA	1 S	1937.5	1937.8	1.5	1.8	.9		
	2695	PENT	20 GRF	2050	2255	110	4.8	2.2		
23	1400	SYDN	3 S	0322.8	0323.9	1.2				
	2695	MANI	3 S	0323	0324.1	1.7	11.6	3.8		
	700	SYDN	2 S	0323.6	0323.8	.9				
	1415	MANI	1 S	0323.7	0324	.7	10.6	3.6		
	200	GORK	44 NS	0500 E		480 E		5		
	127	TORN	44 NS	0610 E	0703.9	130 U	60			AT SUNRISE
	260	ONDR	44 NS	0730 E		420 D	84	6		
	245	SGMR	44 NS	1110 E	1916.7	530 D	290			3G
	410	SGMR	44 NS	1110 E	1700.5	530 D	67.2			3G

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	200	HIRA	44 NS	2100 E	2245	300 D	20	5		MR
	237	TRST	41 F	0847.2	0847.3	.6	380			3R
	234	POTS	45 C	0847.2	0847.4	.8	275	45		
	536	ONDR	42 SER	0847.5	0856	14	15			
	237	TRST	41 F	0856.1	0856.2	.4	95			D
	3100	CRIM	25 R	0939	1200		10			
	237	TRST		0941.5	0949.8		370			D
	237	TRST		0941.5	0946.4		185			2L
	237	TRST		0941.5	0945.8		940			D
	237	TRST	42 SER	0941.5	0941.5	11.9	80			D
	237	TRST		0941.5	0952.6		270			D
	408	TRST	42 SER	0944.5	0946	8	62			
	234	POTS	48 C	0945.6	0946.1	8.7	350	5		
	9500	BERL	1 S	0947	0947.2	.4	6.6			
	1470	BERL	3 S	0947.5	0947.8	1	7			
	1470	BERL	1 S	0955	0956	2	2.3			
	3000	BERL	1 S	0955.4	0956.4	1.6	4.1			
	536	ONDR	4 S/F	0955	0955.7	1.5	59			
	113	POTS	2 S/F	1026.1	1026.8	1.5	280	15		
	237	TRST	5 S	1027	1027	.1	85	24		D
	100	GORK	45 C	1027	1027.3	1.1	190			
	100	GORK		1027	1027.8		190			
	2950	GORK	1 S	1037	1039	3.5	5.8	2.8		
	113	POTS	2 S/F	1116.2	1117.2	2	2100	150		
	200	GORK	8 S	1117.2	1117.7	1.1	50 D			
	202	IZMI	4 S/F	1117.2	1117.2	.8	255	100		
	237	TRST	41 F	1117.3	1117.6	.6	195			17L
	29	UPIC	4 S/F	1117.4	1117.8	.9				
	33	UPIC	4 S/F	1117.4	1117.5	.9				
	100	GORK	45 C	1117.5	1117.7	1	230 D			
	100	GORK		1117.5	1117.9		230 D			
	3100	CRIM	1 S	1244.5	1246	4	10	3		
	536	ONDR	2 S/F	1245	1246.2	2	11			
	2800	OTTA	1 S	1246	1246.2	1	5.2	2.6		
	2800	OTTA	2 S/F	1657	1701	7	3.4			
	2800	OTTA	20 GRF	1940	1945	20	2.2	1.1		
	100	HIRA	42 SER	2109	2112	13	500			SL
	2695	PENT	20 GRF	2220	2225	15	2	1		
24	3100	CRIM	1 S	0607	0608	1.5	17	6		
	5730	IRKU	2 S	0607	0608.1	1.5	17	6		
	2950	GORK	1 S	0607.8	0608.1	1.5	12	6		
	9100	GORK	1 S	0608	0608.1	.9	5.6	2.5		
	5730	IRKU	29 PBI	0608.5	0614	13.5	3			
	260	ONDR	44 NS	0730 E		415 D	26			
	127	TORN	44 NS	0810 E	1400 U	380 D		5		V=0
	245	SGMR	44 NS	1111 E	1804.5	529 D	89.9			
	410	SGMR	44 NS	1111 E	1514.2	529 D	10			
	2800	OTTA	1 S	1329	1329.2	2	2.6	1		
	1420	BCUL	2 SF	1648.5	1650	2.5	4	1		
	2800	OTTA	22 GRF	1735	1800	30	4	1.9		
	1420	BCUL	1 S	1915.5	1916.5	2	3	1		
	2800	OTTA	21 GRF	2014	2110	155	3.6	1.9		
	2695	PENT	1 S	2015	2016	1.5	4.4	2.2		
	100	HIRA	44 NS	2100 E	2335	330 D	40	25		ML
	200	HIRA	43 NS	2215	2300	315 D	60	15		MR
25	260	ONDR	44 NS	0730 E		407 D	50			
	245	SGMR	44 NS	1112 E	1526.7	528 D	20			
	410	SGMR	44 NS	1112 E	1606.3	528 D	9.5			
	234	POTS	C	0741.3	0741.4	1	190	40		
	127	TORN	40 F	0950 U	1023.6	65 U	8.2	1		
	113	POTS	F	1043.6	1043.9	5.5	200	5		
	3100	CRIM	1	1046.5	1047	1	11	4		
	260	ONDR	8 S	1048.3	1048.3	.5	185			
	237	TRST	41 F	1048.5	1048.7	.6	535			3L
	234	POTS	C	1048.5	1048.7	.6	110	30		
	9100	GORK	1 S	1147.2	1147.5	1.2	8.7	4		
	930	BORO	41 F	1155	1155.3	4	36	2		
	1470	BERL	1	1157	1157.5	1	4.8			
	245	SGMR	6 S	1211.1	1212.2	1.5	116	34.8		
	2800	OTTA	40 F	1420.5	1422	4.5	17			
	237	TRST	41 F	1517.5	1517.7	.5	2465			4L
	2800	OTTA	21 GRF	1805	1840	135	3	1.6		
	2800	OTTA	1 S	1811.8	1812.1	2.5	2	1		
	410	SGMR	6 S	1854.6	1854.9	1.3	28.6	11.4		
	245	SGMR	6 S	1854.6	1855	1.1	184	73.6		
26	237	TRST	5 S	0859.6	0859.6	.1	75	22		4R
	260	ONDR	44 NS	0725 E		430 D	16			
	127	TORN	44 NS	0800 E	1020.9	400 D	25	3.7		V=0
	245	SGMR	44 NS	1113 E	1839.4	527 D	26.2			
	237	TRST	5 S	0900.2	0900.2	.1	130	42		3R
	237	TRST	41 F	1450.2	1450.3	.1	385			D
	1420	BCUL	2 SF	1930.5	1933	3	6	2		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1978

OCT 1978	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
27	200	HIRA	43 NS	0210	0345	210 D	40	5		MR
	100	HIRA	43 NS	0300	0348	290 D	200	50		SR
	100	GORK	44 NS	0521 E		459 E		15		
	200	GORK	44 NS	0521 E		460 E		10		
	127	TORN	44 NS	0650 E	0914.6	470 D	380	20		V=2
	260	ONDR	44 NS	0746 E		404 D	51	10		
	202	IZMI	43 NS	0815		120	200			
	245	SGMR	44 NS	1115 E	1339.2	525 D	118			
	500	HIRA	27 RF	0300	0347	120	15	6		SR
	950	GORK	3 S	0530.3	0530.6	.9	8.5	4		
	9100	ARCE	8 S	0823.5	0823.6	.6				
	9100	ARCE	22 GRF	0824.6	0853	99				
	113	POTS	S	1226.1	1226.3	.5	300	100		
	2800	OTTA	23 GRF	1715	1720	150	6.6	3		
	2800	OTTA	1 S	1720	1720.1	2	2.6	1.3		
	2800	OTTA	1 S	2034	2035.2	6	3	1.5		
	200	HIRA	44 NS	2100 E	0240	540 D	70	30		MR
	2695	PENT	20 GRF	2225	2229	35	3.6			
28	200	GORK	44 NS	0500 E		60		10		
	127	TORN	44 NS	0650 E	1200.8	470 D	18	2.5		V=0
	260	ONDR	44 NS	0730 E		420 D	27	3		
	410	SGMR	44 NS	1116 E	1649.4	524 D	32			
	245	SGMR	44 NS	1116 E	1428.8	524 D	82.4			
	113	POTS	C	0713.6	0714.1	1	100	15		
	3000	BERL	1	0936.5	0937.5	6	5.4			
	202	IZMI	42 SER	1105	1132	55	270			
	234	POTS	C	1431	1431.1	.6	330	50		
	7000	SAOP	46 C	1518.5	1601	112				6R
	4995	BCUL	45 C	1555.5	1600.5	8.5	73	24		
	15400	SGMR	3 S	1557.2	1603.1	7.3	34	10.2		SWF
	2800	OTTA	4 S/F	1557.2	1601	9.8	32.4	10.8		
	4995	SGMR	3 S	1557.4	1600.4	7.3	76.9	23.1		SWF
	2695	SGMR	3 S	1557.7	1600.4	7.2	45.9	13.8		SWF
	9400	HUAN	F	1558.4	1603	15.4	62.3	20.6		R
	8800	SGMR	3 S	1559.3	1603.2	5.2	101.6	30.5		SWF
	2800	OTTA	29 PBI	1607	1607	160	5.2	2.2		
	2695	PENT	21 GRF	2007	2120	170	3	2		
	4995	BCUL	4 SF	2010	2010.5	2	26	.9		
	1420	BOUL	1 S	2010	2011	2	3	1		
	2695	PENT	3 S	2011	2011.5	2	15.6	5.6		
29	127	TORN	44 NS	0650 E	0846.1	430 D	9	1.7		V=0
	260	ONDR	44 NS	0950 E		280 D	19			
	245	SGMR	44 NS	1117 E	1454.9	523 D	60.2			
	2800	OTTA	20 GRF	1310	1330	90	4.6	2.6		
	3000	BERL	3	1310	1321.5	40	5.5			
	1470	BERL	3 F	1312	1318.8	23	8.3			
	536	ONDR	45 C	1315.5	1318.3	8	32	11		
	9500	BERL	3	1315	1320.3	25	6.8			
	410	SGMR	7 C	1317.5	1321.3		9.8			
	410	SGMR	7 C	1317.5	1319.1	6.5	14	5.6		
	606	SGMR	45 C	1317.5	1320.5		32.5			
	606	SGMR	45 C	1317.5	1318.3	6	60.5	24.2		
	245	SGMR	7 C	1317.5	1323		82.4			
	245	SGMR	7 C	1317.5	1318.8	6.5	20.3	33		
	808	ONDR	45 C	1317	1318	7	68	19		
	930	BORO	45 C	1317	1318.7	7	42	5		
	2800	OTTA	20 GRF	1623	1640	100	1.6	1		
30	260	ONDR	4 S/F	0901	0903.8	4	33	2.3		
	260	ONDR	42 SER	0942.7	0942.7	9	32			
	9100	ARCE	8 S	1307.1	1307.3	.8				
	245	SGMR	44 NS	1735	1751	145 D	35.9			3G
	9400	HUAN	S	1935.5	1935.8	1.2	19.3	6.7		0
	2695	PENT	1 S	2118.9	2119	1	5.2	2.6		
31	5730	IRKU		0455	0503.1		12.5			
	5730	IRKU	45 C	0455	0501.4	15	17			
	3100	CRIM	41	0731	0736.5	6	2	1		
	908	ONDR	2 S/F	0902	0904.5	6	30	12.5		
	1470	BERL	2 F	0903	0905	5	13			
	3000	BERL	2 F	0904	0906.1	4	13			
	9500	BERL	3	0904	0918.5	136	7.8			
	2650	ONIN	45 C	0904	0905	4	20	10		
	930	BORO	45 C	0904	0904.9	4	31	15		
	127	TORN	43 NS	0912	1142.3	230 U	110	2.5		V=1
	100	GORK	43 NS	0921		159		5		
	260	ONDR	43 NS	0924		196	34	5		
	200	GORK	43 NS	0930		180		5		
	245	SGMR	44 NS	1120 E	1516	520 D				
	9100	ARCE	1 S	1016.5	1016.9	1				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OCTOBER 1978

OCT 1978	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
	127	TORN	4B C	1023.2	1026.4	6.7	260	41		
	113	POTS	C	1023.3	1028.3	7.3	250	25		
	29	UPIC	4B C	1023.4	1026.7	8.2				
	33	UPIC	4B C	1023.4	1026.3	7.5				
	228	HARS	45 C	1023.5	1027.5	4.5	110	30		
	100	GORK	46 C	1023.5		7.5	180 D			
	100	GORK	46 C	1040.8	1041.3	1.3	190			
	9400	HUAN	S	1518.8	1519.3	1.9	9.2	6.4		L
	245	SGMR	6 S	1816.3	1816.4	.3	13.1	3.9		
	410	SGMR	6 S	1816.5	1816.8	.4	9.2	2.7		
	2695	PENT	20 GRF	1928	1929	22	2.4	1.2		

Reports received from the following observatories:

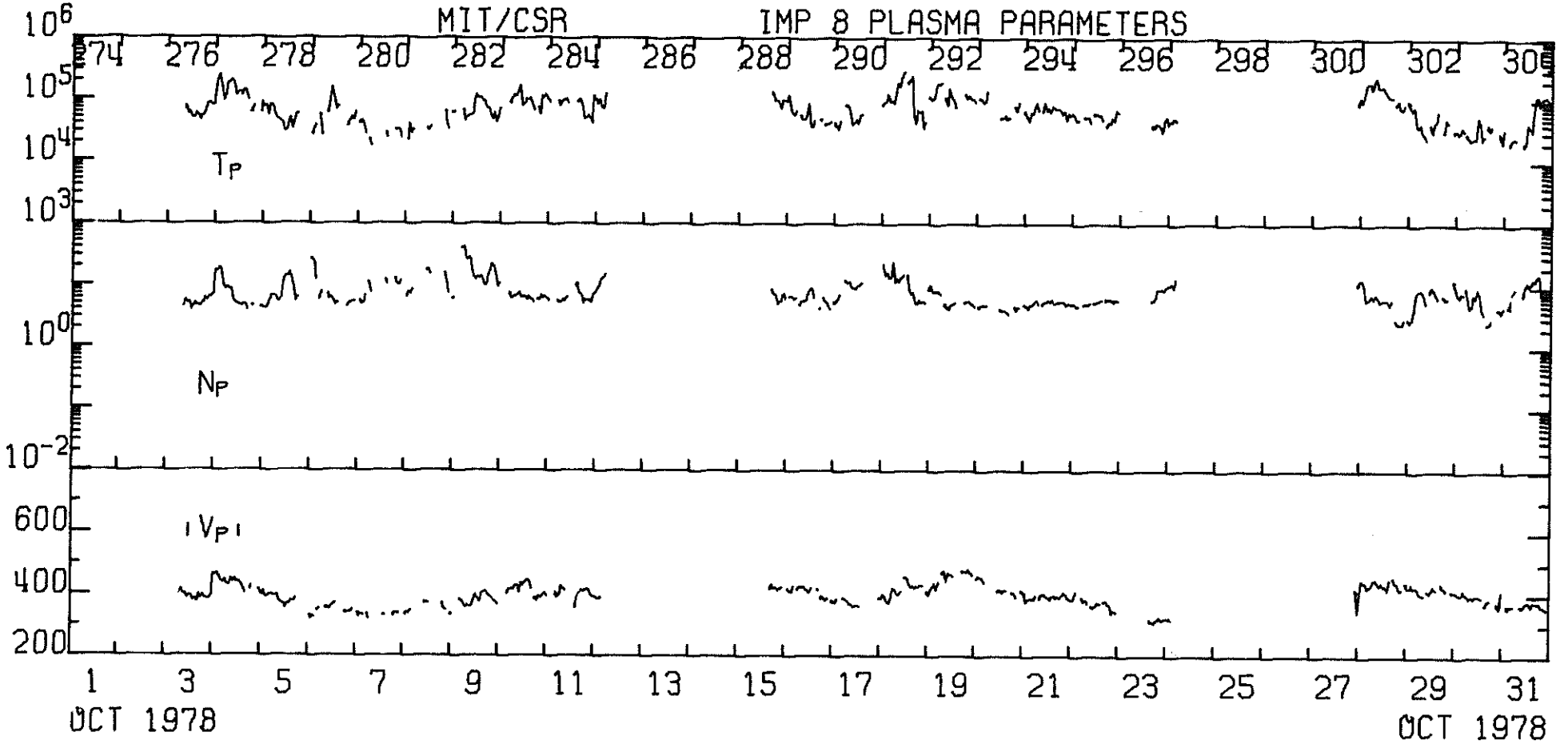
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton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

Explanation of Type Code:

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

IMP 7 AND 8 SOLAR WIND PLASMA

OCTOBER 1978



IMP 7 AND 8 ELECTRONS

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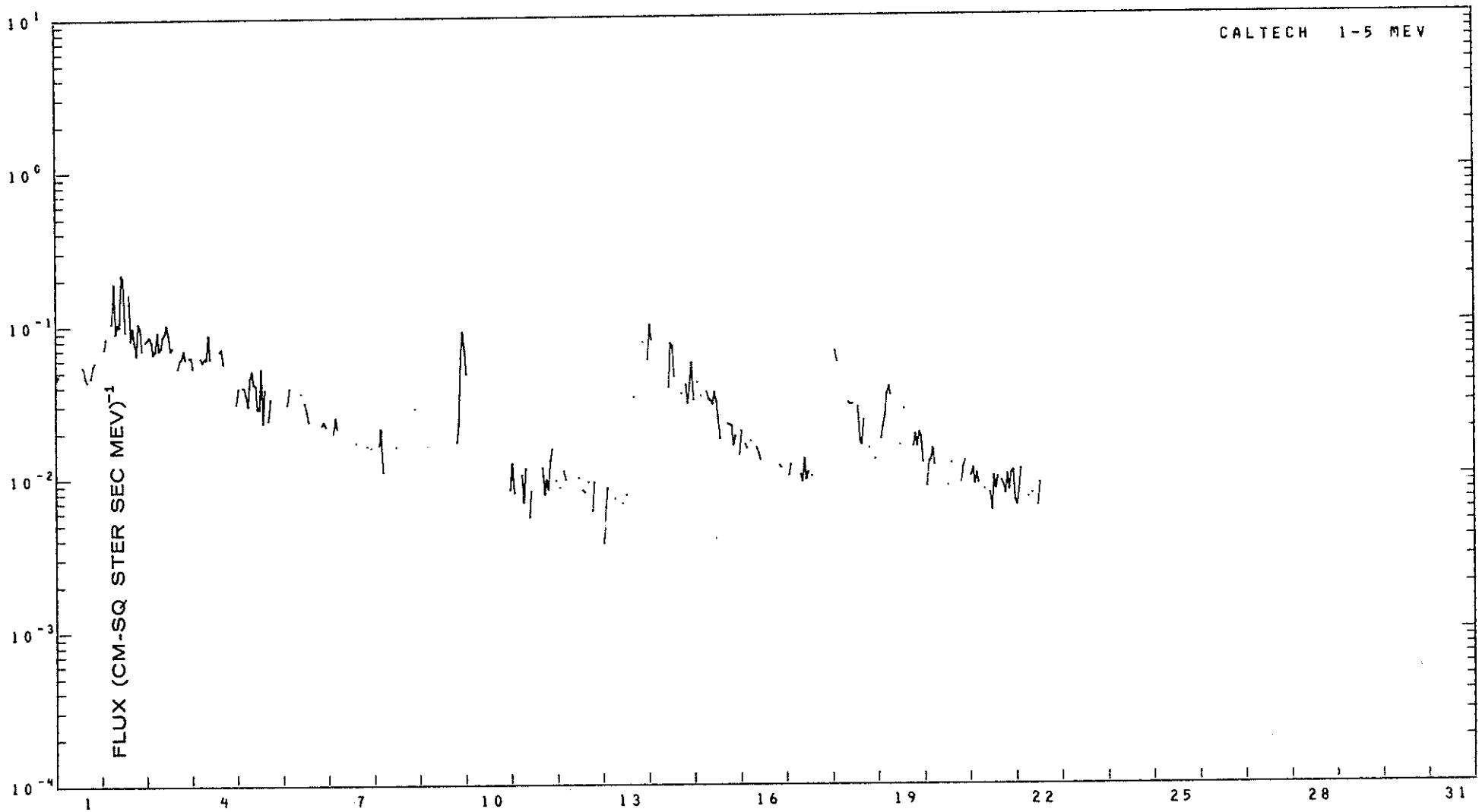

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IMP 7 AND 8 LOW ENERGY PROTONS

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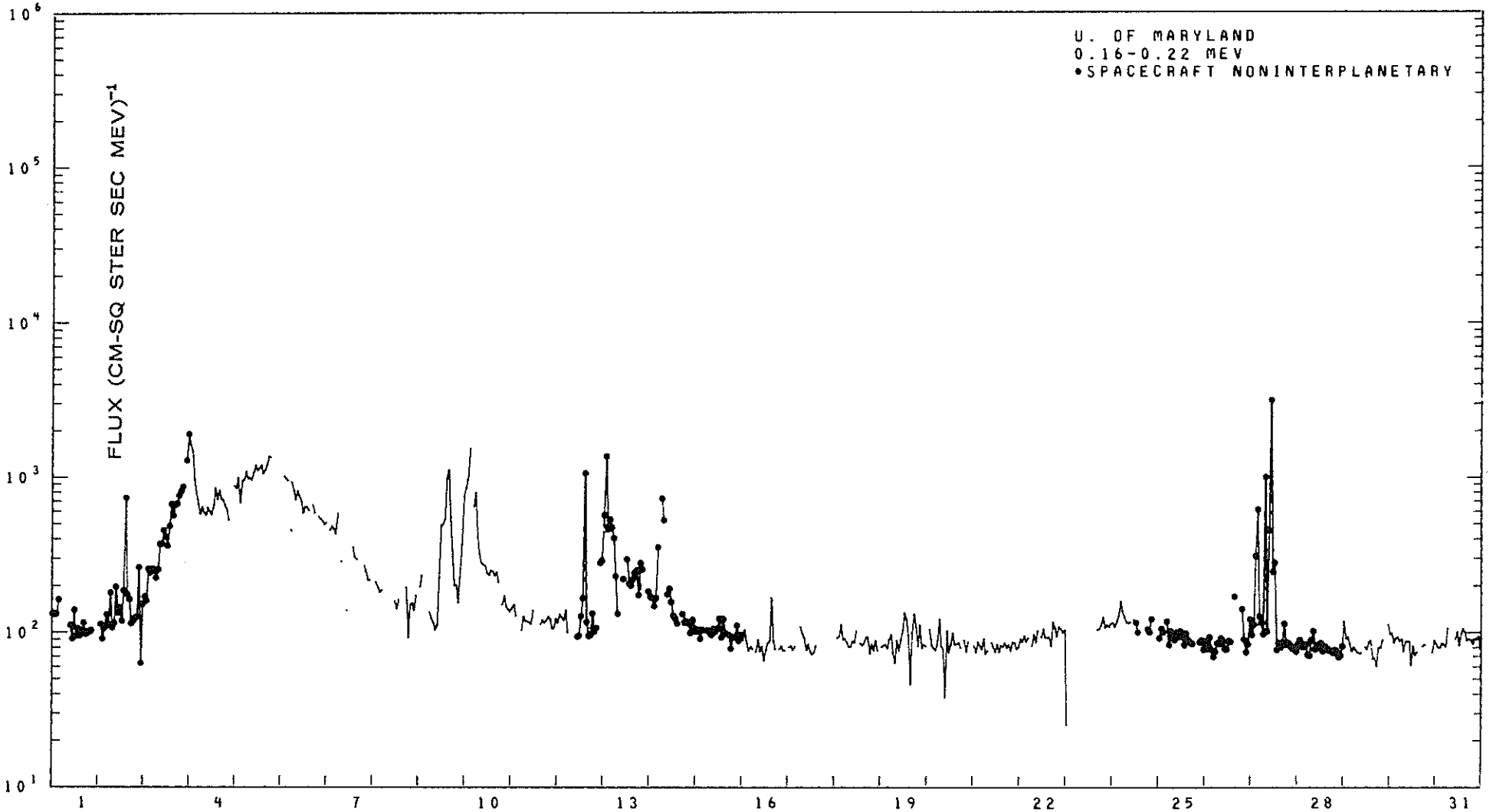
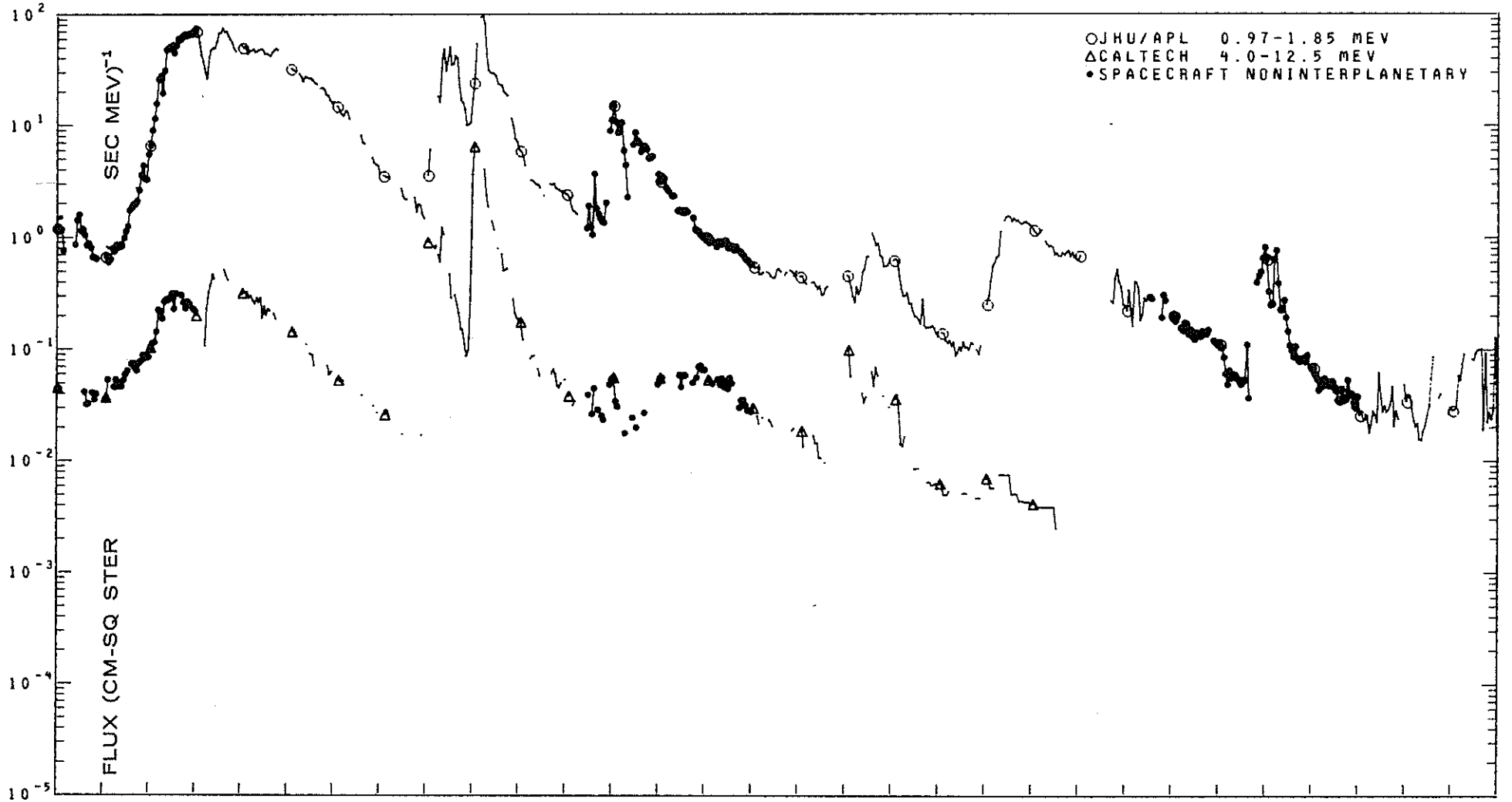


IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

OCTOBER 1978



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IMP 7 AND 8 HIGH ENERGY PROTONS

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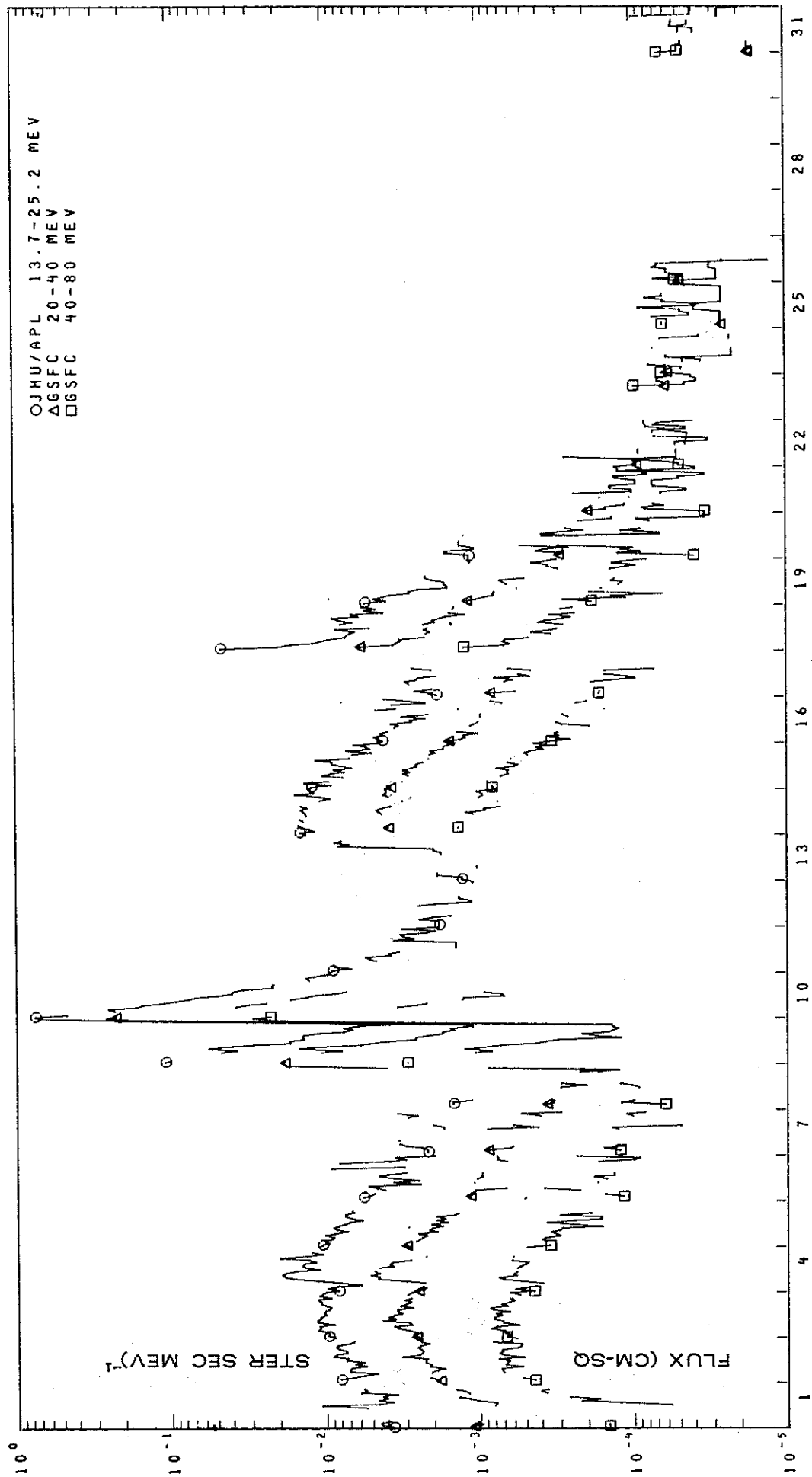

IMP 7 AND 8 ALPHA PARTICLES

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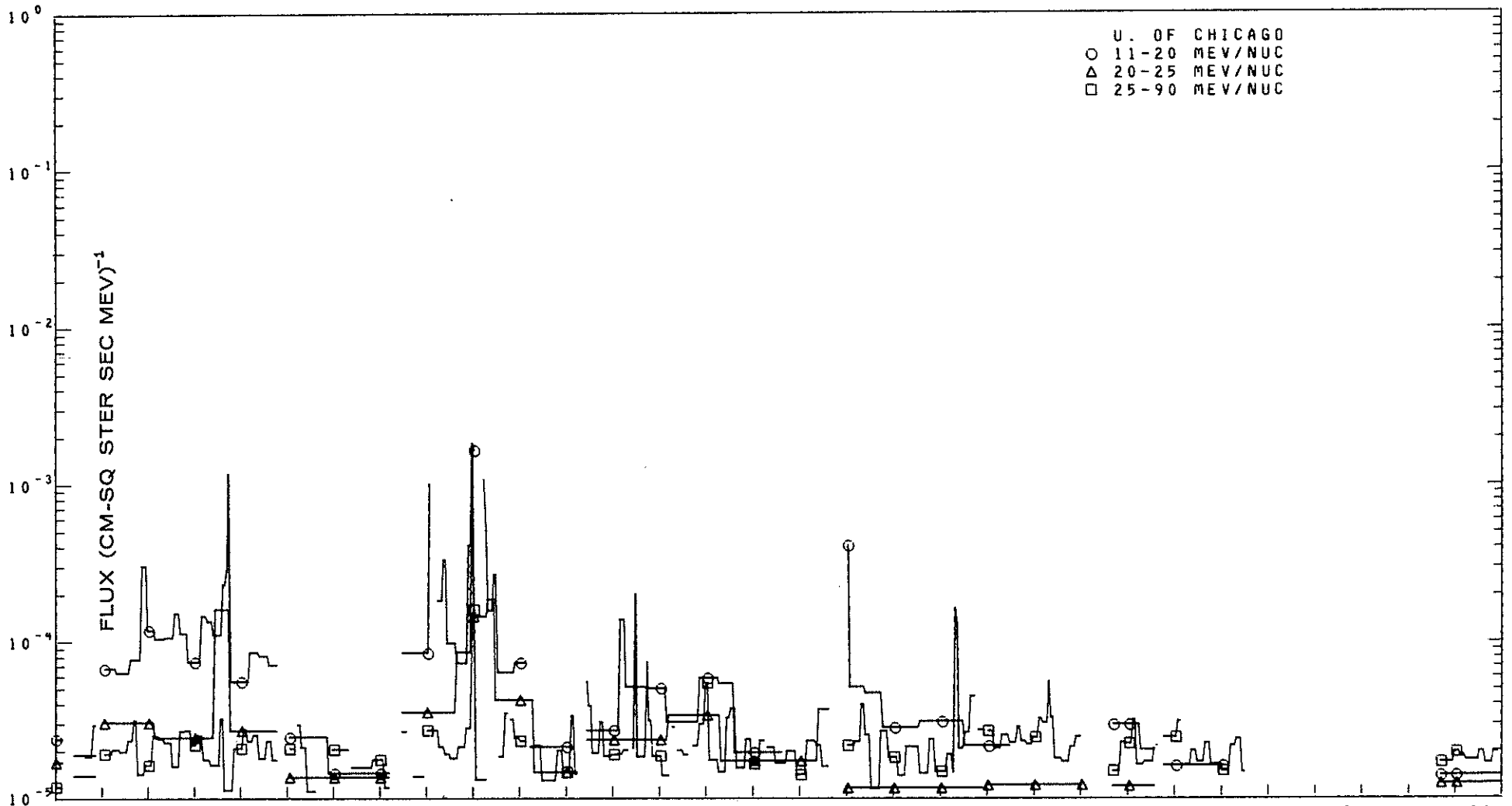

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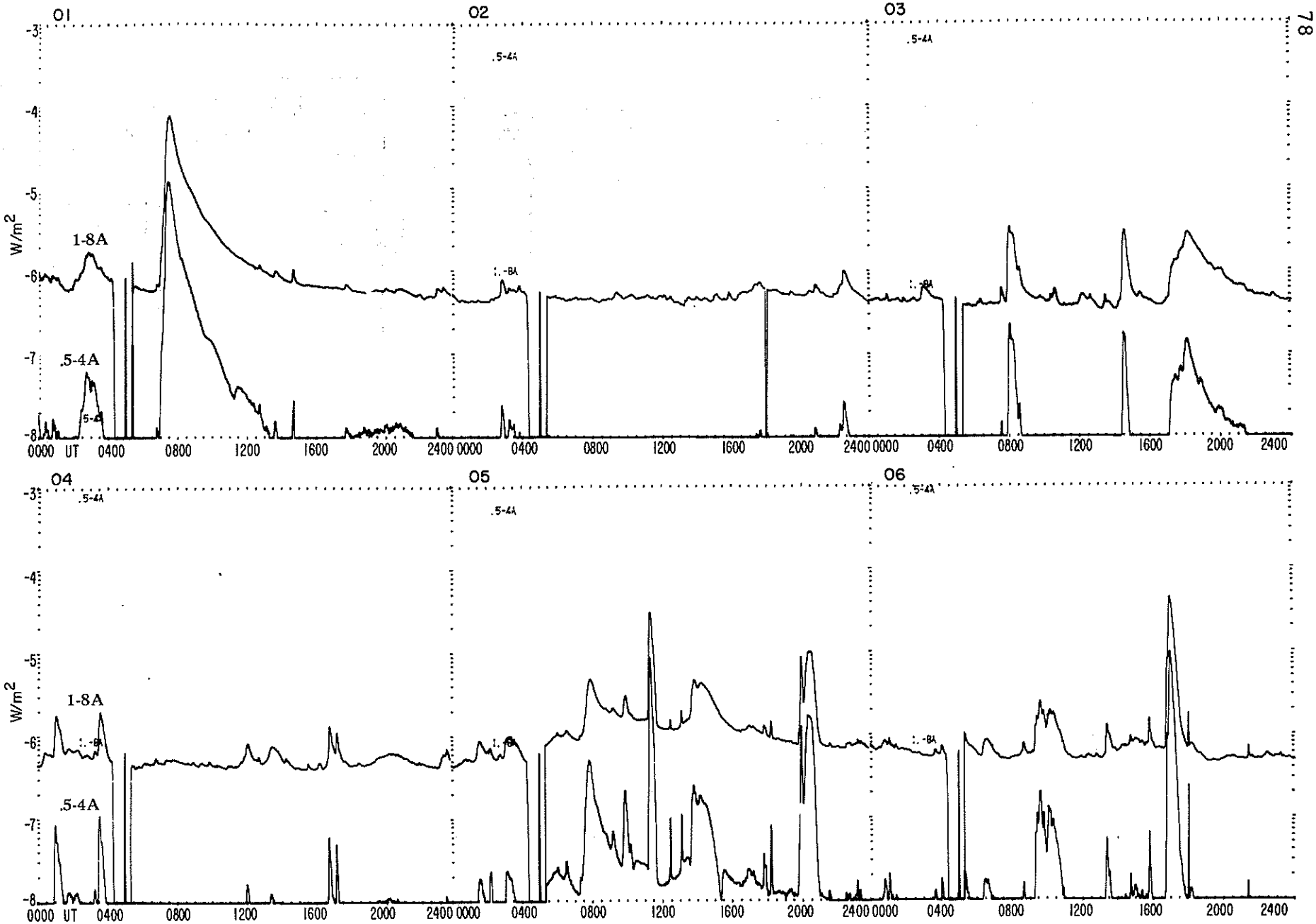
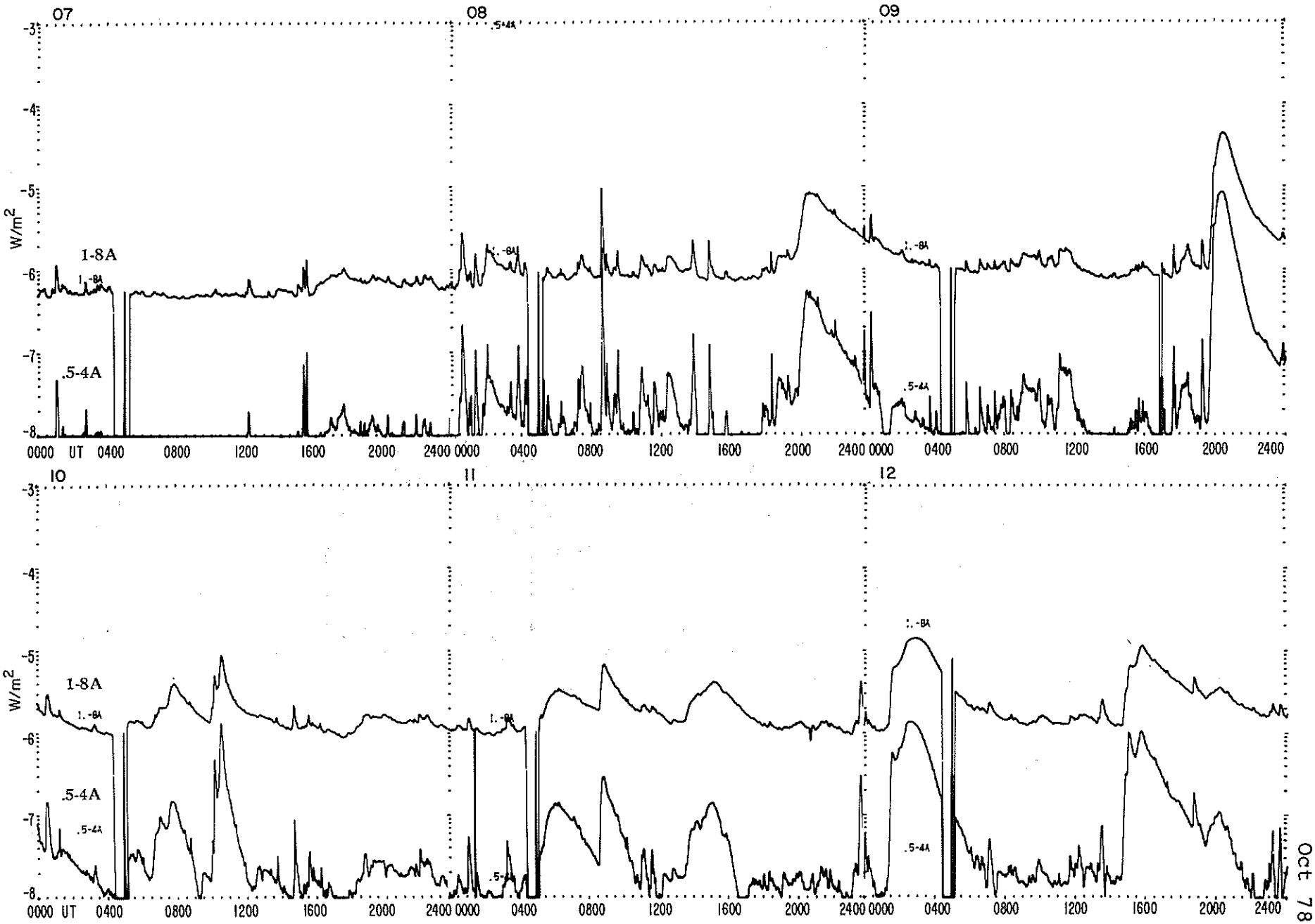
SMS-GOES X-RAYS

OCTOBER 1978



SMS-GOES X-RAYS

OCTOBER 1978



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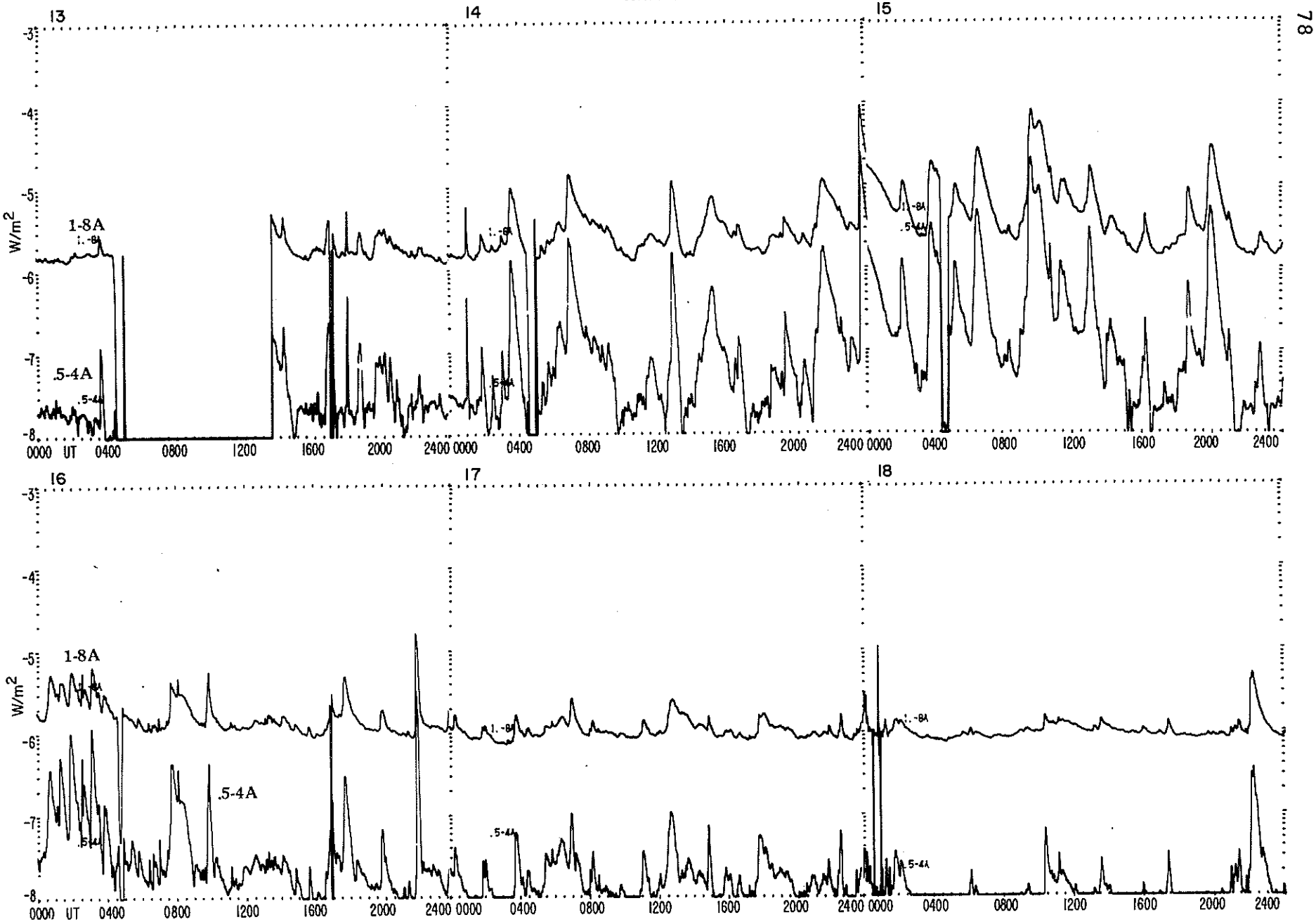
Oct 78

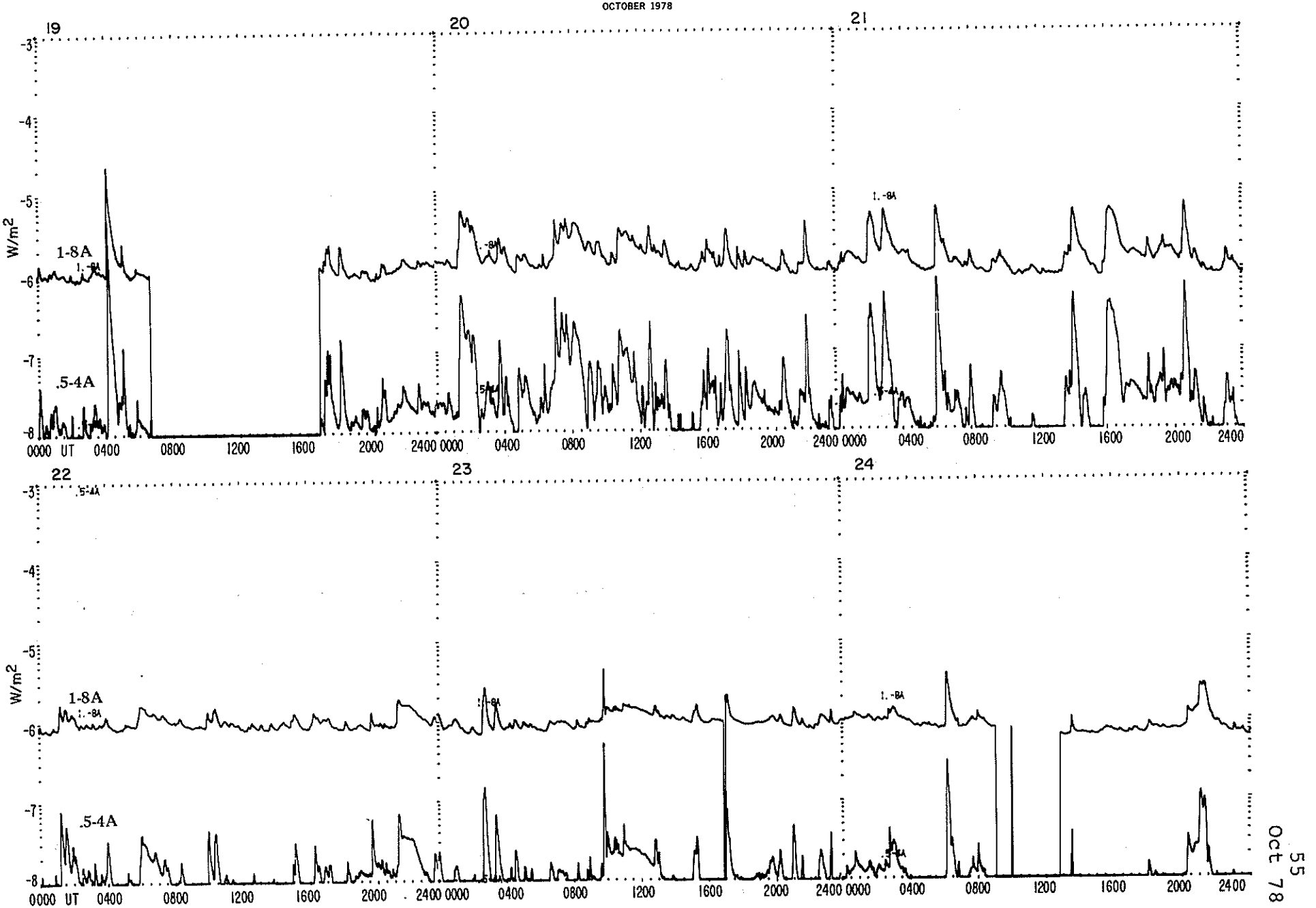
SMS-GOES X-RAYS

OCTOBER 1978



SMS-GOES X-RAYS

OCTOBER 1978



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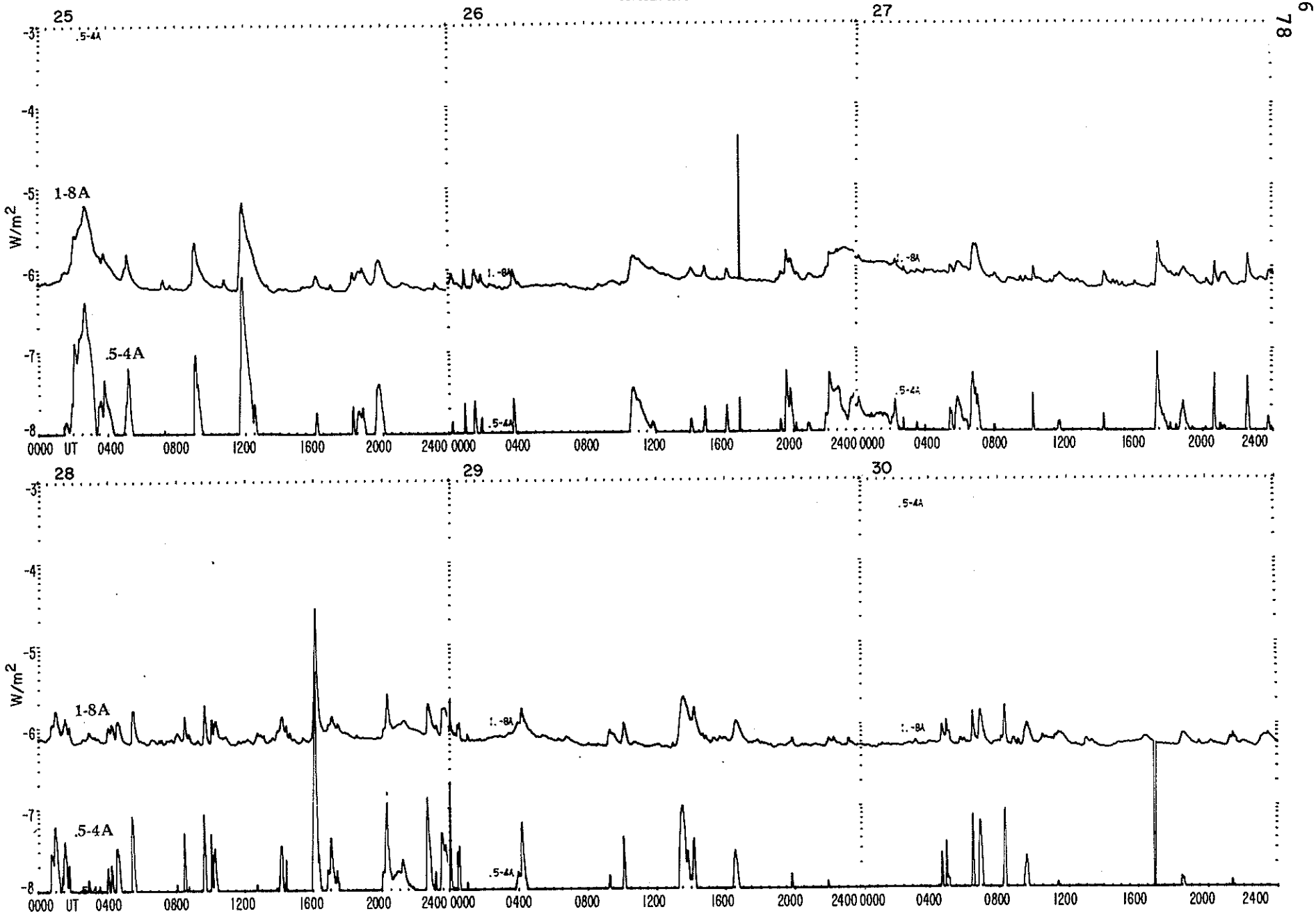
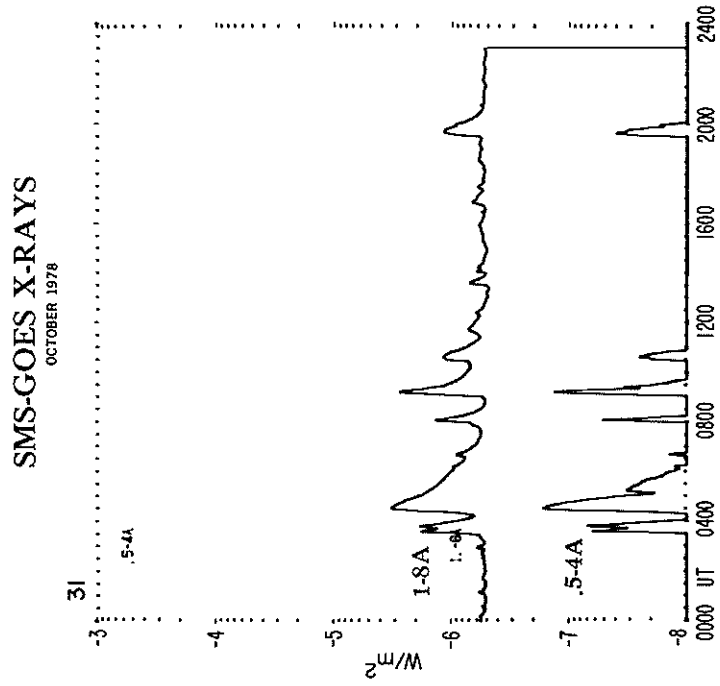
Oct 78

SMS-GOES X-RAYS

OCTOBER 1978




SMS-GOES X-RAYS
OCTOBER 1978
31
.5-4A
1-8A
.5-4A
W/m²
-3
-4
-5
-6
-7
-8
0000 UT
0400
0800
1200
1600
2000
2400

SGD 416 Part II (Comprehensive)

SEPTEMBER 1978 DATA

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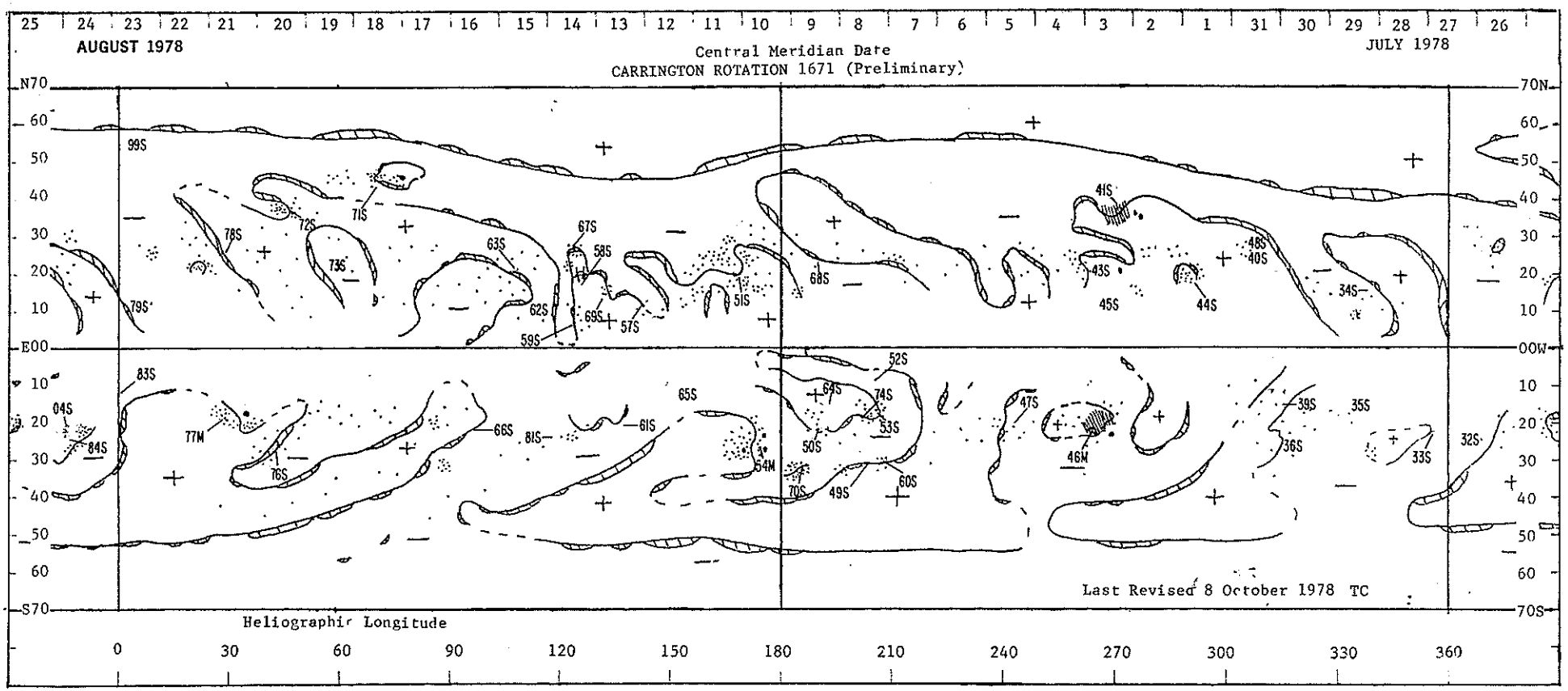
ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

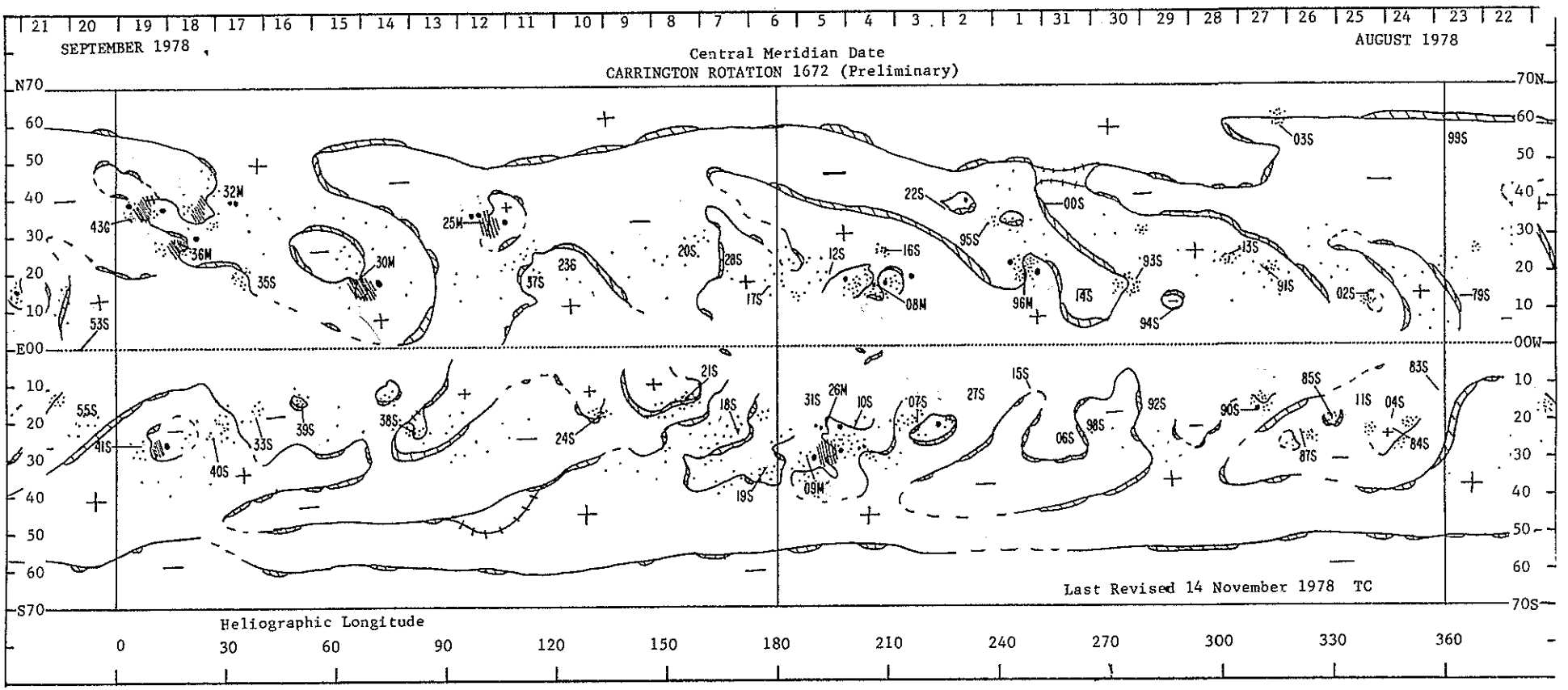
JULY - AUGUST 1978



ABBREVIATED CALENDAR RECORD

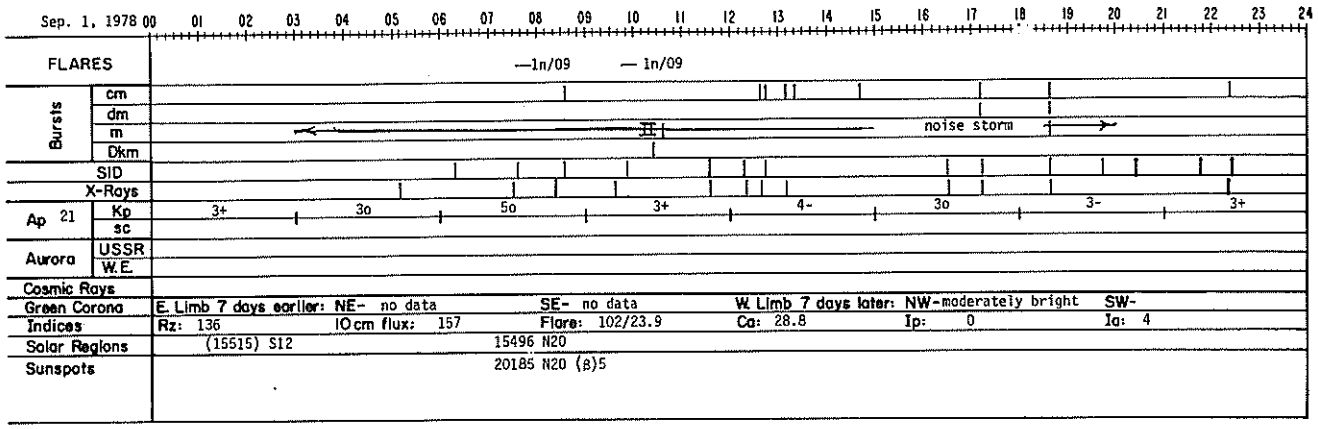
Hα SYNOPTIC CHART

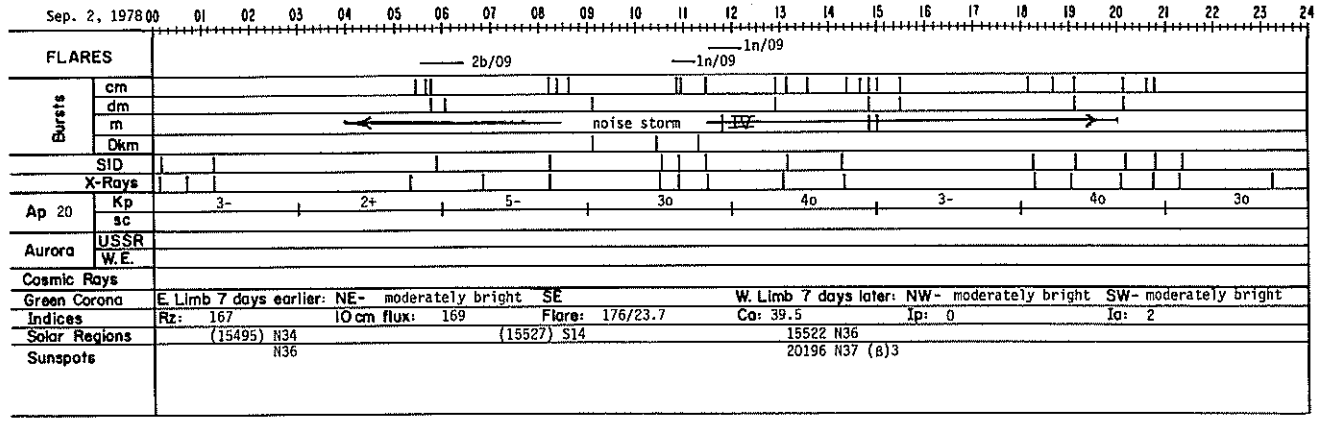
AUGUST - SEPTEMBER 1978

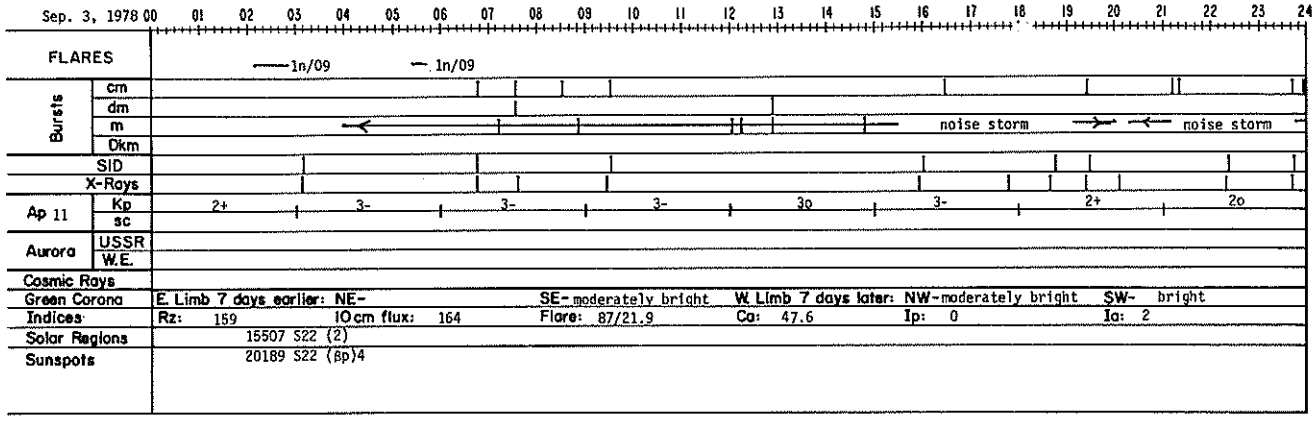


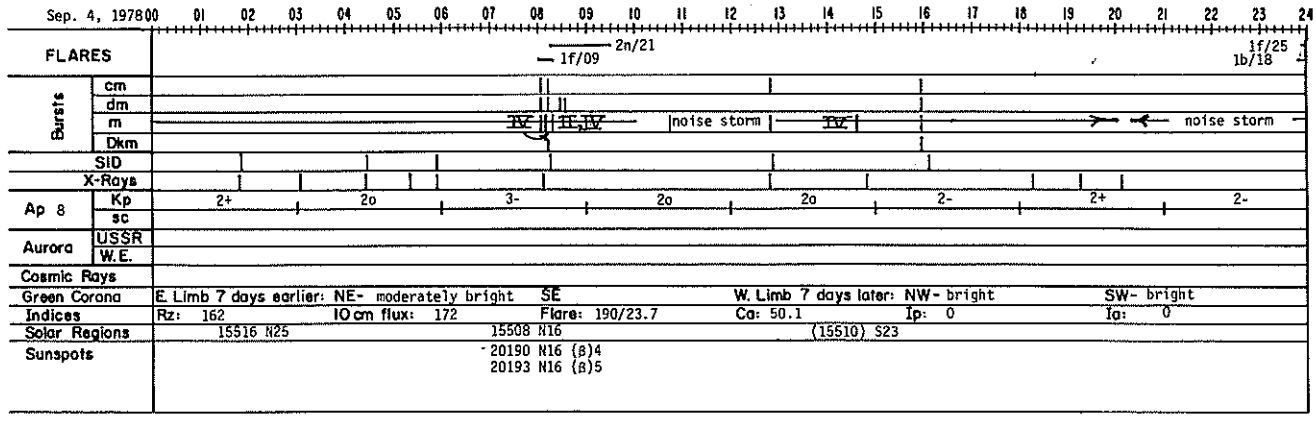
ABBREVIATED CALENDAR RECORD

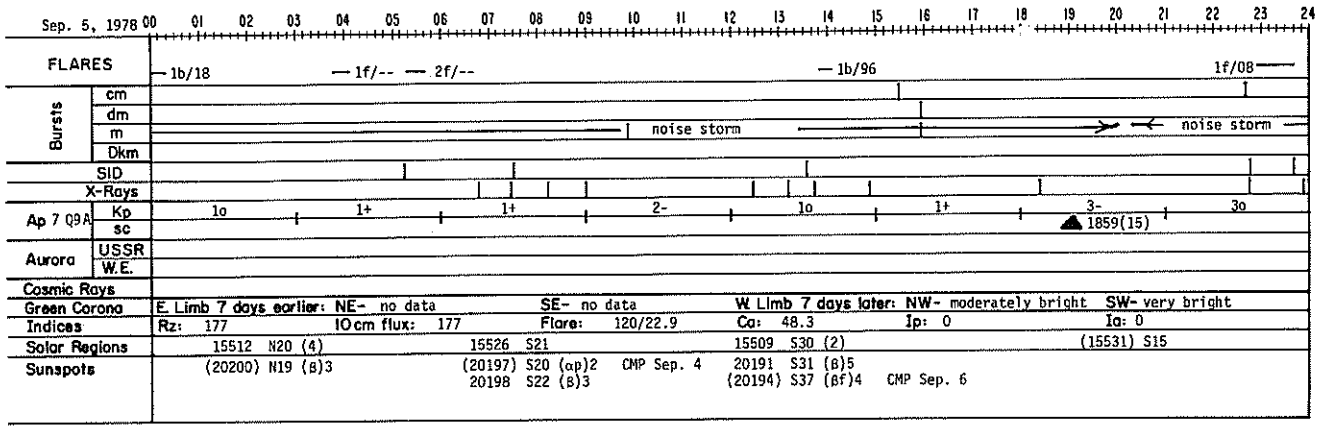
SEPTEMBER 1978

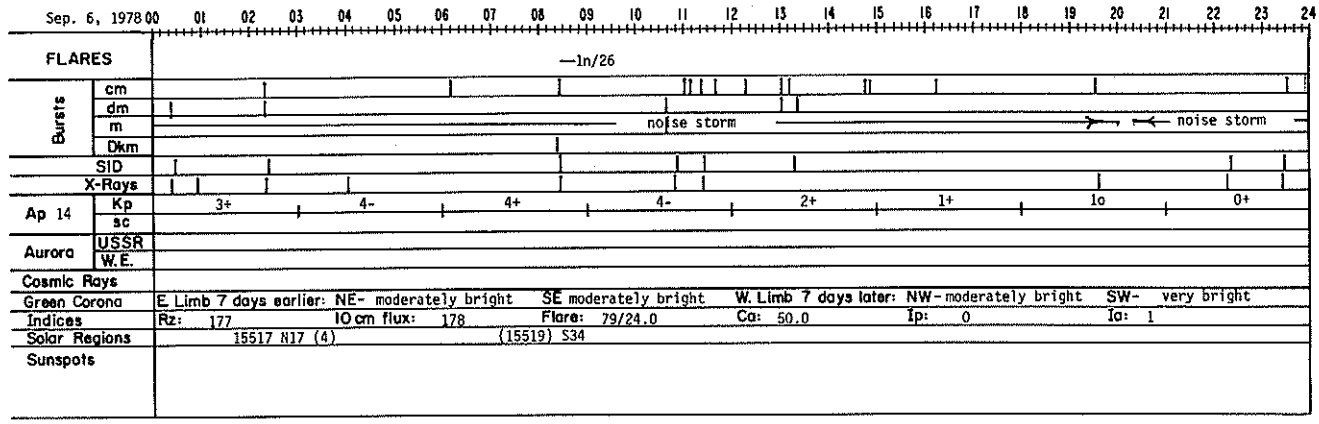


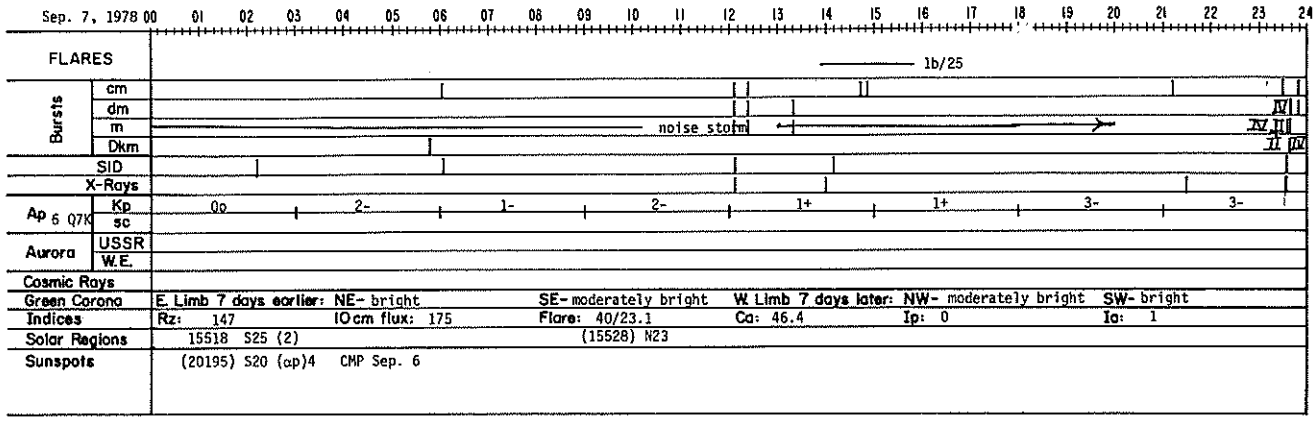


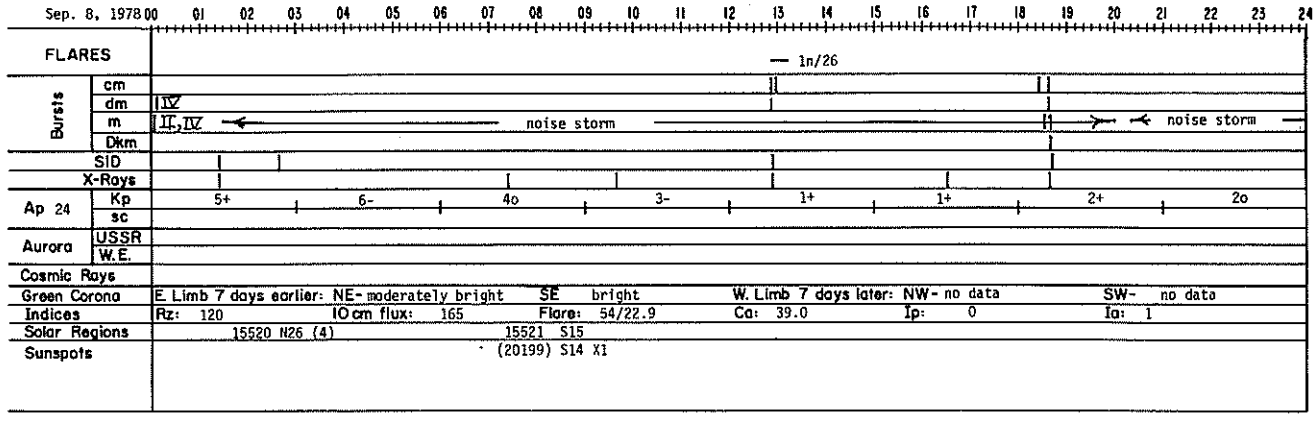


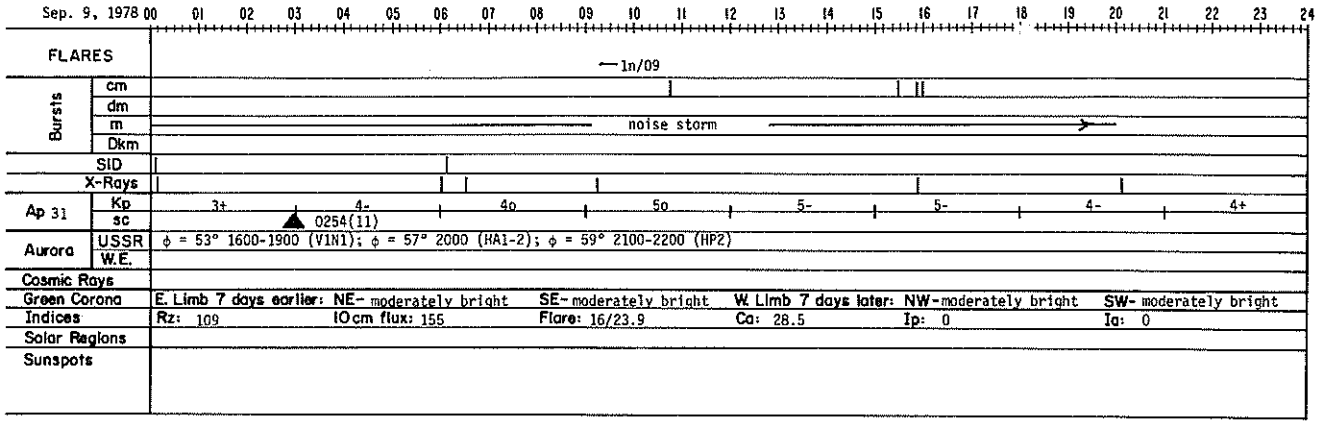


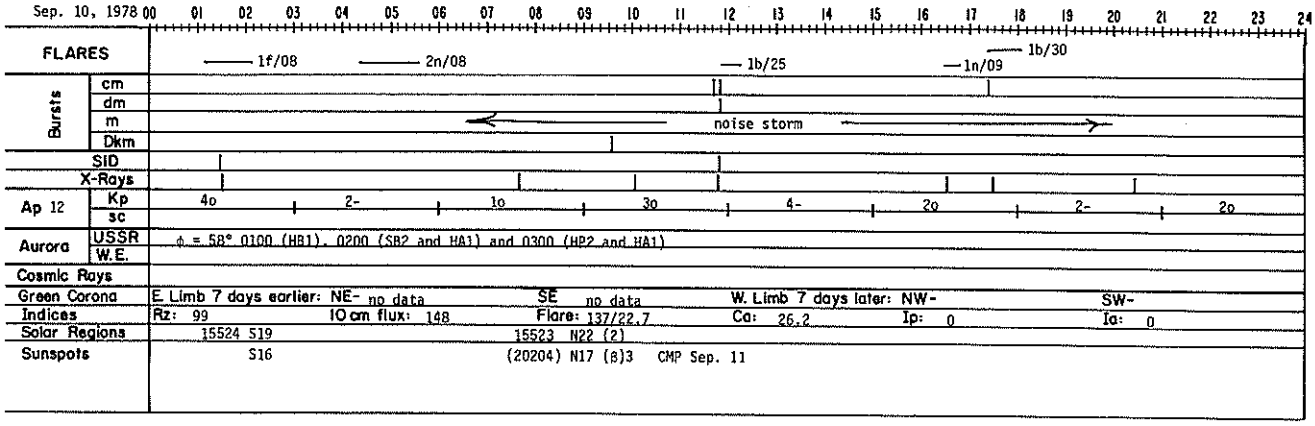

Sep. 5, 1978
FLARES
1b/18
1f/--
2f/--
1b/96
1f/08
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 7 Q9A
Kp
sc
1o
1+
1+
2-
1o
1+
3-
3o
1859(15)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- moderately bright
SW- very bright
Indices
Rz: 177
10cm flux: 177
Flare: 120/22.9
Ca: 48.3
Ip: 0
Ia: 0
Solar Regions
15512 N20 (4)
15526 S21
15509 S30 (2)
(15531) S15
Sunspots
(20200) N19 (β)3
(20197) S20 (αp)2
20198 S22 (β)3
CMP Sep. 4
20191 S31 (β)5
(20194) S37 (βf)4
CMP Sep. 6

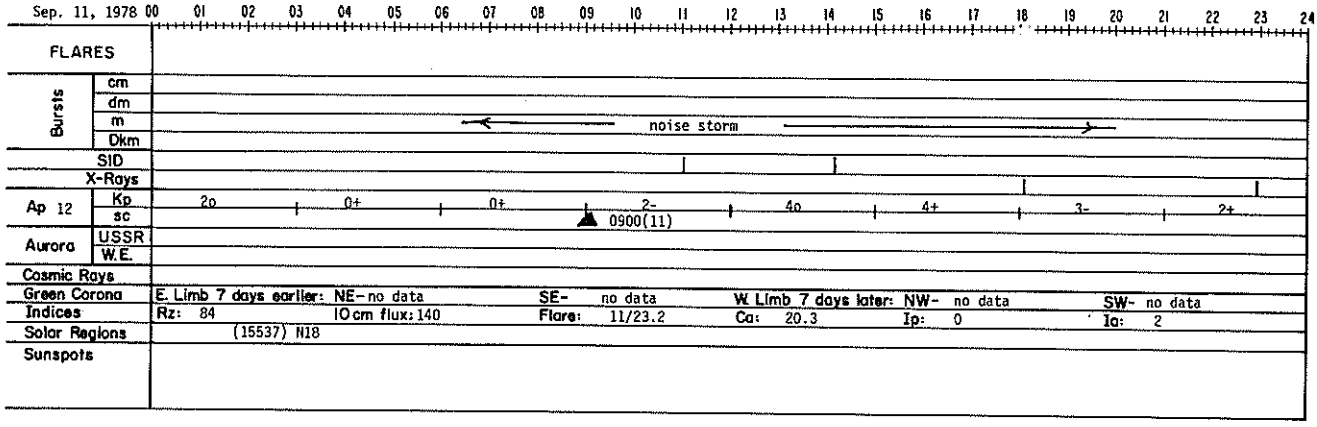

Sep. 6, 1978
FLARES
1n/26
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 14
Kp
sc
3+
4-
4+
4-
2+
1+
1o
0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright
SE moderately bright
W. Limb 7 days later: NW- moderately bright
SW- very bright
Indices
Rz: 177
10cm flux: 178
Flare: 79/24.0
Ca: 50.0
Ip: 0
Ia: 1
Solar Regions
15517 N17 (4)
(15519) S34
Sunspots

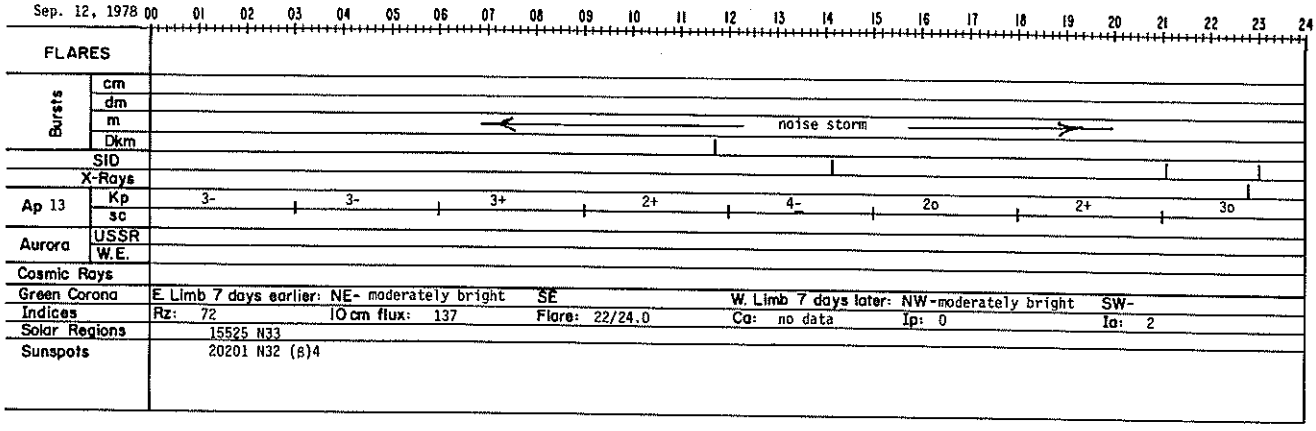

Sep. 7, 1978
FLARES
1b/25
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 6 Q7K
Kp
sc
0o
2-
1-
2-
1+
1+
3-
3-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE- moderately bright
W. Limb 7 days later: NW- moderately bright
SW- bright
Indices
Rz: 147
10cm flux: 175
Flare: 40/23.1
Ca: 46.4
Ip: 0
Ia: 1
Solar Regions
15518 S25 (2)
(15528) N23
Sunspots
(20195) S20 (αp)4
CMP Sep. 6

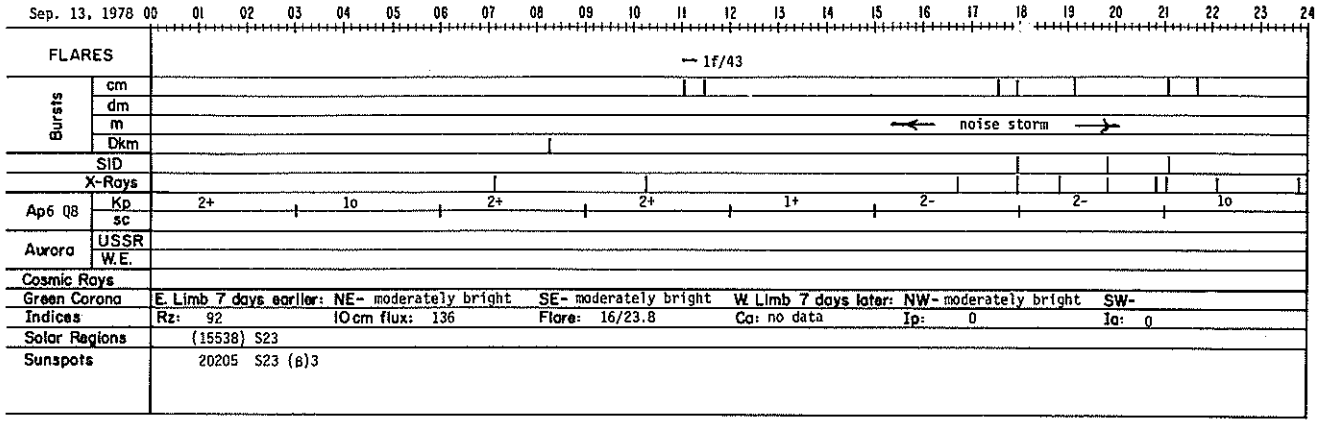

Sep. 8, 1978
FLARES
1n/26
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 24
Kp
sc
5+
6-
4o
3-
1+
1+
2+
2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright
SE bright
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 120
10cm flux: 165
Flare: 54/22.9
Ca: 39.0
Ip: 0
Ia: 1
Solar Regions
15520 N26 (4)
15521 S15
Sunspots
(20199) S14 X1

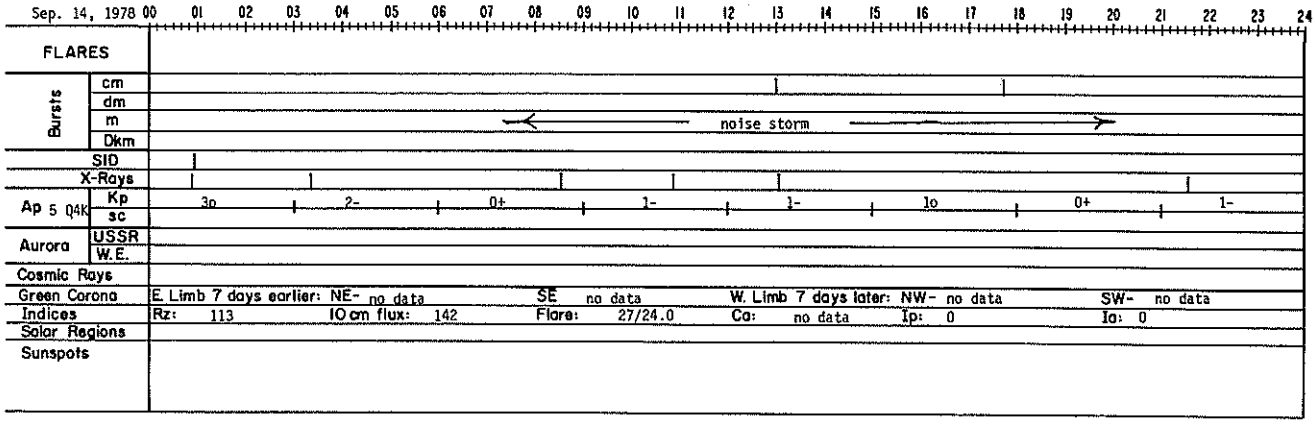

Sep. 9, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/09
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 31
Kp
3+ 4- 4o 5o 5- 5- 4- 4+
sc
0254(11)
Aurora
USSR
ϕ = 53° 1600-1900 (V1N1); ϕ = 57° 2000 (HA1-2); ϕ = 59° 2100-2200 (HP2)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- moderately bright W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 109 10cm flux: 155 Flare: 16/23.9 Ca: 28.5 Ip: 0 Ia: 0
Solar Regions
Sunspots

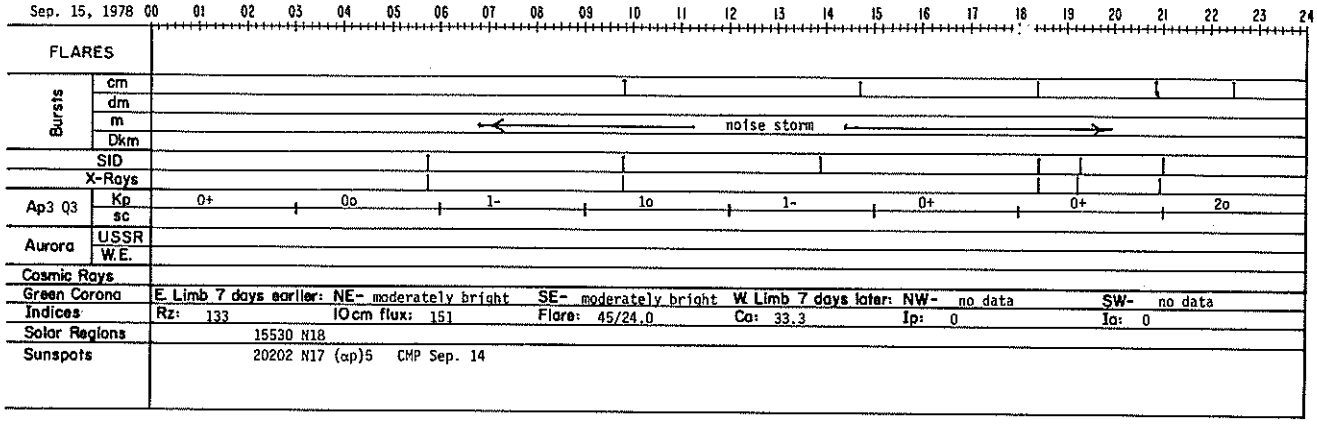

Sep. 10, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/08
2n/08
1b/25
1n/09
1b/30
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 12
Kp
4o 2- 1o 3o 4- 2o 2- 2o
sc
Aurora
USSR
ϕ = 58° 0100 (HB1), 0200 (SB2 and HA1) and 0300 (HP2 and HA1)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- SW-
Indices
Rz: 99 10cm flux: 148 Flare: 137/22.7 Ca: 26.2 Ip: 0 Ia: 0
Solar Regions
15524 S19 15523 N22 (2)
Sunspots
S16 (20204) N17 (β)3 CMP Sep. 11

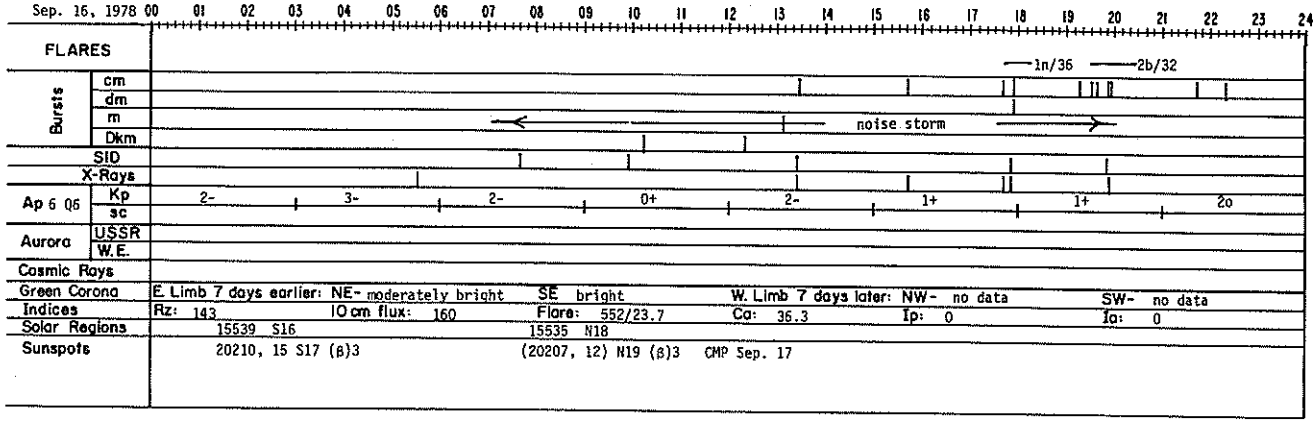

Sep. 11, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 12
Kp
2o 0+ 0+ 2- 4o 4+ 3- 2+
sc
0900(11)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 84 10cm flux: 140 Flare: 11/23.2 Ca: 20.3 Ip: 0 Ia: 2
Solar Regions
(15537) N18
Sunspots

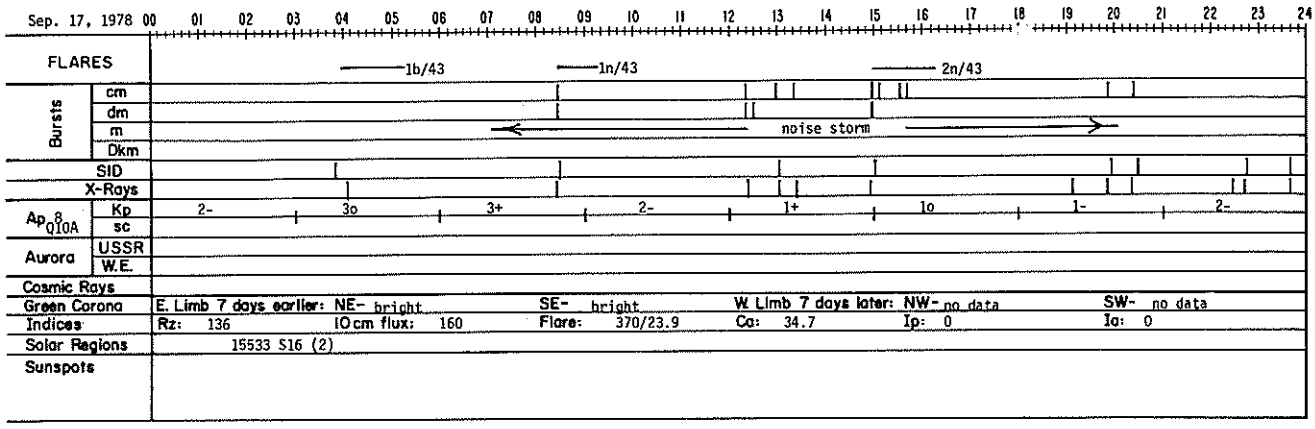

Sep. 12, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 13
Kp
3- 3- 3+ 2+ 4- 2o 2+ 3o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 72 10cm flux: 137 Flare: 22/24.0 Ca: no data Ip: 0 Ia: 2
Solar Regions
15525 N33
Sunspots
20201 N32 (β)4

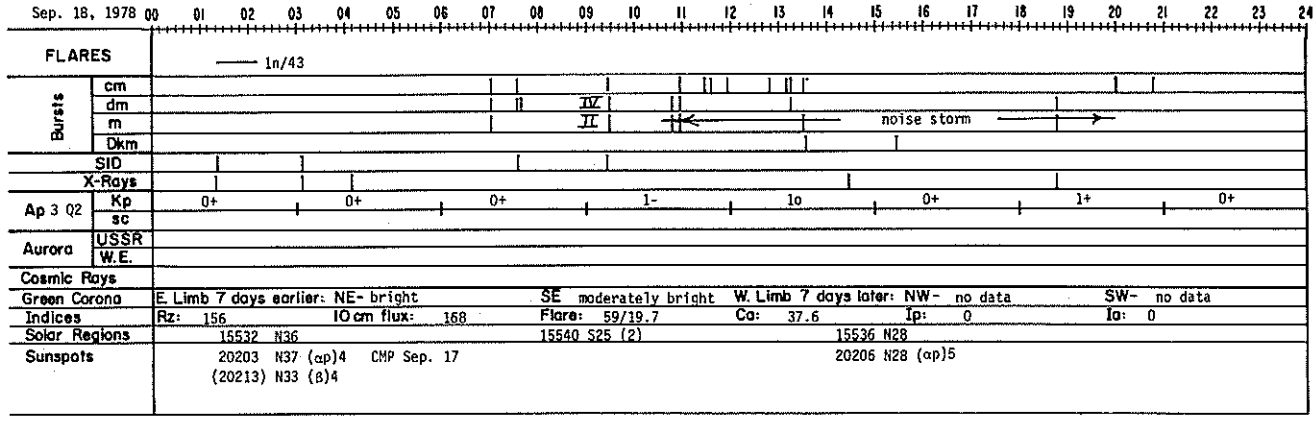

Sep. 13, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/43
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap6 Q8
Kp
sc
2+ 1o 2+ 2+ 1+ 2- 2- 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- moderately bright W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 92 10cm flux: 136 Flare: 16/23.8 Ca: no data Ip: 0 Ia: 0
Solar Regions
(15538) S23
Sunspots
20205 S23 (β)3

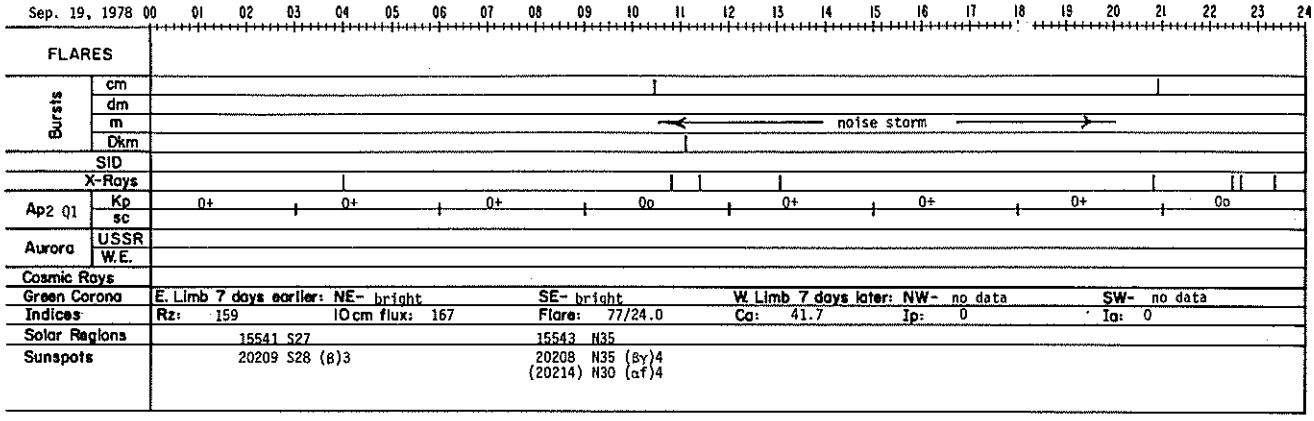

Sep. 14, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 5 Q4K
Kp
sc
3o 2- 0+ 1- 1- 1o 0+ 1-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 113 10cm flux: 142 Flare: 27/24.0 Ca: no data Ip: 0 Ia: 0
Solar Regions
Sunspots

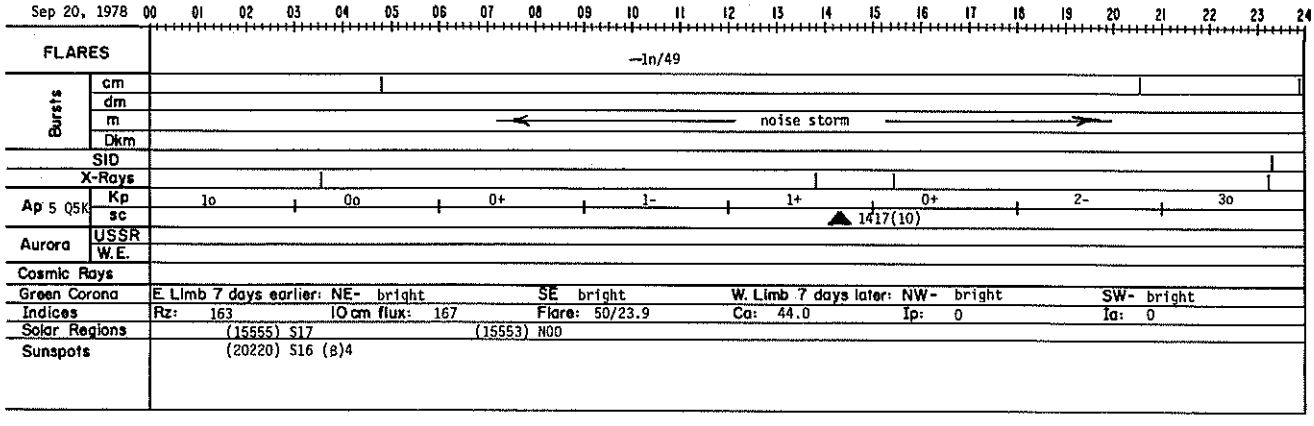

Sep. 15, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap3 Q3
Kp
sc
0+ 0o 1- 1o 1- 0+ 0+ 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 133 10cm flux: 151 Flare: 45/24.0 Ca: 33.3 Ip: 0 Ia: 0
Solar Regions
15530 N18
Sunspots
20202 N17 (αp)5 CMP Sep. 14

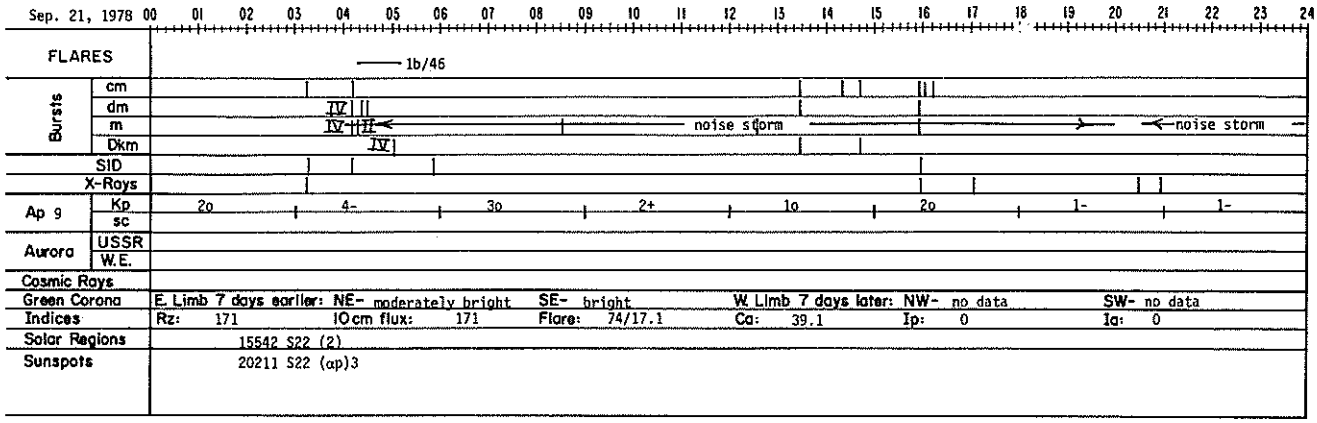

Sep. 16, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/36
2b/32
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 6 Q6
Kp
sc
2- 3- 2- 0+ 2- 1+ 1+ 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 143 10cm flux: 160 Flare: 552/23.7 Ca: 36.3 Ip: 0 Ia: 0
Solar Regions
15539 S16 15535 N18
Sunspots
20210, 15 S17 (β)3 (20207, 12) N19 (β)3 CMP Sep. 17

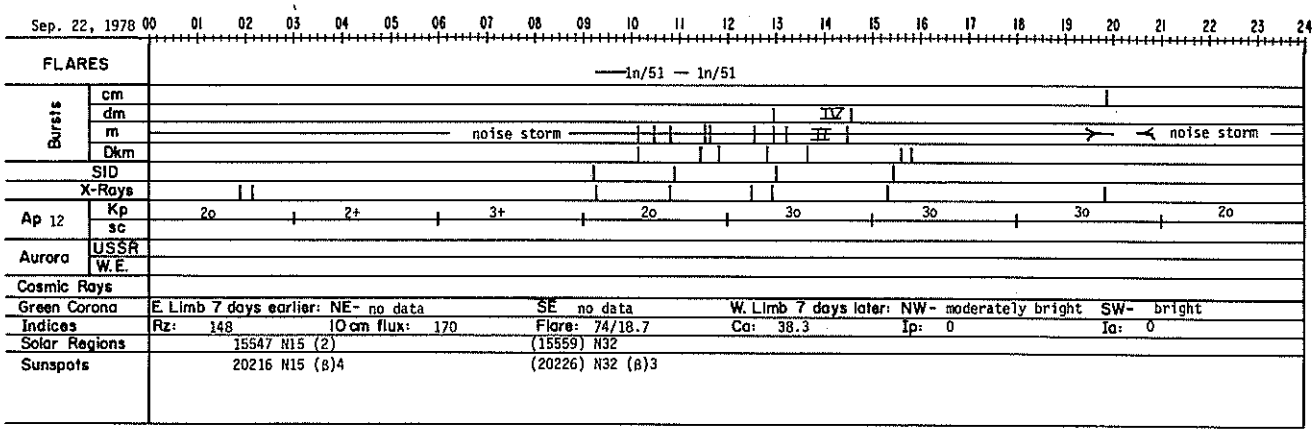

Sep. 17, 1978
FLARES
1b/43
1n/43
2n/43
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 8 Q10A
Kp
sc
2- 3o 3+ 2- 1+ 1o 1- 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 136 10cm flux: 160 Flare: 370/23.9 Ca: 34.7 Ip: 0 Ia: 0
Solar Regions
15533 S16 (2)
Sunspots

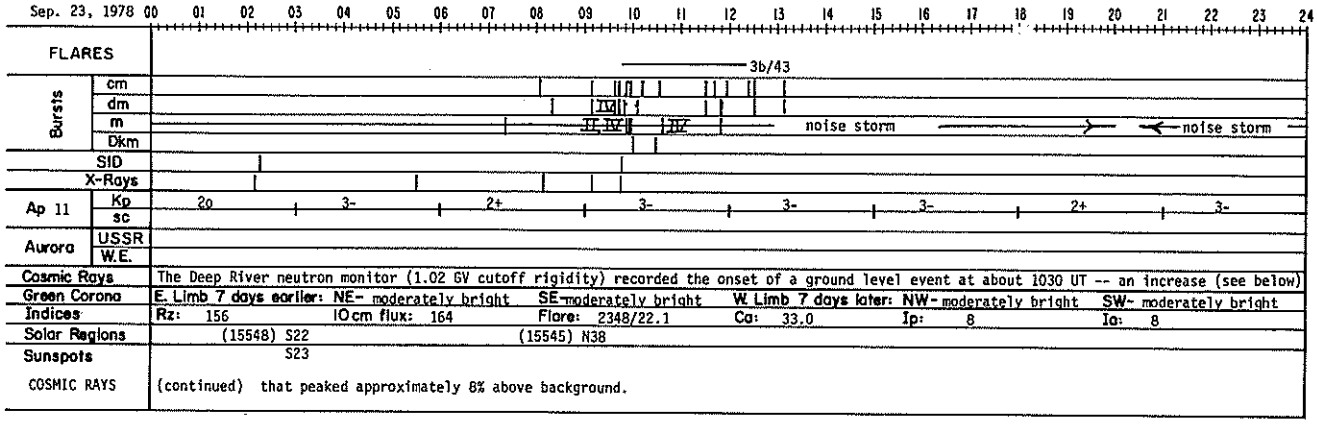

Sep. 18, 1978
FLARES
1n/43
Bursts
cm
dm
m
Dkm
IV
II
noise storm
SID
X-Rays
Ap 3 Q2
Kp
sc
0+ 0+ 0+ 1- 1o 0+ 1+ 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 156 10cm flux: 168 Flare: 59/19.7 Ca: 37.6 Ip: 0 Ia: 0
Solar Regions
15532 N36 15540 S25 (2) 15536 N28
Sunspots
20203 N37 (αp)4 CMP Sep. 17
(20213) N33 (β)4
20206 N28 (αp)5

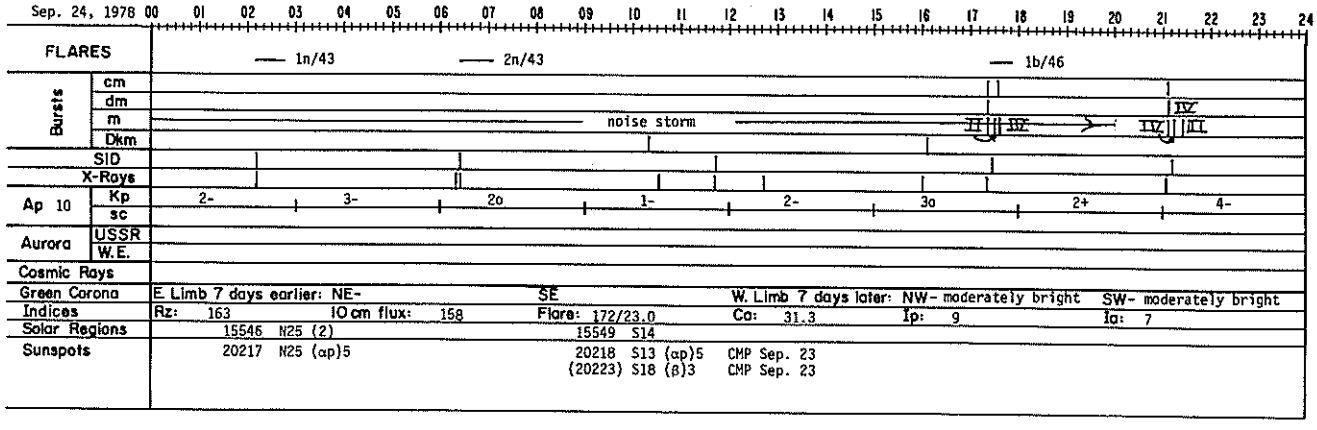

Sep. 19, 1978
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap2 Q1
Kp
sc
0+ 0+ 0+ 0o 0+ 0+ 0+ 0o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 159 10cm flux: 167 Flare: 77/24.0 Ca: 41.7 Ip: 0 Ia: 0
Solar Regions
15541 S27 15543 N35
Sunspots
20209 S28 (β)3
20208 N35 (βγ)4
(20214) N30 (αf)4

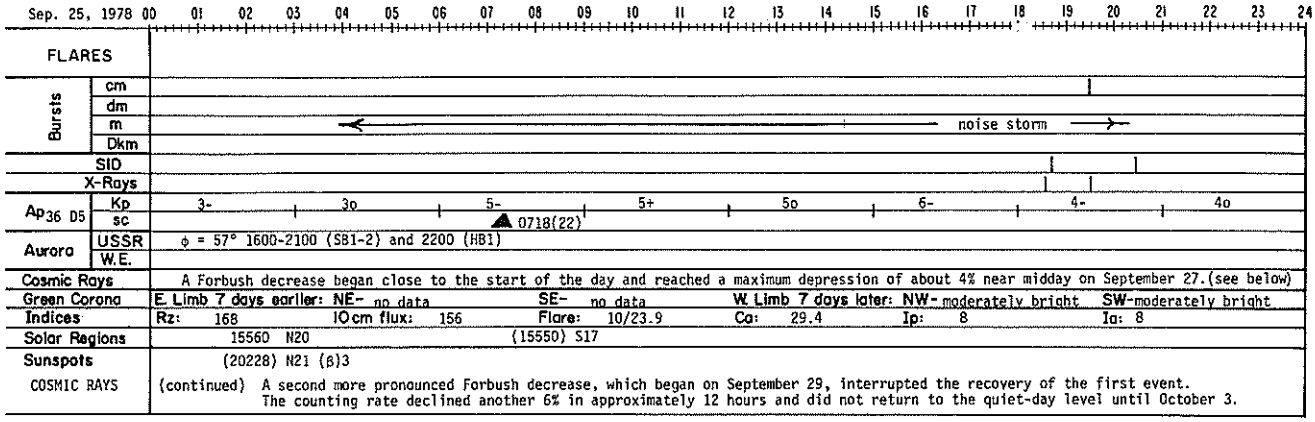

Sep 20, 1978
FLARES
1n/49
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 5 Q5K
Kp
sc
1o 0o 0+ 1- 1+ 0+ 2- 3o
1417(10)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE bright W. Limb 7 days later: NW- bright SW- bright
Indices
Rz: 163 10cm flux: 167 Flare: 50/23.9 Ca: 44.0 Ip: 0 Ia: 0
Solar Regions
(15555) S17 (15553) N00
Sunspots
(20220) S16 (β)4

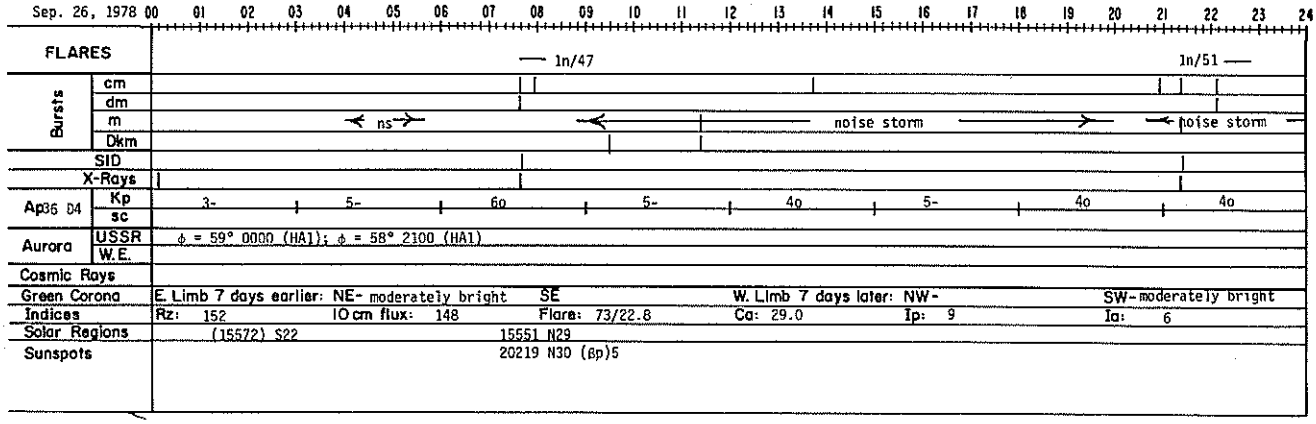

Sep. 21, 1978
FLARES
1b/46
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 9
Kp
sc
2o
4-
3o
2+
1o
2o
1-
1-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 171 10cm flux: 171 Flare: 74/17.1 Ca: 39.1 Ip: 0 Ia: 0
Solar Regions
15542 S22 (2)
Sunspots
20211 S22 (αp)3

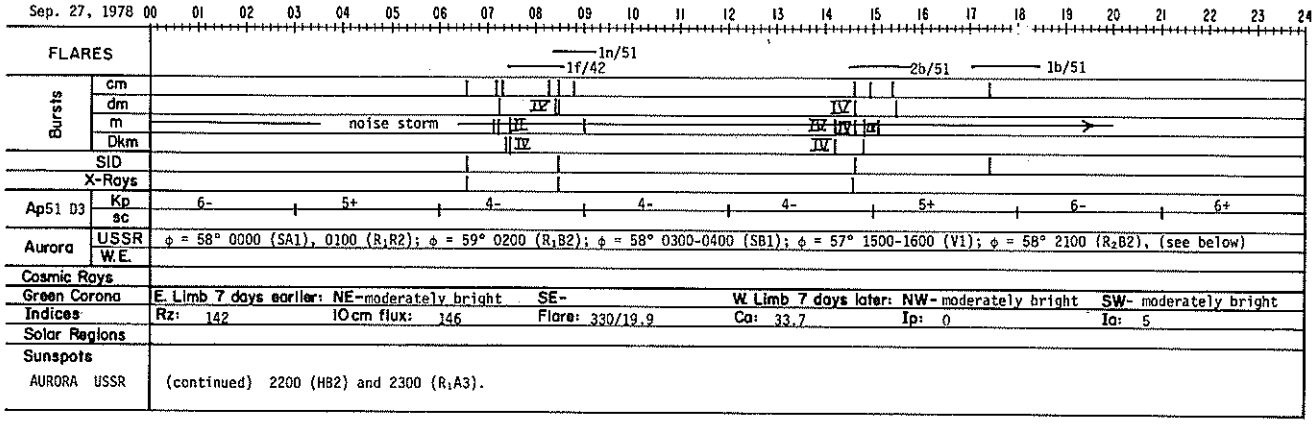

Sep. 22, 1978
FLARES
1n/51
1n/51
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 12
Kp
sc
2o
2+
3+
2o
3o
3o
3o
2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 148 10cm flux: 170 Flare: 74/18.7 Ca: 38.3 Ip: 0 Ia: 0
Solar Regions
15547 N15 (2) (15559) N32
Sunspots
20216 N15 (β)4 (20226) N32 (β)3

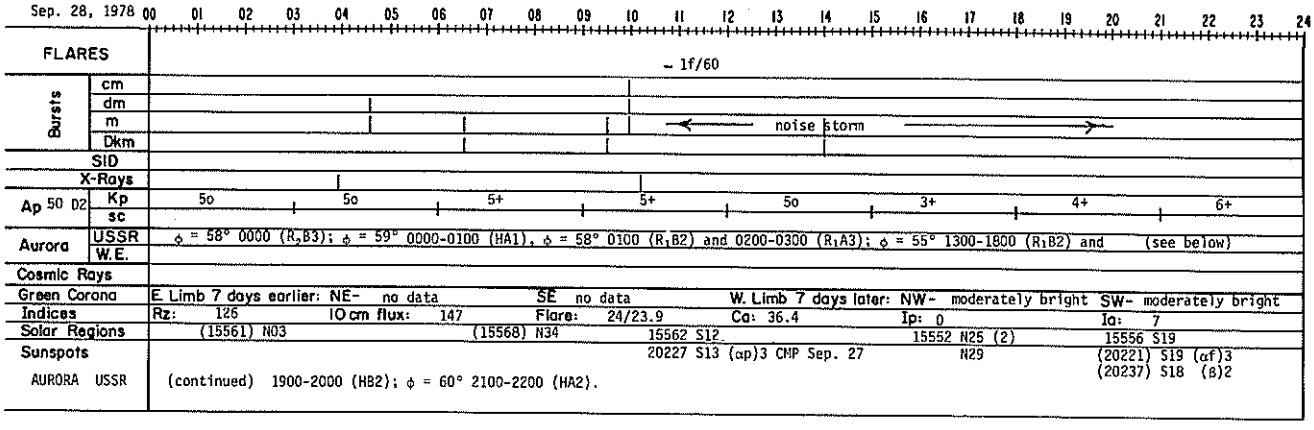

Sep. 23, 1978
FLARES
3b/43
Bursts
cm
dm
m
Dkm
noise storm
noise storm
SID
X-Rays
Ap 11
Kp
sc
2o
3-
2+
3-
3-
3-
2+
3-
Aurora
USSR
W.E.
Cosmic Rays
The Deep River neutron monitor (1.02 GV cutoff rigidity) recorded the onset of a ground level event at about 1030 UT -- an increase (see below)
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE-moderately bright W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 156 10cm flux: 164 Flare: 2348/22.1 Ca: 33.0 Ip: 8 Ia: 8
Solar Regions
(15548) S22 (15545) N38
Sunspots
S23
COSMIC RAYS
(continued) that peaked approximately 8% above background.


Sep. 24, 1978
FLARES
1n/43
2n/43
1b/46
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 10
Kp
sc
2-
3-
2o
1-
2-
3o
2+
4-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 163 10cm flux: 158 Flare: 172/23.0 Ca: 31.3 Ip: 9 Ia: 7
Solar Regions
15546 N25 (2) 15549 S14
Sunspots
20217 N25 (αp)5 20218 S13 (αp)5 CMP Sep. 23
(20223) S18 (β)3 CMP Sep. 23


Sep. 25, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap36 D5
Kp
3- 3o 5- 5+ 5o 6- 4- 4o
sc
0718(22)
Aurora
USSR
W.E.
ϕ = 57° 1600-2100 (SB1-2) and 2200 (HB1)
Cosmic Rays
A Forbush decrease began close to the start of the day and reached a maximum depression of about 4% near midday on September 27. (see below)
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 168 10cm flux: 156 Flare: 10/23.9 Ca: 29.4 Ip: 8 Ia: 8
Solar Regions
15560 N20 (15550) S17
Sunspots
(20228) N21 (β)3
COSMIC RAYS
(continued) A second more pronounced Forbush decrease, which began on September 29, interrupted the recovery of the first event.
The counting rate declined another 6% in approximately 12 hours and did not return to the quiet-day level until October 3.


Sep. 26, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/47
1n/51
Bursts
cm
dm
m
Dkm
ns
noise storm
noise storm
SID
X-Rays
Ap36 D4
Kp
3- 5- 6o 5- 4o 5- 4o 4o
sc
Aurora
USSR
W.E.
ϕ = 59° 0000 (HA1); ϕ = 58° 2100 (HA1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 152 10cm flux: 148 Flare: 73/22.8 Ca: 29.0 Ip: 9 Ia: 6
Solar Regions
(15572) S22 15551 N29
Sunspots
20219 N30 (βp)5


Sep. 27, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/51
1f/42
2b/51
1b/51
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap51 D3
Kp
6- 5+ 4- 4- 4- 5+ 6- 6+
sc
Aurora
USSR
W.E.
ϕ = 58° 0000 (SA1), 0100 (R1R2); ϕ = 59° 0200 (R1B2); ϕ = 58° 0300-0400 (SB1); ϕ = 57° 1500-1600 (V1); ϕ = 58° 2100 (R2B2), (see below)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-moderately bright SE- W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 142 10cm flux: 146 Flare: 330/19.9 Ca: 33.7 Ip: 0 Ia: 5
Solar Regions
Sunspots
AURORA USSR
(continued) 2200 (HB2) and 2300 (R1A3).


Sep. 28, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/60
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 50 D2
Kp
5o 5o 5+ 5+ 5o 3+ 4+ 6+
sc
Aurora
USSR
W.E.
ϕ = 58° 0000 (R2B3); ϕ = 59° 0000-0100 (HA1), ϕ = 58° 0100 (R1B2) and 0200-0300 (R1A3); ϕ = 55° 1300-1800 (R1B2) and (see below)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 126 10cm flux: 147 Flare: 24/23.9 Ca: 36.4 Ip: 0 Ia: 7
Solar Regions
(15561) N03 (15568) N34 15562 S12 15552 N25 (2) 15556 S19
Sunspots
20227 S13 (αp)3 CMP Sep. 27 N29 (20221) S19 (αf)3
(20237) S18 (β)2
AURORA USSR
(continued) 1900-2000 (HB2); ϕ = 60° 2100-2200 (HA2).

Sep. 29, 1978 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES		1n/64; 1n/51
Bursts	cm	
	dm	
	m	II
	Dkm	
SID		
X-Rays		
Ap 109 D1	Kp	4+ 7- 8- 8o 8o 7- 4- 2-
	sc	▲ 0301(22)
Aurora	USSR	ϕ = 56° 1300-1400 (R_1B2-3); ϕ = 49° 1600 (SB2); ϕ = 52° 1500 and 1700-2000 (R_{1-2}, R1-2); ϕ = 54° 2100 (R_1B2)
	W.E.	
Cosmic Rays		Forbush decrease, which began early in the day, reached a maximum near midday.
Green Corona		E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices		Rz: 122 10cm flux: 148 Flare: 50/23.8 Ca: 40.1 Ip: 0 Ia: 5
Solar Regions		15554 S13 (2)
Sunspots		(20222) S13 (αp)3 CMP Sep. 28

Sep. 30, 1978 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 11	Kp	1+ 4o 4- 2+ 2- 2- 2+ 2o
	sc	
Aurora	USSR	
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW-very bright SW- bright
Indices		Rz: 94 10cm flux: 142 Flare: 12/24.0 Ca: 32.1 Ip: 0 Ia: 5
Solar Regions		15563 S18
Sunspots		20229 S17 (B)4 CMP Sep. 29 (20232) S17 (B)3

REGIONAL FLARE INDEX

INCLUDES ALL FLARES

SEPTEMBER 1978

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15496	N20	78/09/01.3	78/08/26	78/09/06	91.99	7.67	34
15495	N34	78/09/02.1	78/08/25	78/08/30	4.45	.74	4
15522	N37	78/09/02.9	78/09/04	78/09/10	21.11	3.02	15
15507	S22	78/09/03.5	78/08/30	78/09/10	10.29	.86	8
15508	N17	78/09/04.3	78/08/28	78/09/10	321.43	22.96	87
15512	N20	78/09/05.3	78/09/01	78/09/12	1.69	.14	2
15526	S22	78/09/05.3	78/09/05	78/09/11	101.78	14.54	28
15509	S31	78/09/05.7	78/08/29	78/09/10	362.18	27.86	115
15518	S25	78/09/07.2	78/08/31	78/09/07	18.79	2.35	5
15521	S15	78/09/08.4	78/09/02	78/09/13	64.43	5.37	6
15524	S19	78/09/10.0	78/09/04	78/09/04	1.70	1.70	2
15525	N33	78/09/12.3	78/09/04	78/09/17	75.69	5.41	29
15530	N18	78/09/15.1	78/09/09	78/09/19	70.23	6.38	20
15539	S16	78/09/16.2	78/09/18	78/09/19	12.41	6.20	6
15535	N18	78/09/16.9	78/09/14	78/09/20	1.90	.27	2
15532	N39	78/09/18.5	78/09/12	78/09/22	511.36	46.49	11
15536	N28	78/09/18.9	78/09/11	78/09/22	66.97	5.58	19
15541	S28	78/09/19.7	78/09/13	78/09/19	49.68	7.10	18
15543	N35	78/09/19.8	78/09/12	78/09/26	2938.54	195.90	79
15555	S17	78/09/20.7	78/09/23	78/09/26	8.47	2.12	6
15542	S23	78/09/22.0	78/09/16	78/09/27	29.96	2.50	9
15547	N15	78/09/22.0	78/09/19	78/09/27	45.91	5.10	8
15549	S14	78/09/24.1	78/09/19	78/09/30	56.08	4.67	21
15546	N25	78/09/24.2	78/09/19	78/09/24	95.96	15.99	11
15560	N20	78/09/25.1	78/09/26	78/09/28	14.88	4.96	3
15572	S22	78/09/26.2	78/10/02	78/10/03	2.53	1.27	3
15551	N29	78/09/26.3	78/09/22	78/10/02	446.27	40.57	35
15556	S18	78/09/28.8	78/09/25	78/10/03	6.12	.68	3
15554	S13	78/09/29.3	78/09/24	78/10/01	16.11	2.01	9
15563	S18	78/09/30.2	78/10/01	78/10/01	3.38	3.38	1
15558	N17	78/09/30.9	78/10/06	78/10/06	.65	.65	1

Miscellaneous Data

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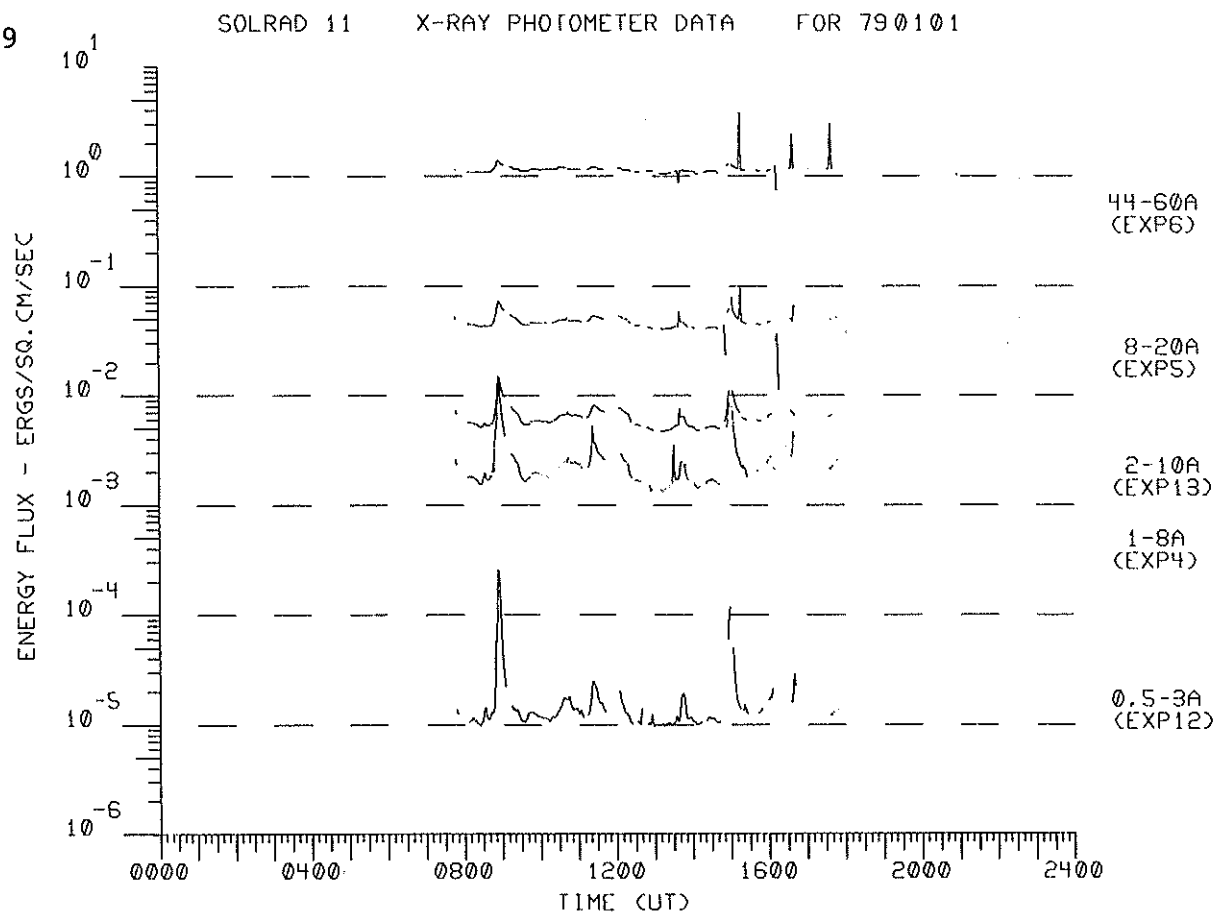
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10^{-6}
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8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
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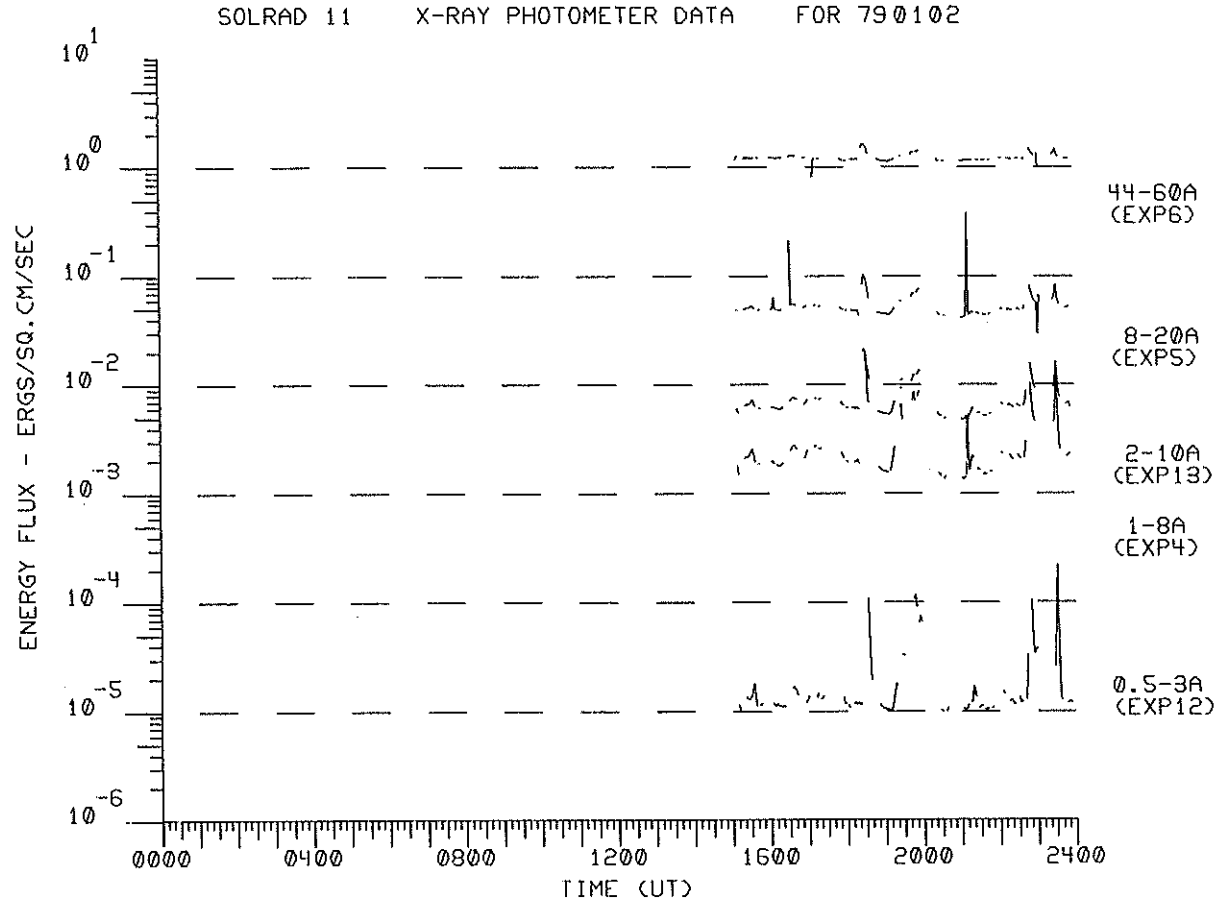
TIME (UT)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8-20A (EXP5)
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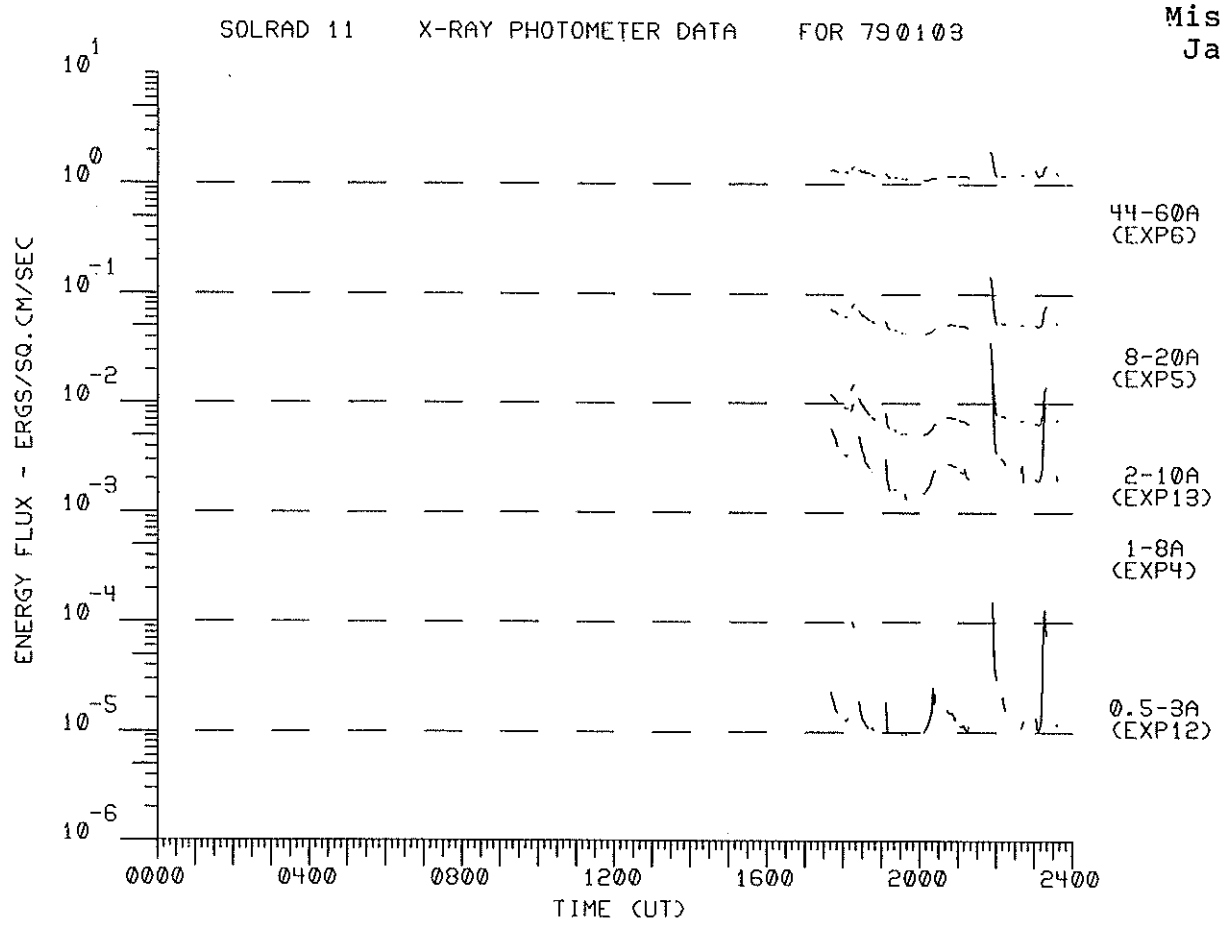
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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8-20A (EXP5)
2-10A (EXP13)
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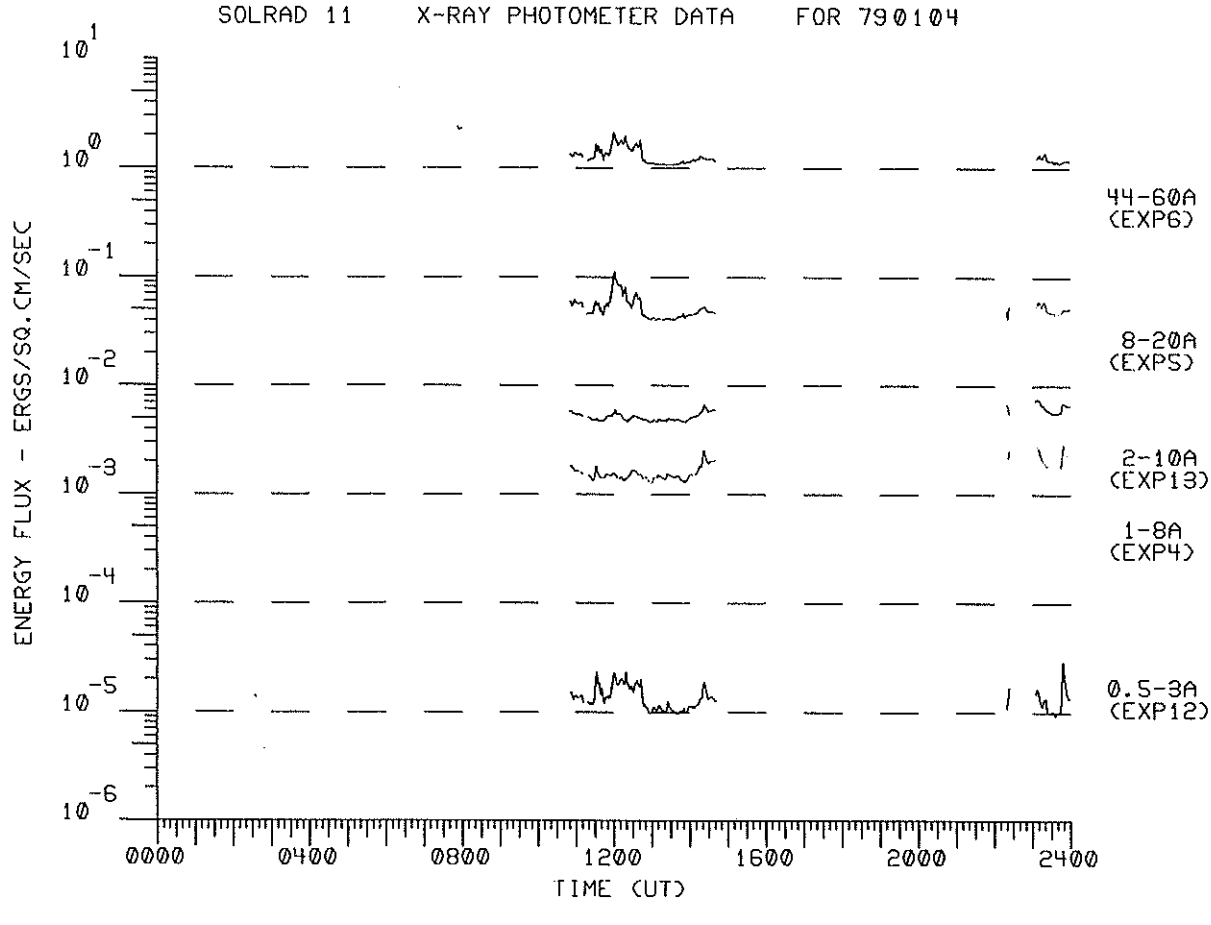
TIME (UT)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8-20A (EXP5)
2-10A (EXP13)
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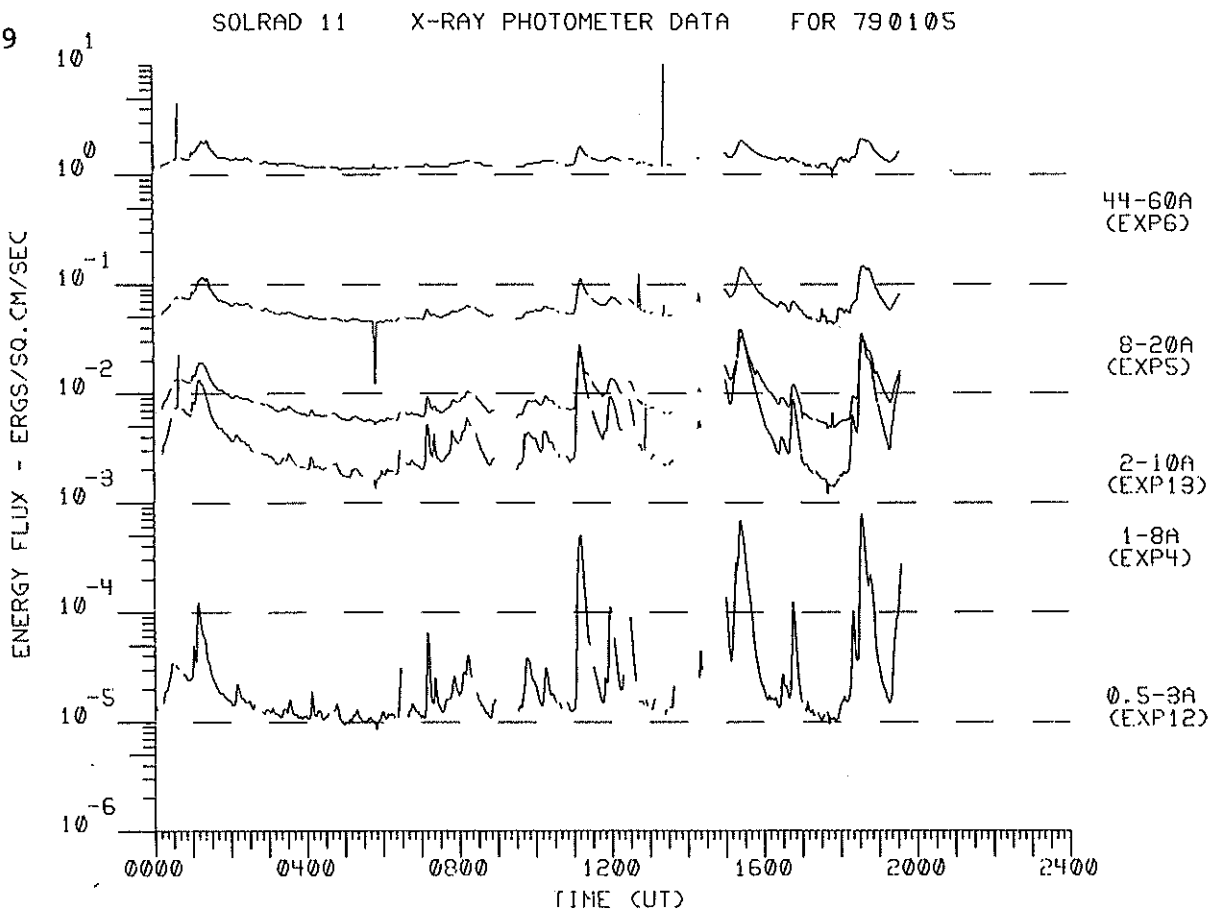
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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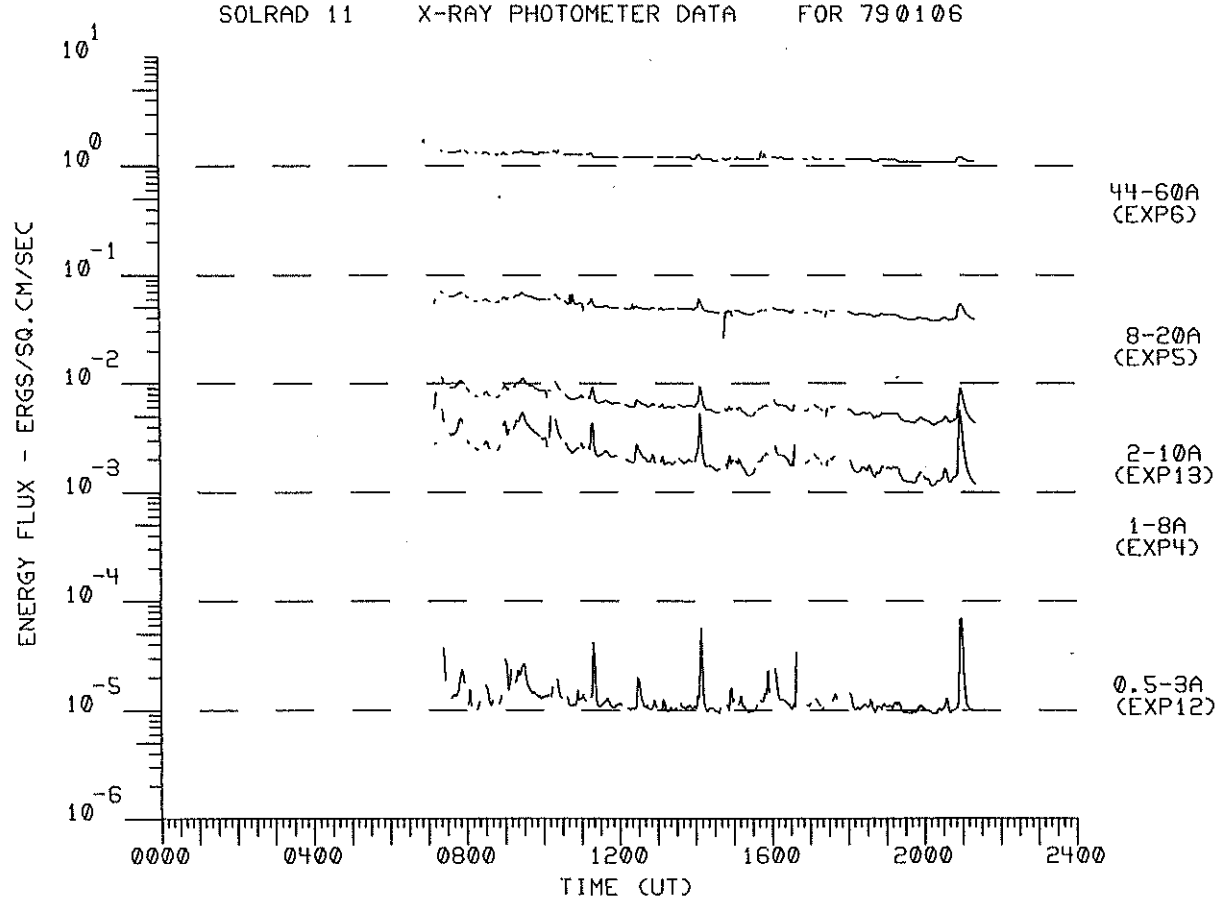
TIME (UT)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2-10A (EXP13)
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TIME (UT)

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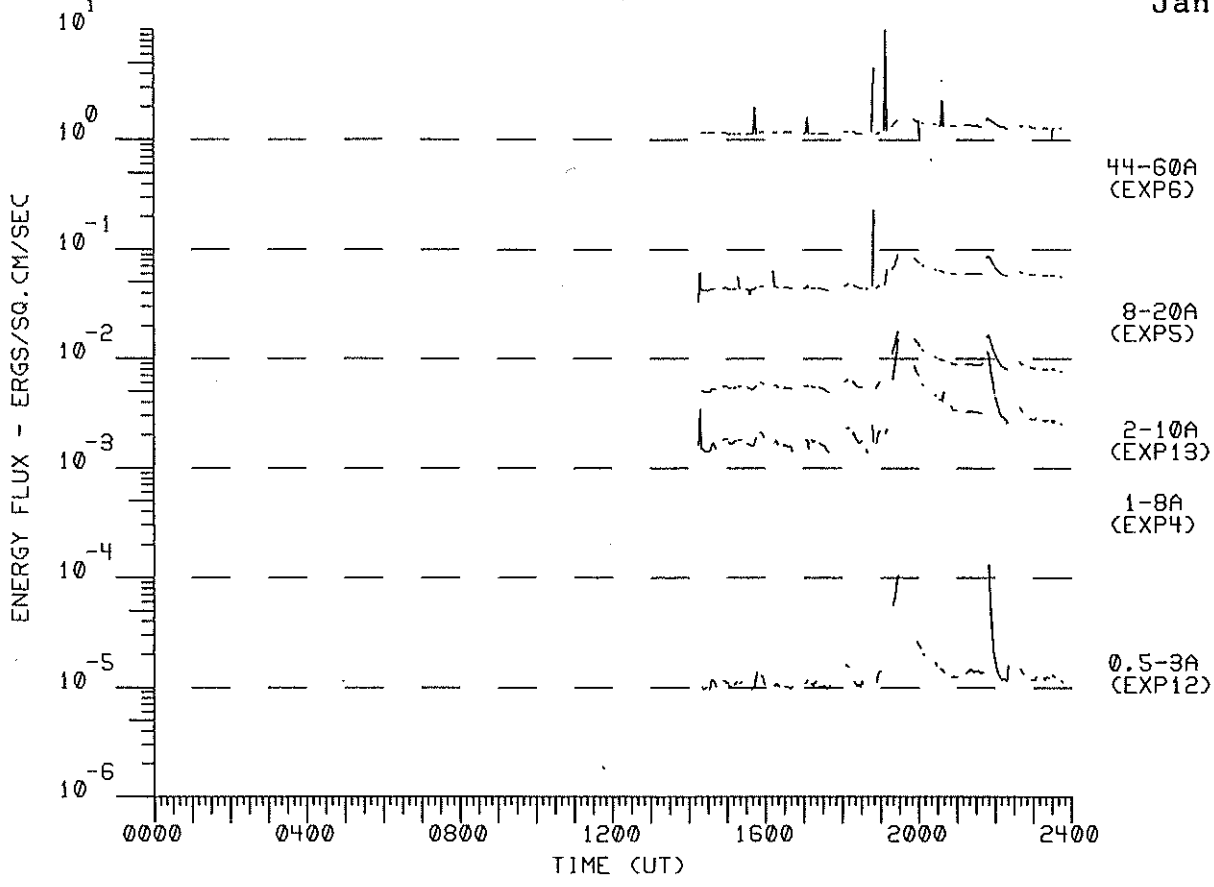

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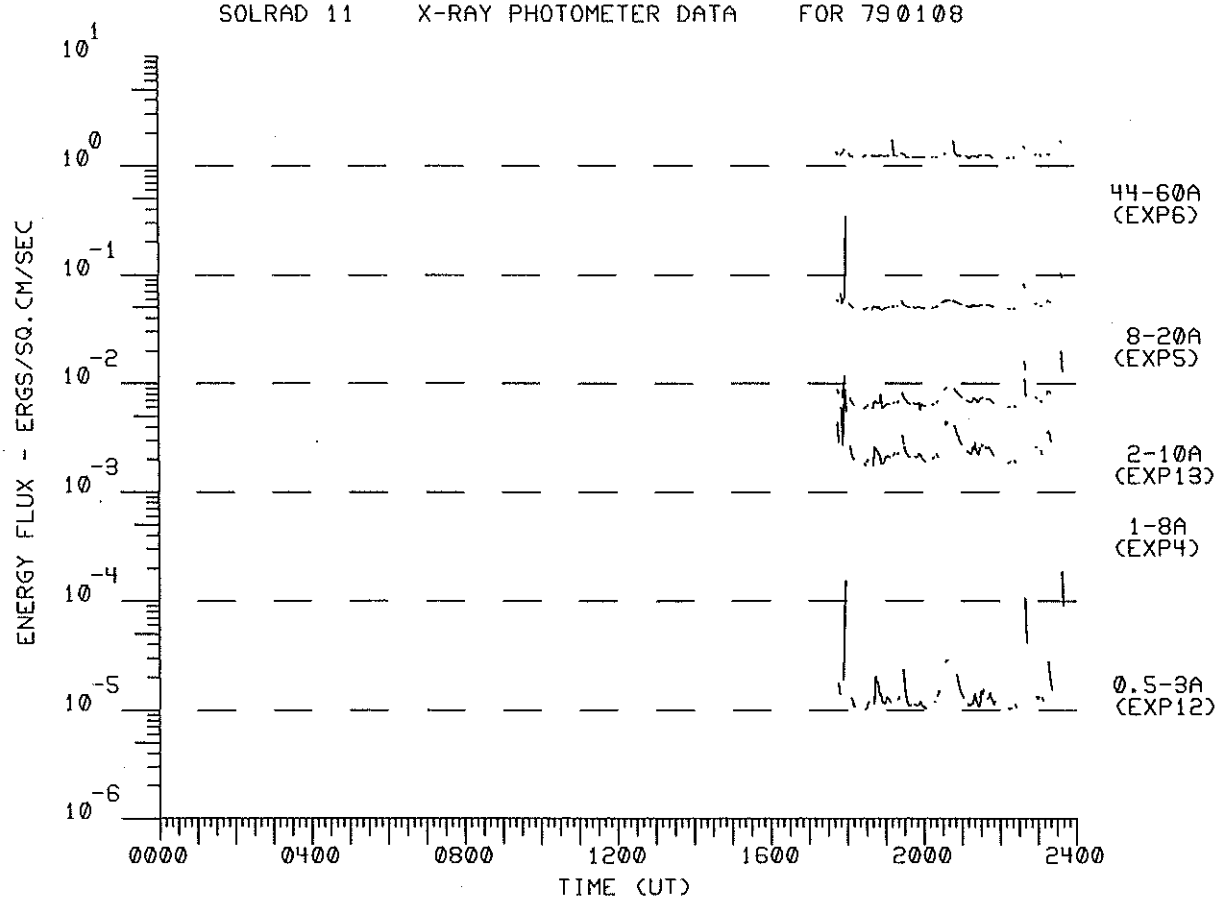

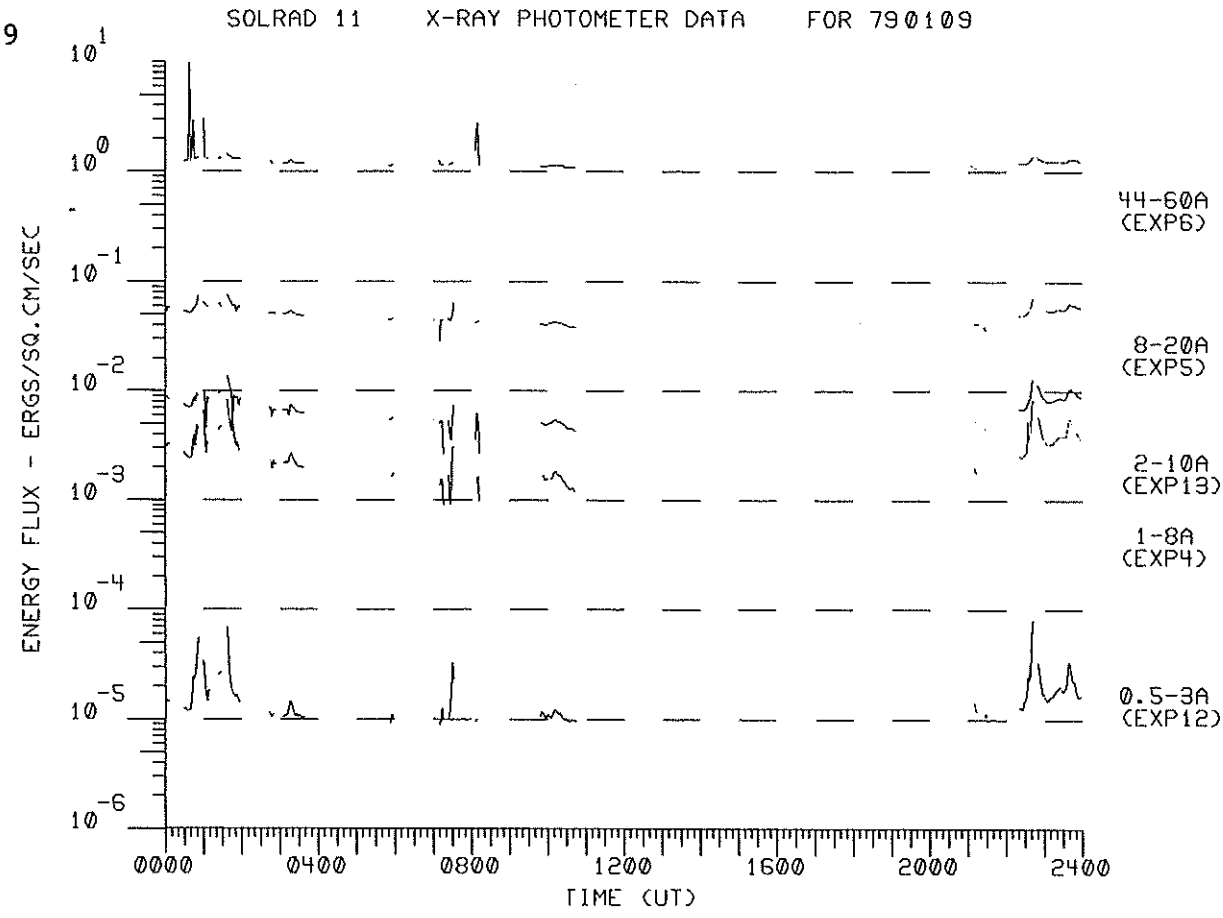
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ENERGY FLUX - ERGS/SQ.CM/SEC
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8-20A (EXP5)
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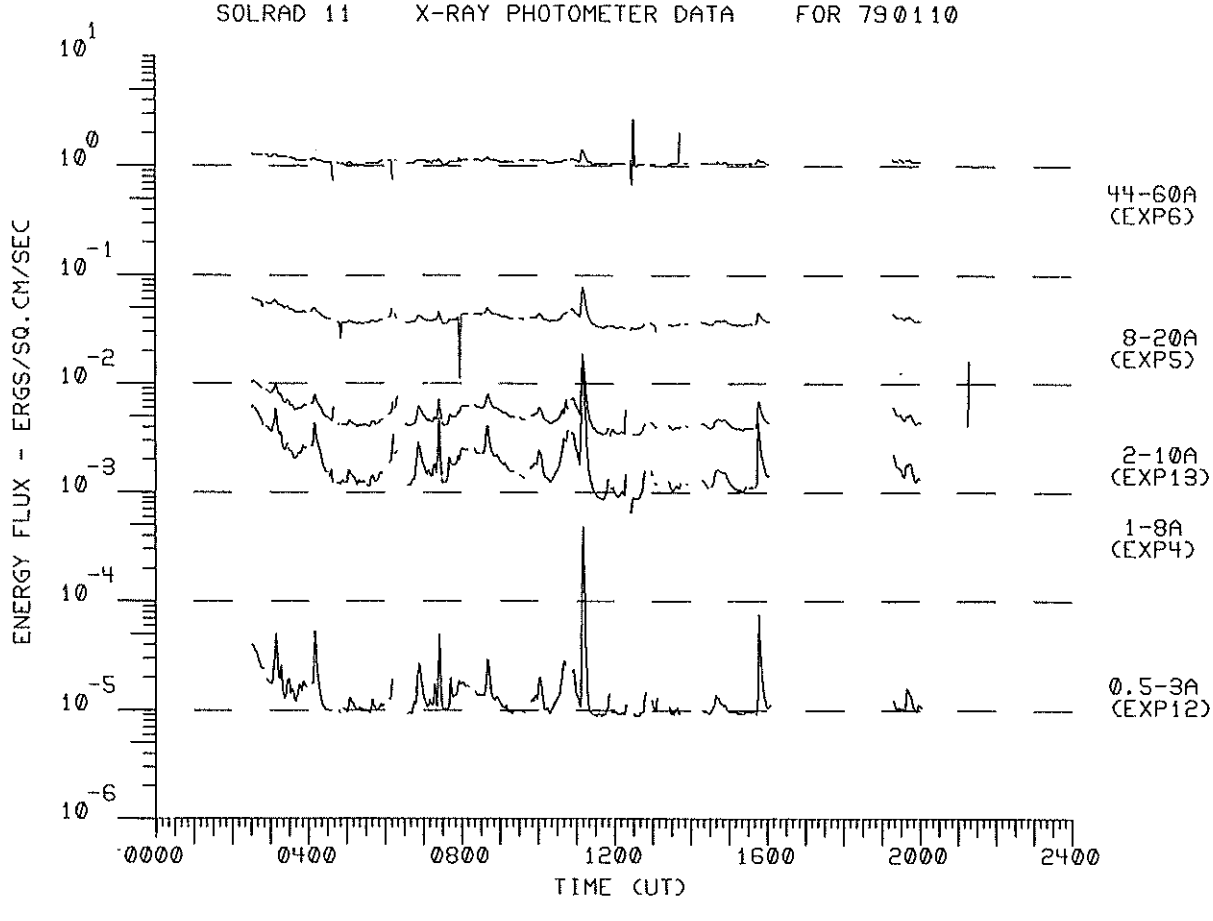
1200
1600
2000
2400
TIME (UT)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8-20A (EXP5)
2-10A (EXP13)
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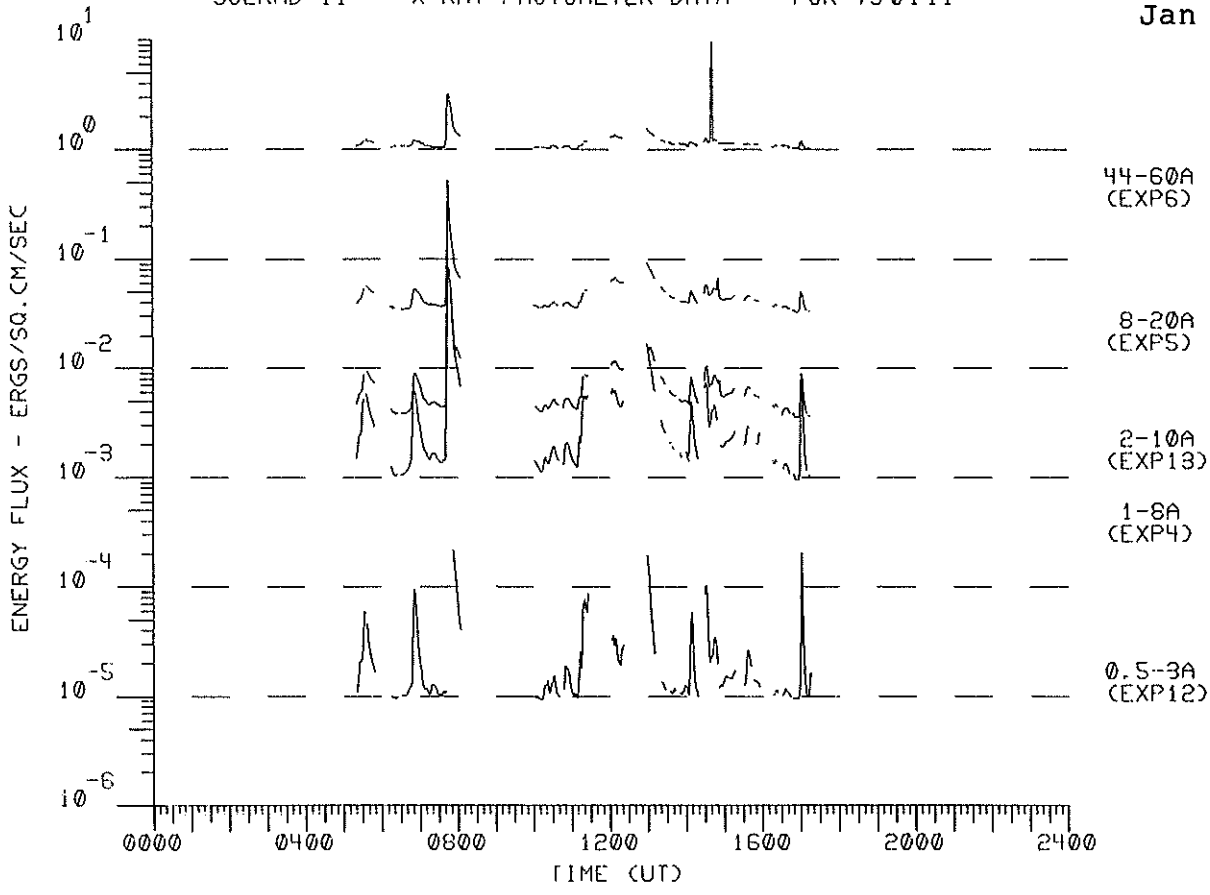
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8-20A (EXP5)
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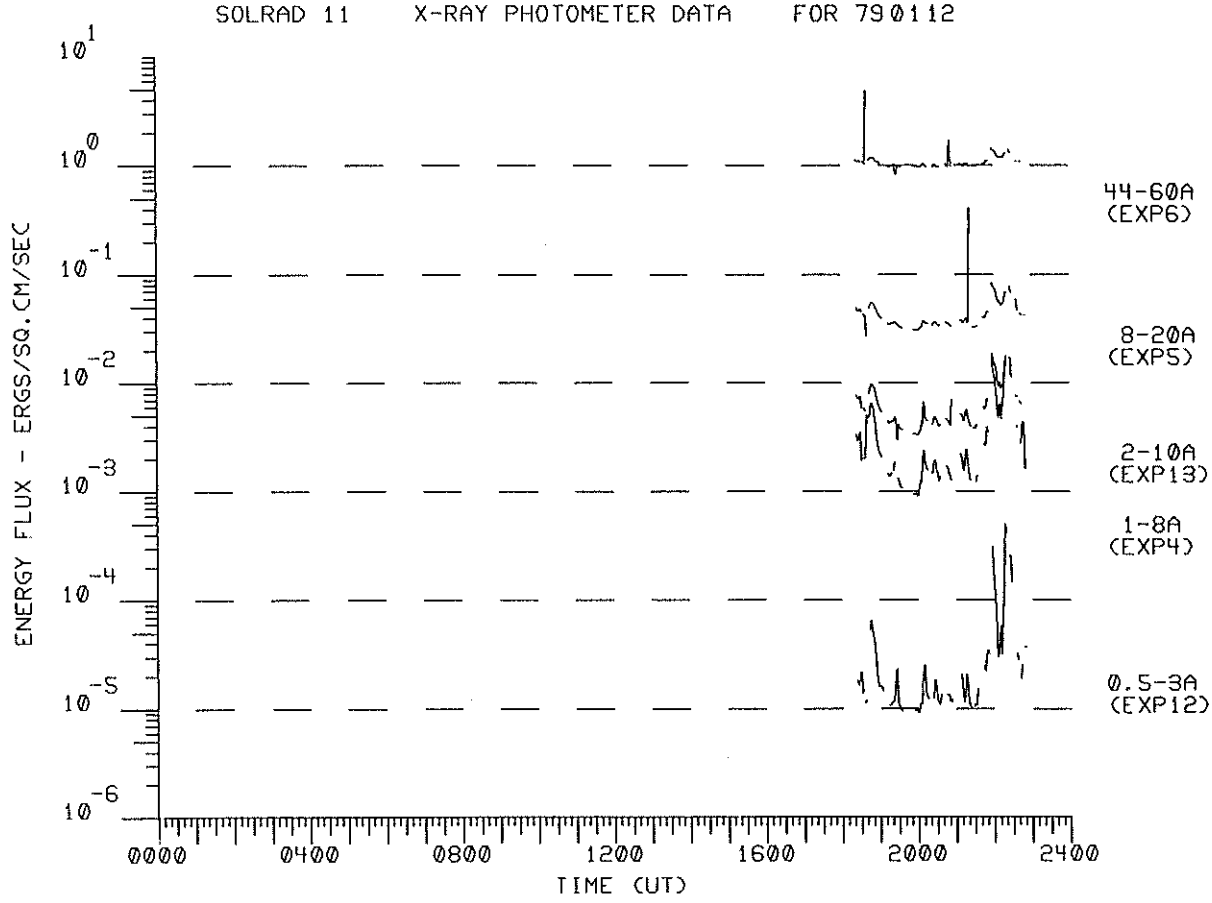
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44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
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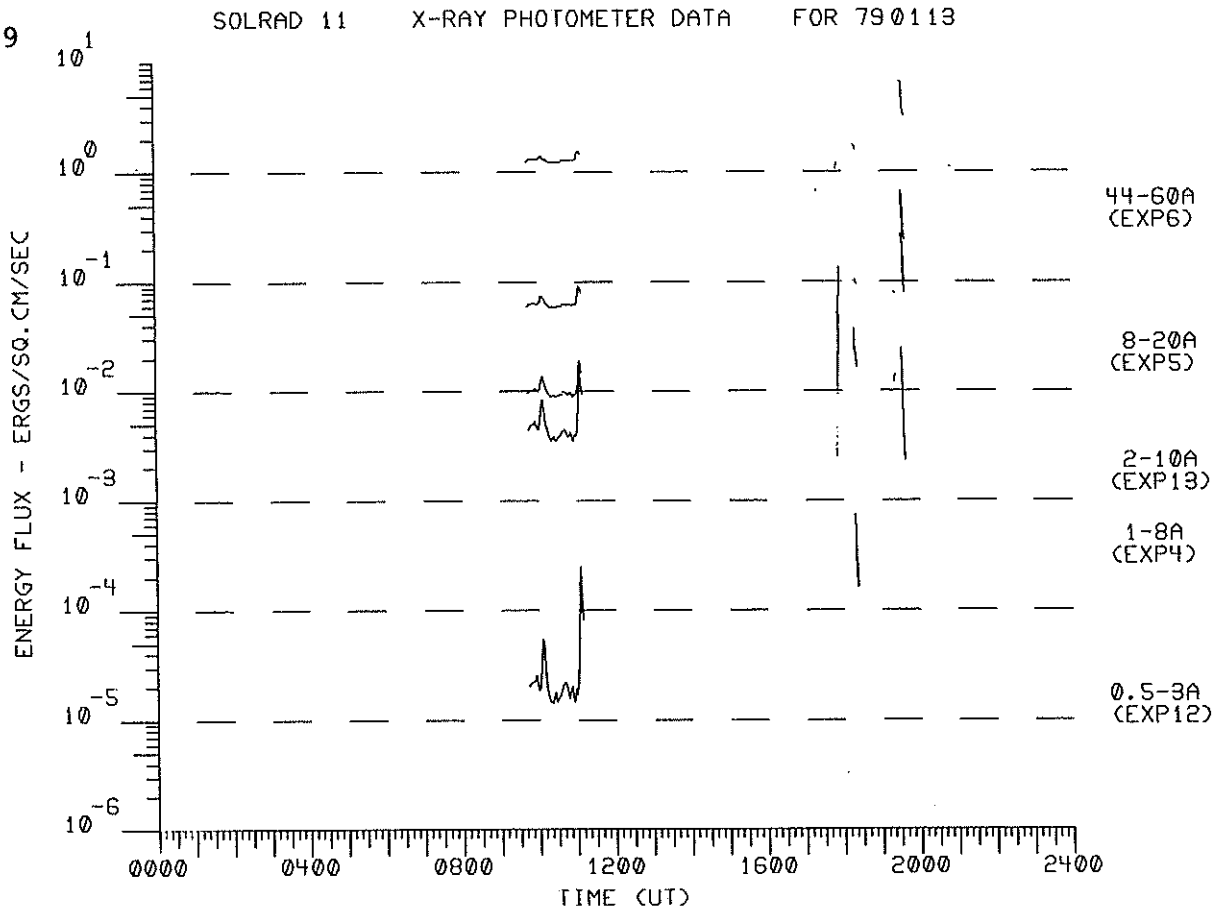
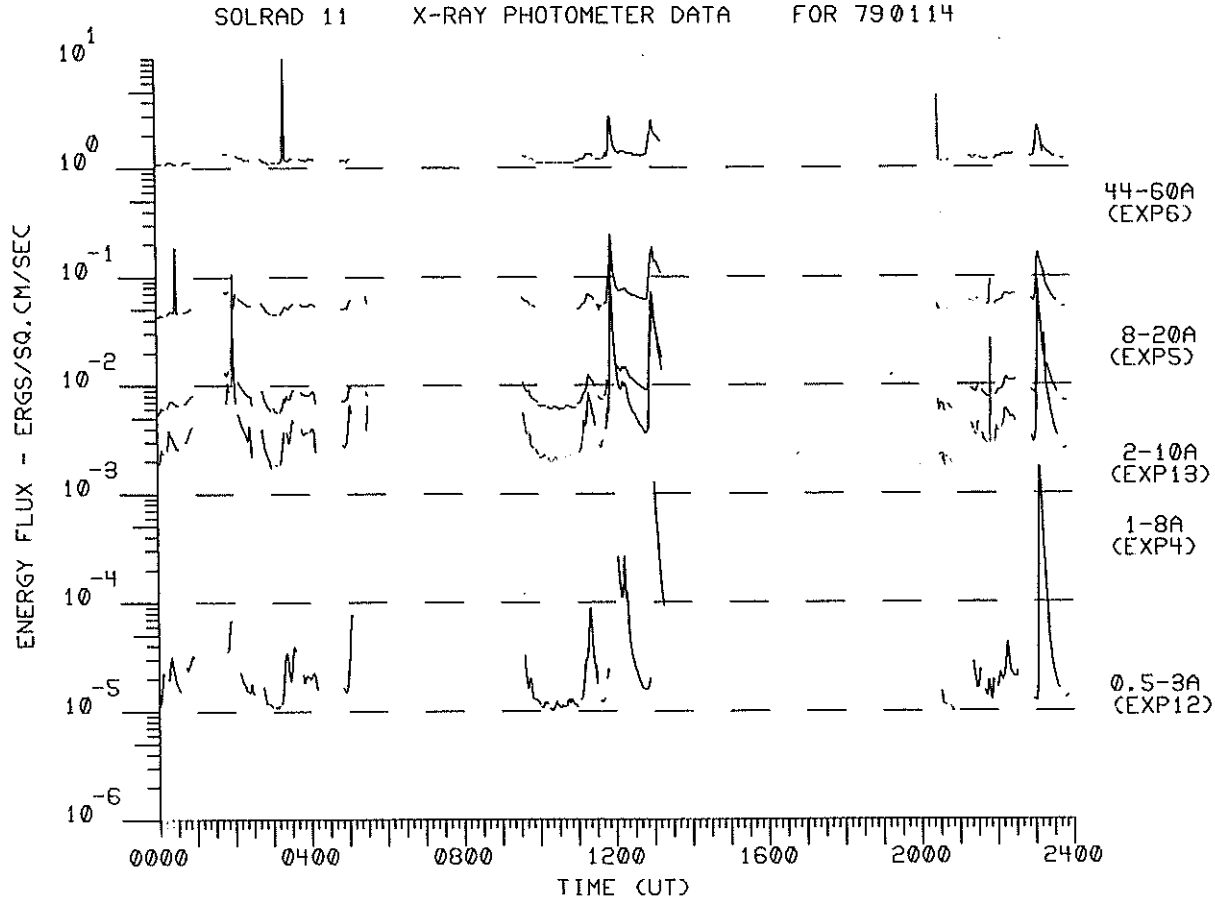
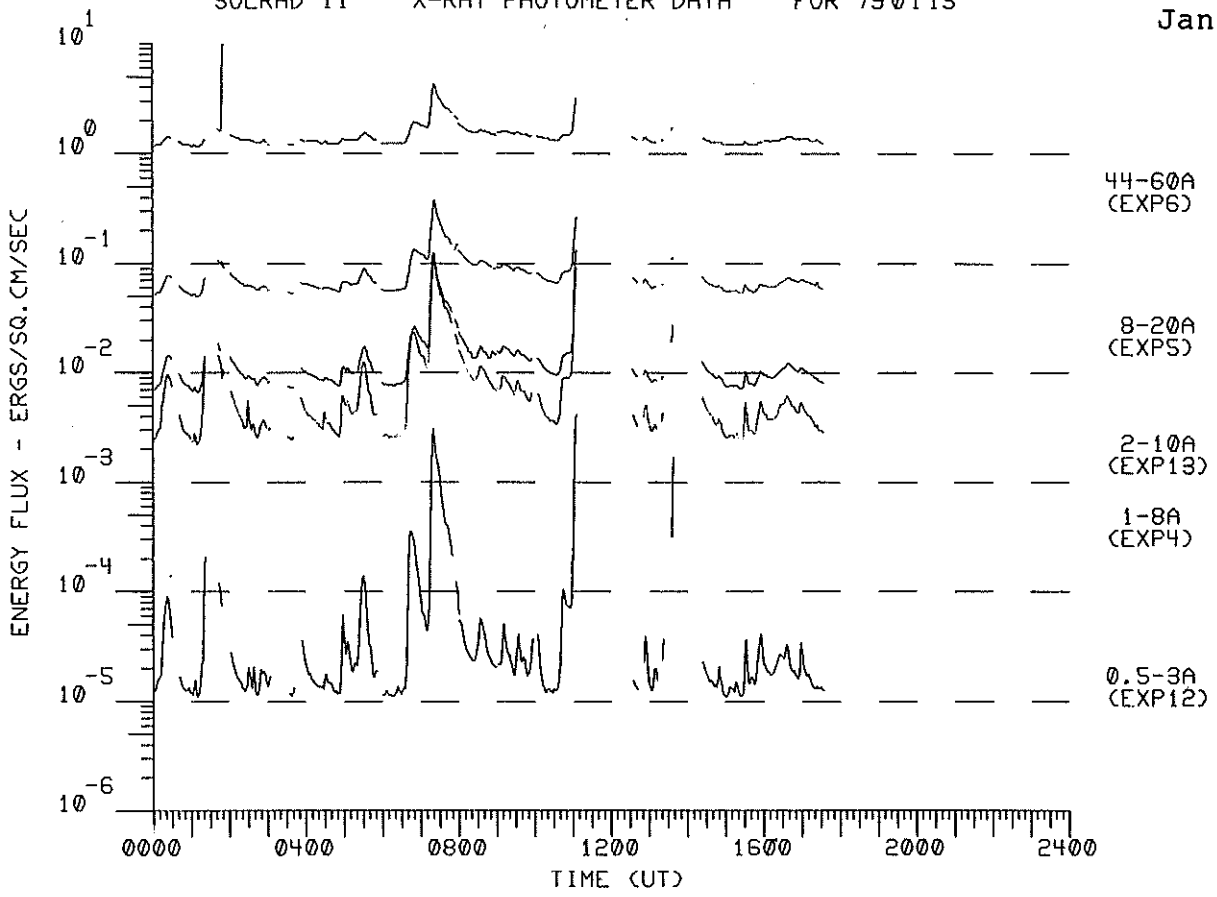
0800
1200
1600
2000
2400
TIME (UT)

78
Misc
Jan 79



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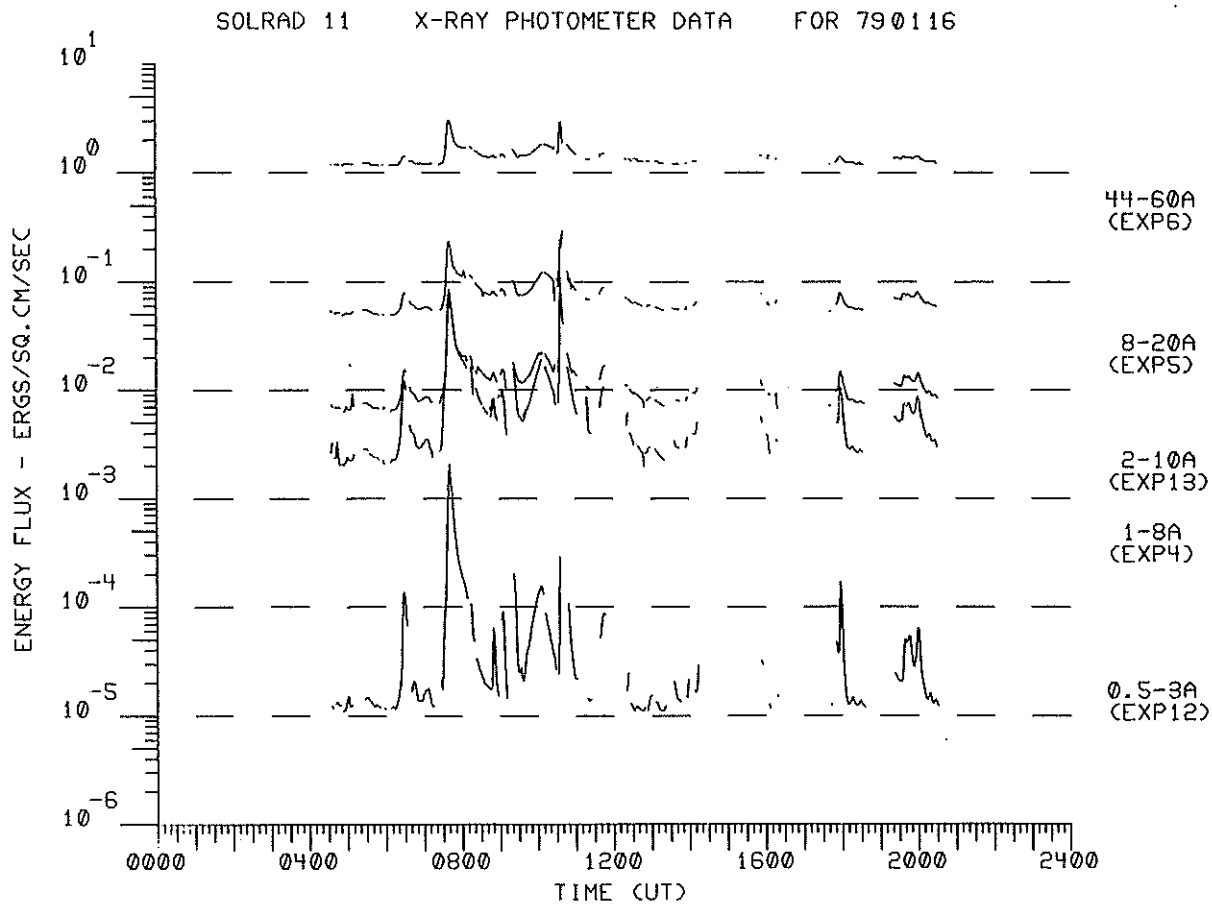
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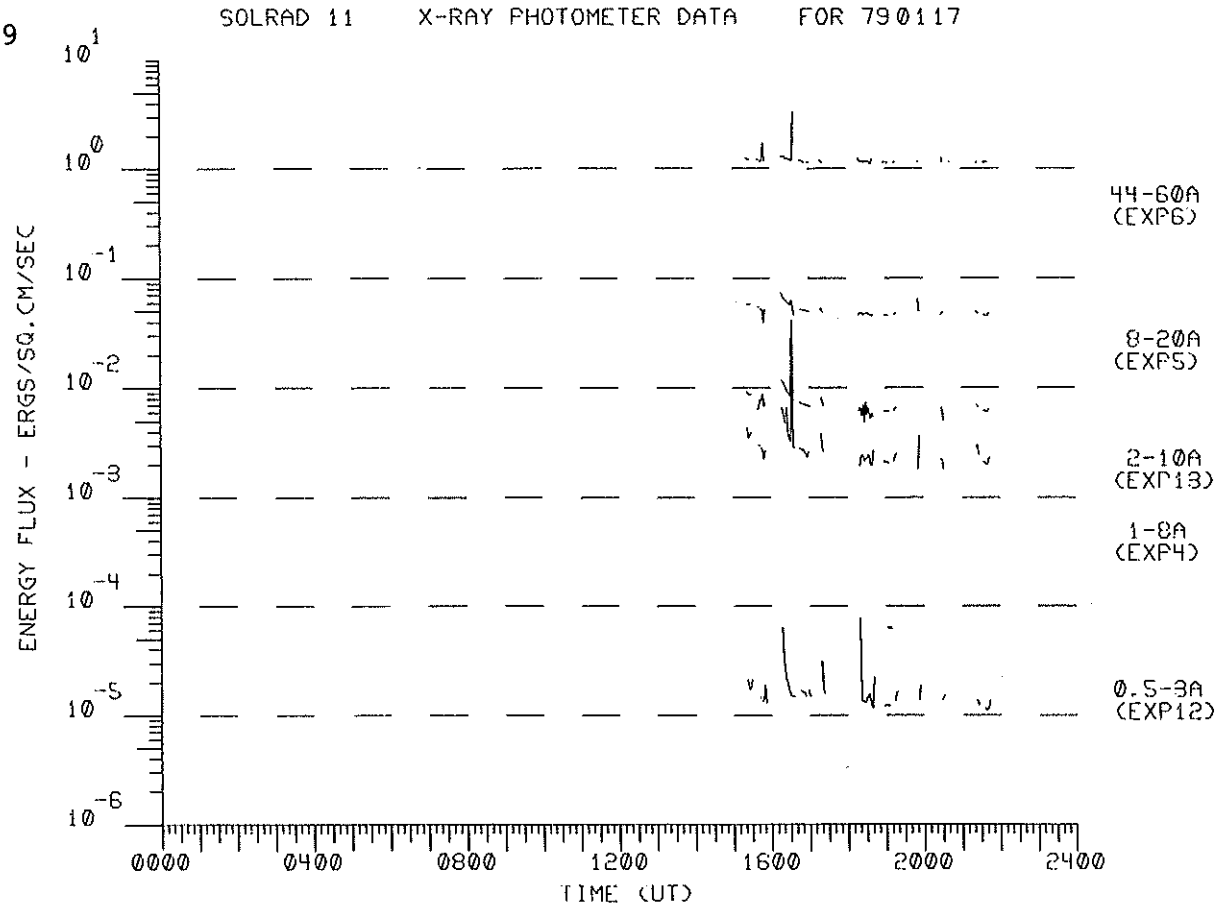
TIME (UT)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8-20A (EXP5)
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2000
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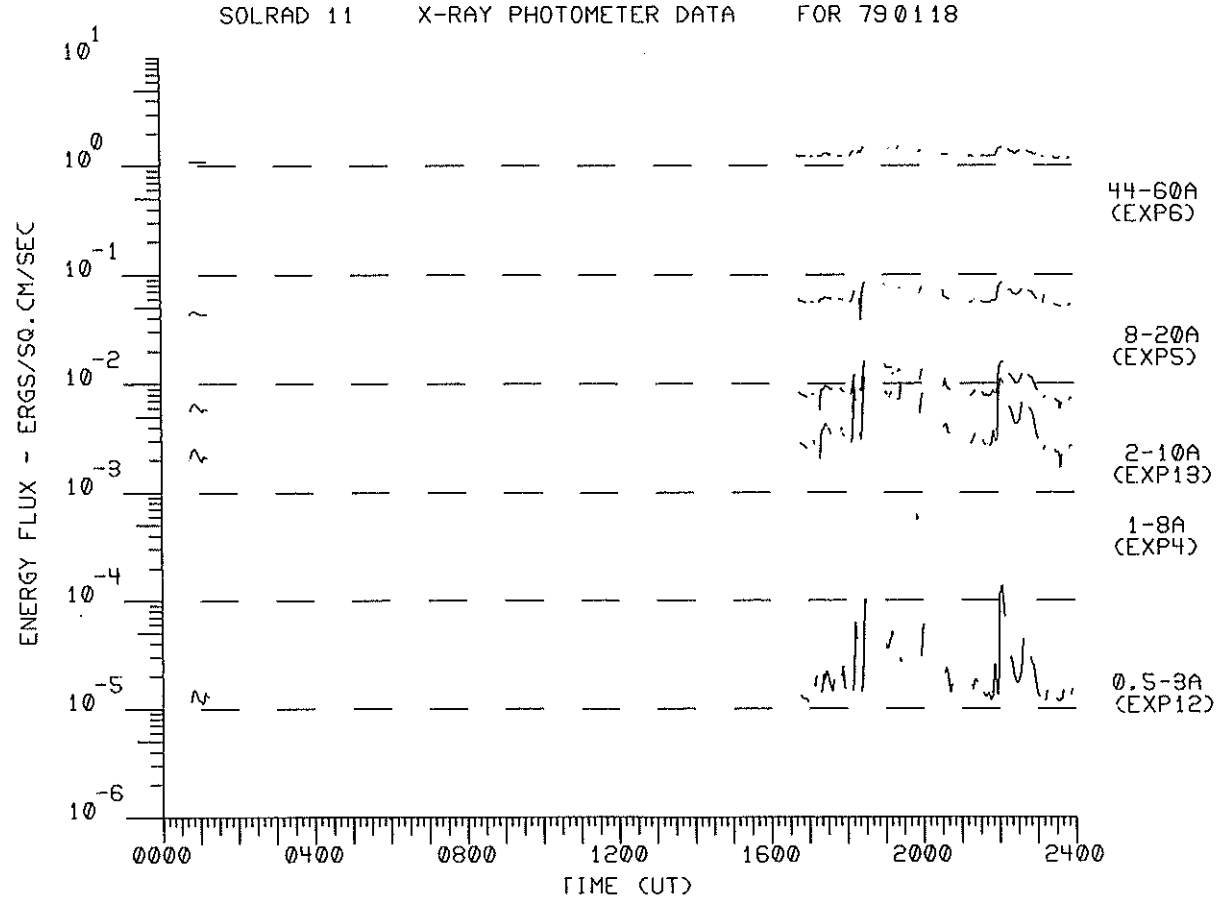
TIME (UT)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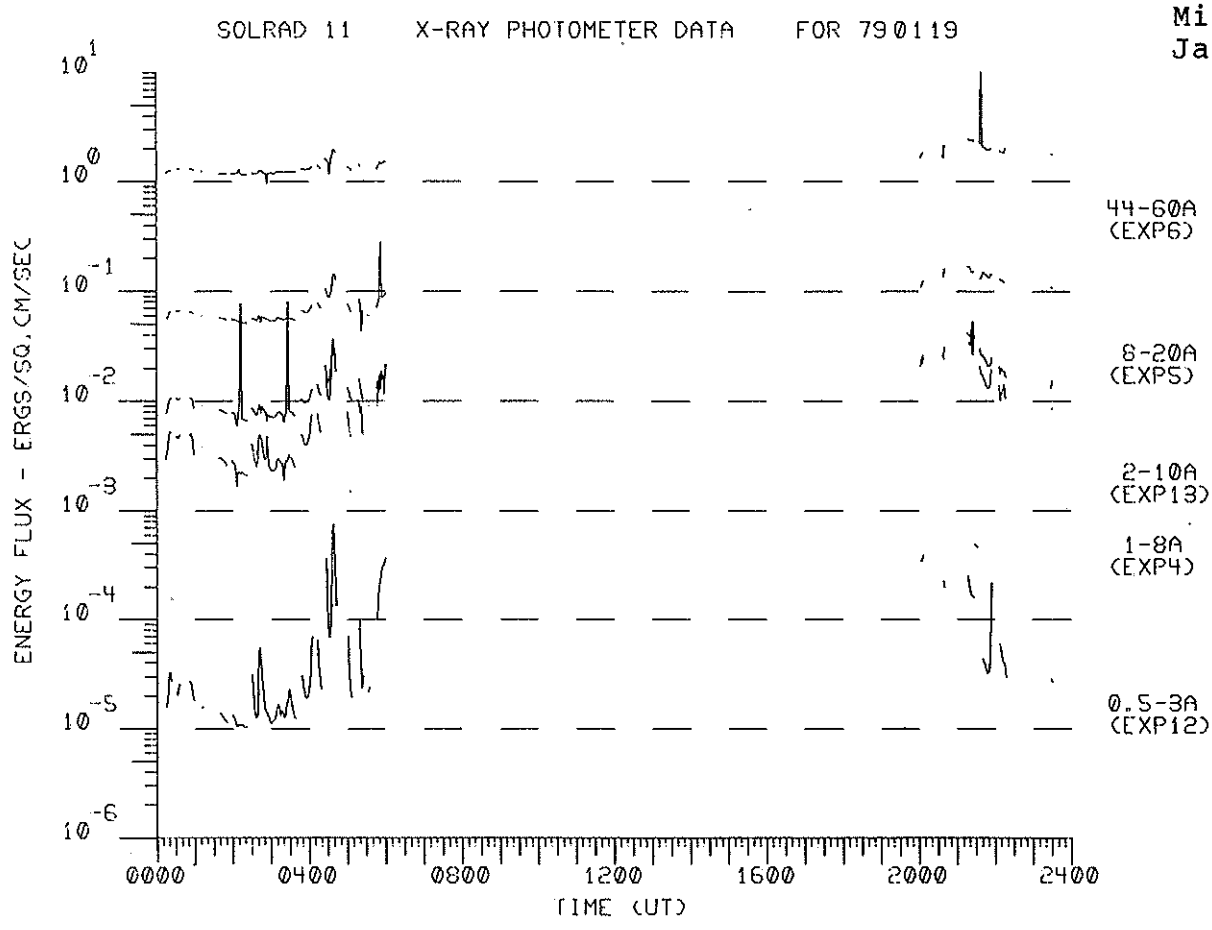
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
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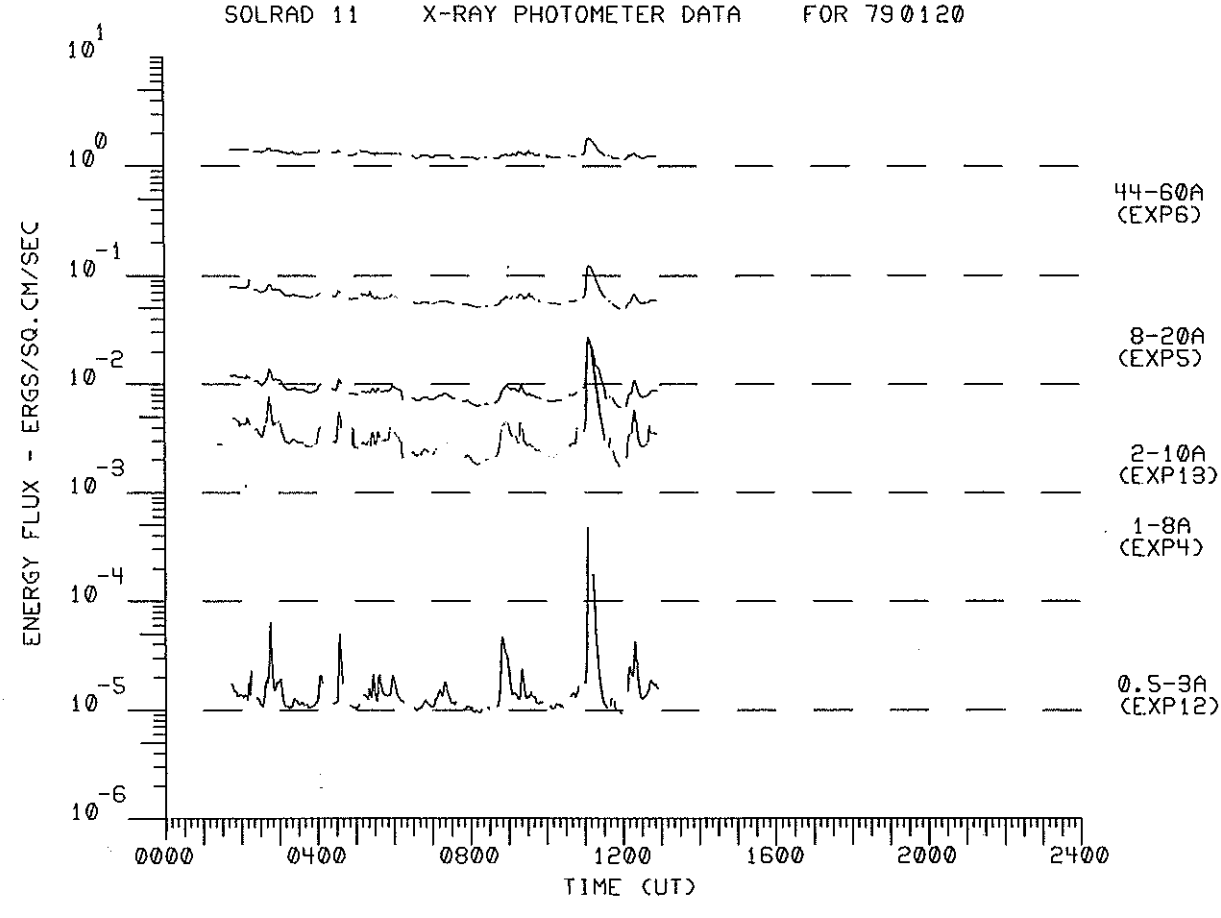
TIME (UT)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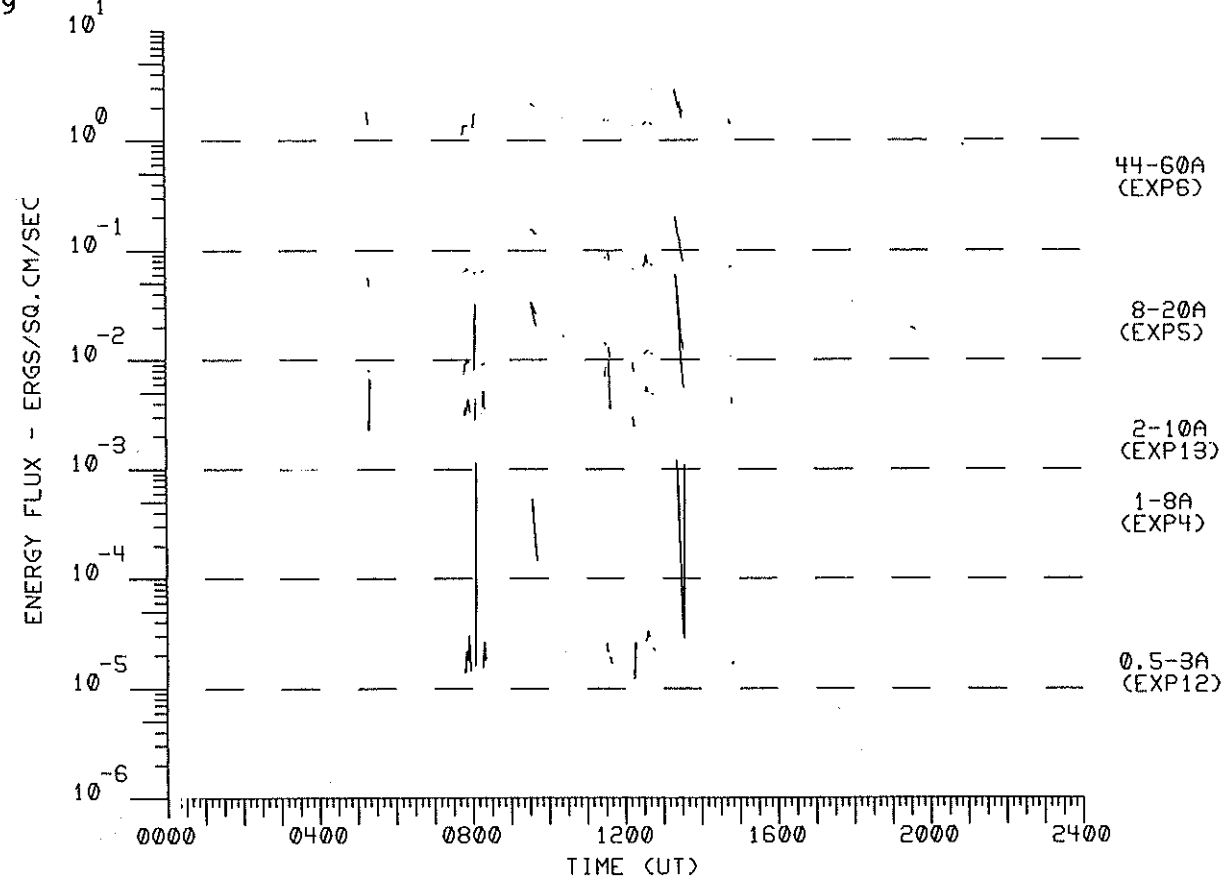
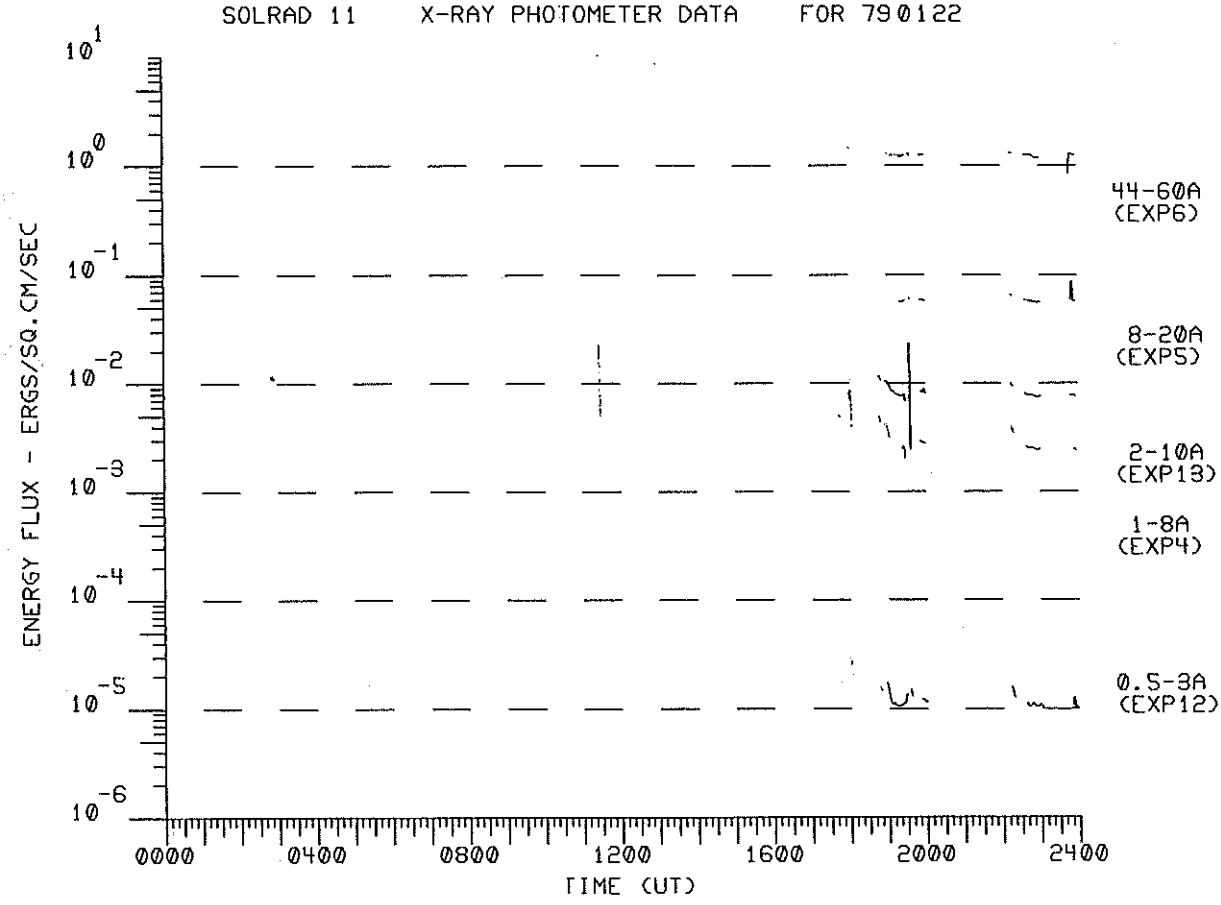
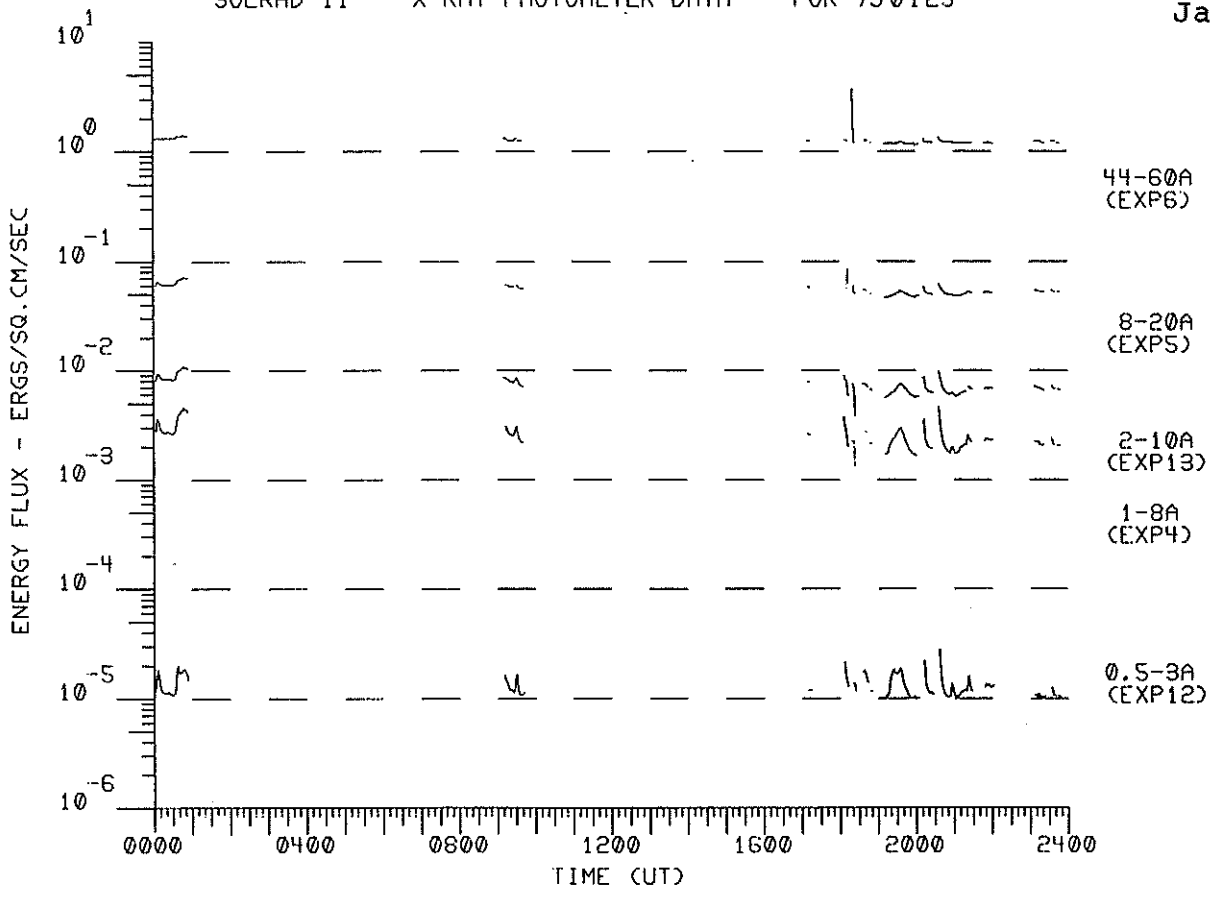
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

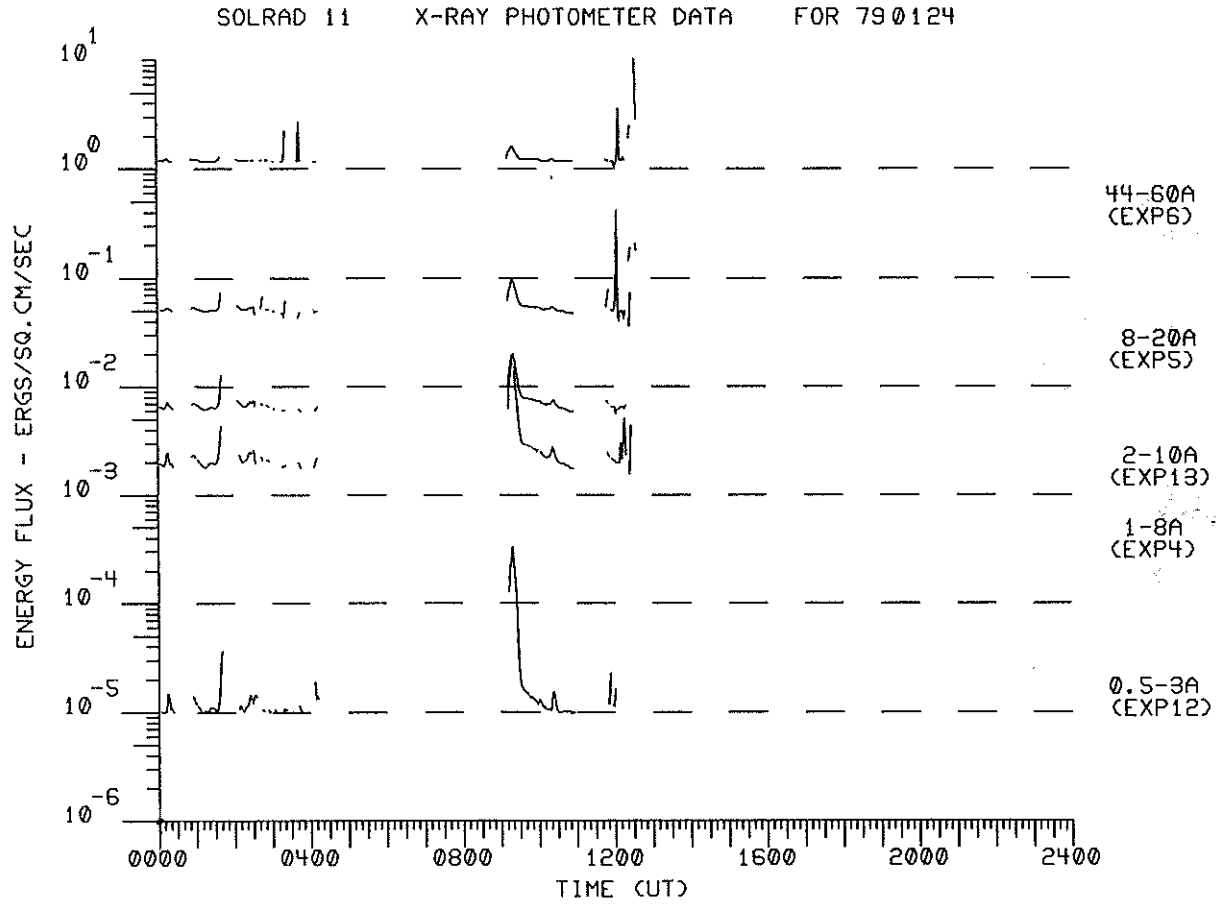
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790121

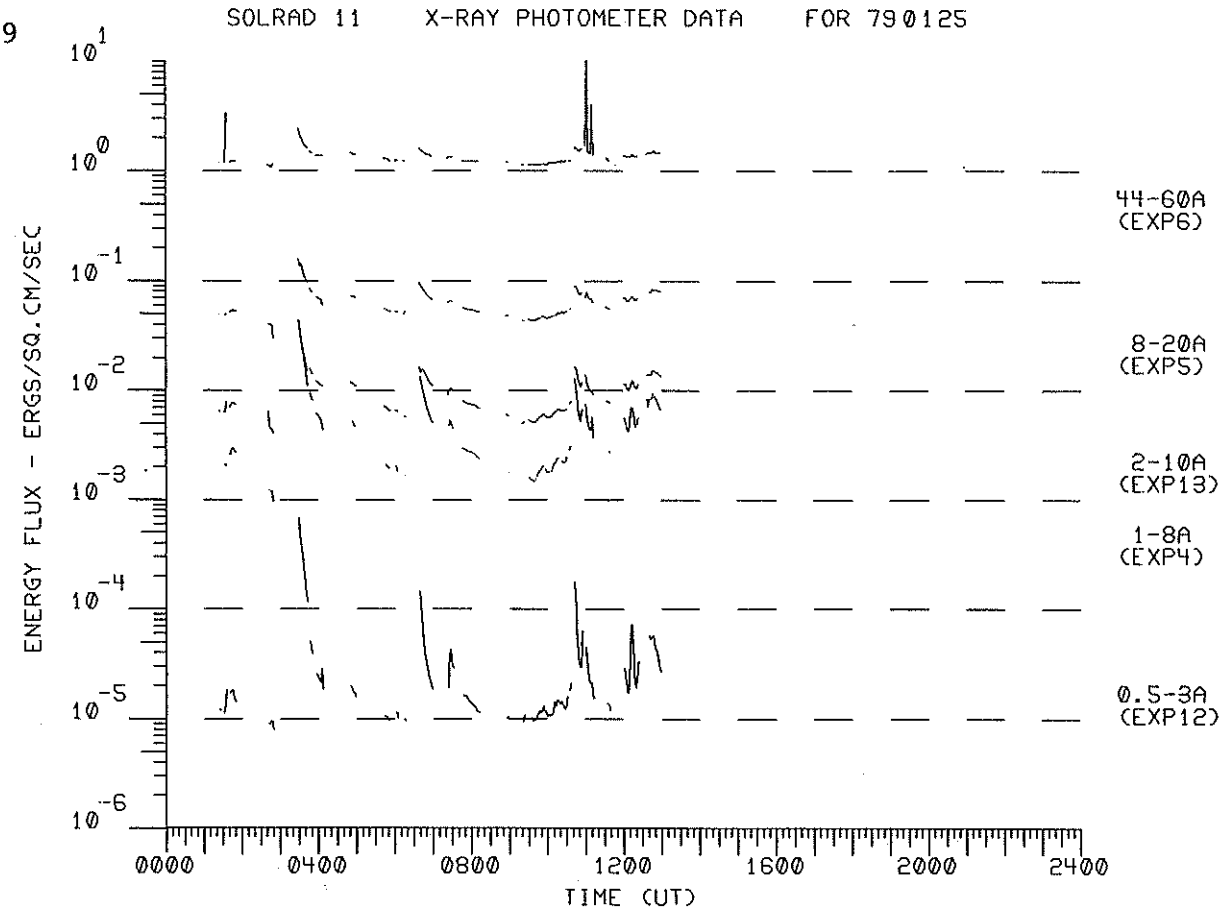


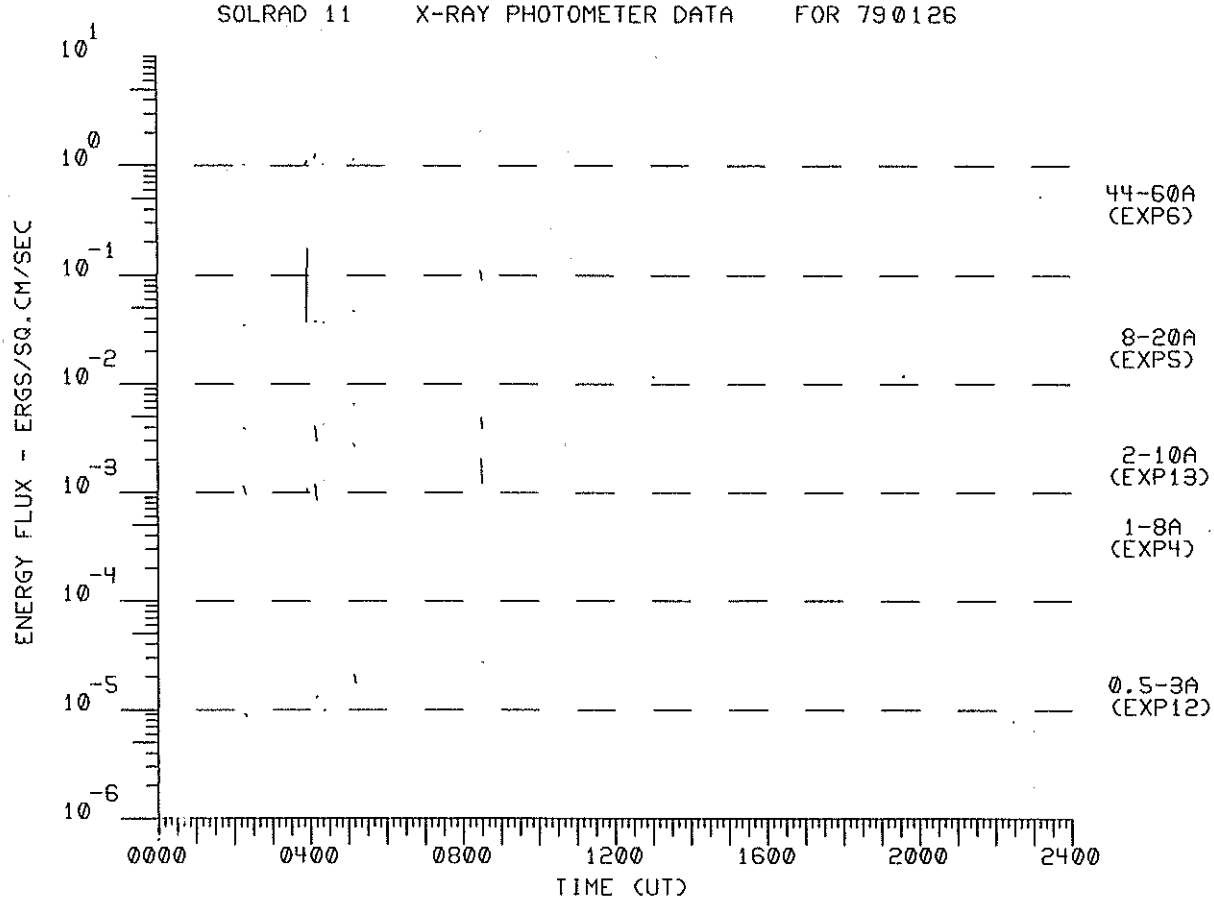
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790122



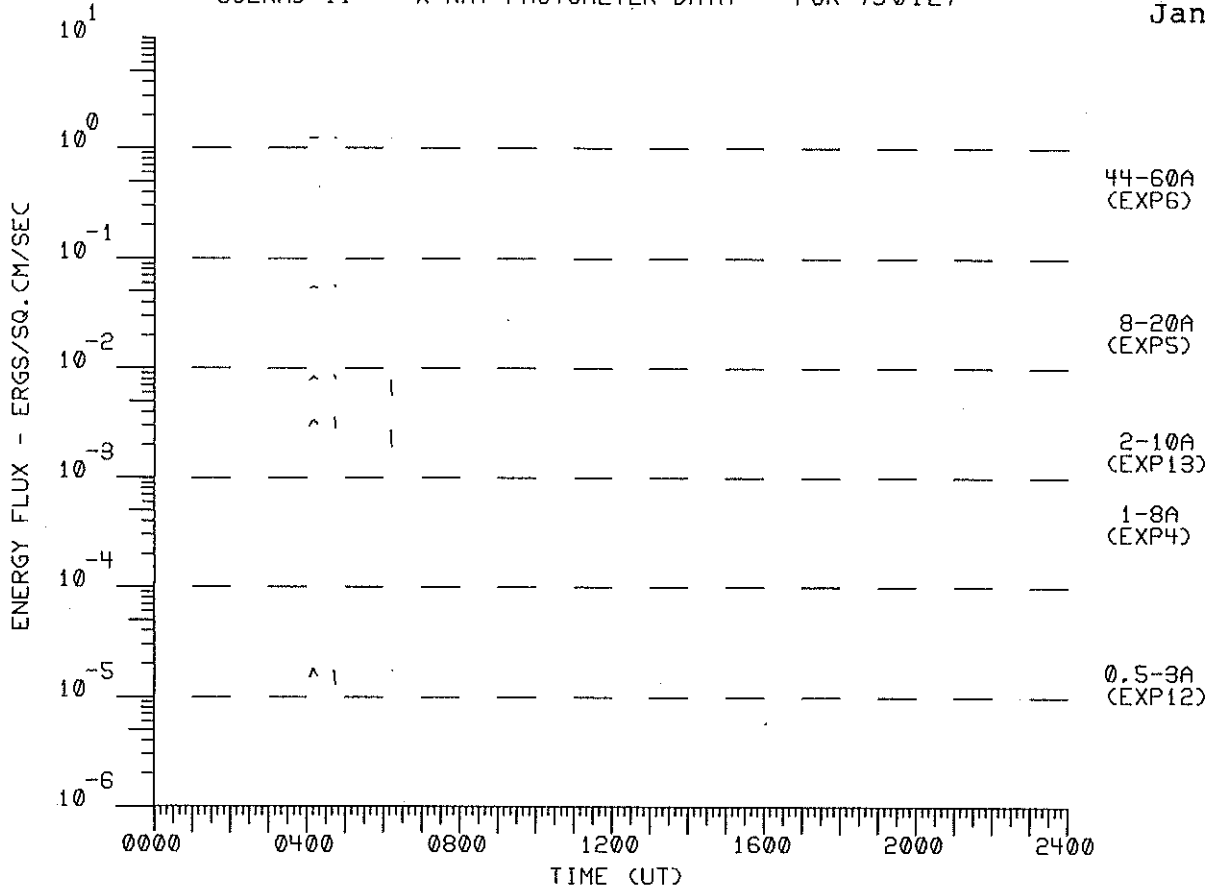

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790123
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790124
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

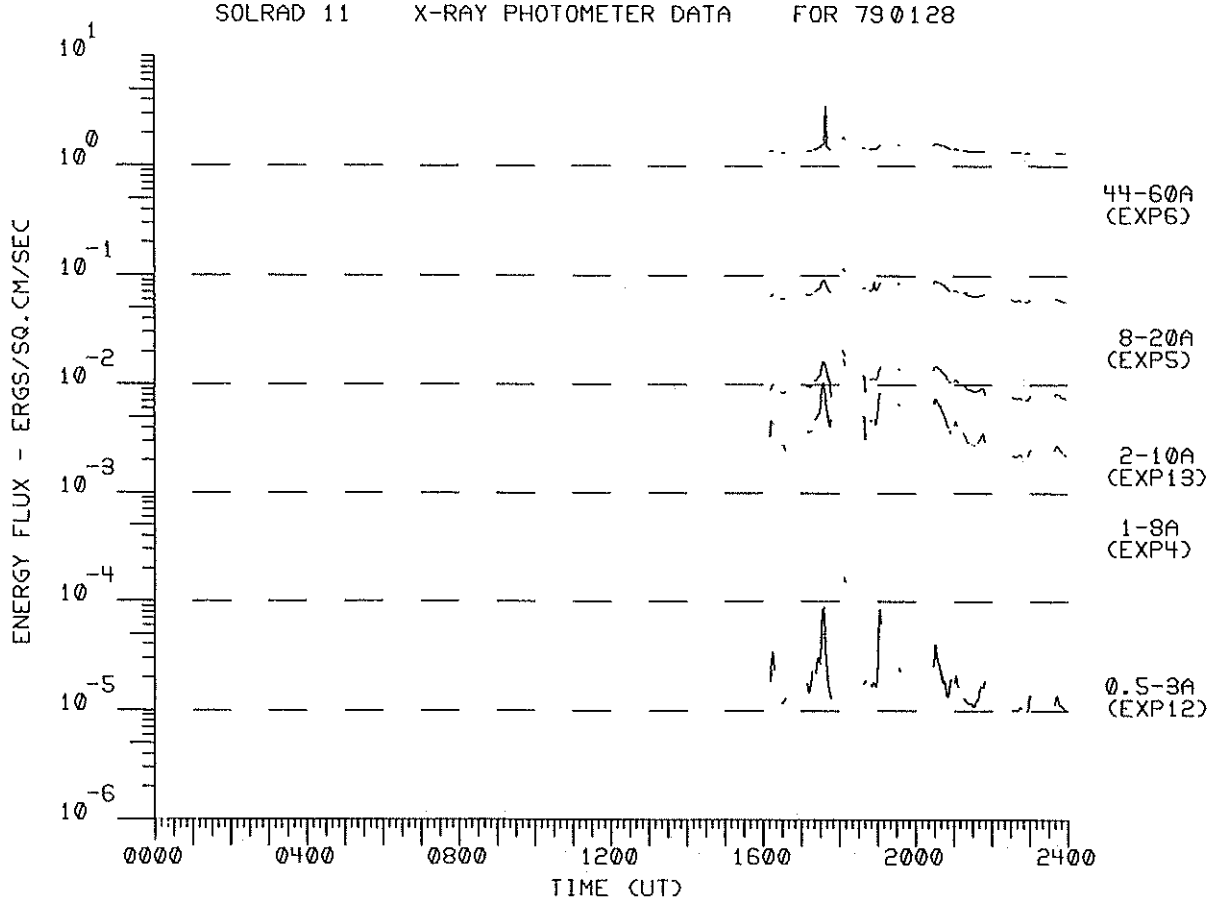

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790125
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

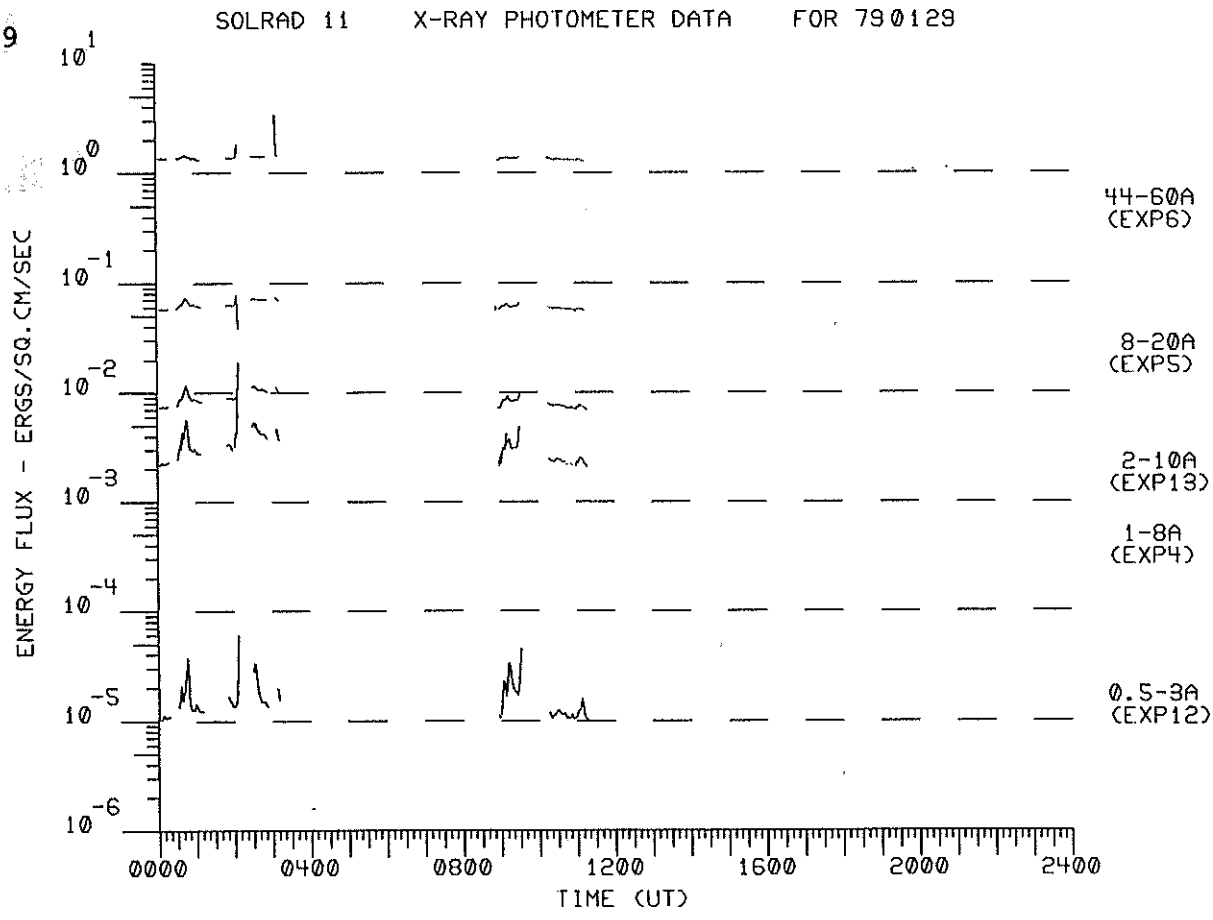

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790126
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

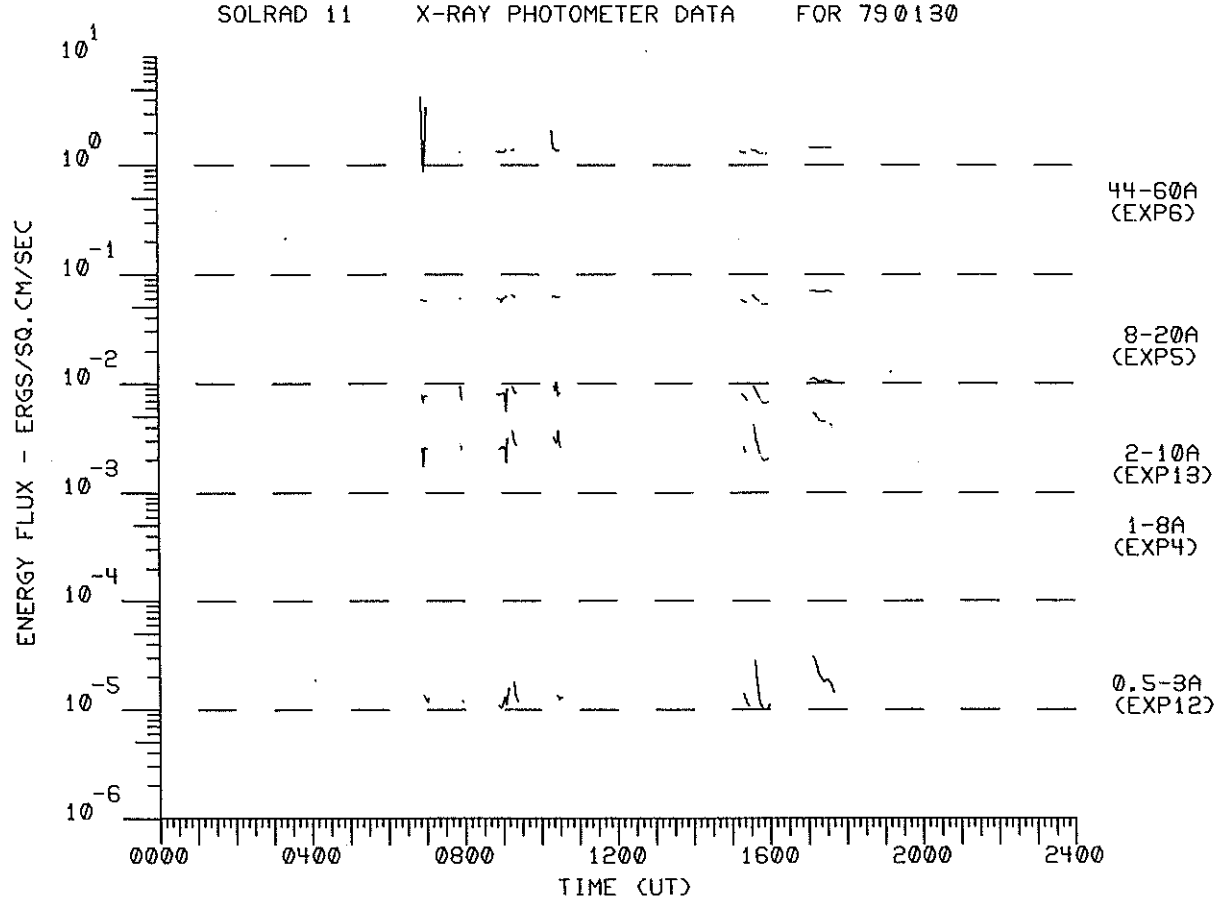
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790127

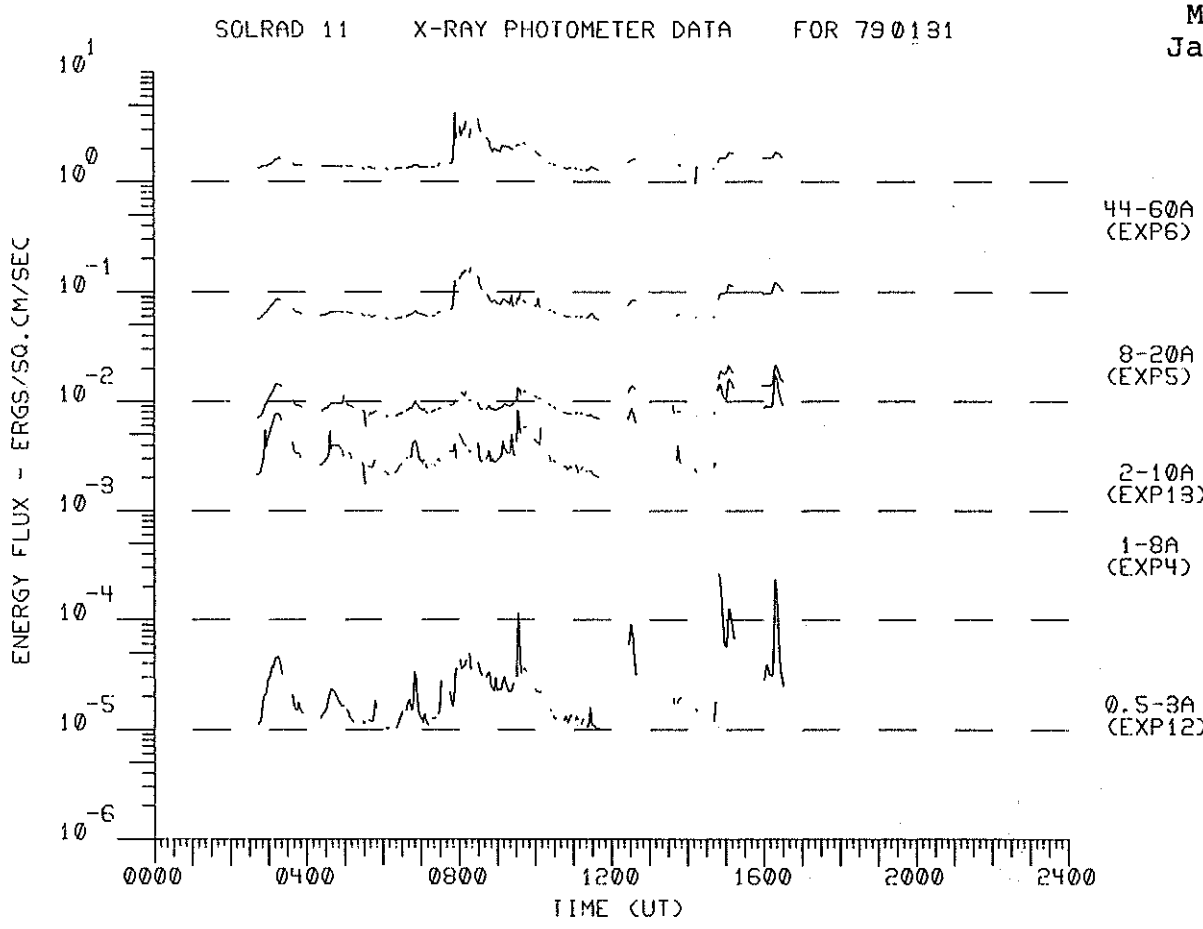


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790128




SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790129
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790130
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790131
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A
(EXP6)
8-20A
(EXP5)
2-10A
(EXP13)
1-8A
(EXP4)
0.5-3A
(EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

COSMIC RAY INDICES

(Neutron Monitors)

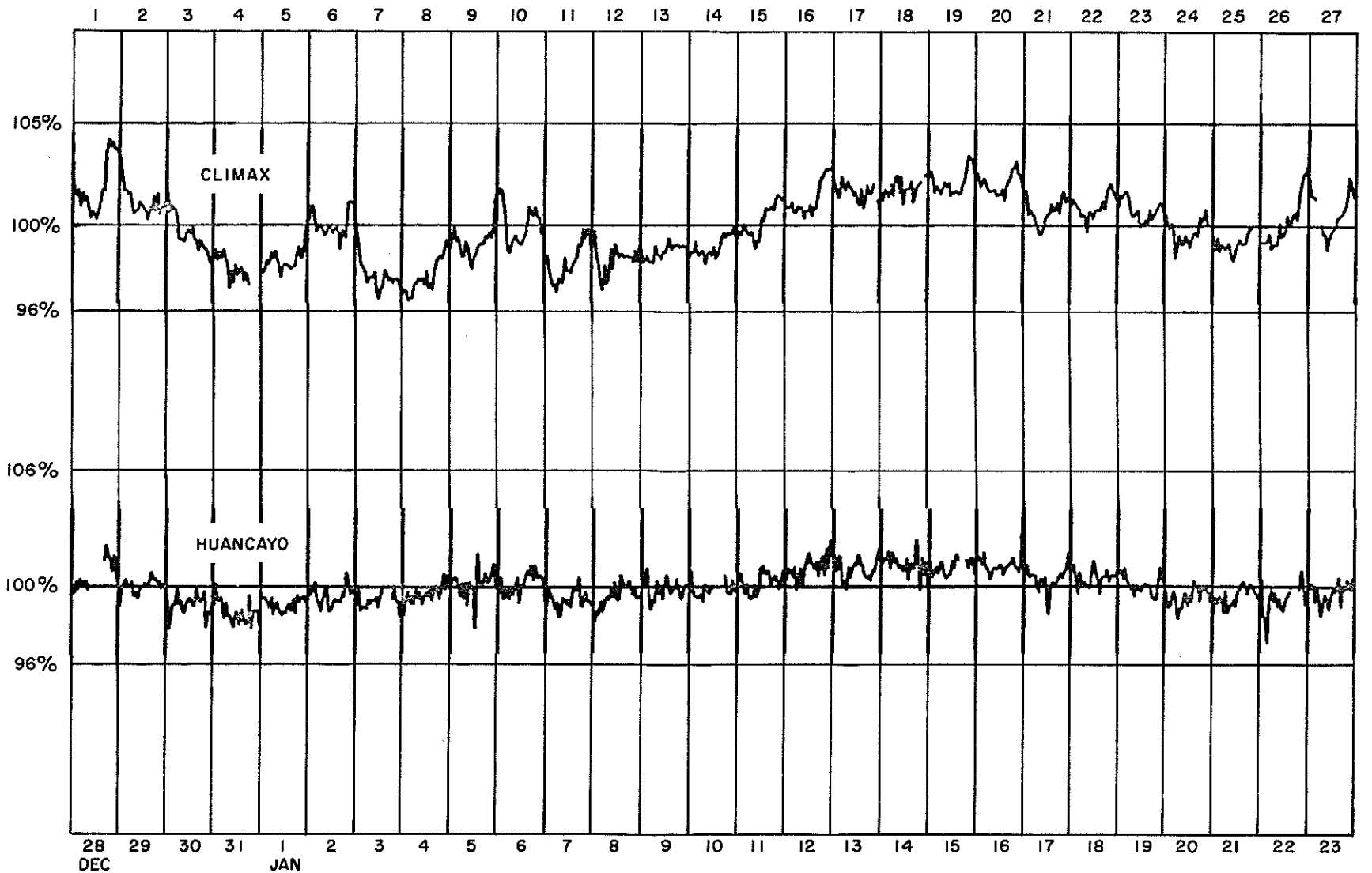
FEBRUARY 1979

Jan. 1979	CLIMAX Average cts/hr	HUANCAYO Average cts/hr
1	4002.3	1720.6
2	4069.8	1729.0
3	3973.8	1724.3(38)
4	3969.6	1732.3
5	4035.1	1739.7
6	4069.8	1739.9
7	3997.3	1725.4
8	4003.3	1729.2
9	4016.8	1735.0
10	4026.6	1735.1(38)
11	4076.7	1741.8
12	4120.4	1754.8
13	4151.0(2)	1754.4
14	4164.5(4)	1756.3
15	4150.8	1755.1
16	4148.7	1757.7
17	4095.6	1744.4
18	4105.0	1745.2
19	4097.2	1738.6
20	4056.9	1727.6
21	4033.1	1727.8
22	4078.2	1725.5
23	4094.4	1732.5
24	4088.4	1741.3
25	4090.5	1743.0(22)
26	4076.5	1737.1
27	4099.5	1737.3
28	4077.9	1736.2
29	4086.2	1735.9
30	4102.0	1742.8
31	4087.2	1742.8
MEAN	4067.2	1738.4

( ) Number of section hours of sum of both sections is less than 40 hours.
Scaling factor at Climax and Huancayo = 100.

COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1988 (December 1978-January 1979)



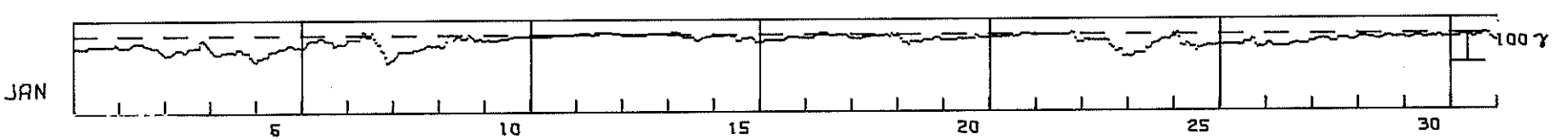
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

JANUARY 1979

NASA/GODDARD SPACE FLIGHT CENTER

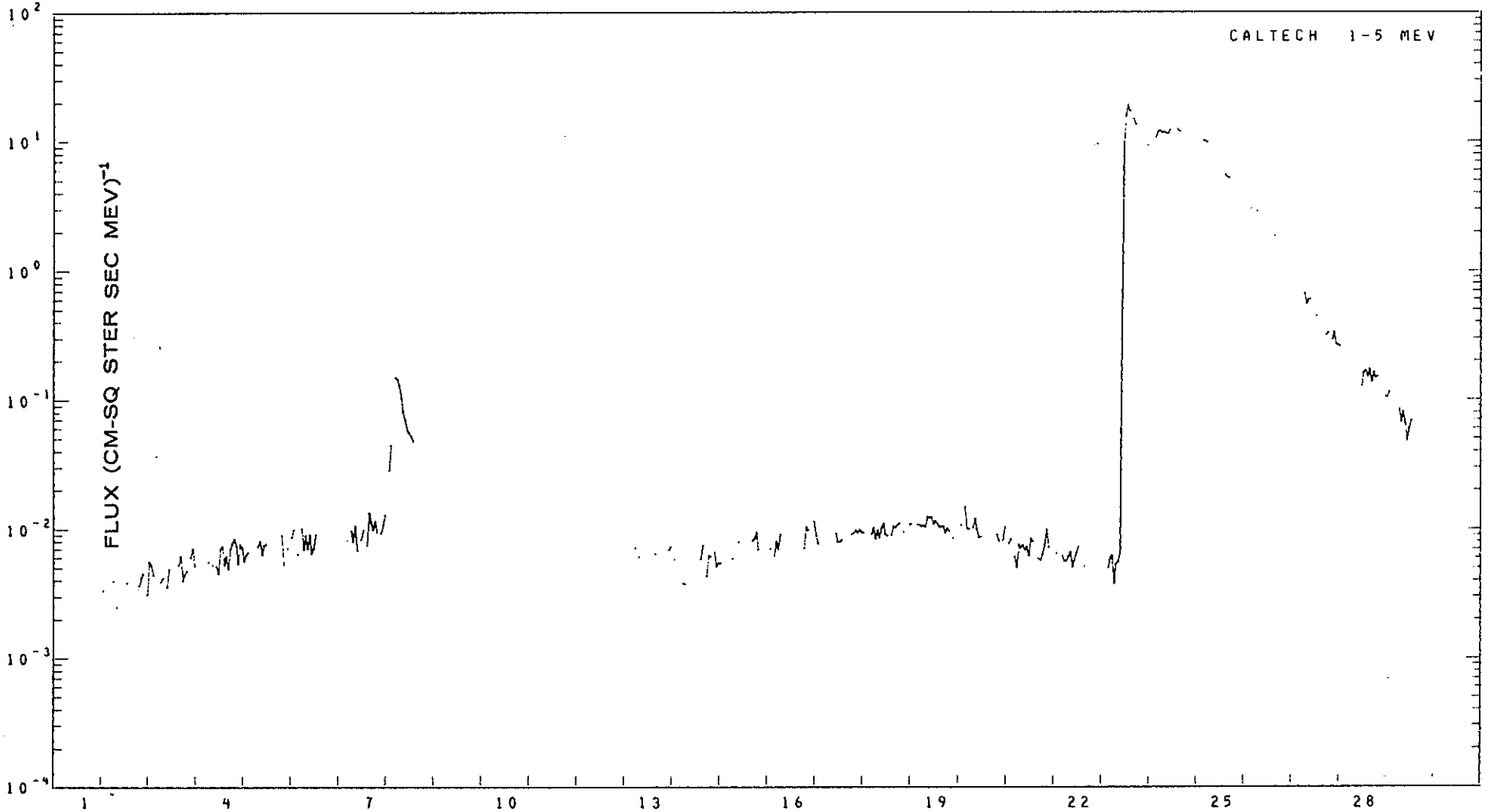
(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-48	-46	-49	-48	-48	-48	-42	-37	-38	-39	-38	-39	-40	-39	-38	-37	-36	-35	-36	-36	-34	-29	-38	-43
2	-42	-42	-41	-40	-39	-35	-31	-26	-25	-25	-25	-29	-36	-39	-38	-42	-45	-47	-42	-44	-53	-59	-64	-70
3	-67	-63	-65	-59	-55	-49	-49	-51	-54	-60	-57	-48	-42	-44	-44	-39	-39	-40	-19	-15	-27	-35	-42	-53
4	-59	-65	-69	-68	-63	-57	-59	-60	-53	-56	-58	-60	-64	-49	-47	-50	-60	-63	-60	-60	-73	-84	-90	-91
5	-79	-75	-76	-70	-72	-69	-60	-53	-57	-54	-49	-45	-43	-43	-42	-39	-34	-39	-40	-45	-41	-40	-45	-47
6	-46	-36	-27	-20	-17	-19	-19	-17	-12	-11	-14	-22	-26	-24	-25	-28	-39	-35	-31	-33	-32	-32	-28	-18
7	-14	-16	-17	-16	-18	-14	-6	9	4	-8	-12	-5	6	-14	-26	-35	-33	-54	-60	-75	-94	-88	-84	-81
8	-74	-66	-58	-54	-55	-54	-55	-54	-54	-53	-49	-52	-47	-45	-43	-41	-38	-34	-38	-41	-41	-40	-34	-36
9	-44	-40	-36	-22	-2	2	-4	-16	-10	-6	-11	-18	-16	-17	-10	-2	-10	-15	-22	-20	-14	-16	-24	-19
10	-17	-20	-22	-25	-26	-22	-17	-15	-13	-15	-14	-13	-10	-9	-7	-6	-6	-7	-6	-10	-12	-11	-10	-7
11	-6	-6	-6	-6	-8	-10	-9	-7	-5	-5	-5	-2	-1	-3	-2	-3	-4	-2	-1	-1	-1	-1	1	2
12	2	5	0	-3	-1	3	1	-8	-3	4	7	7	5	5	1	2	2	2	-2	-3	-3	-3	-4	-8
13	-8	-5	-6	-8	-9	-9	-8	-6	-5	-5	-5	-3	1	3	3	1	0	1	1	0	2	2	0	1
14	4	7	7	7	4	-1	-8	-14	-14	-10	-9	-9	-14	-21	-26	-25	-16	-12	-10	-8	-7	-6	-3	-4
15	-6	-9	-9	-6	-5	-1	1	-2	-10	-11	-12	-23	-28	-21	-14	-15	-12	-12	-10	-17	-22	-30	-29	-27
16	-28	-24	-19	-20	-24	-22	-18	-17	-21	-25	-23	-21	-16	-13	-9	-9	-9	-8	-8	-13	-16	-12	-10	-17
17	-16	-14	-12	-10	-5	-2	2	6	4	2	-1	-7	-10	-5	-2	-2	0	-7	-8	-4	-8	-12	-16	-16
18	-19	-19	-15	-13	-14	-9	-9	-7	-6	-5	-4	-8	-7	-12	-4	-5	-4	-1	-3	-12	1	-9	-6	-5
19	-6	-18	-30	-33	-34	-38	-26	-25	-26	-26	-27	-32	-23	-18	-19	-23	-25	-21	-14	-11	-14	-17	-23	-23
20	-25	-21	-18	-19	-20	-22	-17	-14	-18	-20	-20	-19	-14	-13	-15	-15	-6	-11	-15	-16	-17	-15	-13	-12
21	-11	-9	-10	-14	-15	-12	-7	-8	-10	-11	-4	-9	-13	-6	-7	-3	2	-2	1	-3	-4	-7	-9	-6
22	-5	0	-1	-2	-4	-4	-4	-2	-3	-6	-8	-5	-4	-8	-8	-3	-3	1	6	-2	-18	-29	-29	-30
23	-25	-18	-21	-25	-25	-22	-21	-22	-21	-23	-22	-19	-26	-28	-40	-48	-51	-61	-59	-52	-57	-77	-76	-70
24	-79	-74	-70	-63	-64	-67	-65	-64	-61	-51	-48	-45	-37	-31	-28	-27	-23	-18	-21	-14	-22	-22	-11	-7
25	-6	3	-15	-41	-45	-40	-32	-38	-45	-41	-45	-58	-48	-45	-43	-40	-41	-37	-43	-42	-41	-39	-36	-34
26	-38	-40	-34	-34	-37	-39	-38	-35	-40	-39	-41	-37	-29	-26	-27	-25	-18	-21	-39	-48	-40	-43	-48	-39
27	-33	-31	-38	-45	-44	-43	-44	-43	-45	-46	-42	-39	-36	-34	-31	-32	-31	-38	-37	-32	-37	-37	-26	-24
28	-28	-21	-19	-16	-17	-15	-19	-22	-25	-30	-26	-29	-24	-16	-14	-16	-14	-14	-21	-25	-24	-24	-17	-13
29	-9	-8	-11	-12	-15	-17	-17	-18	-22	-20	-17	-19	-14	-10	-10	-7	-12	-16	-14	-12	-12	-11	-13	-14
30	-20	-16	-16	-13	-11	-8	-10	-10	-11	-17	-18	-14	-11	-10	-9	-11	-9	-6	-11	-16	-12	-12	-13	-12
31	-11	-11	-11	-12	-8	-3	-8	-11	-11	-12	-14	-18	-13	-8	-7	-6	0	1	-4	-6	-15	-21	-27	-30



IMP 7 AND 8 ELECTRONS

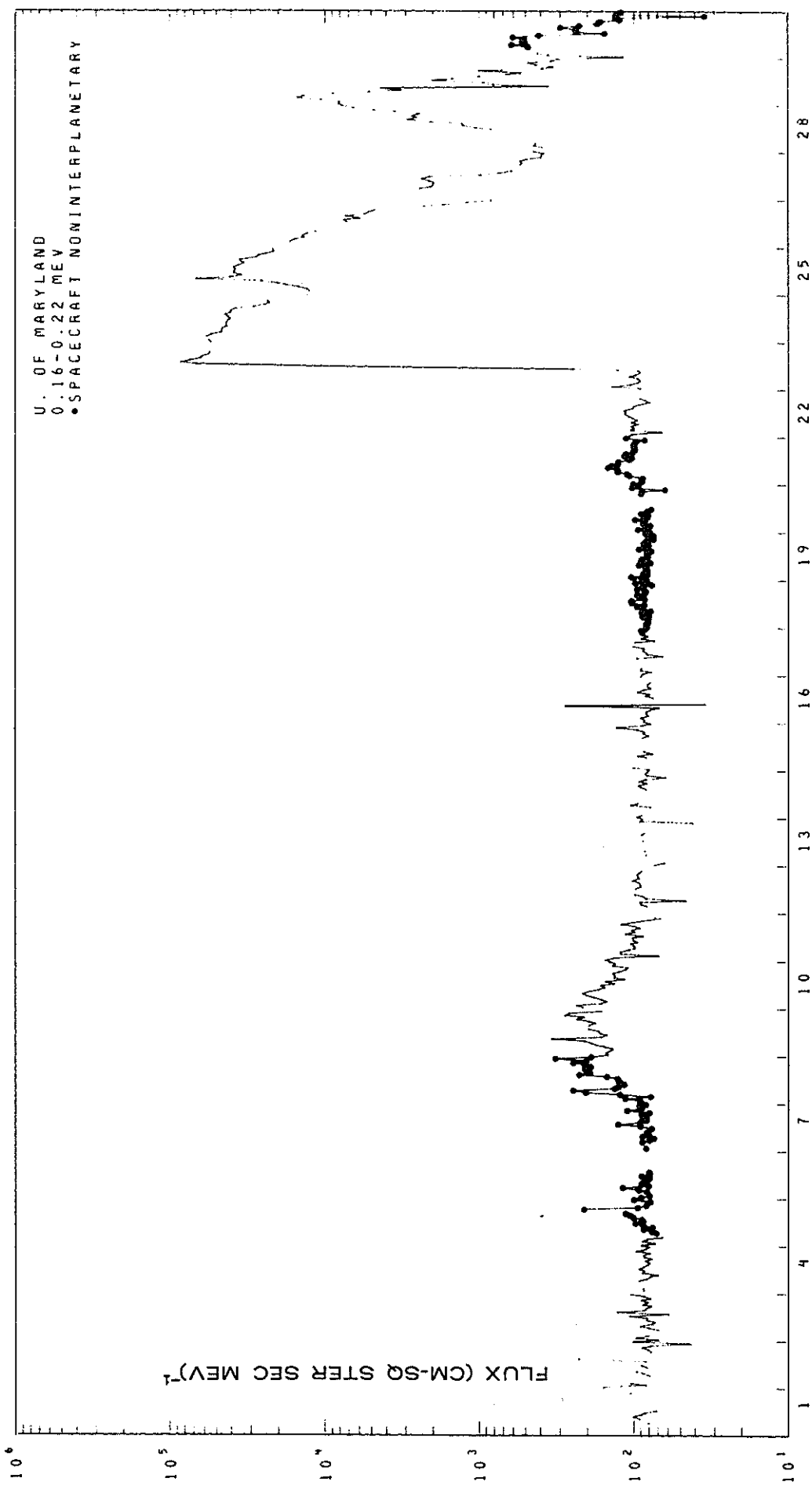
SEPTEMBER 1978



91
Misc
Sep 78

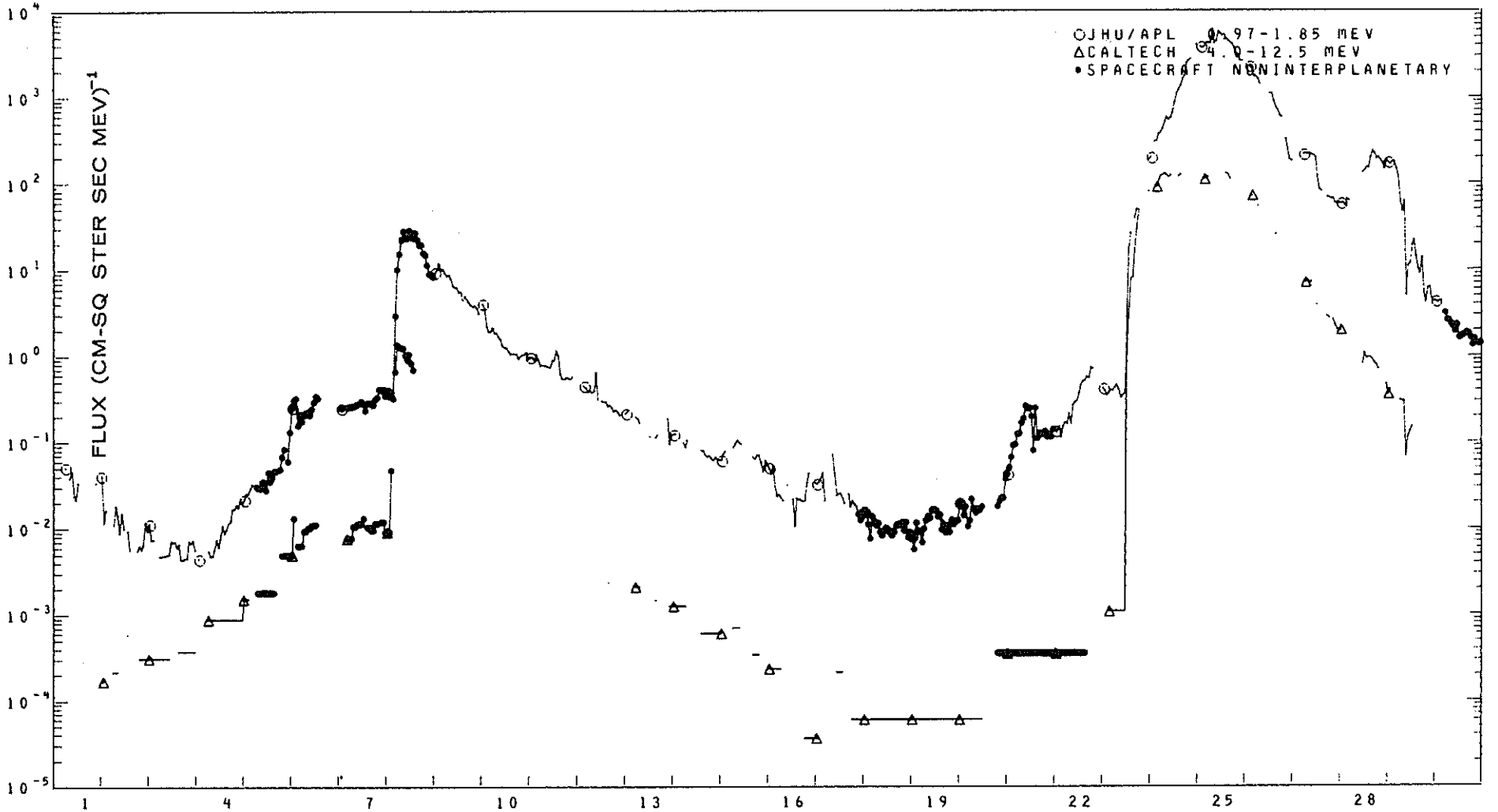
IMP 7 AND 8 LOW ENERGY PROTONS

SEPTEMBER 1978



IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

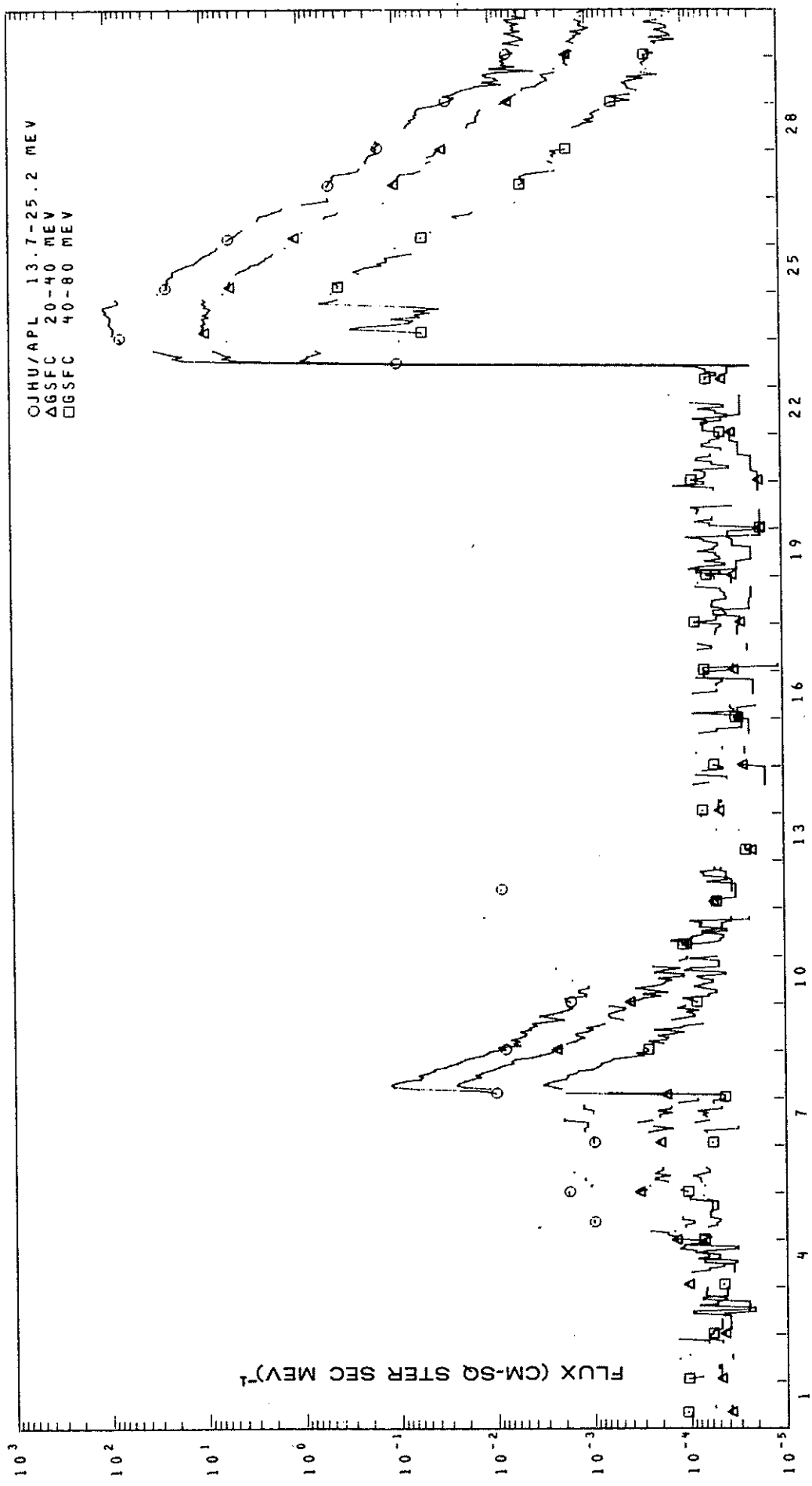
SEPTEMBER 1978

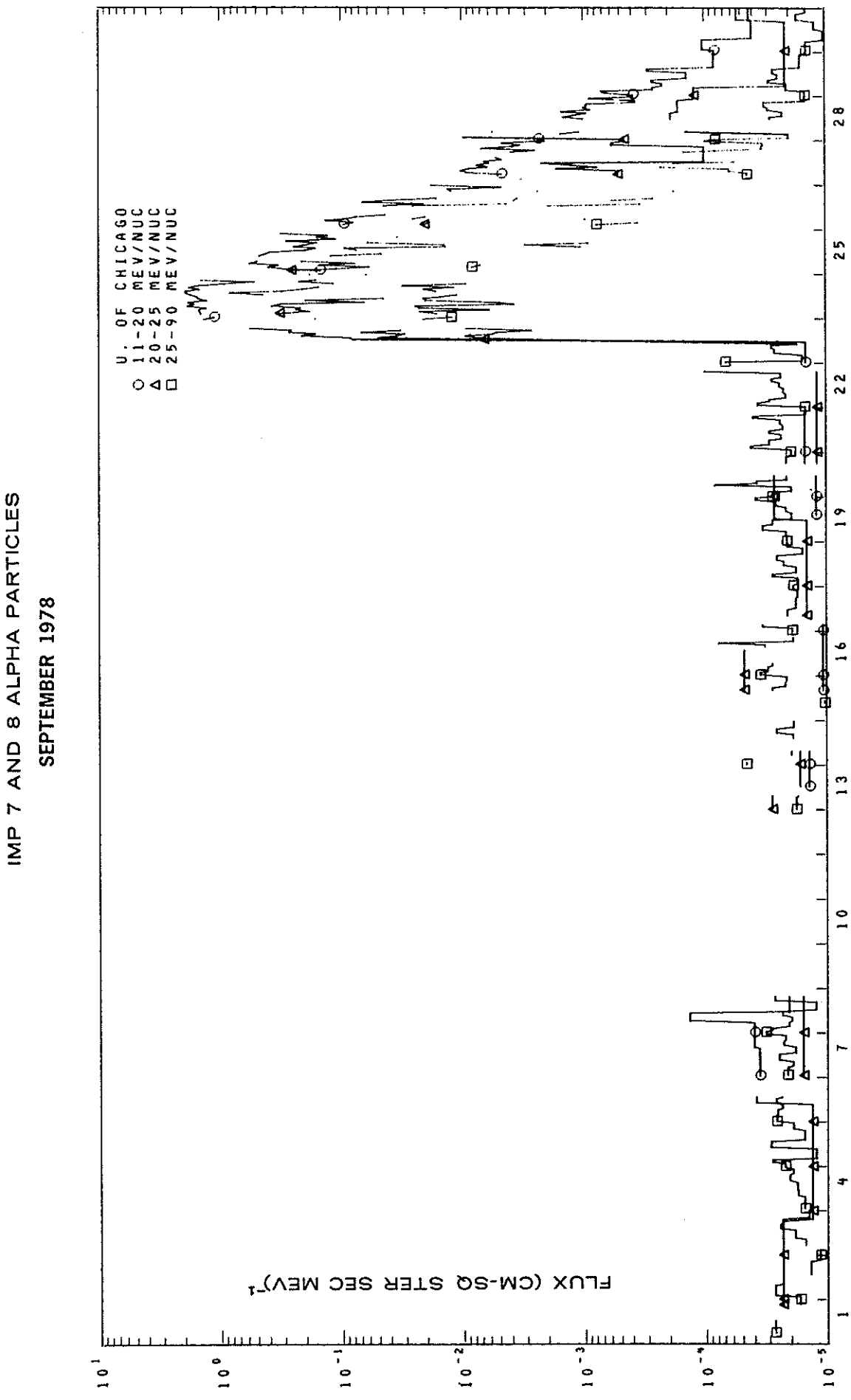


93
Misc
Sep 78

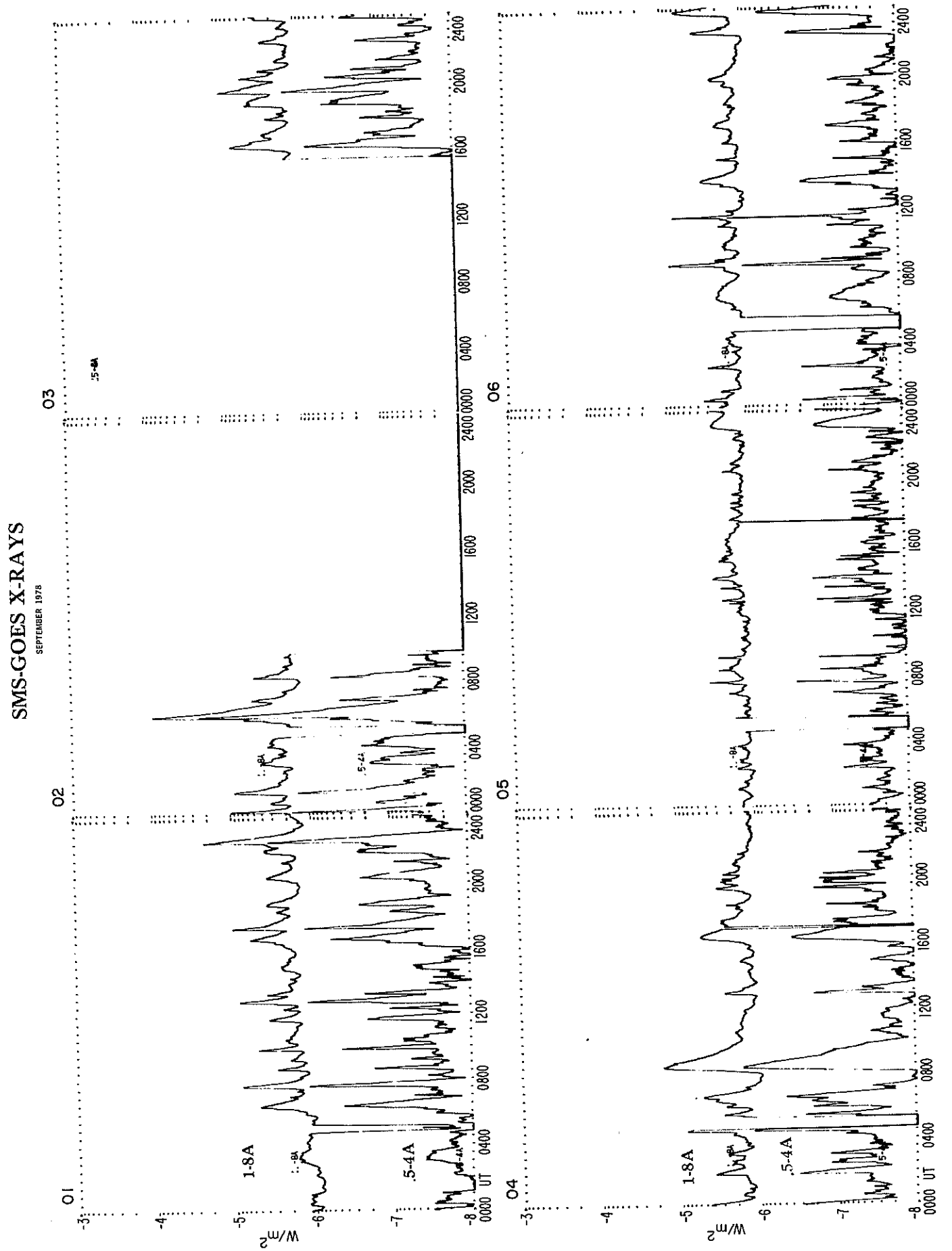
IMP 7 AND 8 HIGH ENERGY PROTONS

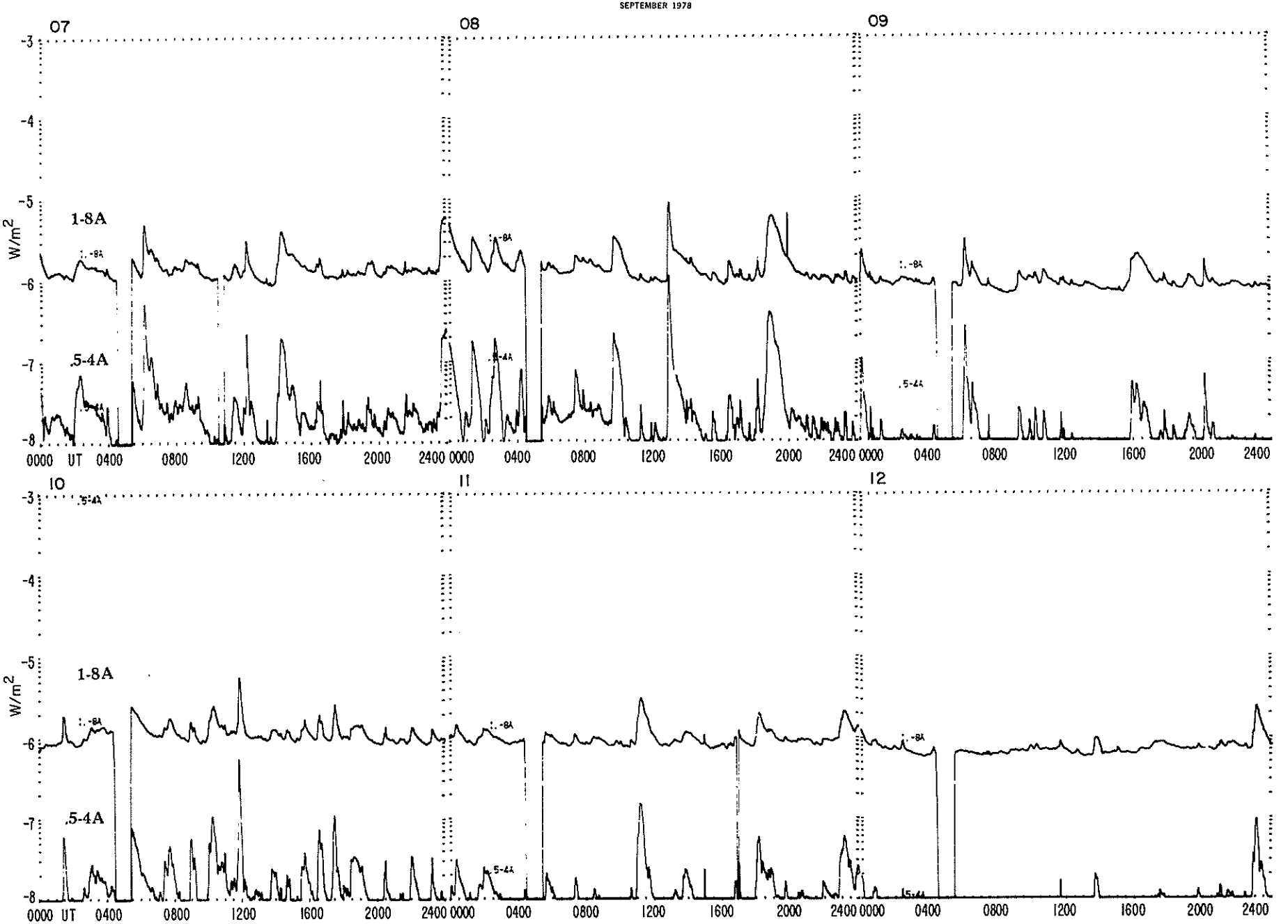
SEPTEMBER 1978




IMP 7 AND 8 ALPHA PARTICLES
SEPTEMBER 1978
U. OF CHICAGO
○ 11-20 MEV/NUC
△ 20-25 MEV/NUC
□ 25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
1
4
7
10
13
16
19
22
25
28

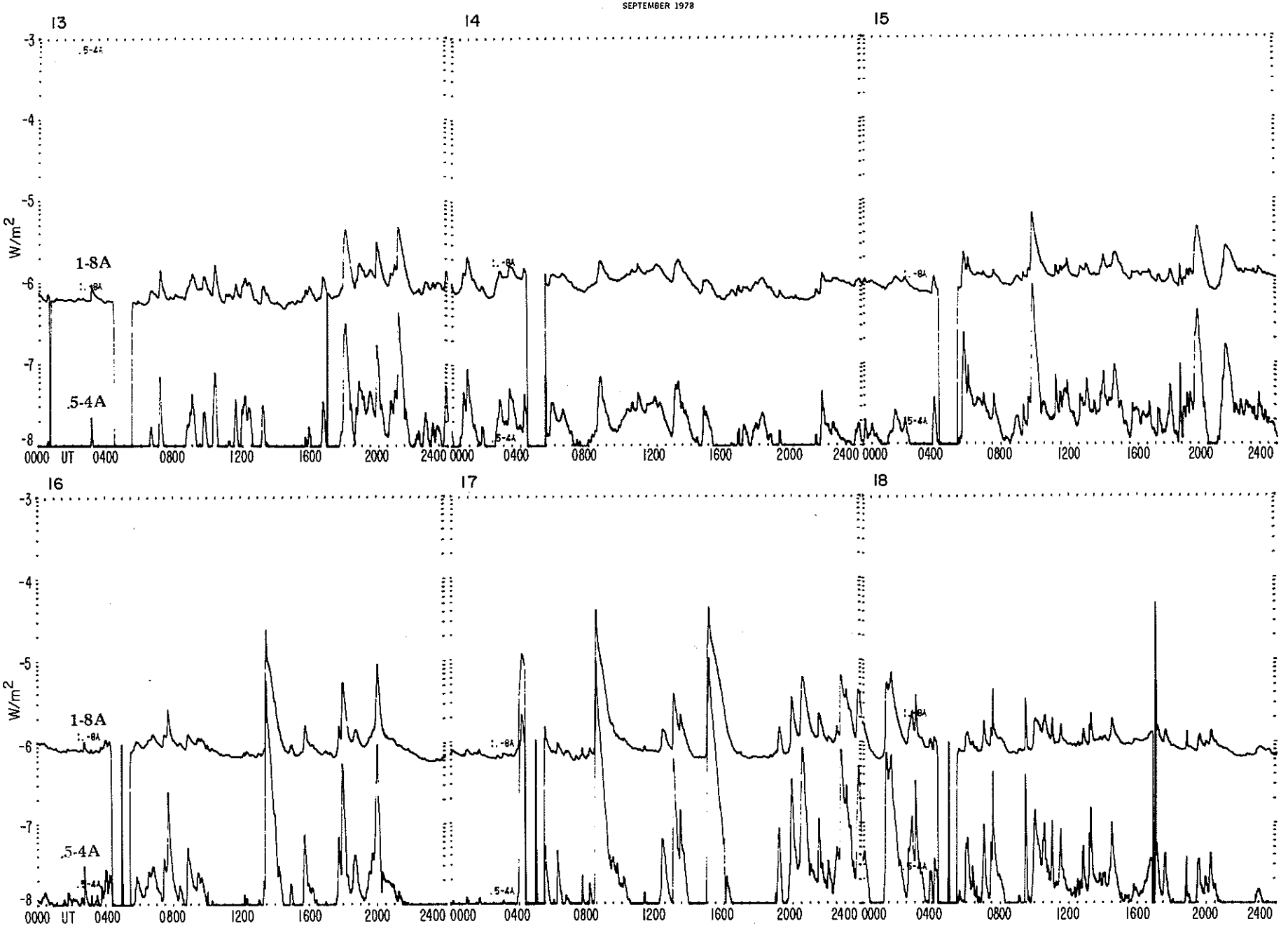
96
Misc
Sep 78




SMS-GOES X-RAYS
SEPTEMBER 1978
07
08
09
10
11
12
1-8A
.5-4A
W/m2
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 2400 0000 0400 0800 1200 1600 2000 2400 0000 0400 0800 1200 1600 2000 2400

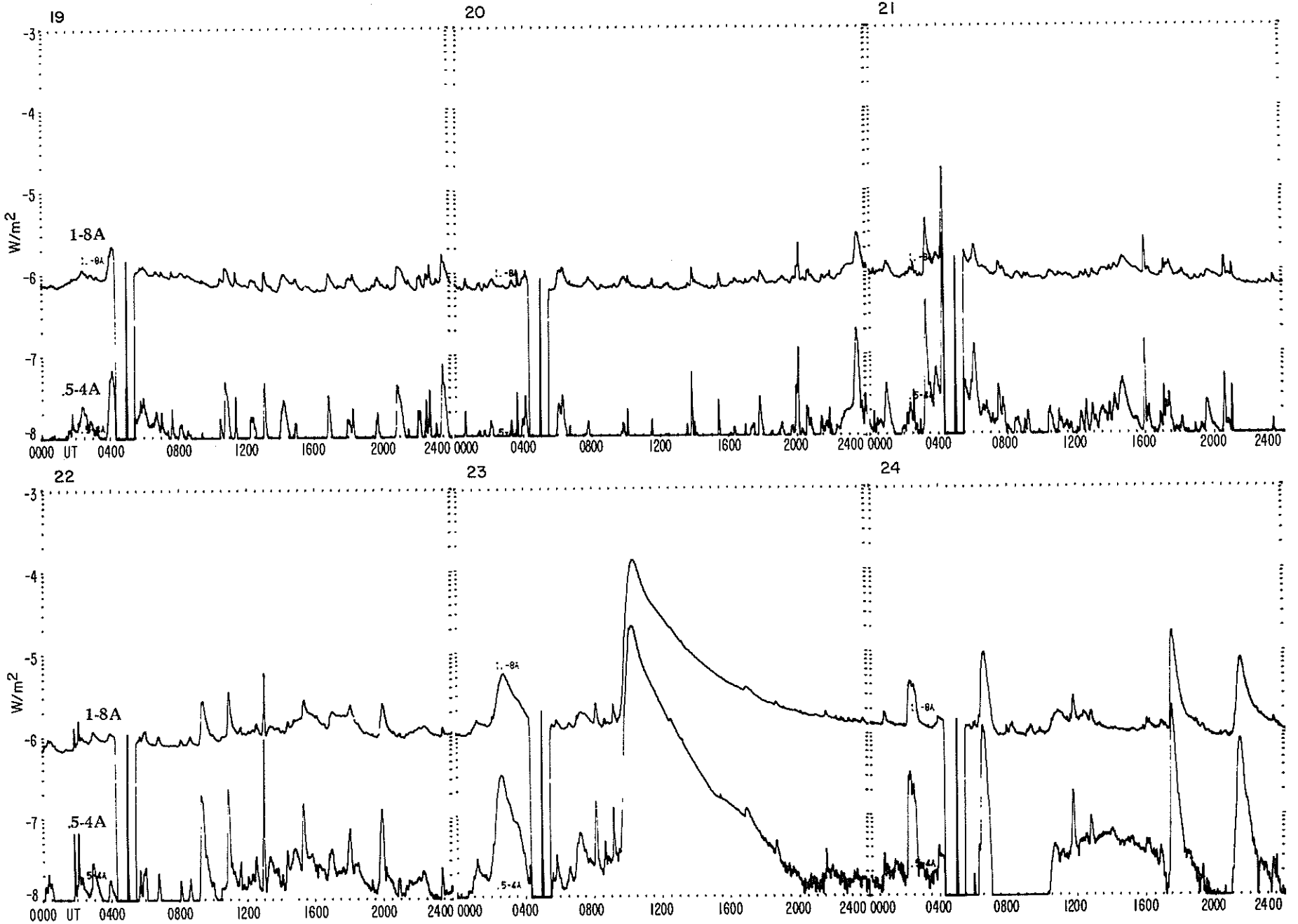
SMS-GOES X-RAYS

SEPTEMBER 1978



SMS-GOES X-RAYS

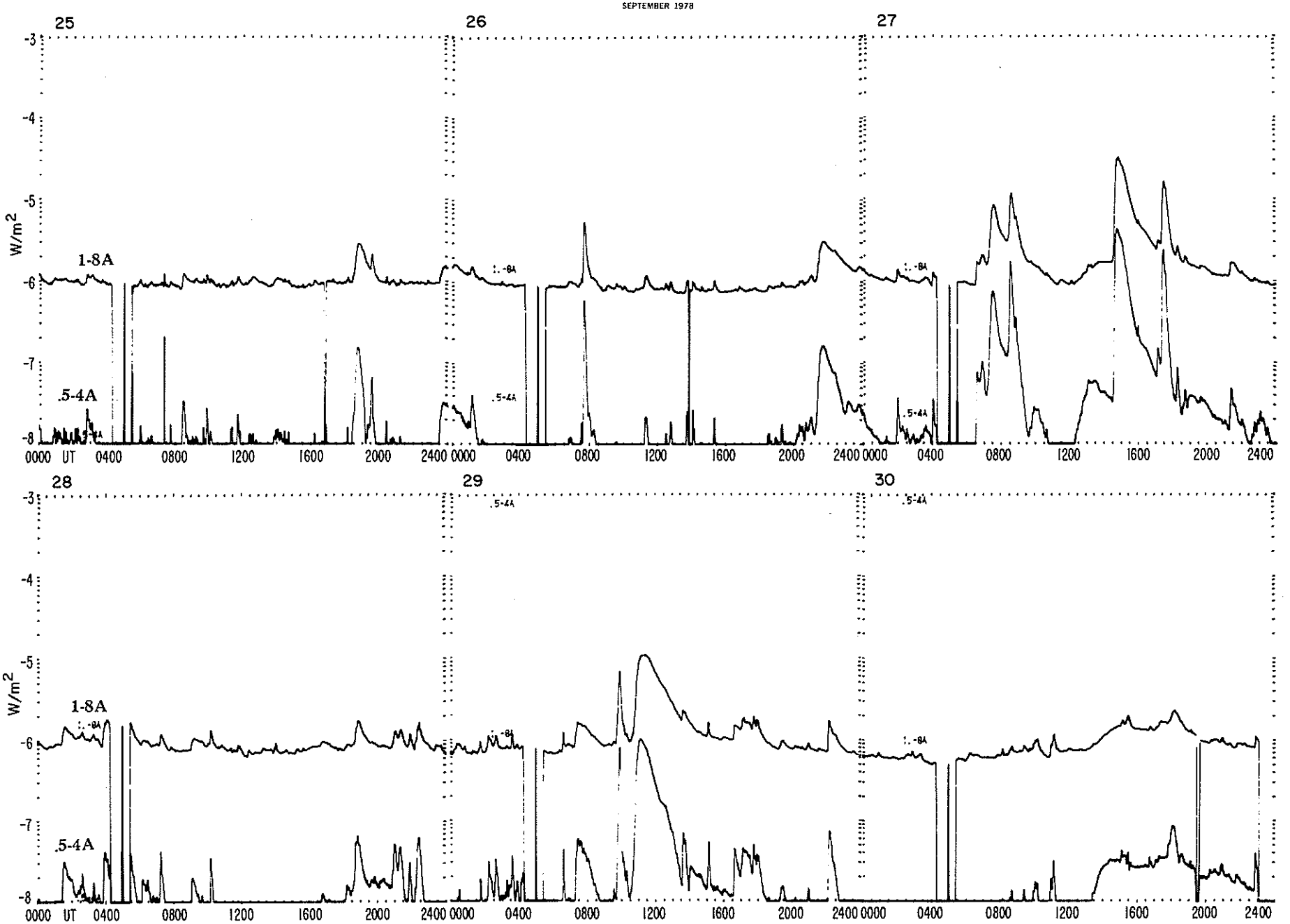
SEPTEMBER 1978



99
Misc
Sep 78

SMS-GOES X-RAYS

SEPTEMBER 1978



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