NOVEMBER 2003 NUMBER 711 - Part II

Solar-Geophysical Data comprehensive reports

Data for May 2003 and Miscellaneous
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

NEW DATA:
ACE Solar Wind, Interplanetary Magnetic Field and Particles -- Monthly Plots

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NOVEMBER 2003 NUMBER 711 - Part II

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Data for May 2003 and Late Data

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SOLAR-GEOPHYSICAL DATA

Number 711

(Issued in Two Parts)

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Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	KANZ	01	0926	0938	0956	S17	W10	10345	04	30.6	30	SF		2	E				
0002	KANZ	01	1035	1151	1157D	S12	E00	10349	05	1.4	82D	1F		2	E				
0003	SVTO	01	1131	1142	1205	S14	E03	10349	05	1.7	34	SF		3	E		85		F
0004	SVTO	01	1118	1122	1127	S12	E00	10349	05	1.5	9	SF		3	E		10		
0005	KANZ	01	1210U	1243	1314	S12	W01	10349	05	1.4	64U	SF		2	E				
0006		01	1359	1402	1418	S12	W02	10349	05	1.4	19	SF					22		F
	SVTO	01	1359	1402	1406	S12	W01	10349	05	1.5	7	SF		3	E		20		
	HOLL	01	1359	1402	1429	S12	W02	10349	05	1.4	30	SF		3	E		24		F
0007		01	1359*	1411	1424	S12	W02	10349	05	1.4	25	1F					62		F
	KANZ	01	1359	1411	1428	S12	W01	10349	05	1.5	29	1F		2	E				
	SVTO	01	1410	1411	1421	S12	W03	10349	05	1.4	11	SF		3	E		62		F
		01	1633		1655	No Flare Patrol													
0008	HOLL	01	1846	1846	1852	S14	W01	10349	05	1.7	6	SF		3	E		48		F
0009	HOLL	01	1917	1923	1936	S12	W03	10349	05	1.6	19	SF		3	E		56		F
0010	HOLL	01	2157	2158	2218	S12	W06	10349	05	1.5	21	SF		3	E		13		F
0011	LEAR	02	0253	0256	0329	S15	W22	10345	04	30.4	36	SF		3	E		96		F
0012	LEAR	02	0624	0624	0634	N14	W57	10344	04	28.0	10	SF		3	E		23		
0013	HOLL	02	1640	1641	1653	S13	W29	10345	04	30.5	13	SF		3	E		17		
0014	HOLL	02	1807	1807	1840	S17	W30	10345	04	30.5	33	SF		3	E		23		
0015	HOLL	02	1807	1810	1815	S20	W35	10347	04	30.1	8	SF		3	E		15		
0016	HOLL	02	1824	1830	1837	S19	W35	10347	04	30.1	13	SF		3	E		37		F
0017	HOLL	02	1841	1843	1846	S17	W31	10345	04	30.4	5	SF		3	E		11		
		02	2251		2310	No Flare Patrol													
0018		03	14542	1456*	1510	S33	W30	10348	05	1.2	16	SF					12		F
	KANZ	03	1454	1456	1513	S33	W29	10348	05	1.3	19	SF		2	E				
	HOLL	03	1455	1507	1512	S33	W30	10348	05	1.2	17	SF		3	E		13		
	SVTO	03	1456	1458	1505	S32	W32	10348	05	1.1	9	SF		3	E		10		F
0019	HOLL	03	1833	1833	1839	S15	W45	10345	04	30.4	6	SF		3	E		60		F
0020	KANZ	04	0711	0713	0716	S32	W38	10348	05	1.3	5	SF		2	E				
0021	LEAR	04	0810	0810	0816	S14	W35	10349	05	1.7	6	SF		3	E		21		F
0022	HOLL	04	1816	1817	1830	S32	W46	10348	05	1.1	14	SF		3	E		23		
0023	HOLL	04	1857	1857	1908	S34	W36	10348	05	1.9	11	SF		3	E		21		
0024	HOLL	04	1923	1926	1928	S33	W45	10348	05	1.2	5	SF		3	E		14		
0025	HOLL	04	1932	1940	1951	S32	W46	10348	05	1.2	19	SF		3	E		37		
0026	HOLL	04	2135	2135	2153	S32	W47	10348	05	1.2	18	SF		3	E		12		
		04	2245		2333	No Flare Patrol													
0027		05	06271	0629	0633	S15	W48	10349	05	1.6	6	SF					29		
	KANZ	05	0627	0629	0633	S16	W46	10349	05	1.8	6	SF		2	E				
	SVTO	05	0628	0629	0633	S14	W49	10349	05	1.6	5	SF		3	E		29		

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0028	LEAR	05	0628	0629	0632	S13	W56	10349	05	1.0	4	SF		3	E		19		H
0029		05	1258*	13181	1328	S34	W48	10348	05	1.7	30	SF					34		FH
	HOLL	05	1258	1319	1332	S34	W49	10348	05	1.6	34	SF		3	E		34		FH
	KANZ	05	1314	1318	1324	S34	W48	10348	05	1.7	10	SF		2	E				
0030	HOLL	05	2008	2009	2012	S14	W58	10349	05	1.4	4	SF		3	E		15		
0031	HOLL	06	0015	0016	0020	S32	W53	10348	05	1.8	5	SF		3	E		27		
		06	0114		0119	No Flare Patrol													
		06	0123		0146	No Flare Patrol													
		06	0355		0414	No Flare Patrol													
		06	1719		1720	No Flare Patrol													
		06	1726		1752	No Flare Patrol													
		06	1808		1818	No Flare Patrol													
		06	2231		2321	No Flare Patrol													
		07	0231		0417	No Flare Patrol													
0032		07	07015	07064	0715	S35	W76	10348	05	1.2	14	SF					53		F
	KANZ	07	0701	0706	0716	S37	W76	10348	05	1.2	15	SF		2	E				
	LEAR	07	0705	0710	0718	S36	W74	10348	05	1.3	13	SF		2	E		75		F
	SVTO	07	0706	0707	0712	S33	W78	10348	05	1.1	6	SF		3	E		31		
0033	HOLL	07	1558	1559	1603	S37	W72	10348	05	1.9	5	SF		3	E		20		
		08	0135		0416	No Flare Patrol													
		08	1529		1722	No Flare Patrol													
		09	0624		0625	No Flare Patrol													
		09	0627		0629	No Flare Patrol													
		09	0657		0659	No Flare Patrol													
		09	0708		0720	No Flare Patrol													
		09	0723		0726	No Flare Patrol													
		09	0730		0732	No Flare Patrol													
		09	0736		0738	No Flare Patrol													
		09	0936		0939	No Flare Patrol													
		09	0941		0948	No Flare Patrol													
		09	1209		1225	No Flare Patrol													
		10	0147		0521	No Flare Patrol													
		10	0523		0526	No Flare Patrol													
		10	0538		0539	No Flare Patrol													
		10	0543		0544	No Flare Patrol													
0034	KANZ	10	0649	0653	0655	S14	W26		05	8.3	6	SF		2	E				
		10	0657		0710	No Flare Patrol													
		10	0712		0720	No Flare Patrol													
		10	0830		0831	No Flare Patrol													
		10	1048		1224	No Flare Patrol													
		11	0147		0252	No Flare Patrol													
		11	0359		0417	No Flare Patrol													
		11	1206		1212	No Flare Patrol													
		11	2056		2102	No Flare Patrol													
		11	2159		2222	No Flare Patrol													
		11	2233		2237	No Flare Patrol													
		11	2243		2304	No Flare Patrol													
		11	2312		2322	No Flare Patrol													
		11	2331		2400	No Flare Patrol													
		12	0000		0016	No Flare Patrol													
		12	0020		0434	No Flare Patrol													
		13	0148		0434	No Flare Patrol													
		13	2100		2335	No Flare Patrol													
		14	0146		0206	No Flare Patrol													
		14	0214		0404	No Flare Patrol													
		14	1721		1812	No Flare Patrol													
		14	1817		1830	No Flare Patrol													
		14	1850		2127	No Flare Patrol													
		14	2135		2354	No Flare Patrol													
		15	1923		2232	No Flare Patrol													
		15	2356		2400	No Flare Patrol													

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		16	0000		0115	No Flare Patrol													
		16	0150		0409	No Flare Patrol													
0035	HOLL	16	2036	2038	2047	N15	W29	10356	05	14.7	11	SF		3	E		16		
0036	LEAR	17	0143	0147	0150	S16	E05	10357	05	17.4	7	SF		3	E		32		F
		17	2002		2008	No Flare Patrol													
		17	2213		2259	No Flare Patrol													
		18	1037		1038	No Flare Patrol													
		18	1047		1048	No Flare Patrol													
		18	1050		1057	No Flare Patrol													
0037	KANZ	18	1058U	1058U	1121	S16	W14	10357	05	17.4	23U	SF		2	E				
		18	1100		1102	No Flare Patrol													
		18	1112		1113	No Flare Patrol													
		18	1137		1158	No Flare Patrol													
		18	1216		1226	No Flare Patrol													
		18	1229		1235	No Flare Patrol													
0038	HOLL	18	1715	1715	1718	S18	W16	10357	05	17.5	3	SF		3	E		11		
		18	2327		2347	No Flare Patrol													
		19	0010		0024	No Flare Patrol													
		19	0151		0452	No Flare Patrol													
0039	KANZ	19	0943	1009	1104	N18	E27		05	21.5	81	SF		2	E				
0040	KANZ	19	1500	1513	1523D	S24	E62		05	24.4	23D	SF		2	E				
0041	HOLL	19	1924	1924	1926	N19	W64	10356	05	14.9	2	SF		3	E		20		
0042		20	00211	0025	0028	S26	W30	10364	05	17.7	7	SF					14		FH
	HOLL	20	0021	0025	0029	S25	W30	10364	05	17.7	8	SF		3	E		13		FH
	LEAR	20	0022	0025	0028	S26	W30	10364	05	17.7	6	SF		3	E		15		FH
		20	0154		0242	No Flare Patrol													
0043	LEAR	20	0455	0457	0501	S26	W33	10364	05	17.6	6	SF		3	E		20		F
		20	1720		1908	No Flare Patrol													
0044	HOLL	20	1928	1932	1947	S13	E15	10362	05	21.9	19	SF		3	E		24		
		20	1936		1945	No Flare Patrol													
		20	1958		2037	No Flare Patrol													
		20	2044		2221	No Flare Patrol													
		20	2225		2341	No Flare Patrol													
		21	0106		0120	No Flare Patrol													
		21	0247		0255	No Flare Patrol													
		21	0439		0456	No Flare Patrol													
		21	0513		0517	No Flare Patrol													
		21	0536		0556	No Flare Patrol													
		21	0643		0955	No Flare Patrol													
		21	1114		1139	No Flare Patrol													
		21	1501		1526	No Flare Patrol													
		21	1558		1631	No Flare Patrol													
		21	1644		1759	No Flare Patrol													
		22	0121		0552	No Flare Patrol													
0045	KANZ	22	0607	0618	0634	S10	W07	10362	05	21.7	27	SF		2	E				
		22	0613		0614	No Flare Patrol													
		22	0621		0622	No Flare Patrol													
		22	0630		0632	No Flare Patrol													
0046	KANZ	22	0635	0654	0740	S11	W06	10362	05	21.8	65	SF		2	E				
		22	0636		0637	No Flare Patrol													

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		22	0707		0710	No Flare Patrol														
		22	0712		0717	No Flare Patrol														
		22	0723		0726	No Flare Patrol														
		22	0728		0731	No Flare Patrol														
		22	0736		0739	No Flare Patrol														
		22	0743		0744	No Flare Patrol														
		22	0747		0748	No Flare Patrol														
		22	0750		0755	No Flare Patrol														
		22	0757		0758	No Flare Patrol														
		22	0802		0803	No Flare Patrol														
		22	0812		0814	No Flare Patrol														
		22	0818		0819	No Flare Patrol														
		22	0913		0914	No Flare Patrol														
		22	0916		0918	No Flare Patrol														
		22	0924		0926	No Flare Patrol														
		22	0945		0947	No Flare Patrol														
		22	1004		1016	No Flare Patrol														
		22	1022		1034	No Flare Patrol														
		22	1053		1103	No Flare Patrol														
		22	1144		1147	No Flare Patrol														
		22	1154		1158	No Flare Patrol														
0047		22	13471	13541	1409	S10	W10	10362	05	21.8	22	SF						14		F
	HOLL	22	1347	1354	1403	S10	W11	10362	05	21.7	16	SF		3	E			14		F
	KANZ	22	1348	1355	1415	S11	W09	10362	05	21.9	27	SF		2	E					
0048	KANZ	22	1503	1519	1540	S11	W10	10362	05	21.9	37	SF		2	E					
		22	1549		1714	No Flare Patrol														
		22	1919		1934	No Flare Patrol														
0049	HOLL	22	2110	2113	2126	S14	W11	10362	05	22.0	16	SF		3	E			59		
		22	2225		2347	No Flare Patrol														
0050	LEAR	23	0825	0834	0843	S10	W15	10362	05	22.2	18	SF		3	E			17		
		23	1045		1051	No Flare Patrol														
		23	1054		1056	No Flare Patrol														
		23	1205		1238	No Flare Patrol														
		23	1343		1418	No Flare Patrol														
		23	1610		1632	No Flare Patrol														
		23	2023		2156	No Flare Patrol														
		23	2206		2358	No Flare Patrol														
0051	KANZ	24	0808	0815	0840	N10	E32	10366	05	26.7	32	SF		2	E					
0052	KANZ	24	1142	1143	1146	S08	E10	10365	05	25.2	4	SF		2	E					
0053	KANZ	24	1342	1344	1350	S06	E13	10365	05	25.5	8	SF		2	E					
0054	KANZ	24	1515	1522	1530D	S06	E11	10365	05	25.4	15D	SF		2	E					
		24	1732		1748	No Flare Patrol														
		24	2106		2114	No Flare Patrol														
		24	2131		2212	No Flare Patrol														
		24	2225		2232	No Flare Patrol														
		24	2237		2252	No Flare Patrol														
		24	2305		2322	No Flare Patrol														
0055	LEAR	25	0426	0427	0433	N16	E40	10370	05	28.2	7	SF		3	E			19		
0056	LEAR	25	0810	0817	0833	N11	E31	10366	05	27.7	23	SF		3	E			39		
0057	HOLL	25	1716	1716	1721	S14	E35	10367	05	28.4	5	SF		3	E			10		F
0058	HOLL	25	1732	1747	1812	S26	E43	10368	05	29.1	40	SF		3	E			33		F
		25	2016		2040	No Flare Patrol														

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp	Opt	Xray	Obs See	Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0059	HOLL	25	2214	2214	2225	S07	E06	10365	05	26.4	11	SF			3	E		10		F
0060	HOLL	25	2251	2251	2259	S31	E39	10368	05	29.0	8	SF			3	E		16		F
		25	2333		2337	No Flare Patrol														
		26	0019		0117	No Flare Patrol														
0061	KANZ	26	0543U	0546	0831	S07	E06	10365	05	26.7	168U	1N			2	E				
0062	LEAR	26	0547	0552	0637	S09	E12	10365	05	27.1	50	1F			3	E		131		F
0063	KANZ	26	1029	1046	1121	S06	E00	10365	05	26.4	52	SF			2	E				
0064	KANZ	26	1123	1129	1152	S07	W01	10365	05	26.4	29	SF			2	E				
0065	KANZ	26	1155	1222U	1222D	S07	W01	10365	05	26.4	27D	SF			2	E				
		26	1202		1214	No Flare Patrol														
		26	1223		1236	No Flare Patrol														
		26	1358		1406	No Flare Patrol														
		26	1441		1732	No Flare Patrol														
0066	HOLL	26	1734E	1739	1744	S05	W08	10365	05	26.1	10D	1F			3	E		126		F
		26	1748		1810	No Flare Patrol														
		26	1833		2123	No Flare Patrol														
		26	2331		2352	No Flare Patrol														
0067	HOLL	26	2359	2401U	2402	S06	W08	10365	05	26.4	3	SF			3	E		16		F
0068	LEAR	27	0243	0259	0327	S07	W03	10365	05	26.9	44	1F			3	E		125		U
0069	LEAR	27	0340	0341	0412	S07	W13	10365	05	26.2	32	SF			3	E		34		FH
0070		27	0539	06176	0810	S06	W13	10365	05	26.3	151	1F						171		FH
	SVTO	27	0535E	0618U	0820D	S06	W11	10365	05	26.4	165D	1F			3	E		156		F
	LEAR	27	0539	0617	0750	S07	W14	10365	05	26.2	131	1F			3	E		186		HF
	KANZ	27	0544U	0623	0831	S06	W14	10365	05	26.2	167U	1F			2	E				
0071		27	14495	15107	1538	S05	W13	10365	05	26.6	49	SF						118		F
	KANZ	27	1449	1510	1543D	S05	W13	10365	05	26.6	54D	SF			2	E				
	SVTO	27	1454E	1507U	1528	S05	W13	10365	05	26.6	34D	1F			2	E		167		F
	HOLL	27	1454	1517	1548	S06	W12	10365	05	26.7	54	SF			3	E		69		F
		27	2010		2036	No Flare Patrol														
		27	2051		2057	No Flare Patrol														
		27	2117		2206	No Flare Patrol														
		27	2214		2233	No Flare Patrol														
0072	VORO	27	2258	2305	2359U	S05	E20		05	29.4	61U	2B			3	C	2305	573	6.2	
0073	VORO	27	2302	2305	2329	S12	E11		05	28.8	27	SF			3	C	2305	72	0.8	
0074	HOLL	27	2303	2304	2320	S12	W10	10371	05	27.2	17	SF			3	E		29		
0075		27	2258	24247	2645	S06	W20	10365	05	26.5	227	2B						439		EFHTU
	HOLL	27	2258	2431	2544D	S07	W17	10365	05	26.7	166D	2B			3	E		468		UHT
	LEAR	27	2345E	2424	2645	S06	W24	10365	05	26.2	180D	2B			3	E		410		FE
0076	MITK	28	0025	0029	0042	S08	W22	10365	05	26.4	17	1B				E	0029	3508	3.9	U
0077	HOLL	27	2350	2351	2356	S32	E06	10368	05	28.5	6	SF			3	E		53		
0078	MITK	28	0101	0111	0107	S08	W32	10365	05	25.6	6	1B				E	0107	2352	2.8	F
0079	KANZ	28	0558	0615	0648	S05	W21	10365	05	26.7	50	SF			2	E				
0080	KANZ	28	0943	0957	1004	S06	W23	10365	05	26.7	21	SF			2	E				

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0081	SVTO	28	0944	0946	1003	S05	W24	10365	05	26.6	19	SF		3	E		38		F
0082		28	10244	10281	1032	S05	W24	10365	05	26.6	8	SF					16		
	KANZ	28	1024	1028	1032	S06	W24	10365	05	26.6	8	SF		2	E				
	SVTO	28	1028	1029	1032	S04	W25	10365	05	26.6	4	SF		3	E		16		
0083		28	12351	12372	1243	S04	W26	10365	05	26.6	8	SF					20		
	KANZ	28	1235	1239	1243	S05	W26	10365	05	26.6	8	SF		2	E				
	SVTO	28	1236	1237	1243	S04	W27	10365	05	26.5	7	SF		3	E		20		
0084		28	1319	1320	1326	S04	W26	10365	05	26.6	7	SF					19		
	KANZ	28	1319	1320	1322D	S05	W26	10365	05	26.6	3D	SF		2	E				
	HOLL	28	1319	1320	1326	S02	W26	10365	05	26.6	7	SF		3	E		19		
0085		28	1334*	14231	1436	S03	W26	10365	05	26.6	62	SF					50		F
	HOLL	28	1334	1424	1446	S01	W26	10365	05	26.6	72	SF		3	E		71		
	SVTO	28	1423	1423	1427	S05	W27	10365	05	26.6	4	SF		3	E		30		F
0086		28	1448*	15452	1610	S03	W28	10365	05	26.5	82	SF					50		
	HOLL	28	1448	1547	1629	S01	W27	10365	05	26.6	101	SF		3	E		81		
	SVTO	28	1544	1545	1550	S05	W29	10365	05	26.5	6	SF		3	E		19		
0087	HOLL	28	1636	1639	1645	S07	W33	10365	05	26.2	9	SF		3	E		15		
0088	HOLL	28	1722	1845	2001	N00	W28	10365	05	26.6	159	1F		3	E		170		F
0089	HOLL	28	2008	2015	2038	S07	W35	10365	05	26.2	30	SF		3	E		55		
0090	HOLL	28	2030	2030	2036	S28	E00	10368	05	28.8	6	SF		3	E		18		
0091	HOLL	28	2042	2050	2059	N00	W29	10365	05	26.7	17	SF		3	E		51		F
0092	HOLL	28	2052	2057	2108	N11	E73	10373	06	3.4	16	SF		3	E		25		F
0093	HOLL	28	2102	2131	2135	S01	W28	10365	05	26.8	33	SF		3	E		18		
0094	HOLL	28	2109	2111	2117	N07	E58	10373	06	2.2	8	SF		3	E		18		
0095	HOLL	28	2118	2119	2124	N07	E58	10373	06	2.2	6	SF		3	E		13		
0096	HOLL	28	2205	2206	2211	S07	W36	10365	05	26.2	6	SF		3	E		58		
0097	HOLL	29	0020	0022	0030	S07	W37	10365	05	26.2	10	SF		3	E		40		
0098	LEAR	29	0020	0105	0223	S06	W37	10365	05	26.2	123	2B		4	E		548		FU
0099	HOLL	29	0035	0107	0157D	S07	W38	10365	05	26.2	82D	2B		3	E		423		
0100	LEAR	29	0210	0217	0239	S37	E03	10368	05	29.3	29	1F		4	E		109		EF
0101	HOLL	29	1932	1939	2007	S35	W13	10368	05	28.8	35	1N		3	E		194		HU
0102	HOLL	30	0045	0046	0057	S36	W17	10368	05	28.7	12	SF		3	E		64		F
0103	LEAR	30	0128	0130	0138	S06	W51	10365	05	26.2	10	SF		3	E		46		F
0104	LEAR	30	0327	0327	0343	S07	W55	10365	05	26.0	16	SF		3	E		18		F
0105	LEAR	30	0552	0552	0606	S05	W54	10365	05	26.2	14	SF		3	E		27		F
0106		30	0642	0650	0712	S05	W51	10365	05	26.5	30	1N					84		F
	LEAR	30	0642	0650	0715	S05	W55	10365	05	26.2	33	1N		3	E		113		F
	SVTO	30	0653E	0653U	0707	S04	W50	10365	05	26.5	14D	1F		3	E		54		
	KANZ	30	0653U	0653U	0714	S05	W49	10365	05	26.6	21U	SN		2	E				
0107		30	08521	08582	0938	N08	E51	10373	06	3.2	46	SF					76		F
	LEAR	30	0852	0858	0858D	N08	E55	10373	06	3.5	6D	SF		3	E		89		
	KANZ	30	0852	0859	0946	N10	E50	10373	06	3.1	54	SN		2	E				
	SVTO	30	0853	0900	0929	N06	E47	10373	06	2.9	36	SF		3	E		63		F

Hα SOLAR FLARES

MAY 2003

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0108	KANZ	30	0903	0919	0954	S06	W50	10365	05	26.6	51	SF			2	E				
0109	KANZ	30	1039	1044	1108	S26	W25	10368	05	28.5	29	SF			2	E				
0110	HOLL	30	1450	1452	1458	S07	W59	10365	05	26.2	8	SF			3	E		12		
0111	HOLL	30	1719	1726	1748	S02	W54	10365	05	26.7	29	SF			3	E		70		F
0112	HOLL	30	1931	1931	1934	S02	W54	10365	05	26.8	3	SF			3	E		19		
		30	1940		2003	No Flare Patrol														
		30	2040		2305	No Flare Patrol														
0113	LEAR	31	0024	0027	0041	N07	E30	10373	06	2.3	17	SF			3	E		30		
0114	LEAR	31	0218	0223	0338	S07	W65	10365	05	26.2	80	2B			4	E		512		U
0115	HOLL	31	1407	1408	1424	S05	W72	10365	05	26.2	17	SF			3	E		19		
0116	HOLL	31	1529	1529	1540	S07	W73	10365	05	26.2	11	SF			3	E		28		
		31	2015		2031	No Flare Patrol														
		31	2039		2159	No Flare Patrol														
0117	HOLL	31	2321	2323	2326	S03	W73	10365	05	26.5	5	SF			3	E		23		F

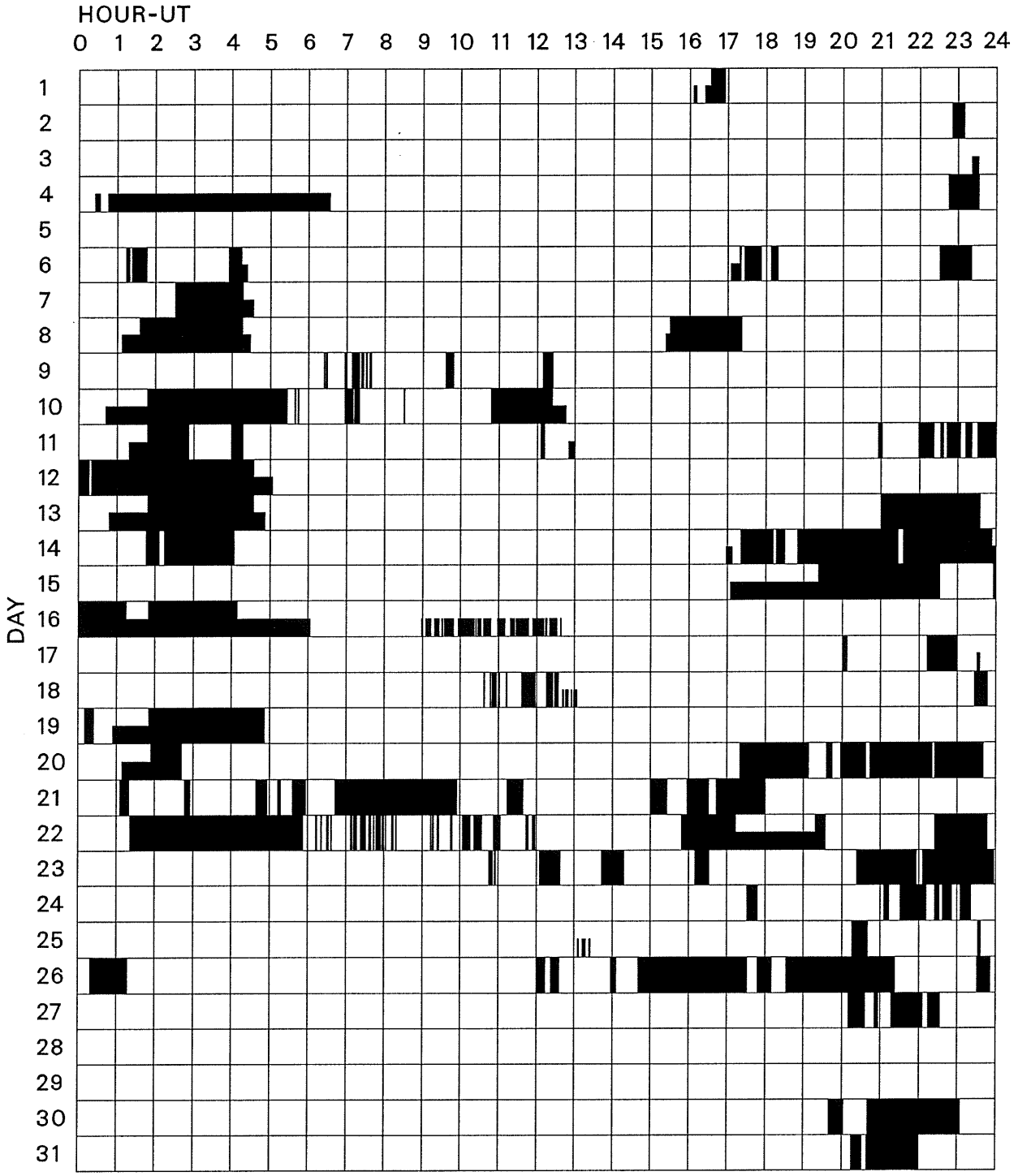
"Remarks"

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows Helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase; important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Observation Type: C=Cinematographic, E=Electronic, P=Photographic, V=Visual

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

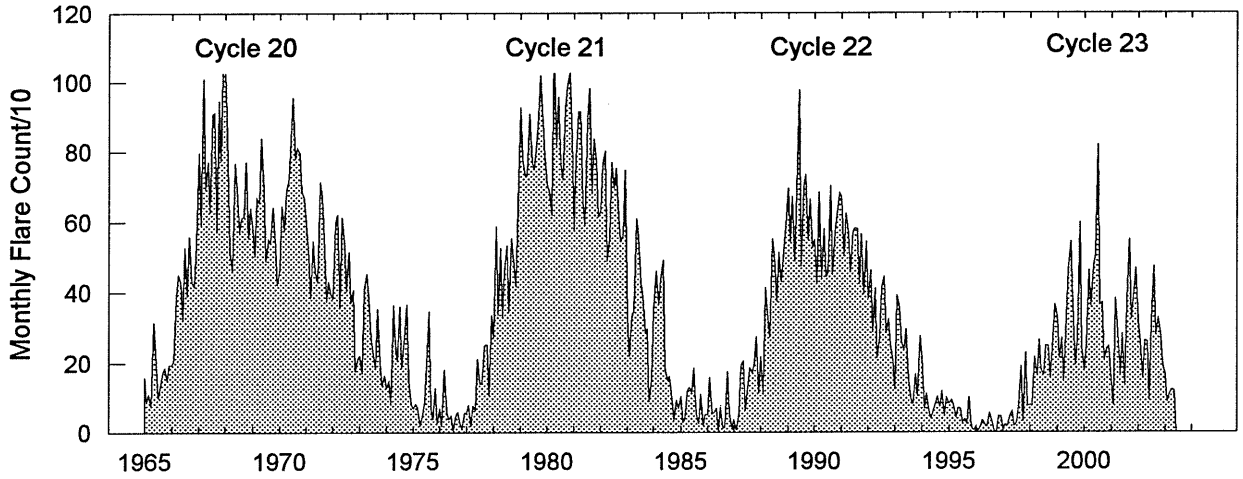
MAY 2003



Times of no flare patrol, shown here as shaded areas, combine reports from the stations listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind (neither visual or cinematographic): portions of a panel with only the bottom half shaded mark times of only visual patrol.

Holloman	Learmonth	San Vito
Kanzelhoehe	Mitaka	Voroshilov

Monthly Counts of Grouped Solar Flares
Jan 1965 - May 2003



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	158	85	110	74	315	231	99	127	173	184	150	193	1899
1966	194	205	390	449	429	323	528	391	558	432	417	543	4859
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	551	502	375	513	429	518	587	4816
1989	695	544	672	488	691	977	474	699	733	547	665	526	7711
1990	550	424	684	442	580	445	454	703	449	574	623	682	6610
1991	672	503	625	570	458	574	582	581	425	565	396	544	6495
1992	380	462	287	412	214	271	413	447	287	325	248	206	3952
1993	123	392	357	262	237	296	154	92	82	167	104	275	2541
1994	217	67	111	60	40	56	81	101	72	117	45	99	1066
1995	82	95	77	42	69	66	29	37	23	99	14	6	639
1996	14	3	15	34	21	16	54	31	3	0	44	45	280
1997	8	22	18	43	59	18	26	75	188	31	228	74	790
1998	78	76	216	161	264	177	164	248	249	155	268	367	2423
1999	330	212	271	145	330	466	544	368	192	264	598	243	3963
2000	175	248	462	362	473	505	818	364	372	208	241	246	4474
2001	147	77	383	284	164	282	137	376	549	325	405	468	3597
2002	318	261	155	263	259	91	318	474	280	329	279	196	3223
2003	164	87	112	122	117								602

The term 'grouped' means observations of the same event by different sites were lumped together and counted as one.

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	204	IZMI	43	NS	0600.0		360.0D		20.0		
	127	TORN	44	NS	0630.0E		510.0D		34.0		V=1
	245	SVTO	43	NS	1125.0	1135.0	160.0	260.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1135.0	1345.0	150.0	250.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1955.0	1900.0	55.0	160.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	2137.0	2203.0	44.0	210.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0041.0	0041.0	U	72.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0042.0	0042.0	U	66.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0044.0	0044.0	U	140.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0044.0	0044.0	U	130.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0101.0	0101.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0142.0	0142.0	1.0	67.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0142.0	0142.0	1.0	62.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0648.0	0648.0	U	56.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0702.0	0702.0	U	54.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0731.0	0731.0	U	81.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0731.0	0731.0	U	58.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0747.0	0747.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0747.0	0748.0	1.0	88.0			QL=4 ST=2 TYP=3
	9100	GORK	5	S	0759.8	0801.6	3.3	7.8			
	2950	GORK	2	S/F	0800.0	0802.0	3.0	6.4			
	245	LEAR	8	S	0809.0	0809.0	U	57.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0809.0	0809.0	U	58.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	0820.0	0820.0	U	53.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0820.0	0820.0	U	58.0			QL=2 ST=2 TYP=3
	127	TORN	4	S/F	0830.6	0831.3	1.4	210.0	80.0		
	245	LEAR	8	S	0832.0	0832.0	U	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0832.0	0832.0	U	99.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0852.0	0852.0	U	89.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0852.0	0852.0	U	60.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0903.0	0903.0	U	68.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0903.0	0903.0	U	61.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1125.0	1125.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1130.0	1131.0	1.0	63.0			QL=4 ST=2 TYP=3
	2800	PENT	21	GRF	1357.0	1518.0	95.0U	5.0			
	245	SGMR	8	S	1458.0	1458.0	U	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1458.0	1458.0	U	60.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1501.0	1501.0	U	66.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1504.0	1504.0	2.0	67.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1505.0	1505.0	U	84.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1511.0	1511.0	U	55.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1550.0	1550.0	U	140.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1550.0	1550.0	U	140.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1821.0	1823.0	2.0	70.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1823.0	1823.0	U	61.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1904.0	1904.0	U	90.0			QL=4 ST=2 TYP=3
	2800	PENT	3	S	1905.0	1925.0	27.0U	4.0			
	245	PALE	8	S	2000.0	2000.0	U	66.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2344.0	2344.0	U	51.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2352.0	2352.0	U	69.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	2352.0	2353.0	1.0	670.0			QL=4 ST=2 TYP=6
02	204	IZMI	44	NS	0600.0E		360.0D		10.0		
	245	LEAR	43	NS	0601.0	0703.0	89.0	160.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0630.0E		420.0D		10.0		V=0
	245	SGMR	43	NS	1108.0	1108.0	675.0	110.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1305.0E		505.0D		10.0		
	280	CUBA	44	NS	1305.0E		505.0D		23.0		
	245	SGMR	43	NS	1627.0	1844.0	300.0	170.0			QL=4 ST=3 TYP=1
	245	LEAR	8	S	0005.0	0005.0	U	53.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0021.0	0021.0	U	74.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0043.0	0044.6	5.0	7.4			
	410	LEAR	8	S	0044.0	0044.0	U	110.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	0045.0	0045.0	1.0	20.0			0
	245	LEAR	8	S	0045.0	0045.0	U	85.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0129.0	0129.0	U	59.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0246.0	0256.8	51.0	48.9			
	2800	HIRA	1	S	0248.0	0257.0	17.0	40.0			0
	1415	PALE	8	S	0254.0	0255.0	2.0	210.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
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MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	2695	PALE	4	S/F	0254.0	0256.0	3.0	37.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	0254.0	0256.0	3.0	45.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0255.0	0255.0	1.0	180.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0256.0	0256.0	U	54.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0256.0	0256.0	U	23.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0256.0	0256.0	U	22.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0301.0	0301.0	U	55.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0306.0	0306.0	U	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0354.0	0354.0	U	57.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0359.0	0359.0	U	70.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0403.0	0404.0	1.0	110.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0413.0	0413.0	U	23.0			QL=4 ST=3 TYP=3
	245	LEAR	8	S	0442.0	0443.0	1.0	250.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0442.0	0443.0	1.0	170.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0520.0	0520.0	U	73.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0520.0	0520.0	U	67.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0538.0	0538.0	U	71.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0543.0	0543.0	1.0	91.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0543.0	0544.0	1.0	89.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0559.0	0601.0	3.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0606.0	0606.0	U	65.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0617.0	0617.0	U	98.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0628.0	0629.0	1.0	60.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0703.0	0703.0	U	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0717.0	0717.0	U	71.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0725.0	0725.0	U	130.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0749.7	0749.9	0.3	28.0			
	245	SVTO	8	S	0806.0	0806.0	U	59.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0817.0	0817.0	U	88.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0820.0	0820.0	1.0	140.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1054.1	1054.2	0.2	40.0			
	245	SVTO	48	C	1055.0	1055.0	3.0	68.0			QL=4 ST=2 TYP=8
	245	SVTO	8	S	1108.0	1108.0	U	94.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1113.0	1114.0	1.0	68.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1219.0	1221.0	2.0	66.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	1351.0	1422.0	63.0	5.0			
	245	SGMR	8	S	1432.0	1432.0	U	60.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1506.0	1506.0	U	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1521.0	1521.0	U	78.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1525.0	1525.0	U	220.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1525.0	1525.0	U	110.0			QL=4 ST=2 TYP=3
	410	SVTO	48	C	1535.0	1539.0	4.0	190.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1539.0	1539.0	U	72.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1539.0	1539.0	U	150.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1539.0	1539.0	U	70.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1627.0	1627.0	U	140.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1639.0	1640.0	1.0	12000.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	1639.0	1640.0	1.0	350.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	1639.0	1640.0	1.0	330.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1639.0	1639.0	U	11000.0			QL=4 ST=2 TYP=6
	245	SGMR	49	GB	1639.0	1639.0	1.0	11000.0			QL=4 ST=2 TYP=6
	410	SGMR	49	GB	1639.0	1639.0	1.0	500.0			QL=4 ST=2 TYP=6
	610	SGMR	49	GB	1639.0	1639.0	1.0	660.0			QL=4 ST=2 TYP=6
	245	SVTO	49	GB	1639.0	1639.0	1.0	8100.0			QL=4 ST=2 TYP=6
	410	SVTO	49	GB	1639.0	1639.0	1.0	580.0			QL=4 ST=2 TYP=6
	610	SVTO	49	GB	1639.0	1639.0	U	510.0			QL=4 ST=2 TYP=6
	2800	PENT	29	PBI	1737.0	1810.0	380.0U	124.0			
	245	PALE	8	S	1748.0	1748.0	2.0	150.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1806.0	1807.0	1.0	180.0			QL=4 ST=2 TYP=3
	1415	SGMR	48	C	1806.0	1811.0	6.0	490.0			QL=4 ST=2 TYP=8
	245	PALE	48	C	1806.0	1811.0	13.0	490.0			QL=4 ST=2 TYP=8
	9500	CUBA	4	S/F	1806.2	1809.4	12.6	100.0	50.0		
	1415	PALE	48	C	1807.0	1812.0	5.0	470.0			QL=4 ST=2 TYP=8
	4995	PALE	48	C	1807.0	1810.0	9.0	290.0			QL=4 ST=2 TYP=8
	2695	PALE	4	S/F	1807.0	1810.0	8.0	130.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	1807.0	1809.0	9.0	130.0			QL=4 ST=2 TYP=3
	610	SGMR	48	C	1807.0	1811.0	9.0	92.0			QL=4 ST=2 TYP=8
	2695	SGMR	4	S/F	1807.0	1810.0	6.0	130.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1807.0	1810.0	8.0	220.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	8800	SGMR	4	S/F	1807.0	1809.0	7.0	130.0			QL=4 ST=2 TYP=3
	410	PALE	48	C	1809.0	1811.0	5.0	320.0			QL=4 ST=2 TYP=8
	410	PALE	8	S	1809.0	1809.0	U	55.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	1809.0	1810.0	7.0	76.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1809.0	1811.0	2.0	340.0			QL=4 ST=2 TYP=3
	410	SGMR	4	S/F	1809.0	1811.0	5.0	340.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1809.0	1810.0	4.0	87.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	1811.0	1811.0	5.0	80.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1811.0	1811.0	5.0	380.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1811.0	1811.0	U	380.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	2031.0	2031.0	1.0	110.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2032.0	2032.0	U	100.0			QL=4 ST=2 TYP=3
	410	SGMR	48	C	2153.0	2153.0	2.0	91.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	2154.0	2156.0	2.0	150.0			QL=4 ST=2 TYP=8
	410	PALE	8	S	2326.0	2326.0	U	83.0			QL=4 ST=2 TYP=3
03	127	TORN	44	NS	0630.0E		510.0D		16.0		V=1
	235	CUBA	44	NS	1320.0E		500.0D		7.0		
	280	CUBA	44	NS	1320.0E		500.0D		23.0		
	245	LEAR	8	S	0341.0	0341.0	1.0	360.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0349.0	0349.0	U	73.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0419.0	0419.0	U	53.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0432.0	0432.0	U	61.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0438.0	0438.0	1.0	94.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0438.0	0438.0	1.0	74.0			QL=2 ST=2 TYP=3
	610	SVTO	8	S	1509.0	1509.0	U	52.0			QL=4 ST=2 TYP=3
	2800	PENT	40	F	1821.0	1832.0	19.0	14.0			
	410	SGMR	8	S	1828.0	1829.0	2.0	100.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1829.0	1829.0	U	100.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1830.0	1830.0	U	650.0			QL=4 ST=2 TYP=6
	245	SGMR	8	S	1831.0	1832.0	1.0	92.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1831.0	1832.0	1.0	83.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	2130.0	2156.0	52.0	5.0			
04	127	TORN	44	NS	0630.0E		420.0D		10.0		V=0
	235	CUBA	44	NS	1310.0E		500.0D		8.0		
	280	CUBA	44	NS	1310.0E		500.0D		24.0		
	245	SGMR	43	NS	1819.0	1819.0	53.0	79.0			QL=4 ST=2 TYP=1
	245	PALE	8	S	0129.0	0131.0	2.0	300.0			QL=4 ST=2 TYP=3
	600	GORK	41	F	0704.0	0710.6		7.3			
	600	GORK	41	F	0704.0	0705.9	7.0	9.1			
	2840	PEKG	45	C	0808.0	0810.7	5.0	4.6			
	9100	GORK	4	S/F	0808.8	0810.0	6.2	70.0			
	2950	GORK	1	S	0809.1	0810.0	1.7	7.0			
	9500	CUBA	1	S	1345.6	1345.8	2.7	18.0	9.0		
	2800	PENT	1	S	1456.0	1502.0	11.0	5.0			
	9500	CUBA	1	S	1501.2	1502.1	1.8	22.0	11.0		
	235	CUBA	27	RF	1517.0	1716.0	277.0	11.0	6.0		
	280	CUBA	27	RF	1517.0	1716.0	277.0	34.0	17.0		
	245	SGMR	8	S	1712.0	1712.0	U	58.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1744.0	1745.0	1.0	69.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1746.0	1746.0	U	71.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1805.0	1805.0	U	59.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	2128.3	2129.4	1.7	9.0	4.0		
05	204	IZMI	44	NS	0600.0E		360.0D		30.0		
	127	TORN	44	NS	0630.0E	1036.8	510.0D	80.0	22.0		V=2
	245	SGMR	43	NS	1546.0	1604.0	18.0	130.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1826.0	1826.0	46.0	130.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	1826.0	1851.0	110.0	140.0			QL=4 ST=2 TYP=1
	2840	PEKG	45	C	0625.0	0627.0	6.0	6.2			
	410	LEAR	8	S	0626.0	0627.0	2.0	250.0			QL=4 ST=2 TYP=3
	410	SVTO	48	C	0626.0	0627.0	3.0	540.0			QL=2 ST=2 TYP=8
	2950	GORK	41	F	0626.6	0627.0	1.5	7.0			
	2950	GORK	41	F	0626.6	0627.9		4.1			
	204	IZMI	45	C	0626.9	0627.1	0.4	14.0			
	245	LEAR	8	S	0627.0	0628.0	1.0	89.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0627.0	0628.0	1.0	67.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1206.0	1206.0	1.0	54.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	245	SGMR	8	S	1524.0	1524.0	1.0	66.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1527.0	1527.0	3.0	70.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1527.0	1527.0	3.0	50.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1604.0	1604.0	U	100.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2357.0	2357.0	U	53.0			QL=4 ST=2 TYP=3
06	245	PALE	43	NS	0038.0	0048.0	147.0	230.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0107.0	0107.0	103.0	170.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D		15.0		
	127	TORN	44	NS	0630.0E		510.0D		28.0		V=1
	245	SGMR	43	NS	1215.0	1222.0	7.0	63.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1300.0E		530.0D		16.0		
	280	CUBA	44	NS	1300.0E		530.0D		20.0		
	245	SGMR	43	NS	1350.0	1415.0	60.0	100.0			QL=4 ST=2 TYP=1
	245	LEAR	48	C	0044.0	0048.0	4.0	190.0			QL=4 ST=2 TYP=8
	245	LEAR	8	S	0050.0	0050.0	2.0	60.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0056.0	0056.0	U	58.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0100.0	0100.0	2.0	67.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0133.0	0138.0	15.0	39.6			
	2804	VORO	23	GRF	0135.7	0213.0	107.6	10.9			
	2804	VORO	3	S	0135.7	0138.5	7.1	29.8			
	2695	PALE	8	S	0138.0	0138.0	1.0	44.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	0138.0	0138.0	1.0	52.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0209.0	0213.0	11.0	11.2			
	204	IZMI	41	F	0648.9	0649.4	1.0	89.0			
	204	IZMI	41	F	0653.9	0654.0	0.3	33.0			
	900	GORK	41	F	0716.5	0718.3	3.1	4.5			
	900	GORK	41	F	0716.5	0719.4		4.5			
	600	GORK	46	C	0718.1	0718.3	1.5	8.0			
	600	GORK	46	C	0718.1	0719.3		12.0			
	600	GORK	41	F	0907.3	0908.2		7.0			
	600	GORK	41	F	0907.3	0907.6	1.1	3.0			
	900	GORK	40	F	0908.5	0909.1	1.5	24.0			
	2950	GORK	20	GRF	1002.1	1010.3	24.5	15.0			
	3000	IZMI	20	GRF	1004.6	1009.9	14.8	17.0	5.6		
	2840	PEKG	20	GRF	1005.0	1009.7	15.0	7.9			
	9100	GORK	20	GRF	1008.2	1017.8	19.5	11.0			
	245	SGMR	8	S	1317.0	1317.0	U	53.0			QL=4 ST=2 TYP=3
	2800	PENT	21	GRF	1340.0	1411.0	85.0	8.0			
	245	SVTO	48	C	1348.0	1353.0	11.0	56.0			QL=4 ST=2 TYP=8
	245	SVTO	48	C	1411.0	1415.0	8.0	140.0			QL=4 ST=3 TYP=8
	245	SVTO	4	S/F	1442.0	1442.0	4.0	82.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1615.0	1615.0	U	140.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1615.0	1615.0	U	93.0			QL=4 ST=2 TYP=3
	2800	PENT	29	PBI	1859.0	1917.0	33.0U	7.0			
	410	PALE	8	S	2043.0	2043.0	1.0	79.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	2043.0	2043.0	U	54.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2229.0	2229.0	U	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2230.0	2230.0	U	150.0			QL=4 ST=2 TYP=3
07	204	IZMI	44	NS	0600.0E		360.0D		40.0		
	127	TORN	44	NS	0630.0E		510.0D		46.0		V=2
	245	SGMR	43	NS	1118.0	1136.0	70.0	130.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1418.0	1440.0	104.0	98.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0117.0	0117.0	U	53.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0135.0	0135.0	U	62.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0135.0	0135.0	U	48.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0530.0	0530.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0530.0	0530.0	U	85.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0538.0	0538.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0556.0	0556.0	U	59.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0617.0	0617.0	U	59.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0617.0	0617.0	U	58.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0630.0	0630.0	3.0	80.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0630.0	0630.0	U	67.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0703.0	0705.0	2.0	110.0			QL=4 ST=2 TYP=3
	245	LEAR	48	C	0704.0	0704.0	7.0	120.0			QL=4 ST=2 TYP=8
	245	SVTO	8	S	0708.0	0709.0	1.0	65.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0711.0	0711.0	U	70.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	245	SVTO	8	S	0924.0	0924.0	U	59.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1041.0	1041.0	U	130.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1041.0	1041.0	2.0	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1102.0	1102.0	U	78.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1113.0	1113.0	U	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1120.0	1120.0	U	68.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1136.0	1136.0	U	140.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1136.4	1136.6	0.5	93.0			
	245	SVTO	8	S	1213.0	1213.0	U	57.0			QL=4 ST=2 TYP=3
	245	SVTO	48	C	1224.0	1227.0	3.0	78.0			QL=4 ST=2 TYP=8
	245	SVTO	8	S	1238.0	1238.0	U	90.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1256.0	1257.0	1.0	160.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1308.1	1308.4	0.9	10.0	5.0		
	245	SVTO	8	S	1330.0	1330.0	U	160.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1335.0	1335.0	U	57.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1354.0	1354.0	U	62.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1406.0	1407.0	1.0	63.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1414.0	1415.0	1.0	61.0			QL=4 ST=2 TYP=3
	2800	PENT	21	GRF	1458.0	1509.0	94.0U	3.0			
	245	PALE	8	S	1812.0	1812.0	U	64.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2013.0	2013.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2028.0	2028.0	U	63.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	2126.0	2135.0	24.0	3.0			
08	204	IZMI	44	NS	0600.0E		360.0D		10.0		
	127	TORN	43	NS	0903.0	0941.8	167.0	60.0	12.0		V=1
	235	CUBA	44	NS	1400.0E		470.0D		8.0		
	280	CUBA	44	NS	1400.0E		470.0D		19.0		
	245	PALE	8	S	0110.0	0110.0	U	280.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0201.0	0201.0	U	74.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0201.0	0201.0	U	68.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1420.0	1421.0	1.0	210.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1421.0	1421.0	U	200.0			QL=4 ST=2 TYP=3
09	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	127	TORN	43	NS	0830.0		350.0U		10.0		V=0,ATM.STORM
	245	PALE	8	S	0029.0	0029.0	1.0	50.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0622.4	0622.5	0.2	24.0			
	245	SVTO	8	S	0853.0	0854.0	1.0	58.0			QL=2 ST=2 TYP=3
	600	GORK	41	F	0907.4	0908.0		3.4			
	600	GORK	41	F	0907.4	0907.5	0.8	1.1			
	900	GORK	41	F	0908.8	0910.2	3.2	90.0			
	900	GORK	41	F	0908.8	0910.5		100.0			
	4995	SGMR	8	S	1030.0	1030.0	1.0	170.0			QL=4 ST=2 TYP=3
	33	UPIC	4	S/F	1130.0	1131.5	2.0				
	33	UPIC	2	S/F	1434.5	1435.0	1.5				
10	127	TORN	43	NS	0847.0		253.0		8.0		V=0
	235	CUBA	44	NS	1300.0E		530.0D		6.0		
	280	CUBA	44	NS	1300.0E		530.0D		15.0		
	127	TORN	49	GB	0630.0E	0641.0	30.0U	6700.0	110.0		UNCERTAIN
11	127	TORN	43	NS	0730.0		450.0		8.0		V=0
	235	CUBA	44	NS	1315.0E		520.0D		5.0		
	280	CUBA	44	NS	1315.0E		520.0D		15.0		
	9100	GORK	2	S/F	0755.4	0755.9	1.8	15.0			
	245	SGMR	8	S	1352.0	1352.0	1.0	98.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1654.0	1654.0	U	56.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1903.0	1903.0	U	100.0			QL=4 ST=2 TYP=3
12	235	CUBA	44	NS	1300.0E		510.0D		6.0		
	280	CUBA	44	NS	1300.0E		510.0D		16.0		
	204	IZMI	42	SER	0604.1	0609.4	5.5	42.0			
	900	GORK	2	S/F	0807.5	0807.8	0.8	13.0			
	600	GORK	2	S/F	0808.3	0808.4	0.4	4.5			
	2840	PEKG	5	S	0931.0	0932.8	5.0	18.9			
	204	IZMI	7	C	1106.3	1106.4	0.1	9.0			
	204	IZMI	42	SER	1128.8	1131.6	4.9	27.0			
	245	SGMR	8	S	2138.0	2138.0	1.0	100.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
12	500	HIRA	8	S	2139.0	2139.0	1.0	10.0			0
13	127	TORN	44	NS	1010.0E		200.0D		8.0		V=0,ATM.STORM
	245	LEAR	8	S	0136.0	0137.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0136.0	0137.0	1.0	130.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	0251.0	0251.0	1.0	10.0			0
	245	LEAR	8	S	0646.0	0646.0	U	160.0			QL=4 ST=2 TYP=3
	204	IZMI	45	C	0646.0	0646.1	0.2	170.0			
	204	IZMI	7	C	0647.0	0647.1	0.2	39.0			
14	127	TORN	43	NS	0952.0		223.0		8.0		V=1
	235	CUBA	44	NS	1305.0E		525.0D		5.0		
	280	CUBA	44	NS	1305.0E		525.0D		13.0		
	204	IZMI	41	F	0724.1	0724.5	0.5	23.0			
	127	TORN	42	SER	0932.2	0943.3	12.5	120.0	50.0		
	127	TORN	4	S/F	0935.2	0935.6U	1.0	220.0	130.0		DISTURBED
	204	IZMI	41	F	0935.3	0935.4	0.4	16.0			
	127	TORN	7	C	1006.3	1006.5	1.5	90.0	30.0		
	245	SGMR	8	S	2153.0	2153.0	U	50.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2154.0	2154.0	U	76.0			QL=4 ST=2 TYP=3
15	127	TORN	44	NS	0900.0E		360.0D		8.0		V=1
	127	TORN	4	S/F	1055.1	1055.3	1.8	130.0	30.0		
16	127	TORN	43	NS	0835.0		175.0		11.0		V=1
	235	CUBA	44	NS	1300.0E		510.0D		6.0		
	280	CUBA	44	NS	1300.0E		510.0D		15.0		
	600	GORK	40	F	1041.4	1042.1	1.2	5.0			
	900	GORK	40	F	1041.7	1042.3	1.0	15.0			
	33	UPIC	4	S/F	1536.5	1537.0	1.0				UNCERTN
17	127	TORN	43	NS	0747.0		333.0		6.0		V=1,DISTURBED
	245	PALE	8	S	0305.0	0306.0	1.0	110.0			QL=4 ST=2 TYP=3
	600	GORK	41	F	0726.1	0727.0		8.0			
	600	GORK	41	F	0726.1	0726.7	1.4	14.0			
	900	GORK	8	S	0727.5	0727.7	0.3	90.0			
	33	UPIC	8	S	1202.5	1202.8	0.5				
	127	TORN	4	S/F	1204.2	1204.8	1.0	210.0	50.0		
18	127	TORN	44	NS	0900.0E		318.0D		7.0		V=0
	204	IZMI	7	C	0828.1	0828.1	0.1	10.0			
	127	TORN	4	S/F	1403.5	1404.1	1.5	170.0	70.0		
19	127	TORN	43	NS	0910.0		350.0		9.0		V=1
	3000	IZMI	20	GRF	1020.2U	1040.4	69.8U	11.0	3.7		
	33	UPIC	4	S/F	1038.0	1038.7	1.0				
20	127	TORN	44	NS	0900.0E		360.0D		6.0		V=1,DISTURBED
	204	IZMI	42	SER	0608.4	0609.0	2.2	36.0			
	2840	PEKG	1	S	0852.0	0856.3	7.0	4.8			
21	127	TORN	44	NS	0630.0E		300.0D		9.0		V=1
	245	PALE	8	S	2203.0	2203.0	1.0	130.0			QL=4 ST=2 TYP=3
22	235	CUBA	44	NS	1310.0E		290.0D		6.0		
	280	CUBA	44	NS	1310.0E		290.0D		19.0		
	410	PALE	8	S	0331.0	0331.0	1.0	110.0			QL=4 ST=2 TYP=3
	2950	GORK	2	S/F	0613.3	0615.4	4.7	8.9			
	3000	IZMI	1	S	0615.2	0615.4	0.5	9.0	4.1		
	204	IZMI	7	C	0727.2	0727.2	0.1	31.0			
	410	PALE	8	S	1714.0	1714.0	U	76.0			QL=4 ST=2 TYP=3
	410	PALE	48	C	1720.0	1721.0	6.0	230.0			QL=4 ST=2 TYP=8
	2800	PENT	24	R	2050.0		261.0				
23	127	TORN	44	NS	1200.0E		130.0D		8.0		V=1
	900	GORK	40	F	0820.1	0828.3	19.9	50.0			
	600	GORK	41	F	0824.0	0837.2		150.0			
	600	GORK	41	F	0824.0	0836.3	25.2	85.0			
	610	LEAR	8	S	0837.0	0837.0	U	51.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
23	245	SGMR	8	S	1721.0	1721.0	U	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1722.0	1722.0	U	120.0			QL=4 ST=2 TYP=3
24	127	TORN	44	NS	0800.0E		310.0D		7.0		V=0
25	127	TORN	43	NS	0827.0		153.0		8.0		V=0
	204	IZMI	42	SER	1011.8	1012.2	0.9	107.0			
26	204	IZMI	43	NS	0600.0		360.0D		25.0		
	127	TORN	44	NS	0730.0E		510.0D		30.0		V=1,ATM.STORM
	235	CUBA	44	NS	1305.0E		495.0D		46.0		
	280	CUBA	44	NS	1305.0E		495.0D		66.0		
	245	SGMR	43	NS	1551.0	1730.0	304.0	420.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	2356.0	0333.0	551.0	170.0			QL=4 ST=2 TYP=1
	2840	PEKG	45	C	0526.0	0542.5	37.0	104.3			
	2950	GORK	47	GB	0535.3	0542.7	93.7	100.0			
	2800	HIRA	4	S/F	0537.0	0543.0	22.0	85.0			0
	500	HIRA	7	C	0538.0	0546.0	62.0	155.0			0
	9100	GORK	4	S/F	0538.0	0542.8	22.0	70.0			
	610	LEAR	48	C	0539.0	0543.0	10.0	280.0			QL=4 ST=2 TYP=8
	2695	SVTO	4	S/F	0539.0	0543.0	15.0	110.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0539.0	0542.0	15.0	130.0			QL=4 ST=2 TYP=3
	410	LEAR	48	C	0540.0	0545.0	7.0	180.0			QL=4 ST=2 TYP=8
	4995	LEAR	4	S/F	0540.0	0542.0	7.0	130.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	0540.0	0543.0	9.0	91.0			QL=4 ST=2 TYP=3
	1415	LEAR	4	S/F	0541.0	0543.0	5.0	100.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0541.0	0542.0	4.0	91.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0541.0	0542.0	13.0	71.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0542.0	0542.0	3.0	72.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	0542.0	0542.0	12.0	31.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0555.0	0556.0	1.0	81.0			QL=4 ST=2 TYP=3
	9100	GORK	29	PBI	0600.0	0600.0	92.5	25.0			
	245	LEAR	4	S/F	0621.0	0627.0	10.0	120.0			QL=4 ST=2 TYP=3
	410	LEAR	48	C	0622.0	0627.0	10.0	290.0			QL=4 ST=2 TYP=8
	2840	PEKG	30	PBI	0626.0	0634.8	14.0	8.6			
	3000	IZMI	20	GRF	0632.0	0634.2	4.9	8.0	3.7		
	2950	GORK	29	PBI	0709.0	0709.0	63.0	8.7			
	245	SGMR	8	S	1309.0	1309.0	U	160.0			QL=4 ST=2 TYP=3
	4995	SGMR	48	C	1507.0	1512.0	14.0	79.0			QL=4 ST=2 TYP=8
	410	SGMR	48	C	1508.0	1509.0	11.0	140.0			QL=4 ST=2 TYP=8
	610	SGMR	48	C	1508.0	1509.0	11.0	130.0			QL=4 ST=2 TYP=8
	2695	SGMR	48	C	1508.0	1512.0	11.0	77.0			QL=4 ST=2 TYP=8
	2695	SVTO	4	S/F	1508.0	1513.0	11.0	74.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	1508.0	1512.0	10.0	62.0			QL=4 ST=2 TYP=3
	9500	CUBA	40	F	1508.1	1512.8	23.6	22.0	11.0		
	1415	SVTO	4	S/F	1509.0	1513.0	4.0	39.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1509.0	1512.0	12.0	80.0			QL=4 ST=2 TYP=8
	235	CUBA	27	RF	1509.0	1756.0	371.0	147.0	73.0		
	280	CUBA	27	RF	1509.0	1755.0	371.0	267.0	133.0		
	1415	SGMR	46	C	1510.0	1512.0	7.0	41.0			QL=4 ST=2 TYP=8
	8800	SGMR	46	C	1512.0	1512.0	9.0	31.0			QL=4 ST=2 TYP=8
	8800	SGMR	4	S/F	1521.0	1529.0	9.0	26.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1521.0	1529.0	10.0	43.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1522.0	1523.0	13.0	160.0			QL=4 ST=2 TYP=8
	610	SGMR	8	S	1528.0	1529.0	2.0	51.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1528.0	1529.0	2.0	36.0			QL=4 ST=2 TYP=3
	410	SGMR	4	S/F	1528.0	1529.0	3.0	240.0			QL=4 ST=2 TYP=3
	610	SGMR	4	S/F	1627.0	1636.0	10.0	95.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1628.0	1638.0	21.0	160.0			QL=4 ST=2 TYP=8
	410	SGMR	4	S/F	1628.0	1642.0	20.0	49.0			QL=4 ST=2 TYP=3
	9500	CUBA	4	S/F	1629.8	1635.3	19.9	42.0	21.0		
	2695	SGMR	4	S/F	1630.0	1633.0	8.0	56.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1631.0	1633.0	14.0	37.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1631.0	1632.0	13.0	24.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	1632.0	1633.0	6.0	63.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	1632.0	1632.0	3.0	27.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	1633.0	1636.0	6.0	46.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1633.0	1633.0	6.0	66.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1633.0	1633.0	4.0	39.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	1415	SGMR	4	S/F	1633.0	1636.0	13.0	44.0			QL=4 ST=2 TYP=3
	410	SGMR	20	GRF	1650.0	1704.0	28.0	120.0			QL=4 ST=2 TYP=2
	610	SGMR	4	S/F	1659.0	1703.0	20.0	47.0			QL=4 ST=2 TYP=3
	245	PALE	48	C	2241.0	2243.0	4.0	220.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	2242.0	2242.0	U	110.0			QL=4 ST=2 TYP=3
27	410	LEAR	43	NS	0458.0	0631.0	249.0	200.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D		160.0		
	127	TORN	44	NS	0600.0E		600.0D		1130.0		V=1
	245	SGMR	43	NS	1026.0	2047.0	779.0	530.0			QL=4 ST=2 TYP=1
	410	SGMR	43	NS	1129.0	1133.0	122.0	77.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1300.0E		510.0D		46.0		
	280	CUBA	44	NS	1300.0E		510.0D		66.0		
	245	LEAR	43	NS	2337.0	0336.0	353.0	490.0			QL=4 ST=2 TYP=1
	410	LEAR	43	NS	2337.0	0251.0	354.0	130.0			QL=4 ST=2 TYP=1
	245	PALE	48	C	0018.0	0254.0	251.0	950.0			QL=4 ST=2 TYP=8
	2840	PEKG	1	S	0117.0	0119.9	9.0	7.7			
	2804	VORO	2	S/F	0119.3	0120.1	2.5	4.8			
	410	PALE	4	S/F	0219.0	0219.0	30.0	340.0			QL=4 ST=2 TYP=3
	410	PALE	48	C	0219.0	0219.0	42.0	340.0			QL=4 ST=2 TYP=8
	2840	PEKG	3	S	0235.0	0254.4	55.0	135.5			
	2804	VORO	46	C	0241.8	0254.6	29.0	97.0			
	500	HIRA	7	C	0246.0	0254.0	27.0	125.0			0
	245	LEAR	8	S	0248.0	0248.0	U	110.0			QL=4 ST=3 TYP=3
	410	LEAR	8	S	0248.0	0249.0	1.0	70.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0249.0	0249.0	U	51.0			QL=4 ST=2 TYP=3
	245	LEAR	48	C	0251.0	0254.0	19.0	730.0			QL=4 ST=2 TYP=8
	410	LEAR	4	S/F	0252.0	0254.0	8.0	180.0			QL=4 ST=2 TYP=3
	610	LEAR	4	S/F	0252.0	0254.0	7.0	130.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	0252.0	0254.0	4.0	90.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0253.0	0254.0	11.0	100.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	0253.0	0254.0	12.0	110.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	0253.0	0254.0	12.0	120.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0254.0	0254.0	U	81.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0254.0	0254.0	9.0	98.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0254.0	0254.0	9.0	54.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	0254.0	0254.0	2.0	82.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0254.0	0254.0	3.0	49.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0254.0	0303.0	9.0	52.0			QL=4 ST=2 TYP=3
	2804	VORO	30	PBI	0310.8	0310.8	90.0	8.3			
	2804	VORO	2	S/F	0339.8	0340.3	3.1	3.9			
	2950	GORK	21	GRF	0454.0	0630.0	267.0	30.0			
	2804	VORO	40	F	0455.4	0456.2	1.6	6.2			
	2950	GORK	2	S/F	0455.6	0456.2	1.4	7.2			
	9100	GORK	21	GRF	0533.0	0630.0	205.5	34.0			
	2840	PEKG	3	S	0547.0	0605.1	52.0	154.0			
	500	HIRA	7	C	0548.0	0643.0	56.0	165.0			0
	610	LEAR	4	S/F	0549.0	0550.0	4.0	85.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	0550.0	0608.0	34.0	190.0			QL=4 ST=2 TYP=3
	4995	SVTO	20	GRF	0552.0	0605.0	36.0	120.0			QL=4 ST=2 TYP=2
	2950	GORK	46	C	0556.0	0615.2		50.0			
	2950	GORK	46	C	0556.0	0605.4	28.9	160.0			
	610	LEAR	48	C	0558.0	0621.0	27.0	250.0			QL=4 ST=2 TYP=8
	1415	LEAR	4	S/F	0559.0	0608.0	15.0	190.0			QL=4 ST=2 TYP=3
	8800	SVTO	20	GRF	0600.0	0606.0	28.0	66.0			QL=4 ST=2 TYP=2
	2695	SVTO	4	S/F	0600.0	0605.0	25.0	160.0			QL=4 ST=2 TYP=3
	3000	IZMI	45	C	0600.2	0605.5	24.7	144.0	31.6		
	33	UPIC	47	GB	0601.5	0603.5U	16.0				
	2695	LEAR	4	S/F	0603.0	0605.0	13.0	150.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0603.0	0605.0	13.0	100.0			QL=4 ST=2 TYP=3
	9100	GORK	46	C	0603.2	0605.1	24.8	34.0			
	9100	GORK	46	C	0603.2	0615.3		20.0			
	410	LEAR	48	C	0604.0	0622.0	19.0	240.0			QL=2 ST=2 TYP=8
	15400	SVTO	20	GRF	0604.0	0608.0	24.0	32.0			QL=4 ST=2 TYP=2
	245	LEAR	48	C	0611.0	0614.0	12.0	1000.0			QL=2 ST=2 TYP=8
	204	IZMI	45	C	0611.2	0614.9	5.8	1021.0			
	204	IZMI	42	SER	0619.4	0622.6	5.6	580.0			
	245	LEAR	48	C	0642.0	0643.0	1.0	450.0			QL=2 ST=2 TYP=8
	610	LEAR	8	S	0642.0	0642.0	1.0	100.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	410	LEAR	8	S	0643.0	0643.0	U	250.0			QL=2 ST=2 TYP=3
	2950	GORK	1	S	0644.8	0645.0	0.8	4.3			
	9100	GORK	7	C	0758.0	0803.7		13.0			
	9100	GORK	7	C	0758.0	0758.9	6.0	17.0			
	500	HIRA	8	S	0801.0	0802.0	3.0	70.0			0
	2950	GORK	2	S/F	0801.0	0803.9	4.9	8.6			
	33	UPIC	45	C	0802.0	0802.7	1.0				
	204	IZMI	42	SER	0803.2	0803.6	0.6	233.0			
	33	UPIC	42	SER	1104.0	1156.0	173.0				
	245	SGMR	8	S	1349.0	1349.0	U	130.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1349.0	1349.0	U	130.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1434.0	1508.0	62.0	185.0			
	33	UPIC	47	GB	1444.0	1507.5	31.0				
	235	CUBA	7	C	1451.5	1506.2	19.5	2268.0	1134.0		
	280	CUBA	7	C	1451.5	1506.2	19.5	6460.0	3230.0		
	2695	SGMR	4	S/F	1452.0	1455.0	7.0	38.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1452.0	1453.0	6.0	52.0			QL=4 ST=2 TYP=3
	410	SGMR	48	C	1453.0	1455.0	7.0	220.0			QL=4 ST=2 TYP=8
	610	SGMR	48	C	1453.0	1455.0	7.0	140.0			QL=4 ST=2 TYP=8
	245	SGMR	49	GB	1453.0	1456.0	7.0	2300.0			QL=4 ST=2 TYP=6
	1415	SGMR	4	S/F	1453.0	1454.0	5.0	78.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	1454.0	1454.0	2.0	78.0			QL=4 ST=2 TYP=3
	410	SGMR	48	C	1500.0	1507.0	22.0	750.0			QL=4 ST=2 TYP=8
	610	SGMR	48	C	1501.0	1506.0	18.0	360.0			QL=4 ST=2 TYP=8
	1415	SGMR	4	S/F	1501.0	1506.0	15.0	180.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1501.0	1508.0	16.0	190.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1501.0	1506.0	22.0	1000.0			QL=4 ST=2 TYP=8
	4995	SGMR	4	S/F	1504.0	1508.0	13.0	170.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	1505.0	1506.0	7.0	170.0			QL=4 ST=2 TYP=3
	9500	CUBA	4	S/F	1505.8	1507.7	13.7	64.0	32.0		
	2695	SVTO	4	S/F	1506.0	1508.0	8.0	200.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	1506.0	1508.0	7.0	160.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1506.0	1508.0	10.0	85.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1507.0	1509.0	6.0	40.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1507.0	1508.0	4.0	73.0			QL=4 ST=2 TYP=3
	410	SGMR	4	S/F	1534.0	1535.0	4.0	57.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1535.0	1535.0	4.0	170.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	1626.0	1626.0	U	130.0			QL=4 ST=2 TYP=3
	2840	PEKG	47	GB	2248.0	2306.8	57.0	939.7			
	2800	PENT	47	GB	2256.0		141.0U				
	2804	VORO	47	GB	2257.8	2303.0U	18.8	50.0U			
	2695	PALE	48	C	2259.0	2307.0	17.0	910.0			QL=4 ST=2 TYP=8
	245	SGMR	48	C	2259.0	2302.0	11.0	780.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	2259.0	2305.0	28.0	2100.0			QL=4 ST=2 TYP=8
	4995	PALE	49	GB	2259.0	2306.0	27.0	2100.0			QL=4 ST=2 TYP=6
	245	PALE	48	C	2259.0	2303.0	37.0	2800.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	2259.0	2304.0	37.0	3900.0			QL=4 ST=2 TYP=8
	1415	PALE	48	C	2300.0	2301.0	21.0	340.0			QL=4 ST=2 TYP=8
	610	PALE	48	C	2300.0	2309.0	32.0	5200.0			QL=4 ST=2 TYP=8
	15400	PALE	48	C	2301.0	2306.0	17.0	1200.0			QL=4 ST=2 TYP=8
	410	SGMR	48	C	2302.0	2303.0	6.0	340.0			QL=4 ST=2 TYP=8
	610	SGMR	8	S	2308.0	2309.0	1.0	30.0			QL=4 ST=2 TYP=3
	2804	VORO	30	PBI	2316.6	2316.6	45.6	21.8			
	2840	PEKG	5	S	2347.0	2351.1	8.0	10.3			
	2804	VORO	8	S	2350.6	2351.0	0.8	8.2			
28	204	IZMI	44	NS	0600.0E		360.0D		70.0		
	127	TORN	44	NS	0600.0E		600.0D		140.0		V=2
	245	SVTO	43	NS	0920.0	0930.0	114.0	72.0			QL=2 ST=2 TYP=1
	245	SGMR	43	NS	1110.0	1235.0	155.0	93.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1305.0E		525.0D		46.0		
	280	CUBA	44	NS	1305.0E		525.0D		66.0		
	245	SGMR	43	NS	1457.0	1543.0	543.0	64.0			QL=4 ST=3 TYP=1
	245	PALE	43	NS	1624.0	2048.0	746.0	980.0			QL=4 ST=2 TYP=1
	410	PALE	43	NS	1624.0	2008.0	746.0	500.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	2338.0	0628.0	506.0	180.0			QL=4 ST=2 TYP=1
	2840	PEKG	47	GB	0013.0	0022.9	23.0	1945.0			
	8800	LEAR	48	C	0019.0	0024.0	50.0	5300.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	0019.0	0024.0	87.0	5200.0			QL=4 ST=2 TYP=8

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	2804	VORO	47	GB	0019.9	0024.1	20.8	123.0U			
	2695	LEAR	48	C	0020.0	0022.0	23.0	1600.0			QL=4 ST=2 TYP=8
	4995	LEAR	48	C	0020.0	0024.0	39.0	3100.0			QL=4 ST=2 TYP=8
	15400	LEAR	48	C	0020.0	0023.0	36.0	5300.0			QL=4 ST=2 TYP=8
	15400	PALE	48	C	0020.0	0023.0	47.0	5700.0			QL=4 ST=2 TYP=8
	4995	PALE	48	C	0020.0	0025.0	94.0	3700.0			QL=4 ST=2 TYP=8
	610	LEAR	48	C	0021.0	0027.0	63.0	81000.0			QL=4 ST=2 TYP=8
	1415	LEAR	48	C	0021.0	0023.0	60.0	2100.0			QL=4 ST=2 TYP=8
	410	LEAR	48	C	0021.0	0043.0	77.0	51000.0			QL=4 ST=2 TYP=8
	1415	PALE	48	C	0021.0	0031.0	78.0	2500.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	0021.0	0023.0	76.0	1700.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	0021.0	0043.0	106.0	52000.0			QL=4 ST=2 TYP=8
	245	PALE	49	GB	0021.0	0022.0	106.0				QL=4 ST=2 TYP=6
	245	LEAR	45	C	0022.0	0022.0	77.0				QL=4 ST=2 TYP=8
	610	PALE	48	C	0022.0	0027.0	96.0	71000.0			QL=4 ST=2 TYP=8
	2804	VORO	30	PBI	0040.7	0042.0	80.0	41.0			
	2804	VORO	4	S/F	0046.1	0053.4	14.1	143.6			
	2804	VORO	42	SER	0109.6	0111.0	3.1	14.4			
	2804	VORO	42	SER	0109.6	0117.2	13.3	34.9			
	2804	VORO	42	SER	0109.6	0134.5	24.9	107.0			
	410	LEAR	49	GB	0146.0	0150.0	12.0	2800.0			QL=4 ST=2 TYP=6
	245	LEAR	49	GB	0146.0	0150.0	21.0	21000.0			QL=4 ST=2 TYP=6
	610	LEAR	48	C	0149.0	0152.0	3.0	170.0			QL=4 ST=2 TYP=8
	610	PALE	48	C	0207.0	0217.0	32.0	10000.0			QL=4 ST=2 TYP=8
	245	PALE	48	C	0207.0	0217.0	53.0	51000.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	0207.0	0217.0	53.0	48000.0			QL=4 ST=2 TYP=8
	610	LEAR	48	C	0208.0	0217.0	29.0	8600.0			QL=4 ST=2 TYP=8
	410	LEAR	48	C	0209.0	0217.0	29.0	45000.0			QL=4 ST=2 TYP=8
	245	LEAR	48	C	0212.0	0225.0	26.0	38000.0			QL=4 ST=2 TYP=8
	2804	VORO	46	C	0214.3	0222.5	17.1	68.3			
	1415	LEAR	4	S/F	0215.0	0221.0	13.0	150.0			QL=4 ST=2 TYP=3
	1415	PALE	48	C	0215.0	0222.0	14.0	170.0			QL=4 ST=2 TYP=8
	2695	PALE	4	S/F	0218.0	0222.0	7.0	100.0			QL=4 ST=2 TYP=3
	4995	PALE	20	GRF	0218.0	0222.0	28.0	87.0			QL=4 ST=2 TYP=2
	2695	LEAR	8	S	0221.0	0222.0	2.0	80.0			QL=4 ST=2 TYP=3
	4995	LEAR	8	S	0221.0	0221.0	1.0	57.0			QL=4 ST=2 TYP=3
	8800	PALE	20	GRF	0228.0	0245.0	20.0	74.0			QL=4 ST=2 TYP=2
	245	LEAR	8	S	0324.0	0325.0	1.0	350.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0324.0	0325.0	1.0	150.0			QL=4 ST=2 TYP=3
	2950	GORK	20	GRF	0427.0U	0445.0	138.0D	12.0			
	245	LEAR	8	S	0756.0	0757.0	1.0	120.0			QL=4 ST=2 TYP=3
	204	IZMI	45	C	0756.6	0757.1	1.1	107.0			
	33	UPIC	8	S	0757.2	0757.5	0.8				
	1415	LEAR	8	S	0808.0	0808.0	U	98.0			QL=4 ST=3 TYP=3
	1415	SVTO	8	S	0808.0	0809.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0815.0	0816.0	1.0	65.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0920.2	0920.8	1.6	84.0			
	8800	SGMR	4	S/F	1125.0	1125.0	5.0	55.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1539.0	1539.4	0.8	19.0	9.0		
	245	PALE	48	C	1706.0	2026.0	212.0	2100.0			QL=4 ST=3 TYP=8
	9500	CUBA	2	S/F	1839.8	1841.0	3.1	29.0	14.0		
	610	PALE	48	C	2017.0	2023.0	11.0	140.0			QL=4 ST=3 TYP=8
	610	SGMR	8	S	2021.0	2022.0	1.0	61.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	2030.0	2030.2	1.3	13.0	6.0		
	245	SGMR	8	S	2031.0	2031.0	U	180.0			QL=4 ST=2 TYP=3
29	204	IZMI	44	NS	0600.0E		72.0D		75.0		
	127	TORN	44	NS	0600.0E		490.0D		50.0		V=1
	204	IZMI	44	NS	0712.0E		288.0D		30.0		
	245	PALE	43	NS	1706.0	1907.0	704.0	900.0			QL=4 ST=2 TYP=1
	2800	PENT	47	GB	0034.0	0121.0	47.0U				
	2840	PEKG	47	GB	0036.0	0104.9	61.0	679.4			
	2804	VORO	47	GB	0056.9	0105.2	27.9	628.5			
	15400	LEAR	48	C	0058.0	0104.0	50.0	2000.0			QL=4 ST=2 TYP=8
	1415	LEAR	48	C	0058.0	0156.0	60.0	1700.0			QL=4 ST=2 TYP=8
	610	LEAR	48	C	0058.0	0152.0	77.0	8700.0			QL=4 ST=2 TYP=8
	2695	LEAR	48	C	0058.0	0105.0	75.0	730.0			QL=4 ST=2 TYP=8
	4995	LEAR	48	C	0058.0	0104.0	79.0	2000.0			QL=4 ST=2 TYP=8
	8800	LEAR	48	C	0058.0	0104.0	79.0	3400.0			QL=4 ST=2 TYP=8

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	1415	PALE	48	C	0058.0	0157.0	75.0	1700.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	0058.0	0105.0	75.0	810.0			QL=4 ST=2 TYP=8
	4995	PALE	48	C	0058.0	0105.0	79.0	2500.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	0058.0	0105.0	79.0	3400.0			QL=4 ST=2 TYP=8
	245	PALE	48	C	0058.0	0150.0	84.0	31000.0			QL=4 ST=2 TYP=8
	610	PALE	48	C	0059.0	0153.0	68.0	6200.0			QL=4 ST=2 TYP=8
	245	LEAR	48	C	0059.0	0150.0	74.0	25000.0			QL=4 ST=2 TYP=8
	410	LEAR	48	C	0059.0	0152.0	73.0	32000.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	0059.0	0152.0	74.0	27000.0			QL=4 ST=2 TYP=8
	15400	PALE	48	C	0059.0	0105.0	74.0	2200.0			QL=4 ST=2 TYP=8
	2804	VORO	30	PBI	0122.6	0122.6	99.6	25.2			
	2840	PEKG	3	S	0143.0	0153.7	20.0	16.0			
	2804	VORO	46	C	0145.9	0150.4	14.3	19.6			
	2840	PEKG	3	S	0206.0	0213.2	19.0	71.1			
	2804	VORO	4	S/F	0208.9	0213.3	12.3	54.8			
	9100	GORK	1	S	0927.7	0927.9	1.4	8.0			
	245	SVTO	8	S	1018.0	1018.0U	2.0	82.0			QL=2 ST=1 TYP=3
	410	SVTO	8	S	1018.0	1018.0U	1.0	92.0			QL=2 ST=1 TYP=3
	245	PALE	8	S	1930.0	1930.0	U	370.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1930.0	1932.0	10.0	830.0			QL=4 ST=2 TYP=8
	410	SGMR	48	C	1930.0	1933.0	10.0	230.0			QL=4 ST=2 TYP=8
	9500	CUBA	49	GB	1930.5	1932.6	6.5	378.0U	189.0U		
	245	PALE	48	C	1931.0	1932.0	5.0	1200.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	1931.0	1934.0	6.0	360.0			QL=4 ST=2 TYP=8
	4995	PALE	49	GB	1931.0	1934.0	6.0	850.0			QL=4 ST=2 TYP=6
	1415	PALE	4	S/F	1931.0	1934.0	5.0	260.0			QL=4 ST=2 TYP=3
	2695	SGMR	48	C	1931.0	1934.0	9.0	310.0			QL=4 ST=2 TYP=8
	4995	SGMR	49	GB	1931.0	1934.0	9.0	920.0			QL=4 ST=2 TYP=6
	8800	SGMR	49	GB	1931.0	1933.0	9.0	1200.0			QL=4 ST=2 TYP=6
	1415	SGMR	4	S/F	1931.0	1934.0	9.0	300.0			QL=4 ST=2 TYP=3
	410	PALE	48	C	1932.0	1933.0	4.0	280.0			QL=4 ST=2 TYP=8
	8800	PALE	49	GB	1932.0	1933.0	4.0	1100.0			QL=4 ST=2 TYP=6
	15400	PALE	49	GB	1932.0	1933.0	4.0	830.0			QL=4 ST=2 TYP=6
	15400	SGMR	49	GB	1932.0	1934.0	8.0	960.0			QL=4 ST=2 TYP=6
	610	SGMR	4	S/F	1932.0	1933.0	8.0	85.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	1933.0	1933.0	3.0	91.0			QL=4 ST=2 TYP=3
	9500	CUBA	29	PBI	1937.0	1937.0	12.8U	57.0	28.0		
30	204	IZMI	44	NS	0600.0E		360.0D		15.0		
	245	LEAR	43	NS	0606.0	0636.0	55.0	110.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0920.0E		400.0D		17.0		V=2
	235	CUBA	44	NS	1330.0E		500.0D		12.0		
	280	CUBA	44	NS	1330.0E		500.0D		30.0		
	2840	PEKG	3	S	0040.0	0045.3	10.0	27.2			
	2800	PENT	1	S	0041.0	0045.0	9.0	16.0			
	410	LEAR	8	S	0043.0	0045.0	2.0	130.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0043.0	0045.0	2.0	150.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0045.0	0045.0	U	59.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0045.0	0045.0	U	56.0			QL=4 ST=2 TYP=3
	2804	VORO	2	S/F	0047.0	0047.9	2.8	15.5			
	245	LEAR	8	S	0217.0	0217.0	1.0	66.0			QL=4 ST=2 TYP=3
	9100	GORK	20	GRF	0550.1	0551.9	14.1	13.0			
	245	LEAR	8	S	0554.0	0555.0	1.0	180.0			QL=4 ST=2 TYP=3
	2950	GORK	20	GRF	0554.2	0555.4	9.6	7.0			
	500	HIRA	8	S	0555.0	0555.0	1.0	30.0			0
	410	LEAR	8	S	0556.0	0556.0	U	98.0			QL=4 ST=2 TYP=3
	33	UPIC	45	C	0620.0	0620.5	2.0				
	204	IZMI	42	SER	0632.5	0634.5	2.5	165.0			
	33	UPIC	40	F	0633.0	0636.5U	16.5				
	9100	GORK	46	C	0641.5	0643.2		85.0			
	9100	GORK	46	C	0641.5	0642.3	2.4	80.0			
	9100	GORK	21	GRF	0641.5	0651.9	24.9	20.0			
	8800	LEAR	8	S	0642.0	0643.0	1.0	84.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0642.0	0643.0	1.0	68.0			QL=4 ST=2 TYP=3
	9100	GORK	46	C	0648.8	0649.2	2.4	41.0			
	9100	GORK	46	C	0648.8	0649.6		47.0			
	8800	LEAR	8	S	0649.0	0649.0	1.0	52.0			QL=4 ST=2 TYP=3
	9100	GORK	21	GRF	0848.0	0939.0	117.0D	22.0			
	2950	GORK	21	GRF	0851.0	0940.0	78.0	13.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	9100	GORK	1	S	0906.2	0906.4	0.8	12.0			
	610	SVTO	48	C	0909.0	0918.0	26.0	96.0			QL=2 ST=2 TYP=8
	410	SVTO	20	GRF	0910.0	0926.0	25.0	79.0			QL=2 ST=2 TYP=2
	4995	SVTO	4	S/F	0913.0	0917.0	11.0	57.0			QL=4 ST=2 TYP=3
	9100	GORK	46	C	0915.0	0916.2	4.9	50.0			
	9100	GORK	46	C	0915.0	0918.2		20.0			
	2950	GORK	2	S/F	0915.2	0917.1	4.3	13.0			
	8800	SVTO	8	S	0916.0	0916.0	2.0	51.0			QL=4 ST=2 TYP=3
	9100	GORK	1	S	0949.0	0949.3	0.9	2.8			
	3000	IZMI	5	S	1030.0	1030.5	4.0	13.8	7.0		
	245	SGMR	8	S	1528.0	1528.0	U	54.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1723.8	1724.5	1.2	13.0	6.0		
	245	PALE	8	S	1954.0	1954.0	U	140.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1954.0	1954.0	U	100.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2013.0	2014.0	1.0	83.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	2013.0	2014.0	1.0	94.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2059.0	2059.0	U	140.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2059.0	2059.0	U	89.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2216.0	2216.0	1.0	87.0			QL=4 ST=2 TYP=3
31	245	LEAR	43	NS	0016.0	0143.0	110.0	91.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	1100.0E		300.0D		11.0		V=0
	235	CUBA	44	NS	1315.0E		415.0D		9.0		
	280	CUBA	44	NS	1315.0E		415.0D		22.0		
	245	LEAR	8	S	0002.0	0003.0	1.0	57.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0045.0	0049.8	7.0	4.8			
	2804	VORO	46	C	0211.9	0222.0	25.0	23.0U			
	245	PALE	8	S	0214.0	0214.0	U	53.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	0214.0	0222.0	35.0	23000.0			QL=4 ST=2 TYP=6
	4995	LEAR	49	GB	0216.0	0224.0	34.0	3400.0			QL=4 ST=2 TYP=6
	8800	LEAR	49	GB	0216.0	0223.0	35.0	7900.0			QL=4 ST=2 TYP=6
	2695	PALE	49	GB	0216.0	0225.0	31.0	1500.0			QL=4 ST=2 TYP=6
	4995	PALE	49	GB	0216.0	0224.0	32.0	4100.0			QL=4 ST=2 TYP=6
	8800	PALE	49	GB	0216.0	0223.0	32.0	6000.0			QL=4 ST=2 TYP=6
	2695	LEAR	49	GB	0217.0	0225.0	18.0	1300.0			QL=4 ST=2 TYP=6
	1415	PALE	49	GB	0217.0	0224.0	17.0	1800.0			QL=4 ST=2 TYP=6
	15400	LEAR	49	GB	0217.0	0222.0	30.0	8300.0			QL=4 ST=2 TYP=6
	15400	PALE	49	GB	0217.0	0222.0	30.0	8500.0			QL=4 ST=2 TYP=6
	610	LEAR	8	S	0218.0	0218.0	U	82.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0218.0	0218.0	U	70.0			QL=4 ST=2 TYP=3
	1415	LEAR	49	GB	0218.0	0224.0	16.0	1700.0			QL=4 ST=2 TYP=6
	610	PALE	48	C	0218.0	0220.0	19.0	2600.0			QL=4 ST=2 TYP=8
	610	LEAR	48	C	0218.0	0220.0	20.0	2700.0			QL=4 ST=2 TYP=8
	410	PALE	48	C	0220.0	0226.0	28.0	2000.0			QL=4 ST=2 TYP=8
	410	LEAR	48	C	0220.0	0226.0	31.0	1700.0			QL=4 ST=2 TYP=8
	245	LEAR	49	GB	0220.0	0222.0	32.0	21000.0			QL=4 ST=2 TYP=6
	2804	VORO	30	PBI	0237.5	0238.1	86.3	37.4			
	2840	PEKG	3	S	0238.0	0246.6	34.0	63.7			
	2804	VORO	45	C	0246.2	0247.3	7.5	36.4			
	2840	PEKG	1	S	0527.0	0531.9	9.0	6.4			
	9100	GORK	2	S/F	0749.6	0750.5	2.4	15.0			
	9100	GORK	1	S	0850.0	0850.5	1.0	5.1			
	2840	PEKG	3	S	0857.0	0901.9	10.0	11.3			
	2840	PEKG	3	S	0950.0	0958.9	15.0	10.9			
	2800	PENT	29	PBI	1506.0	1529.0	86.0U	27.0			
	9500	CUBA	2	S/F	1526.8	1529.9	6.4	70.0	35.0		
	4995	SGMR	4	S/F	1527.0	1529.0	5.0	110.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	1528.0	1529.0	2.0	55.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1528.0	1529.0	3.0	88.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1529.0	1530.0	1.0	30.0			QL=4 ST=2 TYP=3
	4995	SVTO	8	S	1529.0	1530.0	2.0	83.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1529.0	1530.0	1.0	73.0			QL=4 ST=2 TYP=3
	15400	SVTO	8	S	1529.0	1530.0	1.0	30.0			QL=4 ST=2 TYP=3
	235	CUBA		S	1529.1	1532.1	3.8	600018.0	9.0		
	280	CUBA	6	S	1529.1	1532.1	3.8	36.0	18.0		
	2695	SVTO	8	S	1530.0	1530.0	U	21.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1550.0	1550.0	1.0	29.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	1550.0	1550.0	1.0	96.0			QL=4 ST=2 TYP=3
	15400	SVTO	8	S	1550.0	1551.0	1.0	81.0			QL=4 ST=2 TYP=3

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

MAY 2003

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
31	8800	SVTO	8 S	1551.0	1551.0	U	26.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

BERN = Berne	HUMN = Humain	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	IZMI = IZMIRAN	PEKG = Peking	TORN = Torun
CUBA = Havana	KISV = Kislovodsk	PALE = Palehua	TRST = Trieste
GORK = Gorky	KRAK = Krakow	PENT = Penticton	TYKW = Toyokawa
HIRA = Hiraiso	LEAR = Learmonth	POTS = Potsdam	UPIC = Upice
HUAN = Huancayo	NOBE = Nobeyama	SGMR = Sagamore Hill	

Explanation of Type Code:

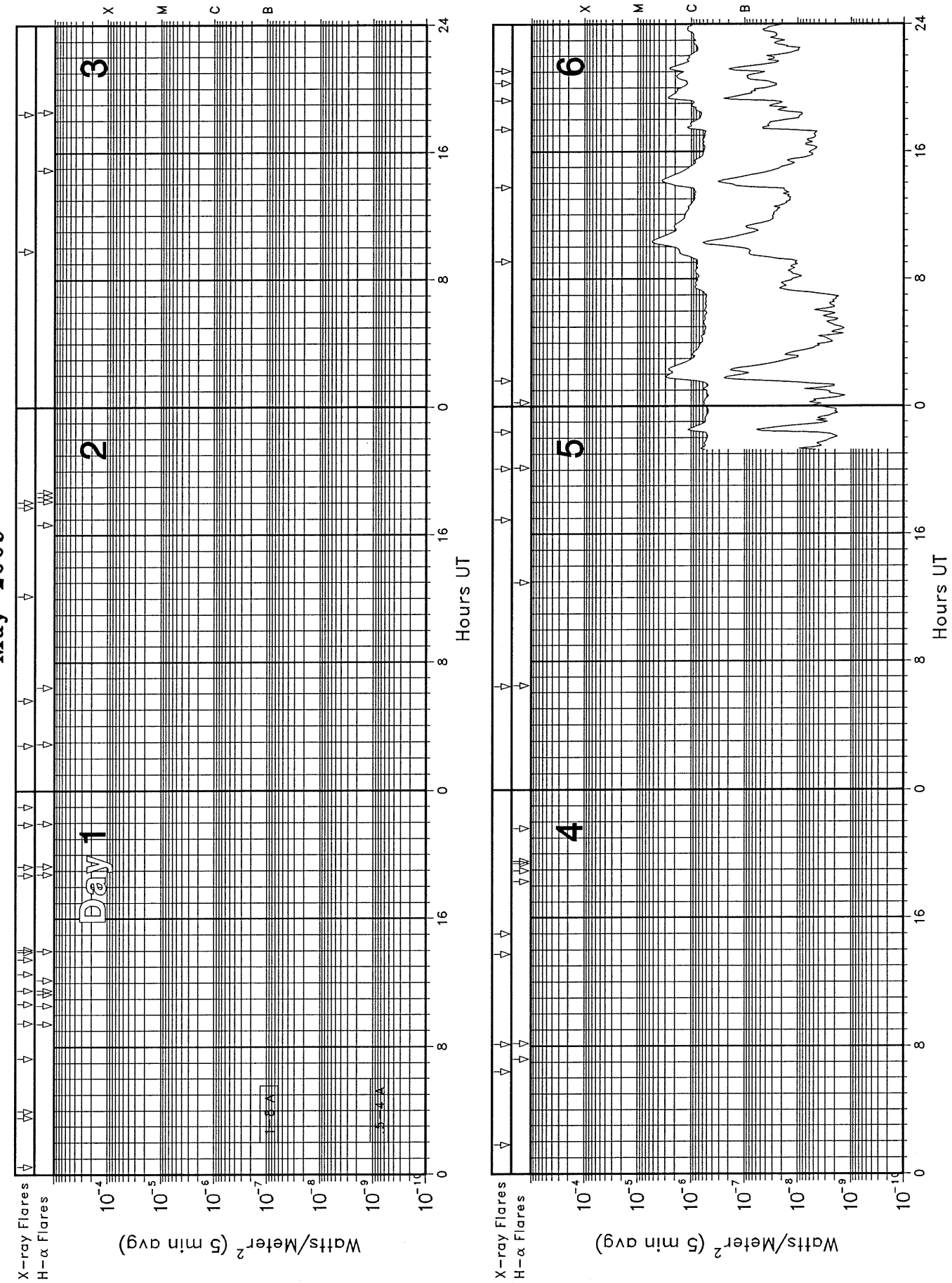
1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precusor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major

1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; and Hiraiso, Japan 500 and 200 MHz.

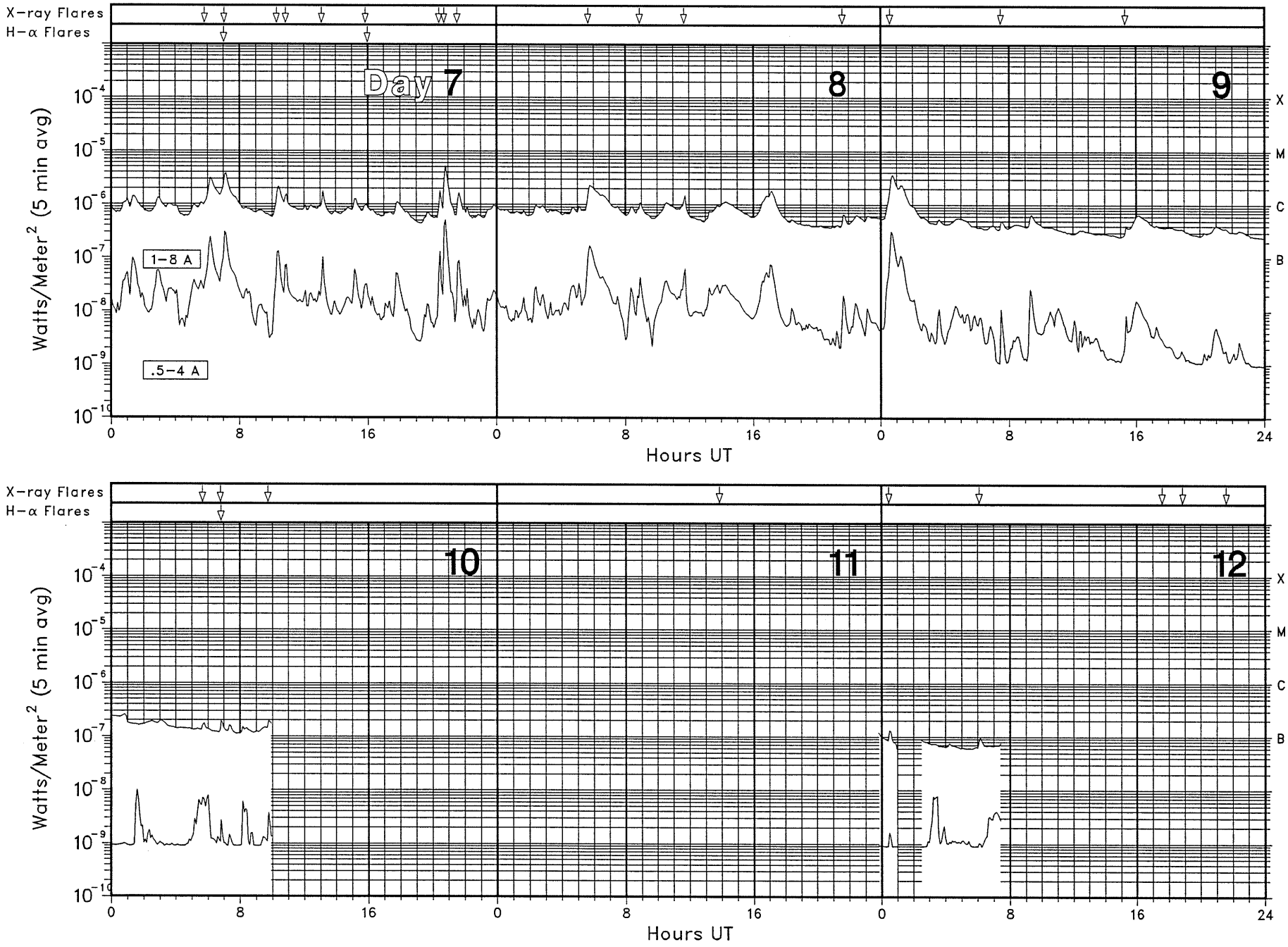
GOES X-RAY DETECTOR

May 2003

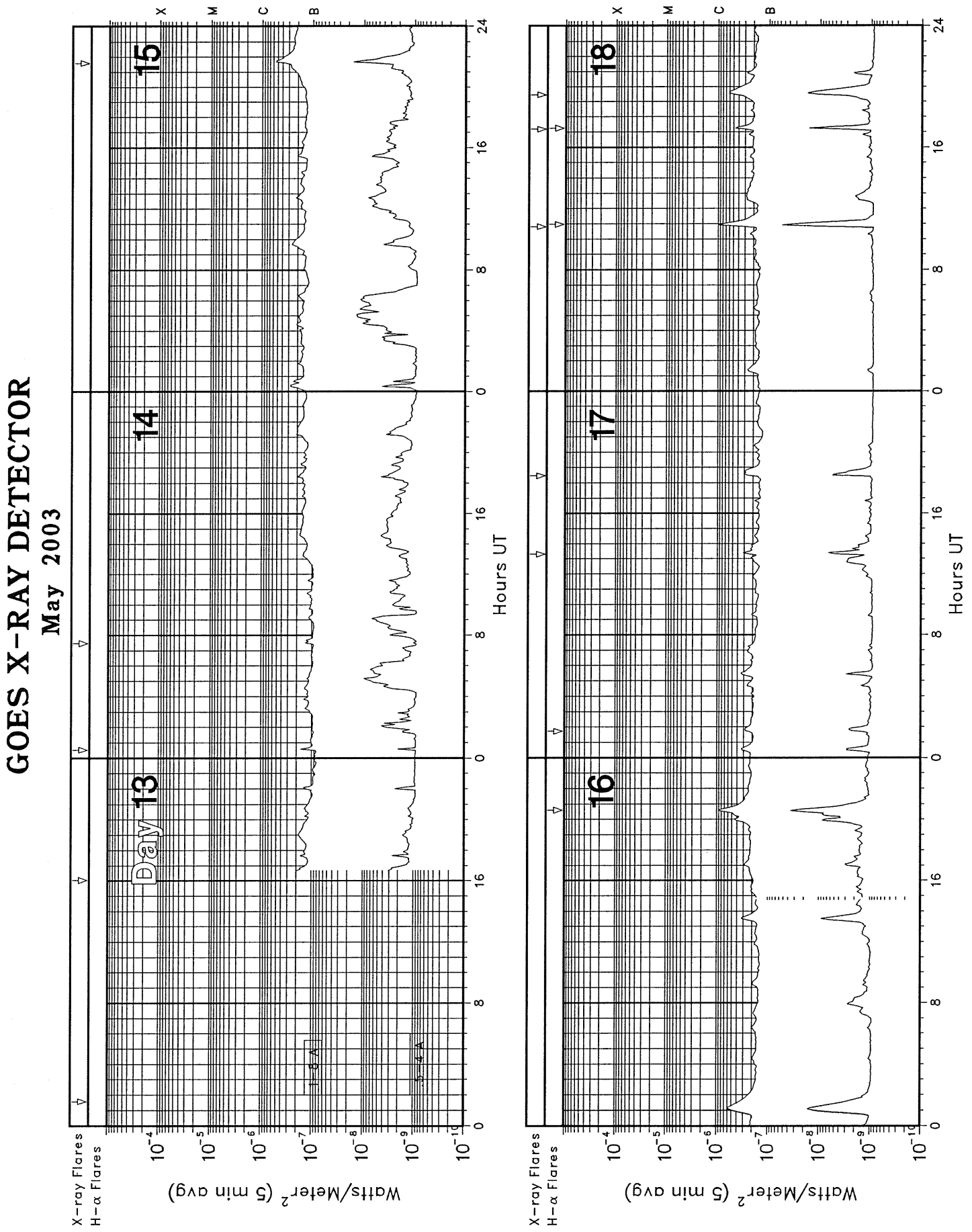


GOES X-RAY DETECTOR

May 2003

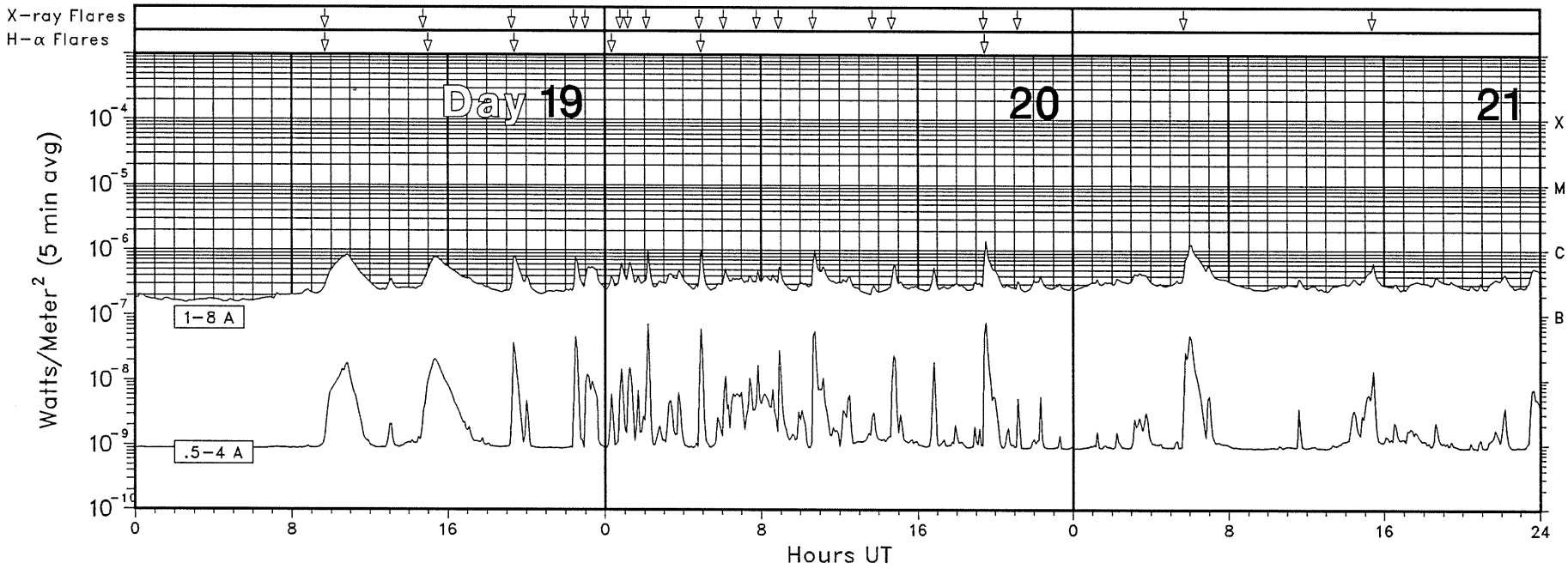


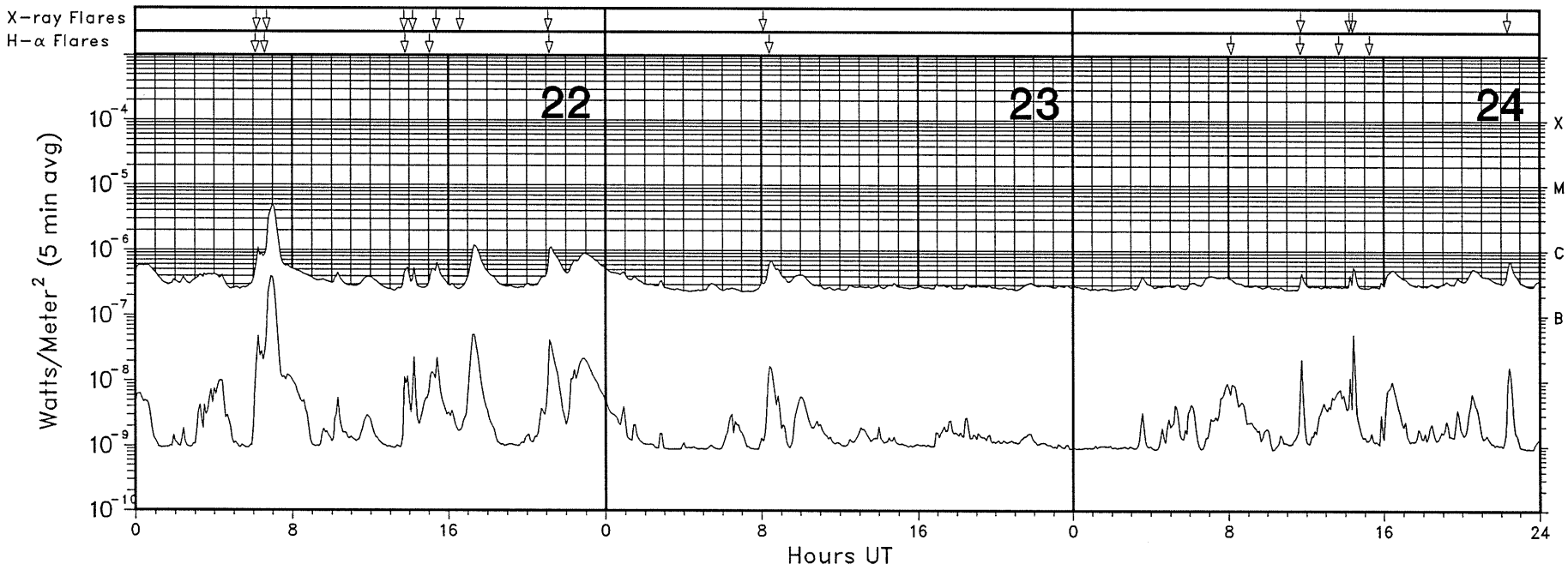
28
May 03

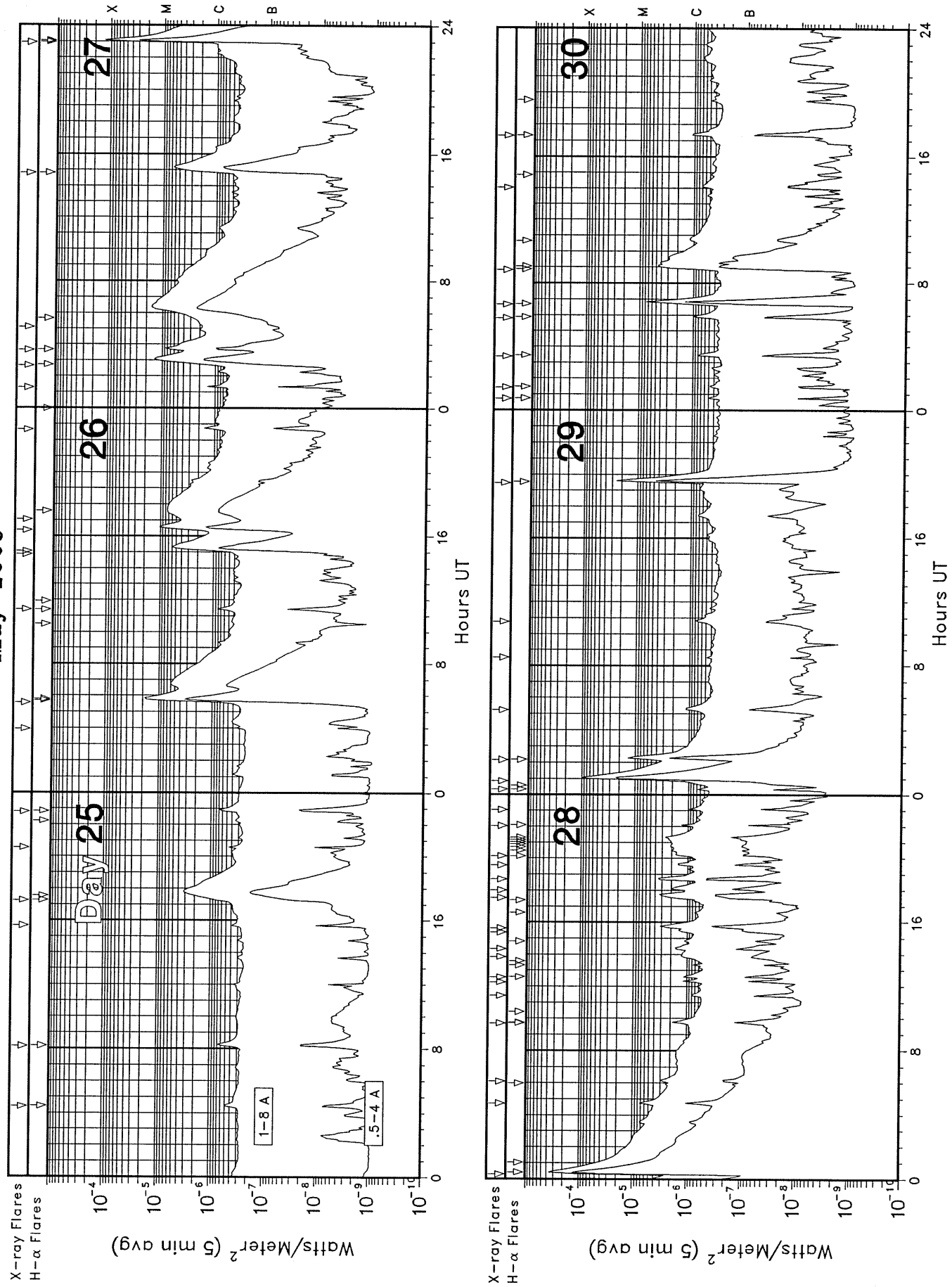

GOES X-RAY DETECTOR
May 2003
Day 13
14
15
16
17
18
X-ray Flares
H-α Flares
Watts/Meter² (5 min avg)
Hours UT
X
M
C
B
1-8 Å
0.5-4 Å

GOES X-RAY DETECTOR

May 2003

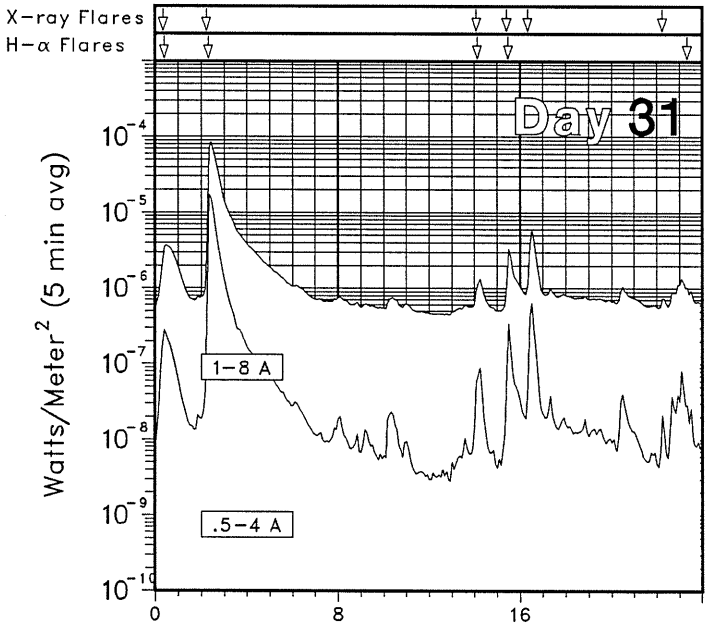





GOES X-RAY DETECTOR
May 2003
Day 25
26
27
28
29
30
1-8 A
.5-4 A
X
M
C
B
X-ray Flares
H-α Flares
Watts/Meter² (5 min avg)
Hours UT
0
8
16
24

GOES X-RAY DETECTOR

May 2003



GOES S O L A R X-RAY F L A R E S
Preliminary Listing

May 2003

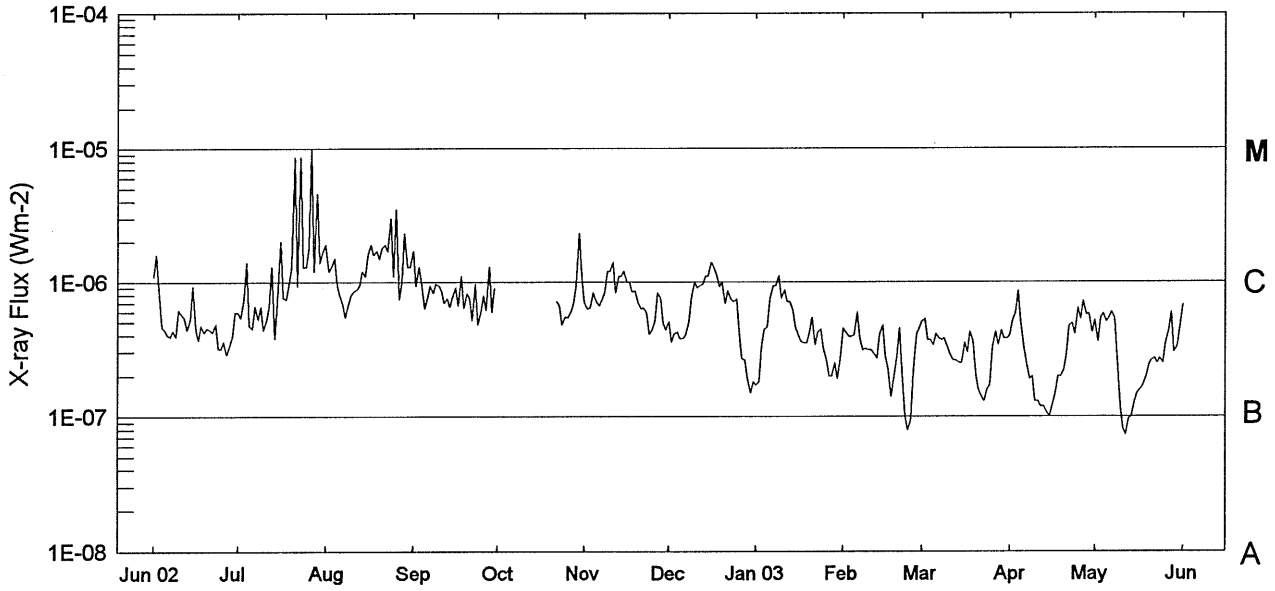
Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp	Xray	NOAA/ USAF Region	Flux
01	0029	0111	0141				C1.1			3.9E-03
01	0333	0338	0348				B9.3		10349	7.5E-04
01	0357	0406	0411				C1.3		10349	9.2E-04
01	0716	0817	0902				C1.8			8.5E-03
01	0929	0944	1017				C1.7			4.4E-03
01	1041	1044	1049				C1.5		10349	6.3E-04
01	1132	1143	1153	S14	E03	SF	C5.3		10349	4.6E-03
01	1234	1238	1240				C1.2		10349	3.9E-04
01	1328	1333	1340				C1.7		10337	9.3E-04
01	1356	1401	1404	S12	W02	SF	C1.1		10349	4.2E-04
01	1405	1412	1419	S12	W03	SF	C3.5		10349	1.9E-03
01	1843	1847	1849	S14	W01	SF	C1.8		10349	4.4E-04
01	1915	1922	1930	S12	W03	SF	C4.9		10349	3.1E-03
01	2153	2206	2215	S12	W06	SF	C2.2		10349	2.3E-03
01	2300	2303	2307				C1.4			5.4E-04
02	0247	0308	0344	S15	W22	SF	M1.0		10345	2.4E-02
02	0535	0625	0639	N14	W57	SF	C2.0		10344	5.2E-03
02	1211	1248	1345				C1.4			6.4E-03
02	1745	1749	1753				B6.6			2.8E-04
02	1804	1814	1932	S17	W30	SF	C5.4		10345	2.2E-02
03	0948	0950	0953				C1.4			2.8E-04
03	1826	1831	1836	S15	W45	SF	C2.7		10345	1.1E-03
04	0148	0301	0333				C1.8		10349	8.3E-03
04	0624	0637	0648				B9.3		10349	1.2E-03
04	0807	0812	0820	S14	W35	SF	C1.4		10349	9.5E-04
04	1344	1349	1355				C1.3		10349	7.3E-04
04	1500	1505	1513				C1.2		10349	8.3E-04
05	0625	0628	0630	S14	W49	SF	C2.0		10349	3.6E-04
05	1654	1658	1716				C1.3		10349	1.6E-03
05	2005	2010	2015	S14	W58	SF	C1.6		10349	7.5E-04
05	2223	2230	2243				C1.1		10349	1.2E-03
06	0137	0148	0236				C3.2		10349	8.7E-03
06	0906	1020	1043				C5.7		10349	1.5E-02
06	1344	1410	1430				C3.7		10349	7.6E-03
06	1724	1729	1734				C1.3		10349	6.9E-04
06	1913	1925	1950				C2.8		10349	5.1E-03
06	2018	2047	2057				C2.0		10348	3.8E-03
06	2104	2114	2124				C2.6		10348	2.8E-03
07	0549	0612	0626				C3.2		10349	4.6E-03
07	0702	0710	0716	S33	W78	SF	C4.2		10348	3.0E-03
07	1017	1027	1036				C2.2			2.1E-03
07	1051	1054	1057				C2.3			6.1E-04
07	1306	1312	1316				C1.8		10349	9.0E-04
07	1551	1554	1556				C1.2			3.1E-04
07	2026	2032	2036				C2.0		10348	9.0E-04
07	2044	2049	2058				C5.9			3.4E-03
07	2133	2141	2149				C1.7		10349	1.3E-03
08	0540	0547	0615				C2.3		10348	4.3E-03
08	0854	0858	0901				C1.2		10348	4.6E-04
08	1141	1146	1148				C1.9		10349	6.1E-04
08	2137	2144	2151				B6.8		10348	5.2E-04
09	0035	0048	0059				C3.8		10349	4.4E-03
09	0729	0733	0742				B5.4		10348	3.8E-04
09	1518	1610	1651				B6.6		10354	2.9E-03
10	0540	0544	0550				B1.9			1.0E-04
10	0647	0653	0658				B2.3			1.3E-04
10	0944	0947	0952				B2.3			9.5E-05
11	1351	1354	1358				B1.2			4.7E-05
12	0029	0035	0037				B1.7			6.8E-05
12	0606	0610	0612				B1.2			3.9E-05
12	1735	1740	1745				B2.3			1.1E-04
12	1853	1859	1901				B3.3			9.8E-05
12	2136	2141	2143				B4.2			1.2E-04
13	0134	0138	0141				B2.7			8.6E-05
13	1602	1632	1644				B2.7			5.2E-04
14	0032	0037	0040				B1.9			7.1E-05
14	0728	0732	0737				B1.6			7.3E-05
15	2136	2143	2152				B5.7		10356	4.7E-04
17	1319	1325	1329				B3.5		10356	1.7E-04
17	1828	1835	1856				B3.2		10357	4.6E-04
18	1049	1057	1108				B9.8			7.9E-04
18	1711	1716	1724	S18	W16	SF	B5.3		10357	3.2E-04
18	1928	1939	1952				B6.3			7.8E-04
19	0942	1052	1131				B8.3			4.0E-03
19	1444	1525	1604				B7.8			2.9E-03
19	1916	1924	1937	N19	W64	SF	B8.3		10356	8.2E-04
19	2226	2230	2240				B9.4			5.2E-04
19	2301	2304	2309				B6.1			2.3E-04
20	0046	0051	0057				B6.5			3.7E-04
20	0110	0115	0123				B7.0			4.5E-04
20	0206	0211	0216				C1.1		10364	4.6E-04
20	0450	0457	0502	S26	W33	SF	C1.0		10364	5.4E-04
20	0605	0610	0616				B5.6			3.0E-04
20	0747	0751	0755				B5.3			2.1E-04
20	0854	0858	0902				B6.8			2.6E-04
20	1039	1045	1051				C1.0		10364	5.7E-04
20	1341	1344	1351				B3.0			1.7E-04
20	1440	1450	1453				B7.2			4.2E-04
20	1924	1931	1938	S13	E15	SF	C1.4		10362	8.4E-04
20	2110	2113	2116				B4.3			1.3E-04
21	0542	0604	0621				C1.2		10362	2.1E-03
21	1522	1526	1530				B6.5			2.9E-04
22	0611	0617	0621				C1.1		10362	5.6E-04
22	0642	0703	0712				C4.9		10362	6.5E-03
22	1344	1356	1401	S10	W11	SF	B5.5		10362	5.1E-04
22	1411	1416	1420				B5.6			2.5E-04
22	1524	1528	1531				B7.2			2.7E-04
22	1636	1723	1743				C1.1		10362	2.6E-03
22	2107	2114	2130	S14	W11	SF	C1.1		10362	1.3E-03
23	0806	0830	0844	S10	W15	SF	B7.0		10362	1.2E-03
24	1144	1147	1150				B5.0		10363	1.6E-04
24	1413	1417	1419				B4.9		10368	1.5E-04
24	1424	1428	1432				B7.1		10366	2.7E-04
24	2220	2229	2237				B7.1		10366	6.5E-04
25	0424	0429	0435	N16	E40	SF	B5.1		10370	3.2E-04
25	0808	0816	0823	N11	E31	SF	B7.2		10366	5.3E-04
25	1540	1543	1545				B5.2			1.2E-04
25	1715	1754	1812				C3.0		10368	7.2E-03
25	2033	2036	2038				B5.2		10365	1.3E-04
25	2248	2254	2302	S31	E39	SF	B7.5		10368	4.9E-04

GOES S O L A R X-RAY F L A R E S
Preliminary Listing

May 2003

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/ USAF Region	Flux
26	0357	0401	0406				B3.5		1.7E-04
26	0534	0550	0602	S09	E12	1F	M1.9	10365	1.9E-02
26	1124	1128	1131				C1.0		3.3E-04
26	1451	1454	1457				B4.8		1.5E-04
26	1503	1520	1539				C5.9		8.6E-03
26	1622	1637	1651				M1.0	10365	1.2E-02
26	1702	1744	1821	S05	W08	1F	C7.4	10365	3.0E-02
26	2240	2246	2253				C1.5		9.8E-04
27	0117	0122	0125				C1.7		5.5E-04
27	0240	0306	0321	S07	W03	1F	M1.4	10365	1.9E-02
27	0338	0346	0352	S07	W13	SF	C8.9	10365	6.1E-03
27	0506	0626	0716	S07	W14	1F	M1.6	10365	6.1E-02
27	1448	1512	1528	S06	W12	SF	C6.5	10365	1.0E-02
27	2256	2307	2313	S07	W17	2B	X1.3	10365	7.1E-02
28	0017	0027	0039				X3.6		2.8E-01
28	0443	0447	0451				C7.6		3.2E-03
28	0605	0609	0614				C3.1		1.5E-03
28	0941	0945	0951	S05	W24	SF	C1.9	10365	9.3E-04
28	1124	1128	1134				B9.1		4.7E-04
28	1216	1221	1224				C1.3		4.8E-04
28	1233	1238	1243	S04	W27	SF	C1.3	10365	6.2E-04
28	1350	1355	1412				C1.3		1.6E-03
28	1420	1424	1427	S05	W27	SF	C2.2	10365	7.3E-04
28	1522	1531	1535	S01	W27	SF	C1.5	10365	9.9E-04
28	1537	1546	1551	S05	W29	SF	C3.5	10365	2.1E-03
28	1731	1746	1752	N00	W28	1F	C3.5	10365	3.3E-03
28	1800	1808	1815				C2.0		1.5E-03
28	1841	1844	1846				C4.4		1.2E-03
28	1934	1939	1942				C1.9		7.4E-04
28	2008	2123	2126	S07	W35	SF	C3.1	10365	9.2E-03
28	2202	2206	2208	S07	W36	SF	C1.6	10365	4.5E-04
28	2302	2305	2310				C1.0		4.1E-04
29	0019	0022	0026	S07	W37	SF	B7.9	10365	2.7E-04
29	0051	0105	0112	S06	W37	2B	X1.2	10365	6.8E-02
29	0209	0218	0224	S37	E03	1F	M1.5	10368	9.2E-03
29	0513	0519	0525				C1.2		8.0E-04
29	0830	0833	0835				B5.8		1.5E-04
29	1045	1049	1056				B7.9		4.9E-04
29	1928	1937	1943	S35	W13	1N	M2.8	10368	1.4E-02
30	0043	0047	0052	S36	W17	SF	B5.3	10368	2.4E-04
30	0126	0129	0131	S06	W51	SF	B6.0	10365	1.4E-04
30	0322	0327	0337	S07	W55	SF	B8.6	10365	6.0E-04
30	0548	0557	0603	S05	W54	SF	C1.0	10365	7.6E-04
30	0639	0650	0656	S05	W55	1N	C8.6	10365	3.8E-03
30	0849	0919	0946	N08	E55	SF	C4.9	10373	1.1E-02
30	1401	1412	1422				B7.1		8.1E-04
30	1717	1724	1726	S02	W54	SF	C1.7	10365	5.3E-04
31	0021	0029	0051	N07	E30	SF	C3.5	10373	5.7E-03
31	0213	0224	0240	S07	W65	2B	M9.3	10365	8.5E-02
31	1405	1416	1423	S05	W72	SF	C1.3	10365	1.2E-03
31	1525	1533	1540	S07	W73	SF	C3.5	10365	2.2E-03
31	1620	1632	1640				C6.2		4.7E-03
31	2215	2218	2222				B8.6		3.2E-04

Preliminary GOES Satellite Daily X-Ray Background
Jun 2002 - May 2003



Day	Jun 02	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03	Feb	Mar	Apr	May
1	C1.1	B5.9	C1.9	C1.7	*	B7.0	B5.0	B1.7	B4.5	B5.1	B4.0	B5.2
2	C1.6	B5.4	C1.2	B9.4	*	B6.3	B3.6	B1.8	B4.2	B5.3	B5.1	B3.6
3	B9.0	B7.5	C1.3	C1.3	*	B6.4	B4.1	B3.3	B3.9	B3.7	B5.9	B5.4
4	B4.6	C1.4	C1.5	B9.7	*	B8.3	B4.2	B4.4	B3.9	B3.7	B8.6	B5.8
5	B4.4	B4.7	B9.5	B6.4	*	B7.3	B3.8	B4.6	B4.0	B3.4	B5.1	B5.1
6	B4.0	B4.5	B8.0	B7.5	*	B6.7	B3.8	B7.4	B5.9	B4.1	B3.3	B5.4
7	B3.9	B6.6	B6.8	B9.4	*	B7.2	B4.0	B9.3	B3.8	B3.8	B2.5	B6.0
8	B4.3	B5.3	B5.5	B8.3	*	B8.4	B5.0	B9.4	B3.1	B3.7	B1.9	B5.3
9	B3.9	B6.5	B6.8	B9.6	*	C1.2	B7.7	C1.1	B3.2	B3.8	B2.0	B2.7
10	B6.2	B4.4	B8.0	B9.3	*	C1.2	C1.0	B7.6	B3.1	B3.3	B1.3	B1.2
11	B5.8	B5.2	B8.5	B8.7	*	C1.4	B9.1	B8.7	B3.1	B2.9	B1.3	A8.2
12	B5.4	B6.5	B8.9	B7.0	*	B8.3	B9.4	B7.1	B2.9	B2.6	B1.2	A7.4
13	B4.4	C1.3	B9.3	B7.5	*	C1.1	B9.7	B7.1	B2.7	B2.6	B1.2	A9.7
14	B5.2	B3.8	C1.2	B6.5	*	C1.1	C1.1	B6.2	B4.1	B2.5	B1.1	B1.0
15	B9.2	B7.3	C1.1	B7.7	*	C1.2	C1.1	B4.6	B4.7	B2.5	B1.0	B1.3
16	B4.4	C2.0	C1.6	B9.0	*	C1.0	C1.4	B4.1	B2.8	B3.5	B1.2	B1.5
17	B3.7	B7.6	C1.9	B6.7	*	C1.0	C1.3	B3.6	B2.3	B3.0	B1.5	B1.6
18	B4.7	B7.4	C1.6	C1.1	*	B8.5	C1.1	B3.5	B1.4	B4.2	B2.0	B1.7
19	B4.2	B9.7	C1.7	B6.4	*	B8.6	B9.2	B3.5	B1.9	B3.6	B2.0	B2.0
20	B4.5	C1.3	C1.5	B8.2	*	B7.1	C1.0	B4.2	B2.8	B2.1	B2.2	B2.4
21	B4.4	C8.6	C1.8	B7.6	*	B6.3	B6.9	B5.4	B4.5	B1.6	B2.9	B2.6
22	B4.2	B9.3	C1.9	B5.2	B7.1	B6.4	B8.6	B3.4	B2.2	B1.4	B4.7	B2.7
23	B4.8	C8.6	C1.7	B9.7	B6.7	B5.9	B7.4	B4.2	B1.0	B1.3	B4.9	B2.5
24	B3.2	C1.3	C3.0	B4.8	B4.8	B4.1	B7.1	B4.4	A8.0	B1.6	B4.1	B2.7
25	B3.2	C1.3	C1.1	B6.0	B5.5	B4.3	B7.4	B3.2	A9.4	B1.7	B6.4	B2.5
26	B3.6	C1.8	C3.5	B7.9	B5.4	B5.1	B4.2	B2.6	B2.2	B3.3	B5.3	B3.5
27	B2.9	C9.8	B7.4	B6.2	B6.0	B8.3	B2.7	B2.0	B4.1	B4.2	B7.2	B4.3
28	B3.3	C1.2	C1.0	C1.3	B6.9	B7.6	B2.6	B2.0	B4.5	B3.4	B5.7	B5.9
29	B3.9	C4.6	C2.3	B6.0	B9.4	B4.9	B1.9	B2.5		B4.3	B5.8	B3.0
30	B5.9	C1.4	C1.3	B9.0	C2.3	B4.4	B1.5	B1.9		B3.8	B4.2	B3.3
31		C1.7	C1.3		C1.1		B1.8	B2.8		B3.8		B4.5

NOTE: * = Data not available.

ACTIVE PROMINENCES AND FILAMENTS

MAY 2003

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	DSF	0919U	2317U	N21	E19	05	2.8		19	0	0	E	LEAR		
01	DSF	1423	1818	N40	E39	05	4.8	3	30	0	0	E	HOLL		
01	DSF	1459U	1703U	N12	E48	05	5.2		16	0	0	E	HOLL		
02	DSF	0919U	2321U	S29	W29	04	30.1		11	0	0	E	LEAR		
02	DSF	1824	1919	S16	W41	04	29.7	3	14	0	0	E	HOLL	0347	
03	DSF	0911U	2336U	N29	E18	05	4.8		15	0	0	E	LEAR		
06	DSF	0106U	1257U	N17	W63	05	1.2		19	0	0	E	HOLL		
07	DSF	1342	1403	S10	W18	05	6.2		10	0	0	E	HOLL		
07	DSF	1350U	1446U	S15	W15	05	6.4		09	0	0	E	SVTO		
07	DSF	1648U	0432U	N07	E65	05	12.6		11	0	0	E	SVTO		
07	DSF	1648U	0432U	S31	W17	05	6.3		08	0	0	E	SVTO		
07	DSF	2145	2224	S34	W14	05	6.8	3	11	0	0	E	HOLL		
09	DSF	1658	1730	S23	E70	05	15.1		12	0	0	E	HOLL		
11	DSF	0118U	1302U	N10	E19	05	12.5		09	0	0	E	HOLL		
14	DSF	1813	2240	S14	E41	05	17.8		03	0	0	E	HOLL	0357	
15	DSF	0034	0243	N18	W88	05	8.3	3	12	0	0	E	LEAR	0355	
18	BSL	2348E	0446	S51	E90	05	26.6	1		5	5	E	LEAR		Normal Emission 1/3
19	DSF	0048U	1256U	N20	E31	05	21.4		11	0	0	E	HOLL		
19	EPL	1602	1815	S52	E90	05	27.3	1		8	7	E	HOLL		
19	DSF	1758	2056	N22	E61	05	24.4		09	0	0	E	HOLL		
21	DSF	2218U	1404U	N19	W05	05	21.5		09	0	0	E	HOLL		
22	DSF	0020U	1309U	N04	E55	05	26.1		14	0	0	E	HOLL		
22	DSF	0020U	1309U	S01	E16	05	23.2		11	0	0	E	HOLL		
22	DSF	0020U	1309U	S06	E08	05	22.6		11	0	0	E	HOLL		
25	DSF	2354U	1310U	N18	E11	05	26.8		17	0	0	E	HOLL		
25	DSF	2354U	1733U	N10	W32	05	23.6		12	0	0	E	HOLL		

ADF = Active Dark Filament
AFS = Arch Filament System
APR = Active Prominence
ASR = Active Surge Region
BSD = Bright Surge on Disk
BSL = Bright Surge on Limb
CAP = CAP Prominence (Tandberg-Hanssen)
CRN = Coronal Rain
DSD = Dark Surge on Disk
DSF = Disappearing Solar Filament
EPL = Eruptive Prominence on Limb
LPS = Loops
MDP = Mound Prominence
SDF/DSF = Sudden Disappearing Filament
SPY = Spray
SSB = Solar Sector Boundary

For SOLAR SECTOR BOUNDARY REPORTS, the latitude field contains the Carrington longitude of the point where a neutral line crosses the solar equator. The comments field may contain the Carrington longitude and central meridian distance of two more intersection points.

The EXTENT field for limb events is the radial extent above the limb in hundredths of solar radius. For disk events this field contains the heliographic extent in whole degrees.

The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

Observation Type: C= Cinematographic, E= Electronic, P= Photographic, V= Visual.

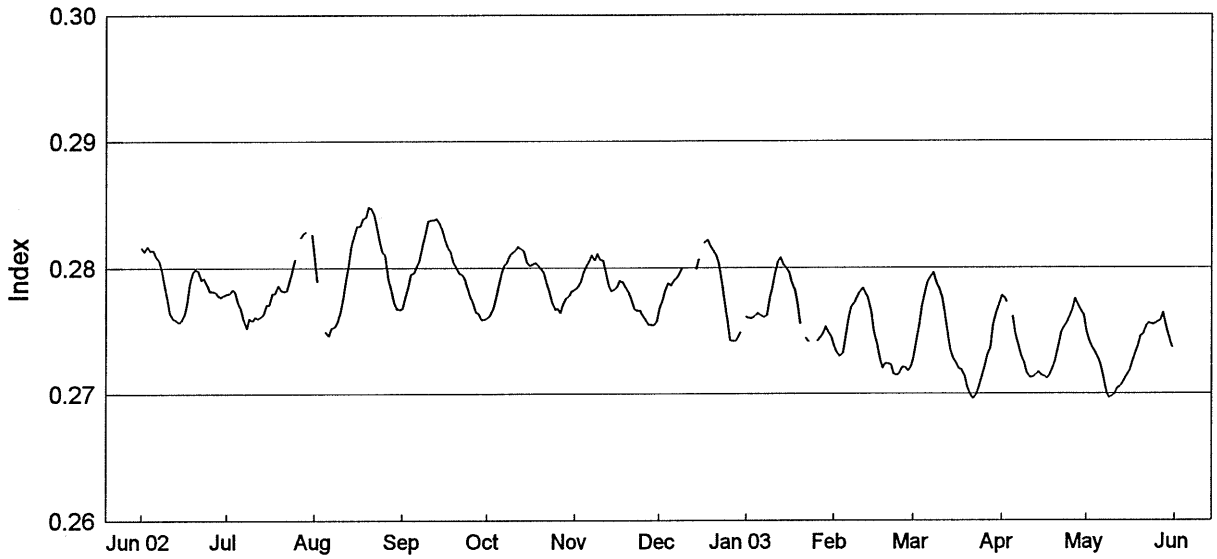
ABST = Abastumani
ATHN = Athens
BUCA = Bucharest
CATA = Catania
HOLL = Holloman
KHAR = Kharkov
LEAR = Learmonth
PALE = Palehua
RAMY = Ramey
SVTO = San Vito
VORO = Voroshilov
VALA = Valasske Mezirici
WROC = Wroclaw

NOTE: The U.S. Air Force solar observing sites (HOLL, LEAR, RAMY, AND SVTO) have changed operational requirements and will only report the following: BSL, EPL, LPS, SPY, and DSF's.

NOAA Solar Ultraviolet (UV) MgII Core-to-Wing Index

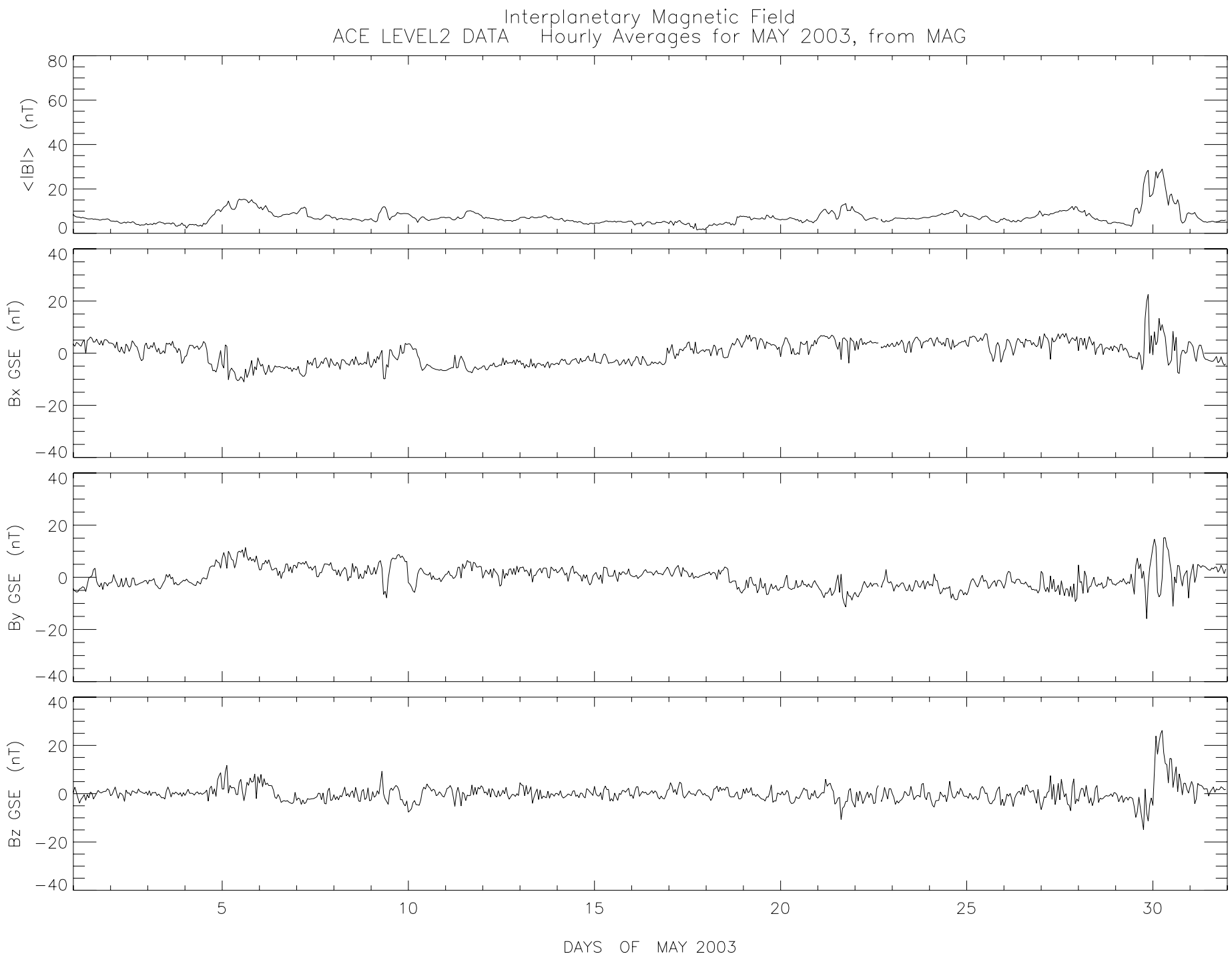
Jun 2002 - May 2003

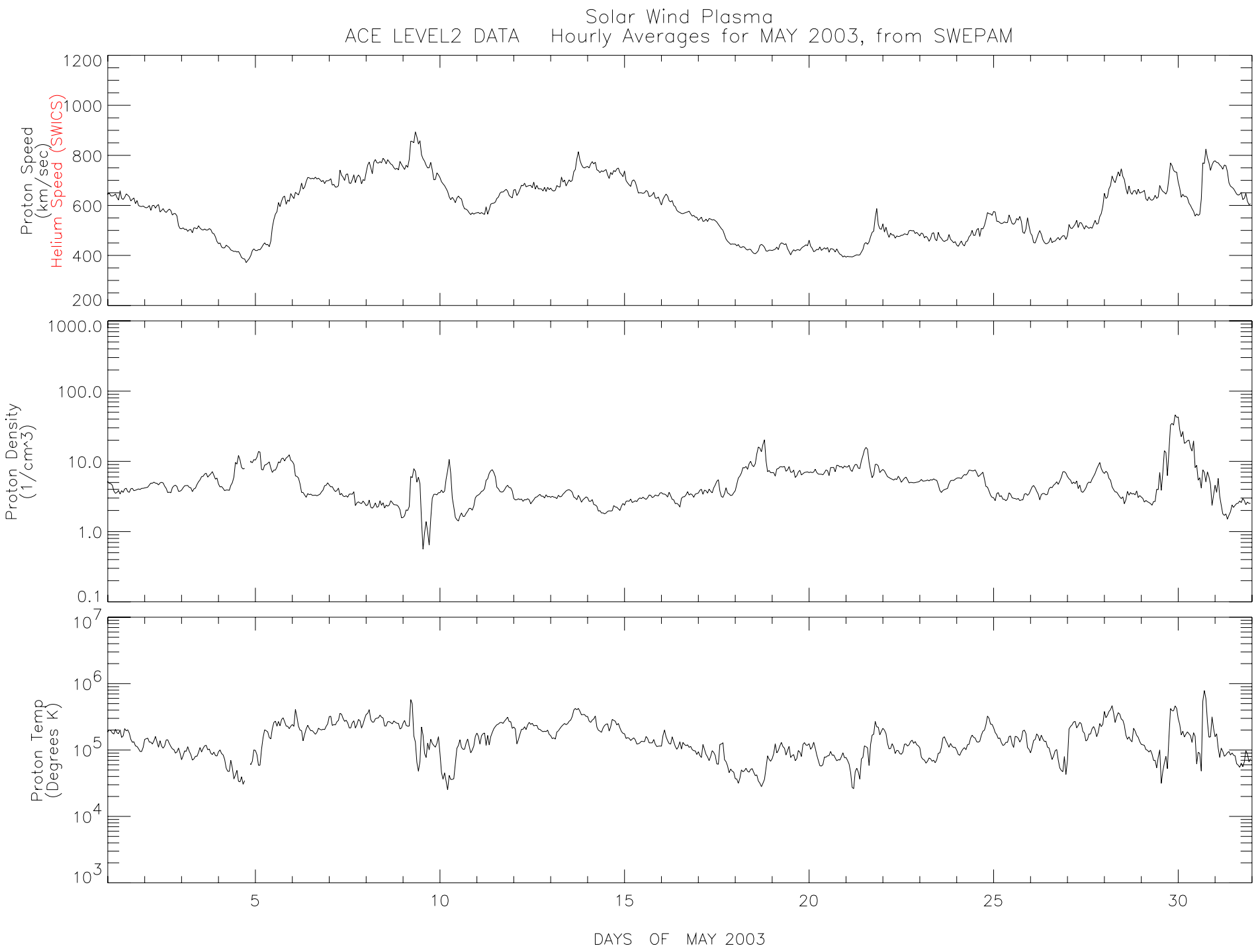
Version 9.1

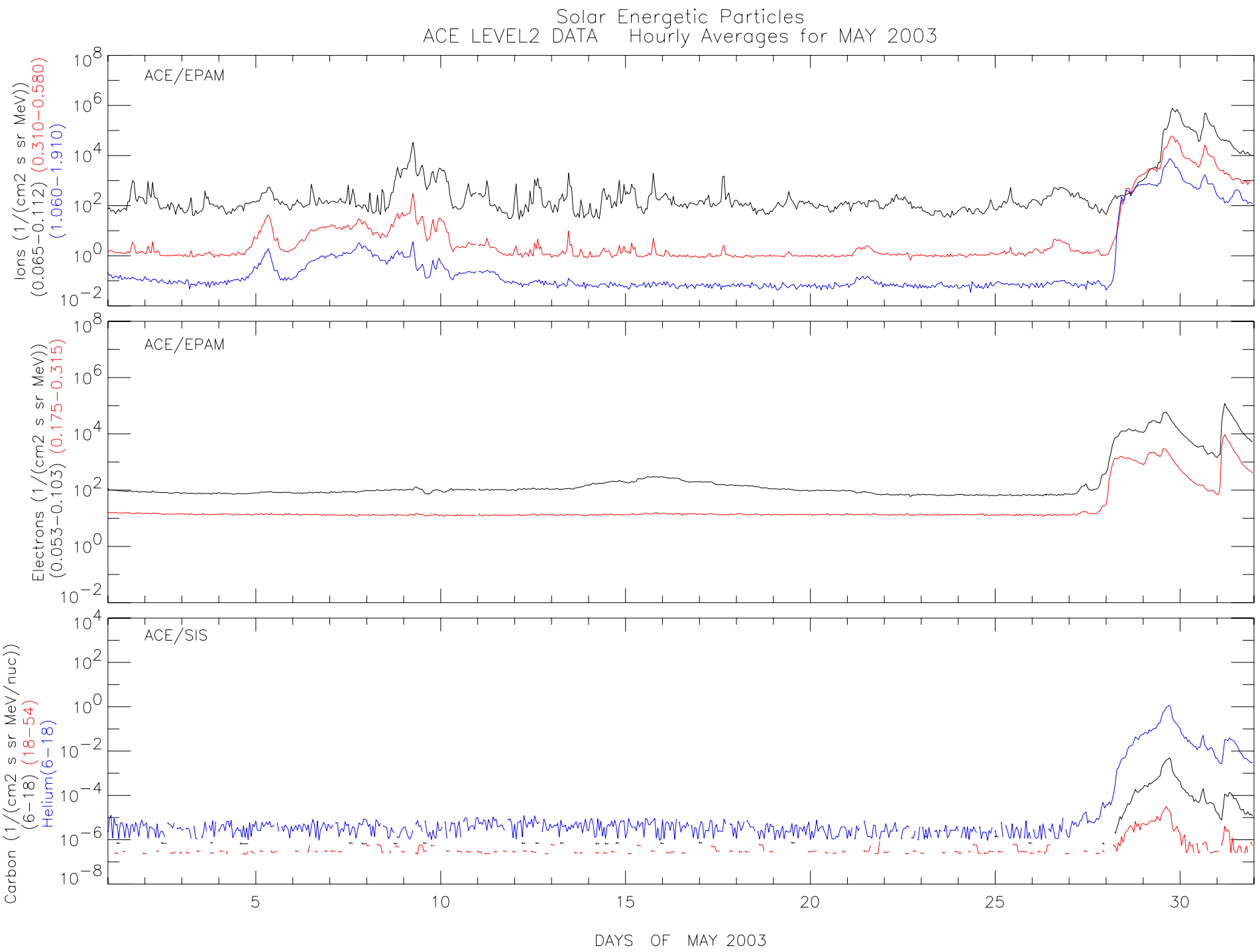


Day	Jun 02	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03	Feb	Mar	Apr	May
1	0.2816	0.2780	0.2808	0.2768	0.2760	0.2783	0.2767	0.2761	0.2738	0.2728	0.2778	0.2749
2	0.2813	0.2780	0.2789	0.2778	0.2762	0.2785	0.2774	0.2760	0.2732	0.2743	0.2776	0.2741
3	0.2817	0.2783	----	0.2785	0.2767	0.2789	0.2782	0.2760	0.2730	0.2754	0.2772	0.2736
4	0.2814	0.2781	----	0.2795	0.2775	0.2796	0.2788	0.2762	0.2732	0.2769	----	0.2733
5	0.2814	0.2773	0.2749	0.2796	0.2785	0.2802	0.2786	0.2764	0.2745	0.2781	0.2761	0.2728
6	0.2809	0.2767	0.2746	0.2801	0.2796	0.2805	0.2790	0.2762	0.2761	0.2789	0.2747	0.2722
7	0.2806	0.2759	0.2752	0.2805	0.2802	0.2810	0.2792	0.2761	0.2769	0.2793	0.2738	0.2713
8	0.2799	0.2752	0.2753	0.2817	0.2804	0.2806	0.2795	0.2762	0.2772	0.2796	0.2730	0.2701
9	0.2786	0.2760	0.2756	0.2825	0.2810	0.2811	0.2800	0.2775	0.2777	0.2788	0.2724	0.2697
10	0.2776	0.2758	0.2764	0.2837	0.2812	0.2807	----	0.2784	0.2781	0.2784	0.2716	0.2698
11	0.2764	0.2761	0.2774	0.2838	0.2814	0.2806	----	0.2797	0.2784	0.2776	0.2713	0.2700
12	0.2760	0.2760	0.2791	0.2838	0.2817	0.2797	0.2785	0.2805	0.2780	0.2763	0.2713	0.2705
13	0.2759	0.2761	0.2802	0.2839	0.2815	0.2786	----	0.2808	0.2775	0.2746	0.2715	0.2706
14	0.2757	0.2763	0.2817	0.2836	0.2813	0.2782	0.2799	0.2802	0.2765	0.2734	0.2717	0.2710
15	0.2758	0.2771	0.2826	0.2830	0.2804	0.2783	0.2807	0.2800	0.2749	0.2728	0.2715	0.2714
16	0.2763	0.2771	0.2833	0.2823	0.2802	0.2785	----	0.2796	0.2740	0.2724	0.2714	0.2718
17	0.2773	0.2780	0.2833	0.2816	0.2803	0.2790	0.2820	0.2788	0.2729	0.2720	0.2712	0.2725
18	0.2788	0.2780	0.2839	0.2813	0.2804	0.2789	0.2822	0.2782	0.2720	0.2719	0.2714	0.2731
19	0.2797	0.2786	0.2840	0.2804	0.2805	0.2785	0.2817	0.2771	0.2724	0.2714	0.2720	0.2738
20	0.2799	0.2783	0.2848	0.2801	0.2806	0.2781	0.2814	0.2755	0.2724	0.2705	0.2726	0.2746
21	0.2798	0.2782	0.2847	0.2796	0.2796	0.2775	0.2810	----	0.2723	0.2699	0.2738	0.2747
22	0.2791	0.2782	0.2842	0.2795	0.2787	0.2768	0.2804	0.2744	0.2716	0.2696	0.2748	0.2754
23	0.2792	0.2789	0.2832	0.2792	0.2781	0.2766	0.2789	0.2741	0.2715	0.2699	0.2753	0.2756
24	0.2787	0.2796	0.2822	0.2784	0.2773	0.2766	0.2774	----	0.2716	0.2705	0.2756	0.2755
25	0.2782	0.2807	0.2812	0.2777	0.2767	0.2762	0.2758	----	0.2721	0.2712	0.2762	0.2755
26	0.2782	----	0.2810	0.2773	0.2768	0.2759	0.2743	0.2742	0.2721	0.2721	0.2767	0.2757
27	0.2781	0.2824	0.2791	0.2765	0.2764	0.2755	0.2742	0.2745	0.2718	0.2730	0.2775	0.2758
28	0.2778	0.2827	0.2784	0.2764	0.2772	0.2755	0.2742	0.2748	0.2721	0.2736	0.2770	0.2764
29	0.2777	0.2829	0.2772	0.2759	0.2776	0.2754	0.2745	0.2753		0.2754	0.2766	0.2752
30	0.2779	----	0.2768	0.2759	0.2778	0.2757	0.2749	0.2748		0.2764	0.2762	0.2745
31		0.2826	0.2767		0.2782		----	0.2745		0.2770		0.2736
Mean	0.2787	0.2782	0.2799	0.2800	0.2790	0.2783	0.2784	0.2768	0.2742	0.2743	0.2741	0.2732

Data at: http://www.sec.noaa.gov/ftpmenu/sbuv.html


Interplanetary Magnetic Field
ACE LEVEL2 DATA Hourly Averages for MAY 2003, from MAG
<|B|> (nT)
Bx GSE (nT)
By GSE (nT)
Bz GSE (nT)
80
60
40
20
0
−20
−40
5
10
15
20
25
30
DAYS OF MAY 2003


Solar Wind Plasma
ACE LEVEL2 DATA Hourly Averages for MAY 2003, from SWEPAM
Proton Speed (km/sec)
Helium Speed (SWICS)
1200
1000
800
600
400
200
Proton Density (1/cm^3)
1000.0
100.0
10.0
1.0
0.1
Proton Temp (Degrees K)
10^7
10^6
10^5
10^4
10^3
5
10
15
20
25
30
DAYS OF MAY 2003


Solar Energetic Particles
ACE LEVEL2 DATA Hourly Averages for MAY 2003
ACE/EPAM
Ions (1/(cm2 s sr MeV))
(0.065–0.112) (0.310–0.580)
(1.060–1.910)
ACE/EPAM
Electrons (1/(cm2 s sr MeV))
(0.053–0.103) (0.175–0.315)
ACE/SIS
Carbon (1/(cm2 s sr MeV/nuc))
(6–18) (18–54)
Helium(6–18)
DAYS OF MAY 2003