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Gregory W. Withee, Assistant Administrator

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Number 662

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Editor: Helen E. Coffey

Chief: Herbert W. Kroehl
Solar-Terrestrial Physics Division

Staff: Edward H. Erwin
Susan E. Wahl

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Hα SOLAR FLARES

APRIL 1999

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
		01	0000		0045	No Flare Patrol													
		01	2002		2016	No Flare Patrol													
		01	2103		2118	No Flare Patrol													
		01	2157		2400	No Flare Patrol													
		02	0000		0105	No Flare Patrol													
		02	0526		0532	No Flare Patrol													
0001	KANZ	02	0813	0813	0829	N15	E78	8507	04	8.2	16	SF		2	C				
		02	1821		1958	No Flare Patrol													
		02	2145		2400	No Flare Patrol													
		03	0000		0059	No Flare Patrol													
		03	0151		0527	No Flare Patrol													
0002	KANZ	03	0704	0708	0716	N11	E69	8507	04	8.5	12	SF		2	C				
0003		03	07277	07313	0737	N11	E66	8507	04	8.3	10	SF					19		
	LEAR	03	0727	0731	0739	N10	E63	8507	04	8.0	12	SF		3	E		21		
	KANZ	03	0728	0732	0736	N11	E67	8507	04	8.3	8	SF		2	C				
	SVTO	03	0734	0734	0737	N11	E68	8507	04	8.4	3	SF		3	E		17		
0004	SVTO	03	1000	1001U	1008D	S28	E05	8506	04	3.8	8D	SF		3	E		13		
		03	1025		1028	No Flare Patrol													
0005		03	1137	1141	1153	N10	E66	8507	04	8.4	16	SF					19		
	KANZ	03	1137	1141	1153	N11	E67	8507	04	8.5	16	SF		2	C				
	RAMY	03	1141E	1144U	1154D	N10	E65	8507	04	8.4	13D	SF		3	E		19		
0006		03	1201	12051	1210	S28	E05	8506	04	3.9	9	SF					13		
	KANZ	03	1201	1205	1209	S27	E06	8506	04	4.0	8	SF		2	C				
	SVTO	03	1201	1206	1210	S28	E04	8506	04	3.8	9	SF		3	E		13		
0007		03	12251	12331	1254	S26	E05	8506	04	3.9	29	SF					18		
	KANZ	03	1225	1233	1313	S27	E05	8506	04	3.9	48	SF		2	C				
	RAMY	03	1226	1234	1236	S26	E05	8506	04	3.9	10	SF		3	E		18		
0008		03	1225*	1240	1300	S28	E04	8506	04	3.8	35	SF					18		
	SVTO	03	1225	1240	1304	S28	E04	8506	04	3.8	39	SF		3	E		22		
	RAMY	03	1237	1240	1257	S27	E05	8506	04	3.9	20	SF		3	E		15		
0009		03	13012	13032	1308	N31	W13	8501	04	2.5	7	SF					14		
	SVTO	03	1301	1303	1308	N31	W13	8501	04	2.5	7	SF		3	E		16		
	KANZ	03	1301	1305	1309	N30	W12	8501	04	2.6	8	SF		2	C				
	RAMY	03	1303	1304	1308	N31	W13	8501	04	2.5	5	SF		3	E		12		
0010		03	1329*	13413	1351	S26	E04	8506	04	3.9	22	SF					50		H
	KANZ	03	1329	1341	1349	S27	E04	8506	04	3.9	20	SF		2	C				
	RAMY	03	1329	1343	1353	S27	E05	8506	04	3.9	24	SF		3	E		66		H
	SVTO	03	1330	1344	1350D	S26	E04	8506	04	3.9	20D	SF		3	E		46		H
	HOLL	03	1341	1343	1351	S26	E05	8506	04	3.9	10	SF		3	E		38		
0011		03	14018	14098	1421	S26	E04	8506	04	3.9	20	SF					26		
	KANZ	03	1401	1413	1421	S28	E04	8506	04	3.9	20	SF		2	C				
	HOLL	03	1401	1417	1423	S26	E05	8506	04	4.0	22	SF		3	E		36		
	RAMY	03	1409	1409	1420	S26	E04	8506	04	3.9	11	SF		3	E		15		
	SVTO	03	1414E	1417U	1425D	S26	E04	8506	04	3.9	11D	SF		3	E		28		
0012		03	14543	14576	1509	N10	E64	8507	04	8.4	15	SF					16		
	RAMY	03	1454	1503	1509	N11	E63	8507	04	8.4	15	SF		3	E		16		
	KANZ	03	1457	1457	1509D	N10	E64	8507	04	8.4	12D	SF		2	C				
0013	RAMY	03	1813	1815	1841	N11	E66	8507	04	8.7	28	SF		3	E		55		FH
0014	HOLL	03	1815	1816	1820	N10	E57	8507	04	8.0	5	SF		3	E		18		
0015	HOLL	03	2003	2010	2012	S27	E03	8506	04	4.1	9	SF		3	E		44		
0016	HOLL	03	2013	2017	2026	S26	E02	8506	04	4.0	13	SF		3	E		29		F

APRIL 1999

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
0017	RAMY	03	2047	2048	2058	N18	E74	8508	04	9.5	11	SF		3	E		44		
0018	RAMY	03	2054	2054	2113	S28	E02	8506	04	4.0	19	SF		3	E		38		F
0019	RAMY	03	2145	2146	2148D	S31	E12	8504	04	4.8	3D	SF		3	E		22		F
0020	HOLL	03	2219	2220	2225	S26	E01	8506	04	4.0	6	SF		3	E		58		
		03	2227		2245	No Flare Patrol													
0021	HOLL	03	2304	2316	2342	N29	E81	8508	04	10.3	38	1F		3	E		148		
0022	URUM	04	0142	0145	0153	S26	W01	8506	04	4.0	11	SF			C		32	0.4	D
0023	URUM	04	0200	0228	0245	S27	W04	8506	04	3.8	45	SN			C		161	1.8	E
0024	URUM	04	0400	0411	0411D	N12	E61	8507	04	8.8	11D	SN			P		80	1.9	EG
		04	0412		0449	No Flare Patrol													
0025	SVTO	04	0506E	0509	0546	S28	W05	8506	04	3.8	40D	SF		2	E		48		F
0026	SVTO	04	0528	0528	0537	N18	E72	8508	04	9.7	9	1F		2	E		136		H
0027	KANZ	04	0823	0823	0831	S32	E08	8504	04	5.0	8	SF		2	C				
0028	RAMY	04	1415	1423	1432	N11	E51	8507	04	8.4	17	SF		3	E		12		
0029	RAMY	04	1506	1506	1512	S26	W11	8506	04	3.8	6	SF		3	E		14		
0030	RAMY	04	1525	1529	1545	S26	W11	8506	04	3.8	20	SF		3	E		12		F
		05	0119		0246	No Flare Patrol													
		05	0359		0503	No Flare Patrol													
0031	SVTO	05	0828	0829	0835	N17	E57	8508	04	9.7	7	SF		3	E		23		H
0032	RAMY	05	1116E	1118U	1120	S17	E80	8511	04	11.5	4D	SF		2	E		36		
0033	SVTO	05	1208	1211	1216	N16	E53	8508	04	9.5	8	SF		3	E		55		H
0034		05	1431	1431	1436	N17	E52	8508	04	9.5	5	SF					12		
	HOLL	05	1431	1431	1436	N18	E52	8508	04	9.6	5	SF		3	E		15		
	SVTO	05	1432E	1433U	1434D	N16	E53	8508	04	9.6	2D	SF		3	E		10		
		05	2223		2400	No Flare Patrol													
0035	HOLL	05	2305	2308	2320	S28	W26	8506	04	3.9	15	SF		3	E		40		F
		06	0000		0050	No Flare Patrol													
		06	0122		0129	No Flare Patrol													
		06	0216		0305	No Flare Patrol													
0036	URUM	06	0620	0627	0635	N10	E28	8507	04	8.4	15	SN			C		64	0.8	E
0037		06	06555	07034	0722	N21	E46	8508	04	9.8	27	SF					46	1.0	EF
	KANZ	06	0655	0703	0719	N23	E48	8508	04	10.0	24	SF		2	C				
	SVTO	06	0700	0704	0725	N22	E47	8508	04	9.9	25	SF		3	E		28		F
	URUM	06	0707E	0707	0707D	N19	E42	8508	04	9.5	25D	SN			P		64	1.0	E
0038		06	10071	1011	1019	S34	E58	8510	04	11.0	12	SF					23		
	KANZ	06	1007	1011	1019	S33	E59	8510	04	11.1	12	SF		2	C				
	SVTO	06	1008	1011	1019	S34	E57	8510	04	11.0	11	SF		3	E		23		
0039		06	10096	1015*	1036	S24	W34	8506	04	3.8	27	SF					17		
	SVTO	06	1009	1015	1037	S24	W36	8506	04	3.6	28	SF		3	E		17		
	KANZ	06	1015	1027	1035	S25	W33	8506	04	3.9	20	SF		2	C				

Hα S O L A R F L A R E S

APRIL 1999

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
0040		06	10501	1051	1056	N10	E24	8507	04	8.2	6	SF					16		
	SVTO	06	1050	1051	1056	N10	E24	8507	04	8.2	6	SF		3	E		16		
	KANZ	06	1051	1051	1055	N10	E24	8507	04	8.2	4	SF		2	C				
0041	SVTO	06	1219	1223	1238	N10	E24	8507	04	8.3	19	SF		3	E		12		
0042		06	1354	13581	1408	N10	E23	8507	04	8.3	14	SF					13		
	RAMY	06	1354	1358	1408	N10	E23	8507	04	8.3	14	SF		3	E		16		
	SVTO	06	1354	1359	1407	N10	E23	8507	04	8.3	13	SF		3	E		10		
0043		06	14501	14513	1514	N10	E23	8507	04	8.3	24	SF					42		F
	HOLL	06	1450	1453	1517	N10	E24	8507	04	8.4	27	SF		3	E		55		F
	RAMY	06	1450	1454	1511	N10	E22	8507	04	8.3	21	SF		3	E		36		F
	SVTO	06	1450	1454	1513	N10	E23	8507	04	8.3	23	SF		3	E		36		F
	KANZ	06	1451	1451	1515D	N10	E23	8507	04	8.3	24D	SF		2	C				
0044	RAMY	06	2038	2039	2047	N11	E18	8507	04	8.2	9	SF		3	E		16		
		07	0053		0054	No Flare Patrol													
		07	0139		0146	No Flare Patrol													
		07	0159		0208	No Flare Patrol													
0045	LEAR	07	0218	0222	0224	N10	E16	8507	04	8.3	6	SF		3	E		18		
		07	0252		0302	No Flare Patrol													
0046	LEAR	07	0411	0411	0415	N10	E17	8507	04	8.4	4	SF		3	E		21		
0047	URUM	07	0425E	0425	0428	S26	W39	8506	04	4.1	3D	SN			P		32	0.4	D
0048	LEAR	07	0558	0601	0605	N10	E14	8507	04	8.3	7	SF		3	E		18		
0049		07	09221	0923	0928	N20	E34	8508	04	10.0	6	SF					16		
	SVTO	07	0922	0923	0929	N20	E34	8508	04	10.0	7	SF		4	E		16		
	KANZ	07	0923	0923	0927	N20	E34	8508	04	10.0	4	SF		2	C				
0050	SVTO	07	1234	1236	1246	N14	E37	8509	04	10.3	12	SF		4	E		10		
0051	RAMY	07	1238	1243	1247	N21	E31	8508	04	9.9	9	SF		4	E		11		
0052	RAMY	07	1325	1326	1330	N20	E30	8508	04	9.8	5	SF		4	E		14		
0053		07	14112	14131	1428	S19	E52	8511	04	11.5	17	SF					32		F
	SVTO	07	1411	1414	1428	S20	E52	8511	04	11.6	17	SF		4	E		29		F
	RAMY	07	1413	1413	1428	S18	E53	8511	04	11.6	15	SF		3	E		35		F
0054	RAMY	07	2119	2121	2126	S28	W48	8506	04	4.1	7	SF		3	E		25		
		07	2224		2400	No Flare Patrol													
		08	0000		0447	No Flare Patrol													
0055		08	0515	0519	0530	N22	E22	8508	04	9.9	15	SF					38		F
	LEAR	08	0515	0519	0532	N23	E23	8508	04	10.0	17	SF		4	E		19		
	SVTO	08	0520E	0523U	0527	N21	E22	8508	04	9.9	7D	SF		2	E		57		F
		08	0547		0611	No Flare Patrol													
		08	0624		0631	No Flare Patrol													
0056	SVTO	08	0637	0638	0640	N20	E21	8508	04	9.9	3	SF		3	E		16		
0057	LEAR	08	0744	0748	0800	N23	E22	8508	04	10.0	16	SF		4	E		20		
0058	SVTO	08	0746	0750	0757	N24	E12	8508	04	9.2	11	SF		3	E		19		F
0059	SVTO	08	0813	0820	0828	N22	E21	8508	04	9.9	15	SF		3	E		21		F
0060	LEAR	08	0839	0843	0913	N22	E21	8508	04	10.0	34	SF		3	E		36		
0061	SVTO	08	0839	0901	0921	N22	E21	8508	04	10.0	42	SF		3	E		70		F

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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
		08	0939		0948	No Flare Patrol													
		08	0958		1002	No Flare Patrol													
		08	1006		1014	No Flare Patrol													
		08	1102		1122	No Flare Patrol													
		08	1208		1343	No Flare Patrol													
		08	1406		1443	No Flare Patrol													
		08	1456		1501	No Flare Patrol													
0062	RAMY	08	1558	1611	1630	N23	E18	8508	04	10.0	32	SF	3	E		71			
0063	RAMY	08	1717	1718	1734D	N23	E15	8508	04	9.9	17D	SF	3	E		50			F
		09	0000		0013	No Flare Patrol													
		09	0025		0046	No Flare Patrol													
0064	LEAR	09	0427	0427	0433	N24	E11	8508	04	10.0	6	SF	3	E		16			F
0065	LEAR	09	0517	0517	0527	N22	E09	8508	04	9.9	10	SF	3	E		11			F
		09	0903		0908	No Flare Patrol													
		09	1001		1113	No Flare Patrol													
0066		09	14162	14227	1440	N22	E04	8508	04	9.9	24	SF				55			F
	HOLL	09	1416	1429	1439	N22	E03	8508	04	9.8	23	SF	3	E		86			F
	RAMY	09	1418	1422	1442	N23	E06	8508	04	10.0	24	SF	3	E		24			
0067	RAMY	09	1549	1553	1605	N20	E03	8508	04	9.9	16	SF	3	E		39			
0068		09	18153	1818	1907	N23	E01	8508	04	9.8	52	SF				44			F
	RAMY	09	1815	1818	1946	N23	E01	8508	04	9.8	91	SF	4	E		59			F
	HOLL	09	1818	1818	1828	N23	E01	8508	04	9.8	10	SF	3	E		29			F
0069	RAMY	09	2012	2013	2018	N19	E00	8508	04	9.8	6	SF	3	E		15			F
		10	0429		0440	No Flare Patrol													
0070	URUM	10	0509	0517	0525	N09	W28	8507	04	8.1	16	SN		C		80	1.0		EG
0071	URUM	10	0537	0548	0552	N11	W28	8507	04	8.1	15	SN		P		32	0.4		DG
0072	URUM	10	0545	0548	0552D	N24	E03	8508	04	10.5	7D	SN		P		80	0.9		D
0073	SVTO	10	0604	0632U	0703	N26	E01	8508	04	10.3	59	SF	3	E		12			F
		10	0612		0619	No Flare Patrol													
		10	0624		0629	No Flare Patrol													
0074	KANZ	10	1258	1258	1306	S35	E05	8510	04	10.9	8	SF	2	C					
0075	RAMY	10	1442	1444	1447	N20	W11	8508	04	9.8	5	SF	4	E		22			
0076	RAMY	10	1524	1524	1531	N20	W11	8508	04	9.8	7	SF	4	E		13			
0077		11	0337	03383	0344	N20	W17	8508	04	9.8	7	SN				60	1.2		E
	LEAR	11	0337	0338	0344	N20	W16	8508	04	9.9	7	SF	3	E		24			
	URUM	11	0337	0341	0345	N19	W18	8508	04	9.8	8	SB		C		96	1.2		E
0078	SVTO	11	0831	0834	0837	S19	E37	8515	04	14.2	6	SF	3	E		11			
0079	SVTO	11	0926	0928U	0948D	N23	W27	8508	04	9.3	22D	SF	3	E		28			
		11	1302		1304	No Flare Patrol													
0080	RAMY	11	1737	1737	1746	N22	W26	8508	04	9.7	9	SF	3	E		16			
		11	1944		1957	No Flare Patrol													
		11	2058		2118	No Flare Patrol													
		11	2242		2254	No Flare Patrol													

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0081	SVTO	12	0551	0557	0603	N24	W39	8508	04	9.2	12	SF			3	E		13		
		12	0957		1045	No Flare Patrol														
0082	RAMY	12	1130E	1131U	1145D	S33	E16	8514	04	13.7	15D	SF			3	E		10		
		12	1421		1436	No Flare Patrol														
		12	1456		1510	No Flare Patrol														
0083		12	17264	17353	1751	S34	E13	8514	04	13.8	25	SF						26		
	RAMY	12	1726	1738	1757	S35	E13	8514	04	13.8	31	SF			3	E		32		
	HOLL	12	1730	1735	1745	S34	E13	8514	04	13.8	15	SF			3	E		21		
		12	1858		1944	No Flare Patrol														
0084	RAMY	12	1946	1947	1957	S33	E08	8514	04	13.4	11	SF			3	E		19		
0085	RAMY	12	2003	2009	2018	S33	E11	8514	04	13.7	15	SF			3	E		28		
		12	2024		2300	No Flare Patrol														
0086	RAMY	12	2033	2037	2037D	S33	E10	8514	04	13.6	4D	SF			3	E		12		
		13	0751		0814	No Flare Patrol														
		13	0819		0839	No Flare Patrol														
		13	0930		1047	No Flare Patrol														
0087	RAMY	13	1135E	1136U	1150D	N23	W46	8508	04	9.9	15D	SF			3	E		11		
0088	RAMY	13	1257	1300	1310	N23	W46	8508	04	10.0	13	SF			3	E		35		
		13	2313		2343	No Flare Patrol														
		14	0019		0033	No Flare Patrol														
		14	0045		0126	No Flare Patrol														
		14	0944		1213	No Flare Patrol														
		14	1242		1249	No Flare Patrol														
		14	1337		1347	No Flare Patrol														
		15	0125		0149	No Flare Patrol														
0089	URUM	15	0227	0230	0250	S32	W23	8514	04	13.3	23	SN				C		161	2.0	EG
		15	0251		0601	No Flare Patrol														
		15	0615		0639	No Flare Patrol														
		15	0825		0956	No Flare Patrol														
		15	1228		1254	No Flare Patrol														
		15	1418		1537	No Flare Patrol														
		15	2039		2150	No Flare Patrol														
		16	0125		0135	No Flare Patrol														
		16	0557		1134	No Flare Patrol														
		17	0528		0539	No Flare Patrol														
		17	0605		0648	No Flare Patrol														
0090	SVTO	17	0653	0654	0704	S28	W56	8512	04	12.9	11	SF			3	E		16		
0091	SVTO	17	0654	0655	0706	S29	W50	8514	04	13.4	12	SF			3	E		16		
0092	RAMY	17	1821	1822	1831	N17	W28	8519	04	15.6	10	SF			3	E		16		
0093	RAMY	17	2033	2034	2042	S31	W55	8514	04	13.5	9	SF			3	E		15		
0094	HOLL	17	2338	2342	2347	S33	W55	8514	04	13.6	9	SF			3	E		53		
		18	0938		0947	No Flare Patrol														
0095		18	14361	14374	1446	N17	W82		04	12.4	10	SF						22		
	HOLL	18	1436	1437	1448	N17	W85		04	12.1	12	SF			2	E		25		
	RAMY	18	1437	1441	1444	N17	W79		04	12.6	7	SF			3	E		18		
0096	HOLL	18	2115	2116	2121	N21	W52	8517	04	14.9	6	SF			3	E		16		

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		19	0019		0030	No Flare Patrol														
0097	URUM	19	0155	0203	0207	S21	W65	8515	04	14.1	12	1N				C		96		E
0098	URUM	19	0330	0338	0350	N23	W49	8517	04	15.4	20	SN				C		32	0.6	D
0099	HOLL	19	1512	1512	1516	S15	E47	8518	04	23.2	4	SF			3	E		15		
0100		19	16322	1635	1639	S16	E46	8518	04	23.2	7	SF						26		
	SVTO	19	1632	1636U	1722D	S16	E46	8518	04	23.2	50D	SF			3	E		33		
	HOLL	19	1634	1635	1639	S15	E46	8518	04	23.2	5	SF			3	E		18		
0101	LEAR	20	0145	0146	0150	S15	E41	8518	04	23.2	5	SF			4	E		21		
0102	RAMY	20	1139	1141	1146	N21	W67	8517	04	15.3	7	SF			3	E		10		
0103	RAMY	20	1149	1155	1158	N22	W73	8517	04	14.9	9	SF			3	E		24		
0104		20	17192	1721	1730	N22	W78	8517	04	14.7	11	SF						12		
	HOLL	20	1719	1721	1726	N22	W78	8517	04	14.7	7	SF			3	E		13		
	RAMY	20	1721	1721	1734	N21	W79	8517	04	14.7	13	SF			3	E		12		
0105		21	00192	0021	0027	N24	W82	8517	04	14.7	8	SF						22		
	LEAR	21	0019	0021	0028	N25	W80	8517	04	14.8	9	SF			4	E		28		
	HOLL	21	0021	0021	0026	N23	W83	8517	04	14.6	5	SF			3	E		17		
0106	LEAR	21	0147	0147	0152	N25	W79	8517	04	14.9	5	SF			4	E		17		
0107	LEAR	21	0605	0606	0608	N24	W83	8517	04	14.8	3	SF			3	E		18		
0108	SVTO	21	0753	0754	0802	S20	W16	8516	04	20.1	9	SF			3	E		31		F
0109	LEAR	21	0811	0811	0816	N24	W88	8517	04	14.5	5	SF			3	E		11		
0110	RAMY	21	1152	1155	1159	N34	W29	8521	04	19.2	7	SF			3	E		22		
0111	RAMY	21	1226	1232	1237	N34	W29	8521	04	19.2	11	SF			3	E		12		F
0112	RAMY	21	1251	1259	1306	N33	W30	8521	04	19.1	15	SF			3	E		17		
0113	RAMY	21	1334	1334	1342	N34	W30	8521	04	19.2	8	SF			3	E		13		
0114	RAMY	21	1647	1649	1652	N21	W88	8517	04	14.9	5	SF			3	E		19		
		21	2221		2301	No Flare Patrol														
		22	0950		1149	No Flare Patrol														
		22	1151		1207	No Flare Patrol														
		23	0438		0827	No Flare Patrol														
		23	0845		0934	No Flare Patrol														
		23	0949		1139	No Flare Patrol														
		23	2203		2300	No Flare Patrol														
		24	0942		1023	No Flare Patrol														
0115	RAMY	24	1414	1415	1422	N17	E58	8522	04	29.0	8	SF			3	E		12		
0116	RAMY	24	1814	1814	1826	N16	E55	8522	04	28.9	12	SF			3	E		13		
0117	HOLL	24	1851	1852	1857	N16	E56	8522	04	29.0	6	SF			3	E		25		
0118	HOLL	24	1910	1912	1917	N16	E53	8522	04	28.8	7	SF			3	E		28		
		24	2131		2310	No Flare Patrol														
0119		25	0750	07513	0802	N30	E38	8523	04	28.3	12	SN						38	0.8	DFG
	LEAR	25	0750	0751	0758	N30	E39	8523	04	28.4	8	SF			3	E		29		F
	URUM	25	0750	0754	0805	N30	E37	8523	04	28.2	15	SB				C		48	0.8	D G
		25	0945		1110	No Flare Patrol														

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0120	RAMY	25	1229	1230	1237	N22	E46	8524	04	29.0	8	SF		4	E		16		
0121	URUM	26	0107E	0107	0107D	N17	E39	8522	04	29.0	8D	1N			P		289	4.1	E
0122		26	07573	08031	0808	N29	E26	8523	04	28.4	11	SN					32	0.4	D
	URUM	26	0757	0803	0803D	N28	E26	8523	04	28.4	6D	SN			P		32	0.4	D
	KANZ	26	0800	0804	0808	N30	E26	8523	04	28.4	8	SF		2	C				
0123	RAMY	26	1647	1648	1659	N21	E29	8524	04	28.9	12	SF		3	E		14		
		27	1057		1238	No Flare Patrol													
0124	KANZ	27	1519	1519	1527	N20	E19	8524	04	29.1	8	SF		2	C				
		27	1959		2041	No Flare Patrol													
0125	URUM	28	0105	0113	0145	N20	E13	8524	04	29.0	40	SN			C		32	0.4	D
		28	0957		1100	No Flare Patrol													
		28	1121		1141	No Flare Patrol													
0126	RAMY	28	1209	1210	1216	N33	W03	8523	04	28.3	7	SF		4	E		16		F
		28	1639		1650	No Flare Patrol													
		28	1728		1742	No Flare Patrol													
		28	1814		1856	No Flare Patrol													
		28	2005		2020	No Flare Patrol													
0127	LEAR	29	0352	0353	0358	N30	W10	8523	04	28.4	6	SF		3	E		12		F
0128		29	08281	08293	0835	N15	E77	8525	05	5.2	7	SF					22		
	KANZ	29	0828	0832	0840	N14	E80	8525	05	5.4	12	SF		2	C				
	SVTO	29	0829	0829	0833	N16	E74	8525	05	5.0	4	SF		3	E		20		
	LEAR	29	0829	0830	0833	N14	E77	8525	05	5.2	4	SF		4	E		24		
0129		29	09241	09271	0932	N32	W12	8523	04	28.4	8	SF					11		
	KANZ	29	0924	0928	0932	N32	W12	8523	04	28.4	8	SF		2	C				
	SVTO	29	0925	0927	0931	N33	W12	8523	04	28.4	6	SF		4	E		11		
0130		29	1142	11422	1147	N30	W15	8523	04	28.3	5	SF					14		
	KANZ	29	1142	1142	1146	N30	W14	8523	04	28.4	4	SF		2	C				
	SVTO	29	1142	1143	1147	N31	W15	8523	04	28.3	5	SF		3	E		14		
	RAMY	29	1142	1144	1148	N30	W15	8523	04	28.3	6	SF		3	E		15		
0131		29	12062	12082	1231	N22	W05	8524	04	29.1	25	SF					26		
	RAMY	29	1206	1208	1231	N22	W05	8524	04	29.1	25	SF		3	E		28		
	KANZ	29	1206	1210	1230	N22	W03	8524	04	29.3	24	SF		2	C				
	SVTO	29	1208	1210	1231	N23	W07	8524	04	29.0	23	SF		3	E		23		
0132	KANZ	29	1246	1246	1250	N22	W04	8524	04	29.2	4	SF		2	C				
0133	KANZ	29	1454	1454	1458	N15	E77	8525	05	5.4	4	SF		2	C				
0134		29	15402	15411	1608	N22	W12	8524	04	28.7	28	SF					27		F
	RAMY	29	1540	1541	1604	N22	W11	8524	04	28.8	24	SF		3	E		27		F
	KANZ	29	1542	1542	1612	N21	W14	8524	04	28.6	30	SF		2	C				
0135		29	15402	1542	1552	N22	W07	8524	04	29.1	12	SF					33		
	HOLL	29	1540	1542	1552	N22	W08	8524	04	29.0	12	SF		3	E		33		
	KANZ	29	1542	1542	1550D	N23	W06	8524	04	29.2	8D	SF		2	C				
0136		29	17142	17163	1748	N22	W10	8524	04	28.9	34	SF					26		
	RAMY	29	1714	1716	1810	N22	W10	8524	04	28.9	56	SF		3	E		32		
	HOLL	29	1716	1719	1727	N22	W09	8524	04	29.0	11	SF		3	E		21		
0137	RAMY	29	1722	1722	1726	N15	E74	8525	05	5.3	4	SF		3	E		20		
0138	HOLL	29	1737	1740	1755	N21	W08	8524	04	29.1	18	SF		3	E		33		

Hα S O L A R F L A R E S

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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
0139	HOLL	29	1948	1955	2027	N22	W16	8524	04	28.6	39	1B		3	E		176		E
0140	HOLL	29	2031	2033	2038	N22	W17	8524	04	28.5	7	SF		3	E		16		
0141	HOLL	29	2049	2054	2114	N21	W09	8524	04	29.2	25	SF		3	E		42		
0142	LEAR	30	0229	0232	0235	N15	E71	8525	05	5.5	6	SF		4	E		78		
0143	LEAR	30	0246	0249	0259	N21	W13	8524	04	29.1	13	SF		4	E		17		E
0144	LEAR	30	0354	0355	0408	N22	W15	8524	04	29.0	14	SF		4	E		28		E
0145		30	12103	12142	1238	N22	W19	8524	04	29.0	28	1F					80		FH
	RAMY	30	1210	1214	1238	N22	W20	8524	04	29.0	28	SN		3	E		60		F
	KANZ	30	1212	1216	1232D	N21	W21	8524	04	28.9	20D	1F		2	C				
	SVTO	30	1213	1216	1237	N24	W17	8524	04	29.2	24	1F		3	E		100		FH

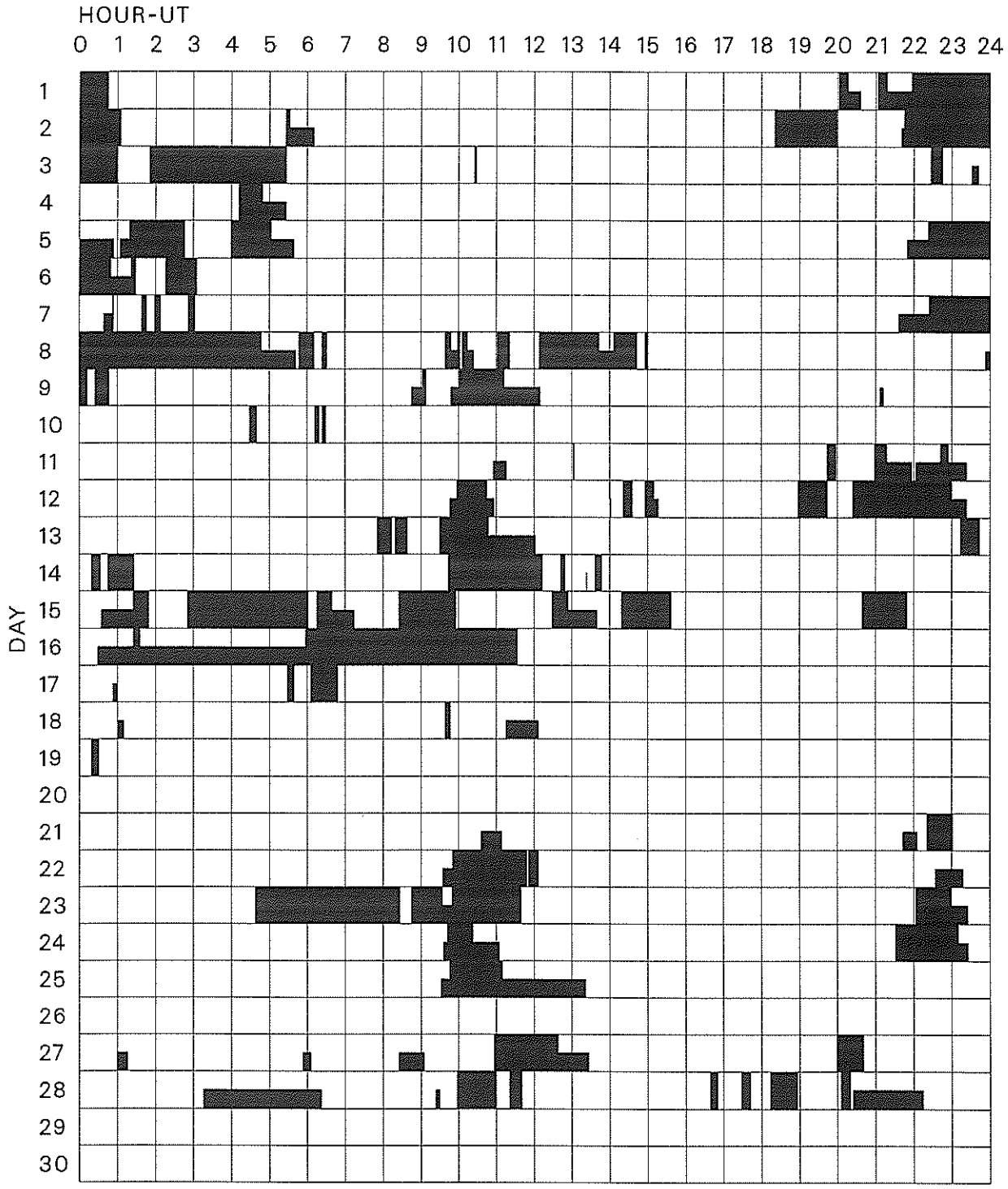
"Remarks"

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

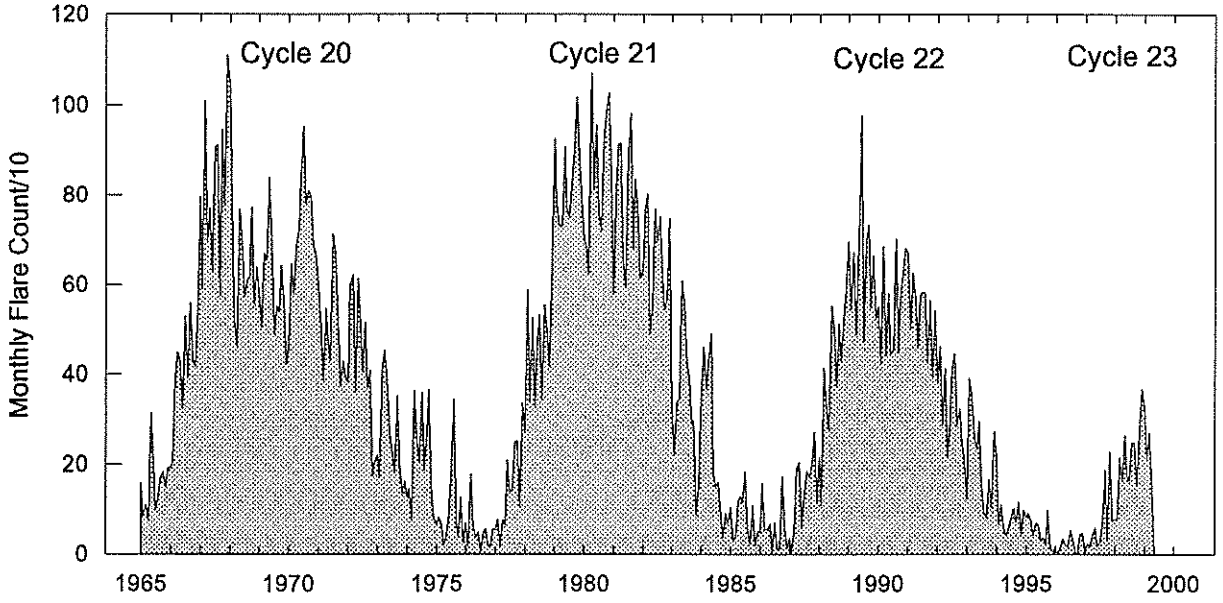
APRIL 1999



Times of no flare patrol, shown here as shades 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	Kanzelhoehe	Ramey	Urumqi
Hurbanovo	Learmonth	San Vito	

Monthly Counts of Grouped Solar Flares
Jan 1965 - Apr 1999



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									958

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

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

APRIL 1999

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	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	280	CUBA	44	NS	1300.0E		530.0D		14.0		
02	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	280	CUBA	44	NS	1300.0E		530.0D		14.0		
	2840	PEKG	1	S	0806.0	0812.0	10.0	7.3			
	5730	IRKU	1	S	0809.0	0812.0	8.9	4.0	U		
	900	GORK	28	PRE	0809.0	0813.5	4.5	3.0			
	2950	GORK	28	PRE	0809.2	0811.6	2.4	4.9			
	600	GORK	28	PRE	0809.5	0813.5	4.1	2.0			
	900	GORK	42	SER	0809.6	0811.0	3.6	4.0			
	3000	IZMI	5	S	0811.5	0811.9	0.7	6.0			
	2950	GORK	3	S	0811.6	0812.1	1.0	9.7			
	2950	GORK	29	PBI	0812.6	0812.6	3.4	4.9			
	600	GORK	3	S	0813.5	0814.1	1.7	7.0			
	900	GORK	3	S	0813.5	0814.3	1.5	15.0			
	900	GORK	29	PBI	0815.0	0815.0	12.0	26.0			
	600	GORK	29	PBI	0815.2	0815.2	14.8	4.0			
	600	GORK	40	F	1006.0	1007.3	2.0	3.0			
	900	GORK	40	F	1006.2	1006.9	3.0	3.0			
	2950	GORK	42	SER	1006.8	1008.2	2.0	12.9			
03	280	CUBA	44	NS	1300.0E		525.0D		15.0		
	235	CUBA	44	NS	1300.0E		530.0D		6.0		
	500	HIRA	8	S	0541.2	0541.3	0.2	160.0			0
	200	HIRA	47	GB	0541.2	0541.4	0.6	650.0			0
	204	IZMI	7	C	0647.7	0647.8	0.1	5.0			
	204	IZMI	42	SER	0816.9	0817.7	1.2	25.0			
	204	IZMI	42	SER	1005.3	1005.8	1.1	25.0			
	204	IZMI	41	F	1014.7	1015.1	0.6	16.0			
	204	IZMI	7	C	1045.5	1045.7	0.6	16.0			
	245	SVTO	8	S	1342.0	1343.0	1.0	52.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1343.0	1343.0	U	59.0			QL=4 ST=2 TYP=3
	6700	CUBA	21	GRF	1955.0	2050.0	130.0D	8.0	4.0		OOL SUNSET
	2800	PENT	1	S	2046.0	2056.0	11.0		16.0		
	9500	CUBA	2	S/F	2046.0	2046.3	4.0	23.0	11.0		
	6700	CUBA	2	S/F	2046.0	2046.3	4.2	23.0	11.0		4L CPMPLEX POL
	2800	HIRA	46	C	2301.0	2306.5	9.0	60.0			0
	4995	PALE	4	S/F	2302.0	2307.0	8.0	140.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2302.0	2307.0	11.0	120.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	2303.0	2307.0	6.0	75.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	2303.0	2306.0	4.0	35.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2303.0	2303.0	12.0	41.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	2303.0	2303.0	12.0	130.0			QL=4 ST=2 TYP=3
	500	HIRA	46	C	2303.0	2303.2	6.0	150.0			0
	8800	LEAR	4	S/F	2305.0	2306.0	3.0	69.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	2305.0	2306.0	2.0	35.0			QL=4 ST=2 TYP=3
	200	HIRA	6	S	2308.2	2309.2	1.2	210.0			0
	200	HIRA	4	S/F	2326.0	2326.5	2.0	50.0			0
04	280	CUBA	44	NS	1300.0E		530.0D		21.0		
	235	CUBA	44	NS	1300.0E		530.0D		10.0		
	5730	IRKU	20	GRF	0400.5	0427.1	76.0U	25.0	U		
	600	GORK	42	SER	0506.0E	0510.0	18.0D	14.0			
	900	GORK	42	SER	0506.0E	0521.0	16.0D	79.0			
	245	SVTO	8	S	0508.0	0509.0	1.0	91.0			QL=4 ST=2 TYP=3
	200	HIRA	4	S/F	0508.5	0509.5	1.5	50.0			0
	2950	GORK	28	PRE	0509.0E	0519.2	11.0D	26.8			
	500	HIRA	46	C	0509.0	0510.2	1.5	60.0			0
	2840	PEKG	45	C	0511.0	0521.0	28.0	193.4			
	2700	PURP	2	S/F	0517.0	0520.0	10.0	167.3			
	5730	IRKU	46	C	0517.0	0521.5	43.0U	198.0	U		
	2695	SVTO	4	S/F	0518.0	0521.0	4.0	190.0			QL=4 ST=2 TYP=3
	2800	HIRA	46	C	0518.5	0521.0	6.0	210.0			0
	1415	LEAR	4	S/F	0519.0	0521.0	3.0	73.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	0519.0	0521.0	3.0	66.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0520.0	0521.0	4.0	260.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0520.0	0521.0	4.0	130.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	0520.0	0521.0	4.0	110.0			QL=2 ST=2 TYP=3

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

APRIL 1999

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
04	8800	SVTO	4	S/F	0520.0	0521.0	4.0	250.0			QL=4 ST=2 TYP=3
	2950	GORK	4	S/F	0520.4	0521.1	1.9	187.3			
	9100	GORK	45	C	0520.5	0521.5	4.0	262.8			
	15400	LEAR	4	S/F	0521.0	0521.0	3.0	190.0			QL=4 ST=2 TYP=3
	900	GORK	30	PBI	0522.2	0522.2	20.4	15.0			
	2950	GORK	29	PBI	0522.3	0522.3	7.7	26.8			
	900	GORK	2	S/F	0522.7	0523.2	1.1	3.0			
	9100	GORK	29	PBI	0524.5	0524.5	4.6	30.1			
	245	SVTO	8	S	0923.0	0923.0	1.0	150.0			QL=4 ST=2 TYP=3
	204	IZMI	25	R	1109.0		51.0D		10.0		
	245	SGMR	8	S	1207.0	1207.0	1.0	75.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1207.0	1207.0	1.0	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1221.0	1222.0	1.0	72.0			QL=4 ST=2 TYP=3
	245	SVTO	48	C	1308.0	1314.0	6.0	150.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1309.0	1311.0	2.0	110.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1313.0	1314.0	1.0	200.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1404.0	1404.0	1.0	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1404.0	1404.0	2.0	58.0			QL=4 ST=2 TYP=3
	410	SVTO	4	S/F	1404.0	1406.0	3.0	91.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1404.0	1405.0	3.0	59.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1411.0	1412.0	1.0	89.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1411.0	1412.0	1.0	70.0			QL=4 ST=3 TYP=3
	245	SVTO	8	S	1459.0	1500.0	1.0	90.0			QL=4 ST=3 TYP=3
	245	SGMR	8	S	1500.0	1500.0	1.0	120.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1500.0	1500.0	1.0	43.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1544.0	1545.0	2.0	180.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1545.0	1545.0	1.0	240.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1921.0	1922.0	2.0	160.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1935.0	1938.0	6.0	200.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2018.0	2018.0	U	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2059.0	2059.0	U	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2107.0	2107.0	2.0	71.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2108.0	2108.0	U	60.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	2147.0	2148.0	5.0		9.0		
05	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	280	CUBA	44	NS	1300.0E		530.0D		18.0		
	2840	PEKG	1	S	0530.0	0531.0	2.0	5.7			
	2950	GORK	1	S	0530.7	0531.3	0.9	4.8			
	5730	IRKU	1	S	0530.8	0531.2	1.9	2.0	U		
	900	GORK	2	S/F	0531.0	0531.4	0.6	2.0			
	245	SVTO	8	S	0736.0	0736.0	U	91.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0736.4	0736.5	0.7	390.0			
	245	SGMR	8	S	1616.0	1617.0	2.0	78.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1616.0	1616.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1618.0	1620.0	2.0	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2012.0	2012.0	U	51.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	2050.0	2057.0	7.0	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2056.0	2057.0	2.0	120.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2058.0	2100.0	7.0	65.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2112.0	2112.0	U	55.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2121.0	2123.0	2.0	52.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2251.0	2251.0	1.0	51.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2353.0	2355.0	3.0	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2356.0	2358.0	2.0	100.0			QL=4 ST=3 TYP=3
06	245	PALE	43	NS	0004.0	0028.0	25.0	170.0			QL=4 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0D		5.0		
	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	280	CUBA	44	NS	1300.0E		530.0D		17.0		
	5730	IRKU	1	S	0111.3	0111.6	0.5	3.0	U		
	410	PALE	8	S	0308.0	0308.0	U	81.0			QL=4 ST=2 TYP=3
07	204	IZMI	44	NS	0600.0E		360.0D		15.0		
	127	TORN	44	NS	0720.0E		460.0D		8.0		V=1
	245	SGMR	43	NS	1156.0	1302.0	154.0	160.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1300.0E		530.0D		11.0		
	280	CUBA	44	NS	1300.0E		530.0D		21.0		
	2840	PEKG	5	S	0434.0	0435.0	3.0	15.5			

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Outstanding Occurrences

APRIL 1999

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	2700	PURP	3	S	0434.0	0435.8	5.4	31.7			
	5730	IRKU	1	S	0434.9	0435.3	1.5	6.0	U		
	245	SVTO	8	S	0810.0	0811.0	1.0	92.0			QL=4 ST=2 TYP=3
	600	GORK	42	SER	0917.0	0922.0	5.3	79.0			
	2950	GORK	1	S	0921.9	0922.2	0.7	4.9			
	2950	GORK	29	PBI	0922.6	0922.6	8.8	2.5			
	245	SGMR	8	S	1113.0	1113.0	1.0	50.0			QL=4 ST=2 TYP=3
	127	TORN	4	S/F	1250.2	1251.3	2.3	80.0	20.0		
	245	SGMR	8	S	1924.0	1925.0	1.0	76.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1950.0	1950.0	5.0	62.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2049.0	2049.0	U	57.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2054.0	2054.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	2202.0	2208.0	11.0	92.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	2208.0	2208.0	5.0	92.0			QL=4 ST=3 TYP=3
	200	HIRA	8	S	2211.5	2211.6	0.2	380.0			0
08	204	IZMI	44	NS	0600.0E		360.0D		10.0		
	245	SVTO	43	NS	0610.0	0735.0	86.0	88.0			QL=2 ST=2 TYP=1
	235	CUBA	44	NS	1300.0E		530.0D		9.0		
	280	CUBA	44	NS	1300.0E		530.0D		18.0		
	245	PALE	4	S/F	0025.0	0026.0	3.0	140.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0052.0	0054.0	2.0	79.0			QL=4 ST=2 TYP=3
	200	HIRA	42	SER	0351.2	0352.0	1.0	140.0			0
	245	SVTO	8	S	0509.0	0509.0	1.0	83.0			QL=4 ST=2 TYP=3
	5730	IRKU	1	S	0516.0	0517.0	5.0	3.0	U		
	245	SVTO	8	S	0544.0	0545.0	1.0	94.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0559.0	0601.0	2.0	110.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0601.0	0601.0	U	59.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0601.2	0601.3	0.2	280.0			WR
	204	IZMI	45	C	0601.2	0601.3	0.3	406.0			
	2840	PEKG	1	S	0635.0	0637.0	4.0	5.2			
	900	GORK	40	F	0636.4	0636.8	1.4	33.0			
	2950	GORK	1	S	0637.0	0637.2	0.5	6.5			
	600	GORK	4	S/F	0637.0	0637.2	0.6	22.0			
	5730	IRKU	1	S	0637.0	0637.4	1.0	5.0	U		
	3000	IZMI	1	S	0637.1	0637.2	0.7	8.0			
	2950	GORK	29	PBI	0637.5	0637.5	0.7	2.4			
	204	IZMI	41	F	0700.9	0701.2	0.8	120.0			
	204	IZMI	42	SER	0731.1	0734.5	7.1	126.0			
	204	IZMI	7	C	0827.2	0827.4	0.3	130.0			
	245	SVTO	49	GB	0930.0	0931.0	1.0	640.0			QL=4 ST=2 TYP=6
	204	IZMI	45	C	0930.7	0931.0	0.5	357.0			
	33	UPIC	46	C	0942.5	0943.5	1.5				
	245	SVTO	8	S	0943.0	0943.0	U	84.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0943.4	0943.5	1.4	269.0			
	204	IZMI	41	F	0946.3	0946.5	0.3	22.0			
	204	IZMI	7	C	1015.2	1015.3	0.2	27.0			
	245	SVTO	8	S	1050.0	1050.0	1.0	77.0			QL=4 ST=2 TYP=3
	610	SGMR	4	S/F	1059.0	1101.0	7.0	280.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1100.0	1101.0	1.0	250.0			QL=2 ST=3 TYP=3
	33	UPIC	4	S/F	1101.0	1101.5	1.0				
	245	SGMR	8	S	1106.0	1106.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1106.0	1106.0	1.0	360.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	1106.1	1106.4	1.5	163.0			
	204	IZMI	42	SER	1144.7	1146.2	6.4	45.0			
	33	UPIC	4	S/F	1145.0	1145.5	1.0				
	245	SGMR	8	S	1146.0	1146.0	U	63.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1157.0	1157.0	1.0	61.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1246.0	1246.0	1.0	87.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1246.0	1248.0	3.0	97.0			QL=4 ST=2 TYP=3
	6700	CUBA	1	S	1327.9	1328.3	1.0	16.0	8.0		25L
	9500	CUBA	1	S	1328.0	1328.4	1.0	11.0	5.0		
	245	SGMR	8	S	1405.0	1405.0	U	52.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1427.0	1427.0	2.0	63.0			QL=4 ST=2 TYP=3
	9500	CUBA	20	GRF	1605.0	1613.0	25.0	14.0	7.0		
	6700	CUBA	20	GRF	1608.0	1612.0	24.0	12.0	6.0		OOL
	6700	CUBA	2	S/F	1716.7	1718.4	2.7	10.0	5.0		6L
	9500	CUBA	1	S	1717.8	1718.2	1.3	11.0	5.0		

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

APRIL 1999

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
09	204	IZMI	44	NS	0626.0E		334.0D		5.0		
	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	280	CUBA	44	NS	1300.0E		530.0D		18.0		
	5730	IRKU	21	GRF	0510.6	0516.7	31.4	5.0	U		
	600	GORK	42	SER	0852.2	0852.7	2.5	4.0			
	900	GORK	1	S	0852.4	0852.6	0.3	1.0			
	245	SGMR	8	S	1305.0	1306.0	1.0	220.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1305.0	1306.0	1.0	150.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1531.0	1532.0	2.0	380.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1531.0	1532.0	2.0	35.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1531.0	1532.0	2.0	280.0			QL=4 ST=2 TYP=3
	2800	PENT	41	F	1545.0	1547.0	11.0		6.0		
10	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	280	CUBA	44	NS	1300.0E		530.0D		17.0		
	235	CUBA	44	NS	1300.0E		530.0D		7.0		
11	280	CUBA	44	NS	1300.0E		530.0D		16.0		
	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	2840	PEKG	5	S	0334.0	0336.5	9.0	30.6			
	5730	IRKU	45	C	0335.2	0340.3	10.0	14.0	U		
	204	IZMI	41	F	0603.8	0603.9	0.4	64.0			
	3000	IZMI	5	S	0925.2	0926.5	4.8	7.0			
	33	UPIC	45	C	0932.5	0932.7	1.5				
	33	UPIC	45	C	1007.5	1008.0	1.0				
13	280	CUBA	44	NS	1300.0E		530.0D		17.0		
	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	2840	PEKG	1	S	0855.0	0858.0	5.0	4.3			
	2950	GORK	1	S	0857.7	0858.4	1.1	4.1			
	900	GORK	2	S/F	0858.5	0858.8	0.3	4.0			
	6700	CUBA	20	GRF	1745.0	1816.0	66.0	9.0	4.0		OOL
	2800	PENT	1	S	2213.0	2214.0	2.0		8.0		
14	280	CUBA	44	NS	1300.0E		530.0D		19.0		
	235	CUBA	44	NS	1300.0E		530.0D		8.0		
15	204	IZMI	43	NS	0600.0		360.0D		10.0		
	280	CUBA	44	NS	1320.0E		510.0D		18.0		
	235	CUBA	44	NS	1320.0E		510.0D		10.0		
	500	HIRA	27	RF	0236.0	0322.0	80.0	70.0			WR
16	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	280	CUBA	44	NS	1330.0E		500.0D		18.0		
	235	CUBA	44	NS	1330.0E		500.0D		10.0		
	245	SVTO	8	S	0545.0	0546.0	1.0	86.0			QL=4 ST=2 TYP=3
	204	IZMI	25	R	0710.0U		89.0U		20.0		
17	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	235	CUBA	44	NS	1415.0E		455.0D		8.0		
	280	CUBA	44	NS	1415.0E		455.0D		17.0		
	204	IZMI	42	SER	0719.8	0721.2	4.9	93.0			
	2950	GORK	42	SER	0949.2	0950.3	4.3	5.4			
	900	GORK	42	SER	0950.2	0950.5	3.2	2.0			
	600	GORK	40	F	0950.6	0952.1	3.0	3.0			
	245	SGMR	8	S	1230.0	1230.0	U	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1819.0	1819.0	1.0	62.0			QL=4 ST=2 TYP=3
18	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	280	CUBA	44	NS	1300.0E		530.0D		15.0		
	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	245	SGMR	8	S	1245.0	1245.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1723.0	1723.0	2.0	71.0			QL=4 ST=2 TYP=3
19	280	CUBA	44	NS	1300.0E		530.0D		17.0		
	235	CUBA	44	NS	1300.0E		530.0D		7.0		
20	204	IZMI	43	NS	0600.0		360.0D		5.0		
	280	CUBA	44	NS	1300.0E		460.0D		16.0		

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

APRIL 1999

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
20	235	CUBA	44	NS	1300.0E		460.0D		7.0		
	200	HIRA	8	S	0307.4	0307.5	0.2	60.0			0
	204	IZMI	7	C	0642.2	0642.5	0.5	60.0			
	204	IZMI	42	SER	0734.4	0737.9	5.7	51.0			
	200	HIRA	42	SER	0746.0	0747.5	1.7	140.0			0
	204	IZMI	45	C	0747.3	0747.5	1.5	295.0			
	245	SGMR	8	S	1114.0	1115.0	1.0	78.0			QL=4 ST=2 TYP=3
	33	UPIC	4	S/F	1114.5	1115.5	1.5				
	245	SVTO	8	S	1115.0	1115.0	U	80.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1656.0	1656.0	U	53.0			QL=4 ST=2 TYP=3
21	204	IZMI	44	NS	0600.0E		360.0D		20.0		
	127	TORN	43	NS	0730.0		450.0		4.0		V=8
	280	CUBA	44	NS	1300.0E		530.0D		24.0		
	235	CUBA	44	NS	1300.0E		530.0D		13.0		
	245	SGMR	43	NS	1759.0	1820.0	68.0	210.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	2129.0	2138.0	14.0	80.0			QL=4 ST=2 TYP=1
	127	TORN	4	S/F	1221.0	1222.8	2.0	320.0	90.0		
	245	SGMR	8	S	1452.0	1452.0	1.0	68.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1452.0	1452.0	U	54.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1619.0	1622.0	8.0	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1622.0	1622.0	1.0	76.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1819.0	1820.0	2.0	190.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2002.0	2002.0	U	57.0			QL=4 ST=2 TYP=3
22	204	IZMI	44	NS	0600.0E		360.0D		20.0		
	127	TORN	43	NS	0740.0		440.0		2.0		V=1
	235	CUBA	44	NS	1300.0E		530.0D		10.0		
	280	CUBA	44	NS	1300.0E		530.0D		16.0		
	3000	IZMI	5	S	0706.6	0706.7	0.2	25.0			
	2840	PEKG	5	S	2332.0	2355.0	37.0	11.2			
23	204	IZMI	44	NS	0600.0E		360.0D		5.0		
	127	TORN	44	NS	0620.0E		520.0D		2.0		V=1
	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	280	CUBA	44	NS	1300.0E		530.0D		16.0		
	3000	IZMI	5	S	0626.2	0626.2	0.2	41.0	20.0		
	3000	IZMI	5	S	0733.9	0733.9	0.2	47.0	21.0		
	127	TORN	45	C	0907.7	0908.3	2.0	240.0	120.0		
	245	PALE	4	S/F	2158.0	2159.0	3.0	150.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	2158.0	2200.0	3.0	110.0			QL=4 ST=2 TYP=3
24	127	TORN	44	NS	0620.0E		520.0D		6.0		V=1
	235	CUBA	44	NS	1300.0E		530.0D		8.0		
	280	CUBA	44	NS	1300.0E		530.0D		16.0		
	204	IZMI	41	F	0805.6	0806.1	1.1	10.0			
25	235	CUBA	44	NS	1300.0E		530.0D		6.0		
	280	CUBA	44	NS	1300.0E		530.0D		16.0		
26	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	280	CUBA	44	NS	1300.0E		530.0D		17.0		
	245	SGMR	43	NS	1545.0	1553.0	18.0	82.0			QL=4 ST=2 TYP=1
	245	SVTO	8	S	0416.0	0416.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0423.0	0424.0	2.0	63.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	1013.9	1014.4	0.5	40.0			
	204	IZMI	7	C	1122.4	1122.7	0.4	29.0			
	245	SVTO	4	S/F	1545.0	1545.0	3.0	76.0			QL=4 ST=2 TYP=3
27	235	CUBA	44	NS	1330.0E		500.0D		5.0		
	280	CUBA	44	NS	1330.0E		530.0D		11.0		
	33	UPIC	2	S/F	0920.5	0921.0	1.0				
28	280	CUBA	44	NS	1300.0E		530.0D		15.0		
	235	CUBA	44	NS	1300.0E		530.0D		6.0		
	200	HIRA	8	S	0331.0	0331.2	0.4	100.0			0
	2800	PENT	41	F	2029.0	2031.0	11.0		24.0		
29	280	CUBA	44	NS	1300.0E		530.0D		15.0		

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

APRIL 1999

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	235	CUBA	44	NS	1300.0E		530.0D		7.0		
	2950	GORK	21	GRF	0826.8	0828.4	15.3D	5.3			
	900	GORK	21	GRF	0827.0	0828.9	32.0	2.0			
	600	GORK	23	GRF	0827.9	0855.0	38.1	9.0			
	600	GORK	40	F	0840.8	0841.3	1.8	65.0			
	900	GORK	1	S	0842.1	0842.3	0.6	2.0			
	2950	GORK	1	S	0842.1	0842.3	0.3	5.3			
	6700	CUBA	21	GRF	1714.0	1718.0	11.0	7.0	4.0		OOL
	6700	CUBA	2	S/F	1714.6	1714.8	2.9	10.0	5.0		OOL
	4995	SGMR	4	S/F	1948.0	1951.0	9.0	44.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1948.0	1951.0	9.0	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1948.0	1951.0	6.0	63.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	1950.0	1951.0	2.0	33.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	1950.0	1951.0	2.0	50.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1950.0	1950.0	2.0	68.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1951.0	1951.0	U	21.0			QL=4 ST=2 TYP=3
	2800	PENT	41	F	2214.0	2216.0	5.0		12.0		
30	5730	IRKU	1	S	0248.2	0248.8	4.3	2.0	U		
	5730	IRKU	1	S	0353.1	0355.2	11.9	10.0	U		
	8800	SGMR	4	S/F	1213.0	1215.0	3.0	74.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	1215.0	1215.0	1.0	35.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1215.0	1215.0	1.0	36.0			QL=4 ST=2 TYP=3
	15400	SVTO	8	S	1215.0	1215.0	1.0	35.0			QL=4 ST=2 TYP=3
	4995	SVTO	8	S	1215.0	1215.0	1.0	37.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1215.0	1215.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1939.0	1940.0	1.0	72.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1939.0	1940.0	1.0	74.0			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.

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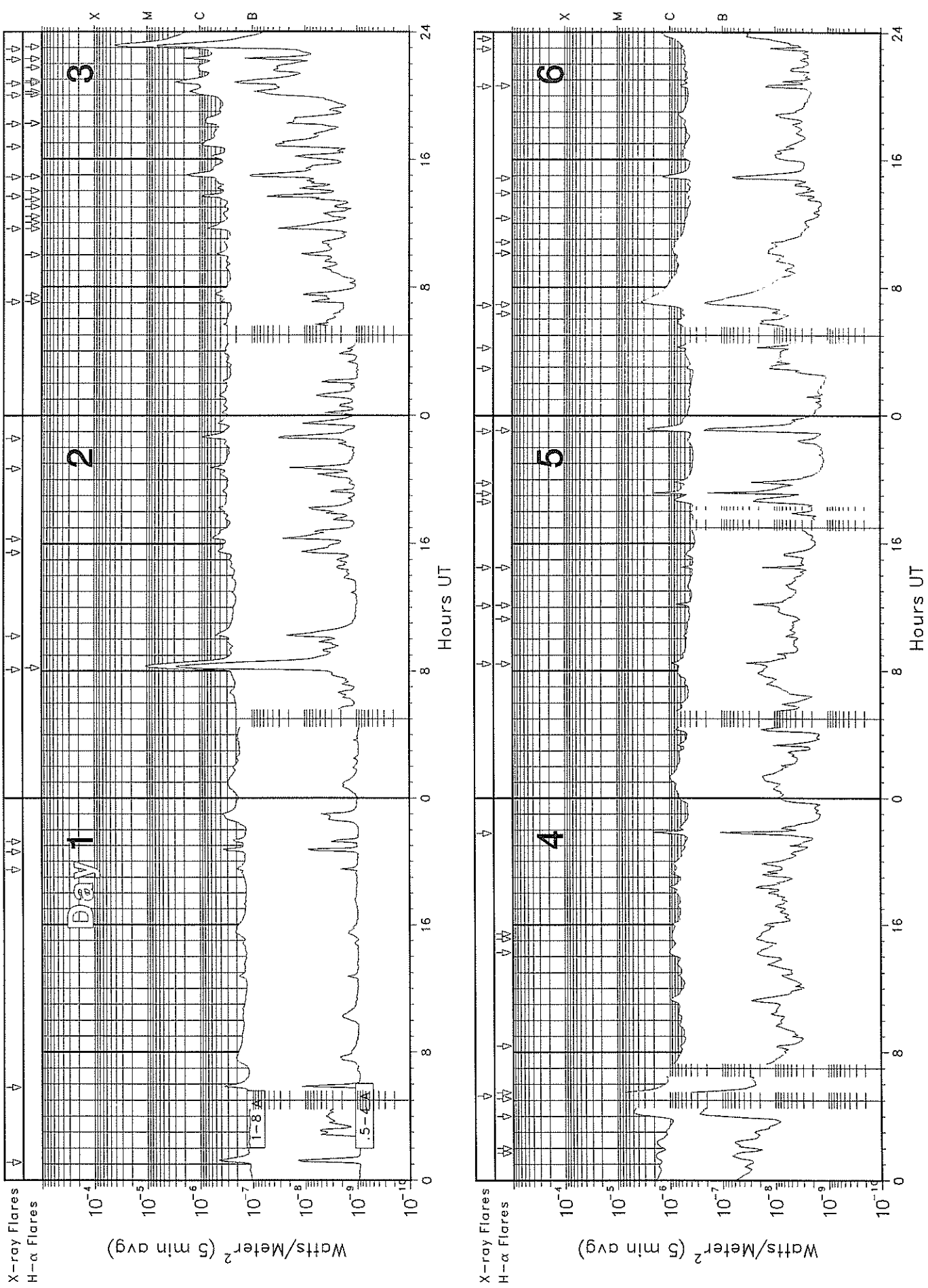
Apr 99

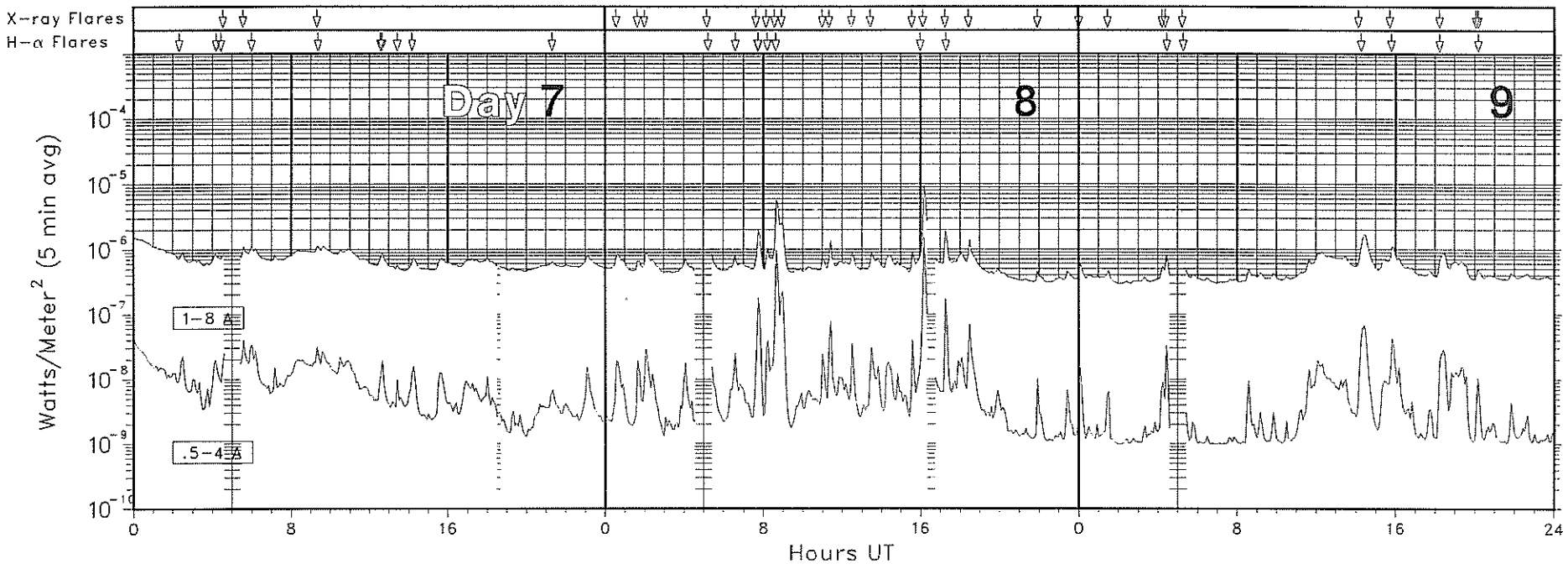
GOES X-RAY DETECTOR

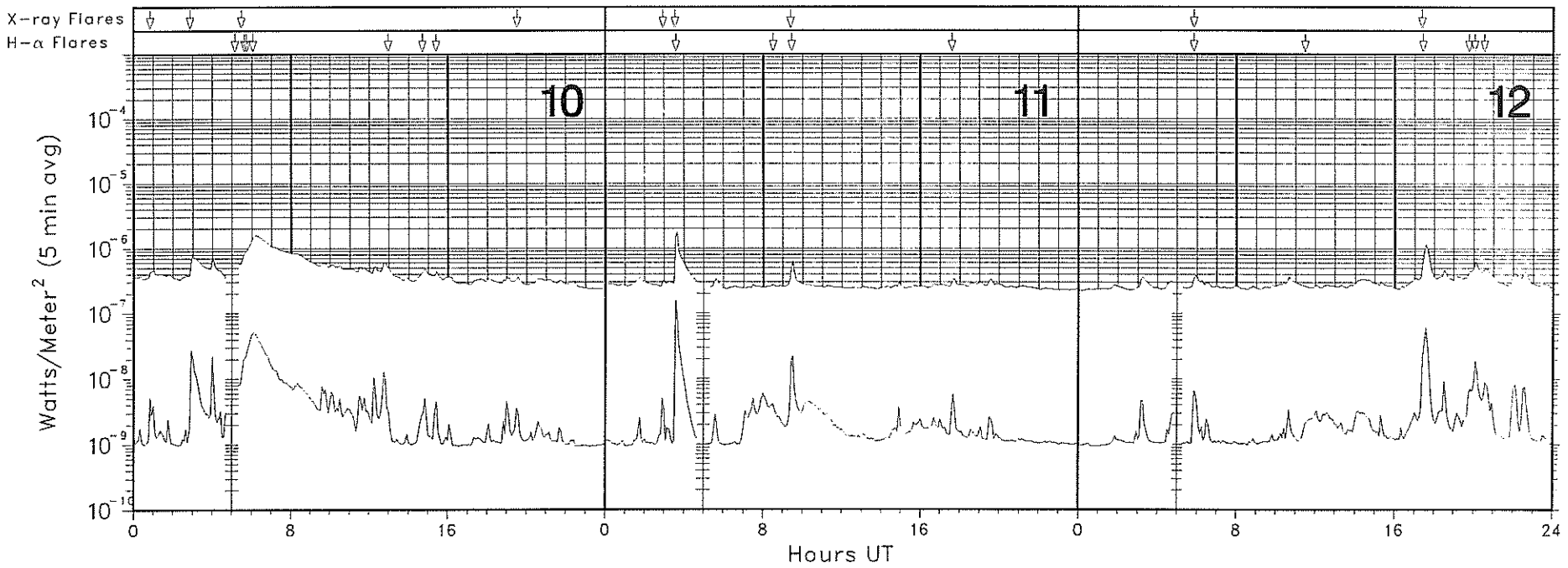
April 1999



GOES X-RAY DETECTOR

April 1999

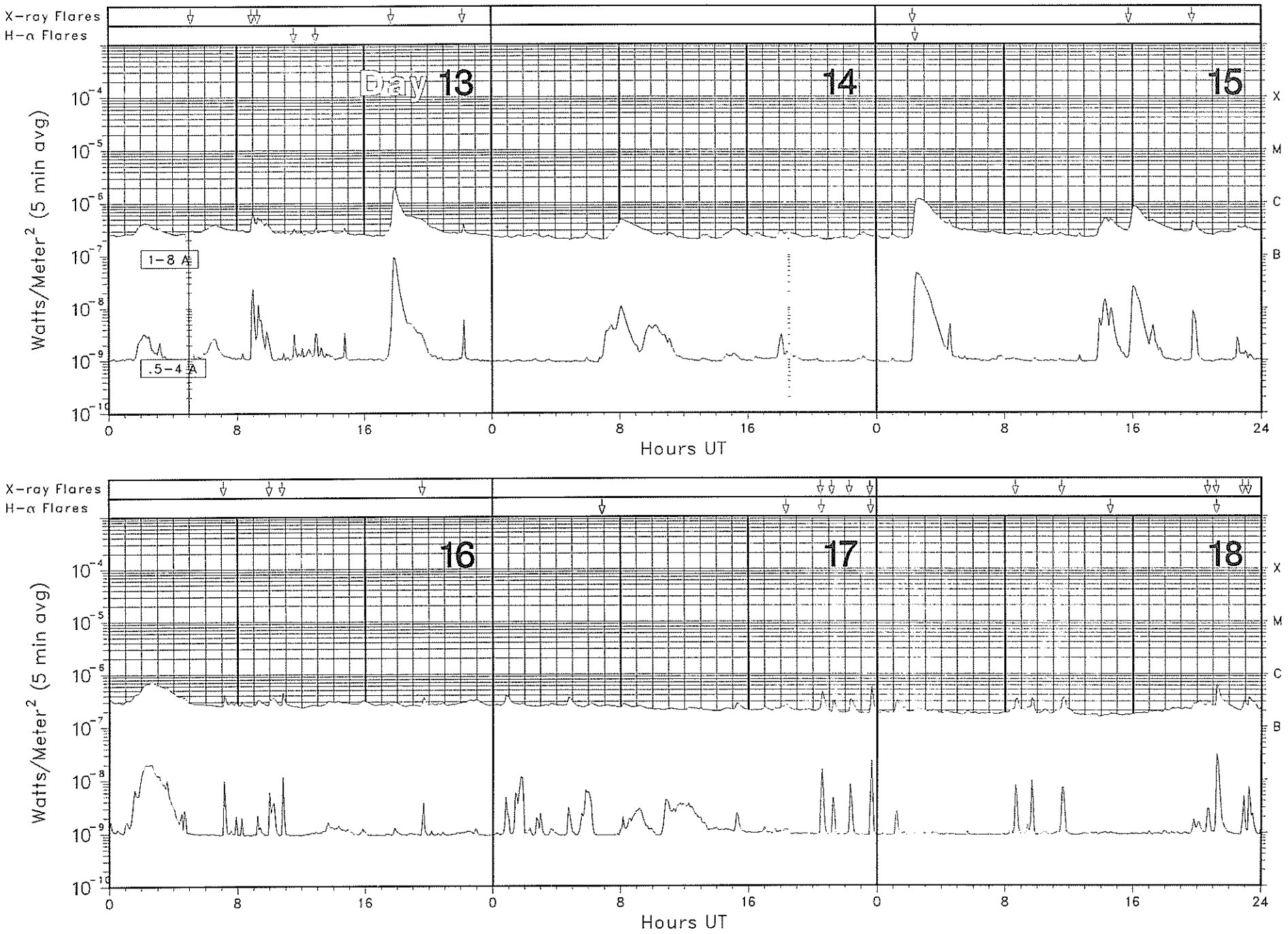




GOES X-RAY DETECTOR

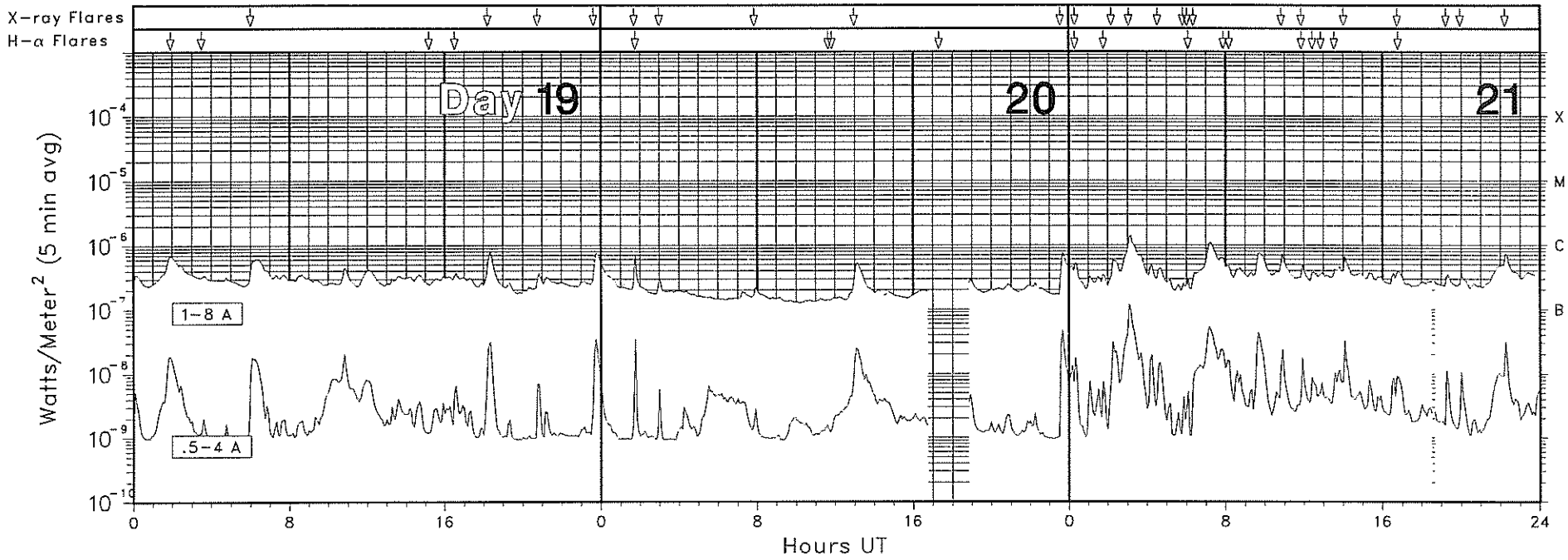
April 1999

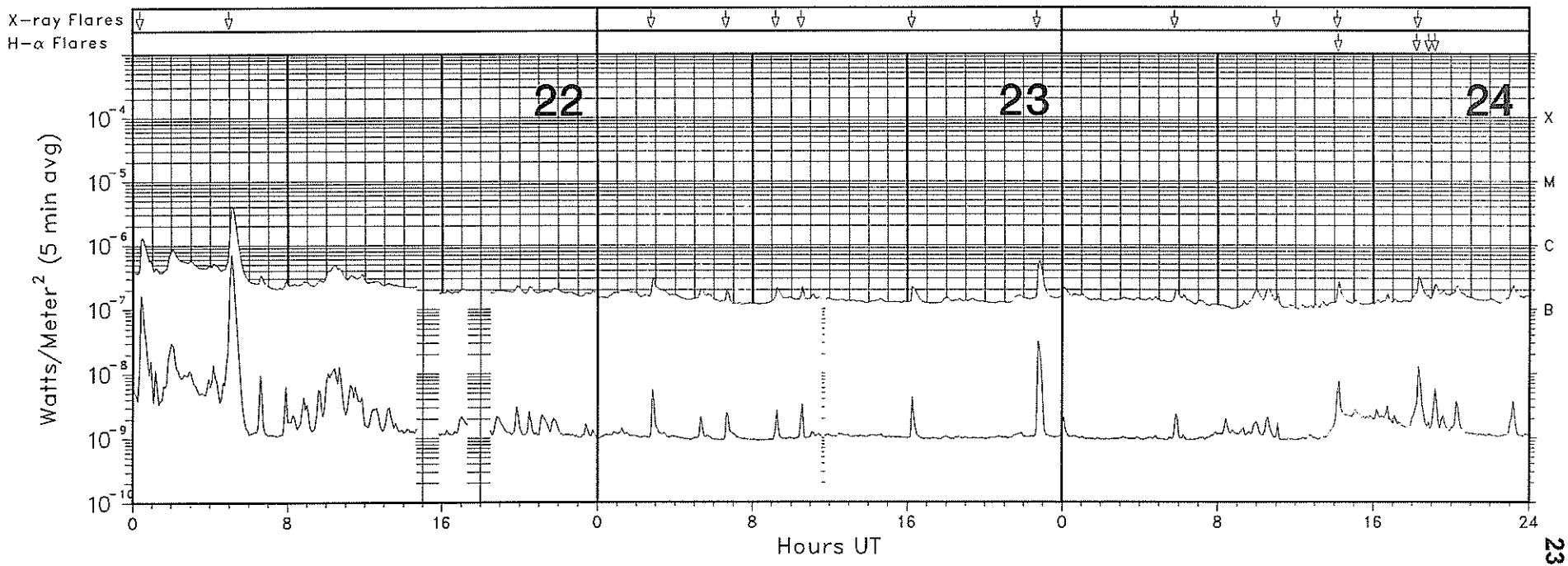
22 Apr 99



GOES X-RAY DETECTOR

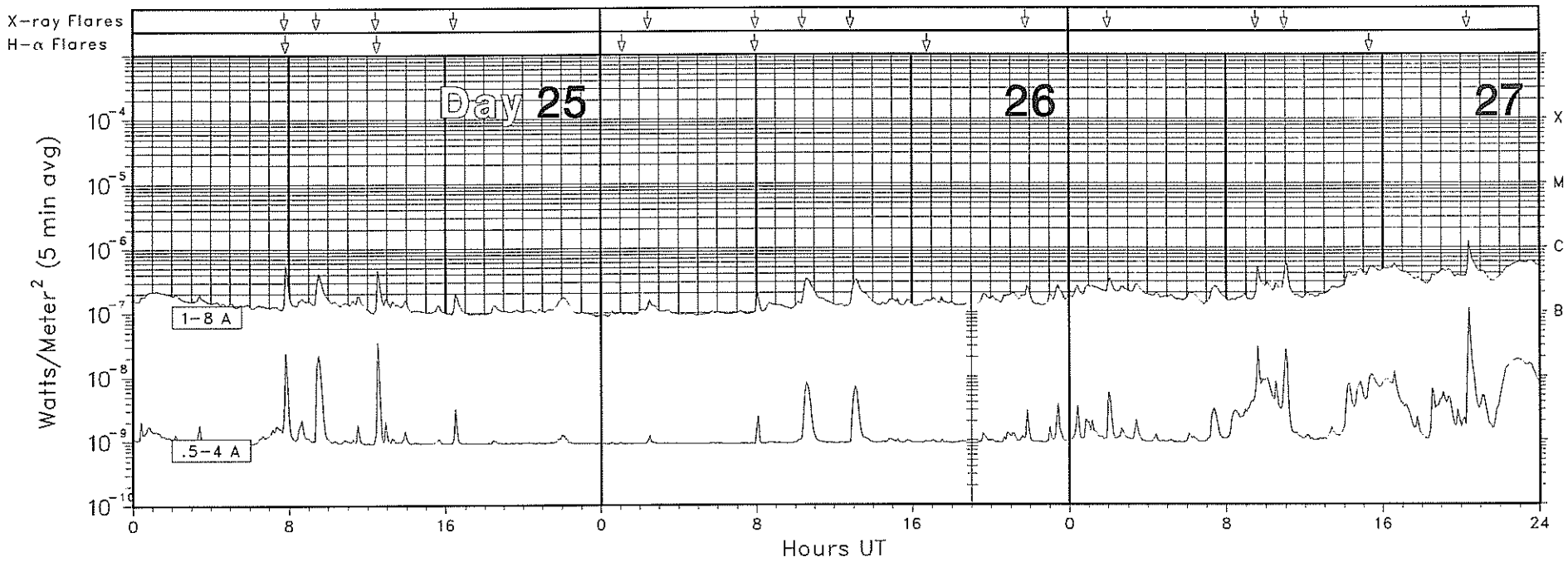
April 1999

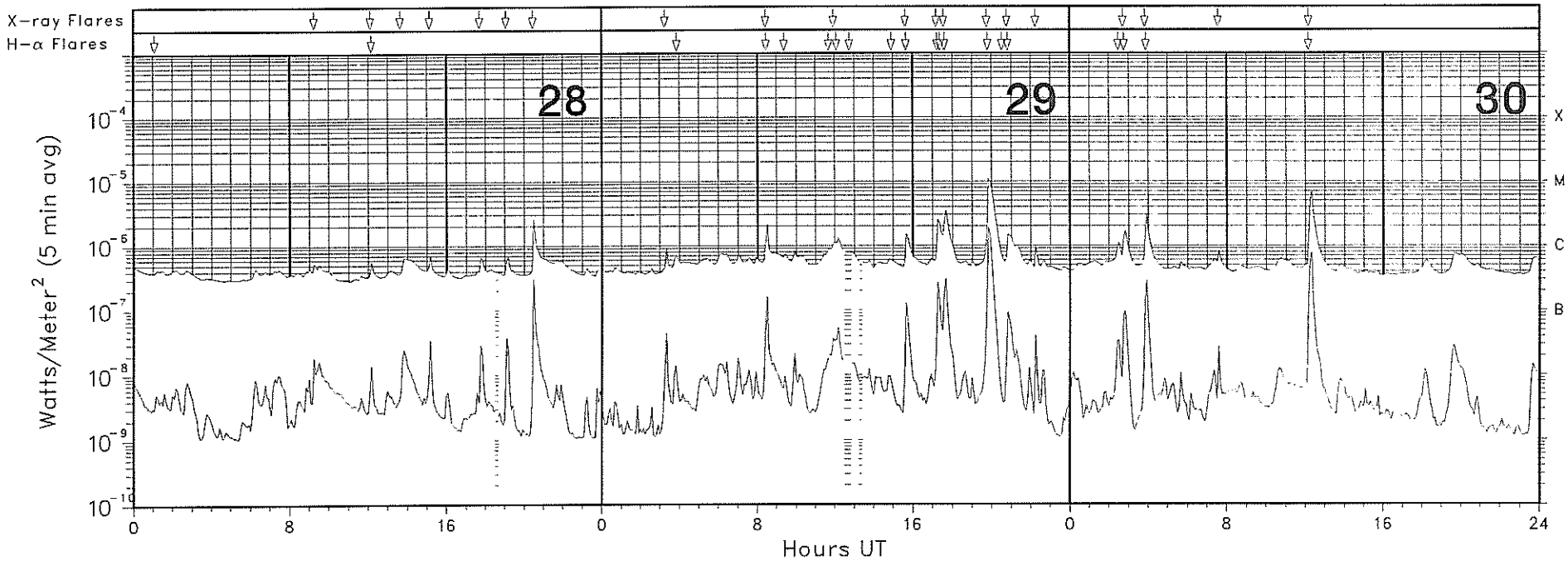




GOES X-RAY DETECTOR

April 1999





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

April 1999

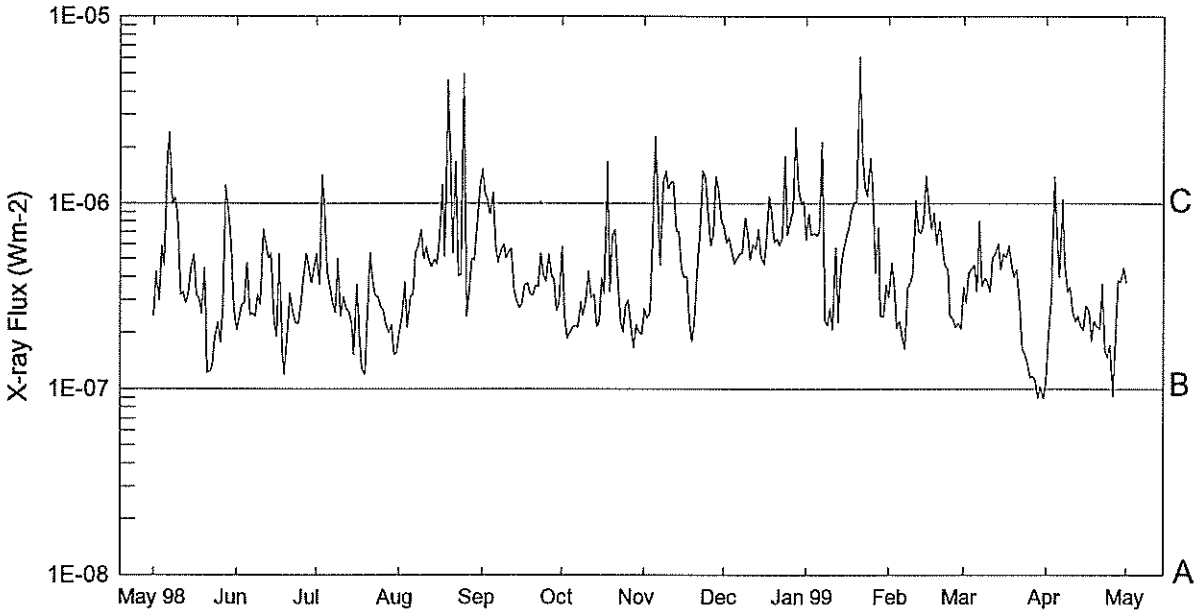
Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp	Xray	NOAA/ USAF Region	Flux
01	0106	0115	0122				B4.7			3.3E-04
01	0547	0552	0558				B4.1			1.9E-04
01	1929	1933	1939				B2.1			1.2E-04
01	2036	2045	2049				B4.3			2.3E-04
01	2115	2119	2124				B2.5			1.2E-04
02	0806	0821	0829				M1.1			9.3E-03
02	1011	1017	1026				B4.9			4.0E-04
02	1526	1534	1541				B4.3			3.6E-04
02	1618	1624	1632				B6.2			4.4E-04
02	2042	2046	2049				B7.1			2.4E-04
02	2234	2240	2247				B9.9			5.9E-04
03	0703	0708	0714				B4.1			2.4E-04
03	1137	1142	1148	N10	E65	SF	B7.6		8507	4.0E-04
03	1339	1344	1347	S27	E05	SF	C1.4		8506	4.6E-04
03	1452	1501	1509	N11	E63	SF	C1.9		8507	1.4E-03
03	1646	1655	1715				B9.3			1.3E-03
03	1812	1819	1840	N11	E66	SF	B8.2		8507	1.2E-03
03	2000	2017	2026	S26	E02	SF	C1.6		8506	1.9E-03
03	2044	2050	2058	N18	E74	SF	C3.1		8506	2.0E-03
03	2216	2220	2223	S26	E01	SF	C2.8		8506	7.2E-04
03	2256	2310	2319	N29	E81	1F	M4.3			3.3E-02
04	0515	0525	0530	N18	E72	1F	M5.4		8508	
04	2147	2150	2154				C2.3			7.6E-04
05	0828	0831	0833	N17	E57	SF	C1.2		8508	2.8E-04
05	1206	1211	1215	N16	E53	SF	B8.0		8508	3.4E-04
05	1430	1433	1435	N18	E52	SF	B6.9		8508	1.7E-04
05	1837	1845	1854				B8.0			7.3E-04
05	1909	1914	1916	N18	E52	SF	C2.6			7.0E-04
05	1947	1951	1955				B8.5			3.5E-04
05	2301	2309	2315	S28	W26	SF	C3.3		8506	1.7E-03
06	0255	0259	0301				B5.8			1.7E-04
06	0413	0417	0420				B7.7			2.7E-04
06	0652	0705	0722	N22	E47	SF	C3.5		8508	4.8E-03
06	2035	2040	2042	N11	E18	SF	B7.5		8507	2.7E-04
06	2257	2300	2303				B7.0			2.3E-04
06	2335	2403	2515				C1.6			7.6E-03
07	0432	0435	0437				C1.1			2.5E-04
07	0533	0536	0539				C1.2			3.9E-04
07	0920	0924	0927	N20	E34	SF	C1.3		8508	4.9E-04
08	0035	0039	0046				B9.3			5.4E-04
08	0140	0144	0148				B7.8			3.3E-04
08	0201	0208	0219				B9.2			8.6E-04
08	0511	0519	0525	N23	E23	SF	C2.1		8508	1.1E-03
08	0739	0748	0754	N23	E22	SF	C2.2		8508	1.3E-03
08	0810	0816	0821	N22	E21	SF	C1.1		8508	5.9E-04
08	0836	0843	0849	N22	E21	SF	C6.9		8508	3.3E-03
08	0857	0901	0903	N22	E21	SF	C3.5		8508	1.0E-03
08	1100	1103	1107				B8.4			3.1E-04
08	1121	1125	1128				C1.8			5.1E-04
08	1229	1233	1236				C1.1			3.7E-04
08	1326	1333	1340				B9.1			6.3E-04
08	1533	1538	1542				C1.0			4.4E-04
08	1607	1613	1617	N23	E18	SF	M1.1			4.4E-03
08	1714	1718	1721	N23	E15	SF	C3.4		8508	7.4E-04
08	1826	1831	1835				C1.5			6.3E-04
08	2155	2158	2200				B5.6			1.4E-04
09	0001	0006	0011				B6.2			3.3E-04
09	0127	0130	0133				B5.5			1.8E-04
09	0412	0415	0418				B6.0			1.9E-04
09	0423	0428	0432	N24	E11	SF	B9.1		8508	3.9E-04
09	0514	0520	0524	N22	E09	SF	B7.6		8508	3.8E-04
09	1408	1429	1440	N22	E03	SF	C1.7		8508	2.4E-03
09	1544	1550	1558	N20	E03	SF	C1.2			8.0E-04
09	1815	1832	1835	N23	E01	SF	B9.6		8508	9.8E-04
09	2006	2009	2011				B4.9			1.3E-04
09	2011	2014	2016				B6.1			1.6E-04
10	0050	0053	0057				B5.1			1.9E-04
10	0253	0300	0324				B8.1			1.3E-03
10	0528	0615	0730	N26	E01	SF	C1.5		8508	8.5E-03
10	1931	1934	1936				B4.2			1.1E-04
11	0256	0259	0302				B3.9			1.2E-04
11	0333	0339	0343	N20	W16	SF	C2.7		8508	9.2E-04
11	0924	0930	0935	N23	W27	SF	B6.7		8508	3.6E-04
12	0550	0554	0605	N24	W39	SF	B4.0		8508	3.3E-04
12	1723	1738	1745	S35	E13	SF	C1.2			1.1E-03
13	0508	0644	0813				B4.0			3.7E-03
13	0855	0900	0906				B7.7			4.0E-04
13	0918	0921	0923				B6.2			1.6E-04
13	1742	1755	1811	S19	E10	1F	C1.9			2.5E-03
13	2212	2216	2219				B4.5			1.6E-04
15	0217	0239	0333				C1.1			4.3E-03
15	1547	1608	1642				B8.5			2.2E-03
15	1943	1946	1959				B4.9			3.9E-04
16	0708	0712	0716				B4.9			1.8E-04
16	0959	1002	1004				B4.5			1.1E-04
16	1048	1052	1056				B5.4			2.0E-04
16	1937	1941	1947				B3.8			2.1E-04
17	2030	2038	2044	S31	W55	SF	B4.6		8514	3.2E-04
17	2112	2119	2125				B3.4			2.2E-04
17	2217	2223	2232				B3.5			2.7E-04
17	2335	2342	2347	S33	W55	SF	B6.0		8514	3.1E-04
18	0840	0844	0849				B3.8			1.9E-04
18	1133	1142	1147				B3.7			2.8E-04
18	2041	2044	2047				B3.7			1.1E-04
18	2112	2119	2123	N21	W52	SF	B7.6		8517	3.5E-04
18	2251	2255	2308				B3.1			2.8E-04
18	2314	2317	2324				B3.9			2.1E-04
19	0600	0619	0641				B6.3			1.4E-03
19	1813	1822	1829				B8.0			6.4E-04
19	2045	2050	2059				B3.7			2.8E-04
19	2339	2350	2403				B7.9			9.3E-04
20	0142	0146	0148	S15	E41	SF	B9.7		8518	2.2E-04
20	0259	0303	0306				B3.7			1.3E-04
20	0752	0755	0805				B2.2			1.6E-04
20	1258	1309	1323				B5.5			6.8E-04
20	2333	2342	2356				B7.8			7.9E-04
21	0019	0022	0027	N25	W80	SF	B5.8		8517	2.5E-04
21	0211	0217	0234				B6.4			7.4E-04

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

April 1999

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp	Xray	NOAA/ USAF Region	Flux
21	0304	0309	0313				C1.7			7.5E-04
21	0432	0441	0449				B4.4			4.1E-04
21	0549	0552	0556				B2.8			1.0E-04
21	0602	0605	0607	N24	W83	SF	B3.6		8517	9.1E-05
21	0621	0716	0734				C1.1			2.7E-03
21	1051	1055	1100				B8.2			3.7E-04
21	1152	1156	1200	N34	W29	SF	B5.8		8521	2.2E-04
21	1403	1407	1411				B7.4			2.9E-04
21	1646	1650	1652	N21	W88	SF	B4.7		8517	1.5E-04
21	1914	1918	1925				B4.1			2.3E-04
21	1958	2002	2007				B3.5			1.7E-04
21	2214	2219	2223				B8.4			4.0E-04
22	0021	0029	0041				C1.5			1.3E-03
22	0458	0509	0519				C4.5			3.8E-03
23	0247	0253	0259				B3.3			2.0E-04
23	0638	0645	0649				B2.0			1.2E-04
23	0912	0916	0925				B2.2			1.6E-04
23	1031	1036	1039				B2.5			9.9E-05
23	1613	1618	1626				B2.5			1.6E-04
23	2242	2249	2300				B6.3			5.1E-04
24	0547	0556	0600				B2.2			1.5E-04
24	1103	1106	1108				B2.0			5.2E-05
24	1411	1415	1419	N17	E58	SF	B3.1		8522	1.2E-04
24	1817	1823	1829	N16	E55	SF	B3.4		8522	2.1E-04
25	0746	0752	0757	N30	E39	SF	B5.9		8523	2.6E-04
25	0924	0930	0942				B4.5			3.6E-04
25	1226	1232	1238	N22	E46	SF	B5.2		8524	2.4E-04
25	1626	1633	1642				B2.0			1.6E-04
26	0227	0231	0235				B1.7			7.2E-05
26	0759	0806	0810				B2.1			1.1E-04
26	1025	1039	1053				B3.4			4.7E-04
26	1254	1310	1322				B3.2			4.5E-04
26	2149	2152	2158				B2.6			1.3E-04
27	0159	0204	0212				B3.5			2.4E-04
27	0931	0937	0942				B5.6			2.7E-04
27	1059	1104	1107	N32	E10	SF	B8.0			2.8E-04
27	2020	2026	2032	N22	E16	SF	C1.3			6.5E-04
28	0915	0919	0922				B6.2			2.3E-04
28	1206	1211	1216	N33	W03	SF	B5.9		8523	3.0E-04
28	1338	1355	1430				B6.6			1.8E-03
28	1508	1512	1515				B7.8			2.7E-04
28	1743	1749	1754				B7.6			4.1E-04
28	1904	1909	1913				B8.2			3.5E-04
28	2027	2032	2035				C3.8			9.2E-04
29	0316	0320	0323				C1.1			3.3E-04
29	0825	0829	0835	N14	E77	SF	C2.5		8525	1.0E-03
29	1156	1211	1220	N22	W05	SF	C1.3		8524	
29	1537	1543	1550	N22	W08	SF	C1.7			9.8E-04
29	1711	1717	1726	N22	W09	SF	C2.9		8524	1.8E-03
29	1734	1741	1747	N21	W08	SF	C3.7		8524	2.2E-03
29	1945	1954	2005	N22	W16	1B	M1.1			9.4E-03
29	2047	2052	2108	N21	W09	SF	C1.5		8524	1.6E-03
29	2214	2218	2221				C1.2			3.8E-04
30	0243	0250	0256	N21	W13	SF	C1.8		8524	1.1E-03
30	0350	0355	0358	N22	W15	SF	C4.2		8524	1.1E-03
30	0733	0736	0740				B9.3			3.2E-04
30	1210	1221	1225	N24	W17	1F	C8.2			4.2E-03

Preliminary GOES Satellite Daily X-Ray Background
May 98 - Apr 99



Day	May 98	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 99	Feb	Mar	Apr
1	B2.4	B2.0	B5.3	B1.9	C1.5	B5.8	B2.7	B7.5	B6.3	B3.0	B3.5	B1.1
2	B4.2	B2.4	B3.6	B2.4	C1.1	B2.4	B2.4	B6.0	B8.7	B4.7	B2.8	B1.9
3	B2.9	B2.8	C1.4	B3.7	C1.0	B1.8	B2.6	B6.5	B6.7	B3.5	B4.1	B2.9
4	B5.8	B2.8	B9.2	B2.1	B8.7	B2.0	B4.8	B5.4	B6.8	B2.1	B4.3	C1.3
5	B4.6	B4.7	B4.2	B3.1	C1.1	B2.1	C2.3	B4.7	B6.6	B2.3	B4.6	B6.8
6	C1.8	B2.4	B3.5	B3.1	B5.8	B2.1	C1.1	B5.0	B7.0	B1.9	B3.3	B3.9
7	C2.4	B2.5	B2.8	B5.4	B4.7	B2.1	B4.6	B5.3	C2.1	B1.6	B8.0	C1.0
8	B9.9	B2.4	B2.5	B5.8	B5.4	B2.9	C1.3	B5.3	B2.3	B3.4	B3.5	B4.8
9	C1.0	B3.2	B5.0	B7.2	B6.0	B2.4	C1.5	B8.3	B2.2	B3.6	B3.9	B3.3
10	B8.7	B2.8	B2.4	B4.9	B5.0	B3.0	C1.2	B6.8	B2.7	B4.1	B3.7	B3.5
11	B3.1	B7.2	B3.1	B5.8	B5.4	B4.2	C1.3	B4.9	B2.0	C1.0	B3.3	B2.6
12	B3.3	B6.0	B2.6	B4.8	B5.7	B3.0	C1.3	B6.0	B5.7	B7.1	B5.0	B2.3
13	B2.8	B5.0	B2.6	B4.5	B3.4	B3.2	B7.1	B5.6	B2.2	B6.8	B5.2	B2.4
14	B3.2	B5.3	B2.2	B4.9	B2.9	B2.1	B7.0	B7.2	B4.4	B7.8	B6.0	B2.1
15	B4.4	B2.3	B1.5	B4.6	B2.7	B2.3	B4.5	B5.1	B5.5	C1.4	B4.3	B2.0
16	B5.3	B1.9	B3.6	B6.5	B2.8	B3.9	B4.0	B4.6	B6.6	B9.2	B5.3	B2.8
17	B3.1	B5.3	B2.0	C1.2	B3.6	B3.2	B4.0	B5.8	B7.4	B7.2	B5.0	B2.6
18	B3.0	B1.5	B1.2	B5.1	B3.7	C1.6	B2.3	C1.0	B9.2	B8.9	B5.9	B1.8
19	B2.5	B1.2	B1.2	C4.5	B3.2	B3.3	B1.8	B8.7	C1.0	B6.0	B4.6	B2.3
20	B4.4	B1.9	B2.5	C1.6	B3.1	B6.7	B2.3	B6.1	C1.0	B7.9	B3.9	B2.1
21	B1.2	B3.2	B5.4	B5.3	B3.5	B7.2	B4.2	B6.3	C6.1	B5.9	B4.4	B2.0
22	B1.2	B2.6	B3.8	C1.6	B3.5	B3.7	B7.2	B5.9	C1.8	B4.6	B2.8	B3.6
23	B1.3	B2.2	B3.1	B4.0	B5.3	B2.3	C1.5	B6.5	C1.2	B4.4	B1.6	B1.6
24	B1.8	B2.2	B3.1	B4.1	B4.1	B2.0	C1.4	C1.8	C1.0	B2.4	B1.5	B1.4
25	B2.2	B2.7	B2.7	B4.9	B3.7	B2.8	B8.4	B6.7	C1.7	B2.3	B1.4	B1.7
26	B1.7	B3.8	B2.6	B2.4	B5.3	B3.0	B5.9	B8.0	C1.1	B2.1	B1.1	A9.1
27	B2.7	B5.3	B2.2	B3.0	B4.0	B2.1	B6.8	B9.2	B4.2	B2.2	B1.1	B1.8
28	C1.2	B4.4	B2.0	B5.0	B3.8	B1.6	C1.4	C2.5	B7.4	B2.0	B1.1	B3.8
29	B8.8	B3.7	B2.2	B4.8	B2.6	B2.2	C1.2	C1.2	B2.4		A8.9	B3.7
30	B5.9	B4.4	B1.5	B7.3	B2.8	B2.0	B8.0	B9.9	B2.4		B1.0	B4.4
31	B2.7		B1.5	C1.2		B1.9		C1.0	B3.6		A8.9	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1999

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
03	DSF	1612U	0532U	S25	E30	04	6.0		17	0	0	E	SVTO		
03	DSF	1612U	0532U	S45	W19	04	2.1		14	0	0	E	SVTO		
03	DSF	2048U	1142U	S45	W22	04	2.0		14	0	0	E	RAMY		
05	DSF	2148U	1100U	S24	W42	04	2.7		07	0	0	E	RAMY	8502	
06	DSF	2154U	1150U	S30	E56	04	11.3		07	0	0	E	RAMY	8510	
07	DSF	2021	2054U	S08	W06	04	7.4	2	06	0	0	E	RAMY		
09	DSF	0049U	1348U	S07	W25	04	7.2	3	07	0	0	E	HOLL		
09	DSF	0049U	1348U	S16	W14	04	8.0	3	13	0	0	E	HOLL		
11	DSF	0940U	2326U	S07	E40	04	14.4		11	0	0	E	LEAR		
11	DSF	1430	1940	N09	E39	04	14.5	1	07	8	8	E	RAMY		
11	DSF	1738	1848	N22	W64	04	6.8	2	10	6	6	E	RAMY		
12	DSF	2034U	1058U	N16	E00	04	12.8		12	0	0	E	RAMY		
16	BSL	1433	1437	N28	W90	04	9.6			7	6	E	RAMY		
16	DSF	2144U	1116U	S19	W08	04	16.3		08	0	0	E	RAMY		
17	DSF	1634U	0739U	N18	E05	04	18.1		25	0	0	E	SVTO		
17	DSF	1640	1830	S32	W15	04	16.5	2	20	9	9	E	RAMY		
17	DSF	2130U	1126U	N19	E03	04	18.1		21	0	0	E	RAMY		
17	DSF	2130U	1126U	S17	W52	04	13.9		11	0	0	E	RAMY	8513	
17	DSF	2130U	1126U	S33	W42	04	14.5		07	0	0	E	RAMY		
21	APR	0715E	1025D	S31	W90	04	14.2	1	1			P	WROC		
21	BSL	0837E	0850	S34	W90	04	14.2	0	3			P	WROC		
21	BSL	1002E	1025D	S32	W90	04	14.3	3	21			P	WROC		
29	DSF	0924U	0010U	N10	W11	04	28.6		07	0	0	E	LEAR		
30	BSL	0756E	0817D	S02	W90	04	23.6	0	4			P	WROC		

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.

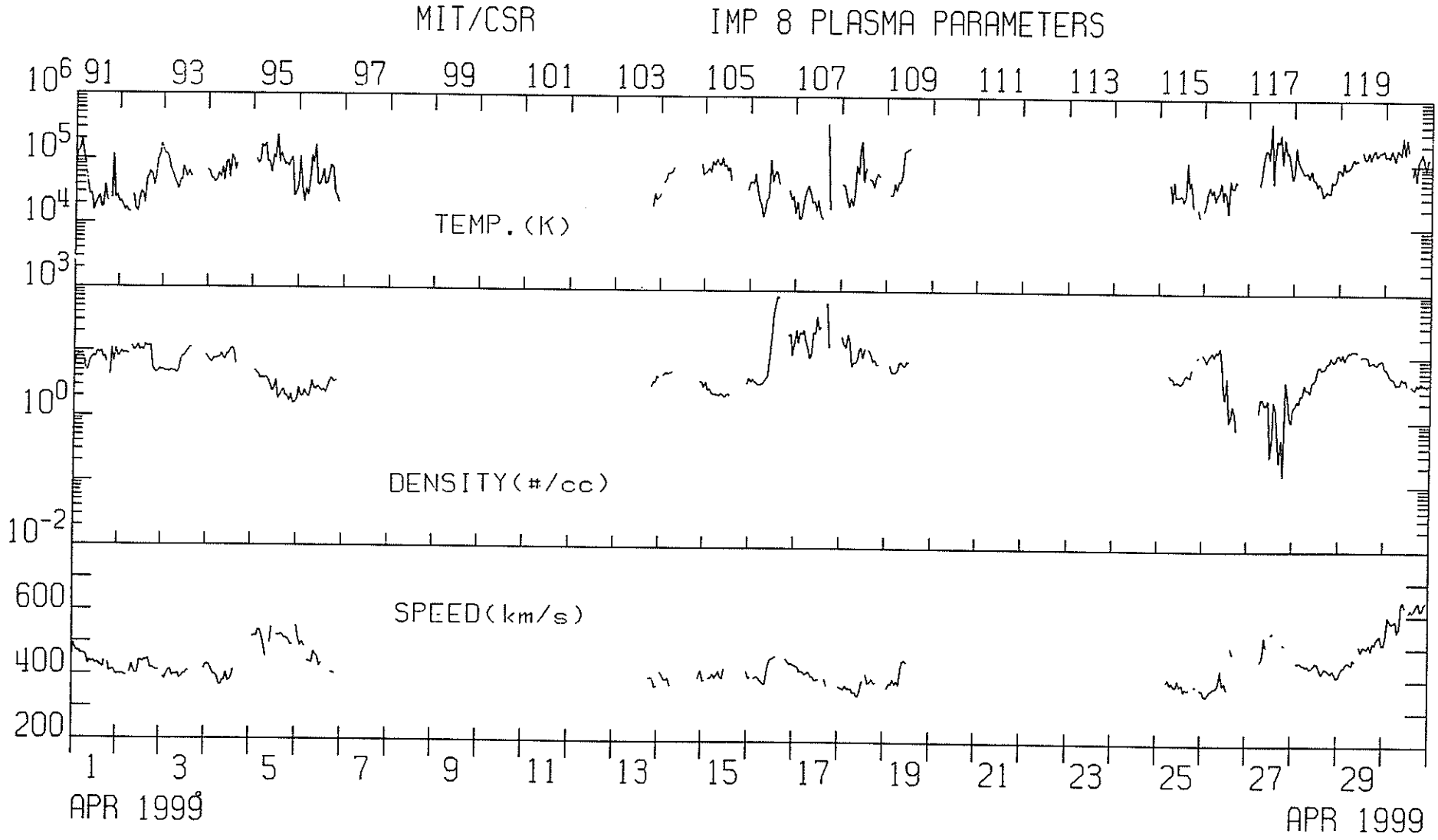
The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

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.

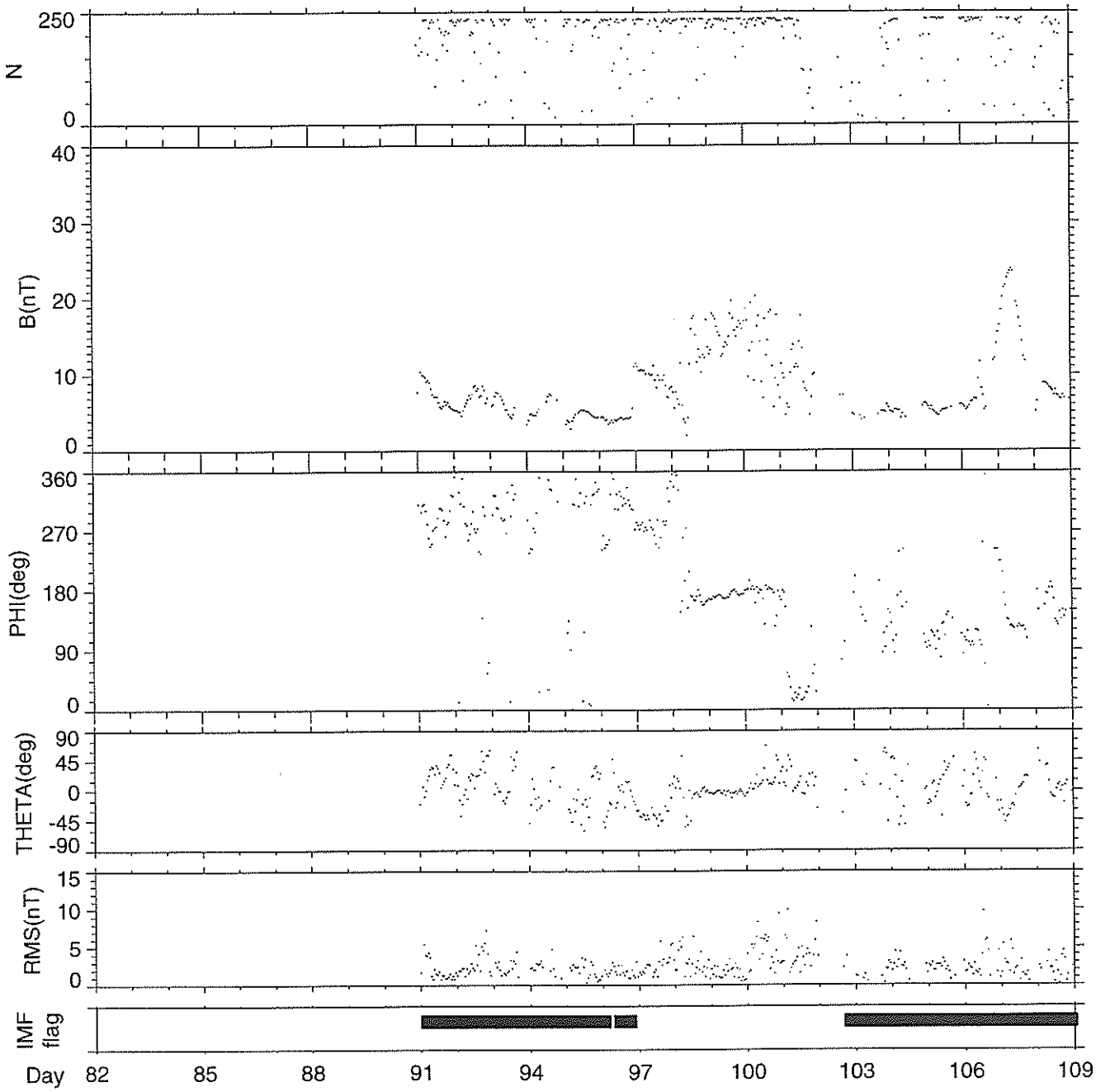
IMP 8 SOLAR WIND PLASMA
APRIL 1999



IMP 8 MIT ONE-HOUR AVERAGES

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages (c) DOY 91 - 109 April 1 1999 - April 19 1999

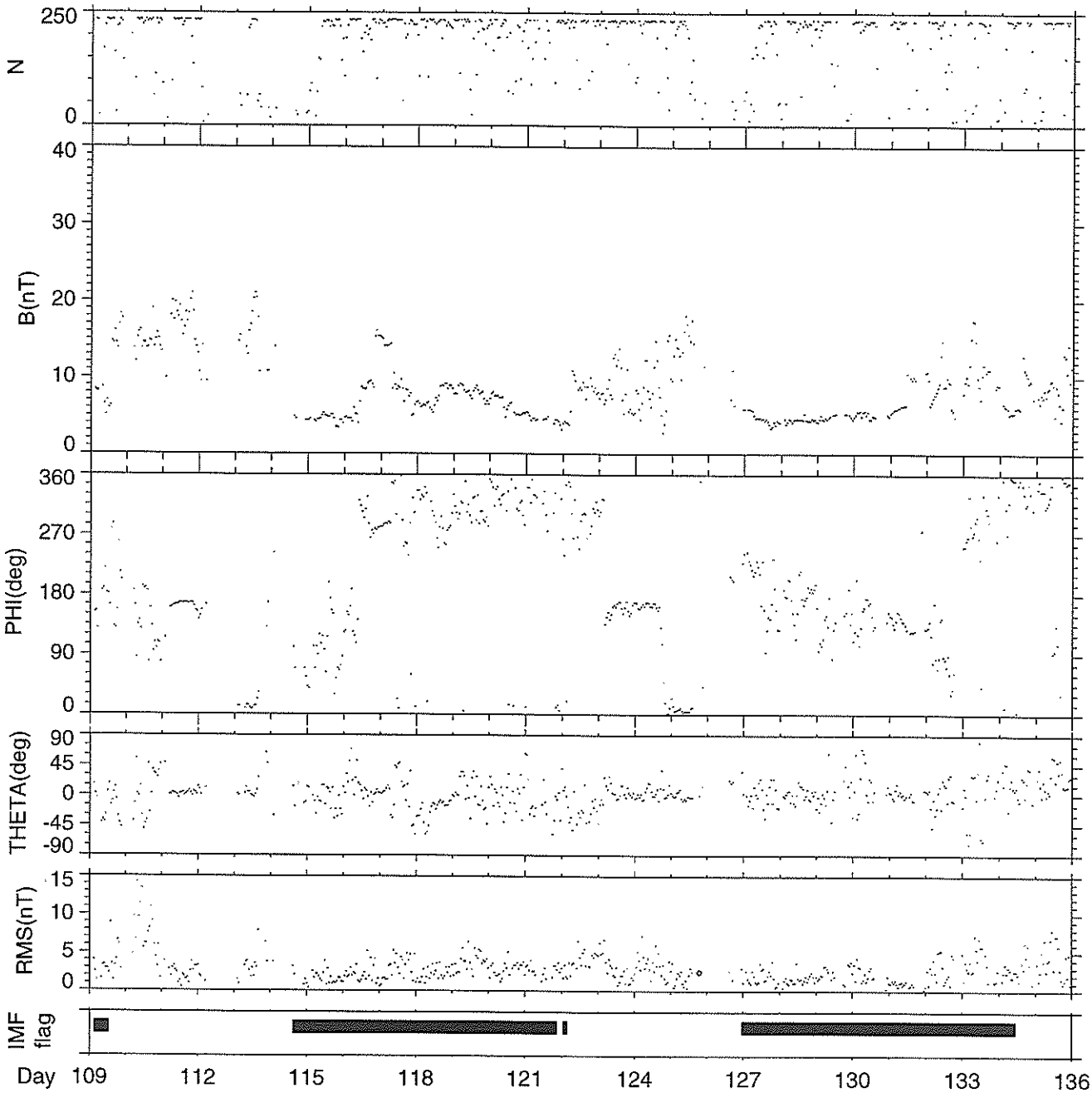


Generation Date : Tue Jun 15 15:57:55 1999

NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages (c) DOY 109 - 136 April 19 1999 - May 16 1999



Generation Date : Tue Jun 15 15:58:11 1999

NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

CONTENTS

Comprehensive Reports Number 662 Part II

MISCELLANEOUS or LATE DATA

Total Solar Irradiance (TSI) Results from VIRGO (Variability of solar IRradiance and Gravity Oscillations) Onboard SOHO (Solar and Heliospheric Observatory)

NOTE: Version 1.2 shows also new VIRGO irradiance data after the vacation of SOHO in summer 1998. Note that in Version 1.2 the values after June 25 1998 are preliminary.
More detailed information about the individual measurements of the VIRGO radiometers can be found on the VIRGO homepage:
http://virgo.so.estec.esa.nl/

Total Solar Irradiance results from VIRGO (Variablity of solar IRradiance and Gravity Oscillations) onboard SOHO (SOlar and Heliospheric Observatory). The solar irradiance data and the evaluation of level 2 data are briefly described in the two papers below:

IN-FLIGHT PERFORMANCE OF THE VIRGO SOLAR IRRADIANCE INSTRUMENTS ON SOHO
(in Solar Phys. 175, pp.267-286, 1997)

Claus Fröhlich(1),Dominique A. Crommelynck(2), Christoph Wehrli(1), Martin Anklin(1), Steven Dewitte(2), Alain Fichot(2), Wolfgang Finsterle(1), Antonio Jiménez(3), André Chevalier(2), Hansjörg Roth(1)

(1) Physikalisch-Meteorologisches Observatorium Davos, World Radiation Center, CH-7260 Davos Dorf
(2) Institut Royal Météorologique de Belgique, B-1180 Bruxelles
(3) Instituto de Astrofisica de Canarias, Universidad de La Laguna, E-38071 La Laguna, Tenerife

ABSTRACT
The inflight performance of the total and spectral irradiance instruments within VIRGO (Variability of solar IRradiance and Gravity Oscillations) on the ESA/NASA Mission SOHO (SOlar and Heliospheric Observatory) is in most aspects better than expected. The behaviour during the first year of operation of the two type of radiometers and the sunphotometers together with a description of their data evaluation procedures is presented.

ASSESSMENT OF DEGRADATION OF VIRGO RADIOMETERS ONBOARD SOHO
(in Metrologia, 35, p.685-688, 1999)

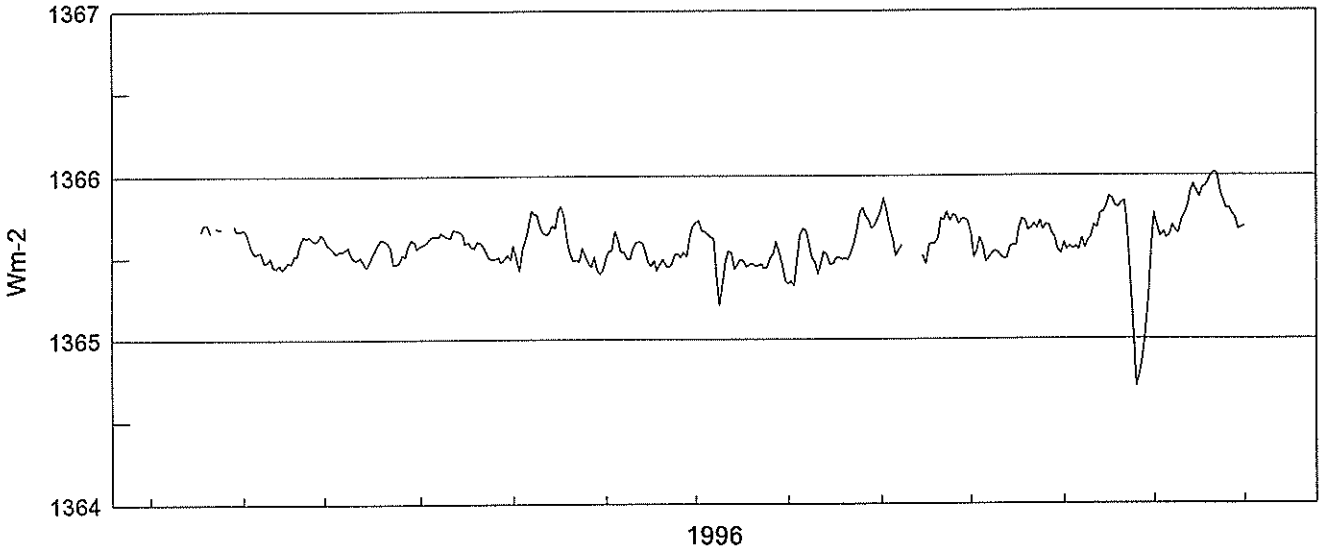
M. Anklin, C. Fröhlich, W. Finsterle
Physikalisch-Meteorologisches Observatorium Davos, CH-7260 Davos Dorf

D. A. Crommelynck, S. Dewitte
Institut Royale Météorologique de Belgique, B-1180 Bruxelles

ABSTRACT
The determination of the total solar irradiance (TSI) from the SOHO/VIRGO experiment is made by first correcting the time series for all a priori known influences and, second, to correct the data for instrumental degradation, using the back-up instruments PMO6-VB and DIARAD-R. The long term behaviour of PMO6-VA shows an exponential decrease in its sensitivity with a time constant of t=390 days and a 1/e amplitude of 528 ppm, whereas DIARAD-L exhibits a general increase in its sensitivity of about 0.25 ppm/day combined with an early exponential decrease of t=405 days and an 1/e amplitude of 65 ppm. After correcting PMO6-VA and DIARAD-L for their degradation, the VIRGO TSI shows a minimum around July 1996 and has been increasing since then by about 0.4 Wm-2.

Editor's Note: These data can also be accessed from the NGDC web site http://www.ngdc.noaa.gov/stp. Click on the Solar and Upper Atmosphere icon, then on the Get Data icon and scroll down to Solar_Irradiance.

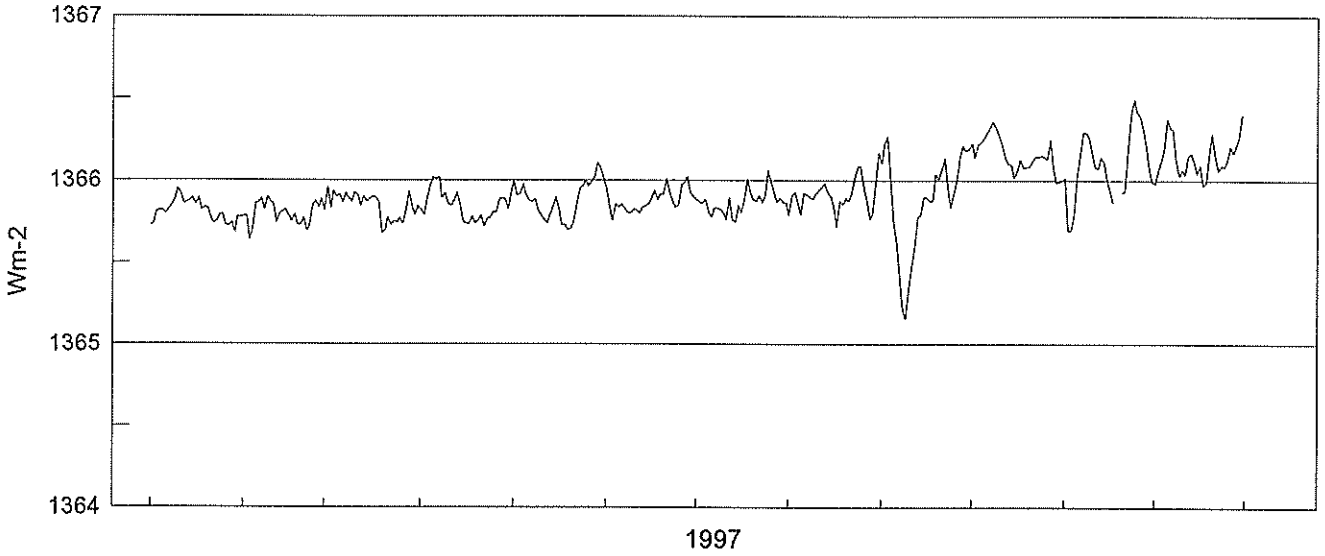
SOHO/VIRGO Total Solar Irradiance
1996



Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	---	1365.678	1365.568	1365.585	1365.576	1365.509	1365.712	1365.341	1365.789	1365.652	1365.591	1365.771
2	---	1365.658	1365.552	1365.596	1365.498	1365.541	1365.729	1365.354	1365.867	1365.503	1365.548	1365.687
3	---	1365.608	1365.527	1365.614	1365.423	1365.545	1365.664	1365.327	1365.783	1365.550	1365.570	1365.624
4	---	1365.550	1365.546	1365.632	1365.558	1365.664	1365.664	1365.496	1365.678	1365.622	1365.550	1365.655
5	---	1365.527	1365.543	1365.631	1365.605	1365.607	1365.644	1365.637	1365.611	1365.571	1365.567	1365.618
6	---	1365.533	1365.553	1365.629	1365.683	1365.538	1365.624	1365.679	1365.512	1365.474	1365.546	1365.635
7	---	1365.538	1365.567	1365.656	1365.792	1365.537	1365.617	1365.669	1365.547	1365.501	1365.617	1365.695
8	---	1365.473	1365.512	1365.637	1365.765	1365.494	1365.394	1365.578	1365.577	1365.523	1365.559	1365.660
9	---	1365.478	1365.492	1365.630	1365.768	1365.490	1365.206	1365.505	---	1365.540	1365.605	1365.645
10	---	1365.504	1365.490	1365.626	1365.686	1365.555	1365.339	1365.473	---	1365.532	1365.623	1365.722
11	---	1365.451	1365.509	1365.671	1365.654	1365.594	1365.485	1365.401	---	1365.502	1365.697	1365.762
12	---	1365.438	1365.472	1365.669	1365.641	1365.600	1365.542	1365.482	---	1365.492	1365.680	1365.808
13	---	1365.463	1365.441	1365.662	1365.657	1365.596	1365.535	1365.536	---	1365.496	1365.770	1365.892
14	---	1365.433	1365.472	1365.646	1365.698	1365.556	1365.432	1365.519	---	1365.565	1365.775	1365.946
15	---	1365.449	1365.520	1365.588	1365.681	1365.478	1365.463	1365.458	1365.510	1365.577	1365.804	1365.900
16	---	1365.477	1365.558	1365.601	1365.797	1365.449	1365.488	1365.467	1365.462	1365.572	1365.874	1365.868
17	---	1365.470	1365.593	1365.567	1365.816	1365.486	1365.484	1365.496	1365.577	1365.673	1365.860	1365.921
18	1365.668	1365.513	1365.613	1365.561	1365.754	1365.421	1365.445	1365.505	1365.589	1365.735	1365.818	1365.932
19	1365.710	1365.516	1365.609	1365.600	1365.600	1365.462	1365.456	1365.491	1365.589	1365.723	1365.804	1365.971
20	1365.704	1365.593	1365.594	1365.595	1365.524	1365.493	1365.467	1365.496	1365.616	1365.666	1365.830	1366.004
21	1365.657	1365.631	1365.566	1365.574	1365.485	1365.449	1365.448	1365.489	1365.739	1365.673	1365.847	1366.017
22	---	1365.624	1365.467	1365.531	1365.487	1365.443	1365.454	1365.529	1365.730	1365.705	1365.716	1366.004
23	1365.687	1365.633	1365.460	1365.499	1365.478	1365.463	1365.462	1365.587	1365.779	1365.680	1365.403	1365.897
24	1365.682	1365.613	1365.476	1365.492	1365.561	1365.518	1365.434	1365.677	1365.726	1365.726	1365.086	1365.842
25	1365.685	1365.602	1365.522	1365.497	1365.520	1365.527	1365.442	1365.775	1365.758	1365.668	1364.710	1365.796
26	---	1365.619	1365.506	1365.502	1365.471	1365.504	1365.498	1365.806	1365.756	1365.701	1364.768	1365.802
27	---	1365.647	1365.576	1365.471	1365.442	1365.533	1365.528	1365.753	1365.706	1365.699	1364.866	1365.763
28	---	1365.627	1365.612	1365.490	1365.508	1365.506	1365.598	1365.723	1365.736	1365.639	1365.034	1365.735
29	1365.697	1365.583	1365.601	1365.519	1365.433	1365.634	1365.539	1365.678	1365.735	1365.622	1365.246	1365.672
30	1365.667		1365.557	1365.490	1365.401	1365.689	1365.462	1365.700	1365.723	1365.545	1365.526	1365.673
31	1365.668		1365.575		1365.426		1365.358	1365.745		1365.521		1365.690

NOTE: '---' indicates data not available.

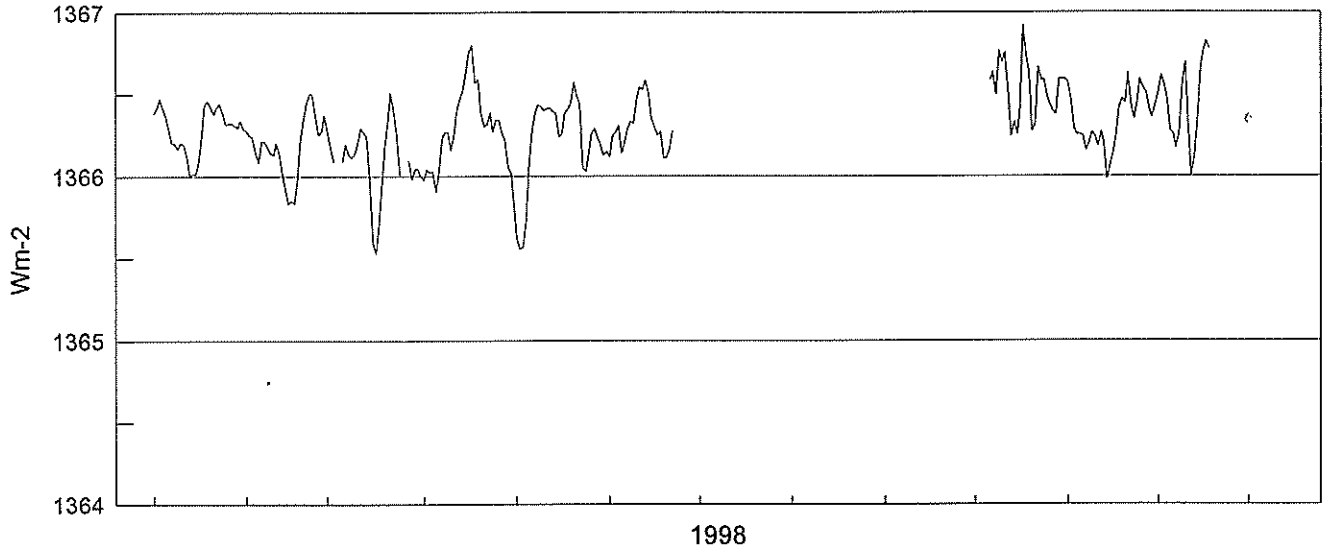
SOHO/VIRGO Total Solar Irradiance
1997



Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1365.723	1365.783	1365.957	1365.820	1365.932	1366.011	1365.899	1365.862	1366.167	1366.194	1365.999	1365.992
2	1365.739	1365.783	1365.831	1365.788	1365.996	1365.941	1365.882	1365.789	1366.107	1366.225	1366.016	1365.982
3	1365.812	1365.642	1365.934	1365.881	1365.909	1365.844	1365.864	1365.908	1366.227	1366.142	1365.693	1366.070
4	1365.816	1365.700	1365.899	1365.964	1365.920	1365.756	1365.857	1365.928	1366.266	1366.218	1365.694	1366.114
5	1365.817	1365.858	1365.916	1366.017	1365.975	1365.853	1365.886	1365.851	1365.992	1366.234	1365.788	1366.187
6	1365.799	1365.866	1365.866	1366.007	1365.912	1365.836	1365.805	1365.793	1365.727	1366.261	1366.011	1366.372
7	1365.824	1365.889	1365.924	1366.021	1365.877	1365.856	1365.779	1365.925	1365.641	1366.293	1366.147	1366.316
8	1365.850	1365.824	1365.893	1365.894	1365.871	1365.830	1365.832	1365.913	1365.432	1366.324	1366.293	1366.311
9	1365.887	1365.902	1365.871	1365.922	1365.886	1365.806	1365.834	1365.896	1365.222	1366.360	1366.287	1366.117
10	1365.949	1365.867	1365.926	1365.855	1365.821	1365.803	1365.825	1365.886	1365.160	1366.316	1366.263	1366.031
11	1365.924	1365.857	1365.908	1365.847	1365.791	1365.823	1365.803	1365.921	1365.305	1366.268	1366.167	1366.066
12	1365.857	1365.745	1365.842	1365.875	1365.758	1365.820	1365.763	1365.941	1365.464	1366.224	1366.081	1366.037
13	1365.867	1365.796	1365.904	1365.929	1365.741	1365.802	1365.894	1365.960	1365.589	1366.145	1366.075	1366.148
14	1365.877	1365.812	1365.870	1365.843	1365.785	1365.838	1365.760	1365.980	1365.776	1366.103	1366.140	1366.164
15	1365.891	1365.822	1365.890	1365.747	1365.839	1365.844	1365.748	1365.929	1365.794	1366.096	1366.113	1366.110
16	1365.856	1365.788	1365.904	1365.738	1365.898	1365.853	1365.847	1365.905	1365.897	1366.018	1366.001	1366.047
17	1365.894	1365.753	1365.893	1365.738	1365.815	1365.893	1365.804	1365.836	1365.897	1366.055	1365.927	1366.090
18	1365.822	1365.793	1365.871	1365.777	1365.729	1365.938	1365.880	1365.718	1365.876	1366.125	1365.861	1365.970
19	1365.837	1365.727	1365.683	1365.741	1365.729	1365.883	1366.009	1365.876	1365.878	1366.080		1365.987
20	1365.832	1365.728	1365.696	1365.754	1365.699	1365.917	1365.922	1365.855	1366.037	1366.085		1366.179
21	1365.770	1365.771	1365.773	1365.787	1365.707	1365.918	1365.885	1365.894	1366.006	1366.084	1365.929	1366.282
22	1365.741	1365.693	1365.727	1365.715	1365.748	1366.013	1365.875	1365.872	1366.073	1366.113	1365.935	1366.151
23	1365.750	1365.716	1365.752	1365.767	1365.856	1365.924	1365.906	1365.923	1366.132	1366.144	1366.195	1366.062
24	1365.788	1365.847	1365.744	1365.771	1365.948	1365.869	1365.868	1366.017	1365.968	1366.143	1366.411	1366.093
25	1365.793	1365.873	1365.769	1365.810	1365.964	1365.835	1365.900	1366.082	1365.837	1366.148	1366.492	1366.082
26	1365.729	1365.836	1365.736	1365.805	1365.999	1365.852	1366.066	1366.089	1365.923	1366.145	1366.417	1366.121
27	1365.720	1365.886	1365.819	1365.884	1365.966	1365.973	1365.987	1365.967	1366.007	1366.129	1366.391	1366.209
28	1365.744	1365.821	1365.934	1365.890	1365.994	1365.988	1365.921	1365.873	1366.154	1366.247	1366.311	1366.166
29	1365.683		1365.837	1365.884	1366.024	1366.021	1365.865	1365.768	1366.209	1366.090	1366.202	1366.209
30	1365.777		1365.791	1365.828	1366.106	1365.925	1365.893	1365.795	1366.179	1365.988	1366.079	1366.259
31	1365.774		1365.842		1366.078		1365.864	1365.974		1365.993		1366.404

NOTE: '---' indicates data not available.

SOHO/VIRGO Total Solar Irradiance
1998

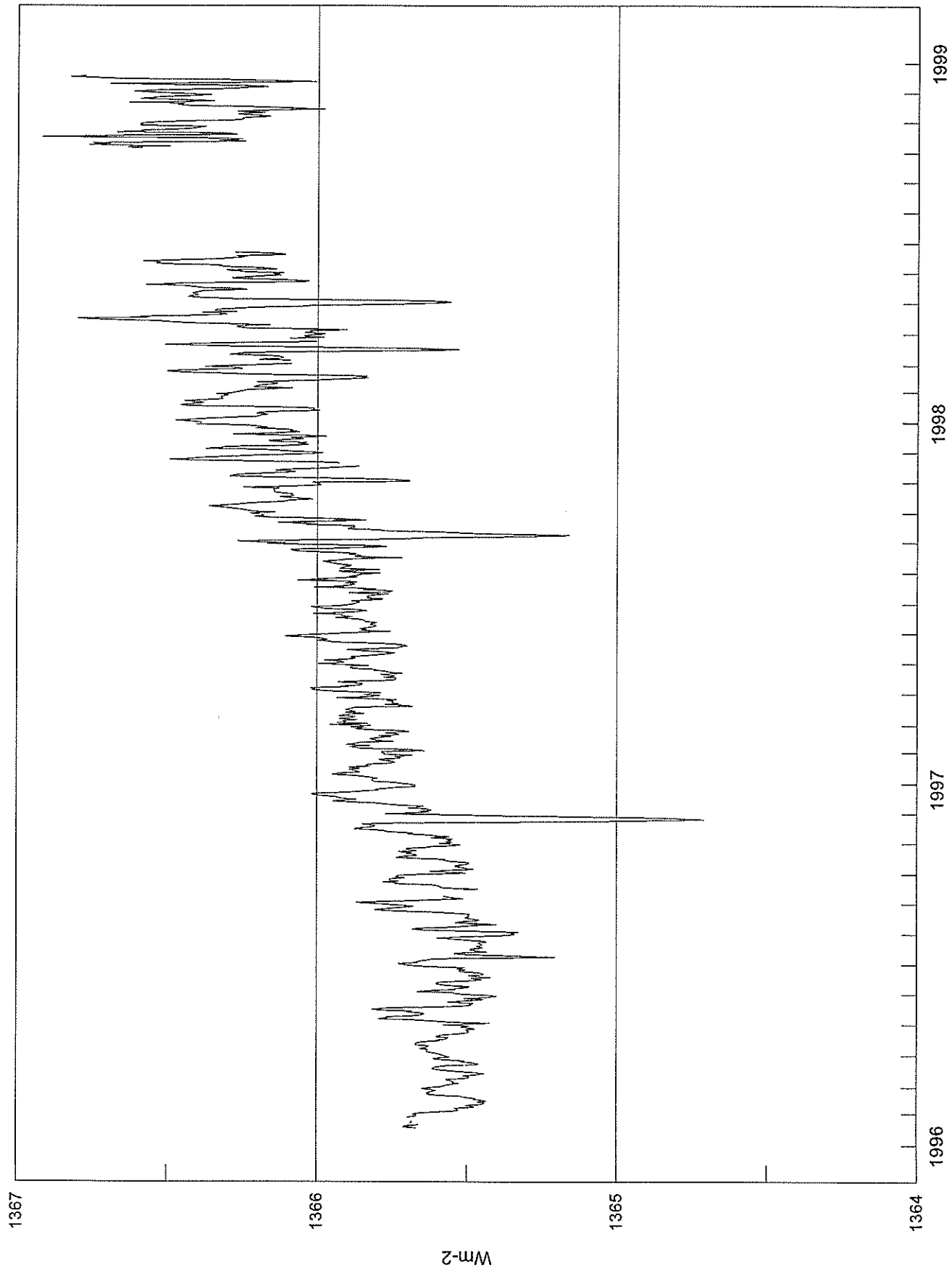


Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1366.387	1366.273	1366.178	1365.976	1365.796	1366.151	---	---	---	---	1366.591	1366.432
2	1366.408	1366.248	1366.087	1366.043	1365.619	1366.117	---	---	---	---	1366.568	1366.511
3	1366.474	1366.236	---	1366.021	1365.556	1366.241	---	---	---	---	1366.461	1366.613
4	1366.416	1366.148	---	1366.027	1365.568	1366.265	---	---	---	---	1366.290	1366.565
5	1366.364	1366.084	1366.093	1365.904	1365.733	1366.304	---	---	---	---	1366.250	1366.469
6	1366.294	1366.213	1366.195	1366.032	1366.040	1366.139	---	---	---	---	1366.255	1366.275
7	1366.203	1366.209	1366.133	1366.232	1366.272	1366.189	---	---	---	1366.588	1366.243	1366.257
8	1366.197	1366.185	1366.115	1366.269	1366.386	1366.285	---	---	---	1366.635	1366.161	1366.170
9	1366.166	1366.141	1366.133	1366.268	1366.433	1366.331	---	---	---	1366.495	1366.205	1366.257
10	1366.204	1366.134	1366.197	1366.161	1366.424	1366.320	---	---	---	1366.762	1366.268	1366.553
11	1366.196	1366.202	1366.293	1366.255	1366.399	1366.467	---	---	---	1366.694	1366.246	1366.693
12	1366.122	1366.136	1366.272	1366.396	1366.411	1366.538	---	---	---	1366.750	1366.181	1366.347
13	1365.995	1366.008	1366.240	1366.469	1366.417	1366.525	---	---	---	1366.530	1366.270	1366.008
14	1366.016	1365.911	1365.989	1366.528	1366.392	1366.583	---	---	---	1366.244	1366.211	1366.105
15	1366.013	1365.832	1365.595	1366.644	1366.383	1366.495	---	---	---	1366.333	1365.979	1366.330
16	1366.085	1365.852	1365.529	1366.754	1366.239	1366.352	---	---	---	1366.255	1366.064	1366.654
17	1366.250	1365.836	1365.670	1366.799	1366.260	1366.300	---	---	---	1366.407	1366.148	1366.755
18	1366.435	1365.990	1365.925	1366.568	1366.383	1366.247	---	---	---	1366.919	1366.238	1366.825
19	1366.456	1366.206	1366.174	1366.592	1366.408	1366.271	---	---	---	1366.737	1366.420	1366.773
20	1366.423	1366.341	1366.338	1366.389	1366.446	1366.111	---	---	---	1366.623	1366.469	---
21	1366.377	1366.448	1366.508	1366.304	1366.572	1366.111	---	---	---	1366.273	1366.446	---
22	1366.419	1366.502	1366.401	1366.312	1366.492	1366.163	---	---	---	1366.307	1366.630	---
23	1366.444	1366.497	1366.243	1366.385	1366.442	1366.279	---	---	---	1366.669	1366.434	---
24	1366.384	1366.369	1366.004	1366.271	1366.051	---	---	---	---	1366.584	1366.348	---
25	1366.316	1366.252	---	1366.344	1366.031	---	---	---	---	1366.591	1366.461	---
26	1366.319	1366.274		1366.339	1366.118	---	---	---	---	1366.484	1366.592	---
27	1366.324	1366.375	1366.094	1366.257	1366.259	---	---	---	---	1366.431	1366.539	---
28	1366.309	1366.275	1365.981	1366.223	1366.288	---	---	---	---	1366.392	1366.506	---
29	1366.297	---	1366.043	1366.059	1366.233	---	---	---	---	1366.375	1366.404	---
30	1366.339	---	1366.046	1366.022	1366.196	---	---	---	---	1366.592	1366.357	---
31	1366.289	---	1365.998		1366.124		---	---		1366.592		---

NOTE: '---' indicates data not available.

SOHO/VIRGO Total Solar Irradiance

1996-1998



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WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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