

The Catalog of Solar Flare Events with X-ray Class M1 - X>17.5

XXIII cycle of Solar Activity (1996 - 2008)

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Version 2 - with some corrections and additions: da - the angular span of the CME (Halo = 360 deg.);
Solar proton enhancement.

y m d - date: year, month, day;

to tm te - begin, maximum, end of the flare event;

Xray/opt - X-ray class and optical importance of the flare event;

L (J*m-2) - the integrated flux from start-max to 1/2 max, in joule m-2;

lt, lg, L - the spherical, heliographic coordinates of the solar flare in H? as a distance in degrees
from the solar equator (heliographic latitude), and distance in degrees from a line extending
from the north solar rotational pole to the south solar rotational pole through the center
of the solar disk as viewed from Earth (central meridian). The Carrington longitude (L)
is the heliographic longitude of a solar feature in the coordinate system that rotates with the Sun.

AR - solar active region;

RADIO - the peak value above pre-burst background of associated radio bursts at frequencies of
245 and 2695 MHz in (s.f.u.) solar flux units (1 flux unit = $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$).

RADIO SWEEP - The intensity is a relative scale from 1 (minor) to 3 (major) of any sweep radio
event associated with the energetic event, as follows: Type II: Slow drift burst.
Type IV: Broadband smooth continuum burst.

CME - coronal mass ejection: to - First C2 Appearance; v - Linear Speed [km/s]; da - the angular
span of the CME (Halo = 360 deg.) pa - Position Angle measured from Solar North in degrees
(counter-clockwise); g - no data.

MIV -

X-ray hard - A - Space satellite,

tm - time of maximum intensity hard X-ray burst in this flare event;

E_{max}(keV) - maximal energetic band hard X-ray in the flare event

Date Time [UT]

y - data YOKHOH: <http://gedas22.stelab.nagoya-u.ac.jp/HXT/catalogue/>

b - data BATS: http://umbra.nascom.nasa.gov/batse/batse_years.html

o - data OSSE: <http://heseweb.nrl.navy.mil/gamma/solarflare/flarelib.htm>

h - data HESSI: http://hesperia.gsfc.nasa.gov/hessidata/dbase/hessi_flare_list.txt

k - data KORONAS-F: Kuznetsov S.N. et al.

n - data under report Muraki

* - before to means, that all the given flares make one flare event;

* - after date - there are no data for 21-24.05.2002 (no 12 page in SGD II for May 2002 (2002 N11));

* - instead of an optical important is put, if at present was not Ha-patrol;
the optical important after "*" - means, that the given optical ball has been resulted in
Preliminary SGD and not confirmed in SGD II;

g - no data;
! 3 CME during flare events;
CME 19991127 1254 - a=67.2;
- Coordinates flare events with small letters are given for the restored events,
1. When at presence of Ha-patrol flare in SGD II is not registered, in this case x-ray burst with a high probability was carried out for solar limb;
if corresponding CME it was not observed after number of active region the sign is put "?";
2. In case of if flare event coordinates are in Preliminary SGD and are not present in SGD II;
- a sign "?" before hard X-ray burst means, that time of a maximum of its realization is close, but is not entered during realization flare events;
- if after a x-ray class is not present "/", coordinates of flare were defined on localization of x-ray flare (there is no message on optical flare in SGD II though Ha-patrol was).
- Protons - solar protons increases with the E>10 MeV associated with this solar flare event:
D - day of SPE onset; tmax - time of maximum proton flux; Ipr - maximum proton flux (p.f.u.= cm-2s-1sr-1); GLE - ground level event.

1996 - 1997

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MHz DYNAMIC EVENT		CME	X-ray HARD		PROTONS						
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	E>10MeV	D tmax/Ipr	/GLE
										s.e.p.	km/s	keV								
1996	07	09	0901	0911	0941	X2.6/1B	.073	S11W30L248	7978	1400	1100		g			b/0910	<25			
1997	08	29	2256	2332	0047	M1.4/SF	.002	N30E17L105	8076	200	130		?0130/0371/	H/067		y/2333	/57-100			
1997	09	02	1225	1230	1244	M1.0/SF	.002	N29W36L105	8076	32	13									
1997	09	08	1923	1927	2112	M1.0/SF	.009	S28W08L355	8083	110	220		g			y/1940	/57-100			
1997	09	17	1132	1143	1207	M1.7/1N	.009	N21W82L320	8084							y/1142	/57-100			
1997	09	17	1745	1803	1827	M1.0/SF	.010	N22W83L320	8084				1818/0613/046/269			y/1753	/57-100			
1997	09	24	0243	0248	0309	M5.9/1B	.001	S31E19L125	8088	81000	650	II/3 IV/3	0420/0202/041/275?							
1997	09	24	1057	1106	1120	M3.0/1N	.001	S29E19L125	8088	1800	76	II/3 IV/2								
1997	11	03	0903	0910	0924	M1.4/1B	.004	S18W16L352	8100	23000	130	II/3 IV/3								
1997	11	03	1018	1029	1049	M4.2/1N	.001	S17W22L352	8100	40000	230	II/2 IV/2	1111/0352/195/233							
1997	11	03	1955	2016	2109	M1.0/SF	.014	S19W20L352	8100			II/3				y/2016	/57-100			
1997	11	04	0127	0135	0201	M1.3/1N	.007	S20W24L352	8100							y/0133	/57-100			
1997	11	04	0232	0328	0500	M4.1/1B	.005	S20W25L352	8100				0420/0564/065/104			y/0244	/57-100			
1997	11	04	0552	0558	0648	X2.1/3B	.005	S14W34L352	8100	9800	690	II/3 IV/3	0610/0785/ H/243			y/0630	/57-100	4	1120/	72
1997	11	06	1149	1155	1244	X9.4/2B	.036	S18W63L352	8100	54000	3300	II/3	1210/1556/ H/262			y/1154	/8000-100000	n 7	0255/	490/GLE
1997	11	15	2231	2246	2338	M1.0/1N	.016	N20E64L113	8108	26	110		2327/0635/063/ 85			y/2242	/57-100			
1997	11	24	1930	1950	2010	M1.6	.027	n13e90L310	8113?							y/1946	/57-100			
1997	11	26	1831	1837	1844	M2.0/SF	.005	N16E75L310	8113	380	054									
1997	11	27	1259	1317	1338	X2.6/2B	.070	N16E63L310	8113	48000	350	II/3	1356/0441/082/ 98			b/1316	/>300			
1997	11	28	0453	0503	0633	M6.8/2B	.070	N15E61L310	8113	180	170					b/0503	/>300			
1997	11	28	1954	2009	2017	M1.1	.011	n21w90L113	8108?							y/0503	/57-100			
1997	11	29	2228	2244	2358	M6.4/2B	.050	N17E38L310	8113		140		g			y/2256	/57-100			
1997	12	01	0232	0237	0331	M1.2/1N	.007	N19E27L310	8113				g			y/0235	/57-100			

1998

DATE		TIME		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV
							J*m-2	s.e.p.		km/s		keV		D tmax/Ipr /GLE			
19980101	0301	0307	0322	M1.1/1B	.003	S22W67L348	8124										
19980102	1257	1303	1307	M1.2/SF	.003	S19W86L348	8124						1430/0518/029/258				
19980103	1649	1719	1743	M2.7	.038	s20w90L348	8124				26				y/1715 /57-100		
19980115	1428	1438	1457	M1.0/1F	.007	S22W33L120	8131								y/1435 /57-100		
19980125	2126	2136	2158	M1.3/1B	.008	N22E53L262	8145	53	41				2219/0596/067/089				
19980315	1604	1616	1720	M1.0/1F	.009	S23W02L032	8179										
19980315	1911	1920	1943	M1.8/1B	.010	S21W03L032	8179				35		1931/0142/114/112				
19980315	2141	2146	2150	M2.7/*	.009		8179?								y/2144 /57-100		
19980316	0102	0106	0112	M1.1/*	.004		8179?						0131/0425/146/127		y/0105 /57-100		
19980318	1048	1112	1152	M1.0/1B	.019	S26W30L021	8180						1135/0221/072/272				
19980319	0117	0127	0145	M1.2/1N	.007	N18E58L290	8183				17		0306/0259/033/077		y/0145 /57-100		
19980322	0651	0700	0715	M1.1/1N	.007	S28E68L233	8185	120	29	II/2			0741/0418/049/104				
19980323	0239	0309	0329	M2.3	.050	s21w90L032	8179						0309/0269/061/251		y/0301 /57-100		
19980326	1246	1259	1405	M1.8/2B	.039	S26E18L233	8185										
19980327	2149	2227	0030	M2.4/2N	.068	S26W04L233	8185				42				y/2216 /57-100		
19980405	1622	1639	1710	M1.0/SF	.021	S20E84L035	8194	66							y/1629 /57-100		
19980406	1623	1648	1707	M1.1/2F	.015	S28E76L027	8195						1833/ /014/112		y/1644 /57 100		
19980420	0938	1021	1118	M1.4/	.061	s20w90L035	8194						1007/1863/165/284		y/0951 /57-100	21	1205/1700
19980423	0535	0555	0623	X1.2/	.240	s16e90L139	8210	590	430	II/3	IV/3		0527/1618/ H/116		y/0545 /57-100		
19980427	0836	0920	1200	X1.0/2B	.160	S17E50L139	8210	3400	950		IV/3		0856/1385/ H/079		y/0855 /57-100		
19980429	1605	1637	2104	M6.8/3B	.100	S16E22L139	8210	1400	100		IV/3		1658/1374/ H/336		y/1640 /57-100	30 ~1200/	~4
19980501	1254	1300	1326	M1.1/1F	.004	N25E40L096	8214						g		y/1258 /57-100		
19980501	2236	2254	2308	M1.8/1F	.016	S18W06L139	8210	700	56				2340/0585/ H/126		y/2245 /57-100		
19980502	1331	1342	1540	X1.1/3B	.067	S15W15L139	8210	14000	1300		IV/2		1406/0938/ H/331		y/1338 /57-100	02	1650/ 150/GLE
19980503	2112	2129	2227	M1.4/1B	.021	S13W34L139	8210	840	810		IV/3		2202/0649/194/302		y/2120 /57-100		
19980505	2304	2346	0058	M2.5/2N	.034	S16W60L139	8210	250	150	II/3	IV/2		0002/0786/110/274		y/2334 /57-100		
19980506	0710	0725	0753	M2.9/1N	.037	S16W65L139	8210	830					0829/1099/190/309		y/0717 /57 100		
19980506	0758	0809	>0918	X2.7/1N	.210	S15W64L139	8210	65000	490		IV/3		0829/1099/190/309		y/0808 /200-10000	06	0945/ 210/GLE
19980507	1105	1116	1156	M2.9/1B	.026	N29W47L096	8214						?1105/0483/016/270		y/1112 /57-100		
19980507	1331	1350	>1405	M1.3/SF	.017	N28W47L096	8214	150	22								
19980508	0149	0204	0217	M3.1/	.031	s13w90L139	8210	2400	30				0228/0371/076/278		y/0159 /57-100		
19980508	0553	0608	0626	M1.4/	.020	s14w90L139	8210	2900	430	II/2	IV/3		0627/1265/075/245				
19980508	1350	1415	1437	M1.8/	.036	s28e90L282	8220?						1504/0348/027/125		y/1419 /57-100		
19980509	0304	0340	0355	M7.7/	.110	s15w90L139	8210?	56	210		IV/3		0335/2331/178/262		y/0327 /57-100	09 ~22	/~9
19980510	0815	0826	0845	M1.6/SF	.021	s15w90L139	8210?	79					0829/0689/017/275		y/0827U/57-100		
19980510	1313	1320	1323	M3.9/SF	.010	S29E88L282	8220?				320		1407/0625/064/222		y/1319U/57-100		
19980528	1343	1353	1400	M1.1/SF	.007	N18W87L208	8226						1427/----/053/282				
19980529	0051	0059	0103	M6.7/	.023	n18w90L208	8226?	560	140	II/2	IV/1		0131/0489/091/269		b/0056 />300		
19980611	0957	1027	1118	M1.4/	.050						II/2	IV/2	1029/1223/177/097		y/1007 /57-100		
19980613	0415	0420	0439	M1.9/1N	.011	S27E54L237	8242	8900	42	II/2	IV/2		0526/0463/100/082		y/0419 /57-100		
19980616	1803	1842	1928	M1.0/	.037	s22w90L348	8232?						1827/1484/281/278			17 ~11	/~3

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.			km/s	keV		D tmax/Ipr /GLE	
19980627	0112	0121	0151	M1.0/1N	.008	N18E26L082	8253					41	g		y/0116 /57-100		
19980703	0006	0112	0127	M1.2/1N	.021	S23W21L050	8256	120	23	II/1	g				y/0107U/57-100		
19980704	1200	1216	1250	M1.2/SN	.017	S24W42L050	8256		38		g				y/1204 /57-100		
19980714	1251	1259	1329	M4.6/1B	.016	S21E21L217	8270	58	250	IV/3	g				y/1301U/57 100		
19980808	0312	0317	0320	M3.0/*	.007			35000	140	II/2	g				y/0317 /57-100		
19980809	0838	0847	0925	M1.0/1B	.009	N14E59L192	8299				g				y/0844 /57-100		
19980809	1709	1718	1742	M3.3/2B	.014	N15E55L192	8299	33	100		g						
19980814	0819	0828	0842	M3.1/1N	.010	S22W72L263	8293	1500	250	II/2	g				y/0827 /57-100		
19980816	1737	1821	1859	M3.1/	.100	s20w90L263	8393?		99	II/3 IV/3	g				y/1825 /57-100		
19980817	2110	2120	2130	X1.2/	.093	n33e90L038	8307?	9200	290		g						
19980818	0400	0416	0427	M1.5	.014	n33e90L038	8307?	53	28		g				y/0424U/57-100		
19980818	0814	0824	0848	X2.8/1B	.170	N32e90L038	8307	13000	680	IV/3	g				y/0822 /57-100		
19980818	2210	2219	2350	X4.9/1B	.300	N33E87L038	8307	5300	2400	II/3 IV/2	g				y/2216 /8000-100000		
19980819	1222	1242	1300	M2.3/SF	.018	N34E78L038	8307	97	35		g				y/1247U/57-100		
19980819	1404	1426	1508	M3.0/SF	.048	N35E79L038	8307	530	110	II/3 IV/1	g				y/1424U/57-100		
19980819	2135	2145	2150	X3.9/*	.150	n32e75L038	8307	18000	1300	II/3 IV/3	g				b/2140 /100-300		
19980821	2357	0009	>0140	M9.0/2B	.061	N42E51L038	8307			II/3 IV/2	g					23 ~02 /~4	
19980823	0923	0934	1030	M2.2/1N	.017	N34E34L038	8307	47	500		g						
19980824	2150	2212	>0108	X1.0/3B	.160	N35E09L038	8307	830	2100	II/3 IV/2	g				y/2218U/57-100	26 1055/ 670/GLE	
19980830	0512	0541	0612	M1.0/1N	.012	N21W33L010	8319				g				y/0530 /57-100		
19980830	0929	0937	>0953	M1.0/1N	.006	N21W35L010	8319				g						
19980830	1800	1805	>1809	M1.3/SN	.005	N29W60L038	8307	1700	77	II/2	g						
19980831	1529	1539	1600	M1.5/SF	.010	N31W70L038	8307	860	51	II/3 IV/2	g				y/1536 /57-100		
19980901	0449	0459	0514	M1.5/1F	.010	N31W73L038	8307		58		g						
19980902	1644	1707	1731	M2.2/SF	.021	N17W79L010	8319				g				y/1704U/57-100		
19980903	0345	0421	0440	M1.3/	.028	n31w90L038	8307?				g						
19980903	1526	1608	1747	M1.1/SF	.037	S22E08L271	8323				g				y/1536 /57-100		
19980909	0452	0458	0505	M2.8/*	.012			400	310	II/3 IV/3	g				b/0457 />300		
19980911	1558	1603	1626	M2.1/1B	.006	N10W51L222	8333	600	38		g				y/1603 /57-100		
19980920	0233	0251	0328	M1.8/3B	.044	N22E62L013	8340			IV/3	g				y/0240 /57-100		
19980923	0640	0713	0937	M6.9/3B	.120	N19E09L013	8340	2900	1100	II/3 IV/3	g				y/0705 57-100	25 0130/ 44	
19980928	0649	0654	0657	M3.5/	.007	w90L049	8339?	840	80	II/2 IV/3	g	NRH164MHz					
19980930	1308	1350	1542	M2.8/2N	.110	N23W78L013	8340	78	450	II/3 IV/3	g				y/1332 /57-100	01 0025/ 1200	
19981007	1242	1247	1349	M1.6/1N	.006	S22E68L123	8355		58		g				y/1246 /57-100		
19981007	1704	1712	1729	M2.3/SF	.009	S20E65L123	8355				g				y/1709U/57-100	19 ~09 /~3	
19981018	0138	0145	0202	M2.4/2B	.010	N16W53L104	8358				g						
19981103	1911	1933	2024	M1.0/1N	.022	N20E02L182	8375		30			2054/0265/061/055			y/1918 /57-100		
19981105	1330	1336	1352	M1.5/1N	.004	N15W17L182	8375	270	52						b/1335 />300		
19981105	1820	1825	1827	M3.7/*	.006			300									
19981105	1900	1955	>2334	M8.4/2B	.110	N22W18L182	8375	190	400	II/2		2044/1118/ H/300			b/1944 />300		
19981106	1507	1511	1528	M1.7/1N	.003	N15W32L182	8375	67000	150			1638/0159/044/269			y/1511U/57-100		
19981107	1102	1106	1116	M2.4/SN	.005	N14W43L182	8375					1154/0632/ H/258			b/1106 />300		

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y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s	keV		D tmax/Ipr /GLE		
19981108	1428	1712	1833	M2.7/2B	.018	N19W58L182	8375								y/1718U/57-100		
19981108	2237	2256	2323	M1.1/1F	.014	N20W62L182	8375						2256/0146/049/292		y/2255 /57-100		
19981110	1540	1544	1609	M1.8/SF	.008	N23W77L182	8375								y/1543 /57-100		
19981111	0402	0407	0412	M1.0/	.004										y/0406 /57-100		
19981111	1010	1016	1024	M1.1/	.006										y/1014U/57-100		
19981112	0523	0528	0546	M1.0/1N	.002	N21W34L114	8385			51		0554/0254/019/221					
19981122	0630	0642	0649	X3.7/1N	.200	S27W82L029	8384	29000	340	II/3	g			o/	/>16000		
19981122	1610	1623	1632	X2.5/2N	.160	S30W89L029	8384	4100	95		g				y/1621 /57 100		
19981122	1828	1839	1851	M1.0/	.011						g						
19981122	2140	2215	2235	M1.8/	.031						g				y/2143 /57-100		
19981123	0628	0644	0702	X2.2/SF	.240	S28W89L029	8384		110	II/1	g				y/0653U/57-100	n	
19981123	1059	1121	1140	M3.1/*	.052			52	120	II/3 IV/2	g				y/1105 /57-100		
19981124	0207	0220	0259	X1.0/SF	.120	S30W81L029	8384	480	380	II/2		0230/1798/	H/225		y/0217U/57-100		
19981127	0721	0743	0912	M1.6/2N	.024	S24E09L239	8392	400	390	II/2		0830/0434/	H/143				
19981128	0454	0552	0810	X3.3/3N	.500	N17E32L186	8395	8	3600	II/1		0630/0495/088/079			y/0541 /200-700	n	
19981217	0740	0745	0812	M3.2/1N	.009	S27W46L021	8409	6500	200	II/3		0830/0434/	H/229		b/0743 />300		
19981218	1713	1722	1845	M8.0/2B	.035	N20E66L253	8415		880	II/1		1809/1749/	H/036		y/1719 /700-4000		
19981220	0849	0900	0916	M1.8/1N	.006	N20E46L253	8415	28				?1030/0235/054/062					
19981223	0513	0659	0743	M2.3/	.110	n29e90L171	8421?			II/2 IV/2	g				y/0701 /57-100		
19981223	0813	0816	0821	M1.1/	.005	N29E90L171	8421?				g						
19981224	1129	1145	>1229	M1.7/SF	.030	N28E76L171	8421				g				y/1143 /57-100		
19981225	0531	0634	0727	M1.2/SF	.050	N30E66L171	8421				g				y/0625 /57-100		
19981228	0515	0531	0633	M1.4/SF	.019	N28E26L171	8421		330		g				y/0524 /57-100		
19981228	0545	0548	0623	M3.1/1B	.019	N25W27L224	8419	390	110		g				y/0547 /57-100		
19981228	2315	2322	0035	M1.7/1F	.012	N26E13L171	8421		26		g				y/2322 /57-100		
19981228	2333	2338	>2356	M2.1/1F	.019	N24W36L224	8419				g						
19981230	0526	0546	0630	M1.0/SF	.012	N28E03L171	8421				g						

1999

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da /pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s	keV		D tmax/Ipr /GLE		
19990101	0021	0031	0047	M1.1	.013										b/0028 />300		
19990114	1007	1020	1117	M3.0/SN	.030	N18E66L265	8440	65	32		g				y/1017 /57-100		
19990114	1855	1903	1944	M1.4/1N	.010	N19E57L265	8440	81	39		g				y/1901 /hxs1/		
19990115	0632	0721	0742	M1.3/1F	.039	N20E54L265	8440	120			g				y/0640 /57-100		
19990116	1202	1207	1347	M3.6/1B	.008	N21E36L265	8440		38		g				y/1211 /57-100		
19990116	1950	1956	2002	M1.2/*	.005				45		g				y/1954 /hxs2		
19990118	0752	0804	>0827	M2.0/1N	.027	N19E11L265	8440	120			g						
19990120	1906	2004	2100	M5.2/*	.250	n27e90?			230	II/1 IV/2	g				y/1920 /hxs2	?23 1135/ 14	

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS		
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	Emax	F>10MeV	
						J*m-2					s.e.p.		km/s			keV	D tmax/Ipr	/GLE		
19990122	1705	1724	1736	M1.4/SF	.015	N19W44L265	8440	70						g			y/1708	/57-100		
19990125	0052	0056	0102	M2.6/SN	.005	N20W43L233	8444	1800	93					g			y/0057	/hxs2		
19990212	0304	0325	0501	M1.5/1N	.038	N18E36L276	8457	3900	31	II/2	IV/2	0357/0730/123/109								
19990214	0959	1045	1110	M1.0/SF	.022	N17E05L276	8457	45	25						1108/0758/147/054					
19990216	0001	0003	~0043	M1.2?/1F		N20W07L266	8462?										y/0002	/hxs2		
19990216	0249	0312	>0409	M3.2/SF	.079	S23W14L270	8458	710	560	II/2	IV/2		g							
19990216	0404	0408	0414	M1.5/*	.007									g			y/	/hsx1		
19990221	1303	1345	1408	M1.3/SF	.038	N24W81L266	8462	150									y/	/57-100		
19990228	1631	1639	1754	M6.6/2B	.022	N28W08L100	8471	310							1754/0329/064/297		b/1636	/<25		
19990308	0630	0637	0650	M2.6/SF	.010	S24e93L259	8484		64	II/3					0654/0664/080/124		y/	/57-100		
19990313	2022	2034	2112	M1.9/1N	.012	N16E40L239	8487		55											
19990314	0119	0127	0156	M2.1/1N	.018	N15E39L239	8487	29												
19990314	0908	1010	>1025	M1.1/SF	.032	N16E34L239	8487	65						?1154/0572/009/341						
19990315	0317	0336	0410	M1.1/1N	.013	N16E26L239	8487			II/ 2				0454/0345/151/093						
19990316	0618	0635	0702	M1.6/1N	.024	N22W30L277	8485?							g			y/	/57-100		
19990316	2101	2107	>2132	M1.1/1N	.005	N23W36L277	8485		51					g			b/2139	/>300		
19990316	2104	2144	2221	M6.2/2N	.025	N23W39L277	8485	80						g			y/	/57-100		
19990317	0950	0956	1041	M3.2/2N	.020	N23W45L277	8485?	86							1018/0972/031/104		b/0953	/>300		
19990317	1442	1449	1526	M1.2/SN	.008	N23W46L277	8485										y/	/hxs1		
19990318	0825	0831	0839	M3.3/SN	.009	N22W53L277	8485?		22						0926/0234/063/181		b/0830	/>300		
19990402	0806	0821	0829	M1.1/SF	.009	N15E78L302	8507								0830/1068/191/079					
19990403	2256	2310	2342	M4.3/1F	.033	N29E81L283	8508		75	II/2					2347/0923/156/038		y/	/hxs2		
19990404	0515	0525	0537	M5.4/1F		N18E72L283	8508		190						0530/1203/173/073		y/			
19990408	1607	1613	1630	M1.1/SF	.004	N23E18L283	8508										y/	/57-100		
19990429	1945	1954	2027	M1.1/1B	.009	N22W16L033	8524		21						1954/0358/081/343		o/	/>50		
19990503	0536	0602	0745	M4.4/2N	.099	N15E32L299	8525	350	220	II/3	IV/3	0606/1584/	H/088				y/	/57- 100	05	1955/ 14
19990503	2307	2311	2313	M1.9/*	.003		8527?								2350/0401/011/070		y/	/hxs2		
19990507	0428	0441	0454	M3.2/SF	.022	N20E87L192	8541								0506/0398/013/074		y/	/hsx1		
19990508	1036	1058	1146	M1.6/SF	.023	N18E64L192	8541	57	30	II/2					1126/0736/073/071					
19990508	1422	1440	1511	M4.6/1F	.074	N23W75L340	8526	58	90	II/2	IV/2	1450/0641/125/268					y/	/57-100		
19990509	0036	0047	0103	M1.1/1F	.012	N21E69L331	8541								?0026/0427/025/065					
19990509	1152	1227	1248	M1.0/	.028	n23w90L340	8526													
19990509	1753	1807	1815	M7.6/	.061	n23w90L340	8526	770	150						1827/0615/172/316		b/1758	/>300		
19990510	0522	0531	0605	M2.5/2N	.014	N16E19L227	8539	63	85		IV/3	0550/0920/	H/070				o/	/>300		
19990516	1345	1350	1359	M1.2/1N	.003	S17W75L223	8534	110												
19990516	1720	1725	1733	M1.1/SF	.003	S16W76L223	8534	70	120						1751/0502/045/032		y/	/hxs2		
19990516	2225	2233	2248	M1.0/SF	.004	N22W37L331	8541	190									y/	/hxs1		
19990517	0449	0455	0510	M2.3/1B	.008	S14W78L223	8534	70	69								y/	/57-100		
19990517	2150	2202	2212	M1.0/	.009	s16w90L223	8534?							g						
19990526	1915	1932	2026	M1.2/2N	.013	N17E46L347	8552								2026/0396/017/039				27	1230/~8
19990529	0304	0315	0327	M1.6/*	.015			140	110	II/3					0326/0735/135/111		y/	/hxs2		
19990603	0640	0644	0701	M1.0/SF	.004	S16W08L292	8562								0727/0521/005/088					

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/	v / da/pa	A/	tm / Emax	F>10MeV
						J*m-2				s.e.p.	km/s		keV		D tmax/Ipr /GLE			
19990604	0652	0703	0716	M3.9/2N	.024	N18W72L347	8552	660	360	IV/3	0727/2230/150/287	b/0700	/>300	04	1055/	64		
19990612	1319	1336	1359	M1.0/1N	.008	S13E64L099	8583		18	II/1	?1406/0669/008/253	y/1329	/57-100					
19990617	1647	1730	1739	M3.6/*	.031				62	II/1	g	y/1722	/57-100	19/	0030/	~8		
19990620	1525	1535	>1614	M2.9/SB	.020	N22E71L352	8592		60		1554/0591/049/056	y/1529	/hxs1					
19990622	1737	1829	>1858	M1.7/1N	.030	N22E37L352	8592	150	760	II/2	IV/1	1854/1133/	H/040	y/1822	/hxs1			
19990623	0649	0709	0818	M1.7/2N	.032	N22E42L328	8598	220	88	IV/2	0731/1006/	H/046	y/0702	/<14				
19990623	2306	2316	2325	M1.1/*	.009						0054/0503/098/266							
19990626	0508	0512	0538	M2.3/2B	.004	N24E02L328	8598	63			0731/0558/	H/021						
19990629	0501	0510	0554	M1.4/SF	.009	N18E07L297	8602	470	28	II/2	0554/0589/164/055							
19990629	0813	0821	0849	M3.1/1N	.016	S27E41L257	8611	28	140									
19990629	1907	1913	1940	M1.6/1N	.007	S14E01L268	8603	530	140		1954/0560/	H/320						
19990630	0433	0446	0516	M2.1/1N	.017	S26E29L257	8611	36	33		0530/0588/048/128							
19990630	1124	1130	1156	M1.9/1B	.011	S15E00L268	8603	2200	190		1154/0406/	H/003						
19990630	1803	1808	1914	M2.0/2B	.010	S13W05L268	8603	70	86									
19990630	2007	2012	2023	M1.1/SF	.003	N20W56L328	8598	93	270									
19990701	2136	2143	2158	M1.1/1F	.007	N24W67L328	8598		37		2230/0419/022/325							
19990701	2324	2331	2356	M1.7/1N	.006	S15W27L268	8603											
19990702	0129	0138	0232	M2.5/1B	.016	S26E06L257	8611		71									
19990702	1512	1520	1610	M1.6/SF	.010	S27E01L257	8611		58		1630/0285/121/232							
19990705	1830	1848	1958	M1.2/1F	.021	S25W43L257	8611											
19990716	1542	1550	1554	M3.1/sn	.011	n43w76L141	8635	86	54	II/2	1630/0746/111/307							
19990716	1734	1750	1809	M1.1/sf	.016	s31w13L098	8627											
19990719	0816	0846	1058	M5.8/2N	.110	N21E58L332	8636		140	II/2	IV/2	0854/0719/102/031						
19990723	1554	1601	1613	M1.0/	.010	s28e90L246	8645?				1630/0416/023/037?	o/	/>50					
19990723	1832	2005	2057	M1.1/2F	.065	N20E04L332	8636	140	27		1931/0293/036/035							
19990723	2255	2300	2315	M1.2/SF	.006	S26E87L246	8645											
19990724	0356	0404	0418	M1.7/1N	.008	S29E87L246	8645											
19990724	0749	0802	0825	M3.3/SF	.051	S28E78L246	8645				0830/0313/057/114							
19990724	1119	1122	1128	M2.1/	.008		8645		15									
19990724	1129	1133	1139	M2.0/	.011		8645											
19990725	1308	1338	1417	M2.4/SF	.075	N38W81L039	8639	100	600	II/1	IV/1	1331/1389/	H/284					
19990727	1242	1405	1450	M3.0/SF	.065	N25E78L204	8651				1331/0693/105/057							
19990728	0136	0201	0234	M1.1/SF	.015	S15E08L271	8649	200	450	IV/2	0206/0506/117/057							
19990728	0804	0814	0902	M2.3/1B	.010	S15E03L271	8649?		97		0906/0462/	H/006						
19990729	1622	1656	1726	M1.3/2N	.033	S23E08L246	8645		21									
19990729	1931	1936	>1955	M5.1/1N	.017	N25E51L204	8651		38		2030/0199/024/077	o/	/>300					
19990730	1509	1520	1617	M1.7/1N	.009	S14W27L271	8649	1200	56									
19990802	0023	0027	0030	M1.8/	.005			360	150									
19990802	2118	2125	>2215	X1.4/1B	.110	S18W46L242	8647	71	570	II/2	2226/0292/157/264	y/2123	/200-700					
19990803	1943	1955	1959	M1.3/*	.006			72			?1927/----/017/206							
19990804	0545	0557	>0704	M6.0/1N	.070	S17W57L242	8647	300	230	II/2	0626/0405/144/281							
19990804	1549	1607	1625	M1.2/SF	.019	S18W66L242	8647											

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS					
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV				
						J*m-2					s.e.p.		km/s		keV		D tmax/Ipr /GLE						
19990805	1555	1623	1633	M1.9/SF	.026	S31W70L246	8645						23		?1550/0123/070/263								
19990805	2212	2224	2232	M1.1/*	.008	s30w80L246	8645								2326/0217/073/276								
19990805	2234	2239	2244	M1.5/*	.008								27		2326/0217/073/276								
19990806	1628	1636	1652	M1.8/SF	.014	S28W88L246	8645	190	45	II/2				1750/0323/043/275									
19990807	1852	1925	2015	M1.2/	.047	s28w90L246	8645																
19990807	2043	2105	2118	M1.7	.027	s28w90L246	8645								2126/0483/108/239								
19990820	1236	1418	1706	M1.8/1N	.180	S26E76L247	8674	1900	51					1326/0209/130/115									
19990820	1825	1829	1835	M1.2/SF	.003	S23E66L247	8674	6100	180					1850/0631/094/093	b/1828	<25							
19990820	2303	2308	2317	M9.8/1N	.020	S25E64L247	8674	13000	480	II/2	IV/2			2326/0812/076/104	y/2306	/7000-10000							
19990821	1630	1634	1639	M3.7/1B	.008	S24E56L247	8674	9600	290	II/2				1650/0841/068/109	b/1633	>300							
19990821	2210	2214	2220	M5.9/1N	.010	S24E52L247	8674	170	250					2226/1295/066/119	b/2213	>300							
19990825	0132	0136	0156	M3.6/1N	.009	S28E21L247	8674	1600	310	II/1				0206/0195/017/142				b/0136	>300				
19990827	0122	0137	0151	M3.0/*	.035								32										
19990827	1250	1307	1438	M5.5/2N	.069	S23W08L247	8674						150										
19990827	1623	1636	1726	M3.0/1N	.059	S30E01L247	8674						110										
19990828	0050	0102	0116	M2.8/2N	.028	S27W16L247	8674						290		0126/1147/098/282	b/0057	>300						
19990828	1752	1805	>2325	X1.1/2N	.110	S26W14L247	8674	660	1000	II/3				1826/0462/245/221	b/1759	>300							
19990830	1723	1805	1941	M3.8/2B	.052	N18W16L207	8681						58	II/2	1850/0404/059/007								
19990908	1146	1217	1233	M1.4/1B	.009	n12e53L026	8690	2600	290							o/	>300						
19990917	0110	0120	0138	M2.1/1N	.006	N13W63L026	8690						120		0154/1029/021/265	o/	>50						
19991014	0854	0900	0925	X1.8/1N	.041	n11e32L292	8731	200	1000		IV/3			0926/1250/	H/061								
19991020	0553	0622	0747	M1.7/1F	.036	N13W48L292	8731	44		II/2				0626/0327/105/287									
19991025	0626	0631	0637	M1.7/1B	.004	S23E28L147	8741						61										
19991026	0719	0745	0844	M1.2/*1N	.026	n09w20L167	8739						18		?0926/0212/045/257								
19991026	1823	1852	1947	M2.3/1N	.022	S13W02L167	8739						15										
19991026	2109	2125	2137	M3.7/	.036	s16w90L235	8737?						53	II/1	2150/0319/049/248								
19991027	1323	1337	1401	M1.8/SF	.028	S16W85L235	8737				II/2				1406/0240/040/264								
19991027	1518	1541	1605	M1.4/	.031	s16w90L235	8737?								1550/0247/043/257								
19991105	1712	1718	1811	M1.2/1N	.004	S20W46L076	8749						60										
19991105	1804	1829	1944	M3.0/	.130	n09e90L289	8759	150							1826/0378/153/086								
19991109	1942	2009	2058	M1.1/1F	.040	N10E53L289	8759								g								
19991110	0140	0151	0200	M1.3/SN	.012	N16E08L323	8760								g								
19991110	1544	1549	1558	M1.5/SF	.003	N17W21L343	8753	2900	47						g								
19991110	2209	2213	2220	M1.1/1N	.003	N18W25L353	8753	8800	200						g								
19991112	0854	0916	0936	M1.7/*	.032	e90							32		1006/0723/043/116								
19991112	1150	1154	>1200	M1.1/SF	.004	N10E17L289	8759																
19991113	0114	0258	0351	M1.3/1F	.084	S15E44L249	8763								0131/0181/050/092								
19991114	0754	0801	0902	M8.0/1N	.023	S15E27L249	8763						640										
19991114	1536	1607	1803	M5.6/2B	.033	N18E62L210	8766						78										
19991114	1538	1623	1854	M2.2/1N	.007	S11E36L235	8765																
19991114	1654	1704	1840	M1.4/SF	.019	N10W13L289	8759								?1830/0269/078/270?								
19991114	1803	1809	1813	M2.8/	.010	w90L015	8757?								?1830/0269/078/270?								

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH	DYNAMIC EVENT			CME	X-ray HARD		PROTONS						
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	/	Emax	F>10MeV
						J*m-2					s.e.p.		km/s			keV		D tmax/Ipr	/GLE					
19991115	0825	0841	0903	M2.9/2B	.036	S14E27L235	8765						20											
19991116	0236	0246	0309	M3.8/1N	.028	N17E38L210	8766	1400	360	II/3	IV/2	0306/0636/098/086												
19991116	0405	0410	0424	M3.0/1B	.007	N14W72L323	8760	170																
19991116	0423	0512	0545	M1.8/SF	.052	N18E43L210	8766			II/2		?0530/0712/129/260?												
19991116	?0606	0710	0739	M2.3/1N	.100	S14E10L235	8765	250	340			0654/1193/077/259	o/										/>300	
19991116	1347	1411	1508	M1.4/1N	.029	S09E06L235	8765						g											
19991116	2118	2124	2220	M2.0/1N	.024	S11E08L235	8765						g											
19991117	0947	0957	>1024	M7.4/2B	.040	N17E21L210	8766	9600	390	II/2	IV/3		g											
19991118	0142	0149	0159	M1.4/1F	.007	S17E55L174	8771		41				g											
19991120	2217	2235	0025	M3.2/2B	.039	S15E19L174	8771	93	39	II/2			g						o/					/>50
19991121	0007	0014	0054	M1.3/1N	.006	S09W53L210	8765		280				g											
19991121	1003	1017	>1026	M2.2/SN	.017	S15W53L210	8765						g											
19991121	1810	1820	1848	M3.4/2N	.019	S15W56L210	8765		270				g											b/1815 />300
19991124	2152	2156	2202	M2.2/1B	.003	S13E20L114	8778	6900	32															
19991124	2327	2337	0025	M3.0/SF	.020	S19W43L174	8771	400	82	II/1		2354/0255/087/268												
19991125	1859	1919	1958	M2.0/2N	.021	S15W48L174	8771	48				?1931/0200/043/273												
19991126	0057	0123	0223	M5.7/3B	.049	S14W55L174	8771	120	210															b/0120 />300
19991126	0350	0400	0502	M1.9/2B	.017	S19W58L174	8771																	
19991126	1338	1343	1501	M6.0/2N	.066	S15W59L174	8771	77				1354/0193/064/270	b/1342											/>300
19991127	0236	0301	0330	M2.8/1N	.038	S19W71L174	8771																	
19991127	0543	0549	0623	M1.2/1N	.009	S14W66L174	8771					?0554/0324/065/285												
19991127	1205	1212	1308	X1.4/2B	.046	S15W70L174	8771		260			*1254/0235/068/256*												
19991128	0126	0146	0227	M3.5/SN	.039	S19W83L174	8771					0230/0838/019/218												
19991128	0549	0557	0608	M1.1/SF	.010	S15W81L174	8771					*												
19991128	1800	1917	1955	M1.6/	.079								g											
19991129	1409	1414	1422	M1.1/SF	.004	S14W84L174	8771						g											
19991207	2115	2120	2137	M1.0/SN	.003	S13E66L262	8791	340	31				g											
19991217	2135	2141	2158	M1.0/	.009	n20e90L114	8806					2231/0218/036/089												
19991218	1909	1912	1942	M1.5/1N	.003	N20E69L114	8806					*												y/1912 /7000-10000
19991221	1712	1719	1805	M1.1/1N	.004	N24E34L114	8806	190	70			1754/0291/091/047												
19991222	0150	0216	0306	M1.8/2B	.027	N10E30L111	8807	57	2			0230/0570/ H/011												
19991222	1852	1904	1908	M5.3/1B	.018	n24e19L114	8806	210	280			1931/0605/ H/358	b/1902											/<25
19991227	0146	0154	0215	M1.0/1B	.009	N23W36L114	8806	3100	120	II/3		0206/0753/096/283												
19991227	1154	1206	1221	M2.0/SN	.009	N22W42L114	8806					1230/0302/061/308												
19991228	0039	0048	0111	M4.5/2B	.018	N20W56L114	8806	21000	1400			0054/0672/082/316	y/0044											/700-4000

2000

DATE		TIME		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV
							J*m-2	s.e.p.				km/s	keV		D tmax/Ipr /GLE		
20000110	1331	1344	1428	M3.3/2N	.045	S13E69L173	8824					37		g			
20000111	0413	0424	0438	M1.5/	.019	N13E90L147	8829?							g			
20000112	0004	0017	0047	M1.2/1F	.018	S12E47L173	8824							g			
20000112	0132	0138	0150	M2.8/SF	.011	N13E81L147	8829	48	240					g		b/0136 /<25	
20000112	2036	2049	2109	M1.1/SF	.009	N13E67L147	8829									2117/0382/093/081	
20000118	0936	1008	1048	M1.2/SF	.040	S14W38L173	8824		25							1030/0642/108/291	
20000118	1707	1727	1859	M3.9/1N	.043	S19E11L130	8831			II/2	IV/2	1754/0739/		H/045			
20000121	0634	0648	0658	M1.4/SB	.014	N14W17L116	8833	58									
20000122	1755	1801	1837	M1.0/SF	.004	S23W50L130	8831	2300	250				1830/0327/042/166			b/1759 /100-300	
20000204	0911	0919	0937	M3.0/SF	.020	N25E74L200	8858	27								b/0915 />300	
20000205	1917	1928	2019	X1.2/3B	.029	N26E52L200	8858	180	350	II/3			1954/0632/076/061			o/ /<2200	
20000208	0842	0901	0953	M1.3/1B	.018	N25E26L200	8858	1500	110	II/3			0930/1079/		H/050		
20000212	0351	0410	0505	M1.7/1B	.029	N26W24L200	8858	340	200	II/1	IV/3		0431/1107/		H/020		
20000217	1841	1852	1948	M2.5/1B	.023	S25W16L116	8869	1300	78	II/2			1931/0543/064/184				
20000217	2017	2045	2218	M1.3/2N	.027	S29E07L093	8872	200	180	II/2	IV/1		2130/0728/		H/184		18 1215/ 13
20000219	1506	1554	1720	M1.3/1N	.018	S20W42L116	8869										
20000220	2200	2207	2213	M2.4/	.011	s16e90L328	8882?	1100	130	II/2			2306/0225/086/121				
20000221	0750	0836	0841	M1.8/SF	.010	S16E79L328	8882		24				0906/0232/080/101				
20000221	2313	2319	2347	M1.2/2B	.006	S19W78L116	8869						?0131/0653/098/192				
20000222	0842	0856	0904	M1.1/SF	.009	S20W80L116	8869										
20000222	1123	1133	>1149	M1.2/SF	.008	S24W79L116	8869										
20000222	1954	2147	2225	M1.1/*	.069				50								
20000224	0103	0111	0117	M1.1/	.007	s24w90L116	8869?						0154/0159/054/045				
20000226	2333	2352	0103	M1.0/2F	.050	N29E50L291	8889	210	73				?2354/0668/108/028				
20000302	0820	0828	>0911	X1.1/2B	.036	S14W52L328	8882	840	200	II/2	IV/3		0854/0776/062/233				
20000302	0838	0841	0911	M1.1/1F	.005	S14W66L344	8886			II/2			0854/0776/062/233				
20000302	1335	1343	1356	M6.5/SN	.029	S20W58L328	8882	1100	290	II/3			1354/0835/076/235				
20000303	0208	0214	>0249	M3.8/1B	.020	S15W60L328	8882	1100	240		IV/3		0230/0841/098/229		y/0213 /200-700		
20000303	1040	1046	1058	M4.0/1N	.008	S13W82L344	8886	88					?1230/0369/040/215				
20000307	1601	1607	1613	M1.2/1F	.005	S22E77L121	8906	110	170				1630/0644/108/114				
20000307	1944	1950	1953	M1.0/*	.003												
20000308	0153	0200	0205	M1.4/	.007	n30w90L291	8889?										
20000311	0915	0927	1004	M1.3/1N	.009	S13E39L121	8906						?0950/0559/010/096				
20000312	2330	2338	0000	M3.6/1B	.016	S17E19L121	8906									b2334 /<25	
20000313	1038	1048	1136	M1.4/1N	.015	s15w90L229	8900?						1206/0231/098/233		b/? />300		
20000315	1836	1840	1909	M1.4/1N	.004	S18W20L121	8906										
20000317	1108	1125	1146	M1.1/SF	.010	S14W47L121	8906	96					1151/0350/086/271				
20000318	2047	2102	2130	M2.1/1N	.024	S16W64L121	8906						2130/0492/165/321				
20000318	2313	2333	>0028	M2.6/2N	.038	N11W09L069	8910		83				2354/1532/204/096				
20000318	2353	2357	0022	M3.9/1N	.045	S16W61L121	8906		380								
20000319	1701	1756	1822	M1.6/1F	.036	S17W72L121	8906	110	350								

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV	D tmax/Ipr /GLE
						J*m-2				s.e.p.		km/s		keV					
20000320	0821	0834	>0850	M2.2/2B	.027	S18E92L318	8921	110	97	II/2 IV/2									
20000320	1625	1643	1707	M2.4/2B	.012	N11W39L069	8910	240	44				1730/0260/074/311						
20000321	1412	1424	>1534	M1.0/SF	.012	N31W36L062	8918			II/1			?1430/0449/085/268						
20000322	0107	0118	0152	M1.9/1B	.017	N14W48L069	8910		73										
20000322	1829	1848	>1856	X1.1/2N	.087	N14W57L069	8910	85	500	II/3 IV/3			1931/0478/154/312						
20000323	1132	1214	1230	M2.0/SF	.041	N16W68L069	8910						g						
20000324	0741	0752	>0845	X1.8/2B	.110	N15W82L069	8910	100	570	II/2 IV/2			g		o/	/1600			
20000324	1125	1129	1134	M2.8/SF	.009	N21E67L287	8928						g						
20000324	1513	1522	1525	M2.6	.008	n15w90L069	8910?						g						
20000326	1727	1734	1758	M2.3/SF	.010	S11W54L013	8926						1830/0883/023/220						
20000328	0134	0137	0200	M3.1/SF	.005	S11W73L013	8926												
20000330	0659	0714	0743	M1.2/SF	.025	N12E76L198	8940	37	87				0731/0638/047/073						
20000330	1239	1245	1300	M1.3/SF	.006	S16E64L204	8936												
20000330	1558	1607	1630	M3.4/1N	.014	S17E62L204	8936												
20000330	2317	2324	2353	M2.0/2B	.006	S15E59L204	8936												
20000331	0622	0652	0723	M1.2/SN	.034	S15E55L204	8936		46				0731/0483/101/086						
20000331	0750	0755	0758	M1.0/SF	.004	N22E64L196	8939												
20000331	1013	1019	1024	M4.1/SF	.017	N23E67L196	8939	99	120	IV/1									
20000331	1312	1318	1333	M1.8/SF	.008	N22E60L196	8939		110										
20000331	1650	1655	1704	M1.2/SF	.005	N23E58L196	8939						1806/0542/087/017						
20000331	1841	1850	1959	M2.0/1N	.016	S16E48L204	8936						2006/0393/046/178						
20000404	0118	0132	0144	M1.0/	.011	s15e80L130	8948?						0157/0548/090/081						
20000404	1511	1534	1724	C9.7/2F	.023	N16W66L268	8933			IV/3			1632/1188/ H/265	o/	/>300		05	0930/	55
20000406	0218	0229	0309	M1.8/2B	.014	S14E52L130	8948	42	220	II/2			0254/0479/103/090						
20000408	0234	0240	0250	M2.0/1B	.012	S14E28L130	8948	1200	160				?0431/0307/015/118	b/0239	/>300				
20000408	2040	2046	2142	M1.8/1N	.006	S14E18L130	8948							o/	/>300				
20000409	0408	0416	0432	M1.1/1B	.007	S15E13L130	8948	42											
20000409	2326	2342	>2356	M3.1/2B	.032	S14W01L130	8948	100	210	II/2			0030/0409/ H/225						
20000411	1757	1810	1817	M1.0/1N	.008	S16W18L130	8948						1830/0535/053/013?						
20000411	2329	2337	0029	M1.1/1N	.007	S15W22L130	8948												
20000412	0327	0335	0413	M1.3/1N	.012	S16W24L130	8948						0454/0215/025/027?						
20000415	1009	1018	>1030	M4.3/SF	.015	S22E29L030	8955	15000	570				1036/0716/176/148						
20000415	1437	1448	1453	M2.2/1N	.012	S23E28L030	8955	590	49				1606/0488/043/155						
20000501	1016	1027	1040	M1.1/SN	.007	N17E51		130	29				1054/1360/054/307	o/	/>300				
20000502	1442	1451	1505	M2.8/1N	.014	N22W68L264	8971	1100	250				1506/1278/040/286	b/1446	/>300				
20000503	2247	2310	2321	M1.1/	.013	s16w90L262	8970	89					2326/0730/079/235						
20000504	0432	0451	0502	M2.8/1F	.032	S14W83L243	8977	200	25				0450/1064/062/252						
20000504	1057	1108	1140	M6.8/2N		S20W90L262	8970	400	100				1126/1404/170/258						
20000505	1519	1621	1728	M1.5/	.086	S14W90L243	8977	44					1550/1594/ H/265						
20000512	2323	2329	0021	M1.0/1F	.007	S14E78L333	8998		53										
20000513	0121	0144	0240	M1.1/	.040	n21E90L304	9002?												
20000514	0759	0805	0828	M1.0/SF	.005	S23W52L086	8993	200											

DATE			TIME			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS				
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV	D tmax/Ipr	/GLE		
							J*m-2				s.e.p.		km/s										
20000515	0447	0457	0508	M1.3/2N	.011	N21E77L304	9002															0526/0951/034/056	
20000515	0816	0902	>0929	M4.4/SF	.100	N20E80L304	9002	400	640													0850/1549/139/070b/s	
20000515	1046	1050	1056	M1.2/*	.006															160			
20000515	1638	1644	1728	M1.1/SF	.006	S14E50L333	8998	100															
20000515	1757	1802	1810	M1.2/SF	.004	S20W70L333	8993																
20000515	1848	1853	1925	M2.0/1N	.006	N20E72L304	9002																
20000516	1546	1551	1601	M3.2/SF	.013	N19E61L304	9002													65			
20000518	1552	1557	1609	M2.7/1B	.005	N22E31L304	9002	910	60													1626/0654/075/030	
20000519	0052	0058	0105	M1.1/	.008	L333	8993?																
20000524	0530	0546	>0600	M1.3/SF	.020	S27W85L343	8996																
20000524	1140	1152	1221	M1.1	.021	s15e90L175	9017?																
20000601	0607	0617	0637	M2.5/1F	.018	N20E80L004	9026	420													?0654/0099/022/070		
20000602	0323	0414	0510	M1.2/1F	.033	N20E73L004	9026	170	120													0430/0526/090/096	
20000602	0652	0659	0740	M4.1/1F	.028	N19E67L004	9026	11															
20000602	1848	1938	2123	M7.6/2B	.100	N18E60L004	9026	100	88													2030/0731/112/121	
20000603	0802	0849	0918	M2.1/1N	.020	N20E53L004	9026	84															
20000603	1913	1924	2034	M6.1/2B	.039	N19E50L004	9026	310													2030/0565/062/058		
20000604	2202	2210	2216	M3.2/*	.014	L004	9026?	330													2354/0217/033/102		
20000605	1351	1359	1444	M1.5/1N	.012	S31W46L150	9031																
20000606	*1125	1333	1450	2N		N20E13L004	9026																
20000606	*1206	1521	1843	3B		N20E18L004	9026																
20000606	*1310	1319	1328	M2.7/3B	.019	L004	9026																
20000606	*1330	1339	1346	X1.1/3B	.081	L004	9026	54	560													1506/0358/051/018	
20000606	*1356	1401	1411	M7.1/3B	.050	L004	9026													1530/0929/090/004			
20000606	*1458	1525	1540	X2.3/3B	.360	L004	9026	320	2300	II/2	IV/3											1554/1119/ H/047	
20000607	0431	0442	0535	M2.2/1B	.012	S31W65L150	9031													120			
20000607	1504	1546	1851	X1.2/3B	.140	N20E02L004	9026	97	200	II/3	IV/1											1630/0842/ H/309	
20000610	1622	1655	1854	M5.2/3B	.073	N22W39L004	9026	110	550	II/3											1708/1108/ H/307		
20000611	1038	1049	1112	M1.0/1F	.008	N24E07L016	9033															23	
20000615	1938	1957	2059	M1.8/2N	.031	N20W62L028	9041	62	250	II/1											2006/1081/116/290		
20000615	2336	2343	0014	M2.0/1N	.009	N19E17L303	9040	690	59													0026/0658/074/042	
20000617	0225	0237	0501	M3.5/2B	.024	N22W72L016	9033	90	69													0328/0857/133/301	
20000618	0152	0159	0213	X1.0/SF	.034	N23W85L016	9033	11000	300	II/3											0210/0629/132/318		
20000621	0922	0929	0941	M1.3/SF	.009	N24W42L282	9042													76			
20000623	0400	0407	0447	M2.6/2B	.011	N19W30L252	9046	340			II/1	IV/1											0454/0460/079/282
20000623	1418	1431	1504	M3.0/1F	.032	N23W73L282	9042	250			II/1											1454/0847/198/293	
20000625	0059	0114	0122	M2.5/SF	.019	N23W90L282	9042															0131/0905/076/307	
20000625	0717	0752	0911	M1.9/2N	.043	N16W55L252	9046	66	33													0754/1617/165/274	
20000701	2317	2325	2333	M1.5/	.008	L029	9070?																
20000707	1056	1105	1136	M1.3/SF	.019	N22W41L083	9071													52			
20000707	1810	1819	1909	M1.3/1B	.012	N22W46L083	9071															15	
20000709	0715	0723	0752	M5.7/1F	.017	N17E71L311	9077													11			
																						?0906/0257/072/179	

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS		
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV	D tmax/Ipr	/GLE
						J*m-2					s.e.p.		km/s		keV						
20000710	1026	1056	1143	M1.1/SF	.057	N17E53L311	9077	57	23	?1126/0788/173/168											
20000710	1416	1426	1533	M1.4/SN	.013	N17E52L311	9077														
20000710	1830	1838	1920	M1.8/1N	.012	S18W32L040	9069		61												
20000710	1955	2002	2052	M1.9/SB	.014	N16W43L029	9070	68	120	2050/0426/049/262											
20000710	2105	2142	0046	M5.7/2B	.220	N18E49L311	9077	13000	140	II/3 IV/3	2150/1352/289/094										
20000711	*1132	1141	1646	M4.2/1B	.029	N16E39L311	9077			1327/1078/ H/063											
20000711	*1212	1310	1335	X1 . /2N	.310	N18E27L311	9077	2000	1600	1327/1078/ H/063											
20000711	1847	1858	1929	M1.1/1N	.012	N16W56L029	9070														
20000712	0455	0502	0536	M1.2/1N	.009	N16E31L311	9077		43	0526/0445/047/276											
20000712	1018	1037	1144	X1.9/2B	.140	N18E26L311	9077	510	390	IV/2	1106/1124/144/049										
20000712	1606	1652	1806	M1.0/SF	.086	N17W68L029	9070			1650/0475/096/258											
20000712	1841	1849	>1957	M5.7/2F	.063	N16W64L029	9070		230	2030/0820/101/281											
20000712	2137	2140	2143	M1.9/*	.006				170												
20000713	1151	1205	1217	M1.3/SF	.010	N20W73L029	9070														
20000713	1615	1623	1718	M1.1/1N	.007	N20W76L029	9070	100													
20000713	1628	1634	1718	M1.5/1N	.036	N20W76L029	9070														
20000713	1832	1842	1904	M1.2/SF	.023	N20W75L029	9070														
20000713	2201	2206	2210	M1.5/*	.005																
20000714	0039	0045	0050	M1.5/*	.007	e90				0054/0532/038/088											
20000714	1003	1024	1146	X5.7/3B	.750	N22W07L311	9077	31000	2600	II/3 IV/3	1054/1674/ H/273	y/1027	/700-4000					15	1230/24000/GLE		
20000714	1344	1352	>1424	M3.7/1N	.025	N20W08L311	9077	470	220												
20000715	0820	0833	>0908	M1.3/SF	.018	N16W12L235	9087														
20000716	0159	0203	>0214	M5.5/1N	.016	N09E81L203	9090		23												
20000716	0223	0228	0233	M1.1/	.007	s20w90L015	9073?														
20000716	2147	2157	2219	M1.1/1N	.009	N14E76L203	9090			2330/0150/029/102											
20000716	2337	0004	0051	M1.4/2F	.017	N17W40L311	9077														
20000717	1335	1345	1357	M1.2/2F	.007	S08E32L235	9087	2800	14	1454/0473/029/079											
20000717	1958	2027	2106	M2.4/2B	.012	S10E36L235	9087	7100	280	II/3	g	y/2025	/700-4000								
20000718	0458	0515	0638	M1.9/2N	.032	N18W57L311	9077	73	57	II/2 IV/1	g										
20000718	1400	1419	1520	M3.0/2N	.035	S12E14L235	9087		48	IV/1	g										
20000718	1934	1945	>2210	M3.3/2N	.067	S14E18L235	9087			g											
20000719	0645	0726	0901	M6.4/3N	.160	S18E10L235	9087	2800	84	II/1	g										
20000720	0921	1006	1121	M3.6/2F	.110	S15W10L235	9087	250	180	IV/1	g										
20000720	2022	2025	2051	M5.0/1B	.010	S15W11L235	9087		420	g											
20000721	0517	0524	0603	M1.7/1N	.008	N12E10L203	9090	7500	93												
20000721	0954	1015	1115	M1.9/1N	.012	N12E10L203	9090														
20000721	1033	1050	1106	M1.9/SF	.020	S13W18L235	9087			?1254/0322/060/319											
20000721	1430	1437	1506	M5.5/1F	.025	N12E05L203	9090	54	49	II/1	1655/0226/070/331										
20000721	2331	0001	0019	M3.3/1B	.027	N33E03L203	9090	140													
20000722	0652	0711	0734	M1.0/1F	.014	N12W05L203	9090			0830/0204/020/307											
20000722	1117	1134	1246	M3.7/2N	.070	N14W54L253	9085	140	70	II/2 IV/1	1154/1230/229/275							22	1405/	17	
20000723	0940	1000	1013	M1.5/SN	.013	S13W45L235	9087		44	1107/0308/021/270											

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH	DYNAMIC EVENT		CME	X-ray HARD		PROTONS				
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV		
						J*m-2				s.e.p.	km/s		keV	D tmax/Ipr /GLE						
20000723	1359	1413	1504	M1.1/1N	.017	S13W47L235	9087					57								
20000725	0243	0249	>0322	M8.0/2B	.028	N06W08L169	9097	61000	690	II/1	IV/1	0330/0528/	H/168							
20000725	0440	0456	>0605	M3.7/2N	.025	S13W71L235	9087		100											
20000725	1841	1846	1913	M1.2/1B	.009	N05W16L169	9097	630	130											
20000726	0737	0743	0750	M1.3/	.006															
20000727	0406	0410	>0420	M2.4/SB	.006	N10W72L203	9090		190											
20000727	1643	1711	1745	M1.5/	.044															
20000727	2337	2342	>0046	M1.2/SF	.004	N11W78L203	9090					0054/0447/057/296					?28	1130/	18	
20000808	1105	1115	1149	M1.9/	.033	s10e90L230	9124?		28			1130/0187/071/090								
20000812	0945	0956	1015	M1.1/SN	.011	S16W79L003	9119	59	38			1035/0662/168/262								
20000825	1421	1435	1458	M1.4/1N	.012	S16E65L045	9143	210	130	II/3	IV/1	1454/0518/178/103								
20000904	0103	0109	0152	M1.3/1N	.004	S21E18L326	9154													
20000909	0828	0849	0921	M1.6/1N	.023	N07W67L340	9151	530	33	II/2		0857/0554/180/303								
20000912	1131	1213	1458	M1.0/2F	.045	S19W08L237	9163	45	40	II/1		1154/1550/	H/220				13	0340/	320	
20000914	0556	0627	0649	M1.1/	.028							?0650/0281/074/113								
20000915	0505	0532	0619	M2.1/1N	.040	N14E09L186	9165		45			0550/0155/061/304								
20000915	1429	1437	1502	M2.0/1N	.011	N12E06L186	9165	31000	190			1526/0481/	H/213							
20000916	0406	0426	0509	M5.9/2B	.098	N14W06L186	9165	10000	1100	II/2	IV/3	0518/1215/	H/003							
20000916	1416	1428	1501	M3.3/2N	.014	N14W07L186	9165	3000	140			1506/0443/042/232								
20000919	0806	0826	0931	M5.1/2N	.071	N14W44L186	9165	120	360	II/1		0850/0766/076/292								
20000924	0328	0338	0427	M4.3/2N	.030	S15W45L123	9166													
20000925	0041	0053	0117	M3.4/1N	.027	S13W60L123	9166													
20000925	0205	0215	0242	M1.8/2B	.015	N10W20L078	9169	3300	460			0250/0587/	H/202							
20000930	1738	1827	1905	M1.0/SF	.039	S20E41L312	9178					1806/0703/170/124								
20000930	2008	2016	2024	M1.8/SF	.012	S20E41L312	9178													
20000930	2313	2321	2328	X1.2/SF	.062	N07W91L078	9169	36	130								y/2320	/700-4000		
20001001	0623	0701	0725	M5.0	.110	L078	9169	550	180											
20001001	1356	1410	>1455	M2.2/SF	.047	S24E27L312	9178													
20001002	0001	0013	0028	M1.0/*	.012															
20001002	1753	1801	1830	M1.4/1N	.007	N27W51L028	9177													
20001012	2026	2049	2145	M1.5/SF	.052	N02W56L246	9182		170			2126/0532/044/287								
20001014	0831	0840	0907	M1.1/SF	.016	N04W82L246	9182													
20001016	0640	0728	0911	M2.5/	.160	n05w90L246	9182		30	II/2	IV/1	0727/1336/	H/270				16	1840/	15	
20001021	1813	1831	1915	M3.0/1N	.036	N17E23L054	9201		100											
20001027	2039	2056	2108	M1.1/	.011							g								
20001028	1841	1849	1854	M1.7/*	.007							g								
20001029	0128	0157	0327	M4.4/2B	.056	S25E35L306	9209	120	1800	II/3	IV/1	g								
20001107	1155	1207	1236	M1.6/1F	.016	N04W52L270	9213		89			1327/0270/092/235								
20001108	0948	0958	1005	M1.5/*	.011	L288	9226?													
20001108	1622	1636	1651	M2.9/SF	.029	N11W79L288	9226					1706/0391/042/242								
20001108	2242	2328	0005	M7.4/3F	.210	N10W77L270	9213	40	710	IV/1		2306/1738/170/299					09	1555/14800		
20001109	0303	0314	0339	M1.2/	.019	L288	9226?					pr								

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s	keV		D tmax/Ipr /GLE		
20001109	0601	0610	0621	M1.2/	.012	L288	9226?						pr				
20001109	1545	1613	1710	M1.0/1F	.012	S12E10L175	9221						pr				
20001114	1619	1634	1653	M1.0/	.014	n15e90L030	9235			140			1654/0718/155/075				
20001118	1051	1100	1125	M1.5/SF	.011	S24E06L058	9231	240	79				1154/0283/108/201				
20001118	1302	1325	1412	M1.5/1F	.031	N12E36L030	9235	1400	61	II/2			1354/0553/120/088				
20001121	1913	1921	1949	M1.6/SN	.008	N15W71L082	9237		32								
20001123	2318	2328	2357	M1.0/1N	.009	N22W03L352	9236	980	120	II/2			0054/0668/093/241				
20001124	0455	0502	0535	X2.0/3B	.083	N20W05L352	9236	7200	2200	II/3			0530/1298/ H/313			26 2030/ 940	
20001124	1451	1513	1601	X2.3/2B	.160	N20W08L352	9236	690	1400	II/3			1530/1245/ H/324	y/1454 /700-4000	n		
20001124	2143	2159	2249	X1.8/2N	.160	N21W14L352	9236	1100	110				2206/1005/ H/313				
20001125	0059	0131	0324	M8.2/2N	.210	N07E50L296	9240	880	11000	II/3	IV/2		0131/2519/ H/082	y/0122/200-700			
20001125	0906	0920	>1015	M3.5/2N	.045	N18W24L352	9236	960	100				?0930/0675/ H/270				
20001125	1833	1844	2016	X1.9/2B	.150	N19W24L352	9236	17000	1100	II/3			1932/0671/ H/348	y/1836/200-700			
20001126	0247	0308	0320	M2.2/	.026	s24w90L058	9231	68	60				0330/0495/188/284				
20001126	1634	1648	1732	X4.0/2B	.280	N20W36L352	9236	3200	700	II/2			1706/0980/ H/274	y/1636/200-700			
20001130	0900	0925	0944	M1.0/	.020								g				
20001130	2027	2038	2102	M1.3/SF	.007	S14E23L248	9246						g				
20001206	2216	2230	2251	M1.6/SF	.022	S10W66L248	9246	250	36				2326/0339/062/269				
20001212	1437	1507	1543	M1.3/1f	.026	N08E25L083	9267		78								
20001224	1103	1115	1128	M1.1/Sf	.008	S15E62L259	9283	110	24				1154/0605/031/107				
20001226	1602	1613	1619	M1.3/SF	.008	S09E90L201	9289										
20001227	1530	1544	1610	M4.3/1F	.031	S08E74L201	9289	58	48								
20001229	0210	0223	0244	M1.2/1F	.017	S08E55L201	9289	65									
20001229	1842	1848	1858	M1.2/1F	.005	S09E45L201	9289										

2001

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s	keV		D tmax/Ipr /GLE		
20010103	2342	2355	0012	M1.0	.012	n19e90L088	9302			48			0131/0134/025/069				
20010109	0645	0650	0657	M1.8/1N	.003	N10E50L055	9306	73	32								
20010110	1012	1016	1025	M3.5/1N	.006	N18E06L088	9302	580	210				1154/0606/074/093				
20010119	1625	1730	1819	M1.0/SF	.043	S07E61L272	9313		150				1706/0704/079/066				
20010120	1833	1847	1950	M1.2/2F	.012	S08E41L272	9313	43	110	II/3			1932/0839/ H/064				
20010120	2106	2120	2226	M7.7/2B	.072	S07E46L272	9313	600	850	II/2			2130/1507/ H/071				
20010121	2308	2312	2338	M1.1/SF	.005	N05W33L335	9311										
20010124	1437	1447	1501	M1.0/2F	.004	N06W77L335	9311										
20010126	0553	0607	0630	M1.0/1B	.005	N10E63L184	9325	350	79	II/2			0630/0314/079/052				
20010128	1508	1600	1730	M1.5/1N	.030	S04W59L272	9313	690	130				1554/0916/ H/254			29 0655/ 49	
20010202	2348	0006	0036	M2.4/1F	.029	N08E70L075	9334	18	86	II/2	IV/1		0030/0639/203/081				
20010308	1113	1118	1145	M5.7/1B	.013	N30W18L088	9368	1800	82	II/2			1150/0627/076/343				

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm / Emax	F>10MeV
						J*m-2					s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20010309	0151	0157	0200	M1.5/	.004	s08e90L329	9373					92		0306/0860/117/109				
20010309	1006	1028	1110	M1.0/*	.031													
20010310	0400	0405	0416	M6.7/2B	.013	N27W42L088	9368	9000	76	II/1	0426/0819/081/310			y/0404 /700-4000				
20010320	0206	0218	0245	M1.1/SF	.006	S05W54L329	9373			II/3	0326/0478/199/208							
20010320	0320	0333	0337	M1.2/SF	.005	N07W70L334	9384			27								
20010320	1419	1424	1445	M1.1/SF	.008	N13E77L185	9390				1526/0281/048/111							
20010320	1457	1507	1536	M1.6/1F	.011	S05W60L329	9373			30	1550/0410/072/285							
20010320	2056	2104	2112	M1.5/*	.009		9373?			II/1								
20010321	0228	0237	0252	M1.8/1B	.009	S06W64L329	9373	87	39		0306/0331/077/262							
20010322	0508	0515	0526	M1.0/	.008	n07w90L334	9384				0526/0674/184/234							
20010322	0709	0821	0825	M1.6/	.022	n19E90L152	9393				0826/0338/032/035							
20010322	1312	1319	>1351	M1.0/SF	.011	N13E49L185	9390	38	47									
20010324	0133	0138	0144	M1.2/SF	.004	S14W82L301	9376	510	140	II/2	0206/0311/061/257							
20010324	1935	1955	2147	M1.7/2N	.048	N15E22L185	9390	2300	71		2050/0906/ H/032							
20010324	2304	2318	2340	M1.1/1F	.013	N20E62L152	9393			270								
20010325	0412	0424	0454	M2.5/2N	.018	N16E51L152	9393			160								
20010325	1033	1116	1134	M2.6/1N	.032	N21E59L136	9401	470	25									
20010326	0228	0239	0307	M2.7/1N	.016	N19E50L136	9401											
20010326	1303	1326	1423	M2.2/1F	.037	N15E27L152	9393				1350/0541/055/104							
20010327	1625	1630	1638	M2.2/1B	.005	N22E34L136	9401	400	230	II/2	1706/0340/066/038							
20010328	0155	0158	0237	M1.1/SF	.006	N14E05L152	9393	1000										
20010328	0942	0947	0958	M1.3/SN	.006	N17E06L152	9393	190										
20010328	1121	1240	1402	M4.3/1N	.180	N19E02L152	9393	1200	78		1250/0519/ H/186							
20010328	1858	1909	1959	M1.5/1F	.019	N14W05L152	9393				1927/0258/059/130							
20010328	2218	2247	2312	M1.6/1N	.023	N17W01L152	9393	330	130		?0026/0526/106/145							
20010328	2325	2330	2358	M2.2/1F	.009	N15W07L152	9393	990	70		0026/0526/105/145							
20010329	0244	0256	0342	M2.1/1B	.010	N16W04L152	9393				?0306/0274/041/275							
20010329	0955	1015	1108	X1.7/2N	.220	N16W12L152	9393	27000			1026/0942/ H/071						n 30 0610/ 35	
20010329	1129	1135	1154	M2.1/SN	.011	N15W12L152	9393	2100										
20010329	*1409	1418	1512	M1.6/SF	.009	N16W14L152	9393				1426/0509/082/148?							
20010329	*1428	1434	1441	M1.3/SF	.009	N16W14L152	9393											
20010329	*1452	1458	1505	M1.5/SF	.009	N16W15L152	9393											
20010329	1520	1525	1550	M1.2/SF	.009	N16W12L152	9393				1606/0441/033/279							
20010329	2043	2101	2109	M1.2/*	.011													
20010330	0441	0515	0605	M2.2/1N	.011	N14W24L152	9393	1800	91									
20010330	0916	0928	0950	M1.0/1N	.010	S12W05L131	9397											
20010331	1100	1112	1141	M2.1/SF	.028	N16W34L152	9393			100								
20010401	1055	1217	1324	M5.5/	.360	E90L001	9415				1126/1475/ H/107							
20010401	1944	1949	1956	M4.0/1F	.021	N17W57L152	9393											
20010401	*2241	2301	0006	M1.2/1N	.015	N14W60L152	9393	650			2326/0466/053/273							
20010401	*2348	0003	0007	M1.0/	.010													
20010402	0014	0028	0040	M3.2/SF	.038	N17W57L152	9393			190								

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS									
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	/	Emax	F>10MeV	D	tmax/Ipr	/GLE	
										s.e.p.		km/s		keV													
20010402	0522	0528	0538	M1.0/SN	.004	N14W64L152	9393					42			0550/0628/009/285												
20010402	0945	0952	1000	M1.9/SF	.013	N15W64L152	9393								1006/0203/036/274												
20010402	1004	1014	1334	X1.4/1B	.086	N16W60L152	9393					140			1126/0992/080/278												n
20010402	1058	1136	1230	X1.1/1F	.300	N16W62L152	9393				280	670	II/1	IV/2	1250/0731/155/254												
20010402	1808	1850	1920	M2.1/1F	.057	N19W72L152	9393								53												
20010402	2132	2151	2203	X>17.5/*	1.500	n19w90L152	9393	45000	10000	II/3				2206/2505/244/293									03	0745/	1110		
20010403	0314	0357	0516	X1.2/1N	.400	S22E70L001	9415	470	3300				IV/1	0326/1613/292/120													
20010403	1229	1234	1250	M2.4/1F	.009	N14W83L151	9393							31													
20010403	2317	2351	0004	M1.1/SF	.028	S22E70L347	9418																				
20010404	0941	1027	1111	M1.6/SF	.059	S21E68L001	9415					360			0950/1065/089/090												
20010404	1152	1159	1206	M1.1/SF	.006	N26W64L136	9401																				
20010404	1212	1222	1230	M2.0/	.017	n14w90L151	9393?																				
20010405	0200	0220	0311	M3.1/SF	.096	N26E70L001	9415																				
20010405	0510	0518	0528	M1.1/SF	.009	N22W74L136	9401																				
20010405	0757	0834	0852	M1.2/SN	.016	S08E35L018	9417					1374			?0906/1750/205/281												
20010405	0837	0922	0954	M8.4/	.260	L018	9417?	75	980						?0950/0230/031/071												
20010405	1657	1725	1849	M5.1/2N	.200	S24E52L001	9415	1000	2800	II/1				1706/1390/	H/027												
20010406	1910	1921	2042	X5.6/SF	.410	S21E31L001	9415	250000	3300					1930/1270/	H/147	y/1916	/700-4000										
20010409	1520	1534	1712	M7.9/1B	.130	S21W04L001	9415	6700	1600	II/3	IV/1			1554/1192/	H/211												
20010410	0506	0526	0810	X2.3/3N	.300	S23W09L001	9415	10000	4000	II/3	IV/2			0530/2411/	H/166								n 11 /	2055/	355		
20010411	0024	0031	0035	M1.0/1F	.004	S26W29L000	9415							52													
20010411	1256	1326	1349	M2.3/1F	.048	S22W27L001	9415	3100	540	II/2	IV/2			1332/1103/	H/224												
20010412	0256	0304	0359	M1.3/2B	.017	S20W40L001	9415																				
20010412	0939	1028	1130	X2.0/2B	.300	S20W42L001	9415	8200	1200	II/2	IV/1			1031/1184/	H/221												
20010414	1715	1811	1828	M1.0/SF	.029	S18W73L001	9415	210	31					1754/0830/113/259													
20010415	1319	1350	1529	X14.4/2B	.610	S20W84L001	9415	61000	48000	II/3	IV/3			1406/1199/167/268	y/1347	/700-4000							15	1920/	951/GLE		
20010416	0616	0622	0625	M1.1/SF	.003	S19W90L001	9415								0638/0567/008/236												
20010417	2118	2157	2216	M1.3/	.029	n16e90L155	9433								2154/0604/035/056												
20010419	1122	1135	1155	M2.0/*	.025	s19w90L001	9415								1230/0392/129/298												
20010420	0501	0523	0556	M1.0/1F	.017	N16E63L155	9433																				
20010420	1951	2004	2059	M4.1/1F	.042	N15E55L155	9433					70															
20010422	2037	2044	2104	M3.2/1N	.010	N14E18L155	9433	5700	270	II/3				2126/0993/051/304													
20010423	0119	0128	>0220	M1.0/1N	.007	N18E18L155	9433	420	53																		
20010423	2015	2030	2157	M4.0/2N	.044	N14E23L155	9433					79															
20010424	0533	0542	>0609	M2.1/2N	.009	N17E02L155	9433	610	100					0606/0943/047/301													
20010424	0653	0700	0731	M3.1/1F	.017	N18E13L155	9433					140															
20010424	1238	1253	1344	M1.6/1N	.020	N19E14L155	9433					34															
20010424	1804	1812	1855	M2.3/1N	.009	N17E13L155	9433																				
20010424	2214	2224	2314	M1.8/1N	.010	N17E01L155	9433	2400	130					2330/0907/044/286													
20010425	1339	1348	1422	M2.7/2N	.021	N17W10L155	9433	820	200	II/2				1406/0856/097/287													
20010426	1126	1312	1431	M7.8/2B	.092	N17W31L155	9433	320	360	II/2	IV/2			1230/1006/	H/037									28	0500/	57	
20010427	1906	1915	1957	M1.2/1F	.015	N19W28L155	9433																				

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS						
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	/	Emax	F>10MeV	
						J*m-2					s.e.p.		km/s				keV		D tmax/Ipr		/GLE				
20010501	1858	1917	2208	M2.4/SF	.045	N22W77L155	9433						110												
20010502	0032	0040	0054	M1.8/SF	.011	n22w90L155	9433						82												
20010505	0842	0856	>0920	M1.0/1F	.014	N27W07L027	9445																		
20010512	2242	2335	0008	M3.0/1B	.029	S17E00L273	9455	2400	230	II/1														?2300/0453/022/357?	
20010513	0258	0304	0322	M3.6/SN	.012	S18W01L273	9455	2200	220	II/1	IV/1													0350/0434/118/185	
20010515	0253	0300	0316	M1.0/1N	.006	S17W29L273	9455		780	II/2	IV/1													0352/0381/099/206	
20010516	1035	1042	1056	M1.3/SF	.004	S18W46L273	9455																		
20010517	1646	1652	1704	M1.2/1F	.005	S16W64L273	9455																		
20010520	0600	0603	0606	M6.4/	.012	s18w90L273	9455	390	360	II/3														0626/0546/179/231	
20010520	0912	0920	0937	M1.5/*	.004	s18w90L273	9455	240																0950/0352/105/249	
20010524	1930	1944	2021	M1.2/1N	.018	N07E29L093	9468	41	110	II/3														2026/0387/112/054	
20010604	0803	0812	0820	M2.4/1F	.015	S18E57L288	9488	110	210															0830/0760/095/095	
20010604	2234	2259	2314	M1.7/SF	.017	S04W03L338	9484	110																	
20010605	0441	0451	0521	M2.5/2B	.020	S18E44L288	9488	3900	1000															0506/0836/150/114	
20010608	1918	1927	1958	M1.0/SF	.006	S09W30L309	9494	59																2030/0371/013/218	
20010613	0422	0433	>0501	M2.0/1F	.017	S25E74L155	9502	110	85															0506/0509/031/125	
20010613	1122	1142	1218	M7.8/1N	.053	S29E66L155	9502	490	120															1154/1109/044/147	
20010615	1001	1013	1108	M6.3/1N	.042	S26E41L155	9502	5800	130															1031/1090/119/153	
20010618	1959	2021	2052	M2.0/2N	.040	N18E34L111	9506		72																
20010622	2117	2122	2142	M1.7/1N	.009	N10E27L067	9511																		
20010622	2214	2222	2319	M6.2/1N	.039	N14W47L139	9503		110																
20010622	*2357	0001	0032	M1.1/1N	.004	N09E24L067	9511																		
20010623	*0010	0015	0020	M5.6/1N	.021	N09E24L067	9511																		
20010623	0402	0408	0457	X1.2/1N	.026	N10E23L067	9511		45																
20010623	0620	0626	0709	M1.3/1N	.006	N11E21L067	9511																		
20010714	2126	2133	2152	M1.0/SF	.005	S19W02L165	9539																	2230/0495/017/207	
20010716	0313	0320	0340	M1.2/1B	.008	S19W19L165	9539		47															0430/0498/020/227	
20010719	0952	1004	1017	M1.8/2B	.017	S05W48L166	9537	200	370															1030/1668/166/252	
20010803	0302	0307	0313	M1.5/SN	.002	N22E27L241	9563	6300																	
20010805	1522	1531	1552	M1.7/SF	.007	S21W45L288	9557		50																
20010805	2216	2224	2250	M4.9/1N	.022	S20W49L288	9557																		
20010821	2151	2157	2200	M1.5/*	.005	e90L295	9591	1800	170	II/2														2227/0192/035/106	
20010822	1158	1216	1229	M1.0/*	.012																				
20010824	0848	0913	0941	M1.1/SF	.030	S15E57L295	9591																		?0926/0341/058/122
20010824	*2231	2254	0056	M1.2/1N	.022	S18E46L295	9591																		
20010824	*2347	0017	0044	M3.5	.086	S18E46L295	9591	280																	0050/0484/039/124
20010825	0909	0928	0939	M1.2/SF	.006	S17E32L295	9591	0950/0513/	/133																0950/0513/030/129
20010825	1623	1645	1917	X5.3/3B	.820	S17E34L295	9591	36000	8100	II/2	IV/2													1650/1433/ H/119 k/ /60000-100000 n	
20010825	1952	1956	2001	M1.1/SF	.004	S19E37L295	9591																		2126/0315/046/267
20010826	1206	1306	1323	M1.3/	.028	n12e90L214	9601																		1327/0241/065/084
20010827	0631	0638	0656	M1.9/	.020	L214	9601																		
20010828	0002	0012	0041	M1.0/1N	.010	S14E06L295	9591	150	99																?0206/0350/016/057

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV
						J*m-2					s.e.p.		km/s		keV		D tmax/Ipr /GLE		
20010828	0743	0840	0853	M1.2/SF	.028	N12E80L214	9601								0850/0283/062/115				
20010828	1556	1611	1626	M1.1/1F	.018	N12E68L214	9601	89	41	II/3	IV/1	1627/0478/148/097							
20010829	0503	0523	>0552	M1.6/2F	.017	N12E69L214	9601	21											
20010829	1242	1253	1317	M1.2/1F	.015	N18E65L216	9600	26											
20010830	1745	1757	1859	M1.5/2N	.017	S21W28L295	9591	37											
20010830	2034	2038	2116	M3.0/1N	.008	N15E44L214	9601	270000	1000	II/3		2126/0351/076/086							
20010831	1035	1042	1050	M1.6/SN	.006	N16E38L214	9601	5400	270	II/2		1126/0169/037/075							
20010831	2227	2242	0018	M2.9/2N	.009	N14E25L214	9601	120	540	II/2		2315/0452/079/064							
20010902	0554	0602	0612	M1.3/2N	.009	S16W66L295	9591												
20010902	0616	0626	0715	M1.1/1B	.012	N12E18L214	9601	82											
20010902	1341	1348	1430	M3.0/2N	.013	S21W65L295	9591	140											
20010903	1545	1716	1737	M1.1/	.038	s25e90L111	9608					1720/0196/062/110							
20010903	1821	1841	1910	M2.5/	.060	s25e90L111	9608	86	300	II/1		1835/1352/207/133							
20010904	1853	1925	1937	M1.0/SF	.023	N13W20L214	9601					?2036/0259/040/313							
20010904	2012	2017	2037	M1.8/1N	.008	S19E45L151	9606					2106/0212/021/195							
20010904	2153	2159	>2232	M3.7/1N	.020	N15W23L214	9601	270	320			?2307/0213/043/096							
20010905	1425	1432	1538	M6.0/2B	.016	N15W31L214	9601	4300	800			1606/0538/107/234	k/				/1300-40000		
20010905	1903	1913	1946	M1.3/1N	.012	S16E35L151	9606		70										
20010905	2223	2233	2319	M2.2/SF	.023	S25E67L111	9608		24			0006/0279/046/091							
20010907	1526	1538	1610	M1.2/1F	.013	N19W65L214	9601	59	41	II/2	IV/1	1606/0486/137/322							
20010908	0438	0457	0525	M1.2/1B	.014	S28E48L111	9608					0631/0184/048/139							
20010908	1900	1923	1946	M1.1/SF	.022	S20W09L151	9606					2031/0267/104/132?							
20010909	0141	0240	0419	M1.9/2B	.012	S22E26L109	9608		65										
20010909	0955	1001	1016	M1.0/SF	.004	S30E30L109	9608					?1130/0247/067/241							
20010909	1510	1516	1532	M3.4/1N	.013	S16E05L126	9607	870	340	II/2		1606/0268/120/210	k/				/500-13000		
20010909	1523	1526	1540	M2.2/SF	.006	S32E25L109	9608												
20010909	1835	1841	1920	M2.0/2B	.005	S26E22L109	9608		36										
20010909	2040	2045	2120	M9.5/2N	.022	S31E26L109	9608		510										
20010911	0049	0111	0123	M2.6/	.036	n19w90L214	9601		86			0155/0304/078/289							
20010911	0653	0704	0722	M1.2/	.016	n19w90L214	9601?												
20010911	2025	2036	2043	M4.5/SF	.030	S12E88L021	9616	390	26										
20010912	0435	0444	0452	M1.0/	.007														
20010914	2141	2150	2200	M3.7/*	.027			640	920			2206/0812/072/142							
20010915	1104	1128	1237	M1.5/1N	.037	S21W49L109	9608	37	99	II/1		1154/0478/130/248						15 1455/	11
20010915	1544	1559	1636	M1.3/SF	.014	S13E26L021	9616	38	140			1630/0464/067/132							
20010916	0339	0353	0514	M5.6/2N	.088	S29W54L109	9608	41				0354/0368/017/344							
20010917	0818	0825	0855	M1.5/2N	.010	S14E03L021	9616	910	460	II/3		0854/1009/166/175							
20010917	1544	1550	1640	M8.1/1N	.023	S32W70L109	9608		380										
20010917	2101	2108	2117	M1.0/1N	.004	S11W06L021	9616	1200	110	II/2									
20010917	2132	2146	2155	M1.0/2N	.011	S31W73L109	9608												
20010918	0002	0008	0015	M1.4/SF	.007	S32W78L109	9608	38	230										
20010918	*1531	1538	1611	M1.3/1F	.007	N14E50L322	9621	480	99										

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS					
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV			
																	D tmax/Ipr	/GLE				
																	J*m-2	s.e.p.	km/s	keV		
20010918	*1549	1552	1554	M1.0/	.003								32									
20010918	1702	1707	1713	M1.4/SF	.003	S18E85L293	9628						95		?1834/0376/253/026							
20010920	1812	1817	1840	M1.5/SN	.005	N08W12L359	9631	100				98			1932/0446/207/274							
20010923	1131	1137	1153	M1.1/SN	.005	S17E38L272	9632															
20010924	0932	1038	1217	X2.6/2B	.630	S17E26L272	9632	7500			II/1			1031/2402/	H/142				25 2235/12900			
20010925	0141	0148	0204	M1.1/1N	.005	S15E03L293	9628	68				53										
20010925	0424	0440	0506	M7.6/1N	.072	S18W01L293	9628	3600	190		II/2			0604/0750/062/283								
20010925	1018	1027	1040	M2.0/1N	.010	S16W03L293	9628	160				38			1119/0419/117/290							
20010926	0252	0258	0303	M1.8/	.009	n08w90L359	9631	81				74			0353/0644/097/296							
20010927	0855	1213	1406	M1.0/	.140	n08w90L359	9631								0954/0284/051/302							
20010928	0810	0830	0947	M3.3/2N	.092	N11E18L227	9636	2300	180		II/3	IV/2		0855/0846/	H/140							
20010928	0934	1014	1123	M2.4/1N	.091	S18W36L292	9628	6000	240						1031/0665/136/201							
20010928	1918	1926	2027	M1.0/1F	.027	S18E22L219	9637															
20010928	2115	2125	2214	M1.2/1F	.012	N13E11L241	9634	74				50			2206/0773/109/008							
20010929	1019	1106	1226	M1.8/1F	.062	N13E02L227	9636					32			1154/0509/216/026							
20010930	1131	1141	1219	M1.0/SF	.023	S20W75L292	9628	76				38			1230/0330/064/129							
20010930	2129	2136	2145	M1.2/*	.008																	
20011001	0441	0515	0523	M9.1/*	.086			69							0530/1405/	H/225			02 0810/	2360		
20011001	2340	2345	2353	M1.2/SF	.005	S16W86L272	9632															
20011002	1012	1021	1057	M1.4/	.025	s16w90L272	9632?															
20011002	1123	1127	>1145	M1.0/SF	.005	S15E17L179	9641	66	28						1254/0287/085/151							
20011006	0519	0525	0533	M2.8/*	.020			190	35						0554/0548/133/284							
20011009	1046	1113	1210	M1.4/2N	.040	S26E09L083	9653	25	130		II/2	IV/2		1130/0973/	H/184	+						
20011017	1116	1123	1128	M1.1/SF	.006	S17W22L024	9658	130	43													
20011019	*0047	0105	0355	X1.6/2B	.120	N16W18L357	9661	9300	1400		II/3	IV/2		0127/0558/	H/284				19 2235/	11		
20011019	*0220	0232	0246	M1.2/	.018																	
20011019	0252	0258	0315	M1.4/SF	.008	N16E17L318	9671					21										
20011019	0314	0316	0318	M1.0/	.002																	
20011019	0635	0645	0716	M1.3/1F	.009	N16E14L318	9671								?0727/0355/053/312							
20011019	0935	0943	>1026	M5.7/1B	.040	S14W47L024	9658	100	370						1026/0466/037/243							
20011019	1613	1630	1826	X1.6/2B	.160	N15W30L357	9661	13000	950		II/2	IV/2		1650/0901/	H/273	k/		/1300-4000				
20011019	2314	2325	2333	M3.3/1F	.022	S17W57L024	9658					170			0006/0514/097/266							
20011021	0509	0518	0527	M1.3/*	.010		L024	9658	650			43			0550/0533/055/254							
20011021	1112	1136	1230	M2.5/2N	.031	N13W56L357	9661					100										
20011022	0022	0040	0048	M1.0/SF	.008	N17W57L357	9661	58							0050/0772/089/266							
20011022	1427	1508	1552	M6.7/2N	.150	S17E20L268	9672	230	380		II/2	IV/1		1506/1336/	H/122							
20011022	1744	1759	1911	X1.2/2B	.120	S18E16L268	9672	1600	790		II/1				1826/0618/106/126							
20011023	0013	0023	0052	M1.3/SN	.013	S18E11L268	9672					94										
20011023	0211	0223	0313	M6.5/1B	.055	S18E11L268	9672					66										
20011025	1442	1502	1906	X1.3/2B	.230	S16W21L268	9672	11000	540		II/1	IV/2		1526/1092/	H/175							
20011026	0952	1004	1055	M1.6/1F	.013	S20W34L268	9672					560										
20011026	1428	1435	1445	M2.0/SN	.004	N07E16L221	9678	9600	130						1526/0350/065/073							

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH	DYNAMIC EVENT			CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm / Emax	F>10MeV	
						J*m-2					s.e.p.				km/s			D tmax/Ipr /GLE	
20011028	0436	0450	0531	M1.3/1F	.013	N12E40L170	9682												
20011028	0950	1000	1005	M1.5/*	.007														
20011028	1645	1651	1710	M1.4/1N	.004	N13E31L170	9682	55											
20011029	0152	0159	0207	M1.3/*	.007	L268	9672?												0250/0318/029/294
20011029	0807	0814	0818	M1.0/1F	.004	S17W80L268	9672	380			II/1	IV/2	0826/0617/105/256						
20011029	*1056	1113	1240	M3.6/1N	.016	N12E24L170	9682	58			II/1		1150/0598/117/309						
20011029	*1130	1133	1137	M1.6/	.006	N12E23L170	9682	26											
20011029	2349	2358	0057	M1.5/SF	.011	N11E18L170	9682												0054/0418/017/300
20011030	0830	0836	0918	M3.2/1N	.011	N12E12L170	9682												
20011031	0734	0809	0847	M3.2/1N	.029	N10E00L170	9682	140											
20011031	1039	1051	1100	M1.5/	.013	s17w90L268	9672?												?1154/0393/046/321
20011031	2102	2142	2155	M1.0/*	.018	n07w56L075	9687?												2154/0257/044/314
20011101	0645	0653	0700	M1.3/SF	.008	N07W62L221	9678												?0830/0346/038/324
20011101	1125	1210	1308	M3.3/SF	.098	S20E77L075	9687												
20011101	1351	1503	1537	M1.7/SF	.095	S19E77L075	9687	480											1430/1053/195/111
20011101	1950	1958	2018	M1.5/SF	.013	S18E69L075	9687												
20011101	2138	2352	2359	M1.1/1F	.070	N12W20L170	9682	620	34										2230/0453/ H/305
20011102	0742	0809	0845	M1.1/SF	.031	S20E71L075	9687												
20011104	1603	1620	>2340	X1.0/3B	.220	N07W19L136	9684	7500	1900	II/2	IV/1	1635/1810/	H/239						06 0215/31700/GLE
20011105	0247	0250	0318	M1.7/SF	.004	S20E34L075	9687					29							
20011105	0845	0854	0902	M1.2/	.011	n07w90L221	9678?												0943/0967/040/259
20011105	0907	0915	0944	M2.1/1N	.016	N03W37L136	9684	60											0943/0967/040/259
20011105	1509	1537	1619	M1.2/	.036	n07w90L221	9678?												
20011106	0256	0300	0313	M2.0/1B	.006	S19E10L075	9687		160	II/1									
20011106	0620	0625	0629	M1.2/	.004	n07w90L221	9678?												
20011106	1345	1351	1410	M1.2/SF	.012	S17E05L075	9687		91										
20011106	1507	1549	1708	M1.1/SF	.068	S18E64L027	9690												
20011107	0139	0146	0152	M1.1/SF	.006	S18E54L027	9690												
20011107	0437	0444	0450	M1.4/1N	.010	S20E52L027	9690	550											
20011107	0927	0933	0946	M2.0/SF	.009	S18E58L027	9690												
20011107	1930	2001	2121	M5.7/1N	.120	S17E44L027	9690	72	62										
20011107	2231	2237	2306	M1.0/SF	.009	S18E41L027	9690												
20011108	0659	0704	0706	M9.1/1N	.017	S19W19L075	9687	200	460		IV/3								
20011108	1213	1229	1319	M1.3/SF	.023	S17E36L027	9690												
20011108	1356	1409	1420	M1.4/	.014														
20011108	1459	1535	1625	M4.2/2F	.100	S17E36L027	9690	340	39										
20011109	0119	0133	0209	M1.6/1F	.022	S19E27L027	9690	56											
20011109	0520	0539	0600	M3.1/2N	.031	S19E26L027	9690												
20011109	0623	0629	0632	M1.0/SN	.004	S16E24L027	9690												
20011109	0841	0856	1013	M3.3/1N	.029	S18E26L027	9690					22							
20011109	0916	0943	1001	M3.0/	.067							26							
20011109	1823	1841	1924	M1.9/SF	.047	S21W42L075	9687	88		II/1	IV/1								

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH	DYNAMIC EVENT		CME	X-ray HARD		PROTONS			
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV			
						J*m-2					s.e.p.	km/s		keV	D tmax/Ipr	/GLE				
20011110	0042	0050	0106	M1.0/1F	.007	S17E20L027	9690										0206/0196/012/206			
20011110	1947	2000	>2044	M2.3/1F	.018	S18E05L027	9690	350												
20011111	1054	1103	>1116	M1.4/SF	.006	S17E05L027	9690													
20011112	0752	0757	0816	M1.6/1B	.005	N07W72L080	9692													
20011113	0622	0626	0638	M1.5/SB	.003	S16W25L027	9690	180												
20011114	2143	2211	2244	M1.9/1F	.030	S19W49L027	9690	1700	71											
20011117	0448	0525	0938	M2.8/2N	.100	S13E42L269	9704	200	150	II/1	IV/2	0530/1379/	H/058	20 0010/ 3						
20011122	1700	1708	1803	M1.2/1F	.012	S18W33L269	9704													
20011122	2018	2036	>2126	M3.8/2B	.051	S24W68L301	9698	260	630	II/3	IV/2	2030/1443/	H/221							
20011122	<2209	2330	0041	M9.9/3B	.310	S13W38L269	9704							II/1	IV/1	2330/1437/	H/349	24 0555/18900		
20011125	0945	0951	0954	X1.1/*	.031	L269	9704?										1107/0377/013/250			
20011127	2109	2121	2138	M2.2/1F	.017	N03E26L137	9715													
20011128	1626	1635	1652	M6.9/1B	.027	N04E16L137	9715	12000	450	II/2	IV/1	1730/0500/	H/046							
20011129	0142	0149	0158	M1.1/SF	.003	N04E12L137	9715	1200	25	IV/2?0330/0368/075/316										
20011129	1012	1036	>1058	M5.5/1N	.055	N04E10L137	9715	58												
20011130	0100	0106	0120	M3.5/1N	.012	S07E58L085	9718	2900	120											
20011130	1402	1418	1434	M1.5/*	.020	s08 L085	9718	37	1430/0374/106/124											
20011130	1955	2001	2004	M2.9/*	.009	s06e58L085	9718	2030/0261/074/130												
20011201	0647	0651	0654	M2.2/2N	.006	S06E42L085	9718	52	180											
20011201	1430	1445	1456	M1.2/SF	.013	N02E29L089	9717	1530/0203/041/109												
20011201	1500	1555	1705	M4.8/	.170	L195	9714?	1654/0538/136/191												
20011201	1653	1656	1705	M2.9/SF	.008	S08W80L195	9714													
20011201	1729	1731	1733	M1.5/SF	.004	S08W82L195	9714													
20011201	1739	1749	1800	M1.8/SF	.015	N10E79L043	9724	1806/0736/111/065												
20011202	1409	1500	1548	M1.3/	.057	s08w90L195	9714	1454/0189/066/267												
20011202	2125	2206	2229	M2.0/	.066	s08w90L195	9714	2206/0602/133/252												
20011204	0037	0045	0112	M1.0/SF	.007	S05E03L085	9718	?0330/0312/034/057												
20011204	0537	0546	0558	M1.3/*	.012										16					
20011206	0813	0826	0918	M1.0/2F	.012	S19E34L020	9727													
20011208	0602	0634	0655	M3.4/	.088	s12e90L288	9734	0654/0454/104/088												
20011211	0758	0808	0903	X2.8/2B	.130	N16E41L313	9733	450	2600	II/2	IV/1	0830/0804/142/032	k/	/7000-15000						
20011211	1442	1451	1510	M1.3/2N	.009	S26W35L020	9727	1200	50	1530/0426/022/236										
20011212	1900	1911	1918	M3.0/*	.022	L313	9733?	250	420											
20011212	2141	2200	2218	M5.6/*	.086	L020	9727	520	2230/0546/034/294							y/2214U/57-100				
20011212	2313	2322	2349	M4.8/1F	.026	S19W55L020	9727	2330/0941/018/209												
20011213	0632	0640	0700	M1.8/SF	.022	S20W58L020	9727	0754/0304/065/283							y/0637 /57-100					
20011213	1420	1430	1606	X6.2/3B	.250	N15E08L313	9733	30	1800	II/3	1454/0864/ H/037					y/1447U/57-100				
20011213	2244	2307	2326	M1.4/1F	.022	S18W67L020	9727	y/2254 /57-100												
20011214	0840	0913	0953	M3.5/SF	.110	S12W75L023	9736?	50	220	II/1	?0906/1506/ H/093?					y/0950 /57-100				
20011214	1941	1954	2124	M4.4/2N	.030	N16W04L313	9733	100	2154/0558/021/167?							y/2026 /57-100				
20011216	0114	0124	0202	M1.5/2N	.008	N16W24L313	9733	0206/0343/066/279												
20011216	0309	0328	0438	M1.0/2N	.015	N14W26L313	9733	?0530/0289/033/278												

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.	km/s		keV	D tmax/Ipr /GLE			
20011219	1701	1706	1709	M1.3/SF	.004	S13W74L319	9739										
20011223	2308	2336	0015	M1.2/SF	.022	S14W12L191	9748	79									
20011224	0026	0032	0046	M1.7/2N	.007	S14E70L121	9754	62	71			0054/0881/084/138					
20011224	1350	1400	1410	M3.5/*	.024	s14e52L121	9754	98	100			1430/0963/049/091					
20011224	2234	2241	2258	M1.4/1F	.007	S10E46L121	9754		32								
20011225	0700	0708	0717	M1.2/1F	.005	S11E50L121	9754	44	30								
20011226	0432	0540	0823	M7.1/1B	.340	N08W54L214	9742	2600		II/3	IV/3	0530/1446/212/266			26	1115/ 779/GLE	
20011226	1222	1226	1235	M1.8/1F	.005	N10W68L214	9742		71								
20011226	1713	1718	1740	M1.3/SF	.012	N10W72L214	9742										
20011226	2111	2115	2119	M1.2/*	.004	s26e90L018	9767?										
20011226	2238	2242	2245	M1.0/	.003	s26e90L018	9767?										
20011227	0526	0613	0645	M1.4/2N	.022	S15W86L217	9752		26			0606/0363/091/267					
20011227	1127	1133	1142	M1.0/SF	.007	N08W80L214	9742		44								
20011227	1643	1658	1720	M2.3/2N	.038	S10W66L191	9748		110			1730/0843/100/234					
20011228	0342	0351	0356	M4.7/SF	.024	N04W90L214	9742		270			0430/----/015/274					
20011228	0647	0655	0707	M1.0/1F	.008	S07E10L121	9754										
20011228	1210	1230	1259	M1.3/SF	.028	S12W77L191	9748										
20011228	2002	2045	2132	X3.4/	1.30	s26e90L018	9767	700	1600	II/1		2030/2216/ H/115					
20011229	0404	0411	0423	M2.1/	.023	s26e90L018	9767?										
20011229	0540	0545	0559	M1.1/1F	.007	N02W32L141	9751										
20011229	0905	0916	0928	M1.8/	.021	s26e90L018	9767?										
20011229	0938	0945	1006	M9.3/SF	.110	S08W88L191	9748	8000	100	II/2	IV/2	0954/0634/150/271					
20011229	1152	1157	1205	M1.4/SF	.009	S26E87L018	9767										
20011229	1633	1647	1702	M3.3/	.043	s12w90L191	9748					1754/0421/029/230					
20011229	1950	2127	2355	M1.8/	.190	s08w90L191	9748					2030/0819/211/281			31	1620/ 109	
20011229	2251	2256	>2308	M2.8/1F	.026	S24E88L018	9767					2330/0328/008/147					

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D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.	km/s		keV	D tmax/Ipr /GLE			
20020102	1248	1252	1316	M2.4/1N	.007	S07W68L121	9754					33					
20020102	2144	2148	2151	M1.1/*	.004			260	120								
20020104	1743	1749	1754	M1.0/SF	.005	N16E71L324	9773										
20020105	1819	1840	1907	M1.9/1F	.025	N14E53L324	9773										
20020109	1101	1113	1212	M1.6/1N	.020	N13W02L324	9773										
20020109	1742	1801	1900	M9.5/2B	.091	N13W02L324	9773		230			1754/0220/018/273			11	0530/ 91	
20020111	0753	0807	0831	M1.0/SF	.017	S19W79L016	9767		25			0830/0204/094/241					
20020112	0307	0322	0344	M1.0/SF	.015	S06W19L310	9775										
20020112	1505	1519	1600	M1.7/1N	.019	S06W25L310	9775										
20020112	1832	1843	1903	M3.4/	.043	s19w90L016	9767					1906/0188/055/236					

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS		
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	/ Emax	F>10MeV	
							J*m-2				s.e.p.		km/s		keV		D tmax/Ipr	/GLE	
20020112	1925	1929	1943	M1.3/SN	.006	S07W34L310	9775	180	27										
20020113	0304	0310	0328	M1.4/1N	.005	N17W40L324	9773	250	23				?0310/0408/203/006						
20020113	1935	1946	1953	M2.2/1N	.009	S06W46L310	9775	5500	110										
20020114	0120	0136	0156	M1.0/1N	.010	S07W52L310	9775												
20020114	0148	0156	0320	M1.7/2N	.008	N05E44L223	9782		140										
20020114	0529	0627	0825	M4.4/	.340	s08e90L130	9787?					IV/1	0655/0949/036/032						
20020114	2235	2246	2258	M1.1/SF	.012	S05W65L310	9775?					g						?15	2000/ 15
20020116	1005	1013	1018	M1.5/SF	.008	S06W79L310	9775					g							
20020119	1000	1005	1007	M1.2/SF	.002	S08E64L130	9787		100				?1107/0203/036/278						
20020122	0852	0900	0908	M1.3/SF	.005	S02W37L195	9791												
20020126	1926	2005	2034	M1.3/SF	.037	S15E78L023	9802												
20020131	1436	1444	1450	M3.6/	.019	s08w90L130	9787												
20020204	0542	0602	0611	M2.3/3F	.023	S07E30L323	9809						0630/0409/007/194						
20020204	0641	0658	0709	M1.5/*	.019														
20020204	2323	2330	2337	M1.3/SF	.005	S13W42L023	9802	46	84										
20020206	1126	1132	1141	M1.4/*	.009							g							
20020210	1840	1848	1956	M1.6/2F	.007	S25W16L278	9811		64			g							
20020218	2018	2115	2158	M1.0/SF	.042	S20E16L134	9830?					2130/0539/105/152	h/2052	/025-050					
20020220	0244	0251	0307	M4.2/SF	.017	N15W58L206	9825	140	28			0330/0813/054/313	h/0258	/012-025					
20020220	0552	0612	0628	M5.1/1N	.022	N12W72L206	9825	44	49	II/1	IV/1	0630/0952/	H/263	k/	/4000-7000		20	0755/	13
20020220	0946	0959	1004	M4.3/SF	.022	N18W83L206	9825					1030/0623/029/304	h/0958	/050-100					
20020220	1703	1711	1718	M3.5/SF	.017	S09W62L189	9835		56			1754/0372/050/308							
20020220	2100	2107	2156	M2.4/1B	.005	S18W11L134	9830		85			?2230/0084/072/055?	h/2107	/050-100					
20020221	1156	1226	1236	M3.9/*	.044	n12w90L206	9825					1254/0358/108/284	h/1211	/025-050					
20020221	1807	1823	1844	M1.0/	.017	n12w90L206	9825						h/1816	/025-050					
20020221	2028	2037	2047	M1.4/	.013	n12w90L206	?9825		28			2130/0162/026/274	h/2044	/012-025					
20020221	2349	0010	0105	M4.4/2N	.065	S18W24L134	9830		89			0030/0474/010/042?	h/0005	/025-050					
20020225	0247	0257	0300	M1.0*	.004								h/0256	/025-050					
20020227	1550	1558	1611	M1.6/SF	.009	S18W69L111	9839						h/1555	/025-050					
20020227	2356	0012	0048	M2.2/	.047	s14w90L134	9830					0030/0541/090/247	h/0007	/025-050					
20020309	1831	1856	1939	M2.6/1F	.075	S09E79L190	9866					2030/0480/068/045	h/1835	/300-800					
20020309	2144	2210	2340	M1.3/1F	.033	S09E66L190	9866					IV/1	2230/0513/064/067	h/2200	/012-025				
20020310	2221	2325	0029	M2.3	.110	e90L138	9871					2307/1429/	H/123	h/2258	/012-025				
20020312	2301	2313	2324	M1.5/SF	.012	s22e93L138	9871			II/1		2354/0535/082/104	h/2311	/025-050					
20020313	2302	2335	0003	M1.0/SF	.023	S22E75L138	9871			II/2	IV/1	2354/0489/075/115	h/2328	/025-050					
20020314	0138	0150	0228	M5.7/2B	.053	S10E24L190	9866		1100		IV/1		h/0146	/025-050					
20020315	2209	2310	0042	M2.2/1F	.130	S08W03L190	9866	500	190		IV/1	2306/0957/	H/309	h/2216	/012-025		17	0850/	13
20020317	1011	1019	1024	M1.3/*g	.006	L138	9871?		85			1034/0989/187/165	h/1016	/100-300					
20020317	1924	1931	1948	M4.0/SF	.011	S22E16L138	9871	270	240			2006/0823/153/191	h/1930	/025-050					
20020318	0216	0231	0400	M1.0/SN	.045	S16E27L190	9871	46	110	II/2		?0254/0989/	H/311?				?19	0650/	53
20020319	1106	1144	1321	M1.0/1N	.042	S13W47L190	9866	76	38			1154/0885/194/266	h/1114	/025-050			?20	1525/	19
20020322	1012	1114	1152	M1.6/*g	.049		9866		24			1106/1750/	H/259	h/1058	/012-025		?23	1320	

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	Emax	F>10MeV
						J*m-2					s.e.p.		km/s			keV	D tmax/Ipr /GLE		
20020330	1245	1301	1410	M3.4/1N	.030	N10E32L320	9885						24		1425/0916/028/216		h/1306	/025-050	
20020330	2219	2226	>2234	M1.0/*g	.006										?2350/0599/043/315		h/2223	/025-050	
20020331	1039	1055	1149	M1.0/1F	.016	N10E22L320	9885								?1305/0330/065/017				
20020404	1041	1048	>1054	M1.4/*	.007	n18e90L215	9893?								1106/0656/029/143		h/1046	/025-050	
20020404	1524	1532	1538	M6.1/	.027	n18e90L215	9893?	310	58						1554/0790/097/127		h/1530	/050-100	
20020409	0038	0042	0104	M2.1/2N	.011	N19E46L179	9899	3100	260				IV/2	0127/0648/070/051		h/0047	/012-025		
20020409	1254	1302	1310	M1.1/*g	.007												h/1300	/025-050	
20020410	1223	1231	>1405	M8.2/1N	.049	n15w14L215	9893?	510					IV/2	1327/0650/159/011		h/1226	/025-050		
20020410	1848	1907	1933	M1.6/1N	.013	N17E23L179	9899	7700	490				IV/1			h/1904	/025-050		
20020412	1305	1310	1340	M1.4/1N	.004	N16W38L215	9893	68								h/1309	/025-050		
20020412	1731	1802	1850	M4.0/1F	.063	N21W26L204	9901	58					IV/1	1850/0303/040/339		h/1757	/050-100		
20020414	0321	0351	0409	M1.4/SN	.032	N19W48L204	9901								0406/0279/042/315		h/0325	/025-050	
20020414	2334	0014	0049	M3.7/SF	.043	N19W60L215	9893	260	59							h/0011	/025-050		
20020415	0305	0355	0515	M1.2/SF	.071	S15W01L151	9906	830	37					0350/0720/	H/198	h/0326	/025-050		
20020415	2305	2324	2341	M1.2/*g	.019	L204	9901	31								h/2312	/025-050		
20020416	1253	1319	1332	M2.5/SF	.029	N23W88L215	9893	32	21					1350/0166/050/290		h/1312	/025-050		
20020417	0746	0824	>1141	M2.6/2N	.150	S14W36L151	9906	890	3000	II/2	IV/1	0826/1240/	H/292			h/0815	/025-050	17 1540/ 24	
20020421	0043	0151	0251	X1.5/1F	.600	S14W84L151	9906			II/3	IV/3	0127/2393/	H/282			h/0131	/100-300	n 21 2320/ 2520	
20020424	2146	2156	>2206	M1.7/1F	.007	N09W49L069	9912							2326/0576/006/310		h/2155	/025-050		
20020430	0817	0822	>0827	M1.3/	.005											h/0821	/025-050		
20020507	0337	0346	0407	M1.4/*	.017	1190	9937?	1400	140	II/2				0406/0720/	H/112	h/0345	/025-050		
20020511	1121	1132	1204	M1.4/SF	.010	S06W31L190	9937	41	76	II/2				1226/0235/047/308		h/1130	/025-050		
20020515	0800	0813	0848	M1.0/SF	.010	S23E23L085	9948							0850/0737/019/087		h/0825	/012-025		
20020516	<2346	0044	>0117	/2F		S18E04L085	9948							0127/0461/045/145		h/0104	/012-025		
20020517	0055	0123	0130	M1.5/	.014	e90L331	9961							0150/0800/073/104		h/0104	/012-025		
20020517	0727	0754	0840	M1.5	.052	E90L331	9961	21		II/1				0806/0665/092/082		h/0738	/025-050		
20020517	1550	1608	1624	M2.9/SF	.017	N12E83L347	9960	31						1626/0762/036/100		h/1610	/012-025		
20020520	1014	1029	1034	M4.7/*	.025	s25e68L331	9961	150	60					1106/0658/038/134		h/1034	/012-025		
20020520	1049	1053	1056	M5.0/*	.012	L331	9961	100								h/1053	/050-100		
20020520	1521	1527	1538	X2.1/2N	.065	S21E56L331	9961	810	420					1550/0553/069/141		k/	/7000-15000		
20020521*	2120	2139	2200	M1.5/2F	.024	N17E38L347	9960	120	53	II/1				2150/0853/135/054		h/2132	/012-025	23 1055/ 820	
20020524*	0637	0646	>0651	M1.1	.006	L316	9963									h/0642	/025-050		
20020527	1800	1810	1839	M2.0/2F	.019	N11W69L012	9957		70							h/1807	/025-050		
20020530	0424	0532	0613	M1.3/	.054	n11w90L012	9957							0506/1625/144/275		h/0521	/012-025		
20020530	1711	1724	1828	M1.6/SF	.022	S16E50L211	9973									h/1731	/012-025		
20020531	0004	0016	0025	M2.4/	.022	L012	9957?	57	100							h/0012	/300-800		
20020601	0350	0357	0407	M1.5/1N	.005	S18E28L211	9973	60	260	II/2	IV/2	g				h/0356	/100-300		
20020601	1044	1049	1058	M1.1/SF	.003	S30E68L171	9979		21			g							
20020602	2033	2044	2155	M1.1/1F	.011	S30E50L171	9979		530	II/1		g				?h/2100	/025-050		
20020623	0215	0255	0348	M1.6/2F	.041	N13W70L015	9997		24					0330/0619/050/287					
20020702	1949	2031	2126	M1.5/SF	.013	S18W48L235	10017									h/2033	/012-025		
20020703	0208	0213	0327	X1.5/1B	.041	S20W51L235	10017	160						0254/0265/073/274		h/0213	/100-300		

DATE		TIME		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV
							J*m-2	s.e.p.		km/s		keV		D tmax/Ipr /GLE			
20020703	*1927	1945	2214	M1.1/1N	.005	s19W62L235	10017							1932/0829/174/259?	h/1944 /800-7000		
20020703	*1927	2100	2214	M5.3/1N	.045	S19W62L235	10017	510						2108/0673/078/259	h/2109 /300-800		
20020704	0727	0734	0742	M1.1/SF	.004	S19W77L235	10017	100	25					0754/0504/048/265	h/0732 /050-100		
20020705	1310	1326	1337	M3.2/SF	.030	S16W85L235	10017	49	120	II/1	IV/1			1331/0818/150/265			
20020706	0328	0342	0355	M1.8/*	.020			94							h/0334 /025-050		
20020707	1115	1143	1317	M1.0/	.062	w90L235	10017							1130/1423/228/260	h/1131 /012-025	07	1955/ 22
20020708	0910	0921	0927	M1.6/	.009	E90L013	10030							1006/0639/048/051	h/0918 /025-050		
20020708	2309	2320	2329	M2.3/*	.017	w90L235	10017							0006/0356/036/280	h/2306 /012-025		
20020709	0855	0905	0911	M1.0/	.006	e90L013	10030								h/0903 /012-025		
20020711	1415	1419	1425	M1.0/SF	.003	N19E60L013	10030								h/1418 /025-050		
20020711	1444	1451	1513	M5.8/2N	.027	N21E56L013	10030							1530/0614/050/047			
20020712	2354	0008	0038	M1.1/2F	.012	N18E38L013	10030		64					0030/0530/044/077	h/0007 /025-050		
20020715	*1959	2008	>2334	X3.0/3B	.140	N19W01L013	10030	25000		IV/1				2030/1151/ H/035	h/2027 /025-050	17	1600/ 234
20020715	*2103	2132	2148	M1.8/*	.043	L013	10030		460					2130/1300/188/045			
20020717	0658	0713	0753	M8.5/1B	.053	N20W16L013	10030	200	610	II/2				0731/0716/177/032	k/ /1300-4000		
20020718	0322	0337	>0345	M2.2/SB	.009	N20W27L013	10030		200						h/0335 /100-300		
20020718	0724	0744	0801	X1.8/2B	.056	N19W33L013	10030	2500	620	II/2				0806/1099/ H/354		?19	1515/ 13
20020720	2104	2130	2154	X3.3/*	.720	L204	10039?	12000	2600	II/2				2206/1941/ H/091	k/ /500-1300	n ?23	1025/ 28
20020723	0018	0035	0240	X4.8/2B	.460	S12E70L204	10039	6600	1800	II/3	IV/1			0042/2285/ H/087	h/0030 /800-7000		
20020724	1524	1555	1658	M1.2/1F	.029	S14E46L204	10039				IV/1			1606/0414/105/089	h/1527 /025-050		
20020726	0004	0010	0035	M4.9/1N	.022	S20E30L210	10044		250						?h/2334 /012-025		
20020726	0628	0642	0655	M1.1/SN	.007	S20E26L210	10044										
20020726	0804	0829	0902	M1.3/1N	.034	S19E27L210	10044										
20020726	1857	1903	1909	M1.0/SF	.004	S21E21L210	10044	630	44						h/1902 /025-050		
20020726	*2051	2112	>2259	M8.7/2N	.120	S19E26L210	10044	250	180					2206/0818/ H/172			
20020726	*2203	2217	2232	M5.3/	.074	L210	10044	8300	1000						h/2214 /025-050		
20020726	*2236	2238	2241	M4.6/	.012	L210	10044		44						?h/2225 /025-050		
20020728	0018	0035	0125	M2.3/1N	.017	S22E07L210	10044	100						0206/0325/014/158	?h/0043 /025-050		
20020728	2258	2312	2324	M2.2/*	.024									0030/0263/173/328	h/2312 /012-025		
20020729	0019	0023	0027	M1.4/*	.006				74						?h/0009 /012-025		
20020729	0229	0238	0246	M4.8/*	.026			860	380	IV/3				0330/0238/010/213	h/0237 /100-300		
20020729	1027	1044	1140	M4.7/2N	.085	S12W14L204	10039	100	110					1230/0400/042/240	h/1043 /050-100		
20020731	0139	0153	0230	M1.2/SB	.012	S13W30L204	10039		38						h/0149 /025-050		
20020802	1048	1053	1130	M1.0/SF	.005	S15W60L204	10039								h/1052 /025-050		
20020803	1859	1907	1916	X1.0/SF	.033	S16W76L204	10039	190	85					1932/1150/138/272	h/1907 /025-050		
20020804	0858	0955	1033	M6.6/	.230	w90L204	10039?	930						0906/0436/076/229	h/0938 /025-050		
20020805	2114	2122	2130	M1.0/*	.007										h/2119 /025-050		
20020807	0118	0126	0148	M1.1/	.013	n10e90L314	10067?							0230/0451/026/094			
20020813	1852	1904	1932	M1.8/1F	.018	S08E55L298	10069										
20020814	0147	0212	0246	M2.3/1N	.060	N10W54L041	10061	110	140	II/3				0230/1309/133/282	h/0214 /025-050	14	1620/ 26
20020814	1804	1815	1901	M1.4/1F	.015	N10E23L314	10067							1830/0324/026/074	h/1818 /012-025		
20020815	0601	0605	0625	M1.0/SF	.003	N13E00L332	10066										

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS			
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	Emax	F>10MeV		
						J*m-2					s.e.p.		km/s			keV	D tmax/Ipr /GLE				
20020815	2323	2333	2340	M1.0/SF	.006	S04E25L298	10069														
20020816	0546	0611	0637	M2.4/SF	.041	N07W83L041	10061	280	46	II/3				0606/1378/162/271							
20020816	1132	1232	1409	M5.2/2N	.160	S14E20L298	10069	4100	1600	II/3	IV/3	1230/1585/	H/121			h/1213	/012-025				
20020816	2207	2212	2215	M1.2/*	.004	L298	10069?										h/2211	/025-050			
20020816	2329	2333	2344	M1.7/SN	.003	S06E06L298	10069										h/2333	/025-050			
20020817	0058	0109	0114	M1.1/SF	.007	S19E77L230	10083							0131/0898/071/131		h/0107	/012-025				
20020817	2039	2051	2108	M3.4/SF	.018	S06W05L298	10069							?2230/0254/063/233		h/2049	/012-025				
20020818	0954	1005	1059	M2.3/1F	.013	S09W13L298	10069	240	61					1106/0131/042/206		h/1001	/050-100				
20020818	1433	1439	1509	M1.9/SF	.007	S06W15L298	10069							1454/0306/042/275							
20020818	2112	2125	2200	M2.2/1N	.022	S10W20L298	10069	530	610	II/1	IV/1	2154/0682/140/202									
20020819	1028	1034	1101	M2.0/1N	.006	S11W26L298	10069	1400	77					1106/0549/102/196	?h/1041	/012-025					
20020819	2056	2102	>2122	M3.1/1B	.009	S11W33L298	10069	220	21					?2303/0712/066/224		h/2102	/100-300				
20020820	0133	0140	0202	M5.0/1B	.012	S10W35L298	10069	21000	58					?0154/0961/157/210		h/0140	/012-025				
20020820	0253	0257	0314	M1.4/1N	.005	S10W36L298	10069	63								h/0256	/025-050				
20020820	0822	0826	0838	M3.4/1N	.009	S10W38L298	10069	1400	160					0854/1099/122/217	k/	/4000-7000					
20020820	2053	2114	2144	M1.2/1F	.011	S10E45L200	10085							2123/0962/098/069		h/2113	/012-025				
20020821	0135	0141	0148	M1.4/SF	.005	S11W47L298	10069	1400	160					0206/0400/068/246	k/	/500-1300					
20020821	0528	0534	0559	X1.0/1B	.023	S10W51L298	10069	1200	450		IV/1	0554/0473/024/171			k/	/4000-7000					
20020822	0147	0157	0225	M5.4/2B	.033	S07W62L298	10069	260		II/2				0206/0998/	H/231	h/0153	/025-050	22	0940/	36	
20020822	1739	1802	1842	M1.2/1N	.019	S05E76L156	10087	1200	51					1826/0750/126/070		h/1755	/050-100				
20020823	0531	0549	0628	M1.7/2N	.013	S04E22L200	10085	200	58	II/2				0626/0496/134/079		h/0533	/025-050				
20020823	0800	0946	1014	M1.5/1N	.088	S04E74L156	10087	100						0850/0999/143/064		h/0945	/025-050				
20020823	1156	1200	1210	M1.2/SF	.008	S07W75L298	10069							1250/0269/069/006?		h/1159	/025-050				
20020823	1248	1314	1407	M1.5/2N	.015	S03E64L156	10087							1350/0790/113/079		h/1330	/025-050?				
20020823	2005	2021	2130	M1.4/2F	.041	S17W15L232	10083							2051/0861/131/240?							
20020824	0049	0112	0131	X3.1/1F	.460	S02W81L298	10069	280	1200	II/2	IV/1	0127/1913/	H/270		k/	/4000-7000	24	0835/	317/GLE		
20020824	0538	0548	0640	M1.8/2B	.018	S07E53L156	10087	340	73		IV/2	0613/0681/069/082									
20020824	1112	1128	1141	M1.5/	.016	L130	10090?									h/1126	/012-025				
20020825	1845	1853	1858	M1.1/SF	.005	S17W40L232	10083	85	46												
20020825	2338	2346	0009	M1.9/SF	.012	S18W42L232	10083	340						0050/0744/067/270							
20020826	0039	0103	0125	M1.8/SF	.037	S19W45L232	10083	100								h/0053	/012-025				
20020828	1645	1658	1709	M1.3/	.013	L232	10083?		54					1730/0393/029/267		h/1713	/012-025				
20020828	1852	1859	1906	M4.6/SF	.025	S03E23L130	10090	16000	930	II/1	IV/3	1931/0489/089/076				h/1858	/800-7000				
20020828	2138	2145	2149	M1.1/*	.004			240	200					?2206/0304/017/068		h/2144	/025-050				
20020829	0245	0253	0302	M1.6/	.011	L059	10095?	78	100							h/0251	/025-050				
20020829	0456	0506	0526	M1.8/	.023	L059	10095							0554/0478/025/106		h/0544	/025-050				
20020829	1242	1252	1256	M3.2/SF	.015	N18E73L059	10095		720							h/1243	/012-025				
20020830	1247	1329	1349	X1.5/SN	.070	N15E74L059	10095	160000	780	II/1		1354/0254/057/076			k/	/4000-7000					
20020903	0021	0054	0101	M1.0/	.012	n14e90L359	10103?							0135/0256/018/042		h/0057	/025-010				
20020908	0135	0143	0153	M1.5/SF	.011	S11E76L299	10105	1600	220	II/2		0206/0364/060/120				h/0139	/012-025				
20020909	1740	1752	1828	M2.1/2N	.017	S09E54L299	10105	480						1854/0183/027/129		h/1751	/012-025				
20020910	1449	1456	1514	M2.9/1N	.010	S10E43L299	10105	2800	110	II/2	IV/1	1530/0273/038/138				h/1454	/100-300				

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm / Emax	F>10MeV
						J*m-2					s.e.p.		km/s			keV	D tmax/Ipr /GLE	
20020911	0726	0735	0742	M2.2/1B	.011	S09E30L299	10105				68	230						
20020915	1729	1738	1756	M1.0/SF	.006	S05W29L299	10105											
20020916	0306	0310	0328	M1.3/SN	.002	S13W20L288	10114				490		II/1	0354/0256/133/204				
20020920	0508	0512	0524	M1.5/SF	.006	S24E75L141	10126											
20020920	0921	0928	0939	M1.8/SF	.007	S24E72L141	10126				53		IV/2				h/0927 /300-800	
20020927	1259	1312	>1338	M1.8/SF	.017	N11E43L077	10134				120	150	II/2	1356/0591/064/052			h/1305 /025-050	
20020927	1933	1942	>1954	M1.4/SF	.008	N13E38L077	10134				64	49					h/1941 /025-050	
20020929	0632	0639	0641	M2.6/SF	.007	N12E21L077	10134?				7300	120		0806/0282/106/257?			h/0638 /050-100	
20020930	0142	0150	0223	M2.1/1B	.007	N13E10L077	10134										h/0150 /025-050	
20021003	0215	0221	0301	M2.1/1N	.007	S19E06L040	10137										h/0221 /025-050	
20021004	0039	0043	0107	M1.0/SF	.006	S19W07L040	10137							0154/0625/040/124?			h/0042 /025-050	
20021004	0534	0538	0606	M4.0/1N	.011	S19W09L040	10137					90					h/0537 /025-050	
20021004	1054	1105	1136	M3.5/1N	.012	S20W13L040	10137							1154/0204/081/202				
20021004	1243	1255	>1319	M1.2/1F	.013	N16E53L336	10139				52	38	II/1	1354/0340/045/101			?h/1309 /012-025	
20021004	1704	1711	1726	M1.2/SF	.005	S21W16L040	10137											
20021004	2232	2243	2308	M2.7/SF	.016	N13E43L336	10139				5300	140	II/2	2330/0310/115/112			h/2242 /025-050	
20021005	1039	1046	>1053	M1.2/SN	.003	S20W25L040	10137					95					h/1046 /012-025	
20021005	2042	2100	2127	M5.9/1F	.043	N14E31L336	10139				140	100	II/1	2154/0325/059/106			?h/2119 /025-050	
20021006	0446	0451	0500	M2.4/1N	.005	N12E31L336	10139							0530/0184/036/115				
20021006	1149	1155	>1205	M1.0/SF	.003	N07E30L336	10139										h/1153 /025-050	
20021013	2342	0010	0052	M2.2/SF	.079	S13E75L190	10159				45	83	II/1	?2354/1009/264/083			h/0020 /025-050	
20021015	1408	1422	1458	M1.0/1N	.013	N20W04L243	10149				55						h/1412 /012-025	
20021020	0032	0045	0117	M1.8/1F	.029	N27E61L124	10162				260	42		?0206/0494/058/037			h/0042 /025-050	
20021020	0331	0339	0423	M1.5/2N	.020	N26E58L124	10162										h/0336 /012-025	
20021020	0501	0514	0537	M1.2/1N	.009	S18W18L196	10160				230			0554/1098/024/235			h/0514 /012-025	
20021020	1421	1428	1503	M1.8/1B	.011	S19W23L196	10160				24	26	II/1	?1430/1011/020/244			h/1427 /025-050	
20021022	1529	1535	1700	M1.0/SF	.009	N28E27L124	10162				110							
20021025	1723	1747	1907	M1.5/1F	.035	N28W11L124	10162						II/1 IV/1	1806/1030/132/352			h/1752 /025-050	
20021028	1200	1205	1229	M1.7/1N	.007	N23W61L124	10162				68	36		?1350/0511/050/311			?h/1214 /050-100	
20021029	0301	0320	0338	M1.1/SF	.016	N31W51L124	10162					47		?0450/0243/070/062?			h/0305 /012-025	
20021031	0918	0926	1010	M1.1/SF	.010	N15E17L355	10175					23		1006/0444/053/065			h/0923 /025-050	
20021031	1647	1652	1655	X1.2/	.025	s11e90L308	10180?					150		1706/1061/043/096			h/1652 /012-025	
20021103	1341	1403	1438	M1.3/1F	.024	N14E22L328	10177				420						h/1353 /012-025	
20021109	1308	1323	1428	M4.6/2B	.048	S12W29L308	10180				350	760	II/2 IV/2	1332/1838/ H/233			h/1321 /100-300	10 0540/ 404
20021110	0304	0321	0358	M2.4/2N	.030	S12W37L308	10180				72	400	II/3	0330/1670/282/227			h/0316 /100-300	
20021111	0725	0733	0842	M2.9/2B	.014	S10W54L308	10180				27	190		0754/1225/036/216				
20021111	1437	1620	1739	M1.8/1N	.072	S13W60L308	10180				51	230	IV/3	1554/1083/093/227			h/1514 /025-050	
20021112	1841	1856	1934	M2.9/1N	.020	S12W77L308	10180				200	33	IV/1	1942/0830/051/235			h/1901 /012-025	
20021113	2303	0017	0052	M1.0/	.048	s12w90L308	10180							0006/0648/042/228			h/2325 /012-025	
20021114	2221	2226	2230	M1.0/*	.004												h/2225 /050-100	
20021115	0106	0124	0134	M2.4/	.028	s18e90L106	10198							0200/0281/063/108			h/0109 /012-025	
20021117	1439	1454	1516	M2.0/SF	.011	S18E62L106	10198					80					h/1442 /012-025	

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20021118	0201	0208	0216	M7.4/1N	.018	S16E56L106	10198				1000	160				h/0207 /012-025	
20021120	1715	1807	1819	M1.4/SN	.011	S19E21L106	10198				59					h/1807 /012-025	
20021204	2241	2249	>2257	M2.5/2N	.014	N16E61L235	10213				3300	170	II/3 IV/1	2306/0825/162/050	h/2247 /025-050		
20021210	1219	1226	1231	M1.1/*	.005							73			h/1223 /025-050		
20021216	1107	1115	1143	M2.5/1N	.020	N17E32L115	10225					64	II/1	?1254/0405/040/056	?h/1102 /012-025		
20021216	2245	2255	2326	M1.9/1N	.029	S27E10L127	10226								h/2259 /012-025		
20021216	2333	2336	0007	M1.3/SF	.005	N06W08L146	10227								h/2335 /012-025		
20021217	2257	2335	0015	M1.6/SF	.021	S27E00L127	10226								h/2307 /012-025		
20021218	0631	0642	0713	M2.4/1N	.024	S28W03L127	10226				68						
20021219	2134	2153	2303	M2.7/2N	.048	N15W09L102	10229				640	210	II/1 IV/2	2206/1092/ H/300	h/2146 /025-050		
20021220	1313	1318	1327	M6.8/SF	.009	S26W32L102	10226				2300	750	II/1	?1332/0365/025/142?			
20021222	0214	0252	0312	M1.1/2F?	.023	n23w42L118	10223?				160	230	II/1 IV/1	0330/1071/272/294	h/0244 /7000-20000		

2003

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV	
						J*m-2				s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20030107	0729	0750	0842	M1.0/1F	.019	S24E07L209	10244							0830/0365/131/127	h/0734 /025-050		
20030107	2325	2333	>2350	M4.9/SF	.023	S18E14L123	10251					81			h/2332 /025-050		
20030109	0532	0537	0616	M1.0/1N	.005	S14E64L123	10251								h/0536 /025-050		
20030121	1459	1526	1552	M1.9/	.040	s e L345	10266?				380			1530/1011/201/115	h/1532 /012-025		
20030122	0435	0444	0509	M1.2/1F	.006	N15W05L025	10260							0506/0875/081/352			
20030123	0442	0448	0511	M1.0/1N	.007	S22E21L345	10266						II/3	0530/0234/076/133	h/0446 /025-050		
20030123	1228	1243	1309	M2.5/1N	.014	S22E16L345	10266				3400	76	II/2	1331/0288/040/132			
20030124	0312	0327	0417	M1.9/1N	.021	S22E10L345	10266				7200	97	II/3 IV/3	0430/0445/059/134	h/0322 /012-025		
20030201	0848	0905	0938	M1.2/	.024	s15e90L161	10276								h/0858 /025-050		
20030206	0330	0349	0447	M1.2/1N	.017	N18E64L122	10278					55		0430/0322/114/045	h/0343 /015-025		
20030214	0907	0918	0924	M1.2/SF	.006	N13W86L162	10284								h/0917 /025-050		
20030317	1850	1905	>2003	X1.5/1N	.130	S14W38L060	10314				500	520		1954/1020/096/264	h/1855 /012-025		
20030318	0030	0037	0128	M1.6/1N	.007	S15W44L060	10314				92						
20030318	0551	0600	0621	M2.5/1N	.005	S12W46L060	10314				3600	36		0630/0465/047/278	h/0600 /012-025		
20030318	1151	1208	1331	X1.5/1B	.130	S13W46L060	10314				450	1400	II/3 IV/2	1230/1601/209/266	h/1206 /025-050		
20030319	0211	0307	0518	M1.5/1N	.052	S14W56L060	10314							0230/1342/ H/179?	h/0233 /012-025		
20030319	0636	0646	0704	M1.6/2F	.005	S12W60L060	10314										
20030319	0934	0953	1035	M3.7/1N	.018	S15W56L060	10314					30			h/0941 /012-025		
20030319	1325	1332	>1354	M1.4/2F	.006	S07W61L060	10314					34			h/1335 /012-025		
20030320	1125	1131	1142	M1.5/1F	.008	S09W75L060	10314					210			?h/1123 /012-025		
20030404	1905	2019	2123	M1.9/1F	.042	S11W40L189	10324				59	66		2120/0487/089/292	h/2008 /300-800		
20030409	2323	2329	2335	M2.5/1F	.009	S10W78L156	10326					140		2350/0511/099/268	h/2328 /025-050		
20030418	1950	1958	2002	M1.1/*	.004	L240	10337?					41			h/1957 /012-025		
20030421	1254	1307	1330	M2.8/1N	.015	N18E02L285	10338				1400	300	II/3 IV/3	1336/0784/163/305			

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm / Emax	F>10MeV
						J*m-2				s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20030423	0039	0106	0140	M5.1/1N	.035	N22W25L285	10338	12000	380	II/2	0127/0916/248/297	h/0049	/012-025				
20030423	1536	1556	1625	M2.0/1F	.027	N20W22L285	10338	66			1650/0596/105/332	h/1547	/025-050				
20030424	1245	1253	1312	M3.3/1N	.020	N21W39L285	10338	830	89	II/2 IV/1	1327/0609/242/319	h/1253	/025-050				
20030425	0523	0540	0558	M1.2/SF	.018	N14E79L165	10346	100	82	II/2	0550/0806/235/054	h/0556	/012-025				
20030426	0051	0058	0105	M2.1/SF	.005	N20W65L285	10338	420	55		0127/0690/046/290	h/0057	/300-800				
20030426	0301	0306	0315	M2.1/SN	.009	N20W69L285	10338	100			0334/0289/048/294	k/	/1300-4000				
20030426	0801	0807	0816	M7.0/1N	.000	N18W74L285	10338	3600			0826/0478/058/294	k/	/4000-7000				
20030426	2337	2340	2342	M2.5/	.003	L285	10338?	6200	71	II/1	0006/0386/035/283	h/2340	/012-025				
20030427	1527	1532	>1550	M1.7/SF	.004	N21W85L285	10338	1600	65		1550/0513/025/306	h/1532	/050-100				
20030429	0432	0459	>0521	M1.1/1F	.016	S12W55L240	10337					h/0456	/012-025				
20030502	0247	0308	0344	M1.0/SF	.024	S15W22L167	10345	110	37		?0550/0678/025/139	h/0257	/025-050				
20030526	0534	0550	0637	M1.9/1F	.019	S09E12L182	10365		91	IV/1	0650/0228/074/148	h/0545	/025-050				
20030526	1622	1637	1651	M1.0/*	.012	e62L182	10365?	160	56		1650/0762/026/084	h/1636	/025-050				
20030527	0240	0306	0327	M1.4/1F	.019	S07W03L182	10365	730	98		0326/0545/062/064?	h/0302	/050-100				
20030527	0506	0626	0810	M1.6/1F	.061	S06W13L182	10365	200	150		0650/0509/ H/342	h/0615	/025-050				
20030527	2256	2307	~2359	X1.3/2B	.071	S05E11L182	10365	2800	910	II/3 IV/2	2350/0964/ H/067	k/	/4000-7000				
20030528	0017	0027	0245	X3.6/2B	.280	S06W20L182	10365	490000	1600	II/3 IV/3	0050/1366/ H/292	k/	/4000-7000	n 29	1530/	121	
20030529	0051	0105	>0157	X1.2/2B	.068	S07W38L182	10365	25000	730	II/3 IV/1	0127/1237/ H/260	k/	/4000-7000				
20030529	0209	0218	0239	M1.5/1F	.009	S07E03L152	10368			IV/1		h/0221	/012-025				
20030529	1928	1937	2007	M2.8/1N	.014	S05W13L152	10368	830	310	IV/3	2006/0266/061/201						
20030531	0213	0224	0338	M9.3/2B	.085	S07W65L182	10365	21000	1300	IV/3	0230/1835/ H/256	h/0226	/025-050	31	0645/	27	
20030601	0223	0306	0400	M1.4/	.061	n10e90L023	10375	56	67		0330/1270/083/115	h/0241	/025-050				
20030601	0701	0711	0722	M1.0/	.008	n10e90L023	10375?										
20030601	1239	1250	1256	M1.0/	.005	n10e90L023	10375?					h/1651	/025-050				
20030601	1643	1652	1704	M1.4/SF	.008	S08W80L182	10365					h/1651	/025-050				
20030601	2058	2105	2110	M1.0/	.004	n10e90L023	10375?	160				h/2103	/025-050				
20030602	0007	0022	0043	M6.5/SF	.098	S06W90L182	10365	4000	620	II/3 IV/1	0030/1656/172/248	h/0015	/050-100				
20030602	0812	0837	0852	M3.9/SF	.044	S07W89L182	10365	590	200	II/1	0854/0980/161/264	h/0815	/025-050				
20030602	1313	1317	1322	M1.0/	.004	W90L182	10365?										
20030602	1722	1733	1751	M1.8/SF	.011	N10E70L023	10375					h/1731	/025-050				
20030606	2331	2338	0012	M1.0/1F	.012	N13E17L023	10375	210	110	II/1		h/2336	/025-050				
20030608	1556	1611	1651	M4.0/2N	.013	S19E62L308	10380				?1654/0699/015/243?	h/1610	/012-025				
20030609	1121	1128	1147	M4.7/1N	.020	N12W29L023	10375	970	46	II/1	1154/0334/049/050?	h/1127	/100-300				
20030609	2131	2139	2143	X1.7/*	.050	n13w32L023	10375?	47000	310	II/3	2306/0490/070/339	?h/2155	/025-050				
20030609	2219	2231	2242	M1.4/	.018	L023	10375?	72	250	II/1	?2306/0490/070/339	h/2222	/050-100				
20030610	0248	0254	0336	M2.0/1N	.009	N13W41L023	10375				0354/0430/026/163?	h/0253	/012-025				
20030610	0834	0837	0848	M2.7/1N	.006	N13W45L023	10375	370	110								
20030610	1055	1112	1136	M5.1/2N	.025	N12W44L023	10375	970	50		1130/0762/054/318	h/1112	/050-100				
20030610	1244	1300	1341	M2.2/1F	.035	N12W42L023	10375	61				h/1251	/025-050				
20030610	1408	1436	1447	M2.2/SF	.033	N10W45L023	10375			g		h/1433	/050-100				
20030610	*1620	1624	1653	M1.0/1F	.003	N12W44L023	10375	590	55	g		h/1624	/050-100				
20030610	*1628	1630	1632	M3.9/SF	.006	N13W36L023	10375	8300	37	g		h/1630	/025-050				

DATE			TIME			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS			
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	Emax	F>10MeV
						J*m-2					s.e.p.		km/s				keV		D tmax/Ipr /GLE			
20030610	1727	1815	1933	M5.6/SF	.035	N14W44L023	10375							g								
20030610	*2204	2213	0124	M1.0/2N	.008	N14W50L023	10375							g						h/2212	/025-050	
20030610	*2319	0002	0012	X1.3/2N	.130	N14W50L023	10375				63	68		g						h/0000	/025-050	
20030611	0301	0306	0317	M1.8/SF	.012	N14W56L023	10375							g						h/0306	/012-025	
20030611	1027	1033	1038	M1.1/SF	.003	N09W61L023	10375				170			g								
20030611	1051	1109	1132	M1.4/SF	.030	N11W57L023	10375							g						h/1100	/012-025	
20030611	1309	1321	1536	M2.7/1N	.032	N13W60L023	10375							g						h/1317	/025-050	
20030611	1437	1527	1549	M3.7/SF	.120	N10W61L023	10375				130	30		g						h/1454	/012-025	
20030611	1621	1636	1711	M4.5/1F	.066	N11W61L023	10375				340	85		g						h/1627	/050-100	
20030611	1727	1743	1830	M1.8/1F	.034	S17E22L308	10380				100			g						h/1741	/012-025	
20030611	2001	2014	2122	X1.6/1N	.160	N14W57L023	10375				510	86	II/2	g						h/2023	/025-050	n
20030611	2141	2151	2222	M2.9/SF	.037	N15W63L023	10375							g						h/2159	/025-050	
20030612	0104	0130	0331	M7.3/1N	.130	N10W54L023	10375				82			g						h/0124	/025-050	
20030612	1358	1403	1409	M1.0/SF	.005	N09W72L023	10375							g						h/1401	/050-100	
20030612	1706	1712	1721	M1.1/SF	.004	N14W73L023	10375							g						h/1713	/012-025	
20030612	2122	2127	2131	M2.6/	.009	L023	10375?				130			g						h/2124	/7000-20000	
20030613	0154	0204	0213	M3.1/*	.022									g						h/0203	/025-050	
20030613	0431	0437	0445	M1.7/SF	.008	N15W78L023	10375				130			g						h/0434	/100-300	
20030613	0628	0645	0719	M1.8/SF	.042	N16W80L023	10375				100			g						h/0638	/012-025	
20030614	0507	0609	0657	M1.5/	.067	s10e90L187	10386					56			0530/1215/179/109				h/0528	/012-025		
20030615	2325	2356	0027	X1.3/SF	.240	S07E80L187	10386				2000	860	II/2 IV/1	2354/2053/	H/084				h/2351	/300-800		
20030616	0244	0248	0251	M1.0/	.004	L187	10386?													?h/0256	/012-025	
20030616	1152	1200	1205	M1.7/SF	.005	S12E83L187	10386								1230/0522/019/090				h/1155	/012-025		
20030617	2227	2255	2312	M6.8/*	.096	s12e60L187	10386				1200	2100	II/2 IV/1	2318/1813/	H/117				h/2249	/025-050	19 0450/ 24/	
20030702	0706	0728	0806	M3.0/1F	.047	N13E25L033	10397					230		g						h/0723	/012-025	
20030706	0006	0032	0040	M2.3/SF	.017	N05E18L349	10400								0154/0265/038/312?				h/0030	/025-050		
20030709	2159	2238	>0111	M2.0/SF	.014	N14W75L033	10397					67		g						h/2208	/012-025	
20030710	1354	1412	1430	M3.6/SF	.041	N13W91L033	10397				640	140	II/3	g						h/1413	/012-025	
20030712	1857	1906	1920	M1.4/SF	.008	N16E79L202	10412				270	55	II/2		1931/0526/058/064							
20030729	0128	0139	>0148	M1.3/1F	.005	S13E72L355	10421					34								h/0138	/025-050	
20030730	0404	0410	0446	M2.5/1B	.005	N14W55L103	10422					190										
20030802	2341	2354	0031	M1.3/1F	.009	S17E63L291	10424								0030/0699/	H/193			h/2353	/025-050		
20030805	1243	1249	1254	M1.7/SN	.003	S16E33L291	10424					40	II/1							h/1248	/050-100	
20030819	0738	0759	0809	M2.0/1N	.006	S13W63L194	10431				580	39			0830/0412/035/262				h/0745	/012-025		
20030819	0945	1006	1045	M2.7/2F	.043	S10W58L194	10431				170	230	II/2 IV/1	1030/0468/111/275					h/1000	/025-050		
20030916	2130	2224	2331	M1.3/	.069	n05e90L356	10464?								2330/0447/014/156				h/2207	/025-050		
20031001	0444	0451	0509	M1.4/1F	.009	N05W57L356	10464								0540/0422/044/255				h/0458	/012-025		
20031004	1542	1547	1555	M1.0/SF	.002	S10E29L222	10471					22										
20031019	0608	0626	0707	M1.9/1F	.023	N06E62L354	10484				350	37			0654/0798/038/053				h/0621	/025-050		
20031019	1629	1650	1748	X1.1/1N	.140	N08E58L354	10484				650	510	II/1		1708/0472/150/049				h/1643	/050-100		
20031019	1921	1926	1931	M1.0/SF	.004	N05E54L354	10484								1952/0799/113/135							
20031020	0645	0722	0851	M1.9/1N	.039	N03E48L354	10484													h/0710	/025-050	

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH	DYNAMIC EVENT		CME	X-ray HARD		PROTONS		
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da/pa	A/ tm / Emax	F>10MeV
							J*m-2			s.e.p.	km/s		keV		D tmax/Ipr /GLE		
20031021	0821	0827	0841	M1.0/SF	.004	N03E34L354	10484	35									
20031021	1922	2330	0305	M2.4/	.270	s18e90L282	10486				1954/0720/047/119		h/2154	/025-050			
20031022	0328	0351	0521	M3.7/SF	.190	s18e90L282	10486	320			0354/1163/101/064		h/0421	/025-050			
20031022	0830	0844	0853	M1.7/		s18e85L282	10486?						h/0843	/025-050			
20031022	0937	0956	0959	M1.7/*	.019			1300	15	II/1			h/0939	/025-050			
20031022	1506	1511	1513	M1.4/SN	.004	N05E22L354	10484	220			1530/1054/018/087		h/1511	/100-300			
20031022	1557	1601	1604	M1.2/SN	.004	N03E17L354	10484				1630/1040/023/082		h/1602	/050-100			
20031022	1947	2007	2043	M9.9/SF	.160	S18E78L282	10486	100	240		2006/1085/134/073		h/1959	/025-050			
20031022	2156	2204	2217	M2.1/	.023	L282	10486?						h/2158	/025-050			
20031023	0235	0241	0250	M2.4/SN	.007	N03E15L354	10484	1300	54		0306/0656/046/088		h/0240	/015-025			
20031023	0702	0708	0718	M3.2/1N	.008	N04E13L354	10484?	1800	150		0731/1090/020/085		h/0718	/025-050			
20031023	0819	0835	0921	X5.4/1B	.600	S21E88L282	10486	10000	1500	II/3	0854/1406/236/067		k/	/4000-7000			
20031023	1049	1053	1055	M2.7/*	.007	L354	10484?	360	130				?h/1020	/025-050			
20031023	1950	2004	2028	X1.1/1N	.098	S17E84L282	10486	2500	77		2006/1136/095/111		h/1959	/100-300			
20031024	0227	0254	0328	M7.6/1N	.160	S19E72L282	10486	6800	73	II/2	0254/1055/123/113		h/0235	/050-100			
20031024	0504	0510	0519	M4.2/1F	.019	S24E74L282	10486	91			0530/1233/044/119						
20031024	1842	1856	1905	M1.3/	.014	L354	10484?				2006/0399/038/106		h/1854	/012-025			
20031024	2135	2140	2148	M1.0/1N	.004	N05W09L354	10484	1500					h/2139	/100-300			
20031025	0415	0446	0638	M1.2/1N	.041	S13E46L282	10486	64			0518/0685/113/103		h/0428	/012-025			
20031025	0544	0553	0626	M1.7/SF	.038	N00W15L354	10484	1100	130	II/1			h/0547	/025-050			
20031025	1026	1035	1111	M1.5/1F	.012	N02W20L354	10484	200	220				h/0944	/012-025			
20031026	0557	0654	0917	X1.2/3B	.510	S14E41L282	10486	14000	4000	II/3 IV/3	0654/1371/207/056		k/0713	/150-500			
20031026	1336	1420	1440	M1.0/1F	.004	N04W34L354	10484										
20031026	1721	1819	2016	X1.2/1N	.630	N02W38L354	10484	1100	2000	II/2	1754/1537/171/235				26	2235/ 466/	
20031026	2134	2140	2226	M7.6/2N	.043	N01W38L354	10484	57									
20031027	0412	0439	0508	M1.2/SF	.030	N01W43L354	10484				?0430/0481/048/296						
20031027	0751	0833	>1018	M2.7/2F	.120	S00W48L354	10484	1000	1100	II/1	0830/1322/144/274		h/0804	/025-050			
20031027	0921	0927	0946	M5.0/SF	.026	S15E26L282	10486	65					h/0925	/050-100			
20031027	1227	1243	1310	M6.7/SF	.064	N07W46L354	10484	420	59		1331/1005/045/326		h/1246	/7000-20000			
20031027	2146	2151	2237	M1.9/SN	.013	N08E09L289	10488						h/2151	/050-100			
20031028	0951	1110	>1420	X17.2/4B	1.800	S16E08L282	10486	490000	13000	II/3 II/3	1130/2459/	H/015	k/	/60000-100000	n 29	0615/29500/GLE	
20031029	0026	0151	0239	M1.1/1F	.052	S16E10L282	10486	5400	63								
20031029	0408	0511	0636	M3.5/SN	.120	S17E06L282	10486	6600	610	II/1							
20031029	2037	2049	2253	X10.0/2B	.870	S15W02L282	10486	360000	2500	II/3 IV/2	2054/2029/	H/190	k/	/4000-7000	30	1935/ 3300/GLE	
20031030	0156	0207	0254	M1.6/1F	.030	N08W22L289	10488										
20031030	1515	1528	1537	M1.5/*	.015			29					h/1521	/025-050			
20031031	0426	0433	0437	M2.0/	.009	n07w90L289	10484		67		0442/2126/050/296		h/0433	/012-025			
20031031	0608	0616	0645	M1.1/SF	.011	N09W29L289	10488				?0702/0062/044/129?		h/0616	/012-025			
20031101	0839	0852	0906	M1.3/	.016	L289	10488?						h/0859	/012-025			
20031101	1742	1751	1808	M1.1/SF	.014	N09W50L289	10488	1200					h/1747	/026-050			
20031101	2226	2238	2312	M3.2/1N	.028	S12W60L282	10486	90000	95	II/2 IV/1	2306/0899/093/224		h/2234	/050-100	2	1435/ 30/	
20031102	0659	0753	>0856	M1.0/SF	.033	S17W55L282	10486						h/0751	/025-050			

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/ pa	A/ tm / Emax	F>10MeV
						J*m-2				s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20031102	1230	1247	1312	M1.8/*	.035	L289	10488?				22						
20031102	1703	1725	1954	X8.3/2B	.910	S14W56L282	10486	24000	7700	II/3	IV/3	1730/2598/	H/265				n 3 0815/ 1570/GLE
20031103	0109	0130	0237	X2.7/2B	.360	N10W83L289	10488	100	240	II/1	IV/3	0159/0827/065/324	k/	/500-1300			n
20031103	0943	0955	>1006	X3.9/2F	.560	N08W77L289	10488	3900	4400	II/2	IV/1	1006/1420/103/301	h/0952	/300-800			
20031103	1526	1532	1543	M3.9/SF	.025	S15W79L282	10486	55	210								h/1531 /025-050
20031104	0543	0556	0607	M2.6/*	.025												
20031104	1011	1022	1033	M3.0/*	.027												
20031104	1343	1349	1401	M1.1/	.009	n10w90L289	10488										h/1351 /012-025
20031104	1929	1950	2049	X>17.5/3B	2.300	S19W83L282	10486	4800	20000	II/3	IV/2	1954/2657/	H/260	k/	/100-200		n 5 0600/ 353/
20031105	0237	0241	0250	M1.6/SF	.005	S19W89L282	10486										h/0249 /012-025
20031105	1046	1052	1058	M5.3/SF	.017	S16W90L282	10486										
20031111	1321	1351	1426	M1.6/SF	.032	S03W61L170	10498	200	1100	II/2		1354/1315/	H/251	h/1357	/050-100		
20031113	0454	0501	0506	M1.6/	.006	n03e90L002	10501		100			0530/0598/062/120	h/0459	/050-100			
20031113	0903	0929	1002	M1.4/	.035	n03e90L002	10501	450	130	II/3		0930/1141/217/058					
20031117	0128	0134	0139	M1.2/	.005	L002	10501?		64								h/0133 /025-050
20031117	0855	0905	1047	M4.2/1N	.037	S01E33L002	10501	6900	700	II/1		0926/1061/242/151	k/	/1300-4000			
20031118	0134	0139	0142	M1.8/*	.006	L002	10501	720	100								h/0137 /100-300
20031118	*0723	0752	0928	M3.2/2N	.051	N00E18L002	10501	1400	1900	II/3	IV/2	0806/1223/104/168	h/0821	/050-100			
20031118	*0812	0831	0859	M3.9/2N	.084	L002	10501			II/2		0850/1660/	H/206	h/0821	/050-100		
20031118	0923	1011	1101	M4.5/*	.190	n10e90L295	10507?	220	98			0950/1824/197/087	h/1001	/025-050			
20031119	0355	0401	0419	M1.7/1N	.006	N01E06L002	10501		130								h/0400 /050-100
20031120	0147	0212	0238	M1.4/1N	.024	N03W08L002	10501		190			0250/0364/063/213	h/0200	/012-025			
20031120	0735	0747	0836	M9.6/2B	.060	N01W08L002	10501	230	9700	II/1		0806/0669/	H/219	k/	/500-1300		22 0230/ 13/
20031120	2342	2353	0031	M5.8/2B	.028	N02W17L002	10501	340	740			0026/0494/052/237	h/2353	/050-100			
20031202	1247	1308	1322	M1.4/	.024	s19w90L284	10508?										h/1305 /012-025
20031202	2250	2300	2307	M1.5/	.009	s19w90L284	10508?										h/2257 /025-050
20031206	1058	1120	1128	M1.3/	.013	s24w90L228	10510?										
20031206	1539	1546	1553	M2.0/	.011	s24w90L228	10510?										
20031226	1913	1928	1945	M1.5/1N	.008	N09W30L261	10528										g
20031231	1821	1824	1826	M1.0/*	.002	L261	10528?	870									g
																	h/1824 /012-025

2004

D A T E		T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/ da/ pa	A/ tm / Emax	F>10MeV
						J*m-2				s.e.p.		km/s		keV		D tmax/Ipr /GLE	
20040105	0250	0345	0520	M6.9/	.320	n02e90L009	10537?				400	II/2					h/0317 /050-100
20040106	0613	0629	0636	M5.8/	.037	n02e90L009	10537?	340									k/ /1300-4000
20040107	0343	0404	0421	M4.5/*2N	.057	n02e82L009	10537	160		II/1		0406/1581/171/116	h/0407	/025-050			
20040107	1014	1027	1050	M8.3/1N	.048	N04E72L009	10537	330	510	II/1		1030/1822/182/081	h/1022	/012-025			
20040108	0453	0507	0554	M1.3/1N	.016	N01E64L009	10537	88	73			0506/1713/144/113	h/0457	/025-050			
20040109	0113	0122	0127	M1.1/*2N	.004	n02e50L009	10537					0206/1217/051/126	h/0116	/025-050			

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO	SWEEP	to/ v	/ da/pa	A/ tm / Emax	F>10MeV
						J*m-2				s.e.p.	km/s		keV		D tmax/Ipr /GLE			
20040109	0133	0144	0154	M3.2/*	.029	L009	10537?	53	130								h/0150 /025-050	
20040117	1735	1750	1759	M5.0/*	.033	L009	10540?	270000	580	II/2			1830/0295/072/135			h/1745 /012-025		
20040118	0007	0017	0030	M1.4/1N	.005	S15E19L285	10540	23000	190	II/3			0132/0147/020/141			h/0016 /025-050		
20040119	0525	0532	0543	M1.0/SF	.003	S17E05L285	10540	290										
20040119	1230	1240	1246	M1.0/*	.006	L285	10540?	560	59								h/1234 /025-050	
20040120	0729	0743	0810	M6.1/2N	.028	S16W12L285	10540	4500	150	II/3			0830/0590/096/193			h/0743 /012-025		
20040208	2024	2051	2102	M1.2/SF	.013	S08E68L306	10554						?2030/0392/032/078			h/2046 /012-025		
20040226	0150	0203	0244	X1.1/2N	.070	N14W15L160	10564										h/0201 /025-050	
20040226	2214	2230	2306	M5.7/1N	.045	N14W26L160	10564						?2230/0314/016/091?			h/2228 /025-050		
20040306	1208	1217	1241	M1.3/	.016	L302	10570?						?1332/0879/023/253			h/1216 /050-100		
20040324	2314	2329	2339	M1.5/SF	.007	N14E80L055	10582						0140/0189/025/330?			h/2329 /025-050		
20040325	0429	0439	0446	M2.3/SF	.011	N12E82L055	10582						g			h/0432 /012-025		
20040405	0537	0555	>0642	M1.7/1F	.026	S18E35L316	10588	180	110	II/2			0606/0608/191/125			h/0546 /050-100		
20040406	1230	1328	>1416	M2.4/1F	.032	S15E24L316	10588	300	690				1331/1368/ H/167			h/1323 /025-050		
20040415	1637	1644	1659	M1.2/SF	.004	S14W39L245	10591	410	70				1726/0276/032/280			h/1644 /050-100		
20040422	0203	0219	0246	M1.2/1N	.005	S09E19L110	10596									h/0219 /025-050		
20040423	1141	1150	1152	M1.5/	.004	L193	10597?									g	h/1208 /7000-20000	
20040423	2059	2112	2133	M1.1/SF	.004	S08W83L193	10597		150							g		
20040425	0502	0537	0558	M2.2/1N	.011	N13E38L047	10599									g	h/0536 /012-025	
20040521	2335	2352	0018	M2.6/SF	.016	S11E54L039	10618		220				0050/0139/038/119			h/2350 /025-050		
20040613	1127	1156	1215	M1.0/*	.020	L074	10634										h/1144 /012-025	
20040712	0736	0808	0859	M1.6/	.060	s10e90L044	10649	88	52	II/1			0806/0610/144/095			h/0758 /025-050		
20040713	0009	0017	0023	M6.7/*	.029	L169	10646	7800	350	II/2			0054/0409/201/294			h/0016 /100-300		
20040713	0840	0848	0916	M5.4/1N	.025	N14W52L169	10646	67	89	II/2			0930/0747/ H/222			h/0846 /025-050		
20040713	1159	1208	1212	M2.9/	.010	L044	10649?		260									
20040713	1833	1838	1842	M1.1/1N	.004	S10E65L044	10649										?h/1847 /012-025	
20040713	1924	1932	1953	M6.2/1B	.019	N13W56L169	10646	330	170				2058/0433/068/295			h/1931 /025-050		
20040714	0502	0523	>0540	M6.2/1N	.020	N12W62L169	10646		46								h/0522 /025-050	
20040714	1812	1816	1827	M1.0/SF	.002	S11E56L044	10649										h/1816 /025-050	
20040715	0130	0141	0148	X1.8/*	.085	L044	10649		310				0206/0584/113/123			h/0140 /025-050		
20040715	1815	1824	1828	X1.6/*	.049	L044	10069?		700								h/1823 /100-300	
20040716	0143	0206	0212	X1.3/*	.062	L044	10649?		450								h/0206 /025-050	
20040716	1032	1041	1058	X1.1/1F	.040	S10E36L044	10649		600									
20040716	1349	1355	1515	X3.6/3B	.140	S09E32L044	10649	2900	II/1				1454/0158/062/131			?h/1404 /025-050		
20040716	1622	1628	1631	M1.2/SF	.005	S11E30L044	10649										?h/1634 /012-025	
20040717	0751	0757	0840	X1.0/1F	.022	S10E23L044	10649		670								?h/0813 /012-025	
20040717	1645	1651	1712	M2.5/1N	.010	S10E17L044	10649		52				?1830/0395/043/280			h/1650 /050-100		
20040717	2124	2131	2203	M2.0/1F	.010	S09E13L044	10649										h/2130 /025-050	
20040717	2254	2308	2316	M1.1/	.012	L044	10649										h/2259 /025-050	
20040718	0005	0035	0111	M2.0/1F	.012	S09E12L044	10649						?0154/0541/010/232			h/0009 /012-025		
20040718	0251	0257	0324	M1.5/SF	.007	S12E12L044	10649										h/0255 /025-050	
20040718	1704	1713	1731	M1.9/1F	.005	S11E05L044	10649										?h/1721 /012-050	

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	Emax	F>10MeV
						J*m-2					s.e.p.		km/s		keV		D tmax/Ipr /GLE		
20040720	1222	1232	1316	M8.6/3B	.073	N10E33L345	10652				1000	3000	II/2	IV/2	1331/0710/	H/334?	h/1237	/025-050	
20040722	0014	0032	0043	M9.1/*SB	.079	n06e25L345	10652				2600				0132/0492/083/180		h/0030	/025-050	
20040722	2240	2258	>2333	M1.6/2N	.016	N05E04L345	10652				550	68			2354/0448/046/194		h/2254	/025-050	
20040722	2310	2324	2343	M1.2/*	.023														
20040723	1707	1728	>1735	M2.2/SF	.015	N03W04L345	10652				3700				1754/0569/142/256?		h/1727	/025-050	
20040723	2115	2123	2130	M1.7/*	.009	n05w07L345	10652				300	110					h/2123	/050-100	
20040724	0601	0606	0616	M1.0/1F	.003	N07W20L345	10652				140	230							
20040724	1840	1850	1856	M2.5/	.014	n05w19L345	10652				81	100					?h/1904	/012-025	
20040725	0539	0551	0623	M7.1/2B	.038	N10W31L345	10652				81	810	IV/1		0654/0299/031/296		h/0542	/012-025	
20040725	0630	0639	0701	M1.0/1F	.007	N04W26L345	10652					34					h/0637	/025-050	
20040725	1337	1349	1355	M2.2/*	.013	n04w30L345	10652				620	65			1430/0450/045/229		h/1341	/025-050	
20040725	1419	1514	1643	M1.1/1F	.065	N08W33L345	10652				2100	120	II/1	IV/2	1454/1333/	H/204	h/1552	/100-300	26 2250/ 2086/
20040726	0536	0552	0615	M1.3/1N	.011	N02W40L345	10652				61						h/0541	/012-025	
20040726	1723	1730	1752	M1.1/2N	.006	N03W45L345	10652				38				1830/0401/058/221		h/1730	/050-100	
20040726	2346	0000	>0111	M1.2/1F	.011	N10W54L345	10652								0030/0263/071/322		h/2358	/012-050	
20040727	0541	0545	0609	M1.1/1N	.005	N02W53L345	10652				320	100			0606/0436/082/236		?h/0531	/012-025	
20040727	1959	2020	2112	M1.5/1F	.017	N09W65L345	10652										h/2004	/012-025	
20040728	2345	0006	0016	M2.0/*	.019	L340	10652?										h/2359	/012-025	
20040812	0438	0505	0546	M1.2/1F	.014	S13E03L082	10656								0554/0176/115/197		h/0502	/025-050	
20040813	0636	0729	0744	M1.2/1F	.018	S14W15L082	10656										h/0639	/025-050	
20040813	1202	1209	1219	M1.1/1F	.003	S13W19L082	10656										h/1206	/025-050	
20040813	1807	1812	1826	X1.0/1N	.027	S13W24L082	10656				380	180			1936/0412/096/205		h/1812	/025-050	
20040813	2314	2343	2346	M3.0	.017	L082	10656										?h/2306	/025-050	
20040813	2346	2350	2354	M2.8/SF	.012	S12W27L082	10656								0230/0307/091/268		h/2355	/050-100	
20040814	0410	0414	0425	M2.4/SF	.006	S13W30L082	10656				98				g		?h/0406	/012-025	
20040814	0536	0544	0634	M7.4/2N	.038	S12W29L082	10656				55	96			g		h/0543	/025-050	
20040814	0751	0756	0820	M2.3/1F	.006	S12W31L082	10656								g		h/0757	050-100	
20040814	0952	1007	1021	M3.2/1F	.028	S14W30L082	10656				25				g		h/1006	/025-050	
20040814	1331	1343	1410	M5.6/2N	.028	S14W34L082	10656				77						h/1343	/025-050	
20040814	1809	1818	1832	M1.3/*	.013	L082	10656								1954/0189/094/210		h/1815	/012-025	
20040814	2009	2016	2059	M1.3/*	.028	L082	10656				300				2154/0252/143/221		?h/2049	/025-050	
20040815	0445	0506	0547	M1.2/SF	.015	S14W42L082	10656										h/0503	/012-025	
20040815	0554	0600	0608	M1.2/SF	.005	S14W42L082	10656				56								
20040815	1123	1132	1150	M2.6/2F	.024	S15W47L082	10656				52						h/1130	/012-025	
20040815	1234	1241	1304	M9.4/1N	.022	S15W45L082	10656										h/1243	/025-050	
20040815	1837	1845	1850	M1.2/*	.006	L082	10656?				710								
20040816	0331	0347	0415	M1.1/SF	.024	S12W54L082	10656				85						h/0337	/025-050	
20040816	2229	2244	2252	M1.1/*1F	.008	s12w62L082	10656										h/2240	/025-050	
20040817	0459	0506	0514	M1.1/SF	.006	S12W66L082	10656										h/0505	/025-050	
20040817	1926	1937	1948	M2.4/*	.021	L082	10656?										h/1934	/025-050	
20040817	2112	2121	2139	M1.8/*	.019	L082	10656?										h/2118	/025-050	
20040817	2212	2228	2237	M1.3/	.015												h/2224	/025-050	

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v	/ da/pa	A/ tm	Emax	F>10MeV
						J*m-2					s.e.p.		km/s		keV		D tmax/Ipr /GLE		
20040818	1729	1740	1754	X1.8/SF	.180	S12W83L082	10656				79	150	II/2	1754/0602/120/250			h/1737	/025-050	
20040819	0635	0701	0718	M3.0/	.040	s12w90L082	10656?						26				h/0658	/025-050	
20040819	1329	1351	1416	M2.1/	.041	s12w90L082	10656?										h/1342	/012-025	
20040831	0524	0538	0547	M1.4/*	.011	L263	10663?						II/2	0554/0311/070/267			h/0533	/012-025	
20040912	0004	0056	0133	M4.8/2N	.150	N04E42L350	10672				390	2400	II/3	IV/2	0036/1328/	H/132	h/0040	/100-300	14 0005/ 273/
20040912	0136	0139	0145	M3.2/SN	.008	S14W61L093	10667				860		II/3				h/0139	/025-050	
20040914	0747	0930	1120	M1.5/1F	.045	N03E16L350	10672				510	120	II/1	IV/1	1012/0462/	H/162	h/0859	/012-025	
20040919	1646	1712	1739	M1.9/*	.039						130	520	II/3	IV/1	g		h/1658	/050-100	20 0100/ 57/
20041020	1043	1051	1058	M2.6/1N	.010	N09E68L350	10687				99	71			1106/0764/123/068		h/1039	/012-025	
20041022	0752	0811	0836	M2.1/1N	.010	N10E44L187	10687				92	110	II/2	IV/1	0830/0536/144/061		h/0809	/050-100	
20041024	2017	2028	2144	M2.3/1N	.015	N10E15L187	10687							2130/0408/096/074		?			
20041030	0323	0333	0344	M3.3/SF	.011	N14W15L131	10691				7700	120	II/2		0354/0138/060/317		h/0332	/025-050	
20041030	0608	0618	0629	M4.2/SF	.016	N14W21L131	10691				1100	130	II/2		0654/0422/	H/270	?h/0554	/025-050	
20041030	0909	0928	0943	M3.7/1N	.009	N14W24L131	10691				2200	63	II/1		0954/0552/074/265		?h/0856	/025-050	
20041030	1138	1146	1157	X1.2/SF	.037	N12W18L131	10691				1800	720	II/1	IV/2	1230/0427/	H/269	?h/1159	/050-100	
20041030	1618	1633	1645	M5.9/SN	.028	N15W20L131	10691				620	300	II/1		1654/0690/	H/268	h/1633	/100-300	
20041031	0204	0226	0232	M1.1/	.007	n09e90L026	10696				1000				0330/0366/012/110		h/0223	/012-025	
20041031	0523	0532	0539	M2.3/SF	.013	N13W34L131	10691				470	190	II/1	IV/1	0630/0265/062/251		h/0531	/025-050	
20041101	0304	0322	0336	M1.1/1F	.005	N15W41L131	10691				500	90	II/2		0354/0459/192/285		h/0320	/012-025	01 0805/ 63/
20041103	0123	0133	0147	M2.8/1F	.013	N13W71L131	10691				180	170	II/2		0206/0379/065/272		?h/0142	/012-025	
20041103	0323	0335	>0437	M1.6/1N	.022	N08E45L026	10696				1000	1100	II/3	IV/2	0354/0918/239/089		h/0331	/050-100	
20041103	1535	1547	1624	M5.0/SN	.031	N11E40L026	10696				29000	1700	II/3	IV/2	1606/1068/	H/090	?h/1611	/012-025	
20041103	1803	1826	1858	M1.0/SF	.014	N09E32L026	10696				410	380			1854/0513/107/055		h/1812	/012-025	
20041104	2142	2229	0009	M2.5/1N	.059	N10E20L026	10696				1400	1800	II/1	IV/2	2330/1055/293/031		h/2154	/012-025	
20041104	2253	2309	2326	M5.4/	.086	n13W90L131	10691				1500		II/1		2330/1055/293/338?		h/2302	/800-7000	
20041105	1123	1130	1205	M4.0/1N	.009	N07E14L026	10696				440				?1206/0745/011/267				
20041105	1910	1922	1943	M1.2/SF	.012	N10E06L026	10696				64						h/1918	/025-050	
20041106	*0011	0034	0248	M9.3/2N	.065	N10E08L026	10696				5200	2700	II/1	IV/2	0131/0818/	H/023	h/0032	/050-100	
20041106	*0044	0057	0110	M5.9/2N	.085	N10E08L026	10696							0206/1111/214/021					
20041106	*0140	0157	0208	M3.6/2N	.055	N10E08L026	10696							0206/1111/214/021			h/0146	/012-025	
20041106	1938	1953	2003	M1.4/*1F	.010	n09w06L026	10696										h/2011	/025-050?	
20041107	1542	1606	1615	X2.0/	.200	L026	10696?				42000	4600	II/1	IV/1	1654/1759/	H/000	h/1607	/050-100	08 0115/ 495/
20041108	1543	1549	1556	M2.3/1N	.007	N08W35L026	10696				1300	56							
20041109	1659	1719	1732	M8.9/2N	.094	N07W51L026	10696				2000	1000	II/3	II/3	1726/2000/	H/299	h/1704	/025-050	
20041110	0159	0213	0315	X2.5/3B	.160	N09W49L026	10696				2700	650	II/3	IV/1	0226/3387/	H/302	h/0210	/300-800	
20041201	0700	0720	0821	M1.1/1N	.018	N06E20L035	10708				270	130	II/1		0732/0834/198/039		h/0724	/025-050	
20041202	2344	0006	0119	M1.5/2F	.029	N09E03L035	10708				3400	520	II/2	IV/2	0026/1216/	H/333			
20041229	1557	1627	1638	M2.3/???	.018	L339	10715				5400	510	II/1		1645/0774/140/079		h/1623	/025-050	
20041229	1910	1920	1925	M1.4/*	.007	s09w90L125	10713							1945/0550/030/241			h/1918	/025-050	
20041230	1034	1047	1114	M2.2/1N	.017	N02E52L339	10715				1500	230	II/1		1057/1247/176/091				
20041230	2202	2218	2256	M4.2/2N	.036	N03E48L339	10715				440	230	II/1	IV/1	2230/1035/	H/082	h/2222	/012-025	
20041231	1438	1445	1539	M1.2/SF	.003	N02E40L339	10715				210	36			1530/0802/143/087		?h/1511	/025-050	

2005

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME		X-ray HARD		PROTONS
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO SWEEP	to/ v	/da /pa	A/ tm / Emax	F>10MeV
							J*m-2	s.e.p.		km/s		keV		D tmax/Ipr /GLE			
20050101	0001	0031	0042	X1.7/	.092	n03e32L339	10715	8700	760	II/2 IV/2	0054/0832/	H/090	k/	/1.3-4	MeV		
20050109	0825	0851	0940	M2.4/1N	.033	S08E73L194	10719	35	77	II/1	0906/0870/164/113		h/0849	/025-050			
20050114	1348	1411	1447	M1.8/SF	.039	N13E14L179	10720										
20050114	1602	1606	1614	M1.0/*	.006	S06E02L197	10718	67			1706/0358/	H/238	?h/1550	/012-025			
20050114	1753	1757	1803	M1.5/*	.007	N14E12L179	10720						h/1756	/025-050			
20050114	2108	2126	2139	M1.9/2N	.023	N15E08L179	10720						h/2118	/100-300			
20050115	0022	0043	0130	X1.2/1B	.120	N11E10L179	10720	97					h/0042	/100-300			
20050115	0409	0416	0459	M1.3/2N	.007	N11E08L179	10720						?h/0501	/025-050			
20050115	0426	0431	0436	M8.4/2N	.028	N14E06L179	10720						?h/0501	/025-050			
20050115	0554	0638	0750	M8.6/SF	.290	N11E06L179	10720	41000	3000	II/2 IV/2	0630/2049/	H/359	h/0628	/025-050			
20050115	1141	1148	1200	M1.2/SF	.004	N12E04L179	10720										
20050115	1408	1423	>1508	M3.2/1F	.039	S08W11L197	10718	500	420		1454/0498/271/359		h/1420	/012-025			
20050115	2201	2208	>2409	M1.0/3B	.007	N14W08L179	10720						h/2250	/800-7000			
20050115	2225	2302	2331	X2.6/3B	.630	N14W08L179	10720	33000	6400	II/2 IV/2	2306/2861/	H/323				16	1840/ 365/
20050116	2155	2203	2303	M2.4/1N	.024	N13W16L179	10720	54					h/2219	/012-025			
20050117	0310	0321	0332	M2.6/*	.022	L179	10720						h/0319	/012-025			
20050117	0659	0952	1157	X3.8/3N	.840	N14W24L179	10720				(2)0954/2547/	H/309	h/0947	/7000-20000		17	1750/ 5040/GLE
20050118	1123	1132	~1205	M1.6/SN	.023	N14W39L179	10720										
20050118	1538	1551	1636	M4.6/2N	.034	N14W40L179	10720	100			1714/0287/043/316						
20050119	*0658	0731	0956	M6.7/2N	.077	N19W47L179	10720	5000			0829/2020/	H/320	h/0727	/025-050			
20050119	*0803	0822	0840	X1.3/2N	.220	N19W47L179	10720			II/2 IV/2	0829/2020/	H/320	h/0816	/800-7000			
20050119	1019	1024	>1042	M2.7/1N	.013	N18W47L179	10720				1054/0823/033/324		h/1021	/100-300			
20050119	1532	1540	1554	M1.6/2F	.010	N13W50L179	10720						?h/1554	/012-025			
20050120	0636	0701	0854	X7.1/2B	1.300	N12W58L179	10720	8400		II/3 IV/2	0654/0882/	H/288	k/	/40000-60000		20	0810/ 1860/GLE
20050121	1010	1016	1019	M1.7/*	.004	L179	10720	51			1059/0273/012/289		h/1015	/025-050			
20050121	1347	1355	1410	M1.2/*	.011	s09w80L194	10719?				?1518/----/012/289		h/1350	/012-025			
20050123	0128	0151	0201	M1.0/*	.009	L179	10720						h/0148	/012-025			
20050219	1036	1101	1113	M3.3	.035	n08w90L174	10732?				1130/0845/107/277		h/1100	/100-300			
20050506	1111	1128	>1146	M1.3/SF	.008	L231	10756	240	73		1154/1144/129/303		h/1114	/025-050			
20050507	0757	0813	>0819	M1.4	.009	s05w90L231	10756	70			0830/0901/087/276		h/0806	/012-025			
20050510	0503	0523	0536	M1.3/SF	.014	S11W30L132	10758	260		II/2	0606/0324/047/217		h/0528	/012-025			
20050511	0611	0641	>0656	M1.2	.017	S11W45L132	10758	160			0732/0305/095/238		h/0621	/012-025			
20050511	1922	1938	2016	M1.1/1F	.016	S10W47L132	10758				2013/0550/	H/232	h/1951	/012-025			
20050512	0727	0733	0902	M1.6/2B	.005	N12E29L055	10759	55			g		h/0732	/025-050			
20050512	1733	1741	1819	M1.4/1N	.005	N11E21L055	10759	98			?1752/0318/050/334		h/1816	/012-025			
20050513	1613	1657	1946	M8.0/2B	.180	N12E12L055	10759	420	2900	II/3 IV/3	1712/1689/	H/002	h/1654	/050-100			
20050515	2227	2236	2253	M3.5/1N	.019	S15E13L063	10763	290	83		?2326/0379/179/171		?h/2258	/025-050			
20050516	0233	0243	0321	M1.4/1B	.008	S17E17L063	10763	100	61		0306/0201/015/111		h/0241	/050-100			
20050516	0856	0908	0919	M1.6/SF	.009	S17E15L063	10763	56	29				h/0907	/012-025			
20050517	0231	0239	0324	M1.8/1B	.015	S16W01L063	10763	66	100	II/2 IV/1	0306/0311/089/246		h/0237	/050-100			

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS									
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	/	Emax	F>10MeV	D	tmax/Ipr	/GLE
						J*m-2					s.e.p.				km/s												
20050527	1153	1230	1240	M1.1/2F	.010	S08E04L234	10767				140	130															
20050601	0236	0243	0307	M1.7/1B	.005	S18E49L136	10772				400	61	II/3	0332/0453/123/105													
20050603	0403	0411	0445	M1.3/1B	.005	S18E20L136	10772				5700	150	II/1														
20050603	1151	1226	>1245	M1.0/SF	.018	S18E14L136	10772				120	150	II/2	1232/1679/	H/072												
20050616	2001	2022	2042	M4.0/SF	.062	N09W87L055	10775					170	II/1	g									17	0500/	44/		
20050707	1607	1629	1722	M4.9/SN	.053	N09E03L056	10786				1400	180		1706/0683/	H/039												
20050709	2147	2206	2238	M2.8/1N	.029	N11W27L056	10786				1200	1500	II/2	2230/1540/	H/328												
20050712	1247	1306	1325	M1.0	.014	L056	10786				21	65		1354/0334/025/293													
20050712	1547	1624	1807	M1.5/SF	.025	N11W64L056	10786				210	100	II/2	1654/0523/	H/296												
20050712	2235	2252	2302	M1.3/SF	.015	N08W72L056	10786				54			2330/0658/044/282													
20050713	0235	0316	0347	M1.1/SF	.035	N13W71L056	10786				250			0306/0759/054/292													
20050713	1203	1219	1224	M3.2	.013	L056	10786				150	67		1254/0471/049/267													
20050713	1401	1449	1538	M5.0	.200	L056	10786				6600	2000		1430/1423/	H/303								15	0345/	134/		
20050713	1902	1909	1913	M1.2/1F	.006	N13W82L056	10786				75																
20050713	2149	2154	2158	M1.2	.004	L056	10786				1200	250		2230/0539/034/248													
20050714	0302	0323	0328	M1.0/SF	.009	N13W86L056	10786							0354/0259/025/269													
20050714	0557	0725	0743	M9.1	.084	L056	10786				59	81		0630/0541/060/274													
20050714	1016	1055	1129	X1.2	.390	L056	10786				5400	3400	II/2	1054/2115/	H/296												
20050714	1716	1725	1728	M1.3	.007	L056	10786				820			1754/0703/054/266													
20050714	2250	2257	2302	M1.1	.005	L056	10786				94	100		2330/0724/033/270													
20050716	0327	0338	0345	M1.0	.007	L013	10790							0354/0058/038/065													
20050727	0433	0502	0530	M3.7	.079	L056	10792					310	II/3	0454/1787/	H/084								29	1715/	41/		
20050728	0001	0030	0054	M1.0	.024	L056	10792							0030/0854/088/079													
20050728	2139	2208	2224	M4.8/SF	.081	N08E84L056	10792				58	60	II/1	2206/1478/213/090													
20050730	0617	0635	0701	X1.3/2B	.230	N12E61L056	10792				1000	2100	II/3	IV/2	0650/1968/	H/050											
20050731	1215	1224	1233	M1.1	.008	L056	10792				51			1332/0294/018/103													
20050801	1300	1351	1429	M1.0/1F	.029	N15E30L056	10792				100	290	II/1	1430/0984/058/091													
20050802	1822	1831	1837	M4.2/1N	.020	S12E47L024	10794				1100	160	II/3	1854/0580/079/114													
20050803	0454	0506	0511	M3.4/1N	.018	S11E36L024	10794				200	120	II/1	0530/0479/065/115													
20050822	0044	0133	0218	M2.6/1N	.096	S08W50L225	10798				67000	1600	II/3	IV/3	0132/1194/	H/220											
20050822	1646	1727	1802	M5.6/1N	.170	S12W60L225	10798				7500	2800	II/3	1730/2378/	H/227								23	1045/	330/		
20050823	1419	1444	1608	M2.7/SF	.120	S07W16L225	10798				4000	3500	II/1	IV/1	1454/1929/	H/230											
20050825	0431	0440	0445	M6.4/1N	.025	N07E78L056	10803				82	260		0454/1327/146/075													
20050828	1017	1028	1037	M1.6/SF	.013	N09E36L056	10803				470	520		1056/1047/076/084													
20050906	1932	2202	0044	M1.4/ *	.190	s06e90L229	10808							2000/1291/126/127													
20050907	1717	1740	1847	X17.0/3B	2.600	S06E89L229	10808				3200	27000	II/3	IV/2	1734/	/ph/085MIV							11	0425/	1880		
20050908	1649	1703	1715	M2.1/SF	.014	S10E81L229	10808							g													
20050908	2023	2029	2041	M2.1	.014	L229	10808							g													
20050908	2052	2106	2442	X5.4/2B	.380	S11E74L229	10808					990	II/1	g													
20050909	0208	0219	0229	M1.0/SF	.009	S11E69L229	10808							g													
20050909	0233	0236	0239	M1.1/	.004	S13E69L229	10808							g													
20050909	0243	0300	0307	X1.1/	.084	s13e69L229	10808							g													

D A T E			T I M E			IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS						
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L	245	2695	RADIO	SWEEP	to/	v	/	da/pa	A/	tm	/	Emax	F>10MeV	
						J*m-2					s.e.p.		km/s				keV	D tmax/Ipr		/GLE				
20050909	0446	0503	0526	M1.8/SF	.025	S10E67L229	10808																	
20050909	0532	0548	0659	M6.2/1F	.080	S10E66L229	10808				200													
20050909	0942	0959	1008	X3.6/SF	.230	S10E64L229	10808				280	270												
20050909	1732	1751	1840	M1.9/SF	.026	S10E62L229	10808				57													
20050909	1913	2004	2036	X6.2/2B	1.700	S10E58L229	10808				690	4200	II/2	IV/3	1948/2257/	H/115								
20050910	0542	0614	0743	M3.7/2N	.017	S11E51L229	10808				61				0701/0747/035/154									
20050910	0859	0907	>0934	M1.9/1F	.030	L229	10808								g/pr									
20050910	1634	1643	1651	X1.1/ *	.068	L229	10808?				600				g/pr									
20050910	1910	1936	2039	M4.1/1N	.058	S10E45L229	10808				65				g/pr									
20050910	2130	2211	2243	X2.1/	.640	L229	10808?				910	1600	II/1	IV/2	2152/1893/	H/120								
20050911	0229	0235	0304	M3.4/SF	.015	S10E42L229	10808						91	II/2	g/pr									
20050911	1244	1312	>1437	M3.0/1F	.095	S16E39L229	10808				230	310			1300/1922/	H/125								
20050911	2029	2040	2049	M1.3/ *	.010							130			2057/0776/021/147									
20050912	0449	0505	0527	M1.5/ *	.026										g/pr									
20050912	0656	0701	0705	M1.3/1F	.004	S11E33L229	10808				64													
20050912	0837	0903	1105	M6.1/2F	.098	S11E25L229	10808				980				0912/0511/022/135									
20050912	2005	2009	2016	M1.5/1N	.003	S11E24L229	10808				410													
20050913	1041	1121	1124	M1.3/SF	.008	S10E13L229	10808					120												
20050913	1919	1927	2313	X1.5/2B	.550	S09E10L229	10808				700	6000			2000/1866/	H/149								14 ~1230/ ~200/
20050913	2314	2322	0021	X1.7/1B	.093	S10E04L229	10808				180				2336/0999/046/158									
20050914	1005	1038	1120	M4.6/1F	.049	S12W01L229	10808				170	188	II/2											
20050915	0152	0212	0248	M1.3/1N	.013	S10W12L229	10808								0300/0424/018/193									
20050915	0830	0838	0953	X1.1/2N	.056	S11W15L229	10808				52	450												
20050915	1855	1910	1931	M1.0/SF	.014	S11W19L229	10808				190													
20050916	0141	0149	0405	M4.4/1B	.020	S13W26L229	10808				220													
20050916	1735	1748	1822	M1.3/SF	.018	S11W33L229	10808				26													
20050916	1918	1936	2020	M3.5/1F	.031	S11W37L229	10808				100													
20050917	0558	0605	0656	M9.8/2N	.053	S11W40L229	10808				1000													
20051113	1429	1451	>1456	M2.5/*	.016	s07e77L082	10822					72												
20051114	0416	0421	0427	M2.6/SF	.010	S08E62L082	10822				180	80			0454/0327/028/113									
20051114	1416	1421	1426	M3.9/SN	.006	S08E57L082	10822				90	64	II/1											
20051114	2153	2200	2211	M1.0/SF	.004	S76E54L082	10822				64	100												
20051115	1722	1751	>1804	M1.4/*	.015	s06e48L082	10822				100													
20051118	0024	0034	0050	M1.2/SF	.010	S09E14L082	10822																	
20051130	1746	1752	>1755	M1.4/*	.005	s03e55L249	10826																	
20051202	0242	0252	>0300	M6.5/*	.036	s03e19L249	10826				460	880			0454/0576/009/115									
20051202	1005	1012	1042	M7.8/1N	.050	S04E12L249	10826				490	370	II/2		1130/0468/026/054									
20051202	*2001	2030	>2158	M1.0/1F	.014	S03E07L249	10826																	
20051202	*2057	2119	2137	M2.0/1F	.033	S04E09L249	10826								2224/0459/008/115									

2006

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS		
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da / pa	A/ tm / Emax	F>10MeV	
							J*m-2	s.e.p.		km/s	keV		D tmax/Ipr /GLE					
2006	04	06	0522	0533	0536	M1.4/2F	.004	S07W54L110	10865					0732/0173/014/260	h/0532	/025-050		
2006	04	06	2033	2042	2050	M1.2	.007	S05W62L110	10865			100						
2006	04	26	1651	1702	1710	M1.3/1F	.008	S11E38L115	10875									
2006	04	27	1522	1552	1558	M7.9/1N	.037	S11E21L115	10875						h/1551	/012-025		
2006	07	06	0813	0836	0851	M2.5/2F	.033	S11W32L328	10898		II/1	IV/1	0854/911/	H/205	h/0823	/025-050		
2006	12	05	0745	0803	0806	M1.8/SF	.005	S07E89L009	10930				22		h/0802	/050-100		
2006	12	05	1018	1035	1045	X9.0/2N	.710	S07E79L009	10930	210000	12000	II/3	IV/2	g	h/1039	/800-1000	7 1930/ 1980	
2006	12	06	0130	0220	0254	M1.1/SF	.038	S07E69L009	10930					g				
2006	12	06	0802	0823	0903	M6.0/SF	.140	S07E66L009	10930		350	340	IV/1	g	h/0818	/025-050		
2006	12	06	1829	1847	1900	X6.5/3B	.480	S06E63L009	10930	30000	5800	II/3	IV/3	2012/----/ H*/135	h/1845	/800-1000		
2006	12	06	2014	2019	2022	M3.5	.012		10930					2212/0935/079/132	h/2017	/025-050		
2006	12	07	1820	1913	1933	M2.0/1N	.037	S07E47L009	10930		85	2600		1938/0830/078/127	h/1904	/100-300		
2006	12	13	0214	0240	0257	X3.4/4B	.510	S06W24L009	10930	100000	44000	II/3	IV/2	0254/1774/ H/193			13 0925/ 698/GLE	
2006	12	14	2107	2215	2226	X1.5/SF	.120	S05W31L009	10930		99	620	II/2	IV/1	2230/1042/ H/248			15 0000/~ 200/

2007

D A T E		T I M E		IMPORTANT	COORDINATES			AR	RADIO MGH		DYNAMIC EVENT		CME	X-ray HARD		PROTONS	
y	m	d	to	tm	te	Xray/opt	L	lt	lg	L		245	2695	RADIO SWEEP	to/ v / da / pa	A/ tm / Emax	F>10MeV
							J*m-2	s.e.p.		km/s	keV		D tmax/Ipr /GLE				
2007	06	01	0646	0651	>0659	M1.0/	.005			10960				0730/0337/053/093			
2007	06	01	1435	1459	1511	M2.8/SF	.029	S08E78L177	10960			100			h/1507	/12-25	
2007	06	01	2140	2152	2159	M2.1/SF	.011	S09E82L177	10960					2354/0584/075/107	h/2150	/50-100	
2007	06	02	0525	0611	0619	M2.5/SF	.020	S09E77L177	10960					*	h/0606	/25-50	
2007	06	02	1028	1035	1041	M1.0/	.004								h/1033	/25-50	
2007	06	03	0151	0159	0204	M2.4/SB	.008	S10E68L177	10960								
2007	06	03	0206	0212	0216	M7.0/	.028							0430/0049/021/073	h/0216	/12-25	
2007	06	03	0636	0641	0643	M4.5/SF	.009	S06E63L177	10960		330			0654/0208/036/082			
2007	06	04	0506	0513	0516	M8.9/3B	.022	S07E51L177	10960		130			0617/0111/114/264	h/0526	/12-25	
2007	06	09	1330	1348	1405	M1.0/2F	.014	S10W23L177	10960					1530/0319/010/220	h/1340	/12-25	