

Table 2. SEP events, recorded onboard GOES from 1984 to 2013, and associated solar features

No	Proton Event				SEPEM index	Solar Flare Event							Radio Bursts				Electron Event (Y/N)	CME			Other Lists	Comments
	Start time of the event					Start Time	Rise Time	Position		X-ray	Fluence	Type III	Type II	Type IV	Index	Width		Speed				
	Year	Date	Time (UT)	Time (UT)				Lon	Lat										Peak	(J/m ²)			t_{N} (UT)	I_{N}	Start time (UT)*	End time (UT)*	(Y/N)	(Y/N)	(deg)	(Km/s)
1	1984	31-Jan	15:25	0	31-Jan	12:56	4	59	15	M1.2	1.60E-002						0					
2		16-Feb ^a	09:05	0	.....	.....	.....	.....	.....	.....	.....						1				5,6	Most probably a limb event
3		18-Feb ^a	19:00	1	17-Feb	22:26	34	-82	16	X2	1.54E-002						1				5,6	Taken by 5
4		14-Mar ^{a,b}	04:05	0	14-Mar	03:15	9	42	-12	M2	6.80E-003						1				5,6	
5		25-Apr	10:50	0	24-Apr	23:56	5	-43	-12	X13	2.96E-002						1				5,6	Taken by 5
6		21-May ^a	06:05	0	21-May	02:18	68	90	9	M5.7	3.76E-002						0					
7		23-May	20:35	0	22-May	14:53	8	-24	-9	M6.3	2.82E-002						0				5,	Taken by 5
8		31-May ^b	13:25	0	31-May	11:29	13	.....	.....	M1.7	7.61E-003						0					
9	1985	22-Jan	01:20	0	21-Jan	23:52	19	38	-8	X4	3.81E-003						1				5,	
10		24-Apr	11:15	0	24-Apr	09:14	8	-27	6	X1.9	9.15E-003						1				5,	
11		9-Jul ^{a,b}	02:25	0	9-Jul	01:26	38	27	-13	M2.9	1.07E-002						1				5,	
12	1986	4-Feb	09:25	0	4-Feb	07:35	5	-21	-3	X3	1.29E-002						0					
13		5-Feb	02:00	1	5-Feb	12:37	16	-6	-7	M3	7.77E-003						0				6,	
14		6-Feb ^a	08:35	2	6-Feb	06:18	7	6	-4	X1.7	4.66E-003						1				5,6	
15		7-Feb	13:00	3	7-Feb	10:11	18	20	-10	M5	8.55E-003						1				6,	Taken by 6
16		10-Feb ^a	21:00	0	10-Feb	20:25	23	32	-1	C9.5	1.02E-002						1					
17		14-Feb ^a	10:35	0	14-Feb	09:10	11	76	1	M6.4	5.02E-003						0				5,6	
18		6-Mar ^b	18:05	0	6-Mar	16:37	25	-1	2	C4.6	1.34E-003						1				5,6	
19		4-May	10:45	0	4-May	09:39	28	.....	.....	M1.2	6.78E-004						1				5,6	
20	1987	7-Nov	22:00	0	7-Nov	20:28	2	90	31	M1.2	3.05E-003						1				5,6	
21		30-Dec	02:15	0	30-Dec	01:42	7	-32	-36	C4.1	7.70E-003						0					
22	1988	2-Jan ^a	23:00	0	2-Jan	21:11	24	18	-34	X1.4	2.11E-003						1				4,5,6	
23		25-Mar ^b	22:00	0	25-Mar	21:41	13	90	22	C4.5	9.04E-003						1				5,	
24		15-Jun ^b	05:20	0	15-Jun	04:40	12	59	-21	C3.3	4.45E-003						1					
25		30-Jun	09:15	0	30-Jun	09:04	2	-22	-16	M9.2	1.63E-002						1				5,6	
26		20-Jul	07:00	0	20-Jul	06:50	.....	.....	.....	C1.5	1.17E-002						0					
27		26-Jul	21:40	0	25-Jul	19:28	39	-50	-27	M1.5	9.35E-003						0					
28		25-Aug	13:55	0	23-Aug	17:57	3	-94	24	M2.4	4.39E-003						1				4,5	
29		12-Oct ^b	03:40	0	12-Oct	04:57	5	66	-20	X2.5	7.36E-003						1				5,	
30		8-Nov	13:50	0	8-Nov	12:28	20	7	16	C3	7.42E-003						0				4,	
31		14-Dec	12:10	0	14-Dec	10:44	2	-30	-16	C7.2	1.93E-002						0					
32		16-Dec	09:40	0	16-Dec	08:38	3	-37	26	X4.7	2.19E-002						0				4,	
33	1989	4-Jan ^b	21:15	0	4-Jan	16:03	110	60	-20	M4.7	3.61E-002						1				4,5	
34		8-Mar ^b	04:00	0	6-Mar	13:54	16	-69	35	X15	7.22E-002						1				4,5,6	
35		11-Mar ^b	22:25	1	10-Mar	18:48	24	-22	31	X4.5	3.83E-002						1				4,6	
36		17-Mar ^b	18:20	0	17-Mar	17:29	8	60	33	X6.5	3.16E-002						1				4,5,6	Taken by 4
37		23-Mar ^b	20:30	0	23-Mar	19:25	23	28	18	X1.5	2.14E-002						1				4,5,6	
38		10-Apr	21:00	0	9-Apr	00:44	15	-29	35	X3	1.67E-002						1				4,5,6	
39		2-May	16:50	0	2-May	16:04	31	-38	27	M1.4	3.52E-002						1					
40		5-May	08:35	1	4-May	11:06	25	36	-20	M5.4	1.98E-002						1					
41		6-May	01:20	2	5-May	07:23	16	-1	30	X2.4	2.32E-002						0				5,6	
42		7-May	02:20	3	6-May	16:55	7	-59	31	M4.2	1.97E-002						0					Very complex
43		22-May	18:30	0	22-May	00:02	22	-16	-21	M5	.....						1				4,	
44		18-Jun	15:00	0	18-Jun	16:19	3	57	15	C6.8	3.64E-002						1					
45		20-Jun	21:20	.....	.....	.....	.....	.....	.....	.....	.....						0					
46		29-Jun	04:45	0	29-Jun	02:54	21	28	28	C7.3	1.73E-002						0					
47		29-Jun	20:45	0	29-Jun	21:08	10	44	28	M3.7	1.66E-002						1					
48		30-Jun ^a	20:20	0	30-Jun	17:36	11	24	19	M2.1	2.55E-002						1					
49		25-Jul	09:05	0	25-Jul	08:39	4	84	25	X2.6	5.46E-002						1				4,5,6	
50		12-Aug	15:30	0	12-Aug	13:57	27	37	-16	X2.6	4.02E-002						1				4,5,6	
51		16-Aug	01:30	1	16-Aug	01:08	9	84	-18	X20	1.19E-001						1				4,6	
52		17-Aug	07:05	2	17-Aug	01:32	3	88	-19	X2.9	5.30E-002						1				6,	Taken by 6
53		19-Aug	19:25	3	19-Aug	19:15	52	.....	.....	C8.2	2.47E-002						1				6,	Taken by 6
54		22-Aug	05:10	4	22-Aug	02:05	3	-25	-20	C3.4	2.10E-002						1				6,	Taken by 6
55		31-Aug	14:15	5	.....	.....	.....	.....	.....	.....	.....						0					No meaningful association
56		4-Sep ^b	01:10	6	3-Sep	14:28	3	-16	-18	X1.2	4.18E-002						0				6,5	
57		12-Sep ^b	13:30	0	13-Sep	03:29	9	-6	16	M3.6	1.00E-001						0				6,	
58		29-Sep ^b	11:50	0	29-Sep	10:47	46	100	-26	X9	1.03E-001						1				4,5,6	Taken by 5
59		19-Oct	12:55	0	19-Oct	12:29	26	-10	-27	X13	2.83E-002						0				4,5,6	
60		22-Oct	16:30	1	22-Oct	17:08	49	31	-27	X2.9	5.52E-002						1				4,6	Taken by 6
61		24-Oct	19:00	2	24-Oct	17:36	55	57	-30	X5.7	3.08E-002						1				4,6	Taken by 6
62		29-Oct	05:20	3	.....	.....	.....	.....	.....	.....	.....						1				6,	
63		1-Nov	19:20	4	1-Nov	15:11	3	-51	-17	C8.4	1.57E-002						1				4,	Taken by 4
64		6-Nov	18:45	5	6-Nov	13:43	2	-19	20	M9.2	1.73E-002						1				4,	Taken by 4
65		8-Nov	19:50	6	8-Nov	18:56	6	57	20	M9.8	2.96E-002						0					
66		15-Nov	07:05	0	15-Nov	06:38	27	26	11	X3.2	3.72E-002						1				4,5,6	

67	26-Nov	11:00	0	25-Nov	22:55	29	-5	30	X1	2.00E-002	0	4,5	Taken by 4,5
68	30-Nov	13:15	1	30-Nov	11:45	40	52	24	X2	2.85E-002	0	4,5,6	
69	1990 19-Mar ^b	05:55	0	19-Mar	04:39	29	43	31	X1.5	2.21E-002	0	4,5,6	
70	28-Mar ^b	13:50	0	28-Mar	07:31	14	37	-4	M4.2	2.28E-002	0	4,5,6	
71	7-Apr ^b	00:45	0	7-Apr	15:11	21	-62	32	C9.5	7.60E-003	0	4,	Taken by 4
72	11-Apr	07:05	1	10-Apr	11:44	6	4	24	M1.1	5.85E-003	0	4,	Taken by 4
73	15-Apr	11:20	0	15-Apr	02:55	6	-57	32	X1.4	3.68E-002	0	4,5,6	Taken by 4
74	28-Apr	02:30	0	.....	.....	.....	.....	.....	.....	.....	0	5,6	Probably a limb event
75	10-May	21:10	0	10-May	19:18	12	-95	29	X3.4	1.39E-002	0	4,	Taken by 4
76	17-May	18:10	0	15-May	12:46	24	-38	42	X1	9.74E-002	0	4,	Taken by 4
77	21-May	22:25	1	21-May	22:12	5	36	35	X5	5.19E-002	0	4,5,6	
78	24-May	20:35	0	24-May	20:46	3	78	33	X9.3	2.20E-002	0	5,6	
79	26-May	21:10	1	26-May	20:45	13	104	33	X1.4	2.60E-002	0	4,5	Taken by 4
80	28-May	05:20	2	28-May	05:15	6	120	33	C9.7	1.10E-002	0	4,6	Taken by 6
81	12-Jun	05:50	0	12-Jun	04:55	34	33	10	M6.4	1.75E-002	0	4,5,6	
82	13-Jul ^p	14:15	0	12-Jul	13:41	7	11	-10	M1.2	8.22E-003	0	4,	Taken by 4
83	25-Jul	23:55	0	25-Jul	22:23	61	-55	-15	M2	7.78E-003	0	4,6	Taken by 6
84	30-Jul	15:00	0	30-Jul	06:33	59	-45	20	M4.4	2.07E-002	0	4,5	Taken by 5
85	12-Aug	23:25	0	10-Aug	18:09	5	-72	20	M7.9	8.69E-003	0	4,	Taken by 4
86	1991 27-Jan	20:25	0	27-Jan	14:40	2	-59	-14	X1.9	6.22E-001	0	4,	
87	31-Jan ^b	05:00	1	31-Jan	01:58	24	35	-17	X1.3	6.55E-001	0	5,6	
88	8-Feb	08:50	0	8-Feb	06:29	79	.....	.....	M4.7	6.63E-002	0	4,	
89	25-Feb	09:00	0	25-Feb	08:09	13	80	-16	X1.2	1.70E-001	0	4,5,6	
90	12-Mar ^b	16:50	0	12-Mar	12:28	22	-59	-7	X1.7	2.14E-002	0	4,	
91	16-Mar ^b	15:00	0	16-Mar	10:52	2	-5	-14	M4.8	2.30E-002	0	4,	
92	23-Mar ^b	06:30	0	22-Mar	22:43	2	-28	-26	X9.4	.....	0	4,5,6	Taken by 6
93	31-Mar ^b	21:25	0	31-Mar	19:11	0	88	-22	X1	3.55E-001	0	4,	
94	3-Apr ^b	10:00	1	2-Apr	22:51	29	0	14	M6.1	.....	0	4,5,6	Taken by 5
95	17-Apr	03:50	0	16-Apr	18:50	7	46	28	C3.3	1.65E-002	0	4,	
96	22-Apr	08:35	0	22-Apr	07:07	1	90	-28	C5.9	5.56E-002	0	4,	
97	10-May	06:50	0	10-May	05:06	10	.....	.....	C5.6	1.93E-002	0	4,	
98	13-May	02:10	1	13-May	01:03	41	.....	.....	M8.2	3.32E-001	0	4,5,6	
99	18-May	11:10	0	18-May	05:06	40	85	32	X2.8	1.07E+000	0	4,	
100	19-May	15:35	1	19-May	13:44	15	-17	-11	M1.2	5.89E-002	0	4,	
101	20-May	20:00	2	.....	.....	.....	.....	.....	.....	.....	0		No flare reported this day
102	23-May	08:55	3	23-May	04:19	13	.....	.....	C5.1	7.62E-003	0	4,	
103	31-May	05:20	0	31-May	03:44	1	-15	9	M3.8	1.56E-001	0	6,	
104	4-Jun	13:15	1	4-Jun	03:37	.....	-70	30	X12	3.46E+000	0	5,6	
105	5-Jun	13:10	2	5-Jun	11:36	12	.....	.....	C2.9	1.37E-002	0	4,	
106	11-Jun	02:30	3	11-Jun	02:09	20	17	31	X12	1.17E+000	0	6,	
107	15-Jun	08:50	4	15-Jun	06:33	118	69	33	X12	1.97E+000	0	4,5,6	
108	29-Jun	21:00	0	.....	.....	.....	.....	.....	.....	.....	0	4,6	Taken by 4
109	1-Jul	07:00	1	1-Jul	01:26	68	-79	33	M5.8	3.08E-001	0	4,6	
110	7-Jul ^b	04:20	2	7-Jul	01:20	11	-3	26	X1.9	6.60E-001	0	4,5,6	
111	10-Jul	19:10	3	10-Jul	11:59	27	-34	-22	M3.6	7.71E-002	0	4,5,6	Taken by 5
112	25-Aug	08:30	0	25-Aug	00:31	18	-77	24	X2.1	7.29E-001	0	4,5,6	Taken by 5
113	6-Sep	09:40	0	5-Sep	21:21	43	37	-19	M2.9	2.97E-002	0	4,	Taken by 4
114	29-Sep ^b	23:40	0	29-Sep	15:13	18	-32	-21	M7.3	2.63E-002	0	4,5	Taken by 5
115	28-Oct	05:30	0	27-Oct	05:38	11	-15	-13	X6.1	6.11E-001	0	4,5	Taken by 5
116	30-Oct	06:55	0	30-Oct	06:11	10	25	-8	X2.5	5.69E-001	0	4,5,6	
117	21-Dec	13:50	0	21-Dec	08:13	0	74	-6	C5.2	1.26E-002	0	4,	Taken by 4
118	29-Dec	00:05	0	28-Dec	21:08	4	47	-16	M7.8	1.30E-002	0	4,	Taken by 4
119	1992 6-Feb	17:40	0	6-Feb	09:28	60	10	-13	M4.4	2.97E-001	0	4,5,6	
120	17-Feb	10:05	0	17-Feb	09:53	4	39	12	C3.6	8.74E-003	0	4,	
121	26-Feb	05:10	0	26-Feb	01:41	2	90	-16	M1.3	4.82E-003	0	4,	
122	27-Feb	10:30	0	27-Feb	09:22	214	2	6	X3.3	2.98E-001	0	4,	
123	16-Mar ^b	04:35	0	15-Mar	01:21	25	-29	-14	M7.8	1.80E-001	0	4,5,6	
124	21-Apr	01:30	0	21-Apr	00:48	11	-28	-16	C7.1	9.83E-003	0	4,	
125	8-May	16:45	0	8-May	15:37	3	-8	-26	M7.4	1.80E-001	0	4,5,6	
126	21-May	20:00	0	21-May	18:05	5	-17	22	C3.6	1.94E-003	0	4,	
127	24-May	09:30	0	24-May	04:30	63	.....	.....	C1.1	1.14E-002	0	4,	
128	25-Jun	20:15	0	25-Jun	19:47	24	67	9	X3.9	9.29E-001	0	4,5	
129	5-Aug	20:10	0	3-Aug	06:29	33	-68	-9	M4.8	7.00E-002	0	4,5	Taken by 5
130	30-Oct	18:25	0	30-Oct	17:02	28	61	-22	X1.7	5.78E-001	0	4,5	
131	2-Nov	03:10	1	2-Nov	02:31	37	100	-25	X9	1.70E+000	0	4,	Taken by 4
132	23-Nov	20:50	0	23-Nov	20:18	11	89	-8	M4.4	6.83E-002	0	4,	
133	29-Nov	10:40	0	29-Nov	08:15	43	.....	.....	C9.1	3.81E-002	0	4,	
134	1993 4-Mar ^b	12:40	0	4-Mar	12:17	8	56	-14	C8.1	1.71E-002	0	4,5,6	
135	6-Mar ^b	21:15	0	6-Mar	20:14	19	-29	-4	M7.7	3.69E-002	0	4,	
136	12-Mar ^b	18:30	0	12-Mar	16:48	92	51	0	M7	6.01E-003	0	4,5,6	
137	7-Jun ^b	15:15	0	7-Jun	13:54	28	30	-10	M5.4	1.95E-002	0	4,	
138	1994 20-Feb	01:45	0	20-Feb	01:38	0	2	9	M4	1.31E-001	0	4,5,6	

209	26-Dec ^{G2}	05:45	0	26-Dec	04:32	68	54	8	M7.1	4.60E-001	05:17	4.5833319e-08	05:13	05:40	Y	Y	N	1	212	1446	1,	
210	28-Dec	23:40	1	28-Dec	20:02	.....	-100	.....	X3	1.03E+000	20:17	2.2500002e-07	20:08	20:22	Y	N	Y	1	120	2216	1,	Info about the flare by 1
211	30-Dec	20:45	2	30-Dec	13:42	5	43	3	C3.2	1.71E-002	13:43	2.5000001e-09	14:32	14:34	Y	N	Y	1	290	718		
212	2002 10-Jan	01:00	0	10-Jan	09:27	51	9	14	C7	1.74E-002	10:08	4.1666681e-09	09:16	09:17	N	N	Y	1	.....	.....
213	14-Jan ^{G3}	00:30	1	14-Jan	05:29	58	.....	.....	M4.4	.....	05:59	2.2500005e-08	05:57*	06:22*	Y	N	Y	1	360	1492	1,	
214	27-Jan ^{G2}	13:55	0	.....	.....	.....	.....	.....	.....	1.88E-001	.....	.....	.....	.....	.....	.....	N?	1	360	1136	1,	
215	16-Mar ^{G5}	02:30	0	15-Mar	22:09	61	3	-8	M2.2	.....	22:48	1.2499989e-08	22:52	22:53	Y(?)	Y	Y	1	360	957	1,	
216	20-Mar	12:55	1	20-Mar	11:52	4	.....	.....	C1.5	1.08E-002	11:54	5.3249996e-09	.....	.....	.....	.....	Y	0	.....	.....
217	22-Mar ^{G4}	13:35	0	22-Mar	10:12	62	.....	.....	M1.6	3.05E-002	11:07	1.6666657e-08	10:28	10:29	Y	N	N?	1	130	1750	1,	Flare taken from 1
218	17-Apr ^{G4}	11:10	0	17-Apr	07:46	38	34	-14	M2.6	1.20E-001	08:03	2.5000008e-08	07:56	08:18	Y	Y	Y	1	360	1240	1,	
219	21-Apr ^{G4}	01:40	0	21-Apr	00:43	68	84	-14	X1.5	5.15E-001	01:28	1.1666671e-07	01:21*	01:59*	Y	Y(?)	Y	1	360	2393	1,	
220	22-May ^{G5}	06:45	0	22-May	03:18	36	53	-22	C5	3.75E-002	03:35	3.3333322e-09	03:21	03:34	Y	N	Y	1	120	1557	1,	Flare taken by 1
221	7-Jul ^{G3}	12:05	0	7-Jul	11:15	28	.....	.....	M1	8.44E-002	11:24	1.1666665e-08	11:09*	11:58*	Y(?)	N	Y	1	85	1423	1,	Flare association by 1 characteristics by NOAA's ftp
222	16-Jul ^{G5}	10:00	0	15-Jul	19:59	9	1	19	X3	1.67E-001	20:05	1.7675001e-06	19:59	20:09	Y	Y(?)	Y	1	360	1151	1,	
223	20-Jul ^{G5}	17:55	0	20-Jul	21:04	26	-90	-13	X3.3	8.25E-001	21:11	6.1666669e-07	21:08	21:31	Y	N	Y	1	360	1941	1,	
224	14-Aug ^{G1}	02:20	0	14-Aug	01:47	25	54	9	M2.3	8.67E-002	01:58	3.0833333e-08	01:51	02:03	Y	N	Y	1	133	1309	1,	
225	16-Aug ^{G1}	18:05	0	16-Aug	11:32	60	-20	-14	M5.2	1.59E-001	12:15	4.2500005e-08	06:05	06:07	Y	Y	Y	1	360	1585	9,	
226	22-Aug ^{G2}	02:25	0	22-Aug	01:47	10	62	-7	M5.4	4.35E-002	01:53	2.1833333e-07	01:52	01:58	Y	N	Y	1	48	248	1,	
227	24-Aug ^{G2}	01:15	0	24-Aug	00:49	23	81	-2	X3.1	5.76E-001	01:02	7.2500006e-07	00:50	00:52	Y	N	Y	1	360	1913	1,	
228	6-Sep ^{G5}	01:05	0	5-Sep	16:18	48	-28	9	C5.2	1.14E-002	16:42	3.1666654e-09	16:20	16:32	Y	N	Y	1	360	1748	1,	
229	1-Nov	18:40	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Y	0	.....	.....
230	9-Nov ^{G4}	14:00	0	9-Nov	13:08	15	29	-12	M4.6	5.91E-002	13:17	.....	13:07	13:32	Y	N	Y	1	360	1838	1,	
231	25-Nov ^{G5}	05:40	0	24-Nov	20:14	15	37	-17	C6.4	2.10E-002	20:23	1.0083334e-07	20:08	20:14	Y(?)	N	Y	1	360	1077	1,	Taken by 1
232	20-Dec ^{G1}	00:00	1	19-Dec	21:34	19	10	16	M2.7	5.31E-002	21:41	1.0416666e-08	21:40	21:52	Y	Y	Y	1	360	1092	1,	
233	2003 28-May ^{G1}	05:25	0	28-May	00:17	10	17	-7	X3.6	3.22E-001	00:23	5.0166667e-08	00:22	00:33	N	Y	Y	1	360	1366	1,	
234	31-May ^{G1}	02:40	1	31-May	02:13	11	65	-7	M9.3	1.00E-001	02:21	1.4993290e-06	02:21	02:28	Y	N(?)	Y	1	360	1835	1,	
235	18-Jun ^d	00:50	0	17-Jun	22:27	28	-61	-8	M6.8	1.13E-001	22:46	3.4344569e-07	22:45	22:48	Y	N	Y	1	360	1813	2,	
236	23-Oct	00:45	0	22-Oct	09:37	19	.....	.....	M1.7	1.63E-001	09:51	1.3759339e-07	.....	.....	Y	N	Y	1	267	719		
237	26-Oct ^{G4}	17:40	0	26-Oct	17:21	58	38	2	X1.2	8.03E-001	17:37	1.4549270e-08	17:35	17:51	Y	N	Y	1	171	1537	1,	
238	28-Oct ^{G4}	11:35	1	28-Oct	09:51	79	-8	-16	X17.2	2.21E+000	11:05	6.7056286e-08	11:02	11:22	Y	Y	Y	1	360	2459	1,	
239	29-Oct ^{G4}	21:45	2	29-Oct	20:37	12	2	-15	XM	9.95E-001	20:45	5.2773660e-06	20:41	20:47	Y	Y	Y	1	360	2029	1,	
240	2-Nov ^{G4}	17:20	3	2-Nov	17:03	22	56	-14	X8.3	1.02E+000	17:19	3.0117519e-06	17:15	17:36	Y	Y*	Y	1	360	2598	1,	
241	4-Nov ^{G4}	21:40	4	4-Nov	19:29	21	83	-19	X28	2.50E+000	19:42	2.1786686e-06	19:45	19:52	Y	Y(?)	Y	1	360	2657	1,	
242	20-Nov ^{G1}	08:20	0	20-Nov	07:35	12	8	1	M9.6	6.45E-002	23:49	1.0137386e-05	07:36	07:44	N	N	Y	1	360	669	1,	
243	21-Nov	04:45	1	20-Nov	23:42	11	17	2	M5.8	.....	.....	2.5214307e-07	23:48	23:51	Y(?)	N	Y	1	52	494	4,	
244	2-Dec ^{c,G3}	12:15	0	2-Dec	09:40	8	92	-14	C7.2	9.02E-003	09:44	1.3677925e-08	10:16*	10:24*	N	N	Y	1	150	1393	1,	
245	2004 11-Apr ^{G2}	05:40	0	11-Apr	03:54	25	46	-16	C9.6	1.45E-002	04:16	1.4744512e-08	03:38	04:14	N(?)	N	Y	1	314	1645	1,	
246	22-Jul ^{G1}	18:30	0	22-Jul	07:41	18	-10	4	C5.3	6.61E-003	07:45	9.8420221e-09	07:43	07:47	N	N	Y	1	151	700	1,	
247	25-Jul ^{G5}	16:30	0	25-Jul	14:19	55	33	8	M1.1	8.04E-002	14:47	6.6970946e-09	13:37	13:46	Y	Y	Y	1	360	1333	1,	
248	31-Jul	20:45	0	31-Jul	05:16	101	89	5	C8.4	6.28E-002	06:17	3.0345727e-09	.....	.....	N	Y	Y	1	197	1192	1,	
249	13-Sep ^{G5}	17:25	0	12-Sep	00:04	52	-49	3	M4.8	.....	00:36	3.3891001e-08	00:25	00:49	Y	Y	Y	1	360	1328	1,	Taken by 1
250	19-Sep ^{G4}	17:25	0	19-Sep	16:46	26	58	3	M1.9	1.02E-002	16:57	2.1619648e-08	16:52	17:12	Y	N	Y	1	.....	.....	1,	
251	30-Oct ^{G1}	06:00	0	30-Oct	06:08	10	22	13	M4.2	1.63E-002	06:16	1.5157107e-07	06:10	06:18	Y	N	Y	1	360	422	1,	
252	1-Nov ^{G2}	06:00	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	03:08	03:20	-	-	Y	1	266	925	1,	
253	7-Nov ^{G4}	17:40	0	7-Nov	15:42	24	17	9	X2	2.17E-001	15:58	7.0861267e-07	16:03	16:31	Y	N	Y	1	360	1759	1,	
254	8-Nov	17:20	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	14:28	14:35	N	N	Y	1	316	605		
255	10-Nov ^{G4}	03:05	2	10-Nov	01:59	14	49	9	X2.5	1.67E-001	02:09	8.7204753e-07	02:08	02:18	Y	Y	Y	1	360	3387	1,	
256	3-Dec ^{G5}	13:30	0	2-Dec	23:44	22	2	8	M1.5	.....	23:54	2.4522228e-08	23:53	00:04	Y	Y	Y	1	360	1216	1,	
257	2005 15-Jan ^{b,G3}	07:55	0	15-Jan	05:54	44	-4	16	M8.6	3.11E-001	06:16	5.8143329e-08	06:05	06:14	Y	Y	Y	1	360	2049	1,	
258	16-Jan ^{G4}	00:55	1	15-Jan	22:25	37	5	15	X2.6	7.51E-001	22:48	3.4125042e-07	22:39	23:01	Y	Y	Y	1	360	2861	1,	
259	17-Jan ^{G4}	12:25	2	17-Jan	06:59	173	25	15	X3.8	9.34E-001	09:46	4.6219235e-07	09:42	10:01	Y	Y	Y	1	360	2094	1,	CME info taken by 1
260	20-Jan ^{G2}	06:40	3	20-Jan	06:36	25	61	14	X7.1	1.55E+000	06:47	1.2047840e-06	06:45	07:01	Y	Y	Y	1	360	3256	1,	
261	6-May ^{G1}	03:50	0	6-May	03:05	9	76	-4	M1.3	6.55E-003	03:10	3.3847639e-08	03:08	03:16	N	N	Y	1	109	1120	1,	
262	13-May ^{G5}	18:25	0	13-May	16:13	44	-11	12	M8	1.21E-001	16:45	1.0992741e-07	16:40	16:54	Y	Y	Y	1	360	1689	1,	
263	16-Jun ^{G2}	20:25	0	16-Jun	20:01	21	90	8	M4	7.05E-002	20:12	7.5374207e-08	20:10	20:26	Y	N	Y	1	.....	.....	1,	
264	13-Jul ^{G1}	17:15	0	13-Jul	14:01	48	90	11	M5	2.74E-001	14:32	2.8789267e-08	14:02	14:10	N(?)	Y	Y	1	360	1423	1,	
265	14-Jul ^{G4}	12:55	1	14-Jul	10:16	39	98	11	X1	4.48E-001	10:21	1.4610858e-07	10:27*	10:50*	Y	Y	Y	1	360	2115	1,	
266	17-Jul ^{G3}	13:25	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	11:22	11:35	Y	N	Y	1	120	1527	1,	
267	26-Jul	20:55	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	09:22*	09:28*	N	N	Y	1	360	1458		
268	22-Aug ^{G2}	02:25	0	22-Aug	00:44	49	54	-11	M2.6	1.35E-001	01:04	1.6590555e-08	01:06	01:35	Y	Y	Y	1	360	1194	1,	
269	22-Aug ^{G4}	19:10	1	22-Aug	16:46	41	65	-13	M5.6	1.89E-001	16:56	3.5867481e-08	16:58	17:32	Y	Y(?)	Y	1	360	2378	1,	
270	7-Sep ^{G5}	20:00	0	7-Sep	17:17	23	-77	-11	X17	5.19E-001	17:37	5.1134620e-06	17:39	18:03	Y	Y	Y	1	.....	.....	1,	
271	13-Sep ^{G4}	22:50	1	13-Sep	19:19	8	-10	-9	X1.5	2.35E-001	19:24	7.6441862e-07	19:41	19:44	Y(?)	Y	Y	1	360	1866	1,	
272	2006 6-Jul	10:15																				

281	21-Mar	03:25	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	02:19	02:27	Y	N	Y	1	360	1341	
282	21-Mar	17:25	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Y	1	84	608	
283	5-Jun	06:10	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Y	1	17	578	
284	7-Jun ^{G2}	06:55	1	7-Jun	06:16	25	54	-21	M2.5	4.92E-002	06:27	6.8899400e-08	06:26	06:56	Y	Y(?)	Y	1	360	1255	7,
285	11-Jun	15:00	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Y	1	35	596	
286	4-Aug ^{G2}	04:05	0	4-Aug	03:41	16	36	19	M9.3	9.08E-002	03:53	3.5027837e-07	03:50	04:11	Y	Y	Y	1	123	338	7,
287	8-Aug	18:20	0	8-Aug	18:00	10	61	16	M3.5	2.45E-002	18:06	1.1557014e-07	18:03	18:07	Y	N(?)	Y	1	237	1343	
288	9-Aug ^{G1}	08:10	0	9-Aug	07:48	17	69	17	X6.9	1.92E-001	08:03	4.5776104e-06	08:02	08:08	Y	Y	Y	1	360	1610	7,
289	6-Sep	01:45	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	01:43	01:59	Y	N	Y	1	360	782	
290	22-Sep	22:30	0	22-Sep	10:29	32	.....	.....	X1.4	5.18E-001	10:43	1.4259134e-07	10:39	11:04	Y	N	Y	1	360	1905	7,
291	22-Oct	12:15	0	22-Oct	10:00	70	77	25	M1	1.05E-001	10:21	5.6150966e-09	.....	.....	N(?)	Y	Y	1	360	1005	
292	3-Nov	23:35	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Y	N	Y	1	360	991	
293	26-Nov	07:45	0	26-Nov	06:09	61	.....	.....	C1.2	1.13E-002	06:57	8.5440830e-10	07:10	07:27	Y	N	Y	1	360	933	7,
294	25-Dec	18:55	0	25-Dec	18:11	5	31	-21	M4	3.26E-002	18:14	2.5952950e-07	18:15	18:25	Y	N	Y	1	125	366	
295	2012 19-Jan	19:20	0	19-Jan	13:44	141	-22	32	M3.2	2.02E-001	15:06	1.1877229e-08	14:39	14:42	Y	N	Y	1	360	1120	
296	23-Jan ^{G4}	04:10	1	23-Jan	03:38	21	25	18	M8.7	2.07E-001	03:48	1.1997781e-07	03:41	03:53	Y	Y	Y	1	360	2175	
297	27-Jan ^{G3}	17:55	2	27-Jan	17:37	60	71	27	X1.7	4.63E-001	18:25	1.9822145e-07	18:15	18:30	Y	Y	Y	1	360	2508	7,
298	24-Feb	21:30	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	10:17*	10:31*	Y(?)	N	Y	1	94	461	
299	4-Mar	23:10	0	4-Mar	10:29	23	-61	19	M2	8.22E-002	10:41	2.9762187e-08	11:00	11:09	Y	Y	Y	1	360	1306	
300	7-Mar ^{G3}	02:50	1	7-Mar	00:02	22	-27	21	X5	.....	00:18	1.1571251e-06	00:18	00:34	Y	Y	Y	1	360	2864	7,5
301	13-Mar ^{G2}	17:35	2	13-Mar	17:12	29	59	19	M7.9	2.80E-001	17:23	1.1372628e-07	17:20	17:42	Y	N	Y	1	360	1884	7,5
302	17-May ^{G2}	01:30	0	17-May	01:25	22	76	11	M5.1	1.41E-001	01:35	6.7441868e-08	01:33	01:38	Y	Y	Y	1	360	1582	7,5
303	26-May	22:15	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	20:48	20:53	Y	N	Y	1	360	1966	
304	15-Jun	23:50	0	14-Jun	12:52	103	-5	-17	M1	1.28E-001	13:53	1.0167363e-08	13:50	12:52	Y	Y	Y	1	360	987	7,5
305	6-Jul ^{G2}	23:55	0	6-Jul	23:01	7	51	-17	X1	5.40E-002	23:07	7.0648622e-07	23:02	23:08	Y	N	Y	1	360	1828	7,
306	12-Jul	17:10	0	12-Jul	15:37	72	1	-15	X1.4	6.46E-001	16:33	1.1281033e-07	15:42	15:49	N	N	Y	1	360	885	7,
307	17-Jul	15:05	0	17-Jul	12:03	312	65	-28	M1	3.81E-002	16:35	5.1133763e-09	14:00	14:01	Y	Y	Y	1	176	958	7,
308	19-Jul ^{G2}	01:25	1	19-Jul	04:17	101	.....	.....	M7.7	4.30E-001	05:24	5.8495683e-08	05:22	05:32	Y	N(?)	Y	1	360	1931	7,
309	23-Jul	07:40	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	02:10	02:12	Y	N	Y	1	360	2008	7,
310	1-Sep	00:15	0	31-Aug	19:45	58	-42	-19	C8.4	6.53E-002	19:49	4.8475575e-09	17:53*	.....	Y	N	Y	1	360	1442	5,
311	28-Sep ^{G2}	01:05	0	27-Sep	23:36	21	36	9	C3	1.62E-002	23:43	4.1686216e-09	23:43	00:02	Y	N	Y	1	360	947	5,
312	14-Dec	06:15	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	05:38*	03:56*	Y	N	Y	1	149	763	
313	2013 16-Jan	22:35	0	16-Jan	18:21	62	76	-31	C2.2	5.05E-003	20:04	3.2716547e-09	18:22	18:37	N(?)	N	Y	1	250	648	
314	15-Mar	19:10	0	15-Mar	05:46	72	-12	11	M1.1	7.29E-002	06:38	7.2139301e-09	06:41	06:43	Y	Y	Y	1	360	1063	5,

* onset time at ~1MHz

G1: Fe-rich, e-rich, p-poor

G2: Fe-rich p-rich

G3: Fe-rich p-rich

G4: Fe-poor, p-rich, shock

G5: slow rise, peak at the shock

?: doubtful finding

a: spike

b: brief data gap

c: large data gap

d: missing recordings of a channel

Taken by 7