

Major SEP Events

NOTE: List includes major SEP events observed by GOES.

During a major SEP event particle intensity in the E>10 MeV proton channel exceeds 10 particles/(cm² s sr).

SEP Event							CME			Flare				m-type II	DH-type II
Start Time (1)	Max Time (2)	EvntMax (3)	ESP (4)	SEPmax Time (5)	SEPmax (6)	GLE (7)	1st App. Time (8)	Speed (9)	Width (10)	Loc (11)	Start Time (12)	Peak Time (13)	Class (14)	Onset Time (15)	Onset time (16)
1997/11/04 06:40	1997/11/04 11:20	72	----	11/04 11:20	72	--	1997/11/04 06:10	785	H	S14W33	11/04 05:52	11/04 05:58	X2.1/2B	11/04 05:58	11/04 06:00
1997/11/06 12:30	1997/11/07 02:55	495	----	11/07 02:55	495	55	1997/11/06 12:10	1556	H	S18W63	11/06 11:49	11/06 11:55	X9.4/2B	11/06 11:53	11/06 12:10
1998/04/20 11:15	1998/04/21 12:10	1700	----	04/21 12:10	1700	--	1998/04/20 10:07	1863	>243	S22W90	04/20 09:38	04/20 10:21	M1.4/--	04/20 09:56	04/20 10:25
1998/05/02 14:00	1998/05/02 16:50	146	----	05/02 16:50	146	56	1998/05/02 14:06	938	H	S15W15	05/02 13:31	05/02 13:42	X1.1/3B	05/02 13:41	05/02 14:25
1998/05/06 08:25	1998/05/06 09:45	207	----	05/06 09:45	207	57	1998/05/06 08:29	1099	190	S11W65	05/06 07:58	05/06 08:09	X2.7/1N	05/06 08:05	05/06 08:15
1998/05/09 06:20	1998/05/09 23:05	11	----	05/09 23:05	11	--	1998/05/09 03:35	2331	178	S14W89	05/09 03:16	05/09 03:40	M7.7/--	05/09 03:26	05/09 03:35
1998/08/24 23:10	1998/08/26 10:55	665	RELAT	08/26 04:30	187	58	----	----	----	N35E09	08/24 21:50	08/24 22:12	X1.0/3B	08/24 22:03	08/24 22:05
1998/09/23 14:20	1998/09/25 01:30	44	RELAT	09/24 14:45	1	--	----	----	----	N18E09	09/23 06:40	09/23 07:13	M7.1/3B	09/23 06:57	09/23 07:20
1998/09/30 14:20	1998/10/01 00:25	1160	----	10/01 00:25	1160	--	----	----	----	N23W81	09/30 13:08	09/30 13:50	M2.8/2N	09/30 13:22	09/30 13:20
1998/11/07 22:25	1998/11/08 02:45	11	UNREL	11/08 02:45	11	--	----	----	----	----	----	----	----	----	----
1998/11/14 06:30	1998/11/14 12:45	314	----	11/14 12:45	314	--	----	----	----	N28W90	11/14 05:00	11/14 05:08	C1.3/--	11/14 05:06	11/14 05:10
1999/01/20 22:50	1999/01/23 11:53	14	RELAT	01/23 11:35	14	--	----	----	----	N27E90	01/20 19:06	01/20 20:04	M5.2/--	01/20 19:14	01/20 19:18
1999/04/24 15:30	1999/04/25 00:55	32	----	04/25 00:55	32	--	1999/04/24 13:31	1495	H	----	----	----	----	----	04/24 13:50
1999/05/04 03:00	1999/05/05 19:55	14	RELAT	05/05 19:55	14	--	1999/05/03 06:06	1584	H	N15E32	05/03 05:36	05/03 06:02	M4.4/2N	05/03 05:50	05/03 05:50
1999/06/01 21:00	1999/06/02 10:10	48	----	06/02 10:10	48	--	1999/06/01 19:37	1772	H	>NW90	----	----	----	----	06/01 18:50
1999/06/04 08:30	1999/06/04 10:55	64	----	06/04 10:55	64	--	1999/06/04 07:26	2230	150	N17W69	06/04 06:52	06/04 07:03	M3.9/2B	06/04 07:02	06/04 07:05
2000/02/18 10:05	2000/02/18 12:15	13	----	02/18 12:15	13	--	2000/02/18 09:54	890	118	>NW90	----	----	----	02/18 09:19	02/18 09:38
2000/04/04 17:00	2000/04/05 09:30	55	----	04/05 09:30	55	--	2000/04/04 16:32	1188	H	N16W66	04/04 15:12	04/04 15:41	C9.7/2F	04/04 15:25	04/04 15:45
2000/06/06 22:20	2000/06/08 09:40	84	----	06/08 09:40	84	--	2000/06/06 15:54	1119	H	N20E18	06/06 14:58	06/06 15:25	X2.3/--	06/06 15:16	06/06 15:20
2000/06/10 17:40	2000/06/10 20:45	46	----	06/10 20:45	46	--	2000/06/10 17:08	1108	H	N22W38	06/10 16:40	06/10 17:02	M5.2/3B	06/10 16:55	06/10 17:15
2000/07/14 10:35	2000/07/15 12:30	24000	----	07/15 12:30	24000	59	2000/07/14 10:54	1674	H	N22W07	07/14 10:03	07/14 10:24	X5.7/3B	07/14 10:19	07/14 10:30
2000/07/22 12:25	2000/07/23 14:05	17	----	07/23 14:05	17	--	2000/07/22 11:54	1230	105	N14W56	07/22 11:17	07/22 11:34	M3.7/2N	07/22 11:25	07/22 11:45
2000/07/28 01:45	2000/07/28 05:20	12	----	07/28 05:20	12	--	2000/07/27 19:54	905	H	>N90	----	----	----	----	----
2000/08/11 14:30	2000/08/11 16:55	17	UNREL	08/11 16:55	17	--	----	----	----	----	----	----	----	----	----
2000/09/12 13:50	2000/09/13 03:40	321	----	09/13 03:40	321	--	2000/09/12 11:54	1550	H	S19W06	09/12 11:23	09/12 12:13	M1.0/2N	09/12 11:33	09/12 12:00
2000/10/16 08:10	2000/10/16 18:40	15	----	10/16 18:40	15	--	2000/10/16 07:27	1336	H	N03W90	10/16 06:40	10/16 07:28	M2.5/--	10/16 07:08	10/16 07:10
2000/10/25 13:35	2000/10/26 03:40	15	----	10/26 03:40	15	--	2000/10/25 08:26	770	H	N09W63	10/25 08:45	10/25 11:25	C4.0/--	10/25 09:30	10/25 09:30
2000/11/08 23:35	2000/11/09 15:55	14800	----	11/09 15:55	14800	--	2000/11/08 23:06	1738	>170	N10W77	11/08 23:04	11/08 23:28	M7.4/3B	11/08 23:15	11/08 23:20
2000/11/24 15:15	2000/11/24 21:20	94	----	11/24 21:20	94	--	2000/11/24 15:30	1245	H	N22W07	11/24 15:05	11/24 15:13	X2.3/2F	11/24 15:07	11/24 15:25
2000/11/26 01:00	2000/11/26 20:30	942	UNREL	11/26 20:30	942	--	----	----	----	----	----	----	----	----	----
2001/01/28 17:15	2001/01/29 06:55	49	----	01/29 06:55	49	--	2001/01/28 15:54	916	250	S04W59	01/28 15:40	01/28 16:00	M1.5/1N	01/28 15:45	01/28 15:45
2001/03/29 12:15	2001/03/30 06:10	35	----	03/30 06:10	35	--	2001/03/29 10:26	942	H	N20W19	03/29 09:57	03/29 10:15	X1.7/1F	03/29 10:03	03/29 10:12
2001/04/02 23:10	2001/04/03 07:45	1110	----	04/03 07:45	1110	--	2001/04/02 22:06	2505	244	N19W72	04/02 21:32	04/02 21:51	X20.0/--	04/02 21:52	04/02 22:05
2001/04/10 08:15	2001/04/11 20:55	355	RELAT	04/11 00:50	118	--	2001/04/10 05:30	2411	H	S23W09	04/10 05:06	04/10 05:26	X2.3/3B	04/10 05:13	04/10 05:24
2001/04/12 11:40	2001/04/12 18:00	51	----	04/12 18:00	51	--	2001/04/12 10:31	1184	H	S19W43	04/12 10:13	04/12 10:28	X2.0/--	04/12 10:18	04/12 10:36
2001/04/15 14:00	2001/04/15 19:20	951	----	04/15 19:20	951	60	2001/04/15 14:06	1199	167	S20W85	04/15 13:42	04/15 13:50	X14.7/2B	04/15 13:48	04/15 14:05
2001/04/18 03:00	2001/04/18 10:45	321	----	04/18 10:45	321	61	2001/04/18 02:30	2465	H	>SW90	----	----	----	04/18 02:17	04/18 02:55
2001/04/27 01:05	2001/04/28 05:00	57	RELAT	04/28 03:30	8	--	2001/04/26 12:30	1006	H	N20W05	04/26 11:26	04/26 13:00	M1.7/--	04/26 13:35	04/26 12:40
2001/05/07 14:00	2001/05/08 07:55	30	----	05/08 07:55	30	--	2001/05/07 12:06	1223	205	>NW90	----	----	----	----	05/07 13:12
2001/06/15 16:25	2001/06/16 00:05	27	----	06/16 00:05	27	--	2001/06/15 15:56	1701	H	>SW90	06/15 15:24	06/15 15:24	----	06/15 15:33	06/15 15:42
2001/08/09 19:30	2001/08/10 11:55	17	----	08/10 11:55	17	--	2001/08/09 10:30	479	175	N11W14	----	----	----	----	----
2001/08/16 00:45	2001/08/16 03:55	493	----	08/16 03:55	493	--	2001/08/15 23:54	1575	H	>SW90	----	----	----	----	08/16 00:10
2001/09/15 12:05	2001/09/15 14:55	12	----	09/15 14:55	12	--	2001/09/15 11:54	478	130	S21W49	09/15 11:04	09/15 11:28	M1.5/1N	09/15 11:29	09/15 11:50
2001/09/24 11:40	2001/09/25 22:35	12900	RELAT	09/25 00:35	1820	--	2001/09/24 10:30	2402	H	S16E23	09/24 09:32	09/24 10:38	X2.6/--	09/24 10:45	09/24 10:45
2001/10/01 12:15	2001/10/02 08:10	2360	----	10/02 08:10	2360	--	2001/10/01 05:30	1405	H	S24W81	10/01 04:31	10/01 05:15	M9.1/--	10/01 05:36	10/01 05:36
2001/10/19 18:00	2001/10/19 22:30	12	----	10/19 22:30	12	--	2001/10/19 16:50	901	H	N15W29	10/19 16:21	10/19 18:19	X1.6/2B	10/19 16:24	10/19 16:45
2001/10/22 16:45	2001/10/22 21:30	24	----	10/22 21:30	24	--	2001/10/22 15:06	1336	H	S21E18	10/22 14:27	10/22 15:08	M6.7/2B	10/22 14:53	10/22 15:15
2001/11/04 16:40	2001/11/06 02:15	31700	----	11/06 02:15	31700	62	2001/11/04 16:35	1810	H	N06W18	11/04 16:03	11/04 16:20	X1.0/3B	11/04 16:10	11/04 16:30
2001/11/17 08:50	2001/11/20 00:10	34	----	11/20 00:10	34	--	2001/11/17 05:30	1379	H	S13E42	11/17 04:49	11/17 05:25	M2.8/1N	11/17 05:00	11/17 05:20
2001/11/22 21:15	2001/11/23 00:55	25	----	11/23 00:55	25	--	2001/11/22 20:30	1443	H	S25W67	11/22 20:18	11/22 20:36	M3.8/2B	11/22 20:22	11/22 20:50
2001/11/23 01:05	2001/11/23 14:00	4800	----	11/23 14:00	4800	--	2001/11/22 23:30	1437	H	S17W36	11/22 22:38	11/22 23:30	M9.9/--	11/22 22:31	11/22 22:40
2001/12/26 05:50	2001/12/26 11:15	780	----	12/26 11:15	780	63	2001/12/26 05:30	1446	212	N08W54	12/26 04:32	12/26 05:40	M7.1/1B	12/26 05:02	12/26 05:20
2001/12/29 01:50	2001/12/29 08:15	76	----	12/29 08:15	76	--	2001/12/28 20:30	2216	H	S26E90	12/28 20:16	12/28 20:45	X3.4/--	12/29 19:59	12/29 20:30
2001/12/30 21:25	2001/12/31 16:20	108	----	12/31 16:20	108	--	----	----	----	----	----	----	----	----	----
2002/01/10 08:40	2002/01/11 05:30	92	----	01/11 05:30	92	--	2002/01/08 17:54	1794	H	>NE90	----	----	----	----	01/09 18:30
2002/01/15 05:35	2002/01/15 20:00	15	----	01/15 20:00	15	--	2002/01/14 05:35	1492	H	S28W83	01/14 05:29	01/14 06:27	M4.4/--	01/14 06:08	01/14 06:25
2002/02/20 06:45	2002/02/20 07:55	13	----	02/20 07:55	13	--	2002/02/20 06:30	952	H	N12W72	02/20 06:06	02/20 06:12	M5.1/1F	02/20 06:15	02/20 06:20
2002/03/16 08:25	2002/03/17 08:50	13	----	03/17 08:50	13	--	2002/03/15 23:06	957	H	S08W03	03/15 22:09	03/15 23:10	M2.2/1F	03/15 22:45	03/15 22:45
2002/03/18 06:45	2002/03/19 06:50	53	----	03/19 06:50	53	--	2002/03/18 02:54	989	H	S10W30	03/18 02:16	03/18 02:31	M1.0/--	03/18 02:55	03/18 02:55
2002/03/20 13:20	2002/03/20 15:25	20	UNREL	03/20 15:25	20	--	----	----	----	----	----	----	----	----	----

2002/03/22 13:50	2002/03/23 13:20	16	----	03/23 13:20	16	--	2002/03/22 11:06	1750	H	S09W90	03/22 10:34	03/22 11:14	M1.6/--	03/22 10:47	03/22 11:30	
2002/04/17 11:35	2002/04/17 15:40	24	----	04/17 15:40	24	----	2002/04/17 08:26	1240	H	S14W34	04/17 07:46	04/17 08:24	M2.6/2N	04/17 08:08	04/17 08:30	SOHO shock 17/10:13 UT (unr
2002/04/21 01:45	2002/04/21 23:20	2520	----	04/21 23:20	2520	--	2002/04/21 01:27	2393	H	S14W84	04/21 00:43	04/21 01:51	L1.5/1F	04/21 01:19	04/21 01:30	
2002/05/22 07:10	2002/05/23 10:55	820	RELAT	05/23 05:00	130	--	2002/05/22 03:50	1557	H	S30W34	05/22 03:18	05/22 03:54	C5.0/--	--/--	05/22 04:10	SOHO shock 23/10:47 UT (rel
2002/07/07 12:45	2002/07/07 19:55	23	----	07/07 19:55	23	----	2002/07/07 11:30	1423	>228	S19W90	07/07 11:15	07/07 11:43	M1.0/--	--/--	07/07 11:35	
2002/07/16 10:15	2002/07/17 16:00	234	RELAT	07/17 06:35	57	--	2002/07/15 21:30	1300	>188	N19W01	07/15 21:03	07/15 21:32	M1.8/--	--/--	07/15 21:15	SOHO shock 17/15:29 UT (rel
2002/07/19 08:20	2002/07/19 10:10	14	UNREL	07/19 10:10	14	--	2002/07/19 08:20	1941	----	S13E90	07/20 21:04	07/20 21:30	X3.3/--	--/--	07/20 21:30	SOHO shock 19/09:36 UT (unr
2002/07/21 03:20	2002/07/23 10:25	28	----	07/23 10:25	28	----	2002/07/20 22:06	1309	133	N09W54	08/14 01:47	08/14 02:12	M2.3/1N	08/14 01:57	08/14 02:20	
2002/08/14 02:50	2002/08/14 16:20	26	----	08/14 16:20	26	----	2002/08/14 02:30	998	H	S07W62	08/22 01:47	08/22 01:57	M5.4/2B	08/22 01:55	08/22 02:45	
2002/08/22 02:40	2002/08/22 09:40	36	----	08/22 09:40	36	----	2002/08/22 02:06	1913	H	S02W81	08/24 00:49	08/24 01:12	X3.1/1F	08/24 01:09	08/24 01:45	
2002/08/24 01:30	2002/08/24 08:35	317	----	08/24 08:35	317	64	2002/08/24 01:27	1748	H	N09E28	09/05 16:18	09/05 17:06	C5.2/SF	09/05 16:35	09/05 16:55	SOHO shock 07/15:54 UT (rel
2002/09/06 03:50	2002/09/07 16:50	208	RELAT	09/07 12:55	28	--	2002/09/05 16:54	1838	H	S12W29	11/09 13:08	11/09 13:23	M4.6/2B	11/09 13:17	11/09 13:20	
2002/11/09 15:25	2002/11/10 05:40	404	----	11/10 05:40	404	----	2002/11/09 13:31	1366	H	S07W20	05/28 00:17	05/28 00:27	X3.6/--	05/28 00:26	05/28 01:00	SOHO shocks 29/11:52 UT(unr
2003/05/28 04:15	2003/05/29 15:30	121	RELAT	05/29 12:25	31	--	2003/05/28 00:50	1835	H	S07W65	05/31 02:13	05/31 02:24	M9.3/2B	05/31 02:20	05/31 03:00	
2003/05/31 03:00	2003/05/31 06:45	27	----	05/31 06:45	27	--	2003/05/31 02:30	1813	H	S07E55	06/17 22:27	06/17 22:55	M6.8/--	06/17 22:48	06/17 22:50	
2003/06/18 09:15	2003/06/19 04:50	24	----	06/19 04:50	24	----	2003/06/17 23:18	1537	>171	N02W38	10/26 17:21	10/26 19:50	X1.2/1N	10/26 17:35	10/26 17:45	SOHO shock 26/18:35 UT (unr
2003/10/26 18:00	2003/10/26 22:35	466	----	10/26 22:35	466	----	2003/10/26 17:54	2459	H	S16E08	10/28 11:00	10/28 11:10	X17.7/--	10/28 11:02	10/28 11:10	ACE shock 29/05:58 UT (rela
2003/10/28 11:45	2003/10/29 06:15	29500	RELAT	10/28 18:00	5780	65	2003/10/28 11:30	2029	H	S15W02	10/29 20:37	10/29 20:49	X10.7/2B	10/29 20:40	10/29 20:55	ACE shock 30/16:19 UT (rela
2003/10/29 21:55	2003/10/30 19:35	3300	RELAT	10/29 03:00	2790	66	2003/10/29 20:54	2036	H	>SW90	--/--	--/--	--/--	11/02 09:16	11/02 09:23	
2003/11/02 10:55	2003/11/02 14:15	30	----	11/02 14:15	30	----	2003/11/02 09:30	2598	H	S14W56	11/02 17:03	11/02 17:25	X8.3/2B	11/02 17:14	11/02 17:30	
2003/11/02 17:35	2003/11/03 08:15	1570	----	11/03 08:15	1570	67	2003/11/02 17:30	2657	H	S19W83	11/04 19:38	11/04 20:04	X28.3/3B	11/04 19:42	11/04 20:00	
2003/11/04 22:15	2003/11/05 06:00	353	----	11/05 06:00	353	----	2003/11/04 19:54	669	H	N01W08	11/20 07:35	11/20 07:47	M9.6/2B	--/--	11/02 09:23	
2003/11/21 16:30	2003/11/22 02:30	14	----	11/22 02:30	14	--	2003/11/20 08:06	1393	>150	S11W90	12/02 10:24	12/02 11:22	C8.0/--	--/--	11/02 09:23	
2003/12/02 12:25	2003/12/02 18:20	89	----	12/02 18:20	89	----	2003/12/02 10:50	1645	314	S14W47	04/11 03:54	04/11 04:19	C9.6/1F	--/--	04/11 04:20	
2004/04/11 06:10	2004/04/11 18:45	35	----	04/11 18:45	35	----	2004/04/11 04:30	1333	H	N08W33	07/25 14:19	07/25 15:14	M1.1/1F	07/25 15:21	07/25 15:00	SOHO shock 26/22:28 UT (rel
2004/07/25 16:55	2004/07/26 22:50	2090	RELAT	07/26 09:05	273	--	2004/07/25 14:54	1328	H	N03E49	09/12 00:04	09/12 00:56	M4.8/2N	09/13 00:23	09/13 00:45	LASCO PARTIAL DG
2004/09/13 20:00	2004/09/14 00:05	273	----	09/14 00:05	273	--	2004/09/12 00:36	925	146	N03W58	09/19 16:46	09/19 17:12	M1.9/--	09/19 16:56	09/19 17:15	LASCO DG
2004/09/19 18:10	2004/09/20 01:00	57	----	09/20 01:00	57	----	2004/09/19 18:10	1759	H	N09W17	11/07 15:56	11/07 16:06	X2.0/--	11/07 15:59	11/07 16:25	
2004/11/01 06:10	2004/11/01 08:05	63	----	11/01 08:05	63	----	2004/11/01 06:06	2000	H	N08W51	11/09 16:59	11/09 17:19	M8.9/2N	11/09 17:24	11/09 17:35	SOHO shock 09/18:24 UT (unr
2004/11/07 18:25	2004/11/08 01:15	495	----	11/08 01:15	495	----	2004/11/07 16:54	3387	H	N09W49	11/10 01:59	11/10 02:13	X2.5/3B	11/10 02:07	11/10 02:25	
2004/11/09 20:00	2004/11/09 21:30	82	----	11/09 21:30	82	----	2004/11/09 17:26	2861	H	N15W05	01/15 22:25	01/15 23:02	X2.6/--	01/15 22:24	01/15 23:00	
2004/11/10 03:15	2004/11/10 16:55	424	----	11/10 16:55	424	----	2004/11/10 02:26	2547	H	N15W25	01/17 09:42	01/17 09:52	X3.8/--	01/17 09:43	01/17 10:00	
2005/01/16 01:05	2005/01/16 18:40	365	----	01/16 18:40	365	----	2005/01/15 23:06	882	H	N14W61	01/20 06:36	01/20 07:01	X7.1/2B	01/20 06:44	01/20 07:15	
2005/01/17 12:40	2005/01/17 17:50	5040	----	01/17 17:50	5040	68	2005/01/17 09:54	1689	H	N12E11	05/13 16:30	05/13 16:57	M8.0/2B	05/13 16:38	05/13 17:00	SOHO shock 15/02:19 UT (rel
2005/05/13 18:45	2005/05/15 02:40	3140	RELAT	05/14 19:45	338	--	2005/05/13 17:12	2115	H	N08W90	06/16 20:01	06/16 20:22	M4.0/SF	--/--	06/16 20:25	
2005/06/16 20:45	2005/06/17 05:00	44	----	06/17 05:00	44	----	2005/06/16 20:45	2115	H	N11W90	07/14 10:16	07/14 10:55	X1.2/--	--/--	07/14 10:55	
2005/07/14 13:05	2005/07/15 03:45	134	----	07/15 03:45	134	--	2005/07/14 10:54	1527	H	>NW90	--/--	--/--	--/--	--/--	07/17 11:50	
2005/07/17 14:15	2005/07/17 22:40	22	----	07/17 22:40	22	--	2005/07/17 11:30	1787	H	N11E90	07/27 04:33	07/27 05:02	M3.7/--	--/--	07/27 07:45	
2005/07/27 22:25	2005/07/29 17:17	41	----	07/29 17:17	41	----	2005/07/27 04:54	2378	H	S13W65	08/22 16:46	08/22 17:27	M5.6/1N	--/--	08/22 17:15	
2005/08/22 19:20	2005/08/23 10:45	337	----	08/23 10:45	337	----	2005/08/22 17:30	1866	----	S11E77	09/07 17:17	09/07 17:40	X17.7/3B	09/07 17:42	09/07 18:05	LASCO DG, ACE shock 09/13:2
2005/09/07 20:10	2005/09/11 04:25	1880	RELAT	09/08 15:15	45	----	2005/09/13 20:00	1866	H	S09E10	09/13 19:42	09/13 20:43	X1.5/2B	--/--	09/13 20:20	SOHO shock 15/08:25 UT (rel
2005/09/13 23:00	2005/09/14 15:20	183	----	09/14 15:20	183	----	2005/09/13 20:00	1774	H	S05E64	12/06 18:29	12/06 18:47	X6.5/2B	12/06 18:42	12/06 19:00	LASCO DG, SOHO shock 08/04:
2006/12/06 23:15	2006/12/07 18:40	1980	RELAT	12/07 10:30	290	----	2006/12/06 20:12	1042	H	S06W23	12/13 02:14	12/13 02:40	X3.4/4B	12/13 02:26	12/13 02:45	
2006/12/13 02:55	2006/12/13 09:25	698	----	12/13 09:25	698	70	2006/12/13 02:54	1205	H	S06W46	12/14 21:58	12/14 22:15	X1.5/--	12/14 22:09	12/14 22:30	
2006/12/14 22:55	2006/12/15 00:15	215	----	12/15 00:15	215	----	2006/12/14 22:30	2125	H	N17W52	08/14 09:38	08/14 10:05	C4.4/--	08/14 09:52	08/14 10:05	
2010/08/14 11:05	2010/08/14 12:45	14	----	08/14 12:45	14	----	2010/08/14 10:12	2125	H	N31W53	03/07 19:43	03/07 20:12	M3.7/--	03/07 19:54	03/07 20:00	
2011/03/07 21:45	2011/03/08 08:00	50	----	03/08 08:00	50	----	2011/03/07 20:00	1341	H	>W90	--/--	--/--	--/--	--/--	03/07 20:00	
2011/03/21 04:10	2011/03/22 01:35	14	----	03/22 01:35	14	----	2011/03/21 02:24	1255	H	S21W54	06/07 06:16	06/07 06:41	M2.5/2N	06/07 06:25	06/07 06:45	
2011/06/07 07:20	2011/06/07 18:20	72	----	06/07 18:20	72	----	2011/06/07 06:49	1315	H	N19W36	08/04 03:49	08/04 03:57	M9.3/2B	08/04 03:54	08/04 04:15	SOHO shocks 05/17:23 UT (ur
2011/08/04 04:30	2011/08/05 21:50	96	RELAT	08/04 10:30	80	--	2011/08/04 04:12	1610	H	N17W69	08/09 07:59	08/09 08:05	X6.9/2B	08/09 08:01	08/09 08:20	
2011/																

2013/09/30 00:25	2013/09/30 20:05	182	-----	09/30 20:05	182	--	2013/09/29 22:12	1179	H	N17W29	09/29 20:42	09/29 23:32	C1.3/--	--/-- --:--	09/29 21:53	
2013/12/28 19:00	2013/12/28 23:15	29	-----	12/28 23:15	29	--	2013/12/28 17:36	1118	H	>W90	--/-- --:--	--/-- --:--	C1.3/--	--/-- --:--	12/28 17:31	
2014/01/06 08:15	2014/01/06 16:00	42	-----	01/06 16:00	42	--	2014/01/06 08:00	1402	H	>W90	01/06 07:30	01/06 07:45	C2.1/--	01/06 07:45	01/06 07:58	Flare behind the western li
2014/01/07 19:55	2014/01/09 03:40	1026	-----	01/09 03:40	1026	--	2014/01/07 18:24	1830	H	S15W11	01/07 18:04	01/07 18:32	X1.2/--	01/07 18:17	01/07 18:27	
2014/02/20 08:15	2014/02/20 09:25	22	-----	02/20 09:25	22	--	2014/02/20 08:00	948	H	S15W73	02/20 07:26	02/20 07:56	M3.0/--	02/20 07:45	02/20 08:06	
2014/02/25 03:50	2014/02/26 00:10	24	-----	02/26 00:10	24	--	2014/02/25 01:25	2147	H	S12E82	02/25 00:39	02/25 00:49	X4.9/--	02/25 00:56	02/25 00:56	
2014/04/18 13:40	2014/04/19 01:50	58	-----	04/19 01:50	58	--	2014/04/18 13:25	1203	H	S20W34	04/18 12:31	04/18 13:03	M7.3/--	04/18 12:55	04/18 13:06	
2014/09/10 21:35	2014/09/12 15:55	126	RELAT	09/11 05:15	29	--	2014/09/10 18:00	1267	H	N14E02	09/10 17:21	09/10 17:45	X1.6/--	--/-- --:--	09/10 17:45	
2014/11/01 13:55	2014/11/02 21:10	11	-----	11/02 21:10	11	--	2014/11/01 06:00	740	>160	N27W79	--/-- --:--	--/-- --:--	C1.3/--	--/-- --:--	09/29 21:53	
2015/06/18 04:35	2015/06/18 14:45	17	-----	06/18 14:45	17	--	2015/06/18 01:25	1714	195	S16W81	06/18 00:33	06/18 01:27	M1.2/--	--/-- --:--	09/29 21:53	
2015/06/21 04:05	2015/06/22 19:00	1066	RELAT	06/22 10:40	278	--	2015/06/21 02:36	1366	H	N12E16	06/21 02:06	06/21 02:36	M2.6/--	06/21 02:25	06/21 02:33	SOHO shocks 21/15:50 UT (ur
2015/06/25 10:05	2015/06/27 00:30	22	-----	06/27 00:30	22	--	2015/06/25 08:36	1627	H	N09W42	06/25 08:02	06/25 08:16	M7.9/--	06/25 08:16	06/25 08:35	
2015/10/29 03:05	2015/10/29 10:00	24	-----	10/29 10:00	24	--	2015/10/29 02:36	530	202	>W90b	--/-- --:--	--/-- --:--	C1.3/--	10/29 02:19	09/29 21:53	
2016/01/02 00:15	2016/01/02 04:50	22	-----	01/02 04:50	22	--	2016/01/01 23:24	1730	H	S25W82	01/01 23:10	01/02 00:11	M2.3/--	01/01 23:21	01/02 00:55	
2017/07/14 04:40	2017/07/14 23:20	22	-----	07/14 23:20	22	--	2017/07/14 01:25	1200	H	S06W29	07/14 01:07	07/14 02:09	M2.4/--	--/-- --:--	07/14 01:18	
2017/09/04 22:30	2017/09/05 19:20	210	-----	09/05 19:20	210	--	2017/09/04 20:12	1418	H	S10W12	09/04 20:28	09/04 20:33	M5.5/--	--/-- --:--	09/04 20:27	
2017/09/06 12:35	2017/09/07 23:25	844	RELAT	09/06 15:30	41	--	2017/09/06 12:24	1571	H	S08W33	09/06 11:53	09/06 12:02	X9.3/--	09/06 12:02	09/06 12:05	SOHO shocks 06/23:13 UT (ur
2017/09/10 16:25	2017/09/11 11:40	1490	-----	09/11 11:40	1490	72	2017/09/10 16:00	3163	H	>W90b	09/10 15:35	09/10 16:06	X8.2/--	09/10 15:53	09/29 21:53	