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Comprehensive Reports

Number 769 Part II

### DATA FOR MARCH

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6  
Mar 07

HÀ S O L A R F L A R E S  
MARCH 2007

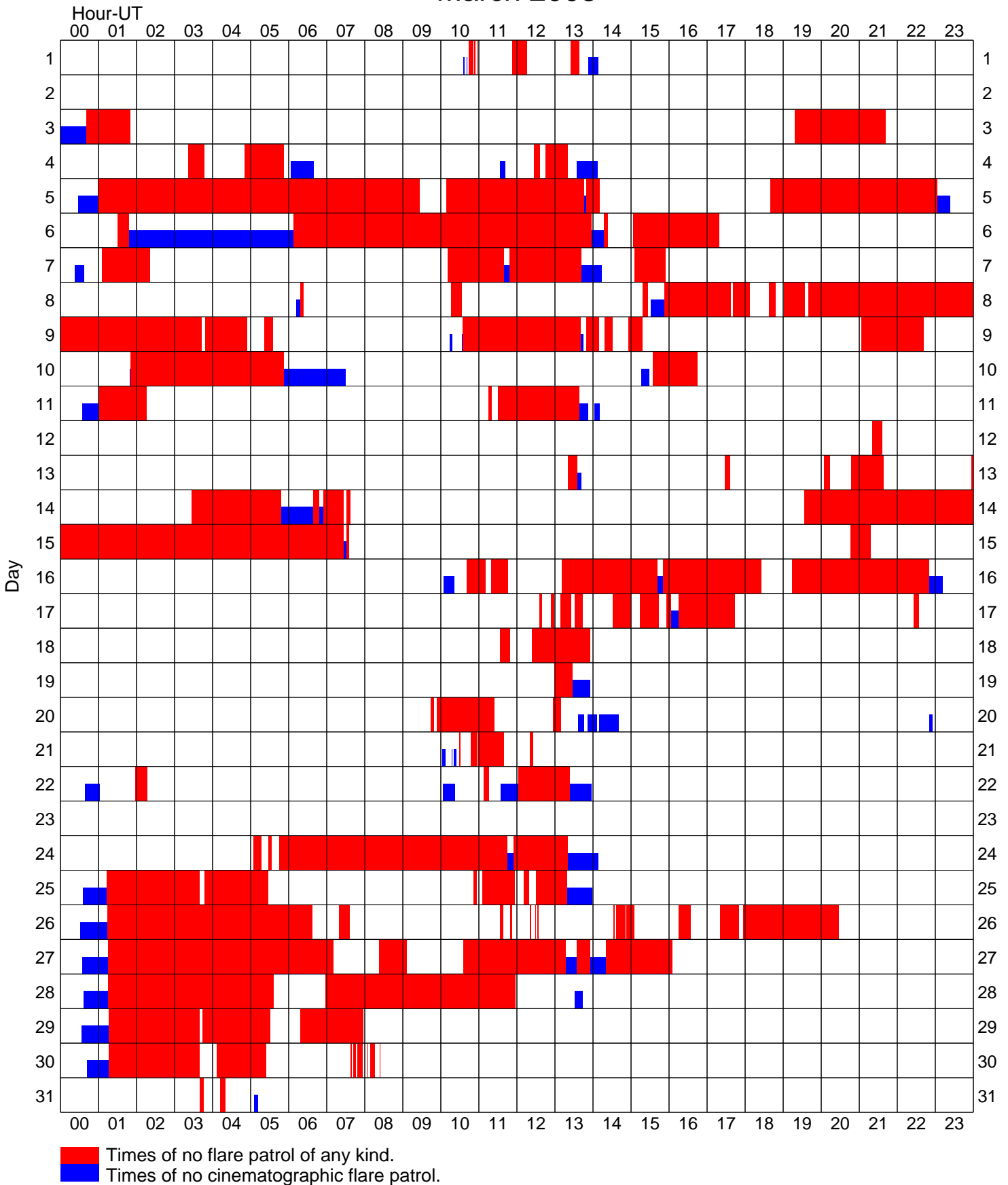
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/		Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks
								USAF Region	CMP Mo Day						Time (UT)	Apparent (10-6 Disk)	
0011	HOLL	27	1634	1635	1641	S10	E01	10987	03	27.8	7	SF	3	E		10	
			28 0115		0536	No	Flare	Patrol									
			28 0658		1157	No	Flare	Patrol									
			29 0116		0339	No	Flare	Patrol									
			29 0344		0531	No	Flare	Patrol									
			29 0618		0757	No	Flare	Patrol									
			30 0116		0339	No	Flare	Patrol									
			30 0406		0524	No	Flare	Patrol									
			30 0738		0740	No	Flare	Patrol									
			30 0742		0746	No	Flare	Patrol									
			30 0749		0757	No	Flare	Patrol									
			30 0804		0805	No	Flare	Patrol									
			30 0809		0816	No	Flare	Patrol									
			30 0824		0825	No	Flare	Patrol									
			31 0340		0346	No	Flare	Patrol									
			31 0412		0420	No	Flare	Patrol									
0012	LEAR	31	0532	0532	0542	S11	W22	10988	03	29.6	10	SF	3	E		22	

"Remarks"

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

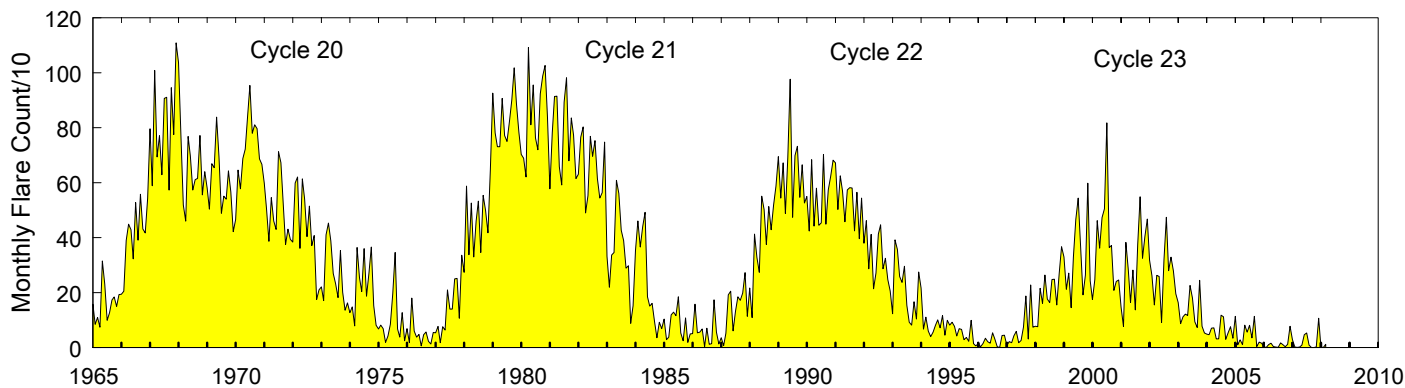
Observation Type: C=Cinematographic, E=Electronic, P=Photographic, V=Visual

# Intervals of No Flare Patrol Observation for Preceding Solar Flare Table March 2008



Stations participating: Holloman, Learmonth, SanVito, Kanzelhoehe.

## Monthly Counts of Grouped Solar Flares Jan 1965 - Mar 2008



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	158	85	110	74	315	231	99	127	173	184	150	193	1899
1966	194	205	390	449	429	323	528	391	558	432	417	543	4859
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	551	502	375	513	429	518	587	4816
1989	695	544	672	488	691	977	474	699	733	547	665	526	7711
1990	550	424	684	442	580	445	454	703	449	574	623	682	6610
1991	672	503	625	570	458	574	582	581	425	565	396	544	6495
1992	380	462	287	412	214	271	413	447	287	325	248	206	3952
1993	123	392	357	262	237	296	154	92	82	167	104	275	2541
1994	217	67	111	60	40	56	81	101	72	117	45	99	1066
1995	82	95	77	42	69	66	29	37	23	99	14	6	639
1996	14	3	15	34	21	16	54	31	3	0	44	45	280
1997	8	22	18	43	59	18	26	75	188	31	228	74	790
1998	78	76	216	161	264	177	164	248	249	155	268	367	2423
1999	330	212	271	145	330	466	544	368	192	264	598	243	3963
2000	175	248	462	362	473	505	818	364	372	208	241	246	4474
2001	147	77	383	284	164	282	137	376	549	325	405	468	3597
2002	318	261	155	263	259	91	318	474	280	329	279	196	3223
2003	164	87	112	122	117	226	181	94	73	245	78	53	1552
2004	49	47	71	72	32	33	118	112	30	54	76	34	728
2005	114	10	28	11	82	56	81	35	114	4	20	16	571
2006	4	0	11	16	4	2	1	17	11	3	12	78	159
2007	29	2	1	2	9	47	53	9	0	0	2	107	261
2008	2	0	12										14

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

S O L A R R A D I O E M I S S I O N  
Selected Fixed Frequency Events

Mar 08

MARCH 2008

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
20	33 UPIC	46 C	0911.0	0911.8	8.0U				
24	245 LEAR	20 GRF	0901.0	0902.0	3.0	100.0			QL=4 ST=2 TYP=2
25	2800 HIRA	1 S	0451.0	0454.0	7.0	5.0			
	33 UPIC	46 C	1422.0	1425.5	8.0				
	2695 SGMR	48 C	1849.0	1851.0	6.0	290.0			QL=4 ST=2 TYP=8
	2695 PALE	48 C	1850.0	1851.0	4.0	290.0			QL=4 ST=2 TYP=8
	1415 PALE	8 S	1850.0	1851.0	1.0	450.0			QL=4 ST=2 TYP=3
	610 SGMR	8 S	1850.0	1850.0	U	48.0			QL=4 ST=2 TYP=3
	1415 SGMR	8 S	1850.0	1851.0	2.0	400.0			QL=4 ST=2 TYP=3
	4995 SGMR	4 S/F	1850.0	1851.0	5.0	160.0			QL=4 ST=2 TYP=3
	1415 PALE	8 S	1850.0E	1851.0U	1.0D	450.0			QL=4 ST=2 TYP=3
	4995 PALE	8 S	1851.0	1851.0	1.0	130.0			QL=4 ST=2 TYP=3
	245 SGMR	8 S	1851.0	1852.0	2.0	99.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1851.0	1851.0	2.0	74.0			QL=4 ST=2 TYP=3
	245 PALE	8 S	1852.0	1852.0	U	100.0			QL=4 ST=2 TYP=3
26	245 SVTO	8 S	1625.0	1625.0	U	100.0			QL=2 ST=2 TYP=3
27	8800 SGMR	8 S	1757.0	1758.0	1.0	220.0			QL=4 ST=2 TYP=3
28	2804 VORO	2 S/F	0014.6	0015.1	1.1	9.8			
	2800 HIRA	8 S	0015.0	0015.0	1.0	10.0			

Reports are received routinely from the following observatories:

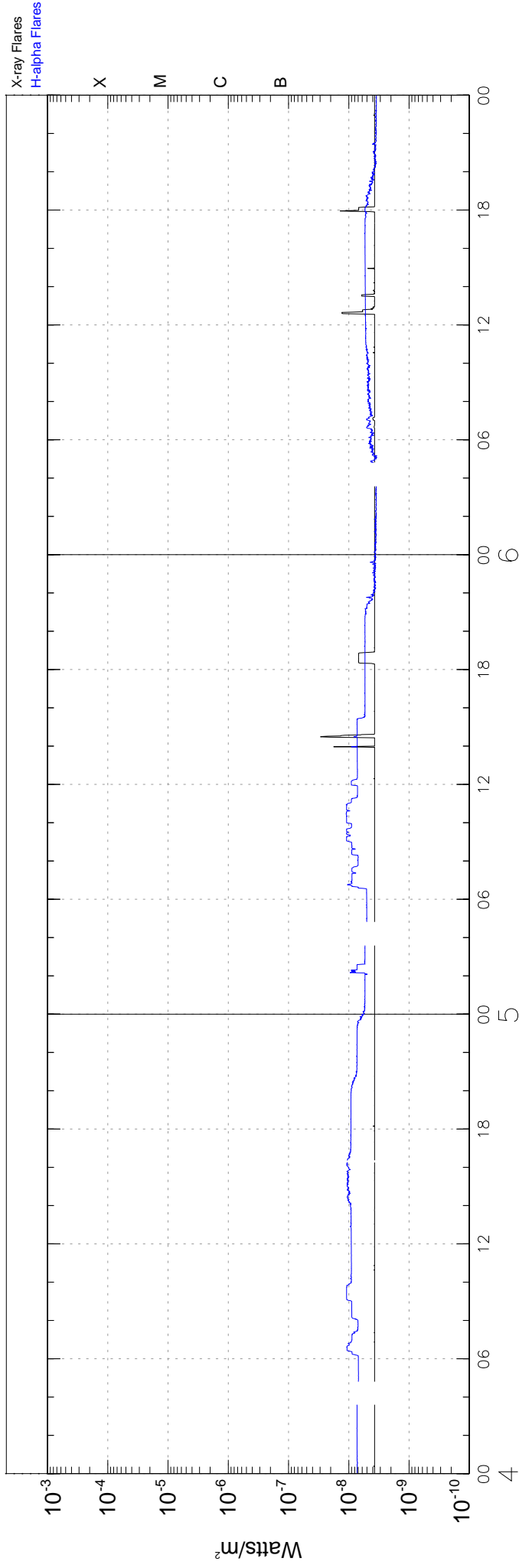
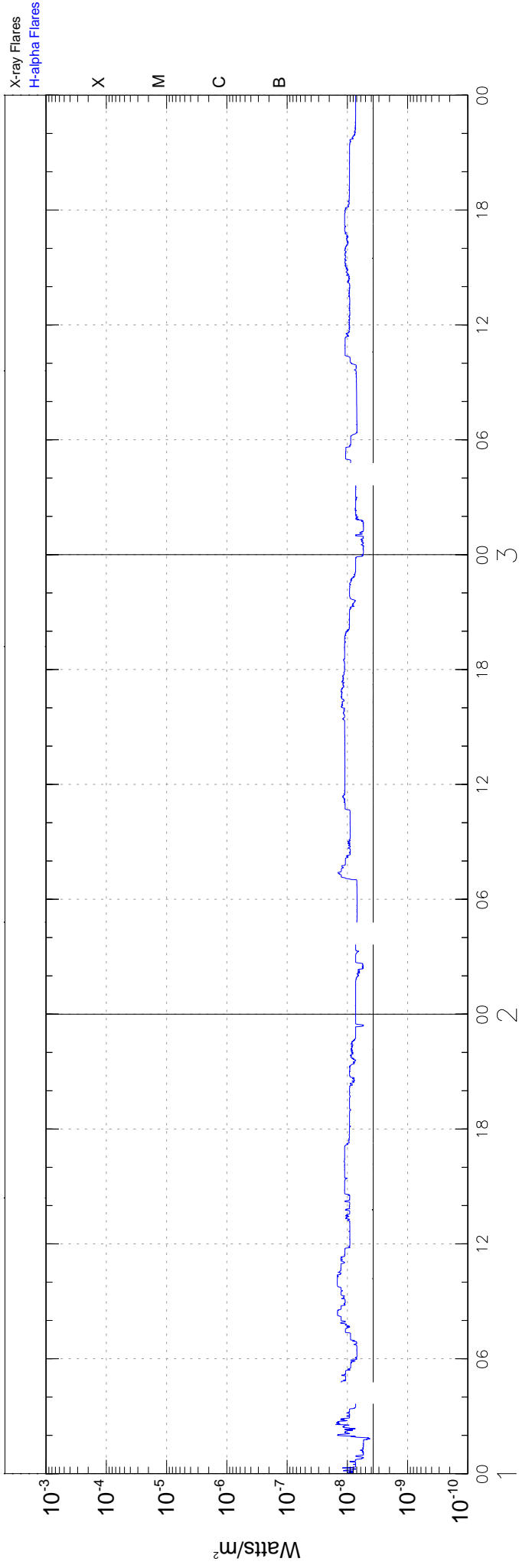
LEAR = Learmonth                      SGMR = Sagamore Hill                      SVTO = San Vito

## Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	4O Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	4OF Rise Only F	26O Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

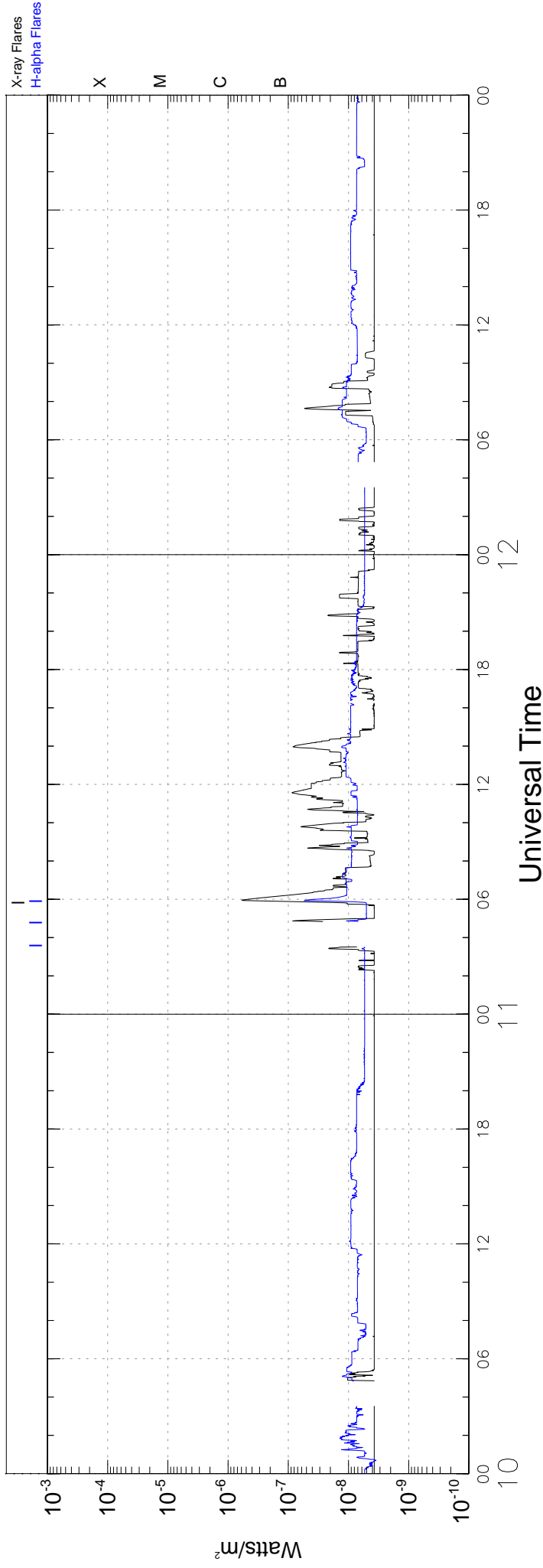
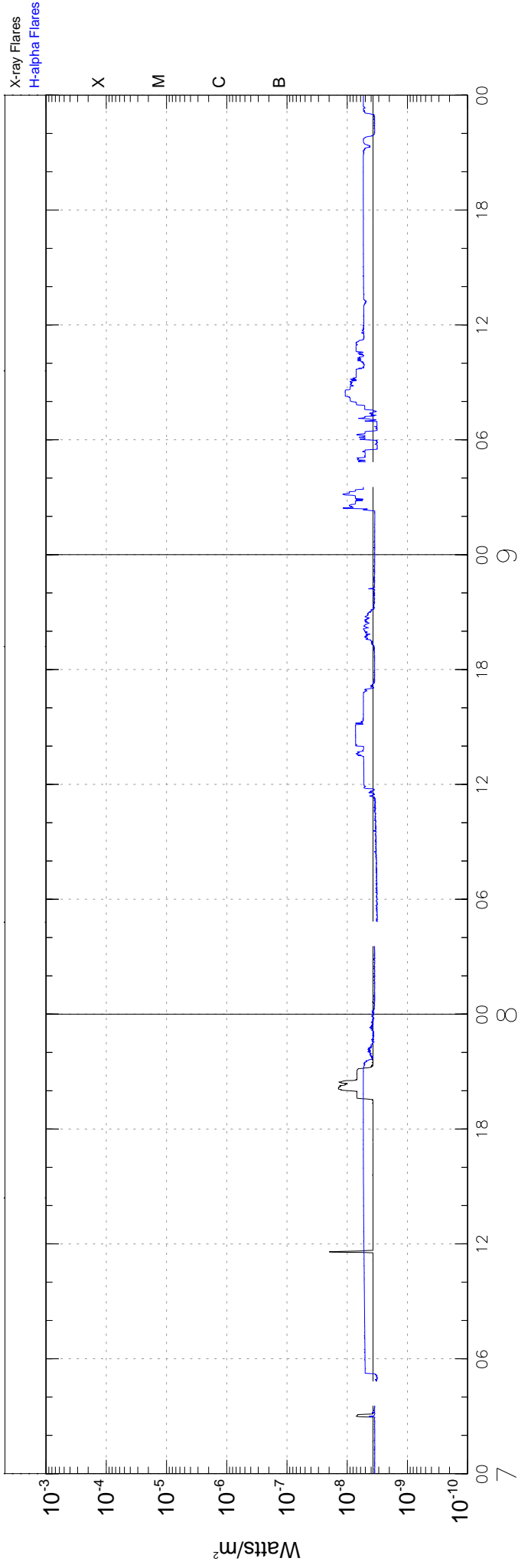
RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; and Hiraiso, Japan 500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

# GOES-10 Solar X-Rays (1-Minute Averages) March 2008

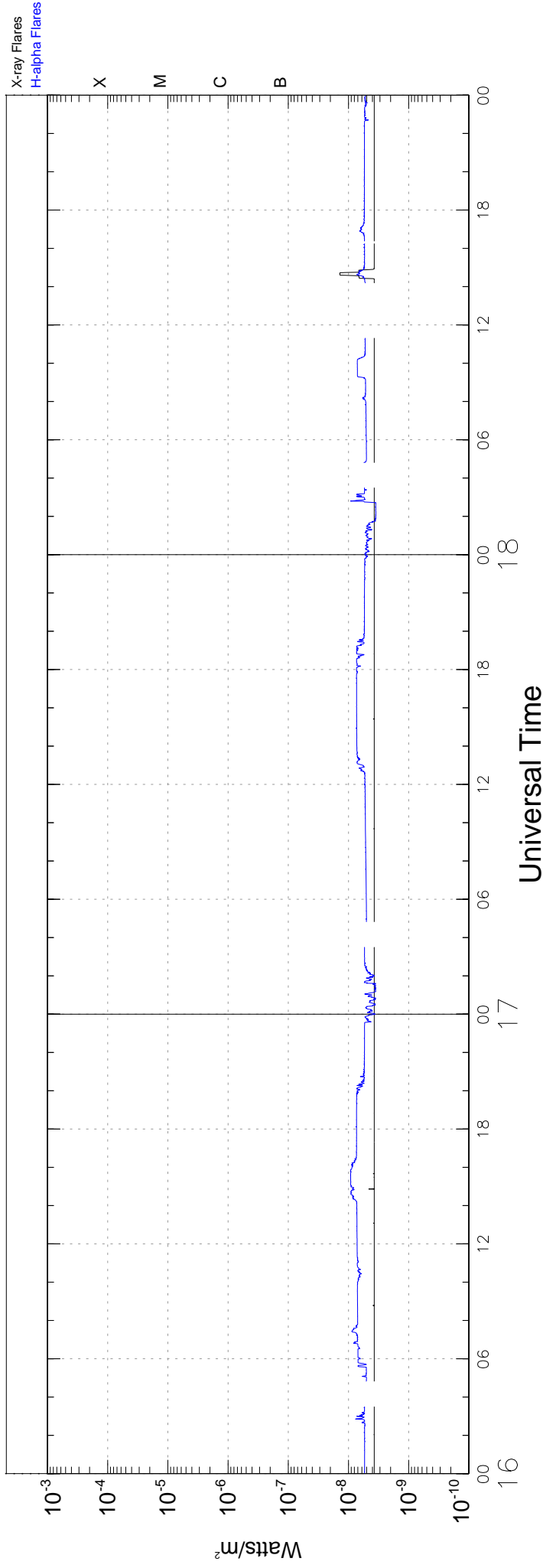
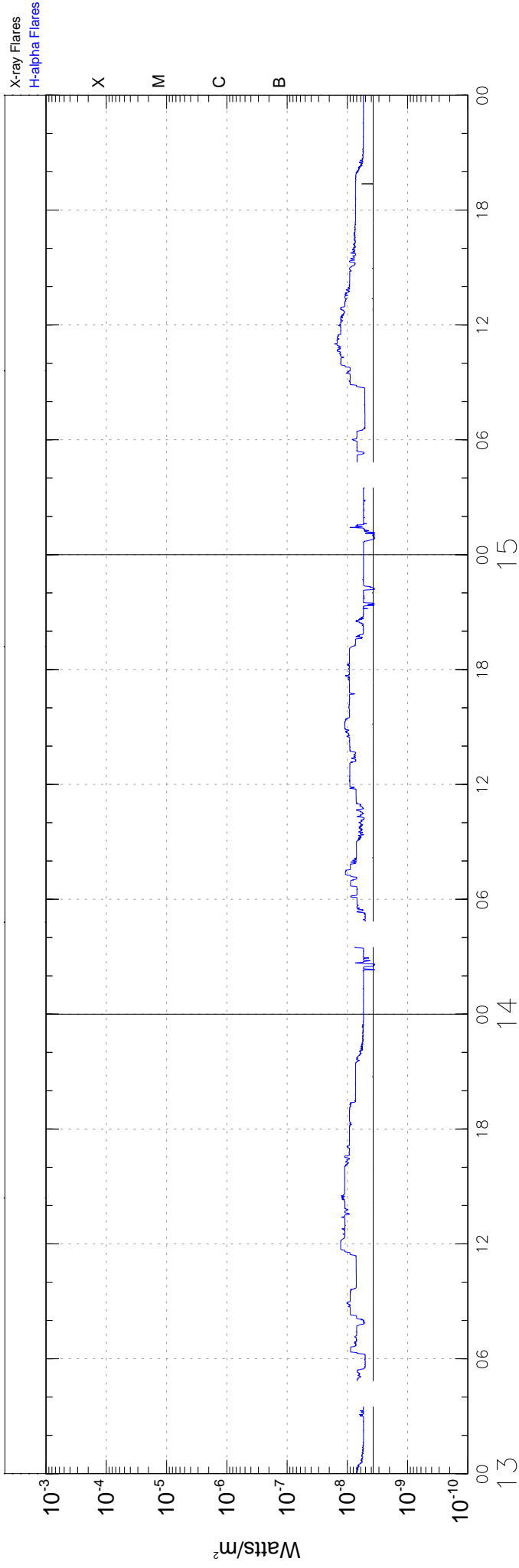




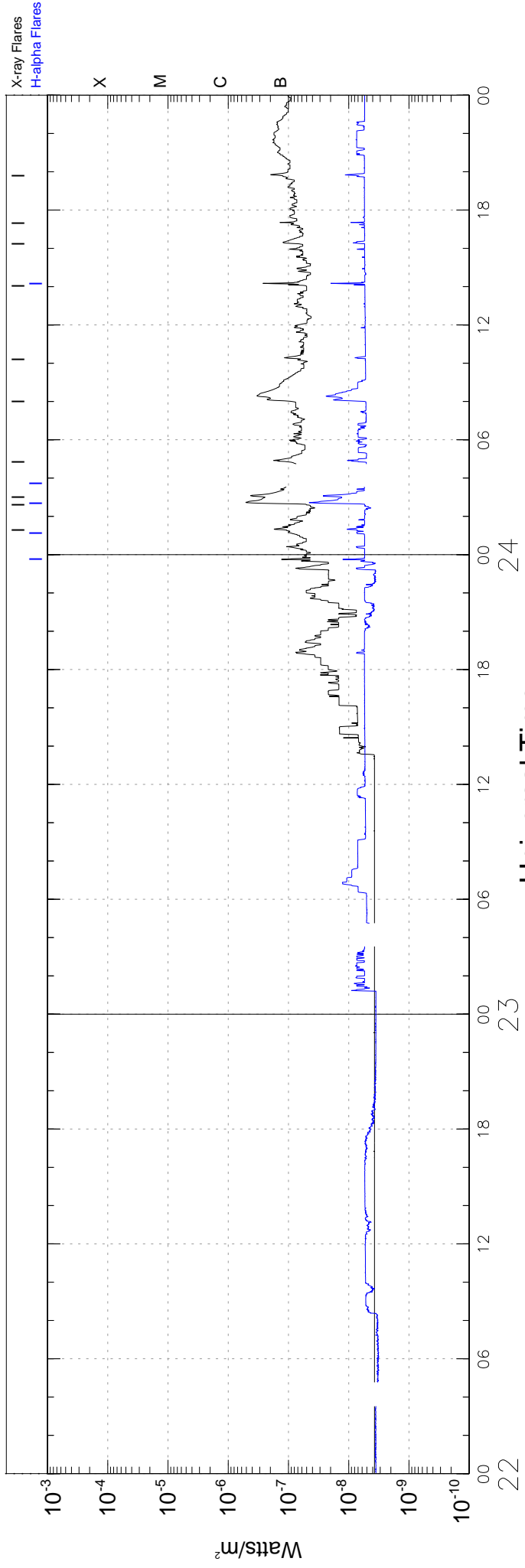
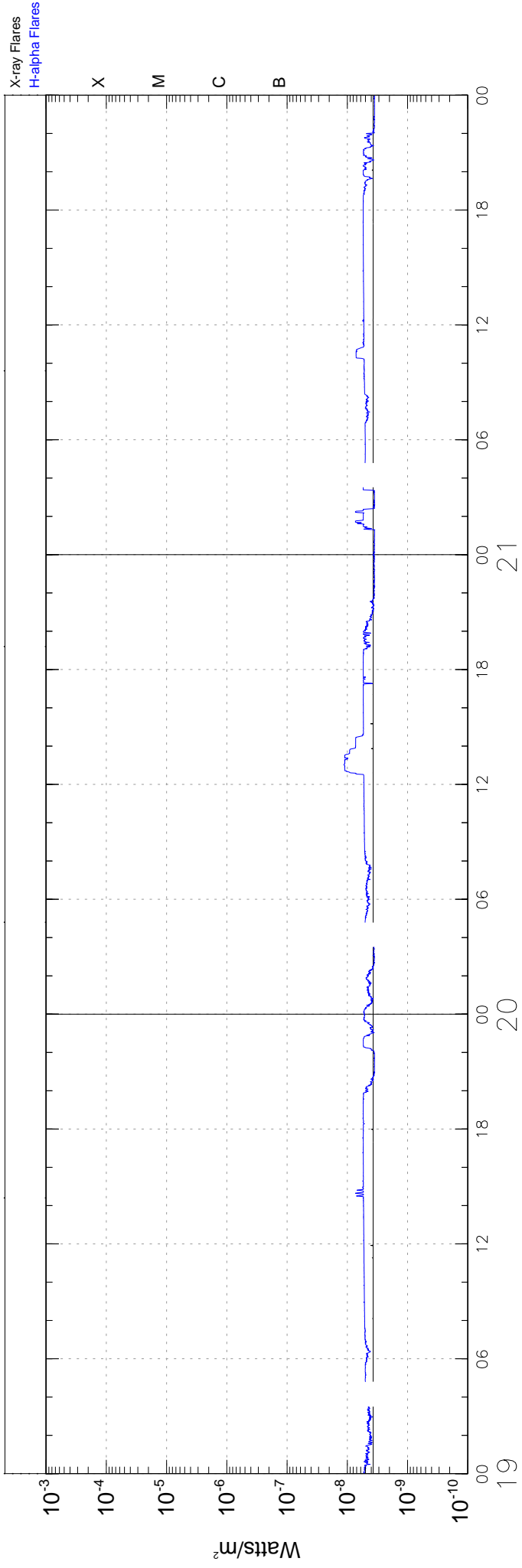
# GOES-10 Solar X-Rays (1-Minute Averages) March 2008



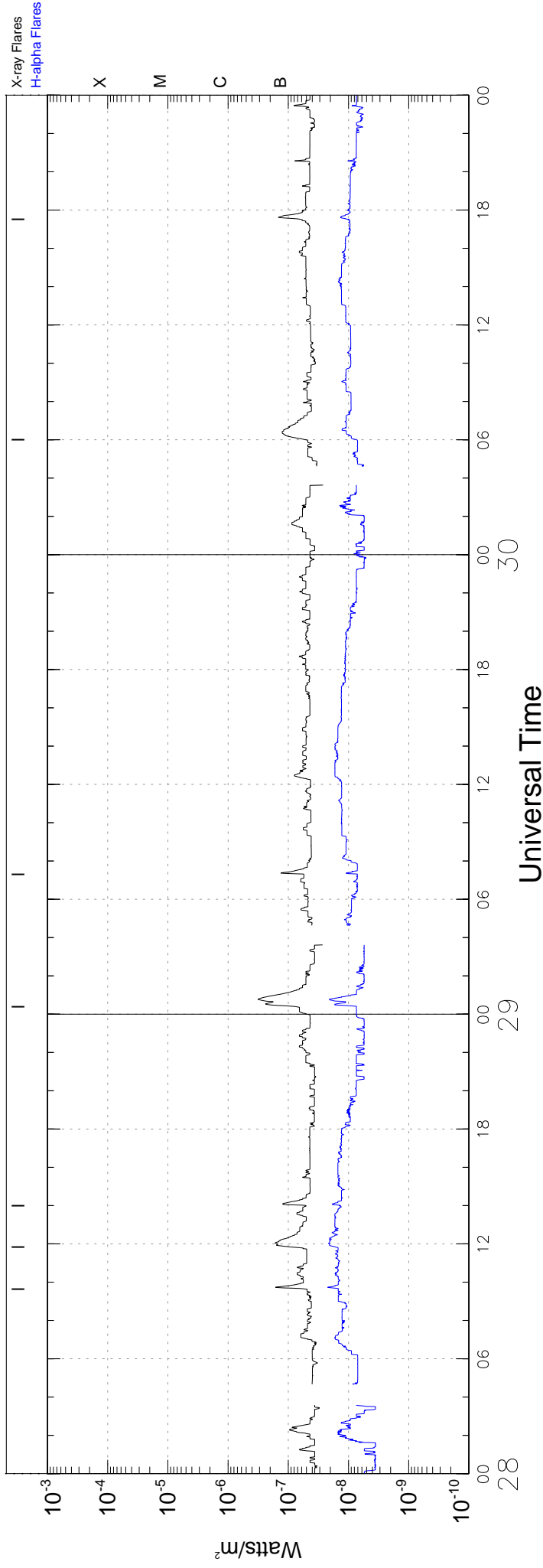
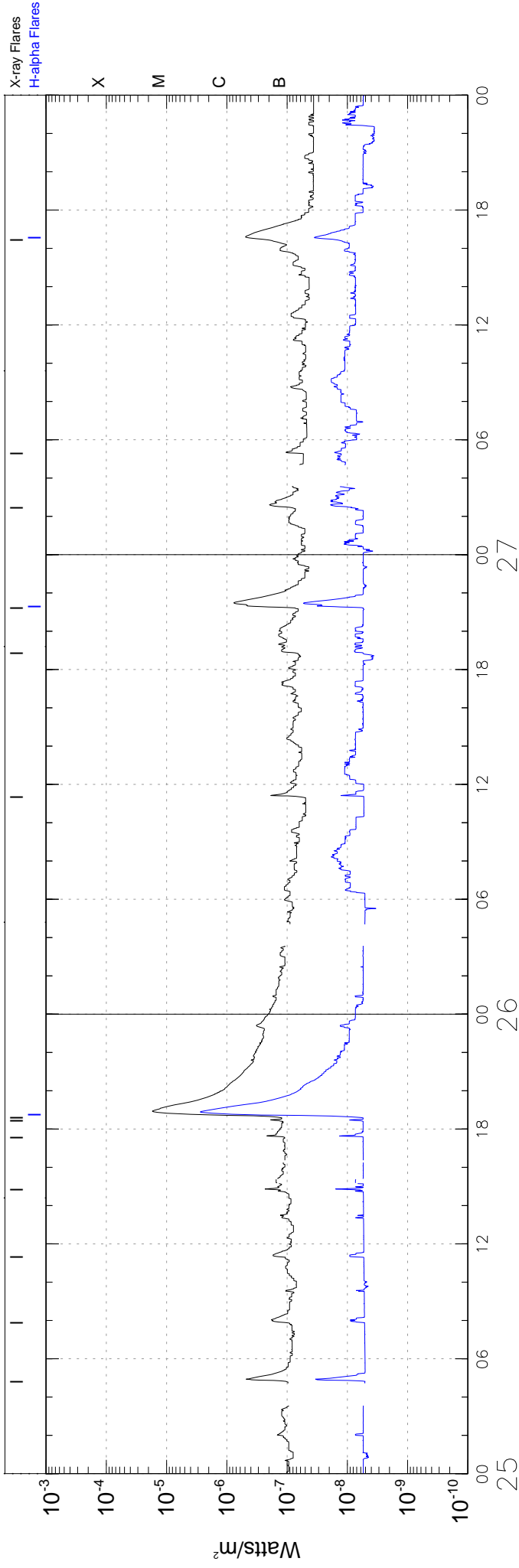
# GOES-10 Solar X-Rays (1-Minute Averages) March 2008



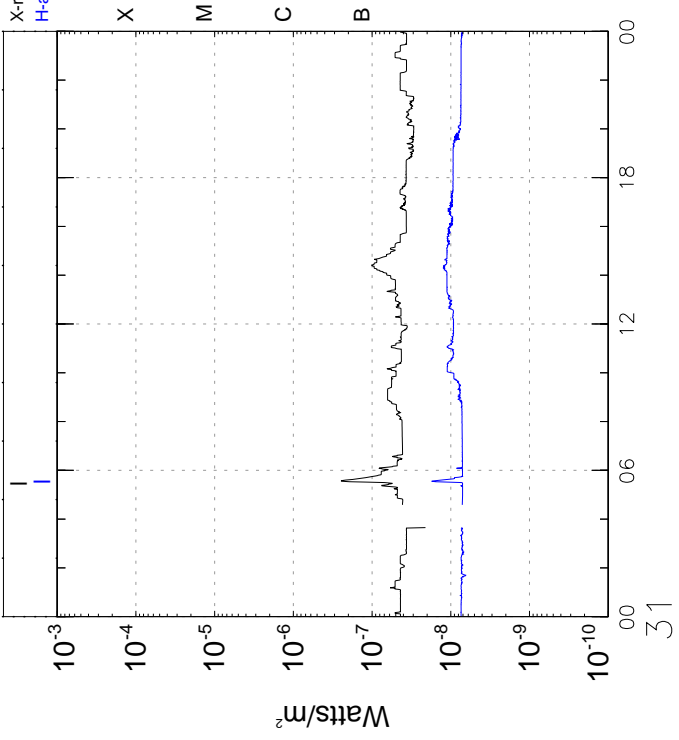
# GOES-10 Solar X-Rays (1-Minute Averages) March 2008



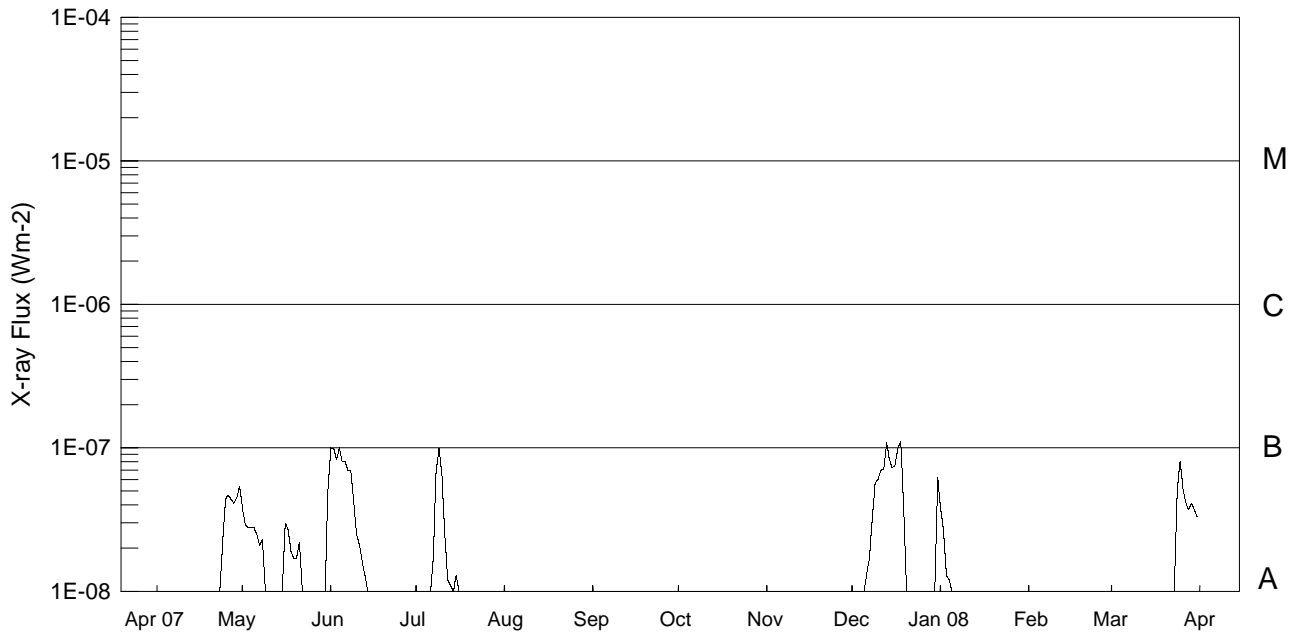
# GOES-10 Solar X-Rays (1-Minute Averages) March 2008



X-ray Flares  
H-alpha Flares



## Preliminary GOES Satellite Daily X-Ray Background Apr 2007 - Mar 2008



Day	Apr 07	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar
1	<A1.0	A3.8	B1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A3.8	<A1.0	<A1.0
2	<A1.0	A2.9	A9.9	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A2.7	<A1.0	<A1.0
3	<A1.0	A2.8	A8.3	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A1.3	<A1.0	<A1.0
4	<A1.0	A2.8	B1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A1.2	<A1.0	<A1.0
5	<A1.0	A2.8	A8.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A1.0	<A1.0	<A1.0
6	<A1.0	A2.5	A8.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A1.3	<A1.0	<A1.0	<A1.0
7	<A1.0	A2.1	A7.0	A1.7	<A1.0	<A1.0	<A1.0	<A1.0	A1.7	<A1.0	<A1.0	<A1.0
8	<A1.0	A2.3	A7.0	A6.9	<A1.0	<A1.0	<A1.0	<A1.0	A3.2	<A1.0	<A1.0	<A1.0
9	<A1.0	<A1.0	A4.2	B1.0	<A1.0	<A1.0	<A1.0	<A1.0	A5.7	<A1.0	<A1.0	<A1.0
10	<A1.0	<A1.0	A2.5	A6.3	<A1.0	<A1.0	<A1.0	<A1.0	A6.0	<A1.0	<A1.0	<A1.0
11	<A1.0	<A1.0	A2.1	A2.4	<A1.0	<A1.0	<A1.0	<A1.0	A7.0	<A1.0	<A1.0	<A1.0
12	<A1.0	<A1.0	A1.6	A1.2	<A1.0	<A1.0	<A1.0	<A1.0	A7.1	<A1.0	<A1.0	<A1.0
13	<A1.0	<A1.0	A1.3	A1.1	<A1.0	<A1.0	<A1.0	<A1.0	B1.1	<A1.0	<A1.0	<A1.0
14	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A8.4	<A1.0	<A1.0	<A1.0
15	<A1.0	<A1.0	<A1.0	A1.3	<A1.0	<A1.0	<A1.0	<A1.0	A7.3	<A1.0	<A1.0	<A1.0
16	<A1.0	A3.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A7.5	<A1.0	<A1.0	<A1.0
17	<A1.0	A2.7	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	B1.0	<A1.0	<A1.0	<A1.0
18	<A1.0	A1.9	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	B1.1	<A1.0	<A1.0	<A1.0
19	<A1.0	A1.7	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A4.0	<A1.0	<A1.0	<A1.0
20	<A1.0	A1.7	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0
21	<A1.0	A2.2	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0
22	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0
23	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0
24	A2.2	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A5.1
25	A4.4	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A8.1
26	A4.7	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A5.2
27	A4.4	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A4.2
28	A4.1	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A3.7
29	A4.5	<A1.0	A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	A4.1
30	A5.4	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0	<A1.0		A3.7
31		A5.1		<A1.0	<A1.0		<A1.0		A6.2	<A1.0		A3.3

Levels below B1.0 are unreliable.

ACTIVE PROMINENCES AND FILAMENTS

17  
Mar 08

MARCH 2008

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
04	DSF	0023U	1415U	S30	W10	03	3.2	3	26	0	0	E	HOLL		
27	DSF	0034U	1359	N25	W10	03	26.2	3	09	0	0	E	HOLL		
31	DSF	1611	1945	S45	W17	03	30.3	3	07	0	0	E	HOLL		

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

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

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

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

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

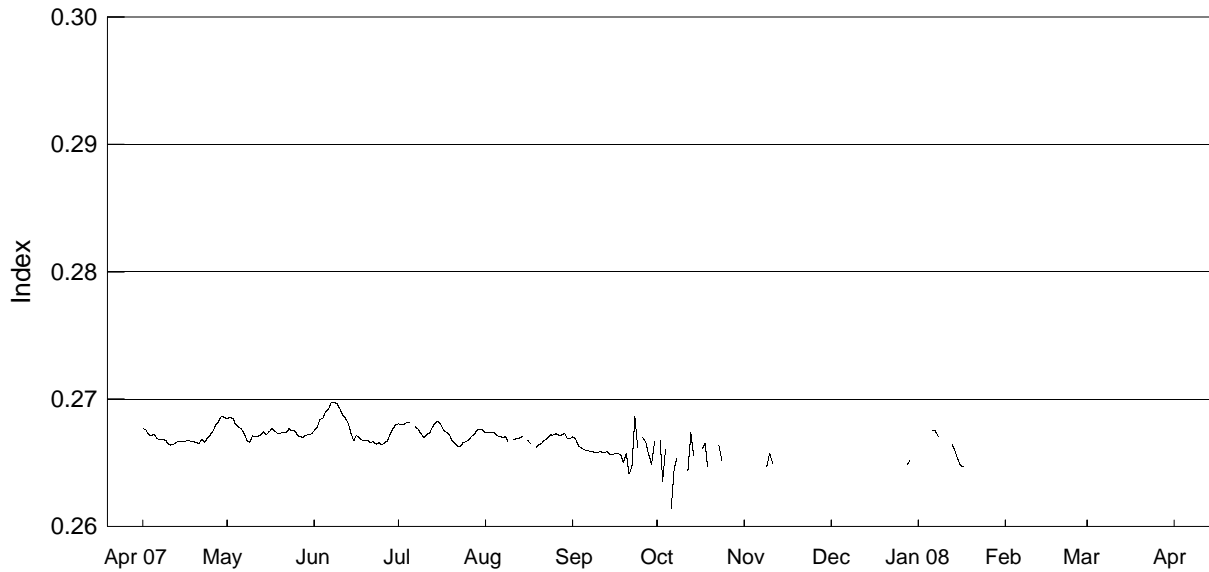
ABST = Abastumani	HOLL = Holloman	RAMY = Ramey
ATHN = Athens	KHAR = Kharkov	SVTO = San Vito
BUCA = Bucharest	LEAR = Learmonth	VORO = Voroshilov
CATA = Catania	PALE = Palehua	VALA = Valasske Mezirici
		WROC = Wroclaw

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

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

## Apr 2007 - Mar 2008

### Version 9.1

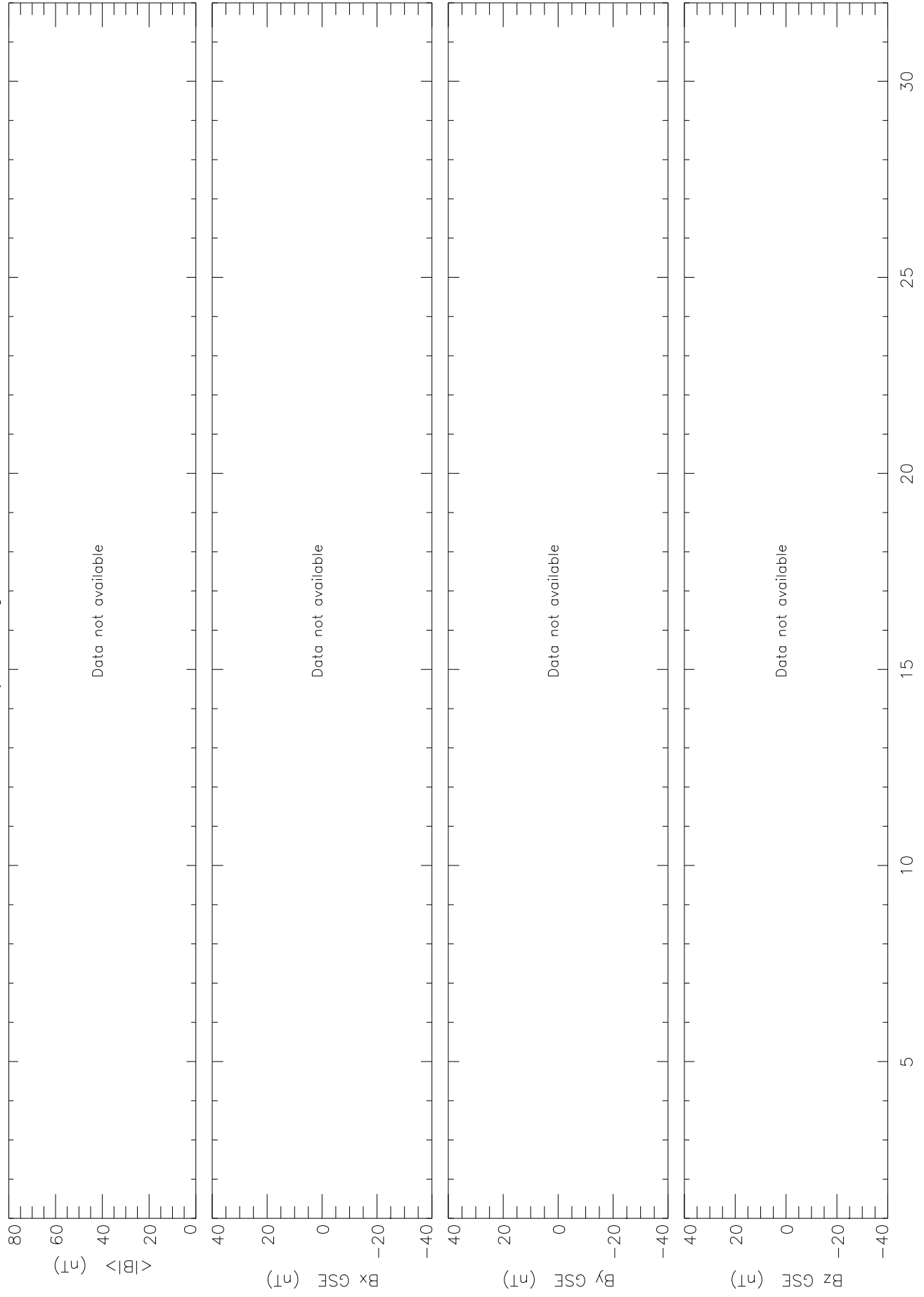


Day	Apr 07	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar
1	0.2677	0.2685	0.2676	0.2681	0.2674	0.2671	---	---	---	---	---	---
2	0.2676	0.2686	0.2678	0.2680	0.2674	0.2669	0.2668	---	---	0.2658	---	---
3	0.2672	0.2685	0.2684	0.2681	0.2674	0.2663	0.2635	---	---	---	---	---
4	0.2671	0.2680	0.2685	0.2682	0.2674	0.2662	0.2661	---	---	---	---	---
5	0.2673	0.2679	0.2690	0.2682	0.2672	0.2661	---	---	---	---	---	---
6	0.2669	0.2677	0.2692	---	0.2671	0.2660	0.2615	---	---	0.2675	---	---
7	0.2669	0.2673	0.2697	0.2678	0.2670	0.2659	0.2645	0.2644	---	0.2675	---	---
8	0.2668	0.2667	0.2698	0.2677	0.2671	0.2659	0.2654	---	---	0.2671	---	---
9	0.2668	0.2666	0.2697	0.2673	0.2667	0.2658	---	0.2647	---	---	---	---
10	0.2665	0.2671	0.2693	0.2670	---	0.2659	---	0.2658	---	---	---	---
11	0.2664	0.2671	0.2688	0.2673	0.2668	0.2659	---	0.2650	---	0.2527	---	---
12	0.2665	0.2671	0.2685	0.2674	0.2669	0.2658	0.2644	---	---	---	---	---
13	0.2666	0.2672	0.2682	0.2678	0.2670	0.2659	0.2674	---	---	0.2664	---	---
14	0.2667	0.2674	0.2674	0.2681	0.2671	0.2657	0.2655	---	---	0.2659	---	---
15	0.2667	0.2672	0.2667	0.2683	---	0.2656	---	---	---	0.2653	---	---
16	0.2667	0.2675	0.2672	0.2680	0.2668	0.2657	---	---	---	0.2648	---	---
17	0.2668	0.2677	0.2670	0.2676	0.2665	0.2657	0.2661	---	---	0.2647	---	---
18	0.2667	0.2675	0.2668	0.2674	---	0.2656	0.2665	---	---	---	---	---
19	0.2667	0.2673	0.2668	0.2672	0.2662	0.2650	0.2647	---	---	---	---	---
20	0.2666	0.2673	0.2668	0.2667	0.2664	0.2657	---	---	---	---	---	---
21	0.2666	0.2674	0.2666	0.2665	0.2666	0.2641	---	---	---	---	---	---
22	0.2668	0.2674	0.2667	0.2663	0.2668	0.2647	---	---	---	---	---	---
23	0.2666	0.2677	0.2665	0.2663	0.2670	0.2687	0.2664	---	---	---	---	---
24	0.2670	0.2675	0.2666	0.2666	0.2672	0.2662	0.2652	---	0.2665	---	---	---
25	0.2672	0.2676	0.2664	0.2667	0.2672	---	---	---	---	---	---	---
26	0.2675	0.2672	0.2666	0.2668	0.2673	0.2670	---	---	---	---	---	---
27	0.2680	0.2671	0.2667	0.2671	0.2672	0.2666	---	---	---	---	---	---
28	0.2683	0.2670	0.2673	0.2673	0.2672	0.2656	---	---	0.2649	---	---	---
29	0.2687	0.2672	0.2677	0.2676	0.2673	0.2649	0.2658	---	0.2652	---	---	---
30	0.2686	0.2672	0.2680	0.2676	0.2669	0.2667	---	---	---	---	---	---
31	---	0.2673	---	0.2676	0.2669	---	---	---	---	---	---	---
Mean	0.2671	0.2674	0.2677	0.2674	0.2670	0.2660	0.2653	0.2650	0.2655	0.2661	---	---

Data at: <http://www.swpc.noaa.gov/ftpmenu/sbuw.html>

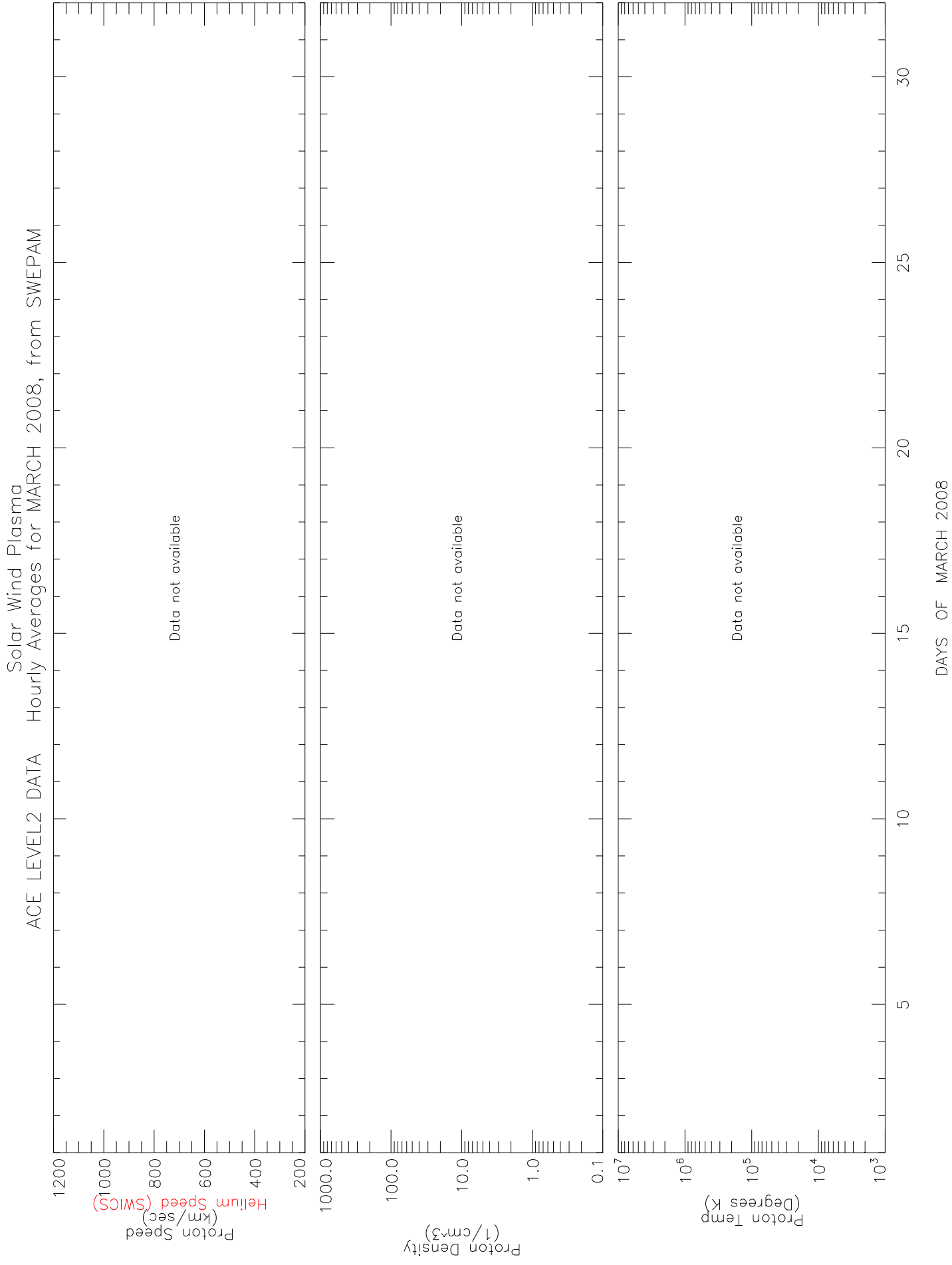


ACE LEVEL2 DATA Interplanetary Magnetic Field  
Hourly Averages for MARCH 2008, from MAG

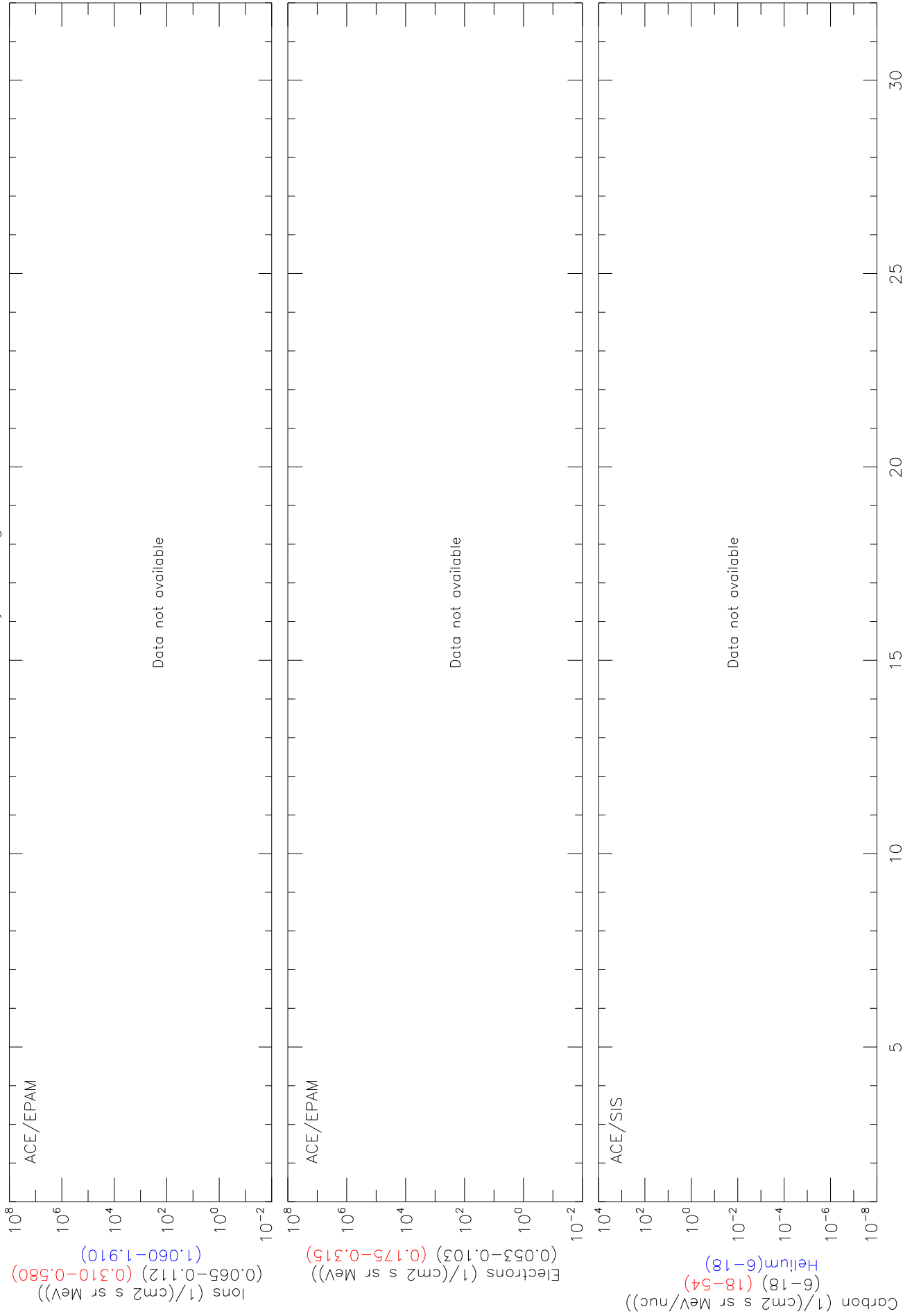


DAYS OF MARCH 2008

ACE LEVEL2 DATA Hourly Averages for MARCH 2008, from SWEPAM



# Solar Energetic Particles ACE LEVEL2 DATA Hourly Averages for MARCH 2008



# SOLAR CORONAL MASS EJECTIONS (CMEs) FROM SOHO/LASCO

<http://cdaw.gsfc.nasa.gov/>

Center for Solar Physics and Space Weather (CSPSW) – The Catholic University of America/NRL/NASA  
MARCH 2008

First C2 Appearance		Central Width			Linear Fit			Measurement		Remarks
Date	Time UT	Position Angle degree	Angular Width degree	Speed km/s	Initial km/s	Final km/s	20R km/s	Accel m/s <sup>2</sup>	Position Angle degree	
2008/03/01	00:54:04	237	13	500	576	426	0	-24.1*	248	Poor Event
2008/03/01	13:31:02	107	9	231	236	226	99	-2.0*	102	Very Poor; Only C2
2008/03/01	13:31:02	140	13	151	177	125	0	-11.0*	139	Very Poor; Only C2
2008/03/01	19:54:05	226	44	212	144	285	275	2.2*	230	Poor Event
2008/03/02	03:30:04	85	46	70	9	127	196	1.6*	89	Very Poor Event
2008/03/02	06:30:05	227	6	272	200	354	433	6.3*	228	Very Poor Event
2008/03/02	08:06:05	33	5	621	608	636	742	7.4*	39	Poor Event; Only C2
2008/03/02	16:30:05	263	33	168	91	253	407	6.4*	267	Very Poor Event
2008/03/02	19:30:06	33	11	352	448	256	0	-53.9*	40	Very Poor; Only C2
2008/03/03	09:06:04	269	4	249	285	215	0	-10.8*	267	Very Poor; Only C2
2008/03/03	13:31:01	229	5	325	319	331	353	1.1*	232	Very Poor Event
2008/03/03	18:54:27	224	11	174	146	202	242	1.5*	229	Very Poor Event
2008/03/04	00:30:04	101	10	326	243	408	895	31.6*	98	Very Poor; Only C2
2008/03/04	07:31:04	232	12	390	323	457	457	5.0*	236	Very Poor Event
2008/03/04	09:54:04	359	3	247	437	75	0	-166.4*	360	Very Poor; 3pts; Only C2
2008/03/04	11:06:04	275	18	187	245	128	0	-13.7*	274	Very Poor; Only C2
2008/03/04	12:54:04	233	68	224	126	338	401	6.0*	234	Poor Event
2008/03/04	15:30:05	105	8	298	301	295	259	-1.0*	99	Very Poor; Only C2
2008/03/05	20:06:04	66	14	296	151	456	441	7.6*	69	Very Poor Event
2008/03/06	00:54:04	226	19	298	296	299	299	0.1*	235	Very Poor Event
2008/03/06	11:54:04	259	32	312	178	464	550	11.2*	259	Very Poor Event
2008/03/07	02:54:05	241	33	205	209	200	181	-0.5*	246	Poor Event
2008/03/07	18:54:04	271	10	199	171	227	250	1.5*	277	Very Poor Event
2008/03/07	22:06:04	6	9	258	161	355	987	38.9*	6	Very Poor; Only C2
2008/03/08	09:54:26	86	22	76	70	81	192	1.3*	89	Very Poor; Only C2
2008/03/08	15:30:04	250	22	247	242	253	256	0.4*	255	Very Poor Event
2008/03/09	02:30:04	295	10	145	90	206	744	23.1*	298	Very Poor; 3pts; Only C2
2008/03/09	17:30:04	250	10	196	147	248	338	4.5*	251	Very Poor Event
2008/03/09	20:30:05	338	5	206	186	227	492	8.5*	340	Very Poor; Only C2
2008/03/10	06:30:04	339	8	146	142	150	223	1.2*	342	Very Poor; Only C2
2008/03/11	06:54:05	288	8	251	180	328	448	8.0*	292	Very Poor Event
2008/03/11	12:06:04	294	11	230	164	303	312	3.4*	297	Very Poor Event
2008/03/12	02:30:04	257	6	348	390	307	0	-16.7*	259	Very Poor; Only C2
2008/03/12	12:54:04	295	6	308	208	411	432	7.1*	295	Very Poor Event
2008/03/12	17:30:04	255	14	202	104	298	753	23.7*	254	Very Poor; Only C2
2008/03/13	00:54:04	334	8	54	52	56	167	1.1*	329	Very Poor; 3pts; Only C2
2008/03/13	03:54:04	288	23	165	88	247	640	16.9*	289	Very Poor; Only C2
2008/03/13	06:30:04	283	21	250	178	323	322	3.0*	290	Poor Event
2008/03/13	09:30:07	243	10	227	304	154	0	-27.1*	244	Very Poor; Only C2
2008/03/13	13:54:04	273	18	184	194	174	143	-0.7*	280	Very Poor Event
2008/03/13	17:30:04	343	5	349	377	322	0	-15.7*	340	Very Poor; Only C2
2008/03/14	07:31:01	284	16	234	198	272	305	2.6*	283	Very Poor Event
2008/03/14	08:30:04	232	8	442	541	344	0	-19.7*	237	Very Poor Event
2008/03/14	10:30:17	286	23	217	155	278	393	5.6*	287	Very Poor Event

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Center for Solar Physics and Space Weather (CSPSW) – The Catholic University of America/NRL/NASA  
MARCH 2008

First C2 Appearance		Central Width			Linear Fit			Measurement		Remarks
Date	Time UT	Position Angle degree	Angular Width degree	Speed km/s	Initial km/s	Final km/s	20R km/s	Accel m/s <sup>2</sup>	Position Angle degree	
2008/03/14	18:06:04	266	65	254	227	284	354	3.0*	270	Poor Event
2008/03/14	23:54:04	257	43	108	92	127	171	0.8*	263	Very Poor Event
2008/03/15	03:54:07	348	8	213	----	----	----	-----	345	Very Poor; 2pts; Only C2
2008/03/15	05:30:04	100	11	265	316	213	0	-9.3*	101	Very Poor Event
2008/03/15	16:30:04	58	11	159	164	155	106	-0.7*	58	Very Poor Event
2008/03/16	19:54:04	237	7	281	358	202	0	-27.6*	245	Very Poor; Only C2
2008/03/17	01:31:06	269	9	371	440	302	0	-11.9*	277	Very Poor Event
2008/03/17	07:54:04	287	51	211	0	402	353	5.1*	284	
2008/03/17	12:30:04	236	13	238	196	284	378	4.3*	231	Very Poor Event
2008/03/17	23:06:04	242	7	268	210	327	768	22.9*	247	Very Poor; Only C2
2008/03/18	01:31:00	244	7	373	497	252	0	-49.6*	251	Very Poor; Only C2
2008/03/18	04:30:04	33	6	300	185	427	1624	111.9*	38	Very Poor; 3pts; Only C2
2008/03/18	05:06:04	279	9	257	245	271	297	1.2*	282	
2008/03/18	06:30:04	357	5	203	289	122	0	-45.7*	353	Very Poor; 3pts; Only C2
2008/03/18	06:30:04	262	15	256	332	179	0	-25.0*	265	Poor Event
2008/03/18	09:30:04	120	55	360	339	383	375	1.1*	124	
2008/03/18	22:06:26	121	34	204	244	166	0	-3.5*	127	Very Poor Event
2008/03/19	04:06:04	124	14	284	126	447	671	21.6*	130	Very Poor Event
2008/03/19	07:31:00	205	4	272	----	----	----	-----	207	Very Poor; 2pts; Only C2
2008/03/19	15:30:04	89	43	100	94	106	134	0.4*	86	Very Poor Event
2008/03/19	21:30:04	119	18	123	86	163	191	1.2*	120	Poor Event
2008/03/20	18:30:04	29	6	101	149	57	0	-25.0*	32	Very Poor; 3pts; Only C2
2008/03/20	20:06:04	271	16	89	142	26	0	-14.2*	272	Very Poor; Only C2
2008/03/20	21:30:08	158	7	259	283	233	0	-23.1*	154	Very Poor; 3pts; Only C2
2008/03/20	23:54:04	80	18	163	154	172	251	1.6*	78	Very Poor; Only C2
2008/03/21	06:30:04	66	17	197	170	225	279	2.0*	67	Very Poor Event
2008/03/21	06:30:04	118	32	95	115	75	0	-7.1*	120	Very Poor; Only C2
2008/03/21	08:54:04	10	6	232	246	218	0	-13.0*	12	Very Poor; 3pts; Only C2
2008/03/21	12:06:04	270	30	28	0	110	259	3.0*	275	Very Poor Event
2008/03/21	12:54:27	242	21	256	209	303	618	13.9*	249	Very Poor; Only C2
2008/03/21	19:54:04	124	15	229	174	289	321	3.3*	124	Very Poor Event
2008/03/22	09:32:42	256	13	386	444	328	0	-10.5*	266	Poor Event
2008/03/22	12:06:06	101	57	287	326	248	0	-10.7*	94	Only C2
2008/03/22	14:30:04	99	60	335	452	203	157	-7.4*	101	
2008/03/22	22:30:04	181	8	425	263	599	1505	93.2*	181	Very Poor; 3pts; Only C2
2008/03/23	00:54:04	122	9	286	218	360	417	5.7*	117	Very Poor Event
2008/03/23	04:30:04	266	9	205	124	295	281	2.7*	270	Poor Event
2008/03/23	06:54:04	23	26	270	301	239	201	-2.1*	24	Poor Event
2008/03/23	17:30:05	101	25	125	183	65	0	-9.6*	95	Very Poor; Only C2
2008/03/24	00:30:04	119	9	257	245	269	408	4.5*	113	Very Poor; Only C2
2008/03/24	03:54:04	93	14	239	339	128	0	-29.9*	93	Very Poor; Only C2
2008/03/24	13:31:01	171	4	280	188	381	1458	91.7*	169	Very Poor; 3pts; Only C2
2008/03/24	18:30:04	287	46	190	0	407	354	5.5*	282	
2008/03/24	21:30:04	103	36	121	152	89	0	-4.1*	101	Very Poor; Only C2
2008/03/25	02:54:05	109	21	163	162	165	179	0.2*	110	Very Poor; Only C2
2008/03/25	04:06:04	10	3	227	198	256	729	20.4*	10	Very Poor; 3pts; Only C2

# SOLAR CORONAL MASS EJECTIONS (CMEs) FROM SOHO/LASCO

<http://cdaw.gsfc.nasa.gov/>

Center for Solar Physics and Space Weather (CSPSW) – The Catholic University of America/NRL/NASA  
MARCH 2008

First C2 Appearance		Central Width			Linear Fit			----2nd order speed----		Accel	Measurement	
Date	Time UT	Position Angle degree	Angular Width degree	Speed km/s	Initial km/s	Final km/s	20R km/s		m/s <sup>2</sup>	Position Angle degree	Remarks	
2008/03/25	13:31:05	6	5	510	153	901	2846		355.7*	10	Very Poor; 3pts; Only C2	
2008/03/25	19:31:36	98	112	980	1284	652	918		-40.7	97		
2008/03/26	10:30:21	265	42	163	0	317	310		4.0*	270		
2008/03/26	17:54:04	182	4	256	364	150	0		-56.5*	181	Very Poor; Only C2	
2008/03/26	23:30:05	70	8	160	106	214	292		3.3*	70	Very Poor Event	
2008/03/27	06:54:05	337	6	374	271	487	1115		48.4*	336	Poor Event; Only C2	
2008/03/27	22:06:04	190	7	104	131	76	0		-7.7*	192	Very Poor; Only C2	
2008/03/28	03:30:05	245	10	158	179	137	0		-8.2*	249	Very Poor; Only C2	
2008/03/28	09:30:04	165	5	133	162	105	0		-6.6*	164	Very Poor; Only C2	
2008/03/29	08:06:04	119	6	304	311	297	239		-1.6*	114	Poor Event	

\* Acceleration is uncertain due to either poor height measurement or a small number of height-time measurements.

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