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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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AUGUST 2008 NUMBER 768 - Part II

Solar-Geophysical Data comprehensive reports

Data for February 2008

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NATIONAL GEOPHYSICAL DATA CENTER
Christopher G. Fox, Director
Boulder, Colorado

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Solar-Geophysical Data comprehensive reports

Data for February 2008 and Miscellaneous
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

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The entry "748A 48" under Oct, for example, means the sunspot drawings for Oct appear in SOLAR-GEOPHYSICAL DATA No 748, Part I, and that they begin on page 48, "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

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Comprehensive Reports Number 768 Part II

DATA FOR **FEBRUARY**

Hà S O L A R F L A R E S
FEBRUARY 2008

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Area Measurement Type	Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
		01	1205		1208	No Flare Patrol													
		01	1229		1232	No Flare Patrol													
		01	1234		1256	No Flare Patrol													
		01	1322		1357	No Flare Patrol													
		01	1410		1418	No Flare Patrol													
		02	0300		0408	No Flare Patrol													
		02	1127		1141	No Flare Patrol													
		02	1146		1202	No Flare Patrol													
		02	1241		1248	No Flare Patrol													
		02	1303		1415	No Flare Patrol													
		03	0433		0457	No Flare Patrol													
		03	0716		0817	No Flare Patrol													
		03	0824		0838	No Flare Patrol													
		03	1113		1123	No Flare Patrol													
		03	1202		1240	No Flare Patrol													
		03	1244		1313	No Flare Patrol													
		03	1319		1333	No Flare Patrol													
		03	1340		1414	No Flare Patrol													
		03	1506		1515	No Flare Patrol													
		03	1908		1958	No Flare Patrol													
		03	2239		2249	No Flare Patrol													
		03	2316		2321	No Flare Patrol													
		04	0014		0105	No Flare Patrol													
		04	0949		1014	No Flare Patrol													
		04	1034		1225	No Flare Patrol													
		04	1231		1237	No Flare Patrol													
		04	1257		1329	No Flare Patrol													
		04	1354		1414	No Flare Patrol													
		04	1852		2048	No Flare Patrol													
		05	0007		0304	No Flare Patrol													
		05	0354		0424	No Flare Patrol													
		05	1058		1157	No Flare Patrol													
		05	1224		1411	No Flare Patrol													
		05	1415		1441	No Flare Patrol													
		05	1518		1531	No Flare Patrol													
		05	1936		2000	No Flare Patrol													
		06	0003		0011	No Flare Patrol													
		06	0500		0529	No Flare Patrol													
		06	0931		0951	No Flare Patrol													
		06	1541		1803	No Flare Patrol													
		07	1121		1125	No Flare Patrol													
		07	1128		1130	No Flare Patrol													
		07	1140		1141	No Flare Patrol													
		07	1143		1144	No Flare Patrol													
		07	1510		1647	No Flare Patrol													
		08	1537		1543	No Flare Patrol													
		08	1550		1611	No Flare Patrol													
		08	1918		2106	No Flare Patrol													
		11	0534		0543	No Flare Patrol													
		13	0449		0507	No Flare Patrol													
		13	0536		0540	No Flare Patrol													
		13	0552		0600	No Flare Patrol													
		13	0627		0629	No Flare Patrol													
		14	1822		2016	No Flare Patrol													
		15	1532		2234	No Flare Patrol													
		16	1516		1837	No Flare Patrol													
		16	1846		2232	No Flare Patrol													
		16	2249		2316	No Flare Patrol													
		17	0016		0222	No Flare Patrol													
		17	0642		0720	No Flare Patrol													
		18	0046		0702	No Flare Patrol													
		18	0723		0737	No Flare Patrol													
		18	2314		2400	No Flare Patrol													
		19	0000		0626	No Flare Patrol													
		19	2031		2136	No Flare Patrol													
		19	2145		2150	No Flare Patrol													
		19	2221		2230	No Flare Patrol													
		19	2301		2317	No Flare Patrol													

Hà S O L A R F L A R E S

FEBRUARY 2008

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		19	2326		2400	No Flare Patrol													
		20	0000		0653	No Flare Patrol													
		20	1700		1740	No Flare Patrol													
		20	2146		2218	No Flare Patrol													
		20	2232		2258	No Flare Patrol													
		20	2320		2400	No Flare Patrol													
		21	0000		0220	No Flare Patrol													
		21	0239		0328	No Flare Patrol													
		21	0412		0420	No Flare Patrol													
		21	0723		0736	No Flare Patrol													
		21	1406		1409	No Flare Patrol													
		21	1411		1419	No Flare Patrol													
		21	1441		1442	No Flare Patrol													
		21	1447		1805	No Flare Patrol													
		21	2010		2011	No Flare Patrol													
		22	0008		0147	No Flare Patrol													
		22	0519		0604	No Flare Patrol													
		22	0742		0825	No Flare Patrol													
		22	0846		0914	No Flare Patrol													
		22	0934		0958	No Flare Patrol													
		22	1008		1009	No Flare Patrol													
		22	1843		1922	No Flare Patrol													
		22	2009		2017	No Flare Patrol													
		22	2143		2149	No Flare Patrol													
		22	2200		2218	No Flare Patrol													
		22	2228		2250	No Flare Patrol													
		22	2340		2350	No Flare Patrol													
		23	0009		0019	No Flare Patrol													
		23	0049		0230	No Flare Patrol													
		23	0528		0637	No Flare Patrol													
		23	0651		0717	No Flare Patrol													
		24	0021		0051	No Flare Patrol													
		24	0058		0221	No Flare Patrol													
		24	0228		0324	No Flare Patrol													
		24	0329		0337	No Flare Patrol													
		24	0513		0643	No Flare Patrol													
		24	1818		1840	No Flare Patrol													
		24	1909		2041	No Flare Patrol													
		24	2118		2147	No Flare Patrol													
		25	0050		0206	No Flare Patrol													
		25	0303		0358	No Flare Patrol													
		25	1731		1810	No Flare Patrol													
		26	1530		1754	No Flare Patrol													
		27	1248		1250	No Flare Patrol													
		27	1258		1333	No Flare Patrol													
		28	0314		0325	No Flare Patrol													
		28	1601		1700	No Flare Patrol													

"Remarks"

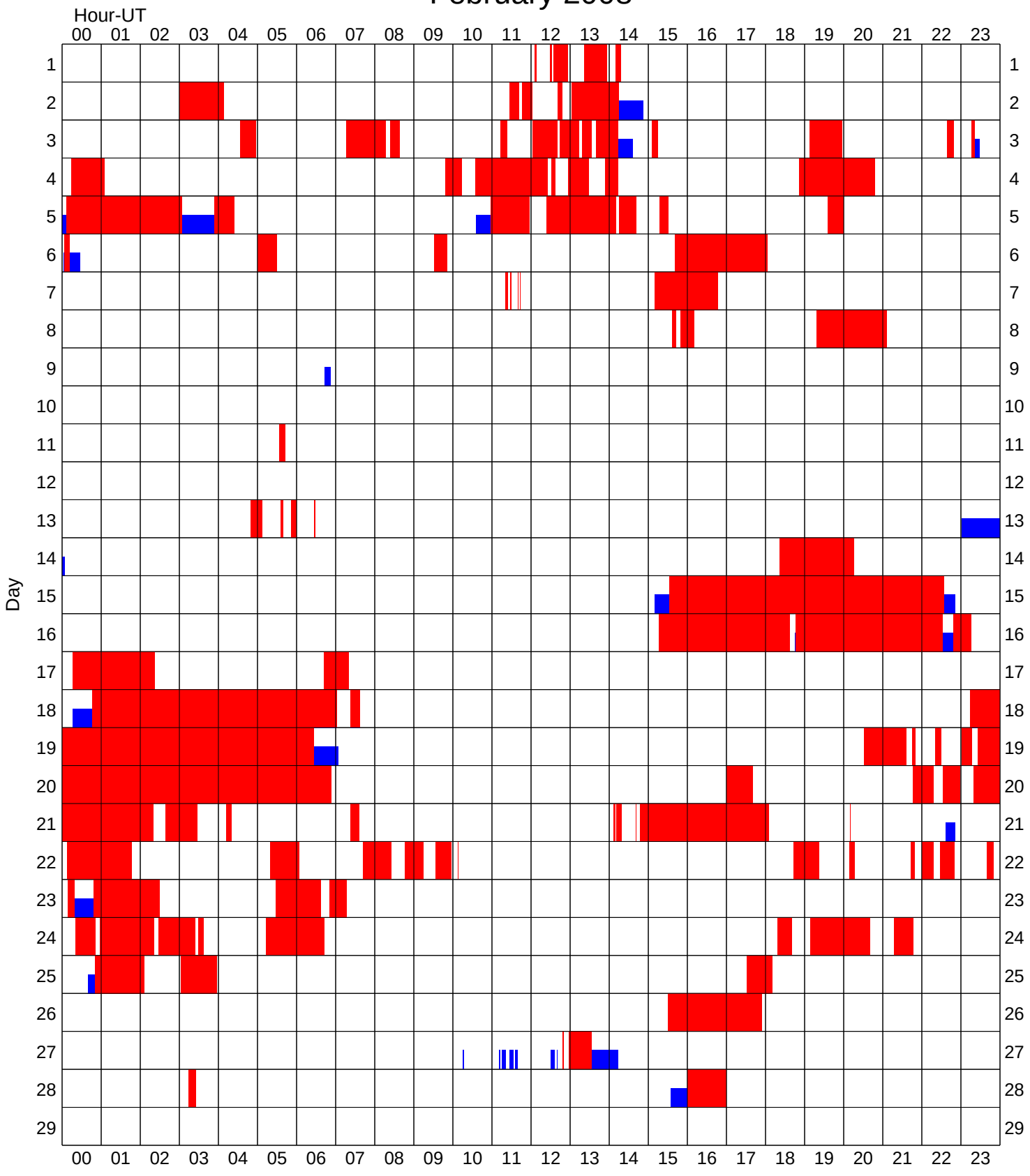
A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied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

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

Intervals of No Flare Patrol Observation

for Preceding Solar Flare Table

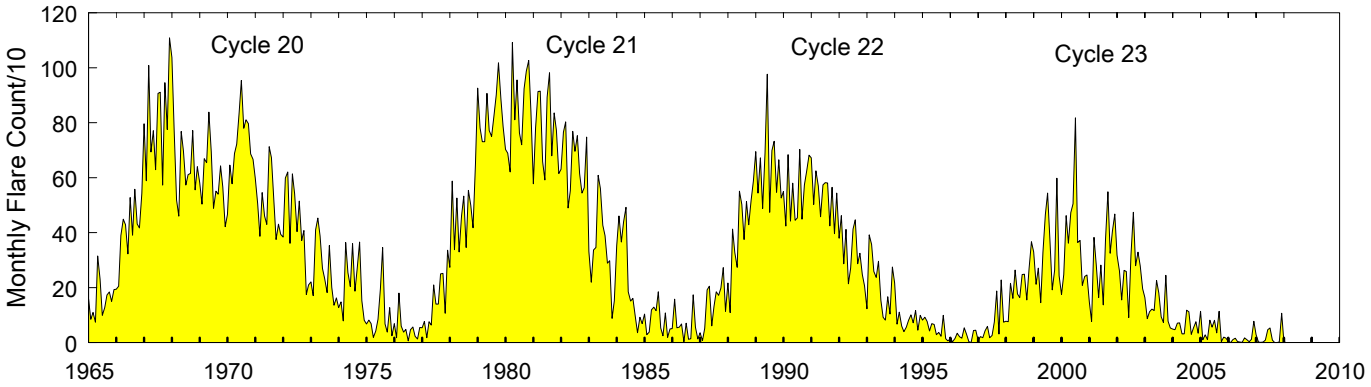
February 2008



Times of no flare patrol of any kind.
Times of no cinematographic flare patrol.

Stations participating: Holloman, Learmonth, SanVito, Kanzelhoehe.

Monthly Counts of Grouped Solar Flares
Jan 1965 - Feb 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											2

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

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

Outstanding Occurrences

FEBRUARY 2008

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	245	LEAR	8 S	2309.0	2309.0	U	160.0			QL=4 ST=2 TYP=3
07	33	UPIC	3 S	1003.0	1003.2	0.5U				
08	245	LEAR	8 S	0927.0	0927.0	U	140.0			QL=4 ST=2 TYP=3
27	33	UPIC	3 S	1258.5	1258.7	0.5U				

Reports are received routinely from the following observatories:

CUBA = Havana	LEAR = Learmonth	SGMR = Sagamore Hill
GORK = Gorky	PEKG = Peking	SVTO = San Vito
HIRA = Hiraiso	PALE = Palehua	TORN = Torun
IZMI = IZMIRAN	PENT = Penticton	UPIC = Upice

Explanation of Type Code:

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

1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	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 Space Environment Monitor

The Geostationary Operational Environmental Satellites (GOES-1, GOES-2, etc.) all carry on board the Space Environment Monitor (SEM) instrument subsystem. The SEM has provided magnetometer, energetic particle, and soft X-ray data continuously since July 1974.

Geosynchronous satellites have an unobstructed view of the sun for all but the few dozen hours per year when the Earth eclipses the sun. You can identify these intervals as gaps in the X-ray data near satellite local midnight in March-April, and September-October.

The source data for these plots are averages; as a result, the peak values may appear smaller than they actually were.

The volume of these data makes it impossible to issue a guarantee as to the quality of each and every data point. Users should be suspicious of 'spikes' in the data and attempt to correlate them with other sources before assuming that they represent the space environment. The time of these observations has not been corrected for the down-link and preprocessing delay which is within 1 - 5 seconds.

X-ray Sensor (XRS)

Ion chamber detectors provide whole-Sun X-ray fluxes for the 0.5-to-3 (0.5-to-4 prior to GOES-8) and 1-to-8 Å wavelength bands. The X-ray sensors may experience significant bremsstrahlung contamination caused by energetic particles in the outer radiation belts and depends on satellite local time, time of year, and the local particle pitch-angle distribution. The X-ray sensors are also sensitive to background contamination due to energetic electrons that either deposit their energy directly in the telescope or strike the external structure and produce bremsstrahlung X-rays inside the ion chambers.

Solar Flares

A solar flare is a short-lived sudden increase in the intensity of solar radiation that originates at or near sunspots. Ground based optical observations are best made at the emission line of Hydrogen known as H-alpha (6563 Å). Thanks to satellite bourn instrumentation, flares can now be observed at X-ray wavelengths (0.1-10.0 Å). Flares are characterized by a rise time of the order of minutes and decay of the order of tens of minutes. The total energy expended in a typical flare is about 10**30 ergs; the magnetic field is extraordinarily high, reaching values of 100 to 10,000 gauss. Optical flares are usually accompanied by radio and X-ray bursts, and occasionally by high-energy particle emissions. The National Geophysical Data Center (NGDC) holds archives for about 80 stations, covering the period 1937 to the present. Currently about 5 stations send their data to NGDC Boulder on a routine monthly basis. The reports are processed and published in the monthly report "Solar-Geophysical Data" and in a different format in the IAU "Quarterly Bulletin on Solar Activity."

X-ray Flare Reports

An X-ray flare officially begins when four consecutive 1-minute X-ray values meet the following conditions:

1. All four values exceed the B threshold (10^{-7} Watts/m^2)
2. All four values are strictly increasing.
3. The last value is 1.4 times greater than the first value.

The X-ray flare classification is based on power per area (Watts/m$^{2)}$ at the time of maximum. A letter value (B, C, M or X) represents the decadal flux value as shown in the data key below. The letter value is followed by a number which tells us the specific intensity of the flare. For example, a flare classified as M3.5 has a peak intensity of $3.5x10^{-5}$ Watts/m^2. The event ends when the flux reading drops below half the sum of the maximum and starting flux. Flare start times are marked on the plot with a " | ".

H-alpha Flare Reports

The basic reports sent monthly from the observatories consist of data for each flare or subflare observation by photographic or visual patrol. The data files give as many of the following measurements as possible: time of beginning; time of maximum brightness; time of any prominent secondary maxima; time of end (all times in UT); area at time of maximum brightness (square degrees of solar disk correct for foreshortening); importance class of flare (IAU 1964 report, updated in 1975); heliographic coordinates of center of gravity of flare at maximum brightness. Flare start times are marked on the plot with a " | ".

Data Key

XL 1 - 8 Å X-rays (Watts/m^2)

XS 0.5 – 3 Å X-rays, or 0.5 – 4 Å prior to GOES-8 (Watts/m^2)

| X-ray and H-alpha flare report start times.

X X-ray flux > 10^{-4} Watts/m^2

M X-ray flux 10^{-5} - 10^{-4} Watts/m^2

C X-ray flux 10^{-6} - 10^{-5} Watts/m^2

B X-ray flux 10^{-7} - 10^{-6} Watts/m^2

Contact Information

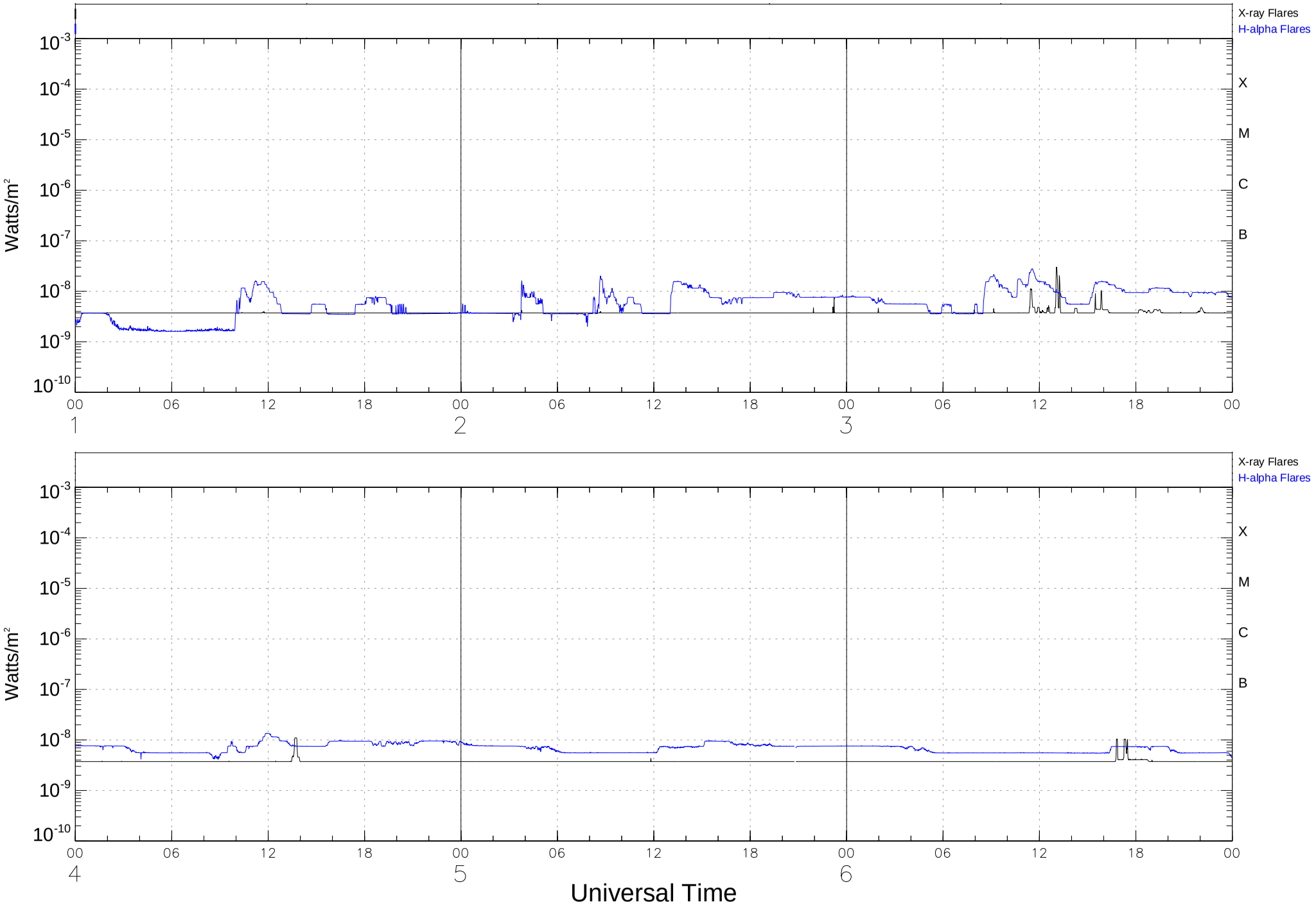
These plots were generated by NOAA's National Geophysical Data Center:
http://www.ngdc.noaa.gov

GOES SEM Data: http://www.ngdc.noaa.gov/stp/GOES/goes.html
Flare Reports: http://www.ngdc.noaa.gov/stp/SOLAR/ftpsolarflares.html

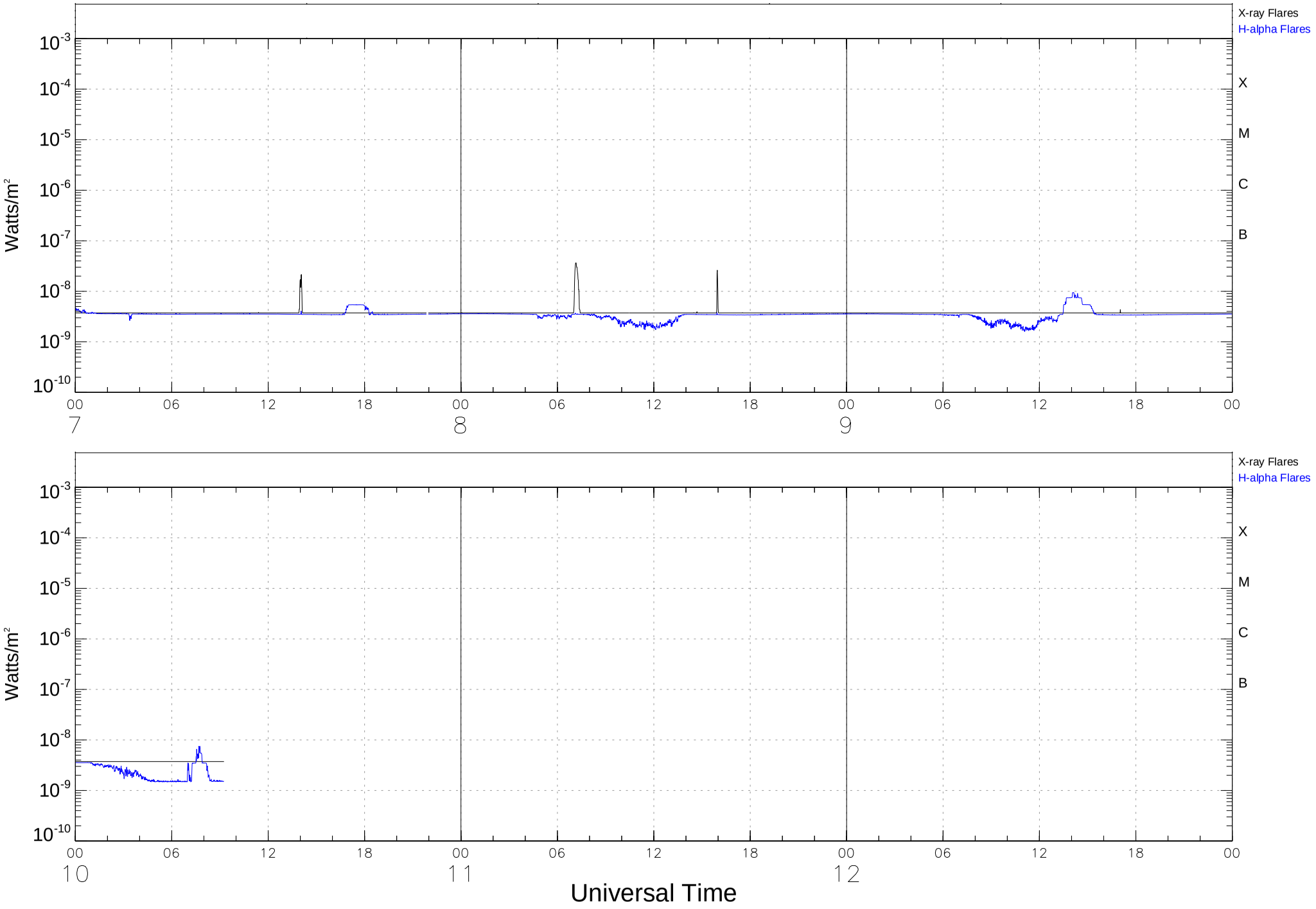
GOES SEM data are processed by NOAA's Space Environment Center:
http://www.swpc.noaa.gov/

Address comments to: Daniel.C.Wilkinson@noaa.gov or Edward.H.Erwin@noaa.gov

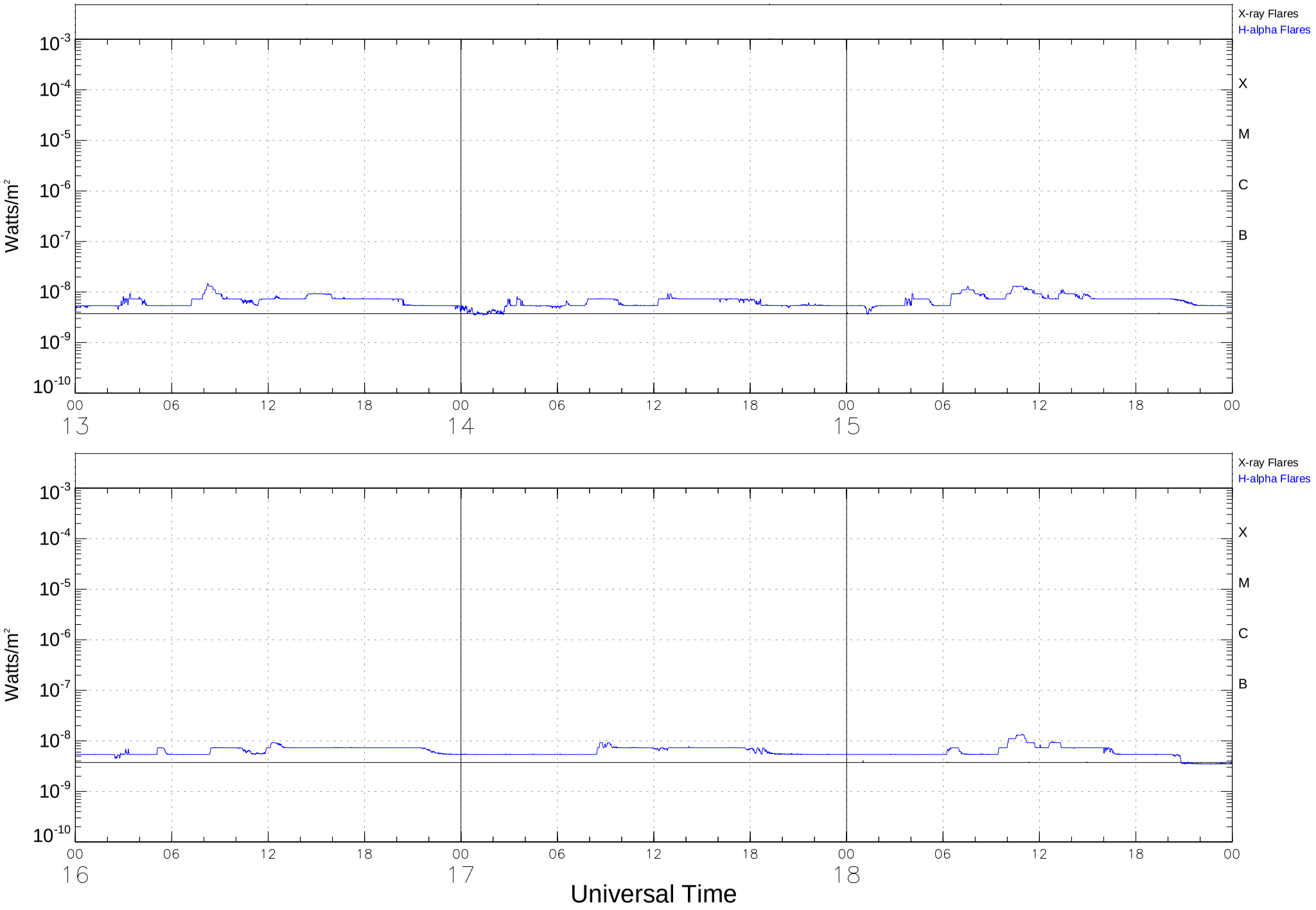
GOES-11 Solar X-Rays (1-Minute Averages)
February 2008



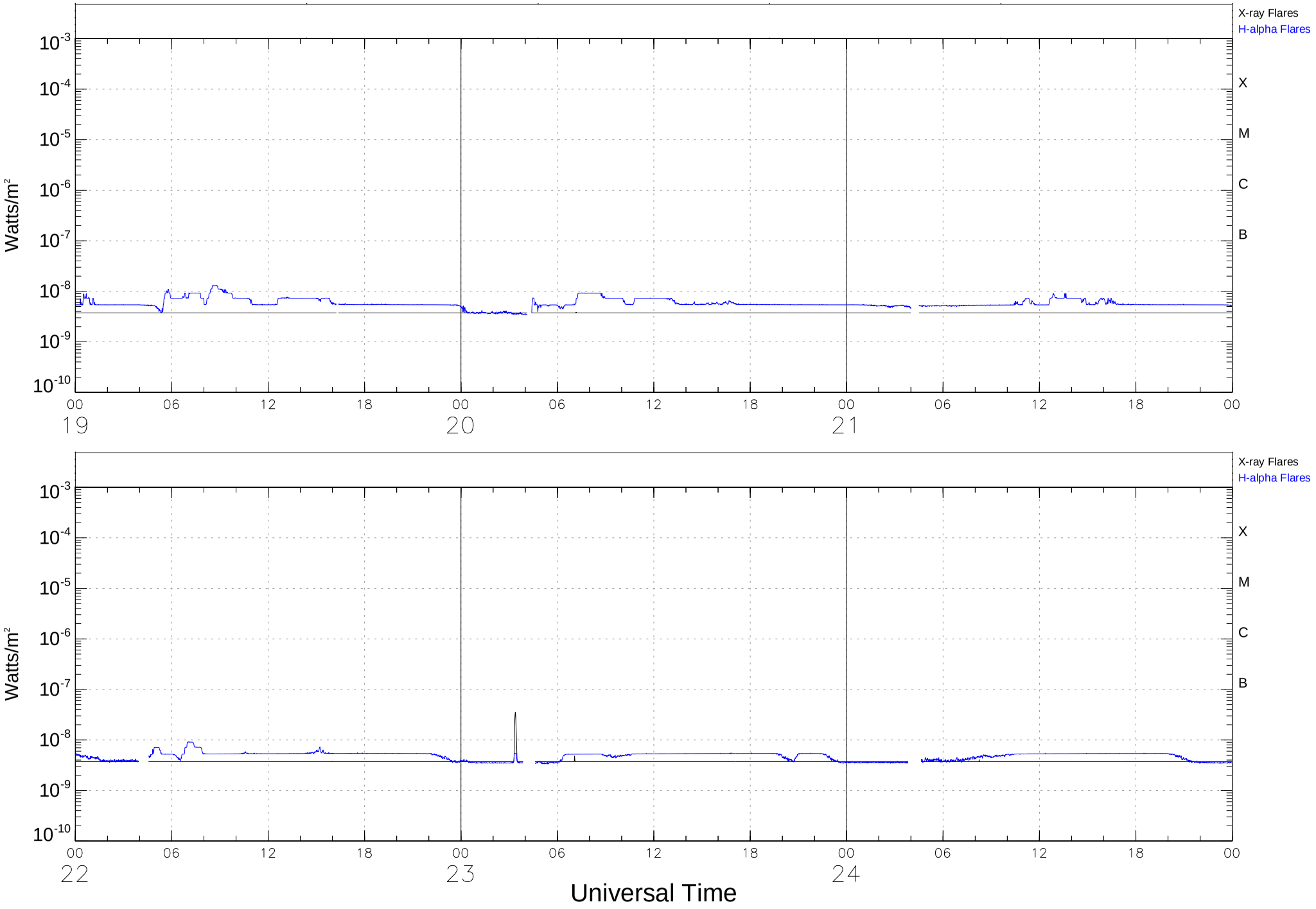
GOES-11 Solar X-Rays (1-Minute Averages)
February 2008



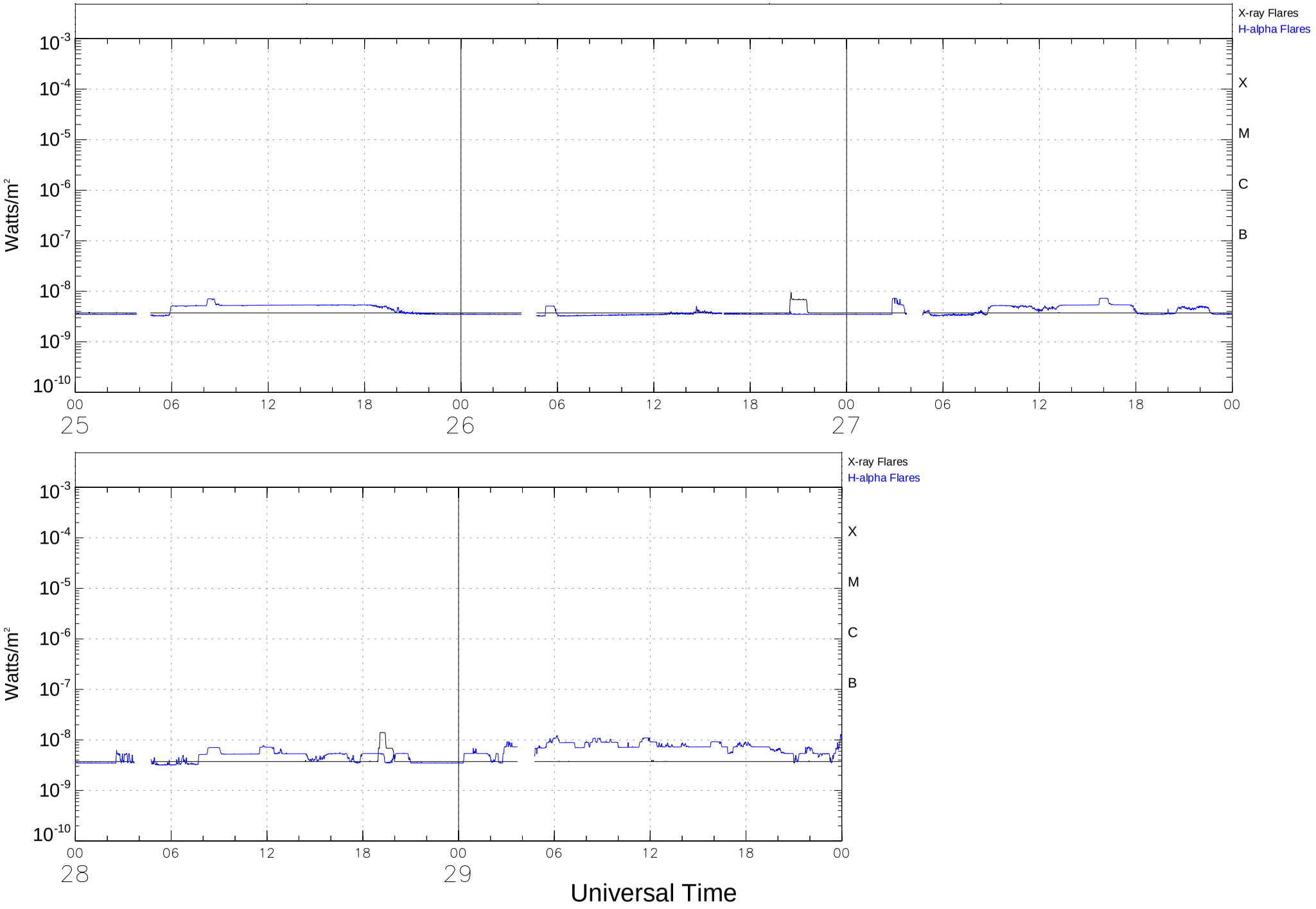
GOES-10 Solar X-Rays (1-Minute Averages)
February 2008



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

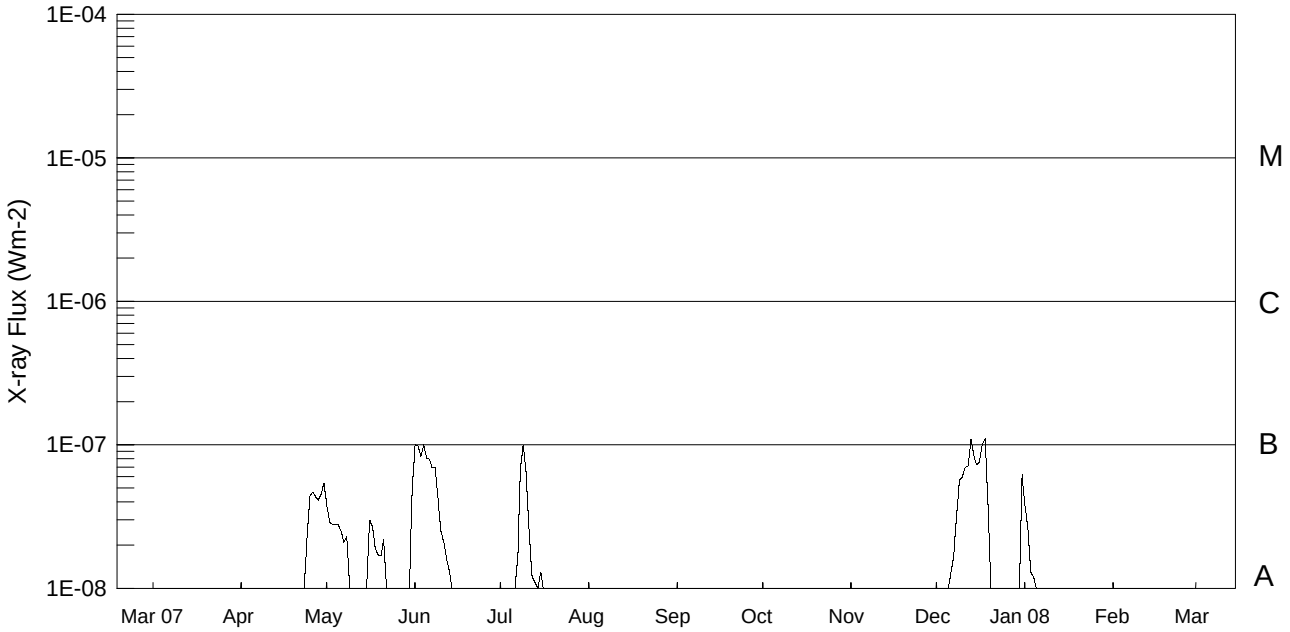


GOES-10 Solar X-Rays (1-Minute Averages)
February 2008



Preliminary GOES Satellite Daily X-Ray Background
Mar 2007 - Feb 2008

15 Feb 08



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

Levels below B1.0 are unreliable.

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 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
05	EPL	1825	2345	S36	W90	01 29.6	2		5	8	E	HOLL		
11	DSF	2359U	1602U	N56	E02	02 12.2	3	08	0	0	E	HOLL		

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

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

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

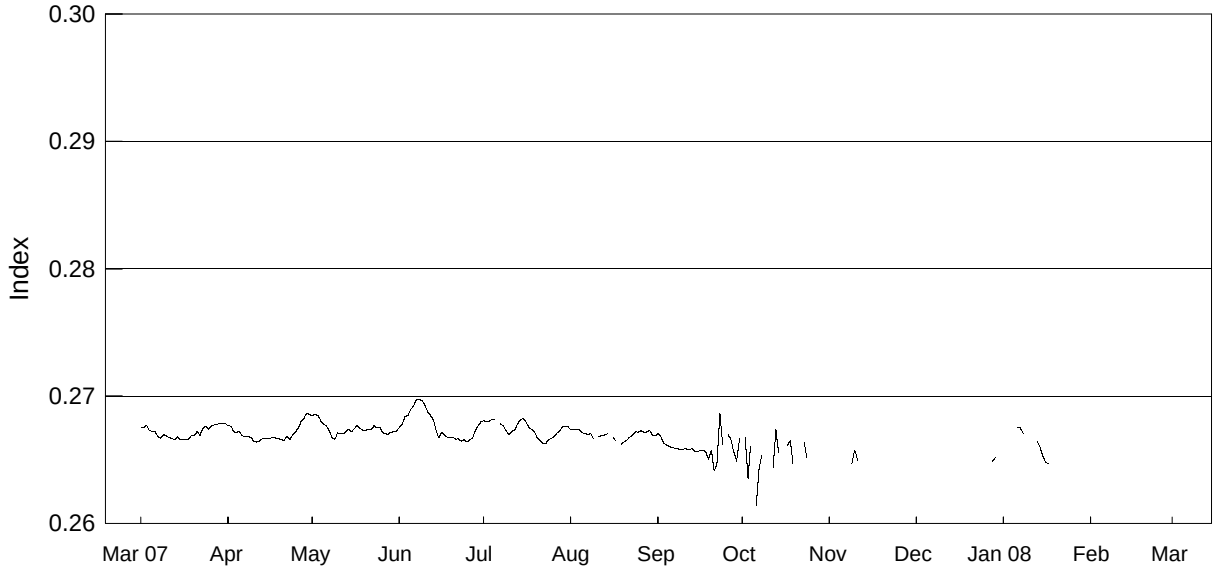
The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

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

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

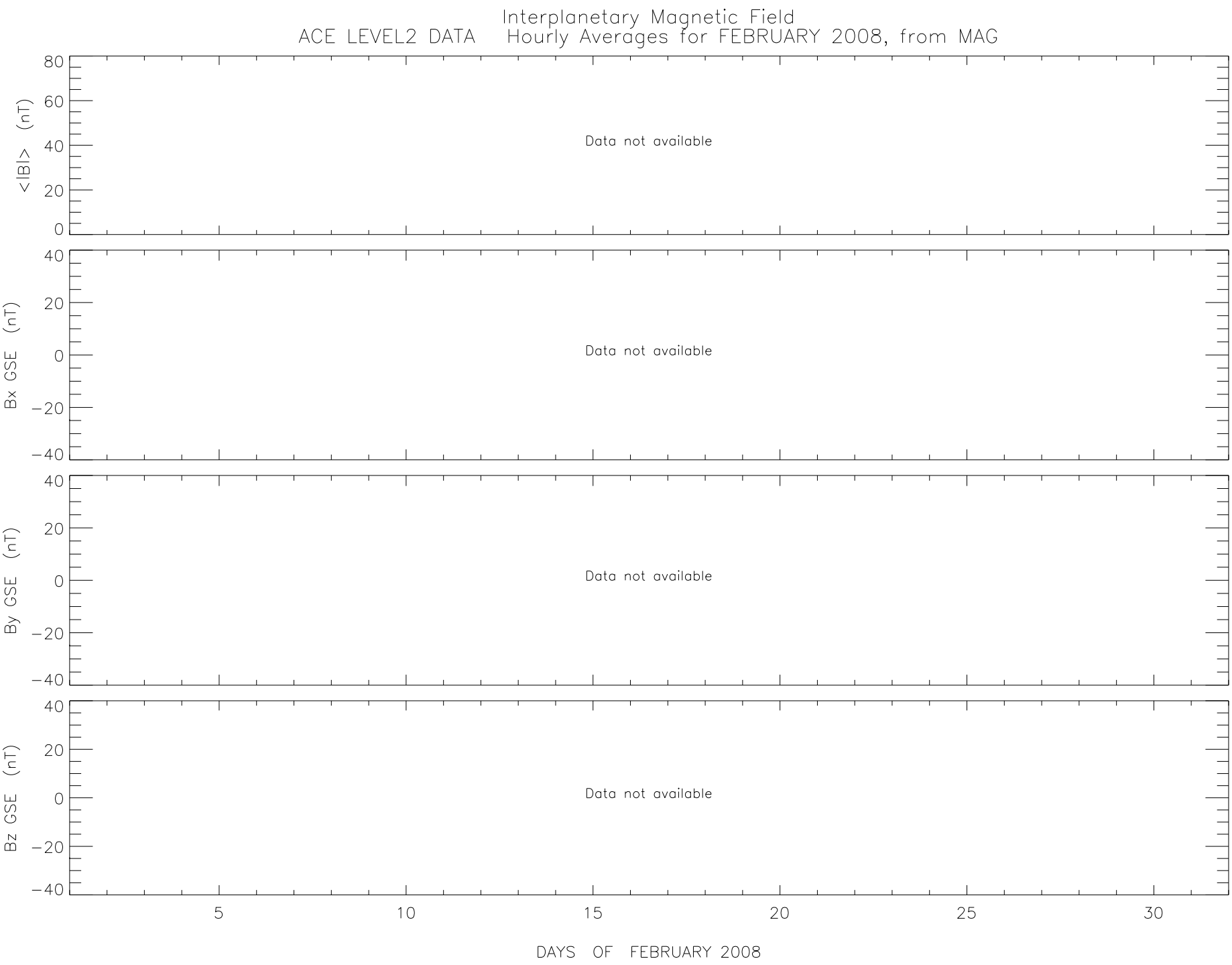
NOTE: The U.S. Air Force solar observing sites (HOLL, LEAR, RAMY, AND SVTO) have changed operational requirements and will only report the following: BSL, EPL, LPS, SPY, and DSF's.

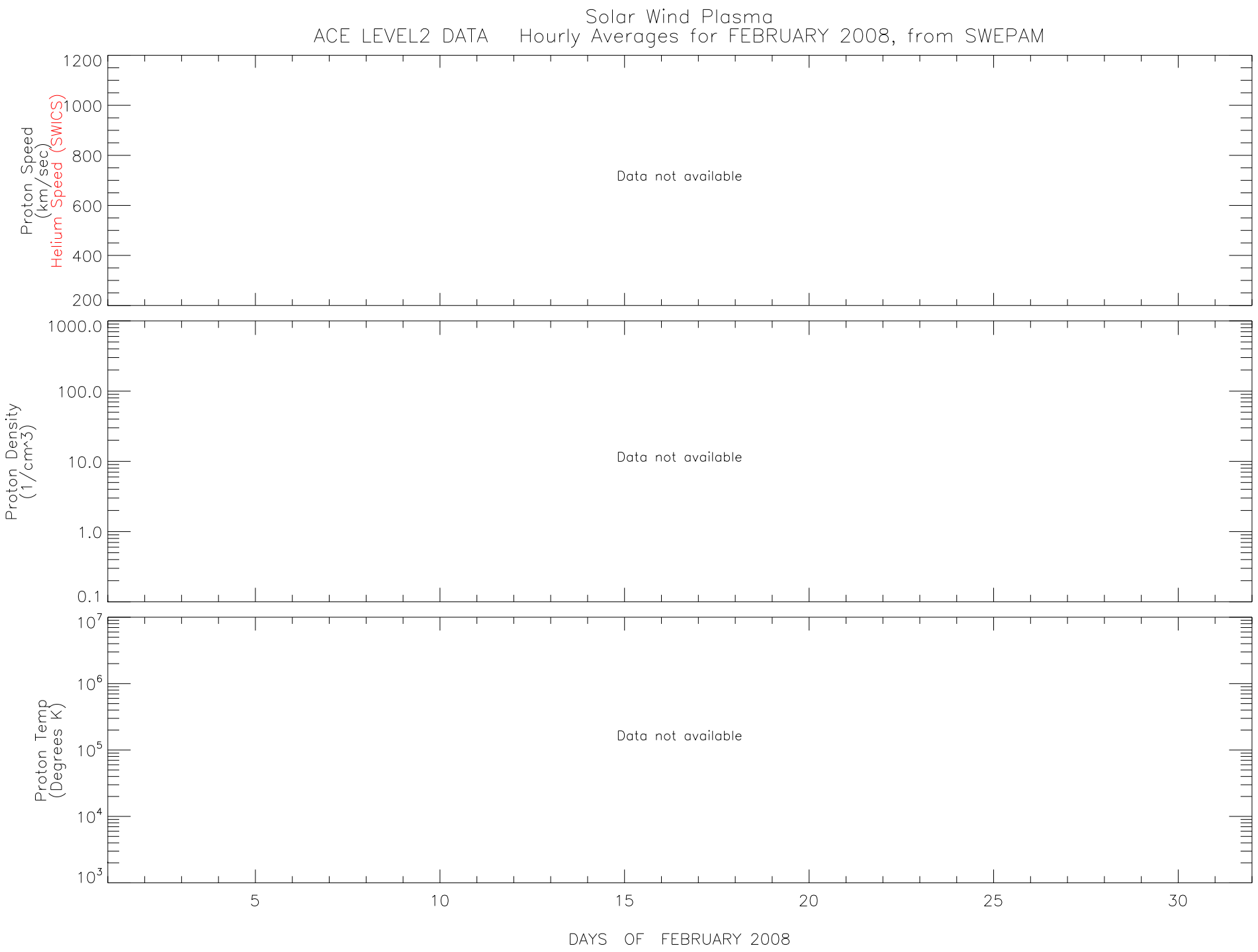
NOAA Solar Ultraviolet (UV) MgII Core-to-Wing Index
Mar 2007 - Feb 2008
Version 9.1

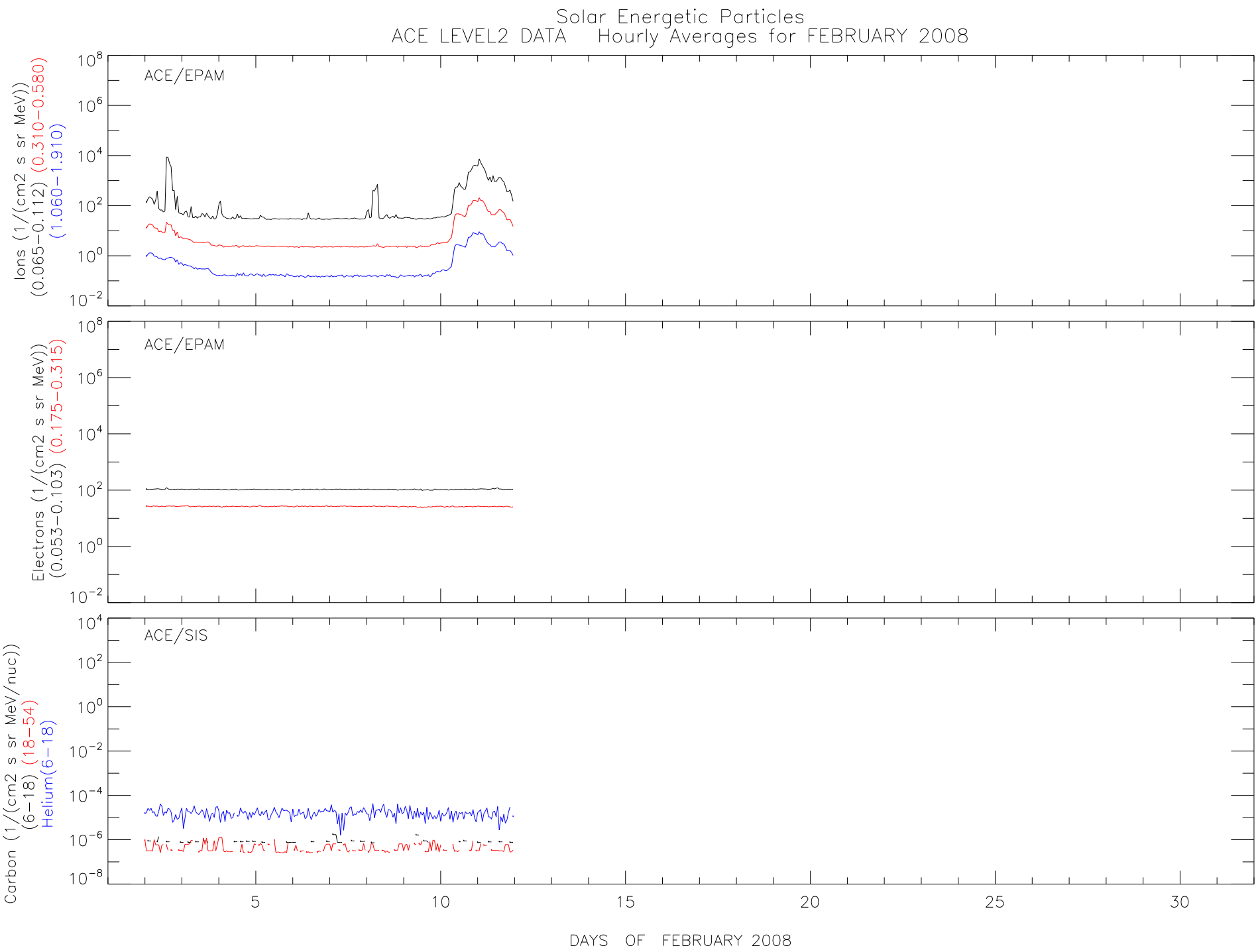


Day	Mar 07	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 08	Feb
1	0.2675	0.2677	0.2685	0.2676	0.2681	0.2674	0.2671	---	---	---	---	---
2	0.2675	0.2676	0.2686	0.2678	0.2680	0.2674	0.2669	0.2668	---	---	0.2658	---
3	0.2677	0.2672	0.2685	0.2684	0.2681	0.2674	0.2663	0.2635	---	---	---	---
4	0.2673	0.2671	0.2680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


Interplanetary Magnetic Field
ACE LEVEL2 DATA Hourly Averages for FEBRUARY 2008, from MAG
<|B|> (nT)
Data not available
Bx GSE (nT)
Data not available
By GSE (nT)
Data not available
Bz GSE (nT)
Data not available
80
60
40
20
0
40
20
0
−20
−40
5
10
15
20
25
30
DAYS OF FEBRUARY 2008


Solar Wind Plasma
ACE LEVEL2 DATA Hourly Averages for FEBRUARY 2008, from SWEPAM
Proton Speed (km/sec)
Helium Speed (SWICS)
1200
1000
800
600
400
200
Data not available
Proton Density (1/cm^3)
1000.0
100.0
10.0
1.0
0.1
Data not available
Proton Temp (Degrees K)
10^7
10^6
10^5
10^4
10^3
Data not available
5
10
15
20
25
30
DAYS OF FEBRUARY 2008


Solar Energetic Particles
ACE LEVEL2 DATA Hourly Averages for FEBRUARY 2008
ACE/EPAM
Ions (1/(cm2 s sr MeV))
(0.065–0.112) (0.310–0.580)
(1.060–1.910)
ACE/EPAM
Electrons (1/(cm2 s sr MeV))
(0.053–0.103) (0.175–0.315)
ACE/SIS
Carbon (1/(cm2 s sr MeV/nuc))
(6–18) (18–54)
Helium(6–18)
DAYS OF FEBRUARY 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

FEBRUARY 2008

First C2 Appearance		Central Position	Width Angular	Linear Fit	----2nd order speed-----			Measurement Accel	Position	Remarks
Date	Time UT	Angle degree	Width degree	Speed km/s	Initial km/s	Final km/s	20R km/s	m/s^2	Angle degree	
2008/02/01	00:30:04	59	19	186	198	173	149	-0.8*	69	Poor Event
2008/02/01	07:31:38	299	12	222	272	171	0	-12.0*	290	Poor Event
2008/02/01	17:54:04	116	34	194	143	247	552	11.8*	116	Very Poor; Only C2
2008/02/02	05:30:04	62	21	135	87	179	538	11.8*	65	Very Poor; Only C2
2008/02/02	07:31:41	134	11	252	242	262	312	1.6*	128	Very Poor Event
2008/02/02	13:31:44	348	4	256	285	227	0	-17.2*	348	Very Poor; Only C2
2008/02/03	05:30:04	121	8	195	108	292	1405	85.0*	117	Very Poor; 3pts; Only C2
2008/02/03	10:34:03	121	9	215	103	326	966	39.0*	116	Poor Event; Only C2
2008/02/04	00:30:04	80	71	364	296	433	511	7.1*	71	Very Poor Event
2008/02/04	02:06:04	310	26	255	231	280	294	1.4*	310	Poor Event
2008/02/04	09:54:04	97	164	306	330	277	275	-1.4*	106	Poor Event; Partial Halo
2008/02/04	22:31:46	23	5	179	139	221	651	17.0*	28	Very Poor; Only C2
2008/02/05	03:06:04	273	11	302	391	208	0	-34.8*	268	Very Poor; Only C2
2008/02/05	05:30:04	257	59	368	316	420	529	7.4*	265	
2008/02/05	06:30:04	138	12	635	451	831	1760	135.2*	131	Poor Event
2008/02/05	10:06:04	147	43	226	152	297	587	13.4*	138	Poor Event; Only C2
2008/02/05	11:18:04	67	9	190	134	244	303	3.5*	74	Very Poor; Only C3
2008/02/05	15:06:05	44	39	127	109	144	227	1.8*	50	Very Poor Event
2008/02/06	12:54:06	71	20	215	147	284	407	6.8*	70	Very Poor Event
2008/02/07	20:58:39	33	7	193	40	354	1496	94.3*	40	Very Poor; 3pts; Only C2
2008/02/07	23:30:04	156	8	98	188	18	0	-32.6*	150	Very Poor; 3pts; Only C2
2008/02/08	02:30:04	229	19	203	119	298	328	4.4*	231	Poor Event
2008/02/08	06:54:05	346	7	314	394	235	0	-43.7*	347	Very Poor; Only C2
2008/02/08	08:54:04	348	12	607	774	459	0	-48.0*	346	Poor Event
2008/02/08	09:54:04	237	33	194	161	229	251	1.7*	233	Poor Event
2008/02/09	02:30:04	224	12	388	353	426	482	4.8*	232	Poor Event
2008/02/09	05:54:04	106	18	285	232	343	615	13.6*	97	Poor Event
2008/02/09	16:30:04	226	6	581	553	609	614	3.1*	232	Poor Event
2008/02/09	19:54:05	144	7	163	161	165	235	1.2*	139	Very Poor; Only C2
2008/02/10	09:54:04	166	4	452	512	397	0	-52.8*	164	Very Poor; 3pts; Only C2
2008/02/10	18:54:04	221	7	324	240	403	488	7.9*	224	Poor Event
2008/02/11	00:54:05	288	5	313	347	278	208	-3.3*	288	Very Poor Event
2008/02/12	01:30:04	243	67	266	68	452	394	6.3*	239	
2008/02/13	10:30:21	54	130	157	90	225	237	2.3*	83	Poor Event; Partial Halo
2008/02/15	01:54:04	90	53	163	0	364	340	5.0*	90	
2008/02/16	08:30:04	242	10	379	557	203	0	-70.7*	246	Very Poor; Only C2
2008/02/16	10:30:20	283	24	284	228	346	390	5.0*	290	Very Poor Event
2008/02/16	16:30:04	77	26	189	107	282	287	3.0*	79	
2008/02/17	00:30:04	80	13	226	204	249	276	1.5*	83	Poor Event
2008/02/17	02:30:04	120	40	130	154	106	0	-7.8*	118	Very Poor; Only C2
2008/02/17	04:30:04	159	6	354	13	728	2841	331.2*	155	Very Poor; 3pts; Only C2
2008/02/17	07:30:05	297	37	203	78	315	414	8.2*	288	Very Poor Event
2008/02/17	12:54:04	356	3	192	110	280	1077	47.3*	357	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

FEBRUARY 2008

First C2 Appearance		Central Position	Width	Linear Fit	----2nd order speed-----			Accel	Measurement Position	Remarks
Date	Time UT	Angle degree	Angular Width degree	Speed km/s	Initial km/s	Final km/s	20R km/s	m/s^2	Angle degree	
2008/02/17	12:54:04	237	5	129	113	146	481	9.1*	238	Very Poor; 3pts; Only C2
2008/02/17	12:54:04	142	9	174	36	321	1237	65.8*	134	Very Poor; Only C2
2008/02/18	03:30:04	355	6	324	226	431	1527	94.7*	357	Very Poor; 3pts; Only C2
2008/02/18	10:54:04	289	13	195	146	245	335	4.4*	287	Very Poor Event
2008/02/19	00:30:04	233	7	451	506	398	0	-25.2*	239	Poor Event
2008/02/23	21:24:04	60	64	246	106	398	333	4.8	71	
2008/02/24	10:00:04	206	6	486	593	380	0	-100.2*	210	Very Poor; Only C2
2008/02/24	10:12:05	74	25	378	221	565	512	9.0*	91	
2008/02/25	08:00:04	125	9	352	402	295	0	-9.2*	125	Poor Event
2008/02/25	16:12:06	267	16	743	168	1348	1839	137.4*	273	Very Poor Event
2008/02/25	21:12:07	68	5	309	302	317	334	1.1*	72	Very Poor Event
2008/02/25	23:12:07	70	8	214	159	269	448	8.4*	71	Very Poor Event
2008/02/26	02:00:04	64	4	290	240	343	483	8.5*	69	Very Poor Event
2008/02/26	15:24:04	276	53	126	38	218	204	1.7*	272	Poor Event
2008/02/27	01:18:04	68	7	196	203	188	168	-0.7*	69	Very Poor Event
2008/02/28	10:50:04	66	16	223	214	232	252	0.8*	68	Very Poor Event
2008/02/28	19:48:04	273	54	253	170	348	547	11.0*	270	Very Poor Event
2008/02/29	01:26:04	270	54	195	133	257	514	10.2*	264	Very Poor Event
2008/02/29	06:26:04	266	48	125	128	123	112	-0.2*	265	Very Poor Event
2008/02/29	13:26:04	268	35	187	197	178	0	-2.2*	271	Very Poor; Only C2
2008/02/29	15:06:04	60	7	306	245	367	412	5.2*	65	Very Poor Event
2008/02/29	21:54:04	109	5	227	325	132	0	-45.3*	109	Very Poor; Only C2

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