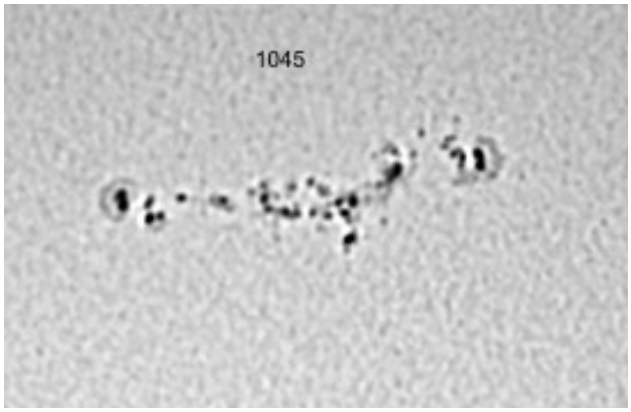
Solar Bulletin

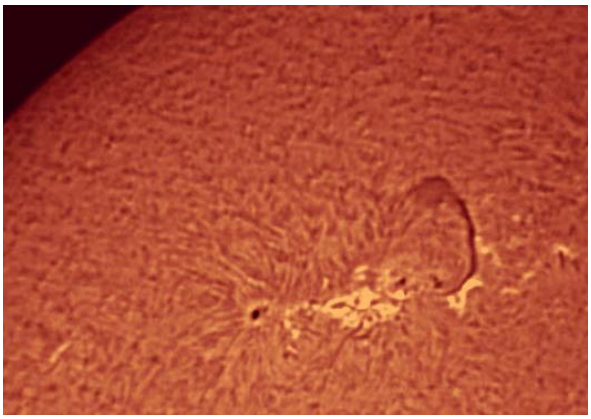
THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

Paul Mortfield, Editor
c/o AAVSO, 49 Bay State Rd
Cambridge, MA 02138

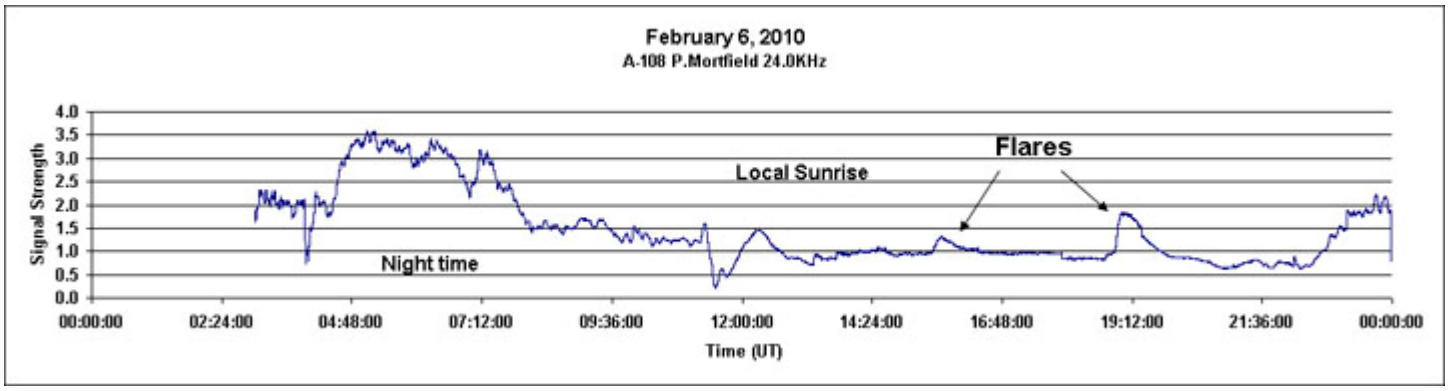
Web: www.AAVSO.org
Email: solar.aavso@gmail.com
ISSN 0271-8480

Volume 66 Number 2 February 2010





2010 continues to be a great year with even more solar activity in February with more sunspots. These images of AR1045 were taken by Gema Araujo of Spain. The left image shows the region in white light on Feb 8, 2010 at 12:10UT. The image to the right in H-alpha taken on Feb 9, 2010 at 13:11UT. We also had many SID flares recorded. The trace below shows a C-class and M-class flares on Feb 6, 2010 recorded by Paul Mortfield in Canada.

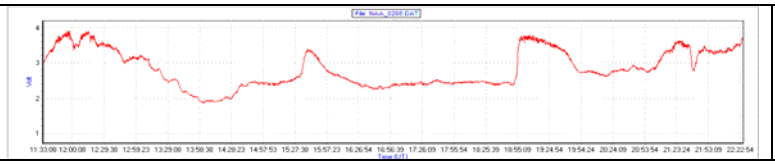


Notice to all Sunspot Observers

Beginning with the March 2010 observations all sunspot reports need to be submitted electronically in the official format using the SolObs program (Windows) or the Sunkey program (DOS) or manual entry in the proper text format). Having the solar team re-enter observations manually is time consuming and considerably slows our process down. Using the programs helps us quickly analyze and report all the observations. The programs are available at the following link. http://www.aavso.org/observing/programs/solar/solarsoftware.shtml
Sunspot reports must be submitted by the **10th day** of the following month to be included in the Bulletin.

Sudden Ionospheric Disturbance Report

Michael Hill, SID Analyst
114 Prospect St
Marlborough, MA 01752 USA
noatak@aol.com



Sudden Ionospheric Disturbances (SID) Recorded During February 2010

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
100206	0704	2+						
100206	1049	2+						
100206	1538	2						
100206	1901	2						
100207	0231	1-						
100207	0452	2+						
100208	0742	1+						
100208	0959	1						
100208	1029	2						
100208	1112	1+						
100208	1204	2+						
100208	1347	2						
100208	1505	1-						
100208	1552	2						
100209	0417	1						
100209	1132	2+						
100210	1511	2						
100210	1514	1						
100212	0725	2						
100212	1126	2						
100213	0752	2						
100213	1240	2						
100213	2004	1						
100214	1203	2						

Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125

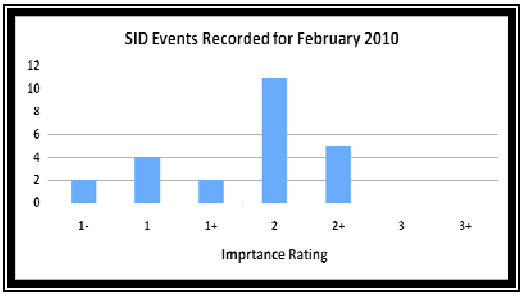
Observer	Code	Station(s) monitored
A Clerkin	A29	NAA
P King	A80	HWU
M Hill	A87	NAA
G DiFilippo	A93	DHO
F Steyn	A102	NAA NWC
P Mortfield	A108	NAA
M Suhovecky	A115	NAA
L Loudet	A118	GBZ NSY TBB
J Godet	A119	GBZ GQD ICV
F Adamson	A122	NWC

Observer	Code	Station(s) monitored
G Myers	A124	NLK
S Oatney	A125	NML
R.Battaiola	A96	

The events listed above meet at least one of the following criteria

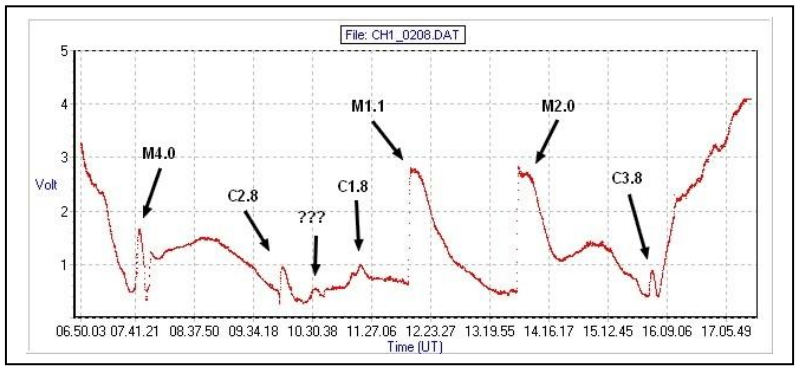
1) Event reported by two or more observers within ±5 minutes
2) Event matched to GOES-8 XRA event to within ±15 minutes and event time < 1000 UT
3) reported by observer with a quality rating > 8 (scale 1-10)

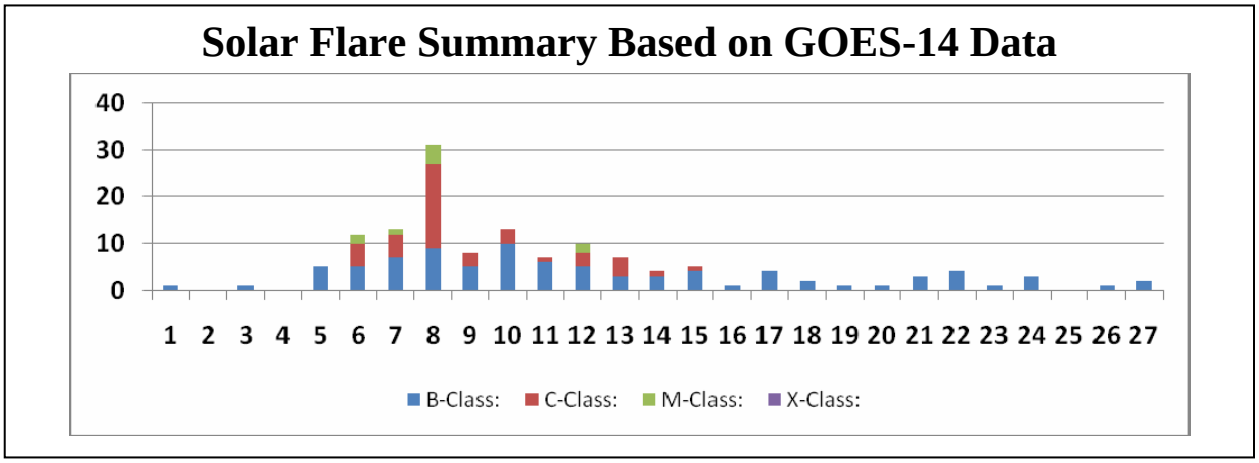
Solar Events



February 2010 has proven to be another active month for us. This month there were 24 correlated SID events, just shy of last months count. This is exiting for it is showing the beginnings of a trend. It will be interesting to see if it keeps up now that cycle 24 seems to have started in earnest now.

The GOES satellite measured 140 solar X-Ray flares. Of these 9 were M-Class and 44 were C-Class. That is a good deal of strong activity. Just check out the graph at the top of the page, one of mine and another one presented here which was submitted by one of our observers, Roberto Battaiola A96. Roberto clearly has a very well tuned system and gets strong signal enhancements when there are SID events. Nice data Roberto!





American Relative Sunspot Numbers (Ra) for February 2010 [**boldface = maximum, minimum**]

Day	N	Raw Mean	Ra
1	20	16	12
2	22	12	9
3	22	11	8
4	22	10	**7**
5	22	14	10
6	16	34	23
7	18	40	27
8	19	55	**40**
9	23	53	39
10	21	47	33
11	17	45	33
12	20	42	32
13	26	39	27
14	27	31	24
15	19	26	21
16	20	28	20
17	21	29	20
18	25	21	15
19	20	20	14
20	32	19	14
21	28	14	11
22	21	16	12
23	14	20	15
24	22	26	19
25	24	28	20
26	22	24	18
27	22	16	10
28	28	13	10
Means	**21.8**	**26.8**	**19.5**

No. of Observers: 48
Total No. of Observations: 613

Reporting Addresses:

Sunspot Reports – Email: solar@aavso.org Postal Mail: AAVSO, 49 Bay State Rd. Cambridge, MA, 02138 Fax: 617-354-0665

SID Flare Reports – email: noatak@aol.com Postal Mail: Mike Hill, 114 Prospect St., Marlboro, MA, 01752

AAP	A. Abbott	9
AAX	A. Amorim	10
AJV	J. Alonso	12
ANGR	R. Ang	15
ARAG	G. Araujo	25
BATR	R. Battaiola	3
BERJ	J. Berdejo	5
BLAJ	J. Blackwell	11
BMF	M. Boschat	10
BVC	A. Buck	28
BXD	A. Burda	5
CHAG	G. Morales	25
CKB	B. Cudnik	17
CLZ	L. Corp	5
CNT	D. Chantiles	9
CVJ	J. Carvajal	6
DELS	S. Delaney	3
DGP	G. Dyck	12
DUBF	F. Dubois	19
FAM	F. Mariuzza	13
FERJ	J. Fernandez	19
FLET	T. Fleming	13
HAYK	K. Hay	15
HMQ	M. Harris	17
JASK	K. Wirkus	8
KAPJ	J. Kaplan	14
KNJS	J. & S. Knight	17
KROL	L. Krozel	9
LEVM	M. Leventhal	18
MARE	F. Mariuzza	6
MCE	E.Mochizuki	18
MILJ	J. Miller	9
MMI	M. Moeller	12
OATS	S. Oatney	6
RO	J. Rousom	2
SCGL	G. Schott	9
SIMC	C. Simpson	7
STEF	G. Stefanopoulis	3
STEM	G. Stemmler	14
STQ	N. Stokidis	15
SUZM	M. Suzuki	23
TESD	D. Teske	16
TJV	J. Temprano	8
URBP	P. Urbanski	28
VARG	G. Vargas	22
VIDD	D. Vidican	10
WILW	W. Wilson	17
YESH	H. Yesilyaprak	16