

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE



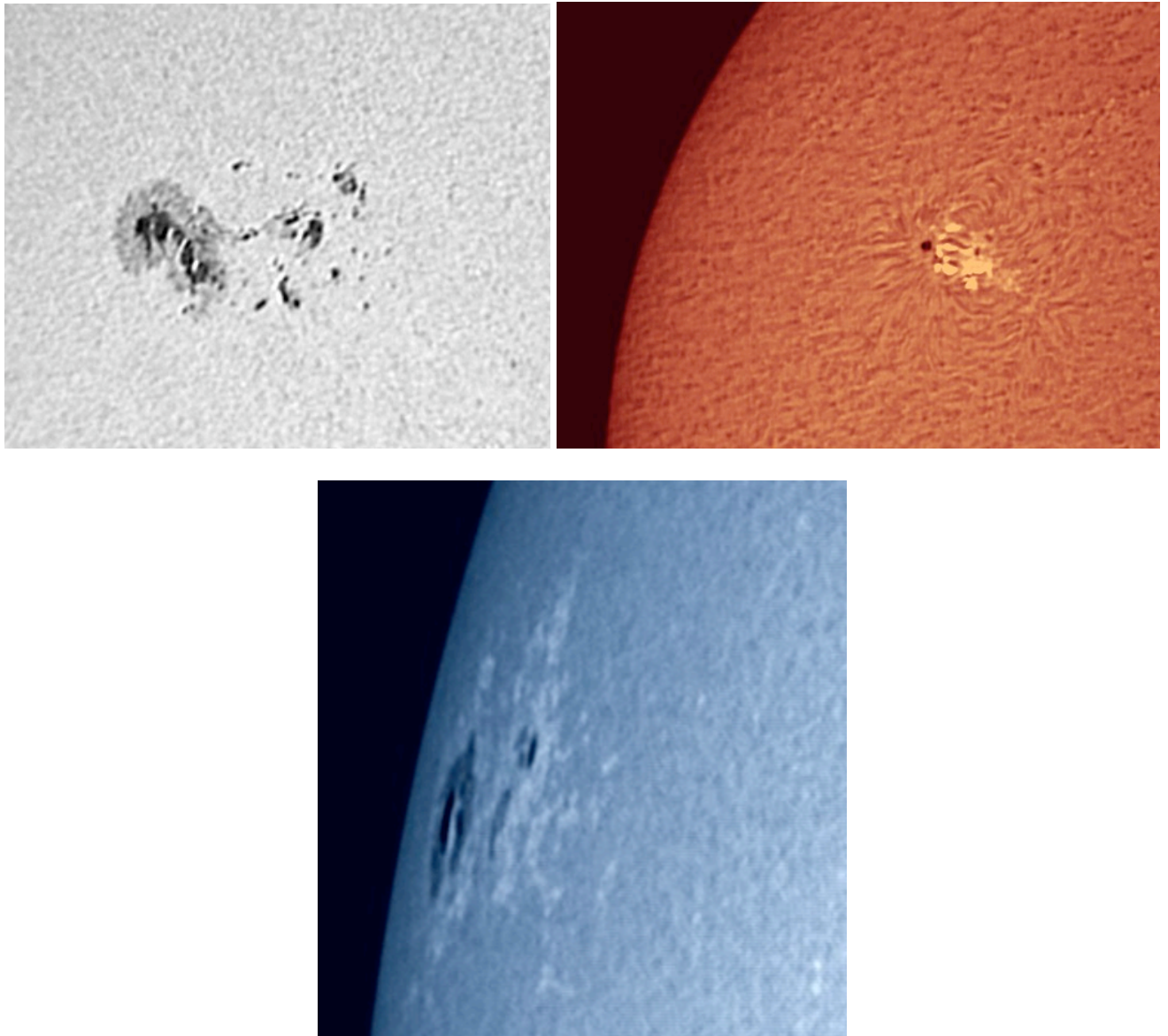
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These images of AR1029 which caused several small flares were taken by Gema Araujo of Spain. The upper pair on Oct 27, 2009 at 11:16 & 11:54UT, while the lower image in CaK taken on Oct 30, 2009 at 11:38UT.

# Sudden Ionospheric Disturbance Report

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## Sudden Ionospheric Disturbances (SID) Recorded During August 2009

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
091027	0500	1+						
091027	0724	1						
091027	0913	1-						
091027	0924	1						
091027	1018	1						
091027	1313	1						
091031	0934	1+						

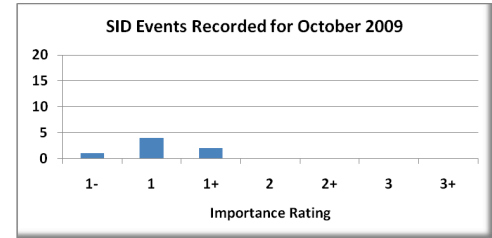
Importance rating: Duration (min)    1-: <19    1: 19-25    1+: 26-32    2: 33-45    2+: 46-85    3: 86-125    3+: >125

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A Clerkin	A29		L Loudet	A118	DHO
M Hill	A87	NAA	J Godet	A119	GBZ GQD ICV
L Anderson	A91		F Adamson	A122	NWC
R Battailola	A96				
J Wallace	A97				
M King	A99				
F Steyn	A102	NWC			
L Obs	A107				
P Mortfield	A108				
M Suhovecky	A115	NAA			

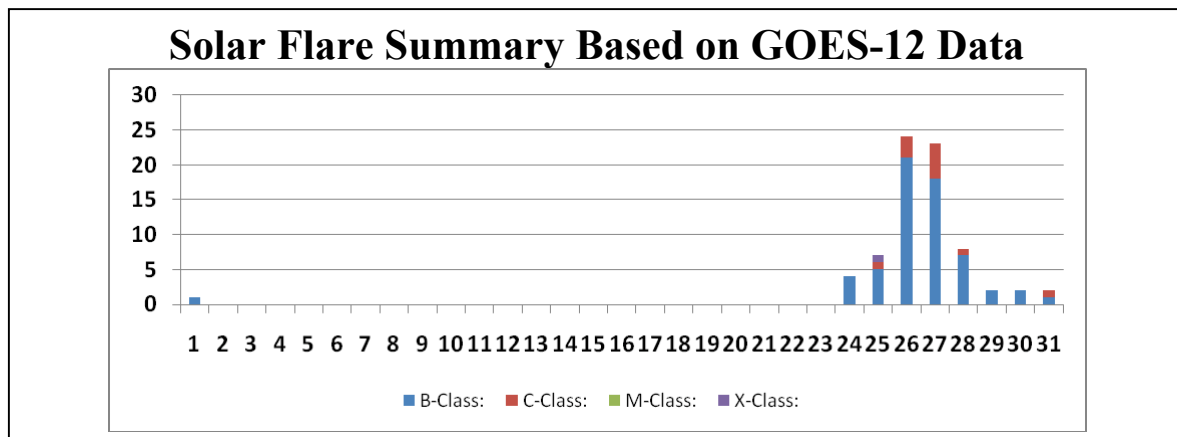
The events listed above meet at least one of the following criteria

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

# Solar Events



October proved to be an active month for solar flares and SID events especially when compared to recent history. Rather than the nominal zero count we have all been getting used to, observers reported 7 correlated SID events. Most were of low importance rating as can be seen by the graph above. All reported observations were on the 27<sup>th</sup> of the month except for one which was detected on the 31<sup>st</sup>. This certainly is in line with the Flare Summary depicted below. As can be seen the sun was very active around the 27<sup>th</sup> of the month due to a fairly significant sunspot traversing the solar disk. There were 70 B-Class flares and 11 C-Class flares detected by the GOES-12 spacecraft. Thanks to all of you who provided positive event confirmations and thanks also to all of you who did not detect this round of activity but reported in anyhow. All your efforts are appreciated.



American Relative Sunspot Numbers (Ra) for  
October 2009 [**boldface = maximum, minimum**]

Day	N	Raw Mean	Ra
1	28	3	2
2	34	0	<b>0</b>
3	28	1	1
4	32	2	1
5	22	0	0
6	27	0	0
7	24	0	0
8	32	0	0
9	36	0	0
10	30	2	1
11	29	1	1
12	24	1	0
13	33	1	0
14	32	0	0
15	29	0	0
16	35	0	0
17	26	2	1
18	45	0	0
19	32	0	0
20	35	2	1
21	21	1	0
22	26	0	0
23	28	11	7
24	29	21	16
25	31	30	21
26	21	30	<b>22</b>
27	30	27	19
28	31	30	21
29	30	21	15
30	28	13	10
31	31	1	1

**Means      29.6      6.5      4.5**

**No. of Observers: 60**

**Total No. of Observations: 920**

**Reporting Addresses:**

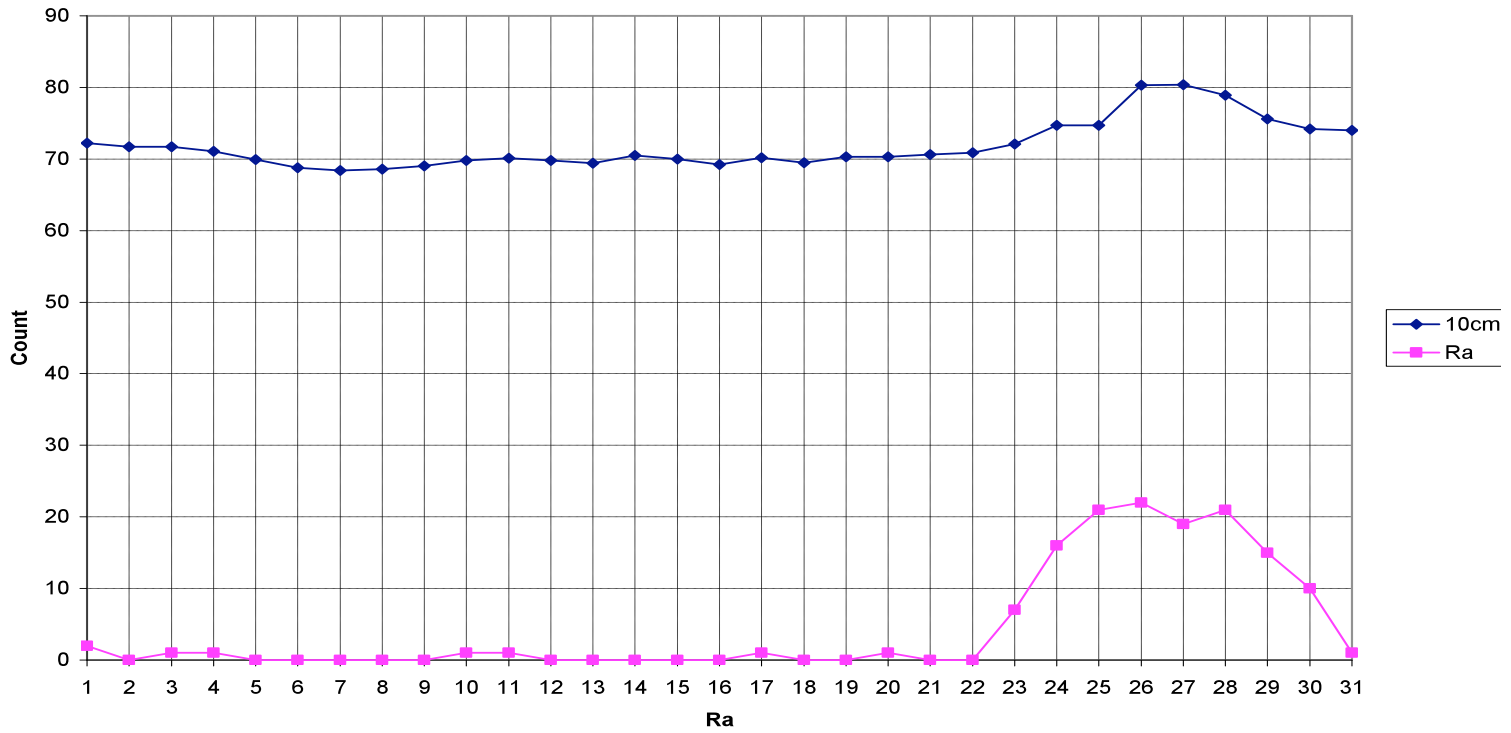
**Sunspot Reports – Email: solar@aavso.org Postal Mail: AAVSO,  
49 Bay State Rd. Cambridge, MA, 02138 Fax: 617-354-0665**

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

AAP	A. Abbott	5
AJV	J. Alonso	22
ANGR	R. Ang	10
ARAG	G. Araujo	30
BARH	H. Barnes	11

BEB	R. Berg	6
BERJ	J. Berdejo	16
BLAJ	J. Blackwell	3
BMF	M. Boschat	17
BRAB	B. Branchett	29
BROB	R. Brown	28
BVC	A. Buck	31
BXD	A. Burda	11
CHAG	G. Morales	26
CKB	B. Cudnik	21
CLZ	L. Corp	10
CNT	D. Chantiles	10
CR	T. Cragg	22
CVJ	J. Carvajal	15
DEKP	P. Dekelver	20
DGP	G. Dyck	8
DUBF	F. Dubois	23
FERJ	J. Fernandez	20
FLET	T. Fleming	14
FUJK	K. Fujimori	24
HAYK	K. Hay	14
HMQ	M. Harris	11
HRUT	T. Hrutkay	10
JASK	K. Wirkus	15
KAPJ	J. Kaplan	16
KNJS	J. & S. Knight	22
KROL	L. Krozel	11
KUZM	M. Kuzmin	1
LEVM	M. Leventhal	23
MARF	F. Mariuzza	20
MCE	E. Mochizuki	23
MILJ	J. Miller	10
MMI	M. Moeller	21
OATS	S. Oatney	12
OBSO	IPS Observatory	16
RICE	E. Richardson	16
RITA	A. Ritchie	7
RO	J. Rousum	4
SCGL	G. Schott	19
SDP	D. Sharples	1
SIMC	C. Simpson	6
STEF	G. Stefanopoulos	1
STEM	G. Stemmler	10
STQ	N. Stoikidis	21
SUZM	M. Suzuki	23
SZUM	M. Szulc	19
TESD	D. Teske	16
TJV	J. Temprano	12
URBP	P. Urbanski	13
VARG	A. Vargas	26
VIDD	D. Vidican	15
WILW	W. Wilson	16
WIRP	P. Wirkus	8
WRP	R. Wheeler	4
YESH	H. Yesilyaprak	26

**10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for October 2009**  
 10 cm source: [ftp://lynx.drao.nrc.ca/pub/solar/FLUX\\_DATA/fluxtablerolling](ftp://lynx.drao.nrc.ca/pub/solar/FLUX_DATA/fluxtablerolling)



**Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to April 2009 (Waldmeier Method)**

