



# Solar Bulletin

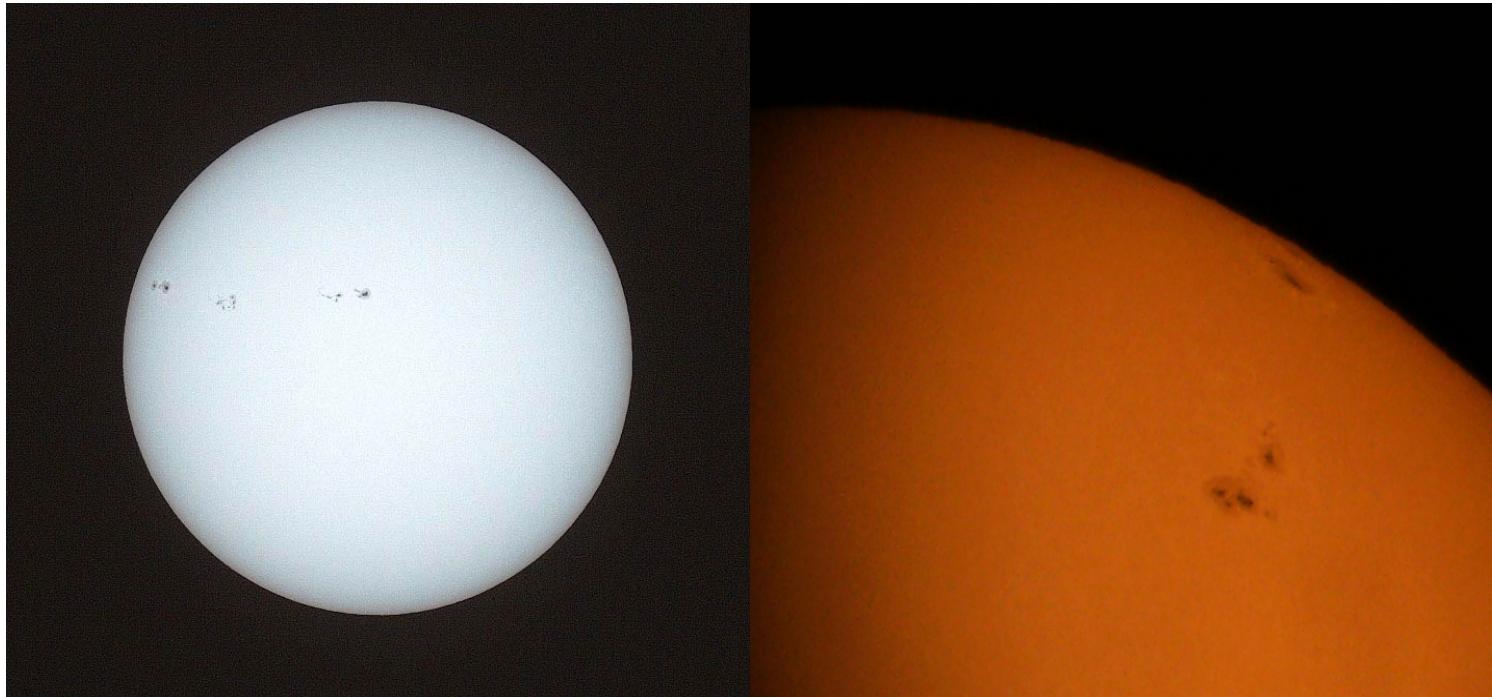
THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS  
SOLAR COMMITTEE

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Robert Grover, President of NCAS <http://ncastro.org/NCAS-INFO.htm> took this white light image of the sun (left), July 29, 2011. Telescope: Explore Scientific 102ED f/7 Triplet Refractor, Filter; Baader Solar Film, Mount; Orion Sirius EQ-G, Camera; Canon 450D (XS), Shooting Date/Time; 7/29/2011 10:47:29 AM, Manual Exposure; Tv( Shutter Speed ) = 1/1500, ISO Speed = 100, Image Size = 4272x2848, Image Quality = RAW, White Balance Mode = Daylight, AF Mode = Manual focusing, Picture Style = Neutral, File Size = 11232KB. Ernest Richardson, who lives at 120 Piccadilly Rd., Swinton, South Yorkshire, UK, took the image on the right, also on July 29, 2011. Ernest uses a Celestron 8se, with a Thousand Oaks filter, his Camara is a Fuji 5X. To take the photo he just held the camera to the eyepiece and clicked.

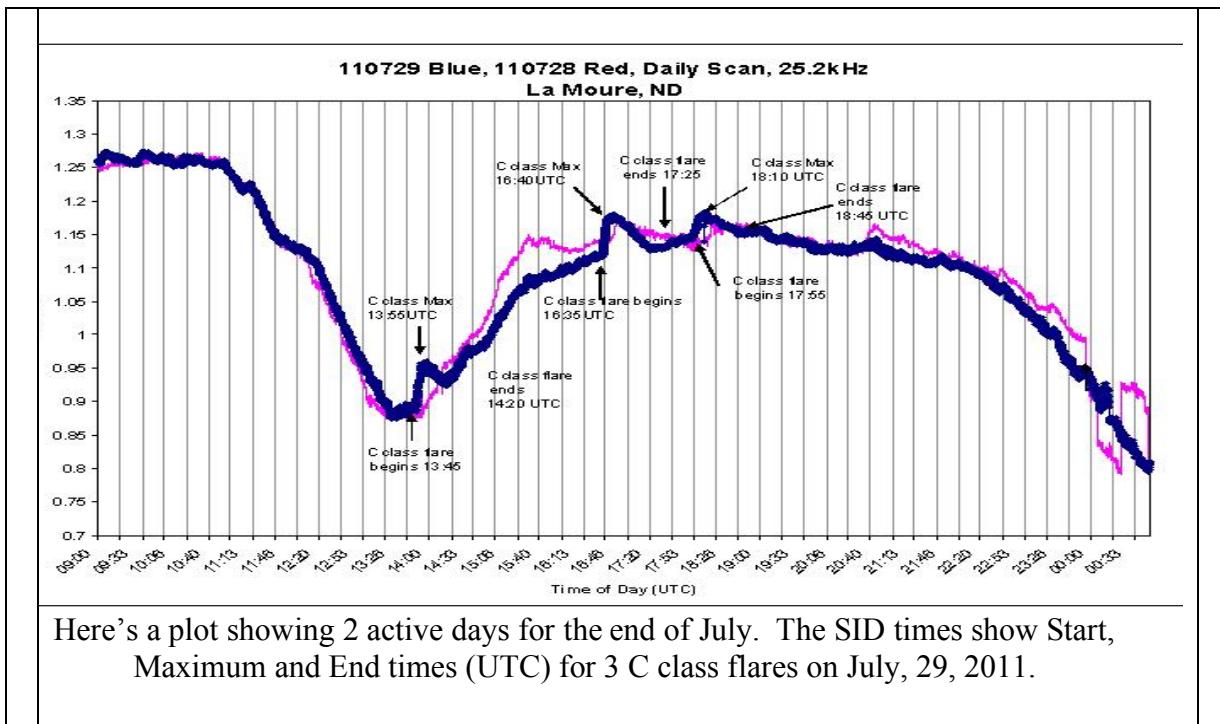
## Check out the AAVSO Solar Section List Serve

We have been doing a little work behind the scenes in the AAVSO Solar Section to improve the website and making changes in the way we communicate with the professional research community. With solar maximum projected within the next two years, now is a good time to make some of these changes. To facilitate discussion among solar observers, we've set up a new mailing list dedicated to Solar observing and Solar astronomy and astrophysics: [aavso-solar](mailto:aavso-solar). The list functions exactly like all of our other mailing lists and you can subscribe to it via our website:

<http://www.aavso.org/discussion-groups-email-lists>

<http://www.aavso.org/mailman/listinfo/aavso-solar>

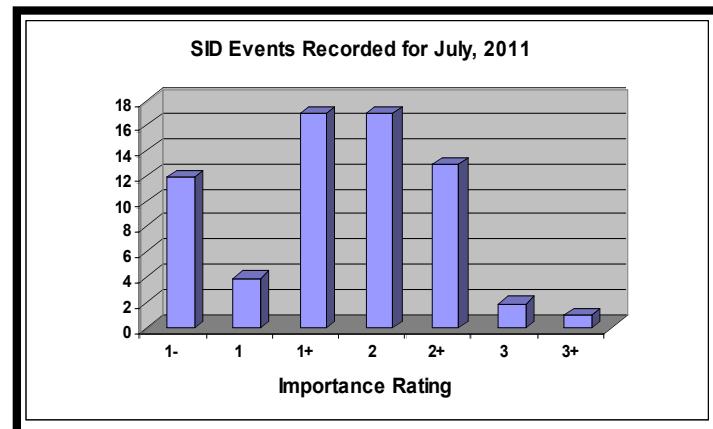
# Sudden Ionospheric Disturbance Report



## Sudden Ionospheric Disturbances (SID) Records During July, 2011

Date	Max	Imp	Date	Max	Imp
110701	326	-1	110727	1605	2+
110703	622	-1	110727	2201	1+
110703	1102	2	110728	18	-1
110706	2325	2+	110728	228	1
110708	29	3	110728	404	-1
110708	947	1+	110728	437	3+
110708	1151	2	110728	707	1+
110708	1332	1+	110728	738	2
110708	1504	1+	110728	756	1+
110709	2220	2+	110728	1100	2
110709	2330	2	110728	1212	2+
110711	1103	2+	110728	1524	2+
110712	1450	1+	110728	1650	2
110713	1850	2+	110728	1817	2+
110718	1030	1+	110728	2042	2
110720	2210	2+	110729	118	1+
110722	350	-1	110729	357	-1
110722	411	-1	110729	809	1+
110724	1845	1+	110729	837	-1
110727	642	1+	110729	1219	2
110727	1004	2	110729	1351	2
110727	1055	1	110729	1641	1+
110727	1125	3	110729	1804	2
110727	1253	2	110730	211	1+
110727	1314	1+	110730	1220	2+
110727	1435	2	110731	256	1

# Solar Events

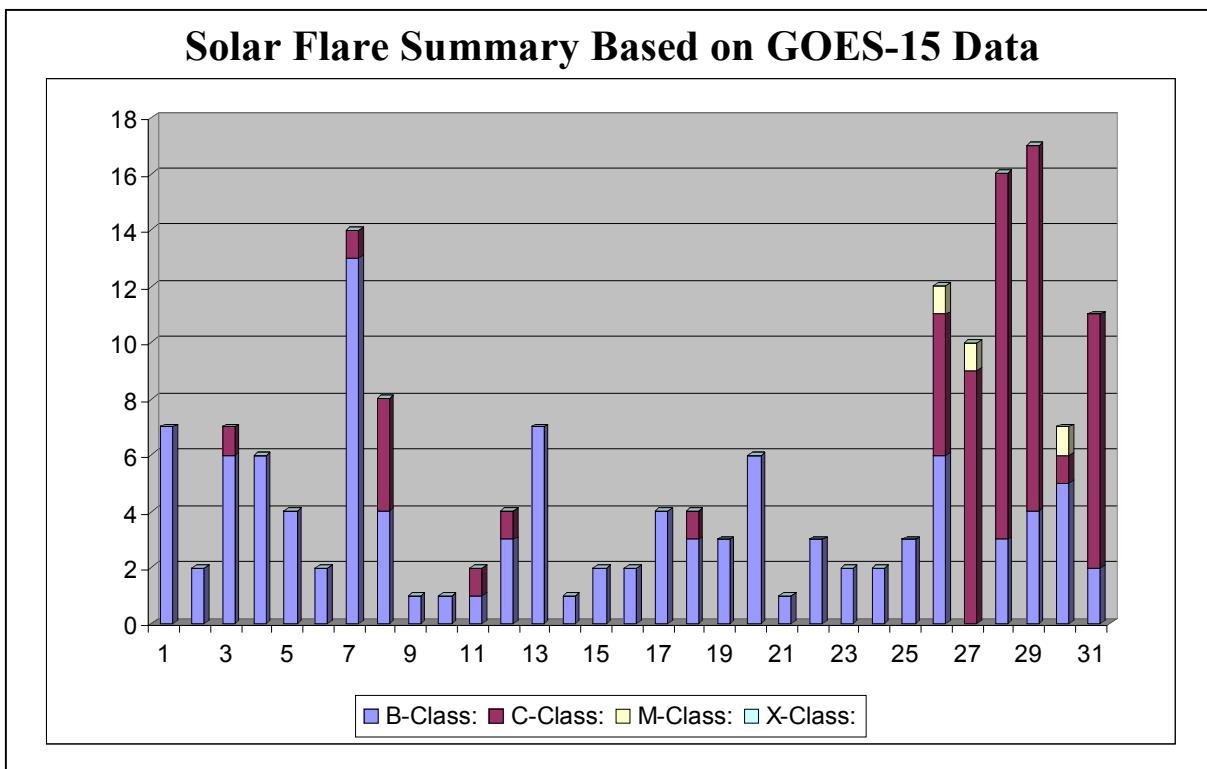


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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## Sudden Ionospheric Disturbances (SID) Observers During July, 2011

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
P King	A80	HWU	F Adamson	A122	NWC
A McWilliams	A94	NML	G Myers	A124	NLK
R Battaiola	A96	HWU	S Oatney	A125	NML
F Steyn	A102	NAA NWC	G Richardson	A128	NLK NML NPM
L Loudet	A118	DHO GQD NAA	Len Anderson	A91	no data
J Godet	A119	GBZ GQD	Jon Wallace	A97	no data
R Howe	A121	NML	Michael King	A99	no data

There were 171 solar flares measured by GOES-15 for July, 2011, 3 M class flares, 58 C class and 110 B class flares. Of the 14 AAVSO SID Observers who submitted reports; 11 recorded July events, with 3 recording no data.



American Relative Sunspot Numbers (Ra) for July, 2011 [boldface = maximum, minimum]

DAY	NumObs	RAW	Ra
1	32	58	41
2	38	40	31
3	32	41	29
4	26	42	29
5	38	32	23
6	31	31	22
7	29	35	24
8	36	50	34
9	34	39	29
10	40	60	42
11	33	71	50
12	39	65	44
13	29	55	38
14	35	62	45
15	39	71	52
16	34	67	47
17	37	85	59
18	27	100	<b>69</b>
19	31	90	66
20	32	66	46
21	30	63	44
22	29	53	37
23	32	36	26
24	32	25	17
25	29	23	<b>16</b>
26	33	42	29
27	32	64	45
28	34	80	57
29	29	83	60
30	38	90	66
31	39	97	68
<b>Averages</b>	<b>33.2</b>	<b>58.5</b>	<b>41.4</b>

**Total Observers: 56**

**Total Observations: 1029**

Observer	#Obs	Name
AAP	10	A. Patrick Abbott
AAX	11	Alexandre Arorim
AJV	19	J. Alonso
ARAG	31	Gema Araujo
ASA	16	Salvador Aguirre
BARH	11	Howard Barnes
BATR	11	Roberto Battaiola
BEB	11	Ray Berg
BERJ	11	Jose Alberto Berdejo
BMF	23	Michael Boschat
BRAB	31	Brenda Branchett
BRAF	13	Raffaello Braga

BROB	30	Robert Brown
BXD	19	Alexandru Burda
		German Chavas
CHAG	21	Morales
CKB	30	Brian Cudnik
CLZ	5	Corp Laurent
CNT	6	Dean Chantiles
DEMFL	10	Frank Dempsey
DGP	14	Gerald Dyck
DUBF	21	Franky Dubois
FAM	13	Fabio Mariuzza
FERJ	21	Javier Ruiz Fernandez
FLET	20	Tom Fleming
FLF	22	Fredirico Luiz Funari
FUJK	19	K. Fujimori
HALB	13	Brian Halls
HAYK	21	Kim Hay
HOWR	30	Rodney Howe
HRUT	28	Timothy Hrutkay
JASK	13	Krystyna Wirkus
JJK	11	Jerry Klotz
KAND	31	Kandilli Observatory
KAPJ	29	John Kaplan
KNJS	22	James & Shirley Knight
KROL	6	Larry Krozel
LEVM	9	Monty Leventhal
LKR	8	Kristine Larsen
MARE	10	Enrico Mariani
MILJ	15	Jay Miller
MMI	21	Michael Moeller
MUDG	16	George Mudry
OATS	31	Susan Oatney
OBSO	14	IPS Observatory
OJMA	20	Juha Ojanpera
RICE	25	E. C. Richardson
SIMC	16	Clyde Simpson
SONA	16	Andries Son
STQ	19	Nick Stoikidis
SUZM	27	Miyoshi Suzuki
TESD	29	David Teske
TJV	5	Javier Temprano
URBP	24	Piotr Urbanski
VARG	24	A.Gonzalo Vargas
VIDD	17	Daniel Vidican
WILW	30	William M. Wilson

**Reporting Addresses:**

**Sunspot Reports – Kim Hay**  
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**SID Solar Flare Reports – Rodney Howe**  
Email: [ahowe@frii.com](mailto:ahowe@frii.com)

This Image is from Javier Ruiz;  
Observatorio de Cantabria (Spain)  
Taken on 16-7-11, 14h 11m, H-alpha image,  
taken at primary focus with a  
TSA102/816 Takahashi refractor and a  
SM90 + BF30 Coronado filter.  
The camera is a DMK41 Imaging Source.  
The image is actually a mosaic of 8 images,  
4 of the solar disk and 4 of the limb.

