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: Paul@IndustrialStars.com ISSN 0271-8480

Volume 65 Number 6 June 2009



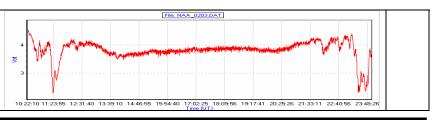


These wonderful images by solar observer Gema Araujo (www.astrosurf.com/obsolar) of Spain were made on June 1, 2009. The white light image highlights AR11019 at 07:56UT, while the H-alpha image shows a nice prominence at 08:45UT. It was nice to see some sunspot activity for a change, though only briefly.

Thanks again to all the dedicated observers who continue to patrol the sun and submit reports. Your data still counts and reflects the current status of this cycle. Don't forget to submit your images, drawings and SID plots to include 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 March 2009

| Date | Max | Imp | Date | Ma | ay li | mp | Date | Max | Imp |
|------|-------|-----|------|------|-------|----|------|-------|-----|
| Date | IVIAX | шр | Date | IVIC | 17 | пр | Date | IVIAX | Шр |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | N | ` | | | | |
| | | | | SI | | | | | |
| | | | | _ | | | | | |
| | | | | Eve | nts | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | 1 | | | | | + | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | I | | | | | | |

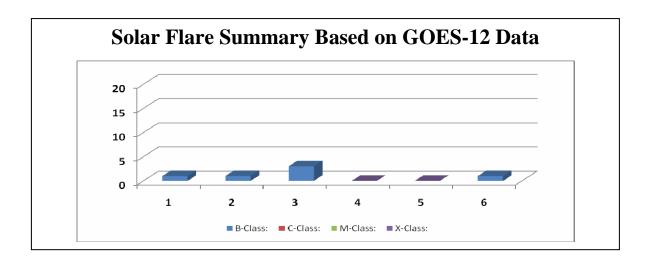
| Observer | Code | Station(s) monitored | Observer | Code | Station(s) monitored |
|-------------|------|----------------------|----------|------|----------------------|
| A Clerkin | A29 | | G Myers | A124 | |
| P King | A80 | | | | |
| M Hill | A87 | | | | |
| L Anderson | A91 | | | | |
| M King | A99 | | | | |
| L. Obs | A107 | | | | |
| P Mortfield | A108 | | | | |
| M Suhovecky | A115 | | | | |
| L Loudet | A118 | | | | |
| JP Godet | A119 | | | | |

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

June was once again a month with 0 correlated SID events. Although there has been a very little bit of activity on the sun, it has not resulted in many X-Ray flares. The GOES-12 satellite detected only six B-Class events.



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

| Day N Raw Mean Ra 1 35 21 15 2 44 21 15 3 35 19 14 4 31 16 11 5 27 5 3 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 17 34 3 2 | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 2 44 21 15 3 35 19 14 4 31 16 11 5 27 5 3 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 3 35 19 14 4 31 16 11 5 27 5 3 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 4 31 16 11 5 27 5 3 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 5 27 5 3 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 6 33 0 0 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 7 39 1 0 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 8 29 3 2 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 9 32 2 1 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 10 32 0 0 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 11 32 0 0 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 12 37 0 0 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 13 42 0 0 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 14 39 0 0 15 31 0 0 16 30 0 0 | |
| 15 31 0 0 16 30 0 0 | |
| 16 30 0 0 | |
| | |
| 17 34 3 2 | |
| | |
| 18 32 0 0 | |
| 19 31 0 0 | |
| 20 43 0 0 | |
| 21 38 3 2 | |
| 22 33 14 10 | |
| 23 37 13 9 | |
| 24 36 13 9 | |
| 25 32 3 2 | |
| 26 37 0 0 | |
| 27 41 0 0 | |
| 28 36 0 0 | |
| 29 33 0 0 | |
| 30 36 0 0 | |
| | |

Means 34.9 4.6 3.2

No. of Observers: 61

Total No. of Observations: 1047

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 | 17 |
|------|-----------|----|
| VLA | J. Alonso | 21 |
| ANGR | R. Ang | 15 |
| ARAG | G Araujo | 30 |

| BARH | H. Barnes | 14 |
|------|---------------------|----|
| BATR | R. Battaiola | 12 |
| BERJ | J. Berdejo | 11 |
| BLAJ | J. Blackwell | 1 |
| BMF | M. Boschat | 15 |
| BRAB | B. Branchett | 29 |
| BROB | R. Brown | 20 |
| BVC | A. Buck | 30 |
| BXD | A. Burda | 11 |
| CHAG | G. Morales | 30 |
| СКВ | B. Cudnik | 22 |
| CLZ | L. Corp | 14 |
| CNT | D. Chantiles | 15 |
| CVJ | J. Carvajal | 20 |
| DEKP | P. Dekelver | 24 |
| DFS | S. Dufoer | 18 |
| DGP | G. Dyck | 2 |
| DUBF | F. Dubois | 28 |
| FLET | T. Fleming | 16 |
| FUJK | K. Fujimori | 19 |
| HAYK | K. Hay | 13 |
| HMQ | к. пау M. Harris | 33 |
| | | |
| HRUT | T. Hrutkay | 12 |
| JASK | K. Jaskulska | 15 |
| KAPJ | J. Kaplan | 22 |
| KNJS | J. & S. Knight | 21 |
| KROL | L. Krozel | 6 |
| KUZM | M. Kuzmin | 4 |
| LARJ | J. Larriba | 10 |
| LEVM | M. Leventhal | 17 |
| LINH | H. Lindberg | 21 |
| MARE | E. Mariani | 10 |
| MCE | E. Mochizuki | 19 |
| MEU | E. Mason | 5 |
| MILJ | J. Miller | 19 |
| MMI | M. Moeller | 25 |
| OATS | S. Oatney | 29 |
| OBSO | IPS Observatory | 14 |
| RICE | E. Richardson | 11 |
| RITA | A. Ritchie | 7 |
| RO | J. Rousum | 8 |
| SCGL | G. Schott | 23 |
| SIMC | C. Simpson | 12 |
| STEF | G. Stefanopoulis | 5 |
| STEM | G. Stemmler | 13 |
| STQ | N. Stoikidis | 28 |
| SUZM | M. Suzuki | 22 |
| SZUM | M. Szulc | 15 |
| TESD | D. Teske | 24 |
| TJV | J. Temprano | 21 |
| URBP | P. Urbanski | 25 |
| VARG | A. Vargas | 28 |
| | | |

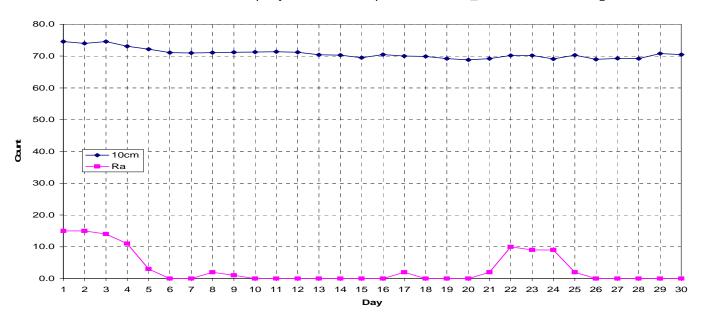
VIDD D. Vidican 12 YESH H. Yesilyaprak WILW W. Wilson 27
WIRP P. Wirkus 2

6

WRP

R. Wheeler

10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for June 2009 10 cm source: ftp://lynx.drao.nrc.ca/pub/solar/FLUX_DATA/fluxtablerolling



Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to December 2008 (Waldmeier Method)

