

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

Carl E. Feehrer, Editor
9 Gleason Rd.
Bedford, MA 01730



Email: cfeehrer@hotmail.com

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October 2004

Table I. American Relative Sunspot Numbers (Ra) for October 2004 [boldface = maximum, minimum]

Day	N	Raw Mean	Ra
1	41	28	21
2	37	25	19
3	38	40	30
4	37	37	29
5	34	30	23
6	35	27	21
7	38	29	22
8	27	19	13
9	31	8	6
10	40	1	1
11	34	2	1
12	33	15	11
13	28	25	18
14	25	23	16
15	22	24	16
16	22	36	26
17	25	65	46
18	26	72	56
19	15	82	64
20	24	91	70
21	27	100	71
22	28	113	83
23	29	119	87
24	29	131	101
25	30	134	99
26	24	137	100
27	25	136	104
28	29	135	100
29	30	125	93
30	26	134	97
31	32	134	97

Means: 29.7 67.0 49.7

Total No. of Observers: 62

Total No. of Observations: 921

Table II. October 2004 Observers

11 AAP P.Abbott	9 LARJ J.Larriba
28 ARAG G.Araujo	6 LERM M.Lerman
8 ARE R.Allessi	19 LEVM M.Leventhal
9 BARH H.Barnes	6 MARE E.Mariani
1 BATR R.Battaiola	26 MARJ J.Maranon
5 BEB R.Berg	15 MCE E.Mochizuki
10 BERJ J.Berdejo	12 MEU E.Mason
7 BLAJ J.Blackwell	22 MMI M.Moeller
15 BMF M.Boschat	7 OBSO IPS Observatory
14 BOSB B.Bose	14 RICE E.Richardson
26 BRAB B.Branchett	20 RITA A.Ritchie
25 BRAR R.Branch	20 SCGL G.Schott
25 BROB R.Brown	2 SDP D.Sharples
4 CAMP P.Cambell	20 STEM G.Stemmler
30 CHAG G.Morales	23 STQ N.Stoikidis
28 CKB B.Cudnik	20 SUZM M.Suzuki
8 CLZ C.Laurent	20 SZUM M.Szulc
13 COMT T.Compton	26 TESD D.Teske
29 CR T.Cragg	14 THR R.Thompson
20 DEJV J.van Delft	20 TJV J.Temprano
5 DELS S.Delaney	20 URBP P.Urbanski
3 DEMF F.Dempsey	18 VARG A.Vargas
12 DGP G.Dyck	7 VELM M.Velea
9 DPP P.dePonthiere	26 YESH H.Yesilyaprak
11 DRAJ J.Dragesco	
22 DUBF F.Dubois	
3 FEEC C.Feehrer	
18 FERJ J.Fernandez	
26 FLET T.Fleming	
19 FUJK K.Fujimori	
5 GOEM M.Goetz	
4 HAYK K.Hay	
10 HRUT T.Hrutkay	
17 JAMD D.James	
7 JEFT T.Jeffrey	
15 KAPJ J.Kaplan	
23 KNJS J&S Knight	
4 KROL L.Krozel	

Reporting Addresses

Sunspot Reports -- email: solar@aavso.org
postal mail: AAVSO, 25 Birch St. Cambridge, MA 02138
FAX (AAVSO): (617) 354-0665

SID Solar Flare Reports -- email: noatak@aol.com
postal mail: Mike Hill
114 Prospect St. Marlboro, MA 01752

Table III. Means of Raw Group Counts (RG) and Ratios of Spots to Groups (S:G) in October 2004

Day	RG	S:G	Day	RG	S:G	Day	RG	S:G	Day	RG	S:G
1	2.4	1.7	9	0.6	3.3	17	3.5	8.6	25	6.8	9.7
2	2.0	2.5	10	0.1	0	18	4.5	6.0	26	7.2	9.0
3	2.8	4.3	11	0.1	10.0	19	5.5	4.9	27	7.8	7.4
4	2.6	4.2	12	1.2	2.5	20	5.4	6.9	28	7.8	7.3
5	2.3	3.0	13	1.7	4.7	21	6.3	5.9	29	7.2	7.4
6	2.3	1.7	14	1.3	7.7	22	6.5	7.4	30	7.8	7.2
7	2.2	3.2	15	1.2	10.0	23	6.8	7.5	31	6.8	9.7
8	1.4	3.6	16	1.7	11.2	24	6.9	9.0	Mn.	4.0	6.0

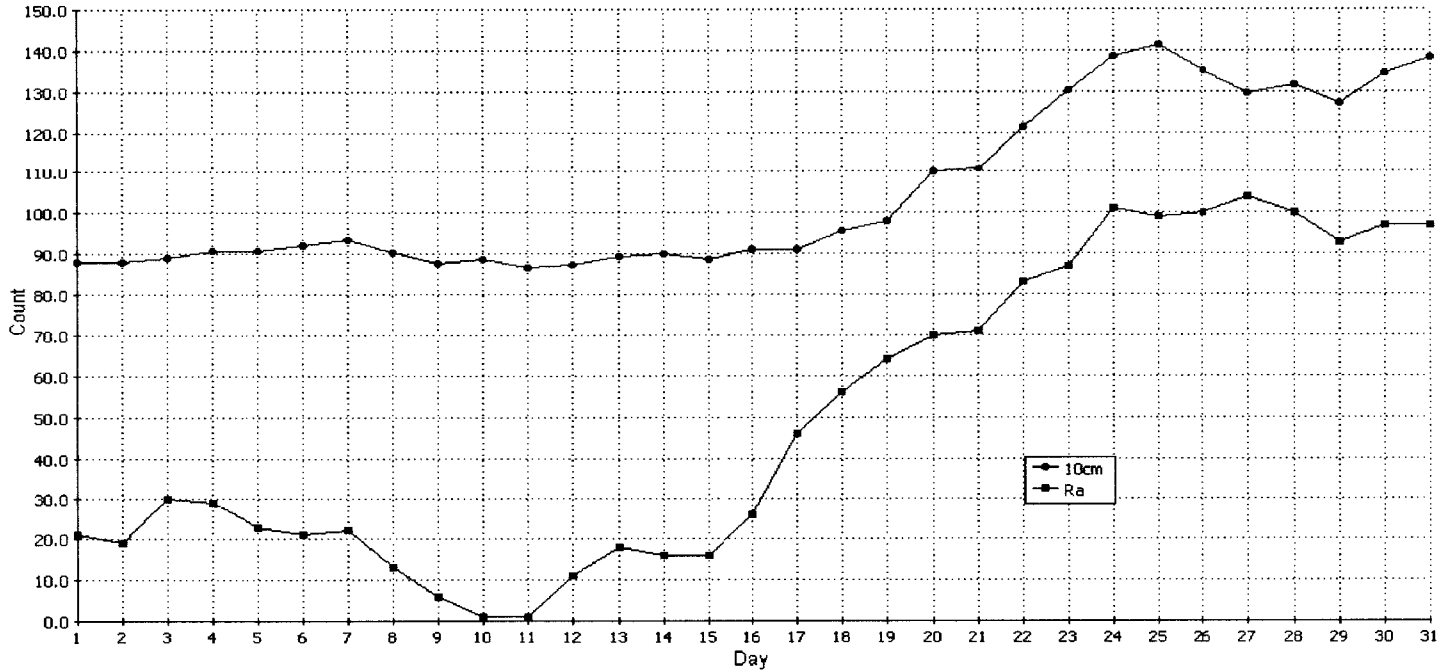


Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for October 2004.
 10 cm source: <http://www.drao.nrc.ca/icarus>

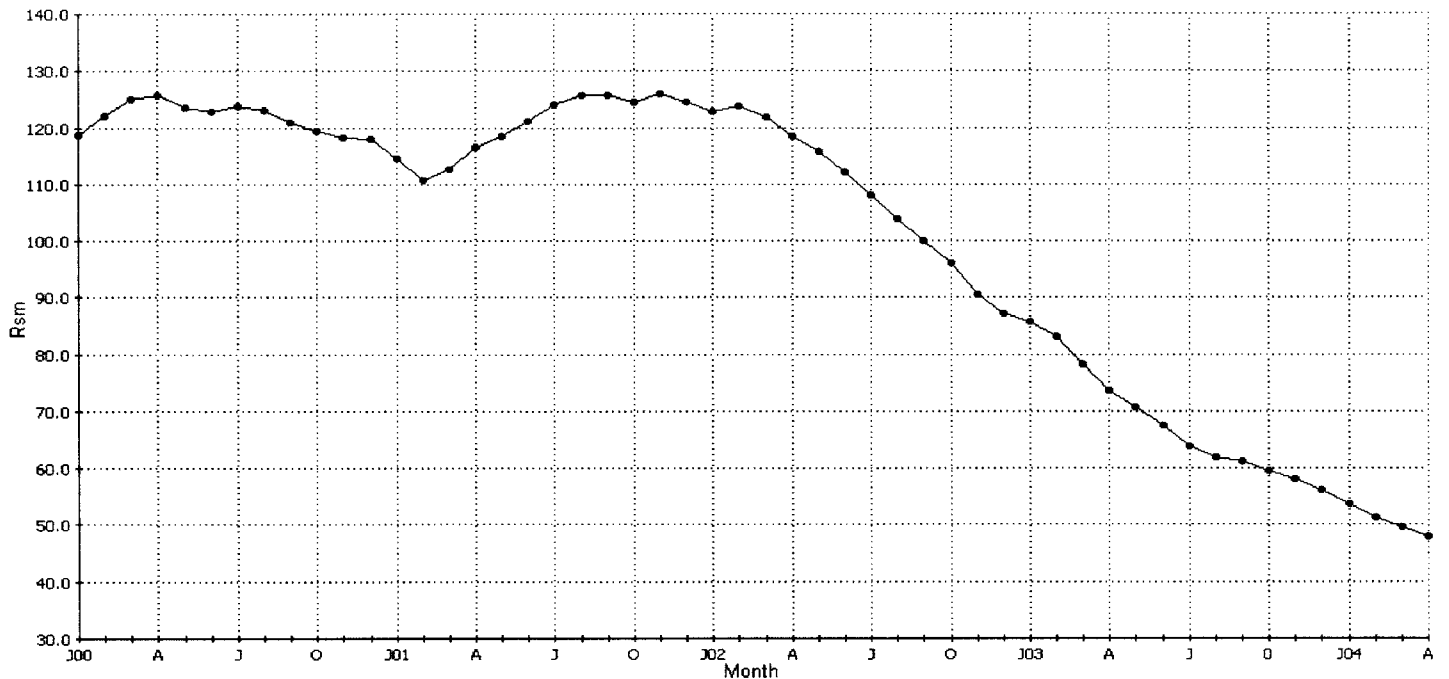


Fig. 2. Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to April 2004 (Waldmeier Method).

**Summary of AAVSO Solar Committee Activity for the Period
October 2003 to September 2004**

Committee Chair and Sunspot Observing Group Leader: Carl E. Fehrer
Solar Flare/SID Observing Group Leader: Mike Hill

Contributions by both sunspot and SID observers to the work of the Solar Committee continued at strong levels during the period. Eleven thousand, one hundred and sixty-five observations were made by a group of 78 sunspot observers, and a total of 242 reports was contributed by a group of 24 SID observers. Three new sunspot observers were added to the ranks.

Observer Awards

We are pleased this year to be able to recognize formally the contributions of observers who have made sustained contributions to our work. The international flavor of the group of observers identified below provides some indication of the breadth of support that continues to be enjoyed by the Committee, and certificates recognizing the accomplishments of these observers will be mailed shortly.

Sunspot Observers In 1999, the AAVSO's Director and Joseph Lawrence, then chair of the Solar Division, initiated a program aimed at formally recognizing observers who had made sustained contributions to the program. Criteria for award of a certificate acknowledging such contributions at increments of 1500 observations were established at that time, and recognition was to be given at the Fall meeting each year.

Five observers have now met or exceeded the initial (1500 observations) criterion. They are:

Robert Branch (BRAR) United States
Brenda Branchett (BRAB) United States
Thomas Cragg (CR) Australia
German Morales Chavez (CHAG) Bolivia
Javier Jarboles Maranon (MARJ) Spain

SID Observers Beginning this year, formal recognition of the sustained contributions of particular SID observers will also be given. To receive this award, an observer must submit reports for a period of 40 months, an average of 10 months over a period of four years. As with the sunspot program, recognition of the accomplishments of qualifying observers will be given at the time of the Fall meeting.

Nine observers have now met or exceeded the criterion. Their names are as follows:

Jerry Winkler (A50) United States
Danny Overbeek (A52; awarded posthumously) South Africa
Dominic Toldo (A52) South Africa
James Ellerbe (A63) Spain
Alex Panzer (A83) United States
Walter Moos (A84) Switzerland
Michael Hill (A87) United States
Michael King (A90) United Kingdom
Guglielmo DiFillipo (A93) Italy

Website Activity

Activity with respect to the website's solar pages continues high. A total of 74,670 downloads of the various pages in the solar section of the website were requested. This total includes requests for volumes 59 (no.s 10-12) and 60 (no.s 1-9) of the Solar Bulletin, which totaled 2,508 for the period

Software Development

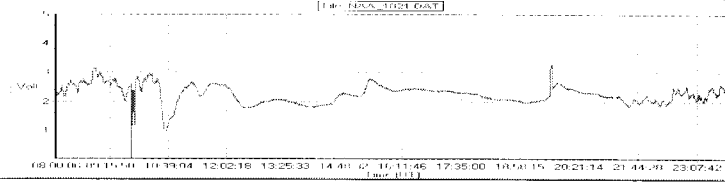
New sunspot analysis software consistent with the latest Windows operating systems has been completed. The software includes several new diagnostic features that advise the user of such things as non-conforming data formats and file names, incorrect observer IDs, incorrect dates, and other reporting deficiencies that complicate the monthly task of preparing the sunspot portion of the Solar Bulletin.

Acknowledgements

The successful performance of the Committee's work is due to the dedication and active support of an international cadre of observers, the AAVSO's staff, and Arthur Ritchie, a volunteer who assists in the preparation of the monthly sunspot data at the AAVSO's headquarters. A grateful "Thank you" goes out to all those who have aided in the our work during the year.

Sudden Ionospheric Disturbance Report

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



Sudden Ionospheric Disturbances (SID) Recorded During October 2004

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
041004	1327	2+	041028	0317	1+	041030	1448	1
041009	1115	2	041028	0354	1	041030	1555	1-
041016	1803	1-	041028	0427	2	041030	1625	2
041019	1428	1	041028	0608	1+	041030	1631	2
041020	0215	1-	041029	0000	2	041030	2159	2
041020	1052	1	041029	1244	1-			
041021	1445	1	041029	1437	1-			
041021	1522	1+	041029	1633	1-			
041021	1948	2+	041029	1924	1-			
041022	0805	2	041030	0049	1+			
041022	0812	1+	041030	0335	1+			
041022	2215	2	041030	0417	1			
041023	0402	1+	041030	0459	1			
041023	0726	1	041030	0557	1-			
041023	1638	1	041030	0619	1+			
041023	1654	3	041030	0703	1+			
041023	1922	1+	041030	0900	1-			
041024	0711	2	041030	0920	1-			
041024	1825	1+	041030	0929	1+			
041024	2026	2+	041030	1036	1+			
041025	0716	1-	041030	1146	1+			
041025	1010	1-	041030	1157	1-			
041025	1031	1	041030	1254	1			
041025	1445	1+	041030	1349	1-			
041026	1507	1	041030	1405	1-			

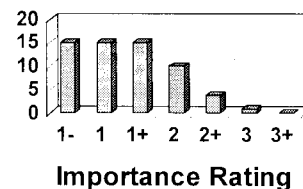
Importance rating : Duration(min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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The events listed above meet at least one of the following criteria

- 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)

Observer	Code	Station(s) monitored
A Clerkin	A29	NAA
J Winkler	A50	NAA NML NPM
D Toldo	A52	NAA NWC VTX
J Ellerbe	A63	ICV
P King	A80	FTA
M Hill	A87	NAA
J Mandaville	A90	NPM
G DiFillipo	A93	HWU
T Poulos	A95	NAA
R Battaiola	A96	HWU
J Wallace	A97	NAA
M King	A99	HWU
P Campbell	A100	NLK
G Bressan	A101	HWU
F Steyn	A102	NAA NWC
L Observatory	A107	DHO
P Mortfield	A108	NAA

SID Events Recorded for October 2004



Solar Events

October started off very slowly but ended with quite a bit of activity. This can be seen quite visually in the graph below and is evident in the number of SID events detected by observers. There were 60 correlated SID events this month. Many of them had a low importance rating, with a few stronger events. There were 224 X-Ray flares detected by the GOES satellite. Of these, 9 were M-Class events and one, on the 30th of the month, was an X-Class event.

One of our members, Steve Hansen (A59) has a number of Rustrak strip chart recorders. Even though the AAVSO SID program does not promote the use of these for monitoring since it can no longer supply the paper rolls, some of you might still have an interest in these for experimenting or for spare parts. If you do, then I suggest you contact Steve and see what he has available. His email address is shansen(at)tiac.net (email address purposely modified)

Solar Flare Summary Based on GOES-12 Data October 2004

