

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR SECTION



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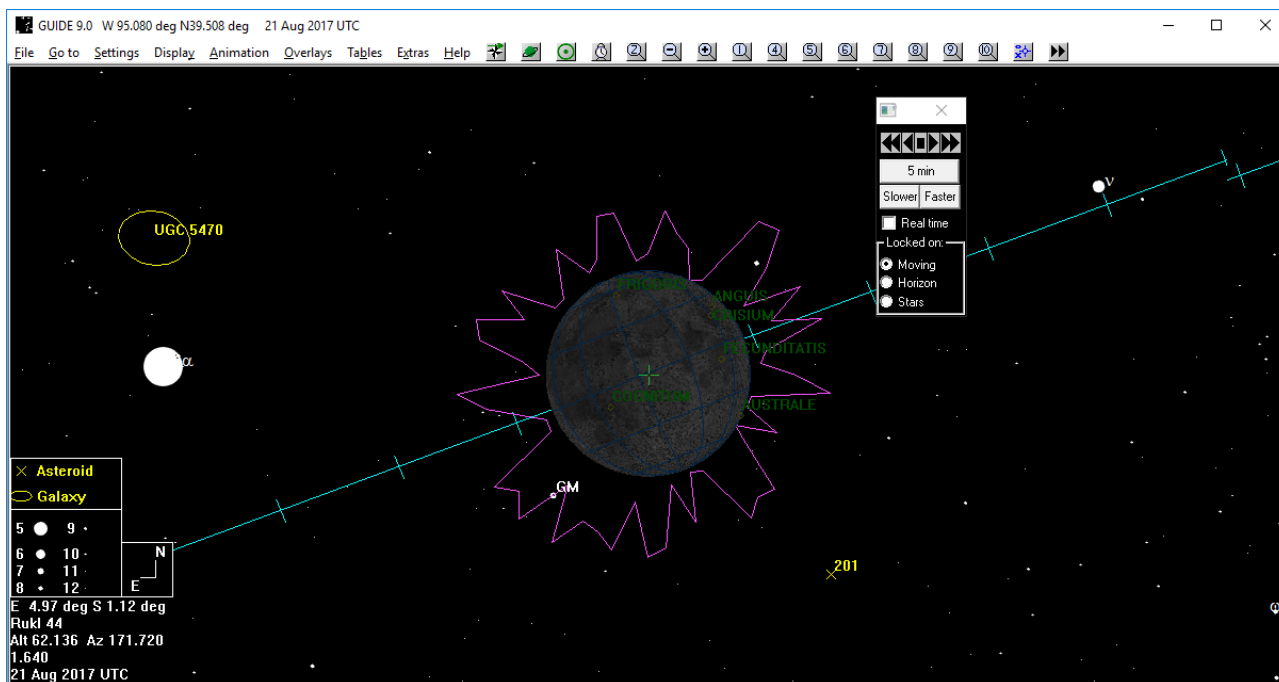
Web: <http://www.aavso.org/solar-bulletin>

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There are two relatively bright stars that will be fairly close and perhaps within the corona of the sun on the August 21, 2017 eclipse <https://www.timeanddate.com/eclipse/solar/2017-august-21>:

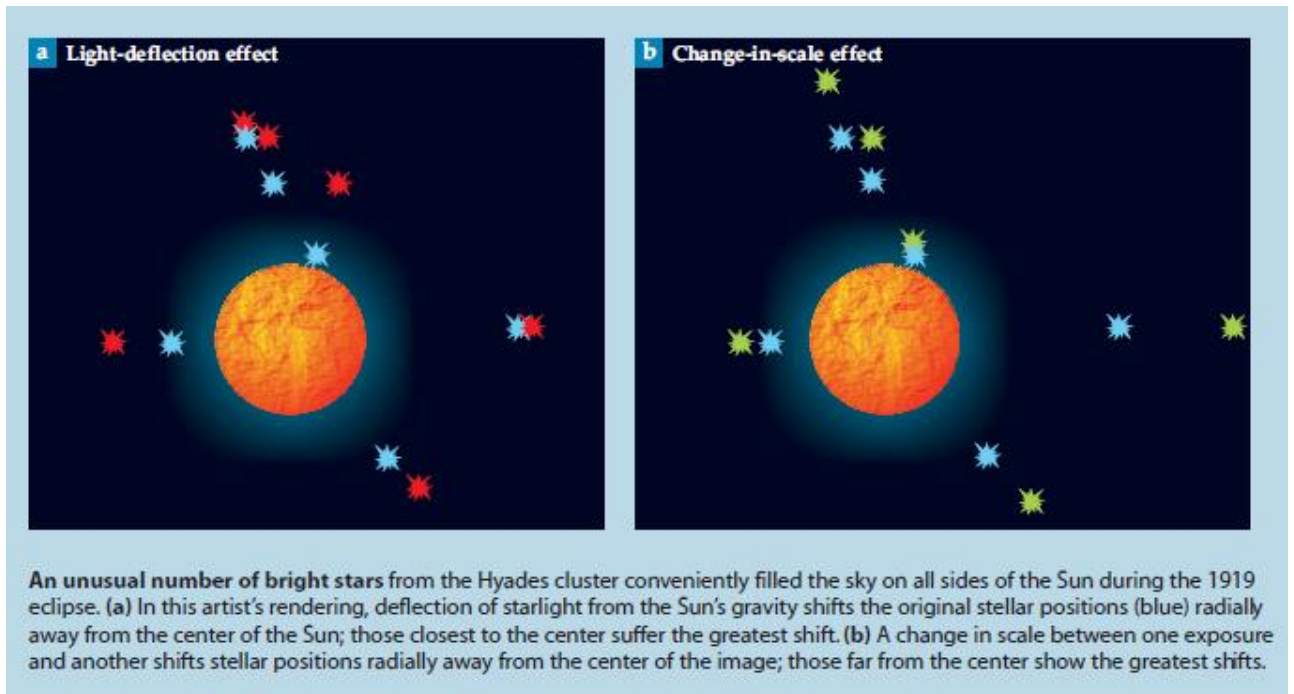
NSV 18327

(Data from VizieR version of NSV/NSVS), Maximum magnitude: 7.1 Minimum magnitude: 7.22, Spectral Type: (A0); RA (J2000): 10h 04m 08.4s Declination: +11 37' 43" Photometric system: H Reference to a study of this star: s200 Reference to a chart for this star: s200, GCVS designation: = GM Leo (*The Guide V9*: <http://www.projectpluto.com>)

SAO 98906

Magnitude: 8.20 Spectral type K0; Right ascension: 10h 01m 55.876s Declination: +12 14' 44.79" Proper motion in RA: -0.029 arc seconds/year Proper motion in Dec: -0.010 arc seconds/year Proper motion total: 0.030 arc seconds/year (*The Guide V9*: <http://www.projectpluto.com>)

These two stars are up in the sky this coming March - April, so it might be interesting to take a few observations. How do the background stars for this eclipse compare to the ones in 1919?



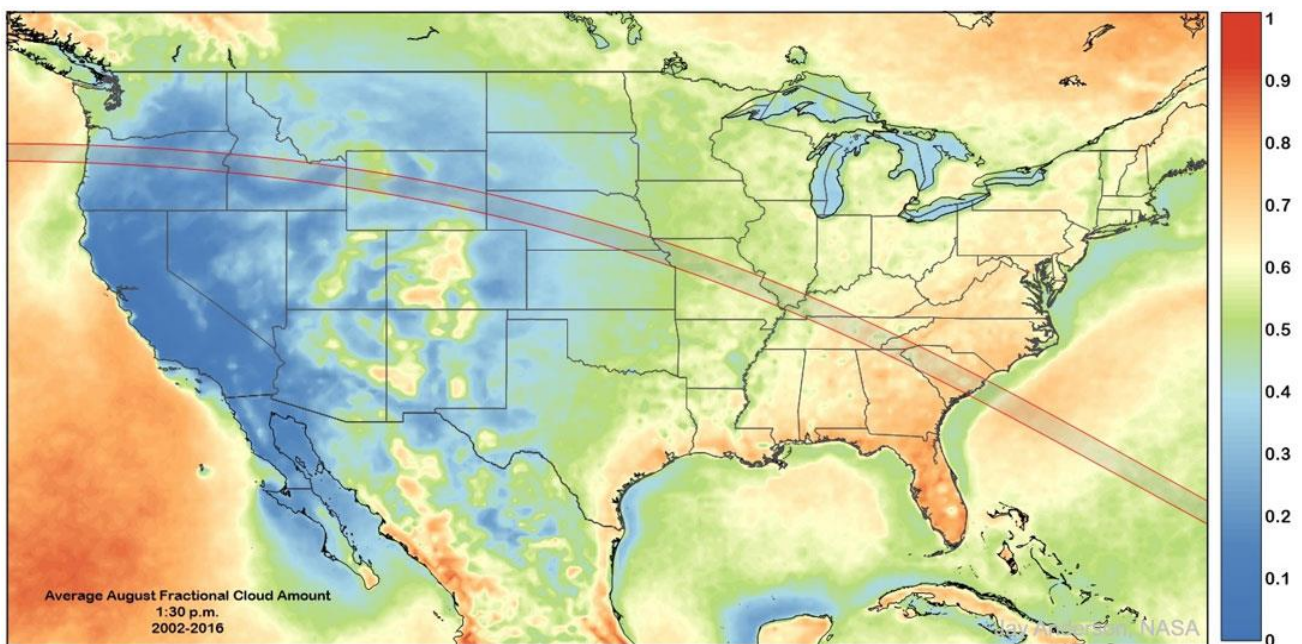
“Data analysis

The fortunate circumstance that the Sun would be in a field containing relatively bright stars gave the astronomers an excellent chance of acquiring good quality images of stars close to the Sun, where fainter stars would be drowned out by the light of the solar corona. The predicted amount of the apparent shift in star positions was, they believed, within the level of accuracy achievable by contemporary astrometric techniques, even allowing for the technical difficulty imposed by transporting delicate equipment to remote locations before installation.”

Testing relativity from the 1919 eclipse— a question of bias by Daniel Kennefick, March 2009

Physics Today www.physicstoday.org

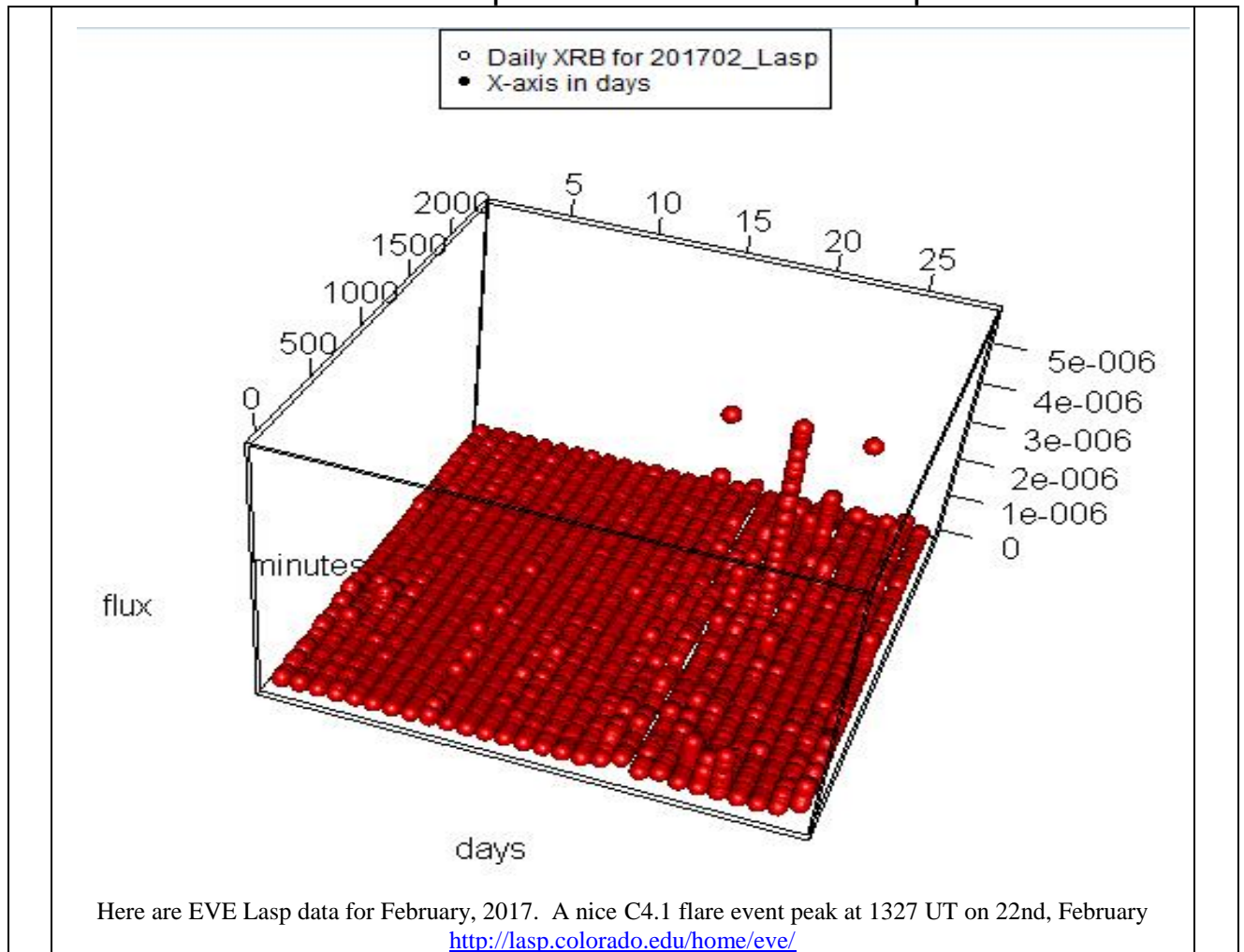
http://w.astro.berkeley.edu/~kalas/labs/documents/kennefick_phystoday_09.pdf



Get prepared to transport your delicate equipment! Here are areas of cloudless skies during August.

<https://apod.nasa.gov/apod/ap170131.html>

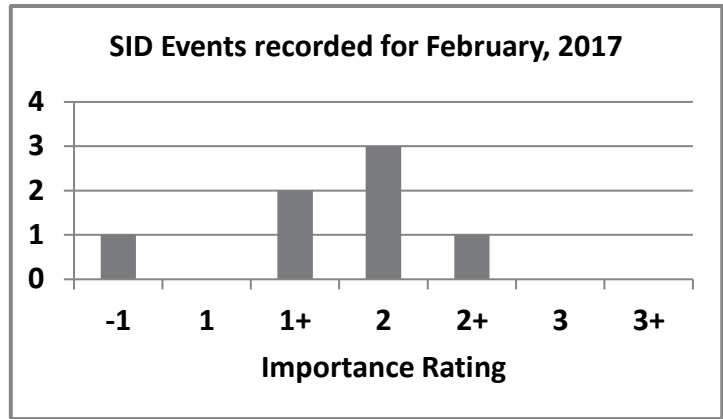
Sudden Ionospheric Disturbance Report



Sudden Ionospheric Disturbances (SID) Records During February, 2017

Date	Max	Imp
170209	151	2
170209	326	2+
170209	704	1+
170218	929	-1
170222	1325	1+
170224	12	2
170224	1333	2

Solar Events

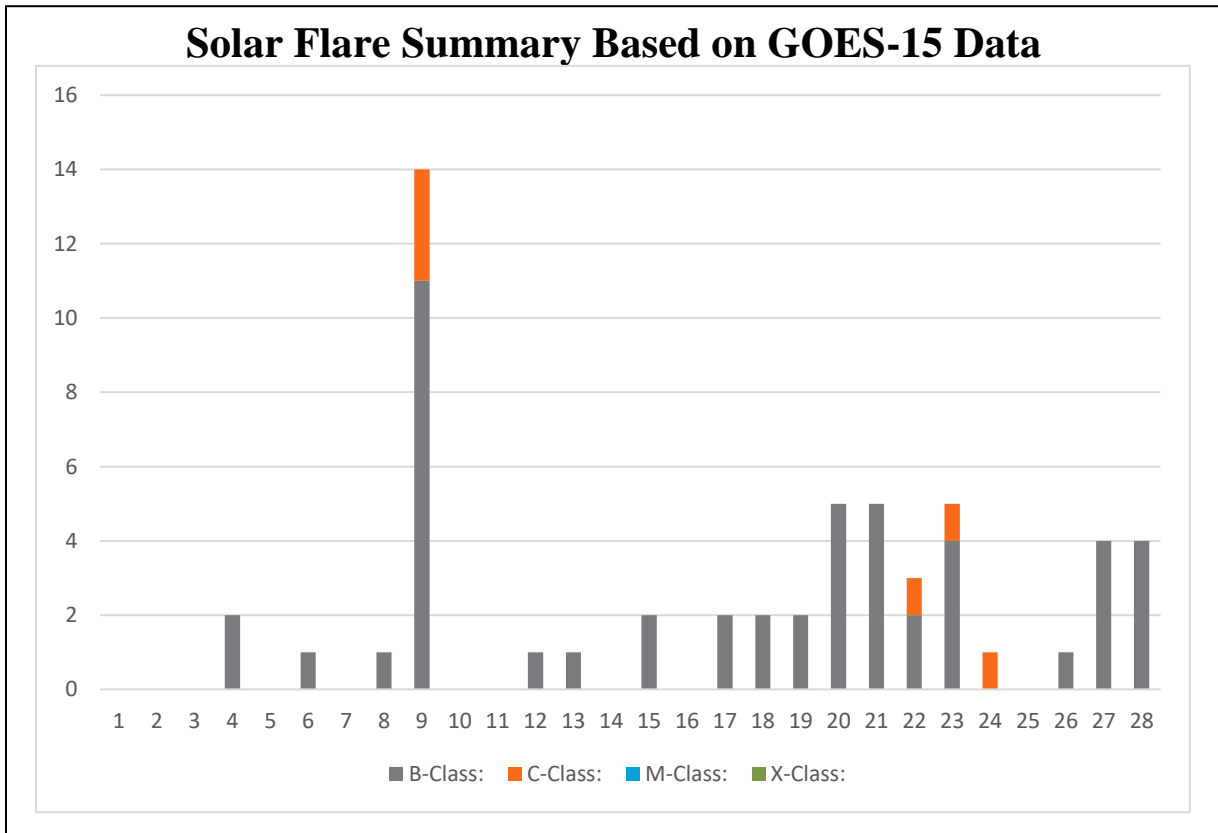


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: 125
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Sudden Ionospheric Disturbances (SID) Observers During February, 2017

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	J Karlovsky	A131	DHO NSY
R Battaiola	A96	HWU	R Green	A134	NWC
J Wallace	A97	NAA	S Aguirre	A138	NPM
L Loudet	A118	DHO	G Silvis	A141	NAA
J Godet	A119	GBZ GQD ICV	R Rogge	A143	DHO GQD ICV
B Terrill	A120	NWC	K Menzies	A146	NAA
F Adamson	A122	NWC	L Ferreira	A149	NWC
S Oatney	A125	NML			

There were 56 solar flares measured by GOES-15 for February, 2017: Six C class and 50 B class flares. Far less flaring this month compared to last. There were 14 AAVSO SID observers who submitted reports this month.



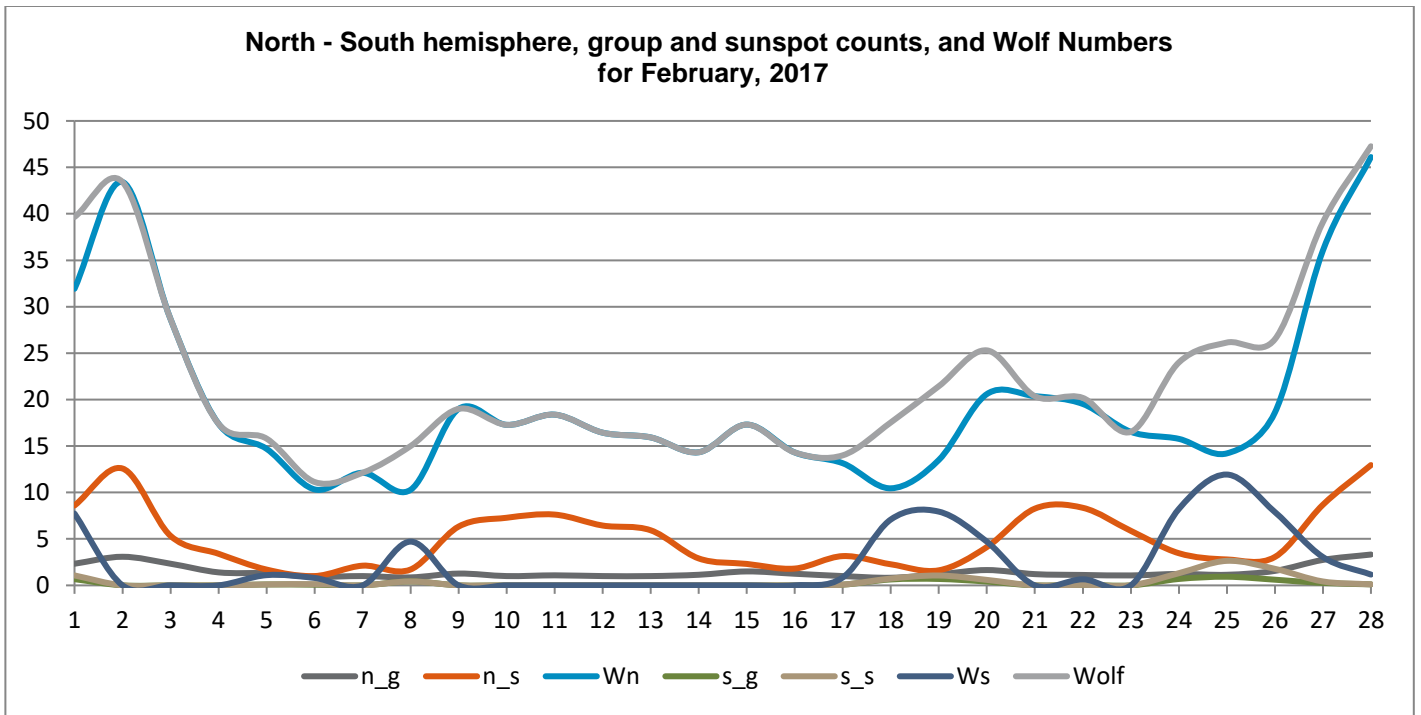
American Relative Sunspot Numbers (Ra) for
February, 2017 [**boldface = maximum, minimum**]

DAY	NumObs	RAW	Ra
1	23	38	28
2	20	38	29
3	23	26	20
4	21	8	5
5	22	8	5
6	25	8	6
7	21	4	3
8	26	5	3
9	22	17	13
10	28	17	15
11	18	18	14
12	23	16	14
13	25	15	12
14	33	13	11
15	31	16	13
16	34	10	7
17	26	10	8
18	30	7	5
19	34	13	9
20	26	22	17
21	26	20	16
22	25	21	16
23	21	16	13
24	20	22	16
25	29	25	20
26	34	23	19
27	33	37	30
28	27	45	36
Average	25.9	18.5	14.4

Obs	#obs	Name
AAX	20	Alexandre Amorim
AJV	14	J. Alonso
ARAG	27	Gema Araujo
ASA	25	Salvador Aguirre
BARH	7	Howard Barnes
BDDA	6	Diego Bastiani
BERJ	18	Jose Alberto Berdejo
BRAB	27	Brenda Branchett
BRAF	5	Raffaello Braga
BROB	15	Robert Brown
CHAG	23	German Morales Chavez
CKB	18	Brian Cudnik
CNT	4	Dean Chantiles

CVJ	11	Jose Carvajal
DEMF	3	Frank Dempsey
DJOB	10	Jorge del Rosario
DUBF	16	Franky Dubois
FERJ	15	Javier Ruiz Fernandez
FLET	21	Tom Fleming
FLF	21	Fredirico Luiz Funari
FTAA	6	Tadeusz Figiel
FUJK	24	K. Fujimori
HAYK	9	Kim Hay
HIVB	6	Ivan Hajdinjak
HOWR	21	Rodney Howe
JDAC	3	David Jackson
JENS	1	Simon Jenner
JGE	4	Gerardo Jimenez Lopez
KAND	16	Kandilli Observatory
KAPJ	17	John Kaplan
KNJS	27	James & Shirley Knight
KROL	23	Larry Krozel
LEVM	18	Monty Leventhal
LKR	2	Kristine Larsen
LRRR	23	Robert Little
MARE	3	Enrico Mariani
MJAF	28	Juan Antonio Moreno Quesada
MJHA	23	John McCammon
MUDG	4	George Mudry
MWU	11	Walter Maluf
ONJ	3	John O'Neill
RLM	11	Mat Raymonde
RRO	1	Ralph Rogge
SDOH	28	Jan Alvested (SDO)
SIMC	6	Clyde Simpson
SNE	7	Neil Simmons
SONA	5	Andries Son
SPIA	6	Piotr Skorupski
STAB	19	Brian Gordon-States
SUZM	24	Miyoshi Suzuki
TESD	22	David Teske
URBP	11	Piotr Urbanski
VARG	21	A. Gonzalo Vargas
VIDD	5	Dan Vidican
WILW	18	William M. Wilson
WRP	2	Russell Wheeler

Total Observers: 56
Total Observations: 764



There were 34 out of 56 observers who counted northern and southern hemisphere groups and sunspots this month. It looks like no hemisphere was predominant with days of crossover on the 7th, 9th, 21st, and 23rd.



For German Morales (CHAG) Solar Eclipse calculations look at: www.astronomia.org.bo/astro/225-EclipseSolar.pdf And for the right image, under less cloudy skies, Walter J. Maluf (MWU) at 11 hours 26 minutes captures this partial eclipse from the "SOLARIS" Solar Observatory of Monte Mor/SP BRAZIL

Reporting Addresses:

Sunspot Reports – Kim Hay solar@aavso.org

SID Solar Flare Reports – Rodney Howe ahowe@frii.com