Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR COMMITTEE

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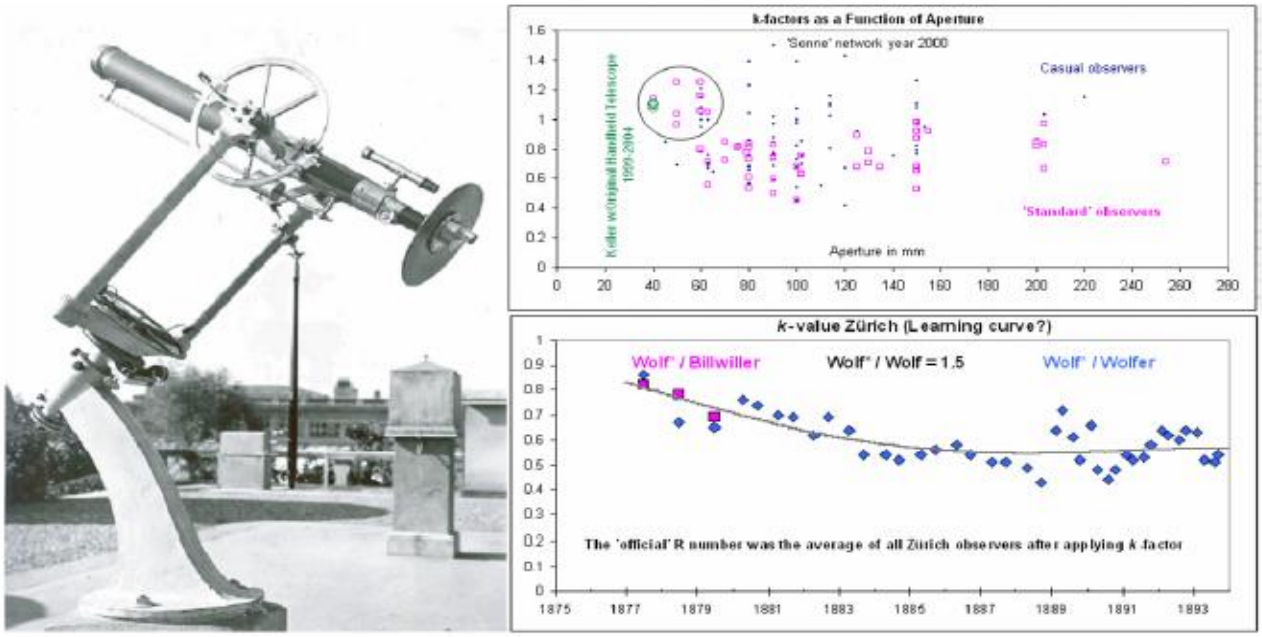


Figure 8. (Left) the 80/1100mm Fraunhofer refractor used by the Zürich observers, equipped with a Merz polarizer to allow direct visual observation. (Right, upper) k-factor dependence on telescope aperture. The circle marks telescopes that are too small for optimal viewing. The green symbols show the k-factor for Wolf's original hand-held telescope. (Right, lower) The k-factor for assistants Wolfer and Billwiller as a function of time showing a possible 'learning curve' before becoming experienced observers.

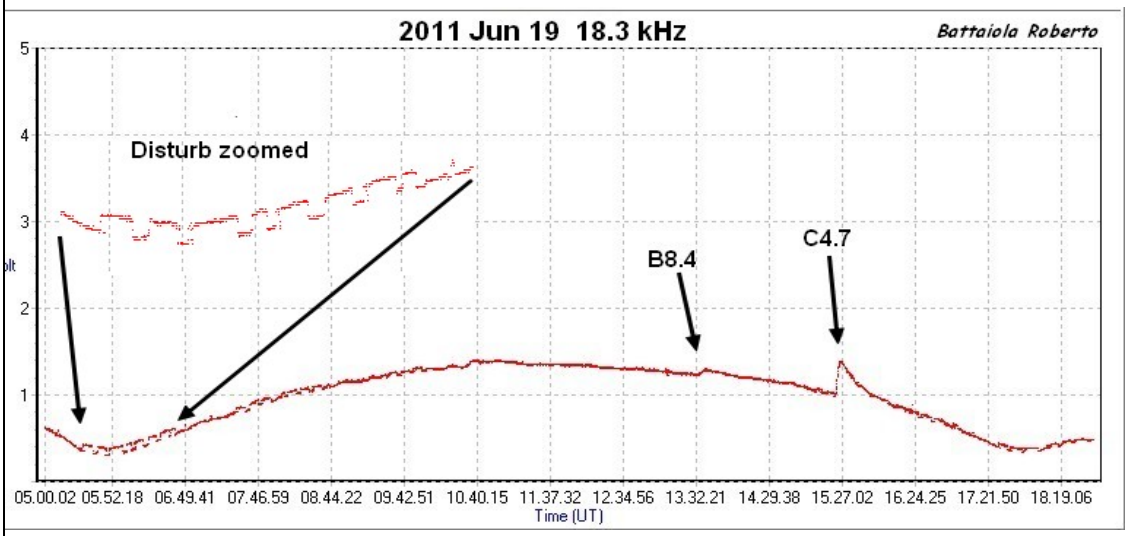
Leif Svalgaard, Edward W. Cliver, Kenneth H. Schattten, History and Calibration of Sunspot Numbers, 2010, Solar Physics

http://www.leif.org/research/Sunspot-Calibration.pdf

For our Sunspot viewers

After a thorough examination of the literature pertaining to the determination of the k-coefficients for observer sunspot counts, a modern statistical modeling methodology is in development. The modern method will account for all identified sources of variation in the observed counts, thus resulting in minimal observer k-coefficient bias and variability. The relative sunspot number, thereby, is expected to also have minimum bias and variance. Dr. Jamie Riggs.

Sudden Ionospheric Disturbance Report



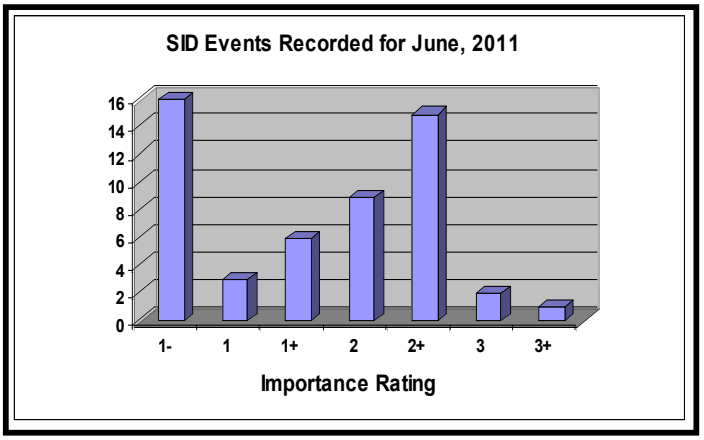
SID Observer: A-96, Roberto Battaiola, Milan, Italy recorded B and C class flares on June 19. Roberto observes the HWU 18.3 kHz station at Le Blanc, France, which is about 600 km from Milan, Italy.

Our VLF radios often see odd disturbances, so, what is this one Roberto has zoomed in on?

Sudden Ionospheric Disturbances (SID) Records During June, 2011

Date	Max	Imp	Date	Max	Imp
110601	1618	2	110614	0040	1-
110601	1632	2	110614	0207	1-
110601	1700	2+	110614	1122	2+
110601	1708	2+	110614	2148	2+
110602	0254	1	110615	1150	2+
110602	0748	3	110615	1435	2+
110602	0900	3+	110616	1021	2+
110602	0948	2+	110616	1209	2+
110602	1027	2+	110616	1543	2
110603	1612	2	110617	0241	1-
110605	0231	1-	110617	1225	2+
110606	0950	1	110618	0005	1
110607	0630	3	110619	0243	1-
110607	0641	2+	110619	1523	1+
110609	0329	1-	110619	1720	2
110609	0341	1-	110621	0308	2+
110609	1029	1+	110627	0636	1-
110610	1752	2	110628	1317	2+
110612	1715	1+	110629	0024	1-

Solar Events

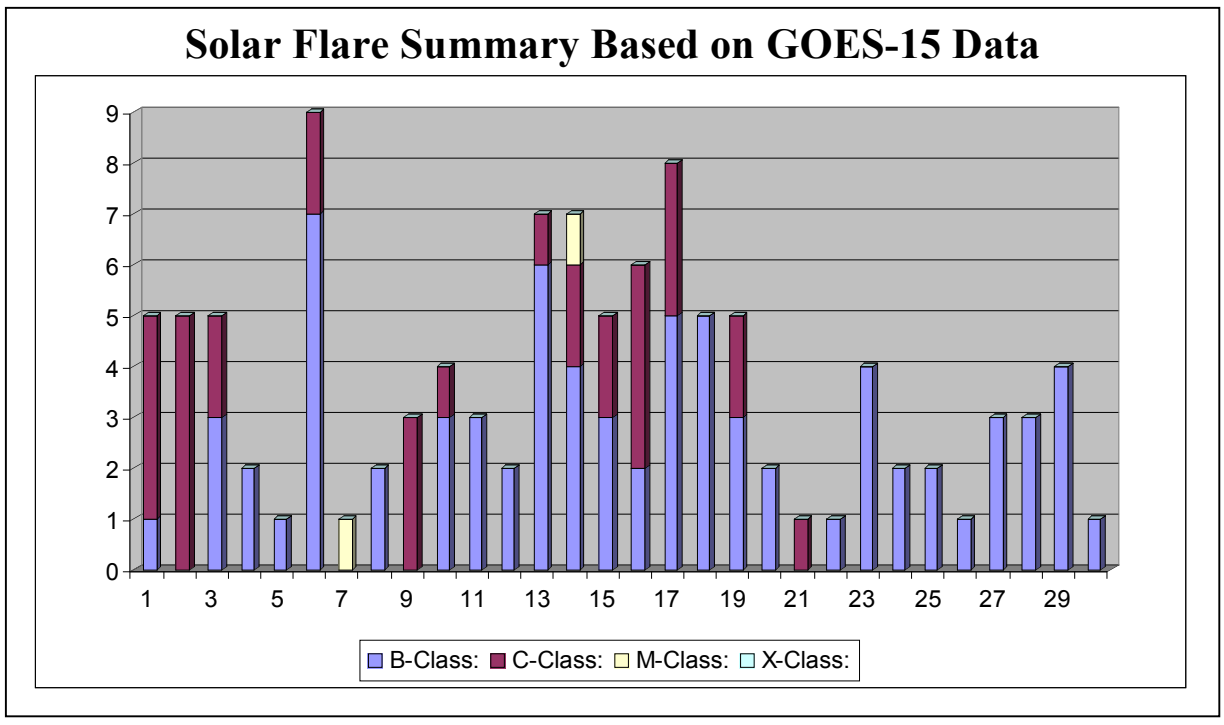


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125

Sudden Ionospheric Disturbances (SID) Observers During June, 2011

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
L Anderson	A91	NWC	L Loudet	A118	GQD
A McWilliams	A94	NML	J Godet	A119	GBZ GQD
R Battaiola	A96	HWU	R Howe	A121	NML
J Wallace	A97	NAA	F Adamson	A122	NWC
M King	A99	HWU	S Oatney	A125	NML
F Steyn	A102	NWC	G Richardson	A128	NPM NWC

There were 109 solar flares measured by GOES-15 for June, 2011, 2 M class flares, 31 C class and 76 B class flares. Of the 14 AAVSO SID Observers who submitted reports; 12 recorded June events. (Gary Meyers, A124, Bothell Washington, and Bob Terrill, A120, from Australia recorded no SIDs).



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

DAY	NumObs	RAW	Ra
1	34	117	**85**
2	39	111	84
3	35	111	82
4	37	99	73
5	41	72	51
6	33	61	45
7	31	51	36
8	35	37	27
9	27	32	23
10	31	27	19
11	28	20	16
12	29	15	11
13	28	16	12
14	33	43	29
15	34	51	38
16	31	54	37
17	35	60	39
18	29	49	34
19	33	34	24
20	32	36	23
21	31	37	25
22	25	44	30
23	25	53	36
24	34	61	43
25	35	44	33
26	34	20	14
27	35	16	**10**
28	33	27	19
29	33	35	24
30	37	45	34
Average	**32.6**	**49.3**	**35.1**

Total Observers: 58
Total Observations: 977

Observer	#Obs	Name
AAP	5	A. Patrick Abbott
AAX	7	Alexandre Arorim
AJV	14	J. Alonso
ARAG	30	Gema Araujo
ASA	26	Salvador Aguirre
BARH	6	Howard Barnes
BATR	5	Roberto Battaiola
BEB	17	Ray Berg
BERJ	8	Jose Alberto Berdejo
BMF	16	Michael Boschat
BRAB	30	Brenda Branchett
BRAF	14	Raffaello Braga
BROB	26	Robert Brown
BXD	16	Alexandru Bruda
CHAG	24	German Chavas Morales
CKB	29	Brian Cudnik
CLZ	9	Corp Laurent
CNT	14	Dean Chantiles
CVJ	22	Jose Carvajal
DELS	2	Susan Delaney
DEMF	4	Frank Dempsey
DGP	16	Gerald Dyck
DUBF	20	Franky Dubois
FAM	10	Fabio Mariuzza
FERJ	22	Javier Ruiz Fernandez
FLET	23	Tom Fleming
FLF	20	Fredirico Luiz Funari
FUJK	20	K. Fujimori
HALB	13	Brian Halls
HAYK	13	Kim Hay
HMQ	12	Mark Harris
HOWR	29	Rodney Howe
HRUT	18	Timothy Hrutkay
JASK	24	Krystyna Wirkus
JJK	9	Jerry Klotz
KAND	28	Kandilli Observatory
KAPJ	26	John Kaplan
KNJS	12	James & Shirley Knight
KROL	4	Larry Krozel
LEVM	13	Monty Leventhal
LKR	16	Kristine Larsen
MILJ	15	Jay Miller
MMI	25	Michael Moeller
MUDG	16	George Mudry
OATS	18	Susan Oatney
OBSO	14	IPS Observatory
OJMA	18	Juha Ojanpera
SCGL	26	Gerd-Lutz Schott
SIMC	11	Clyde Simpson
STQ	12	Nick Stoikidis
SUZM	18	Miyoshi Suzuki
TESD	25	David Teske
TJV	8	Javier Temprano
URBP	29	Piotr Urbanski
VARG	28	A.Gonzalo Vargas
VIDD	13	Daniel Vidican
WILW	28	William M. Wilson
WIRP	1	Piotr Wirkus

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