

SOLAR DIVISION BULLETIN.

Neal J. Heines, Editor.

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560 Broadway,
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" SUNSPOT MAXIMUM PREDICTED FOR THE END OF NEXT MONTH " .

Science News Letter for July 12th., 1947.

" Sunspot maximum will be reached this August, if the calculations of Dr. A.G. McNish and Miss J. Virginia Lincoln of the Central Radio Propagation Laboratory, National Bureau Of Standards, are correct ".

The above item has been cited because of its importance to the observers of the Solar Division. It is of relative importance to make as many observations as are possible in order that an accurate Preliminary Relative Sunspot Number can be obtained from the data submitted. Prompt remittance of these data will be appreciated.

Apparently the July values are lower than those of May and June. This evidence substantiates the prediction of Prof. Gleissberg, Istanbul, Turkey, who in 1945 predicted a preliminary maximum followed by a higher one. A supplement accompanies this bulletin giving predictions of the several phases of maximum activity as predicted by him.

We were very happy to see, and visit with, several members of the Solar Division at the Amateurs Astronomers League meeting held in Philadelphia on July 4-5-6. Mr. Gamble*Illinois, Mr. Thorpe-Kentucky, Mr. Hillebrand-Michigan and Mr. Slemaker-Washington D.C. were among those present. A number of new prospective observers were obtained. Opportunity was provided for the reading of a Report on the Activity of the A.A.V.S.O. Solar Division, by your chairman. Full details of the meeting will be found in an early edition of Sky and Telescope.

Dr. Charles P. Olivier, Flower Observatory, Upper Darby, Pa., the president of the American Meteor Society, presented to the Solar Division his sunspot observations made from 1901 to 1921. These observations are to be reviewed, published, and eventually filed for future reference in Washington D.C. along with the balance of the Solar Division Reports. We are very grateful to Dr. Olivier for this fine contribution.

We call your attention to the following releases found in various publications during the past month.

1. THE SUN A REGULAR VARIABLE STAR. C.G. Abbot.
Science Vol. 105, No. 2738 June 20, 1947.
2. SOLAR EFFECTS IN COSMIC RAYS. Scott E. Forbush.
Science (as above)
3. Sunspot Maximum (Present)
Science News Letter for July 12th., 1947.
4. The Sunspot-Cycle Before 1750. D. Justin Schove.
Terrestrial Magnetism. Vol 52. No. 2 Johns Hopkins Press.

We acknowledge a file of reprints from Prof. Gleissberg on his solar work in the previous years. Space does not permit the listing of these reprints at this time but there were sixteen of them.

Of special importance to the Solar Division and others is the recent publication of a new Book by Miss Mabel Sterns of 2517 K, Street Washington 7, D.C. The title of which is, "Directory Of Astronomical Observatories in the United States". The work by reason of its illustrations and other contents will be very useful to observers in any branch of astronomy. Ideas of others may help to solve problems of your own. Information concerning the book may be had from Miss Sterns, direct.

While in Philadelphia your chairman saw a very fine Zeiss 3 $\frac{1}{2}$ " Refractor, heavy pedestal mounting, power driven mechanism, slow motions in R.A. and Declination, Circles with Verniers, a number of fine eyepieces, an erecting prism, star diagonal, Solar Caps, and other filters. This instrument is for sale to the right buyer. Information can be had by writing to Mr. John Lubben, STREET-LINDER and PROPERT, Chestnut at Twentieth Street, Philadelphia.

Mr. B.C. Parmenter of 4506 West 60th., Los Angeles 43, California, has constructed a very interesting Polaroid Filter for Solar work. Essential optical parts are available from others and are not costly. For complete information and sketch write directly to Mr. Parmenter.

Frequently we are asked for a list of books on the Sun. In 1944 such a list was issued to the then existing members of the Solar Division. For the convenience of all concerned and more especially for recent requests we issue a new list.

<u>Title</u>	<u>Author</u>	<u>Publisher</u>
Solar Physics -----	Lockyer -----	McMillan
The Sun -----	Young -----	Appleton
The Sun -----	Abbot -----	Appleton
The Sun -----	Abbeti -----	Van Nostrand
Romance of the Sun -----	Proctor -----	Harpers
The Sun Ruler of the Planetary System	Proctor -----	Scribners
De Natuurkunde van de Zon ---	Minneart -----	Foreign
Sunspots And Their Effects ---	Stetson -----	McGraw-Hill
Earth Radio and the Stars ---	Stetson -----	McGraw-Hill
Earth and Sun -----	Huntington -----	Yale U. Press
Main Springs of Civilization	Huntington -----	Wiley
Le Soleil -----	Secchi -----	Foreign
Le Soleil -----	Guliman -----	Foreign
Solar Relations Vol. 1. -----	Clayton -----	Miss F. Clayton
Solar Relations Vol 2. -----	Clayton -----	1410 Washington St Canton, Mass.
New Astronomy -----	Langley -----	Houghton-Mifflin
Splendor of the Heavens ----	At most Libraries.	Excellent Solar Data.
Eclipses of the Sun -----	Mitchell -----	Columbia
The Story of the Sun -----	Sir Robert Ball -----	Cassell and Co. Ltd.
Stars and Telescopes -----	D.P. Todd -----	Little Brown and Co.
The Heavens and Their Story --	A.W. Maunder -----	Kelley

New, Coming

The Sun -----	Menzel -----	Blakiston
From Sunspots to Radio Waves -	Stetson -----	?

We are happy to add to our list of those interested in solar research, and using our reductions and other data, Mr. Emory Radwan of Milford, Connecticut.

Very important in any kind of astronomical observational work is accurate time. Those of you having Short Wave Radios can obtain accurate time from the following stations;

WWV Central Radio Propagation Laboratory, National Bureau of Standards, Wash. D.C.
 (10 KW Power) continuous, 5, 10, and 15 Megs daytime and (0.1 KW Power)
 20.25, 30 and 35 Megs nighttime.
 CHU Canada, continuous, (5 KW Power) 7335 KC.

A circular explaining the service can be had by writing the Bureau of Standards Washington 25, D.C. There is no charge for this.

SUPPLEMENT TO BULLETIN No.21.

(Copy from "Nature", vol. 156, p. 539, issued November 3, 1945.)

A FORECAST OF SOLAR ACTIVITY.

I wish to direct attention to the fact that a relatively long period of intensive solar activity seems to be imminent. If this should be the case, the coming years will probably be very suitable for studying possible relations between sunspots and such terrestrial phenomena as are supposed to be allied to solar activity.

While exact predictions of the future course of sunspot numbers are impossible, forecasts with a high degree of probability can be derived from the probability laws of sunspot variations which I have published (Astrophys. J., 96, No. 2, Sept. 1942.) These forecasts may be summarized as regards the present new sunspot cycle as follows:

(1) It can be expected with a probability of 0.95 that the next sunspot maximum will be higher than the previous one, which occurred in 1937. It may be noticed that the height of the maximum of 1937 itself exceeded the heights of the five preceding maxima, which occurred in 1883, 1894, 1906-7, 1917 and 1928. Hence it seems very probable that the next maximum will be the greatest within living memory.

(2) It can be expected with a probability of 0.95 that the next sunspot maximum will occur before May 1948. At the meeting of Section D (Astronomy) of the A.A.A.A. held on Sept. 14th, 1944, S.B. Nicholson, of Mt. Wilson Observatory, reported that solar activity reached its last minimum as late as April 1944; thus it follows from (1) and (2) that in the new spot cycle the ascent from minimum to maximum will probably be unusually steep.

(3) It can be expected with a probability of 0.98 that after the next maximum, solar activity will decrease so slowly that not until more than five years after the maximum will Wolf's smoothed sunspot numbers fall below a quarter of their maximum value. Such a slow decline has occurred only in four of the seventeen spot cycles which have been observed hitherto.

W. Gleissberg.

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