A.A.V.S.O.

SOLAR DIVISION BULLETIN.

Neal J. Heines, Editor.

June 1950. 560 Broadway.
Number 54. Page 136. Paterson 4, New Jersey.

The spring meeting of the American Association of Variable Star Observers was held at State College on May 5th and 6th. As before, it is our custom to include the Solar Division Report in order that you may be familiar with its activities.

Membership ----------	93	With Research (81) Total 174.
Membership Distribution -	30	States 13 Foreign Countries.
Report Blanks Issued ----	686	Duplicates & Gleissberg Proj. Incl.
Reports Distributed -----	390	Bur. Stan., 156 Gleissberg, Total 546.
Number of Observations --	8742,	to 4/1/50 - 69416, SS. 6178, Gl. 2252, RAD. 312.
Communications Sent -----	1531,	to 4/1/50 - 10,039.
Communications Received -	1186,	to 4/1/50 - 8,757.

Number of Solar Division Bulletins Issued - 7 Editions, Copies 1435.
Number of Reduction Reports Distributed for this 8 month period, 1128.

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* The American Relative Sunspot Numbers for this 7 month period are as follows.

	R_a		
Sept.	186.9	Dec.	152.1
Oct.	172.2	Jan.	125.8
Nov.	190.9	Feb.	117.4
		Mar.	134.6

* Determined at the National Bureau Of Standards, Central Propagation Laboratory, Washington, D.C..

CONDITION OF THE PRESENT SUNSPOT CYCLE.

Since our Oct. 1949 report, rendered at Harvard Observatory, Solar activity has been gradually declining. The maximum of the present cycle has been placed at 1947.5. Four secondary peaks have occured since this maximum. Cycle to cycle the difference between belt activity is not great according to Prof. W. Brunner, former director of the Federal Observatory of Switzerland. In the present cycle, south belt activity was greater than that of north belt, until 1947 which year revealed south belt maximum. North belt maximum occured in 1949 and the greater activity has remained there to date.

Naked eye spots were visable on 48 percent of the days of 1949. On February 17, the same year, Mr. T. Cragg one of our west coast observers, counted four naked-eye spots. This is probably a record. (See

S.D. Bulletin April 1950 No. 52). A small number of groups have been observed on or very near the Solar Equator. High latitude groups have also been in evidence, reaching a latitude of approximately 30 degrees. Higher latitude groups of the new cycle may be in evidence during the latter part of 1952 or early in 1953.

The sun's visible hemisphere has revealed spots continuously since the maximum in 1947. The Central Zone and both belts, however, have had spotless days. Present indices show a greater drop in group activity over that of the spots.

A provisional forecast by Solar Division Headquarters for the next minimum is set at this time for the period between 1954.6 to 1955.3. It is hoped that at our October meeting at Harvard Observatory we will be able to present a compilation of more accurate figures for this event.

SOLAR DIVISION ACTIVITY

The Solar Division is still actively engaged in the following projects: Sunspot Counts - Central Radio Propagation Laboratory, National Bureau of Standards; The Granular Solar Surface and Color in Sunspots, Dr. J.C. Bartlett.; Unusual Spot Configuration and Colors, Dr. Walter Orr Roberts; Foreshortening Project, Prof. W. Gleissberg; Migratory Birds, Sunspot Delineation, Sunspot Area Measurements, Solar Division Headquarters; Solar Radiation, Heines. The Interference Monochrometer Project is progressing satisfactorily, 90 percent of machine work has been completed and most of the preliminary work on the devices and materials for the grinding of the quartz filters is ready. The current progress on the grinding of the optical flats is also satisfactory.

Dr. H. Neuberger's Project on the Measurements of Ultra Violet Radiation is progressing satisfactorily. (See letter).

Membership in the observers section of the Solar Division remains at a uniform level. That of the Research Affiliate Section has increased. This is due mainly to your Chairman's activity in The Foundation for the Study of Cycles, directed by Mr. E.R. Dewey.

Our Seeing Conditions Project, headed by Mr. C.F. Fernald, is progressing also. As this study is one of long-range, no informative report is possible at this time.

The Aurorae observers have faithfully sent their monthly reports to Mr. E.R. Seely, who in turn, has forwarded the monthly summary prepared by him to Solar Division Headquarters for publication in the S.D. Bulletin. We need more observers in this group.

The principals of the Central Propagation Laboratory at the National Bureau of Standards have asked me to extend their appreciation to the Solar Division members for their work in connection with the sunspot observing program.

The third revision of our Solar Division's Instructions Leaflet was completed in late March and distributed in April.

In Mid-April we received a communication from Prof. Gleissberg, Director of the University Observatory, Bayazyt-Istanbul, Turkey which contained the following quotation; "Your observers are working so zealously that it seems very likely that the period for which the Foreshortening Program has been planned could be shortened". It will probably be sufficient to continue the observations until the end of 1951.

The theoretical investigations made on the subject by Mr. Hotinli under my supervision are in good progress.

The usual number of Reprints by Solar Division members and affiliates have been distributed during this period.

We are greatly indebted to Mr. H.B. Chase of the observing section for bringing our Solar Division Album up to date. It is on display at this meeting.

In closing allow me to express my gratitude to all the observers for another period of interesting work and the faithful remittance of the monthly reports and continued interest. There is much evidence of increasing interest as the work progresses. Thanks also for the hearty co-operation of the Research affiliates, a section which in the future will produce additional evidences of terrestrial relations with solar activity.

The kind co-operation of the A.A.V.S.O. Recorders office continues for which we are grateful.

Solar Division members who attended the Spring meeting were as follows; Past A.A.V.S.O. President and assistant chairman of Solar Division in charge of Aurora report Summary Mr. R.A. Seely of New York City; Mr. Alika K. Herring, one of our ardent observers, Middletown, Ohio; Mr. William Mullen, resident instructor Dept. Ceramics Penn State. Dr. Carlos Gartia-Mata, research affiliate who delivered a paper on "Vvariability of Fluctuations of O. Ceti"; Miss Lois T. Slocum Dept. of Astronomy, Wilson College, Chambersberg, Pa.; and your Chairman.

STATISTICS

The total number of observed groups for the month of April was -19
The total number of days with sunspots for April was ----------30
Zurich's Provisional Relative Sunspot Number for March was ---113.1
Mean (monthly) sunspot area (U.S. Naval Observatory) Jan., Feb., Mar., Apr.. Not released.

*The highest sunspot group number, as assigned at Solar Division Headquarters was observed on May 11th; it represented a medium sized group very near the east limb in the north belt, it was assigned group number 115.

*Group counting reference for observers.

Predictions of the smoothed monthly sunspot numbers for the coming six months are as follows:

May - 98	Aug.- 89
June - 95	Sept.- 86
July - 92	Oct.- 84

Broadcast by Swiss Broadcasting Corp.
Released by Prof. M. Waldmeier
Director, Federal Observatory
Zurich, Switzerland

PUBLICATIONS

"The Present Phase of the Solar Cycle"---------- Mr. Paul E. Roque of Mount Wilson and Palomar Observatories.
SKY AND TELESCOPE Vol. IX, No.7 May 1950 pp. 158-159
Interesting and comprehensive to all interested in Solar Activity.

"Some Recent Researches in Solar Physics" -------- F. Hoyle
London - New York: Cambridge Univ. Press 1949 134 pp.
$3.00; Order from your book dealer.
---- mainly of interest to workers in this branch of astro physics.

"Oscillations of the Earth's Atmosphere" ------M.V. Wilkes
New York: Cambridge Univ. Press 1949 76 pp. Price $2.50
Order from your book dealer. Deals with the lunar and solar atmospheric tides.

"What Causes Weather" ---------- Dr. C.G. Abbot.
Leaflet No. 254 - May 1950 pp. 1-8 Astronomical Society of the Pacific. San Francisco, California.
Dr. Abbot's work on solar radiation is well known.
The part it plays in our weather is here interestingly described

"CYCLE ANALYSIS" ---------- E.R. Dewey
Foundation For The Study Of Cycles.
Technical Bulletin No. 3. pp. 1-13. Paper Cover
A description of the Hoskins Time Chart.
"---- for determining the "highs" and "lows" for any given wave being sought.
Order from Mr. Dewey, Riverside, Connecticut. Price about 75 cents. Useful tool for solar research.

"Bibliography of Radio Astronomy" Martha E. Stahr
Second Supplement.

This work can be loaned from the Solar Division Library at Harvard Observatory. Write Miss Helen Stephansky, Harvard Observatory, Cambridge 38, Mass.

"The Solar Filter Problems" ---------- Leo J. Scanlon
SKY AND TELESCOPE Same issue as above pp. 172-173. Contains useful information for active solar observers.
Read also "Observers Page". D.W. Rosebrough
pp. 174-175.

MONTHLY SUMMARY OF

A.A.V.S.O. AURORA REPORTS.

April- 1950.

DATE	TIME USED E.S.T.	FORM, BRIGHTNESS & COLOR									ELEVATION			STATION
		1			2			3						
	Time of observation	G	HA HB	RA RB	R	D	C	PA PS	F	DS	1	2	3	
Mar. 14	17:00 To 24:00	III G									15° N			Springfield Vermont
15	20:00 To 23:00	I G									10° N			
14	21:00 To 21:35	G												Wilton Me.
21	22:05 To 23:40			II										
	23:10 To 23:30			I							40° S			
26	3:45 To 4:10			I							40° S			

REPORTS from Margaret Beardsley – and Cy Fernald

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