

COMMITTEE REPORTS

CLASSICAL CEPHEID, Chairman: Thomas A. Cragg
 Anglo-Australian Observatory
 Coonabarabran, N.S.W. 2357
 Australia

There has been no change in the status of the Classical Cepheid Committee since the chairman's last report.

CHART DISTRIBUTION, AAVSO Headquarters

The following is a report of AAVSO charts distributed from Headquarters from October 1, 1988 to March 31, 1989, representing 95 orders filled:

Standard charts (8.5 x 11-inch)	2866
Finder charts	270
Photoelectric Photometry Charts	393
AAVSO Variable Star Atlas	2

NEW CHART, Chairman: Clinton B. Ford
 10 Canterbury Lane
 Wilton, CT 06897

The following mailings of AAVSO Preliminary Charts were made from the Secretary's office between October 15, 1988, and May 1, 1989:

<u>Destination</u>	<u>No. of Different Addresses</u>	<u>Chart Copies Mailed</u>
U.S.A.	16	741
Italy	3	725
Australia	1	243
Hungary	1	67
England	1	66
South Africa	1	18
Netherlands	<u>1</u>	<u>12</u>
TOTALS	24	1872

All of these mailings were made, as before, in response to observers' requests for preliminary charts.

A new tenth edition of the **AAVSO Preliminary Charts Catalog** (dated October 1988) contains listings for 846 variable stars and 1085 different charts for them, none of which were available in standard quantity-reproducible form previous to the 1966 inception of the Preliminary Charts Program. This catalogue has now been supplemented by issue of several detailed addenda and correction sheets which list a total of 44 variables and 54 charts of them completed through April 18, 1989.

As before, preliminary charts of newly-discovered novae or other objects of special interest have been published in monthly numbers of the **AAVSO Circular**, as prepared by Mr. Scovil. Work continues on the comprehensive program for updating all AAVSO charts, both as to revision of sequences and star data and to chart format. The participation of the AAVSO in the European Space Agency's HIPPARCOS program has precipitated the preparation of many new variable star charts for that program, and the sequence data made available to our Committee by various photoelectric observers involved in the HIPPARCOS program have been most valuable. In that connection, the data

furnished by astronomers at the Geneva Observatory in Switzerland have been utilized to good advantage, as well as magnitude data furnished in the Space Telescope Science Institute's new **Guide Star Catalogue**. A special research project has now been set up by the AAVSO to further this cooperative work and is being carried out by Mr. Scovil.

After years of struggling to obtain an adequate plate photometer for the Committee's use in measuring the numerous plates in our collections to determine revised comparison-star sequences, we have finally acquired on loan the Cuffey plate photometer owned by Colgate University, through the great generosity of that institution's Dr. Thomas J. Balonek, Professor of Astronomy and Physics. Colgate's authorities have allowed us to transport this instrument to the Stamford (Conn.) Observatory, where Mr. Scovil and others will have ready access to its important capabilities. We acknowledge this cooperation with gratitude!

Other Committee members are continuing their activities as indicated in my reports for 1987 and 1988.

ECLIPSING BINARY, Chairman: Marvin E. Baldwin
Route 1
Butlerville, IN 47223

Since our last report eleven observers have submitted some 6000 observations of 97 eclipsing binary stars which will be used to define about 295 times of minima. Major contributors during this period have been Gerry Samolyk, reporting 121 minima, and Mike Smith, reporting 60 minima.

Hoping that we do not detract from the importance of pursuing our program stars and obtaining a continuous year-to-year record of their behavior, most of this report will concentrate upon the current status of special projects.

Readers may remember that we previously reported Dan Kaiser's discovery that NSV 3005 is a long period eclipsing binary with deep minima of nearly two magnitudes. This star has already made its appearance in the name list of variable stars published by Commission 27 of the I.A.U. Dave Williams was among the first to receive the list and Dan vividly recalls receiving a phone call from Dave and being casually asked if he was familiar with the variable OW Geminorum. After a brief pause Dan replied, "No, I don't believe I am."

That was followed by Dave's indignant response, "Well, you should be! You discovered it!"

Dave Williams continues to make photoelectric observations of this star when it is well placed for observing and he has noted some small irregularity in its luminosity but is understandably hesitant to speculate on its meaning until he has more data.

Dan has continued discovering variables with two additional eclipsing binary prospects. We reported on his 7th discovery, DHK 7, in Bulletin No. 46, April 1989, and noted that a proposed 299-day period would place the next minimum near mid-July. But as this material goes to press that date has passed with no reports of minimum being received. We may have missed it if, indeed, it occurred.

Dan's 9th discovery, DHK 9 (SAO 38830), burst upon the scene almost immediately after Bulletin No. 46 was published. Because we had only one data point at that time it had seemed too speculative to announce, but visual observations soon revealed a number of minima and the details of our findings appear in this issue of the Journal.

Observers are encouraged to report their data on future minima of this star along with their observations of other stars.

Other special projects include a number of stars that seem to have been neglected for several decades. We had success, this past winter, in developing charts and comparison star sequences and obtained observations of several of these stars including, but not limited to, AQ Mon, AV Mon, FV Mon, and CP Ori. Many more observations are needed, however, to adequately determine normal times of minima with good accuracy.

Notable features in this project were FM Ori and DD Mon due to failure to develop charts and identify the variables. If anyone can provide your committee chairman with good charts of these fields in time to do some observational work during the 1989-1990 season it would be greatly appreciated.

A few of these special project stars have short periods enabling the observer to obtain a complete eclipse in one session. But most of them have longer periods and require a lot of patience while obtaining data night after night to build a light curve by reducing all data to phase. We find that many observers can be successful by observing without regard to an ephemeris by making one or two observations per night until 100 to 200 observations have been obtained. We would be happy to find a suitable project for anyone who can commit to this type of program.

NOVA SEARCH, Chairman: Rev. Kenneth C. Beckmann
P.O. Box 240
Lewiston, MI 49756

While no novae have been discovered by AAVSO observers for the period of September 1, 1988 to March 31, 1989, nine observers representing the United States, Canada, and Hungary have forwarded their observations to the committee. From September 1, 1988, to March 31, 1989, we have received ten inquiries about the search program with three forwarding their observations. We continue to send a booklet which helps observers organize and plan a systematic nova search program. The committee's newsletter, **Newstar**, is published occasionally. We encourage Nova Search participants and other interested parties to submit articles for inclusion in the newsletter. If you are interested in nova hunting and would like to learn about this AAVSO program, please write the chairman of the committee.

PHOTOELECTRIC PHOTOMETRY, Chairman: Howard J. Landis
50 Price Road West
Locust Grove, GA 30248

At the Fall 1988 Meeting the Photoelectric Photometry Committee reported 2649 observations on record. As of April this year we have 3297 observations on 67 stars, an increase of 648.

We have two new observers, Wayne Clark of St. Louis, MO, and Louis Cox of Deep River, Ontario, Canada.

Special requests for observational data came from the following: Drs. R. & R. Griffin, Cambridge, England, Dr. Don Barry at the Georgia State University Center for High Angular Resolution Astronomy, and Dr. John R. Percy as a result of information from the International Be shell star program.

Stars needing observation or notes on our own program stars appeared in the last issue (Volume 9, Number 2) of the **AAVSO**

Photoelectric Photometry Newsletter. They are omicron And, alpha Com, 9 Cyg, tau Per, pi Aur, tau Cas, V509 Cas, V Cep, P Cyg, CH Cyg, EU Del, d Ser, HD 4615, HD 208253, and NSV 3005. Please refer to the newsletter for comments on these stars.

We thank our observers who did obtain data during our unfavorable winter weather. Dr. Percy makes a fine contribution as editor of the **AAVSO Photoelectric Photometry Newsletter**. It keeps our observers' interest up even though there are long periods during which no observations are possible.

With the help of Russell Milton, all reduced PEP observations to the end of 1988 have been assembled and sorted by JD. There are 3147 observations of 67 program stars which easily fit on one 360K 5 1/4-inch diskette. The number of observations varies considerably, from 1 to 280 per star.

As announced in the **AAVSO Photoelectric Photometry Newsletter**, the AAVSO computer program for reducing raw PEP data is now available. Make your request for it to AAVSO HQ, although I will handle the technical support for it.

We welcome new observers and I would be happy to hear from anyone interested in contributing to our program. It is a pleasure to encourage your interest in the AAVSO Photoelectric Photometry program.

RR LYRAE, Chairman: Marvin E. Baldwin
Route 1
Butlerville, IN 47223

Since the last Annual report some 2500 observations have been submitted by three observers on 22 RR Lyrae-type stars. From these observations we will be able to determine about 66 times of maxima.

Some projects receiving special attention during this period have included AR Her, SZ Hya, SW Boo, and the non-program star DG Hya. Even though it is not on our official program we have continued to pursue DG Hya because the compilers of the **Krakow Ephemeris** (Rocznik, Astronomiczny Obserwatorium, Krakowskiego, 1988) indicate that they have no recent maxima available on this star. Your committee chairman reported on this star at the 1988 Spring Meeting noting that the results of data available at that time tended to be confusing. We have now amassed some 500 observations of this star and although there is a great deal of scatter it is now clear that when all points are plotted to phase maxima of this star occur about three hours earlier than predicted by elements used in the Krakow Ephemeris and the **General Catalogue of Variable Stars** (Kholopov *et al.*, Fourth Edition, Moscow, 1987). A revision of the earlier paper on this star is in progress and it should be ready for publication in the near future.

Observers have noted that AR Her continues to demonstrate a strong Blazhko Effect with time of maximum being inconsistent relative to any linear ephemeris. SZ Hya, observed through several maxima this past season, has had very faint maxima compared to those we have been accustomed to observing in past years. We received insufficient data on SW Boo to draw significant conclusions and would hope that observers will place this star on their priority list for the spring of 1990.

SOLAR DIVISION, Chairman: Peter O. Taylor
P.O. Box 8115
Gainesville, FL 32605

The Solar Division continues to be very well supported. At

present, we receive over one hundred sunspot reports each month, from many places around the world. A growing number of reports are submitted through telex, electronic mail, and fax. These rapid means of data acquisition have enabled us to supply our monthly provisional set of relative sunspot numbers to the National Oceanic and Atmospheric Administration (NOAA) very early each month. The number of active participants in our solar flare patrol is steadily increasing. The **AAVSO Solar Bulletin** is up-to-date, and is supplied each month to approximately three hundred universities, scientific organizations and individuals, worldwide.

Since our annual report in October, several individuals have made especially significant contributions to the program:

Gregory W. Beach continues to do a fine job of translating our various files into high resolution graphic representations that can be received via our feature on the CompuServe Informational Service. Mr. Beach has converted over one hundred separate files of our information for use by CIS subscribers or as hard-copy mail-outs.

Thomas G. Compton has supplied us with a good deal of interesting information for the **AAVSO Solar Bulletin**, including many of the superb-quality photographs taken at the National Solar Observatory at Sacramento Peak Observatory. Mr. Compton has been a great help to us in a number of important areas, including his work with prospective observers of the rare, solar white-light flares, our cooperative effort with SPO.

Arthur J. Stokes has recently taken over responsibility for the design and fabrication of a kit and instructions for a new VLF receiver. These receivers are used by a number of our collaborators to monitor solar flares. Mr. Stokes has handled this in a fine fashion, and has also agreed to help those who are experiencing problems with their existing equipment. As a result, we are now able to offer comprehensive assistance to potential recording stations. The information that is gathered through use of this equipment is very important to the National Oceanic and Atmospheric Administration, particularly during these times of high solar activity.

Bruce R. Wingate continues to analyze and reduce the data that are recorded in this manner, and to supply the results to NOAA each month. Mr. Wingate has done a very fine job in this area for some time, and his efforts are certainly appreciated.

We encourage those who are seriously interested in our programs to participate. We will happily supply details and assistance in their area of interest.

SUPERNOVA SEARCH, Chairman: Rev. Robert O. Evans
57 Talbot Road
Hazel Brook, N.S.W. 2779
Australia

Progress since October 1988 has occurred in two areas. The manuscript for the proposed **AAVSO Supernova Search Manual** has been brought close to finality. It is hoped that this will be published before long.

A supernova was discovered by the chairman since the last report. SN 1989B in NGC 3627 (M66) was the brightest northern supernova for the last several years, reaching a maximum visual magnitude of 11.8 early in February.

TELESCOPE, Chairman: Charles E. Scovil
Stamford Observatory
c/o Stamford Museum
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No change has been reported since the last report of the committee.