

COMMITTEE REPORTS

CLASSICAL CEPHEID

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

Work is continuing on the reduction of data for three 1,000-day intervals. The summation will be published in several papers in the *Journal of the AAVSO*, as publishing them all together would fill at least a whole issue. Some stars have enough data for a complete paper alone. A substantial fall-off of observations is evident in the last 1,000-day interval, and this may be due to a lack of recently published material on Cepheids.

It has been suggested that we drop some of our stars now being covered professionally by photoelectric means. This suggestion is sound, as long as they are being followed, but there is a worry how long this situation will last. I do not believe the same can be said for the southern Cepheids.

It has also been suggested that we observe some of the fainter Cepheids not being covered by professionals. This is being looked into for practicality (chart availability, sequences etc...). Currently RX Lib is our faintest Cepheid which is *not* being observed except casually by the chairman; and yet it is near U Lib, a regularly observed Mira. One wonders how popular fainter Cepheids will be with the observers using the above example as a criterion.

CHART DISTRIBUTION, AAVSO Headquarters

During the period October 1, 1989, to September 30, 1990, AAVSO Headquarters filled 133 chart orders and distributed the following number of charts:

Standard Charts (8.5 x 11-inch)	5020
Photoelectric Photometry Charts	205
Finder Charts	447
Standard HIPPARCOS Charts	4393
Preliminary HIPPARCOS Charts	1195
<i>AAVSO Variable Star Atlas</i>	76

NEW CHART

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

The following number of mailings of AAVSO Preliminary Charts were made from the Secretary's Office between August 8, 1990, and November 19, 1990:

Country	No. of Different Addresses	Chart Copies Mailed
USA	6	1538
Holland	1	38
England	1	1150
TOTAL	8	2726

All of these mailings have been made, as before, in response to observers' requests.

Virtually all new charts produced since my last report (July 15, 1990), consisting largely of revisions, have been produced by Committee member Charles E. Scovil, working at the Stamford Museum Observatory, Connecticut, USA, per that report.

In recent months, many of the operations involved in making preliminary charts have been converted to computer production, which has led to greater efficiency and fewer errors needing correction. The production of charts for previously uncharted "new" variables has largely been neglected, but is expected to resume following completion of computerized methods. Photography continues as before by Fr. Ronald E. Royer at the Ford Observatory, California, USA. Use of the Colgate University Cuffey Plate Photometer (on loan) continues, for determination of new and revised comparison star magnitudes.

Mr. Scovil's work at the Stamford Observatory has been supported by a special research project grant from the AAVSO, and he has received voluntary help from Mr. Robert A. Leitner, who is co-author of a recently published *Eleventh Catalog of AAVSO Preliminary Charts*, (June 1990).

ECLIPSING BINARY

Chairman: Marvin E. Baldwin

Route 1

Butlerville, IN 47223

The past 12 months saw some 8,000 observations of eclipsing binary stars reported by 22 observers. An appreciable portion of these were photoelectric observations submitted by Howard Louth and David Skillman. Howard observed several stars with shallow minima, making nearly 675 observations which can be used to construct the light curves for these stars and determine normal times of minima for the observing season.

Although the main thrust of the observing effort has been expended upon the eclipsing binaries designated as AAVSO program stars, we continue to see increasing activity regarding long period eclipsing binaries and suspected eclipsing binaries discovered by Dan Kaiser as a result of his photographic patrol.

The stars of longer period are often being observed either at random or at any time an eclipse may be in progress. The observations are then reduced to phase and a normal light curve is formed to measure a normal time of minimum for the season. Kaiser's suspected eclipsing binaries are usually observed at random in the hope that an eclipse will be located. In both cases the ratio of number of observations per minimum timing is high. The old rule of thumb once used to estimate that we would have one minima timing for every 15 observations no longer applies. When a normal time of minimum for the observing season is being determined we commonly incorporate 30 to 150 observations. And in the case of suspected eclipsers a persistent observer may collect 200 observations and still have no minimum to show for his efforts.

Nevertheless, we encourage observers to use this method to search for the minima

providing we have good reason to suspect the star may be an eclipsing binary, providing that the observer uses consistent comparison stars and observing methods so that all observations are readily comparable, and providing the observer spaces the observations at sufficient intervals (usually one hour or longer) to avoid redundancy and loading the data processing system with useless information. These extraordinary efforts pay off on those rare occasions when the period of a star is finally discovered and all the observations can then be plotted to phase to fill out a complete or nearly complete light curve.

NOVA SEARCH

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

For the year beginning September 1, 1989, and ending August 31, 1990, ten observers contributed 1,236 observations. We are grateful for the support and enthusiasm of our observers. (Please remember to send in your observations by the tenth of the month.)

This year our observers monitored the summer Milky Way moderately well while the winter Milky Way received little attention. Members observed a total of 50 areas. Areas requiring attention in the Northern Hemisphere are: 1A, 1, 2, 3, 4, 4A, 5A, 5, 6, 7, 8, 9, 11, 12, 13, 20, 21, 22, 22A, 23A, 24, 29, 30, 31, 32, 35, 36, 37, 38, 38A, 39A, 44, 45, 45A, 45B, 46A, 46, 47, 48, 49, 51, 52, 56, 56A, 58, 59, 60, 64A, 65A, 65, 66, 67, 68, 70, 71, 72, 72A, 73A, 73, 74, 75, 79A, 80A, 80, 81, 83, 84, 84A, 85A, 85, 90, 90A, 91A, 92, 94, 94A, 95A, 95, 96, 100A, 102, 103, 103A, 103B, 104A, 104, 105, 106, 107, 108, 109, 109A, 110A, 110, 111, 112, 112A, 112B, 113B, 113A, 113, 114, 115, 116, 117, 118, 119, 120, 120A, 121, 122, 123, 123A, 123B.

All nova search areas south of declination -30° should be added to this list.

The Nova Division sends a packet of information to help observers organize a program of search. The AAVSO sends the packet upon request. The packet includes a booklet on nova hunting, and other pertinent information. Please send your inquiries to the division's chairperson. I thank those who contributed to the program during the past year. Your observations are invaluable.

Observations of Novae

<i>Observer</i>	<i>Country</i>	<i>Observations</i>
Beckmann	USA	534
Browning	USA	3
Csiszar	Hungary	14
Durkefalden	West Germany	287
Kocyla	USA	3
Morrison	Canada	320
Pickett	USA	28
Sciaroni	USA	11
Szabo	Hungary	23
Troiani	USA	13
Total Observations		1236

PHOTOELECTRIC PHOTOMETRY

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

The total photoelectric data archived since our beginning in 1983 now exceeds 5,000. The fiscal year 1989-90 saw 1,254 observations on 53 program stars from 19 observers.

Photoelectric observations in fiscal year 1989-90

<i>Observer</i>	<i>State/ Country</i>	<i>No.</i>	<i>Observer</i>	<i>State/ Country</i>	<i>No.</i>
Clark	Missouri	3	Currott	Alabama	178
Dempsey	Canada	1	Fortier	Canada	11
Johnsson	Maryland	14	Kohl	Arizona	69
Landis	Georgia	157	Langhans	California	107
Luedeke	Washington	60	Milton	California	33
Pray	Rhode Island	26	Powell	Tennessee	47
Ripley	Maine	6	Snyder	Nevada	17
Smith	Arizona	137	Sorensen	Denmark	52
Thompson	Canada	55	Walker	Oregon	3
Wood	California	278			

With the assistance of a grant from the American Astronomical Society, I was able to attend the AAVSO meeting this summer in Brussels, Belgium. It was a very interesting and useful meeting with a lot of papers relating to photoelectric photometry.

Requests for PEP data came from the following:

- R. & R. Griffin, Cambridge, England, to observe seven δ Aurigae or RS CVn type stars.
- NASA, Harvard-Smithsonian Center for Astrophysics, and University of Wisconsin, to monitor RY Sagittarii to assist their observations with the IUE satellite.
- J.E. Arlot, Bureau of Longitudes, Paris, France, wants observations of mutual occultations of the Galilean moons of Jupiter from January to June 1991.

Congratulations to Leroy Snyder on the discovery of a new variable star, HR 8062, announced in *Information Bulletin of Variable Stars*, No. 3445.

Dr. John Percy, Editor of the *AAVSO Photoelectric Photometry Newsletter*, would like to hear from any observer with problems or successes they are having with photoelectric observing. We appreciate John's being our editor and watching over our data from a professional viewpoint.

If you would like to join us and help add to our data base of photoelectric observations, please let me hear from you. I am glad to help those interested in measuring the stars photoelectrically.

RR LYRAE

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

Approximately 3,000 observations have been obtained by six observers providing data on 39 RR Lyrae stars during this reporting period. These observations will yield about 160 useful times of minima which will be used to continue tracking the period changes in many of these stars.

Observers are especially encouraged to observe those stars which appear to have variations in their light curves (Blazhko effect) which are detectable by visual means. Some of these stars are AR Her, SW Boo, SZ Hya, and XZ Cyg.

A note of special interest: In an earlier report we noted that RR Lyrae star DH Hya appeared to have a very stable period and never varied from the published prediction elements, but we were almost afraid to stop observing it since we had established a long baseline for this star after several years of observing. Now, a recent preliminary examination of our data indicates that the period has lengthened and the star is more than half an hour late arriving at maximum compared to the elements listed in the 1985 GCVS. More on this star later.

SOLAR DIVISION

Chairman: Peter O. Taylor
P.O. Box 5685
Athens, GA 30604

The AAVSO Solar Division continues to operate at a very active pace. During the past year, well over 100 members of the international observer network submitted reports of sunspot activity each month. Our analyses of these data have been forwarded to the National Oceanic and Atmospheric Administration (NOAA) in a timely manner. Provisional American Relative Sunspot Numbers are available by the second of each month following the observed month, and final values by the fifteenth.

Our increased emphasis on the program to detect solar flare events through their effects on the ionosphere has resulted in a return to the high number of recording stations that were active several years ago. We attribute this increase to Arthur J. Stokes' fine very-low-frequency receiver, which is employed by a majority of our new collaborators, to our assistance when difficulties are encountered by these observers, and to an active promotion of this aspect of the program. These data are also supplied to NOAA on a monthly basis, and are published in *Solar-Geophysical Data*.

Stokes and I have developed a quarterly publication, *SID Technical Bulletin*, which is sent without charge to the members of our flare patrol. The purpose of this newsletter is to acquaint these contributors with the latest improvements in circuitry and peripheral devices which are available, and to provide a means for them to communicate their problems and solutions to others. Anyone who is knowledgeable in this special type of solar observation is invited to submit items to the editors for inclusion in future issues.

The Solar Division's monthly publication, *AAVSO Solar Bulletin*, continues to appear around the middle of each month. During the previous 12 months, the bulletin was mailed to approximately 300 locations throughout the world.

Each of these areas of activity has been well received by NOAA personnel and by those who receive the materials on a regular basis. We received a number of compliments

concerning all aspects of the Division's work during our recent visit to the National Geophysical Data Center in Boulder, Colorado.

The members of the AAVSO Solar Division Committee have all participated in this effort. Arthur J. Stokes, Thomas G. Compton, Gregory W. Beach, and Bruce I. Wingate have been especially active, and we express our gratitude for the large part that they continue to play in this process. Those who regularly supply us with sunspot and ionospheric data deserve no less credit; without their outstanding contributions the program could not succeed under any circumstances.

We continue to encourage those who are interested in the work of the AAVSO Solar Division to join with us in this enjoyable and scientifically productive area of astronomy. Further details are available from the Chairman.

SUPERNOVA SEARCH

Chairman: Rev. Robert O. Evans
57 Talbot Road
Hazelbrook, 2779
Australia

The AAVSO's supernova search effort continues to grow slowly and steadily. Our efforts are being augmented by several new observers from parts of Europe, new inquirers from the US, and by observations that Louis Cox of Canada is making with his computerized system for locating target galaxies.

Our search works in partnership with efforts being made by other amateur groups, such as "Sunsearch", and our combined galaxy surveillance is increasing steadily.

Brussels Meeting

It was a great privilege and joy to share in the July AAVSO meeting in Brussels, to speak about this committee's work, make plans for the future, and to meet active and prospective supernova hunters from several countries. My presence there was made possible by the generosity of *Australian Geographic Magazine*, Continental Airlines, and the AAVSO.

Following the Brussels meeting, the proposed *AAVSO Supernova Search Manual* was again revised, and plans have begun for a system to collate all negative galaxy observations made in search of supernova at the AAVSO Headquarters, including those of other amateur search groups. This is to help provide a better basis for calculating the rate of appearance of supernovae in nearby galaxies.

Discoveries

Three amateur, visual supernova discoveries have been made so far this year by the chairman, two of which were found before the meeting in Brussels, and one more was found shortly after.

Supernovae Discovered in 1990

<i>Designation</i>	<i>Galaxy</i>	<i>Magnitude</i>	<i>Type</i>
SN 1990K	NGC 150	14.5	II
SN 1990M	NGC 5493	12.5	Ia
SN 1990W	NGC 6221	14.8	Ic

TELESCOPE

Chairman: Charles E. Scovil

Stamford Observatory
39 Scofieldtown Road
Stamford, CT 06903

We have on hand for sale the following telescopes:

- 6-inch f/15 refractor known as the "Post" telescope, complete with equatorial mounting, photographic corrector lens, and several period eyepieces. Made by Wm. Gregg, NY, circa 1875. Excellent optics. Asking price \$5000.00
- 5-inch f/15 refractor - tube and optics only - made by American amateur/professional optician John Mellish, probably in the 1930's. Asking price \$1000.00
- 4-inch f/10 reflector with tripod and equatorial mounting, Japanese manufacture. Fair condition. Asking price \$200.00
- 4.5-inch Magey refractor, objective only, in brass cell. Asking price \$500.00
- 10.12-inch mirror, poor figure, no aluminizing. (Since promised after refiguring.)

At this meeting several mirrors from 6 to 8 inches in diameter have been given to observers from Eastern European countries, along with a couple of mirror blanks. It is hoped that this will soon result in some telescopes in the hands of observers who will use them for the observation of variable stars. Persons with mirrors to donate, of whatever quality, are urged to contact the Committee Chairman. We will see that they are put in good hands.

JOURNAL OF THE AAVSO

Editor: Charles A. Whitney

Harvard-Smithsonian Center for Astrophysics
Cambridge, MA 02138

Volume 18 (2) will be mailed by the end of 1990, and Volume 19 is in the works. Issue 1 will contain contributed papers from the summer meeting in Belgium, and Issue 2 will contain reports, including reports from variable star observing groups outside the USA.

We will carry out the production tasks for Volume 19 electronically on an experimental basis, using computer-based scanners, drawing programs, optical character recognition (OCR) software, and page layout facilities of a commercial desktop publisher (DTP). We anticipate that this will be no more expensive than the current salary costs incurred by in-house publication, and it will result in a more timely and professional-looking journal as well as relieving the staff for tasks that are more uniquely suited to their special talents and backgrounds.

This experiment will familiarize us with the nature of the process, and in the spring we will report to the Council on the outcome and will prepare a plan for the future.

New Editorial Board: The time has come for the appointment of a new editorial board, and we have a list of candidates. I will contact them soon and take advantage of this opportunity to redefine the roles of the board members and solicit ideas of ways they can help the Journal. We will ask the members of the new board to take an active role in the refereeing of papers, advising on electronic publication, and encouraging our members to write for us.

Editorial Assistant: We propose to explore the possibility of hiring a part-time

editorial assistant who would be specifically assigned to carry out the routine office tasks involved in tracking the papers and assembling them for publication. To this end, we will prepare a job description for discussion by the Council.

As always, Elizabeth Waagen deserves the gratitude of the AAVSO for her careful, cheerful, and accurate work as Associate Editor, and I am personally grateful to Elizabeth and Janet for their enthusiastic support.