

COMMITTEE REPORTS

NOVA SEARCH, Chairman: Carmine V. Borzelli
12 Corbin Avenue
Jersey City, NJ 07306

From September 1, 1975, to March 31, 1976, the chairman received reports of 2,577 Nova Search observations from 25 observers covering 154 areas. In addition, 6 observers reported 27 observations of 3 galaxies in the Super-Nova Search Program.

Nova Cygni has generated interest in both Nova Search and Super-Nova Search Programs. Articles placed in several astronomy magazines have also generated interest. The chairman received requests not only for nova search information, but also the AAVSO Variable Star Program. The latter requests he forwarded to AAVSO Headquarters. The chairman also gave talks on variable stars and the Nova Search to several societies and colleges in the New York and Philadelphia areas, and these have also helped to generate interest. In October, while visiting Australia for the solar eclipse of the 23rd, he will give talks to local amateurs on variable stars and nova search.

The Super-Nova Search Program is gradually developing. Several galaxy charts are available from the chairman. Not only are more observers needed for this program, but chart-makers are also needed to cover the more than 100 galaxies selected for SNS. Further information is available from the chairman.

PHOTOELECTRIC PHOTOMETRY, Chairman: Howard J. Landis
2395 Wood Hill Lane
East Point, GA 30344

It is hoped that by the time of the Fall Meeting we will be able to add three more names to the active list. These are people who have contacted me in the last six months and who have already built equipment and have some observing experience with it.

This past winter, under the direction of Dr. Douglas Hall, of Vanderbilt University, I observed BS-1099. It is similar to the Radio Star UX Arietis and we found it to be varying with a range of 0^m11. Dr. Hall announced our findings in the IBVS, Number 1113, March 9, 1976. We now have a list of 17 more candidate stars to check for possible variability in the visible. The active observers will be furnished the necessary information on this observing program.

Again, I invite anyone interested in photoelectric photometry to get in touch with me. If you stump me with a question or a technical problem, we will dig in and learn about it together.

CHART DISTRIBUTION, AAVSO Headquarters

Between 10/1/75 and 3/31/76 a total of 221 orders was filled, including 77 sets for new members.

8 x 10 charts	7,505
Finder charts	125
Atlases	28

NEW CHART COMPILATION, Chairman: Clinton B. Ford
10 Canterbury Lane
Wilton, CT 06987

Since October, 1975, the following mailings of AAVSO preliminary chart copies have been made from the Secretary's office. Most mailings have been the result of requests from observers.

U.S.A.	16 observers	1,114 copies
Canada	1 "	14 "
6 Other Countries	9 "	144 "
	<u>26</u>	<u>1,272</u>

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A more detailed breakdown of these figures is available. One complete set of the preliminary charts (now 842 charts per set) was mailed during the past six months. Three additional complete orders are currently in process of assembly, all for foreign addressees.

The total number of variables previously uncharted in AAVSO format, but now covered by issues of new or revised charts since publication of the June, 1974, Catalog of Preliminary Charts, now stands at 51. The backlog of usable material continues to increase. A newly revised Catalog is in preparation for the preliminary charts.

The cooperative project for revising existing southern hemisphere charts, as described in my report for October, 1975, is still in the correspondence stage.

VARIABLE STAR ATLAS

ADVISORY COMMITTEE, Chairman: Clinton B. Ford

As of May 28, 1976, the status of the AAVSO Variable Star Atlas project is as follows:

1. Charts nos. 1 thru 29: Totally completed, checked, and final corrections made per Headquarters request.
2. Charts nos. 30 thru 83: Completed and checked, final copies now ready for submission to Headquarters.
3. Charts nos. 84 thru 96: Still in hands of Henry Specht for checking.
4. Chart no. 97: Now in preparation (charts 84 thru 101 are along the equator $\pm 10^\circ$).
5. Balance of Charts (nos. 98 thru 178): Master chart blanks assembled and drafted, showing numbered coordinates but no variable star information.
6. Permission received from Frank Bateson, Director of RASNZ - VSS to use RASNZ sequence data for southern variable stars, in their observing program, to be plotted in the VSA.

Per the report submitted in October, 1975, all items specified therein are being met and complied with. Per that report, financial support of Mr. Scovil's work in producing the basic charts for the Atlas will terminate on March 1, 1977. If that work is not completed by then the Committee will be obliged to ask Mr. Scovil to complete the basic atlas preparation on a voluntary basis.

TELESCOPE LOANS, Chairman: Charles E. Scovil
Stamford Observatory
Stamford Museum
Stamford, CT 06903

Two changes have occurred in the status of telescopes as previously reported. John Bortle returned a 3 1/4-inch brass refractor (tube and optics only). This rather old instrument is now available for sale or loan. At the direction of the Council, the 3-inch Alvan Clark refractor was donated to the Smithsonian Institution, where it will be displayed with a plaque identifying the AAVSO as the donor.

An 8-inch homemade reflector has been donated, and is available for sale. It is of heavy open-framework construction, and has a simple equatorial mount. It is in need of some minor repair, and probably re-aluminizing.

ECLIPSING BINARY, Chairman: Marvin E. Baldwin
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During the first six months of the 1975-1976 observing year, 28 observers reported 327 minima including a total of 5412 observations on 107 stars. This observing rate is about the same as last year except that the variety of stars being observed has increased substantially. This is most encouraging. Several observers have taken to investigating the literature on eclipsing binaries. They choose stars that appear most in need of further investigation, develop preliminary charts to identify the variables, and establish comparison stars.

Because of this we are experiencing some change in the nature of our program. Our primary goal is to establish and maintain continuing observation of a substantial number of stars, making available to researchers a continuous record of these stars' behavior. But, we are now seeing independent activity by observers who are attempting (with increasing success) to obtain good results with several less-well known, and more difficult, stars. Often, these have been neglected for many years and the elements listed are no longer adequate for predicting minima. In these cases a great deal of persistence may be required to locate a minimum. We now have the experienced and dedicated observers needed to pursue these expanding activities without detracting from our primary goal.

Three stars (DK Hya, EP Mon, and EW Ori) were observed at the times predicted for eclipses without any apparent decrease in luminosity. A fourth star, RW Cap, is also far off the predicted schedule. A partial eclipse was observed. These stars deserve our close attention during their next observing season to assure we have them correctly identified and to determine when the eclipses are occurring. Philip Atwood discovered that SS Cet was also far off schedule. Three minima were obtained as a direct result of his alerting us to this. In addition, Gerry Samolyk and Gary Wedemayer discovered that eclipses of UU CMA were about six hours earlier than predicted. This is most remarkable since the star was nearly on schedule when observed by Kurt Locher and Hermann Peter only two years earlier. This discovery may be quite significant and illustrates, once again, why it is so important to maintain continuing surveillance of eclipsing binary stars.

No less than three observers obtained photoelectric minima. Leonard Kalish recorded three PEP minima of SW Lac, Thomas Renner recorded one of Y Cyg and two of YY Eri (both difficult to time visually), and Howard Landis succeeded in accomplishing a long awaited event: the timing of the shallow secondary eclipse of RZ Cas. The timing of shallow secondary minima should become an important application of PEP capabilities in our program.

Another project stirring excitement among observers is Theta¹ Orionis A, a bright member of the well known trapezium in the Orion Nebula, recently discovered to be an eclipsing binary. A very long period of nearly 200 days had been established from the photographs and other data examined by the discoverer and other researchers. However, observations made in February and April 1976 by AAVSO observers, although not totally conclusive, indicate the period may be one-third of the previously established period. More details on Theta¹ Orionis A and other stars discussed here will appear in the AAVSO Eclipsing Binary Bulletin No. 39 and subsequent issues.

Publication of eclipsing binary minima continues. A list of 504 minima (the third to appear in the JAAVSO) can be found elsewhere in this issue. Reduction of eclipsing binary data continues to run about two years behind the observations. The early 1975 data are now being plotted for measurement, and reduction of the 1974 data has begun.

Decisions made at the Concord meeting (Fall 1975) resulted in the reproduction of all eclipsing binary (and RR Lyrae) data which

had not been keypunched. This had two purposes: (1) the data can be kept at two locations so they cannot be accidentally destroyed or lost, and (2) a copy became available for loan to MaryJane Taylor, who agreed to keypunch the data. She has completed punching the entire backlog: tens of thousands of cards of both eclipsing binary and RR Lyrae stars. The data now await further decisions in computer programming, which should relieve your committee chairman of the arduous task of plotting these data.

Significant progress has been made in the past six months toward establishing a standard format and verification procedure for the eclipsing binary charts. Ed Halbach and other members of the Milwaukee Astronomical Society have been providing the primary impetus for the production of new charts. Your Director, members of the Eclipsing Binary and Chart Committees, and persons doing eclipsing binary chart work discussed and agreed upon details at the St. Louis (Spring 1976) meeting.

RR LYRAE, Chairman: Marvin E. Baldwin

During the six month period October, 1975 thru March, 1976, four observers reported a total of 1427 observations of 18 RR Lyrae stars. Perhaps some 80 times of maxima can be extracted from these data.

Some interim times of maxima have already been measured to establish an indication of the accuracy of the elements used for the AAVSO ephemeris. The result is listed here. Heliocentric corrections were not included.

<u>Star</u>	<u>No. of Maxima</u>	<u>Average O-C Minutes</u>	<u>Star</u>	<u>No. of Maxima</u>	<u>Average O-C Minutes</u>
SW And	7	+36	DM Cyg	7	+40
XX And	8	+89	RR Gem	2	-12
AC And	2	*	SZ Hya	1	-58
AT And	6	+37	UU Hya	1	+32
BH Aur	3	+40	VX Hya	3	Error in elements
SW Boo	1	+29	RR Leo	4	+10
TT Cnc	3	-35	WW Leo	2	+ 1
RR Cet	8	-22	SZ Lyn	13	-26
XZ Cyg	8	-19	AV Peg	2	+24

Those stars whose average O-C is more than about 20 minutes will be primary candidates for correction before the 1977 ephemeris is computed.

Our position regarding the handling of data has improved greatly. No RR Lyrae or eclipsing binary data had been punched since 1969 and some 20,000 cards that had been punched earlier were stored in the care of the committee chairman. The pre-1969 cards were transferred to Headquarters in October. Furthermore, the backlog of data has since been punched. (See the eclipsing binary report.)

Publication of the data on RR Lyrae stars in some standard format remains our long term goal. Neither the methods of reduction nor the publication format have yet been finally determined, but both are under study.

* Predicted maxima not computed due to complex nature of star's multiple period.