

List of papers published in full or in abstract in this issue.

New Period-determinations for Eight Variable Stars

Josefa Manella

Six Long-period Variables in Sagittarius

Pamela Dee Owensby

Three Variable Stars in Cygnus

Lucia Dexter

Updating the Period of V Comae Berenices

Janet Johnston

Notes on Observing Methods and Programs for New Observers

MaryJane Taylor

Other papers Presented:

Notes on the Reporting of the Observations

Janet A. Mattei: Helpful hints to observers for making out reports.

The Birth of an AAVSO Chart

Charles E. Scovil: Method of selecting stars to be charted and techniques of drawing charts.

A Very Low Frequency Radionavigational Aid in Using S.P.A. Detection

Nathan Cohen: Comparison of S.P.A. with S.E.A. and S.E.S. techniques in detection of solar flares.

The Large Sunspot of 1974

Herbert Luft: Description of the naked-eye sunspot of August-September 1974.

Interstellar Gas Clouds

Daniel F. Muzyka: Report on latest findings on the relative amounts of hydrogen and deuterium in the universe.

COMMITTEE REPORTS

SOLAR DIVISION, Chairman: Casper H. Hossfield
P.O. Box 367
Mahwah, New Jersey 07430

The Solar Division's new coordinator of the indirect flare patrol program, Prof. Robert Ammons, has his program running smoothly now after five months of preparing the NOAA report and the artwork for page two of the Solar Bulletin. Publication of the Bulletin has been moved up and the September issue was in the mail by the 14th.

The sunspot program continues to flourish with the sun continuing to provide many spots to count despite the approaching minimum of the solar cycle.

CHART DISTRIBUTION, AAVSO Headquarters

During the year orders for charts totalled as follows:

8 x 10 charts	12,307
Finder charts	325
Atlases	38

Since the blueprinting process is no longer available, charts are now being reproduced by a special offset process showing black stars on a white background.

OCCULTATIONS, Chairman: John E. Bortle (see note below)
Gold Road
Stormville, New York 12582

During the fiscal year 1973-1974 a total of 300 timings of occultations was received from eight observers. These were, G. Diedrich, M. Overbeek, C. Scovil, C. Holton, O. Matzek, I. Clement, P. Sterzinger, and J. Griesé. Of the total, 253 timings were made by visual methods while the remaining 47 were obtained photoelectrically. Except where the observer noted that he had already done so, the timings were forwarded to the Royal Greenwich Observatory in England for reduction.

In addition, about half a dozen requests for information were received. These individuals were sent instructions, occultation predictions and report forms and it is hoped that at least a few will become regular contributors.

As of this meeting the chairmanship of the committee has been taken over by Dr. George Fortier, 63 Devon Road, Baie d'Urfe H9X 2W7 Quebec, Canada. All data and inquiries should be sent to him.

ECLIPSING BINARY, Chairman: Marvin E. Baldwin
R. R. # 1
Butlerville, Indiana 47223

Our observational coverage of program stars as well as non-program stars continues to improve. Within the past year 17 observers obtained 282 minima of 52 program stars and 14 non-program stars. Bruce Small takes the honors for the most minima observed (119), the greatest number by a single observer since 1969. Ernst Mayer continues to lead the way as a specialist in observing stars that no one else observes. He timed minima of 15 different program stars, a great majority of which are among the most difficult on our program.

The second increment of 1967 through 1969 minima was forwarded to Konkoly Observatory at Budapest for publication in the IBVS. The list included 441 minima. Although many minima from this era had to be discarded, a total of 1117 will have been published. Unfortunately, due to a change in the rules for publication in the IBVS the data could not be published there. It appears elsewhere in this issue of JAAVSO.

Data from 1970, 1971 and 1972 have been reduced, compiled and given a final check with the exception of those few minima still awaiting clarification of problem areas by the observers.

So far our cumulative efforts have resulted in the publication of revised prediction elements for 16 stars. Several more stars are known to deviate from the published elements, and those revisions should be ready for publication by the Spring of 1975.

RR LYRAE, Chairman: Marvin E. Baldwin

This past year has seen a decided change in the nature of the approach being taken by RR Lyrae observers toward this work. We have a trend toward concentration on a few stars in an effort to obtain a great deal of information about their behavior. There has been a deluge of observations of XZ Cygni. Horace Smith has already prepared a paper on XZ Cyg which goes

into a great deal of detail about its behavior.

Observers' response on this project has been very heartening and I feel that we should make an effort to extend the project to some other stars. SZ Hydrae probably rates as the most promising candidate, having similarities to XZ Cyg, and several other possibilities have also been identified.

Seven observers participated in RR Lyrae observing this past year. They recorded 2423 observations of 23 stars, of which 1094 were of XZ Cyg.

PHOTOELECTRIC PHOTOMETRY, Chairman: Arthur J. Stokes
Stokes Lane (Box 398)
Hudson, Ohio 44236

Seven requests for information or assistance in building equipment were handled during the year. Larry Lovell and Howard Landis continue to produce photoelectric data on a number of programs.

The revision of the manual for photoelectric photometry is now proceeding rapidly. The new manual will be larger, and will include all data, conversion tables, etc. necessary to make complete reductions of observations.

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

This report covers the period Sept. 1, 1973 to Sept. 30, 1974. The thirteen month period notwithstanding, it was a record observing year. Seventeen observers searched 178 different areas for a total of 2,077 observations. They were:

		Areas	Observations
C. Borzelli	New Jersey	23	499
T. Brelstaff	U. K.	2	54
J. Currie	Ohio	10	77
G. Davidson	Kansas	1	2
M. Durkefalden	West Germany	141	551
C. Fisher	U. K.	2	3
C. Howard	New Jersey	3	230
R. Hunter	Ohio	3	38
C. Hurless	Ohio	2	6
P. Martin	NSW, Australia	4	90
M. Mattei	Massachusetts	3	3
S. O'Connor	Canada	6	12
J. Parker	Texas	1	2
R. Price	NSW, Australia	1	2
I. Robinson	NSW, Australia	4	266
F. Traynor	NSW, Australia	3	70
T. Wilson	West Virginia	3	172
			<u>2077</u>

While no novae were discovered under the program, we did have several 'scares. The best thing that came out of it was that we were able to test our verifier system and found it to be working well. The purpose of the system is to visually verify or deny the existence of a suspected nova before contacting AAVSO Headquarters and the Smithsonian Astrophysical Observatory. The verifiers are a group of experienced observers who have access to equipment and atlases and other reference guides.

During the year we completed the expansion of observable areas program begun last year. We have added 30 new areas for a total of 230. The new areas include those south of declination -30° , and are to be found adjacent to the plane of the Milky Way. Another change we made was to "open" the search areas to all observers in the program. A new observer will still be assigned at least two areas, but may also start to observe other areas upon formal request to the chairman. Usually this will be done after the first year of observing for the new observer. In addition, we declared certain areas, which are most likely to produce novae, to be common observing areas for all nova search observers. These are:

Area # 15	50° to 60°	21^h 00^m to 22^h 00^m
33	40° to 50°	02^h 10^m to 03^h 00^m
108	-10° to -20°	18^h 20^m to 19^h 00^m
119	-20° to -30°	18^h 20^m to 19^h 00^m

In supernova search, we received no formal reports during the year, but did receive a few photographs from Richard Korn of New York. One of these, M-83, he thought possibly contained a supernova. A check of The Hubble Atlas Of Galaxies showed that there was none. One galaxy on the observing program, NGC 4414, did produce a supernova late in April this year. The chairman would like reports of observations of this forwarded to him.

Since the committee is busy working out the wording of the observing instructions and new phases of both programs, we have delayed fulfilling requests temporarily. Upon completion of the instruction format, all nova and supernova search material will be available from: the Nova Search chairman, AAVSO Headquarters, John Isles of the BAA, and Mr. I. Debono of the New South Wales Section of the BAA. If anyone has submitted a request and has not received a reply, the chairman asks that you write him again.

It is possible to discover at least one nova by this time next year. The program needs experienced observers. The maintenance of an area is easy. Each one is searched down to 7th magnitude, which will take a minimum of 15 minutes after one gets used to it.

I would like to add a word of thanks to all nova search observers for their fine cooperation this past year.

VARIABLE STAR ATLAS

ADVISORY COMMITTEE, Chairman: Clinton B. Ford

Work on drafting the charts for the atlas continues at a somewhat increased rate. As of the meeting date, October 19, 1974, all charts through number 40 have been completed, and parts of the work on several more are under way. The first group of 14 charts has been double-checked by committee member Henry Specht, and necessary corrections made on the original tracings.

The sample volume now contains 30 charts, and as these are fully representative of the final atlas no more will be added. The volume will continue to be on display at regular meetings of the Association until completion of the project.

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

Since the mid-year report 10 totally new charts have been drawn, and 8 charts have been drawn which are expansions of earlier charts. Approximately 1,930 copies of preliminary charts have been distributed since the June report.

All committee members have continued to be active and in addition Michael Mattei has started drafting of final copies in ink for reproduction as standard charts by Headquarters. Photography of new fields has been augmented by plates taken by Father Ronald Royer with a 4-inch f/5 astrographic camera of his own design and construction. This is attached to the 18-inch reflector at Mt. Peltier, California.

TELESCOPE LOAN, Chairman: Charles E. Scovil
 Stamford Observatory
 39 Scofieldtown Road
 Stamford, Connecticut 06903

The Association has acquired through a most thoughtful bequest the 8-inch telescope formerly belonging to Dr. George Van Biesbroeck. This was forwarded to us by his daughter, and it is now in use by our Director and her husband.

All telescopes on loan remain with the same observers, and are being used at least in part for variable star observations.

The few remaining miscellaneous parts and lenses were sold to one of our members, leaving now only a few poor quality mirrors. These are available for sale at very nominal prices to anyone wishing to test and or re-polish one. Sizes range from 6" to 11".