CHART DISTRIBUTION, AAVSO Headquarters

The following is a report of AAVSO charts distributed from headquarters from October 1, 1977 through March 31, 1978. A total of 178 orders were filled including 53 sets for new members.

8 x 10 charts	5,587
Finder charts	159
Atlases	22

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

The production of observed minima is significantly less than that resulting from the torrid pace set during the previous two years. Nevertheless, the 250 minima observed during the first eight months following the last annual report represent a major contribution toward maintaining a continuous record of the behavior of these stars. Our Milwaukee observer, Gerry Samolyk, again leads the way in reporting several minima every month.

There is a healthy trend by observers to focus their attention away from a number of stars that have been observed to saturation and concentrate, instead, on those that are rarely observed. Although this trend decreases the total number of minima observed, the redirected effort expended on the more difficult stars greatly increases the value of the observers' work. Two observers, David Cortner and George Kelley, have revived an old project which was a hot item about 10 years ago. They have recently timed eclipses of U Geminorum to help ensure that any major change of period does not go undetected. As interest in the eclipse phenomenon of this star wanes with the passage of time it becomes increasingly important that amateur observers take up the slack. Examination of the catalogs for neglected stars has inevitably led us to the Southern Hemisphere. We find that many southern eclipsing binaries have been neglected for decades. A number of charts have been located in the literature. Jan Hers has improved a few of these by photographing the fields and constructing new charts similar to the AAVSO chart format. Southern Hemisphere observers who are interested in undertaking an eclipsing binary project are invited to contact the writer.

Further strides have been made in the computer processing of data. Peter Collins now has a workable system for computer plotting of eclipsing binary data that is giving satisfactory results. Direct computer reduction of data is another possibility now being examined by Peter Taylor. The publication of minima continues. A list of 693 minima (the sixth in the JAAVSO) appears elsewhere in this issue.

CLASSICAL CEPHEIDS, Chairman: Thomas A. Cragg
Anglo-Australian Observatory
P.O. Box 377
Coonabarabran, NS.W. 2857
Australia

Following a significant delay awaiting the receipt of observations pertinent to the 2432000 to 2433000 interval, the reduction of

the available data has been essentially completed. Most of the light curves have been drawn, running means of those requiring it have been made, and comparisons with previous information has been made. The formal report is in preparation and will be available for the 1978 Fall Meeting.

Several observers have made temporary charts for a number of stars on their own which should be included in our coverage, but haven't because of lack of easily obtainable chart material. Much of this is available in some of the more complete astronomical libraries, but these are not readily available to most observers. It therefore behooves the ambitious observer to make his own.

The report contains information based on 3,237 estimates on 31 stars submitted by 21 observers. In alphabetical order, the contributing observers' code initials and names are:

ANN	R.J. ANNAL	MDD	P.J. MADDEN
BRJ	J.E. BORTLE	OCN	S.D. O'CONNOR
CR	T.A. CRAGG	OV	E.G. ORAVEC
CST	G.J. CHRISTENSEN	PF	F.PILCHER
GLF	F. GLENN	ROJ	J.M. RONEY
GLW	W. H. GLENN	SCE	C.E. SCOVIL
GOP	P. N. GOODWIN	SNL	J.G. SANDEL
HMR	R. HAM	WEL	D.L. WELCH
KLY	G. W. KELLEY	WER	R.J. WEBER
MAN	C. P. MAHNKEY	WSN	T.W. WILSON
MCB	R. McCALLUM		

Table I lists the stars observed, how many estimates were made of each, and how many observers were involved.

TABLE I

NUMBER	STAR	EST	OBS
013057	RW Cas	21	2
020057	VX Per	22	3
021957	SZ Cas	133	5
044242	SV Per	29	3
045240	AN Aur	29	2
050542	SY Aur	24	2
061606	SV Mon	39	5
061907	T Mon	351	12
064537	ST Pup	75	2
065820	zeta Gem	79	4
071069	RU Cam	125	5
072125	SS CMa	13	1
072820a	X Pup	91	5
074325	AD Pup	4	1
075428	AQ Pup	14	1
132002	W Vir	104	6
140512b	AL Vir	96	5
153620b	RX Lib	62	3
174706	Y Oph	86	4
175822	AV Sgr	11	2
183604	RU Sct	35	3
183705	Z Sct	123	5
185901	SZ Aql	119	6
190301	TT Aql	232	8
194727	SV Vul	398	10
200814	TW Cap	12	1
202946	SZ Cyg	54	5
203935	X Cyg	795	15
205642a	TX Cyg	24	1
223656	Z Lac	14	1
234758	RY Cas	23	2

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

We are still getting a gratifying number of requests for PEP information from prospective new observers. We have had 14 in the past 6 months, most of them from the U.S. and Canada.

Len Kalish reported 3 minima of SW Lacertae. This data shows that the period-change which had been under way the past five or six years, appears to have stabilized. Len is to be commended for his persistent work on this star and for the accuracy of his data.

Howard Louth reported about 50 observations of long-period, semi-regular, and irregular stars that are on the AAVSO visual observer's program. He has also contributed data on 4 RS CVn-type stars to Dr. Douglas S. Hall, Dyer Observatory. Howard has built another photometer head that permits pointing his telescope to the Celestial Pole. The original one would not pass through the fork mount and he was limited to below 60° North.

Larry Lovell is continuing to observe the RS CVn-type stars with Dr. Hall.

Howard Landis observed only the RS CVn-type stars, five different ones during the Winter and Spring. One of these, HR 4665, also was observed last year. Our data along with that from Dyer Observatory show it to be another new optically variable star. Spectroscopic data from two professional astronomers was presented along with our photometry in IBVS No. 1352, 1977 Oct. 19. HR 4665 is the brightest RS CVn-type star discovered to date. This is important because the brighter stars can be observed more readily at a greater variety of wavelengths and with instruments that need all the energy they can capture. Radio telescopes, satellite instruments and high dispersion spectroscopes are good examples.

Tom Renner contributed 26 observations of HR 1099 to Dr. Hall.

Dave Skillman observed the following stars. HR 1099 - in good coverage of the light curve, VV Ceph - poor coverage of the exit of eclipse, DL Virgo - eclipse curve.

An important event occurred on 20 Feb. 1978, HR 1099 experienced a very large outburst at radio wavelengths. Previously, 50 milliJanskys was considered to be strong radiation from a star. The Canadian radio astronomers at Algonquin Radio Observatory observed radiation from HR 1099 at more than 900 milliJanskys! Dr. Hall alerted us and urged maximum effort in order to pick up any change in the light curve. He has collected photoelectric data from throughout the world and has in preparation a paper covering the star before the outburst. Another paper will present data obtained after 20 Feb.

There are a lot of observing projects that can be done with amateur-size instruments. Very few are being done by anyone, so if you feel you would like to help, your inquiries are welcome.

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

Since October 1977 the following mailings of AAVSO Preliminary Chart copies have been made from the Secretary's office. Virtually all mailings have resulted from requests by observers:

Destination	No. of Different Addresses	Chart Copies Mailed
U.S.A.	22	2,369
Canada	3	54
France	2	720
Australia	2	47
Scandanavia	1	146
	30	3,336

As in previous reports, a more detailed breakdown of these figures is available, if desired. A total of 4 complete sets of the Preliminary Charts was mailed during the past six months. A complete set now consists of 670 charts.

The long-delayed Second Revision of the Catalog of Preliminary Charts was completed, is dated June 1978 and is now available for distribution to observers.

The backlog number of variable stars awaiting preliminary charting now stands at 76. The amount of usable material continues to increase. Revisions of previously-issued charts now occupy about 50% of the time available for work on preliminary charts.

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

The chairman is currently receiving regular reports for the Nova and Super Nova search programs. Full details will be given in the Fall, 1978 issue of JAAVSO.

The AAVSO has had a nova search program for over 40 years. Having been chairman for over 5 years, I can say without reservation that the visual programs are adequate enough for the discovery of novae. I can also say without reservation that discovery entails a certain amount of luck. In other words, by following the visual program and being in the right place at the right time, you too can be the discoverer of a nova. The visual program divides the area in and around the plane of the Milky Way into 230 areas each about 10° square. The number of observers now active in the program are too few to cover all areas. As a direct result, novae are going undiscovered. Full program details are available from the chairman upon request. Minimum equipment necessary includes a pair of 7 x 50 binoculars and a good atlas, preferably the field edition of the Skalnate Pleso atlas.

RR LYRAE - Chairman: Marvin E. Baldwin

The observing program for RR Lyrae stars continues as it has in the past with no significant changes. Observers continue to monitor some 25 stars in the effort to time a few maxima of each star each year. Procedures for the reduction of data, on the other hand, have been further improved through the continuing efforts of Peter Taylor. In addition to his computer analysis of SW Boo (see JAAVSO 6, 56),

he recently produced an analysis of BH Aur. Times of maxima and revised prediction elements have been forwarded to J. Kreiner who, with W. P. Zessewitsch, prepares the RR Lyrae ephemerides for the Rocznik International Supplement at Cracow. Mr. Taylor has also re-examined XZ Cygni and suspects that it is undergoing another change of period. Its maxima are occurring earlier than our ephemerides indicate. Careful observations of this star's maxima should be made at every opportunity.

VARIABLE STAR ATLAS COMMITTEE, Chairman: Clinton B. Ford

Work on the AAVSO Variable Star Atlas has been at a standstill since my report of September 30, 1977.

All of Mr. Scovil's time devoted to Atlas projects has been devoted to completion of the photography and printing of photos covering the northern hemisphere for the Papadopoulos All-Sky Photo-Visual Atlas. The southern hemisphere has been completed by Mr. Papadopoulos from South Africa, and the Zeiss camera that he used has been shipped north to Connecticut and mounted on the Stamford (CT) Observatory's 22-inch telescope. Mr. Scovil completed the necessary northern hemisphere photography in the late fall of 1977, and the camera has been returned to South Africa. The printing of photos is nearly completed, and all materials are expected to be submitted to the publishers, Pergamon Press, Ltd. in London, England by July 1, 1978.

This will then free Mr. Scovil for continuation of work on the AAVSO Variable Star Atlas master charts, of which nos. 148 thru 178 remain to be completed.

The work on the Papadopoulos Atlas is not an AAVSO project, but the master plates taken by Mr. Scovil for the northern hemisphere have already proven of great value to the AAVSO Preliminary Chart Program, since virtually all areas of the sky covered by northern observers are covered by these plates down about magn. 14 photovisual. This means that prints therefrom can be used directly for visual magnitudes.

The balance of funds available in the AAVSO Atlas account as of May 31, 1978 is $2,629.25 plus accrued interest since September 30, 1977, the same as reported at that time.