ANNUAL REPORT OF THE DIRECTOR FOR FISCAL YEAR 1981-1982

It is my privilege to present to you my ninth annual report, for the fiscal year 1981-1982.

DATA PROCESSING

- 1. Headquarters Computer: Through the Charles M. Townes Fund Grant from Research Corporation, we purchased for Headquarters two Ithaca Intersystems micro-computers with CP/M operating systems. These systems meet the criteria we set compatability with the Harvard-Smithsonian Center For Astrophysics VAX computer that we continue to use, dependability, expandability, standardization, and serviceability. The systems consist of:
 - a. Single-user system with a computer, terminal, graphics terminal, and plotter. This system is used to plot data on screen, check, edit, and finally plot the data on paper.
 - b. Multi-user system with three terminals two for data entry, and one for word processing, used in preparation of the <u>Journal of the AAVSO</u>, correspondence, updating of the mailing list, and other office jobs.

The computers are proving to be tremendous time and space savers.

- 2. Processing of the Current Data: The incoming observations are now entered on 8-inch diskettes, using the HQ computer, and are processed using the Digital VAX computer at the Harvard-Smithsonian Center For Astrophysics. We still need the Harvard computer because of the volume of our data and other data processing requirements. We are a few months behind in the processing of the incoming observations due to the installation of the new system, the change in medium from cards to diskettes, development of customized computer programs, the training of personnel, and the establishment of procedures for handling large volumes of data using the new system. This lag was expected, and we are confident that within a few months we will again be up-to-date with the processing of the current data.
- 3. Processing of the Archival, Published Data from 1911 to 1960: In 1981 we decided to computerize our published data from 1911 to 1960 and so started to enter over 2 million observations on computer cards. These observations are being entered in alphabetical order of observer's last name. At the start of this fiscal year the observations of observers whose last name began with the letter C were being entered. The project was suspended upon the personal leave of the data entry person involved. We could not continue this project before the end of the fiscal year because of budgetary restrictions. Thanks to a grant from Clinton B. Ford to support this project, and a grant from Theodore H. N. Wales to purchase a set of disk drives to accomodate the entry of large volumes of data, we are able now to continue with the project. We anticipate that entry of archival data will take several years to complete and will provide us with machine-readable data extending back 70 years on hundreds of variable stars.
- 4. <u>Publication of Data:</u> The technical staff have been working on the preparation for publication of data from 1974 to 1979. <u>AAVSO Report 38</u>, containing individual light curves or listings of 557 long period variables from 1974 to 1977, is now complete. At this time we are collecting bids from various printers on the printing cost of this 470-page Report. <u>AAVSO Report 38</u> will be available for

of this 470-page Report. AAVSO Report 38 will be available for distribution as soon as it is printed.

The observations for <u>AAVSO Report 39</u>, containing data on all other types of variables for the interval between 1974 and 1977, have been initially checked for astronomical accuracy. The data now require my final checking before individual light curves may be prepared for publication.

AAVSO Reports 38 and 39 contain about 0.5 million observations. We find the following calculation of interest to our observers: If it takes 10 minutes for an observer to make an estimate, just the time spent by one observer to make 0.5 million observations would amount to 10 solid years, should the observer be able to observe continuously for 24 hours a day! This indicates the amount of effort made by our observers to provide data for these Reports. The hours spent by the Headquarters' personnel in keying in, processing, checking, and plotting the data must be just as numerous.

Data on <u>AAVSO Report 40</u>, which will be the continuation of observations on long period variables for the interval from 1977 to mid-1979, have been edited using the Wellesley College computer, thanks to the efforts of Dr. Richard French and his student Sherene Aram. These data now need to be finally checked and individual light curves to be plotted.

Data on <u>AAVSO Report 41</u> will be the continuation of <u>Report 39</u>, and will contain data from 1977 to mid-1979 on all other types of variables. Observations need to be individually checked for astronomical accuracy, and then light curves need to be plotted.

SPECIAL REQUESTS

Each year we receive an increasing number of requests from astronomers and students for our data. This year we filled a record high of 133 requests.

These requests were for the following types of variable stars:

- 1. Dwarf novae (38%) U Gem, SU UMa, Z Cam types of stars
- Long period variables (19%)
 Semiregular variables (13%)
- 4. Symbiotic stars (10%) Z And type stars
- 5. Nova, nova-like, recurrent nova, AM Her stars (8%)
 - . RV Tauri stars (5%)
- 7. R Coronae Borealis stars (2%)
- Nebular variables (1%) mostly T Tauri stars
- 9. Cepheids (1%)
- 10. General (3%)

AAVSO data are crucial in correlating and interpreting data in both shorter (x-ray and ultraviolet) and longer (infrared and radio) wavelengths of the electromagnetic spectrum. Requests for data came from astronomers, undergraduate and graduate students and individuals at universities, observatories, government agencies (NASA), and newspaper and magazine publishers, in the United States and abroad. It ist of individual requests appears at the end of my Report. Here I would like to share some highlights from these requests.

Dr. H. Bond observed RZ Sge during its supermaximum with high-speed photometry. His photometric results together with our long-term light curve proved this star to be another SU UMa type dwarf nova. Upon this discovery, Dr. Bond wrote:

"Thanks again for the light curve. The AAVSO data are certainly indispensable in unravelling the nature of stars like RZ Sqe."

Dr. R. Wade and his colleagues from the University of Cambridge, England, for whom we had provided simultaneous coverage of stars during their observing run, wrote:

"Our past observing runs with IUE have been successful in large part because of the interest of amateur variable star observers, who provided us with light curves (and timely warning) of the outbursts of dwarf novae."

Drs. L. A. Willson, G. Wallerstein, and C. A. Pilachowski, in their article entitled "Atmospheric Kinematics of High Velocity Long Period Variables," in the Monthly Notices of the Royal Astronomical Society 198, 463-516, 1982, acknowledge the AAVSO:

"No paper on LPV's is complete without an acknowledgement to Janet Mattei and the AAVSO without whose light curves and dates of maxima our observations would be uninterpretable."

This year, with simultaneous monitoring, we assisted in nine observing programs with the International Ultraviolet Explorer (IUE) and five ground-based observing programs at Mt. Palomar, Mt. Lemmon, McDonald Observatory, European Southern Observatory, and the National Astronomical Observatory in Mexico. Through our crucial simultaneous monitoring and recommendations for appropriate observing targets, the astronomers have been able to make best use of both the IUE satellite and large telescope time. Our data are vital in understanding the disk structure, the cause of outbursts (including supermaxima), the source and cause of short period oscillations, transfer of mass, and the evolution of these cataclysmic systems.

As a result of our alerts, during his November optical and IUE observing run, Dr. A. Kiplinger was able to observe YZ Cnc during its supermaximum. This was the first time that the supermaximum of YZ Cnc was observed in both the short and long wavelengths, so critical in understanding the development of the supermaximum phenomenon in these stars.

Again, thanks to our alerts, Dr. A. Kiplinger and his European colleagues were also able to observe SU UMa during its short outburst and T Leo during its long outburst using the radio telescope.

Through our provision of simultaneous monitoring and long-term data we have been made a consultant on the spectroscopic and photometric research project of Dr. P. Szkody from the University of Washington.

AAVSO contributions to research in variable astronomy continue to be acknowledged in the astronomical literature. A few of these articles are listed below:

Jewell, P. et al. 1981, "Evolution of the OH Maser Emission From U Ori", Astrophysical Journal 249, 118.

Middleditch, J. and Cordova, F. 1981, "Colors of the Pulsations and Flickering of SY Cnc During Outburst", <u>Astrophysical</u> <u>Journal 255</u>, 585.

Cordova, F. and Mason, K. 1982, "Satellite Observations of Cataclysmic Variables", Sky and Telescope, July, 25.

Stiening, R. et al. 1982, "Observations of the Rapid Oscillations of EM Cygni", Publ. Astron. Soc. Pacific 94, 672.

Thus, AAVSO data - your observations - are crucial to variable star research and are being used extensively.

SUMMARY OF OBSERVATIONS

This year, the weather conditions, together with the volcanic cloud that caused almost one magnitude of extinction, created very unfavorable observing conditions. The comments below show the frustration of our observers.

"The enclosed represents the only decent observing night in two months. I did these while reclining in a snowdrift."

"I had 3 hours of clear weather this month."

"I have only had 5 hours of clear skies in the past 4 months. The stars are almost becoming strangers."

Despite the bad weather, we received 188,679 observations from 469 observers, worldwide. These totals include 95,658 observations from observers in 45 states in the USA and 93,021 observations from observers in 25 foreign countries, including 19,064 observations from 30 French variable star observers of APOEV and 7,996 observations from 14 observers in the Netherlands (NVVWS,VWS).

Both the French and the Dutch observers wish to have their observations included in the AAVSO data base and published by the AAVSO.

The totals also include the 344 adjusted observations of Orion variables, for which ten observations are counted as one.

The grand total of observations recorded since our founding in 1911 is 4,789,401.

Table I lists the number of observers from each country and the total of their astronomical data contributions; Table II gives the same information for each state in the USA. Table III is an alphabetical list of observers, giving each person's observer initials, name, location, annual total of observations, and total of inner sanctum observations (magnitude 13.8 or fainter, and/or "fainter than" 14.0 and fainter).

Thirty-one observers sent in between 1000 and 2000 observations, 12 between 2000 and 3000, and 11 between 3000 and 4000 observations. Wark Heifner sent in 4751, Danie Overbeek 6493, and Wayne Lowder 7640 observations

Ernst Mayer again leads the inner sanctum observations with 1517 estimates, followed by Richard Weber with 1124, Mark Heifner with 995, and John Bortle with 980 estimates.

Kevin Krisciunas, Howard Landis, Martha Liller, and David Skillman sent in observations obtained with a photoelectric photometer. Their data on non-program stars have not been included in the total counts of the observations.

Once again our observing sites extended to outer space, as Walter Feibelman, Edward Guinan, and Robert Panek sent in data obtained with the IUE satellite.

Our observers are the unsung heroes of our association, and their valuable contributions despite bad weather, cold, heat, and mosquitoes

cannot be adequately acknowledged. I express my very sincere appreciation and thanks to each observer who patiently collects, records, and sends in data to Headquarters.

I specially thank those observers who participate in the special observing programs in which our assistance is requested by astronomers, and who alert me by phone or mail to the unusual behavior of stars before the regular monthly report forms are sent in. This year these observers are:

Jim E. Morgan, Ernst H. Mayer, Keith Danskin, Mark Heifner, Bob Ariail, George Kelley, Carolyn Hurless, Charles Scovil, Ken Beckmann, Paul Goodwin, John Bortle, John Griese, Paul Sventek, Donna Sventek, Ken Medway, Danie Overbeek, Tom Fetterman, Philip Bradley, Peter Collins, Clay Sherrod, Tom Jeffrey, Larry Shotter, Jeff Sandel, John Riggs, Gus Johnson, Chris Stephan, Tom Bretl, Rick Wasson, Chuck Doerr, Lewis Cook, Lancaster Hiett, and Jerome McKenna.

INTERNATIONAL COLLABORATION

Our cooperation continues with major variable star groups around the world.

Members of the following variable star associations sent in observations to the AAVSO either individually or as a group for inclusion in our data files for processing and publication:

Association Francaise des Observateurs d'Etoiles Variables (France); Astronomical Society of Southern Africa, Variable Star Section; Astronomischer Jugendclub (Austria); Berliner Arbeitsgemeinschaft für Veränderliche Sterne (West Germany); British Astronomical Association, Variable Star Section (England); British Astronomical Association of New South Wales (Australia); Japan Astronomical Study Association; Nederlandse Vereniging Voor Weeren Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands); Planetario e Observatorio Astronomico do Colegio Estadual do Parana (Brazil); Pleione Valtozoeszlelö Halozat (Hungary); Uniao Brasileira de Astronomia, Variable Star Commission (Brazil); Vereniging voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belqium).

Dr. Frank Bateson, the Director of the Variable Star Section of the Royal Astronomical Society of New Zealand, continues to send the observations made on southern variables by their members and compiled by Mr. Gordon Smith for me to use in the preparation of the annual predictions of maxima and minima dates of long period variables in the AAVSO Bulletin. Dr. Bateson then disseminates the information in our Bulletin to his members.

Dr. Bateson recently informed me that RASNZ members have agreed to have copies of their observations sent to us for inclusion in our machine-readable archival files, which are in preparation.

We continue to exchange literature with major universities, observatories, and astronomical groups worldwide.

ASTRONOMICAL MEETINGS ATTENDED

Through a grant from the National Science Foundation, I was able to attend the following astronomical meetings, representing AAVSO:

1. IUE SYMPOSIUM ON THE ADVANCES IN UV ASTRONOMY: FOUR YEARS OF IUE RESEARCH, held at Goddard Space Flight Center in Maryland. The IUE satellite is one of the most successful satellites, now operating

in its fifth year. 1000 papers have been published on research done with IUE since 1978. Cataclysmic variables, symbiotic stars, and close binaries have extensively been the observing targets of IUE. I gave a paper on the optical behavior of some variables observed with IUE. AAVSO has been extensively involved both in simultaneous observing and in providing light curve data on these stars to astronomers. Our contributions were acknowledged in several papers presented, and also personally by Dr. Jaylea Mead, Chairman of the Organizing Committee for the symposium.

- 2. IAU COLLOQUIUM ON CATACLYSMIC VARIABLES AND RELATED OBJECTS, held in Haifa, Israel. This small but very productive meeting included papers on all types of cataclysmic variables with emphasis on the interpretation of the observation and modeling of these systems. I presented a paper on the supermaxima of SU Ursae Majoris type dwarf novae. At this meeting, again, AAVSO contributions to research in this area were both acknowledged personally by several astronomers and also in the papers presented.
- 3. XVIIIth GENERAL ASSEMBLY OF THE INTERNATIONAL ASTRONOMICAL UNION (IAU), held in Patras, Greece. About 2,500 astronomers from around the world attended this 10-day meeting of the most prestigious group in astronomy. At the meeting of Commission 27 (Variable Stars) I presented a paper on AAVSO its activities, observing program, and publications. Upon my request, a resolution recognizing the importance of publishing AAVSO's machine-readable data, particularly data on cataclysmic variables, gathered from observers worldwide, and supporting the search for funds was introduced to the IAU Executive Committee. The resolution was discussed and passed by the Committee.

REQUESTS FOR INFORMATION ABOUT THE AAVSO AND NEW MEMBERSHIP

We filled 490 requests for information about the AAVSO this year. These requests came from individuals, astronomy clubs, schools, universities and colleges, magazine and newspaper writers, and authors of books on astronomy.

We have also helped set up observing programs in several schools.

AAVSO and its activities were featured in the radio program called "Star Talk," sponsored by the University of Texas and distributed throughout the USA.

We have supplied information, light curves, and literature to several members who have given talks about the AAVSO and variable stars. These talks have introduced several observers and new members to the association. We appreciate the efforts of our members in popularizing variable star observing and the AAVSO.

136 new members were elected this year. Of these, 129 joined as annual, 1 as sustaining, and 6 as sponsored from Hungary and Poland. 6 members changed from annual to sustaining membership.

PUBLICATIONS

The following have been published by the AAVSO this year:

The Journal of the AAVSO, Volume 10, No. 2, edited by Charles A. Whitney.

AAVSO Bulletin 45: Predicted Maxima and Minima Dates of Long Period Variables for 1982, prepared by Janet Akyüz Mattei.

AAVSO Bulletin 45 Supplement: Schematic representation of the data in AAVSO Bulletin 45, compiled by Peter O. Taylor and Josefa M. Manella.

AAVSO Circular, Numbers 133 to 143, edited by John E. Bortle and Charles E. Scovil.

AAVSO Alert Notices, Numbers 44 to 48, and two Special Alerts for simultaneous monitoring of dwarf novae, prepared by Janet Akyüz Mattei.

AAVSO Solar Bulletin, Volume 37, Numbers 11, 12; Volume 38, Numbers 1 to 7, edited by Robert B. Ammons.

Ephemerides of Eclipsing Binary and RR Lyrae Stars for 1982, prepared by Peter O. Taylor and Josefa M. Manella, with Marvin E. Baldwin.

AAVSO Photoelectric Photometry Newsletter, Volume 3, Numbers 1 and 2, edited by Russell M. Genet.

Predicted Maxima Dates of Bright Stars, Ephemeris of Some Other Types of Stars Easy to Observe, and Information About Variable Stars and Variable Star Observing, in the Observer's Handbook 1982 of the Royal Astronomical Society of Canada, prepared by Janet Akyüz Mattei.

Predicted Maxima Dates of Some Bright Stars, monthly in <u>Sky and Telescope</u>, prepared by Janet Akyüz Mattei.

"Optical Light Curves of Some Cataclysmic Variables and Symbiotic Stars", by Janet Akyüz Mattei, published in the NASA Conference Publications 2238 - Advances in Ultraviolet Astronomy: Four Years of IUE Research.

The contribution of the following members' time and abilities is gratefully acknowledged:

Charles A. Whitney for the editorship of the <u>Journal</u>; the Editorial Board for the refereeing of articles submitted to the <u>Journal</u>; Elizabeth O. Waagen, Janet C. MacLennan, and Mary F. Collins for their assistance in the preparation of the <u>Journal</u>; Peter O. Taylor and Josefa M. Manella for the compilation of the data from <u>Bulletin 45</u> for the <u>Bulletin 45</u> Supplement and with Marvin E. Baldwin the preparation of the <u>Ephemerides of Eclipsing Binary and RR Lyrae Stars for 1982</u>; John E. Bortle and Charles E. Scovil for preparing and publishing the <u>Circular</u>; Robert B. Ammons for preparing the <u>Solar Bulletin</u>; Peter O. Taylor for the calculation of the monthly sunspot numbers; and Stephanie Ammons for the calculation of the monthly solar flares.

EDUCATIONAL PROGRAMS

The Margaret W. Mayall Assistanship Program, established through the contributions of our members, the Perkin Fund, and the Kenilworth Foundation, supported Karen J. Meech and Shelly K. Pope, who prepared special photoelectric photometry charts on about 100 stars, mostly of small amplitude, for the AAVSO Photoelectric Photometry Program.

Karen Meech and Shelly Pope also checked for astronomical accuracy the data for <u>AAVSO Reports 38 and 39</u> and partially for <u>AAVSO Report 40</u>. Shelly generated the computer-plotted light curves for <u>Report 38</u>.

The Clinton B. Ford Summer Research Program supported Peter M. Garnavich, who worked on preparing computer programs to average the data compiled in the <u>Studies of Long Period Variables - 1955 to 1975</u>, which contains the dates and magnitudes of maxima and minima of long period and some semiregular variables. This work is now ready for publication after final checking of the data. Peter also started to analyze the long-term behavior of Z And, and revised some programs for our HQ computer so that they would better meet our needs.

Under the supervision of Dr. Linda French, John Clark from Bates College studied the long-term behavior of T Mon for his senior thesis.

Under the supervision of Dr. Richard French, Sherene Aram of Wellesley College studied the long-term behavior of V Boo and U Per.

PERSONNEL AT HEADQUARTERS

The staff of Headquarters works as a team with the goal of running the Association in the best and most efficient way we can. My special thanks to the conscientious, hardworking, and capable staff, namely my technical assistant Elizabeth O. Waagen, our special tesearch assistants Shelly K. Pope and Karen J. Meech, our secretary Dorothy Haviland, our data entry operators Barbara Silva and Bethune Kelly, our part-time secretary Mary F. Collins, our part-time correspondence secretary Janet C. MacLennan, our part-time assistant Margarita Tapia, and our volunteers Katherine Hazen and Margaret W. Mavall.

ACKNOWLEDGEMENTS

Our special thanks go to Research Corporation for their generous Charles M. Townes Fund Grant which made it possible for us to purchase the Headquarters computers.

We greatly appreciate and thank the Harvard-Smithsonian Center For Astrophysics for the computer-time grant to process our data and for allowing us to use the computer facilities. We thank Professor Owen Gingerich for making this grant possible, and Barbara Welther for her valuable suggestions in data processing and computer funding.

We appreciate the help and support given to us by the staff of the Computer Facility of the Center For Astrophysics.

We are grateful to Clinton B. Ford for his continued support of our data processing of the archival data, and the special Summer Research Assistantship.

We are very thankful to the National Science Foundation for the grant to process completely and put in machine-readable form our data from 1966 to 1979, and to prepare our more recent data for publication. I am also grateful to the National Science Foundation for the grant which made it possible for me, representing the AAVSO, to attend astronomical meetings.

We thank Theodore H. N. Wales for his financial contribution which made it possible to add a terminal and a pair of disk drives to Headquarters' multi-user computer system.

We thank the National Oceanic and Atmospheric Administration for the financial support of the activities of our Solar Division.

We remember our members Cy and Emily Fernald with fond memories

and acknowledge their continued support of the association through the trust fund bequeathed to the AAVSO.

We thank Stamford Observatory for making available to Charles Scovil facilities for the preparation of new charts and the \underline{AAVSO} Circular and the 21-inch telescope for the observations of variable stars and special observing programs.

We thank Margaret W. Mayall for giving of her time and expertise to work with the archival materials of the association.

Our sincere thanks to Mrs. Katherine Hazen (Dr. Martha Liller's mother) for volunteering her time to help with our data analysis and operation.

Our special thanks to Dr. Richard French for writing the computer program and to his student Sherene Aram for the computer editing of our data for Report 40. We also thank Wellesley College for making their computer facilities available to Sherene and for the summer research grant to her.

We thank Keith Danskin for his continued help with important projects of the association, and Adrian Levesque for his help in instrument restoration.

Our special thanks to members who have taken sustaining membership, thus increasing their financial support of the association; members who have sponsored members from Hungary, Poland, East Germany, Czechoslovakia, and Romania; and members who have made financial contributions to the General Fund, the Margaret W. Mayall Assistantship Fund, and/or the Endowment Fund.

I personally thank my husband for his support, encouragement, and understanding.

My special thanks to our Committee chairmen Robert B. Ammons, Marvin E. Baldwin, Carmine V. Borzelli, Thomas A. Cragg, Clinton B. Ford, Howard J. Landis, and Charles E. Scovil for their valuable contributions; to our officers Arthur J. Stokes, Clinton B. Ford, Theodore H. N. Wales, Ernst H. Mayer, and Thomas R. Williams; and our councilors Paul N. Goodwin, Walter Scott Houston, James E. Morgan, Charles S. Morris, Charles E. Scovil, Richard J. Strazdas, and Lee Anne Willson for their time and wisdom in the efficient operation of our association.

Respectfully submitted, Janet Akyűz Mattei Director

TABLE I

Country	No.of Obs.	Total	Country	No.of	Total
Argentina Australia Austria Belgium Brazil Canada Czechoslovakia Denmark England Fed. Rep. Germany France German Dem. Rep. Greece Hungary	2 6 5 10 3 19 1 7 6 9 30 1 3	1705 2240 212 5306 207 14233 368 412 3206 5370 19064 1349 1790 8604	Italy Japan Netherlands Norway Poland Romania South Africa Spain Switzerland U. S. A. Venezuela West Indies Zimbabwe	9 5 14 2 2 1 8 1 288 1 1 3	1984 4563 7996 696 683 1809 7926 1594 225 95658 160 329 990
			TOTAL	469	188670

TABLE II

State		No.of Obs.	Total Obs.	<u>State</u>		No.of Obs.	Total
Alabama Arizona Arkansas California Colorado Connecticut Florida Georgia Hawaii Illinois Indiana Idaho Iowa Kansas Kentucky Louisiana Maine Maryland Massachusetts	(AL) (AZ) (AR) (CO) (CT) (FL) (GA) (II) (III) (IID) (IA) (KS) (KY) (LA) (ME) (MA)			State Montana Nebraska New Hampshire New Jersey New Mexico New York North Carolina North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Carolina Tennessee Texas Utah Vermont	(MT) (NE) (NH) (NY) (NM) (NY) (OH) (OK) (OR) (PA) (RI) (SC) (TX) (UT) (VT)	Obs. 1 1 6 6 3 25 2 17 1 1 19 2 6 3 11 1 1	Obs
Michigan Minnesota	(MI)	5	1517	Washington	(VA) (WA)	5 3	4520 2 4 2
Mississippi	(MN) (MS)	3 3	98 55	West Virginia	(WV)	ĭ	1710
Missouri	(MO)	6	2592	Wisconsin	(WI)_	10	<u>4631</u>
				TOTAL	2	88	95658

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AAP A. P. Abbott, Canada AD R. M. Adams, MA 1005- 214 BUS R. BUSS, ND 62
AB W. Albrecht, HI 267 BUL T. Butler, MO 230- 14
ADF D. Alford, LA 1 CWA W. Campney, Canada 5- 2
ALS S. Allmand, Wales 102 CPA A. Camponovo, Argentina 1703
ALL L. Allred, MN 54 CEA*B. Candela, France 1436
ANN R. J. Annal, CA 118- 29 CCD C. Cardona, NY 24
ARI R. B. Ariail, SC 169- 31 CAH H. J. Carney, FL 262
ARN*L. Arnold, France 246 CJR J. R. Caruso, NY 61
APL P. L. Arthur, OH 5 CIT M. Cavagna, Italy 299
AKT T. Atkin, West Indies 329 CJV J. Cavallo, LA 1
AUB*M. Aubaud, France 146 CYM M. Caylor, CA 6
ADE D. E. Aucoin, Jr., ME 37 CGF G. F. Chaple, Jr., MA 2274- 282
BTR T. R. Baker, WI 119- 20 CRU*M. Charriaud, France 37
BM M. E. Baldwin, IN 1352 CLU L. E. Chase, UT 2
BRM R. M. Bales, OR 47 CLK W. Clark, MO 164
BBN W. Barbin, PA 51- 4 CKI I. Clarke, PA 34
BWK W. S. Barksdale, FL 1118- 2 CEW E. W. Clement, FL 169
BSF S. F. Barnhart, OH 32- 8 CNJ J. Clifton, KY 3
BGT G. A. Barros, Argentina 2 COL P. L. Collins, MA 364- 11
BGCD G. A. Barros, Argentina 2 CMG&G. Comello, Netherlands 2244- 361
  BSF S. F. Barnhart, OH 32-
BSR S. Baroni, Italy 701
BGT G. A. Barros, Argentina 2
BSP"P. Bartos, Hungary 753
BAU J. Bauer, W. Germany 31-
BBA B. B. Beaman, IL 10
BBA B. B. Beaman, IL 105-
BKY K. E. Beaman, IL 105-
BEJ J. Beaver, OH 61
BSG S. B. Bennici, OH 10
BKK K. Beckmann, MO 1145
BSS S. B. Bennici, OH 10
BKK K. Beria, Italy 15
BMM M. R. Biesiada, Poland BL G. A. Bilodeau, CA 25-
BMM A. Birkner, IL 104
BKN A. Birkner, IL 104
BCM M. Blanchette, FL 5
BCM M. Blanchette, FL 5
BCM M. Blanchette, FL 5
BCM M. Bibordman, PA 41
BCD P. D. Clifton, KY 5
CLO A. Cole, FL 5
CMG&G. Comello, Netherlands 2244-
COO L. M. Cook, CA 544-
COO L. M. Cook, CA 544-
CMG&G. Comello, Netherlands 2244-
COL P. L. Collins, MA 364-
CMG&G. Comello, Netherlands 2244-
COO L. M. Cook, CA 54-
CMG&G. Comello, Netherlands 2244-
COL P. L. Collins, MA 364-
CMG&G. Comello, Netherlands 2244-
COL P. L. Collins, Ma 364-
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COL P. L. Collins, Ma 364-
CMG&G. Comello, Netherlands 2244-
COL P. L. Collins, Ma 364-
CMG&G. Comello, Netherlands 1244-
COL P. L. Coaba, Hungary 9
DAN J. Danko, Hungary 10
DV G. Davidson, KS 18
DV G. Davidson, KS 18
DAN J. Danko, Hungary 9
DAN J. Danko, Hungary 10
DV G. Davidso
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CRR R. E. Crumrine, NY 130
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DAN J. Danko, Hungary 5
2 DAK K. H. Danskin, NH 115-
BOH D. Böhme, E. Germany 1349

BOK C. Bordner, CO

BWM M. W. Borgman, PA

BRJ J. E. Bortle, NY

BMUSR. J. Boura, Netherlands 847-

BRG B. J. Bourgeois, TX

BAP P. A. Bradley, LA

BTB T. C. Bretl, KS

BTB T. C. Bretl, KS

BTB T. C. Bretl, KS

BTB M. R. Brewster, TX

BHNISH. Bril, Netherlands

273

BLP P. Brlas, Hungary

BBM B. M. Brown, NY

BOA*A. Bruno, France

170

BUP*M. V. Duruy, France

73

DUR*M. V. Duruy, France

73

BCP G. P. Dyck, MA

68

BCH*A. R. Echeverria, France

173

BCCJ J. H. Eckendorf, AZ

322-

53

BCCK C. Eckert, W. Germany

294-

1

BCK C. Eckert, W. Germany

294-

1

BCF G. Emerson, CO

21-

4

BCF C. Erkas, Hungary

41

BCF C. Erkas, Hungary

41

BCF C. A. Falvo, NY

62

BMI M. R. Brewster, TX

25

BCF C. Erkas, Hungary

41

BCF C. A. Fausel, MI

314

BCF C. A. Fausel, MI

315-

316

BCF C. A. Fausel, MI

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FTO T. Fors, Denmark 10 HWY W. Hollis, PA 10
FT G. Fortier, Canada 527- 40 HOH H. Honda, Japan 1390
FRO R. A. Freeman, IL 54 HOV'G. Horvath, Hungary 569
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MJA J. A. Morgan, WI
MJA J. A. Morgan, WI
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MAO A. J. Morris, MA
MRT C. S. Morris, MA
MRT C. S. Morris, MA
MRT T. J. Morris, GA
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MOW C. Morrison, Canada 3663
MUN C. R. Munford, England
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^{*} also member Association Française des Observateurs d'Etoiles Variable (AFOEV).

[~] also member Pleione Valtozoeszlelo Halozat (Hungary). & also member Nederlandse Vereniging Voor Weeren Sterrenkunde, Werkgroep Veranderlijke Sterren (NVVWS, WVS).

LIST OF SPECIAL REQUESTS DURING FISCAL YEAR 1981-1982

- Anderson, C., University of Wisconsin. Light curve of AG Dra, to correlate with spectroscopic observations.
- Baird, S., Michigan State University. Monitoring and notification of the optical state of U Mon, R Sct, and AC Her, to aid observations with ground-based and aboard-spacecraft instruments.
- Belserene, L., Maria Mitchell Observatory. Finder chart and listings of visual observations of FO Aql, to complement photographic data.
- Bennett, A. J., University of Leicester, England. Light curve and listing of observations of SS Cyg, to correlate with x-ray data obtained with Ariel 6 satellite.
- Beuermann, K., Harvard University. Optical information on WW Cet and RU Peg.
- Blades, J. C., European Space Agency, Spain. Information about the optical state of Nova Sgr 1982, to schedule observations with IUE satellite.
- Information on, finder chart for, and immediate notification of the brightness of Nova Aql 1982, for observing run with IUE.
- Bond, H., Louisiana State University. Computer-generated light curve of RZ Sge, to correlate with photometric data.
- Analysis of AAVSO data on RZ Sge, for collaborated paper.

 Bopp, B. W., University of Toledo. Light curve of R Sct for 1981, to
 correlate with spectroscopic observations during its deep
 minimum.
- Further information on R Sct observations.

 Notification of the brightening of R Sct.
- Burnham, R., Astronomy Magazine. Ephemeris of RR Cap. Brydone-Jack, J., California. Information on variable stars, for science fair project.
- Cahn, J., Los Alamos Scientific Laboratory. Long-term light curve of Z UMa, for analysis of its behavior.
- Carney, W., Illinois. Light curves of R Sct and SU Gem, and information on RV Tau stars.
- Chanmugam, G., Louisiana State University. Light curve of AM Her, to correlate with radio observations.
- Cordova, F., Los Alamos Scientific Laboratory. Light curves of TU Leo, to correlate with x-ray observations.
- Czerny, A., University of Cambridge, England. Listings of observations of VW Hyi, CN Ori, and X Leo, to correlate with ultraviolet observations.
- Demers, S., University of Montreal, Canada. Long-term light curve of V725 Sgr, to determine its type of variability.
- Donn, B., NASA Goddard Space Flight Center. Long-term light curve of R CrB, for analysis of its minima.
- Duerbeck, H., Observatorium Hoher List, West Germany. Information on V2506 Sgr and V3889 Sgr.
- Dunham, D., IOTA. Visual brightness of T Cnc and R Gem, for occultation observations.

 Visual observations of V Vir, for occultation
- observations.
- Eason, E., Aerospace Corporation. Light curve of U Gem, to correlate with photometric data.
- Echevarria, J., University of Cambridge, England. Light curves of 12 cataclysmic variables, to correlate with photometric observations.
- Edberg, S., Jet Propulsion Laboratory. Assistance on the International Halley Watch Amateur Observer's Handbook. Fay, T., Alabama. Long-term light curves of U Her and R CrB.
- Feibelman, W., NASA Goddard Space Flight Center. Chart of V1478 Cyg,

- to assist in ultraviolet observations with IUE. Chart of HM CMa, to verify the position on a photo taken in 1960.
- Fischerstrom, C., Stockholms Observatorium, Sweden. Finder charts for T Tauri stars, for observing program.
- French, L., Bates College. Long-term observations of T Mon, for a student senior thesis project.
- Gambino, F., Italy. Long-term light curves of rho Cas and mu Cep, for analysis.
- Garasich, J., Pennsylvania. Light curves of S CrB, U Her, W Cyg, T Peg, and SS And.
- Light curves of Z UMa, T UMa, RS UMa, S UMa, and S Boo. Gehrz, R., University of Wyoming. Light curve of Nova Aql 1982, to correlate with infrared observations.
- Goldberg, L., Kitt Peak National Observatory. Information on and long-term light curve of alpha Ori, to correlate with spectroscopic data.
- Information on AAVSO photoelectric data on alpha Ori from 1922 to 1923.
- Listings of observations of alpha Ori.
- Gravina, R., Observatoire de Lyon, France. Finder charts for RR Tel, AR Pav, and CL Sco.
- Guinan, E., Villanova University. Optical brightness of MV Lyr and TT Ari.
- Hayes, D., Columbia University. Light curves of omicron Cet and mu Cep, to correlate with linear polarization data. Herbig, G., University of California. Light curve of and reprint on
- R Agr, to correlate with observations of its surrounding nebulosity.
- Holms, A., NASA Goddard Space Flight Center. Notification of the minimum of RY Sgr in May 1982.
- Holt, T., New York. Information on AAVSO and its observing program together with finder charts for SS Cyq and R Leo, to be used in a book.
- Horne, K., California Institute of Technology. Light curves of 23 cataclysmic variables, to correlate with spectroscopic observations for Ph.D. thesis.
- Further observations of AH Her. Inoue, T., Massachusetts. Listings of daily sunspot numbers, for a
- science fair project. (He was awarded first prize).
 Iyengar, K. V. K., Tata Institute of Fundamental Research, India. Light curves of W Leo, S Tau, and RX Tau, for phase determination.
- Janes, K., Boston University. Information on photoelectric observing
- program of AAVSO, and a set of AAVSO photoelectric charts.

 Jewel, P., University of Illinois. AAVSO Bulletin 45, to be used in scheduling of observations. Light curves of 9 long period and
- semiregular variables, to correlate with spectroscopic data.

 Jewison, M., The University of Western Ontario. Light curves of V

 CVn, mu Cep, omicron Cet, R Cnc, R Leo, and R Cas.
- Kenyon, S., University of Illinois. Long-term observations of Z And, AG Dra, AG Peg, AX Per, and BF Cyg.
 Keyes, T., University of California. Sample light curves and a list
- of symbiotic stars in the AAVSO observing program.
- Kiplinger, A., NASA Goddard Space Flight Center. Light curves of SU UMa, Z Cam, SS Aur, and IR Gem, to assist scheduling of groundbased and aboard-spacecraft observing runs.
 - Simultaneous optical coverage and immediate notification of outbursts of dwarf novae during observing run in November 1981.
 - Listing of observations of YZ Cnc during its supermaximum in November 1981.
- Immediate notification of the outburst of T Leo, for monitoring in radio wavelengths.
 - _ Immediate notification of the short outburts of SU UMa,

for monitoring in radio wavelengths.

Information on the outbursts of dwarf novae, for observing run in August 1982.

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