# ANNUAL REPORT OF THE DIRECTOR FOR FISCAL YEAR 1980 - 1981

It is my privilege to present to you my eighth annual report, for the fiscal year 1980-1981.

#### DATA PROCESSING

- l. <u>Current Data</u>: Observations received at Headquarters each month are processed keypunched and verified on IBM cards (thanks to a grant from Clinton B. Ford), copied onto magnetic tape, and checked, sorted, and listed using the Digital VAX computer at Harvard-Smithsonian Center For Astrophysics within the month they are received. This prompt processing is both very important and necessary to disseminate current data to the astronomical community.
- 2. Old Data: Since we are up-to-date with our current data processing, we have undertaken another important task this year, that of processing our data from 1911 to 1960. This project is a long one, as we have about 2.5 million observations to process. Monthly reports are filed alphabetically by observer. Presently we are keypunching data from observers whose last name begins with C. The completion of this project will provide machine-readable data extending over 70 years on hundreds of variable stars.

### FUNDING FOR A MICRO-COMPUTER AT HQ

For the past several years it has been very apparent that we needed a micro-computer at HQ, in order to enter our data onto a medium like floppy disks, rather than IBM cards, as the limited space at HQ has been completely taken over by cards. Also, an in-house computer is essential in order to publish our data faster, and to analyze them. I have spent a significant amount of time searching the micro-computer market for the right sytem, and have had discussions with several members who are experts in the field. I am happy to report to you that our proposal for a micro-computer has been funded by Research Corporation. This funding will make our dream a reality now. The system to be installed is an Ithaca Intersystems multi-user computer, with graphics terminal, plotter, and printers.

The data entry will be from key to floppy disk. The system is compatible with the Digital VAX computer, which we will continue to use for our big jobs.

We are grateful to Research Corporation for their grant. The micro-computer will help to increase the efficiency of our operation immensely.

#### SPECIAL REQUESTS

Each year we receive an increasing number of requests from astronomers for our data. This year we fulfilled 110 requests.

These requests were on the following types of variable stars, in order of the number of requests received:

- 1. Dwarf novae U Gem and Z Cam type stars
- 2. Long Period variables
- 3. Semiregular variables
- 4. Symbiotic stars Z And type stars
- 5. Novae, nova-like stars, and recurrent novae
- Nebular variables mostly T Tauri stars
- 7. Eclipsing binaries
- 8. R Coronae Borealis stars
- 9. RV Tauri stars
- 10. Cepheids

Requests came from universities, schools, newspapers, and individuals throughout the United States and abroad. A list of special requests and a brief description of the content of each is given at the end of my report.

Here I wish to share some highlights from these special requests with you.

The AAVSO's optical data are crucial in correlating and interpreting observations in the wavelengths shorter (x-ray, ultraviolet) and longer (infrared, radio) than in the visual region of the electromagnetic spectrum. Astronomers such as F. Cordova, K. Mason, P. Szkody, and C. Wu used our data extensively to correlate with ultraviolet and x-ray observations of cataclysmic variables obtained with IUE and HEAO-2 satellites, respectively.

Astronomers such as F. Clark, M. Feast, and L. A. Willson, who specialize in long period variables, used our data to determine phases of observations in radio wavelengths, to correlate with infrared observations, and to help to find answers to theoretical studies on pulsations of these stars, respectively.

In recent years, one of the crucial contributions of our observers to variable star research has been through simultaneous monitoring of cataclysmic variables during observing runs with several spacecraft and/or with large telescopes at major observatories. This year AAVSO assisted 12 such programs scheduled with HEAO-2 or IUE, and at observatories at Kitt Peak, Mt. Lemmon, Mt. Wilson, and Baja, Mexico. Our immediate alerts to the outbursts and behavior of these stars have been important in guiding the astronomers as to what objects to observe, and in helping them make the most efficient use of ground-based and spacecraft telescope time.

Our data have been used and our contributions acknowledged in several recent publications. A few of these are listed below:

- Chlebowski, T. et al. 1981, "Discovery of a New X-ray Emitting Dwarf Nova IE 0643.0-1648," <u>Astrophys. Journ. Letters</u> 247, L35.
- Hildebrand, R. et al. 1981, "Observations of Fast Oscillations in SS Cygni," <u>Astrophys. Journ.</u> 243, 223.
- Middleditch, J. and Cordova, F. 1981, "The Colors of the Pulsations and Flickering of SY Cnc During Outburst," submitted to Astrophys. Journ.
- Krautter, J., et al. 1981, "TT Ari A New Dwarf Nova," submitted to <u>Astron. and Astrophys</u>.
- Hinkle, K. 1981, "Time Series Spectra of Chi Cygni," submitted to Astrophys. Journ.
- Wade, R. 1981, "Spectroscopy and Spectrophotometry of Cataclysmic Variable Stars," Ph. D. Thesis.

Several astronomers acknowledged our observers' contributions with personal letters. Below are a few excerpts from such letters:

Dr. R. Stiening wrote, "We are very grateful for the assistance of your observers. Our program would not be successful if we had to spend our large-aperture telescope time looking for active objects."

On another occasion he wrote, "Once again I would like to thank you for the help that you and the AAVSO observers gave us during our recent work at Mt. Lemmon. We simply could not carry out a successful program without your help." (Drs. Stiening and Hildebrand found fast oscillations — on the order of seconds — only during the peak of

outbursts in several dwarf novae. As the star fades, the oscillations become non-periodic. The cause is still not known.)

K. Horne wrote, "Because of the participation of many AAVSO observers and generally good weather at Palomar, outbursts of 14 dwarf novae were observed during 13 nights. Observations made with the spectrograph of the Palomar 60" telescope cover a spectral range from 3200 - 7000Å. The data should provide a good basis for a study of the physical changes that occur in these systems during the course of an outburst. I am indeed grateful for the invaluable efforts of all the AAVSO observers who participated in the alert."

During the Sixth U.S. Workshop on Cataclysmic Variables in Santa Cruz, California, the contributions of AAVSO were acknowledged in about 20 papers. In several cases, the research reported was carried out because we alerted the astronomer to the outburst or to unusual behavior of a dwarf nova. Dr. J. Pringle, a leading theorist, started his review paper on the outbursts of cataclysmic variables by showing an AAVSO light curve of SS Cyqni.

#### SUMMARY OF OBSERVATIONS

Despite the unfavorable weather conditions, we had a very active observing year. We received 197,832 observations from 481 observers worldwide. These totals include 105,637 observations from observers in 44 states in the USA, and 92,195 observations from observers in 25 foreign countries, including 26,592 observations from the French Variable Star Observers (AFOEV) made over the past three years and sent by their director, E. Schweitzer, and 3317 observations from observers in the Netherlands (NVVWS,VWS).

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

The totals also include the 1500 adjusted observations of Orion variables, in which ten observations are counted as one, as detailed in my February, 1981, letter to observers.

The grand total of observations is 4,600,722. The 4.5 millionth observation was made by Dietmar Böhme of East Germany, observing alpha Herculis at magnitude 3.0 on JD 2444708.8.

Table I lists the number of observers from each country and the total of their astronomical contributions, Table II from each state in the USA. Table III is an alphabetical list of observers, giving each person's observing 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 observers sent in between 1000 and 2000 observations; twelve between 2000 and 3000; six between 3000 and 4000; and M. Heifner, E. H. Mayer, D. Overbeek, G. Samolyk, E. Schweitzer, and R. Weber between 4000 and 5000.

Chris Spratt sent in 5657, Paul Vedrenne, 5876 (3 years' total), and Wayne Lowder 6613 observations.

Ernst H. Mayer leads the inner sanctum observations with 1967, followed by Chris Spratt with 881, and Richard Weber with 856.

The number of our photoelectric observers has been increasing as photometers become more and more accessible. John Carrington, Russ Genet, Jeffrey Hopkins, Kevin Krisciunas, Martha Liller, Richard

Lines, Thomas McFaul, James Scholl, and David Skillman contributed valuable photoelectric photometry. Their data on non-program stars have not been included in the annual counts.

Walter Feibelman sent observations obtained with IUE, thus extending our data file to cover not only ground-based optical observations, but also optical observations from outer space.

I thank each observer who patiently makes, records, and sends observations to HQ.

I especially thank those observers who call or send notes on the unusual behavior of stars before the regular report forms are sent in, those who try extra hard to contribute to special observing programs when our assistance is requested by astronomers. These observers are:

Ernst H. Mayer, Jim E. Morgan, Charles Scovil, John Bortle, Carolyn Hurless, Glenn Chaple, Ernie Mayer, Jr., Paul Goodwin, Clint Ford, Philip Bradley, Kenneth Medway, George Kelley, Danie Overbeek, Ken Beckmann, Tom Fetterman, Peter Collins, Bob Ariail, Mark Heifner, Chris Spratt, Lancaster Hiett, Gus Johnson, Steve Sharpe, Chris Stephan, Richard Hill, Ben Mayer, Keith Danskin, Jim Eckendorf, Pat Madden, Chuck Fausel, Tom Bretl, Clay Sherrod, Michael Smith, and Georg Comello.

## INTERNATIONAL COOPERATION AND COLLABORATION

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

Members of the following Variable Star Associations sent their observations to the AAVSO either individually or as a group, for inclusion in our data files, and for publication.

Association Française des Observateurs d'Etoiles Variables (France); Astronomical Society of Southern Africa, Variable Star Section; Astronomischer Jugendclub (Austria); Berliner Arbeitsgemeinschaft für Veränderliche Sterne (W. 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 Valtozoeszlelo Halozat (Hungary); Uniao Brasileira de Astronomia, Variable Star Commission (Brazil); Vereniging voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belgium).

The observations of southern variables made by members of the Variable Star Section of the Royal Astronomical Society of New Zealand are compiled by their conscientious member, Gordon Smith, and kindly sent to us by their director, Dr. Frank Bateson, to be used in refining the predictions of maxima and minima dates of these stars in our annual <u>Bulletin</u>. During the Workshop on Cataclysmic Variables in Santa Cruz, Frank and I had many opportunities to discuss further cooperation between our two organizations.

We continue to exchange literature with universities, observatories, and groups of variable star observers worldwide.

### REQUESTS FOR INFORMATION ON AAVSO AND COMMUNICATION

We fulfilled 452 requests for information on the AAVSO this year. Requests came mostly from individuals, with some from astronomy clubs, colleges, and high schools.

In the area of communication, because of the very large volume of correspondence that needs my attention and the limited time I have because of my other responsibilities, we have not yet solved our problem of delays. Thanks to a grant for communication from Clinton Ford, we have a part-time correspondence secretary to help me, and we are trying hard to overcome the problem.

I answered 626 personal letters, not including short notes, and we sent out over 5200 pieces of mail from HQ this year, excluding bulk mailing of publications.

#### NEW MEMBERSHIP

This year we elected 179 new members - the largest number ever. Of these 173 were annual, 4 were sustaining, and 2 were sponsored from Hungary. 17 members changed their membership from annual to sustaining, thus supporting the operation of the association even more.

Our sponsorship program of active observers in "Iron Curtain" countries is still continuing. There are several observers in Hungary and Poland who wish to be members of AAVSO and receive our publications. They are unable to join because of the restrictions of their governments in regard to sending money abroad. Only through your sponsorship do they have the opportunity to benefit from our publications. I encourage more of you to participate in this program.

We greatly appreciate the efforts of our members who give talks about the AAVSO, and who bring new members to the association.

#### **PUBLICATIONS**

The following have been published by the AAVSO this year:

The Journal of the AAVSO, Volume 9, Numbers 1 and 2, and Volume 10, Number 1, edited by Charles Whitney.

AAVSO Bulletin #44: Predicted Maxima and Minima Dates of Long Period Variables for 1981, prepared by Janet A. Mattei.

AAVSO Bulletin #44 Supplement: Schematic representation of Bulletin #44, compiled by Peter Taylor and Josefa Manella.

AAVSO Circular: Numbers 121 to 132, edited by John Bortle and Charles Scovil.

AAVSO Solar Bulletin: Volume 39, Number 11, to Volume 40, Number 10, edited by Robert Ammons.

Ephemeris of Eclipsing Binary and RR Lyrae Stars: Prepared by Peter Taylor and Josefa Manella, with Marvin Baldwin.

Predicted Maxima of Bright Stars, in Observers Handbook of the Royal Astronomical Society of Canada, and monthly in Sky & Telescope, prepared by Janet A. Mattei.

An article by Charles Scovil about the new <u>AAVSO Variable Star</u> <u>Atlas</u> was published in the <u>Journal of the Royal Astronomical</u> <u>Society of Canada</u>.

Papers titled "Light Variation of CI Cygni" and "AAVSO Visual Light Curves of Z And, R Aqr, BF Cyg, CI Cyg, AG Peg, and AX Per," by Janet A. Mattei, were published in the <u>Proceedings of the North American Workshop on Symbiotic Stars</u>.

Sincere thanks and appreciation are due to Charles Whitney for his editorship of the <u>Journal</u>; the Editorial Board of the <u>Journal</u>,

particularly Douglas Hall and Dorrit Hoffleit for their refereeing of articles; Elizabeth Waagen and Mary Collins for their editorial assistance in preparing the <u>Journal</u>; Peter Taylor and Josefa Manella for their compilation of data for <u>Bulletin #44 Supplement</u> and for preparing the <u>Ephemeris of Eclipsing Binary and RR Lyrae Stars</u> with Marv Baldwin; John Bortle and Charles Scovil for preparing and publishing the <u>Circular</u>; Bob Ammons for preparing the <u>Solar Bulletin</u>; Peter Taylor for his calculation of sunspot numbers; Stephanie Ammons for her calculation of solar radio flares; and Carolyn Hurless for her help in the mailing of the <u>Solar Bulletin</u>.

#### ALERT NOTICES

The Alert Notice is an informal publication which allows me to reach interested observers and members when there is a need for special observations. Those interested receive these Notices free of charge if they mail twelve self-addressed stamped envelopes to Headquarters. This year we issued six Alert Notices, two of which were Special Notices. The Alert Notices were on the discovery of Nova Sgr 1980, Nova CrA 1981, the Supernova in NGC 6946, the simultaneous monitoring of cataclysmic variables and symbiotic stars during IUE observing runs, the mini-outburst of GK Per, and information on some of the outbursts of cataclysmic variables. The Special Notices were on the simultaneous monitoring of a large number of cataclysmic variables during observing runs in Baja, California, and Mt. Lemmon, Arizona.

# EDUCATION AND TRAINING PROGRAMS

This summer, thanks to the contributions of our members, the Perkin Fund, and the Kenilworth Foundation to the Margaret W. Mayall Assistantship Fund, we were able to hire Michael Davis, from Villanova University, under this program. Michael revised the periods of two long period variables, R Aql and R Hya, converted a photoelectric photometry reduction program to the VAX computer, and compiled some finding charts for stars recommended to AAVSO PEP observers.

We also had a Clinton B. Ford summer research assistant, James Klavetter, from Massachusetts Institute of Technology, who worked on the relationship between decline rates from outbursts of dwarf novae and their orbital periods. We are grateful to Clint for the funding of this project.

#### PERSONNEL

An executive is only as good as her staff. My special thanks go to the very capable, conscientious, hardworking Headquarters staff, namely my assistant, Elizabeth O. Waagen, our secretary, Dorothy Haviland, our data entry operators Bethune Kelly and Barbara Silva, our two new assistants, Shelly Pope and Karen Meech, who are helping us prepare data for publication, our part-time correspondence secretary, Mary F. Collins, and our volunteer helpers, Margaret W. Mayall, Katherine Hazen, and Margarita Tapia. We each recognize the significance of the others' responsibilities and we work as a team with only one goal in mind - the success of our association.

#### ACKNOWLEDGEMENTS

We express our deep appreciation and thanks to Research Corporation for their generous grant for a micro-computer system for our HQ, which will help us to serve our members and astronomy more efficiently.

We are grateful to Harvard-Smithsonian Center For Astrophysics

for allowing us to use the computer facilities, and for the grant in computing time which allows us to process our data. We thank Prof. Owen Gingerich for making this grant possible, and Barbara Welther for her valuable help and suggestions in data processing and computer funding.

We greatly appreciate the help and support given to the AAVSO by the personnel of the Computer Facility of the Center For Astrophysics.

We gratefully acknowledge the Clinton B. Ford Grants for data processing, correspondence, and the special summer research assistantship.

We acknowledge with thanks the contributions of the Perkin Fund and the Kenilworth Foundation to the Margaret Mayall Assistantship Fund, thus making it possible to hire students and/or undertake special projects under this program.

We are very thankful to the National Science Foundation for the grant made to process our "gap" data and to publish the recent data, and for the travel grant to allow me to attend astronomical meetings.

The National Oceanic and Atmospheric Administration has supported our Solar Division for over two decades. We appreciate the trust they have bestowed on the AAVSO solar observers, and thank them for their continued financial support.

We remember our devoted members, the late Cy and Emily Fernald, who generously supported the association during their lifetimes. They continue to support the association with the trust fund they have bequeathed to the AAVSO.

Our special thanks to the "anonymous" friend of the association for her contributions to print out the processed data of the "gap".

We thank Stamford Observatory for making available to Charles Scovil facilities for the preparation of AAVSO new charts, the <a href="Atlas">Atlas</a>, and the <a href="Circular">Circular</a>, and for allowing the 21-inch telescope to be used for special observing programs of the AAVSO.

We thank Dr. Martha Liller, the curator, and Jackie Kloss, the acting curator, of Harvard Plate Stacks for allowing us to use the Harvard Photographic Plates for variable star research and chart work.

Our special thanks to Margaret W. Mayall for giving her time and wisdom to work with the important 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 and operation.

We thank Margarita Tapia for her careful work in plotting our data, and the Cambridge CETA for selecting our HQ as her training site.

Our sincere thanks to Keith Danskin for his preparation of the albums with our historical photos, and thanks to both Adrian Levesque and Keith for their preparation of our historical slides. We all enjoyed the photographs and the slides during our 70th Anniversary meeting.

I extend our appreciation and thanks to members who have taken sustaining membership, who have sponsored members from "Iron Curtain" countries, and who have given above their dues to the General Fund,

Margaret Mayall Assistantship Fund, and/or Endowment Fund.

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

My special thanks to the Committee Chairmen, Robert Ammons, Marvin Baldwin, Carmine Borzelli, Thomas Cragg, Clinton Ford, Howard Landis, and Charles Scovil, for their valuable contributions, and to our officers, Carl Anderson, Clinton Ford, Ernst H. Mayer, Arthur Stokes, and Theodore Wales, for their help in the efficient operation of our association.

# Respectfully submitted,

## Janet Akyüz Mattei Director

#### TABLE I

Country	No.of Obs.	Total Obs.	Country	No.of Obs.	Total Obs.
Argentina	2	14	Japan	6	4214
Australia	5	2245	Netherlands	8	3317
Austria	5	838	Norway	2	461
Belgium	9	5528	Poland	1	249
Brazil	3	60	Rep. of China	1	28
Canada	23	15266	Romania	1	1900
Czechoslovakia	1	465	South Africa	10	5188
England	7	2597	Spain	1	2268
Fed. Rep. Germany	9	7287	Switzerland	2	82
France	33	26592	U. S. A.	295	105637
German Dem. Rep.	1	1132	Venezuela	1	143
Greece	2	2216	West Indies	1	31
Hungary	40	8067	Zimbabwe	3	818
Italy	9	1189	TOTAL	481	197832

# TABLE II

State		No.of Obs.	Total Obs.	<u>State</u>		No.of Obs.	Total Obs.
Alabama	(AL)	3	746	Missouri	(MO)	7	2951
Arizona	(AZ)	8	3039	Montana	(MT)	1	12
Arkansas	(AR)	2	87	Nevada	(NV)	2	2020
California	(CA)	29	4515	New Hampshire	(NH)	4	224
Colorado	(CO)	12	7797	New Jersey	(NJ)	10	4429
Connecticut	(CT)	12	2149	New Mexico	(NM)	4	2109
Delaware	(DE)	1	2	New York	(NY)	21	15002
Florida	(FL)	11	3123	North Carolina	(NC)	2	375
Georgia	(GA)	4	153	North Dakota	(ND)	2	276
Hawaii	(HI)	1	845	Ohio	(OH)	21	10083
Illinois	(IL)	18	4294	Oklahoma	(OK)	1	11
Indiana	(IN)	6	1769	Oregon	(OR)	4	60
Iowa	(AI)	3	391	Pennsylvania	(PA)	17	3186
Kansas	(KS)	3	4854	Puerto Rico	(PR)	1	3
Kentucky	(KA)	2	65	Rhode Island	(RI)	3	83
Louisiana	(LA)	3	5147	South Carolina	(SC)	8	1178
Maine	(ME)	1	14	Tennessee	(TN)	3	181
Maryland	(MD)	3	530	Texas	(TX)	10	546
Massachusetts	(AM)	15	4394	Virginia	(VA)	6	5243
Michigan	(MI)	6	1569	Washington	(WA)	4	556
Minnesota	(MN)	4	570	West Virigina	(WV)	1	2110
Mississippi	(MS)	1	83	Wisconsin	(WI)	_15	8863
				TOTAL		295	105637

#### LIST OF SPECIAL REQUESTS DURING FISCAL YEAR 1980-1981

Altschiller, D., Boston Magazine. Information on the AAVSO. Barwig, H., Der Universität München, West Germany. Light curve and listing of individual observations of SU UMa for April

1980, to correlate with high speed photometric data.

Becker, R.H., Columbia University. Light curves and listings of individual observations of the cataclysmic variables WW Cet, RX And, CN Ori, Z Cha, Z Cam, EX Hya, MV Lyr, EM Cyg, and WZ Sge, for correlation with x-ray data from HEAO-2.

Belcher, R., Wayne, NJ. Information on Polaris, to be used in stellar-corrected guidance equipment.

- Berriman, G., California Institute of Technology. Light curves of KT Per, RX And, TT Ari, TZ Per, SS Aur, YZ Cnc, Z Cam, SY Cnc, EX Hya, AH Her, V603 Aql, EM Cyg, AE Aqr, and SS Cyg, for correlation with infrared data.
- Bianchini, A., Universita Di Padova, Italy. Light curves of GK Per, to correlate with spectroscopic observations in order to re-determine its orbital period.
- Bidelman, W., Warner and Swasey Observatory. Chart on AI Sgr, for identification purposes.
- Bille, A., Lincoln Lab. Information on solar flares and AAVSO Solar Bulletin.
- Boyer, M., Philadelphia, PA. Information on Beta Per and Beta Lyr for an astronomy project.
- Brewczak, B., Mt. Clemens, MI. Information on Delta Cep and Beta Lyr for an astronomy project.
- Cassatella, A. ESA, Satellite Tracking Station, Spain. Light curves of CI Cyg, V1016 Cyg, T CrB, SU UMa, U Gem, RU Peg, AB Dra, Z Cam, RX And, V Sge, Omicron Cet, RY Sgr, and MV Sgr, to correlate with UV observations from IUE; information on AAVSO publications.
- Chlebowski, T., Center For Astrophysics. Listing of individual observations (of J. Morgan's) of the new x-ray emitting dwarf nova near Sirius, to correlate with x-ray data from HEAO-2.
- Clark, F., National Bureau of Standards. Light curves of Omicron Cet, R Leo, W Hya, VX Sgr, Chi Cyg, and R Cas, to correlate with observations in radio wavelengths; <u>Bulletin 44</u>, to aid in scheduling of future observations.
- Cohen, M., NASA Ames Research Center. Light curve of V410 Tau, to correlate with data in radio wavelengths.
- Cordova, F., Los Alamos Scientific Lab. Simultaneous optical coverage and immediate notification of outbursts of Z Cam, TT Ari, GK Per, KT Per, HT Cas, and X Leo during IUE observing run in January, 1981.
- Listing of individual observations on TT Ari.

  Information on the long-term behavior of SS Cyg, to assist scheduling of observing run with HEAO-2.
  - Simultaneous optical coverage and immediate notification of outbursts of HT Cas, KT Cas, CN Ori, Z Cam, SY Cnc, RX And, and TW Vir during observing run at Mt. Lemmon in February, 1981.
- Optical data and comments on all cataclysmic variables observed with HEAO-2, for a paper on an x-ray survey of these stars.
- Simultaneous monitoring and immediate notification of outbursts of RU Peg, SS Cyg, EM Cyg, and AH Her during observing run at Kitt Peak in June, 1981.
- Cunningham, E., Hatfield Polytechnic (Observatory), England.
  Light curves of RV Tauri variables TW Cam, RV Tau, SS Gem, U
  Mon, AC Her, R Sct, R Sge, and V Vul.
- Dickinson, D., California Institute of Technology. Information on MY Cep.

- Dunham, D. IOTA. Visual brightness of U Ori, for occultation observations.
- Eason, E., Aerospace Corporation. Light curve of U Gem, to correlate with photometric data of its eclipses.
- Edwards, S., Smith College. Information on and a list of T Tauri stars and other nebular variables in the AAVSO observing
- Long-term light curves of S CrA, T CrA, R CrA, DI Cep, BP Tau, RY Tau, T Tau, RW Aur, GW Ori, V380 Ori, and RU Lup.
- Engels, D., Der Universitat Bonn, West Germany. Light curves of U
- Ori, RS Vir, Y Lup, R Aql, and VX Sgr.
  Evans, A., Univeristy of Keele, England. Light curves of SU UMa. Fabbiano, G., Center For Astrophysics. Simultaneous monitoring of SS Cyg during rocket-flight observations in the far ultraviolet.
- Feast, M., South African Astronomical Observatory, South Africa. Light curves of R Aqr, to correlate with infrared observations.
- $_{ exttt{ iny Historical light curve of and a reprint of a paper on R}}$ Agr.
- Feibelman, W. A., NASA Goddard Space Flight Center. Light curve of CH Cyg, to correlate with ultraviolet observations made with IUE.
- Chart on KR Aur, to be used during IUE observations.
- Harvey, P., University of Texas. Light curve of V1057 Cyg. Hayes, D., Columbia University. Light curve of Omicron Cet, to correlate with linear polarization data near its light maximum.
- Long-term light curve from 1975 to 1981 of Omicron Cet. Light curve of Mu Cep, to correlate with polarization data.
- Hildebrand, R., University of Chicago. See Stiening and Hildebrand.
- Hinkle, K. H., Kitt Peak National Observatory. Light curves of Omicron Cet and R Cas, to correlate with infrared observations.
- \_\_ Light curves of T Cas, R And, R Leo, X Oph, R Aql, Chi Cyg, and T Cep, to be used in determining radial velocities from infrared spectra.
- Hollander, R., Town & Country Magazine. Information on AAVSO and AAVSO observing program.
- Holm, A., NASA Goddard Space Flight Center. Light curve of RY Sgr, to correlate with ultraviolet observations from IUE.
- Horne, K., California Institute of Technology. Light curves of 21 dwarf novae, to correlate with spectroscopic observations made at Mt. Palomar.
- See Szkody and Horne.
- Hudgens, B., Clinton, MS. Some sample light curves and information on AAVSO, to be used in a talk on AAVSO.
- Iijima, T., Osservatorio Astrofisico, Italy. Light curve of V1329 Cyg, to correlate with spectroscopic observations.
- Jensen, K., Los Alamos Scientific Laboratory. Information on the optical behavior of U Eri and U For.
- \_ Light curve of CH Cyg, to correlate with photometric observations.
- Historical light curve of Z And and updated light curve of CH Cyg, to correlate with photometric data.
- Jewell, P., University of Illinois. AAVSO Bulletin 44 and its Supplement, to be used to schedule observations.
- Information on the maxima dates of W Hya and predictions of the forthcoming maxima dates.
- \_\_\_\_\_ Light curve of W Hya. Light curves of Omicron Cet, IK Tau, U Ori, R Leo, W

- Hya, S CrB, WX Ser, U Her, RR Aql, T Cep, and R Cas.

  Johnson, H., Lockheed Missiles & Space Corporation. Light curve of R Aqr, to correlate with ultraviolet observations made with IUE; AAVSO Bulletin 44 and its Supplement, to be used in scheduling future observations
- used in scheduling future observations.

  Kafatos, M., George Mason University. Long-term light curves of the symbiotic stars AX Per, AG Peg, AG Dra, CH Cyg, RW Hya, BF Cyg, Z And, V1016 Cyg, and V1329 Cyg, to correlate with ultraviolet observations made with IUE.

  Kenyon, S., University of Illinois. Historical light curves of 22
- Kenyon, S., University of Illinois. Historical light curves of 22 symbiotic stars, to correlate with spectroscopic observations.
- Light curve of the symbiotic star YY Her, to be used in his Ph. D. thesis.
- Kiplinger, A., NASA Goddard Space Flight Center. Information on dwarf novae in the AAVSO observing program and commitment of AAVSO to simultaneous monitoring, to aid him in obtaining observing time with IUE.
- Further communication on dwarf novae for his forthcoming IUE observing run.
- Krautter, J., European Southern Observatory, West Germany. Simultaneous monitoring and immediate notification of outbursts of dwarf novae during observing run with IUE.
- Light curve of WW Cet, to correlate with ultraviolet observations made with IUE.
- Information on T Tauri stars in the AAVSO observing program, for his forthcoming IUE observing run.
- Lane, A., University of Massachusetts. Light curves of Omicron Cet, U Ori, R Leo, IK Tau, W Hya, VX Sgr, R Agr, U Her, X Cyg, R Cas, TX Cam, and VY CMa, to correlate with observations obtained in radio wavelengths.
- Leake, D., University of Illinois Astronomy Club. Information on the optical behavior and light curve of T UMa.
- Liebert, J., University of Arizona. Notification of the fading of AM Her.
- Mantegazza, L., Osservatorio Astronomico, Italy. Light curves of AC Her, U Mon, RV Tau, and R Sct, to correlate with spectroscopic observations.
- Mason, K., Univeristy of California. General information on the optical behavior of and detailed information on the October, 1980, outburst of U Gem, to predict its next outburst.
- Light curve of U Gem, to correlate with x-ray observations made with HEAO-2.
- Mathieu, R., University of California. Information on T Tauri stars in the AAVSO observing program; long-term light curve of T Tau, to correlate with photographic and photoelectric observations.
- Mazeh, T., Telaviv University, Israel. Light curve of T CrB. Merrill, M., Kitt Peak National Observatory. Light curve and listing of individual observtions and AAVSO finder chart of supernova in M100.
- Michaels, T., Norwich Bulletin, CT. Information on AAVSO and AAVSO observing program, to be used in an article by W. S. Houston.
- Mozurkewizk, D., University of Wyoming. Light curves of the RV Tauri stars RV Tau, SU Gem, U Mon, and V Vul.
- Mundt, R., University of Arizona. Information on V1057 Cyg; historical light curve of T Tau, to correlate with spectroscopic observations obtained with the Multi-Mirror Telescope.
- Oliversen, N., University of Wisconsin. Light curves of AX Per, CI Cyg, BF Cyg, and V1016 Cyg, to correlate with spectroscopic observations.
- Perminas, N., Marlboro College. Information on, identification chart for, and ephemeris of the minima of Beta Per for 1981.

- Pollock, A., University of Birmingham, England. Light curves of V818 Sco (Sco X-1), to correlate with soft x-ray observations.
- Pringle, J., University of Cambridge, England. Simultaneous monitoring of dwarf novae and immediate notification of outburst activity during IUE observing run.
- Rao, N. K., Indian Institute of Astrophysics, India. Information on the optical behavior of SU Tau, SS Cam, and R CrB during an observing run with IUE.
- Schuster, W., University of Mexico. Investigation of a bright object observed in Ophiuchus, which was Neptune.
- Sharp, S., University of Kansas. Long-term light curves of 22 long period and semiregular variables, to correlate with polarimetric data.
- Shylaja, B., Indian Institute of Astrophysics, India. List of individual observations on N CrA 1981, to correlate with spectroscopic observations.
- Sinnott, R., Sky Publishing Corporation. Predicted optical brightness of S Sct for June 5, 1981, for occultation observations.
- Slovak, M., University of Texas. Historical light curve of Z And, to be used in his Ph. D. thesis.
- Spencer, J., Naval Research Laboratory. <u>AAVSO Bulletin 44</u>, for scheduling observations with radio telescopes.
- Starrfield, S., Arizona State Universtiy. Light curve of U Sco; information on AAVSO and its publications.
- Stencel, R., University of Colorado. Identification charts on RX Pup, SY Mus, RW Hya, T CrB, Y CrA, AR Pav, BF Cyg, and RR Tel, to be used during IUE observing runs.
- Stiening, R., Stanford University. Long-term light curves of RX And, TY Psc, EM Cyg, and U Gem, to correlate with high speed photometric data obtained at Mt. Lemmon.
- Identification charts on 15 cataclysmic variables, to be used during an observing run at Mt. Lemmon.
- Further light curves and listings of individual observations of EM Cyg, to correlate with high speed photometric observations.
- Stiening, R. & Hildebrand, R., Stanford University and University of Chicago. Simultaneous monitoring and immediate notification of outbursts of dwarf novae during an observing run at Mt. Lemmon to detect short-term oscillations during outburst.
- Stover, R., University of Texas. Information on the optical behavior of U Gem during its outburst in October, 1978.
- \_\_\_\_\_ Information on the optical behavior of EM Cyg, and predictions of its next outburst, to be used during an observing run at McDonald Observatory.
  \_\_\_\_\_ Light curves of RU Peg.
- Strother, E., Florida Institute of Technology. 1981 Ephemeris for Eclipsing Binaries; AAVSO charts of flare stars.
- Swasenberg, Mr., Astronomy Magazine. Predicted maxima dates of R Hya and R Crv.
- AAVSO Bulletin 44, to be used in articles in Astronomy Magazine.
- Szkody, P., University of Washington. Simultaneous monitoring and immediate notification of outbursts of dwarf novae during an observing run with IUE.
- Identification charts for CY Lyr, CM Del, and V503 Cyg, for observing run at Mt. Lemmon.
- \_\_\_\_\_ Simultaneous monitoring and immediate notification of outbursts of cataclysmic variables during an observing run at Kitt Peak.
- Szkody, P. & Horne, K., University of Washington and California Institute of Technology. Simultaneous monitoring and notification of the behavior of dwarf novae during an

- observing run at Mt. Wilson to observe photometrically the decline of these stars.
- Taylor, G., University of Washington. Light curves of S UMa and V Cnc.
- Travirs, J., NH. Information on the position of the sun on January 2, 1981, to settle a claim in an auto accident.
- Turnshek, D., University of Arizona. Long-term light curves of 18 long period and semiregular variables, to determine phases during special observing program.
- Ukita, N., Institut De Radio Astronomie Millimetrique, France. Light curves of R Cas, R Leo, Omicron Cet, and W Hya, to correlate with observations in radio wavelengths.
- Vogt, N., European Southern Observatory, Chile. Light curves of 36 cataclysmic variables, to correlate with spectroscopic observations.
- Walk, J., U. S. Naval Observatory. Information on the period and optical brightness of Omicron Cet, VY CMa, R LMi, R Leo, W Hya, VX Sgr, and R Cas during their observing runs.
- Wanner, W., Mainz, West Germany. Light curve of UU Aur, for a project in a scientific competition for young people.
- Whelan, J., University of Cambridge, England. Optical behavior of UZ Ser in August, 1980, and information on the magnitude sequence used in the UZ Ser identification charts.
- Willner, S., Center For Astrophysics. AAVSO Bulletin 44, to schedule observations with the Multi-Mirror Telescope.
- Willson, L. A., Iowa State University. Information on optical brightness and phase of Omicron Ceti, R Leo, U Ori, S Vir, and Chi Cyg during specific observing runs.
- Wu, C., Computer Sciences Corporation. Light curves of U Gem, SU UMa, SS Cyg, VW Hyi, and SS Aur, to correlate with ultraviolet observations made with Dutch ANS satellite.

  Immediate notification on the outburst of GK Per, to
- schedule IUE observations.

#### TABLE III AAVSO OBSERVERS 1980-1981

```
AD R. M. Adams, MA
                          1253- 232 BPE P. E. Burke, Australia
ADG G. Adornato, NY
                            17
                                     BUS R. Buss, ND
    W. Albrecht, HI
                           845-
                                   2 BUL T. Butler, MO
                                                                  331
ALG G. S. Aldering, MA
                                   4 CTT T. Campbell, GA
                                                                   6
                            8-
ALS S. Allmand, England
                            41
                                     CWA W. Campney, Canada
                                                                  82
ALL L. Allred, MN
                           200
                                     CJA J.S. Campos, S. Africa 174
AJR J. R. Andress, OH
                            32
                                     CEA*M. Candela, France
                                                                  274
                                                                 397-
AWR R. Andrews, OH
                           105
                                     CAH H. J. Carney, FL
ANN R. J. Annal, CA
                                                                        18 PEI
                          1074-348 CRJ J. Carrington, AR
                                                                  41-
ARI R. B. Ariail, SC
                           842- 208 CJR J. R. Caruso, NY
                                                                  64
                                                                  447
AKT T. Atkin, West Indies
                           31
                                     CIT M. Cavagna, Italy
ATW P. Atwood, CT
                           128
                                                                  12
                                     CYM M. Caylor, CA
                                     CPL*M. Chapellier, France
AUB*M. Aubaud, France
                            41
                                                                    6
                                     CGF G. Chaple, Jr., MA
ADE D. E. Aucoin, Jr., ME
                            14
                                                                 1171
BBU*M. Babeau, France
                            38
                                     CRU*M. Charriaud, France
                                                                   27
BTR T. R. Baker, WI
                                  77 CRK R. K. Childress, TN
                           362-
                                                                    2
BM M. Baldwin, IN
                          1559
                                     CST G. J. Christensen, OR
                                                                   10
BRM R. M. Bales, OR
                             5
                                                                  178-
                                                                         2
                                     CLK W. Clark, MO
BCI C. Barani, Italy
                                                                  101
                            14
                                     CEW E. W. Clement, FL
BBN W. Barbin, PA
                            31-
                                   6 CRH R. H. Clouser, PA
                                                                  10
BDJ*J. C. Bardin, France
                            43
                                     CLB R. Clyde, OH
                                                                  64
BWK W. S. Barksdale, FL
                                 CLO A. Cole, FL
13 COL P. L. Collins, MA
                          1584
                                                                    6
BSF S. F. Barnhart, OH
                                                                  102
                           175-
BSR S. Baroni, Italy
                                     CMG&G. Comello, Netherlands1819-126
                           437
BSP~P. Bartos, Hungary
                           829
                                     CWL W. J. Connor, RI
                                                                  388
BNE N. Bates, IL
                             3
                                     COO L. M. Cook, CA
BB R. S. Bates, MA
                           184
                                     CPB B. Cooper, MN
                                                                    4
                                                                   84-
BAU J. Bauer, W. Germany
                           340
                                     CSD D. Costanzo, VA
BAE A. Beaman, IL
                            17
                                   1 CR
                                         T. Cragg, Australia
                                                                1995- 475
BBA B. B. Beaman, IL
                                  51 CRR R. E. Crumrine, NY
                           580-
                                                                 303
BCJ C. J. Beaman, IL
                            20-
                                  1 CUN D. Cunningham, Canada
                                                                  30
                            66-
                                                                    7
BKY K. E. Beaman, IL
                                   9 DSL L. A. DaSilva, Brazil
BEJ J. Beaver, OH
                           166-
                                   1 DAE~E. Dalos, Hungary
                                                                  134
                          1847
                                     DLT J. Dalton, CT
                                                                         1
BKK K. Beckmann, MO
                                                                  33~
BCB B. Benedict, IL
                             1
                                     DAN~J. Danko, Hungary
                                                                   20
BTY T. Benner, PA
                                  14 DAK K. Danskin, NH
                           369-
                                                                   97~
                                                                         8
BRX R. Beria, Italy
                                     DV G. Davidson, KS
                                                                   22
                            17
BIL G. A. Bilodeau, CA
                            73-
                                  39 DAJ J. Davis, MD
                                                                   16
BIK*G. Birioukoff, France
                           73
                                     DMS M. S. Davis, CT
BKN A. Birkner, IL
                           144
                                     DBF F. Deboosere, Belgium 1038
BGB B. Blagg, TX
                                     DGR R. C. DeGraeve, MI
                            14
                                                                    6
BLD D. Blane, S. Africa
                           140
                                     DCS~L. Deicsics, Hungary
                                                                   24
                                     DEA R. DeMartino, CT DML M. L. Dennis, KY
BNI N. I. Blessinger, GA
                             24
                                                                   29
                                                                   13
BOJ J. Bodenstein, S. Africa 31
BOH D. Böhme, Germany
                                     DMZ~M. Dezso, Hungary
                                                                   34
                          1132
                                                                 1000- 168
BNC C. Bordner, CO
                           146-
                                  23 DMN D. Dierick, Belgium
BRJ J. E. Bortle, NY
                          2109- 685 DRG R. Diethelm, Switzerland 46-
                           310
                                                                  20-
BMU&R. Bouma, Netherlands
                                     DRD R. D. Dietz, CO
                                     DIL W. G. Dillon, TX
                                                                   94
BRG B. J. Bourgeois, TX
                             3
BAP P. A. Bradley, LA
                           223-
                                  41 DCH C. Doerr, OH
                                                                   31
                                  DAG A. Dredge, S. Africa
29 DUS*R. Dubois, France
BRE E. M. Bram, CA
                            38
                                                                    8
                                                                   24
BTB T. C. Bretl, KS
                           153-
BTF T. F. Brien, NV
                                     DGH H. Dugan, WA
                            22
                                                                    1
BLP~P. Brlas, Hungary
                                     DUR*M. V. Duruy, France
                                                                 2602
                             52
BBM B. M. Brown, NY
                             50
                                     DKS S. Dvorak, IA
                                                                   75
                             4
                                     DGP G. Dyck, MA
                                                                    5
BTG T. G. Browning, OR
                                                                        37
BOA*A. Bruno, France
                             85
                                     ECJ J. H. Eckendorf, AZ
                                                                  267-
                                     ECK C. Eckert, W. Germany
                              6
                                                                  268
BJM J. Bruton, PA
BYD R. Bryden, Canada
                            150-
                                  11 EHR E. Ehrhart, CA
                                                                   33
                                                                    3-
BS S. A. Bucaro, IL
                           146
                                     EM G. Emerson, CO
                                                                         7
BDH&H. Bulder, Netherlands 13
                                     FRW W. B. Farrar, Jr., NM
                                                                  108-
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## TABLE III AAVSO OBSERVERS 1980-1981

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HY A. S. Heasley, PA
                                                                   56
FCA C. A. Fausel, MI
                            287
                                     HGT~T. Hegedus, Hungary
                                                                   79
FWA W. Feibelman, MD
                              9 IUE
                                                                 4508-559
FJH&H. Feijth, Netherlands 875-
                                  20 HEF M. A. Heifner, CO
FEP~P. Fenei, Hungary
                                     HRL R. L. Hensley, KY
                                                                   52
                            11
FEN~A. Fenyvesi, Hungary
                                     HJN J. Hers, S. Africa
                                                                  340-
                                                                         38
                             77
FET T. I. Fetterman, NJ 1053-473 HZW W. Herzner, Austria
                                                                    3
                                                                    44
FLT R. W. Fleet, Zimbabwe 611-
                                 42 HES C. Hesseltine, WI
FLG G. Fleischer, Austria
                                                                    42
                            22
                                     HEV~Z. Hevesi, Hungary
FEM E. M. Flynn, IL
                                  10 HE L. Hiett, VA
                                                                 3393
                            438-
FDA~A. Fodor, Hungary
                             16
                                     HSN N. T. Higgs, Zimbabwe
                                                                   37
FD C. B. Ford, CT
                                                                  318-
                                                                         23
                            767- 242 HRI R. E. Hill, AZ
FOJ J. Formo, WI
                                     HSE E. A. Hilts, Canada
                                                                   62
                             2
   G. Fortier, Canada
                                  10 HDI D. E. Hinsman, CA
                                                                    7
                            404-
                                                                  935-
FOU*A. Fournial, France
                                     HIR Y. Hirasawa, Japan
                                                                          6
                             12
FPK P. K. Frank, OK
                                                                  138
                             11
                                     HIK K. Hirosawa, Japan
FAA A. Frosina, Italy
                                                                 1865
                             7
                                     HOH H. Honda, Japan
                                     HON*F. Honnart, France
HOV~G. Horvath, Hungary
HOI~I. Horvath, Hungary
FMG G. C. Fugman, WI
                                                                   22
                             74
                                                                  537
FLZ~L. Fuha'sz, Hungary
                             19
GDB~D. Gabor, Hungary
                                                                  562
                            443
GJW J. W. Garasich, PA
                                     HOU D. Hough, NJ
                                                                   19
                            252
GDR R. J. Gardner, CA
                             21-
                                   1 HU W. S. Houston, CT
                                                                    10
GAZ*J. P. Garsztka, France 89
                                                                    20
                                     HOY*S. J. Hoyle, France
                                                                    83
GEJ&J. Geenen, Netherlands 10
                                     HDB B. Hudgens, MS
GJA A. J. George, Jr., OR 41
                                     H59 J. A. Hudson, CA
                                                                  143
GMG G. Giampaolo, Italy GGI G. Giannotta, Italy
                                                                  2225- 354
                             32
                                     HR C. J. Hurless, OH
                                     HUR G. M. Hurst, England
                                                                  340-
                                                                         15
                             68
GCH R. S. Gilchrist, CT
                                                                   18
                                     IDG D. G. Iadevaia, RI
                             34
GVT V. Giuliani, Italy
                             11
                                                                   321
                                     ITO M. Ito, Japan
GLF F. Glenn, NY
                            565
                                     JCK A. Jackson, OH
                                                                     2
GLW W. Glenn, NY
                                                                   177
                            565
                                      JAG G. Jaeger, WI
GFB W. Goff, CA
                                                                   608
                            264-
                                  99 JM R. A. James, WI
                                      JJT J. T. Jeffrey, CA
                                                                   146-
GDA A. C. Gondola, NM
                             15
                           3878- 619 JOG G. E. Johnson, MD
43 JRV R. V. Jones, NC
GOP P. N. Goodwin, LA
                                                                         23
                                                                   505-
GLM L. M. Gorski, IL
                                                                   311
GFG F. G. Graham, PA
                                                                    2
                              6-
                                   1 JYJ J. Joyce, SC
                            273
                                     KAI~I. Karaszi, Hungary
                                                                    48
GKA K. A. Graham, IL
                                                                        257
GRL B. H. Granslo, Norway 84
                                     KLY G. W. Kelley, Jr., VA
                                                                   596-
GJH J. H. Grant, SC
                             50
                                     KZS~S. Keszthely, Hungary
                                                                     8
GEY E. Greaney, NJ
                             29-
                                                                   211
                                   1 KIR P. E. Kirby, OH
GRW D. Green, MA
                             16
                                     KAE A. E. Klein, Argentina
                                                                     9
GRI J. W. Griese, CT
                                                                    55
                                     KS J. H. Knowles, NY
                              3
GA A. S. Grossman, CA
                                     KOC~A. Kocsis, Hungary
                            998
                                                                   357
                                     KKF K. F. Koehler, AZ
GML M. Grunanger, Austria 140
                                                                   585
GRZ H. Grzelczyk, W. Germany 130-
                                                                    70
                                  14 KLG G. Kohl, AZ
                                                                    36
GNN*M. Guinnebert, France
                             6
                                     KHL M. Kohl, Switzerland
                                     KHJ H. J. Koller, Canada
KRS R. S. Kolman, IL
                                                                   157
GUN*J. Gunther, France
                           2328
GTH T. H. Guo, China
                             28
                                                                    83
GUA~A. Gutai, Hungary
                                     KMA M. A. Komorous, Canada
                                                                    86
                              4
HK E. A. Halbach, CO
                           1184-
                                   20 KOS A. Kosa-Kiss, Romania 1900
HMK M. A. Hall, OH
                             40
                                     KOA M. Koshiro, Japan
                                                                   931-
HMR R. Ham, CO
                           1521-
                                    5 KVI~I. Kovacs, Hungary
                                                                    62
HNN*C. Hanon, France
                                                                   730
                              3
                                      KIS G. Krisch, W. Germany
HTA T. Hansen, CA
                              1
                                      KRK K. L. Krisciunas, CA
                                                                    58
                                                                            PEP
HSG G. Hanson, WI
                           3121-
                                   20 KRU J. Kruta, Czechoslovakia 465
HLP P. Harles, ND
                            165-
                                    1 KPG&G. Kuipers, Netherlands237-
                                                                         18
HRR P. Harrington, NY
                             18
                                     KUR R. Kuplinski, Jr., PA
                                                                     8
HAV R. P. Harvan, PA
                             86
                                      KWD C. Kwadrat, PA
HSB W. Hasubick, W. Germany 3175
                                      LFE E. LaFortune, NY
                                                                    28
                             18-
                                                                    13
                                    1 LAM D. Lam, Canada
HWL W. Hawley, NH
                              4
                                     LAR R. Lambert, TX
HSM M. Hays, Jr., FL
                                                                    84
                           1114-306 LTW T. W. Langhans, CA
HZL L. Hazel, NY
                                                                   245-
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#### TABLE III AAVSO OBSERVERS 1980-1981

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38
LTM T. M. Laskowski, IN
                             46
                                     MCZ C. Munoz, AL
                                     MLZ L. Munoz, AL
                                                                   32
LDR D. Laurent, Belgium
                             64
LKD D. C. Leake, IL
                             39
                                     MJC M. J. Murphy, NC
                                                                   81
                                                                   26
LEB*M. Lebert, France
                            19
                                     MRZ R. P. Muzinich, CA
                                                                   42
                                     MYE K. J. Myers, IN
LFR F. Lee, CA
                            19
                                                                    1
LET*M. Leraut, France
                            18
                                     MYP P. A. Myles, MO
LEV A. J. LeVeque, CA
                                                                   15
                             33
                                     NMA~A. M. Nagy, Hungary
LAJ A. Levesque, Jr., NH
                             72-
                                   1 NRH R. H. Nelson, Canada
                                                                  123-
LVY D. H. Levy, AZ
                           678-
                                                                   58
                                   2 NM M. Newberry, CO
                                                                   12
LMH M. Liller, MA
                             3-PEP3 NWE W. E. Newsome, MT
                                     NBY J. Nordby, MN
LNB G. C. Lindbloom, PA
                                                                  358-
                            546
                                                                  495
LIR R. Lines, AZ
                            61 PEP
                                     NTE E. Norton, MA
                                                                  287
LWT T. Lohvinenko, Canada 132
                                     NTS T. S. Norton, MA
LOS*S. Lorsignol, France 106
                                     OBG G. J. O'Brien, CT
                                                                  115
LEJ E. J. Los, NH
                                     OCN S. D. O'Connor, Canada 67
                             37
LOF F. G. Loso, NJ
                                     OV E. G. Oravec, NY
                                                                 2633
                             14
LX W. M. Lowder, NY
                                     OJR*J. R. Osorio, Spain
                                                                 2268
                          6613
                                     OB M. Overbeek, S. Africa 4325- 151
LJM J. M. Luffman, AR
                            10
                                   3 PAR R. H. Patterson, VT
LKS R. Lukas, W. Germany
                             98-
                                                                    3
                             20
                                                                   11
LUM M. Lunn, England
                                     PLZ L. Pazzi, S. Africa
LYR R. F. Lynch, RI
                                   2 PN A. E. Pearlmutter, MA
                             60-
                                                                  715
MDD P. Madden, LA
                          1046- 690 PEG*C. Peguet, France
                                                                  258
                                                                   64
                                     PNM M. Penn, CT
MEA J. Martin, WI
                              6
MRX H. Marx, W. Germany
                                     PSH S. H. Peters, MI
                                                                    2
                          1950
                                                                   47
MSK K. Mascola, Canada
                           108
                                     PNB~B. Petrohan, Hungary
MTO M. Mateo, TX
                                     PED D. B. Pettengill, FL
                             57
                             48
                                                                    8
MTZ O. Matzek, Austria
                                     PFA J. A. Pfannerstill, WI
                          4162-1967 PEE~E. Peli, Hungary
                                                                   33
MYR E. H. Mayer, OH
MYW E. W. Mayer, Jr., OH 1632-756 PFF G. Pfeiffer, W.Germany 594 MBE B. E. McCandless, DE 2 PHL*A. Philippe, France 20
                              7
                                     PSJ J. Phillips, SC
                                                                    4
MYS S. McCarthy, MA
                                                                   81
MDP P. McDonald, Canada
                              4
                                     PIJ~J. Piriti, Hungary
MKJ J. McKenna, NJ
                            233-
                                   1 PLR R. M. Poole, PA
                                                                  456
                             90
                                                                   15
MKK K. M. McKeown, CO
                                     PTM*M. Porta, France
MSD D. L. Means, IA
                            294
                                     PWR R. E. Powaski, OH
                                                                    6
                                                                   15
MED K. Medway, England
                           1797
                                     PFJ F. J. Price, NY
                                                                   59
MDG D. L. Megginson, MO
                            139
                                     PRI L. H. Price, SC
                                                                   37
MLP P. Mendell, CO
                             92-
                                   4 PRG G. Prosser, S. Africa
MFT F. Mendenhall, Jr., IN
                             15
                                                                    3-
                                     QD P. H. Quadt, CO
MEZ~C. Mezosi, Hungary
                            516-
                                   2 QPF P. F. Quinn, WI
                                                                   40
MHL E. Michaels, Sr., TX
                              4
                                     RRE R. E. Reaves, GA
                                                                  107
                            241
                                     REC C. Reese, MO
                                                                   11
MMA R. A. Mimna, OH
                             95
                                     REH D. Rehner, OH
                                                                   10
MJI J. R. Miner, IN
MIS*J. Minois, France MZS~A. Mizser, Hungary
                           3336
                                     RNT C. C. Reinhart, OH
                                                                   10
                                                                  495
                            581
                                     REN*J. Renault, France
MKZ~Z. Mnyatyinszki, Hungary 3
                                     RIR R. Rieth, W. Germany
                                                                    2
MCE E. Mochizuki, Japan
                                                                        26
                             24
                                     RJI J. I. Riggs, NY
                                                                  462-
MOD D. Mohrbacher, OH
                             69
                                     RTK T. Riopka, Canada
                                                                    8
                                                                    3
MJS~I. Mojdisz, Hungary
                             27
                                     RIP M. Rippel, NM
                                                                   16
MOC~C. Molnar, Hungary
                             47
                                     RWD D. W. Roberts, GA
MOL J. Molnar, VA
                            987
                                     RAR R. Robotham, Canada
                                                                 1114
                                   9 ROR D. A. Rodger, Canada
MAR R. Monella, Italy
                            156-
                                                                   97
                           1036-
                                  22 RMA M. Rodrigues, Australia 35
MOR R. L. Monske, PA
MJ A. C. Montague, MI
                           1143-
                                   2 RPD P. G. Roduta, MA
                                                                   47
                             39
                                     RB D. W. Rosebrugh, FL
                                                                  469
MSO S. Montenegro, Brazil
                                                                    5
                             25 PTG
MAJ A. J. Morehouse, MI
                                     RR R. E. Royer, CA
                                                                  214
                            123
                                     RJF J. F. Ruhl, AZ
MJA J. A. Morgan, WI
                            846- 278 RPH H. Rumball-Petre, CA
                                                                   32
MOJ J. E. Morgan, AZ
                            100-
                                   7 REW E. W. Russell, WA
                                                                    2
MRR C. S. Morris, MA
                                     SGT~T. Sagodi, Hungary
                                                                   16
MOW W. Morrison, Canada
                           3362
                            190-
                                   1 SJB J. Sainsbury, WA
                                                                   13
MUN C. Munford, England
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# TABLE III - AAVSO OBSERVERS 1980-81

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732
                                     THU*M. Thouet, France
SAH G. Samolyk, WI
                          4112
                                     TAN~A. Tolgyesi, Hungary
                                                                1298
SNL J. G. Sandel, SC
                           137
                                     TST S. Toothman, IL
STC G. E. Santacana, PR
                            3
                                                                   q
                                                                 700
                                  5 TCE*C. Torres, France
SRN T. M. Sarna, IL
                            94-
                                     TFN F. Traynor, Australia
                                                                  38
SGR*J. Saugere, France
                           113
SSC S. M. Schimpf, CA
                                     TDM D. M. Troiani, IL
                                                                1777-
                            42
SRD R. H. Schmidt, MN
SMJ J. F. Scholl, NV
                                    TUB~V. Tuboly, Hungary
                                                                 243
                             8
                                                                  27
                          2134PEP, PTG TUC C. Turk, S. Africa
                                                                  13
SDH D. Schroyens, Belgium 31
                                    TDK D. K. Turner, NY
                                     TYS R. L. Tyson, NY
                                                                 225
SCZ*E. Schweitzer, France4946
                           951- 424 UND E. Underhay, CA
                                                                 157
SCE C. E. Scovil, CT
                                10 VCP P. VanCauteren, Belgium 233-
SHS S. B. Sharpe, Canada 2175-
SSV S. Shervais, Jr., VA 168
                                     VED*P. Vedrenne, France
                                                                5876
SRC R.Shinkfield, Australia160
                                     VWD&W. Velde, Netherlands
                                                                2395- 369
                                    VET*M. Verdenet, France
SJA A. Shorten, England
                           102
                                    VWY W. Verhaegen, Belgium VCS C. Vervliet, Belgium
                                                                  67
SLH L. J. Shotter, PA
                           172
SKL K. Simmons, FL
                                                                  18
                            18
                                     VIA*J. Vialle, France
                                                                1304
SKW W. Simmons, FL
                            18
SWZ W. S. Sizensky, CT
                                     VIN J. Vincent, Zimbabwe
                                                                 170-
                                                                         2
                            8
                                                                        52
                                                                 333-
SKN C. R. Skinner, NJ
                            8
                                     VJC J. C. Vlasic, CA
                                                                 131-
SDN D. M. Slauson, IA
                            22
                                     VLJ J. Volhard, WI
SGV G. V. Smith, MI
                           106
                                     VOK K. Volkmer, CA
                                                                  31-
                                                                         1
SHA H. A. Smith, CA SJ J. R. Smith, TX
                                                                  625-
                                                                         1
                            31
                                     VOL W. Vollman, Austria
                                                                  88
                                  5 VYP P. Vuylsteke, Belgium
                            30-
                                                                   1
STL M. B. Smith, NM
                                     WEO E. O. Waagen, MA
                          1983
                                     WGJ G. J. Waffen, OH
                                                                   3
SOD J. Soder, OH
                            5
                                                                  16-
                                                                         1
SOK~M. Somodi, Hungary
                           188
                                     WGM M. S. Wagner, IL
                                                                  24-
SJZ J. Speil, Poland
                           249
                                     WRN R. Warden, PA
                                     WMJ&J. Warmerdam, Netherlands50
SPC C. S. Spell, SC
                            22
                                     WAB B. D. Warner, CO
WNF N. F. Wasson, CA
                                                                 166-
                                                                        10
SLF L. F. Spieth, Jr., CA
                            33
                                                                  35
SPO J. Spongsveen, Norway 377
SC C. E. Spratt, Canada 5657-881 WBB W. V. Webb, OH
                                                                 502
SPG N. G. Spryn, PA
                                     WER R. J. Weber, KS
                                                                 4679- 856
                            12
                           221- 183 WED G. Wedemayer, WI
                                                                  41
STR R. H. Stanton, CA
                                  1 WEM M. Wesolowski, Canada 199-
                                                                         2
SKS T. Steckner, Canada 1064-
                                                                  676
SGP P. Stegmann, NJ
                           154
                                     WEF F. West, AL
                                 19 WTJ J. West, TX
SET C. Stephan, OH
                           392-
                                                                 190
                                                                  12
STF G.Stephanopoulos, Greece 2137
                                     WES R. F. West, IN
                                     WYT T. Weyenberg, WI
SWT R. J. Stewart, NJ
                                                                  14
                            3
                                                                  62
STQ N. Stoikidis, Greece
                            79
                                     WTE E. S. Whitt, SC
SRU R. K. Summers, VA
                                                                 545
                            15
                                     WI D. B. Williams, IL
HUO D. J. Sventek, TX
                                                                 132
                            40-
                                  l WDJ D. J. Williams, TN
                            30
                                                                2989-386
SVN P. Sventek, TX
                                     WLP P. Wils, Belgium
                                     WJA J. A. Wilson, MO
WSN T. W. Wilson, WV
SOZ~L. Szantho, Hungary
                                                                  444
                           308
                                                                 2110- 400
SAO~A. Szauer, Hungary
                            5
SZG~B. Szegedi, Hungary
                             43
                                     WWM W. M. Wilson, TN
                                                                 47
SKB~B. Szoke, Hungary
                                                                 2883
                           870
                                    WNB B. Wingate, NJ
                                     WWR W. R. Winkler, CO
TZR R. Tanzer, NJ
                            33
                                                                  10
TJR J. R. Tavares, Brazil
                            14
                                     WBT B. Wolpert, NY
                            77
                                                                  111
                                     YON R. R. Young, PA
TYR M. J. Taylor, FL
                                     ZAF J. Zaffi, Venezuela
ZAD D. Zak, NY
TLA M. D. Taylor, England 39
                                                                  143
TPS~I. Tepliczky, Hungary 317
                                     ZLT~T. Zalelezsak, Hungary
                                                                   52
TM H. D. Thomas, WA
                            540
TJB J. B. Thompson, FL
                            22
                                     ZJJ J. Zamichiel, Argentina
                                     ZAE*R. Zanni, France
                                                                   53
THR R. Thompson, Canada
                           171
                                     ZLG~G. Zenkl, Hungary
                                                                   19
TRJ R. Thomson, S. Africa 95
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<sup>\*</sup> Member Association Française des Observeurs d'Etoiles Variable

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<sup>&</sup>amp; Member Nederlandse Vereniging Voor Weëren Sterrenkunde, Werkgroep Veranderlijke Sterren (NVVWS, WVS).