ANNUAL REPORT OF THE DIRECTOR OF THE AAVSO FOR THE YEAR ENDING SEPTEMBER 30, 1970

It gives me great pleasure to present my 21st Annual Report as Director of the AAVSO for the year 1969-70. Due to the fine work and enthusiasm of the members and friends of the Association, it continues to grow and flourish.

We were fortunate enough to be able to hire some student help during the year. It was good to be able to take advantage of the Harvard work Study Program, whereby a non-profit organization pays only 20% of the salary. With our extra help we completed the preparation of the material for the 700-day light curves of 461 long period and irregular variables with ranges of more than I magnitude. Barbara Welther of the Smithsonian Astrophysical Observatory set up the program and ran it through the machines for the 10-day means and the plots of the final light curves.

During the summer our student assistants completed the lay-out and lettering of the curves for publication. We have decided to indicate the dates of observed maxima and minima on the plots. As soon as that is completed, with the introduction, Miss Welther's description of the computer program, and an index, we shall be ready to go to press.

The AAVSO Report (No. 28) we are working on contains observations to October 1963, J.D. 2438294, of the long period variables. The next to be published will be the U Geminorum and other rapidly changing variables, for the same interval.

Card punching is continuing at a rapid rate. We now have cards punched through July 1965, another 700 days. In all, we have handled more than 300,000 cards.

SPECIAL REQUESTS. We continue to receive many requests for specific information concerning the variation of stars on our program.

John Broderick of the National Radio Astronomy Observatory asked for current magnitudes of a group of 17 novae. He needed them in preparation for some spectrophotometry he planned to do at Kitt Peak.

U Geminorum is one of the most fascinating stars on our program with its strange and varying shaped eclipses in addition to its alternating wide and narrow erruptions. R. Edward Nather of the University of Texas at Austin wrote that he and Dr. Brian Warner observed nearly complete eclipses on 2 successive nights with an instrumental time resolution of 2 seconds per reading. The data showed a great deal of exciting detail concerning light changes on the very short time scale. They wanted to place these observations in relation to other activities of U Gem and asked for our observations near that time.

Dr. Vanden Bout of Columbia also wanted information on the state of U Gem at the time of their rocket observations of the intensity of the diffuse cosmic X-ray radiation.

Our member Susan Wyckoff, now at the University of Kansas, is analyzing some spectrograms she obtained at Kitt Peak two summers ago, and asked for visual magnitudes on the given dates.

Dr. Neville J. woolf, of the University of Minnesota asked if we could give him a light curve of R CrB covering the whole period of AAVSO observations. We sent him one of our large blueprints, which showed the light curve of R CrB from 1842 to 1964.

Nancy Remage Evans was writing her thesis on the photometry of Mira stars and we supplied her with copies of our plots of AAVSO observations of about 30 stars over the last 5 or 6 years.

Dr. Gerry Neugebauer of California Institute of Technology phoned to ask for our magnitudes of Nova Serpentis on 3 dates when they had received unusual radio signals.

Another phone call came from one of our former young observers in Milwaukee, now Dr. John Neff of the University of Iowa. Dr. Neff needed a light curve of the bright 1969 maximum of Mira.

A Harvard senior, Kenneth P. Bechis used our plots of about 100 long period variables to correlate with observed OH and $\rm H_2O$ radio emission.

Mrs. Susan Geisel of the Lunar & Planetary Laboratory phoned to get current magnitudes for the recent novae.

Drs. Cappellari and McLaughlin of Bellcom had asked for AAVSO cooperation in special observing programs during the Apollo flights. They were very complimentary about the part the AAVSO played.

we have just received a request from Dr. Sobieski of the Goddard Space Flight Center to take part in a cooperative program for the soon to be launched Orbiting Astronomical Observatory. I will follow it up immediately and notify our observers.

MEMBERSHIP. At our Annual Meeting in 1969 we elected one new Sustaining Member and 61 Annual members. At the Spring meeting in Perry, Florida we elected 39 new members and 6 Annual Members changed to Sustaining: Carmine V. Borzeiil, Michael G. Brauer, Harry F. Cochran, Lawrence Hazel, Charles E. Scovil and Robert J. Woolsey.

We regret to report the deaths of 8 members: Frank J. De Kinder, Frank J. Kelly, L. Donald Koons, A. V. Nielsen, Bruce E. Weaver, Roger Weber, Van A. Wilson, Percy W. Witherell.

SUBSCRIPTIONS TO PUBLICATIONS. Thirty-seven observatories and scientific libraries subscribe to our publications, and several others subscribe to certain items, such as Bulletins, Abstracts, Reports and Solar Bulletins.

REQUESTS FOR INFORMATION. We continue to receive many requests for information about the work of the AAVSO. Some of these result in new members but the majority are from school children who are working on projects (often due the next week!). We answered more than 830 requests this year.

LIBRARY. Between 400 and 500 items are received for the McAteer Library each year. Carolyn Hurless spent some days in Cambridge again this summer and continued her work on cataloging and labeling the books. We now have a card catalogue for most of the astronomical books on the shelves.

PUBLICATIONS. In the fall we published the Annual Report of the Director, Treasurer, Endowment Fund and other Committees. The first of the year we published a new membership list, a list of officers and committee members; a Julian Day Calendar; Bulletin 33, Predictions of Dates of Max and Min for 1970; and Bulletins 33A and 33B, graphical predictions for fainter than 13 and brighter than 11, prepared by Clinton B. Ford, and John E. Bortle, respectively. Two AAVSO Abstracts, papers presented at the Fall and Spring Meetings; and 3 numbers of News Notes by Carolyn Hurless were published.

Each issue of the Journal of the Royal Astronomical Society of Canada contains a list of observers and their monthly totals in addition to a short article or notes on activities of some of the interesting variables.

Casper Hossfield publishes the Solar Bulletin, which contains interesting notes on Solar activities and reproduces tracings of many recordings of solar flares.

Sky and Telescope publishes for each month, a list of variables which reach maxima of at least 8th magnitude, and the daily sunspot numbers as determined by the Solar Division.

The eclipsing binary and RR Lyrae Committees sent bi-monthly bulletins to their observers, with predictions of times of minima.

The Handbook of the RASC publishes our special predictions of times of minima of Algol and dates of maxima of a selected list of long period and other bright variables. Other predictions of dates of maxima are done for C.L. Johnson and his Celestial Calendar & Handbook.

The publication of a revised edition of our Manual for Observing Variable Stars was helped by a gift from Clinton B. Ford. The Manual is sent to new members and to prospective members who have good observing equipment. We had 2 tables printed at the same time, on separate sheets: the official IAU list of constellation names and abbreviations, and a table for converting hours and minutes to 4 decimals of a day.

ANNUAL SUMMARY OF OBSERVATIONS. We received 1469 reports from 312 observers containing 104,654 observations. Our overall total of observations is now a little over 2,900,000. We should pass our 3,000,000 mark some time in our 60th Anniversary year, 1971.

Regular monthly reports were received from 43 observers, 13 missed 1 month and 11 missed 2 months during the year.

Table I lists the countries with the number of observers and observations from each. Table II gives a breakdown of the U.S.A. by states.

Table III lists all observers in the year 1969-70 in order of their year's totals. We give the code initial for each observer and his total number of observations, followed by S and a number if he made Inner Sanctum observations (fainter than 14), PEP if the observations were photoelectric, or Ptm if some or all observations were from photographs. Forty-three observers made 5420 Inner Sanctum observations, Howard Landis and Ted Szybowicz made photoelectric observations; and Charles Scovil and H.E.M. Specht sent estimates made from photometric plates.

We had a surprise with our top observer this year. Wayne Lowder jumped from 8th place last year, with 3915 observations to 1st place with 5714 (30 Sanctums) this year. In addition to his observing, Mr. Lowder has spent many hours searching the literature for information on more variables to be added to our program and has worked with Clinton Ford on the new charts. He was followed by Curtis Anderson with 5,128 (208 Sanctums), John Bortle with 4,719 (2 Sanctums), Thomas Cragg, 4,550 (899 Sanctums), Lancaster Hiett, 4,362 (2 Sanctums), Carolyn Hurless, 4,166 (855 Sanctums), Rainer Lukas, 3,139, and Clinton Ford with 3,048 (598 Sanctums). Twenty-four observers made more than 1,000 observations each. Of the 10 top observers, 7 made some Inner Sanctum observations.

<u>PERSONNEL</u>. I want to thank our AAVSO Assistant, Mrs. Florence C. Bibber, for her continued help with the office and Association affairs. Thanks, also to our student help, especially to Dennis Haworth, a Northeastern University student who spent his 3-month winter work period working for us and is now back for his 6-month work period. Harvard student Stuart Zeiger worked during the 1969-70 school year and is back again for the 1970-71 term. James Gadsden and Michael Jacobson of Harvard worked during the Spring. In the summer we had 2 more Harvard students Randolph Hudson and Peter Bernhard. Eric

Total 219 72,092

TABLE I - COUNTRIES

			THOUGH I	CO.	DIVINIES				
Country		No. Observers	Total Obs.		Country		No. Observers		Total Obs.
Argentina 2		2	2,850		Korea		1		117
Australia 3		3	1,790		Mexico		i		75
Belgium		ī	63	Netherland Ant.		i		29	
Brazil		4	245		Pakistan		i		51
Canada		19	3,577 Peru		1		11		
Dominican Rep.		1	7		Rhodesia		1		277
Eire	•	1	22		S. Af	rica	1		2,921
France		1	290		Switzerland		2		2,237
Greece 2		2	460		U.K.		23		4,225
Hungary 13		13	4,440		U.S.A.		219		72,092
Italy	· ·		10 W. Germany		rmany	10		8,043	
Japan		2	822		Total		312		104,654
			TABLE II - UN	l Ti	ED STATES	1			
Alabama	1	313	Maryland	2	194	Pennsylva	nia	13	1,256
Artaons	3	432	Massachusetts 1	3	555	Puerto Ri		1	10
California	18	5,95 8	Michigan I	0	1,402	Rhode Isla	and	2	36
Colorado	2	18	Minnesota	2	5,494	South Care	olina	1	5
Conn.	14	4,189	Missouri	5	2,750	Tennessee		1	30
Florida	14	4,516	Montana	3	1,358	Texas		11	1,709
Georgia	2	72	N.H.	3	356	Vermont		1	32
I daho	1	63	New Jersey	7	253	Virginia		4	4,845
Illinois	9	2,045	New Mexico	2	433	Washington	n	2	843
Indiana	2	174	New York 1	8	17,577	West Virg	inia	1	106
lowa	1	782	North Carolina	2	1,337	Wisconsin		7	1,335
1 1	^	ol.	AL 1 a	•	11 001				

TABLE III - AAVSO OBSERVERS

2 223

Ohio 33 11,291

24

76

Oregon

2

2

Maine

Louisiana

1	ŁX	Wayne M. Lowder, N.Y.	5,714	S	. 30	21 MTV Victor Matchett, Austral.1,566	
2		Curtis Anderson, Minn.				22 BJ James Banks, N.C. 1,330	
		John Bortle, N.Y.	4,719		2	23 HK Edward Halbach, Wisc. 1,055 \$ 15	51
4	CR	Thomas A. Cragg, Cal.	4,550	5	899	24 LNS Ivars Lenss, Michigan 1,026	
5	HE	Lancaster Hiett, Va.	4,362	S	2	25 KSZ A.Keszthelyi, Hungary 979	
6	HR	Carolyn Hurless,Ohio	4,166	S	855	26 NGY S. Nagy, Hungary 974	
7	LKS	Rainer Lukas, W. Germany	3,139			27 CCR Harry F. Cochran, Texas 891 S 1	3
8	FD	Clinton Ford, Conn.	3,048	S	598	28 LS Diane Lucas, Ohio 883 S 16	1
9	DK	Reginald deKock, S.Afr.	2,921			29 HUB Russell Hubbard, Wash. 829	
10	VAM	Mario Vattuone, Arg.	2,789			30 KIS Gunther Krisch, W. Germany 824	
11	KOJ	0.J. Knox, U.K.	2,724	S	48	31 ODA Donald A. Ortwein, N.Y. 805	
12	OV	Edward G. Oravec, N.Y.	2,593			32 CDE John B. Calder, Canada 785	
13	HZL	Lawrence Hazel, N.Y.	2,511	S	21	33 HDG Richard Hodgson, lowa 782	
14	AD	Robert M. Adams, Mo.	2,278	S	622	34 ISH T. Ishihara, Japan 749	
15	MYR	Ernst Mayer, Ohio	2,268	S	189	35 SB Robert Swanberg, Montana 749 S 13	4
16	THE STATE	Marvin Baldwin,Ger.	2,105			36 MJ Allen Montague, Mich. 684 S	1
17	Ρ	Leslie C. Peltier, Ohio	2,094	S	1149	37 HEE Erwin Heiser, W.Germany 667	
18	LK	Kurt Locher, Switzer.	2,087	S	7	38 GSR Ralph Geschwind, Ohio 634	
19	BQ	Lewiss Bartha, Hungary	1,817			39 LNB George Lindbloom, Penn. 631	
20	FE	Cyrus Fernald, Me., Fl.	1,724			40 GRN Jerome Green, Florida 611	

```
41 KPP Pat Knupp, Montana
                                    604
                                                 96 DKF Manfred Durkefalden, W.Ger, 145
42 TPR Raymond Thompson, Canada
                                    590
                                                 97 HTM Frank Heitmann, Texas
                                                                                    142
43 COB Ben Conner, Illinois
                                    588
                                                 98 HP Walter Hampton, Conn.
                                                                                    128
44 DAW Murray Daw, Florida
                                    569
                                                 99 HEN Colin Henshaw, U.K.
                                                                                    121
45 RB D.W. Rosebrugh, Fla.
                                    509
                                                100 BRB Barry Brown, Penn.
                                                                                    118
46 BAU Johann Bauer, w. Germany
                                   484
                                                101 KLP Dennis Kolpanen, Korea
                                                                                    117
47 MLM Martin Miller, Calif.
                                                102 WLM Thomas Williams, Conn.
                                   439
                                                                                    114 5
48 STF G.Stephanopoulos, Greece
                                   420
                                                103 EL James Ellerbe, Saudi Arabialli
49 DAL David Dalegowski, Ariz.
                                                104 HST Robert Hastings, Penn.
                                   416 s
                                            2
                                                                                   111
50 CTB Brian A. Carter, U.K.
                                                105 DWN Dennis Dawson, Indiana
                                   407 S
                                                                                   108
51 LGH Herbert Lange, Canada
                                                106 GLG George W. Gliba, Ohio
                                   407
                                                                                   107
52 SKL Karl Simmons, Florida
                                                107 HTD Donald J. Hutter, Penn.
                                   400
                                                                                   107
53 MRK Harold Marx, w. Germany
                                                108 WSN Thomas Wilson, W. Va.
                                   392
                                                                                   106
54 SCE Charles Scovil, Ct. Ptm
                                    388 5 118
                                                109 BRD Ralph Braid, Illinois
                                                                                   105
55 KRK K.L. Krisciunas, 111.
                                                110 DOK Kenneth Delano, Mass.
                                   378
                                                                                   105
56 BLN Thomas Balonek, N.Y.
                                                     MF Frederick Montague, Mass.
                                   366
                                                                                   105 S
57 BUW Russ Buhrow, Minnesota
                                                112 ZMM Dennis Zimmerman, Ohio
                                   366 s
                                           21
                                                                                   105 S
58 SWR Richard Sweetsir, Fla.
                                                113 MAG Gideon Mark, Illinois
                                   359
                                                                                   104
59 MOP Patrick Moore, U.K.
                                                114 REZ Everett Randall, Fla.
                                   358
                                                                                   104
60 KHJ Herbert Koller, Canada
                                                115 HNG Gregory Henry, Ohio
                                   351
                                                                                   102 S
61 FRW Walter B. Farrar, N.M.
                                                116 WBD Donald F. Weber, Ohio
                                   346
                                                                                   100
62 JT Robert Johnston, Canada
                                                117 NLT Richard Nolthenius, Cal.
                                   315
                                                                                    99
63 RNR Lynn O. Raynor, N.H.
                                                118 PAN R.W. Payne, U. K.
                                   297 S
                                           10
                                                                                    98
64 OF A. Oberstatter, France
                                                119 DLT John E. Dalton, Conn.
                                   290 S
                                            3
                                                                                    97
65 MAA Russell Maag, Missouri
                                   281 S
                                                120 FS David Florkowski, Mich.
                                            2
                                                                                    96
66 AJR J. Robert Andress, Ohio
                                   280
                                                121
                                                     AR S.R. Anderson, Virginia
                                                                                    95 S 27
67 BI R.H. Bicknell Rhodesia
                                                122 MUR Paul Murn, Wisconsin
                                   277
                                                                                    95 S
68 LVR Rick Lavery, Canada
                                                123 PTI Noel Peattie, California
                                   272
                                                                                    90
69 CK Stephen Cook, Calif.
                                   264 S
                                                124 WLK Karl Walke, W. Germany
                                            3
                                                                                    90
70 SKR Eric Simpkins, N.Y.
                                                125 KNV Jeno Kunovits, Hungary
                                   262
                                                                                    89
71 BRG Benjamin Bourgeois, Texas
                                   259
                                                126 SSA Albert Sharpless, Fla.
                                                                                    89
72 WLL Hoy J. Walls, Texas
                                   255
                                                127 CCK Ryan Cook, New Mexico Li
                                                                                    87
73 CNT Dean Chantiles, N.Y.
                                                128 RNN Thomas Renner, Wisconsin
                                   249
                                                                                    86
74 SZV Peter Szilvay, Hungary
                                                129 NBY John Nordby, Minnesota
                                   247
                                                                                    83 $ 29
75 TAK Peter Takats, Canada
                                                130 CRY James D. Currie, Ohio
                                   226
                                                                                    81
76 CKE K.E. Chilton, Canada
                                                131 HPT Gary Hampton, Florida
                                   222
                                                                                    80
77 PHJ John F. Phillips, Alabama
                                   222
                                                132 AND Mark Anderson, Texas
                                                                                    79
78 MM Francis Morgan, Canada
                                                133 GRC Andrew Granc, Australia
                                   215
                                                                                    76
79 BRK James Brooks, Virginia
                                                134 HU Walter S. Houston, Conn.
                                   210
                                                                                    75
80 ILS John E. Isles, U. K.
                                   203
                                                135 TB Domingo Taboada R., Mexico 75 S
81 FLR Dale B. Fuller, Maryland
                                                136 UND ErNIE Underhay, Calif.
                                   192
                                                                                   •75
82 GTG Conrad Gottig, W. Germany
                                                137 HIR Yasuo Hirasawa, Japan
                                   189
                                                                                    73
83 GAL Peter Gal, Hungary
                                                138 MRE Edwin Morris, Alabama
                                   184
                                                                                    72
84 HAE Ernie Hatai, Calif.
                                   180
                                                139 BLU Bruce Blundell, New York
                                                                                    71
85 MOR Robert Monske, Penn.
                                   179 s
                                                140 VNY Douglas Varney, Maine
                                          11
                                                                                    71
86 KLY George W. Kelley, Va.
                                                141 CON Tom Coan, Oregon
                                   178
                                                                                    70
87 SHA Horace A. Smith, Conn.
                                                    HY Allen Heasley, Ohio
                                                142
                                                                                    69
                                   173
88 RND Donald Rosenfield, Brazil
                                   166 s
                                                    RW G.O. Rawstron, U. K.
                                                                                    69
                                          11
89 FR Edwin E. Friton, Mo.
                                                144 PKY James Posakony, Calif.
                                                                                    68
                                   162
90 RNT Charles Reinhart, Ohio
                                                145 LND Howard Landis, Georgia
                                   159 S
                                                                                    66 PEP
91 MJR Jerald Mishler, Oregon
                                                146 LNM Chris Linamen, Indiana
                                   153
                                                                                    66
                                                147 NEL George T. Nelson, Calif.
92 DRG Roger Diethelm, Switzerland 150 S
                                                                                    65
93 PN Arthur Pearlmutter, Mass.
                                                148 DMT Th. de Menten, Belgium
                                   150
                                                                                    63
94 SRC R.C. Shinkfield, Australia
                                               149 KNZ Robert C. Krenz, Idaho
                                   148
                                                                                    63
                                               150 SVN Paul Sventek, Illinois
95 MRR Charles S. Morris, Mich.
                                   147
                                                                                    62
```

```
151 BZC Carmine Borzelli, N.J.
                                                206 LAR Randy Lambert, Texas
                                     61 5 6
                                                                                      19
 152 CF Frank Chapman, N. Y.
                                     61
                                                207 KMB Stephen Kimble, Alabama
                                                                                     19.
 153 AWC Charles Aronowitz, N.J.
                                                208 SH H.E.M. Specht, Conn.
                                     60
                                                                                     19 Ptm
 154 BKN Alan Birkner, Illinois
                                     58
                                                209 VOS E.J. Voss, U. K.
                                                                                     19
 155 SSL Michael Seslar, Conn.
                                                210 BZY Tibor Barczy, Hungary
                                     57
                                                                                     18
 156 RHY Hyman Roche, New York
                                     56
                                                211 CNG Michael Cunningham, Missouri
                                                                                     18
 157 GHL Harold Gaughran, N. Y.
                                                212 MZK Kenneth Menzies, Mass.
                                     55
                                                                                     18
 158 AK Carl Anderson, N.H.
                                     54
                                                213 BLZ Karl S. Baltz, Texas
                                                                                     17
 159 ARS Kamal Arsalan, Pakistan
                                                214 SZB Andrea Szabo, Hungary
                                     51
                                                                                     17
 160 ASH Steven Ashe, New York
                                     48
                                                215 MLC J.D. MALCORM, U.K.
                                                                                     17
 161 GNT Paul Gruntmeyer, Mass.
                                     48
                                                216 MRI Charles Morris, Canada
                                                                                     17
 162 GAY Mark Gaydos, Ohio
                                     47
                                                217 CNS Martin G. Connors, Canada
                                                                                     16
 163 BLC Omar Blanco, Argentina
                                     45
                                                218 RNG M.J. Ring, U. K.
                                                                                     16
 164 HAN James Hannon, Conn.
                                                219 SAW D.R.B. Saw, U. K.
                                     45
                                                                                     16
 165 PTN Erich Petersen, Mass.
                                     45
                                                220 SEM Marcos Severin, Argentina
                                                                                     16
166 GJT John T. Goodwin, Mass.
                                                221 FLM Richard Fleming, Colorado
                                     42
                                                                                     15
167 MSP Paulo Mourilhe S., Brazil
                                                222 RMM Michael L. Ramsey, Ohio
                                     42
                                                                                     15
168 ELD Demetrius Elias, Greece
                                     40
                                                223 RQ Charles L. Ricker, Michigan
                                                                                     15 S 3
169 AJ Joseph Anderer, Illinois
                                                224 WJW J.Wayne Wooten, Florida
                                     39
                                                                                     15
170 CE Claude Carpenter, Calif.
                                                225 FIS Gary Fisher, Florida
                                     38 s 38
                                                                                     14
171 HGM Michael E. Hogan, Canada
                                                226 GUZ Leonard Guzenski, N.J.
                                     38
                                                                                     14
172 TOT Tibor Torma, Hungary
                                                227 KPL Paul Kneipp, Louisiana
                                     37
                                                                                     14
123 HTN Katherine Hutton, Pa.
                                     36
                                               228 SPN A.Phillips Simpson, Calif.
                                                                                     14
174 KS Jeremy Knowles, Michigan
                                     35
                                               229 SNY Bill Snyder, Michigan
                                                                                     14
175 SMI A.L. Smith, U.K.
                                               230 SOM Clara Somogyi, Hungary
                                     35
                                                                                     14
176 RDJ Jeannine Roediger, Ohio
                                     34
                                               231 REL David Reel, Washington
                                                                                     14
177 SBF B.Franklyn Shinn, Canada
                                     34
                                               232 WLA Alan Wilson, Canada
                                                                                     14
178 STR Richard Stanton, Calif.
                                               233 SST Calvin Sistrunk, Florida
                                     34
                                                                                     13
179 MCS Miklos Mecs, Hungary
                                               234 DHG George Diedrich, Ohio
                                     33
                                                                                     12
180 ORW R. Wade Ortel, Vermont
                                               235 FRN A.E.J. Forno, U. K.
                                     32
                                                                                     12
181 VBN David Van Buren, N. Y.
                                               236 MAL Robert MacLaren, Wisc.
                                     32
                                                                                     12
182 FT G.L. Fortier, Canada
                                               237 MHL Edward Michaels, Texas
                                     31
                                                                                     12
183 RDA Nancy Rodda, Penn.
                                               238 SKM Michael Sakarias, Calif.
                                     31
                                                                                     12
184 RYC Stanley Ryckman, Mass.
                                               239 ES V. Estremadoyro R., Peru
                                    31
                                                                                     11
185 HAG Michael Haglund, Tenn.
                                               240 RR Ronald Royer, California
                                    30
                                                                                     11
                                                                                        S 1
186 ROG Gary M. Ross, Michigan
                                               241 YON Robert R. Young, Penn.
                                     30
                                                                                     11
187 TLA M.D. Taylor, U. K.
                                    30
                                               242 WJA James A. Wilson, Missouri
                                                                                     11
188 CAS B.G.Casseres, Neth.Ant.
                                               243 BLR Rodney C. Blixt, Calif.
                                    29
                                                                                     10
189 DS J.M.L. da Silva, Brazil
                                               244 CLT Tiziano Colombo, Italy
                                    29
                                                                                     10
190 WIN G. Winstanley, U. K.
                                               245 KNG Paul Kangieser, Arizona
                                    29
                                                                                     10
191 ATW Philip Atwood, Conn.
                                               246 LYT Thomas Lawry, Louisiana
                                    28
                                                                                     10
192 MRD James Muirden, U. K.
                                    28
                                               247 LYR Richard F. Lynch, R.I.
                                                                                     10
193 SZY Theodore Szybowicz, Mich.
                                               248 MUL Thomas Mulligan, New York
                                    28 PEP
                                                                                     10
194 BSV Sheila Bishop, Ohio
                                               249 PAL Robert Paul, Canada
                                    27
                                                                                     10
195 PF Frederick Pilcher, 111.
                                               250 RCP Curtis Rinsland, Penn.
                                    27
                                                                                     10
196 TUE Edward Turco, R. I.
                                               251 STC Guido Santacana, Puerto Rico 10
                                    26
197 MSY Philip Massey, Florida
                                               252 CUT Brian Cuthbertson, Texas
                                                                                      9
                                    23
198 WRW William Werner, Ohio
                                               253 SZ Csaba Szekely, Hungary
                                                                                      9
                                    23
                                                                                      8
199 FSO G. Felso, Hungary
                                               254 DEM Marcio de Mattos, Brazil
                                    22
200 SCN Tom S. Schanken, Ohio
                                               255 EPC Chet B. Eppert, Penn.
                                                                                      8
                                    22
201 SC Christopher Spratt, Canada
                                               256 LNH Joachim Langhoff, W. Germany
                                                                                      8
                                    22
                                                                                      8
                                               257 KTY Terry Kesler, Ohio
202 WRD Colm Ward, Eire
                                    22
203 LAN Vaughan Landless, U. K.
                                               258 NRW D.J. Northwood, U. K.
                                                                                     8
                                    21
204 MAT Michael Matson, Texas
                                               259 PWR Ronald E. Powaski, Ohio
                                                                                      8
                                    21
205 GLW William H. Glenn, New York 19
                                               260 BEK Inez Beck, Ohio
                                                                                      7 S 3
```

```
261 BTL Herbert Butler, Michigan
                                             287 RYN Terence Ryan, New Jersey
                                        7
262 HLY Michael Healey, Connecticut
                                             288 ALO John J. Aiello, Connecticut
                                       . 7
                                                                                        4
263 HRY John P. Hrycak, Canada
                                             289 GDK Joel Goldstick, Michigan
                                        7
                                                                                        4
264 LBT Mike Lambert, Ohio
                                             290 SBY Betty Stephenson, Ohio
                                                                                        4
265 MHA Pedro Marchena, Dominican Rep.
                                             291 DCK Richard Dickson, Colorado
                                                                                        3
266 WMS Dewey R. Williams, N.C.
                                             292 GLF Florence R. Glenn, New York
                                                                                        3
                                        7
267 BRT Timothy Brown, Arizona
                                             293 HDZ Randy Hudzinski, Wisconsin
                                        6
                                                                                        3
268 EDG Brian Edgerton, Conn.
                                        6
                                             294 RWL Dennis A. Rowley, New York
269 HLC Chandler Holton, Georgia
                                        6
                                             295 SEV John Sevcik, Penn.
                                                                                        3
270 LVF Frederick Levins, Ohio
                                             296 SPE George Spencer, Ohio
                                        6
                                                                                        3
271 KAN Kevin Kane, Ohio
                                        6
                                             297 MTM Michael Mattei, Mass.
                                                                                       2
272 MSS Stephen Mesics, Penn.
                                        6
                                             298 MLL Jay H. Miller, Maryland
                                                                                       2
273 PIC D.A. Pickup, U. K.
                                        6
                                             299 MIL Jeff Miller, California
                                                                                       2
274 TAY Peter O. Taylor, Florida
                                        6
                                             300 PES David Pesec, Ohio
                                                                                       2
275 BLY Gregory E. Bailey, Canada
                                        5
                                             301 PUT Randal A. Putnam, California
                                                                                       2
276 BOW Jeff Bowman, Penn.
                                        5
                                             302 WLT Alan M. Wellington, Mass.
                                                                                       2
277 BGS Georgette Burgess, Maine
                                        5
                                             303 BRC Harold G. Brock, Ohio
                                                                                       1
278 DLF Frank Des Lauriers, N.H.
                                        5
                                             304 CBN John Coben, Ohio
                                                                                       1
279 DHD DeLorne Diedrich, Ohio
                                        5
                                             305 ENG K. England, U. K.
                                                                                       1
280 FRC Martin F. French, U. K.
                                        5
                                             306 HAW Dennis E. Haworth, Mass.
281 HAL Ralph Hall, South Carolina
                                        5
                                             307 JCC Luigi Jacchia, Mass.
282 LPT James LaPrath, Montana
                                        5
                                             308 LRT S.R. Larter, U. K.
283 MLW Lawrence Martin, Texas
                                        5
                                             309 LVG George Lovi, New Jersey
284 MA Margaret Mayall, Mass.
                                        5
                                             310 MOO E.G. Moore, U. K.
285 MCN Peg McCrindle, Ohio
                                        5
                                             311 SHT Steven B. Shelton, N. J.
                                                                                       1
286 MON Robert Moreno, California
                                        5
                                             312 TOL Jim Toeller, Wisconsin
```

Petersen and his younger brother Armin worked during Christmas vacation and again for the summer. Debra and Kathi Childs filled our summer roster. This winter we have 3 MIT students: Marcia Keyes, who spent the summer at the Maria Mitchell Observatory, John Johl and John Napier, in addition to Dennis and Stuart.

I particularly want to thank our AAVSO'ers Arthur Pearlmutter who stopped by the office many Friday afternoons to pick up a box of work he could take home for the weekend, and Kenneth Menzies who dropped in many weekends to help with plotting observations.

Owen Gingerich and the Smithsonian Astrophysical Observatory have made it possible for us to change our system of collating observations for publication to a punch card system, with the help of Barbara Welther.

To them and the officers and members of the AAVSO my very best thanks.

Respectfully submitted,

Margaret W. Mayall, Director