Annual Report of the Director for Fiscal Year 2003–2004

Elizabeth O. Waagen, Interim Director
AAVSO Headquarters, 25 Birch Street, Cambridge, MA 02138

We have had a uniquely difficult and sorrowful—but also very active and fruitful—year.

The great tragedy of the year for the Association was the illness and untimely death of AAVSO Director Janet Akyüz Mattei on March 22, 2004. In the wake of this great shock, a united effort by the AAVSO Executive Board, Council, and Headquarters staff resulted in two enormous accomplishments: the process to choose the next Director of the AAVSO was created and implemented, and Headquarters operations continued to function reasonably normally, with nearly all season-appropriate programs, projects, and tasks carried out.

I am very pleased to report that a long-sought goal was reached this year in the completion of the NASA-funded AAVSO Validation Project on-time and on-budget. Now, with nearly 10 million observations in the AAVSO International Database—the majority of the database—validated and available online for automatic download, researchers, educators, and students have instant electronic access to AAVSO data at their convenience.

We reached a milestone this year in the addition of the 11.5 millionth observation to the AAVSO International Database. Other highlights of the year include: addition of a new and powerful server to accommodate CPU-intensive services for the website and the staff; start of processing Wayne Lowder's 95,000 previously-unreported observations; continuing site-wide increase in the usage of the AAVSO website; creation of three "Variable Star of the Season" presentations for the website; response to a record number of requests for AAVSO data (over three times last year's record total); addition of a record high number of observations to the AAVSO International Database; prolific production of excellent new and revised charts; excellent progress on the AAVSO Comparison Star Database Project; substantial progress on the AAVSO Archives Project; expansion of the AAVSO High-Energy Network through NASA funding to add sites, analyze data, and publish results; and a very successful joint meeting—AstroCon 2004—in California in July with the Astronomical League, Astronomical Society of the Pacific, Association of Lunar and Planetary Observers, and three local astronomical societies.

Below I will summarize these and other activities of the Association and our operations.

1. Internet presence

1.1 AAVSO website

AAVSO website usage continues to increase, as it has every year since our first site went online. We continually hear praise for the excellence of the website from

many-sometimes unexpected-quarters. The most popular pages continue to be the light curve generator, the chart search engine, the quick look file, and WebObs.

Below are some of our achievements this year in adding to and updating our website:

Educational Tools and Science Pages: Variable Star of the Season articles "UV Ceti and the Flare stars," "Markarian 421," and "Delta Scuti and the Delta Scuti Variables" were published; new software WWZ, PCObs 2.0, and Magplot 2.0 were released; the specialty star web page for Eta Carinae was updated; pages for N Sgr 04, N Oph 04, BZ UMa, Var Her 04, N Sco 04, and N Sco 04#2 were created; "AAVSO in print" was updated with new papers; the solar photo gallery was enhanced with many more photos; data validation project progress was updated continually on the home page; poster papers given by staff at meetings were placed online in pdf format; BZ UMa campaign results were placed online.

Observing Aids: NMO (Needs More Observations) planning tool was added to the AAVSO Bulletin page each month; comparison star list for RR Lyr CCD observers was updated; a great many new charts were placed online; "Introduction to Variable Star Observing" powerpoint presentation in Spanish was placed online; the AAVSO Suspected Variable Star database was updated; the *CCD Observing Manual* was updated; Robert Nelson's Eclipsing Binary O–C files (over 1,300 files) were placed online; a new Near-Infrared Photoelectric Photometry Section of the website was created.

AAVSO/Membership Interest: a tribute to Janet Mattei on her 30th anniversary as Director was placed online, as were a memorial page for former AAVSO volunteer Katherine Hazen; Observer Totals from 2002–2003; the 2003 Annual meeting archive with photo gallery and more; the announcements for the Spring 2004 meeting and for the AAVSO Symposium on Mira Companions and Planets; member/observer profiles and web pages for Monsignor Ronald Royer and Albert Jones; a book review by Dorrit Hoffleit on Hokuloa: The British 1874 Transit of Venus Expedition to Hawaii; a web page for minor planet "Huziak"; the Janet Mattei memorial web pages; the Janet A. Mattei Research Fellowship Program web page; Aaron Price's paper on "Blurring the lines: Amateurs as Observers and Data Analysts"; a job advertisement for the position of AAVSO Director; the AAVSO By-Laws; the 2004 Spring meeting archive, including photos, talks, schedule, and more; the "Observation Usage Reports" web page; the announcements for the Janet Mattei Memorial events and the 2004 Annual Meeting; a new online store.

Director Search: A restricted-access section of the AAVSO website was created for Director job candidates that included information on the AAVSO staff and other information about Headquarters.

Publications added to the AAVSO website: *AAVSO Newsletter 30*; *AAVSO Bulletin No. 67* for 2004; *AAVSO Solar Bulletins* for September 2003 through August 2004; *AAVSO Photoelectric Photometry Newsletter* for December 2003 and August 2004; *Observed Minima Timings, Numbers 7 and 8*; *RR Lyrae Monograph 1*; *Eclipsing Binaries and RR Lyrae Stars Ephemerides for 2004*; *CCD Views Nos.*

317–324; 18 *Special News Flashes*; *AAVSO Alert Notice 303–310*; the 2004 JD calendar; pdf posters of High-Energy Network papers.

Here are some website statistics for October 1, 2003—September 30, 2004: total webpages downloaded—1,558,193; average number of pages downloaded—4,257 per day or one every 20 seconds (last year one every 10 seconds); average amount of data transferred per day—324 MB (last year 329 MB); number of individual visitors—252,590 (many were returning visitors, and last year's number of visitors was 204,213); average number of individuals per day—702 (last year 559); most active day—Tuesday (last year Wednesday); most active time—3–4 pm EST (same as last year); most inactive day—Saturday (last year Sunday); most inactive time—2 am EST (same as last year); number of light curves plotted—about 214,246 (last year 93,170); number of plots per day—about 587 (last year it was about 255), with about 11 from Xephem (last year 20); most popular stars—SS Cyg, X Cam, SN 2004dj; number of charts downloaded—554,411 (last year 808,771); top ten downloaded pages—Light Curve Generator, Quick Look File, Chart Search (these first three account for 70% of the top ten page downloads), WebObs, Site Search, Variable Stars, Solar observing, Publications, Variable Star of the Season, Observing Programs.

Here are some comments on our website comments this year:

• From Portugal: "Congratulations for the idea of making available to everyone the Director Annual Reports. We could never imagine the amount of information they contain, until we started to read these reports. Particularly, the observation statistics are truly interesting and a faithful barometer of AAVSO achievements. Great job!"

• From England: "Keep up the good work on the website, it might as well be my home page for the number of times I access it, literally every day."

• "Hi! I'm doing a report on the star Betelgeuse for school and your website provided me with thorough information about this red supergiant. Thank you so much! So many other sources (on the internet) have unexplained facts about Betelgeuse, but your website was superb! Thank you again!"

• "I log onto the WEB site almost every day to get the latest AAVSO news. I know how much work it is to keep a site of that size up-to-date and available."

• "I gave one of my variable star evangelical talks at a Durham Region Amateur Astronomers meeting on Tuesday night, and once again marveled aloud at how Janet and her team brought the AAVSO from the fusty old New England organization I knew in my youth to a vibrant 21st century organization with one of the best web sites on the net."

> • "Which does bring up another point about your website: It is *First Rate!* Well done, folks! Doing what I do for a living, I see some of the best and some of the worst sites imaginable. Yours is among the very best, both for ease of use to someone that is really new to the site/subject and for pure usefulness. I really mean this...it is a great site! Obviously, I am not speaking for IBM with this unpaid advertisement. I thought you guys should know that I, personally, think you are not only on the right track, but you are already at the station."

2. Data management and data processing

2.1. Digitization and processing of current data

The percentage of observations submitted electronically through the website continues to increase. As a result, more and more current data are automatically available for viewing online via the Quick Look/Light Curve file Generator files, which refresh every ten minutes.

Over 74% (61% last year) of the incoming data is submitted via WebObs and EmailObs, 20% (30% last year) as email (with a few observers still not sending data in standardized format), and 6% (~8% last year) submitted on paper and digitized at Headquarters. One observer is still sending monthly data on diskette.

We are currently up-to-date with data processing. A negative result of online data submission we are seeing is duplicates/triplicates: observers sometimes submit observations more than once, and 100–3000 multiples can be received in a given month. We are working to educate the observers about this problem.

2.2. Backlog of observations from Wayne Lowder

Wayne Lowder's hand-written and not-yet-reported observations—over 91,000—which were digitized by last fall thanks to the efforts of Michael Saladyga and Sarah Sechelski, are partially processed at this time. Processing and inclusion in the AAVSO database will be completed before January.

2.3. Computer hardware, software, and networking

2.3.1. Hardware

Thanks to a grant from the Gaposchkin Fund of the American Astronomical Society Small Research Grant Program, a new powerful server has been setup at Headquarters. This server, with dual 64-bit processors, will serve as a computation server for CPU-intensive services on the AAVSO web site and for staff.

The rest of the technological infrastructure at Headquarters has not changed much. The AAVSO has 10 Windows (one '95, one 'xp, and eight '98), one Linux and one osx workstation for use by staff. In addition, there are three Linux servers (one fileserver, one Internet server and one firewall). Headquarters has numerous legacy backup computers in storage.

2.3.2. Software

Thanks to work from our volunteer programmers, the AAVSO has been able to release some pretty impressive software to the general public. Among them was version 2 of PC Obs (Windows-based data entry software), a windows version of WWZ for wavelet analysis, and MagPlot, a light curve analysis program. In addition, FORTRAN versions of TS and WWZ have been placed online. Also, VISUAL BASIC replacements for Grant Foster's *Solar Bulletin* programs were completed and placed online. Special thanks to Len Abbey, Geir Klingenberg, and Lisa Henkel for volunteering their programming talents for these projects. The Windows WWZ program development was also funded in part by the AAS Small Research Grant that funded the new computational server.

Consideration continues on the new relational database to host the AAVSO International Database, although a final decision on the specifics of the database will not be made before the next Director is on-site, since some of the candidates have database experience that would be valuable in planning the structure of our database.

3. Requests for AAVSO data

We have responded to a dramatically new record high number—1,829—of requests (484 via email or paper and 1,345 filled online) for AAVSO data and information from astronomers, observers, educators, and students. Last year's record numbers were 536, with 371 via e-mail or paper and 165 filled online. As the percentage of validated data in the AAVSO Data Validation Project has grown this year, more and more requests were able to be filled online, thus saving more and more staff time.

We have provided data support for ground-based and satellite (such as XMM, RXTE, FUSE, Gravity Probe-B, and Chandra) observations. In addition, a significant number of astronomers are obtaining the data and information they need from materials on our website such as our News Flashes/MyNewsFlash, Light-Curve Generator, and Quick-Look files. Most of our data requests come through the web.

One of the satellite observations for which we provided support was a study by Dr. Knox Long, Space Telescope Science Institute, and colleagues of the SU UMa-type cataclysmic variable VW Hyi, using the NASA far-ultraviolet satellite FUSE. Their study involved target-of-opportunity observations (TOO) of VW Hyi between outbursts—throughout quiescence—to study the cooling of the white dwarf component. If VW Hyi went into superoutburst while FUSE was observing it, the satellite would have been damaged, so it was critical to know that the outburst that would occur at the end of the satellite observing period would not be a superoutburst. Our observers monitored VW Hyi closely, and once the next superoutburst had occurred, alerted Headquarters to the start of the next outburst, a normal one. The outburst fortunately occurring during a FUSE observing window,

the satellite was triggered to catch the decline of the outburst, quiescence, and rise to the next outburst. The AAVSO observations obtained before, during, and after the satellite observations will be valuable in analyzing the FUSE data, which could not have been safely obtained without the monitoring that enabled the scheduling of the TOO observations.

Another interesting satellite observing project to which the AAVSO observers are making an essential contribution is on the magnetic cataclysmic variable QS Tel. Dr. Christopher Mauche, Lawrence Livermore National Laboratory, is interested in studying this bright extreme ultraviolet and soft X-ray source next year with the NASA Chandra X-ray telescope. The star would have to be in its high state, but very little was known about its optical behavior. In order to be able to prepare an observing proposal, Dr. Mauche asked AAVSO observers to monitor QS Tel at least through this year to obtain fundamental information about its optical behavior. Our southern hemisphere observers have been following QS Tel, and look forward to continuing to contribute to the knowledge about this star.

The types of stars for which AAVSO data and services have been requested this year are given in the list below and in Figure 1:

a. long period variables—51% (Mira 41% and semiregular variables 10%)
b. cataclysmic variables—28% (dwarf novae 17%, novae, nova-like, recurrent novae, supernovae 11%)
c. Cepheid—8%
d. irregular—4%
e. R CrB stars—3%
f. AM Her stars—2%
g. Eclipsing Binary and RR Lyrae stars—1%
h. miscellaneous—2%
i. unknown—1%

The areas in which AAVSO data have been used this year are given in the list below and in Figure 2:

a. Data analysis—27%
b. Data correlation—33%
c. Science project—16%
d. Figure and table—9%
e. Education—6%
f. Schedule observing run—5%
g. Other—3%
h. GTN collaboration—1%

4. Awards and recognition

4.1. Awards given

a. AAVSO Observer Awards

At the AAVSO Spring Meeting in Berkeley, California, on July 24, 2004, we presented AAVSO Observer Awards to the following observers: to Gary Poyner of England and Georg Comello of The Netherlands, who have each made over 100,000

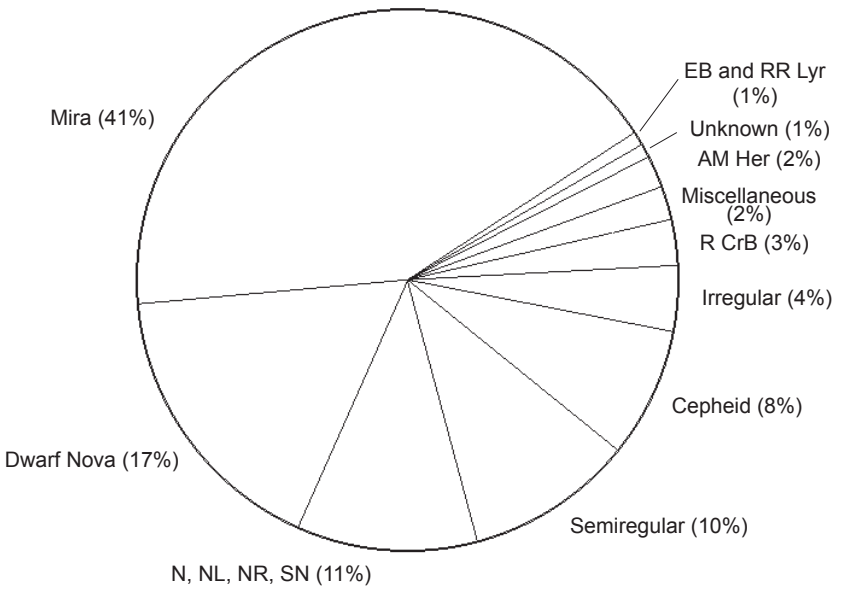


Figure 1. Types of stars for which AAVSO data were requested during fiscal year 2003–2004.

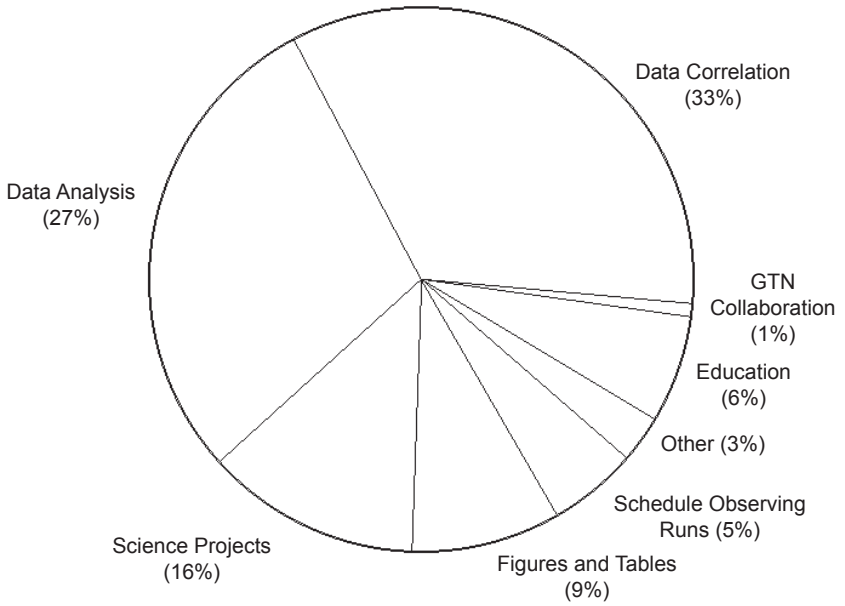


Figure 2. Areas in which AAVSO data or services were used during fiscal year 2003–2004.

observations; four observers who have made 50,000 or more; eight, 25,000 or more; ten, 10,000 or more; one, 50,000 or more CCD observations, one, 25,000 or more CCD; four, 10,000 or more CCD; two, 5,000 or more CCD; one, 2,500 or more CCD; six, 1,000 or more CCD or PEP observations. A complete list of recipients was published on pages 93–94, *Journal of the AAVSO*, Vol. 33, No. 1.

b. AAVSO Director's Award

At the 93rd Spring Meeting in Berkeley, California, on July 24, 2004, we presented the AAVSO Director's Award to the following observers: Arto Oksanen, Muurame, Finland, for his dedication and valuable contributions to inspiring and mentoring new observers and to improvements to the database and charts; and Christopher Stephan, Coos Bay, Oregon, for his dedicated contributions to special observing programs and the AAVSO International Database.

c. AAVSO William Tyler Olcott Award

No award was presented this year.

d. AAVSO Gamma-Ray Burst Award

The AAVSO has created a new award related to gamma-ray burst (GRB) afterglows. The award has two categories of achievement by an amateur astronomer: discovery of a GRB afterglow, and observation of an afterglow. The first AAVSO GRB Award has been made to Libert A. G. (Berto) Monard of Pretoria, South Africa, for his discovery of the optical afterglow of GRB 030725 on July 25.79, 2003 UT. The award was announced at the 93rd Annual Meeting, in Waltham, Massachusetts, on October 30, 2004.

e. AAVSO Solar Observer Awards

At the Annual Meeting in Waltham, Solar Observer Awards were announced for five sunspot observers and nine SID observers. The list of recipients appears on page 221.

f. Staff Service Awards

The AAVSO recognizes staff longevity through service awards presented every five years. This year several Headquarters staff members reached milestone anniversaries: Katherine L. Davis—5 years; Gamze Menali—5 years; Gloria Ortiz Cruz—5 years; Aaron Price—5 years; Sara J. Beck—14 years (we missed her 10th!); Michael Saladyga—20 years; Elizabeth O. Waagen—25 years.

Framed certificates of appreciation were presented at the 93rd Annual Meeting, in Waltham, Massachusetts, on October 30, 2004.

4.2. Recognition received

Minor planet *Huziak* was named for AAVSO member/observer Richard Huziak.

5. Special projects

5.1. *AAVSO Monographs*

Five *AAVSO Monographs*, prepared for publication by Janet Mattei, Kerriann

Malatesta, and Elizabeth Waagen, were published: *Z Ursae Majoris 1928–2000 (Monograph 18)*; *OS Andromedae 1986–2000 (Monograph 23)*; *V838 Herculis 1991–2000 (Monograph 24)*; *V1974 Cygni 1992–2000 (Monograph 25)*; *V723 Cassiopeiae 1995–2000 (Monograph 27)*.

Two *AAVSO Monographs* and two *Monograph Supplements* remain to be published to complete the *AAVSO Monograph Series*.

Observed Minima Timings of Eclipsing Binaries, Number 9 was prepared by Marvin E. Baldwin and Gerald Samolyk.

5.2. Validation of the AAVSO International Database

The AAVSO Validation Project—funded by NASA Headquarters through a two-year grant, which we acknowledge with profound thanks—was completed on schedule and on budget. As a result, as of September 30, 2004, over 9.5 million observations in the AAVSO International Database from the AAVSO's founding (or before) through 2001 are online for automatic downloading from the AAVSO website. With the completion of this project we realize a long-held dream: making as much of the AAVSO data as possible easily and immediately available to the astronomical and educational communities.

Thanks to the meticulous work of the validation project team (Janet Mattei, Rebecca Turner (Team Leader), Sara Beck, Katherine Davis, Kerriann Malatesta, Gamze Menali, Michael Saladyga, Sarah Sechelski, and Elizabeth Waagen), this unique and precious resource is now available and is being accessed heavily.

In the course of the project, the entire database was checked for non-corresponding variable star names and positions (designations) and all necessary corrections made. Other errors that were found (such as JD, magnitude, observer initials errors) were also corrected. Each observation was then validated—checked for accuracy—against the other observations of that star and marked as good or discrepant (but never deleted). Nine technical staff worked on the project at varying percentages of their time over the past two years and over 9,000 hours of staff time were spent on this project.

What remains to do is to place the validated data on the NASA/IPAC-IRSA website and in other NASA databases.

Sara Beck continues to work on removing duplicate observations found in the database during the project. These duplicates are not exact duplicates but are month-to-month duplicates sent in with very small differences that prevent our duplicate-checking software from detecting them as duplicates.

Completion of the validation project does not mean that the entire AAVSO International Database is validated through 2001. Some suspected variables and all of the questioned comparison/field stars were omitted from the project when it was designed. These remaining stars need to be validated, as do most observations added to the archives since 2002.

5.3. AAVSO Charts Team and AAVSO Comparison Star Database Working Group

The AAVSO Chart Team published over 1,000 charts in its first year of operation, and continues to make excellent progress with new charts and the backlog of charts requiring revision. Aaron Price continues as the Headquarters Team liaison. Team Leader is Mike Simonsen, and members this year are Arne Henden, Charles Scovil, Bruce Sumner, Marc Biesmans, Robert Stine, Hazel McGee, Dan Taylor, Richard Huziak, Christopher Watson, and Thomas Steckner.

The AAVSO Comparison Star Database Working Group is on target to complete Phase One, involving about 65,000 stars, by summer 2005. 43,000 (67%) stars have been documented and of those 38,000 (59%) have been validated. Aaron Price continues as Headquarters liaison. Vance Petriew is Team Leader, and members are: Rick L. Merriman, Keith Graham, Tim Hager, Carlo Gualdoni, Roy Axelsen, Brian Skiff, Dan Taylor, Joe Maffei, Curt Schneider, Christopher Watson, Arno van Werven, Mark Munkacsy, Jim Bedient, Radu Corlan, Steven Fanutti, Doug Hodgson, Dolores Sharples, and Pedro Pastor.

These two teams continue to work closely together, and are planning for the future when they will merge and automated, customized charts via the AAVSO website will become a reality.

5.4. AAVSO Archives Project

Excellent progress was made this year on the AAVSO Archives project, thanks to the continued financial support of AAVSO Historian and Past President Thomas R. Williams and his wife Anna Faye Williams, and the efforts of AAVSO technical assistant and archivist Michael Saladyga. The archiving of the correspondence of the Mattei era (to 1993) has now been completed, thus, the correspondence of the Recorders/Directors of the AAVSO is now archived from 1911 through 1992. Also, 60% of the special collections materials in the AAVSO archives have now been archived.

5.5. Special publication

The autobiography of Dorrit Hoffleit —*Misfortunes as Blessings in Disguise*— continues to sell well. This year we sold 36 copies and distributed one review copy and three complimentary copies.

5.6. AAVSO International High-Energy Network

The AAVSO International High Energy Network saw steady activity. A possible afterglow to GRB040916 was discovered by network member Pam Kilmartin at Mt. John Observatory in New Zealand, but follow-up observations by network members were negative. Blazar observations increased, thanks to exposure from the AAVSO electronic publication CCD Views and the AAVSO website's Variable Star of the Season presentation on Markarian 421 and other active galactic nucleus (AGN) objects. Activity should increase significantly next year with the launch this winter of NASA's Swift satellite, designed to detect Gamma-Ray Bursts (GRB) and relay the information to Earth within seconds.

Thanks to a proposal prepared for the NASA Swift Education and Public Outreach Program on behalf of the AAVSO by Dr. Chryssa Kouveliotou, NASA Marshall Space Flight Center, in honor of Janet Mattei and based on an idea discussed by the two of them and others, the AAVSO received funding from NASA for the creation of JANET—the AAVSO Joint Afterglow NETwork. The purpose of JANET is to detect and monitor Gamma-Ray Burst (GRB) afterglows in timely response to notification of GRB detections by the Swift satellite.

In creating JANET, the AAVSO is expanding its High-Energy Network to eight sites by providing three more observers around the world with AAVSO-owned CCD cameras, filters, and communication equipment. Also, the funding will provide for a new server at Headquarters dedicated to HEN activities, and for a graduate student to spend six months working with the network to maximize the scientific use of the AAVSO observations.

A Third High-Energy Astrophysics Workshop for Amateur Astronomers is being planned for Spring 2005, in collaboration with NASA Marshall Space Flight Center, New Mexico State University, and NASA's Swift and GLAST missions through Sonoma State University, pending successful funding of a proposal coordinated by Dr. Kouveliotou and submitted to NASA.

6. AAVSO's education project: *Hands-On Astrophysics*

The dissemination of *Hands-On Astrophysics* (HOA) continues, with sales through the AAVSO, Astronomical Society of the Pacific, and Sky Publishing Corporation.

This fiscal year we sold 116 HOA packages, including 100 sets to the Wright Center for Science Education at Tufts University to be used in future HOA teacher workshops. We also sold 3 HOA software sets and 2 HOA videos.

7. Summary of Observations

This year we received a new record high number of observations—545,826—from 754 observers around the world. We continue to receive increasing numbers of observations from observers in the southern hemisphere and from observers with CCDs.

We had a milestone in the AAVSO International Database—the 11.5 millionth observation was made by David Weier of Wisconsin, with his observation of 1544+28A R Coronae Borealis at magnitude 6.1 on JD 2453113.6028 (2004 April 17.1028 UT). Figure 3 describes the half-millionth observations submitted to the AAVSO.

Another sort of milestone was reached this year by our longtime member and observer Edward A. Halbach of Estes Park, Colorado. 2004 marks the 70th anniversary of Ed as a contributor of variable star data to the AAVSO! Ed's first observation submitted to the AAVSO was from May 29, 1934: 1842-05 R Sct

2427587.7 mag 5.7. His lifetime total to date is 99,404 observations, and in all these seventy years, Ed has missed only three years: 1954, 1961, and 1963.

7.1. Annual observations

With this year's annual totals, we discontinue the counting of each observer's number of "inner sanctum" observations, that is, observations magnitude 13.8 or fainter or fainter-than observations fainter than 14.0 or fainter. The decision to stop tracking inner sanctum observations had been made by Janet Mattei a few years ago—with today's larger telescopes and CCD technology, fainter observations are not the rarity they once were—but had not been formally implemented.

This year we received 545,826 visual, photoelectric, and CCD observations from 754 observers around the world. These totals include 200,751 observations observations from 273 observers in the United States, and 345,075 observations from 481 observers abroad. Figure 4 shows the number of observations submitted to the AAVSO each year.

As mentioned above, the total number of observations since 1911 in the AAVSO International Database has exceeded 11.5 million, and now stands at 11,748,260.

This fiscal year our top observers are in divided into two categories, visual and CCD.

Our top visual observers for this fiscal year are Eddy Muyllaert (Belgium) with 17,144 observations, Peter Williams (Australia) with 11,377, Gary Poyner (England) with 8,855, Ivan Sergey (France) with 8,758 (mostly visual), Michael Simonsen (USA) with 7,310, Rod Stubbings (Australia) with 7,052, Frank Vohla (Germany) with 6,950, and Paul Vedrenne (France) with 6,880.

Our top CCD observers for this fiscal year are Lewis Cook (USA) with 67,077 observations, Tonny Vanmunster (Belgium) with 25,000, Robert James (USA) with 12,034, Tom Krajci (USA) with 11,307, Gerard Samolyk (USA) with 10,946 (mostly CCD), Neil Butterworth (Australia) with 8,746, and Peter Nelson (Australia) with 8,010.

Table 1 lists the number of observers and the total observational contribution from each country during this fiscal year. Table 2 gives the same information for each state or territory in the United States. Table 3 is an alphabetical list of observers, giving each person's AAVSO observer initials, location, and annual total of observations.

Table 4 lists the numbers of observers, each of whom made 1 to 999 observations, 1,000 to 9,999 observations (in increments of 1,000), and 10,000 or more observations this year. Table 4 also lists for each category the total number of observations and the percentage of all observations the category represents. Figures 5, 6, and 7 are schematic representations of the information in Table 4.

We received 2,408 observations from 20 photoelectric observers. This total includes two types of photoelectric photometric observations: those that are reduced to standard format delta-magnitude value at Headquarters (formerly by the committee Chair), archived, and included in the AAVSO Photoelectric Photometry Database,

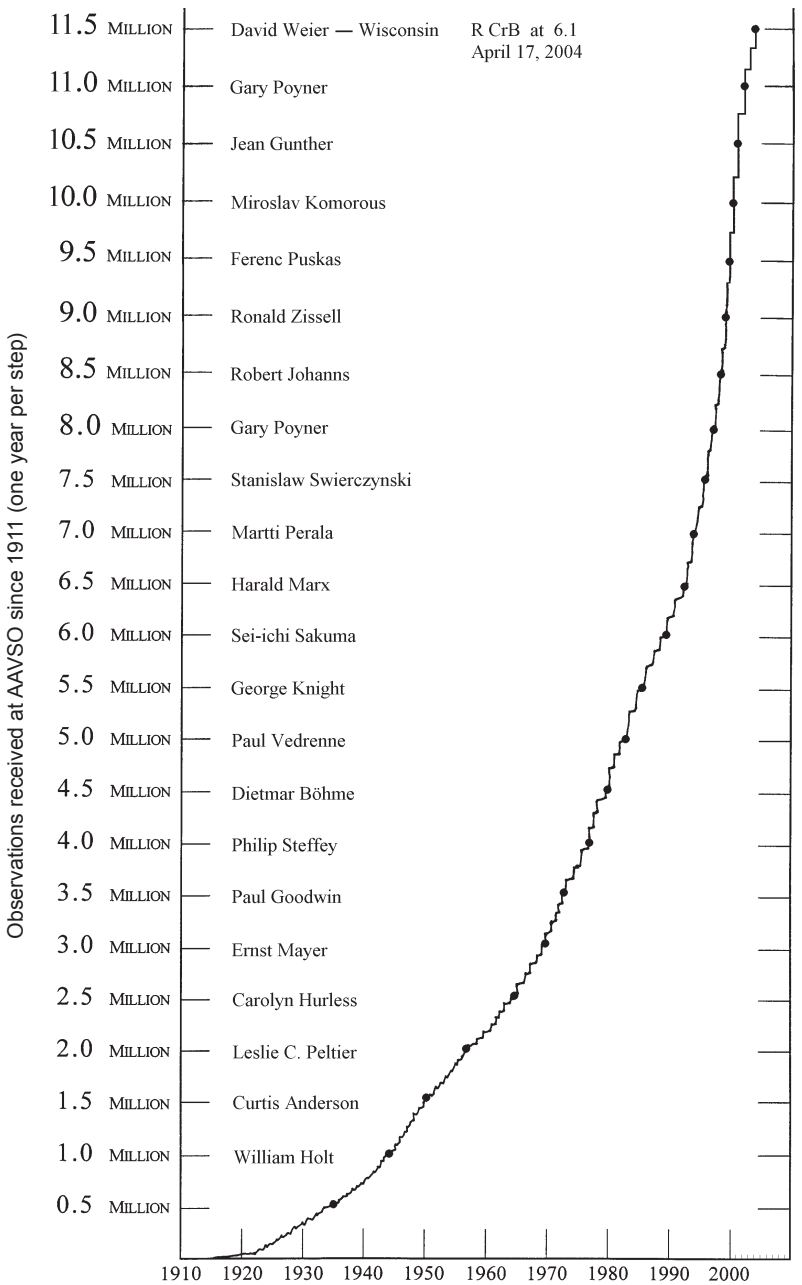


Figure 3. "Megasteps" of the AAVSO—the year in which each half-millionth observation was contribued to the AAVSO International Database, and the name of the observer credited with making the observation.

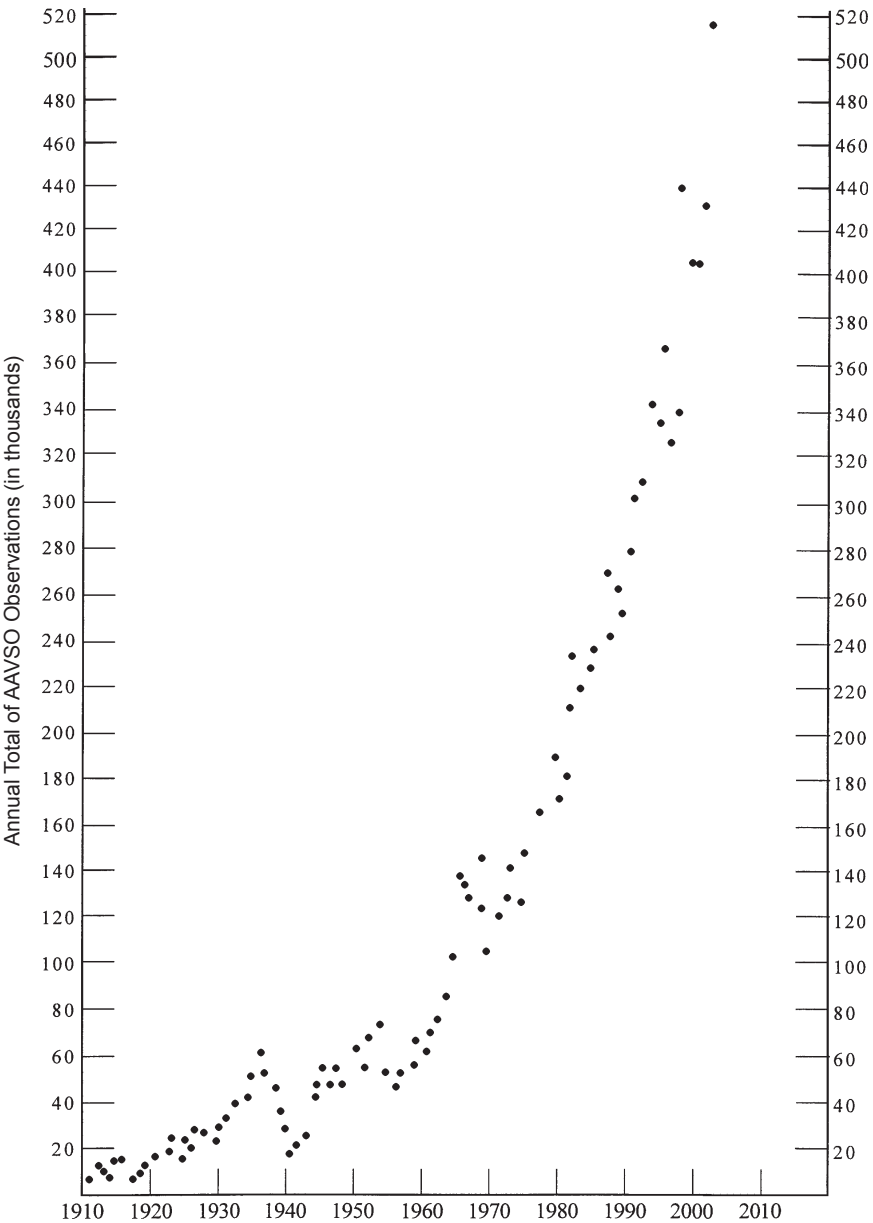
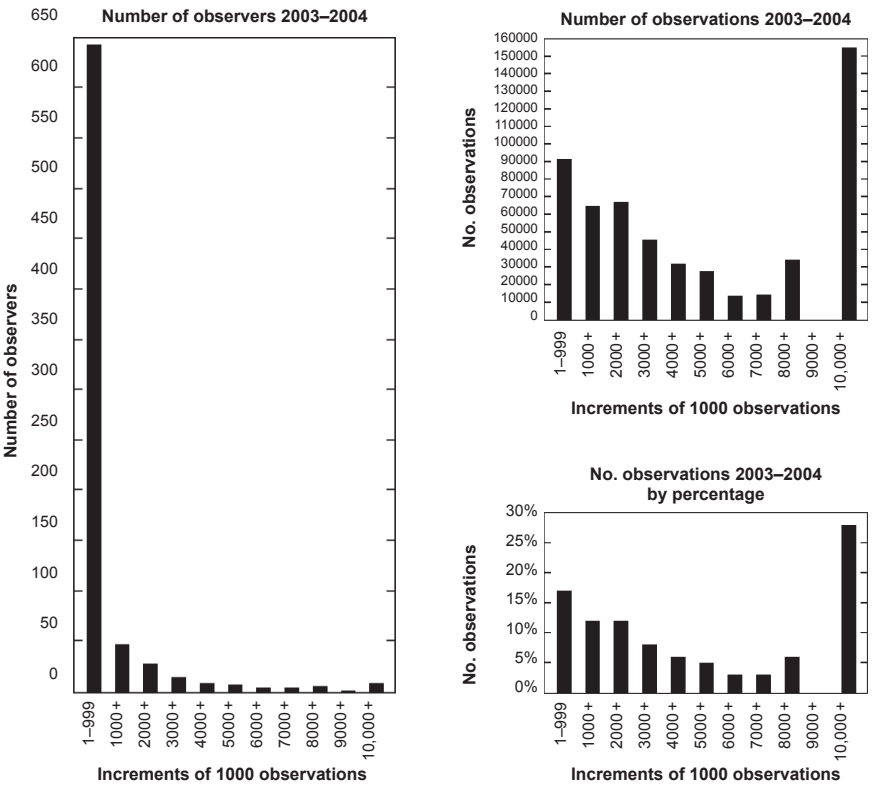


Figure 4. Number of observations submitted each year to the AAVSO International Database since its founding in 1911.



Figures 5, 6, and 7. These figures represent the information given in Table 4. Figure 5(left) shows the number of observers, each of whom contributed 1–999; 1,000–9,999 (in increments of 1000), and 10,000 or more observations in fiscal 2003–2004. Figure 6 (top right) shows, for each increment of 1,000 observations, the total number of observations contributed by the corresponding number of observers shown in Figure 5. Figure 7 (bottom right) shows, for each increment of 1,000 observations, the number of observations given in Figure 6, represented as a percentage of the total number of observations contributed to the AAVSO in fiscal 2003–2004.

and those that are reduced to a numerical magnitude by the observer (using the same software used by the Chair) and sent directly to Headquarters for inclusion in the AAVSO International Database.

We received 214,514 CCD observations from 137 observers, a significant increase from last year. These include *B*, *V*, *R*, *I* observations of CCD program stars and the CCD observations of other types of stars, particularly faint cataclysmic and long period variables. Gary Walker, the chair of the AAVSO CCD Committee, continues to guide and encourage CCD observers.

We received 53,875 eclipsing binary and RR Lyrae stars observations from 167 observers. Marvin Baldwin, chair of the AAVSO Eclipsing Binary and RR Lyrae Committees, together with committee member Gerry Samolyk, reduces and archives the observations for the determination of times of minima and maxima, respectively.

We received 1,105 Supernova Search observations from 4 observers. These observations, which are not included in the annual totals, are archived at AAVSO Headquarters. Rev. Robert Evans, chair of the AAVSO Supernova Search Committee, continues to provide vital guidance to the observers.

We received 10,821 Nova Search observations from 5 observers. These observations are not included in the annual totals. Rev. Kenneth Beckmann, chair of the AAVSO Nova Search Committee, compiles these observations and provides valuable guidance to observers.

We received 11,165 sunspot observations from 78 observers, and 242 SID reports from 24 observers. Carl Feehrer, chair of the AAVSO Solar Committee, assisted by Arthur Ritchie, compiles and digitizes the sunspot observations, and provides valuable guidance to the solar observers. Michael Hill performs the SID analysis and provides guidance on SID observing.

My profound thanks go to all our observers for their unwavering efforts, dedication, and vital astronomical contributions to the AAVSO International Database.

My sincere thanks go to our data processing and archiving staff—Michael Saladyga, Barbara Silva, Gamze Menali, and Gloria Ortiz-Cruz—who very carefully digitize, process, and archive our hundreds of thousands of observations received each year.

My thanks also go to Marvin Baldwin and Kenneth Beckmann, the chairs of the Eclipsing Binary and RR Lyrae Stars, and Nova Search Committees, respectively, and to Carl Feehrer and Mike Hill, Solar Committee chair and SID analyst, respectively, for compiling and archiving the observations they receive.

7.2. International cooperation

We acknowledge with appreciation the observations sent to the AAVSO by members of the following variable star associations, either individually or as a group, for inclusion in the AAVSO International Database for dissemination to the astronomical community worldwide:

a. Agrupacion Astronomica de Sabadell (Spain)
b. Asociacion de Variabilistas de Espagne (Spain)
c. Association Française des Observateurs d'Étoiles Variables (AFOEV)
d. Association of Variable Star Observers "Pleione" (Russia)
e. Astronomical Society of Southern Africa, Variable Star Section
f. Astronomischer Jugendclub (Austria)
g. Astronomisk Selskab (Scandinavia)
h. Brazilian Observational Network REA
i. British Astronomical Association, Variable Star Section
j. Bundesdeutsche Arbeitsgemeinschäft für Veranderliche Sterne e.V. (BAV) (Germany)
k. Grupo Astronomico Silos (Zaragoza, Spain)
l. Israeli Astronomical Association, Variable Star Section
m. Liga Ibero-Americana de Astronomia (South America)
n. Madrid Astronomical Association M1 (Spain)
o. Magyar Csillagászati Egyesület, Változócsillag Szakcsoport (Hungary)
p. Nederlandse Vereniging Voor Weer-en Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands)

8. Membership

At the 93rd Spring Meeting, held in Berkeley, California, July 22–23, 2004, we elected 48 new members, two of whom joined as Sustaining members, and including one elected to Sponsored membership. A list of these new members appears on page 92 of Volume 33, Number 1, of the *Journal of the AAVSO*.

At the 93rd Annual Meeting, held in Waltham, Massachusetts, October 29–30, 2004, we elected 40 new members, one of whom joined as a Sustaining member. A list of these new members appears in this issue of the Journal following the minutes.

9. Publications

9.1. AAVSO publications

The following AAVSO publications have been published from October 2003 through September 2004:

a. *Journal of the AAVSO*, Vol. 31, No. 2, Vol. 32, No. 1, edited by Charles A. Whitney, with assistance from Elizabeth O. Waagen, Michael Saladyga, and Matthew Templeton.

b. *AAVSO Bulletin 67: 2004 Predicted Dates of Maxima and Minima of 561 Long Period Variables*, prepared by Elizabeth O. Waagen.

c. *AAVSO Alert Notice*, Nos. 304–310, prepared by Elizabeth O. Waagen.

d. *AAVSO Special News Flash* (total of 14), prepared by Elizabeth O. Waagen and Aaron Price.

e. *AAVSO CCD Views*, Nos. 312–315 plus several special issues, prepared by Aaron Price and Gary Walker.

f. *AAVSO Newsletter*, No. 30, edited by Travis Searle.

g. *AAVSO 2004 Ephemeris for Eclipsing Binaries*, prepared by Gerard Samolyk and Marvin E. Baldwin.

h. *AAVSO 2004 Ephemeris for RR Lyrae Stars*, prepared by Gerard Samolyk and Marvin E. Baldwin.

i. *Observed Minima Timings of Eclipsing Binaries*, Number 9, prepared by Marvin E. Baldwin and Gerald Samolyk (printing delayed until October 2004).

j. *AAVSO Solar Bulletin, Vol. 59*, Nos. 9–12; Vol. 60, Nos. 1–8, prepared by Carl Feehrer, SID reports by Michael Hill.

k. *AAVSO Photoelectric Photometry Newsletter*, Vol. 22, No. 2, Vol. 23, No. 1, edited by John. R. Percy.

9.2. Publications by AAVSO staff or members (partial list)

a. "A Revised Period for the Mira Variable AW Aurigae," M. Templeton, *Information Bulletin on Variable Stars*, No. 5483; 2003.

b. "The Double Supergiant Binary OW Geminorum," Dirk Terrell, D. H. Kaiser, A. A. Henden, R. Koff, D. West, S. Dvorak, A. Charles Pullen, and Christopher P. Stephan, *Astronomical Journal*, 126, 902; 2003.

c. "Superhumps in the 2003 UV Per Superoutburst," A. Price, L. Cook, T. Vanmunster *et al.*, *Information Bulletin on Variable Stars*, No. 5488; 2003.

d. "AG Draconis," E. Waagen, *IAU Circular*, No. 8219, ed. Daniel W. E. Green; 2003.

e. "The CCD Camera," D. West, chapter 16 in *Observing Double and Binary Stars*, ed. Robert W. Argyle, Springer, New York; 2003.

f. "An Amateur AGN Survey With Professional Results," Aaron Price, poster paper accepted and developed for the Guillermo Haro 2003 AGN Conference on Multiwavelength AGN Surveys, but not able to be presented. Flyer copies were given out at the 203rd AAS Meeting and put on AAVSO home page for download; 2003.

g. "Secular Evolution in Mira and Semiregular Variable Star Pulsations," M. R. Templeton and J. A. Mattei, *Bulletin of the American Astronomical Society*, 35, No. 5, 1216 (poster 8.01, 203rd AAS meeting); 2003.

h. "9.5 Million Variable Star Observations Coming to You by 2005!," E. O. Waagen and J. A. Mattei, *Bulletin of the American Astronomical Society*, 35, No. 5, 1218 (poster 9.02, 203rd AAS meeting); 2003.

i. "Grassroots & New Media Outreach: A Match Made In Heaven," A. Price and J. Mattei, *Bulletin of the American Astronomical Society*, 35, No. 5, 1345 (poster 86.02, 203rd AAS meeting); 2003.

j. "A Needs Analysis Study of Amateur Astronomers As Regards To the National Virtual Observatory Outreach," N. Craig, A. Price, J. Mattei, et al. (203rd AAS Meeting, poster paper); 2004.

k. "Nonlinear Radial Pulsations for Hot 20 Solar Mass Models," B. A. Austin *et al.*, in *Proceedings of IAU Colloquium 193: Variable Stars in the Local Group*, eds. D.W. Kurtz & K.R. Pollard, ASP Conference Proceedings, 310; 2004.

l. "DO Draconis," A. Price, *IAU Circular*, No. 8274, ed. Daniel W. E. Green; 2004.

m. "Nova Sagittarii 2004," E. Waagen, *IAU Circular*, No. 8306, ed. Daniel W. E. Green; 2004.

n. "Eta Carinae's Brightness Variations Since 1998: HST Observations of the Central Star," J. C. Martin, M. D. Koppelman, and the HST Eta Carinae Treasury Project Team, accepted for publication in the *Astronomical Journal*.

o. "Flickering and Periodic Activity in the 2004 Outburst of BZ UMa," A. Price, T. Vanmunster, D. Starkey, D. Boyd, R. Zissell, B. Gary, K. Graham, W. II MacDonald, B. Aquino, D. West, J. Blackwell, G. Walker, M. Simonsen, A. Henden, M. Templeton, J. Mattei, *Information Bulletin on Variable Stars*, No. 5526; 2004.

p. "Unusual Cataclysmic Variable in Hercules," A. Price, E. O. Waagen, *IAU Circular*, No. 8363, ed. Daniel W. E. Green; 2004.

q. "Unusual Cataclysmic Variable in Hercules," A. Price, R. James, A. Henden, M. Templeton, *IAU Circular*, No. 8374, ed. Daniel W. E. Green; 2004.

r. "ASAS 002511+1217.2," A. Price, *IAU Circular*, No. 8410, ed. Daniel W. E. Green; 2004.

s. "The GTN-AAVSO Blazar Program," L. R Cominsky, G. G. Spear, T. Graves, G. Slater, A. Price, *Bulletin of the American Astronomical Society*, HEAD meeting No. 8, 27.02; 2004.

t. "Period and chemical evolution of SC stars," Albert A. Zijlstra, Timothy R. Bedding, Andrew J. Markwick, Rita Loidl-Gautschy, Vello Tabur, Kristen D.Alexander, Andrew P. Jacob, Laszlo Kiss, Aaron Price, Mikako Matsuura, Janet A. Mattei, *Monthly Notices of the Royal Astronomical Society*, Volume 352, Issue 1, pp. 325–337; 2004.

u. "Observing Blazar Variability: The GTN-AAVSO Collaboration," G. Spear, A. Price, P. Plait, T. Graves, L. Cominsky, J. Mattei, American Astronomical Society Meeting 204, No. 35.13; 2004.

v. "Time-Series Analysis of Variable Star Data," M. Templeton, *Journal of the American Association of Variable Star Observers*, 32, 41; 2004.

w. "Detection and measurement in the V-band of the white dwarf spin period in the January 2004 outburst of DO (YY) Draconis," David Boyd. To be published in the *Journal of the British Astronomical Association*, 2005.

x. "Period and chemical evolution of SC stars," A. A. Zijlstra, T. R. Bedding, A. J. Markwick, J. A. Mattei, *et. al.*, *Monthly Notices of the Royal Astronomical Society*, 352, 325–337; 2004.

y. *"Hands-On Astrophysics* and Beyond," J. R. Percy, J. A. Mattei, Decadal

report on the UN Basic Space Science Initiative; 2004.

z. "Curious Variable Experiment (CURVE), TT Boo—Superhump period change pattern confirmed," A. Olech, L.M. Cook, K. Zloczewski, *et. al.*, preprint *Acta Astronomica*; 2004.

aa. "The Nature of the Eclipsing Binaries SS Hya and VW Cet," C. Lloyd, D. West, *Information Bulletin on Variable Stars*, No. 5529; 2004.

10. Meetings attended and talks given

10.1. Meetings attended

Matthew Templeton, Aaron Price, and I attended a number of meetings this year on behalf of the AAVSO:

Conference on Communicating Astronomy to the Public, National Radio Astronomy Observatory and the National Research Council, October 1–3, 2003, Washington, DC *AP;*

203rd Meeting of the American Astronomical Society (AAS), January 4–8, 2004, Atlanta, GA *AP, MT, EW;*

AAVSO Symposium: Mira Companions and Planets, Harvard-Smithsonian Center for Astrophysics, April 26, 2004, Cambridge, MA *AP, MT, EW;*

Symposium on Telescope Science, 23rd Annual Conference of the Society for Astronomical Sciences, May 26–27, 2004, Big Bear, CA *AP;*

Riverside Telescope Makers Convention Astronomy Expo, May 28–30, 2004, Big Bear, CA *AP;*

204th Meeting of the AAS in Denver, CO, May 30—June 3, 2004, which included a session on Professional-Amateur Collaboration for Enhanced Research *EW;*

AstroCon 2004, which was a joint meeting of the AAVSO, the Astronomical League, the Association of Lunar and Planetary Observers, the Astronomical Society of the Pacific, and three local groups, the Eastbay Astronomical Society, the Astronomical Association of Northern California, and the San Jose Astronomical Association, July 20–24, 2004, Berkeley, CA *AP, MT, EW*

In addition, Aaron Price organized the AAVSO Symposium on Mira Companions and Planets, held April 26, 2004, at the Harvard-Smithsonian Center for Astrophysics, Cambridge, MA.

10.2. Talks given

Matthew Templeton, Aaron Price, and I gave a number of talks this year on behalf of the AAVSO:

Elizabeth Waagen

"9.5 Million Variable Star Observations Coming to You by 2005!," poster paper (Waagen and Mattei), 203rd AAS meeting, January 4–8, 2003, Atlanta, GA;

"9.5 Million Variable Star Observations Coming to You by 2005!," poster paper (Waagen and Mattei), AAVSO Symposium on Mira Companions and Planets, April 26, 2004, CfA, Cambridge, MA;

"Welcome to the AAVSO!", AstroCon 2004, July 20–24, 2004, Berkeley, CA;

"AAVSO Validation Project: Opening the Treasure Chest", AstroCon 2004, July 20–24, 2004, Berkeley, CA.

Matthew Templeton

"Secular Evolution in Mira and Semiregular Variable Star Pulsations," poster paper (Templeton and Mattei), 203rd AAS meeting, January 4–8, 2004, Atlanta, GA;

"Period Changes in Mira Variables", AAVSO Symposium on Mira Companions and Planets, April 26, 2004, CfA, Cambridge, MA;

"Period Changes in Mira Variables", AstroCon 2004, July 20–24, 2004, Berkeley, CA.

Aaron Price

"An Amateur AGN Survey With Professional Results," poster paper, accepted and developed for the Guillermo Haro 2003 Conference on Multiwavelength AGN Surveys, Cozumel, Mexico, but not able to be presented. Flyer copies were given out at the 203rd AAS Meeting and put on AAVSO home page for download (December 2003);

"Grassroots & New Media Outreach: A Match Made In Heaven," poster paper (Price and Mattei), 203rd AAS meeting, January 4–8, 2004, Atlanta, GA;

"A Needs Analysis Study of Amateur Astronomers As Regards To the National Virtual Observatory Outreach," poster paper (Craig, Price, Mattei, *et al.*), 203rd AAS Meeting, January 4–8, 2004, Atlanta, GA;

"BZ UMa and Var Her 04: Keeping Us Up at Night", AstroCon 2004, July 20–24, 2004, Berkeley, CA;

"Charts and Comparison Stars: A Roadmap to the Future", AstroCon 2004, July 20–24, 2004, Berkeley, CA.

11. Personnel at Headquarters

11.1. Incapacitation and death of the Director

Friday, September 5, 2003, was Janet Mattei's last fully active day as Director. On September 6 she appointed Elizabeth Waagen Deputy Director (later changed to Interim Director by the Council), with Aaron Price responsible for technology and Dr. Matthew Templeton as science advisor, and was admitted to Brigham and Women's Hospital in Boston for treatment of acute myelogenous leukemia. With Janet's incapacitation came the need for swift action to enable continuation of those Headquarters operations for which she was directly and primarily responsible, most urgently financial operations relating to payroll, accounts payable, investments, and grants. Thanks to the Executive Board and Council, and particularly to AAVSO Treasurer Louis Cohen, we put things into place so we could continue to operate. Over the weeks and months of Janet's illness Headquarters strove to operate as

normally as possible, carrying out the day-to-day administrative and scientific work of the Association, communicating with members and observers, planning for upcoming AAVSO meetings, honoring ongoing and making new scientific commitments, representing the AAVSO in the professional and amateur communities at meetings, and so on.

After Janet's death on March 22, 2004, the Executive Board—President Bill Dillon, Vice Presidents Kevin Marvel and David Williams, Secretary Martha Hazen, Treasurer Louis Cohen (Clerk Mike Mattei did not participate)—and I held a teleconference to determine the immediate actions needed and to begin the discussion on the longer-term course of action that would involve the full Council. Much happened quickly. A Search Committee was created to find the next Director. A Janet Mattei Memorial Committee was created to devise suitable memorials to Janet. A web page was created to provide a location for members, observers, colleagues, friends, and family to post memorial messages. Information on Janet was prepared for distribution to the numerous Obituary writers who contacted Headquarters. Interviews were given and tributes were written.

Throughout this period—throughout the rest of the year—the day-to-day work of the association had to continue. The Headquarters staff and volunteers pulled together as one and carried on with their responsibilities in a way that I know would have made Janet very proud. Mike Mattei continued to visit Headquarters, as he had done throughout Janet's illness. Also, from the first mention of Janet's illness, Headquarters received an outpouring of love, support, and encouragement from our members, observers, and colleagues—phone calls, visits, e-mails, notes, flowers, food—for which we were so grateful. The "AAVSO family" is a very real entity, and being able to support one other helped us all through this extremely difficult time.

The Council—all volunteers—faced extraordinary challenges this year and rose to them admirably and courageously. Not one of them resigned or turned away from the often very difficult work to be done; Janet would have been proud of them. The Association is extremely fortunate to have had a Council this year that cares so much about the AAVSO, its mission, and its future, and that is so dedicated.

11.2. Memorials to Janet A. Mattei

Many individuals, organizations, and institutions around the world paid tribute to Janet—Janet touched so many people's lives in different ways. Memorials to Janet appeared in many places and took many forms. The AAVSO received hundreds of messages via its website and email, cards, and phone calls (many of these messages appear on pages 131–147 in this issue). Publications in which a formal obituary appeared included the *New York Times*, *Boston Globe*, and *Toronto Globe and Mail* newspapers, *Physics Today* magazine, and the *American Astronomical Society Newsletter*. Obituary notices, appreciations, and tributes appeared widely, including in *Sky & Telescope* and *Astronomy* magazines, The Astronomical League's *The Reflector*, the AAVSO's *Photoelectric Photometry Newsletter*, and the publications

of many other astronomical organizations in the United States and around the world, including those in Canada, the United Kingdom, the Netherlands, Belgium, France, Germany, Italy, Spain, Japan, Turkey, South Africa, Australia, and New Zealand.

The international professional astronomical community also recognized Janet by beginning variable star-related conferences with a moment of silence in her memory, and at least one conference was dedicated to her. Numerous papers, to which she had been a contributor or whose author she had inspired, were dedicated to her.

Two beautiful pieces of art have been given to the AAVSO in honor of Janet. One, the gift of the artist, Lee Anne Willson, in honor of Janet's 30 years as Director, is a folded-paper creation entitled "Turkish Cosmos." Its design of intricately interlocked muted gold, silver, and purple shapes was inspired by a piece of jewelry given to Lee Anne by Janet that Janet said represented the Cosmos as envisioned in ancient Turkey as a series of nested circular layers. The second, commissioned by John and Maire Percy in memory of Janet, is a painting entitled "Starflower" (*Calytrix breviseta*, an Australian endangered species) by the Canadian artist Anne T. Adams. Its beautiful yellow-centered pink-purple star-shaped blossoms on a vibrant green background recall Janet's great love of wildflowers and her feeling that flowers are like people—they need caring for.

To create a formal memorial to Janet within the AAVSO, the Janet Mattei Memorial Committee—Aaron Price, Paula Szkody, Charles Pullen, and Elizabeth Waagen—was assembled and tasked with designing a memorial to Janet Mattei, to be approved by the Council. The committee proposed a memorial of two parts: holding a day of events in honor of Janet, to include a memorial service and a symposium to celebrate Janet's life and her many contributions to astronomy and education and a dinner at AAVSO Headquarters, and establishing an AAVSO research program in her name.

11.2.1. A day in honor of Janet Mattei

The memorial service, symposium, and dinner in honor of Janet Mattei were planned for Friday, October 29, 2004, to take place during the academic year and to coincide with the annual meeting being held October 30 in Waltham, MA, so that as many people as possible could attend. The committee, AAVSO Headquarters staff, Mike Mattei, and Council all contributed to designing the final schedule. The music was provided by former AAVSO Technical Assistant Grant Foster and his musical partner Gregor Harvey, and by Janet's classmate and friend, and AAVSO member and observer, Ron Zissell. Brandeis University in Waltham was chosen as the venue for the service and symposium because it was Janet's undergraduate alma mater; she had remained very active there in international student and alumni affairs. The dinner was held at AAVSO Headquarters as a natural conclusion to the day—where else to gather but in the AAVSO family home? The program of events, list of attendees, and texts of the speakers' presentations appear on pages 108–217 of this issue of JAAVSO.

Many members of Janet's and Mike's families, AAVSO members and observers, colleagues, and friends gathered Friday morning for a day of remembrance and celebration of Janet in words, music, flowers, and unvoiced thoughts. The love, admiration, and respect for Janet were evident in the presentations, the messages from professional and amateur astronomical organizations around the world, the beautiful and touching music, and all the conversations before and after the events and during the luncheon. The day itself was perfect—Nature's tribute to Janet—with blue skies, pleasant temperatures, and foliage at its brilliant peak of autumnal color. The end of the evening saw the day well accomplished; Janet would have been overwhelmed by the outpouring of love for her and gratified at the acknowledgement of her efforts, and I think she would have been pleased to have brought together so many people who were dear to her.

11.2.2. The Janet A. Mattei Research Fellowship Program

The committee received many suggestions for an ongoing memorial to Janet Mattei from members, observers, Headquarters staff, Janet's husband and long-time AAVSO member, observer, and officer Mike Mattei, and Janet's family. Nearly all mentioned providing educational and/or research opportunities, involving professional and amateur astronomers, young people, and/or utilizing the AAVSO International Database, which Janet often described as a treasure chest.

Janet was dedicated to the union of professional and amateur astronomy worldwide, to bringing together professionals and amateurs, including young amateurs, in astronomical collaboration, and the AAVSO wanted to recognize this. As a result of the work of the committee and the AAVSO Council, the AAVSO has created the Janet A. Mattei Research Fellowship Program. This program will fund a visiting scientist, postdoctoral researcher, or student to visit and perform research at AAVSO Headquarters. The Mattei Fellow will work with the ever-increasing treasure trove of variable star observations that is the AAVSO International Database, with the goal of turning these observations into scientific results disseminated among both the professional and amateur communities through professional journals and informal outlets. The program is to be self-funding, operating through the interest and dividends earned from the contributions made to it. Contributions, which are tax-deductible, may be made directly to the AAVSO or through the AAVSO website.

An initial appeal to fund this program was sent to members and observers this year, and a very good response was received. Appeals for contributions will continue to be made.

11.3 Finding the next Director of the AAVSO

The Council appointed a Search Committee to seek candidates for the position of Director, with the goal of giving the Council a prioritized list of recommended candidates at its meeting in October 2004. The committee was chaired by Kevin Marvel (AAVSO 1st Vice President; Deputy Executive Director, American

Astronomical Society); other members were Lee Anne Willson (AAVSO Past President; Iowa State University), Thomas R. Williams (AAVSO Past President and Historian), Gary Walker (AAVSO Past President; CCD Committee Chair; CCD observer), and James R. Bedient (visual observer; AAVSO educational programs participant).

A job description and advertisement were written by the committee and placed in several print and online locations and sent to all astronomy departments in the United States. Under guarantee of strict confidentiality, applicants were invited to send a cover letter, full resume, vision statement for the AAVSO, and personal and professional references by July 15, after which date all applications were reviewed by the committee. Eight applicants were selected to attend an interview with the committee. Four were then chosen to visit AAVSO Headquarters during September, one at a time, to meet with the staff both individually and in a group; one member of the committee was present during the group meeting and solicited staff reaction to the candidate after the candidate's departure. After discussion among itself, in mid-September the committee submitted to the Council a prioritized list of candidates for consideration, along with all application materials from those candidates.

At its meeting on October 30, 2004, the Council discussed the candidates and made its choice of three individuals, in ranked order, to whom the position will be offered. AAVSO President William Dillon has been tasked with making the offer of the position and negotiating the terms of hire.

[Note added in press: It is with great pleasure that I note that the position of AAVSO Director was offered to Dr. Arne A. Henden, US Naval Observatory, Flagstaff, Arizona. Dr. Henden accepted the offer and became Director of the AAVSO effective March 1, 2005. It should also be noted that Dr. Henden was a member of the AAVSO Council in 2003 and 2004, and, on applying for the position, excused himself from all Council discussion pertaining to the search process until after the October 2004 Council meeting. EOW]

11.4. Staff benefits

At the request of the Council, AAVSO Treasurer Lou Cohen and I investigated life, short-term disability, and long-term disability insurance options for full-time employees, to be included in the employee benefits package at no cost to the employee. A package was chosen by the Council, and as of October 1, 2004, all full-time employees will be covered by these insurances, and their spouses and dependents by a lower amount of life insurance.

11.5. Headquarters staff

Staff productivity and morale were remarkably high this year, despite the heartbreaking illness and loss of Janet Mattei and the resultant great personal grief and uncertainty about the future, and despite numerous other personal sadnesses and difficulties experienced by the Headquarters staff and volunteers, as well as among the Council.

One reason that Headquarters has operated as well as it has this year is the staff longevity—collectively, the current AAVSO staff (excluding employees on leave, contract employees, and volunteers) has over 101 years experience working for the AAVSO! The staff is a true team, always working together for the association.

We were sorry to say good-bye to our very gifted and personable Administrative Assistant Sarah Sechelski in June, when she and her husband moved to Atlanta so he could assume his new teaching position. Her administrative duties were assumed by Travis Searle. In April Rebecca Turner moved to New Jersey to expand her musical theatre studies in Manhattan, but continues to work for the AAVSO as an independent contractor and to carry out the same responsibilities she had when she worked full-time in the office. Barbara Silva continues to be on unpaid medical leave.

Our present Headquarters staff consists of the following: Interim Director, Senior Technical Assistant, and Associate Editor of the Journal of the AAVSO Elizabeth Waagen; Staff Astronomer Matthew Templeton; Technical Assistant and Journal Production Editor Michael Saladyga; Technical Assistants Kerriann Malatesta and Gamze Menali; Membership Services and Administrative Assistant Travis Searle; Technical Assistant, Web Kate Davis; Technical Assistant, Technology and Unix Systems Administrator Aaron Price; 7-month full-time Technical Assistant Sara Beck; part-time Data entry Technicians Barbara Silva and Gloria Ortiz-Cruz; Volunteers Carl Feehrer and Arthur Ritchie.

In addition, the following persons are being contracted: Len Abbey, programming, mostly in Visual Basic; Jane Caton, accounting; Rebecca Turner, events planning, data request coordination and fulfillment, and data validation team leader.

I thank each of them for their careful and dedicated work, and for their loyalty and devotion to the association.

12. Acknowledgements

With profound appreciation and gratitude, I thank all who have contributed to the Association this year.

We remember Clint Ford warmly and are grateful to him for providing us with our own Headquarters and with a legacy that assures a sound future for the AAVSO.

We remember Margaret Mayall gratefully for her dedicated service to the AAVSO, for making it survive during very hard times, and for the bequest that she and Newton made to assure the sound future of the AAVSO.

We remember Janet Akyüz Mattei with love and gratitude for all her contributions to the AAVSO as a sustaining member, as Margaret Mayall's assistant, and as Director for 30 years, bringing the AAVSO to its present state as the world's largest variable star observing organization and one highly respected by the international professional astronomical community, committed to science education worldwide, and dedicated to the fostering of professional-amateur astronomical collaboration.

We remember with affection and appreciation Katherine S. Hazen, our long-time AAVSO friend and Headquarters volunteer 1980-1991 who passed away this year at the age of 98, for her many contributions to the association through her assistance at Headquarters on large and small projects and her presence that always cheered us during her visits, her experience in fund-raising, her wisdom that Janet Mattei found so valuable in their many discussions on very varied topics, and her generous financial support of numerous AAVSO programs and projects.

Our appreciation and thanks go to our dedicated, enthusiastic, and amazing observers—this year, 754 of them from 38 countries—who are the foundation of the AAVSO and whose ongoing efforts make this association vital to variable star research. Special thanks go to all those who have contributed to the Quick-Look file for *MyNewsFlash*, and to our special observing programs.

Our thanks go to our members for their support of the AAVSO with their dues; special thanks to those who are sponsoring the membership of an active observer, and to those who have generously contributed above their dues so that we may serve you, our members, and the astronomical community, well.

My sincere thanks and appreciation go to our Committee Chairs who give of their time and wisdom so generously to the Committee(s) for which they are responsible. Thanks to Gary Walker, Marvin Baldwin, Rev. Kenneth Beckmann, Carl Feehrer, Mike Hill, Charles Scovil, and Rev. Robert Evans.

Our Officers and Council have truly been steadfast and devoted this year in their dedication to the association, and I am deeply grateful for their loyalty to the AAVSO. I appreciate the support of our Vice Presidents Kevin Marvel and David B. Williams, our Clerk Michael Mattei, our Council members Gary Billings, Lewis Cook, Jaime Garcia, Arne Henden, Karen Meech, Charles Pullen, Paula Szkody, and Doug West, and our Past President Daniel Kaiser.

I especially thank William Dillon, our President—who never could have anticipated what his presidency would entail when he accepted the office—for his wisdom and unflagging support.

I thank Martha Hazen, our Secretary since 1993 and who now retires from the office, with deep appreciation for her loyal and devoted service and for her wisdom and support.

A particularly heartfelt thanks goes to our Treasurer, Lou Cohen, for his wisdom, guidance, patience, and tremendously generous contribution of time, and to our accountant Jane Caton, for her careful work, sound advice, and dedication.

I thank most sincerely our Search Committee members James Bedient, Kevin Marvel, Gary Walker, Lee Anne Willson, and Thomas R. Williams for their dedicated, thoughtful, and professional work in seeking and recommending candidates for the position of AAVSO Director.

My grateful thanks go to Mike Mattei for his wise council and ongoing concern for the well-being of the association he has been a member of for thirty-eight years.

I gratefully thank Janet Mattei Memorial Committee members Aaron Price, Paula Szkody, and Charles Pullen for their efforts and assistance in conceiving,

developing, and planning the AAVSO memorials to Janet Mattei.

Sincere thanks go to Dan Kaiser for his being in charge of our Mentorship program, Arne Henden for his leadership in our HEN program and in CCD photometry matters, and Doug Welch for his administration of our on-line Discussion Group and HEN Discussion Group.

Our thanks go to Arne Henden, Bruce Sumner, and Ron Zissell for their work on comparison star sequences for AAVSO charts, to Charles Scovil, Mark Biesmans, Steve O'Connor, AAVSO Chart Team leader Mike Simonsen, and all Chart Team members for their work on AAVSO charts, and to AAVSO Comparison Star Database Project Team Leader Vance Petriew and all CompDB Team members for their work on digitizing and cataloguing the comparison stars on all AAVSO charts.

Our sincere thanks go to Charles Whitney for his excellent editorship of the *Journal of the AAVSO*.

Our sincere thanks go to John Percy for his ongoing outstanding editorship of the *AAVSO Photoelectric Photometry Newsletter*.

Our thanks and appreciation go to Len Abbey for his valuable contribution in programming much-needed software packages for our technical operations.

Our sincere thanks go to AAVSO Headquarters volunteer Arthur Ritchie for his ongoing assistance with digitizing monthly sunspot reports, and for his cheerful assistance with other projects large or small.

Thanks go to Stamford Observatory for allowing Charles Scovil and John Griese to use the 22-inch telescope for making variable star observations, and for allowing Charles Scovil to use the facilities of the observatory to prepare charts.

Special thanks go to Dr. Chryssa Kouveliotou, NASA Marshall Space Flight Center, for her dedicated fund-raising efforts for the AAVSO, in honor of Janet, by preparing two NASA grant proposals including the AAVSO as a major participant.

We have been fortunate to receive financial support from institutions and government agencies this year. We gratefully acknowledge the following:

NASA Headquarters, for a grant for the validation of AAVSO International Database, its second and final year;

NASA (Swift mission), for a grant to enable detection and monitoring of GRB afterglows through the AAVSO Joint Afterglow NETwork—JANET.

We are grateful to have the support of so many!

Personally, I am deeply grateful for the support, encouragement, and trust shown me this year as Interim Director by the Officers and Council, the members and observers, my colleagues at Headquarters, and our astronomical colleagues. I thank my patient mother with profound gratitude for her wise council, many good suggestions, and her unfailing love.

In serving as Interim Director this year, it has been my privilege to honor my dear friend, mentor, and colleague Janet Mattei, and to give back to the organization that has given me so much for the past 25 years.

Table 1. AAVSO Observer Totals 2003–2004 by Country

Country	No. Observers	No. Obs.	Country	No. Observers	No. Obs.
ARGENTINA	2	945	JAPAN	5	2,626
AUSTRALIA	27	54,067	MALTA	1	118
AUSTRIA	2	765	NETHERLANDS	12	11,333
BELARUS	2	159	NEW ZEALAND	2	5,788
BELGIUM	16	57,277	NORWAY	7	2,521
BRAZIL	9	3,839	PERU	1	20
CANADA	42	25,096	POLAND	24	14,615
CHILE	2	334	PORTUGAL	5	7,595
CZECH REPUBLIC	1	64	ROMANIA	12	17,947
DENMARK	3	148	RUSSIA	10	2,009
ENGLAND	20	28,771	SLOVENIA	1	672
FINLAND	10	5,918	SOUTH AFRICA	13	5,187
FRANCE	34	29,386	SPAIN	30	6,647
GERMANY	35	20,794	SWITZERLAND	4	359
GREECE	6	2,008	TURKEY	1	9
HUNGARY	86	27,579	USA	273	200,751
INDIA	2	37	UKRAINE	24	2,807
IRELAND	4	314	VENEZUELA	1	15
ISRAEL	2	152			
ITALY	23	7,154	TOTAL	754	545,826

Table 2. AAVSO Observer Totals 2003–2004 USA by State or Territory

State		No. Observers	No. Obs.	State		No. Observers	No. Obs.
ALABAMA	(AL)	3	155	NEVADA	(NV)	1	7
ARIZONA	(AZ)	14	6,373	NEW HAMPSHIRE	(NH)	2	735
CALIFORNIA	(CA)	35	74,093	NEW JERSEY	(NJ)	1	7
COLORADO	(CO)	8	578	NEW MEXICO	(NM)	8	13,616
CONNECTICUT	(CT)	8	6,159	NEW YORK	(NY)	15	5,479
FLORIDA	(FL)	7	3,407	NORTH CAROLINA	(NC)	1	3
GEORGIA	(GA)	4	100	NORTH DAKOTA	(ND)	1	5
HAWAII	(HI)	2	2,559	OHIO	(OH)	9	506
ILLINOIS	(IL)	15	7,960	OKLAHOMA	(OK)	2	36
INDIANA	(IN)	9	9,115	OREGON	(OR)	4	1,621
IOWA	(IA)	2	2,828	PENNSYLVANIA	(PA)	7	1,140
KANSAS	(KS)	3	2,665	PUERTO RICO	(PR)	3	60
KENTUCKY	(KY)	1	116	RHODE ISLAND	(RI)	3	2,538
LOUISIANA	(LA)	4	205	TENNESEE	(TN)	4	183
MAINE	(ME)	3	2,614	TEXAS	(TX)	20	2,565
MARYLAND	(MD)	7	2,783	UTAH	(UT)	2	58
MASSACHUSETTS	(MA)	15	8,392	VIRGINIA	(VA)	8	12,263
MICHIGAN	(MI)	11	7,663	WASHINGTON	(WA)	4	164
MINNESOTA	(MN)	8	3,110	WEST VIRGINIA	(WV)	3	1,022
MISSOURI	(MO)	3	271	WISCONSIN	(WI)	10	17,390
MONTANA	(MT)	1	48				
NEBRASKA	(NE)	2	159	TOTAL		273	200,751

Table 3. AAVSO Observers, 2003–2004.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
AAP		A. Abbott, Canada	2954	BTY		T. Benner, PA	202
AAN	02	A. Abe, Germany	171	BEB		R. Berg, IN	717
AER		E. Adrian, Romania	10	BIZ		J. Bialozynski, WI	2792
AJT		J. Agustoni, Brazil	14	BIC	01	L. Bichon, France	2631
ASAS		All Sky Automated Survey, Chile	327	BMM	05	M. Biesmans, Belgium	39
				BGW	27	G. Billings, Canada	497
ALN		R. Allison, IA	62	BXN	01	M. Bisson, France	351
ARC		R. Altenburg, PA	6	BXT	08	T. Bjerkgard, Norway	20
AAA	12	A. Alves, Brazil	61	BKL		J. Blackwell, NH	733
AMH		M. Amato, CT	9	BWJ		J. Bohdanowicz, Canada	3
AAQ	03	A. Ambrus, Hungary	413	BOU	03	M. Boros-Olah, Hungary	8
AAX	13	A. Amorim, Brazil	3147	BXY	03	T. Borsanyi, Hungary	7
AMS	01	A. Amosse, France	40	BRJ		J. Bortle, NY	3268
ALQ		L. Andree, IL	4	BFM		M. Borton, MI	86
AJE		J. Andrei, Romania	4	BMU	04	R. Bouma, Netherlands	614
ABG	08	B. Andresen, Norway	97	BDG	20	D. Boyd, England	4661
AMA		M. Antill, England	1	BMK		M. Bradbury, MA	7
AWJ		W. Aquino, NY	996	BNW	02	W. Braune, Germany	75
ALU	03	L. Aranyi, Hungary	2	BHE	27	J. Breen, Canada	4
AWY	13	W. Araujo, Brazil	246	BDL		D. Breslin, MA	6
AAT	15	A. Ardanuy, Spain	16	BTB		T. Bretl, MN	138
AAM		A. Arminski, Poland	274	BHA	02	H. Bretschneider, Germany	1370
AMN		M. Armstrong, AZ	34	BOS	05	E. Broens, Belgium	68
ADN		D. Arnautovic, Australia	24	BJQ		J. Brooks, CA	14
ARJ		J. Arnold, AL	82	BQS	15	J. Bros, Spain	145
AWC	27	C. Aronowitz, Canada	143	BXV	15	X. Bros, Spain	676
ATI	03	T. Asztalos, Hungary	210	BQK		K. Brown, CO	5
AKT		T. Atkin, FL	79	BHC	11	C. Bruhn, Denmark	2
ADI	02	D. Augart, Germany	296	BOA	01	A. Bruno, France	34
AAV		A. Avtanski, CA	93	BXD		A. Burda, Romania	392
ARX		R. Axelsen, Australia	111	BUY		J. Burns, NC	3
BIX		I. Bacon, Australia	150	BFC		F. Burton, CO	8
BIE	05	A. Baillien, Belgium	157	BIW		N. Butterworth, Australia	8746
BWW		W. Bakewell, CA	7	BUG	11	S. Buus, Denmark	35
BAH		A. Balcerek, Poland	39	CCB		C. Calia, CT	97
BFU	18	F. Baldanza, Italy	103	CPN		P. Campbell, Canada	113
BM		M. Baldwin, IN	1482	CMP		R. Campbell, FL	681
BCD		R. Ball, England	15	CEM	15	E. Capella, Spain	271
BIV	03	I. Balogh, Hungary	825	CVJ	06	J. Carvajal Martinez, Spain	1
BZO	03	Z. Balogh, Hungary	122	CZR		R. Casalino, Italy	140
BVN		M. Banfi, Italy	15	CRI	15	R. Casas, Spain	5
BGZ		G. Banialis, IL	45	CJS		J. Case, MO	175
BXF	09	A. Bannikov, Ukraine	38	CLQ		L. Cason, VA	55
BFN	01	N. Bapt, France	3	CKN		K. Castle, AZ	107
BXA	09	A. Baransky, Ukraine	176	CWO		W. Castro, OH	18
BKQ	09	A. Barkanov, Ukraine	49	CQJ		J. Centala, IA	2766
BBO		B. Barnes, TX	1	CBI		B. Chandler, CA	2
BSR	18	S. Baroni, Italy	135	CHG	01	H. Chantegros, France	163
BCT	01	C. Barret, France	8	CNT		D. Chantiles, CA	457
BYO		T. Barry, Australia	219	CGF		G. Chaple Jr., MA	2886
BXJ		J. Baxter, Canada	808	CJL		J. Charles, MI	4
BBA		B. Beaman, IL	1124	CPQ		P. Charleton, England	3866
BWX	27	A. Beaton, Canada	253	CDY		D. Chekhovich, Russia	37
BJS		J. Bedient, HI	178	CKJ		J. Cheng, PA	9
BSI		S. Bedingfield, Canada	973	CII	09	I. Chernyshov, Ukraine	22

Table 3. AAVSO Observers, 2003–2004, cont.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
CLK		W. Clark, MO	67	DAP	07	A. Diez Gago, Spain	9
CWP		W. Clarke, CA	61	DLA		A. Dill, KS	642
CJX		J. Cliff, Canada	1	DIL		W. Dillon, TX	116
CGY		T. Climent Garcia, Spain	75	DRL		S. Dirocco, OH	26
CPS	05	P. Cloesen, Belgium	1240	DVQ	03	V. Dobos, Hungary	3
CRX		R. Cnota, Poland	308	DST		S. Dodder, AZ	11
CSN		S. Coberly, IL	11	DPL		P. Dombrowski, CT	1
CLF		L. Cohen, MA	18	GDB	03	G. Domeny, Hungary	71
CGX		G. Cole, NV	7	DEH		E. Donaghy, PR	3
CME	18	E. Colombo, Italy	477	DSN		S. Donnell, CO	13
CMG	04	G. Comello, Netherlands	5565	DLX	03	L. Dorogi, Hungary	37
CPO		P. Conde, Australia	243	DRI		R. Doxtater, AL	70
CXA		A. Cook, CA	122	DYU	09	Y. Dulitch, Ukraine	45
COO		L. Cook, CA	67077	DMO	01	M. Dumont, France	368
CK		S. Cook, NM	742	DAO		A. Dutton, Australia	88
CWT		W. Cooney, LA	3	DKS		S. Dvorak, FL	2414
COM	10	T. Cooper, South Africa	-	DGP		G. Dyck, MA	2132
CUA		A. Corlan, Romania	2138	EEZ		E. Eggleston, TX	2
CXR		R. Corlan, Romania	2179	EMA		M. Eichenberger, Switzerland	49
CDV		D. Cornell, IL	75	EPE	01	P. Enskonatus, Germany	269
CLZ	01	L. Corp, France	15	EJO	03	J. Erdei, Hungary	327
CAI		A. Correia, Portugal	3789	EWK		K. Ewing, FL	6
CTO	05	T. Corstjens, Belgium	58	FTB		T. Fabjan, Slovenia	672
CUJ		J. Costa, MD	16	FBO		B. Fain, MT	48
CNQ		N. Costa, Portugal	7	FSU		S. Fanutti, Canada	253
COV		V. Coulehan, NY	393	FAJ	03	A. Fejes, Hungary	138
CWD		D. Cowall, MD	9	FKJ	03	J. Fekete, Hungary	1951
COW		H. Coward, TX	29	FJP	15	J. Felip, Spain	11
CDN		D. Cowles, LA	72	FMQ		M. Fiaschi, Italy	5
CR	14	T. Cragg, Australia	1198	FRF	03	R. Fidrich, Hungary	83
CFY		J. Craig, MA	5	FSJ	01	J. Fis, France	86
CTX		T. Crawford, OR	656	FCI		C. Fleming, Canada	4
CRR		R. Crumrine, NY	33	FMU	15	M. Flores, Spain	6
CGB	03	G. Cseri, Hungary	7	FLE		L. Florin, Romania	196
CTI	03	T. Csorgei, Hungary	702	FSE	18	S. Foglia, Italy	972
CSM	03	M. Csukas, Romania	1650	FFC	03	F. Foldesi, Hungary	20
CCO	06	C. Cubillo Rubiato, Spain	3	FJQ		J. Foster, CA	359
CKB		B. Cudnik, TX	926	FXJ		J. Fox, MN	183
CBS	03	B. Czegledi, Hungary	43	FRB		B. Frank, CA	4
DRQ		R. Dannenberg, CA	10	FBN	10	B. Fraser, South Africa	233
DAM	06	A. Darriba Martinez, Spain	61	FML	04	C. Fridlund, Netherlands	36
DMP		M. Dasgupta, India	10	FAA	18	A. Frosina, Italy	8
DJS	20	J. Day, England	382	FMG		G. Fugman, NE	132
DPP	05	P. De Ponthiere, Belgium	197	GBZ	21	O. Gabzo, Israel	140
DVI	10	F. De Villiers, South Africa	30	GHT	27	G. Gaherty, Canada	288
DVA		D. Del Valle, PR	11	GMO		M. Gainer, PA	49
DFR		F. Dempsey, Canada	6	GKV	27	K. Gallant, Canada	5
DAT		A. Derdzikowski, Poland	137	GAA		P. Garey, IL	6
DAA	03	A. Derekas, Hungary	7	GTY	09	T. Garkusha, Ukraine	13
DNO		O. Deren, Poland	803	GPG		P. Garossino, TX	4
DDD		D. Dickinson, AZ	26	GBL		B. Gary, AZ	1125
DHN	02	H. Diederich, Germany	68	GKI		K. Geary, Ireland	128
DPA	05	A. Diepvens, Belgium	3243	GAI	03	A. Gecse, Hungary	1
DSV		S. Diesso, WI	39	GCP	02	C. Gerber, Germany	141
DRG		R. Diethelm, Switzerland	97	GHS		H. Gerner, WI	481

Table 3. AAVSO Observers, 2003–2004, cont.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
GMJ	10	M. Geyser, South Africa	3	HJS		J. Hissong, OH	9
GAO		A. Giambersio, Italy	1	HTA		T. Hoare, England	87
GGU	04	G. Gilein, Netherlands	942	HJX	13	J. Hodar Munoz, Brazil	13
GVN		V. Giovannone, NY	23	HWD		W. Hodgson, Australia	70
GMY		M. Glennon, Ireland	130	HDF		D. Hohman, NY	132
GFT	01	F. Gobet, France	171	HBA	02	A. Holbe, Germany	15
GFB		W. Goff, CA	533	HZJ		J. Holtz, PA	237
GSH	09	A. Golovin, Ukraine	5	HOO	04	G. Hoogeveen, Netherlands	1155
GPJ		P. Gonzales, CA	95	HJZ		J. Horne, CA	74
GZN	07	A. Gonzalez Herrera, Spain	1086	HDU		D. Hurdis, RI	12
GAQ		A. Goossen, NY	59	HUR	20	G. Hurst, England	2245
GDE	10	D. Gordon, South Africa	3	HUZ	27	R. Huziak, Canada	4989
GKA		K. Graham, IL	1629	ILE	03	E. Illes, Hungary	608
GRL	08	B. Granslo, Norway	967	IPA	12	P. Ingrassia, Argentina	844
GMZ		M. Graziani, Italy	152	ICA		C. Ionut, Romania	5
GVD	16	V. Grigorenko, Russia	392	ITM	17	T. Itkonen, Finland	204
GBI		B. Grim, UT	38	IVM	16	V. Ivanov, Russia	385
GLO		L. Groves, IL	1	IGE		G. Iwaszek, NM	30
GCO		C. Gualdoni, Italy	2983	JMA		M. Jacquesson, France	121
GIG	09	I. Guletsky, Ukraine	47	JTP	01	P. Jacquet, France	164
GMU		M. Gundy, GA	19	JAT	03	T. Jakabfi, Hungary	27
GUN	01	J. Gunther, France	2460	JM		R. James, NM	12034
GGX	04	G. Guzman, France	105	JKK	11	K. Jensen, Norway	142
HCS	03	C. Hadhazi, Hungary	3053	JLR		R. Jepeal, CT	1714
HTY		T. Hager, CT	1	JGE	06	G. Jiminez, Spain	27
HK		E. Halbach, CO	278	JOG		G. Johnson, MD	125
HHD		D. Hall, TX	6	JA	14	A. Jones, New Zealand	5785
HMG	03	G. Halmi, Hungary	30	JCN	20	C. Jones, England	1624
HXD		D. Hamilton, GA	56	JJI		J. Jones, OR	46
HP		W. Hampton, CT	64	JJM		J. Jones, TX	4
HPR		C. Harper, NH	2	JKL		K. Jones, Australia	83
HBB		B. Harris, FL	114	JRW	10	R. Jones, South Africa	171
HNR	03	N. Hars, Hungary	3	JRC	15	R. Josa, Spain	58
HAV		R. Harvan, MD	476	JSZ	03	S. Jozsa, Hungary	43
HAI		A. Hastings, MA	68	JAX	17	A. Junkkari, Finland	4
HJK		J. Hauk, VA	165	KDA		D. Kaiser, IN	224
HHU	05	H. Hautecler, Belgium	4378	KB		W. Kaminski, NM	286
HKY	27	K. Hay, Canada	1	KVT	09	V. Kaminsky, Ukraine	57
HAB		R. Hays Jr., IL	1392	KAM	02	A. Kammerer, Germany	12
HBD		B. Heathcote, Australia	1366	KMO		M. Kardasis, Greece	70
HSD		D. Hedges, England	4	KAZ	03	A. Kaszt, Hungary	18
HKN		K. Hedrick, WV	409	KEI		E. Kato, Australia	10
HQA		A. Henden, AZ	1189	KTI	03	T. Katonka, Hungary	94
HTG	08	T. Henriksen, Norway	19	KMQ	06	M. Kearns, Spain	11
HGO		G. Henson, TN	6	KSN		S. Kenaga, IN	40
HJN	10	J. Hers, South Africa	112	KSU		S. Kent, IL	4
HES		C. Hesseltine, WI	1850	KZX	03	Z. Kereszty, Hungary	255
HEV	03	Z. Hevesi, Hungary	-	KSH		S. Kerr, Australia	3
HIV	03	I. Hidvegi, Hungary	160	KSZ	03	S. Keszthelyi, Hungary	470
HDJ		D. Higgins, Australia	97	KKX		K. Kida, Poland	35
HRI		R. Hill, AZ	357	KKG		K. King, TN	25
HIM		W. Hill, MA	82	KRB		R. King, MN	538
HED		D. Himes, OH	47	KQR		R. Kinne, NY	9
HZR	02	R. Hinzpeter, Germany	683	KIR		P. Kirby, AZ	17
HIR		Y. Hirasawa, Japan	1113	KIL	03	L. Kiss, Australia	1530

Table 3. AAVSO Observers, 2003–2004, cont.

Code	Org.	Name	No. Obs.	Code	Org.	Name	No. Obs.
KMM	09	M. Kititsa, Ukraine	72	LGO		G. Lilley, GA	6
KGE	08	G. Klingenberg, Norway	12	LAI	27	A. Ling, Canada	212
KCH		C. Knapp, WV	101	LJQ		J. Linnolt, NY	3
KPL		P. Kneipp, LA	120	LMK		M. Linnolt, HI	2381
KGT		G. Knight, ME	26	LJX	01	J. Llapasset, France	9
KSP		S. Knight, ME	45	LOB	06	J. Lobo-Rodriguez, Spain	12
KRV		R. Koff, CO	177	LTB		T. Lubbers, MN	7
KHL		M. Kohl, Switzerland	90	LBG		G. Lubcke, WI	272
KHJ		H. Koller, Canada	35	LKA		K. Luedeke, NM	81
KRS		R. Kolman, IL	2234	LMJ		M. Luostarinen, Finland	192
KMA		M. Komorous, Canada	2164	MBJ	27	J. Mac Rae, Canada	1
KDZ		D. Kopczynski, Poland	36	MFC	27	C. MacDonald, Canada	1
KMP		M. Koppelman, MN	1619	MDW		W. MacDonald II, Canada	1940
KSG		G. Koronis, Greece	9	MMT	17	M. Maenpaa, Finland	70
KOS	03	A. Kosa-kiss, Romania	5301	MFA	09	A. Maidyk, Ukraine	432
KLX		L. Koscianski, MD	150	MQA	09	A. Maidyk, Ukraine	994
KAF	03	A. Kovacs, Hungary	42	MQN	09	N. Maidyk, Ukraine	8
KVS	03	A. Kovacs, Hungary	627	MZG	02	G. Maintz, Germany	82
KBV	03	B. Kovacs, Hungary	10	MVD		D. Mais, CA	156
KGC	03	G. Kovacs, Hungary	1	MLI		L. Maisler, NY	104
KGF	03	G. Kovacs, Hungary	1	MYO		O. Malachov, Russia	14
KVI	03	I. Kovacs, Hungary	1662	MQL		S. Mandelli, Italy	42
KJU	03	J. Kovacs, Hungary	27	MPH		J. Manker, NM	62
KSR	03	S. Kovacs, Hungary	2025	MKE		R. Manske, WI	346
KNN	09	N. Kovyryov, Ukraine	115	MGK		G. Maravelias, Greece	19
KFK		F. Krafka, TX	105	MMV	09	M. Marichev, Ukraine	80
KTC		T. Krajci, VA	11307	MKW		A. Markiewicz, Poland	2552
KWO	02	W. Kriebel, Germany	1900	MBD		B. Markowski, Poland	5
KIS	02	G. Krisch, Germany	1919	MXS	03	S. Marosi, Hungary	667
KTZ		T. Krzyt, Poland	1343	MYC		C. Martin, NE	27
KUC	01	S. Kuchto, France	207	MQT	03	M. Martinecz, Hungary	4
KBE		B. Kulbaba, Canada	8	MMG		M. Martinengo, Italy	79
KZQ	03	Z. Kuli, Hungary	111	MQJ		J. Martins, Portugal	6
KMI	16	M. Kuzmin, Russia	1	MRX	02	H. Marx, Germany	1033
KYU	09	Y. Kuznetsov, Ukraine	1	MKY	09	K. Maslennikova, Ukraine	68
LCR	15	C. Labordena, Spain	216	MN		H. Mason, OR	40
LCJ	06	J. Lacruz, Spain	3	MAV	16	D. Matsnev, Russia	412
LDJ	14	D. Lane, Canada	1	MTH		H. Matsuyama, Australia	4537
LTO	02	T. Lange, Germany	1602	MTM		M. Mattei, MA	2
LAB		B. Laurent, France	2	MAZ		M. Mazurek, CA	44
LJJ		J. Laurent, France	30	MXY		J. McDlusky, TX	280
LZT		T. Lazuka, IL	1172	MDP		P. McDonald, Canada	641
LEB	01	R. Lebert, France	279	MGH	20	H. McGee, England	3092
LMT		M. Legutko, Poland	231	MGG		G. McGinnis, WA	4
LDI		D. Lehmann, Germany	7	MCI		B. McInnerny, England	85
LAE		A. Leighton, England	3	MVQ		V. Medvedev, Russia	37
LKM		K. Lemke, Canada	63	MED	20	K. Medway, England	1190
LNZ		G. Lenz, LA	10	MLV	27	L. Meier, Canada	16
LJL		J. Leonard, IL	22	MMB	04	M. Meiling, Netherlands	13
LSI		S. Leonini, Italy	6	MVS	27	S. Meister, Germany	14
LJP		J. Leppert, ND	5	MHI		H. Menali, MA	849
LNL		N. Lerner, CA	3	MHY		H. Mendt, Venezuela	15
LEV		A. Leveque, CA	130	MXD		D. Messier, CT	4165
LVY		D. Levy, AZ	94	MTK		T. Michalik, VA	439
LIW		W. Liller, Chile	7	MOK	11	O. Midtskogen, Norway	1264

Table 3. AAVSO Observers, 2003–2004, cont.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
MXM		M. Mifsud, Malta	118	PTQ		T. Parson, MN	506
MVM		M. Millar, Canada	22	PJJ	15	J. Pastor, Spain	37
MXG		C. Miller, IN	4	PSP		P. Pastore, NY	3
MZS	03	A. Mizser, Hungary	1502	PMY		M. Paulson, Canada	14
MZI	03	C. Mizser, Hungary	11	PKV		K. Paxson, TX	40
MCE		E. Mochizuki, Japan	14	PN		A. Pearlmutter, MA	15
MQD	03	M. Mod, Hungary	2	PTI		N. Peattie, CA	20
MRV		R. Modic, OH	202	PEI	11	E. Pedersen, Denmark	111
MOU	15	J. Molina, Spain	30	PWD		W. Pellerin, TX	14
MOL		J. Molnar Jr., VA	247	PIV		I. Peretto, Italy	395
MPV	03	P. Molnar, Hungary	2204	PVA	27	V. Petriew, Canada	643
MMW		M. Momose, Japan	109	PXR	20	R. Pickard, England	260
MLF	10	L. Monard, South Africa	2865	PBN		B. Pickett, Australia	12
MHC	12	C. Montalvo, Peru	20	PTZ	02	J. Pietz, Germany	1
MOI	01	E. Morillon, France	3616	PHT		H. Pinkston, VA	7
MOW		W. Morrison, Canada	4999	PMZ	15	M. Pinto, Spain	26
MDA		A. Morton, WA	51	PIJ	03	J. Piriti, Hungary	716
MVZ	03	J. Morvai, Hungary	1	PPL		P. Plante, OH	137
MMP	10	J. Mostert, South Africa	14	PPZ		P. Plaszczyk, Poland	422
MHR	13	R. Mota das Chagas, Brazil	2	PJP	10	J. Plomp, South Africa	23
MMH		M. Muciek, Poland	12	PAW		A. Plummer, Australia	2933
MKH		S. Mukherjee, India	27	AST	12	R. Podesta, Argentina	101
MDU		D. Mulinski, Poland	52	PRX		R. Poklar, AZ	679
MMU		M. Munkacsy, RI	2519	PRS		R. Poleski, Poland	45
MUY	05	E. Muyllaert, Belgium	17144	PMO	10	M. Poll, South Africa	107
NZO	03	Z. Nagy, Hungary	70	PVR	03	V. Polozun, Hungary	1
NDQ		D. Naillon, France	620	PWR		R. Powaski, OH	17
NDA		D. Nance, AL	3	POX		M. Poxon, England	147
NLX	14	P. Nelson, Australia	8010	PYG		G. Poyner, England	8855
NJO	02	J. Neumann, Germany	229	PDO		D. Pray, RI	7
NVT		V. Nevski, Belarus	7	PAH		A. Price, MA	181
NMI		M. Nicholas, AZ	2556	PDQ	01	D. Proust, France	38
NGM	15	G. Nieto, Spain	221	PDT		D. Prusaitis, WI	14
NFD	04	F. Nieuwenhout, Netherlands	715	PUJ	06	F. Pujol, Spain	692
NKL		K. Nuber, Germany	12	PCH		C. Pullen, CA	1007
ONJ		J. O'Neill, Ireland	55	PFR	03	F. Puskas, Hungary	282
OCN	27	S. O'Connor, Canada	8	PSY		S. Pyatih, Belarus	152
OIK		I. Okonkwo, MO	29	QFI	05	F. Questier, Belgium	9
OAR	17	A. Oksanen, Finland	3131	QNK	20	N. Quinn, England	843
OOV	09	O. Olkhovska, Ukraine	32	RKE	02	K. Raetz, Germany	470
OHJ	03	H. Olle, Hungary	22	RWA		W. Rauscher, PA	579
ODG		D. Ondich, MN	20	RZS	03	Z. Reiczigel, Hungary	208
OSW		W. Osborn, MI	4	REP	24	P. Reinhard, Austria	394
OJR	06	J. Osorio, Spain	2147	RFP	13	P. Reis-Fernandes, Brazil	66
OPR		P. Ossowski, Poland	14	RWG	02	W. Renz, Germany	591
OJJ		J. Ott, CO	1	RXM	03	M. Repas, Hungary	1
OJS		J. Ott, KY	116	RMQ		M. Reszelski, Poland	404
OCR	05	C. Otten, Belgium	1157	RNA	03	N. Rezsabek, Hungary	154
PPK	17	P. Paakkonen, Finland	774	RJG		J. Ribeiro, Portugal	3788
PJC		J. Palmisano, AZ	2	RIX	14	T. Richards, Australia	5751
PPC	03	P. Papics, Hungary	59	RPB		P. Richwine, AZ	114
PCC	18	R. Papini, Italy	1084	RQ		C. Ricker, MI	22
PPS	03	S. Papp, Hungary	3891	RRZ	03	R. Ricza, Hungary	956
PSQ	03	S. Papp Jr., Hungary	45	RCW		C. Robertson, KS	918
PVN	03	V. Papp, Hungary	13	RSE		S. Robinson, MD	1197

Table 3. AAVSO Observers, 2003–2004, cont.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
RAX	15	A. Roca, Spain	14	SBI	03	B. Sipocz, Hungary	224
RJX	01	J. Roca, France	60	SYI		E. Skrzynecki, Poland	220
RZD	06	D. Rodriguez, Spain	187	SVO	09	V. Slusarenko, Ukraine	33
RMU	07	M. Rodriguez Marco, Spain	134	SJX	10	J. Smit, South Africa	1192
RJA	01	J. Rohart, France	118	SJE		J. Smith, CA	78
ROG		G. Ross, MI	107	SHA		H. Smith, MI	82
RGN		G. Rossi, Italy	125	STL		M. Smith, NM	144
RGL	21	G. Rotem, Israel	12	SUI		R. Smith, England	504
RO		J. Rousom, Canada	1	SKA	16	K. Sokolovsky, Russia	24
RR		R. Royer, CA	306	SBV	03	B. Somosvari, Hungary	9
RMZ	03	M. Rozsahegyi, Hungary	13	SBX		A. Sonka, Romania	2193
RPH		H. Rumball-Petre, CA	16	SSZ	03	Z. Soos, Hungary	46
REM		E. Rumbo, Australia	126	SYP		P. Soron, Canada	25
RTH		T. Rutherford, TN	2	SOW	17	J. Sorvari, Finland	107
RSV		S. Ryan, Ireland	1	SOI		M. Soukup, TX	8
SOC		R. Sager, NY	12	SWQ	13	W. Souza, Brazil	288
SJQ		A. Sajtz, Romania	3787	SJZ		J. Speil, Poland	2330
SSU		S. Sakuma, Japan	1389	SXR	03	M. Sragner Keszthelyi, Hungary	13
SVP	15	V. Sallares Pujol, Spain	60	SBH		B. Standifer Jr., TN	150
SAH		G. Samolyk, WI	10946	SYW		W. Stansley, NJ	7
SNN		J. Sanford, CA	4	STR		R. Stanton, CA	22
SXY		A. Sankowski, Poland	1124	SDB		D. Starkey, IN	5326
STC		G. Santacana, PR	46	STF		G. Stefanopoulos, Greece	145
SKI	03	K. Sarneczky, Hungary	212	STI		P. Steffey, FL	112
SGE		G. Sarty, Canada	384	SVR		R. Stencel, CO	22
SSQ		R. Sass, NM	237	SET		C. Stephan, OR	879
SVA		A. Saw, Australia	24	SRB		R. Stine, CA	2745
SFI		T. Scarmato, Italy	13	STQ		N. Stoikidis, Greece	306
SXK	02	M. Schabacher, Germany	110	SDI		D. Storey, England	111
SDY	02	D. Scharnhorst, Germany	613	SDV		D. Stotz, TX	8
SFS		S. Schiff, VA	41	SFU		M. Streamer, Australia	48
SPK		P. Schmeer, Germany	99	SHZ	02	H. Struever, Germany	51
SHV	03	A. Schmidt, Hungary	220	SRX	14	R. Stubbings, Australia	7052
SWU	04	W. Schmidt, Netherlands	33	SBB		E. Stubblefield, VA	2
SVZ	03	Z. Schmidt, Hungary	35	SUK		M. Stuka, CA	31
SQR		R. Schmude, GA	19	SAC	02	A. Sturm, Germany	214
SUF		C. Schneider, CA	172	SUQ		A. Sucker, Germany	25
SQE		R. Schoenstene, IL	210	SUS		D. Suessmann, Germany	1317
SHX	02	H. Schubert, Germany	43	SUH		M. Suhovecky, IN	3
SYU	02	M. Schubert, Germany	220	SQC		C. Suslavage, CA	30
SCZ	01	E. Schweitzer, France	225	SWV		D. Swann, TX	452
SFG		J. Scipien, Poland	9	SSW		S. Swierczynski, Poland	3981
SQW		W. Selvig, Canada	113	SDX		D. Sworin, CA	28
SIV		I. Sergey, France	8758	SVB	03	B. Szabo, Hungary	2
SDF		D. Shackleford, CA	138	SYY	03	E. Szabo, Hungary	1
SHS		S. Sharpe, ME	2543	SFX	03	T. Szalai, Hungary	12
SDP		D. Sharples, NY	12	SAO	03	A. Szauer, Hungary	276
SSA		A. Sharpless, WA	107	SXB		M. Szczerba, Poland	12
SVV		V. Shchukin, Russia	705	SYV	03	P. Szekely, Hungary	598
SYC	27	C. Sheppard, Canada	120	SFF	03	T. Szekffy, Hungary	4
SHW		W. Sherman, TX	68	SNO	03	L. Szentasko, Hungary	5
SQH	13	R. Shida, Brazil	2	SFQ	03	T. Szentasko, Hungary	1
SGQ		C. Sigismondi, Italy	2	TDB		D. Taylor, Canada	1906
SNE		N. Simmons, WI	291	TMT		M. Templeton, MA	104
SXN		M. Simonsen, MI	7310	TJV	01	J. Temprano, Spain	407

Table 3. AAVSO Observers, 2003–2004, cont.

Code	*Org.*	*Name*	*No. Obs.*	*Code*	*Org.*	*Name*	*No. Obs.*
TPS	03	I. Tepliczky, Hungary	393	WGR		G. Walker, MA	822
TDI		D. Terrell, CO	74	WBY		B. Walter, TX	22
TTU		T. Tezel, Turkey	9	WHN	03	H. Walter, Hungary	18
TGG		W. Thomas, CA	166	WJX		J. Wan, Australia	1
THR		R. Thompson, Canada	451	WPT	10	P. Wedepohl, South Africa	434
THU	01	B. Thouet, France	116	WEI		D. Weier, WI	359
TKK	17	K. Tikkanen, Finland	51	WDZ		D. Wells, TX	451
TPE	17	P. Tikkanen, Finland	443	WC		R. Wend, IL	31
TIA	03	A. Timar, Hungary	32	WWO	02	W. Wenzel, Germany	10
TST		S. Toothman, MI	4	WEF		F. West, MD	810
TZK	03	Z. Torok, Hungary	2	WJD		J. West, KS	1105
TTK	03	K. Toth, Hungary	103	WDT		D. Wetherington, FL	1
TSC		S. Tracy, CT	108	WAH		A. Whiting, AZ	62
TRF		C. Trefzger, Switzerland	123	WMN		M. Whitten, TX	2
TBX	14	B. Tregaskis, New Zealand	3	WPK		P. Wiggins, UT	20
TJC		J. Truax, MI	5	WJO		J. Wilder, CA	3
TXA		A. Tudorica, Romania	92	WI		D. Williams, IN	1216
TAJ	09	A. Tumanova, Ukraine	131	WPX	14	P. Williams, Australia	11377
TTO	27	T. Tuomi, Canada	1	WRX		R. Williams, MI	27
TYS		R. Tyson, NY	411	WWJ		W. Wilson, England	796
UAN	03	A. Uhrin, Hungary	302	WBC		B. Wilson, TX	27
VFR	01	F. Vaclic, Czech Republic	64	WSN		T. Wilson, WV	512
VLN	01	L. Vadrot, France	9	WCP		C. Windisch, Germany	100
VST		S. Valentini, Italy	190	WBE		B. Winkelman, OK	35
BVE	04	E. Van Ballegoij, Netherlands	1783	WKM		M. Wiskirken, WA	2
VDE	04	E. Van Dijk, Netherlands	415	WUL	02	U. Witt, Germany	82
VPJ		J. Van Poucker, MI	12	WRZ		R. Wlodarczyk, Poland	227
VUG	04	G. Van Uden, Netherlands	20	WJC		J. Wojcik, NY	21
VWS	05	J. Van Wassenhove, Belgium	11	WRU		R. Wolfe, OH	23
VDL	05	J. Van der Looy, Belgium	4176	WSV		S. Wolfe, OH	27
VNL	05	F. Van Loo, Belgium	350	WJM		J. Wood, CA	83
VMT	05	T. Vanmunster, Belgium	25000	WPF		P. Wright, MN	99
VSD	05	D. Vansteelant, Belgium	50	WUB	04	E. Wubbena, Netherlands	42
VAU		A. Varanda, Portugal	5	YBA		B. Young, OK	1
VED	01	P. Vedrenne, France	6880	YJS	27	J. Young, Canada	32
VEN	03	I. Ven, Hungary	1	YKA		K. Young, CA	3
VET	01	M. Verdenet, France	1638	YME		M. Yutaka, Japan	1
VIA	01	J. Vialle, France	34	ZAG	03	G. Zajacz, Hungary	2
VMI	01	M. Vincenzi, Italy	154	ZAD		D. Zak, PA	58
VII	03	I. Vincze, Hungary	2	ZLT	03	T. Zalezsak, Australia	258
VJQ	01	J. Vinvent, France	9	ZFL		F. Zattera, Italy	26
VQJ	01	J. Vinvent, France	18	ZNA	09	N. Zavgorodnyaya, Ukraine	15
VJA	17	J. Virtanen, Finland	942	ZPA		P. Zeller, IN	103
VGK		G. Vithoulkas, Greece	1459	ZDM		D. Zhdanok, Russia	2
VRM		R. Vivaldi, Italy	47	ZOX	09	O. Zholob, Ukraine	96
VFK	02	F. Vohla, Germany	6950	ZAY	09	A. Zhugayevych, Ukraine	175
VOL		W. Vollmann, Austria	371	ZRE		R. Zissell, MA	1215
VYV	09	Y. Vovk, Ukraine	103				

These codes, which appear in the Table (AAVSO Observers 2003–2004), indicate observers are also affiliated with the groups below:

01 Association Française des Observateurs d'Étoiles Variables (AFOEV)
02 Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV) (Germany)
03 Magyar Csillagàszati Egyesület, Valtózocsillag Szakcsoport (Hungary)
04 Koninklijke Nederlandse Vereniging Voor Weer-en Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands)
05 Vereniging Voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belgium)
06 Madrid Astronomical Association M1 (Spain)
07 Asociacion de Variabilistas de Espagne (Spain)
08 Norwegian Astronomical Society, Variable Star Section
09 Ukraine Astronomical Group, Variable Star Section
10 Astronomical Society of Southern Africa, Variable Star Section
11 Astronomisk Selskab (Scandinavia)
12 Liga Ibero-Americana de Astronomia (South America)
13 Brazilian Observational Network REA
14 Royal Astronomical Society of New Zealand, Variable Star Section
15 Agrupacion Astronomica de Sabadell (Spain)
16 Association of Variable Star Observers "Pleione" (Russia)
17 URSA Astronomical Association, Variable Star Section (Finland)
18 Unione Astrofili Italiani (Italy)
20 British Astronomical Association, Variable Star Section
21 Israeli Astronomical Association, Variable Star Section
24 Astronomischer Jugendclub (Austria)
27 Royal Astronomical Society of Canada

Table 4. Observation statistics for fiscal year 2003–2004 (see Figures 5, 6, and 7).

Observations (increments of 1000)	*No. Observations per increment*	*% of All Observations*	*No. Observers pr increment*
1–999	91401	17	641
1000–1999	64723	12	46
2000–2999	66971	12	27
3000–3999	45652	8	13
4000–4999	31905	6	7
5000–5999	27728	5	5
6000–6999	13830	3	2
7000–7999	14362	3	2
8000–8999	34369	6	4
9000–9999	0	0	0
10000+	154885	28	7

Table 5. Individuals requesting AAVSO data during fiscal year 2003–2004.*

Name	*Affiliation/Location*
L. Abbey (4)	Atlanta, GA
B. Alain	Noyal sur Vilaine, France
G. Aleksandras	Vilnius, Lithuania
R. Arpád	Veszprém, Hungary
N. Asta	Vilnius Pedagogical University, Vilnius, Lithuania
S. Aydin (7)	State University of New York, Stony Brook, NY
D. Bailey	Baton Rouge, LA
B. Barnes	Round Rock, TX
J. Bartee (2)	Department of Physics, University of Florida, Gainesville, FL
S. Barway	Inter-University Centre for Astronomy and Astrophysics, Pune, India
E. Baskys	Vilnius, Lithuania
M. Basta	Prague, Czech Republic
K. Bauer	Heidelberg, Germany
B. Becker	Dublin, Ireland
M. Bell	University of Massachusetts, Amherst, MA
B. Bergeron	Port Allen, LA
P. Berlioz-Arthaud (17)	St. Genis-Laval Cedex, France
R. Bhathal (3)	Penrith South DC, Australia
L. Bichon (4)	Melun, France
J. Blackwell	Northwood Ridge Observatory, Northwood, NH
B. Boening	Brake, Germany
K. Boogers	Lommel, Belgium
M. Bora (2)	Physics Department, Gauhati University, Guwahati, India
M. Borawska	Warszawa, Poland
C. Brozek (6)	Nantucket, MA
R. Buchler (3)	University of Florida, Gainesville, FL
M. Bunnell	Price, UT
M. Burlak (15)	Moscow, Russia
D. Butler	Congleton, England
M. Catelan (2)	Pontificia Universidad Catolica, Facultad Fisica, Departamento de Astronomía y Astrofisica, Santiago, Chile
C. Çetinta	Ankara University Science Faculty, Department of Astronomy and Space Sciences, Ankara, Turkey
P. Charleton	Maulden, England
D. Chochol	Astronomical Institute, Slovak Academy of Sciences, Tatranska Lomnica, Slovakia
R. Chou	Vancouver, BC, Canada
K. Clark	Bridgend, England
J. Coffey (2)	Toronto, ON, Canada
E. Cole	Bloomington, IN
J. Connor	Nepean, ON, Canada
B. Cooke	Marshall Space Flight Center, Huntsville, AL
D. Cotton	Baton Rouge, LA
G. Cowan	Physics Deptartment, Royal Holloway, University of London, Egham, England
B. Crowley	Turramurra, Australia
H. Dale III	Emory University, Physics Department, Atlanta, GA
R. Dannenberg	Rockwell Scientific, CA
B. Davies (5)	Department of Physics and Astronomy, University of Leeds, Leeds, England
S. Deguchi (2)	Nagano, Japan
I. Dell'Antonio	Physics Department, Brown University, Providence, RI
D. de Martino (2)	INAF-Osservatorio Astron. Capodimonte Naples, Naples, Italy
L. de Matos	São Paulo, Brazil
A. de Oliveira Costa	São Paulo, Brazil

**List does not include individuals obtaining data or information directly from the AAVSO website. A number in parenthesis after the name indicates multiple requests.*

Table 5. Individuals requesting AAVSO data during fiscal year 2003–2004, cont.

Name	*Affiliation/Location*
P. Deroo	Heverlee, Belgium
A. Diez Gago	San Fernando, Spain
D. Dimitrov	Sofia, Bulgaria
P. Dirac	Bristol, England
J. dos Santos Jr.	Rio de Janeiro, Brazil
J. Dowd (3)	Trinity College, Dublin, Ireland
G. Dubus	Institut d'Astrophysique de Paris, Paris, France
W. Duschl	Institut fùr Theoretische Astrophysik, Heidelberg, Germany
M. Earl	Ottawa, ON, Canada
A. Ederoclite	Santiago, Chile
S. Engle	Astronomy and Astrophysics Department, Villanova University, Villanova, PA
C. Eppleman (8)	Gardners, PA
G. Faillace (4)	Goring-on-Thames, England
D. Fedele (3)	K. Schwarzschild, Garching bei Muenchen, Germany
R. Ferreira Pinto	Coventry, England
R. Finn	University of Massachusetts, Amherst, MA
R. Fischer	Berlin, Germany
N. Flint	Deltona, FL
M. Flores Soriano	Casas de Juan Núñez, Spain
S. Foglia (2)	Milano, Italy
J. Fragola	San Jose, CA
C. French	Cornell Univeristy, Ithaca, NY
P. Frith (2)	Clifton, England
U. Gaetani (4)	Uzzano, Italy
J. Gama	Plazas Amalucan, Puebla, Mexico
C. Garland	Honolulu, HI
P. Garossino	Katy, TX
B. Gary	Hereford, AZ
M. Geyser (2)	Pierre van Ryneveld, South Africa
A. Golovin (2)	Berdyansk, Ukraine
J. Gondek	Nanuet, NY
G. Good	Albuquerque, NM
A. Goswami	Koramangala, Bangalore, India
K. Graham	Grand Lake, CO
P. Gregory	Surrey, England
T. Guver	Istanbul University Astronomi and Uzay Bilimleri Bolumu, Beyazit, Istanbul, Turkey
R. Hamilton (2)	Astronomy and Astrophysics, Villanova University, Villanova, PA
A. Hasanzadeh (2)	Rasht, Iran
J. Hauk (3)	Stafford, VA
J. Havumaki	Lexington, MA
S. Hawthorn	Dayton, OH
C. Hedrick	Papillion, NE
R. Hemphill (2)	Canby, OR
N. Hogeboom	Gouda, The Netherlands
S. Holt	Reston, VA
C. Hudson	Whispering Pines Observatory, Jasper, AR
R. Hyman	Hertfordshire, England
M. Imberti	Cene, Italy
S. Irvine	Melbourne, Australia
B. Ivanovich (2)	Crimea, Ukraine
P. Jacquet	St. Nicolas de Bourgueil, France
S. Jafarzadeh (2)	Shahrake Gharb, Tehran, Iran
I. Jazarskaite	Vilnius, Lithuania
R. Jepeal	New Britain, CT
S. Jeschonek	Lake Worth, FL

Table 5. Individuals requesting AAVSO data during fiscal year 2003–2004, cont.

Name	*Affiliation/Location*
N. Jevtic	Richard Stockton College of New Jersey, Pomona, NJ
L. Jonaitis	Vilnius, Lithuania
R. Kamohara (2)	Tokyo, Japan
T. Karmo	University of Toronto, Toronto, ON, Canada
C. Karow (6)	Max-Planck-Institut für Radioastronomie, Bonn, Germany
B. Kaushala (3)	Toronto, ON, Canada
K. Kawabata (2)	Department of Physical Sciences, Hiroshima University, Hiroshima, Japan
S. Kawaler	Physics and Astronomy, Iowa State University, Ames, IA
E. Kievinaite	Vilnius, Lithuania
K. King (3)	Johnson City, TN
A. Kirillov	Astrokompleks, Chelyabinsk, Russia
L. Kiss	School of Physics, University of Sydney, Sydney, Australia
G. Klingenberg	Baasmoen, Norway
M. Kovzikov	Berdyansk, Ukraine
B. Krosney	Winnipeg, MN, Canada
S. Kuliavas	Vilnius Pedagogical University, Vilnius, Lithuania
T. Kurihara	Kanagawa, Japan
P. LaJoie	Baton Rouge, LA
M. Lar	Baton Rouge, LA
B. Lazar	Uluru, Australia
R. Lazauskaite (2)	Vilnius Pedagogical University, Vilnius, Lithuania
T. Lebzelter (3)	University of Vienna, Vienna, Austria
P. Ledger	Westford, MA
C. Lee	Department of Astronomy and Space Science, Chung-Buk National University, Cheonju, Korea
J. Lili	Wise Observatory, Tel Aviv University, Tel Aviv, Israel
C. Lock (5)	University of Hertfordshire, Hatfield Campus, Hertfordshire, England
L. López Pérez (4)	Sevill, Spain
W. MacDonald II	Winchester, ON, Canada
J. Mader	Kamuela, HI
D. Maystruk	Berdyansk, Ukraine
K. McGowan	Los Alamos National Laboratory, Los Alamos, NM
N. Mhlahlo	Physics and Astronomy Department, University of Sheffield, Sheffield, England
R. Mickevicius	Vilnius Pedagogical University, Vilnius, Lithuania
M. Miliajeva	Vilnius Pedagogical University, Vilnius, Lithuania
R. Miller	West Union, OH
Mindaugas (2)	Vilnius, Lithuania
A. Moffett (23)	East Tennessee State University, Johnson City, TN
S. Mondal	Physical Reasearch Laboratory, Navrangpura, Ahmedabad, India
G. Morgan	Clovis, CA
B. Mosser (2)	Observatoire de Paris, Meudon, France
E. Murray (2)	Wise Observatory, Tel Aviv University, Tel Aviv, Israel
M. Méndez (2)	Rota, Spain
T. Napoleao	São Paulo, Brazil
A. Naulickas	Vilnius Pedagogical University, Vilnius, Lithuania
C. Neily	Allston, MA
J. Ness	Hamburg, Germany
K. Nijakowski	Heilbronn, Germany
P. Németh	Malomsok, Hungary
K. Ohnaka (2)	Bonn, Germany
A. Okazaki	Unma University, Maebashi, Japan
A. Olech	Nicolaus Copernicus Astronomical Center, Warszawa, Poland
T. Onaka	Tokyo, Japan
B. Oneit	Vilnius Pedagogical University, Vilnius, Lithuania
E. Ozbek	Ankara, Turkey
L. Panizzi	Mantova, Italy

Table 5. Individuals requesting AAVSO data during fiscal year 2003–2004, cont.

Name	*Affiliation/Location*
C. Papini (3)	Pistoia, Italy
H. Park	Honolulu, HI
A. Pasiskevicius	Vilnius Pedagogical University, Vilnius, Lithuania
V. Patel (3)	Reading, England
P. Pelton (2)	Pasadena, CA
J. Perälä	Vaasa, Finland
S. Pillay	University of Cape Town, Rondebosch, Cape Town, South Africa
J. Pollock	Appalachian State University, Physics and Astronomy Department, Boone, NC
A. Poro	Shiraz, Iran
H. Portwood	St. John's School, Houston, TX
M. Povich	Center for Astrophysics, Cambridge, MA
G. Poyner	Birmingham, England
D. Prathipati (3)	Pune University, Pune, India
R. Pretorius (2)	Department of Astronomy, University of Cape Town, Cape Town, South Africa
J. Queue	Williamsport, PA
P. Ramoshebi (7)	Department of Physics, University of the Freestate, Bloemfontein, South Africa
S. Ramprakash	Potomac, MD
S. Randall	Baton Rouge, LA
S. Rattanasoon	Faculty of Science, Chiang Mai University, Chiang Mai, Thailand
W. Rauscher	Jenkintown, PA
A. Ravera	Chatham, NJ
A. Ray (12)	Department of Atmospheric and Space Sciences, University of Pune, Pune, India
W. Renz	Karlsruhe, Germany
D. Reynolds (2)	California State University, Fresno, CA
S. Ridgway (7)	National Optical Astronomy Observatory, Tucson, AZ
M. Ridha (4)	Alsaidya, Baghdad, Iraq
S. Robinson	Rockville, MD
V. Roccatagliata	Venice, Italy
A. Roche	Melun, France
B. Rodgers	Association of Universities for Research in Astronomy (AURA)/Chile, Tucson, AZ
B. Rodriguez	Nashville, TN
F. Rodriguez	Sevilla, Spain
S. Roques	Laboratoire d'Astrophysique, Toulouse, France
D. Royer (2)	Aix-en-Provence, France
G. Rufener (2)	Wadsworth, OH
L. Sabin (5)	University of Manchester Institute of Science and Technology, Department of Physics, Manchester, England
V. Sadzevicius	Vilnius Pedagogical University, Vilnius, Lithuania
G. Sanderson	Lincoln, England
D. Sarat (4)	Department of Space Science, University of Pune, Pune, India
R. Sargent	San Antonio, TX
G. Sarty (2)	University of Saskatchewan, Saskatoon, SK, Canada
S. Scannell	Gresham, OR
L. Schmidtobreick	European Southern Observatory, Santiago, Chile
M. Schmuck	University of Surrey, Guildford, England
T. Schrabback	Bonn University, Bonn, Germany
B. Shankar (2)	Mississauga, ON, Canada
J. Shaw (2)	Louisiana School for the Math, Science, and Arts, Natchitoches, LA
N. Shoukry	Helwan Observatory, Cairo, Egypt
A. Simon (2)	Kiev, Ukraine
R. Sinnott	Sky Publishing Corporation, Cambridge, MA
A. Smith	Department of Physics and Astronomy, The Open University, Milton Keynes, England

Table 5. Individuals requesting AAVSO data during fiscal year 2003–2004, cont.

Name	*Affiliation/Location*
K. Smith	Bonn, Germany
P. Smith	Clifton, England
B. Smith (33)	East Tennessee State University, Dept of Physics, Astronomy, and Geology, Johnson City, TN
M. Soukup	University of Texas, Fort Davis, TX
F. Soydugan	Catania Astrophysical Observatory, Catania, Italy
C. Spogli	University of Perugia, Perugia, Italy
M. Stamos (2)	Southsea, England
D. Starkey	Auburn, IN
J. Steinfadt	Tucson, AZ
D. Stevens	Malibu, CA
G. Stringfellow	Center for Astrophysics and Space Technology, University of Colorado, Boulder, CO
P. Szekely (2)	University of Szeged, Szeged, Hungary
A. Teenstra	Amsterdam, The Netherlands
J. Temprano	Santander, Spain
J. Thorstenses	Dartmouth Physics and Astronomy, Hanover, NH
A. Till	Derbyshire, England
G. Tiscali	Italy
D. Toscan	Capital Federal, Argentina
M. Vallone (2)	Torino, Italy
E. Van Dette	Eden, NY
T. Vanmunster	Landen, Belgium
R. van Nierop	Pretoria, South Africa
M. Vayro	Melbourne, Australia
C. Venturini	The Aerospace Corporation, Los Angeles, CA
M. Vincenzi	Roma, Italia
M. Vlasov	Haifa, Israel
W. Vollmann	Vienna, Austria
Y. Vovk	Ukraine Astronomical Group, Variable Star Section, Kiev, Ukraine
S. Vrielmann (3)	Hamburger Sternwarte, Hamburg, Germany
C. Wagner	Iowa City, IA
S. Wagner	Heidelberg, Germany
W. Wang	Tainan, Taiwan
K. Winnem	Hof, Norway
M. Wittkowski	European Southern Observatory, Garching, Germany
J. Wong	Toronto, ON, Canada
M. Wood	Physics and Space Sciences, Florida Institute of Technology, Melbourne, FL
H. Woodruff	School of Physics, University of Sydney, Sydney, Australia
R. Woolley	San Dimas, CA
A. Wozniak	Sainte-Anne-des-Plaines, Quebec, Canada
M. Yutaka	Nagasaki, Japan
E. Zasinas	Vilnius, Lithuania
B. Zavala	U.S. Naval Observatory, Flagstaff, AZ
K. Zloczewski	Warsaw University Astronomical Observatory, Warszawa, Poland