Committee Reports

Charge-Coupled Device (CCD)

Chair: Gary Walker
179 South Main Street, Sherborn, MA 01770

The CCD Program had another active and successful year in 2003–2004. Observers continued to perform variable star measurements with their CCD cameras. In addition to our program stars, observers continue performing significant photometry on many of the AAVSO program stars that were not "CCD Program Stars."

This year continued the need for a standard star observing program for CCD Observers. Observations were made on all 12 fields while many observers have posted their results.

The World Wide Web continues to be a useful tool, and along with the online data submission and the online light curve generator, the tasks of collecting data, and plotting light curves continue to be done on line and updated every 15 minutes.

Personally, I can say that batch uploading hundreds of time series observations, in a matter of seconds, without typing in any data, over the Web, and then seeing how they compare to each star's history, and the other observers from the night before, continues to be the highlight of my day. Many thanks to the Headquarters staff for this Web presence.

While the *BVRI* and CV/LPV Programs continue, I encourage each of you to Observe, Submit Online, View Online, and Data-mine whatever stars are of interest to you.

Many observations of the stars in the *BVRI* program were logged and put on the web. The *BVRI* CCD measurements on 8 LPV's now go back 12 years. The faint CV and LPV project which was started at the Spring 1997 meeting, continues to log *V* magnitudes.

Additional campaigns on BZ UMa, Var Her 04, ASAS 002511, and IL Aqr have been submitted this year. CCD observations for the year totaled 195,648, including *BVRI*, Faint CV/LPV, Campaigns, eclipsing binary stars, and other stars in the AAVSO validation file. It is clear that CCD time series observations, multi-color photometry, and coverage of stars too faint for visual observing are becoming increasingly popular with CCD observers, as shown by the exponentially rising curves of CCD observations received at the AAVSO since 1994 (Figure 1).

In addition, Aaron Price performed yeoman's duty by publishing electronic issues of *CCD Views* and leading the special campaigns.

The main goal for the next 6 months is to continue the *BVRI* and Faint CV and LPV Programs, to mentor future CCD observers, and to support future campaigns, thereby being a resource to observers embarking on this fascinating segment of AAVSO.

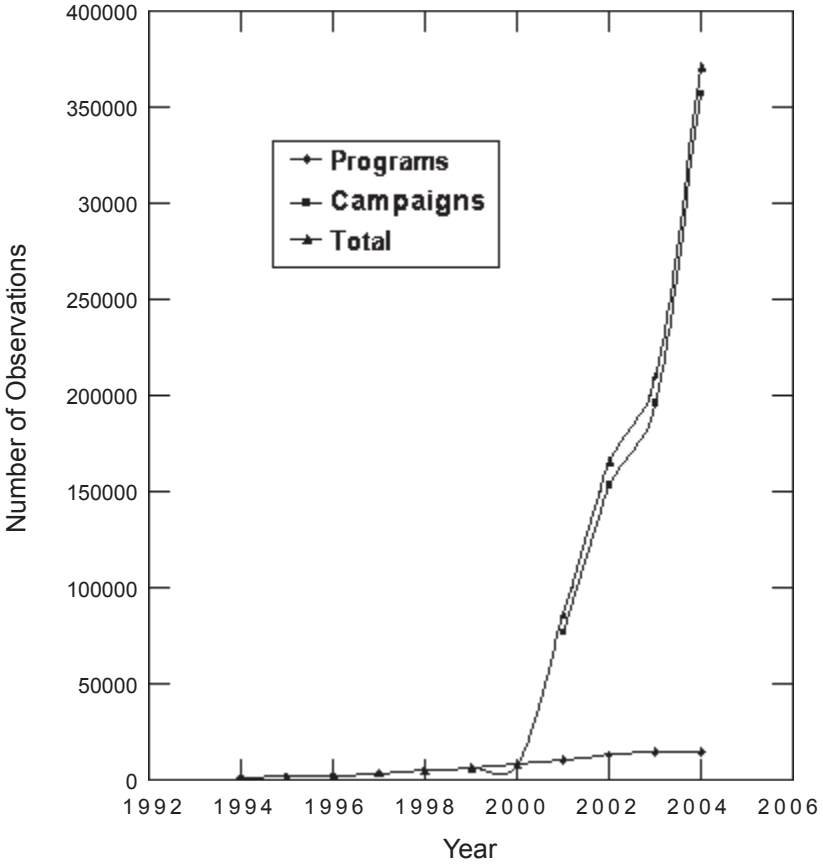

Figure 1. AAVSO CCD observations since 1994.

Eclipsing Binary

Chair: Marvin E. Baldwin
8665 N. County Road 775 E, Butlerville, IN 47223

We continue a long term effort to monitor a large number of these stars on a continuing basis to maintain ephemerides and to detect and define period changes.

During the past twelve months twenty-nine observers collected 21,205 observations, obtaining data on 258 eclipsing binary stars. CCD observers gathered 16,375 of these observations, 4800 were by visual observers, and a lone photoelectric photometry observer, Fanie DeVilliers, obtained 30 observations of an eclipse of NO Pup, making good application of this technology on a bright star difficult to observe by CCD.

Gerry Samolyk led CCD observers with more than 8000 observations, followed by Shawn Dvorak with more than 2000, Chris Hesseltine with nearly 1700, and Jerry Bialozynski with more than 1300. Your committee chairman led visual observers with more than 1000 observations, followed by Chris Stephan with nearly 700 and Sergio Foglia with nearly 500.

Observed Minima Timings of Eclipsing Binaries, Number 9 has been prepared for publication. Printing and distribution of copies will occur shortly. The publication will also be available on the AAVSO website. Gerry Samolyk has prepared the 2005 ephemeris, which will also be distributed and made available on the website.

New Chart

Chair: Charles E. Scovil
Stamford Observatory, 39 Scofieldtown Road, Stamford, CT 06903

No sales of charts have been made, since all charts are available on the website or CD.

The committee continues to revise charts into the new computer format, and to generate new charts that way.

Nova Search

Chair: Rev. Kenneth C. Beckmann
330 North Washington, Kahoka, MO 63445

From the period beginning September 1, 2003, and ending August 31, 2004, the AAVSO Nova Search Committee received news by way of the *AAVSO Alert Notice* that four novae were discovered (none visually).

On March 15, 2004, Hideo Nishmura of Kakegawa, Shizwaka-ken, Japan, discovered Nova Sagittarii 2004 at photographic magnitude 9.4. On March 17, 2004, William Liller, of Viña del Mar, Chile, independently discovered Nova Sagittarii 2004 at photographic magnitude 8.2.

On April 14, 2004, Akiro Takao of Kitakyushu, Japan, discovered Nova Ophiuchi 2004 at photographic magnitude 11.1.

On July 3, 2004, Grzegorz Pojmański of the Warsaw University Astronomical Observatory, Poland, discovered Nova Scorpii 2004 at photographic magnitude 11.3, using ASAS survey data.

On August 3, 2004, Akiro Takao, of Kitakysushu, Japan, discovered Nova Scorpii 2004 Number 2 at photographic magnitude 7.4

Congratulations to all those who have discovered and independently discovered novae in 2003–2004.

During this period we received several inquiries about the nova search program. In every instance, we responded and encouraged all interested to study the web pages devoted to the visual nova search program on the AAVSO web site. These web pages not only provide an introduction and overview of the program but also offer articles on observing techniques, charts of search areas, and reporting forms. In addition, a table of historical novae will appear on the nova search web pages soon. This table spans more than 125 years of bright telescopic, binocular, and unaided eye novae.

Four observers participated in the AAVSO Nova Search program through the period. These observers are listed below by country, with total numbers of free nova search areas or "dome areas" and total numbers of individual search areas. We thank our observers for sending their observations regularly and encourage all interested observers to contact the nova search chairman if they wish to participate in the program.

Observer	*Country*	*Free or Dome Search*	*Search Areas*
Manfred Durkefälden	Germany	6779	23
Gary Nowak	USA		1622
John Pickett	USA		1292
Ken Beckmann	USA		1105
Totals: 4 observers		6779	4042

Photoelectric Photometry

Chair: AAVSO Headquarters

The activities of the committee are being overseen by Headquarters while a new Chair is sought. Observers are asked to continue their observing routine as usual, except to send their observations to Headquarters.

This past year 15 observers contributed 1,625 observations. The observers and their totals are listed below. We recognize that more photoelectric observers may have been active this year but, owing to the transition of submitting observations directly to Headquarters, we may not have received their data yet. We encourage all photoelectric observers who have any backlogged observations to submit them—it is never too late to send in data!

A campaign to observe the RS CVn variable IM Peg in support of the Gravity Probe-B satellite has been underway since September 2001. Several observers contributed IM Peg data this year, of which the astronomers are most appreciative. For more information on this mission and campaign, which continues, please see *Special AAVSO Photoelectric Photometry Alert Notice* issued September 20, 2001;

Notice #2 issued May 24, 2004; *Notice #3* issued January 28, 2005; and *AAVSO Photoelectric Photometry Newsletters* Vol. 21, Nos. 1 and 2, Vol. 22, No. 1, and Vol. 23, No. 2.

Sincere thanks and appreciation go to Dr. John Percy for his contined excellent editing and management of the *AAVSO PEP Newsletter*. This year Vol. 22, No. 2 and Vol. 23, No. 1 were published, distributed, and placed on the AAVSO website. We also thank John most sincerely for his willingness to correspond with interested observers, give technical or scientific advice, and promote the AAVSO photoelectric photometry program and database in his presentations, teaching, and research.

At an AAVSO "futures" study meeting in 2001, it was decided to expand the AAVSO photoelectric photometry program to include observations in the near-infrared wavelengths (*H* and *J* bands). AAVSO member/observer Doug West, and a small working group that included Janet Mattei, John Percy, and other AAVSO members/observers, developed and implemented the new AAVSO near-IR program. Janet placed the order for 5 OPTEC SSP-4 photometers with filters before falling ill. This year the photometers have been loaned to AAVSO observers, and *H* and *J* observations are being made of several AAVSO program stars. We are very excited about this new area of AAVSO activity, and thank the working group for their efforts, and Doug West in particular for his hard work, persistence, and patience.

The future of photoelectric photometry is bright, the AAVSO photoelectric photometry program is strong and is expanding, and we invite you to participate in it.

Photoelectric photometry observations October 1, 2003–September 30, 2004

Observer	*Location*	*Bands*	*Observations*
Calia, C.	CT	*V*	44
Clark, W.	MO	*V*	10
Fox, J.	MN	*V*	183
Fraser, B.	South Africa	*B V*	233
Hodgson, W.	Australia	*V H J*	5
Jones, R.	South Africa	*V*	171
Kneipp, P.	LA	*V*	70
Koppelman, M.	MN	*H J*	4
Luedeke, K.	NM	*H J*	68
Pinkston, H.	VA	*V*	7
Stoikidis, N.	Greece	*V*	166
Terrell, D.	CO	*H J*	60
Thompson, R.	Canada	*V*	216
West, J.	KS	*V H J*	336
Wood, J.	CA	*V H J*	83
Totals: 15 observers			1625

RR Lyrae

Chair: Marvin E. Baldwin
8665 N. County Road 775 E, Butlerville, IN 47223

Since our 2003 annual report sixteen observers have obtained more than 16,000 observations in the process of collecting data on 77 RR Lyrae stars. More than 15,000 of these observations were acquired by CCD. Four observers collected more than 1000 observations each, led by Neil Butterworth with more than 8600 and followed by Gerry Samolyk with nearly 2300, Mike Nicholas with more than 1500, and Jerry Bialozynski with nearly 1500. Richard Huziak was the leader among visual observers.

More RR Lyrae stars were observed this year than usual, primarily because Neil Butterworth has been selecting neglected southern stars to add to his list of targets observable from Australia.

We continue to find variations in the light curves of some of these stars. SZ Hya appears to be pulsating in two modes, switching between RRab and RRc types. We plan an extensive CCD observing program for this star during the upcoming season. It would be very useful to have observers at different longitudes to improve coverage. If this star is making sudden switches between modes (as it appears), visual observers would be able to obtain data to determine which mode the star is in in any given cycle, which could be very helpful in understanding how this star operates.

Solar

Chair: Carl E. Feehrer
9 Gleason Road, Bedford, MA 01730

The following is a summary of AAVSO Solar Committee Activity for the Period October 2003 to September 2004. Committee Chair and Sunspot Observing Group Leader: Carl E. Feehrer Solar Flare; SID Observing Group Leader: Mike Hill.

Contributions by both sunspot and SID observers to the work of the Solar Committee continued at strong levels during the period. 11,165 observations were made by a group of 78 sunspot observers, and a total of 242 reports was contributed by a group of 24 SID observers. Three new sunspot observers were added to the ranks.

Observer Awards

We are pleased this year to be able to recognize formally observers who have made sustained contributions to our work. The international flavor of the group of observers identified below provides some indication of the breadth of support

that continues to be enjoyed by the Committee, and certificates recognizing the accomplishments of these observers will be mailed shortly.

Sunspot Observers

In 1999, the AAVSO's Director and Joseph Lawrence, then chair of the Solar Division, initiated a program aimed at formally recognizing observers who had made sustained contributions to the program. Criteria for award of a certificate acknowledging such contributions at increments of 1,500 observations were established at that time, and recognition was to be given at the Annual meeting each year.

This year, five observers have met or exceeded the initial (1,500 observations) criterion. They are: Robert Branch (BRAR) United States; Brenda Branchett (BRAB) United States; Thomas Cragg (CR) Australia; German Morales Chavez (CHAG) Bolivia; and Javier Jarboles Maranon (MARJ) Spain.

SID Observers

Beginning this year, formal recognition of the sustained contributions of particular SID observers will also be given. To receive this award, an observer must submit 40 months of reports. As with the sunspot program, recognition of the accomplishments of qualifying observers will be given at the time of the Annual meeting.

This year, nine observers have met or exceeded the criterion. Their names are as follows: Jerry Winkler (A50) United States; Danie Overbeek (A52; awarded posthumously) South Africa; Dominic Toldo (A52) South Africa; James Ellerbe (A63) Spain; Alex Panzer (A83) United States; Walter Moos (A84) Switzerland; Michael Hill (A87) United States; Michael King (A90) United Kingdom; Guglielmo DiFillipo (A93) Italy.

Website Activity

Activity with respect to the website's solar pages continues high. A total of 74,670 downloads of the various pages in the solar section of the website was requested. This total includes requests for Volumes 59 (Nos. 10–12) and 60 (Nos. 1–9) of the *AAVSO Solar Bulletin*, which totaled 2,508 for the period.

Software Development

New sunspot analysis software consistent with the latest WINDOWS operating systems has been completed. The software includes several new diagnostic features that advise the user of such things as non-conforming data formats and file names, incorrect observer initials, incorrect dates, and other reporting deficiencies that complicate the monthly task of preparing the sunspot portion of the *Solar Bulletin*.

Acknowledgements

The successful performance of the Committee's work is due to the dedication and active support of an international cadre of observers, the AAVSO's staff, and Arthur Ritchie, a volunteer who assists in the preparation of the monthly sunspot data at the AAVSO Headquarters. A grateful "thank you" goes out to all those who have aided in the our work during the year.

Supernova Search

Chair: Rev. Robert O. Evans
Villa 7, 1 Glendarrah Street, Hazelbrook, N. S. W. 2779, Australia

No visual discoveries of supernovae were made thisyear. Several supernovae were discovered by amateur astronomers using CCD technology, with several amateurs engaged in formal supernova search programs being particularly successful. We congratulate them on their discoveries.

Telescope

Chair: Charles E. Scovil
Stamford Observatory, 39 Scofieldtown Road, Stamford, CT 06903

There are no telescopes or accessories for sale, and there has been no committee activity this year.