

Committee Reports

Charge-Coupled Device (CCD)

Chair: Gary Walker

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The CCD Program is having another active and successful year in 2004.

Observers continue 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. Bruce Gary, Arne Henden, and Aaron Price made contributions by suggesting potential fields, performing accurate photometry, posting them to Arne's ftp site, and making provisions to accept data via WebObs, etc. Observations were made on all 12 fields, and 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 on line 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, is the new 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 11 years. The faint *CV* and *LPV* project which was started at the Spring 1997 meeting, continues to log *V* magnitudes.

Additional CCD observations on other stars such as *BZ UMa* and *Var Her 04* have been submitted this year.

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 such as the ones on *BZ UMa* and *Var Her 04*, thereby being a resource to observers embarking on this fascinating segment of AAVSO.

Eclipsing Binary

Chair: Marvin E. Baldwin

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During the reporting period, October through July, your committee chairman received reports from 23 observers including 14,693 observations of 224 eclipsing binary stars. Among these were 3,707 visual, 10,956 CCD, and 30 Photoelectric Photometry observations. Gerry Samolyk led the way with more than 6,500 observations, followed by Shawn Dvorak with more than 2,000, and Jerry Bialozynski with more than 1,200. Chris Hesseltine, Sergio Foglia, Steve Cook, Chris Stephan, Rudy Poklar, Robert Hays, Puskas Ferenc, Gil Lubcke, and Mike Simonsen also added significant numbers of observations to the eclipsing binary database.

Gerry Samolyk continues to prepare the ephemeris for the program stars that you can find on the AAVSO website as well as the expanded ephemeris that Bob Manske maintains on the Milwaukee Astronomical Website. An additional online ephemeris is available on Shawn Dvorak's website which allows you to enter your coordinates and gives you an ephemeris for your location.

In a continuing effort to publish current results in a format that allows the viewer to spot period changes at a glance, Gerry Samolyk has selected another 50 eclipsing binary stars which will appear in the AAVSO Monograph, *Observed Minima Timings of Eclipsing Binaries, No 9*. He has prepared a draft of this monograph which is currently in the editing process and due for publication in October.

New Chart

Chair: Charles E. Scovil

Stamford Observatory, 39 Scofieldtown Road, Stamford, CT 06903

No sales of charts 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

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During the past six months, the AAVSO Nova Search Committee continues to receive reports from its observers, both visual and photographic. Several of those participating have sent observations regularly over the past few years, while others

have continued their faithful work over decades. We are grateful for new and seasoned observers, their contributions, and their dedication to the AAVSO Nova Search Program. We will provide a report on the observations our observers have sent us for the year in the annual 2004 report.

While we continue to endorse a visual nova search program as outlined in our web pages, we have had some of our members show an interest in photographic searches using digital technology and computers. One observer in the southwestern United States is using this digital technology to keep real-time observations of AAVSO Nova Search areas to the 9th apparent magnitude. Others continue to use the traditional 7×50mm wide-angle or standard binoculars or larger (11×70mm binoculars or small rich-field telescopes). One of our observers is using a 5-inch rich-field refractor for areas near the galactic center.

We continue to encourage observers to send their observations and for interested parties to inquire about the AAVSO Nova Search program. We also welcome all to view the web pages on the AAVSO web site that pertain to the AAVSO Nova Search program. They will provide a wealth of information about how to begin your personal program of search. If you do not use the internet, you are welcome to contact the AAVSO Nova Search Committee Chairman for a hard copy.

Photoelectric Photometry

Chair: AAVSO Headquarters

We are very sorry to report that AAVSO Photoelectric Photometry Committee Chair J. Phillip Manker has resigned his chairmanship for health reasons. Phil has chaired the committee and overseen the photoelectric observing program since November 2001. We thank Phil most sincerely for his dedicated stewardship, and we wish him and his wonderful wife Glenda all the best.

Until a new Chair is appointed, the activities of the committee will be overseen by Headquarters. Photoelectric observations should continue to be made in the usual way and reported as usual, but to Headquarters. Questions about observing, equipment, and observations should be sent to Headquarters.

The photoelectric observers continue to be active, with several of them regularly reporting observations monthly. We encourage the “PEPERS” to keep observing those program stars—you have been doing a fantastic job for over 20 years, and we need you and your data more than ever!

RR Lyrae

Chair: Marvin E. Baldwin

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We continue our mission of obtaining continuous year-to-year data on the RR Lyrae stars for the primary purpose of tracking period changes and maintaining up-to-date ephemerides. We now have nearly four decades of AAVSO data on many of these stars. In some cases the period changes are quite striking, as seen in the plotted O–C curves. Hopefully, this long term monitoring of these stars will prove to be useful to researchers trying to unravel mysteries associated with their behavior. With the advent of CCD cameras in the hands of amateur observers, these data are improving in accuracy, making possible detailed examination of light curves, especially as related to the Blazhko effect in many of the RR Lyrae stars.

During this reporting period we have received 11,090 observations from 14 observers including data on 64 RR Lyrae stars. These included 914 visual observations and 10,176 CCD observations. Neil Butterworth led the way with 5,792 CCD observations, followed by Gerry Samolyk with 1,733 mostly CCD observations, and Mike Nicholas with 1,493 CCD observations. Other observers submitting numbers indicating significant time spent at the telescope include Jerry Bialozynski, Richard Huziak, Rudy Poklar, Glenn Chaple, Henry Gerner, and Chris Hesseltine.

Working in Australia, Neil Butterworth is addressing many long-neglected southern RR Stars. The existing ephemerides are outdated and mostly worthless for predicting maxima. He mines data from the ASAS-3 files and uses the old GCVS period to phase the data. Armed with this information he is able to predict maxima with sufficient accuracy to catch them with his CCD camera and establish accurate times of maxima.

Solar

Chair: Carl E. Fehrer

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

Despite the progressive decline in the Sun's activity as the minimum is approached, loyal contributors to the work of the Committee continue to make large numbers of sunspot and SID observations. During the period, 85 different observers filed sunspot reports and 20 observers filed SID reports. We hope that the high levels of interest in solar reporting that have been demonstrated by observers will continue as solar activity levels continue to decline.

Sunspot Reports

Five hundred ninety-three sunspot reports containing a total of 8,686 observations were received and processed. The reports were received from an average of 66 observers per month. As of June 2004, the group of active observers numbered 77. The totals are somewhat larger than for the equivalent period last year, owing to a small increase in the size of the reporting group.

SID Reports

For the last 9 months, SID activity has kept observers busy even though the sun is approaching the end of cycle 23. Over the past 9 months there have been a total of 183 SID reports submitted by the group of 20 active observers. The number of observers in the SID group has also grown beyond that of the earlier period.

Special Recognition of Observers

Several observers have met reporting thresholds established in the sunspot and SID programs for certificates of achievement. These observers and others who may meet the criteria in the meantime will be cited at the Fall 2004 meeting in Newton, Massachusetts.

Website Activity

The numbers of images contributed to the AAVSO/Solar website has decreased in recent months, owing at least in part to the diminution of solar activity. Downloads of the *AAVSO Solar Bulletin* and related data continue at a high level, and increasingly, the SOLOBs program available on the website is used in place of the older SUNKEY program and hardcopy to report and transmit monthly sunspot data.

Software Development

Software required for the analysis of sunspot reports in a Windows XP environment has been completed by AAVSO member Leonard B. Abbey. This software replaces programs written some years ago for an MS-DOS environment, and it provides new tools for identification of non-conforming data formats and other report deficiencies that complicate the monthly task of preparing observations for analysis.

Acknowledgements

As always, the successful performance of the Solar Committee is due to the dedication and hard work of our international cadre of observers, the AAVSO's staff, and Arthur Ritchie, a volunteer who assists in the preparation of the monthly sunspot data. Many thanks go to all those who submit reports and aid in preparation of Solar Committee products.

Supernova Search

Chair: Rev. Robert O. Evans

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The rate of discovery of supernovae continues, mainly by professionals and some amateurs using automatic equipment. None have been found visually since August last year. Two supernovae were found within the last few months which reached magnitudes 11 and 12, in NGC 2403, and NGC 6946—both galaxies in the far north, and which should be easy for most AAVSO members to observe. They were both of type 2, and so should be visible until December, or even later.

Professional astronomers working in this field have carry on an enormous industry in observing all kinds of supernovae, mainly with very large telescopes. They are a key to our new understanding about the age and destiny of the universe.

Telescope

Chair: Charles E. Scovil

Stamford Observatory, 39 Scofieldtown Road, Stamford, CT 06903

There have been no instruments for sale in the past six months.