COMMITTEE REPORTS

CHARGE-COUPLED DEVICE (CCD)

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

The AAVSO CCD Programs have completed another active year. During the period October 1, 1999, to September 30, 2000, 1300 BVRI observations (typical standard deviation 0.03 magnitude) were received from six observers on all 8 standard stars in the BVRI Red Variables program. The BVRI CCD program measurements now total 6007.

Also this year, 277 observations on 20 of the 27 variables in the Faint Cataclysmic Variables and Long Period Variables CCD(V) program were submitted, bringing the database for this program to 1233 observations.

Feedback was provided to all observers showing their measurements in comparison to other observers. The agreement was well within 0.1 magnitude absolute. The database was updated to include this year's observations and then transferred to Headquarters.

Combining the BVRI and CV/LPV program databases gives a Grand Total of 7513 observations in the AAVSO CCD program archives.

I would like to recognize our top two observers this year—Ron Zissell with 796 observations and Tom Michalik with 387. Thank you all very much: Gary Billings, Keith Graham, Frank Scheder, Gary Walker, Jerry West, Tom, and Ron.

Additional Accomplishments for the past six months were:
1. Encouraged participation of CCD observers
2. Updated database and corresponded with members
3. Continued the CCD(V) project
4. Transferred the CCD database to AAVSO Headquarters in preparation for website access.

Goals for the next 6 months are:
1. Continue to expand participation—both observing and contributing
2. Update database and correspond with members
3. Publish the 4th issue of *CCD Views*
4. Finish updating the CCD web page with light curves and other information.

ECLIPSING BINARY

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

When the data were compiled for the year ending with reports received in September we found that more than 26,600 observations were reported for 356 eclipsing binaries by 81 observers. CCD observing has become a major portion of the program, with an increase on the order of 60% over the previous year. It seems certain that this will be a continuing trend.

Andy Howell and Gerry Samolyk each submitted more than three thousand CCD observations. Chris Hesseltine and Gil Lubcke each submitted well over a thousand observations. Steve Cook, Shawn Dvorak, Lew Cook, Dan Kaiser, Chuck Pullen, and Roger Williams also provided CCD data for minima timings.

More than three thousand visual observations were also submitted by Gerry Samolyk. Ray Berg, Sergio Foglia, Peter Guilbault, Rik Hill and Chris Stephan each added more than one thousand observations to the database, followed closely by David Williams with nearly a thousand observations.

The most recent compilation of minima, *Observed Minima Timings of Eclipsing Binaries No. 6*, was published in October 2000. This publication, coming to fruition largely through the efforts of Gerry Samolyk, lists 966 new minima of 50 stars and displays their O-C curves. The O-C curves for some of these stars now span 35 years and nicely illustrate the period changes these stars have undergone during that time.

Among variable stars discovered by the Hipparcos Satellite and the Robotic Optical Transient Search Experiment (ROTSE) are many eclipsing binaries. A few AAVSO observers have pooled their efforts using visual observations and data from the Harvard College Observatory Plate Stacks to determine periods, and CCD observations to establish accurate light curves. More details about this will appear in the *Eclipsing Binary Update*, the newsletter edited by David Williams.

The *Eclipsing Binary Ephemeris*, prepared annually by Gerry Samolyk for many years, is a feature recently added to the AAVSO website. Katherine Davis, Headquarters webmaster and technical assistant, scanned the ephemeris for 2001 and placed it on the AAVSO website in Adobe pdf format. You can find it at: http://www.aavso.org/committees/eb/ebephem.stm .

An Eclipsing Binary Workshop is planned for the 4th of May 2001 at the Spring Meeting of the AAVSO at Madison, Wisconsin. If you have an interest in eclipsing binaries plan to be there and participate in the discussion.

NEW CHART

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

A complete set (or about 1200 charts) has been supplied to the British Astronomical Association and about 100 other charts have been mailed.

Marc Biesmans continues to help a great deal by reversing all charts that I computerize. He is now also reversing some of the old Standard charts.

About a dozen completely new charts have been drawn.

Since May about 30 charts have been computerized. Some of them were produced in response to special needs such as novae, etc.

15 new constellations finder charts have been made.

NOVA SEARCH

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

During the 1999–2000 report year, six observers participated in the AAVSO Nova Search Program. Nearly 13,000 observations were contributed by our observers. We received several inquiries, mostly by way of email and the AAVSO Nova Search internet website. We are currently making the *Nova Search Handbook* available through our website. The handbook will be in ASCII format.

On December 1, 1999, Gary Nowak of Essex Junction, Vermont, independently visually discovered Nova Aquilae 1999, No. 2. Only hours earlier, Alfredo Pereira of Linda-a-Velha, Portugal, made his independent visual discovery of this nova. We congratulate these two observers for their accomplishments. Also in the reporting year, three novae were discovered photographically in 2000. Nova Scuti was discovered on March 13, 2000, by Katsumi Haseda of Toyohashi, Aichi, Japan. Kesao Takamizawa, of Saku-mahi, Nagano, Japan, discovered Nova Aquilae 2000 (another outburst of the 1917 nova CI Aql) on April 28, 2000. William Liller discovered a nova in the Large Magellanic Cloud on July 12, 2000. We extend our congratulations to all those who discovered novae during the reporting year. We also commend our observers for the effort made to contribute observations to the program. The following search observations were recorded:

Ken Beckmann	USA	498
John Coggin	England	816
Daniel del Valle	Puerto Rico	263
Manfred Durkefalden	Germany	7,771
Gary Nowak	USA	2,440
John Pickett	USA	1,298

PHOTOELECTRIC PHOTOMETRY

Chair: Howard J. Landis
2870 Hwy. 20 West
Hampton, GA 30228

This is the report of photoelectric photometry observations made by 20 observers by September 30, 2000, in the fiscal year 1999–2000. The total for the year is 2,858 observations. There are now over 30,000 photoelectric photometry observations in our archive with standard errors of better than 0.02 magnitude standard deviation (some much lower).

Photoelectric Photometry Observations October 1, 1999–September 30, 2000

Observer	*Location*	*No. Obs.*	*Observer*	*Location*	*No. Obs.*
Beresky, T.	MO	118	Lopata, G.	CA	10
Clark, W.	MO	55	Luedeke, K.	NM	54
Cox, L.	Canada	190	Manker, P.	GA	40
Crumrine, R.	NY	25	Pinkston, H.	VA	1
Dempsey, F.	Canada	38	Sorensen, H.	Denmark	33
Dallaporta, S.	Italy	273	Stoikidis, N.	Greece	293
deVilliers, F.	South Africa	98	Thompson, R.	Canada	636
Fox, J.	MN	95	van Bemmell, H.	Canada	50
Grim, B.	UT	63	Williams, D.	IN	18
Jones, W.	South Africa	463	Wood, J.	CA	320

In the Spring 2000 report I announced a new email address, but many observers could not use it for transfering data to me. Problems could not be resolved so I had to ask most observers to return to my original address, (71510.2355@compuserve.com).

I now use both as I refused to give up internet capability. If you are on AOL and some others, my AOL address works fine (Lndvarstars@aol.com).

Dr. John Percy, our Professional mentor, is editor of the *AAVSO Photoelectric Photometry Newsletter*, and he has published Volume 20, Number 1, October 2000. Anyone interested in the AAVSO photoelectric photometry program should be on the newsletter mailing list; it is free for the asking. From it you will learn of John's supportive activities and news about research being done on the stars we observe.

Bruce Grim (GBI) is a new observer, recently retired and living near the Great Salt Lake in Utah. His view of the Northern sky is across it away from the city and his weather there is very good for a large part of the year.

My helpers, Ken Luedeke, Fanie de Villiers, and Jim Wood are still at it, thanks a lot fellows. They computerize data from observers who do not want to key-in the data themselves.

RR LYRAE

Chair: Marvin E. Baldwin
8655 N. County Road 775E
Butlerville, IN 47223

During this reporting period ten observers reported some 4900 observations of 61 RR Lyrae type stars. This includes about one thousand CCD observations by Gerry Samolyk and a substantial number of CCD observations by Chuck Pullen and Steve Cook. Rik Hill reported more than 700 visual observations, Ray Berg more than 400, and Richard Schmude and Sergio Foglia each reported more than 100 observations. Most of the remainder were visual observations made by your committee chairman.

Gerry Samolyk continues to prepare the ephemeris for the AAVSO RR Lyr program stars. The ephemeris for 2001 was scanned and placed on the AAVSO website in Adobe pdf format (http://www.aavso.org/committees/rrlyrae/rrephem 2001.stm) by Headquarters webmaster and technical assistant Katherine Davis.

SOLAR DIVISION

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

In April of this year, Joseph Lawrence stepped down as chairperson of the Solar Division, editor of the *Solar Bulletin*, and SID analyst due to health concerns and to the demands of work and family. I assumed Joseph's responsibilities at that time.

American Relative Sunspot Number Program

As of April, analyses of sunspot data contributed by observers from January to March 2000 had not been conducted and no *Bulletins* had been published since December 1999, so the first order of business was to undertake these two tasks. Analyses of all data then available were completed during April and May, and interim versions of the *Bulletin* for January through May were published. When all of the data from early in the year were received from the former editor in August, the interim numbers were reanalyzed and reissued, and observer lists were updated. In addition, data from April 1997 to August 1998, which had not been analyzed with the aid of k-coefficients and which, as a result, presented a discontinuity in the classical American index, were recomputed. Also, smoothed mean values of the index, which had not been calculated with k-adjusted numbers since October of 1996, were computed. Finally, cumulative records of the reports that are required for maintenance of our "Observer Recognition Program" (and AAVSO Solar Observer Awards) and that had lapsed sometime in the last two years were restored.

It was discovered in July that the organization within NOAA to whom our reports are routinely sent had not posted the values to its website since mid-1998. After some discussion, I was asked to recompile and resend the missing data. That task was completed in August, and the website is now being updated to include our reports.

Sudden Ionospheric Disturbances (SID) Program

Although the sunspot program recovered fairly quickly, it was not until August that analyses and reports of SID activity were restored. In July, Mike Hill (A82), one of our SID observers, volunteered to take on the job of analyst. Mike has written software to aid in his analyses, and has begun to analyze the backlog of reports contributed during the early part of the year. Beginning with the July *Bulletin*, his summaries and comments are now regular parts of the monthly issues, and his analyses are routinely forwarded to NGDC as in the past.

Despite the fact that *Bulletins* were not being published early in the year, Cap Hossfield faithfully continued to produce his monthly supplement relating to SID and magnetometer recordings of solar activity. The supplements proved to be particularly useful because we were able to include them with the interim *Bulletins* and, thereby, provide at least some information of interest to the SID community while an analyst was being sought. Cap's supplement continues to be included in the monthly publication.

I am happy to report that we now have a continuous series of *Bulletins* dating from the beginning of the year and that the Division's standard monthly treatments of its data and its publications are now on a firm footing. This is a particularly happy outcome, given that this is the year in which a solar maximum is expected to be in evidence.

Summary of Observer and Report Statistics

From January through August of this year, sunspot observers have contributed a total of 520 reports containing 8,525 observations. SID observers have contributed a total of 62 reports, and the total number of observations, not including the unanalyzed backlog, equals 284. The average number of sunspot observers reporting each month equals 65, while the average number of SID observers equals 7.

Although the numbers of contributors to both measures had fallen during the period when no *Bulletin* was published, I believe that most of the losses have been recouped. It is also the case that several new sunspot observers have been added to the roster.

Contributions to AAVSO's Website

In addition to the summaries of sunspot and SID observations normally found there, new materials that have been contributed by members of the Division have been placed on the AAVSO's website. Among these are:

- New guidelines for beginning observers.
- A new set of graphics depicting the elements of the Zurich classification system.
- A short history of sunspot indices.

• Instructions for building the Gyrator 11 SID receiver and A/D converter.
• A simplified version of the sunspot reporting form, and instructions for formatting and reporting SIDs.

In the next year, I hope to make increasing use of the AAVSO website as a publication platform in order to reduce the costs of reproduction and mailing and to make the products of the Division available to a wider community.

SUPERNOVA SEARCH

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

Amateur astronomers continue to make major and significant contributions to the business of searching for supernovae.

The main work continues to be done by supernova hunters using CCDs. A very interesting and long list of discoveries have been made by these observers, and I congratulate them all on their efforts and successes.

The combined results from both amateur and professional search teams are that many supernovae are being found quickly and early, and that a much more thorough coverage of nearby galaxies, and of objects out to more than one hundred million light years, is now being made.

In many instances, these possibilities are being achieved through the use of fully automated search systems now being used by an increasing number of amateurs who can afford or have access to the necessary equipment.

Also, the observing and studying of many of the supernovae which are found in this way has become a major research industry which involves many professional astronomers in various parts of the world. Their observations all contribute to our understanding of the fascinating newly recognized feature in cosmology of the accelerating expansion of the universe.

So far as I am aware, up to this point in 2000, only two supernovae have been found visually this year. The first was SN 2000cj in NGC 6753, a type 1a supernova which I found on May 14 in the southern constellation of Pavo. The second was on September 30 when Brett White of Linden, N. S. W., found a supernova in NGC 6754 (confirmed as SN 2000do). This is not only Brett's second discovery, but is his second discovery in the same galaxy. This is most unusual.

It is extremely interesting to see how the contributions of amateur astronomers in this area of activity are helping to advance our knowledge about the universe at the cutting edge of research.

TELESCOPE

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

We currently have for sale:
• one telescope, a 4-inch Goto refractor, complete with equatorial mounting and heavy tripod. Asking price is $1,000.
• one SSP-3 solid-state photometer with UBVRI filters.