Committee Reports

Charge-Coupled Device (CCD)

Chair: Gary Walker
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The CCD Program had another active and successful year in 2005–2006. Observers continued to perform variable star measurements with their CCD cameras. In addition to our program stars, observers continue to participate in various campaigns and perform significant photometry on many of the AAVSO stars that were not "CCD Program Stars."

The original *BVRI* program continues, with many observers logging their observations on the web. These transformed *BVRI* measurements on eight long period variable stars (LPVs) started in 1993. This may be the most extensive record of these eight LPVs.

The Faint CV/LPV program, which was started at the Spring 1997 meeting, continues to log *V* magnitudes (not transformed). The purpose of this program is to gather data on and study the faint portion of the light curves of a set of cataclysmic variables (CV) and LPVs that are too faint for visual observing near/at minimum. The activity on these stars increases each year.

The Standard Star observing program continued this year for CCD observers. Observations were made on all twelve fields, and many observers have posted their results. This is an excellent way to check how you are doing, since the fields have well-observed constant stars.

The World Wide Web continues to be a useful tool, and through 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 fifteen minutes. Personally, I can say that batch uploading hundreds of time series observations over the web, in a matter of seconds, without typing in any data, and then seeing how they compare to each star's history, and other observers from the night before, returns as 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.

In addition, Aaron Price performed yeoman's duty by morphing electronic *CCD Views* into the "Special Notices" which include announcement and description of observing campaigns. Eleven Campaigns/Special Notices/Variable Star of the Season presentations (utilizing or requesting CCD data), on W Vir, V426 Oph, DQ Her, RS Oph, V1343, TU Cas, AH Leo, V1316 Cyg, The FUSE satellite Cataclysmic Variables, and NGC 6811, were announced during the year.

The main goal for the next six months is to continue the *BVRI*, Faint CV/LPV, and Standard Stars Programs, to mentor future CCD observers, and to support future

campaigns, thereby being a resource to observers embarking on this fascinating segment of AAVSO.

Eclipsing Binary

Chair: Marvin E. Baldwin
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The nature of the eclipsing binary program continues to change under the influence of the CCD camera. Nevertheless, a few hard core visual observers continue to provide data for tracking times of minima of many eclipsing binary stars. Among these observers are David B. Williams, Robert Hays, Glenn Chaple, Christopher Stephan, and others.

CCD observers continue to measure times of minima to trace period changes, but more emphasis is being placed on determining the physical nature of some of these systems. Robert Nelson, working at the Dominion Astrophysical Observatory at Vancouver, British Columbia, Canada, is doing important spectroscopic determination for radial velocities of about a dozen of these systems. Among special projects suggested on the eclipsing binary discussion list are VV Ori, δ Ori, and BG Peg. VV Ori is in need of densely observed times of minima to determine if there is really a third component in the system, as has been suggested in at least one published paper. δ Ori is a bright triple system needing further study and would make a good photoelectric photometry project. BG Peg has a δ Scuti secondary in an eclipsing system. Shawn Dvorak has data revealing 0.06-magnitude pulsations with a 0.4-day period.

Milwaukee observers, including Gerry Samolyk and Henry Gerner, and Shawn Dvorak in Florida continue to provide large quantities of high quality CCD data. Several other observers, as evidenced by traffic on the eclipsing binary discussion list, are obtaining much CCD data. We encourage everyone to assure that their data are made available to the AAVSO International Database.

As promised at the spring meeting, *Observed Minima Timimgs of Eclipsing Binaries, No. 11*, has been published. It includes only the minima reported to the EB Committee. We assume that minima not reported to the committee are being published in the *IBVS* or elsewhere. All the EB minima published in the *Timings* and previous AAVSO publications are available on the AAVSO website, including the O–C curves. With this in mind future *Timings* will not include O–C curves. This will allow us to publish many more stars at one time without the *Timings* becoming a huge volume.

Nova Search

Chair: Rev. Kenneth C. Beckmann
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For the period beginning September 1, 2005, and ending August 21, 2006, the following novae were discovered according to the *AAVSO Alert Notices*. Nova Cyg 2006 was discovered by Hideo Nishimura, Miyawaki, Kakegawa, Japan at photographic magnitude 10.5, on April 2, 2006. Nova Oph 2006 #2 was discovered by Peter Williams, Heathcote, NSW, Australia at visual magnitude 10.5 on April 6, 2006. RS Oph, the famous recurrent nova was in outburst at magnitude 4.8 in February 2006. A nova in the Large Magellanic Cloud 2005 was discovered by William Liller, Vina del Mar, Chile at visual magnitude 11.5 on November 26, 2005. Nova Sct 2005 #2 was discovered independently by G. Pojmanski, Warsaw University Astronomical Observatory, in the course of the All-Sky Automated Survey (ASAS) and K. Haseda, Aichi, Japan at the following magnitudes and discovery dates, Pojmanski: 12.0 CCDV and Haseda at 10.6 photographic. Discovery dates: Pojmanski: October 11.026 and 13.066 UT and Haseda: Oct. 13.419 and 13.420 UT. Congratulations to all who discovered a nova during the past year.

We are pleased to report that all observations received from our observers since 1983 to the present (the date I assumed duties as the chairman) are now in a MICROSOFT WORKS database. I am grateful to my wife, Marshia, for her assistance in helping me complete this project.

I wish to thank each observer for participating in the AAVSO Nova Search program and their dedication in sending their observations in a timely manner. Observers may continue to send observations by mail or email. If you chose to send your observations by email please using a simple rich text format if you append your observations to the email. Otherwise you may include them within the email itself.

The following totals from observers received during the period are as follows:

Observer	*Location*	*Total*
Manfred Durkefälden	Germany	24
Gary Nowak	USA	2360
Luigi Pirozzi	Italy	53
Michael Crook	USA	20
Ken Beckmann	USA	520

Photoelectric Photometry

Chair: James H. Fox
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For the past decade, the AAVSO Photoelectric Photometry program has consisted of 15–20 observers, most of whom use an Optec SSP-3 photometer to make magnitude measurements in the Johnson *V* band. A small group, coordinated by Dr. Doug West, utilize a model SSP-5 photometer to make infrared measurements in the *I* and *J* bands.

In a typical year, PEP observers have contributed 2,000–3,000 variable star measurements. Since the AAVSO program's inception over twenty years ago, more than 45,000 photoelectric observations have been contributed to the AAVSO International Database. The 2006 total was enhanced by a block of 4,382 observations by the Aukland Photoelectric Observing Group. Other observer contributions are detailed in the table, below.

I would be remiss if I did not recognize those who have kept the PEP program moving over the last few years. Howard Landis was program chair for many years until succeeded by Phil Manker, my predecessor. The AAVSO staff members have maintained the program from 2003 to 2006 and have assumed data reduction responsibility. Dr. John Percy, University of Toronto, has been invaluable as mentor, program advisor, and editor of the *AAVSO Photoelectric Photometry Newsletter*.

What's ahead? Online data entry. PEP campaigns. Director Arne Henden's imagination. Arne brings a PEP background to the organization and has some ideas for future programs particularly suited for PEP work.

Photoelectric photometry observations October 1, 2005–September 30, 2006

Observer	*Location*		*No. Obs.*
APOG	Auckland Phototometric Obs. Group	New Zealand	4,382
BMM	Biesmans, M.	Belgium	1
CCB	Calia, C.	CT	281
CRR	Crumrine, R.	NY	71
FBA	Ferguson, B.	OK	16
FBN	Fraser, B.	South Africa	106
FXJ	Fox, J.	MN	105
HEK	Hoeg, E.	Denmark	7
HWD	Hodgson, W.	Australia	55
JRW	Jones, R.	South Africa	46
MBE	McCandless, B.	DE	303
MPB	Marini, P.	Argentina	1

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Photoelectric photometry observations, cont.

MTU	Miller, T.	NV	36
STQ	Stoikidis, N.	Greece	275
TDI	Terrell, D.	CO	6
TST	Toothman, S.	IL	1
VBR	Van Bemmel, H.	Canada	154
WJD	West, J.	OK	187
WJM	Wood, J.	CA	18

RR Lyrae

Chair: Marvin E. Baldwin
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Visual work on RR Lyrae stars has virtually ground to a halt as the CCD camera has taken over the effort on these low-amplitude stars. We continue to analyze the historical visual data in our files and hope to use the results to supplement current findings with CCD cameras.

Currently, emphasis is being placed on a few RR stars pulsating in multiple modes, such as SZ Hya, AR Her, AC And, and VX Hya. Long observing runs are important for these stars. It helps having Riccardo Pappini in Italy, Shawn Dvorak in Florida, Rudy Poklar in Arizona, and Neil Butterworth in Australia to keep long observing runs going. The RR Lyrae team could use more observers at any longitude or latitude, but having observers in Hawaii, Japan, and the Middle East would be especially helpful.

Solar

Chair: Paul Mortfield
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The following is a summary of AAVSO Solar Committee activity for the period October 2005 to September 2006 (Committee Chair: Paul Mortfield; SID/Solar Flare Group Leader: Mike Hill; Sunspot Observer Group Leader: Daniel Williams).

Reorganization of Solar Committee

In May 2006, Carl Feehrer stepped down from his posts as both Chair of

the Solar Committee and as Sunspot Group Leader. He had held these positions since 2000. I would like to take this opportunity to thank Carl for his great work in chairing the committee, working with the SID group lead and maintaining a strong relationship with all the contributing observers and the staff at AAVSO headquarters during his tenure. We look forward to his continued contributions of sunspot observations. We also welcomed Dan Williams of Nebraska to the role of Sunspot Group Leader. He has a degree in Physics and observes the sun in white light and H-alpha.

Sunspot Observer Group

Sunspot activity continues to decline as we approach the predicted solar minimum in 2007. Year to date, we have received 8,211 sunspot observations from 76 observers. We welcomed four new observers in 2006: Larry McHenry, USA; Frank Gobet, France; Daniel Williams, USA; and Yuriy Brovarets, Ukraine.

The group is pleased to give out AAVSO Solar Observer Awards to nine members who have met the sunspot observation award requirements. They are: Gema Araujo, Spain; Javier Ruiz, Spain; Kenichi Fujimori, Japan; John Kaplan, MN; James and Shirley Knight, South Africa; Gerd-Lutz Schott, Germany; Gerhard Stemmler, Germany; HitoshiTakuma, Japan; and William M. Wilson, TN.

Solar Flare / SID Observing Group

For the last year SID Activity has been fairly slow as we reach the end of solar cycle 23 and enter cycle 24. Observers have continued to report on a regular basis, however, and we have gained two new observers this year. They are Lionel Loudet and Jean-Pierre Godet, both from France. Over the past twelve months there has been a total of 193 SID reports submitted by 23 active observers. These observers come from the United States, Canada, Europe, South Africa, and India. Many thanks go to all those who submit reports.

As of this date two observers are due for recognition with an AAVSO Solar Observer Award for SIDs: Paul Campbell, Canada; and Larissa Observatory, Greece. SID awards are given to observers when they have submitted forty or more reports to the AAVSO SID program.

Website

The Solar section of the AAVSO website is currently a good resource and reference space. Over the next year our intent is to improve the section into a more dynamic space to help in real time observations and reporting.

Education and Public Outreach (EPO)

The solar chair recently joined the AAVSO EPO Committee. With the International Heliophysical Year in 2007 quickly approaching, there are opportunities to attract

new solar observers, and help establish more Professional-Amateur connections among our core observers. The Sun is also a natural subject for study during the regular school day and we will investigate ways in which the Solar Committee can be part of the science classroom.

Acknowledgements

The Solar Committee acknowledges the support of the AAVSO executive in continuing this long standing program. We would also like to thank AAVSO staff members Kate Davis, Travis Searle, and Elizabeth Waagen for their efforts with the monthly *Solar Bulletin* distribution and web site support. Lastly, we are indebted to our active observing community for their tireless dedication in monitoring the sun and contributing their observations.

Supernova Search

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There was continued supernova searching this year via visual, CCD, and photographic methods, but there were no visual discoveries. CCD discoveries by amateur astronomers continue at a good rate.

[Note from Headquarters: AAVSO Supernova Search Committee Chair Rev. Robert Evans decided to step down this year from his longtime duty as chair. Bob served faithfully as chair for over 20 years, writing the AAVSO Supernova Search Manual, *mentoring numerous searchers, and serving as inspiration for visual searchers through his many discoveries. We are grateful to Bob for his dedication and efforts on behalf of the AAVSO, and we continue to stand in awe of his amazing abilities.]*