

COMMITTEE REPORTS

CHARGE-COUPLED DEVICE (CCD)

Chair: Gary Walker

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The CCD Program has completed another active year and has undergone large changes since its inception. Three things have happened which facilitated this change.

One, the World Wide Web became a useful tool, and along with the on-line data submission and the on-line Light Curve Generator, the tasks of collecting data, and plotting light curves could be done on line, with the on-line data base being automatically updated every half hour. Even the most avid committee chair could not compete with that.

The second change that occurred is that observers are more and more willing to and interested in performing variable star measurements with their CCD cameras. In many cases, we had observers performing significant photometry on many of the AAVSO program stars that were not "CCD Program Stars."

The third change involved the work of Richard Stanton which verified that visual and CCD-V measurements could be mixed properly. After discussing this briefly, Janet Mattei and I agreed that we should mainstream future observations and convert the existing CCD observations to Web-based availability.

Personally, I can say that going to work each morning and logging in my observations before work, over the Web, and then seeing how they compare to each star's history, and the other observers from the night before, is still the highlight of my day. Many thanks to the Headquarters staff for this Web presence.

This year, we ran a campaign on SU UMa, with a call for observations and dissemination of information over the AAVSO on-line discussion group and through the on-line Light Curve Generator and Quick-Look File. Feedback was positive about this, and we even received some email from non-observers, who liked to follow the dialogue.

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

As of 27 September, 2001, the *BVRI* CCD measurements on 8 long period variables (LPV's) now approach 7,000 measurements, going back 9 years. The Faint CV/LPV project, which was started at the Spring 1997 meeting, continues to log *V* magnitudes. These observations now exceed 3000. Combining both the *BVRI* and CV/LPV Programs gives a grand total of nearly 10,000 CCD Program Star observations. Soon, they will all be available on the web. In addition, an additional 40,000 CCD observations on other stars have been submitted and are in the AAVSO International Database.

I would like to recognize our most active *BVRI* observers, Ron Zissell with 514 observations, Tom Michalik with 195 observations, and Ladislav Smelcer with 59 observations. Our most active Faint CV/LPV observers were Ron Zissell with 581 observations, Robert James with 225, Roger Diethelm with 181, Frank Scheder with 84, Gary Walker with 73, Aaron Price with 62, and Keith Graham with 46. A total of 21 observers submitted CCD Program Observations, over twice the number of observers of last year.

In addition, Aaron Price of AAVSO Headquarters performed yeoman's duty by publishing 3 electronic issues of *CCD Views*.

The main goal for the next 6 months is to organize additional campaigns like the SU UMa on-line and electronic campaign. We expect that this fast turnaround will greatly expand participation and interest. In addition, we will continue to mentor future CCD observers and be a resource to observers embarking on this fascinating part of our Semi-Profession.

ECLIPSING BINARY

Chair: Marvin E. Baldwin

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During this reporting period 107 observers submitted data on 358 eclipsing binary stars. Seventeen of these observers submitted CCD data. In all about 32,000 observations were collected during the fiscal year and more than 19,000 of these were CCD observations. A large number of useful visual observations were submitted by each Gerry Samolyk, Chris Stephan, Rik Hill, Andrzej Markiewicz, Robert Hays, Ray Berg, Pete Guilbault, Bob Manske, Sergio Foglia, and David B. Williams. Among CCD observers Shawn Dvorak submitted 6,800, Gerry Samolyk about 6,000, and Gil Lubcke and Chris Hesseltine each provided a large amount of useful data.

Many CCD observations made in conjunction with the AAVSO eclipsing binary program were not submitted and therefore not counted in this report. This situation occurs in part because CCD observers working on ongoing projects expect to re-evaluate their images when better photometry of their comparison stars becomes available as these projects move toward completion. Hopefully, most of these observations will eventually be finalized and find their way into the AAVSO database.

NEW CHART

Chair: Charles E. Scovil

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Since the last report approximately 129 charts have been mailed and a few have been sent via email. Most observers are acquiring preliminary charts by downloading them from the AAVSO web site.

Chart production continues, with concentration on making new charts for the Photoelectric Photometry program. Several charts for novae and supernovae have been made. Marc Biesmans continues to make reversed charts and also upgrades and reverses Standard charts.

NOVA SEARCH

Chair: Rev. Kenneth C. Beckmann

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During the last reporting year (1 October 2000–30 September 2001), there have been a number of novae discovered by amateur astronomers worldwide, with a total of 6 novae discovered.

The year began with the photographic discovery of Nova Sagittarii 2001 Number 1 (V4643 Sgr) by William Liller of Chile on February 24 at magnitude 7.7.

On May 11, Michael Collins from England photographically discovered Nova Aquilae 2001 (V1548 Aql) at magnitude 10.9.

Yuji Nakamura of Japan photographically discovered Nova Cygni 2001 Number 1 (V2274 Cyg) on July at magnitude 11.9.

During August and early September one nova was found in Cygnus and two in Sagittarius. On August 18, both Akihiko Tago and K. Hatayama from Japan independently discovered Nova Cygni 2001 Number 2 (V2275 Cyg) photographically at magnitudes 8.8 and 7.0, respectively. Tago's observation was made only hours before Hatayama's.

On August 26, Alfredo Pereira from Portugal visually discovered Nova Sagittarii 2001 Number 2 (V4739 Sgr) at magnitude 7.6 using 14 × 100 binoculars.

A little over a week later, on September 5, Pereira also visually discovered Nova Sagittarii 2001 Number 3 (V4740 Sgr) at magnitude 7.0.

William Liller independently discovered N Sgr 2001 Number 3 photographically on September 3 (confirmed by him September 6) at CCDV magnitude 7.27.

Two other discoveries initially thought to be novae turned out to be very interesting novalike variables. V445 Pup (announced as N? Pup 01) was discovered

by Kazuyoshi Kanatsu of Japan on December 22 at photographic magnitude 8.7. V1178 Sco (announced as Var Sco 01) was discovered by Katsumi Haseda of Japan on May 13 at photographic magnitude 10.5.

We congratulate all observers who discovered one or more novae this past year.

The AAVSO web site provides valuable tools in aiding amateurs interested in variable stars and visual nova search. The AAVSO nova search web pages (<http://www.aavso.org/committees/nova.stm>) include an introduction on how to do visual nova search, as well as articles by George Alcock, Peter Collins, and Kenneth Beckmann. Also, the Nova Search Location Charts, along with a reporting form, are included to help amateurs begin their nova search program. We enthusiastically encourage interested observers to visit the web site for more information.

Manfred Dürkefalden from Germany reported having checked 29 areas on a regular basis, spending 7,771 minutes doing free nova search. The following search observations were recorded for the period October 1, 2000, to September 30, 2001:

Kenneth Beckmann	USA	862
Daniel Del Valle	Puerto Rico	158
Manfred Durkefalden	Germany	30
Gary Nowak	USA	2719
John Pickett	USA	385

Frequently, we were informed that poor weather conditions kept observation totals low in 2000. We thank our observers for participating in and sharing their observations with the AAVSO Nova Search Committee. We encourage them and newly interested observers to continue their participation or going sending their observations, respectively.

PHOTOELECTRIC PHOTOMETRY

Chair: Howard J. Landis

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This is the committee report for the entire fiscal year 2000–2001. The total number of photoelectric photometry observations to September 30, 2001, is 2,437 from 18 observers. Our grand total in the photoelectric photometry archive is 31,182 observations.

A special *AAVSO Photoelectric Photometry Alert Notice* was issued by AAVSO Headquarters September 20, 2001, requesting us to monitor IM Pegasi in support of the Gravity Wave Probe B Satellite which will be launched in 2002. The investigator would like for us to observe IM Peg in *VBRI* light, which we will attempt to accomplish. This will be our first departure from our practice of observing in *V* light only, which can enhance the value of our observations. The new AAVSO

Photoelectric Photometry Committee Chair, Phillip Manker, is working with Nik Stoikidis trying to develop calibration procedures for these new colors.

Photoelectric photometry observations October 1, 2000–September 30, 2001

<i>Observer</i>	<i>Location</i>	<i>No. Obs.</i>	<i>Observer</i>	<i>Location</i>	<i>No. Obs.</i>
Beresky, T.	MO	10	Lopata, G.	CA	2
Clark, W.	MO	56	Jones, W.	South Africa	526
Cox, L.	Canada	270	Luedeke, K.	NM	312
Dempsey, F.	Canada	17	Pinkston, H.	VA	8
Dallaporta, S.	Italy	105	Sorensen, H.	Denmark	9
de Villiers, F.	South Africa	25	Stoikidis, N.	Greece	261
Fox, J.	MN	42	Thompson, R.	Canada	563
Grim, B.	UT	7	van Bemmell, H.	Canada	43
Kneipp, P.	LA	63	Wood, J.	CA	118

This may be my final report as Chair of the Photoelectric Photometry Committee, as Phillip Manker will be on his own January 1, 2002. We are both receiving raw data from all observers and we are both archiving data until that date. We hope to have him fully acquainted with all the detail work of the Committee by January 1, though we know that is not probable.

I have been giving reports at AAVSO meetings for 26 years, starting with the Annual Meeting of 1975. We did not have a formal PEP observing program at that time, but it became a fact in 1983, when we began archiving data on a computer at my home. I thank Dr. Mattei and the entire staff of AAVSO Headquarters for the excellent support of my chairmanship through these years.

I also want to thank Dr. John Percy, University of Toronto, for his strong support of the program and for his many offers of encouragement to me personally. For many of these years he has been the Editor of the *AAVSO Photoelectric Photometry Newsletter*, which always is eagerly read by our observers.

I would be remiss if I did not also thank some of our observers who took the time to computerize data from some other observers who did not want to key in their own data. These are Fanie deVilliers, Kenneth Luedeke, and James Wood. I am unable to determine the exact count but I am sure it is over 1,000 observations.

RR LYRAE

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Fifteen observers obtained data on 36 RR Lyrae type stars for a total of about 1500 observations. CCD data on a number of these stars were submitted by Gilbert

Lubcke, Gerard Samolyk, and Massimiliano Martignoni. Most of the useful visual data were acquired by Raymond Berg, Richard Hill, and your committee chairman.

Observational production has fallen off considerably during the past year. In an effort to put this program back on a more aggressive track, Ray Berg has volunteered to edit a newsletter on the committee's activities and subjects related to RR Lyrae stars. We wish Ray great success with this project and hope that observers will provide him with the occasional suggestion and perhaps even interesting tidbits that he might want to incorporate into future issues.

SOLAR DIVISION

Chair: Carl E. Feehrer

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The Solar Division has had a very good year. The attention paid by the media to the occurrence of solar maximum, together with the enhancement of the solar pages on the AAVSO's web site, have resulted in dramatic increases in the numbers of new observers who have joined the ranks of contributors to both the Sunspot and Sudden Ionospheric Disturbances (SID) sections of the Division. As of August 2001, monthly reports have been contributed by 11 new sunspot observers, an increase of 13 percent, while the number of new SID observers has grown by seven, an increase of 37 percent. During the period of September 2000 to August 2001, 910 reports incorporating 14,370 observations were contributed by the active group of 86 sunspot reporters, while 195 reports were contributed by the active group of 19 SID reporters.

Solar Pages on the AAVSO Web Site

Solar Bulletin

Routine compilations of sunspot and SID data have been presented on the AAVSO's web site for several years, but in November of 2000 we decided to try to gauge the interest that the community outside of the Solar Division might have in its products. As an experiment, we published the monthly *Solar Bulletin* in its entirety on the site. As judged by the numbers of "hits" on the document, the results of this experiment seemed promising, so in January of this year we began routine posting of the entire document. The results of this activity are shown in Figure 1.

Photo Gallery

From time to time, observers have contributed pictures that they have taken of the sun in the hope that they might be published in the *Solar Bulletin*. To satisfy these interests, a "Photo Gallery" was created on the web site in August. This method of publication preserves the quality of the images, makes them available to a wider community, and does not increase the preparation and mailing costs of the

hardcopy version of the *Solar Bulletin*. The response to this initiative has been so impressive—so far approximately 25 different images have been received—that we now face the job bringing some organization to the collection. This task should be completed by the end of November.

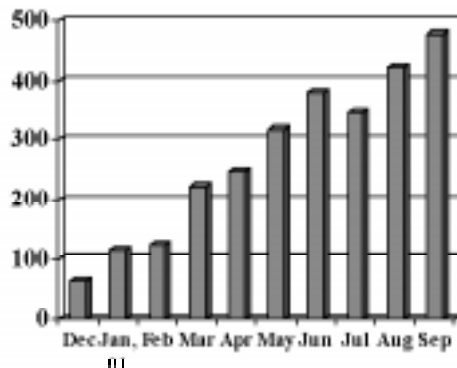


Figure 1. Number of *Solar Bulletin* pages downloaded from the AAVSO web site.

Other Items

In addition to making the solar data available to a wider community, several other activities have been completed during the year. These include:

- Mike Hill's expansion of the SID section of the *Solar Bulletin* through incorporation of monthly data obtained by the Geostationary Operational Environmental Satellite (GOES-8) satellite and his addition to the website of contributions by SID observers on antenna design and general operations.
- Art Stokes' redesign and simplification of the Gyrator II SID receiver.
- Lenny Abbey's production of sunspot reporting software that can be used with the new versions of Windows.

In closing, I want to extend thanks to all who have helped make this a successful year for the Division. In particular, I want to thank the following:

- The many observers who have faithfully made and reported their observations through the year. It has been a pleasure to work with them, and I look forward to continuing the collaboration for another year.
- Mike Hill, our SID Analyst, who, a little over a year ago, stepped in when the Division had lost its analyst and has since made substantial contributions to SID program development and data processing.
- Cap Hossfield, for his continuing encouragement of new observers and his dedication in preparing the interesting and insightful pages he contributes each month in the SID Supplement to the *Solar Bulletin*.

- Arthur Ritchie, a volunteer at headquarters, who gives unstintingly of his time in the completion of tasks related to the monthly processing of sunspot reports.
- Kate Davis, the AAVSO's webmaster, who, every month and always cheerfully and always before they wind up on the web site, tells me what silly mistakes I have managed to make (again!) in file specifications, formats, and other information I have given her for posting.

SUPERNOVA SEARCH

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It is a pleasure to be able to report that supernova searching has not been lost entirely to modern technology, and that two visual discoveries have been made since the last AAVSO meeting. These were my visual discovery of SN 2001du in NGC 1365 on August 24.7UT, and the visual discovery of SN 2001el by Berto Monard of Pretoria, South Africa, on September 17.064 UT.

SN 2001el was of type Ia, and was found a week or more before reaching maximum light. It achieved the faint end of 12th magnitude. It is bright and nearby supernovae like this one are specially valuable scientifically.

SN 2001du was fainter, but occurred in a galaxy which had been much studied with the Hubble Space Telescope as part of the Key Project, and it may be possible to identify the progenitor star which produced the supernova from studying archival Hubble pictures. This has only happened a few times, so far.

There is now a small army of amateur astronomers using modern technology for supernova hunting. In some cases they are able to go to bed at a normal time while their equipment does all the work for them. This army of technicians is having a great degree of success, especially in finding stars fainter than fifteenth magnitude in moderately distant galaxies. They include at least three Englishmen, several Americans, a Frenchman, and several Italians. One of the Americans, Tim Puckett, has a squadron of helpers joining in the task of examining all of the images taken by his CCD and computer. If he has not already, he will soon have to his credit the highest tally of supernova discoveries by any amateur. Another American, Michael Schwartz, has combined forces with the Lick Observatory team, making the Lick team into a Professional-Amateur outfit. He also has a long list of fainter discoveries to his personal credit, while the combined Lick and Tenagra team as a whole has many more. These amateurs have had a part in discovering a considerable proportion of all of the supernovae found this year, perhaps thirty percent, or even more, out of a total of nearly 200 supernovae found this year, so far.

TELESCOPE

Chair: Charles E. Scovil

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We still have for sale the 4-inch Goto refractor with tripod and mounting, pictures of which appear on the AAVSO web site. Asking price is \$1,000. There have been three or four inquiries about this telescope, but no firm offers. [*note added in press: this telescope has been sold.*]

We have recently acquired an 8-inch Dynamax Schmidt-Cassegrain telescope complete with eyepieces, equatorial wedge, and extremely heavy-duty tripod. The telescope has its own trunk for protection and storage. Asking price complete is \$500.