



OBSERVATIONS

A MONTHLY PUBLICATION OF THE
CHESTER COUNTY ASTRONOMICAL SOCIETY



★President: Edwin Lurcott
★Treasurer: Pete LaFrance

FEBRUARY 1998
(VOLUME 6, NO. 2)

★Vice President: Kathy Buczynski
★Secretary: William O'Hara

CCAS February Field Trip

DATE: **Tuesday February 10, 1998**
TIME: **7:00 p.m. EST**
PLACE: Sproul Observatory
Swarthmore College
Swarthmore, PA

The tour will **start** at 7:00 p.m. at the Observatory on Tuesday February 10, 1998. **Make sure you are there by 7:00 p.m. or you will miss the tour!**

After the tour, we will have a meeting at a local restaurant, Ruby Tuesdays at the Springfield Mall. Directions to the restaurant will be passed out after the tour. If you plan to attend the meeting after the tour, please call Kathy at 436-0821 by February 7 so she can make the proper reservations. A map to the Observatory is included with this newsletter. Please try to be early. There is another group touring after us, and we want to start right on time so we can ask plenty of questions.

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February Field Trip, Part 2 by Kathy Buczynski

Field trip to Sproul Observatory

Last month I talked about the telescope itself. Now let me tell you about some of the accomplishments of this fine instrument and the staff that use it.

Research has been taking place at Sproul since 1912. Many researchers have measured the distances of nearby stars. Using about 90,000 photographic plates, the program produced parallaxes of 1,400 stars. This program ended in 1994. To the best of my knowledge, many of the plates are displayed in the Observatory.

Work continues at Sproul, however. With binary stars as the focus, research continues to determine the mass of many star systems. In the process, the

researchers at Sproul have discovered some unseen companions of stars formerly thought to be single stars; they have 900 such discoveries to their credit. Even in the late 1940's researchers at Sproul theorized companion stars or even planets were around stars as they watched them wiggle through space.

Since 1970, the staff has been making visual observations of double stars by micrometer. They have discovered brown dwarf candidates, and hold a world record of studying the orbits of 450 double stars.

Currently leading the research team at Sproul Observatory is Dr. Wulff D. Heintz. He will be our host for the tour. Dr. Heintz has published a list of obtained orbits of binaries discovered by himself and his co-workers. I'm sure he will have plenty to add to this when we meet with him on the 10th.

Another distinguished researcher at Swarthmore is Professor John Gaustad, currently the Edward Hicks Magill Professor of Astronomy. He is now working on wide-angle imaging with CCDs of the Ha (Hydrogen alpha) emissions from interstellar hydrogen gas. Prof. Gaustad is also interested in infrared astronomy, interstellar matter, star formation, and the history of astronomy. He is well-published, having written many articles and one book. An article he published for the American Astronomical Society was "The Distribution of Interstellar Dust in the Solar Neighborhood", and his book is entitled "Astronomy: the Cosmic Perspective".

Many undergrads have gone on to continue astronomical research. One example is Charles Danforth, who is now a grad student at Johns Hopkins researching the remnants of a supernova that exploded 14,000 years ago (the progenitor of the famed Cygnus Loop). Another former student, Knut Olsen, is now doing work at the University of

Washington determining the age of the Large Magellanic Cloud.

This unique observatory is practically in our back yards. Don't miss this opportunity to see it.

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CCAS February Observing Session

The next Observing Session will be on Friday February 20, 1998, with a cloud date of Saturday February 21. If the weather is bad both days, there will not be an observing session in February. The session will be held at the Brandywine Valley Association (a map is included). At the observing sessions, there will be help available to set up and use your telescopes. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their `scope. CCAS Observing Sessions are free of charge. Children are always welcome as long as they are accompanied by an adult. Remember to dress warmly! It gets cold real fast standing around in the middle of an old pasture in February.

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Solar Eclipse in February

Request an extended lunch break on Thursday February 26. There will be a partial eclipse of the Sun, from about 12:30 (+ or -); maximum at about 1:15, and ends at about 2:08. Times are EST. About 20% of the Sun will be blocked by the Moon.

Warning: Do NOT look at the Sun without proper filter protection! Take a piece of aluminum foil, poke a small hole in it with a pin, and use that to project the Sun's image onto a piece of white paper. Tape the paper to some cardboard to stiffen it. You could also take another piece of cardboard, cut a square hole in it, and tape the foil with the pinhole over it, which makes the foil easier to hold.

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Astronomical League News

This month we have quite a bit of news from our regional AL organization. For those who don't know already, we are in the Mid-East Regional Astronomical League (MERAL).

At the September MERAL Council Meeting, "Sandy" Sanders (full name is E. E. Sanders) was elected Regional Chair for 1998-2000 and Tom Traub was elected Regional Representative (to the AL) for 1998-2001. There were no candidates for the other regional offices. Several amateurs are going to be on an informal steering committee to help Sandy and Tom keep the MERAL running until we can have a regional convention, hopefully in 1998, and elect a full slate of officers. MERAL needs a Secretary, a Treasurer, and a Vice Chair. If anyone would like to volunteer to help out, or serve as a temporary "appointed" officer, contact Sandy at (804) 779-3057 (home phone)

gscearcepd@sprintmail.com (e-mail)

Fundraiser: Sandy is proposing a regional fundraiser which any MERAL club or other AL member can do: a Messier Marathon! Around the time of New Moon in March each year, it is possible to see all 110 Messier objects in one night (and earn your AL Messier Club Award). The idea is to get people to sign up as sponsors, pledging to pay a certain amount per object observed. Sandy is suggesting a 50-50 split of the funds collected: 50% goes to the local club, and 50% to the regional treasury. It could be a big fundraiser for the region. If 100 observers see 100 objects each, and get \$1.00 per object, the region and the clubs would be splitting a total of \$10,000.00 - not bad for one night's work, and a good start for the regional treasury. It would also be a first for the AL; Sandy has not heard of any other region (or individual club) doing such a thing. Sign up by contacting Sandy for more info, and go for it. There will be some sort of recognition for the club and the individuals who see the most objects and raise the most funds (obviously those could be two different awards).

1999 Eclipse Trip: Turkey or Romania? Where do MERAL members want to see the Total Solar Eclipse from? Sandy is taking a **quick** survey of interest among MERAL members as to the site for the first MERAL eclipse trip. There is at least one travel agency who has expressed interest in MERAL's business. So do you want:

- 1.) Two weeks in Turkey
- 2.) One week in Turkey
- 3.) One week in Romania
- 4.) Other options

The 1999 Total Solar Eclipse will occur on 11 August 1999 (Perseid Meteor Shower Day also). The eclipse path in Romania has a 60-65% chance of clear skies at that time of year. Romania also has lots of Roman ruins to tour, not to mention great Black Sea beaches. The path in Turkey has a 80% chance of clear skies. Turkey also has lots of ancient sites to see: Hittite ruins, Roman ruins, Ephesus, Istanbul, etc. **Please contact Sandy immediately if you are interested**, as a decision has to be made by the February eclipse trip (Feb. 26).



Upcoming Events

Mark your calendars now for these CCAS Observing Sessions in the coming months:

- March 20 (21), 1998
- April 24 (25)
- May 29 (30)
- June 26 (27)
- July 24 (25)
- August 28 (29)

Texas Star Party: April 19-26

Northeast Astronomy Forum and Telescope Show:
Sunday May 3, 8:30 a.m. - 6:00 p.m. Suffern, NY

BVA Summer Solstice Party: Friday June 19

Astronomical Society of the Pacific Annual Meeting: June 25-July 1 Albuquerque, NM



Monday March 2: East Bradford School

The CCAS has been invited back again this year to participate in the annual Interests Night at East Bradford Elementary School. The time is 7:15 p.m. to 8:30 p.m. This event includes a show inside the school where students make displays about their hobbies and interests. The CCAS sets up in the school yard to offer views through telescopes, and to offer advice and help with astronomical questions. It's always a fun event; don't miss it!



Saturday May 2: National Astronomy Day

Start thinking now about what we can do on National Astronomy Day. We have not confirmed any plans with the Exton Square Mall yet, so we are open to suggestions of what to do that day to promote astronomy, and where. Call Ed Lurcott with any ideas.



June 19-21: Mason-Dixon Star Party

This fine star party takes place south of York, PA, near the state border. It features speakers on a variety of topics, swap tables of astronomical gear, vendor displays, comraderie, and great observing all night long if you can stay awake. Practically an unlimited number of camping sites is available. No hookups, though. Chuck Shorten, Shiv Gupta, Rafael Gonzalez, Pete LaFrance, and Ed Lurcott have all attended this event in the past. You can talk to any of them about their experiences at this star party.



July 21-25: ALCON 98

The National Convention of the Astronomical League will be held this year in French Lick, Indiana. There will be at least 8 professional speakers, competitions in astrophotography and CCD imaging, displays by vendors, a banquet, workshops, tours, door prizes, a midnight bowling tournament, and dark-site observing in the Hoosier National Forest. The French Lick Resort is a recently renovated 1920's style hotel. It features indoor and outdoor pools, a world-famous spa, three restaurants, a pizza parlor, a game room, an ice-cream parlor, a bowling alley, two golf courses, numerous tennis courts, and a brand new convention center. Rooms are \$79 per night for one or two people. Ed Lurcott is planning to attend. Anyone else interested??



January-February Quiz Question

In what year did the stellar explosion occur that formed the Crab Nebula in Taurus? We're looking for the year that the explosion actually occurred.

This was our question for January, but no-one has called yet with an answer. So we're carrying it over into February. First person to call Ed Lurcott (436-0387) with the correct answer wins a prize.



February's Skies

Moon Phases

First Quarter	02/03
Full Moon	02/11
Last Quarter	02/19
New Moon	02/26

The Planets

Mercury is lost in the Sun's glare all month.

Venus is in our morning sky all month in February, and a great sight if you're up an hour or so before the Sun.

Mars is in the evening sky, an orange or red "star" in the southwest at dusk. It will be near brighter Jupiter.

Jupiter is the brightest "star" in the southwest at dusk, but hard to spot because it is so low. By mid-month it will disappear behind the Sun, and reappear later in March in our morning sky.

Saturn is in the southwest at dusk in February. It is the best planet for telescopic viewing in our evening sky this month.

Uranus is lost in the Sun's glare in January.

Neptune is not far from Uranus, and also lost in the glare.

Pluto is in the morning sky now, but it would be extremely difficult to find. Best wait a few more months before trying to find it.

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AL Observing Programs

One of the benefits of joining the CCAS is that you also become a member of the Astronomical League, a national federation of astronomy clubs. The AL has a series of Observing Awards, and 4 observing clubs based on these awards have been started in the CCAS. These are the Messier Club, the Binocular Messier Club, the Lunar Club, and the Double Star Club. These "clubs" will arrange times for the members working on those awards to get together to share experiences and advice in finding interesting sights in the night sky, and possibly also to observe together. Working on these awards also gives you a plan of observing, so to speak. "What will I look at tonight?" becomes "Which Messier objects are visible tonight that I haven't seen yet?" Each club has a volunteer coordinator:

Messier Clubs (both): Bob Hartje (610-325-7285)

Lunar Club: Ed Lurcott (610-436-0387)

Double Star Club: Jim Anderson (610-380-4512)

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CCAS Lending Library

Our Librarian, Bill O'Hara, has the books in our library all ready for members to borrow. You can drop by Bill's place (call first, of course) to borrow a book. Or you can call Bill before a meeting and ask him to bring a book to the meeting for you. The complete list of books is too big to include in the newsletter; there will be copies available at CCAS meetings. We will be publishing sections of the list each month, though; part 4 is below. Bill's phone number is 696-1422.

Books in Category 4, "Deep Sky":

401 - *Observing Handbook and Catalogue of Deep-Sky Objects*, Luginbuhl & Skiff, 1990

402 - *Visual Astronomy of the Deep-Sky*, Clark, 1990

Books in Category 5, "Telescope Making":

501 - *Telescopes, vol. 1 of Stars and Stellar Systems*, Kuiper & Middlehurst, 1960

502 - *Amateur Telescope Making, Book 2*, Ingalls, 1972

503 - *Amateur Telescope Making, Book 3*, Ingalls, 1974

Books in Category 6, "Photography":

601 - *Astrofilters for Observation and Astrophotography*, Barbera, Capen, Carvalho Sr., & Steeg, 1973

602 - *Astronomical Spectroscopy*, Thackeray, 1961

603 - *Astronomical Photometry*, Henden & Kaitchuck, 1982

604 - *Discover the Universe Calendar*, Berry, 1995

605 - *Solar System Photographs*, NASA

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CCAS Lending Telescope

You can make arrangements to borrow the telescope for a month by contacting Steve Leiden (296-3793). The 6" f/8 reflector can be borrowed by club members for a month at a time.

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Contributing to Observations

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an email message and send it to the editor at SNY114@aol.com

Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104

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Membership Renewals

Check the date printed on the address label of this issue of *Observations*; "exp." appears in front of it, just after your name. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance. Mail to:

Pete LaFrance
413 Church Rd.
Avondale, PA 19311

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Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price, which is about half the newsstand price, and also cheaper than individual subscriptions! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance. Or you can bring it to the next Society meeting and give it to Pete there. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

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CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....\$20/year
SENIOR MEMBER.....\$10/year
STUDENT MEMBER..... \$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$ 30/year

For further information on membership or society activities you may call:

President:	Edwin Lurcott	(610) 436-0387
Vice Pres:	Kathy Buczynski	(610) 436-0821
Treasurer:	Pete LaFrance	(610) 268-2616
Secretary:	William O'Hara	(610) 696-1422
Program:	Kathy Buczynski	(610) 436-0821
ALCor and		
Newsletter:	Jim Anderson	(610) 380-4512
Librarian:	William O'Hara	(610) 696-1422

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