



OBSERVATIONS



A MONTHLY PUBLICATION OF THE

Chester County Astronomical Society

★ *President:* Mike Turco
★ *Treasurer:* Pete LaFrance

NOVEMBER 2001

(VOLUME 9, NO. 11)

★ *Vice President:* Steve Limeburner
★ *Secretary:* Doug Liberati

http://members.tripod.com/~ccas_2/ccas.html

CCAS November Meeting

DATE: Tuesday November 13, 2001
TIME: 7:30 p.m. EST
PLACE: Department of Geology and Astronomy Lecture Room (Room 113 – Boucher Building) West Chester University
LOCATION: South Church Street West Chester, PA (see map)

Parking is available behind Sykes Student Center on the south side of Rosedale Avenue, and behind the Bull Center at the corner of Rosedale Avenue and South High Street. If you arrive early enough, you may be able to get an on-street parking space. A map is included on a later page.

Our guest speaker will be Rajul E. Pandya, Assistant Professor of Atmospheric Science at West Chester University's Department of Geology and Astronomy. Professor Pandya also teaches beginning Astronomy classes. He will talk to us about meteorology and weather forecasting.

Dr. Pandya received his B.S. from the University of Illinois and Ph.D. from the University of Washington (in Seattle, WA). He teaches a variety of courses on meteorology at both the graduate and undergraduate level, as well as an introductory astronomy course. Dr. Pandya's research work investigates the dynamical processes that organize cloudiness on scales of hundreds of kilometers. Most of his research has focused on squall-line systems, and suggests that the circulations around these systems are primarily the result of convectively generated gravity waves. He also studies dynamical processes in coastally trapped disturbances.



Public Open House: F & C Observatory

There will be a **FREE** public open house program at the University of Pennsylvania's Flower & Cook Observatory in Malvern, PA on Friday November 30, 2001 at 7:30 p.m. EDT. After the lecture, there will be observing with the Observatory's telescopes. The Observatory is located on Providence Road, just west of the intersection with Warren Avenue. A map is included on a later page. Children are always welcome as long as an adult accompanies them.



CCAS November Observing Session

The next CCAS Observing Session will be on Friday November 16, 2001 starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on Saturday November 17, 2001. At the observing sessions, there will be help available to set up and use your telescopes. If you're having trouble using your telescope, or finding your way around the sky, come on out and get some assistance. 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 always free of charge. Children are always welcome as long as an adult accompanies them.

To get to the observing site at the BVA, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill. A map showing the location of the BVA is included on a later page.



Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the June 2002 issue.

Issue	Deadline
December 2001	11/26/2001
January 2002	12/30/2001
February 2002	01/27/2002
March 2002	02/24/2002
April 2002	03/24/2002
May 2002	04/28/2002
June 2002	05/26/2002



Comet News

If you get *Sky & Telescope* magazine, you already know about Comet LINEAR (C/2000 WM) from pages 101-103 in the December 2001 issue. This comet will be in our evening sky through November and most of December: a nice holiday comet. It may approach naked-eye visibility in December. Finder charts are on pages six and seven.



Calendar Notes

December 4, 2001 (Tuesday)	Backyard Observing Class Location: Flower & Cook Observatory 7:00 p.m. EST
December 11, 2001 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
December 14/15, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
December 21, 2001 (Friday)	Winter Solstice Northern Hemisphere 2:21 p.m. EST

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November Skies

Moon Phases

Full Moon	11/01
Last Quarter	11/08
New Moon	11/15
First Quarter	11/22
Full Moon	11/30

The Planets

Mercury is in our morning sky this month, but by midmonth sinks back into the Sun's glare. Mercury and Venus will be less than 1° apart from November 1 through November 7. What makes this big news is that they are close enough to get them both into one telescopic field-of-view! You get to see the two "inner planets" of the Solar System at the same time!

Venus is also in the morning sky this month, but will get progressively closer to the Sun (and harder to find) as the month ends.

Mars remains the only bright planet in our evening sky. It is not too hard to find, as it is a bright reddish-orange "star" visible in the southern part of the sky soon after sundown. We are getting farther away from Mars now, too far for good telescopic observations.

Jupiter is in Gemini this month, rising in the east about two hours after Saturn. The best views are just before dawn when Jupiter is higher in the sky (and the Earth's atmosphere is often more tranquil as well at that time.)

Saturn is now rising in the east at nightfall. The best viewing this month, though, will be in the morning before sunrise when Saturn will be higher in the sky. It is a glorious sight, with the rings tipped fully open to our view.

Uranus is in Capricornus this month. This is a good month to find Uranus, as it is in our evening sky. On November 26, Mars will be only 0.8° south of Uranus, so you may be able to get both planets within one telescopic field of view, using a low power eyepiece.

Neptune is also in Capricornus, and therefore also in our evening sky this month. Being dimmer than Uranus, it will be harder to find. On November 4, however, Mars will be just

2.2° south of Neptune, which may make Neptune easier to find.

Pluto is behind the Sun in November.

Meteor Shower: The Leonids

This annual meteor shower is expected to peak on the morning of Sunday November 18. The Moon will not be a hindrance to viewing this shower this year. These meteors are pieces of Comet 55/P Tempel-Tuttle. The best time for viewing is in the early morning hours, when our part of Earth is facing head-on into the stream of meteors. Several "expert forecasters" say that the shower will peak at about 5:00 a.m. Eastern Standard Time, with a rate of 2,000-3,000 meteors per hour: a meteor storm. Another peak of about 10,000+ per hour is forecast for later that day, about 1:00 p.m. EST, but we of course will not be able to see that because it will be daytime here.

The Moon Occults Saturn on November 30

The Full Moon will pass in front of (occlude) the planet Saturn, as seen from our area on the night of Friday November 30. Saturn will disappear at about 7:40 p.m. Eastern Standard Time (EST) and reappear on the other side at about 8:40 p.m. This can be a great sight to see, as it takes the Moon about 75 seconds to cover the planet and its rings! We will be treated to another lunar occultation of Saturn on Friday December 28. Mark your calendars now!

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President's Message November 2001

In my office, I have a photo of my telescope set up by my house with a caption that reads "Don't Forget to Keep Looking Up." Unfortunately, since September 11, we now have to keep looking down. Down to the lowest levels of our planet, on the alert for fanatics bent on destroying the civilization that has allowed mankind to reach for the stars.

Imagine what it would be like if the worst happened. Flip a switch and poof! You are now under fundamentalist Islamic rule. How does your life change?

No music. None of the classics, the Big Bands, jazz or popular standards, no Sinatra, no rock and roll, nothing. Not allowed. In fact, there's no entertainment at all. No television, radio, videos, or movies. Forbidden. Well I guess that's just as well. There's no electricity anyway!

No sports. What the hell, Americans spend too much time watching sports anyway. I'm tough. Just watch me. I can give 'em all up: golf, tennis, basketball, football, baseball.... Wait a minute! No baseball!? Our national pastime? Hey, that's like giving up mom and apple pie! That's sacrilegious! I guess I'll have to say goodbye to playing in the Men's Senior Baseball League.

It gets worse. I have to grow a beard. Do you know how irritating growing a beard can be? No wonder those righteous "clerics" are so irritable. Shave the bastards!

What about women? In public, women must be covered from head to toe. Walking tents with woven grids to see through. How tough will it be every spring when, in addition to the vernal equinox, a young man's fancy turns to other things?

But try to see the good side. Overcrowded schools will be a thing of the past, since there won't be any girls attending anymore. Why haven't all the women of the world risen up in vigorous protest of such treatment? In this country a generation ago feminists were burning bras for what seems trivial in comparison to life for millions of women in the Middle East.

Don't panic. It is only a matter of time before this threat to western civilization is eliminated. Until then, we'll do our best.

In all of this though, it's what happens to kids that affects me the most. Kids in Afghanistan, in the U.S., and everywhere in between. It's bad enough watching an airplane plow into a skyscraper, but it was the 7-month-old that contracted anthrax that really pushed me over the edge. Now I **really** want retribution.

When I watch the History Channel, my 7-year-old asks me about soldiers and war, and I try to explain what it is, and what WWII and Korea and Vietnam meant. Before September 11, war was all in the past for her. Now it is part of her life too.

Mike Turco



Astronomer: 7

A Journal for Young Astronomers

By Bob Popovich

"A Trip to the Hardware Store"

Hardware stores can be thrilling places filled with limitless possibilities. "You mean like new kitchen cabinets or a power tool?" Absolutely not! How about star clusters and multi-colored star fields instead? The hardware store we'll visit this time is one that stocks binoculars- the tool that allows endless possibilities for the younger astronomer.

Why not a telescope you might ask. After all, Christmas is coming. Christmas is indeed coming and I'd like to explain why I prefer binoculars and have relied on them so often in previous installments of this journal.

First, there's our on-board computer. The brain processes data from 2 eyes better than it does from one. Second, are our eyes themselves. Having both eyes open is less of a strain than squinting. And third, once your eyes are dark-adapted (about 20 minutes, remember?), binoculars feature easy set-up, point-and-see technology. Not very high-tech, but very useful. The wide field of view (FOV) of up to 7° allows us to point the binoculars at a target and acquire it easily. Doing the same thing with a telescope (FOV= 1/2°) requires quite a bit more practice. By finding what we want to observe and seeing the surrounding stars as well, we will learn about the night skies as we enjoyably observe them. And that's what amateur astronomy is all about. As we look at stars with our naked eyes and then train binoculars on specific targets, constellations and star groupings within them will become familiar old friends who will guide and teach us as we observe more and more detail over time. So when the day arrives that you wheel out your first telescope, you'll be thoroughly

familiar with the patterns of the heavens. And of course, let's take our time to **enjoy** the learning process- the stars will wait for us.

Now we're off to our local hardware store to shop for binoculars. Of what things should we be aware?

There are 2 types of binoculars: (1) Roof prism: the eyepieces and the objective lenses are set in straight barrels and (2) Porro prism: the eyepieces are offset relative to the objective lenses. In other words, there is a "bend" between the eyepieces and the objective lenses.

Regardless of the type, getting a pair with good optics is the most important thing. So, look for binoculars whose optics are **fully multi-coated**. Not "coated", "multi-coated" or "fully coated." All binoculars have a series of prisms in them that bend the light before it gets to our eyes. If not fully multi-coated, the image we see will be lower quality and so will not only be more of a strain on our eyes, but will be far less rewarding. Look for BAK-4 (barium crown glass) optics as well. This is high quality glass that produces brighter, sharper images all across the FOV.

Put the binoculars up to your eyes and focus on something as far away as possible. But let's not walk out of the store just yet! Focusing should be smooth and you should not have your eyes pressed up against the eyepieces. Good binoculars will give you a full FOV even with a little space between your eyes and the eyepieces. This feature, called eye relief, is important for comfort while observing. And if there are rubber eyecups, that's even better.

Now, hold the binoculars 2-3" away from your eyes. The light from the FOV coming through the eyepieces should be perfectly round and not oval or distorted.

And what about those numbers like 7x35, 7x42 or 10x50? The first number is the magnification and the second is the diameter of the objective lenses in millimeters. As diameter increases, so does light-gathering ability. But don't strictly choose one over the other. We need to have a balance between the two. A beautiful, bright FOV will be the most rewarding. And besides, even modest 7x will open up years of observing possibilities. So use this formula to figure out brightness: (Diameter of objective / magnification)². For 7x35 this is (35/7)²=25. For 7x42 this is (42/7)²= 36. And for 10x50 this is (50/10)²=25. How about 7x50? Figure out the answer and send it to me at b2n2@aol.com. The bigger the answer, the brighter the image. But remember, binoculars get heavier as they get more powerful, so be sure to test that they are comfortable in your hands and that you'll be able to hold them without your arms shaking or tiring.

There is one piece of optional equipment that'll come in handy- a reclining beach chair. Sitting down in one of these will make observing more comfortable and will allow you to keep your journal book at hand.

Since you've spent \$100-\$200, be sure to hold on to your receipt. If the binoculars don't give you crisp, beautiful images or aren't as easy to hold as they seemed in the store, take them back and select another pair. A comfortable pair of

fully multi-coated BAK-4 binoculars are a lifelong companion in our enjoyment of the night sky.

Next Time: "The Gift of the Sky"



CCAS Backyard Observing Class

This is the remaining schedule:

Nov. 6	Lunar & Solar Observing
Nov. 20	Perseus
Dec. 4	Taurus & Saturn

All classes are held at the University of Pennsylvania's Flower & Cook Observatory, located in Willistown Township on Providence Road, just west of the intersection with Warren Avenue. Classes begin at 7:00 p.m. (EST). If you would like to assist with this effort, please contact CCAS Education Chair Kathy Buczynski at 610-436-0821, or via e-mail at kbuczynski@aol.com



Help Needed With Society's 20" Telescope

The Society's 20" telescope belongs to the whole Society; it is intended to be available for use by members at Observing Sessions, and even for short-term borrowing by Society members. The problem we have with implementing this policy is, simply put, lack of mobility. We need a member with a big enough truck or minivan, and preferably with the storage space at home for the telescope, to volunteer to be the telescope's "custodian" and "chauffeur." The custodian would of course be able to use the telescope whenever it wasn't out on loan. The biggest part of the telescope is the bottom part; it weighs a couple hundred pounds. We have wheels and handles that convert that piece into a large "wheelbarrow" for moving it, though, and ramps so it can be wheeled right into a vehicle. Ed Lurcott is willing to keep storing the telescope in his garage, if someone can volunteer to be the chauffeur, but not the custodian. If you can help, please call Ed Lurcott. Thanks.



"I know it isn't M57, but will you marry me?"

Cartoon by Nicholas La Para

CCAS Secretary's Report

Meeting of October 9, 2001

By Doug Liberati

The October 2001 meeting of the Chester County Astronomical Association (CCAS) was convened at approximately 7:30 PM on Tuesday, October 9th, 2001. This was the first meeting of the season. The September meeting, scheduled for September 11, was cancelled due to the tragedies in New York City, Washington D.C. and Western Pennsylvania.

Officers in attendance were: Vice President Steve Limeburner, Secretary Doug Liberati, Observing Chair Ed Lurcott and Librarian William O'Hara.

Steve arrived late, so Doug opened the meeting with a general welcome to a new year of the CCAS.

Kathy Buczynski provided an update on the CCAS Backyard Observing Course. There have been two sessions so far. The first session had 50 attendees, although the upper limit was to be 40. In the second session the crowd dropped off a bit, but may go up again. The focus of the course is objects that can be seen from the backyard, the bright and the popular objects that are relatively easy to find.

Doug then turned the meeting over to Ed for the Observing Committee report. Ed welcomed everyone back for the 9th year of the CCAS. Ed provided a summary of events that had occurred over the summer. Through Ed, the CCAS had a presence at the Mason-Dixon star party (which experienced some wild, stormy weather) and the Astronomical League's national meeting. The League meeting featured the Association of Lunar and Planetary Observers (ALPO) and the International Dark Sky Association (IDA).

There was no club presence at the Black Forest star party or the Mega-Meet, as these were coincident with the September 11th tragedies.

More recent club events included a Friends School night at the BVA property and a night for Arcola Intermediate School on October 8th. WHYY's Sky Tour was held at the school that night and several hundred people attended. Three of our scopes were present.

After the Observing Report, two issues arose. The first concerned development near the BVA property and it was decided that CCAS should investigate potential new observing sites. Suggestions for any such sites should be forwarded to Victor Carlucci. Victor will compile a list of potential new locations based on our input and work with the observing committee to investigate them.

Victor can be reached with at:

7 Bryan Wynd
Glenmoore, PA 19343

Or via e-mail at:
bitsbytes@hotmail.com

or by phone at:
(610) 458-7457 (phone and fax)

The second issue concerned the fate of the Flower and Cook Observatory, as the possibility that the University of

Pennsylvania will sell it is becoming more real. A discussion concerning this was pursued with Dr. Koerner, the night's speaker, after the meeting, but Doug was not present.

The speaker for the evening was Dr. David Koerner. Dr. Koerner is a University Of Pennsylvania astronomer and author of the book *Here Be Dragons – The Scientific Quest for Extraterrestrial Life*. He spoke on his work on circumstellar disks and how inhabitable the universe might be.

The meeting was still going strong at 9:50 PM, with a good Question and Answer session on Dr. Koerner's work and conclusions, when Doug had to leave.



CCAS Observing Site Search

By Victor Carlucci

Our old site has fallen to the glaring realities of light pollution. Further home development plans for the former Northbrook Orchard property near the BVA are making the BVA site unacceptable to our needs. We need to find a new dark site.

We would like to make this happen in the near future therefore your input is important in choosing this new dark site. If you have any suggestions, please submit the following information:

1. Location (include local access roads)
2. Distance (miles and time) from central West Chester
3. Contacts (names and phone numbers)
4. Size (parking accommodations)
5. Conveniences (telescope setup near parking, bathrooms, etc)

I will take your information, plot it on a map and contact all prospects within a 30 to 45 minute drive from central West Chester and make arrangements to visit the sites. Anyone is welcome to participate. We would like to accomplish this task and be at our new dark site by January.

Thanks for your participation.

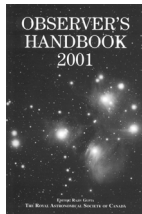
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bitsbytes@hotmail.com

610 458-7457 (Call or Fax)



Observer's Handbook 2002: Save Money!



The cover of last year's issue

We got a total of 14 people who signed up for a copy. That means that the cost will be only \$14.00 each, a savings of \$8.95 each. I've placed the order, and when the books arrive I'll contact everyone and collect the payments. And I'll give you your copy of the book, too, don't worry.



Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at \$30.00 for one year. Send to:

International Dark-Sky Association
3225 N. First Avenue
Tucson, AZ 85719-2103

Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their Website:

<http://home.epix.net/~ghonis/index.htm>

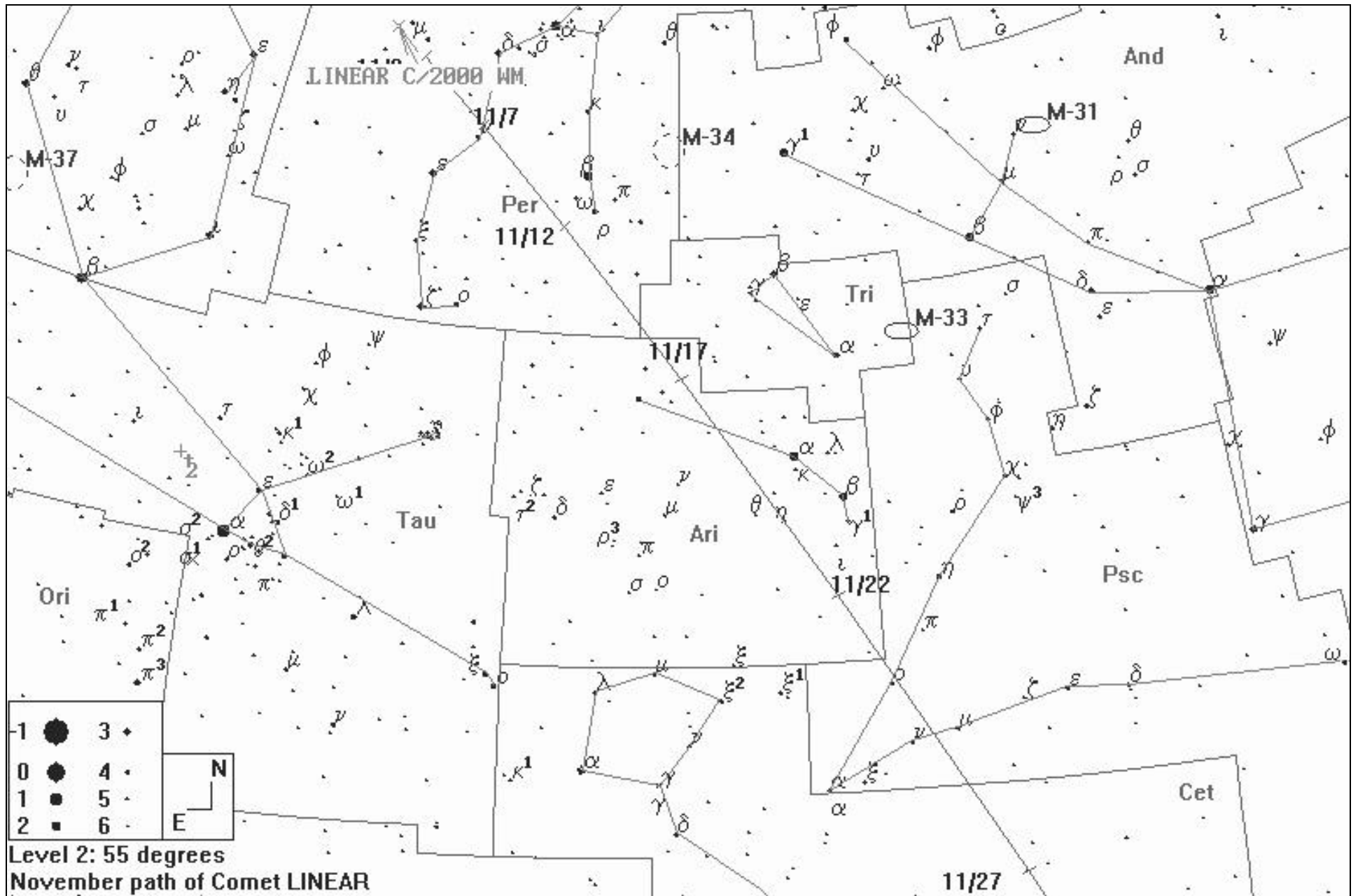


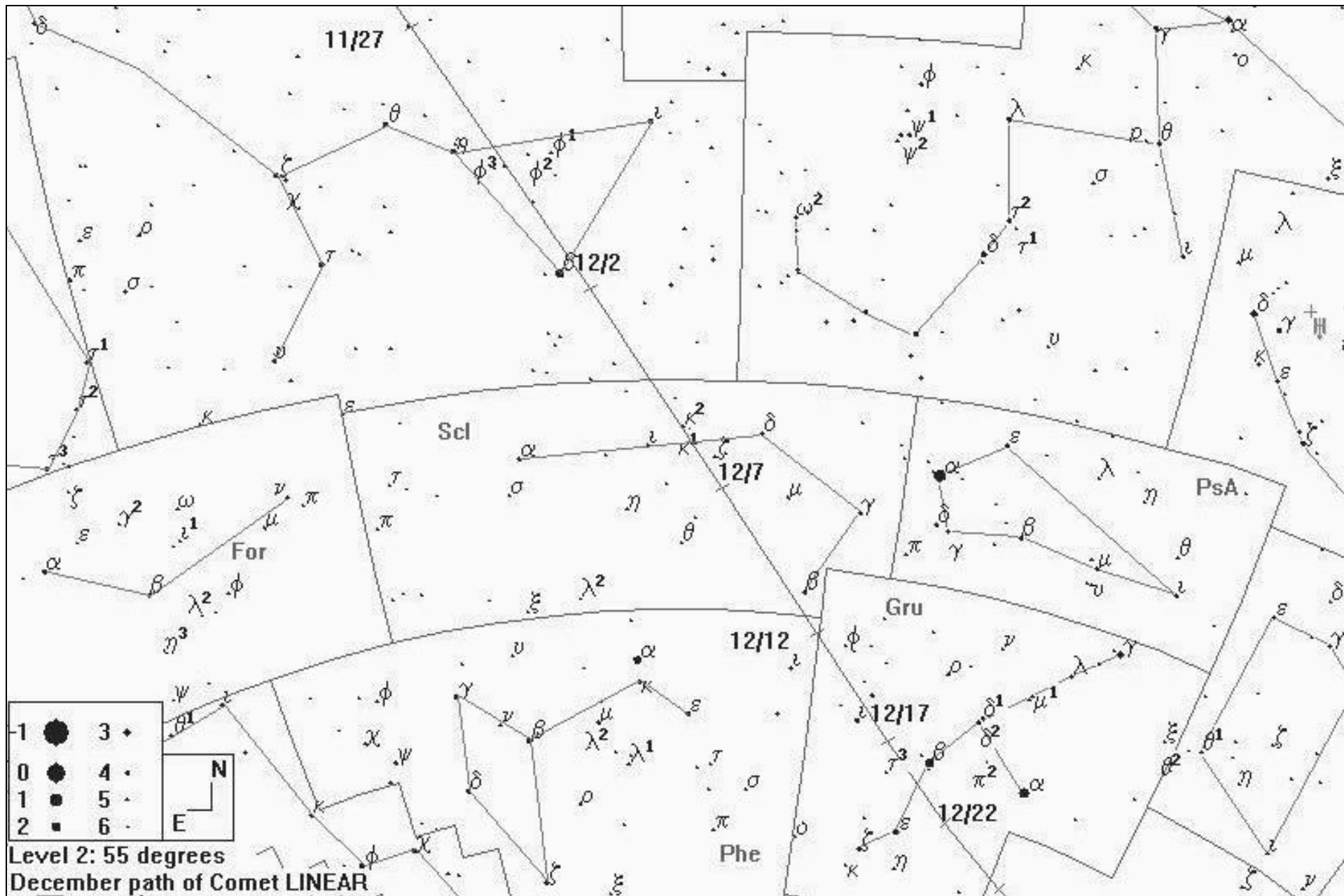
CCAS Newsletters Available via E-mail

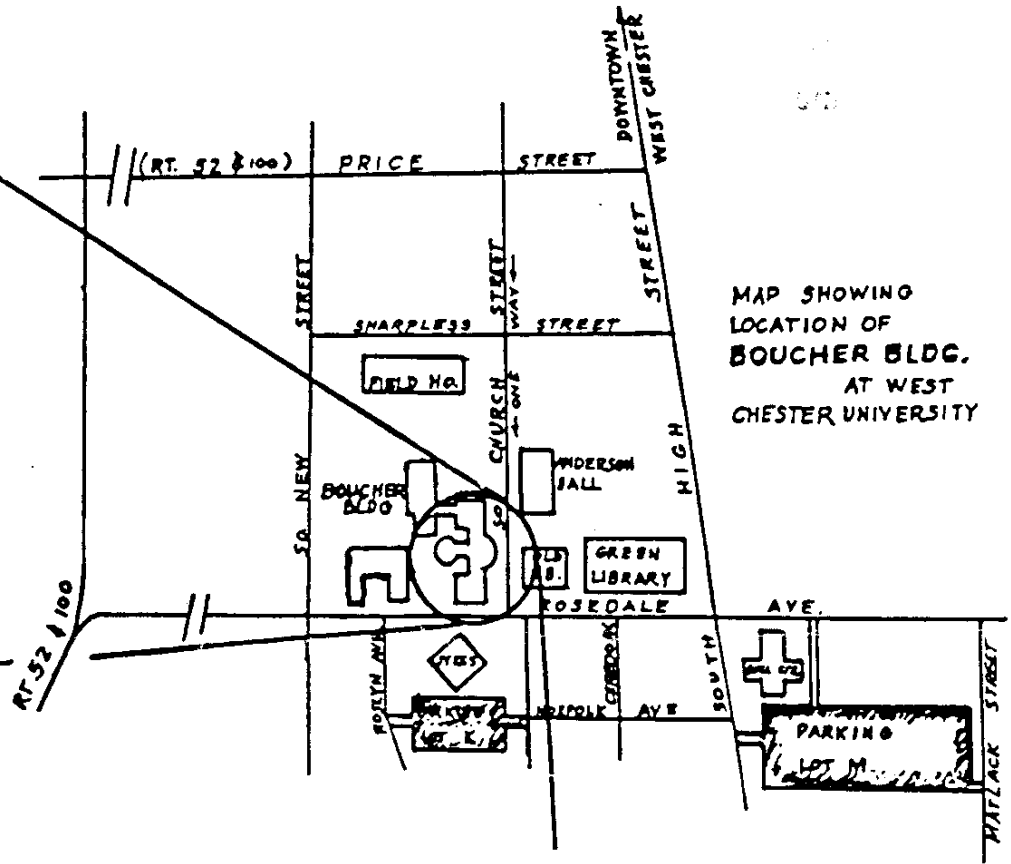
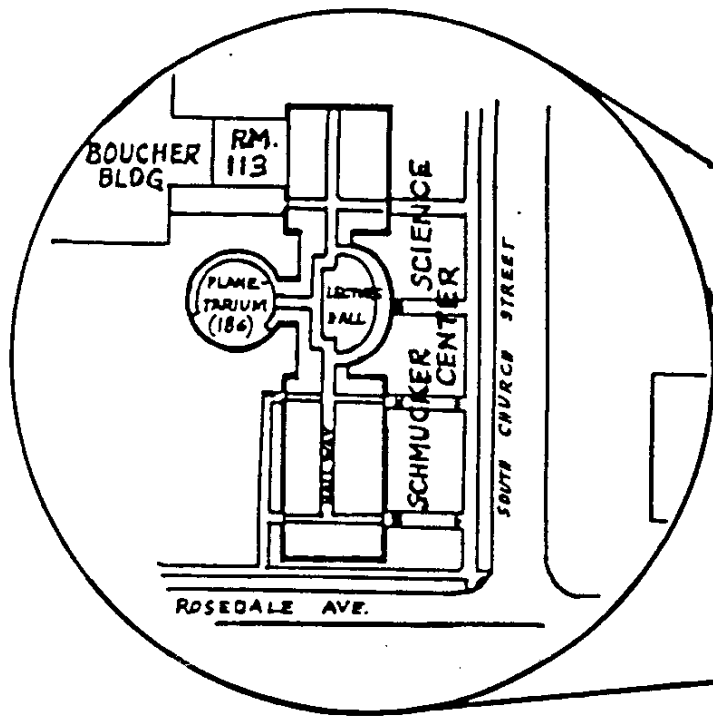
You can choose to receive the monthly newsletter by e-mail. When the newsletter is finished, I convert it to a special type of file (a .pdf, for Portable Document Format) using a utility called Adobe Acrobat. Then all you need on your PC, besides an Internet connection with e-mail, is the Adobe Acrobat Reader program for your PC or Mac. This program is available free of charge from Adobe. Just connect to their Website at www.adobe.com and follow the links and directions for downloading and installing the correct Reader program for your PC or Mac. On the main screen (home page) of Adobe, at the top look for a "button" labeled "Products" and click it. On the next screen, scroll down to where it says "Adobe Acrobat Reader", and click that. Then click on "Download Now". Make sure the version number of the Reader you get is at least 4.0 because I'm using Adobe Acrobat version 4.0 to make the .pdf files. If you have an earlier version of the Reader, like 3.0, you'll have problems reading the files I make with Acrobat 4.0. The 4.0 Reader can read 3.0 files without a problem, so if you're currently using a 3.0 Reader you will still be able to read older files produced by Acrobat 3.0 if you upgrade your Reader to 4.0.

Once you've done that, then just send me an e-mail to let me know you want to switch to e-mail delivery of the newsletter. The biggest advantage of getting your newsletter this way is you get it two to three days earlier. Another of the advantages of getting the newsletter this way is that the photos and/or drawings that are color in the original will be in color in your copy of the newsletter. When we make the paper copies for mailing, they get copied in black & white, and sometimes the copy quality of pictures is not good. Another advantage is that getting your newsletter by e-mail will save the Society money in copying and mailing expenses. In the past year some issues have cost the Society \$75.00 and more in copying and mailing costs. So if you want your newsletter by e-mail, send me an e-mail at jimanderson1956@aol.com and I'll get you set up on the e-mail distribution list.









MAP SHOWING
LOCATION OF
BOUCHER BLDG.
AT WEST
CHESTER UNIVERSITY

CCAS Information Directory

CCAS Lending Telescope

Contact Kathy Buczynski to make arrangements to borrow the Society's lending telescope. CCAS members can borrow the lending telescope for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Bill O'Hara, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Bill's phone number is 610-696-1422.

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

Jimanderson1956@aol.com

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter by e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Jim Anderson, the newsletter editor, at:

Jimanderson1956@aol.com

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Frank Angelini
(610-873-7929)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Officers

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

President: Mike Turco
(610) 399-3423

Vice Pres: Steve Limeburner
(610) 353-3986

Treasurer: Pete LaFrance
(610) 268-2616

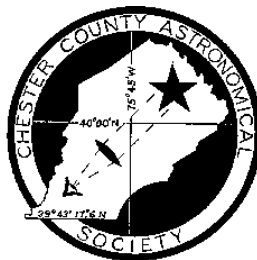
Secretary: Doug Liberati
(610) 827-2149

**ALCor and
Newsletter:** Jim Anderson
(610) 857-4751

Librarian: William O'Hara
(610) 696-1422

Observing: Ed Lurcott
(610) 436-0387

Education: Kathy Buczynski
(610) 436-0821



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

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 19311-9785

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$29.95** which is much less than the newsstand price of \$54.00, and also cheaper than individual subscriptions (\$39.95)! 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.

CCAS Website

Pete LaFrance is the Society's Webmaster. You can check our Website at:
http://members.tripod.com/~ccas_2/ccas.html

Pete welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to Pete LaFrance (610-268-2616) or e-mail to lafrance@chesco.com

