



OBSERVATIONS



A MONTHLY PUBLICATION OF THE
Chester County Astronomical Society

★ *President:* Mike Turco

★ *Treasurer:* Pete LaFrance

MARCH 2001

(VOLUME 9, NO. 3)

★ *Vice President:* Steve Limeburner

★ *Secretary:* Doug Liberati

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

CCAS To Hold 4th Annual Messier Marathon



Charles Messier

If you feel the way I do right now, Spring can't come too soon! To amateur astronomers, Spring means many things, e.g. the Spring Equinox, different constellations, but the annual Messier Marathon has to be high on the list for me. It's hard to believe that it was four years ago that a few observing friends and I braved it through our 1st CCAS Messier Marathon. It was cold! We were tired! We were hungry and thirsty! andboy was there DEW!!! But, we braved it out. I'll never forget receiving my honorary certificate later that year. This was the reward following many years of observing which all began 12 years ago and over 3000 miles away, during a two year stint in South West England.

This year proves to be one of the best opportunities in many years to bag some galaxies: Messier weekend happens to coincide with New Moon!!! This year, there is a very good chance to combine the Messier marathon with an all-planet marathon, i.e. you can observe all solar-system planets during this night. Some comets brighter than about mag 14.0 will also be visible. They are listed below, based on the JPL List of Currently Visible Comets:

<u>Comet</u>	<u>RA (2000.0)</u>	<u>Dec</u>	<u>mag</u>	<u>data for March 27, 2001</u>
24P/Schaumasse	04:00.83	+24:41.5	11.4	
C/2000 W1 (Utsunomiya-Jones)	12:27.22	-05:38.8	13.3	
C/1999 T2 (LINEAR)	16:10.92	+32:32.5	13.3	
C/1999 T1 (McNaught-Hartley)	18:31.21	+58:41.0	9.1	

It will be fun pointing our 20 inch monster at some of these comets. **So who was this Messier character?**

CHARLIE'S RESUME

Charles Messier (1730-1817)

Charles Messier was a French astronomer whose work on the discovery of comets led to the compilation of the Messier Catalogue of nebulae and star clusters. The reason Messier compiled this catalogue was to save time while comet hunting. It takes time for a comet hunter to check each comet suspect (by checking for motion). With his small instrument (2 or 3 inch diameter refractor), even star clusters would look fuzzy like a comet. (You can check by looking at some of the M objects using binoculars.) By using his catalogue, Messier could see whether a comet suspect was actually a nebulae that he had previously observed.

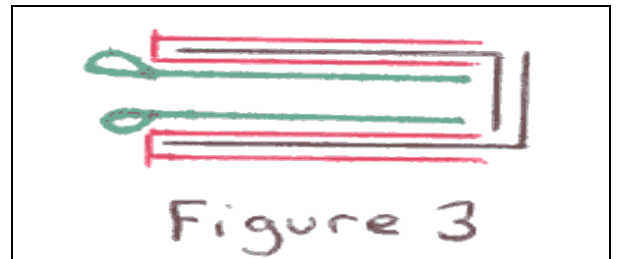
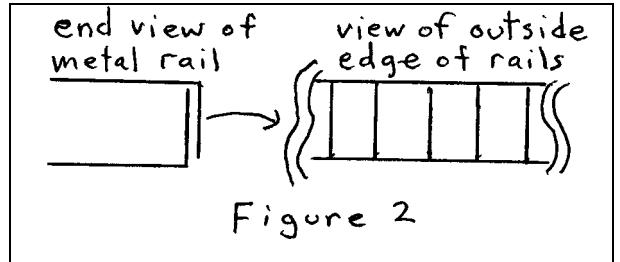
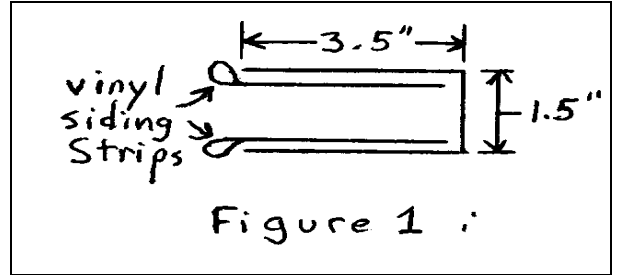
In all, Messier has his name on 12 comets found between 1760 and 1798. Actually, he independently discovered at least 15 comets, but is not given credit on all of his discoveries - in some cases they had been previously discovered. (Remember that communications were very slow in those days.) Louis XV gave Messier the nickname "Comet Ferret."

Messier compiled an initial list of 103 objects. Of the seven other objects, M104 was added in 1921 by Camille Flammarion, who found it on Messier's copy of his 1781 catalogue. M105 through M107 were observed by Messier's chief comet hunting rival, Pierre Mechain (1744-1804), and were added in 1947. M108 and M109 were mentioned by Messier in his description of M97 and were added in 1960. M110 was on Messier's map of M31; it was added to the list in 1966. It should be noted that not all of the objects are real -- some are clearly mistakes.

I look forward to seeing you at the March meeting. I'll have lots of Messier material for you to pick up, and would be happy to address any Messier questions you might have.

Frank J. Angelini CCAS Messier Awards Coordinator

Pete LaFrance's Backyard Observatory
 (Part 2 of a series by Jim Anderson)



Recently, I visited Pete LaFrance to see the progress he has made on the backyard observatory he is building. In the October 2000 issue of *Observations* we saw the basic construction of the dome, which is 10 feet in diameter. Since then, Pete has covered the metal skin with a layer of fiberglass cloth to smooth the dome exterior, as well as to make it watertight. You can see this covering in the picture above, where Pete is standing next to the dome to give you a sense of size. The fiberglass is the yellowish-brown part of the dome. It will be painted white later.

Pete was going to use a three-part "door" over the dome's opening; you can see the test version of this in the picture in the October 2000 issue. That idea wasn't working out, though, and Pete came up with an ingenious alternative that seems to be working very well. He used vinyl siding strips, the same stuff used on houses. It is flexible so it conforms rather easily to the dome's curves, as you can see above (it's the white part of the dome in that picture). The basic idea is shown in the other diagrams and pictures to the right. The "door" is formed by vinyl siding strips cut a bit longer than the opening is wide. These were hooked together in the same way they are when applied to a house, one above another. Pete riveted the joints between the strips to keep them together. In the picture at lower right, Pete's finger is pointing to one of these rivets. Then on the "outside" of the "door," near the edge, another vinyl siding strip is riveted to the other ones. In the picture at lower right, Pete is holding the edge of one of these strips up to show us the rivet. The edges of the crosswise pieces project a couple of inches beyond the long strips. These edges are intended to slide into a channel that is placed alongside the dome opening. You can see how the edge fits into this channel in the photo at middle right. The "door" is at the upper left in the photo, and the channel is in the center and right upper part of the picture, above the plywood rib.

The channel is formed of sheet metal. First two long pieces are bent so that in cross-section they would look like Ls (these two pieces are to the left in Figure 2). Then the short side of each piece was cut about every 1-2 inches, to form slots so the metal could be bent at a curve to match the dome's curve. The slotted parts of these were overlapped to help block moisture and wind. Then a piece was bent to wrap around the sharp edge of the open end of the channel, so the vinyl would slide easier (this metal piece is drawn in red in Figure 3). Vinyl strips were then added, as shown in Figures 1 and 3, to further enhance the sliding of the door.

The "door" is quite weathertight. Pete hasn't been able to work on it much in the past 2 months because of the weather. Yet when he slid the door up to show me how it works, the ground underneath the dome was bone dry! Obviously, Pete has come up with a good solution!



Observations Editorial Staff

Editor in Chief: James J. Anderson

Copy Editors: Donna G. Anderson
Edwin T. Lurcott

Contributing Members: Frank Angelini, Deborah Goldader, Pete LaFrance, Steve Limeburner, Bob Popovich

Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the June 2001 issue.

<u>Issue</u>	<u>Deadline</u>
April 2001	03/27/2001
May 2001	04/26/2001
June 2001	05/28/2001

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CCAS March Field Trip

DATE: **Tuesday March 13, 2001**

TIME: 7:30 p.m. EST

PLACE: **Eastern College Observatory**
McInnis Learning Center
Eastern College

LOCATION: off King of Prussia Road
St. Davids, PA (see map)

Note the special location for our March meeting!!

From Route 30 near the I-476 (Blue Route) interchange, go north on King of Prussia Road. At the intersection with Eagle Road (there's a traffic light there), turn into the main entrance of Eastern College. Drive straight back the main road until you reach a large parking lot. At the other end of the lot is McInnis Learning Center (it has two telescope domes on top of it). Park in this lot or in the one on the side of McInnis. Go inside and make your way to the top floor of the building.

The McInnis Learning Center at Eastern College houses a planetarium and an observatory. The observatory consists of two computerized 16-inch diameter Schmidt-Cassegrain telescopes, each of which is housed under an automated dome. The telescopes and the CCD (digital) cameras on them are controlled from within a climate-controlled, shirtsleeve-warm room. The observatory is used primarily by astronomy students for class assignments and professional research, but is also open to the public one night per week. The planetarium has a 20-foot diameter dome, which houses a Viewlux Model Apollo instrument and more than 50 auxiliary projectors. The planetarium is used by astronomy classes as well as thousands of school children, and other community groups, each year.

After the tour, members will go to the Chili's Grill and Bar on Lancaster Avenue in Wayne for socializing. From the College, turn right onto Eagle Road. Follow Eagle Road to King Of Prussia Road, where you turn right. Go to Lancaster Avenue (US 30) and turn right. Chili's is on the left about 1.5 miles from the intersection of King of Prussia Road with Lancaster Avenue.

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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 March 23, 2001. The program starts at **8:00** p.m. EST with viewing of Jupiter, Saturn, and M42 (the Orion Nebula) with the Observatory's telescopes. The program will conclude with a talk by Dr. Buvnesh Jain about weak gravitational lensing. The Observatory is located on Providence Road, just west of the intersection with Warren Avenue. A map is included on a later page.

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CCAS March Observing Session

The next CCAS Observing Session will be on Friday March 23, 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 March 24, 2001. In March we combine the Observing Session with a Messier Marathon. Please read Frank Angelini's article on the Messier Marathon, on page 1, to find out more about that observing event.

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. Make sure to dress warmly, as it gets cold rather quickly at this time of year.

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.

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CCAS Beginning Astronomy Class

This series of eight classes is being held on the first and third Tuesdays of each month, starting at 7:00 p.m. and ending at 8:00 p.m. These are the dates on which the remaining six classes will be held, and the topics for each session:

March 6	Lunar Observing
March 20	Solar System
April 3	Planetarium Field Trip (WCU)
April 17	Constellations
May 1	Stars
May 15	Telescopes and Binoculars
May 22	Private Open House at Flower & Cook Observatory for class members only

Contact Kathy Buczynski (610-436-0821) with any questions you have about the class.

So far the classes have gone well, and we have had about 28-30 people in attendance at each session. There have been about 8 attendees eligible for the telescope drawing at each session.

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Calendar Notes

April 10, 2001 (Tuesday)	CCAS Meeting Location: WCU, Boucher Bldg.Rm.113 Topic: Member Question & Answer 7:30 p.m. EDT
April 20/21, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 28, 2001 (Saturday)	National Astronomy Day
May 8, 2001 (Tuesday)	CCAS Meeting & Officer Elections Location: WCU, Boucher Bldg.Rm.113 Topic: TBA 7:30 p.m. EDT
May 18/19, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
June 15/16, 2001 (Friday/Saturday)	CCAS Meeting & Observing Session Location: BVA sunset



The Message Is Written In The Heavens...

by Bob Popovich

...the CCAS does a great job presenting the joy of astronomy to school children. Our participation at Caln Elementary last month was noted by a parent from the Mary C. Howse Elementary School on Boot Road (West Chester School District). In fact, she enjoyed it so much that Howse Elementary has asked us to come and present a brief program about the planets and then help them with an observing session. This school is for children through 5th grade so expect most of the children to be 9 - 11 years old.

The scheduled date is Friday, March 16, 2001 at 7:00 PM. In case of clouds, the alternate date is the following Friday, March 23, also at 7:00 PM.

Bring your 'scope and help us introduce these children and their parents to our shared passion for astronomy.



About The April CCAS Meeting...

At the February meeting, it was decided that we would have a members' question and answer session at the April meeting. If you think of questions before the April meeting, tell them to Steve Limeburner. He will forward these via e-mail to other CCAS members, who can then help look up answers for the April meeting. Also, questions given to Steve by the April newsletter deadline of March 27 will be published in the April newsletter, for the same reason. So get your astronomical questions to Steve!

Also, this is an election year in the CCAS. The offices of President, Vice President, Secretary and Treasurer are to be elected for 2 year terms. Ed Lurcott (610-436-0387) and Jim Anderson (610-380-4512) are on the Election Committee. If you want to run for office, or nominate someone else, contact Jim or Ed. The slate of candidates will be published in the April newsletter, and announced at the April meeting.



March Skies

Vernal Equinox

The Vernal Equinox occurs at 8:31 a.m. Eastern Standard Time (EST) on Tuesday March 20. That is when the Sun crosses the equator, and spring begins in the Northern Hemisphere of Earth. It also means that day and night are about the same length of time, 12 hours each.

Moon Phases

First Quarter	3/02
Full Moon	3/09
Last Quarter	3/16
New Moon	3/24

The Planets

Mercury is in the morning sky this month, low in the southeastern sky before sunrise. On Saturday March 10 at about 6:00 a.m. EST, Mercury will be only about 0.1 degree north of the planet Uranus. Both planets could be seen in one field of view of most telescopes! This would make an interesting astro-image. If any photographers or CCD imagers in the Society manage to capture this sight, please share it with the rest of us via *Observations*. Sunrise is at about 6:18 on March 10, so you may want to start trying to find Mercury and Uranus as early as 5:45 a.m.

Venus is in the evening sky this month. It will be the first bright star you see after sunset. At the beginning of the month it will set about 3 hours after the Sun; by March 31 it sets only 30-40 minutes after the Sun. In a telescope, Venus will show quite a change in shape and size as the month goes by.

Mars is fairly high in the south in our morning sky, in Scorpius. It is now brighter than Antares (the "rival of Mars") in Scorpius. Mars will make a close approach to Earth in June of this year. By the end of March, Mars will be close enough that you may be able to detect surface markings with a telescope.

Jupiter and Saturn continue their glorious display in the west in our evening skies this month. They make quite a sight, especially with the Hyades and Pleiades star clusters close by.

Uranus and Neptune are pretty much lost in the Sun's glare this month. They are in our morning sky, in Capricornus.

Pluto is high in the south at sunrise, to the north of Mars.

Stellar Notes

The "winter constellations" that were astride the meridian last month in our early evening sky have shifted a bit to the west now. Castor and Pollux are now the stars of the winter group that are closest to the zenith, the point directly overhead. To the east (or left, if you're facing south) of the Gemini twins you can now see Leo, the Lion, with its first magnitude star Regulus. Regulus is at the bottom of an easily recognized asterism, the "sickle" of Leo. The sickle looks like a backward question mark. It marks the front quarters and head of the Lion. Further to the east, you can see a fairly bright right triangle of stars; these mark the hind quarters of the Lion. Leo is laying down with his head up in this image. There are not a lot of bright stars around Leo. In between Leo and Gemini is the constellation Cancer, the Crab. At the heart of the Crab lies a wonderful star cluster known as M44, or as Praesepe, or also as the Beehive.

Under really dark skies M41 can be seen as a hazy patch of light with the naked eye. Can you see it? Over to the northeast, you can see the Big Dipper rising higher in the evening sky, bowl first. Below it, close to the horizon, you may be able to see bright Arcturus rising.



Laurel Highlands Star Cruise

The more than 560 members of the Amateur Astronomy Association of Pittsburgh (Pennsylvania, USA) invite you to attend the third annual "Laurel Highlands Star Cruise", June 14 - 17, 2001.

Star Cruise 2001 will be held at a new, darker site this year, the Pine Hill Campground, just off I-68 near Hazelton, West Virginia. Guest speakers from the Hubble Space Telescope Science Institute and the AAAP, among others; special activities; big telescopes; a food caterer; a swap table; and a fine selection of vendors are planned. This is a tremendous dark-sky site. Dark sky photos will soon be available on our Website for your perusal. Right now, the presentations appear to be centering around Solar System topics with Mars and NEAR being emphasized, but there is also a Hubble Update that will detail deep sky exploration.

There are a lot of area attractions for the non-astronomer (detailed on our website), so bring the whole family.

If you visit our WebSite you'll see arrangements are still being finalized. But there's a ton of info there already. Hope to see you at Star Cruise 2001.

Terry N. Trees, Ph.D

Past President, Amateur Astronomers Association of Pittsburgh; Publicity Chair, Laurel Highlands Star Cruise
TNTrees@BellAtlantic.net

[Laurel Highlands Star Cruise Website:](http://www.auctionwatch.com/images/cleardot.gif)

<http://www.auctionwatch.com/images/cleardot.gif>

[AAAP Website:](http://www.3ap.org)

<http://www.3ap.org>



Youth Space Program at West Chester Univ.

This summer, West Chester University will present a program for students aged 9 through 16 entitled "Journey Into Space." This program will run from July 2 through July 13, 2001 (excluding July 4). Daily class time is 9:00 a.m. to 4:00 p.m., except on field trip days. Cost is \$500.00, and enrollment is limited. A "resident option" is available at \$850.00 per person based on double occupancy, with breakfast, lunch, and dinner included. The theme this year is "Off to Mars!" Activities will include working with satellite imagery and processing, weather tracking satellites, computer labs, building and launching your own rockets, learning the basic principles of rocket design and flight, life support technology, weightless training (underwater SCUBA), Mars habitat design, and more! The only "prerequisite" is an "interest in space." Contact Jim Anderson for a copy of the brochure (610-380-4512). For an application, contact the Director, Nancy McIntyre at West Chester University (610-436-2393) or via e-mail at nmcintyre@wcupa.edu



A.L. Observing Awards Updates

CCAS Members also belong to the nationwide Astronomical League, which means they are eligible to receive observing awards in recognition of their development as observational astronomers. Below is a list of awards already awarded to CCAS members. Is anyone else working on an A.L. observing award? Let *Observations* know how you're doing.

CCAS Messier Certificates:

Jim Anderson, Basic (now has 87 of 110 objects)
Frank Angelini, Honorary
John Imburgia, Basic (now has 84 of 110 objects)
Ed Lurcott, Honorary

CCAS Lunar Certificates:

Jim Anderson
Elise Furman
Steve Limeburner

CCAS Double Star Certificates:

Jim Anderson
Steve Limeburner
Ed Lurcott
Mike Turco



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 (a fringe benefit of volunteering for this task). 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 out with this important job, please call Ed Lurcott at 610-436-0387. Thanks.



A.L. Youth Activities Committee

The nation-wide Astronomical League has many programs to promote astronomy as a hobby and a science. One of these programs is the Youth Activities Committee, whose Chair is Ryan Hannahoe. Ryan lives in eastern Pennsylvania, and is a very active 9th grade amateur astronomer. Ryan may speak to the Society this year about the Youth program; Steve Limeburner is working with him on this. In the meantime, Ryan asked us to let everyone know that the A.L. plans to release a 30-page booklet in July entitled *How To Start A High School Astronomy Club*. Any interested teachers can contact him at hstinst@aol.com. The Y.A.C. Website is at:

http://youth_in_astronomy.homestead.com/index.html



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

jim.anderson@itb.mckhboc.com

Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104

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:

jim.anderson@itb.mckhboc.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
 (610-380-4512)

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

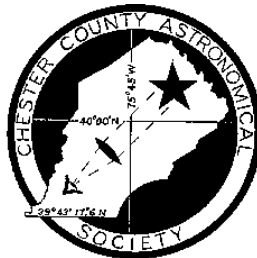
Treasurer: Pete LaFrance
 (610) 268-2616

Secretary: Doug Liberati
 (610) 827-2149

ALCor and Newsletter: Jim Anderson
 (610) 380-4512

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

Observing: Ed Lurcott
 (610) 436-0387



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

