



STAR FIELDS

Newsletter of the Amateur Telescope Makers of Boston
Including the Bond Astronomical Club
Established in 1934
In the Interest of Telescope Making & Using

Vol. 12, No. 7 July 2001

This Month's Meeting...

Thursday, July 12th, 2001, at 8:00 PM
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

This Month's Speaker...

IN KEEPING with last year's tradition, our July meeting will be a Flea Market and a Show-and-Tell in preparation for Stellafane. If you have any astronomy-related equipment that you would like to sell, bring it to the meeting. If you would like to show us a project you are working on please, contact me so I can schedule you in. It would be awe inspiring to see some eclipse pictures from Africa as well.

Join us for dinner at 5:45 PM at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge.

President's Message...

AS I wander about my small backyard garden, I enjoy watching the numerous flowers in full bloom engulf the homemade 24" armillary anchored atop a three-foot high block of gray granite. This sundial has been accurately laid out and carefully polar aligned so I may enjoy watching the progression of the seasons. Markings, other than the basic hour lines on a sundial, are called dial furniture and the ones I take the most pleasure in observing are the marks etched into the dial showing the summer and winter solstice and the equinoxes. On my twenty-four-inch dial it is possible to see the change in the sun's altitude from noon of one day to noon of the following day. When you become aware of how much the sun moves by observing and tracking it throughout the year, it gives one an awesome sense of presence in the midst of the dance of the celestial sphere. I really think Russell W. Porter, the father of Amateur Telescope Making, had a wonderful romantic notion when he designed, built and sold a six-inch richly ornate reflecting telescope that he called the "Garden Telescope". The telescope was designed to blend in beautifully and naturally in a garden. It was ready to use in an instant. The garden scope's diagonal was a prism which did not require any silver or aluminum

coating to maintain against the elements and a simple metal cap sealed the 6-inch primary from the weather. A small telescope that is set up in the back yard, able to endure the elements, ready to use on a whim, and blend into the design of the garden would be an inspirational as well as a practical device.

After reading a book titled "Sundials: Their Theory and Construction" by Albert E. Waugh, I became aware of another piece of astronomy related hardware for the garden. It is called the nocturnal. With this very simple dial, you align its pointer to the stars and read off the time. Although a watch is more practical, a sundial, garden telescope, or the nocturnal placed in the garden will give you the chance to introduce others to our hobby in a natural setting.

-Bob Collara, President-

Annual Meeting Held...

THE ANNUAL meeting of the Amateur Telescope Makers of Boston, Inc., including the Bond Astronomical Club, was held Thursday, June 14, 2001. The election of the 2001-2002 Executive Board took place at the meeting. The officers elected for fiscal year 2001-2002 are:

President	Robert Collara
Vice-President	Steven Herzberg
Secretary	Eileen Myers
Treasurer	Bernard Volz
Membership Secretary	John Small
Member-at-Large	Bruce Berger
Member-at-Large	Steven Clougherty

There will also be three past presidents serving on the executive board: Joseph Rothchild, Peter Bealo, and Mario Motta.

The club would like to thank the Nominating Committee consisting of GARY WALKER - Chairman, BRUCE BERGER, and CHARLIE MCDONALD for their fine efforts. The club also would like to express its appreciation to the 2000-2001 officers, who all agreed to serve for another year.

June's Minutes...

PRESIDENT BOB COLLARA opened June's meeting (Annual Meeting) of the Amateur Telescope Makers of Boston, including the Bond Astronomical Club. Elections were held for the 2001-2002 Executive Board. Another vote was taken to approve holding a July meeting. There was a question as to the availability of the Phillips Auditorium in July. This will be investigated and the membership will be notified if a change in meeting site for July needs to be made. (Editor's Note: The Phillips Auditorium is available.)

Our speaker was club member GERALD JAY SUSSMAN. Gerry began by showing photos, taken by his wife Julie, of some of the different research observatories located in Chile. Gerry worked on the controller for the new Magellan I telescope, now in operation at the Las Campanas Observatory in Chile. The Gregorian telescope has a primary mirror made of borosilicate 6.5m in diameter, f/1.25, 3/4m thick, weighs 21,000 lbs. (light), and is coated with 1.3 oz of aluminum. The surface precision has an error of 23 nanometers, or about 200 atoms. The tertiary mirror can be flipped around to use various instruments. The main mirror is honeycombed. The whole telescope flexes about 1mm when it moves from one horizon to the other. The secondary has to remain

in position and maintain its orientation of within a few microns to keep the telescope in focus. There are big struts with actuators on them used to adjust the position of the secondary with great precision. The struts are kept under a tension of 10,000 lbs. Gerry showed slides taken under the football stadium of the University of Arizona where the mirror was made. He showed the computer-controlled lap with actuators inside used for grinding and polishing. He showed photos of the suction cups used in Chili to lift the mirror out of the shipping crate and place it into the mirror cell. The back of the mirror cell has 164 actuators which push on the back of the mirror to maintain its curvature. Gerry worked on the project for a year making the guider probe controller. Every instrument placed on the telescope needs a guider. Gerry helped design the electronics and pneumatics. After putting the hardware together for the guider, he and Julie had only two weeks to debug 250 pages of C code and go through 300 pages of documentation.

The business meeting began with Secretary EILEEN MYERS reading the minutes. Membership Secretary JOHN SMALL announced that there are now 355 club members. John welcomed several new members who were attending a meeting for the first time. John requested members to send in completed Membership Renewal Forms and dues. John mentioned that 2001-2002 would be his last year as Membership Secretary. He is anxious to talk about the duties of the Membership Secretary and help train any member interested in taking on that position in order to assure a smooth transition next year. John also explained that there are several non-driving members who need a ride to the upcoming Stellafane Convention in August. Please email or phone John if you can help out with a ride. Treasurer BERNIE VOLZ gave the monthly and the annual report of the club's income and expenses. Clubhouse Director PAUL CICCETTI gave the Clubhouse Report, asking for extra help for the next work party to move the new 550-lb. furnace into the basement. DAN FELDKHUN is working on the club's electronics workshop. Contact Dan if you are interested in building a CCD camera or doing work on a CCD.

EILEEN MYERS distributed free passes received from the Fruitlands Museum in the town of Harvard, a thank you from the museum for the recent star party held there. CHARLIE MCDONALD reported on several successful star parties. On the front page of Reading's newspaper, the *Daily Times Chronicle*, were photos of ATMobers and students star gazing.

Several names were suggested to be included on the club's new Honor Roll, including ROGER W. SINNOTT (Senior Editor of *Sky & Telescope*, co-author of the "Millennium Star Atlas", "Sky Atlas 2000.0, 2nd Edition" and "Sky Atlas 2000.0 Companion, 2nd Edition"), ANNA HILLIER (long-time club member and Secretary, currently Club Historian), and MARIO MOTTA. The names will be added to the others previously submitted for consideration by MARIO MOTTA at May's meeting. BERNIE VOLZ announced that he will be purchasing copies of the 2002 Astronomy Calendar to sell at an upcoming club meeting. *-Eileen Myers, Secretary-*

Membership Report...

IT IS membership renewal time. I would like to thank everyone who has already sent in dues. I now have a huge pile of renewals, and due to a move at work, no time to enter them! Please bear with me and I will process all of them as soon as possible.

-John Small, Membership Secretary-

Clubhouse Report...

SATURDAY OPEN CLUBHOUSE SCHEDULE

July 7	Open	Work Party #6
July 7	David Prowten	John Small
July 14	John Panaswich	David Richardson
July 21	Steve Herzberg	Peter Psyhos
July 21	Open	CONJUNCTION Speakers, camping, dark sky observing in Northfield, MA
July 28	Paul Cicchetti	Jim Susłowicz
August 4	Open	Work Party #7
August 4	Art Swedlow	Gary Walker
August 11	Dan Feldkhun	Eileen Myers
August 18	CLOSED	66th STELLAFANE Convention in Springfield, VT Speakers, swap table, telescope competition, camping, dark sky observing
August 25	Eric Johansson	Alan Mazurka
September 1	Open	Work Party #8
September 1	Richard Burrier	Phil Rounseville
September 8	Steve Mock	Tom Wolf
September 15	Lew Gramer	Jim Susłowicz
September 21-23		Arunah Hill Days Speakers, camping, dark-sky observing in Cummington, MA in the Berkshires
September 22	Steve Herzberg	John Reed
September 29	Jack Drobot	Henry Hopkinson

IN SPITE of the heat of June, a number of things were accomplished at the clubhouse. Most were good; one was not. On the 5th of June, both JOHN REED and ED KNIGHT reviewed the procedures of the furnace. Ed reiterated his credentials as certified engineer and received MIT's permission to obtain a permit from the Town of Westford. The new furnace had already arrived several days before.

At the June 9th work party, several members braved the heat and removed the remaining old shingles from the east side of the barn roof. This lasted practically the whole day. All that remained was to install a temporary tarp to protect the barn wood until the next available date to continue roof repairs. On June 16th a number of members heard my plea over email, helped uncrate the new furnace, and moved it into the basement for protection from the weather. Once this was done, the remaining members helped install about 75% of the outriggers to the new observatory.

On the 19th of June, there was an accident at the 17" scope. While putting the scope back into the hutch, the user caused the scope to tip, causing several hours of unscheduled repair.

On the 23rd of June, both John Reed and Ed Knight started the dismantling of the old furnace. (NOTE: Because of this work, the

door between the grinding room and kitchen was removed. The inlet grating will be temporarily removed, and a temporary walkway will be installed.) Also at this time the front and two sides of the house were weed whacked.

On the 30th of June the old furnace was removed, the hole dug for the new pad, and the form fabricated. The repair of the 17" consisted of fixing the rocker box, which was cracked, and collimation. Bigger pads were added to the Azimuth axis and bigger wheels to the base so the tipping problem does not re-occur. Unfortunately, due to the unscheduled repair of the 17", the form could not be installed and aligned. This moved the planned positioning of the form and pour of the pad to the July 7th work party. Subsequently, any work on the furnace installation is now postponed until the Sept 1st work party.

What we hope to do at the next work party is to continue work on the roof (the temporary tarp is leaking and we must complete the barn roof repair as soon as practical), install the pad forms, pour the pad, and continue work on the observatory. Since I will not be there for the next work party, John Reed can use as much help as you can give. *-Paul Cicchetti, Clubhouse Director-*

Treasurer's Report...

FOR THE month of May, we had \$11.22 in revenue and \$1,676.33 in expenses for a net lost of \$1665.11 for the month. As of May 31st, 2001 (end of the fiscal year) our assets were:

Checking Account - Regular	\$ 16,437.58
Investments	\$ 19,006.66
Total Current Assets	\$ 35,444.24

Of the total, \$2,311.51 is in the Land Fund and \$160.00 is for clubhouse key deposits.

For the June 1, 2000 to May 31, 2001 fiscal year, we had a total of \$12,222.89 in revenue and \$9,345.22 in expenses for a net profit of \$2,877.67 for the year. Here's a brief (unaudited) summary of the revenue and expenses:

Revenue

Membership Dues	\$7,712.50	63.1%
Contributions	\$3,126.31	25.6%
Interest	\$ 588.08	4.8%
Sales (glass, etc)	\$ 796.00	6.5%

Expenses

Star Fields	\$2,048.07	21.9%
Meetings	\$ 801.55	8.6%
Clubhouse	\$2,362.87	25.3%
Observatory	\$2,554.58	27.4%
Glass & Books	\$ 721.69	7.7%
Other	\$ 856.46	9.2%

-Bernie Volz, Treasurer-

Stellafane...

(Taken from the Stellafane brochure) THE 66th Stellafane Convention of amateur telescope makers will be held on Breezy Hill in Springfield, Vermont on Friday, August 17th and Saturday, August 18th. The Convention was started in 1926 to give amateur telescope makers an opportunity to gather, to show off their

creations and teach each other telescope making and mirror-grinding techniques. If you have made your own telescope, we strongly encourage you to display it in the telescope fields near the Pink Clubhouse. If you wish, you can enter it in the mechanical and/or optical competition. There are also mirror grinding and telescope-making demonstrations, technical lectures on telescope making and the presentation of awards for telescope design and craftsmanship. Vendor displays and the retail sale of commercial products are not permitted. There usually are approximately 2000 attendees.

Camping is readily available, although some folks stay at nearby inns or just come up for Saturday's events. Friday's daytime events include mirror-grinding demonstrations, the horseshoe pitching contest, and astronomy activities for kids. Last year's horseshoe pitching contest youth winner (Anna Bealo, daughter of past-president PETER BEALO) was given a telescope assembled at Stellafane by Stargazer Steve. Drive to the Hartness House (built for Governor Hartness and now an inn), where there is an underground museum devoted to Russell Porter. Tour the tunnels and the Hartness Equatorial Turret Telescope, built in 1910. In the evening there will be informal tent talks. Please note that if you are entering a telescope, **optical judging will take place Friday night**. All night there will be dark-sky observing throughout the area – no white light allowed.

Saturday starts early at 7 a.m. with swap tables. You can find almost everything you need to make a telescope, as well as books, photographs, magazines, and anything else that is astronomy related. There will be mirror-grinding demonstrations, the telescope mechanical judging, and astronomy activities for kids. At 2 p.m. the afternoon talks will begin. John Dobson will talk about cosmology, Barry Santini will talk about refractive surgery for amateur astronomers, ATMOb's MIKE HILL will talk about how to construct a spectrohelioscope, and Dr. Peter Chen will talk about lightweight composite mirrors and telescopes. There probably will be slides of the recent solar eclipse. The evening Shadowgram will be given by David Levy, the telescope awards will be presented, and the keynote speaker will be Derrick Pitts, who will talk about urban radio astronomy. All night there will be dark-sky observing throughout the area – no white light allowed.

Sunday morning is Convention cleanup if you can lend a hand. The Hartness House museum will be open again – don't miss visiting it.

Advance registration, for the weekend, is \$20 per person before July 28th. After that, the fee is \$25. Everyone is urged to pre-register before July 28th. This is especially important if you wish to camp since camping permits are only available through advance registration to people who have also prepaid their admission fee.

The camping fee is an additional \$25 per site. Campsites are limited to one vehicle and one tent. Towed campers and RV's longer than 17 feet require a special camping permit. **Large campers** are absolutely **required to arrive** and be in place at the convention site **between 12 Noon and 4 p.m. on Thursday** and, once parked, may not move until Sunday morning! No exceptions! Large campers that do not have a permit will not be admitted to the convention site at any time! Camping is basic and primitive. Toilets are in portable outhouses.

Water is available from two hoses, but you would be wise to bring your own. Breakfast, lunch, and dinner, as well as late-night

coffee can be purchased. There are supermarkets downtown. Cooking is allowed in the camping area. Camp stoves, charcoal grills and the like are allowed, but no camp fires. Days are usually warm and sunny, so bring the sunblock. Evenings are chilly so have warm clothing. The dew may be heavy so have extra dry socks and shoes. There is a shuttle bus from 10 a.m. to 6 p.m. on Friday and 9 a.m. to 5 p.m. on Saturday to help you get from one area on Breezy Hill to another. For more details see www.stellafane.com You can obtain a registration card by sending a self-addressed stamped (34-cent stamp) #10 regular envelope to Stellafane Convention, PO Box 50, Belmont MA 02478.

-Eileen Myers-

Total Solar Eclipse Webcasts...

THE FIRST total solar eclipse of the Third Millennium occurred on June 21, 2001, with the path of totality about 12,000 km long stretching across the south Atlantic Ocean, southern Africa (Angola, Zambia, Zimbabwe, Mozambique, and Madagascar), and ending in the Indian Ocean. Observers across continental Africa had perfectly clear skies and ideal conditions for the eclipse; only some observers in parts of Madagascar were clouded out.

Like many other eclipse enthusiasts, I chose to watch this eclipse "virtually." Along with a dozen or so other members of the ATMoB, I attended the live eclipse event at the Museum of Science (MOS), with a live satellite feed from Zambia sponsored by the Exploratorium (a San Francisco-based science museum). For logistic simplicity, the MOS organizers chose to show NASA/TV instead of the direct feed from the Exploratorium (they routinely show NASA/TV at the MOS). However, for some reason, NASA/TV chose to show a discussion with a NASA astrophysicist, even up to and after second contact (!) instead of the live Exploratorium feed. It was quite frustrating to miss the diamond ring and onset of totality. Anyway, about 30-40 seconds after totality started, NASA/TV finally switched to the Zambia Exploratorium feed. They showed some nice shots of the corona, both full disk and close ups, and the second diamond ring. My wife, son, and daughter who also attended the event with me enjoyed the eclipse event despite the problems.

After the event, RICH NUGENT, his son, and I among others were interviewed by WHDH-TV (Channel 7) about the eclipse -- we put in a plug for the ATMoB. I heard that we were on the evening news, but I did not see it.

In preparation for the eclipse, I had put together a web page containing about 20 live eclipse webcasts (<http://www.bit-net.com/~pauer/eclipse01/>). I received feedback from various people locally and via email that most "virtual" eclipse viewers were able to get at least one of the webcasts to work for them. Many had success with the Exploratorium and BBC webcasts, probably since they had the infrastructure (servers, bandwidth, etc.) to handle the hundreds of thousands of hits. I heard about other webcast sites that were overwhelmed or had other technical problems. If you missed the eclipse, the Exploratorium and BBC sites (among others) have archived their webcasts and you can view them anytime.

In case you are wondering, the next total solar eclipse will be on December 4, 2002, with the path of totality starting in the south Atlantic, crossing southern Africa (Angola, Namibia, Botswana,

Zimbabwe, South Africa, Mozambique), the Indian Ocean, and ending with a "sunset" eclipse in southern Australia. Many trips have already been organized to both Africa and Australia:

<http://www.bit-net.com/~pauer/eclipse02/2002eclipse02trips.htm>

In the meantime, there will be two annular solar eclipses, both visible from central America (December 14, 2001 and June 10, 2002). Both will offer nice partial solar eclipses to most of the U.S. (except for New England!).

-Eric Pauer-

Comet Linear Observation...

July 3, 2001, 3:00-4:00 AM

Location: Newton, MA

Sky conditions: Clear with some haze, moderate light pollution

Observation: Comet Linear (2001 A2) was easily seen below the Square of Pegasus with all instruments including 9x60 finder, 14x70 binoculars, 4" refractor, and 10" reflector. It was not visible to naked eye. Coma was diffuse, no tail seen, slight central condensation. It was very similar in appearance and brightness to the core of the Andromeda galaxy, which is, located close by for easy comparison. It was less defined than Andromeda.

Be sure to go out the next clear morning to observe Comet Linear before it dims and the moon interferes.

-Joseph Rothchild-

Observing the International Space Station...

SEVERAL RECENTLY mentioned on the ATMoB Email discussion lists observations of the International Space Station (ISS). I wanted to share with you my strategy for observing the station.

The ISS has been on orbit now for almost three years, growing larger it seems, with each visiting Space Shuttle mission. The most dramatic increase in size came from the addition of the first 240-foot long solar panel array in December 2000. The station itself now consists of several modules and, occasionally has a Shuttle or a Soyuz transport vessel attached. I have been observing the station during favorable passes over the last several months and, I'm very happy to report that the actual structure of the station is visible in small telescopes at medium power!

So how do you observe it? Remember that the ISS is orbiting the Earth at an altitude of about 240 miles. It circles the Earth every 92 minutes in an orbit inclined 51.6 degrees relative to the equator. This orbit allows the station to pass near New England every day. Of course, observing satellites requires that the spacecraft be illuminated by the Sun while the observer is standing in darkness or deep twilight. Because of this, timing is everything. Sometimes the station passes are visible during the early evening hours, sometimes during the predawn hours, and sometimes not at all. This cycling of observing times is due to the fact that the station does not make an exact number of orbits per day.

At this time, the ISS is completing 15.625 orbits each day. If the station passed right over the clubhouse tonight at 9 p.m., by tomorrow night at the same time you'd need to wait 34.5 minutes (0.375 of an orbit times 92 minutes per orbit) for the station to be in the same place in its orbit. But, Westford isn't standing still! The Earth's rotation carries it and all of us (and all of the mosquitoes)

about 450 miles to the east during those minutes. So, as our location shifts eastward, we get farther away from the ISS's orbital plane with each passing day. This causes the cycling of visibility. The easiest way to keep up the passes is to go to the web site www.heavens-above.com For any location you enter you'll get extremely accurate sighting info for the ISS as well as many other satellites, the Space Shuttles, and Iridium flares.

I've been using an 8-inch scope on a simple Dobsonian alt-azimuth mount for my observations. I use this scope because it is relatively small and easy to maneuver. Most importantly, I can keep both feet on the ground. I employ about 70X and use a Moon filter to reduce glare. Pre-focus the telescope and don't adjust it during the observation. Check your finder. It doesn't have to be aligned exactly, just know where to put the target. Now wait. Watch the sky in the direction they (remember, there are people on board the station!) will appear. Watch for a bright star rising higher in the sky at the predicted time. Get the ISS in the finder scope now! The apparent motion will be relatively slow because they are coming towards you and they are still quite far away. It will be necessary for you to lead the station to give yourself time to get from the finder to the main scope. If you don't acquire the station within a moment or two, they've passed outside your field of view - you missed them. Realign the scope and try again. Once you have them, move the scope to follow along with their motion. This is the challenging part. While they may look, to the unaided eye, like they are crossing the sky gracefully, in the telescope they are moving at breakneck speeds! You may have to practice on high-flying jets to get a feel for the motions of your scope on its mounting. Be patient and practice often!

Enough, already! What will you see? Even though the image is small (they are, after all, never closer than 240 miles!) and the passes last only a few minutes the view is fantastic! You can actually see the solar panel array and the modules that make up the ISS! The panels are set at a right angle to the station and their gold color is unmistakable. Occasional specular reflections from the array are incredible, as the station is lost in the blaze of blue-white light! The station itself is the creamy, light-yellow color of reflected sunlight. As they draw closer, the image grows larger and more detail is visible. The individual modules of the station are easy to count and if there is a visiting spacecraft attached, they are also visible. Space Shuttles show up very nicely!

Already the largest structure ever built in space, the ISS will grow larger and more visible as construction continues over the next five years. While we may never journey to the station in person, we can keep track of the adventure from the comfort and safety of our own observing sites! So, join the adventure, get your pass predictions, drag out your scope, and, most importantly, have fun observing the International Space Station! **-Rich Nugent-**

Other News...

CONGRATULATIONS TO ATMob member MATT BenDaniel. His picture of a moonbow stretching over Salt Pond Bay in Saint John (US Virgin Islands) appeared in the August 2001 issue of *Sky & Telescope* magazine (p. 140). "Moonbow with Sailboats" was selected for July 4th's Astronomy Picture of the Day. The link to it is <http://antwrp.gsfc.nasa.gov/apod/ap010704.html>. It also won first place out of 450 entries in the 2001 *Weatherwise Magazine* Annual Photo Contest. Well done, Matt! **-Eric Pauer-**

YOU CAN download from the Internet a Mars viewing program that will show you what Mars looks like from Earth at any particular time and date. It's a great tool for figuring out which Mars features you were just looking at. You can find the program at <http://members.nbci.com/marsprev/mpenglish.htm> **-Lee Siler-**

Friday-Saturday, July 20-21 will be the 19th Annual **Connecticut River Valley Astronomer's Conjunction**, held at Northfield Mountain Recreation & Environmental Center located on Route 63 in Northfield, MA. Dark sky viewing through telescopes of all shapes and sizes. Speakers will be ATMob's GLEN CHAPLE – "Variable Stars", Marcia Bartusiak – "Einstein's Unfinished Symphony", Judith Young, Ph.D. – "Sunwheels for the 21st Century", Ron Woodland – "How Did The Early Greeks Know?", evening keynote address by Father Douglas McGonagle – "The Soul of the Night". Camping is available nearby. Registration is \$10 by July 13th, \$12 after July 13th. Camping fee is \$5 individual per night, \$12 family per night. Showers are available. The Saturday evening dinner buffet is \$14 or \$9 for kids under 12. You can indicate if you plan to go to the Friday night dinner as well. <http://astroconjunction.tripod.com> 800-859-2960 Jack Megas, Astronomy Conjunction, 311 Surrey Road, Springfield MA 01118 or email rsanderson@juno.com

JOIN US for this year's bus trip to **visit the Hayden Planetarium and Museum of Natural History in NYC**. We will be going on Saturday, October 20th. Like last year, there will be a pickup in the town of Harvard, Billerica, and at the Riverside MBTA station. The cost will be under \$100 for the day, and will include busfare, breakfast and dinner, admission to the museums, tour of the Rose Center, and the Planetarium show. Individual arrangements can be made too. We are now working on choosing a restaurant for dinner. Email Eileen at starleen@ma.ultranet.com or call 978-456-3937. **-Eileen Myers-**

THE ASTRONOMICAL Society of New Haven has announced that this year's Connecticut Star Party will take place on September 14-16 at its usual location of Camp Bobriwka in Colebrook, CT in northwestern CT. John Dobson will be one of the speakers. For more information, call or write: CSP11 c/o Bob Carruthers 37 Saw Mill Dr. Wallingford, CT 06492 or call 203-265-6014.

-Michael Aramini-

No AUGUST meeting - No AUGUST Star Fields
September Star Fields deadline is SUNDAY, September 2nd
Email articles to Star Fields Editor / ATMob Secretary
Eileen Myers at starleen@ma.ultranet.com
Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed July 6, 2001

Amateur Telescope Makers of Boston, Inc.
c/o John Small, Membership Secretary
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Westford MA 01886-4225

FIRST CLASS

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Heads Up For July and August..

Eastern Daylight (Savings) Time - Subtract 4 from UT to get EDT

Full Moon of July 5th is called the Thunder Moon or Hay. Full Moon of August 4th is called the Green Corn Moon or Grain Moon
Mars is the only bright planet visible for most of the night, at mag -2.2 in the beginning of July, mag -1.5 by the end of July (still brighter than Sirius at mag -1.44), and -0.9 by the end of August. Best viewing is when Mars is due south, which will be around 2 ¾ hours after sunset July 1st, and one hour after sunset by August 1st. The surface feature Meridiani Sinus is nearly centered on Mars' disk on July 7th, Syrtis Major, darkest surface feature on Mars, on July 14th and on August 19th. Note bright S polar cap shrinking in the Martian S. Hemisphere Spring.

How to Find Us...Web Page www.atmob.org

MEETINGS: Held the second Thursday of each month (September to July) at 8:00PM in the Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge MA. For INCLEMENT WEATHER CANCELLATION listen to WBZ (1030 AM)

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W
The Tom Britton Clubhouse is open every Saturday from 7 p.m. to late evening. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 North from Rt. 128 or Rt. 495 to Exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farmhouse on left side of the road. Clubhouse attendance varies with the weather. It is wise to call in advance: (978) 692-8708.

During the **last week of July** look after midnight for the **Delta Aquarid meteors**, which can have activity of up to 20 meteors an hour. The radiant will appear due south at 4 A.M. on July 28th, near predicted maximum.

Tuesday, July 17 – **Spectacular gathering** one hour before sunrise: Moon, Saturn, Venus, Jupiter, Mars, Hyades, and Aldebaran,

Tuesday, July 17th – Venus 0.3° S of Moon. The waning **crescent Moon will pass in front of Venus** during daylight hours. **Occultation** begins at 2:34 P.M Boston EDT, Venus reappears 3:30 P.M. EDT. Look naked eye for the Moon four fist widths to the right (West) of the Sun. The Moon will be 13% sunlit, gibbous Venus will be 68% illuminated, mag -4.1. During occultation Venus will be covered by the lit edge of the Moon, and then reappear from behind the Moon's opposite unseen limb. Venus will be 17° above the horizon at reappearance. For more details see July's *Sky & Telescope* p. 100-2.

Night of Sat-Sun Aug 11-12 –Perseid meteor shower, maximum Sunday at 6 A.M., 100 per hour. The Last Quarter Moon rises about 4 hours after sunset, spoiling the show.