



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. 20, No. 11 December 2008

This Month's Meeting...

Thursday, December 11th, 2008 at 8:00 PM
Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics
Parking at CfA is allowed for duration of meeting

Fifty Years Ago: The Birth of NASA, 1958

NASA is the world's most famous space agency, and it's now half a century old. Dr. Jonathan McDowell of the CFA will look back at NASA's first year and explain how it was cobbled together from an already vibrant American space program. He'll also take a look at some of the agencies first space triumphs and setbacks

Dr. Jonathan McDowell is an astrophysicist at the Harvard-Smithsonian Center for Astrophysics in Cambridge, MA. A staff member of the Chandra X-ray Center, he studies black holes, quasars and X-ray sources in galaxies, as well as developing data analysis software for the X-ray astronomy community. Dr. McDowell has a B.A. in Mathematics (1981) and a PhD in Astrophysics (1986) from the University of Cambridge, England, and has previously worked at the Royal Greenwich Observatory, the Jodrell Bank radio observatory and NASA's Marshall Space Flight Center.

Dr. McDowell's scientific publications include studies of the cosmological extragalactic background light and the possibility that massive black holes contribute to the dark matter problem; the X-ray emission from the merging galaxy Arp 220; the nature of the broad emission line region in quasars, and the broad-band spectral energy distributions of quasars. He helped design the CIAO data analysis package and the software infrastructure for the Chandra X-ray Observatory data processing pipelines.

Dr. Jonathan McDowell is also the editor of [Jonathan's Space Report](#), a free internet newsletter founded in 1989 which provides technical details of satellite launches, and a

contributing editor to Sky and Telescope Magazine. Dr. McDowell's web site provides the most comprehensive historical list of satellite launch information starting with Sputnik, and he carries out research on space history topics using original sources including declassified DoD documents and Russian-language publications.

The asteroid (4589) McDowell was named after him in 1993.

Please join us for a pre-meeting dinner discussion at [Changsho, 1712 Mass Ave, Cambridge, MA](#) at 6:00pm before the meeting.

President's Message...

It's December and it's time for one of my favorite astronomical events; the Gemini Meteor Shower! I really like this shower because of the slow moving fireballs one can see from time-to-time. I've seen two extremely bright fireballs while driving home from our monthly meetings. The first occurred when I was getting on the on-ramp from Rt. 2W to Rt495N when one appeared to become straight down out of the sky and looked as it was going to drill a hole into Hanscom Field. It was bright yellow and had green flames licking off of it. The second was about ten-years ago when I was almost back at my home in Bolton when a fireball blazed all the way across the horizon – complete with pieces breaking of it!

Of course the December meeting has always been one of my favorite ATMoB get togethers. It is special to me because this is the meeting when Tal Mentall regales us with a few rendition of poems and songs. My favorite is "Sam McGee". Don't miss this meeting, Tal well make you smile.

I've been informed by Bruce Berger that he, Mike Hill and Glenn Meurer have been hard at work on the new workshop in the clubhouse. First, I'd like to thank them on be-half of the club for their efforts. They've been up their most Saturdays "getting it done". Second, I'd like to ask for members with "shop experience" to help out with training others on how to safely use the tools. This shop is going to be a great resource to the club member that want to build their own telescopes or associated gadgets. While we have consistently had mirror making activity at the clubhouse over the past decade, we have been sorely lacking in having the infrastructure available for members to take their completed optics and put them in a tube and mount. Most members have made Dobsonian mounts using their tools at home. Soon we'll have a facility available that members without their own tools can use. It will also give an opportunity to build equatorial mounts as well. However, like everything else in the world. It is what you make of it so we really need some knowledgeable members to become mentors to those of us who are less knowledgeable. If you'd like to help, please contact me.

Clear Skies and Happy Holidays!

- Steve

~ *Stephen Beckwith, President* ~

November Meeting Minutes . . .

The November meeting of the Amateur Telescope Makers of Boston featured long time and active member, Ken Launie who spoke about the history of the telescope as well as reports from conferences celebrating the 400th anniversary in Holland and a Scientific Instrument Commission meeting in Portugal.

The principle of the telescope had been known since the 1500s by philosophers. Eyeglasses or spectacles for vision correction were being used during that time but were generally for farsightedness which used a positive lens. The concept of combining positive and negative lenses would give you a magnified image. As Ken noted, "it was magnified but had a really blurry image and pretty much useless. It was a kid's toy".

The spectacle was successful because "part of the lens that you are actually using is quite small, it's really the diameter of your pupil... So the requirements are fairly mild. Whereas with a telescope you really need that entire lens surface to be approximately right or else you just don't get a good image."

On September 25, 1608 a Middelburg spectacle maker, named Hans Lipperhey got a letter of recommendation which allowed him to travel to The Hague to present his telescope to the States-General Council, and to claim a patent. His audience included Prince Maurice, Marcus (Marquis) Spinoza, he was a military leader of the Spanish, British and French diplomats, representatives of Brandenburg, the church in Rome, diplomats from Siam and others. To the assembled audience Lipperhey's telescope was the first practical device and its military potential was obvious.

Within weeks after introducing the telescope to the dignitaries at the Hague, Lipperhey had challenges from Jacob Metius and Sacharias Jansen who also claimed to be the inventor. These controversies and Lipperhey's insistence that he be paid a thousand guilders, which was several years pay, resulted in him not receiving a patent since it was decided that it was prior art. Lipperhey was only paid 300 guilders for his telescope.

Within 2 weeks the telescope was everywhere. By March 1609, working telescopes were in the hands of the French King, the Archduke of Austria, the ruler of the Spanish Netherlands and Pope Paul. By April they were on sale in markets in Paris, Milan, Venice and Naples. Ken questioned "how Lipperhey was able bring something to this big group of people, mostly diplomats, show it to them and then have them all go back and tell their local guys how to make telescopes? It had to be something fairly obvious." Ken agrees with Ralph Willock, a collector of antique telescopes, that Lipperhey's contribution to this was the aperture stop. This is how our pupil and spectacles work so well. For the telescope, place "a small opening in front of these bigger lenses and suddenly you are looking through a very small area of the lens."

Galileo must have heard about the published reports and also made many successful telescopes. Galileo's approach was to make many lenses and test them to find the good ones among the batch. One report had him go through 300 lenses to find two good ones. He was one of the first to look up instead of at the ground.

Ken finished his talk by showing some images of telescopes and instruments at the various conferences that he attended. He also visited the Boerhaave Museum where the Antique-Telescope Society met, the Leiden Observatory, the university library in Leiden and various museums and observatories in Portugal.



(L-R) Ken Launie and a Telescope Aperture Stop

The business portion of the meeting commenced with the reading of the Secretary's report by Al Takeda.

Tom McDonagh welcomed 3 new members that joined that evening and he then presented the Membership report. Seven new members have joined in the last month which brings the total to 345 members. Please be aware that a few members have not paid their dues so please contact Tom if you have any question about your status.

The Treasurers report was made by Nanette Benoit. Of particular note are that donations are above and beyond the membership dues. Thanks are made to those that made them. Nanette is planning to send out a donor acknowledgement letter for those that will claim them on your tax return after the end of 2008. The required audit has been performed by an outside accountant and his report states: "Given my 30 years of accounting experience and familiar with your accounting software it is my opinion that all transactions of ATMöB for the fiscal year were accurately reported."

The Andover and the Hennigan School in Jamaica Plain star parties were announced by the Star Party Coordinator, Virginia Renhan.

Observing Committee chair, Steve Beckwith, acknowledged Dick Koolish's correction on the seminar title given at the last meeting. His topic, when the schedule is determined, will be "Understanding Celestial Coordinates".

The seminar "How to Navigate Your Way around the Stars: Sky, Constellation and Sky Lore" was clouded out in November but this event will be rescheduled.

Eileen Myers congratulated Steve B. and Mike Matti for teaching the "Equatorial Mount Balancing Class".

Steve B. also reported that the Paramount GT-1100 equatorial mount in the Ed Knight Observatory is still broken. Plans are to contact Software Bisque and see if an upgrade is possible. Failing that, a purchase of another mount will be discussed with the Executive board.

John Mahre has started the DVD astronomy course again on Friday, Nov. 12. The class will be held at the Clubhouse on Friday nights starting at 7:00 pm.

It was mentioned that the 75th anniversary of the ATMob group is occurring next year in March. All ideas and suggestions should be forwarded to Steve Beckwith and Eileen Myers.

A New Member Night is being held on December 6th at 6 pm at the Clubhouse. Steve B. recommends that all new members participate in the session to orient themselves with benefits of membership and to meet with some of the Executive board.

Steve Clougherty of the Clubhouse Committee reported on a successful Work Party on Oct 11th. The last mowing for the year was completed and now we can talk about snow shoveling. Tremendous progress was made on the Clamshell dome and it is 90% completed. Steve C. thanked Dave Prowten for his effort and skill in being the point person for the project and to Fred Ward for donating the dome.

Another work session is being held on Saturday, November 15th to scrape, paint and put up the snow fence.

Steve B. was contacted by Coolidge Corner Theater and they are showing the movie Contact on December 1 at 7:00 pm.

Sky and Telescope editor in Chief, Bob Naeye presented and discussed the first images of planets around other stars that were published by 2 groups that day (13 November 2008). A team headed by Paul Kalas at the University of California at Berkley used the Hubble Space Telescope, to image a planet around Fomalhaut. The second group of 3 planets was discovered around the star HR8799 in Pegasus and was imaged by a group headed by Christian Marois (Herzberg Institute of Astrophysics, Canada) using the Keck II telescope. Both groups tracked these planets for several years and all of them followed a co-planar orbit just like our solar system.

John Boudreau talked about his Celestron C-11 modification in which he replaced his carbon fiber tube with an aluminum one with huge ventilation holes in the sides. This effectively allows the system to cool down quicker and removes the boundary layer near the surface of the mirror thereby improving seeing. He also showed the group some of his latest Mercury gif animations and images. John had an image that wasn't covered by the Messenger spacecraft.

Julie Kaufman showed some images from her eclipse trip to the Gobi desert in western Mongolia. The terrestrial photos were hers but the eclipse images were taken by David Cotterell of Toronto.



Totality from western Mongolia, 1 August 2008. Image by David Cotterell

~ *Al Takeda, Secretary* ~

Clubhouse Report . . .

The November 2008 work session on Saturday Nov 15th, started with the house painting project still a possibility. However the off and on drizzle soon closed the door on the last chance for house painting this year. The following efforts were completed:

1-- The Astro Haven clam shell dome was washed by Tom M. and his sons Sean and Brian. Limit switches were installed by Dave P., John Bl., Sergio S., Al T., and John S. A second set of switches were found to be necessary and were ordered.

2--The azimuth bearings on the 20" Shapley Dobsonian mount were replaced by Dave P., Steve C., with lifting assistance from John M., Al T., Bernie K., John Bl., Dave S., and Eileen M.

3--The Snow fence was installed by Steve C., Dave S., and Eric J.

4--Supplies were purchased during a hardware store sale by Art S. and John R.

5--The new-to-us TV was donated by Bernie K. was installed with the help of Al T.

6--Another delicious lunch was prepared and served by Eric J., Sai V., Eileen M., and Art S.

7--The 6" Daly Schupmann refractor was returned and reassembled by Mike M. and Eric J.

8--The evaporator room status was reviewed by John R. and John Br.

9--The barn power requirement was reviewed by Dave P., Steve C., John S., and John R.

10-New structure was added to the near barn including framing and insulation by Bruce B., Mike H., and Glenn M.. This was accomplished on Thursday evenings and alternate Saturdays as coordinated by Dave P.

Thanks to John Blomquist, John Briggs, Bruce Berger, Steve Clougherty, Eric Johansson, Mike Hill, Bernie Kosicki, John Maher, Mike Mattei, Tom McDonagh, Brian McDonagh, Sean McDonagh, Glen Meurer, Eileen Myers, George Paquin, Dave Prowten, John Reed, Dave Siegrist, Sergio Simunovic, John Small, Art Swedlow, Al Takeda, Sai Vallabha, joined later by Ed Budreau, Marion Hochuli, and Nina Craven.

Clouds prevented any observing; The movie “The Final Countdown” was presented by John M. and was enjoyed by all.

The next work session will be held on Saturday December 13th. Indoor projects will be on the list of tasks in the barn, basement, and evaporator room. We can always expect an early snow removal effort; however maybe not until January 2009?

~ John Reed, Steve Clougherty and Dave Prowten ~



Installing the snow fence. (L-R) Dave Siegrist, and Eric Johansson. Image by Al Takeda

Clubhouse Saturday Schedule

Dec 13	Bruce Berger, Glenn Meurer – Work Party	
Dec 20	John Panaswich	Dave Siegrist
Dec 27	Rich Burrier	Eileen Myers
Jan 3	Gary Jacobson	Brian Maerz
Jan 10	John Small, Sai Vallabha–Work Party	
Jan 17	George Paquin	Dave Prowten
Jan 24	Chuck Evans	Tom Lumenello
Jan 31	Brian Leacu	Phil Rounseville

Thoreau on Astronomy . . .

If you let a single ray of light through a shutter, it will go on diffusing itself without limit till it enlighten the world, but the shadow that was never so wide at first contracts until it comes to naught. The shadow of the moon when it passes nearest the sun is lost in space ere it can reach our earth and eclipse it. Always the system shines with uninterrupted light, for, as the sun is larger than any planet, no shadow can travel far into space. We may bask always in the light of the system, always may step back out of the shade. No man's shadow is as large as his body, if the rays make a right angle with the reflecting surface. Let our lives be passed under the equator, with the sun at the meridian.

Journal, Dec 1839

~ Submitted by Tom Calderwood ~

Membership Report . . .

Membership as of 11/30/2008 – 351

Same time last year – 274

Membership renewal payments are now overdue as of September. Unpaid memberships will be dropped from the ranks soon. Please renew now! The renewal process can be completed on-line using Paypal. No Paypal account is required.

<http://www.atmob.org/members/person.php?frid=renewals>

Renewal checks can also be mailed:

ATMoB
c/o Tom McDonagh
48 Mohawk Drive
Acton, MA 01720

The Amateur Telescope Makers of Boston, Inc. is a 501(c)3 organization. Donations are gladly accepted and are tax deductible to the extent allowed by law. Please consider making a tax-deductible contribution to the club when planning for end of year charitable giving.

New members and newly re-signed in the last 30 days:

Angella Dutton	William Bobrowsky
Alan Sliski	Marie-Anfree De Luca
Cruz Pacheco	John Briggs
Stephen Pankowicz	Krishna Navuduri

~ Tom McDonagh, Membership Secretary ~

New Year's Eve Party and Observing at the ATMoB Clubhouse...



WHERE CAN YOU go to celebrate First Night 2009 with your family and friends and not have to drop a bundle of money? The Tom Britton Clubhouse in Westford of course! The actual festivities on Wednesday, December 31st will start at 6:00 pm and will go on past midnight. The clubhouse will be open earlier at 4:30 PM for setup and planetary viewing. You can arrive at any time, since the opportunity to shout "Happy New Year" will be every hour on the hour, starting with the Greenwich New Year's (with perhaps Internet listening to Big Ben and watching the fireworks in London), and continuing with each time zone through Eastern Daylight Time New Year's (and watching the last few minutes on TV as The Ball drops in Times Square).

Please come and join the fun and bring your family and friends. It will be a potluck dinner evening, so please bring something to share: an appetizer, salad, entrée or dessert. Folks will be arriving and leaving all evening. There will be plenty of non-alcoholic beverages.

Your favorite planets, stars and galaxies will be joining us too, so bring your telescope. As darkness descends, Mercury will become visible 1.25 degrees to the left of much brighter Jupiter, near the southwestern horizon, about 45 minutes after sunset (sunset at 4:23 PM), so come early to check out the smallest and the largest planets of our solar system through a telescope. With a magnitude -0.7, Mercury will be quite bright, but a magnitude fainter than Jupiter. In effect the end of the year will mark the virtual end of Jupiter's evening apparition, although conjunction with the Sun does not occur until late in January 2009. Mercury will be close to another celestial sight, just 16 arc-minutes to the upper left of M75, an 8th-magnitude globular cluster that lies 67,500 light-years away. Venus will be paired with a crescent Moon. The Moon will be about 3-degrees above Venus. The planets Uranus and Neptune may be glimpsed in Aquarius and Capricornus. You will be able to find Neptune by using Venus as a guide. Venus' path will take it by Neptune, the two being closest on December 27, when Neptune will be 1.4° to the lower right of Venus. In the

opposite direction the 3.7 magnitude star γ Cap will be just under 1° from Venus.

For those who can stay out late, Saturn will be rising in the east after midnight at the border of Leo and Virgo. The beautiful ring system is now tilted LESS THAN ONE DEGREE to our line of sight from Earth, so they are becoming more of a "straight line" than a spectacular disk as we commonly see them. The tilting of the rings results in Saturn being somewhat DIMMER than in past years, at magnitude 1.0 by the end of the month. On December 26 the rings are aligned as nearly edge-on as they will attain, and then begin opening up rapidly as we see them from Earth.

Enjoy a seasonal challenge of sighting four intriguing astronomical objects: the Cone Nebula, Christmas Tree Cluster, Snowflake Cluster and Fox Fur Nebula, all which bewitchingly decorate Monoceros (the Unicorn). They are identified as NGC 2264 and are twenty six hundred light-years away. Beta Monocerotis is an impressive triple star system, the three stars forming a triangle. The visual magnitudes of the stars are 4.7, 5.2 and 6.1. Look for open cluster M50 (NGC 2323) and open cluster NGC 2244 in the Rosette Nebula in the Monoceros region of the Milky Way. Monoceros is located in Winter's "Great Triangle", formed by Betelgeuse, Sirius, and Procyon. This would be a great time to use that new camera you just got!

The forecast looks good (ok, so it is a bit early to know) and the party is on regardless of the weather. Don't forget your warm observing clothes and boots. We will also have indoor games, quizzes, songs, and PRIZES so do join us on the evening that draws 2008 to a close. Any questions, email Eileen at starleen@charter.net or 978-461-1454 (day) or 978-456-3937 (evening).

The evening will be co-hosted by Clubhouse Committee Members Eileen Myers, Art Swedlow, Al Takeda and Sai Vallabha.



Barlow Bob's Corner Solar Finders . . .

**Observing the Sun
without a safe solar filter,
will fry your eye!!!**

**There are no second chances in
Amateur solar astronomy!!!**

Warning: DO NOT look directly into or near the Sun. It can result in irreversible eye damage. Do not use any telescope or other device that is not specifically designed for solar observing. Looking directly at the Sun or through an unfiltered instrument can result in permanent eye damage and loss of vision.

Frugal amateur solar astronomers, who make their own unsafe solar filters, should use the money saved to purchase a guide dog and white/red cane. I always wanted illustrate the importance of safely observing the Sun, using an extreme illustration.

I would ask an amateur solar astronomer to operate my solar telescope, while I took a break. I would remove a collapsible white and red cane, used by the visually impaired from my pocket and walk away.

Before aligning any solar telescope, remove or cover the front and back of the finder telescope, then securely cover the front of the telescope, with a safe solar filter. There are four safe methods used to align a solar telescope, with a solar filter covering the front of the OTA.

Edsel Method

Point the solar telescope toward the Sun. Observe the shadow on the ground formed by telescope. If you laminate a sheet of white paper and place this on the ground where the telescope's shadow appears on the ground, you can see the image of the shadow clearer. You can reuse this laminated sheet. After the finder telescope is removed from the mounting rings, the shadow of these rings can also be used to align a solar telescope. Project the shadow of the two rings on your hand or shirt. When the shadow of the two rings merge together to form one shadow, the telescope is aligned with the Sun.

With a safe solar filter attached to the front of the telescope, point the telescope toward the Sun. Remove the eyepiece from the diagonal. Move the telescope, until you see the image of the Sun in the diagonal and replace the eyepiece to continue observing.

It is difficult to align a solar telescope with a 45 degree star diagonal, at sunrise or sunset, when the Sun is low in the sky. This diagonal can be moved so that the eyepiece is facing to the left or right of the telescope. The 45 degree diagonal can also be removed and replaced with extension tubes and an

eyepiece straight through the telescope. It is easier to align a telescope by replacing the 45 degree diagonal, with a TV Everbright 60 degree terrestrial diagonal. By wearing a pair of solar eclipse glasses or holding a solar filter in front of your face, you can observe the bright Sun over the top of the OTA.

Thunderbird Method

Several commercial solar finders use a shadow formed by either a gnomon or a target to locate the Sun.

The FAR Laboratories Helio Pod is a very safe unique inexpensive solar finder. There are three different models for telescopes from 10 to 16 inches: HP-1 \$9.95 for telescopes to 10", HP-2 \$12.50 for telescopes to 10", HP-2-B \$12.95 for telescopes to 16".

The original Helio Pod Model HP-1 has a soft rubber gnomon installed in the center of a plastic disc on a base. This base fits firmly on the top of telescopes up to 10". It is held in place by an elastic bungee cord which fits around the solar telescope. The shadow of the gnomon is visible from the rear of the Helio Pod. When you have a minimum or no shadow, your telescope is aligned with the Sun. For a more accurate alignment, the rubber gnomon can be replaced, with a thin bolt held in place with a nut.

The Helio Pod Model HP-2 has a disc in the front with a hole drilled in the middle. The second disc in the back has a cross hair. The hole in the front disc casts a bright spot on the second disc. To align the Helio Pod, adjust the angle of your telescope until the spot is centered on the cross hairs.

FAR Laboratories
P.O. Box 25
South Hadley, MA 01075 – 0025

<http://www.farlaboratories.com> (800) 336 9054

Many years ago, I bought a similar solar finder made of plastic. It was designed to fit into the base of a Telerad finder. There is a vertical square clear piece of plastic on the front with a target of three black circles. A second vertical piece of white plastic on the back has a dot in the middle. To align this product, the telescope is moved until the shadow of the front target is centered on the dot in the back.

The Shelyak Instruments Lhires Lite Spectroscope and the Science First / Starlab Sunspotter solar telescope both have a gnomon. The telescope entrance of the Lhires III Spectrograph is used as a gnomon to align it with the Sun.

<http://www.shelyak.com> starlab@starlab.com
800 537 8703

Mercury Method

Coronado dedicated H-alpha and CaK solar telescopes have unique finders. The PST Personal Solar Telescope has a small hole in the front that sunlight passes through and is projected

on to an opaque screen on the top. The telescope is moved until the small white dot is projected on to the screen. Unfortunately, when you stack a second 40mm Coronado solar filter on the front of the PST to improve the solar image, this second larger filter blocks the front hole of their finder. This problem can be solved by mounting a Tele Vue SolSearcher solar finder on the side of the PST. The PST can now be aligned using the SolSearcher. The other Coronado dedicated solar telescopes have a similar solar finder. A small aluminum tube is attached to the mounting ring of the other Coronado solar telescopes. Light passes through a small hole in the front and a small white dot appears bright dot is projected on to the opaque screen in the rear of the finder.

www.Meade.com

Lincoln Continental Method

The Tele Vue Sol-Searcher \$25.00 is the ultimate solar finder. This solar finder attaches to the mounting ring of a Tele Vue telescope. The Sol-Searcher is permanently bolted in the machined slot on the ring. A dove tail mounting plate can also be screwed into the machined slot. The other half of the dove tail is screwed on to the bottom of the Sol-Seacher. This allows you to remove the Sol-Seacher for storage.

This finder has a small open hole in the front plate. The back plate has a slightly larger hole with a white opaque screen. Your telescope is aligned when sunlight passes through the front hole and casts a bright circle on the back white screen. You can observe this while seated at the eyepiece. This is a nice feature for solar star geezers.

This finder can be collimated by adjusting two small screws in the front of the Sol-Seacher. When these screws are loosened, the front plate can be adjusted. Once you have the solar image centered in the eyepiece, just move the front plate until the sun is centered on the back white screen then tighten the two screws. This is not your father's solar finder.

Tele Vue Optics, Inc.
32 Elkay Drive
Chester, NY 10918

www.televue.com

(845) 469 4551

Several manufacturers of dedicated narrow band solar filter telescopes include a Tele Vue SolSearcher, with the purchase of their products. Solarscope www.info@solarscope.co.uk provides this finder with their Solarview 50 and 60mm dedicated telescopes. Their front mounted 50, 60, 70 and 100mm solar filter systems are not supplied with this finder, but can be upon request. Daystar Filters

www.service@daystarfilters.com provides this finder with their SolaREDi 60mm dedicated telescope. Lunt Solar Systems www.sales@luntsolarsystems.com does not provide this finder. There is a charge for it.

Most amateur solar astronomers who own a goto mount align it in the direction of North using a compass. Some people use the special tracking rate, while others say that their mount tracks well enough for visual use using the regular tracking speed.

At home, amateur solar astronomers who image the Sun did a precise alignment using Polaris and marked the position of the pier legs on the ground. In daylight, they can set the mount down on the marks and know that it is aligned.

Members of my local astronomy club were invited to share their favorite star charts with their fellow club members. The first half of the meeting was devoted to star chart books. The second half of the meeting was devoted to computer software star chart programs. Between the two parts, I shared Barlow Bob's Solar Star Chart.

I observe the Sun, since this is the only star that I can find. My solar star chart contains only one star: The Sun. I showed them my one page solar star chart. As I finished my presentation, I carefully folded my solar star chart and put it in my pocket. I wanted to show these future amateur solar astronomers that, real amateur astronomers do not need to carry a heavy star chart book, or a laptop computer full of star chart programs to observe a star.

~ Submitted by Virginia Renehan for Barlow Bob ~



September picnic evening on the ATMoB observing field. Images by Al T.

November Star Fields DEADLINE
Saturday, December 27th

Email articles to Al Takeda at
secretary@atmob.org

Barlow Bob's Solar Star Chart



The Sun

R.A. 01h 46m DEC. + 10° 58'
Magnitude: - 26.8 Spectrum: G 2 V
© 2005 Barlow Bob

You don't have to be a rocket scientist to find the Sun in the sky. If you are a rocket scientist, you can use the R.A. and DEC. coordinates to locate the Sun, with your telescope's computer. If you are a rocket scientist, you should be smart enough to place a safe solar filter on the front of your telescope, BEFORE you enter these coordinates into your computer.

Please create a custom Barlow Bob Solar Star Chart and share this with fellow amateur solar astronomers, at your own solar star party. You can find the solar coordinates at aa.usno.navy.mil or in an amateur astronomy magazine.

2009 Sixth Annual NEAF Solar Star Party

TEST DRIVE FOR THE 2010 INTERNATIONAL YEAR OF SOLAR ASTRONOMY

April 18 – 19, 2009

POSTMASTER NOTE: First Class Postage Mailed Dec. 8th, 2008

Amateur Telescope Makers of Boston, Inc.
c/o Tom McDonagh, Membership Secretary
48 Mohawk Drive
Acton, MA 01720
FIRST CLASS

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Mike Mattei (978) 264-0017
John Maher (978) 568-1253

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.

Heads Up For The Month . . .

To calculate Eastern Standard Time (EST) from Universal Time (UT) subtract 5 from UT.

- Dec 12 Full Moon
- Dec 13 Geminid Meteors peak (23 hr UT – 18 EST)
- Dec 19 Last Quarter Moon
- Dec 21 Winter Solstice (12:04 UT – 7:04 EST)
- Dec 22 Ursid Meteors peak (8 UT – 3 EST)
- Dec 27 New Moon
- Jan 3 Quadrantid Meteors peak
- Jan 4 First Quarter Moon