



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. 24, No. 8 September 2012

This Month's Meeting...

**Thursday, September 13th, 2012 at 8:00 PM
Phillips Auditorium**

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

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

A Mosaic of the Hydrogen Sky

Our speaker for September will be longtime ATM member and former club president, Dennis diCicco who began building telescopes and photographing the skies in the early 1960s. His job as an editor at Sky & Telescope magazine gave him early access to CCD cameras as they were introduced to the amateur astronomy market in the late 1980s, and he's been heavily involved with digital imaging ever since.

Several years ago Dennis teamed up with his colleague Sean Walker to begin a long-term project of mapping the Milky Way's large-scale nebulous structure with deep hydrogen-alpha exposures made from his backyard observatory in Boston's western suburbs. One result is a 400 megapixel mosaic covering the winter Milky Way from Perseus to Puppis. Done during the winter of 2009/10, the mosaic involves nearly 130 hours of exposure and a similar amount of time processing and combining the images.

It shows the sky as you've never seen it before! His heavily illustrated talk will chronicle the project as well as a follow-up effort for next winter to photograph selected regions of the mosaic with greater detail and exposures that go even deeper.

President's Message

Well here we are again looking back on summer and forward to fall. As the temps grow cooler and the nights grow longer we can all look forward to a better climate for observing with less mosquitoes, dryer air and clearer nights. Yes, I know that winter follows and many of us don't relish the idea of snow and ice but we do have a pretty nice facility in Westford to continue your pursuit of astronomical observing with our heated clubhouse where you can go in and warm up when your toes and finger tips start aching, a quiet and safe observing location and of course our generous array of observatories. Speaking of observatories, I'm happy to say that our latest one is now very near to completion.

Currently referred to as the Home Dome observatory this has been in the works for many years now but it really will be worth the wait for those of you wanting to pursue more serious astronomical endeavors with a large computerized telescope and high end CCD cameras. This project was started in 2006 with the acquisition of the dome by Virginia Renehan and Mario Motta who heard of this as being available as part of an estate closeout in Gloucester. With the help of Dave Prowten and John Reed the dome was taken apart and hauled to the clubhouse and the idea was born that we would build a new observatory to house our large C14 telescope setup for CCD imaging and observing.

The dome was just the start of course, needing a solid building to mate it to. In September 2008 the construction began in earnest with the pouring of the concrete footings adjacent to the Ed Knight observatory and then in June of 2009 the platform for the building was begun. The dome, which was brought to the clubhouse in pieces, was assembled on the ground in 2010 and much work was done to renovate it including new rollers and much of the hardware to hold it together. It was put together on the ground to allow workers to verify everything went together properly and later on it was taken apart and

reassembled on the observatory. The observatory itself was built by many hands led by Paul Cicchetti who was the project lead. Paul did a lot of the design work with structural/load design and engineering support provided by Ed Knight. John Reed, as always, was instrumental in the procurement of materials, much structural work and, not to be missed, the meticulous renovation of a very old, stylish and solid door as our main entry to the observatory.

Once the building was complete and the dome installed there was much work done to get the dome rotating and the slit opening via electric motors. This was headed up by Bruce Berger who also worked heavily with the aid of Bernie Kosicki on the pier. This required a fair amount of thought to get the proper height to allow maximum viewing down to the horizon without making the telescope too high. John Small, always ready to help us out with electrical, did the wiring for the power.

As you can see there has been a lot of activity surrounding this project over a long time frame with the help of many many members. I'm not going to try to name every member that worked on this project but I do want to thank all of you who did put in time to move this project forward. Whatever work you did, large or small, is greatly appreciated. Together we have created a powerful asset for the club. Expect to see this done by early fall. All that is left now is to install the telescope onto the pier and some final wiring and general setup. We are almost there!!

~ *Mike Hill, President* ~

July Meeting Minutes

Minutes of ATMOB meeting held 12 July 2012.

Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics.

Mike Hill, President: called the meeting to order at 8:00 PM. The Secretary's Report of the July meeting was given by Sidney Johnston. No Treasurer's report was given. Tom McDonagh gave the Membership Committee Report. Bruce Berger gave the Observing Committee Report. Bruce showed a video of the Home Dome moving and thanked Dave Prowten and John Small for all of their good work.

Steve Clougherty gave the Clubhouse Report.

Steve mentioned that new locks were installed in the Home Dome observatory and that the 17 inch

telescope is off line and will be back on line in about 2 weeks. Mike Hill mentioned that the new Lease is underway. Mike thanked Ross Barros-Smith for his good work in preparing the newsletter during the last years, and he also mentioned that Mike Irons would be preparing the Newsletter in the future. Mike also announced that the 9 inch refractor on the roof is open tonight. No old business. No new business.

The July meeting was "Member's Night", members gave talks as follows:

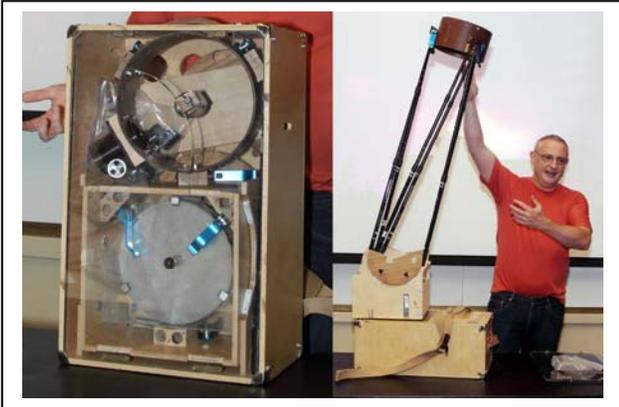
1. James Chamberlain described solar scopes and discussed projection arrangements made for viewing the June 5 transient of Venus.



2. Bruce Berger described light weight optics.

3. Mario Motta described medical effects of light pollution. An American Medical Association (AMA) report which he helped prepare is posted on the ATMOB web page, and is entitled "Light Pollution: Adverse Health Effects of Nighttime Lighting" at "Home Page", "Library", "Resources", "Light Pollution". Mario mentioned that a finding in the Report is that melatonin, an important hormone, is secreted during time of dark by the pineal gland in the brain, and that light pollution interferes with biological rhythms dependent upon melatonin. The pineal gland receives nerve signals from optical sensors which are sensitive to light and are not involved in vision. Light pollution leads to sleep disturbances, and low light levels during sleep can have a negative health effect. Plants are also susceptible to light pollution, and trees growing near a street light which burns during the night have a shorter lifetime than similar trees growing in a dark forest.

4. Tom Calderwood presented his travel telescope, it fits into a backpack, and he assembled it on a table during his talk.



5. Bruce Tinkler described his observation of the Transient of Venus in Alaska at a public event at a park in Fairbanks Alaska. He had great pictures of the event and of the Sun during the transient.

President Mike Hill adjourned the meeting at 9:50 PM. ~ *Sidney Johnston, Secretary* ~

Clubhouse Report

The July Clubhouse Work Session was held on the Saturday closest to the full moon, June 30, 2012. Work started with mowing the fields early, followed by trimming, raking and barrowing the trimmings off field. John Blomquist was assisted by Al Takeda, Joshua Ashenberg and Dave Wolfendale. This was very important to minimize the mosquito and tick migration onto the observing field. Meanwhile, David Prowten continued installing the newly keyed locks and modified the key storage cabinet to indicate which keys now operate which locks; we follow the same procedure to open the facilities' doors as before, just read the signs in the cabinet. David then replaced the deteriorating clapboards on the house South wall above the bulkhead. Next, the sagging far barn doors were leveled by David adjusting the hinge bolts until the new door boards cleared the concrete floor. We can now plan to repair the damaged boards during the fall work party. On the field, Steve Clougherty was checking the erratic collimation on the 17.5" dob found and reported by Sai Vallabha. After a meeting of principles at the scope, Steve and Sai assisted by David Prowten disassembled the primary mirror assembly and prepared the mirror for transportation to the coater. The cell had deteriorated beyond on site

repair, and is in David Prowten's possession for reconstruction. It appears that wind blown water destroyed only the particle board used in the last mirror cell mod. The boxed mirror was placed in John Reed's vehicle for delivery by Sai and John. Work in the home dome observatory continued by Bruce Berger assisted by Mike Hill.

Later John Small inspected the layout, anticipating the upcoming building inspection. Meanwhile, Sai and Eric Johansson prepared the lunch enjoyed by the 15 volunteers. Cleanup was completed by Nina Craven and Eileen Myers. They then proceeded to clean the clubhouse and outhouse. A new batch of composting compound was mixed later by Sai V. and John R. Before clouds increased, John B. showed H-alpha solar views and Phil Rounseville provided great sunspot views to those on the field. Individuals continued their photo processing for many hours into the night, until closing.

The next full moon Saturday work party took place on August 4th, 2012. Dave Prowten, having in the interim built an entirely new mirror cell assembly at home, mated the recoated mirror returned by Sai Vallabha and John Reed to its cell, and reassembled the 17" optical tube with a new heater bar mounted inside (replacing the red light bulbs).



Having ascertained the source of the water problem, the door assembly was rebuilt by Dave assisted by Steve Clougherty and John Maher to be waterproof during storms.

The scope was then fine tuned by Phil Rounseville and the current images are excellent! If you are using the 17", turn the collimating knobs gently; if you are NOT using the 17", PLEASE DO NOT TOUCH THE COLLIMATION! Enough said. The home dome

observatory interior was painted by Bruce Berger. John Small and Sergio Simunovic continued to install the electrical system. Subsequent sessions provided data cable linkage with the Knight Observatory. Work is continuing to complete telescope installation in time for the club picnic in September. John Blomquist earlier mowed the property with his equipment. Al Takeda, John M. and Dave Wolfendale trimmed, raked and barrowed debris to the compost pile. Word is out that WASPS are found around the observatories and sheds. We will spray each nest reported; feel free to assist---just spare the optics, please!

Al Takeda implemented a dual monitor system on the meeting room main computer. Rich Nugent and John R. assembled a new shelving unit for the metal storage shed; the strengthening supports will follow. Art Swedlow, Eileen Myers, Eric Johansson and John R. prepared lunch for the crew of 14 members. With Sai and Nina both on travel, Eileen guided the cleanup and house cleaning. As evening approached, the storms, being tracked on computer radar displays, became visible to the North; as they built around to the East the sky showed a converging cloud structure over Millstone hill and the lightning/noise display started. From all directions, the most unique/closest display was less than 1/2 mile away; with a rapid fire repetitive sequence of loud thunder. A beautiful display. Meanwhile Phil R.'s scope remained covered in anticipation of clear skies

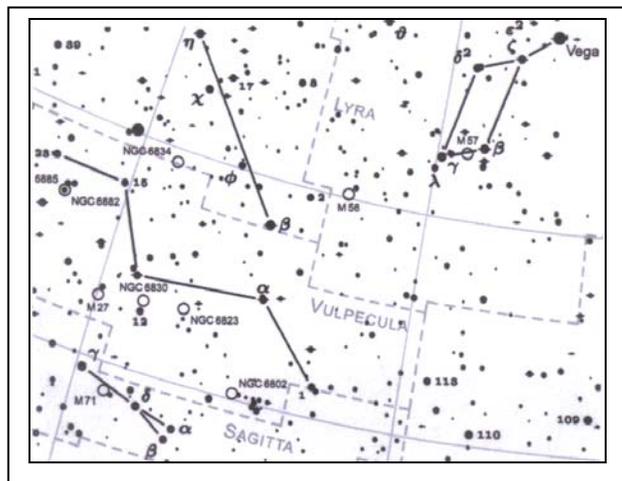
~ *Clubhouse Committee Chairs* ~
 ~ *John Reed, Steve Clougherty and Dave Prowten* ~

Clubhouse Saturday Schedule

Sep 15	John Maher, Rich Nugent
Sep 22	Eileen Myers, Tom Wolf ---- Club Picnic ----
Sep 29	Brian Maerz, Glenn Meurer
Oct 6	Ed Budreau, Rick Burrier
Oct 13	Chuck Evans, Tom Lumenello
Oct 20	Bruce Berger, Mike Hill
Oct 27	Neil Fleming, Bill Toomey
Nov 3	John Panaswich, Dave Siegrist
Nov 10	Henry Hopkinson, John Small

Sky Object of the Month The Coathanger Asterism in Vulpecula

If you slowly scan the southern part of Vulpecula (the lower left part of the accompanying finder chart) with binoculars or rich-field telescope, you'll come across a remarkable asterism comprised of 10 stars arranged in the distinct form of a coathanger. Six line up to form the bar, while four others create the hook. It's quite an eye-opening sight!



The Coathanger was seen as a nebulous spot in 964 AD by the Persian astronomer Al Sufi and was rediscovered by the 17th century Italian astronomer Giovanni Battista Hodierna. Because of its large size (a 1 1/2 o span), the Coathanger wasn't included in the catalogs of Messier, Herschel, or the NGC. In the 1920s, the American amateur astronomer Dalmiro Brocchi sketched it in a finder chart for the American Association of Variable Star Observers (AAVSO). Since then, the Coathanger has been popularly known as "Brocchi's Cluster. Its formal identity on most star atlases is Cr 399, the 399th entry in a 1931 catalog of star clusters produced by the Swedish astronomer Per Collinder. Surprisingly, the Coathanger Cluster isn't a true star cluster at all, but a chance alignment of stars ranging from 200 to 1100 light years away.

Before leaving the Coathanger, get out your telescope and train it on 7 Vulpeculae – the easternmost star in the Coathanger. Less than a degree to its east is NGC 6208, a 9th magnitude open cluster that spans about 3 arc-minutes. In small scopes, NGC 6802 appears as a faint, slightly elongated smudge. In larger instruments, you'll see what Walter Scott Houston described as a "delicate splash of celestial fire."

~ **Glenn Chaple**

Annual Clubhouse Picnic

From Eileen Myers

SAVE THE DATE – Saturday, September 22nd

ANNUAL CLUB PICNIC - All members and their families are invited

Saturday, September 22 is this year's Annual Club Picnic. It will be held as usual at the clubhouse in Westford starting at 3:00 P.M. Enjoy a day with good food and lots of astronomy talk with other ATMob members.

Please bring a tasty dish to share - salad, main dish, dessert, soup, appetizer, fancy bread, anything goes! A serving utensil would be helpful. The food everyone brings is always varied and delicious. We will provide the hamburgers, drinks, potato chips, ketchup, mustard, coffee, paper goods and plastic cutlery.

Share your astronomy stories and experiences. Bring any astrophotography you would like to show. There will be daytime H-alpha and white light solar viewing and end-of-the-summer night sky observing after sunset (all weather permitting). The picnic is on rain or shine. Bring lawn chairs or blankets to sit on. Depending on the weather, bring your favorite suntan lotion and mosquito repellent. Observing will continue until Midnight if the sky is clear, so bring your telescope and your observing clothing and gear. The club's scopes will be open too. Plans are in place to unveil a working C14 Observatory at the picnic.

Club members, their families and friends are invited. Do bring the kids and grandchildren. There will be a tour of the clubhouse facilities and a demonstration of mirror grinding. There will be opportunities for kids to take part in astronomy activities. We also plan to walk "up the hill", stopping along the way to talk about the MIT Haystack Observatory facility.

Directions to the clubhouse can be found on the last page of Star Fields and at the club website www.atmob.org.

Questions - Email Eileen Myers at starleen@charter.net
Don't miss the fun!

Clear skies,

Julie Kaufman, Nina Craven and Eileen Myers
The Special Events Committee

and
Co-Hosts/Co-Chefs Al Takeda, Art Swedlow, Eric Johansson, John Reed, Sai Vallabha, John Maher, John Blomquist, Neptune and Uranus

Thoreau on Astronomy

...this evening the wind carried the sparks on to the tent and burned it. So we hastily drew up the batteau just within the edge of the woods before the fire, and propping up one side three or four feet high, spread the tent on the ground to lie on; and with the corner of a blanket, or what more or less we could get to put over us, lay down with our heads and bodies under the boat, and our feet and legs on the sand toward the fire. At first we lay awake, talking of our course, and finding ourselves in so convenient a position for studying the heavens, with the moon and stars shining in our faces, our conversation naturally turned upon astronomy, and we recounted by turns the most interesting discoveries in that science.

"Ktaadn," The Maine Woods

I will be in Maine, myself, for most of September, Giving public astronomy programs at Acadia National Park.

~ Submitted by Tom Calderwood ~

**October Star Fields DEADLINE
Noon, Sunday, September 23rd**

**Email articles to the newsletter editor at
newsletter@atmob.org**

POSTMASTER NOTE: First Class Postage

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Virginia Renehan starparty@atmob.org

How to Find Us...

Web Page: <http://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 ATMob Observatory and 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.
