



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. 21, No. 7 July 2009

This Month's Meeting...

Thursday, July 9th, 2009 at 8:00 PM

Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

Parking at CfA is allowed for duration of meeting

Member Night & Mini-Swap Meet

This month's meeting will feature three-to-four members speaking on astronomy or telescope related topics. This is a good chance to see what your colleagues have been up to and also bring out some old equipment and accessories you may want to off-load at the mini-swap meet. If you're looking to buy, this is a great place time to get some deals!

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

President's Message...

Last week, we held an executive board meeting in which we went through the upcoming year's budget and made decisions on how and where to spend the money. Prior to my being elected president, the budget process was somewhat loose. In fact a list of projects and associated costs were listed reviewed and then approved. Most of the budget was clubhouse (and still is) related where the project list was so extensive it was "expected" that only portion of the work would get completed. On paper, we ran a deficit budget - the project costs far exceeded forecasted revenue (dues, donations, etc.).

When setting the previous year's budget and last year's budget, I received some initial push-back some EB members to the new process. "Why do we have go through this? We've always done it this way..." Well, the short answer is; because we have "amateur" in our title, it doesn't mean we have to run such a large organization as amateurs.

A longer answer would be that running a balanced budget has allowed the club to prioritize and work on the projects that

bring the most benefit of to the membership – such as the clamshell observatory and the new workshop – rather than getting bogged down in lots of smaller but less astronomy related projects.

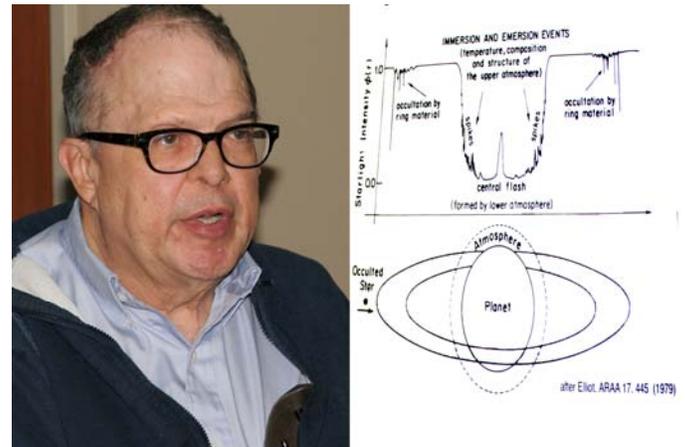
The initial resistance of a few to changing the budgeting process is representative of any large, well established organization where the tendency is towards conservatism and resistance to change. In some cases, it's appropriate - but in many cases it is not. Whether it's the budgeting process or designing a new type of telescope mount, we need to be open to new ideas and not reject them simply because they don't meet the status quo.

This is why it's important to keep encouraging new people to join the club and insure they feel as part of our extended family once they join. It's though their eyes that we get a view of what we can do to keep our organization "fresh" and avoid the stagnation of "we've always done it that way". I challenge all of us, whether a member for less than a year or over fifty years, to keep looking at our organization with an fresh eyes and an open mind.

Clear Skies,

~ *Stephen Beckwith, President* ~

June Meeting Minutes . . .



(L-R) Dr. James Elliot with an Occultation data plot and diagram

The June meeting of the Amateur Telescope Makers of Boston featured MIT professor Dr. James Elliot who spoke about the scientific goals and strategies for observing stellar occultation of Kuiper Belt Objects (KBO).

He explained that a stellar occultation "depends upon your point of view and upon a 3 body alignment. You have an observer, an occulting body and then you have an occulted star. The occulting body passes between the observer and the star so the star's light is extinguished."

High spatial resolution measurements of a few kilometers are possible and it is only limited by Fresnel diffraction. This allows one to learn about the extinction of starlight, any rings, temperature profiles and other atmospheric material present.

Acquiring the data requires a camera/processor that allows high signal to noise ratios with a continuous time series with minimal “dead time” (time that the system is not reading data), high throughput, high speed, low noise and must be accurately time tagged. In collaboration with Williams College, Dr. Elliot was able to build a set of high speed, frame transfer cameras to be used for a Charon occultation. Called POETS (Portable Occultation, Eclipse, and Transit System) they are able to trigger a frame every 1/10th of a second. They were specifically made to tear down and pack into 2 carry-on luggage cases.

Dr. Elliot then related his experiences with occultations of Neptune’s moon Triton, Chiron, Pluto and its moon Charon.

His current project is to look at KBOs to “establish accurate diameters; search for close companions (small satellites) and to detect atmospheres”.

This October, KBO55636 will cast a shadow over Hawaii and the West coast of the United States. Dr. Elliot is seeking members interested in collaborating with his team to collect data from this occultation. He is currently working to produce a “Lite” version of his original high speed frame transfer camera to be used for this effort.

As reported by the Secretary, Al Takeda, no other nominations for the Executive Board elections were put forward. Bernie Volz of the Executive Board was designated by President, Steve Beckwith to ask the membership for a vote on the slate of officers. By a unanimous voice vote the nominated officers were voted into office. See the section entitled “Election Results...” for further details.

The Secretaries report was given by Al Takeda.

The Treasurers report was given by Nanette Benoit (by a recorded message) and she discussed the Financial Report for May and the End of the Year report.

Steve Beckwith gave the Observing report. He congratulated Paul Valleli for giving an optics class at the Clubhouse.

The “Universe” DVD programs are being viewed on Friday nights and a “Cosmology” DVD program will be starting in the Fall at the Clubhouse.

John Reed gave a Clubhouse report. He reported on tasks being lined up for the upcoming work party on Sat., June 13th. John mentioned that ticks are a problem on the Observing field. Members are cautioned to protect themselves and to check for ticks on their body.

Bruce Berger reported on the construction progress of the new machine shop. The floors have been painted and the electrical system is almost completed. Bruce will be sending out an email discussing tool needs. Bruce also reported the he and John Blomquist are retrofitting a new motor system for the Paramount GT-1100 mount (C-14).

Announcements:

Executive Board Meeting – June 23

Arlington Astronomy Nights, Robbins Farm Park, Arlington June 27, August 8, and Sept 12 – See ATMob website for details

Hanscom Star Party – June 13 or June 20.

Great Brook Star Party – June 26

Ross Barros-Smith will be putting on a star party with his group. Contact Ross for details.

Ken Launie talked about the book *The Telescope: A Short History* by Richard Dunn, curator of the National Maritime Museum at Greenwich, England, that was just published in May.

Bruce Berger recommended the book *Totality* by Fred Espenak.

Election Results for 2009 - 2010 . . .

In a unanimous voice vote at the June 11th Annual Meeting, the membership elected the new Executive Board:

President -	Stephen Beckwith
Vice President -	Bernie Kosicki
Secretary -	Al Takeda
Membership -	Tom McDonagh
Treasurer -	Nanette Benoit
Member at Large -	Chuck Evans
Member at Large -	Bruce Tinkler

Executive Board Meeting Notes . . .

The following items were approved at the Executive Board meeting on 15June2009.

- A review of the previous Executive report of 17 February 2009 was given. Membership, Treasurer, Clubhouse Committee and Observing Committee reports were given
- New Member packet near completion
- Workshop Committee formed
- The platform base project for the Home Dome is scheduled to start shortly.
- Clamshell entrance and egress solution to be started.
- Vote for Renewal of Committee Chairs (Clubhouse and Observing)
- FY2010 Budget Approved – The full budget report will be posted on the website.

~ Al Takeda, Secretary ~

Clubhouse Report . . .

June 2009 Report

In spite of the rain and severe cloud conditions during June, 126 member visits were recorded in the club sign-in log; 3 Thursday mirror grinding classes had 31, 4 Friday evening Astronomy Class sessions had 33, and 4 Saturday day and evening sessions yielded 37.

The work party took place on June 13th with time donated by J. Blomquist, B. Berger, C. Green, M. Hill, A. Hillier, E. Johansson, R. Koolish, J. Maher, E. Myers, D. Prowten, J. Reed, A. Swedlow, A. Takeda, and S. Vallabha.

Mowing and trimming was the big outdoor effort, since the grass had gotten ahead of us due to the excessive rain. We will need volunteers to mow the grass twice a month not just at work parties.

Bulkhead doors were cut from new plywood and received the first coat of epoxy paint. The bulkhead repair effort will continue at the July work party.

The barn attic was cleaned and donated air conditioners tested: 5 tested OK and 4 are going to the dump.

A delicious lunch was served by Eric, Sai, Eileen, Art, Anna, and Dick.

Eric Johansson donated several boxes of optical supplies and parts. Thank you Eric. Tony Costanza, our mirror silvering expert, visited later in the day.

Since last month's report, construction of the new shop in the near barn continues to show progress. The donated lathe is now in place as well as several smaller items. As larger items find their specific locations, final electrical outlets and heaters will be installed. A dehumidifier was set up to prevent the condensation noted when more humid air moved in last week.

An impromptu work session was held Saturday June 27th. Work on the home dome platform frame was started. Two more sessions are planned for July 2 and 3.

The next Full Moon Work Party is Saturday July 4th at 10AM. Mowing, tree trimming, encroaching brush cutting, as well as painting the barn west wall, painting the Knight Observatory, and scrapping the house's west wall prior to painting, are available as projects. Your help will be greatly appreciated.

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



Mike Hill applying an epoxy coating on the shop floor. Image by Bruce Berger

Clubhouse Saturday Schedule

July 4	John Blomquist, A Takeda- Work Party	
July 11	Paul Cicchetti	Henry Hopkinson
July 18	Steve Clougherty	Rich Nugent
July 25	Eric Johansson	Glenn Meurer
Aug 1	Bernie Kosicki	Steve Mock
Aug 8	Bill Toomey, Tom Wolf- Work Party	
Aug 15	Clubhouse Closed	
Aug 22	Shilpa Lawande	Nitin Sonawane
Aug 29	John Maher	Art Swedlow
Sept 5	Brian Leacu	Phil Rounseville
Sept 12	Steve Clougherty	Sai Vallabha

75th Anniversary Club Picnic . . .

Saturday, September 26th is the date for celebrating the 75th anniversary of ATMob. The potluck dinner will start at 3PM at the Tom Britton Clubhouse in Westford. Members and their families are invited and the picnic is on rain or shine. If the sky is clear (1st Q Moon) observing will continue until Midnight. **We are seeking photos of club members involved in any club activities during the past 75 years.** They will be shown that day in a "slide show" format. Please include the name of the person, the event, the date, and any short description or comments you think would be interesting or fun to include. Please read the announcement in this newsletter explaining how to send them.

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 starleen@charter.net H 978-456-3937 W 978-461-1454

~ *Submitted by Eileen Myers* ~

Membership Report . . .

Membership as of 6/29/2009 - 333 members.

Membership renewals are due by September 1st, 2009. Please remit your membership payment ASAP to avoid Astronomy and Sky & Telescope subscription delays. Payments can be made with PAYAL or by mailing a check through the ATMoB website renewal system. Navigate using the following link after logging in to renew your membership today!

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

Then, click on the red renewal tab to renew online! Please contact the Membership Secretary if you have any problems logging into the ATMoB website or navigating through the renewal process. Membership@ATMoB.org

New members in 2009 are not required to renew till September 2010. Members that fail to renew by December 1st will be dropped as a member. Please contact the President of the club President@ATMoB.org if you are having trouble paying the dues.

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. While the deadline for 2008 charitable donations has past, please consider making a tax-deductible contribution to the club when planning for 2009 and beyond.

All members are encouraged to seek out and welcome our new member:

Roy Levine

Welcome!

membership@atmob.org

~ Tom McDonagh – Membership Secretary ~

Calendars for Sale . . .

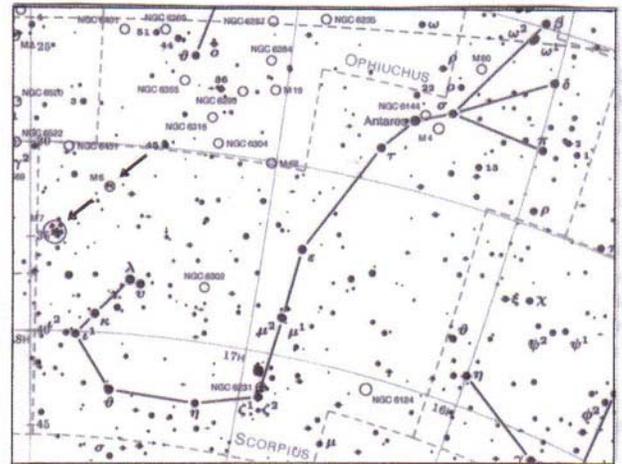
Starting with the July meeting and until they are sold out, I will once again have the Astronomy Deep Space Mysteries 2010 Calendars available for sale. They list for \$12.95 (see <http://kalmbachcatalog.stores.yahoo.net/68158.html>) but the club sells them for \$8 (this includes a small profit to the club – so you not only get a great buy, but you help support the club as well).

It is greatly appreciated if you have exact change available. Or, you can write a check (made payable to the ATMoB).

Sorry, but I will only sell them at the monthly meetings, first come, first served.

~ Submitted by Bernie Volz ~

Sky Object(s) of the Month - July 2009 Messier 6 and Messier 7



Finder chart for M6 and M7
From Mag-7 Star Atlas
(Copyright Andrew L. Johnson)

The song “Love and Marriage,” contains a line that goes, “you can’t have one without the other.” The words aptly describe the open clusters M6 and M7 in Scorpius. This cosmic “horse and carriage” lies in the southern sky above the Scorpion’s stinger.

M7 is the brighter and larger of the two. With an overall magnitude of 3.3, it spans 80’ – over twice the Moon’s apparent diameter. Readily seen with the unaided eye in the absence of bright moonlight or city lights, M7 was first reported by the Greek astronomer Claudius Ptolemy nearly two millennia ago. “Ptolemy’s Cluster” is a dazzling sight in binoculars and small rich-field scopes – a striking aggregation of some 80 stars between magnitudes 6 and 10, immersed in a sparkling background of Milky Way stars. Because of its large size, M7 appears rather sparse in large-aperture scopes. Current studies indicate that M7 is 800 light-years away and is approximately 200 million years old.

Just five degrees northwest of M7 is its partner M6. This cluster, which is a magnitude fainter than M7 and one-third as large, lies just outside the glow of the Milky Way. Like M7, M6 is visible to the unaided eye and was recorded by Ptolemy. Rather than be saddled with the nick-name “Ptolemy’s Cluster II,” M6 was dubbed the “Butterfly Cluster.” The outline formed by its brightest stars does indeed resemble the outstretched wings of this insect. M6, like M7, is at its visual best when viewed with binoculars or small RFTs. With the latter, you can see about 80 stars brighter than 11th magnitude. The most luminous of the cluster’s member stars is the reddish-orange semiregular variable BM Scorpii, whose magnitude fluctuates from 5.5 to 7.0 in a cycle of roughly two years. M6 is twice as remote as M7 and half its age.

Though the splashier M7 seems to get better reviews, I found M6 to be a more attractive sight when recently observed in the 1.5° field encompassed by my 4-inch f/4 Astroscan at 35X. M6 appeared as a tight little group, while M7 seemed sparse.

Oddly enough, I was more impressed by M7 when I first viewed the two clusters with a 3-inch f/10 reflector at 30X back in the summer of 1977. Compare M6 and M7 and see what you think. Now if I can just get that "Love and Marriage" melody out of my head!

Your comments on this column are welcome. E-mail me at gchapple@hotmail.com.

~Submitted by Glenn Chaple~

Thoreau on Astronomy . . .

9 o'clock. The full moon rising (or full last night) is revealed first by some slight clouds above the eastern horizon looking white,-the first indication that she is about to rise, the traces of day not yet gone in the west. In the west, similar clouds, seen against a lighter sky, look dark and heavy. Now a lower cloud in the east reflects a more yellowish light. The moon, far over the round globe traveling this way, sends her light forward to yonder cloud, from which the news of her coming is reflected to us. The moon's aurora! It is without redness or fulgidness, like the dawn of philosophy,-and its moon, too. At her dawning no cocks crow. How few creatures hail her rising! Only some belated travelers that may be abroad this night. What graduated information of her coming! More and more yellow glows the low cloud, with concentrating light, and now the moon's edge suddenly appears above a low bank of cloud not seen before, and she seems to come forward apace without introduction, after all; and the steadiness with which she rises with undisturbed serenity, like a queen who has learned to walk before her court, is glorious, and she soon reaches the open sea of the heavens. She seems to advance (so, perchance, flows the blood in the veins of the beholder) by graceful sallying essays, trailing her garment up the sky.

Journal, 2 July 1852

~ Submitted by Tom Calderwood ~

Photos Needed . . .

Historical ATMoB photos are requested for a digital slide show that will be presented during the 75th Anniversary picnic. The images should be of historical and present members, ATMoB events, star parties, work parties; ATMoB trips and humor (keep it clean).

I would like them to be in electronic form if possible (JPEG, medium to high resolution, and smaller than 1 Megabyte each). If you don't understand that gibberish, tell me and we can try to work out an arrangement.

If you only have prints, slides or negatives, let me know and we will try to accommodate you.

Please, only submit **10 (ten) images per person**. I can make an exception if the photos are especially unique.

You can submit JPEG images using CD-Rs, USB flash sticks, DVD-Rs, Compact Flash and SD Cards and 3.5 inch floppy disks.

DO NOT EMAIL THEM TO ME! My account cannot handle the load and will fill up immediately. You may send me a link to your photo page and I can download the images.

The organizers of the slide show will determine which images will be used and the final presentation will be archived as part of the club's history.

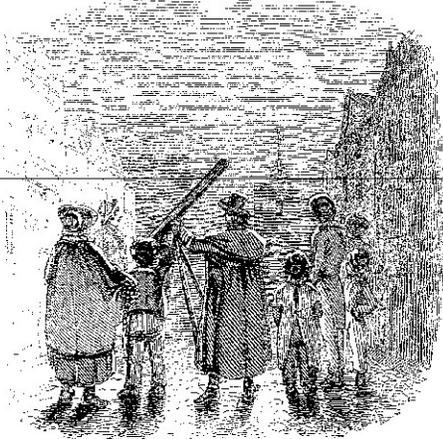
I can accept submissions at the June and July regular meetings and at the ATMoB Clubhouse work parties.

Please dig into your closets, attics and electronic archives and help make this show a success.

Thanks.

~ Al Takeda, Secretary ~

THE
CONJUNCTION



July 24-26, 2009
NORTHFIELD MOUNTAIN RECREATION AND
ENVIRONMENTAL CENTER
NORTHFIELD, MASSACHUSETTS

September Star Fields DEADLINE
Wednesday, August 26th

Email articles to Al Takeda at

secretary@atmob.org

POSTMASTER NOTE: First Class Postage Mailed July 1st, 2009

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

EXECUTIVE BOARD 2009-2010

PRESIDENT: Stephen Beckwith (978) 779-5227
president@atmob.org

VICE PRES: Bernie Kosicki (978) 263-2812
SECRETARY: Al Takeda (508) 494-7877
MEMBERSHIP: Tom McDonagh (617) 996-5221

TREASURER: Nanette Benoit (978) 290-2802
MEMBERS AT LARGE: Chuck Evans (978) 649-7157
Bruce Tinkler (781) 862-8040

PAST PRESIDENTS:
2006-08 Virginia Renehan (978) 283-0862
2005-06 Bernie Volz (603) 968-3062
2002-04 Eileen Myers (978) 456-3937

COMMITTEES

CLUBHOUSE : John Reed (781) 861-8031
Steve Clougherty (781) 784-3024
David Prowten (978) 369-1596

OBSERVING: Stephen Beckwith (978) 779-5227
John Maher (978) 568-1253

OBSERVING AND PUBLIC OUTREACH

STAR PARTY COORDINATOR:
Virginia Renehan starparty@atmob.org

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 Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

July 15 Last Quarter Moon
July 22 New Moon – Total Solar Eclipse (Asia / Pacific Ocean)
July 28 First Quarter Moon
Aug 6 Full Moon -- Penumbral Lunar Eclipse (00:39 UT)
Aug 13 Last Quarter Moon
Aug 20 New Moon
Aug 27 First Quarter Moon