



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

Vol. 17, No. 11 December 2005

This Month's Meeting...

Thursday, December 8th, 2005 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

Parking at CfA is allowed for duration of meeting

This month's speakers will be club members Bob Simcoe and Edward Los. The Harvard College Observatory's glass plate collection is the world's largest and most complete collection of astrophotographs in the world taken over about a 110-year time span. In April, 2004, Bob gave a presentation on a National Science Foundation (NSF) proposal to build the scanner and to develop the processes to enable digitizing the Harvard plate collection in a 3-5 year timeframe. The project received funding about a year and a half ago and work began to design and construct a digitizer and write the control software Bob will discuss details of the digitizer hardware which is now resident in the bottom floor of the plate stacks. Ed will discuss the software and present preliminary results. Bob will also discuss Alison Doane's and volunteer George Champine's efforts to digitize the catalog and log books.

Please join our speakers for a pre-meeting dinner at 5:45 PM (seating at 6:00 PM) at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge.

President's Message...

The clubhouse has a new roof! Many thanks to **Shawn Bryant** and **Newton Roofing** for providing the labor to replace the roof shingles. This is greatly appreciated by the club! And, thanks to all those that worked on shoring up the roof from the attic during the summer.

We have two exciting developments in the works:

1. Peter Richardson is working on a new, much more interactive, web site for the club. Peter is developing the software and Brewster LaMacchia, Bruce Berger, and I will be working on converting and updating the content. We hope to have the site live early next year. The site will include a member's only section, which over time should allow for membership renewals and provide details about your membership status, allow you to provide information about yourself and your telescopes to other members, and much more. It will also include the ability to post events and mark an event as member's only or public. Posting to the event, such as signing up to volunteer will also be possible. And much more!

2. Dr. Fred Ward continues to offer donations to the club. Bruce Berger was able to raise a significant amount for the club based on selling Fred's earlier donations. And, now Dr. Ward is offering a C-14 and GT1100 mount to the club. The board and clubhouse committee chairs are discussing how best to use this donation. The most likely plan is to use the GT1100 to mount both the Schupmann and C-14 (so either one could be mounted on it). But other alternatives are being explored and we still need to confirm whether there are any dimensional limitations that would eliminate any of the choices. Thanks much Fred! We greatly appreciate these donations!

While next year's Executive Board nominations and elections are still months away, I'm asking the current board members to provide a short write up of their responsibilities and an estimate of the time it takes. Hopefully, this will interest several more members to step forward for one or more positions. These will be published in Star Fields as follows:

- January - President (myself) and Vice President (Virginia)
- February - Secretary (Mike) and Membership (Dan)
- March - Treasurer (Gary) and Members at Large (Bruce/Dave)

A reminder regarding the January Total Solar Eclipse meeting - if you'd like to present, get in touch with me quickly as there is little time left on the agenda.

We will be holding an Executive Board meeting in early January. Time and date are still to be set.

Best regards, - **Benie Volz, President** -

November Meeting Minutes. . .

Virginia Renehan opened the 775th meeting of the Amateur Telescope Makers of Boston with a warm welcome to our featured speaker David Tytell. Dave works as a news editor at Sky and Telescope and his talk was aptly named "What's News in Planetary Science". David focused on four primary noteworthy events that have occurred this past summer. The first was the Deep Impact mission whereby a large copper mass was slammed into periodic comet Tempel 1 to allow scientists to get a look at pristine early solar system material lurking underneath the surface. He then went on to the incredible up close look that the Cassini spacecraft has given scientists of the moons of Saturn. This included two very detailed flyby movies of the moons Enceladus and Hyperion. Next was the report on July 28th of a possible 10th planet. This is an object that at 1700 km in diameter is 300 km larger than Pluto, has a satellite, but is at an extreme inclination of 44° (Pluto's 17° inclination already had put into question as to whether or not it is true "Planet") For now this object, 2003 UB₃₁₃, is awaiting a decision by the IAU and of course will spark much debate as to its designation as a planet or kuiper belt object. The last large planetary discovery was two new moons circling the planet Pluto. These moons were discovered with the Hubble space telescope and are in the same orbit as Charon the only previously known moon of Pluto. They are quite small at 93 and 62 Km in diameter and subsequently quite dim (mag 23.1 and 23.4). Following David's talk Bob Naeye, also from Sky and Telescope talked a little bit about recent discoveries outside our solar system including possible light signatures from the most distant early universe stars discovered with the Spitzer Space Telescope, Verification of the two classes of GRB's based on recent observations with the Swift Satellite, and improved theoretical modeling of the mechanisms of supernova explosions that relied heavily on sound waves. This new modeling also helps explain the creation of heavy elements but the work is in its early phases and is awaiting further confirmations.

The business meeting followed with standard committee reports. John Reed informed us that the roofing work is done at the clubhouse but one must be aware of nails in the grass when driving into the observing field. A work party for the upcoming weekend was also announced. Paul Valleli announced that the Flanders Pavillion up at Stellafane is now complete and that it looks great but now must be paid for. Anyone wanting to purchase a floor-paving block for a \$25 dollar donation is encouraged to do so. Virginia announced a star party in Gloucester and invited anyone to attend. Bruce Berger summarized the results of the Pro-Am ATMob Open House including the many contacts made with persons up at Haystack. Bruce also spoke about the club fundraiser selling new computer equipment, donated by member Dr. Fred Ward, for very reduced prices and encouraged all to look at what he had at the meeting with him up for sale. Charlie McDonald spoke to us about some of his latest public outreach activities.

Alex Griswald, from the Science Education Department of Cfa spoke to us about an upcoming IMAX movie about near earth asteroid impacts that is in the making and which he is involved with. He is looking for input and ideas from our membership regarding possible public outreach activities that will be fielded in connection with the opening and distribution of the movie.

~ *Michael Hill Secretary* ~

Treasurer's Report...

As of November 25, 2005

Checking account balance: \$4,273.99
Money Market savings account balance: \$43,614.83
Revenues: \$1,438.62
Expenses: 755.99
Net increase: \$ 682.63

Thanks again to Fred Ward for the donation of computer equipment. Sales of these items have resulted in income to the club so far of \$802.35 and help toward meeting the club's expenses for the year.

Thanks to members for other donations during November:

General fund donations: \$70.00 Balance: \$2,140.65
Clubhouse fund donations: \$12.50 Balance: \$1,808.50
Land fund donations: None Balance: \$3,326.66

Thanks to the members who included an extra \$5.00 donation to the club along with their dues payment. Your donations are a significant part in keeping our finances in the positive.

- *Gary Jacobson, Treasurer*-

Membership Report...

We have two new members this month.

ALEX GRISWOLD
JIM MORRIS

The membership secretary manages the club email lists so contact me if you have difficulty subscribing or unsubscribing. My email is dwinchell@comcast.net

- *Dan Winchell*-

Clubhouse Saturday Schedule

December 3	Eileen Myers	Bill Toomey
December 10	Steve Clougherty	Henry Hopkinson
December 17	Jack Drobot	Joseph Rothchild
December 24	Christmas Eve - Closed	
December 31	Paul Cicchetti	John Reed

You are invited to the ATMoB New Year's Eve Party

The ATMoB Clubhouse in Westford will be open New Year's Eve, Sunday evening, December 31st at 6:30 pm for partying and observing. The party is on regardless of the weather.

Bring something tasty to share (entrée type dishes would be very welcome) since folks will be arriving and leaving all evening. Bring your family and friends too. Dress warmly, and join us to welcome in 2006 together with good food, good friends, and good observing. Any questions, email Eileen at starleen@charter.net or 978-461-1454 (day) or 978-456-3937 (evening). Last minute partygoers and late arrivals are of course Welcome!

At 7:00 pm we will celebrate the Greenwich New Year, and will celebrate New Year's arrival for each time zone!

Bring warm clothing for observing. We will also have indoor games, quizzes, songs, and PRIZES. Bring any easy group games or jokes to share too. Let us know if you know of a fun game we can all play.

We plan to be open past local midnight, when we will celebrate some more! See you there, and have a Happy New Year!

Co-Hosts, Clubhouse Committee Members:

EILEEN MYERS

AND

ART SWEDLOW

Night Skies with Dave Aucoin

I often ponder my past days of observing, with my 13" telescope, when I was observing the Abell planetary nebula, when I was searching for those extreme faint fuzzies on warm summer nights and bitter cold winter nights. I was successful, to a point. I was able to observe just outside the limits of the 13" aperture, thanks to good eyesight, good viewing conditions and mislabelled data. As my webpage shows, <http://www.geocities.com/Deepskydave/Abell.html>, I was able to observe 33 of the 86 Abell Planetary. Four of the Abells are "normal" planetary nebula (PNe), as in NGC and IC designations. Lets look at these objects.

First off, I will point out that most of my observations were with the 13" telescope and an OIII filter and various EP's. I also mention both the listed magnitude and surface brightness. Surface brightness is defined as the magnitude of an object per unit of surface area. I have published data and formulae, by Jack Marling, aka Mr. Lumicon, for computing surface brightness, too technical to go into too much detail here. Also, I use a technique of filter blinking. Instead of screwing the filter into the ep of your choice, hold it in your left or right hand and pass it in front of your line of sight in the ep. If the PNe (planetary nebula) is there, it will blink on and off. You can then screw it into your ep and observe with glee.

The first PNe I observed in the Abell list was Abell 50, <http://www.rcopticalsystems.com/gallery/6742.jpg>, also known as NGC 6742. It is clearly seen nearly year round in the constellation of Draco. Because it is a small PNe, at 31" x 30" arc seconds, it is rather bright. Its listed mag is 13.4, but its surface brightness (SB) is 11.9, well within the reach of most telescopes. I wrote that it was clearly seen with and without a filter, defined edges and round.

Next up is IC 972, <http://www.blackskies.org/pnweek6.htm>, also known as Abell 33. Located in Virgo, this PNe is 43" x 40" arc seconds in diameter, small, but concentrated enough to make it shine at mag 13.6; its SB is 13.1, meaning it is highly concentrated and compact, thus showing an even brightness across its entire size. I noted in my logs that it was fairly bright and round.

NGC 7076, <http://www.ngcic.org/dss/n/7/n7076.jpg>, Abell 75, located in Cepheus, is small, faint and somewhat easy to see, at 67" x 47", despite its 14.5 mag. It has an SB of 13.35, making it a little easier to see. I noted it was amorphous and round. I was able to see nebulosity without an OII filter as well. It has one bright side and a central star.

Lastly, is Abell 81, also known as IC 1454, in Cepheus <http://www.noao.edu/outreach/aop/observers/ic1454wessels.jpg> It is 34" x 31" in size, small and compact. It looks like a mini M57, with ring structure, but it is faint. Whereas M57 is mag 8.8, this PNe is mag 14, with an SB of 12.66. The central star is seen without a filter. A definite ring was seen, with the inner ring barely visible. I noted that high power was needed, using a 7mm Nagler and an OIII filter.

On a side note, I have an observing challenge for you. Many years ago, when I was obsessed with observing, I saw some of the Horsehead nebula, with my 13" scope and an H-beta filter. I observed the "bar" at the neck of the horsehead, a feature with a bar, IC 434, bisected by a dark lane of matter, also known as B 33 (Barnard's Nebula). That was all I saw. Also to the left of the nebula was NGC 2023, more of a reflection than an emission nebula. The trick is to have a dark sky site, a hood of black material draped over your head, an H-beta filter and clean optics. Its fun to try to see.

I will go into more detail, in another issue of Starfields, highlighting another set of PNe, visible in the upcoming winter skies and another observing challenge for you.

~ *Clear Skies, Dave Aucoin* ~

RASC Observers Handbook

Twenty-four copies of the 2006 RASC Observer's Handbooks will be available from Gary Jacobson at the December meeting for \$18.00 each. Checks made out to "ATMoB" or cash are acceptable. Exact change is appreciated. The club buys these for \$15.70 each with the profit to supplement general operating funds.

FOR SALE

A friend and former ATMOB member would like to sell his 20+ yr old Astrophysics refractor, and would prefer to sell it to another ATMOB member. I know that the 6" triplet was made in August of 1982 and he is asking about \$2,500 for it. The lens may well need to be cleaned. The price would include the equatorial head and wooden tripod.

Call Steve Clougherty

home 781-784-3024 work 617-654-7820

Large Aluminum Base for Sale

I have a large aluminum base made up of 1" thick aluminum plate. It has a 42° angle as it was used with an equatorial mount. It is made up of five separate plates bolted together which could make for some nice raw stock. There are very few holes except for the ones to used to bolt it together. Total weight is 100 pounds. I would like \$50 dollars for it and can bring it to the meeting if you are interested.

Mike Hill (noatak@aol.com)



**January *Star Fields* deadline
Saturday, December 31st**

**Email articles to Mike Hill
at noatak@aol.com**

POSTMASTER NOTE: First Class Postage Mailed December 2, 2005

Amateur Telescope Makers of Boston, Inc.
c/o Dan Winchell, Membership Secretary
20 Howard St.
Cambridge, MA 02139-3720

FIRST CLASS

EXECUTIVE BOARD 2005-2006

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Steve Clougherty (781) 784-3024

HISTORIAN: Anna Hillier (781) 861-8338

OBSERVING: Virginia Renehan (978) 283-0862

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 (ESDT) from Universal Time (UT) subtract 5 from UT.

December 8 First Quarter Moon
December 12 Mercury reaches greatest western elongation (21°)
December 15 Full Moon
December 23 Last Quarter Moon
December 30 Full Moon