



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. 17, No. 1 January 2005

This Month's Meeting...

Thursday, January 13th, 2005 at 8:00 PM

Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics

Parking at Cfa is allowed for duration of meeting

THIS MONTH'S SPEAKER will be Dr. Michael Mallery who will speak to us about the topic of his book – "Our Improbable Universe. The Evolution of Primordial Energy into Mind"

Ever stop to consider how unlikely it is you're here, now, doing what you are doing? Our Improbable Universe will show you how "ordinary existence" is really extraordinary. From the most practical point of view, we really are "star children": the iron in the blood of our veins originated in a stellar explosion billions of years ago. How likely is it that all the myriad conditions for life would come together so precisely? Without positing or denying the existence of a Creator behind it all, the answer to that question is humbling and fascinating. Along the way Dr. Michael Mallery summarizes the latest findings in cosmology – including string theory, high energy physics, and relativity. A graduate of M.I.T. and Cal Tech, Dr. Michael Mallery made a special study of magnetism and high energy physics. He is a former physics professor at Boston's Northeastern University and he holds 48 patents.

Please join our speaker 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...

Seen the comet yet? I have, and so have just about anyone that's been out observing in the last month. Of course I'm talking about Machholz, or more accurately Comet C/2004 Q2 (Machholz), so we don't confuse this one with the other nine that this optician from California has under his belt.

What did I see? A fuzz ball. A big fuzz ball. No matter how long I stared, how hard I tried, how much 'averted imagination' I could sum up, it was just a huge fuzz ball. And I've looked at it through five different instruments ranging from 8x50 binocs, a 130mm APO refractor, all the way up to the club's 20 inch.

What did you see? One observer looking through the same instrument at the same time as me reported 'a slight elongation in one direction that may be the tail.' I returned to the eyepiece and lo and behold! All I saw was the same round fuzz ball.

But here's what another observer, a veteran of many years, wrote. "I just got a gorgeous eyeful of Comet Macholz. ...this interloper is an impressive sight - with its wide-fanning "V" shaped dust tail, and just a hint of structure in another direction (probably the brightest bit ion tail?)... And that core, so nice and tight..., right next to that pretty little white star (is it 30 Tauri?)"

Just where was this observer? Did he get a second mortgage just to rent time on one of the Keck twins? Uh, uh! Read on...

"...through my nephew's tiny (3.5"), wobbly-mounted Department Store Scope, on a light bathed drive-way, in light polluted Coral Springs, FL."

How'd he do that? What does this observer have that I don't? He describes a 'gorgeous eyeful' – I see a fuzz ball.

What this observer has is experience. He gets out there and observes. Not just for 15 or 30 or 60 seconds at a time, but possibly for hours, on the same object. He studies his target before he observes so he knows what to look for. He's familiar with comet structure and chemistry and behavior. He's seen plenty of other comets before.

I've made up my mind. I want that 'gorgeous eyeful'. I'm going to the books, the internet and to the skies. I'm going to brave the elements and study – really study that fuzz ball until the structure that Lew Gramer described just hits me.

Want to join me? - **Bruce Berger, President** -

December Meeting Minutes

Bruce Berger opened the 765th meeting of the Amateur Telescope Makers of Boston with a warm welcome to long time member Tal Mentall. Tal continued his holiday tradition with the recitation of "The Night Before Christmas" followed by a more comical, winter time story - the story of "The Cremation of Sam McGee." Our speaker for the evening was Ed Ting who runs the scopereviews.com web site which some of us are familiar with. Ed spoke to us about the good and the bad of commercial telescopes available on the market. He began with a short summary of binoculars with some insightful methods of quickly checking the quality of any given pair. Want to know if the lenses are fully coated? Look at the reflection coming from the objective lens. If you see a good reflection this is bad. This is light that is "lost" because it is not passing through the system. If the lens is fully coated it will in fact appear quite dark. Ed followed with a brief overview of refractors, reflectors and catadioptrics. He then followed with examples of the various types as well as his recommendations for the "best of" for each category. I can't list all of the best of here. You might wish to visit his web site for this. I'll list two: The best scope you can get? Ed feels that this is the Takahashi FCT150 with a list price of a mere \$18,000 dollars. Coming more down to earth, his recommendation for best bargain scope - The Orion XT8 Dobsonian.

The business meeting followed with standard committee reports. Steve Clougherty indicated that the 17" and 20" telescope renovations are now essentially complete. Bruce Berger listed some recent donations to the club including a cookbook camera from Tom McDunough, and two computers systems from Fred Ward. Kelly Beatty advised us that he knows someone with four telescopes that he wants to give away to individuals who can put them to good use. Charlie McDonald informed us that Tewksbury High School was planning to dedicate their new observatory to club member Paul "Galileo" Manning. Michael Harrison indicated that he has a dome that he would like to give away. It needs work but see him anyhow if you might be interested. Eileen Myers announced the annual New Years Eve party. The meeting concluded with some member presentations. Bruce Tinkler told us about his monthly sky activity reports that he creates and publishes to a growing email based distribution list and Paul Valleli showed us some pictures of the latest comet to grace our skies, comet Macholz.

- *Michael Hill* -

Treasurer's Report

Membership Report

This month we would like to welcome the following new members :

FRED MONTAGUE, Tewksbury, MA
KEVIN ACKERT, Billerica, MA
KELLY BEATY
BARBARA STRELL, Somerville, MA
JUN-ICHI SANO, Chelmsford, MA
CRAIG SANDLER, Somerville, MA
JOHN WILLIAMS, Maynard MA

At the end of year 2004, we have 301 members- *Shilpa Lawande*-

ATMoB Club History Project

I have found a place that will do publish on demand and make a nice bound paperback of our Club History for \$175.00 for 10 copies. This means that the club would have to sell them for \$17.50 each and it would look just like it does now. No pictures, but we would have a nice copy with which to get an ISBN number and a copyright. Other than this I have no other contacts. I would do the work of getting it done. Anyone can find all the details at Booksbybookends.com - *Anna Hillier, Club Historian* -

Clubhouse Report

Because of the holiday season, only a one effort was accomplished at the clubhouse. The ramp was built to the new shed so we could now store the snowblower and seasonal equipment like the lawn mowers. Thanks to Sai Vallahba, Art Swedlow, Dave Prowten, John Reed, Bruce Gerhard, John Blomquist, and Eileen Myers. Also, the clubhouse had its New Years Party on Friday 31 Dec through 1:20am on 1 Jan. About 25 people enjoyed the activities and saw in the New Year. Kudos to Eileen Myers for hosting this event.

Clubhouse Saturday Schedule

January 8	Dave Siegrist	Jim Suslowicz
January 15	Henry Hopkinson	John Small
January 22	Bruce Berger	Mike Hill
January 29	Gary Jacobson	Eric Johansson

Upcoming Star Parties

Club Star Party Coordinator - Virginia Renehan
978-283-0862 starparty@atmob.org

Date: Jan 18th (rain date, Jan 19)
Location: Morey School, Lowell, MA.
Lecture: 6:30 pm
Observing: 7:00 pm
Attendance: 250-300 expected, 3rd and 4th graders and family
Coordinator: Jack Drobot jjdrobot@comcast.net
(978)692-8093

Date: Jan 18 (rain dates Jan 19, 20)
Location: Joshua Eaton, 365 Summer Ave., Reading.
Lecturer: Rich Nugent
Observing: 7:45 - 8:45 pm
Attendance: 5th grade classes + family members. 400 expected.
Power available
Refreshments: will be served
School Coordinator: Mr Bill Lewis (781) 942-9161
Coordinator: Charlie McDonald (781) 944-6140

Date: Jan 18 (rain dates Jan 19, 20)
Location: Wood End School, 85 Sunset Rock Lane, Reading.
Lecturer: Paul Manning
Observing: 7:45 - 8:45 pm
Attendance: 5th grade classes + family members. 200 expected.
Power available
Refreshments: will be served
School Coordinator: Ms Kristen Gigante (781) 942-5420 or 942-9166

Coordinator: Charlie McDonald (781) 944-6140

Date: Jan 28

Location: Tobin Middle School, Cambridge
Observing: 7:30 - 8:30 pm
Attendance: 5th - 8th grade classes + family members. 400 expected.
Power available
Refreshments: will be served
School Coordinator: Ms Deyne Meadow (781) 828-1434, cell (781)254-8466
Coordinator: Virginia Renehan (978)283-0862

New Member Orientation

Don't forget...the next new member orientation, including a tour of the clubhouse, observatories and telescopes, will take place on **Saturday, February 12th at 7 pm**. All new members are cordially invited to attend. Observing will follow, weather permitting. If any of our veteran members would like to help out during the orientation with a special presentation or demonstration, please contact us. Or if you just want to stop by and introduce yourself, feel free. If you plan to attend please contact: Shilpa Lawande at (603) 891-2702 or Virginia Renehan at (978) 283-0862. Refreshments will be served. Hope to see you there!
~ Virginia Renehan

Observatory Named after Member Paul Manning

One of our newer members, Paul Manning who joined the club last February, is making quite a name for himself. In fact he's making a name, quite literally, for a local observatory. Paul Manning is known to some of us as Paul "Galileo" Manning for his wonderful real life portrayal of the famous Italian astronomer, Galilei Galileo at numerous star parties. He puts on a show like none other that you have seen at a star party complete with dress, accent, and instrumentation of the day. He has done much more than that however. Paul has been instrumental in education and public outreach in his home town of Tewksbury, MA. and has gone on to create the Tewksbury Air and Space Day held each year in town. Paul presented \$10,000 dollars worth of astronomy equipment purchased from the proceeds of last years' event to the school committee, and gifted \$2000 of his own money towards the building of an observatory at the high school. For his efforts the school committee unanimously voted to name this observatory the "Paul D. Manning Astronomical Observatory." This is quite a feat for one of our own and we should be proud to have Paul as a member of the ATMob. Paul intends to continue his quest to educate the students about science and astronomy and with the help of this observatory, many kids will certainly have their eyes turned skyward, "reaching for the stars." -Michael Hill-

The Joys and Merits of a Rich Field Telescope

By Tal Mentall - tmentall@juno.com
<<mailto:tmentall@juno.com>>

Once upon a time, a little more than 50 years ago, I was reading my copy of Scientific American's "Amateur Telescope Making - Book Two," and I came across the very last chapter which was called, "The Richest-Field Telescope - a Plea for Low Magnification," by S. L. Walkden. After reading that chapter I was convinced that I would never be able to live the rest of my life as a rational being without acquiring an R.F.T refractor with its low-power, bright image, and wide field of view.

Funds were hard to come by at that point in my life, but in the 1970s I began to save money to get a Celestron C8 which had just come on the market. With a bit more than half of the \$750 price saved, my car decided that it needed a new transmission. My C8 dreams went out of the window, but I was determined that part of the money would go towards a telescope. I revived my long delayed RFT desire, and sent to A. Jaeger for one of their 5-inch f/5 refractor objectives, and over the next few months I ordered the rest of the parts that I needed.

About that time there was a lot of talk about Comet Kohoutek which was certain to be the Comet of the Century, and I was ready for it! Comet Kohoutek failed to live up to its advance billing and astronomers were called upon to explain why. I was reminded of Charles Fort's comment in his book, *New Lands*, wherein he wrote, "I don't know what the mind of an astronomer looks like, but I think of a fizzle with excuses revolving around it." Kohoutek didn't help the astronomers' case at all!

We in the ATMob held a few well-attended Kohoutek observing sessions at Drumlin Farm in Lincoln. We had to shovel deep snow to earn a place to set our telescopes. I had my 5-inch RFT set up not far from George East and his C14, which displayed a close-up of the head of Kohoutek. I was amused when more than one person looked through George's C14, and then after looking through my 5-inch RFT called to their friends to come and look, because, "You can see the WHOLE thing over here!"

To build my RFT I relied on instructions that I found in a Fawcett How-To book from 1960 called "Amateur Astronomy Handbook," and Edmund's "All About Telescopes." Both books emphasized the importance of glare stops. I made my stops of 1/8-inch masonite glued into place, and I used black flocked paper to line the inside of the tube. Walter Scott Houston and Roger W. Sinnott, on separate occasions, commented on the excellent contrast.

I think the only way that I could improve my RFT would be to replace the equatorial head with an altazimuth mount.

That would simplify sweeping the horizon for comets, and would also make moving back and forth near Polaris easier.

I love the views of The Double Cluster, Brocchi's Cluster, the Pleiades. M13, M15, Albireo, M42, the Andromeda Galaxy, and various comets that this telescope provides. My RFT remains my favorite.



Observers Log by Lew Gramer

Observer: Lew Gramer
Your skills: Intermediate
Date and UT of Observation: 1997-11-29/30, 03:00 UT
Location: Miles Standish State Forest, Carver, MA, USA (41N)
Site classification: rural
Limiting magnitude: 6.6 (zenith), 6.1 (in SE)
Seeing: 2 of 10 - excellent
Moon up: no
Instrument: 8" f/10 Schmidt-Cassegrain on fork equatorial, 8x50mm finder
Magnification: 80x, 170x
Filters used: None
Object: M 78, NGC 2071
Category: Reflection nebulae (with emission components?)
Constellation: Ori
Data: mag 8 (stars 10.5, 10.5, 14, 10) size 8'x6'
RA/DE: 05h47m +00o03m

Description:

As I arrived at my favorite Eastern Mass observing site tonight, the members of the North Shore Amateur Astronomy Club were just breaking down for the night, having arrived at the State Park at 2pm that afternoon for some solar and planetary observing! As the early shift prepared to leave from a hard day and evening(!) of observing, the late shift (me) got ready for a night under the Winter stars. The swing shift (Dan Smoody) would stay for another three hours, and Dan and I had a startlingly long list of delightful views both through my white 8" SCT ("R2D2") and his fine 6" f/4 equatorially mounted Newtonian. Some observing reports now follow in this email and in later postings today!

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I would face some challenges during tonight's observing: this was the very first time I had had little R2D2 out under dark skies. So this was also the first time I was finding many of the deep-sky objects on tonight's list simultaneously with a fork-mounted equatorial, and with a finder but no Telrad... (I used GEMs on 6" and 8" RFTs years ago - no finder needed!)

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Sweeping NNE from Zeta Ori using the 8x50, I rapidly overshot well-known (telescopic) asterisms near M78. A *finder* field was strangely unfamiliar, and no hint of M78 was apparent to 8x50mm. Once I did manage to find M78 at 80x (a five minute process which required Dan's help, and which normally takes me 30 seconds with a Telrad and dob), it finally rewarded me by showing it's classic dark-sky "chevron" shape. This opened into a "serrated edge" to the SE, nicely offset by the two bright involved stars (mag 10), prominently arranged N-S. The third and fainter star (mag 14) to the S was apparent to direct vision, though easily lost in M78's wispy haze. Nearby, n2071 was visible to averted vision, around a mag 10 star in the N part of the same eyepiece field. Of course it required a check of nearby stars to confirm I was seeing this faint nebula rather

than scattered starlight. I could discern no details, but it did suggest to me all the other faint nebulosity which I knew lurked in this field, just under the faint skyglow. I saw no apparent differences with the UHC, and raising power to 170x seemed to wash out the nebulosity, making UHC unusable. Not the most thorough log of M78 I've written, but fun nonetheless!

Board Meeting

There will be an Executive Board meeting on Sunday February 22nd up at the clubhouse. The meeting will start at 4:00 PM.

- *Bruce Berger, President* -

Member Show and Tell

The February meeting of the ATMob will be a member show and tell meeting. If you have a project you are working on or an observing experience that you would like to share with the club then please let me know as soon as possible so that I can fit you in. Lets' see some new faces up there. Don't let stage fright scare you away. We are an easy bunch and love to see what others are up to.

- *Bruce Berger, President* -

February Star Fields deadline Saturday, January 29th

Note that the deadline is now on the last **SATURDAY** before printing rather than Sunday. Entries submitted after the deadline are not guaranteed to make it into publication.

Email articles to Mike Hill
at noatak@aol.com

POSTMASTER NOTE: First Class Postage Mailed January 7, 2005

Amateur Telescope Makers of Boston, Inc.
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FIRST CLASS

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

January 3 Last Quarter Moon
January 6-8 Venus/Mercury Conjunction in morning skies
January 10 New Moon
January 13 Saturn at opposition
January 17 First Quarter Moon
January 18 Asteroid 14 Irene (10.9) passes 5' south of δ Librae in AM
January 25 Full Moon