



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. 14, No. 1 January 2003

This Month's Meeting...

Thursday, January 9th, 2003 at 8:00 PM

**Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics**

THIS MONTH we are honored to have Dr. Brian Marsden fill in as our speaker, as the previously arranged speaker had to cancel at the last moment. The topic of his talk will be announced at the meeting but should prove to be stimulating as it always is when he speaks to our group.

Dr Marsden is an astronomer at the Smithsonian Astrophysical Observatory in Cambridge, MA. who specializes in celestial mechanics and astrometry, with particular application to the study of comets and asteroids. He has been director of the International Astronomical Union's Central Bureau for Astronomical Telegrams since 1968, and in this capacity is responsible for the timely dissemination of information about transient astronomical objects and events; since 1978 he has also directed the IAU's Minor Planet Center, which issues monthly batches of "Minor Planet Circulars" with positional observations, orbital elements and related information about comets and asteroids. He was born in Cambridge, England, and his undergraduate education was at Oxford University. He received his Ph.D. degree from Yale University, his dissertation being concerned with the orbits of the Galilean satellites of Jupiter.

Please join our most excellent speaker for dinner at 5:45 PM at the Changsho Restaurant, located at 1712 Massachusetts Ave. in our fair city, Cambridge.

VicePresident's Message...

It is with a heavy heart that I speak of the passing of Eileen Myers mother who died on December 19th. Please join me in wishing our most sincere condolences to Eileen and her family. I will be assuming the responsibility of organizing the meeting for the month of January.

This month is significant for many reasons. Along with the out with the old, welcome the New Year, many astronomical and club events have a special significance to us. For one, Comet Brewington makes its predicted return after a 10 year hiatus. Designated 154P/1992 Q1, Brewington will reach 10th magnitude and is visible in Aquarius moving towards Pisces in the early evening throughout the month.

Saturn reached its closest point to Earth on December 17th, but still provides spectacular views with its rings wide open. Be sure to catch this wondrous site and share it with your friends. I can't count how many times a young child, or an adult, has gasped at his or her first real view of the ringed planet through my scope.

We will experience some significant club happenings this New Year, and maybe as soon as this month, as the Schuppman telescope is installed on its permanent pier and newly refurbished equatorial mount in the Ed Knight Observatory. As this is written the forms are in and the concrete is ready to be poured. Many thanks go to Mike Hill for driving the Shuppman effort. It is a pleasure working so closely with Mike on this project. His single minded determination to complete this is an admirable quality that we should all strive to emulate in each of our life's projects. Many thanks go also to John Blomquist for his welding and machining expertise, and of course to Dave Prowten for making the forms and getting the 20" diameter pier in place.

Gary Walker has the 20" mount ready to go, and soon after the mirrors are coated, the 20" reflector, the same one that's been talked about for so many years, will take its place beside the Schuppman and make our observatory complete.

We do hope you'll join us for first light on these fine instruments. Watch the email lists for announcements.

-Bruce Berger, Vice President -

**Happy New Year
ATMoB**

December Meeting Minutes. . .

The 754th meeting of the Amateur Telescope Makers of Boston was started with our traditional Holiday poetry reading. TAL MENTALL set the tone as always with his reading of "The Night Before Christmas" followed by the more darker and humorous "Cremation of Sam McGee". BOB COLLARA followed this with a poem by Robert Frost called "The Star Splitter". CHARLIE MCDONALD topped this off with the reading of Carl Sagan's "Pale Blue Dot." Thanks to all of you for the entertainment. Charlie then introduced our speaker for the night – Professor Alyssa Goodman of the Center for Astrophysics. Professor Goodman prefaced her talk with a short introduction to a new program at the Cfa called the Cfa Virtual observatory. This is located at the URL address cfa-www.harvard.edu/nvo. The purpose of this is to link together various astronomical data archives and make the data available, using software that will be provided via the site, for anyone interested in doing research and who could use this data to do it. There will also be provisions for amateurs to contribute data to the site and to the data set.

Professor Goodman's talk was about research into the interstellar medium and the formation of stars within this medium. She showed us how areas of the sky that appeared dark in the optical wavelengths are quite visible in other wavelengths. She showed a set of identical mosaics of the Milky Way in optical, infrared, ultraviolet, and radio wavelengths, all showing different features. E.E. Barnard, back in the early 1900s was the first to postulate that dark areas seen in the milky way were not voids of stars but instead dark matter that was blocking the light from the stars behind. It was eventually shown that this was indeed the case and this interstellar "dust" was an important part of the star formation process. This dust which she indicated was really more like smoke rather than dust due to the very small size of the particles is very cold at 20° Kelvin so is invisible in the optical range. It glows, however in the far infrared and in the even longer radio wavelengths. Radio astronomy is used to observe spectral lines of atomic and molecular Hydrogen and Carbon Monoxide.

Professor Goodman does most of her research in the radio wavelengths using facilities all around the world including telescopes in Hawaii, Arizona, Chile, Spain, Japan and Australia. In addition she uses data from the HST and IRAS satellites. Using this data she has been making velocity distribution maps of gas clouds to show how the material is moving as the dust and gas coalesces and starts to form into a star. She showed us maps of the outflow of material, determined by the blue and red shifted Doppler effect on the spectral lines that she observes. The velocity is used to study the what are known as Herbig-Haro objects, a series of knots in the gas clouds that are lined up in a way that shows that movement over time of the stars as they are forming within the gas clouds. It was all very confusing until she showed us a wonderful computer simulation of a hypothetical star forming region in which

you could see the rotational movement, the formation of the stars and the ejection of these stars out of the cloud out into the surrounding space. A very impressive simulation that is only possible with very powerful computers now available. The future, for her, is the upcoming launch of the latest of the Great Observatories – SIRTf. This will be in April of 2003 and will provide even more accurate views of the motions and formations within the giant dust and gas clouds where stars are born.

The meeting concluded with the officers reports and announcements. John Reed informed us that the new observing committee schedule will be out soon. Given that there are many more A-Class members the number of nights that each will have to be on duty may be reduced from 4/year to 2/year. Dave Siegrist mentioned that we need to start thinking about the Baxter State Forest Camping trip which will be over Labor Day next year. Gary Walker announced that the 20" telescope is just about complete and that we now need to get the primary and secondary aluminized.
–*Michael Hill, Secretary*–

Treasurer's Report...

For the month of November, we had \$2,103.73 in revenue and \$282.76 in expenses for a net gain of \$1,820.97 for the month. For the first six months of the fiscal year, we'd had \$11,881.03 in revenue and \$5,788.85 in expenses, for a net gain of \$6,092.18. For comparison, last fiscal year during the same period, we had \$10,416.51 in revenue and \$8,556.36 in expenses, for a net gain of \$1,860.15.

As of November 30th, 2002 our assets were:

Checking Account - Regular \$ 17,797.61
Investments \$ 26,704.36
Total Current Assets \$ 44,501.97

Of this \$44,501.97, \$2,804.31 is in the Land Fund and \$155.00 is for clubhouse key deposits. –*Bernie Volz, Treasurer*–

Membership Report...

DAVID BLUE of Framingham, MA is our only new member this month. Let's give him a hearty ATMob welcome.

–*Peter Psyhos, Membership Secretary*–

I have a new address and phone number:

Peter Psyhos
41 Fair Oaks Drive
Lexington, MA 02421
781-861-1108

Please send all future mail to this address. My email remains peter_psyhos@attbi.com

Book Review

Presented by Dave Siegrist

Timothy Ferris

“Seeing in the Dark (How Backyard Stargazers are Probing Deep Space and Guarding Earth from Interplanetary Peril)”

(Simon and Schuster 2002)

As I was waiting in the checkout line of the Worcester Public Library recently, I spotted this book in the recent arrivals shelves. I picked it up and read the opening line:

"This book is about stargazing...it weaves together three strands. The first is an account of my own experiences as a lifelong stargazer...the second a report on the revolution now sweeping through amateur astronomy...the third strand has to do with what's out there - what Saturn, the Ring Nebula, the Silver Coin galaxy, and the CorBor cluster really are".

How could I not check it out? So began an enjoyable several hours reading Timothy Ferris story of his own journey as an amateur astronomer. He does indeed weave together personal experiences, with reports of personal interaction with professional and prominent amateur astronomers, and throws in basic facts

about what is out there. It is not an astronomy text, nor is it meant to be. The facts are at a basic level and are aimed at the lay person (or the neophyte amateur, as I am). It's goal is to communicate Mr. Ferris love of stargazing, and to motivate his readers to try it. It is the biographies of the various personalities in astronomy that give this book its charm, and make it 'readable'. Interspersing people with facts about areas of astronomy in which they are involved is what I enjoyed the most.

The book opens with a recounting of Mr. Ferris' youth in Florida in the 50's, and how he and a friend began to learn the sky, stars, and a love for astronomy. He discusses what he calls 'The shore', that is, what can you see with instruments available to both the amateur, and the professional. He has stories about Stephen O'Meara and how he honed his observing skills. He also has the obligatory section about John Dobson. My intuition is his purpose in this section is to let folks know you really can see stuff, with equipment available today.

He continues with a section he calls "Blue Water". This

section deals with the sun, the moon, and the planets. He has accounts of his interactions with (or biographies of) Patrick Moore, Percival Lowell, David Levy, Don Parker, and others, and how they explored the various bodies of our solar system.

The final section is called "The Depths" where he deals with deep sky objects: galaxies, clusters etc. He writes about robot telescopes available on the net, has a biography of John Henry, and an interview with Edgar Smith.

There is an appendix to the book with a chapter on observing techniques, tables of objects, and other aids.

While Mr. Ferris discusses contributions amateurs make to science throughout the book, he ultimately comes back to the notion that amateur astronomers observe for the enjoyment of it. It is what motivates him, and I believe it is what he wishes to communicate to his readers. I came away from the book not with more knowledge, but with more enthusiasm for the hobby. I heartily recommend this book.

Astronomy Course

--- Telescopic Astronomy ---

Museum of Science

Course Instructor: Matt BenDaniel

Jan. 28, Feb. 4, 11, 18, 25

6:45 p.m. - 8:45 p.m.

Syllabus: Learn how to purchase, use, care for, and take pictures with telescopes. All instruction and content is tailored to the amateur astronomer. No technical background is required, but some knowledge of the celestial objects visible to the naked eye is helpful. Observations of stars and planets from the Museum roof is planned.

The next offering of this course won't be until Fall 2003 or more probably Winter/Spring 2004.

Course fee is \$107 (\$94 for museum members).

For questions or to register, please contact the Museum at (617) 589-0300

Web page: http://www.mos.org/learn_more/courses

Please feel free to email Matt with any question about this course at matt@starmatt.com.

Matt plans to be at the ATMob meeting on January 9.

Matt BenDaniel
matt@starmatt.com
<http://starmatt.com>

Message from the Membership Secretary

I recently sent out final reminder cards to those members who have not yet renewed. If you have received a card and if I do not hear from you soon, this will be your last newsletter. As of this writing we have 333 paid members and 45 who have not renewed. - *Peter Psyhos* -

Analyze data from the Chandra Telescope

The following was received on the mailing list. I thought that I would pass it along.

I have developed an open source program to analyze data from the Chandra telescope. Unlike the tools used by the professional astronomers, **AstroVirgil** has a friendly graphical user interface and runs on PCs and Macs. Of course, it is much more limited than professional tools but it does allow amateur astronomers to investigate all the Chandra archive data (images, light curves and low resolution spectrums from the ACIS detector, images and light curves from the FRC detector and high resolution spectroscopy from either the high or the low energy grating). I am currently working with scientists from the CfA and MIT to create X-Ray astronomy projects for students at Somerville High School.

This program is free and available at my web site:

<http://www.SiliconSpaceships.com> I also have a program to deal with data from NASA's planetary probes. **GeoVirgil** is a mapping program that reads any of the hundreds of CDs of data from Venus, the Moon, Mars, etc. It is also free and available from my web site.

Steve McDonald

Clubhouse Report

The clubhouse schedule has not been completed yet but will be done so very soon. Clubhouse committee members will be notified as soon as the list is complete.

Clubhouse Saturday Schedule

January 4	TBD	TBD
January 11	TBD	TBD
January 18	TBD	TBD
January 25	TBD	TBD

Star Parties

January 8th, Rain date January 10th

Cummings School, Somerville

Contact Lou Cohen at (617) 876-0759 or lou-cohen@attbi.com

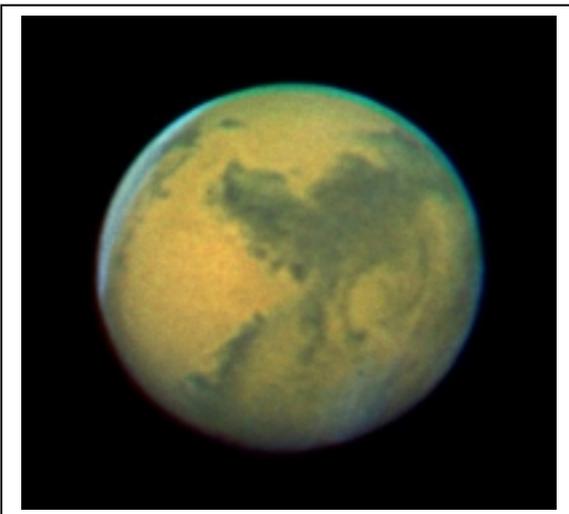
This is the Time to Start ----



Saturn is visible after dark

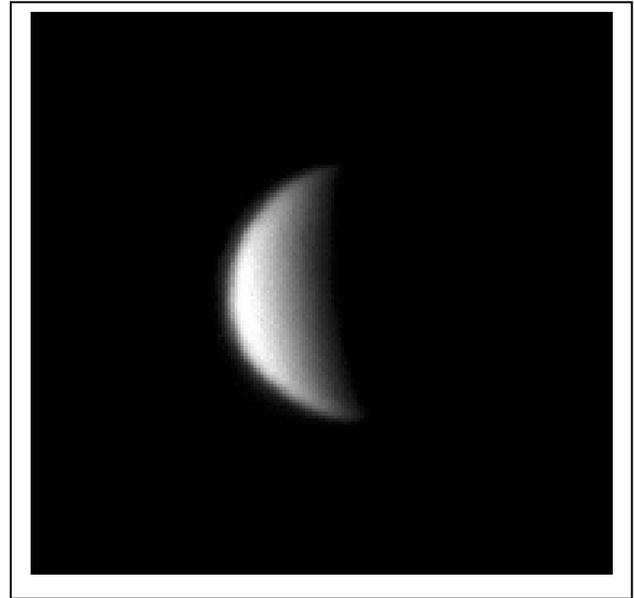


Jupiter is visible after 10:00



Mars is visible in the Morning

----Looking at the Planets



It may be cold but it's worth it, especially if the seeing is good. If you haven't done so yet, learn to use the Clear Sky Clock on the ATMoB website. It is very helpful for determining seeing conditions.

**February *Star Fields* deadline
Sunday, February 2nd**

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

POSTMASTER NOTE: First Class Postage Mailed December 27, 2002

Amateur Telescope Makers of Boston, Inc.
c/o Peter Psyhos, Membership Secretary
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FIRST CLASS

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HISTORIAN:	Anna Hillier	(781) 861-8338
OBSERVING:	Charlie McDonald	(781) 944-6140

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 Month...

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

January 2	New Moon
January 3-5	Thin crescent moon visible 45 min after sunset
January 4	Quadrantid meteor shower (sharp peak centered 3-4 hrs around 0 hr UT)
January 7	Partial eclipse of Jupiter's moon Io by Europa
January 10	First quarter Moon
January 17	Full Moon