



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. 5 May 2005

This Month's Meeting...

Thursday, May 12th, 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 David Charbonneau who joined the faculty in the Department of Astronomy at Harvard University in August 2004. His research focuses on the development of novel techniques for the detection and characterization of planets orbiting nearby, Sun-like stars. Dr. Charbonneau is a founding member of the Trans-Atlantic Exoplanet Survey, which uses a network of small, automated telescopes to survey tens of thousands of stars for periodic eclipses that indicate the passage of orbiting planets. As a graduate student, Dr. Charbonneau and colleagues used a similar telescope to detect the first such eclipse. In 2001, they studied that same planet with the Hubble Space Telescope and detected its atmosphere, the first such detection for a planet outside the Solar system. Recently, Two teams of astronomers - one led by David Charbonneau (CfA) and one led by Drake Deming (GSFC) - have directly detected light from two known planets orbiting distant stars. This discovery opens a new frontier in the study of extrasolar planets. Researchers now can directly measure and compare such planetary characteristics as color, reflectivity, and temperature.

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...

I'm going to go out on a limb here. I'm going to talk about club history without asking Anna, the official club historian. I'm doing this because I made an interesting discovery recently while poking around the club library. Tucked away in a closet are 3-5 yellow Kodak photographic paper boxes. Inside each of these boxes is a bit of club history in the form of photographs going back as much as 25 years.

Someone had taken the time to mount each photo to a backer board, forming a montage that captures a moment in ATMoB history. These mosaics preserve younger versions of some of our members, they answer questions about the club, our facility, and our activities.

When I took some of these boxes out one recent Thursday, shouts were heard around the clubhouse table, with some long time members exclaiming, "There's Paul Valleli! Is that a pipe in his hand?", or "There's Walter Scott Houston! He's trying out Tom Britton's binocular chair."

Or, "That's Ed Knight digging out for the outhouse installation." "Mario looks the same!", "Boy, Steve Clougherty had long hair back then."

"Oh my God, that's me!", exclaimed Mike Hill.

From June 1982, the Festival of the Future exhibits at the DeCordova museum, with ATMoB members showing off their equipment and accomplishments. Pictures of the club picnic in August of 1980 show a young and very hairy Ken Launie lighting the charcoal grill with Sal LaRiccia. An Astronomy exhibit at the Burlington Mall in 1980 shows off Don Dilworth's original relay scope, the model for Mario Motta's 32".

Won't it be great when these photos are digitally preserved so that they can be safely displayed? And so that they'll be around for future generations of ATMoB'ers.

A quick report on last month's activities - Thirty-one folks signed in for the Messier Marathon at the clubhouse. It was reported that Glenn Chappel bagged 98 Messiers! Congratulations!

Lots and lots of folks attended the Astronomy Day activities at the Dexter-Southfield School - more on that event inside.

And there was NEAF, where I got to sit through 6 hours of CCD workshops, see the latest products from TeleVue, Meade, Celestron and 50 other vendors. Boy, that Meade RCX looks pretty cool close up.

In closing, I'd like all of you to know that we've been very proactive in abating the mosquito problem this year. Gary Jacobson arranged for the Central Mass Mosquito Control folks to treat our site, and both Mosquito Magnets should be in full operation by the time you read this.

Clear skies to all, - **Bruce Berger, President** -

April Meeting Minutes

The April meeting of the ATMob and Bond Astronomical Society had as its speaker Steven Hunt.

The soon to be Dr. Hunt spent several years on the Atoll of Kwajalein doing research on meteors.

His research involved using the antenna and transmitter systems set up to track ICBM missiles, and using them to track meteors as they enter our atmosphere. One motivation for doing this work is to characterize the effect that meteors have on satellites. As meteors impact satellites, they free electrons, which in turn causes current to be induced on the satellite. These currents have a negative impact on the electronics on board the satellites.

The instruments being used to track the meteors were able to achieve an accuracy never before possible. Dr. Hunt described using a 6 megawatt radar at 160 Mhz, and 422 Mhz with a beam width of 1.1 to 2.8 degrees. He is able to track meteors within 7 meters, for the 422 Mhz signal, and 30 meters for the 160 Mhz signals. During their research they observed a meteor/second at times (depending on diurnal, and other conditions), between 70 and 110 km above the earth. This altitude is the 'sweet spot' for the mass and energy (speed) of the meteors investigated.

Throughout his talk Dr. Hunt showed images of the atoll and his working conditions. The islands are breathtakingly beautiful, and it was clear from his presentation how much he enjoyed his time there.

The business meeting was conducted next. Highlights included:

- Secretary, treasurer, and clubhouse reports.
- Plans for upcoming work parties at the clubhouse: April 23, to do some basic spring cleaning and to continue with supporting the roof.
- Plans for the summer picnic: June 11 the South Shore club will join us for our summer open house, and hopefully an evening of observing.
- Observing: a report by John R. for Steve about the great evening we had observing April 10th. The field was full of scopes that Saturday evening as we had no moon, no mosquitoes, and no snow. Lew Gramer opened up Godzilla for the last time this year, and everyone enjoyed the views. Eileen Myers and Joseph Rothschild were on duty, and organized a potluck and celebration for Art Swedlow's birthday. A great time was had by all.
- Mario reported on the lack of action on the Dark Sky bill, and about the upcoming eclipse trip to Egypt. Folks interested in the trip should contact Mario as there might still be spots open.

- Gary Walker reported on the recent AAVSO meeting, and the opportunity to do 'science' observing polars and blazars. For more information check out the AAVSO, or contact Mario or Gary.
- Virginia R. and Charlie reported on preparation for Astronomy Day at Dexter.
- The nominating committee was voted on. This year's committee is Eileen Myers, Peter Bealo, and Paul Valleli. Anyone with interest in any of the leadership positions should contact our current officers or the nominating committee. There are many opportunities to serve in those positions, as well as general support of the club.

The meeting was adjourned to a time of socializing.

- *Dave Siegrist* -

Membership Report...

We would like to welcome the following new members:

YUVAL GONEN Groton
BRUCE RUBENSTEIN Lexington
RICHARD BARTLETT Tyngsboro
CLEVE KILLINGSWORTH Boston

Shilpa Lawande. ATMob Membership Secretary.

Astronomy Day Report

Saturday, April 16th marked the second of what the Amateur Telescope Makers of Boston hope will continue to be an annual Astronomy Day event at the Clay Center Observatory on the Dexter/Southfield Schools' campus in Brookline. This year's event was a tremendous success! The weather was absolutely perfect, and both attendees and ATM volunteers came out in full force, including 23 ATM's who brought one or more telescopes, 7 ATM presenters, 12 general ATM volunteers, as well as many family members and grandchildren. Over the course of the day, there were 5 different lectures, 25 various activities and demonstrations, E-planetarium and Star Lab shows, and both solar and evening observing with ATM's. Attendees had an opportunity to see rocket launches, examine ATM Noreen Grice's astronomy book written in Braille, make a Galileo telescope, and talk with NASA /JPL Ambassadors about Cassini and Deep Impact spacecraft. The evening culminated in a grand laser experiment, part of a special project with the Italian Space Agency and several other space agencies, to bounce a laser off a special mirror on the International Space Station. This special telescopic photography project is designed to show exceptional detail on spacecraft, in particular, to look for spacecraft damage and thereby prevent future Columbia disasters. The laser pierced the sky with a beautiful green beam that "wowed" the crowd as it first held position on a star and then followed a faint satellite.

Very sincere thanks go out to the following ATM's who brought telescopes, answered questions all day, and introduced visitors to the wonders of the sky: Peter Bealo, Welcome Bender, John Blomquist, Tom Calderwood, Paul Cicchetti, Bob Cohen, Karen Funkenstein, Steve Feinstein, Bruce Gerhard, Dick Koolish, Brian Leacu, Eileen Myers, Alana Parkes, Paul Wagoner, John Reed, Phil Rounseville, John Schiesser, Dave Snay, Gerry Sussman, Al Takeda, Alex Vanderburgh, Gary Walker, and Dan Winchell. Thanks also to Springfield Telescope Makers member, Brian Lula for bringing his telescope.

ATM presenters included: Rich Nugent - "Deep Sky Objects," Messier objects and how they can be seen with telescopes; Ted Poulos - "Cosmic Questions," a quiz on the solar system and galaxies; Dave Siegrist - mirror grinding; Art Swedlow - optics demonstration; Bruce Tinkler - "Getting Started in Astronomy"; Don Ware - checking optics using a home-made Fizeau laser interferometer; Composer Hayg Boyadjian - his musical compositions based on astronomical objects. ATM friends, and professional astronomers included Irene Porro, Leonard Strachan and Esther Zirbel.

Special thanks to Victor Anderson, Marsha Bowman, and Joan Kadaras - we couldn't have handled the crowds at the registration and ATM tables without you!! Special thanks also to our youngest star party enthusiasts - Peter Bealo's children, Ana and Nick for running refreshments out to telescope volunteers and helping with clean-up; John Shiesser's daughter, who set up her tent and helped out her dad all day; Victor Anderson's daughters Elizabeth and Victoria, as well as John Reed's daughter Monique and her children Alexis and Korina. General operations were made easier with the help of Ellen Anderson, Mary Becker, Jack Cronin, Chris Gerhard, Earl Hellerstein, Jun-ichi Sano, Barbara Strell and Vlad Vudler. Thank you to host Charlie McDonald who secured outstanding educational materials for distribution to student attendees. Lastly, thank you to Bob Phinney who orchestrated the entire day!

It was truly a wonderful day - fun and educational.
I look forward to seeing you there next year.

~Virginia Renehan~

A Few Glimpses of Astronomy Day - 2005



**Dan Winchell exploring the sun
With Young Astronomers**



**Gerry Sussman and John Shiesser
Setting Up**



**Paul Wagoner and Alana Parks
With Student**



Recovering Cup Rocket Kids



ATMoB Astronomy Day – 2005 Participants

Star Party Thank You's

Lexington - The Planet Party at the Bridge School for Lexington 4th Graders was a go on 4/13 after being delayed due to weather. Kids loved the craters on the Moon, the rings of Saturn, the moons of Jupiter, and the nebula in Orion. Thanks to ATMoB members John Blomquist, Martin Grossman, Karen Funkenstein, Bruce Rubenstein, Kathy and Peter Burns, and community volunteers David Colarusso, Tom Lucke and Paul Duval for providing and operating telescopes. In addition, instruction on getting started in astronomy and a lesson on telescope magnification using the Moon as a target was provided by Bruce Tinkler. An estimated 80 students and parents attended. Fran Ludwig, Lexington K-5 science specialist, expressed her heartfelt thanks from the schools and children.

Melrose - Horace Mann Elementary School - At 2pm on Monday, April 10th, Beverly Hinckley and I decided to go forward with the star party even though the forecast was for cloudy weather - because the sky seemed to be clearing. However by 5pm the clouds had reformed making it impossible to view the sun before it set. Scott Romanowski had installed a digital imaging eyepiece on his scope and amused the students by imaging them on a monitor as they waved to him from the far edge of a large field. As it began to get dark, an opening in the clouds appeared in the North, which was clearly heading in our direction. Most all the students and parents were able to view the Moon through one or more of the assembled telescopes. The school was not accessible that night, so there was no scheduled talk, but Bruce Tinkler had a display table in addition to his telescope, which he used to answer questions and discuss topics of interest to the students and parents. Bev Hinkley served refreshments from her car. The Moon finally became cloud covered but an opening appeared in the zenith allowing most to view Saturn. Soon an opening appeared in the East and many still remaining were able to see Jupiter. All in all, those attending were satisfied with what they were able to view. In addition to Scott Romanowski and Bruce Tinkler, Virginia Renehan and Howard Le Vaux brought telescopes. The students sent a thank you card with their names and comments. Plans are underway to schedule a star party in early November close to the opposition of Mars.

~Howard LeVaux

Lowell - Sun Party - The 8th grade students at the Edith Nourse Rogers Middle School in Lowell enjoyed learning something new about our nearest star and the instruments we use to observe it. John Blomquist set up his 5" Takahashi with an H-alpha filter and 4" Tele-Vue with a Thousand Oaks filter, while Bill Toomey and John Reed used Baader and Tuttle film respectively. Students were able to compare color and images of the sun in different "wavelengths". They were intrigued by the prominences, color differences, as well as a very large sunspot. Clouds came and went, but students were patient and enthusiastic. The fact that the sunspot was bigger than the Earth prompted a stream of questions - "what are the loops", "how long does it take to get to Mars," "how come you don't see the sun moving." I gave a classroom demonstration of how different scopes gather light, as well as a brief model on distance and scale. Thanks to ATM's John Blomquist, Bill Toomey, and John Reed.

~Virginia Renehan

Star Party Thank You's

Townsend - I was excited to organize the first ATMoB star party in my town of Townsend, at the Squannacook Elementary School. An impressive contingent of 11 ATM members hauled their scopes to the far northwestern suburbs. As we waited for darkness to set in, Bruce Tinkler shared this enthusiasm with an informative display of astronomy literature and a telescope demonstration, while Glen Chaple and I explained a series of constellation and Milky Way slides. A relatively small group of 3rd, 4th, and 5th graders and parents received abundant individual attention from the amateur astronomers. Several of the students in attendance were alumni of my after-school astronomy program and remembered the difference between red and blue stars! We were lucky to have a clear night and a dark location, with all school and parking lot lights turned off for the occasion. The "star" of the evening was Jupiter, and the students were able to witness the shadow transit and reappearance of Io, as well as Saturn's rings. We also observed binaries and several clusters, and those students with great patience and imagination were able to glimpse the galaxies M51, M65, and M66. I would like to thank the following members who volunteered: Bruce Berger, John Blomquist, Glenn Chaple, Chuck Evans, Ed Los, Ron Medina, Eileen Myers, John Reed, Virginia Renehan, and Bruce Tinkler, as well as Townsend amateur astronomer Richard Schuford. The school principal Chris Morassi was thrilled with the event and hopes for another star party next fall.

~Mike Brown

Club Picnic - June 11th

There will be a joint picnic on Saturday, June 11, 2005, starting at 2 PM at The Amateur Telescope Makers of Boston Clubhouse in Westford, MA with members of the South Shore Astronomical Society, Members of ATMoB, and families and friends of the members of both clubs. Thank you Bruce Gerhard for spearheading this special event. Come meet other members, bring the kids and grandchildren. Bring something to eat and share with others - a salad, or some dish you like to make, something to cook on the grill, or a desert item. (Keilbasa, rolls, paper plates, and plastic utensils will be supplied). Bring lawn chairs!! Bring mosquito repellent. Bring a telescope if the weather looks promising. The picnic will begin with a tour of the ATMoB facilities, and it is hoped that it will be possible to arrange a tour of MIT's big radio telescope on top of the hill. Dinner will begin about 3 PM. If the sky is clear there will be observing after sunset. It will be helpful for people to wear nametags.

John Reed, Paul Cicchetti, and Steve Clougherty - Clubhouse Committee

Star Party Thank You's

There were a number of star parties this past month with a lot of good participation by members and the school children who attended. These were the **Melrose, Lexington, Lowell, and Townsend** star parties. Many thanks to all of you who helped out. Your efforts are always appreciated. For a more detailed set of reports on each star party and the activities that were provided can be found in this month's newsletter supplement, available by email or at the next meeting.

Clubhouse Saturday Schedule

May 7	Gary Jacobson	Tom Wolf
May 14	Steve Clougherty	Henry Hopkinson
May 21	John Small	Gary Walker
May 28	Phil Rounseville	Brian Leacu
June 4	Tom Wolf	Dave Prowten

Board Meeting

There will be a board meeting on June 1st up at the clubhouse. If you have any issues you would like brought before the board then please contact one of the board members. As always any member is welcome to attend any board meeting.

Titan IV Launch

There was a small group of us up at the clubhouse on Friday April 29th to view the last of the East Coast launches of the Titan IV rocket. It was carrying a US Military payload and turned out to be quite a sight. The group included me, Bruce Berger, Paul Vaili, Marion Hochuli and John Blomquist. None of us knew quite what to expect but at just the right time and place a moving point of light appeared through some thin clouds and then we saw the separation resulting in two moving objects. The leading object was the payload and the trailing object the booster. Both showed very beautiful exhaust plumes and we saw the ignition of the payload engine used to take the payload to final orbit. It was quite a sight visually and through binoculars and low power telescopes. John Reed called us immediately after and we swapped stories and agreed that this was a most memorable sight. Paul managed to take a nice set of time lapse photos which can be viewed on the ATMoB website. Take a look.

~Michael Hill ~

**June Star Fields deadline
Saturday, May 28th**

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

POSTMASTER NOTE: First Class Postage Mailed April 8, 2005

Amateur Telescope Makers of Boston, Inc.
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FIRST CLASS

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

May 8 New Moon
May 15 Uranus is 1.1° northwest of Mars
May 16 First Quarter Moon
May 21 Asteroid Ceres passes 1' south of Delta Librae
May 23 Full Moon
May 30 Last Quarter Moon