



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

Vol. 20, No. 4 April 2008

This Month's Meeting...

Thursday, Apr. 10th, 2007 at 8:00 PM

Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

Parking at CfA is allowed for duration of meeting

Hypervelocity stars leaving the Galaxy at ~1000 km/s (2 Million mph) are a natural consequence of a massive black hole in a dense stellar environment. In 2005 Dr. Warren Brown, of the Harvard-Smithsonian Center for Astrophysics, discovered the first such hypervelocity star: a 3 solar mass B star, similar to stars seen in the Galactic Center, but 110 kpc (360,000 light-years) distant and moving away at over 700 km/s! A follow-up survey has resulted in seven further hypervelocity star discoveries, plus evidence for a class of hypervelocity stars on bound trajectories.

In his talk, *Hypervelocity Stars Ejected from the Galactic Center*, Dr. Brown will discuss how the observed velocity and spatial distributions are linked to the ejection mechanism. The hypervelocity stars place quantitative constraints on the types of stars orbiting near the central black hole and the history of stellar interactions with the black hole.

Join us for what promises to be an exciting talk on this cutting edge discovery, one that will no doubt add to our understanding and unraveling of the mysteries of our galaxy.

Please join us for a pre-meeting dinner with our speaker at 5:45PM, Chang Sho Restaurant located at 1712 Massachusetts Avenue in our fair city, Cambridge, MA.

~ Virginia Renehan ~

President's Message...

Happy Spring! Even though it means increasingly longer days and shorter nights, look on the bright side, literally. Break out your solar scope and take a peek at the sun. It is a great solution to daylight savings time. According to NASA we have recently entered Solar Cycle 24. Early in January a reversed-polarity sunspot appeared, and this signals the start of a new solar cycle. Much of the intense solar activity is still years away, but we are on our way. Hang on to your cell phones and keep your eye out for northern lights.

For those who don't have a way to observe the sun directly, try solar projection. The club just won a solar projection scope thanks to ATMoB member, Nanette Benoit. Nanette wrote a short description of the Lunar Eclipse Star Party held in Gloucester for the Night Sky Network, and the club was selected at random, out of 500 events, to receive a new solar scope. It is an educator-type projection telescope, great for small groups to gather around and draw, discuss, or photograph the projected solar image.

I hope some of you participated in Earth Hour '08 on March 29th or in National Dark Sky Week. Here in Gloucester amateur astronomers from ATMoB and GAAC set up telescopes along the waterfront. Unfortunately, we were not able to convince the powers-that-be to turn off the lights on the boulevard. The glaring lights washed out all but the brightest gems in the sky, but it gave us greater opportunity to talk to passers-by about light pollution. After looking through the telescopes nearly every attendee expressed their displeasure at the overabundance of bad lighting. It was an easy sell. Mario snapped some photos of the event for the local paper and we urged folks to speak up about bad lighting. A few even wrote in to the newspaper. Little by little gets the word out.

Don't forget, at this month's meeting we vote on our nominating committee. For new members who may not know, the nominating committee is assembled at the end of each year to lead the search for new club officers as various positions become open. All members might consider volunteering for one of the open positions or committees.

Which leads me to a word about membership in general: the face of the club is always changing and ageing. New input and ideas are always welcome, especially if we want to continue growing and remain a vital club. Veteran ATM's, if you see an unfamiliar face at a meeting, introduce yourself! Consider inviting a new ATM up to the clubhouse for a night's observing or to simply talk astronomy. New members - don't be shy. Step up and pet the pony! Introduce yourself. The club has a wealth of talented members and I have not met a single one who isn't willing to share their knowledge and expertise of astronomy and telescopes. That's what makes our group so special! This year, each of us might consider recruiting at least one new person to join our club. It really does make it fun to spread the wealth.

In closing, the New England Astronomy Fair (NEAF) is right around the corner. See the website for dates and details. If you plan on going and want to car pool, post a note on the web bulletin board. As always, if you have any questions or comments, feel free to contact me.

~ Virginia Renehan, President ~

Mar. Meeting Minutes . . .

The March lecture entitled “At Home Among the Galaxies”, featured Professor Bill Waller of Tufts University. His research focuses on star-forming galaxies using data from ground and space based telescopes.

Prof. Waller made it a point that he is an “observational astronomer dealing with interpreting the data then building theories.” His pitch is that “they are extraordinarily important objects to learn about and become familiar with.” Galaxies “are basically the constructs of the luminous universe. They are what the luminous universe is made out of and are also what the luminous universe is made out of for more than 90% of the universe’s life.”

There are all types of galaxies and astronomers starting with Edwin Hubble started to classify them by looking at shapes on a photographic plate. Waller ran through the classifications starting with the ellipticals (E), moving to spirals (S0 to Sd), irregular and then peculiar.

Focusing on our Milky Way galaxy, Waller showed the group an infrared image which allows a better view because light can get through the dust. This gives us an ability to see that the Sagittarius Dwarf galaxy is merging with our own galaxy. He also noted that our galaxy not only has a bar but there could be 2 tightly wound spiral arms (i.e. a ring).

Moving on to the Orion Nebula, shown in the near infrared, “we can see thousands of young stars behind the “big thumb of dust” that most of us are familiar.” Moving closer into the nebula, proto-planetary systems are viewed edge on. “So we are seeing planet formation” Waller exclaimed.

The Eagle nebula is one example of a starburst region. Waller showed the famous Hubble image, “Pillars of Creation”, and noted the evaporating gaseous globules (eggs) which may or may not become stars. However the most powerful starburst region in the Milky Way is NGC3603.

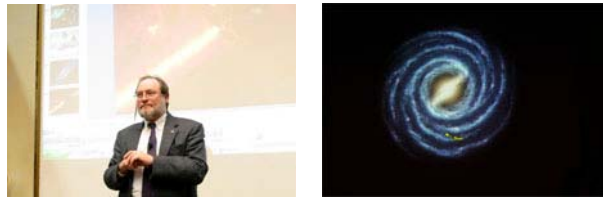
Optically one cannot see the Galactic center but radio wavelengths can gain a little more data. The nucleus is a “busy place but strangely quiet. In x-rays it’s a very quiet super massive black hole, and we think because it’s starving to death.”

Looking outward, Waller discussed galactic collisions of galaxies such as the Whirlpool galaxy in Ursa Major, The Antenna (NGC4038 and NGC4039) and the Cartwheel galaxy. He noted that “collisions between stars are unlikely but that tidal tails can be produced connecting a bridge between the two galaxies.”

Looking at the big picture, Waller described the universe as “a cobweb” with galaxy clusters. Within these clusters

“within those galaxies are ecosystems that are churning out new stars. A lot of these areas are full of dust and molecules and interstellar chemistry.” His point is that those conditions allowed the formation of life on this planet.

Prof. Waller noted that our radio/TV sphere is over 50 light years. Within that sphere there are at least 2000 stars and a third of them have planets. “We have been in contact with stellar and planetary systems”. He wondered “if it’s enough for us to start thinking about how should we be comporting ourselves if we are now being watched and listened to. Waller also asked “how do you develop an ethos that is trans-species?” His reply was, “I don’t know but I think we should start thinking about that.”



(L-R) Professor Bill Waller and a representation of the Milky Way Galaxy

The Secretary (Al Takeda), Membership (Dave Siegrist) and Treasurer (Gary Jacobson) reports were given.

Virginia Renehan announced the Star Party schedule for the next month.

Steve Beckwith gave the Observing Committee report. He mentioned the large turnout and clear weather at the Clubhouse for the Feb. 20th Lunar Eclipse. A brief mention was made that the DVD class being put on by John Mahre has reached the halfway point. The Messier Marathon was rained out and has been rescheduled for April 5th.

Steve also announced that he wants to set up some training sessions for the C-14. Classes will be limited to 2-3 people per session. An appeal was also made for assistance in conducting these sessions by any seasoned veteran of the C-14/Paramount mount/Sky software. Please contact Steve Beckwith.

John Reed and Steve Clougherty gave the Clubhouse report. John reported that for the second month in a row, snow removal was the primary goal. Steve is hoping to continue work on the near barn. Dave Prowton will be the point person for that job.

Virginia announced that the National Science Teachers Association (NSTA) conference would be held on March 29th. She also mentioned that the Clay Center and The Planetary Society will be holding a town hall type meeting on space policy, “The Future of Human Space Flight” on the same day. They are looking for a volunteer that is not a professional associated with the field to give a public perspective at the meeting.

If the weather cooperates, Virginia and Mario Motta will be putting on a star party in Gloucester during “Earth Hour” (see the Feb. 2008 newsletter for details) on March 29th. This event is also being held during “Dark Sky Week”.

Virginia talked about the latest images from the Cassini probe circling Saturn.

Mario gave a report on his meeting with the chair of the Energy Committee on medical and light pollution issues.

Joseph Rothchild presented his image of a rare night launch of the Space Shuttle. His images showed the launch up to the main engine cut off (MECO).

Virginia thanked Bruce Tinkler for this evening's refreshments.

In celebration of the 400th anniversary of the invention of the telescope, Paul Valleli showed off Al Rifkin's "Maxwell House"® coffee can telescope that was made using Paul's "donut" lens.

"After demonstrating the Maxwell House® coffee can telescope, we sold 16 "Donut lenses" last Thurs. at the monthly meeting. Seven are on consignment for a class use and will be paid for next month. I am sending checks for \$45.00 to Gary Jacobsen as donations from the membership." – Paul Valleli.



Ken Launie has a look through the coffee can scope.

~ Al Takeda, Secretary ~

Clubhouse Report . . .

The March work party was held on Saturday, March 22 and we had a total of 19 members to help with clubhouse projects. Work continued on the near barn project with Dave Prowten and Mike Hill taking the lead. Insulation was installed in the ceiling and walls. Measurements were taken for the walls and doorway to the near barn workshop. Next step is electrical work and framing.

A crew also dug an area 10 foot square just outside of the near barn for a concrete pour which will take place this spring. We are planning to use this area as a loading platform for heavy equipment which will be installed in the near barn workshop. This platform will also serve as a work area for power saws and various woodworking tools,

thereby allowing for an outside work area. Much of the soil that was removed was spread on the far end of the observing field to fill in low lying areas. The next steps will involve laying rebar for the concrete pour.



Removing soil for the cement platform. (L-R) Paul Cicchetti, Dave Prowten, Steve Clougherty, Mike Hill, Bill Toomey and Dave Wilber

Steve Morlock spent several hours troubleshooting faulty software which is installed in the C-14 Paramount apparatus. He hopes to have the problem isolated so that the scope will respond to computer commands. Steve Beckwith arrived with the DOB mount for the 20" scope. Further modifications will be made shortly so that the telescope will be available for members this summer.

We would like to thank the following individuals for their efforts during the work party:

Steve Beckwith, John Blomquist, Steve Clougherty, Mike Hill, Anna Hillier, Dick Koolish, John Maher, Steve Morlock, Eileen Myers, Dave Prowten, Art Swedlow, Al Takeda, Bill Toomey, Sai Vallabha and David Wilbur.

Clubhouse Saturday Schedule

Apr 12	Mike Hill	John Maher
Apr 19	John Reed – Work Party	
Apr 26	John Small	Bill Toomey
May 3	Al Takeda	Tom Wolf
May 10	Brian Leacu	Phil Rounseville

~ John Reed, Steve Clougherty, and Dave Prowten ~

Membership Report . . .

We have had several new members join over the last month:

Daniel Christianson Dedham, Ma
 Janus Javier Boston, Ma
 Adrian Levesque Nashua, NH
 Jonathan Miller Newton, Ma
 Fred Morlock Groton, Ma
 Leonard Zoll Framingham, Ma

~ Dave Siegrist – Membership Secretary ~

**EXPERIENCE THE GOLDEN AGE OF
AMATEUR SOLAR ASTRONOMY**

**THE ROCKLAND ASTRONOMY CLUB
IS PROUD TO PRESENT THE**

**2008 FIFTH ANNUAL
NEAF SOLAR STAR PARTY**

TEST DRIVE FOR THE 2010 INTERNATIONAL YEAR OF SOLAR ASTRONOMY

APRIL 26 AND 27, 2008

**At Rockland Community College
Suffern, New York**

NEAF attendees are invited to observe the Sun with attitude, through a variety of Hydrogen-alpha and sunspot solar filters.

Join us, for two days of solar observing at NEAF 2008.
No star party entrance fee, or registration required.

**BRING A PIECE OF CLEAR SKY TO SHARE WITH VENDORS
AND FELLOW PHOTON-DEPRIVED AMATEUR ASTRONOMERS.**

For further information, please visit our website:

www.rocklandastronomy.com

Click on NEAF and NEAF_SOLAR_STAR_PARTY.

Barlow Bob

Amateur Solar Astronomers

International Year of Solar Astronomy 2010

The first observations of the Sun's spots were made with the unprotected eye, during the morning or evening, when the Sun was obscured by smoke or haze, so its brilliance was somewhat diminished. Although sunspots were recorded in this simple manner for over 2,000 years, it was not until 1610 and the advent of the astronomical telescope that the real character of these solar features became apparent.

The International Year of Astronomy 2009 will celebrate the 400th anniversary of Galileo's first look through a telescope.

In 1610, Galileo Galilei used the newly invented telescope to make routine observations of the Sun. 2010 is the 400th anniversary of Galileo's first observation of sunspots.

If 2009 is the International Year of Astronomy, then 2010 is the International year of Solar Astronomy. Amateur solar astronomers can use this event to promote safe solar observation.

Barlow Bob

Stellafane Donation . . .

The Springfield Telescope Makers are attempting to retire the debt from constructing the Pavilion building, put up for all our benefit for Stellafane. Many STM members are donating \$10/month for the next 5 years. They calculate that if 120 people did this, the debt would be fully retired in that 5 years. There are many other ways you can help retire the debt. You can become a Messier Club Member (My personal favorite) for a one time donation of \$110, and you will be recognized on a permanent display. You can also for \$50 be a Builders Club Member. Or... You can purchase a paver for only \$25, and your name will be recognized.

The ATMoB has a long history with Stellafane, we have long supported this meeting historically, and many such as myself have been yearly loyal conventioners since childhood. Many long astronomical friendships have been forged under the Vermont skies during this hallowed meeting time. Please help our Stellafane.

~ *Mario Motta* ~

Auction . . .

Paul Valleli announced that Ed Knight has donated a very valuable, original condition, 1st edition of "*Amateur Telescope Making*". He wanted it given to the club to be used for any benefit we can get out of it.

It will be auctioned at the April meeting with a \$50 reserve.

~ *Al Takeda* ~

Star Party Thank You! . . .

The first Boston Natural Areas Network / Department of Conservation and Recreation Star Party was held on April 5 (after having been postponed from April 4 due to weather). Five enthusiastic ATMoB members - John Blomquist, Neil Fleming, Brian Leacu, Phil Rounseville, and John Sheff - set up their scopes at a meadow on the property of the Brook Farm Historic Site in West Roxbury, MA. Candice Cook representing the organizers generously provided cookies and hot chocolate, and the DCR's Maggi Brown, Captain of the Blue Hills Rangers, protected us from inquisitive wildlife. The sky transparency varied - from fair to poor and back again, though we got some excellent views of Saturn, Mars, double stars, and the Pleiades. Unfortunately, the event was sparsely attended, though among the visitors were two reporters from competing local newspapers, so we can hope for better attendance next year!

~ *John Sheff* ~

Chelmsford Star Party

Hello Virginia,

All went unbelievable super! I just got home from Parker Middle School Chelmsford's star party. There were lines at all the scopes with lots of star questions from those waiting in line. The ATMoBer's were fantastic. Students and parents marveled at each man's patience in explaining things in a very understandable way. I heard them say that astronomer (pointing to Al Takeda) explained this so well they actually understood; and that one (Joey Henry) was talking about that...go listen. Go check out what he's saying about nebula...

Kids and parents alike were fascinated by the each astronomer taking the time to point out this feature and that....They couldn't believe John Blomquist's huge scope on an even bigger huge scope showing Saturn and Sirius through the scope and pointing out where they were naked eye by using his green laser. George Paquin did a great job as he juggled three scopes at one time answering all the questions thrown to him. His (John Maher's) scope was pointing at the moon; no its not that was Orion's nebula.....Go back and check it out.....Look at his (Neil Flemings) telescope is connected by a computer. I saw Saturn in his....no I just was there its Mars....And John Reed was so interesting one last parent and son kept him talking until 10!!! long after every other parent and child left. His big canon and stories might have spawned a few serious future star gazers.

All wanted to know what group was doing this for us and many wanted to know where this group would be next if they could go again. John Blomquist said to expect a few parents asking me where they would be appearing next. (I think the guys might have some groupies; like the rock stars!!)

My Principal even came! I heard!! Too many people to find her....The skies co-operated, all went perfect....Every last parent and child checked in and out with me, so I got lots of feedback. A lot of students wanted to know if they could have another star party this year....Parents were very glad they were invited!! Many had never looked through telescopes before. I hope they will realize that Chelmsford is very lucky that there are several community star parties offered to them. I bet there will be some converts showing up at the next one.

Thank you for making this all happen. You have the system running like clockwork.

~ Joan Kadaras ~



Parker Middle School star party (L-R) John Blomquist and John Maher.

Harvard Star Party

Dear Virginia,

With a name like Moore I guess the luck of the Irish was with us last night! What an incredible night of star gazing!! A plethora of ATMOB members attended: 9 in all. They were joined by the middle school science teacher and about half a dozen parents with telescopes. With about 65 families attending, the number of scopes kept the lines relatively short (except for the cannon shaped one since it stood out in a crowd).

John (from Fitchburg?) arrived even before I did at 4:45 p.m. By 7 most were up and running. Beautiful views of stars and nebulae, detailed sights of the moon, vivid constellations and knock-your-socks-off Saturn were some of the highlights. Crowds thinned shortly after 9 p.m. Take down took a while, then members warmed up in the Superintendent's office with hot chocolate and left-over pizza and cookies from earlier.

ATMOB members seemed please with the site, the kids and the event. They indicated that they might return (November?) to inspire yet another grade of 100 third graders.

Thank you for all your help in coordinating such an incredible evening. I will forward any photos that come my way. Thanks again.

The "honored astronomers list" included John Blomquist, Art Swedlow, Eileen Myers, John Maher, Joe Henry, Neil Fleming, Al Takeda, George Paquin and Bernie Kosicki.

~ Judy Moore ~



Harvard Star Party – Eileen Myers

Historians Corner . . .

Sky and Telescope References for Amateur Groups: Mostly for the Amateur Telescope Makers of Boston

July 1972	Analemma-Page21-22 Paul Valleli-Page 28 Page 47-51 HCO Perkins Building-Page3&17 Simon Newcomb-Page 20
October 1973	Refractor 26 inch-cm?
April 1976	Observatories by Amateurs-Page220 Scheduling Daylight Savings Time-Pg 247 Sextant-Page 258 Gleanings-folded Newtonian reflector- Page278

July 1977	Page 20,21,60,62
Sept 1980	Gleanings Page 195
March 1982	The Analemmas of the Planets-Page-237
November 1982	Gregorian calendar reform-Page 418 Lab Exercises in Astronomy-The Sun-Pg 433 Images of other worlds-Page 423 Stellfane 82- Page 472-Club members.
October 1983	Solar flares and solar shocks-Page 285 Lab Exercises in Astronomy-Mars-Pg 300 Bart J. Bok-Page 303 The Astronomical League and its' Origins-Pg 345 Gleanings-A Cross-axis mount in a box. Pg 351
April 1984	The early telescopes of Warner and Swasey-Pg 309 Photo of C.A.R. Lundin,Jr Page 309 Vision and the Amateur Astronomer-Page 321 Pol Swings-1906-83-Page 325 Astronomical Computing-TRS-80-Page358 How to design telecompressors-Page 367
November 1984	Stellafane Spirit-Page 402 Carl Q. Christal-cover-space law-Page 406 The Naming of Pluto-Page 400 Circumpolar star dial-Page 464 Shortwave detection of solar flares-Page 452
March 1985	Page 205-Ptolomaic Page 257
Sept 1987	Page 243
December 1987	Focal Point-Page 572 Letters-More on cleaning optics-573-Paul Valleli Antionette de Vaucouleurs-Page 598 Sundials on Walls-Page 646
May 1989	Hustler
November 1989	Page 46-Frances Wright Page 489-A.P. Norton-Star Atlas Page 529-Dobson Page 530
October 1989	Metcalfe
December 1989	Page 596-Clyde
Others requiring-research	
June 1976	
March 1980	Rich-Field Telescope-Page 192 U.S. Naval Observatory-Einstein's Statue-Pg 203 Cecilia-Payne Gasposkin-Page 212 Apollo 11 and 15-Page 238 Poncet Platform-Page 251
August 1980	Brian Marsden-Life in the Hot Seat-Page 92 Leslie Peltier Remembered-Page104 Gleanings-Riverside-Bob Cox-Page 158
September 1980	Variable Stars and the AAVSO-Page 180 Carl Sagan's Cosmos-Page191 Lab Exercises in Astronomy-Page 195

~Anna Hillier - Historian ~

**April Star Fields deadline
Sat., April 26th**

Email articles to Al Takeda at

secretary@atmob.org

POSTMASTER NOTE: First Class Postage Mailed Apr. 10th, 2008

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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.

Apr 8 Crescent Moon crosses the Pleiades star cluster
Apr 12 First Quarter Moon
Apr 20 Full Moon
Apr 22 Lyrid meteor shower peaks
Apr 28 Last Quarter Moon
May 5 New Moon
May 5 Eta Aquarid meteor shower peaks