



## 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. 21, No. 1 January 2009

### This Month's Meeting...

Thursday, January 8<sup>th</sup>, 2008 at 8:00 PM  
Phillips Auditorium  
Harvard-Smithsonian Center for Astrophysics  
Parking at CfA is allowed for duration of meeting

The speaker for the January meeting of the Amateur Telescope Makers of Boston will be Peter Cheimets who will talk about the Solar b XRT: The design and development of the X-Ray telescope for Hinode.

Peter Cheimets has spent the last 25 years constructing telescopes for the Smithsonian Institution, and NASA. He has led numerous, multi-organizational, often multinational teams, in the process of delivering successful scientific instruments to observatories in North and South America, Hawaii, the South Pole and earth orbit. Peter has an undergraduate mechanical engineering degree from MIT and a Master's degree in mechanical engineering with concentration in control system design, and mechanical dynamics from Stanford University. He has professional experience in jet engine design, paper manufacturing, and medical diagnostics fields as well. He has received a Master's degree in engineering management from the Gordon Institute at Tufts University where he concentrated in Negotiation.

In addition to his work with the Smithsonian, Peter has been active in the Solar Energy entrepreneurial community in the Boston area.

Please join us for a pre-meeting dinner discussion at [Changsho, 1712 Mass Ave, Cambridge, MA](http://Changsho.1712MassAve.Cambridge.MA) at 6:00pm before the meeting.

### President's Message...

Last month's meeting was certainly a special event that was highlighted by the attending members' demonstration of both kindness and dedication to amateur astronomy.

Let me back-up for a second to frame what happened. A week before the meeting, I received a call from Beth Parkhurst, of the Italian Home for Children. She described Jaren, an intelligent and serious twelve-year-old boy for whom she wanted to buy a telescope. She was looking for help in selecting a good telescope and also asking about a telescope donation as a financial donor who had helped her in the past was no longer able to provide as much as she had in the past. I suggested that she attend the upcoming meeting to talk to the membership. Beth also came to our monthly dinner at Chang-Sho where she received advice on the type of telescope to be purchased. Later that night at the meeting, I introduced Beth and gave a brief description of why she was there and about Jaren. We then "passed the hat" among the attendees and when it was delivered to the podium, were astonished to find a total of \$357.00 had been donated! Certainly, Beth wasn't expecting this level of kindness and she appeared to be a bit stunned.

In a time when many are facing financial challenges and the news throughout the world has not been the best, it's nice to be reminded of the intrinsic selflessness and goodness of people. You all should be proud of yourselves.

Of course, hearing of Jaren's interest in astronomy has spurred me to open a discussion at this month's meeting to a problem some of us has been kicking around since last summer. How do we today's youth more involved in astronomy / sciences? One idea is to have special Saturday evenings at the clubhouse for the children of members. Please bring some of your own ideas to this month's meeting!

- Steve

On December 23<sup>rd</sup>, I received the following update from Beth:

Hello Steve,

Here's what Jaren B. is getting for Christmas. As you'll see below, Tony Costanza is being very generous to Jaren! For \$500 Jaren will be getting an Orion 6" Dob (including shipping), three extra eyepieces (32 mm GSO, 20 mm GSO, 15 mm GSO), a shorty Barlow, a moon filter, a red flashlight, a Sky and Telescope moon map, an Orion DeepSky 600 Road Map, and a pair of Celestron 7x35 binoculars. Please pass the word to ATMOB members and thank them for this kindness to Jaren. And I'd like to thank you especially for making this happen.

Best wishes to all for happy holidays and clear skies.

Beth

~ Stephen Beckwith, President ~

## December Meeting Minutes . . .

Astrophysicist Dr. Jonathan McDowell of the Harvard-Smithsonian Center for Astrophysics was the main speaker at the December meeting. As a member of the Chandra X-ray Center, he studies black holes, quasars and X-ray sources in galaxies. His other pursuits includes writing a history of the space program, publishing a internet newsletter on satellite launches and writing a monthly column in *Sky and Telescope* magazine. His talk focused on the early years of the National Aeronautics and Space Administration (NASA).

When the Soviet Union launched Sputnik into earth orbit the general myth is that the United States was not committed to space when in fact the opposite was true. Before 1958 there were many different Army, Navy and CIA organizations involved in the space race. It was in fact the Army Ballistic Missile Agency in Huntsville Alabama, with a Werner Von Braun modified V-2 missile design and a Jet Propulsion Laboratory (JPL) Sergeant rocket that got the US into space with Explorer 1 on January 31, 1958, months before the formation of NASA in October of 1958.

Dr. McDowell described how President Eisenhower created the civilian space agency from parts of the following organizations:

- National Advisory Committee for Aeronautics (NACA) which included the Langley Research Center, the Ames Research Center, Cape Canaveral, the Wallops Island launch site and the Dryden Center at Edwards Air Force Base.
- Army Ballistic Missile Agency in Huntsville Alabama.
- The Army funded Jet Propulsion Laboratory (JPL).
- Naval Research laboratory in Washington, DC.
- The Navy group at China Lake California and Beltsville Space Center (Goddard) in Greenbelt Maryland.
- The Air Force group in Los Angeles
- Lewis research Center in Cleveland

As Dr. McDowell stated, NASA was formed when “they took these places with a lot of heritage and a lot of pride and independent existence and made them all one team... And it’s been a process and in 2008 it still is a process. “

Soon all civilian space programs became NASA programs but since the Army and Navy had rockets ready to be launched “they painted NASA on them and carried on.” McDowell noted that most of the rockets were too ambitious and ultimately failed. During the first 2 years NASA had a 50 percent failure rate.

The Soviet Union at same time was producing more firsts but the United States was launching more and many different kinds

of rockets. In those 2 years, the total number of attempts was 25 for the Soviet Union and 84 for the United States. This produced a “deeper well of experience for the U.S. that left the Soviets behind.”

Now that all of the secret programs on both sides are now public, an analysis of who was winning can now be known. Data now shows, within the statistical errors, that both the United States and the Soviet Union had a 50 percent success rate. Within 5 years those rates rose to over 90 percent.

“NASA’s rocky early days soon lead to its incredible successes of the late 1960s that became the stuff of legend. The first human voyages to another world, the first space telescopes and the probes to Mars and Jupiter.”



(L-R) Dr. Jonathan McDowell – Steve Beckwith and Beth Parkhurst

President Steve Beckwith introduced Beth Parkhurst, of the Italian Home for Children (see the President’s message for details). A hat was passed around to the membership and she was presented with a donation of \$357 for Jaren. Also a big thank you should be given to Tony Costanza of the Astronomy-Shoppe for providing the astronomy equipment.

The Secretary’s report was given by Al Takeda.

Tom McDonagh welcomed 4 new members that joined since December 1<sup>st</sup>. Tom will be purging all delinquent names from the rolls. If you are not sure of your status please contact Tom. Also, if a member is having financial hardships and is having problems paying dues please contact Tom and arrangements can be made to assist them.

The Treasurers report was made by Steve B. Nanette wanted it to be known that 50 percent of membership renewals are coming in on-line via PayPal. This has helped the membership Secretary immensely. It was noted that donations are significantly down for the month.

The Hennigan School in Jamaica Plain star party was also announced by Steve B.

Observing Committee chair, Steve Beckwith would like to have the seminar “How to Navigate Your Way around the Stars: Sky, Constellation and Sky Lore” in January if the weather cooperates.

Steve has asked Bruce Berger to check out the Paramount GT-1100 equatorial mount in the Ed Knight Observatory. There will also be an investigation to see if the mount can be upgraded or replaced. This has prevented classes on the more

technical aspects of CCD imaging, astrometry, photometry and variable star work. If any member has suggestions or concerns, please contact Steve Beckwith or members of the Executive board.

December 11<sup>th</sup> is the kickoff day for the International Year of Astronomy. A telecom was in progress during the meeting that evening.

The Geminid meteor shower will be occurring on Dec 13-14.

The club's annual New Years Eve party will be taking place on Dec. 31<sup>st</sup> starting at 6 pm.

A lot of progress has been taking place at the Clubhouse as reported by Steve Clougherty of the Clubhouse Committee. Thanks were given to Glenn Meurer, Mike Hill and Bruce Berger for their efforts on the new workshop. Bruce mentioned that he has upgraded the table saw and he is also asking the membership for a high quality, floor standing drill press.

Help is needed at the next work party on Dec. 13. Steve Beckwith mentioned that the mount for the Clamshell dome was donated by Steve C.

Bruce Berger related a message from Kelly Beatty. Kelly accidentally ordered a duplicate copy of Jean Meeus's Astronomical Tables of the Sun, Moon and Planets. If anyone is interested in this book for \$20, please contact Kelly at [kbeatty@skyandtelescope.com](mailto:kbeatty@skyandtelescope.com).

*Sky and Telescope* editor in Chief, Bob Naeye brought in 3 copies of the Five Millennium Catalog of Solar Eclipses. One will be donated to the club library and the other 2 would be auctioned at the next meeting with the proceeds going to the club.

Mario Motta has gotten a House and Senate sponsor for a dark Sky bill. Mario and Kelly Beatty rewrote the bill to include municipalities. There will also be a provision for justifying lighting on the streets. The bill is a stronger bill and is closer to Connecticut's.

Tal Mentall gave his annual holiday recital of Twas the Night before Christmas and The Cremation of Sam McGee.

~ Al Takeda, Secretary ~

## Clubhouse Report . . .

December will again be remembered for three winter storms that gave us snow accumulations nearly equal to last years records. The initial storm's ice and freezing rain damage was significant and many members were without power throughout the holiday season. We owe a great debt of gratitude to John Blomquist who donated many an hour clearing the snow timed to clubhouse events. And a big thank you to the roads crew who initially cleared the driveway for emergency vehicles.

The December 13<sup>th</sup> Work Session took place on schedule, under clear skies, since clubhouse power was not lost. A big thank you to John Blomquist, Paul Cicchetti, Steve Clougherty, Scott Critz, Chase Green, Dick Koolish, John Maher, Eileen Myers, Dave Prowten, John Reed, Sergio Simunovic, Art Swedlow, Al Takeda, Bill Toomey and Dave Wilbur for volunteering their Saturday to this effort. Lunch featured spaghetti smothered in Bailey Hill spaghetti sauce, salad and garlic bread prepared by John R., Art S., Eileen M. and many helping hands. Dessert was provided by Marcia Bowman with a huge birthday cake originally for the Friday night Astro Class that was cancelled due to a storm. Accomplishments were:

--- The Sandy Bergen 5" Maksutov reflector was temporarily moved to the telescope stowage area from its home in the DiCicco roll off roof (Doghouse) observatory. The electrical wiring was removed from the doghouse in preparation for dismantling once the clamshell structure is complete.

--- The 8" Tanguay Dall-Kirkham reflector was placed on its mount in the clamshell observatory. Once limit switches, final locks and electrical work is completed, optical testing will commence.

--- The far barn storage area was cleaned, sorted, and restacked to allow safe access to equipment and supplies.

--- Work on the near barn continued with door insulation and vapor barrier installation.

--- The clubhouse was cleared of all flammable/non-freezable liquids which were stored in the metal equipment shed. This also started the cleanup in the evaporator room.

--- The basement storage area cleanup was started and will continue during the January 10<sup>th</sup> work session.

The last December snow storm delayed the New Years' eve Observing Party until New Years' Day. Some 60 members, friends/families attended. Hydrogen alpha views of a large solar prominence were provided by Paul Cicchetti's refractor. Binocular searching for Mercury and Jupiter, provided by Steve Clougherty, was rewarded by the 4:45 pm acquisition of these two planets as they came out of high cirrus clouds while winking through tree branches. Mercury to the left was brighter and differed in color from Jupiter. A Pot Luck Supper then allowed folks to warm up.

After dinner several members used their telescopes on the observing pads cleared earlier by our volunteer snow removal crew. The 17" Wray Dobsonian reflector was then operated by Steve Clougherty for a full six hours with warm-ups between. Groups of families joined Steve between 6 and 7pm to view first Venus, and then the 4 day old moon. Constellation identification followed and Steve reports the children did quite well in understanding. Inside Bruce Berger played Mr. Fixit for an ailing 60mm refractor the families had been frustrated with; star testing proved the little scope to be sky worthy (Thanks Bruce). Meanwhile as the winds died down, seeing improved and Steve guided the 17" without the 6½" effective aperture

mask. Continuous groups of folks kept Steve busy until 1 am. Items observed included planetaries, double stars, galaxies and one comet. M76 in Perseus was a favorite; poor seeing rendered two planetaries in Cygnus less than spectacular. M-42, M-31, M-32 & M-110 were requested for viewing. The triple star in Eridanus with a yellow sun like star and two dwarfs, one blue and one red was a hit; as was the Easter Egg double in Perseus. The numbers had dwindled when Comet 144P/ KUSHIDA was found in Taurus at mag 10.8. This was at the limit of detection for the wind swept skies. The other two comets were not recovered.



Comet 144P/Kushida – 19 images, 32 sec. subs, Tak. E180, Al. T.)

The last viewing at 1 am included Saturn rising through tree branches but showing its very narrow rings nearly edge on, with Titan to its side. A good color comparison between Rigel and Betelgeuse was followed by a search and recovery of R Leporus, a small but famous carbon star just below Orion. Its crimson-copper color made it easy to identify.

Inside the Clubhouse, the astro quiz give way to desserts and coffee and a final sci-fi DVD movie presented by John Maher. Many thank to Eileen Myers and her team for a wonderful start of 2009.

The first work party of this new year will take place on January 10th at 10am. You are welcome and invited to help in our quest to make our clubhouse a better place to enjoy our hobby.

~ *John Reed, Steve Clougherty and Dave Prowten* ~



Installing the Dall-Kirkham. (L-R) John Blomquist, Dave Prowten, Steve Clougherty and Sergio Simunovic. Image by Al Takeda

## Clubhouse Saturday Schedule

Jan 10	John Small, Sai Vallabha-Work Party	
Jan 17	George Paquin	Dave Prowten
Jan 24	Chuck Evans	Tom Lumenello
Jan 31	Brian Leacu	Phil Rounseville
Feb 7	Eileen Myers, Dave Siegrist-Work Party	
Feb 14	Bruce Berger	Mike Hill
Feb 21	Rich Burrier	John Panaswich
Feb 28	Ed Budreau	John Reed

## Historians Corner . . .

This will be my last contribution to this section on the newsletter. I am no longer the Historian for The Amateur Telescope Makers of Boston. As a committee of one; I was told that in the future I would be required to attend ALL meetings and make a proper report during the business meeting. The business meeting is usually any time after 9:30 to 10:30 p.m. The President said he would have to appoint a new person.

I took on this volunteer position, as I would not have to attend long organizational meeting and to stay after the monthly meetings to extol the people in attendance of the latest projects that I am researching.

I will send to the Treasurer the \$100.00 of the seed money appropriated for the present hard cover version of The Amateur Telescope Makers of Boston.

I will explore my new title of Independent Scholar to extend my research beyond the ATMOB and perhaps to benefit other organizations.

If there are any questions regarding this subject, please contact Mr.Beckwith (Our President) at any time.

Best, Anna Hillier (Sudaric)

~ *Anna Hillier (Sudaric), Former Historian* ~

## Membership Report . . .

Membership as of 12/31/2008 - 289 members.  
Same time last year - 199.

Happy New Year!

Make a New Year resolution that will really be a benefit to you. Pledge to attend monthly meetings or observing nights at the clubhouse. There is always something new going on and we all hope to see you there.

Membership renewal payments are due September 30 and can now be completed on-line using Paypal. No Paypal account is

required. Consider paying your 2009 dues now while it's fresh in your mind. October creeps up on us quickly!

<http://www.atmob.org/members/person.php?frid=renewals>

The Amateur Telescope Makers of Boston, Inc. is a 501(c)3 organization. Donations are gladly accepted and are tax deductible to the extent allowed by law. While the deadline for 2008 charitable donations has past, please consider making a tax-deductible contribution to the club when planning for 2009 and beyond.

All members are encouraged to seek out and welcome our new and returning club members:

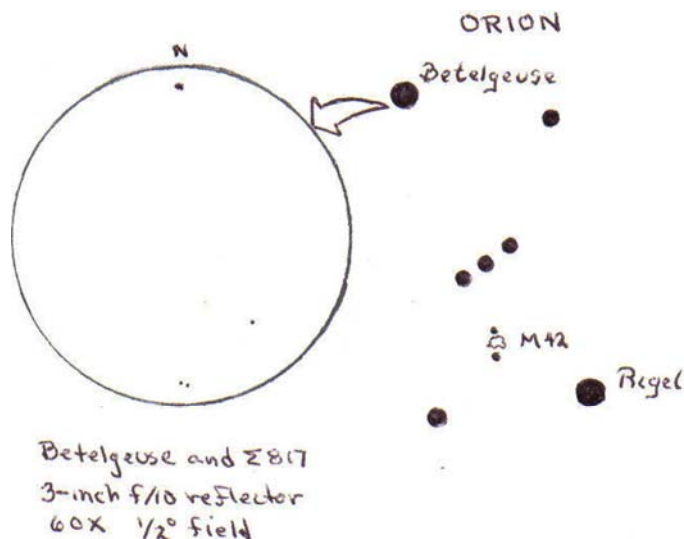
Bo Rim Seo	Jonathan McDowell
Gennady Solodar	Naomi Kablotsky
Jaren B.	Valerie Coffey
John Wendler	Victoria Wendler

Welcome!

[membership@atmob.org](mailto:membership@atmob.org)

~ Tom McDonagh, Membership Secretary ~

## Glenn Chaple's Sky Object of the Month January 2009 - Struve 817 Orionis ...



I'm a big fan of "off-the-beaten-path" sky objects. One of my favorites is the little-known double star Struve 817 - the 817<sup>th</sup> double star catalogued by the German-born Russian astronomer F. G. W. Struve during a survey conducted between 1824 and 1827. According to a measure made in 2004 and posted in the Washington Double Star Catalog, Struve 817 consists of near-twin magnitude 8.7 and 8.9 stars separated by 18.8 arcseconds in a position angle of 73°. The separation and P.A. differ little from what Struve himself measured around the time of discovery. Double star astronomers describe stellar partnerships that show little relative motion as being "relatively

fixed." If the component stars of Struve 817 form a true binary pair, their orbital period must encompass many centuries.

What gives this relatively obscure double star a special allure is its location, less than a half degree south of the red super giant Betelgeuse. To find Struve 817, simply aim your telescope at Betelgeuse. A medium power eyepiece (75 to 100X works well) should capture this delicate pair shining bravely beside the dazzling ruddy Betelgeuse. It's a startling contrast. Speaking of contrast, the Washington Catalog lists the spectra of Struve 817's components as A5 and K. Can you make out a color contrast between the two?

Some years ago, I wrote a four-part series for *Deep Sky Magazine* in which I introduced my favorite 100 double stars. Included with such celebrated pairs as Mizar, Albireo, and the "Double-double" epsilon Lyrae was Struve 817. On the next crisp winter night when Orion beckons you to visit his magnificent Nebula, take a minute to travel a road less taken and try for this delightful double star.

Your comments on this column are welcome. E-mail me at [gchapple@hotmail.com](mailto:gchapple@hotmail.com).

~ Glenn Chaple ~

## For Sale ...

For sale - all new accessories purchased in May 2008. In like-new condition:

- 1) Celestron red-dot star pointer finderscope - \$25. Part of Celestron 8"SE Nexstar package.
- 2) Celestron eyepiece - 25mm (1.25") Plossl (50 degrees) - \$25. Part of Celestron 8"SE Nexstar package
- 3) Celestron eyepiece - 13mm (1.25" -2") Ultima-LX (70 degrees) - \$100.
- 4) Celestron eyepiece - 8mm (1.25" -2") Ultima-LX (70 degrees) - \$100.

Thanks.

Harry

508-935-9880 (Cell), [drake9269@hotmail.com](mailto:drake9269@hotmail.com)

~ Submitted by Harry Drake ~

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**November Star Fields DEADLINE**  
**Saturday, January 31<sup>st</sup>**

**Email articles to Al Takeda at**  
**secretary@atmob.org**

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**POSTMASTER NOTE:** First Class Postage Mailed Jan. 6<sup>th</sup>, 2008

Amateur Telescope Makers of Boston, Inc.  
c/o Tom McDonagh, Membership Secretary  
48 Mohawk Drive  
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Mike Mattei (978) 264-0017

John Maher (978) 568-1253

**How to Find Us...**

**Web Page [www.atmob.org](http://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 Standard Time (EST) from Universal Time (UT) subtract 5 from UT.**

- Jan 11 Full Moon
- Jan 12 Moon 1.5 degrees South of M-44 (Beehive cluster)
- Jan 14 Venus at greatest eastern elongation (evening)
- Jan 17 Last Quarter Moon
- Jan 26 New Moon (Chinese New Year)
- Feb 2 First Quarter Moon
- Feb 9 Full Moon
- Feb 13 Mercury at greatest western elongation (morning)