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. 24, No. 6 June 2012

This Month's Meeting…

Thursday, June 14th, 2012 at 8:00 PM
Phillips Auditorium
Harvard-Smithsonian Center for Astrophysics
Parking at the CfA is allowed for the duration of the meeting.

Please join us for a pre-meeting dinner discussion at Changsho, 1712 Mass Ave, Cambridge, MA at 6:00pm before the meeting.

Sky Pollution Rejection Filters and What They Reveal About Nebulae

Timothy Barker, Department of Physics and Astronomy, Wheaton College

Our speaker will demonstrate how filters such as Orion Telescope's Ultrablock filter allow observers to see emission nebulae clearly even when the sky is polluted because of nearby lighting. He will then explain what we can learn about nebulae by viewing them with these different kinds of filters. He will also talk about Wheaton's new observatory and research that is being done there and with our Internet-controlled telescope in Australia.

Tim Barker received a Ph.D. in astrophysics from the University of California at Santa Cruz in 1974. Since that time, he has been a professor of physics and astronomy at Wheaton College in Norton Massachusetts. He has taught a variety of courses, including The Universe, The Solar System, Observational Astronomy, The Search for Life in the Universe, and Ancient Astronomies. His research interests include planetary nebulae, minor planets, and searching for transient lunar phenomena.

President's Message

We have a fresh long range plan for the club! The board has accepted the essence of the Strategic Planning Committee report as of its meeting last month. This report generated lots of discussion of various club policies, procedures, resources and relationships since it was received last summer. We take these things for granted sometimes, and it's good to challenge ourselves with questions like "what do we do well," "what can we do better," and "what if this resource becomes no longer available." These discussions were very worthwhile, clarifying board thinking on a number of topics and also getting things that needed to be addressed on our radar screen.

All of the main points of the SPC report were accepted by the board. During the process discussing and accepting the report, the board interpreted what it believed was the basic intent of the SPC, sometimes rewriting a section to hopefully make its intent clear to future boards. The accepted SPC report is now posted on our web site, and you can find it in Library > Board Minutes with a link to it posted at the bottom of the page.

I want to take this opportunity to thank all the members of the SPC who put in the time, effort and thinking to produce this document: Mario Motta, Chair, Nanette Benoit, Chuck Evans, Neil Fleming, Gerry Sussman, Gary Walker and Bernie Volz.

Another item on our agenda for the past two years has been to renew our clubhouse lease. I'm happy to report that we have received a draft lease in early May from MIT. As you know, we have been without a lease for more than three years, and so this draft is very welcome. The board is currently undergoing a review and collecting its comments as of this writing; I've got a meeting with our Haystack friends to discuss it next week. Hopefully this process will be complete and we will have a signed agreement by the time that this newsletter is published. The new lease is for a term of 10 years, with an option for our club to extend it for another 5 years, giving us a reasonable assurance of continuing at our current site for a significant time into the future.

This is my last President's Message to you. At our Annual Meeting on June 14, Mike Hill is slated to be elected and start his term. Most of you know Mike well; he is a long-time member of ATMoB, and knows very well the workings of the club and many of its members. The club will be in good hands with Mike! I'd like to thank all those who have helped manage the club over the past two years - the members of the board, the Clubhouse and Observing Committees, and a lot of others.

We have an active club, with a good percentage of members involved. If you have thought about trying some of our activities in the past but haven't gotten around to it yet, please jump in. Try coming to our monthly meetings, come to the clubhouse, or visit a star party- its fun, you'll learn something new and you'll meet some interesting and knowledgeable fellow members! And finally, consider becoming active in club management. I've found

these last four years as VP and president very rewarding, and have come to appreciate much more what a great club we have!

Keep looking up,

Bernie Kosicki, President ~

April Meeting Minutes

Minutes of ATMOB meeting held 12 May 2012.

Photo by Al Takeda

Speaker Bob Naeye illustrating a point with his hands

Bernie Kosicki, President: called the meeting to order at 8:00 PM.

Bob Naeye gave a talk titled "The History of Venus Transits." Bob is the Editor in Chief of the magazine *Sky and Telescope*, earned his master's degree in science journalism from Boston University in 1992, and is an experienced science writer.

Bob pointed out that since the orbit of Venus is tipped at an angle of 3.4 degrees to the orbit of Earth that during inferior conjunctions Venus usually appears to pass below or above the Sun and does not provide a transit. Kepler first predicted that a transit would occur in 1631. No known observations were recorded. Jerimiah Horrocks predicted the next transit in 1639 and observed it by projection. His measurements improved knowledge of the diameter and orbit of Venus.

Transits of Venus, which occurred during 1761, 1769, 1874, and 1882, were scientifically important in helping to measure the distance to the Sun, the geometry of the orbit of Venus, the diameter of Venus and other solar system parameters. Today observations of the transit are opportunities for the public to enjoy one of the wonders of nature.

An optical phenomenon known as the "black drop" effect has been observed as the shadow of Venus just appears at the edge of the Sun (first contact) and as the shadow becomes fully surrounded by the image of the Sun (second contact). A black drop appears to form, especially just as the edge of Venus appears to pass the edge of the Sun. Also, a light band appears to surround the black circular shadow of Venus. Arguments have developed in the past as to whether the Venus atmosphere or diffraction effects are responsible. Images with large telescopes may help resolve these arguments.

Bob has written a paper on the history of Venus transits for publication on the Sky and Telescope web page at skyandtelescope.com and it will run in two or three installments on the web page during the next few weeks from the date of the meeting.

Bob reported that he is flying to Hawaii to observe the June 5, 2012, transit from Mauna Kea in Hawaii.

After the talk a business meeting was called to order by President Kosicki.

Sidney Johnston gave the secretary's report.

Bernie Kosicki gave the financial report prepared by Treasurer Nanette Benoit.

Bernie Kosicki announced that a vote for officers of the club would be held at the next monthly meeting on June 14, 2012.

The Observing Committee report was given by Bruce Berger. The new observatory is coming along, the pier and mount are okay, software has been purchased, the dome rotators and the hatch still need some work, some wiring needs to be finished, and storage cabinets need to be mouse-proofed.

The Clubhouse Committee report was given by Steve Clougherty. Steve thanked John Blomquist for his work in mowing the grass. The Ed Knight Observatory was cleaned. Harry Drake has been sorting out the library.

Bernie Kosicki announced a public viewing of the transit of Venus at the Harvard CFA on June 5. Club members were invited to join, bring their telescopes, and help the public view and understand the transit.

Old Business: Bernie Kosicki mentioned that a draft new lease for the clubhouse was received from MIT. The old lease was 1.5 pages, the new lease is 14 pages.

There was no new business.

A Board meeting to discuss the lease was called to convene after the May meeting adjourned.

The meeting adjourned at 9:45 PM.

~ Sidney Johnston, Secretary ~

Clubhouse Report

Many members are finding the clubhouse a convenient observing location. To keep the infrastructure usable, a monthly work session is planned to keep up with building and grounds maintenance requirements. The May 2012 work party was held on Saturday, the 5th starting at 10AM. A big thank you is given to 23 members and friends for donating their time: Joshua

Ashenbeg, Bruce Berger, Jim Bosco, Paul Cicchetti, Nina Craven, Harry Drake, Jim and Charlie Gettys, Mike Hill, Eric Johansson, Dick Koolish, Bern Kosicki, Tom Lumenello, John Maher, Mike Mattei, Gene McAuliffe, Eileen Myers, Dave Prowten, John Reed, Rajesh Sanghvi, John Small, Art Swedlow, and Al Takeda.

• The roll-off roof over the Knight Observatory was thoroughly cleaned of varmint created debris. Occasionally we find it necessary to evict invaders who find the observatory attractive. A team led by Mike H spent considerable time completing this project.

• A team of Jim G, Charlie G, and Josh A tackled the storm damaged tree/shrub patch to the rear of the far barn. Heavy timbers were added to the pile (in rear) to be hauled away and smaller limbs were carried and barrowed to the chip pile at the drive entrance.

• Dave P and Paul C led the team that continued to finish the interior of the home dome observatory and coordinate plans with John S for completion of electrical distribution. The interior was cleared of debris and cleaned. Pier and slit door work continue.

• The first major grass cutting took place with John B and tractor assisted by Jim B on the gas powered mower, with Al T and Joshua A on rake & barrow. Followed by trimmer action by Jim B and John M the grounds looked inhospitable to mosquitoes and black flies. Even though growth started slowly it will accelerate as temps climb.

• Library cleanout and book cataloging continued by Harry D assisted by Art S. Harry completed the project's first phase, before his departure to new observing fields down South. Harry will be missed. Also Dick K donated another used sledge for maintenance.

• Lunch was served by the chef crew of Eileen M, Sai V, Nina C, Art S and unidentified others. Then as cleanup progressed before the Observing committee meeting mid-pm, work continued outside. Inside cleaning was also accomplished.

• Electric service in the far barn, interrupted until the cleanup a few months ago, was completed by master electrician John S. GFI outlets now provide for tool use with switched lights at both ends of the concrete floored storage area.

• Before the big moon rose, the misshaped tree branches along the front were trimmed into shape by a team of Tom L, Sai V and John R. Then as the moon rose, clouds tried their very best to obscure the biggest moon of 2012 from our view. Phone calls told of clear views from near Boston and along the South Shore. That provided for the smallest moon being available for the May20th total solar eclipse, visible from the western US, turning it into an annular ring of fire eclipse. Then the talk turned to the last Venus transit on June 5th for 117 years. We wondered what the clubhouse would look like in 2129!

That brings us to the next work party on Saturday June 2, 2012. Several telescope repair projects are in the works and the grass will need some attending then and for the next few months. Starting at 10AM we sure would like to see you with work gloves and lots of inspiration. I can already smell the coffee and taste that first donut!

In the meantime remember mirror grinding on thursday nights, member Astronomy Classes on Friday nights, and observing Saturday evenings. Keep looking up. Clear skies.

Photo by Al Takeda

Joshua Ashenberg toils at the May 5th Work Party

~ Clubhouse Committee Chairs ~
~ John Reed, Steve Clougherty and Dave Prowten ~

Clubhouse Saturday Schedule

June 2	McDonagh & Wolf **Work Party #6**
June 9	Evans & Lumenello
June 16	Takeda & Prowten
June 23	Leacu & Rounseville
June 30	Paquin & Small **Work Party #7**
July 7	Budreau &Burrier
July 17	Swedlow & Vallabha
July 21	Maher & Meuer **NO WORK PARTY** **The Conjunction**
July 28	Hopkinson & Myers

Membership Report

Membership count as of 04/29/2012 is at 303 individuals
Same time last year: 299

Please seek out and welcome our newest and returning members!

Patrick St. Onge
Fred Jones
Alana Parks
Michael Irons

I am in the process of putting together a ***beta*** webpage that walks a member through the process of membership renewal as well as providing information about the club for reference. Please take the time to review the link included below. Your feedback is greatly appreciated.

http://web.me.com/tom_mcdonagh/ATMOB_NM/Welcome_from_the_Amateur_Telescope_Makers_of_Boston.html

Membership dues do not cover the costs of maintaining our clubhouse and observatory projects, running meetings, conducting public outreach programs, and publishing our newsletter. Please consider a donation to allow the membership dues to remain at their current level when renewing. Members wishing to receive the Star Fields newsletter through the mail are urged to donate $5.00 to defray printing and postal costs. The ATMoB is a 501c(3) charitable organization and donations are tax-deductible. Please consider contributing whatever you can.

~ Tom McDonagh, Membership Secretary ~

Remembering Jack Drobot

Longtime member John (Jack) Drobot, 76, of Westford, passed away on Monday, May 14, 2012 at his home in Westford.

Jack, born in Boston, raised and educated in Cambridge, was a graduate of Rindge Technical School. He served with the United States Air Force, was employed with Tautron and Microwave Logic Corporations , and as a resident of Westford since 1964, was a member and Past President of the Westford Jaycees. He loved music, and his favorite pastime was playing the banjo.

Upon retirement, Jack joined our club in March 1996, and quickly became a dedicated observer, energetic monthly work session volunteer, and a clubhouse committee "A" Member - greeting other members and guests to the site and in-charge-of - operations during the Saturday night observing sessions over many years. Jack was an original ATMOB Project Astro Volunteer. This activity was a natural for Jack, since he had already been helping those teachers with classroom Astronomy presentations and coordinated ATMOB star parties.

Jack built both solar and star telescopes and shared them at the Clay Center on Astronomy Day, Chelmsford center star parties, Town of Harvard star parties, Chelmsford Library solar parties, Reading Birch Meadow and Barrows schools and Unitarian church star parties. Jack organized Astronomy activities for the children at Lowell's Morey and Butler schools where he lectured and shared those stars. Jack also supported the club's late summer picnics, and the trips up MIT's Haystack hill, to Oak Ridge observatory, and to the Rose Center for Earth and Space in NYC. And we shared many Chinese dinners with Jack at "Three Gorges" before our monthly meeting at the Harvard College Observatory.

Memories include "my first star party after joining ATMOB was organized by Jack for the Butler School in Lowell. He gave presentations to the families inside then all came outside to the telescopes. I was very impressed by the impact he had on these inner city children who were truly grateful for this experience." Another is: "…Jack helping carry the sofa from the clubhouse onto the observing field to allow a group to comfortably observe the Leonid meteor shower while wrapped in blankets." And another remembered by so many of us was Jack's smile, wrapped up in cold weather coat, scarf, mittens and hat, at so many star parties from Boston to Framingham to Lowell over many years.

Jack was devoted to his family. He leaves his wife of 50 years, Diane Drobot of Westford, two daughters, Jane Marie of Bolton and Mary-Anne of Groton; a brother, Robert Drobot of CA, and five sisters: Carol of NH, Dorothy of NH, Eleanor of CA, Joyce of NH and Denise of SC; grandchildren Hannah and Gabrielle of Groton, and Derek and Paige of Bolton; several nieces & nephews, and many dear friends.

~ Contributed by John Reed and friends of Jack ~

May 20th Annular Eclipse Report

As president of the AAVSO, I was heading to the group's spring meeting at Big Bear Lake and realized by heading out a day early, and driving up into Utah, I could capture the annular eclipse. Along with me came Gary Walker and Jaime Garcia from Argentina, both former AAVSO presidents themselves. I chose the small town of Kanarraville, just off the highway 15 in Utah, right next to the entrance of Zion national park. I had contemplated driving into the north of the park, but found that there were no suitable observing sites to use, thus chose the town itself.

Photo courtesy Mario Motta

Mario and his observing party in Kanarraville, Utah

The state of Utah and the town had set aside large areas and fields, complete with portable toilets, emergency vehicles, and roped off areas. A large crowd did descend, but we never felt crowded, it turned into a very good day. The eclipse occurred with the moon at perigee, so there was a significant "ring of fire" to be seen, and it did not disappoint. Alas, being an annular eclipse, there was no corona, but it was still a great event. The Sun sported several large sunspots, which added greatly to the esthetic appearance of the eclipse.

Photo by Mario Motta

The annular eclipse with its ring of fire, as photographed by Mario Motta.

We did see some unprepared people who had no idea of the danger they were in by attempting viewing and imaging with inadequate equipment and no filters! We gave some advice, and hopefully averted injury. There were a large number of poeple who had never seen an eclipse before in attendance, as well as visitors from afar: Germany, Japan, France, as well as Jaime from Argentina. This was my 12th eclipse. It just never gets old!

~ Mario Motta ~

Sky Object of the Month

M5 (NGC 5904) – Globular Cluster in Serpens

Much astronomical hoopla has been made about the June 5th Venus transit – and rightfully so. But what happens after that, when post-Venus Transit Depression sets in? I can't think of a better cure than a telescopic trip to the globular cluster M5.

M5 was discovered by the German astronomer Gottfried Kirch in 1702 – more than 60 years before Charles Messier observed and recorded it in his Catalog. It ranks as one of the finest globular clusters visible from mid-northern latitudes and is a worthy rival of M13 in visual splendor. Its brightness (magnitude 5.7, just visible to the unaided eye), apparent size (17.5'), and distance (25,000 LY), mirror those of M13.

Why, then, does M13 garner more attention? The answer is location. M13 is conveniently placed between the stars zeta (ζ) and eta (η) in the "Keystone" of Hercules. M5, on the other hand, lies in a relatively star-poor part of Serpens. One of the easiest ways to find M5 is by tracing a line from 109 to 110 Virginis and extending it an equal distance beyond to the star 5 Serpentis (refer to the finder chart). M5 is in the same low-power field as this star, just 0.4 to its northwest.

Like M13, M5 is one of the few globular clusters that can be resolved with small scopes. Through an Edmund Astroscan, M5 looked to me like a circular glow interspersed with faint stellar specks. The effect was especially noticeable when I viewed M5 with averted vision. With large-aperture scope, M5 is nothing less than spectacular – a rounded mass comprised of thousands of stars of 12th to 15th magnitude. I say "rounded," but some observers describe M5 as being slightly elongated in a NE to SW direction. See if you agree.

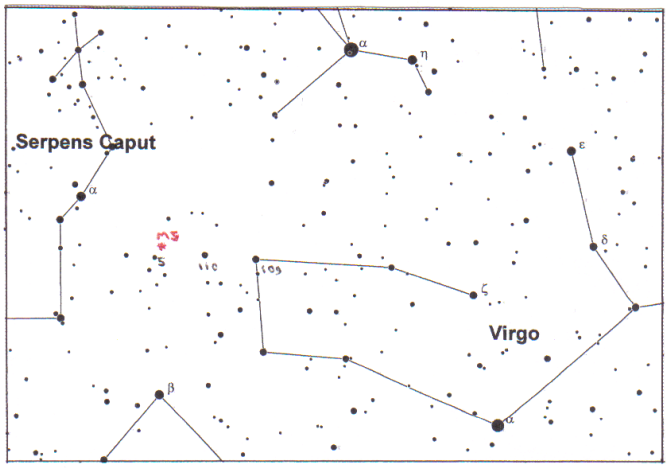

Chart from Cartes du Ciel

Finder chart for M5

~ Glenn Chaple ~

Call for Transit of Venus Reports

With the once in a lifetime occurrence of the transit of Venus (that has now occurred twice in our lifetimes), many ATMOB members have traveled far and wide or stayed home waiting for sucker-holes to observe the rare phenomenon.

Please help tell the story of the transit in the next issue of *Star Fields* by making a submission. Your photos, one paragraph summaries, full reports, funny anecdote about the clouds, or travelogues are all wanted. Even a short note indicating your destination if you traveled somewhere to observe the transit would be particularly appreciated for a possible map showing where we were.

~ Ross Barros-Smith, Newsletter Editor ~

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July *Star Fields* DEADLINE
Noon, Sunday, June 17th
Email articles to the newsletter editor at
newsletter@atmob.org

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POSTMASTER NOTE: First Class Postage

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How to Find Us...

Web Page: 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.
