



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. 26, No. 3 March 2014

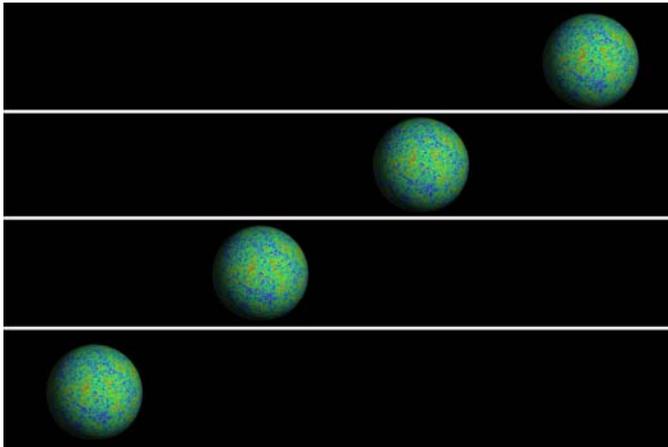
This Month's Meeting...

Thursday, March 13th, 2014 at 8:00 PM

Phillips Auditorium

Harvard-Smithsonian Center for Astrophysics

Parking at the CfA is allowed for the duration of the meeting



[Possible Universes](#). From the ESA Planck satellite/Max Tegmark.

Our Mathematical Universe

Our speaker this month will be Professor Max Tegmark who teaches Physics at MIT and is a leading researcher in the area of Precision Cosmology. He has just finished writing a new book called "*Our Mathematical Universe, My Quest for the Ultimate Nature of Reality*" and will talk to us about the book and the theories he presents which encompass the areas of Physics, Cosmology, Philosophy, and the mathematical nature of our universe and the reality that we perceive. This talk was originally scheduled for February but had to be cancelled due to snow.

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

President's Message...

Although we have been the Amateur Telescope Makers of Boston for 80 years now we all don't seem to make a lot of telescopes these days. Or do we? Well I think we do. Not so prolifically as in the past I have to agree but up at our clubhouse in Westford and in the homes of members young and old, mirrors and telescopes are getting made. Just last year we had two youngsters build telescopes and we have one now working very diligently on his very creative telescope both at the clubhouse and at his home. I do hope he gets it done in time for Stellafane. I'm pretty sure that's the goal . . .

Last week one of our newer members, Paul Courtemanche, finished up his 8" f/9 mirror with a very impressive 1/20th wave error. (1/4 wave is considered acceptable). A couple members are currently working on 12" mirrors. Others have come and gone over the years with mirrors ranging in size from 4 1/4" to 16" diameter. We've had men and women, even couples come up and have a go at mirror making. As of now there are 5 or 6 projects in the works. Enough so that it can get a bit crowded on a Thursday night – our normal night to meet and make telescopes.

We have some machines to help do the work but most members really want to do this work by hand; to walk around the barrel removing glass in a manner that results in a perfect spherical shape with exact dimensions that they have set as a goal. There really is a lot of enjoyment and satisfaction with the process. It can actually be a little therapeutic and gives you time to think while you whittle away the glass. And it's really not that hard. I liken it to sanding wood. You start out rough and work your way down with various grits to a smoother and smoother surface until the surface becomes so smooth that it reflects light and by the virtue of the curvature brings magnified images of distant stars and galaxies to a perfect focus for your eyes to see.

Telescope making is not for everyone, I know. We have a great assortment of members in our club and we all pursue astronomy in so many different ways. Telescope making is but one of them but an important one that speaks to our namesake directly. Many members, thanks to the generous help of dedicated members like Phil Rounseville, Ed Los, Mike Mattie and others, are actively carrying on the tradition of mirror making as an art, a science, and a personal pursuit of perfection. We have great facilities to support that now and anyone wishing to give it a go is urged to come on up on a Thursday evening to see what mirror making is all about.

~ Mike Hill – President ~

February Meeting Minutes . . .

Due to weather conditions and predictions of heavy snow and ice, President Mike Hill cancelled the meeting. Accordingly, no meeting was held and no minutes recorded.

~ Sidney Johnston, Secretary ~

Clubhouse Report . . .

February 2014



Reinstalling the 25-inch base after adding the new footings.*

The weekly Thursday evening mirror grinding (except for 2nd Thursday meeting at Harvard), the Friday night Astro class and Saturday night observing continued this month.

The full moon Saturday work party took place on February 15th through the efforts of John Blomquist, Paul Cicchetti, Steve Clougherty, Eric Johansson, Dick Koolish, Brian Maerz, Eileen Myers, Dave Prowten, Cheryl Rayner, John Reed, Bill Robinson, Art Swedlow, Al Takeda, Bill Toomey and Sai Vallabha. It was 28 degrees and cloudy and activities proceeded as follows:

- Steve C. and Dave P. crawled under the roll off roof building on Friday evening to inspect the concrete slab of the South pier and placement of the floor joists. Measurements were taken and on Saturday small sections of the floor adjacent to the pier were removed. A crew of 7 members helped lift and move the telescope from its footings to allow the floor modification to proceed. Dave P. installed two small sections of 4X4 pressure treated lumber onto the slab to better support the big Dob's feet. Urethane glue secured the lumber to the concrete; the telescope was placed back on the new footings later in the day. Final testing of the mount and optical train started during the next two weeks. Minor adjustments were made and a new focuser was installed on the telescope to support a much larger load.
- What was left unspoken in the activity above was the impact of the repeated snowfalls on our facility. Five foot snow banks along the driveway and observing field perimeter have taxed our modest equipment. Today's efforts by MIT's road clearing contractor were joined by John B.'s Jeep plow, our snow blower handled by Paul C. and numerous shovels. Everyone pitched in. Bill R. cleared the Clamshell; Sai V. cleared the 17' hutch area; Steve C., Dave P. and others cleared the Ed Knight roll off roof and dug through the 5 ft. drift to tunnel under that structure; Eric J. and John R. cleared the metal shed's snow load. More recently the rain, thaw and refreezing left ice underfoot and instant mud formed as the temperature reached 32 degrees. John B.'s plow is now in the shop for repair, possibly out for the season. We'll have to regroup. Our

observers are out there most every clear evening collecting photons so we'll continue to shovel snow.

Lunch was served by our intrepid crew by 2 pm, by which time the forecast snow had started. Prep was handled by Sai, Eric, and John; Eileen, Cheryl, Dick and Al assisting after returning from the New England Model Engineering Society's show at the Charles River Museum of Industry in Waltham. Cleanup was handled by the hardy few. Eileen loaded all real dishes and utensils into bags for transport home for washing. In order to allow plowing of the snow in the driveway, we had to remove our cars, so we closed the Clubhouse at 4 pm.

Work will resume at the next full moon session on March 15th. Please join us.

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

Clubhouse Saturday Schedule

March 8	John Maher	Rich Burrier
March 15	Art Swedlow and Sai Vallabha WORK PARTY # 3	
March 22	George Paquin	Tom Wolf
March 29	Henry Hopkinson and Dave Prowten Messier Marathon # 2	
April 5	Nina Craven	Tom McDonagh
April 12	CLOSED – NEAF Convention	
April 19	Al Takeda and Bill Toomey WORK PARTY # 4	
April 26	Dave Siegrist + N. and S. Sonawane Messier Marathon # 3	

Membership Report . . .

Membership count as of February 24, 2014 is at a healthy 290 individuals. At the same time last year, membership was calculated to be 280 members in good standing.

Our new and returning members include Mark Worthington, Chet Myslinski and Shray Mishra. Please take the time to introduce yourself to our newest members.

Please also remember to sign up for the ATMOB-Announce and ATMOB-Discuss mailing list for up to date information on club openings and interesting astronomy related discussions. Contact me with questions regarding this option at: membership@atmob.org.

The Amateur Telescope Makers of Boston, Inc. is a 501(c)3 organization. Donations are gladly accepted and are tax deductible to the fullest extent allowed by law. Consider making a tax-deductible contribution to the club during your estate and tax planning this year. Many companies make matching contributions at an employee's request. This is a simple way to make your donation go twice as far.

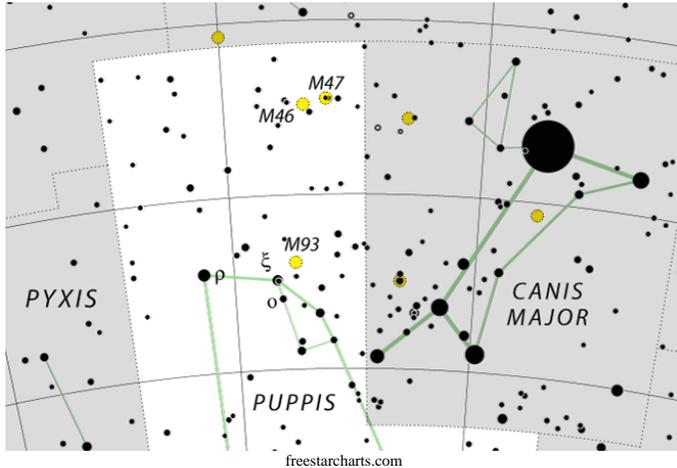
~ Tom McDonagh – Membership Secretary ~

Sky Object of the Month . . .

March 2014

M46 and NGC 2438 –

Open Cluster and Planetary Nebula in Puppis



There's a saying that goes, "You can't see the forest for the trees." In the case of the planetary nebula NGC 2438, "you can't see the nebula for the stars." NGC 2438 lies within the northern portion of the open cluster Messier 46 and is often overshadowed by the surrounding stars.

M46 and NGC 2438 are located in a rather star-poor region in the northwest corner of Puppis. To find them, trace an imaginary line from beta (β) Canis Majoris through Sirius and extend it about 14 degrees eastward. Here, binoculars and finderscopes will reveal a pair of clusters just 1 1/2 degrees apart. The brighter, splashier one is M47 (we'll look at that one another time). The fainter, more concentrated one to its east is M46.

M46 was discovered by Charles Messier in 1771. Shining at 6th magnitude, it spans an area about 20 arc-minutes across and contains some 180-plus stars brighter than 13th magnitude. My first encounter with M46 came in 1978 when I viewed it with a 3-inch reflector and magnifying power of 30X. My logbook entry reads, "much fainter than 388 (note: my 1966 edition of Norton's Star Atlas plotted M47 using its Herschel designation of 388); individual stars hinted at with averted vision." In 2010, I revisited M46, using a 4.5-inch reflector and the same 30X magnification. The cluster was more readily resolved, and I noted "numerous mag 10-11 members." On both occasions, NGC 2438 went unobserved. I had failed to see "the nebula for the stars."

That changed last winter when I made a purposeful search for NGC 2438. Using a 10-inch reflector and a magnification of 80X, I easily spotted the 11th magnitude "puff-ball," which is about an arc-minute across. Knowing where to look, I switched to the 4.5-inch reflector – this time with 75X. Sure enough, I could make out a faint, averted vision glow in the correct spot. By the way, Messier also failed to see "the nebula for the stars." NGC 2438 was discovered by William Herschel 15 years after Messier found M46.



Photo by Mario Motta, MD

~ Glenn Chaple – Member at Large ~

Asteroid (133537) Mariomotta . . .

A main belt asteroid that was discovered by the Schiaparelli Observatory in 2003 has been named for ATMOB member Mario Motta. The Observatory, located above Lake Varese in Italy, was recently the recipient of one of Mario's 32-inch mirrors. Refer to the April 2013 article in *Star Fields*. The citation from the IAU (International Astronomical Union) is reprinted below. Congratulations Mario!

(133537) Mariomotta = 1998 GD6 = 2003 TL10

*Discovered at Schiaparelli on 2003-10-07 by L. Buzzi.
(133537) Mariomotta = 2003 TL10*

Mario Motta is a well-known cardiologist, amateur astronomer and telescope maker. He is also known for his commitment against light pollution and engagement in education and outreach. He was AAVSO President during 2011-2013. [Ref: Minor Planet Circ. 85017]

~ Al Takeda – Newsletter Editor ~

Editor: * Photos by Al Takeda unless otherwise noted.

April *Star Fields* DEADLINE
Sunday, Mar. 23rd

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed March 5, 2014

Amateur Telescope Makers of Boston, Inc.
c/o Tom McDonagh, Membership Secretary
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Acton, MA 01720
FIRST CLASS

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PUBLIC OUTREACH

STAR PARTY COORDINATOR:
Virginia Renehan starparty@atmob.org

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.

Mar 9 Daylight Saving Time begins (subtract 4 from UT)
Mar 14 Mercury at greatest western elongation, 28 deg. (morning)
Mar 16 Full Moon
Mar 20 Vernal Equinox. Saturn 0.2° N. of Moon, Occultation of Regulus
Mar 22 Venus at greatest western elongation, 47 deg. (morning)
Mar 23 Last Quarter Moon (Moonrise at midnight)
Mar 30 New Moon
Apr 7 First Quarter Moon (Moonset at midnight)