



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. 7 July 2012

This Month's Meeting...

Thursday, July 12th, 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.

Member Presentation & Swap Night

This month's meeting will be a member presentation night which is a tradition now for our optional July meeting. This will be an opportunity for members to highlight some of the things they have been working on or things that interest them and which they feel you all might be interested in too. It always turns out to be a rewarding evening so do come and see what the other members are up to. If you have some astro-stuff to sell then bring it to the meeting and set it up at the back of the room. If you have some stuff that you want to just give away then bring that too. Usually that goes very quickly (but not always!!)

Even though there will be no official speaker some of us will still be meeting for dinner at Changsho's so feel free to join us for some good food and good company. Changsho is located at 1712 Mass Ave in Cambridge and we will meet there at 6:00 pm.

President's Message

As I write my first Presidents message we are coming fresh off the heels of one of the more interesting and rare astronomical events we all had a chance to see, the Venus transit of 2012. Sadly for most of us the opportunity was lost due to poorly timed New England weather. I know there were a lot of disappointed

amateur astronomers that day and I was one of them. Luckily I did see the 2004 transit and I think many of you did too. One thing that came to mind afterwards was the thought that the 2004 event – the actual viewing of it through a telescope is nothing more than a distant memory; a fact that yes I did see it.

As time goes on the fact will remain but the memory will fade even more. I think the memory of this latest 2012 event will actually last longer because it will be the memory of the fun I had trying and the friends I shared that with – the planning and coordination; the preparation of our equipment; meeting up at the prescribed place and time and the build-up of excitement as we readied our equipment and excitedly scanned the sky for those breaks in the clouds that seemed to come out of nowhere late in the afternoon. We knew it was a real possibility that that at least first and second contact might be seen but, alas, ultimately we were let down when circumstances beyond our control (thicker clouds) dashed our hopes just minutes before the event. But it was all part of the fun - part of the event.

It's been said that the journey is more important than the destination and I believe in this logic when it comes to planning and executing astronomical field trips or "expeditions" as I call them. My first expedition was soon after becoming interested in astronomy when I was only 15 or 16 years old. It was a total lunar eclipse beginning soon after moonrise. My father and some friends and I travelled up to the coast in Gloucester and setup in a motel parking lot right on the waterfront and I saw my first lunar eclipse. It was my first of many expeditions and one I'll never forget. In fact I remember fondly much more about the trip than the actual eclipse. That's what my fuzzy little pictures are for.

I encourage all of you to have these astronomical expeditions be it an eclipse, an occultation, meteor shower or a trip to see the zodiacal light which in our age of light pollution really does require – an expedition! The planning and the sharing is what you'll remember most. The event will be a success whether you see it or not.

Have fun and clear skies,

~ Mike Hill, President ~

June Meeting Minutes

Minutes of ATMOB meeting held 14 June 2012.

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

A talk was given by Professor Timothy Barker on "Optical Spectra, Optical Filters, and What They Reveal About Nebulae". Dr. Barker received a Ph. D. in Astrophysics from The University of California at Santa Cruz. He is now a professor of physics at Wheaton College in Norton Massachusetts.

The Ring Nebula was presented as an inspiration for the study of emission spectra as a tool to understand the composition and structure of the nebula.

The emission spectrum of a heated body was presented in live a demonstration in which a long filament, approximately one foot

long, was heated electrically. The long filament was placed in a light shield which permitted light to enter the room through carefully cut holes. One hole was left open, and the others were covered by filters. Filters used included red, green, and blue photographic filters.

Members of the audience were given diffraction gratings to view the light. The unfiltered light included the continuous spectrum from red – yellow – green – blue green – blue. The filtered light passing through the red filter had only the red light, the filtered light passing through the green filter had only the green light, and the light passing through the blue filter had only the blue light. That is, each filter blocked the light of wavelengths which it was manufactured to block.

The filters were removed and new narrow band filters were placed over the lighted openings. The first filter had a hydrogen alpha passband for red light, the second filter had an oxygen III passband for green light, and the third filter had a passband which passed both oxygen III for green light and hydrogen beta for blue-green light.

The effects of the filters on the continuous spectrum of the heated filament were observed using the diffraction gratings.

Next a demonstration was presented using a hydrogen gas filled tube which was excited to glow by an electric current passing through the gas. Electrons from the electric current collide with gas atoms and excite the atoms to higher energy levels. The atoms emit photons as the electrons of the atoms transition down to lower energy states. With the diffraction grating, the hydrogen alpha red light, the hydrogen alpha blue-green light, and the hydrogen gamma blue light were separated. The gas tube was narrow, and when the diffraction grating lines were parallel to the gas tube, the diffraction grating presented “lines” of light of each color. Also, when light passing through a narrow slit strikes a diffraction grating, images of the slit are produced by the grating and appear as bright lines of light of the various photons composing the light. These bright lines of light give the name of “lines” to the emission photons of the gas emitting the light.

Absorption of high energy ultra-violet light can excite electrons in an absorbing atom to higher energy states. In contrast, collision excitation by atoms bumping together often excite only lower lying energy states. Therefore, the gas of a nebula can be excited to one set of higher energy states by collision excitation, and to higher energy states by excitation through ultra-violet absorption.

Color pictures of the Ring Nebula illustrated that the inner regions of the nebula are excited predominately by higher energy processes and so glow in green oxygen III light. Presumably, ultra-violet light from the central star is exciting the gas atoms near the center by ultra-violet excitation.

Outer regions of the Ring Nebula appear in hydrogen alpha red light because the higher energy ultraviolet excitation is absorbed by the closer in part of the gas cloud. Accordingly, the gas atoms are excited to only lower energy states by lower energy collision processes.

The demonstrations with the diffraction gratings and various light sources gave an interesting explanation as to how various excitation processes within the gas of a nebula can be determined by spectra studies of their emitted light. Through the spectra studies, various excitation process can be revealed.

A business meeting was held after the talk.

The June meeting of the ATMOB is traditionally the annual meeting. Accordingly, an election of officers for the new year was held. A slate of nominations had been prepared by a nominating committee, and included:

For president: Mike Hill

For Vice President: Neil Fleming

For Treasurer: Nanette Benoit

For Secretary: Sidney Johnston

For Membership Committee Chairman: Tom McDonagh

For Member at large: Glenn Chaple

For Member at large: John Maher

For Member at large: Eileen Myers

It was reported by President Bernie Kosicki that no one had approached the Secretary asking for another nominee to be presented to the membership.

Motion by Bruce Berger, “That the slate presented by the nominating committee be elected.”

Seconded by Julie Kaufmann.

Vote for: Unanimous.

Against: Zero votes.

No abstentions.

Outgoing president Bernie Kosicki gave a thank you speech. New President Mike Hill presented Bernie Kosicki with a certificate of thanks for his great work as President.

Mike Hill then gave a thank you speech and traced his history of involvement with astronomy and the ATMOB.

The Secretary’s Report of the May meeting was given by Sidney Johnston.

Mike Hill gave the treasurers report which had been prepared by Nanette Benoit.

Tom McDonagh gave the Membership Committee Report. Tom mentioned that there is a new Family Membership with dues of \$35.00, Regular membership with dues of \$25.00, and Senior and student Memberships with dues of \$12.50, each for one year. He also emphasized the importance of donations in supporting goals of the club, and asked members to consider giving to one of the categories in addition to their regular dues.

Bruce Berger gave the Observing Committee Report. Bruce showed a short video illustrating that the new dome now turns on the new observatory. He also mentioned that the dome door is about to be installed. The metal pier is mounted and grouted on the concrete pier. Bruce thanked Glen Chapel for updating the current events on the ATMOB home web page.

Mike Hill then read the clubhouse report. Mike thanked John Blomquist for mowing the grass with John’s tractor. The 17 inch

Dob mirror was recently cleaned. New locks and bolts have been installed. Mike thanked Harry Drake for cleaning out the library, and mentioned that Harry will soon be moving to Florida.

Mike Hill went over events that are coming up during the next month.

No old business.

New Business: Ross Barros-Smith thanked Eileen Myers for helping mail the newsletter while Ross was in Arizona to observe the transit of Venus. Ross mentioned that this month is his last month for editing and preparing the newsletter Star Fields. Ross indicated that he would be helping the new editor, Michael Irons, during the transition.

Mike Hill called for a vote as to whether or not the ATMOB club would hold a meeting in July, as required by the bylaws.

Motion by Bruce Berger, "That a July meeting be held."

Second by Ross Barros-Smith.

Vote for: Unanimous.

Against: zero votes.

No abstentions.

President Mike Hill adjourned the meeting at 10:15 PM.

After the meeting several members presented images of the transit of Venus which they had taken. The transit was nearly covered by clouds in the Northeast, but some members were in lucky spots where they had a partial view of the Sun through the clouds, and so were able to take images of the transit.

~ *Sidney Johnston, Secretary* ~

Clubhouse Report

A work party was held at the clubhouse on Saturday, June 2 and a total of 14 members came and volunteered. The weather was poor and outdoor work was limited. Fortunately John Blomquist spent the previous day mowing the field and Al Takeda finished the job with the mower early Saturday morning. Thanks to John and Al for all their efforts. Dave Prowten installed two locking deadbolts in the old and new telescope rooms. This allows us to store club telescopes and equipment in a safe and accessible location. Additional locks will be installed in the near future. Sergio S. continued working on the rollers to the home dome sliding door. The 17" Dobsonian mirror cell was pulled out and the mirror was cleaned. The collimation adjustments were reset and the entire assembly was re-installed. The scope is now ready to use by members who are checked out on this scope. The clubhouse was cleaned and vacuumed and now looks great. The library has been transformed thanks to both Harry Drake and Art Swedlow. The downstairs grinding room bookcase holds all observing books and atlases for accessible field use.

Thanks to the following volunteers this month:

John Blomquist, Ed Barden, Harry Drake, Sergio S., Bruce Berger, Art Swedlow, Dick Koolish, Steve Clougherty, Al

Takeda, John Maher, Eileen Myers, Eric Johanssen, Sai Vallaha Nina Craven and Bernie Kosicki.

~ *Clubhouse Committee Chairs* ~

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

Clubhouse Saturday Schedule

July 7	Budreau & Burrier
July 17	Swedlow & Vallabha
July 21	Maher & Meuer NO WORK PARTY The Conjunction
July 28	Hopkinson & Myers
August 4	Nugent & Sonowane
August 11	Berger & Hill
August 18	CLOSED Stellafane
August 25	Siegrist & Toomey

Thoreau on Astronomy

After the sun set, the bare summits of were of a delicate rosaceous color, passing through violet into the deep dark-blue or purple of the night which already invested their lower parts, for this night-shadow was wonderfully blue, reminding me of the blue shadows on snow.

Journal, 13 July 1858

~ *Submitted by Tom Calderwood* ~

The 2012 Transit of Venus

In last month's issue, a call for reports on the transit of Venus on June 6th was requested. This was the last opportunity for any currently living member opportunity to observe Venus appear to move across the surface of the Sun as viewed from Earth, as the next event that will occur again until December 11, 2117. For curious future members going through the newsletter archive and beneficiaries of incredible medical advances, this date does indeed fall on a saturday. So you have no excuse not to go see it.

From Al Takeda:

The second Venus transit since 2004 would be upon us in 8 hours and I was looking over satellite images, jet stream data and weather forecasts for the entire northeast region. All I could see was a thick blanket of clouds covering the area. Clouds, the eternal bane of all astronomers was taunting us again. I decided to drive.

The low pressure system that set up camp off of Massachusetts was slowly moving away so I went south hoping to find clear skies. Six hours later I ended up in my old stomping grounds of New Jersey (Near exit 2 for those New "Joisy" transplants among us).

It was partly cloudy with huge sucker holes all around me. I found a farm field and set up my two scopes near the road. I thought, hey, maybe I lucked out. Unfortunately I spoke too soon. Those large holes became tiny slits as first contact approached. The Sun revealed itself for fleeting moments as I attempted to frame and focus.

During this time people started to pull over to ask me what I was doing. When I told them about the transit, most knew about the event but didn't realize that it was occurring at that instant. One person on a motorcycle pulled in and when I explained what was happening he became thrilled with the knowledge that he would see it. Soon I was involved in a mini star party.

First and second contact came and went under a thick mass of clouds. Eventually tiny breaks raced across the front of the Sun and when Venus became visible I snapped a volley of shots hoping that I got something.

As sunset approached, crepuscular rays were marking the position of the Sun as it was settling into the western horizon. At the last moment, before the top of the Sun disappeared into the trees, Venus appeared in transit and I snapped one last image before it was gone.

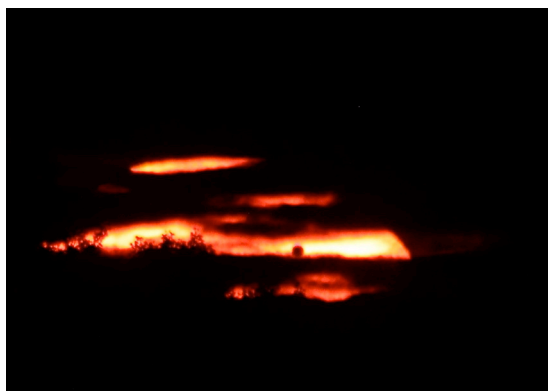


Photo by Al Takeda

Al's view of Venus through the clouds in New Jersey.

I said my goodbyes to the three people that stopped by, threw my equipment back into the truck and headed home. I arrived back at the apartment at 3:30 in the morning. Even though I did not get the images that I wanted, I was able to get five images of the transit and made a really interesting movie.

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From Dave Wolfendale:

Since the weather forecast for the east coast was better the farther south I looked, I decided there was a chance to view the transit if I drove south beyond New York City.

The sun started breaking through at about 5:30pm on the New Jersey Delaware border I found a small park just off I95 in Delaware and started setting up for the first contact and it clouded over again.

I then headed further south into Maryland and pulled over when the sun came out again in Elk Head State Park. I missed 1st & 2nd contact but got almost an hour of clear skies. I observed the

transit through my 8 inch Meade LX200 scope. I used a homemade solar filter from a sheet of Baader solar film mounted on a cardboard tube that fit over the front of the scope.

Since I was setup in an empty parking lot at the side of the road, a few curious passers by stopped by and I let them take a look through my scope.



Photo by Dave Wolfendale

I did not have a camera attachment and I only had a Sony Cybershot, a "point & shoot" digital camera, but I was able to preset the focus and shoot a couple of pictures through the eyepiece. The photos clearly show Venus, but my solar filter was not as clean or clear as it should have been, causing the extra "spottiness."

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Photo by Eileen Myers

"Bernie Kosicki sees the transit thanks to Steven Feinstein and Steven's son, Zachary." --Eileen Myers

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From Howard LeVaux:

I observed the Transit in the El Malpais National Monument between Albuquerque and Grants Pass, New Mexico.

At an overlook looking West. I was there with my son Ari and 5 people with their telescopes from Albuquerque.

We had ideal conditions. We went there to escape the smoke and storm clouds to the east.

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From John Reed:

Our plans for a viewing of the transit of Venus with our son Michael's family came together when we arrived in Powell, Wyoming the day before the transit. An 80mm refractor was mounted on a reassembled GEM on a tripod, a Tuthill mylar solar filter fitted over the front objective, and a 32mm eyepiece gave about a 20 power view.

Right on cue Venus appeared at the 6:30 position and proceeded to creep across the solar disc, headed toward the 10:00 position. Clear skies allowed viewing the four sunspot groups along with the black disc of Venus. We were not able to pick out the disc with only the solar viewing glasses. About two hours into the crossing we encountered partly cloudy conditions with intermittent views noting Venus' progress. 4 hours and 10 min found the sun sliding behind a thick cloud bank over the east side of Yellowstone Park so the last 30-40 minutes possible were lost.

I believe the four children and certainly the four adults will remember this historical treat. Having viewed the 2004 Transit from Gloucester, MA with Gary Walker, Vlad Vudler, Ed Knight, and Virginia Renehan through the fog, this second possible viewing was a real treat.

From Marion Hochuli:

It was touch and go with dark clouds looming from the N and NE heading SW. There was rain, drizzle, then brightening... then voila! - the Sun with Venus as large as I saw it in 2004. There were two scopes, one in the back by the stone wall and one at the top of my driveway. Happy to have seen it, if only for several minutes. The most remarkable phenomenon was the rapidity with which the clouds broke at the moment of sunset. When I was putting my scopes back in the house, there wasn't a cloud in the sky.

From Joseph Rothchild:

After seeing the 2004 Venus transit I immediately looked forward to 2012. After my wife and I had scheduled a bicycle trip to Puglia, Italy for this May, I realized, to my dismay, that we would not return from Italy until June 6th, the day after the transit was visible in Boston. Fortunately, after reviewing and S&T article on the transit, I determined that the Venus transit would also be visible in Italy on June 6th as a sunrise event (sunrise at 5:22 AM, egress at 6:48 AM), and I prepared my equipment including solar filters for compact 10x25 binoculars and for my camera, which I planned to use without a tripod.

I assumed that I would still be at our hotel at sunrise on the morning of the transit, but on arrival to Italy found out that we

were taking a 6:45 airline flight and had to get a transfer to the Brindisi airport at 4:45 AM, and would be boarding the plane around 6:15 AM.

We left the hotel at 4:45 AM and arrived at the airport at 5:15 AM just before sunrise. The sky was almost entirely clear except for low clouds in the East (a potential problem). We checked our luggage and I then left the terminal, went across the street and was able to get a clear view of the sun, although I kept having to move down the street as the sun kept going behind an antenna on the roof of the terminal. I was able to get a beautiful clear view of Venus with the binoculars. I shared the view with my wife and another member of the tour, and took images with my Canon SX10 at 560 mm, handheld. Aside from some issues with the autofocus, it worked well.

We then got through security and went to the gate. I had hoped to see the transit once more before take-off, and share it with two of our other friends on the trip who hadn't seen it yet. The boarding was delayed and we didn't leave the gate until 6:34 AM, 4 minutes before the end of the transit. We stopped on the tarmac on the way to the plane and stood with the binoculars observing Venus at 3rd contact. Our friends were very excited to see it, among the last humans to see a Venus transit for 105 years.

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Photo by Mary J. Becker

"I witnessed the transit from the deep northwoods of Hayward, Wisconsin (46.0131° N, 91.4844° W). I projected the image of the sun onto a paper plate using a Tele Vue Ranger 70mm. The weather was gorgeous. I was able to observe from first contact until the sun set." —Mary J. Becker

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From Haldun Menali:

After being clouded out during the last three transits of Mercury I tried to view from Boston in 1999, 2003 and 2006; and also missing to see all of the four contacts during the first Venus transit in 2004 due to late-spring showers at the beginning and end of the event when we traveled to Istanbul, Turkey; my wife Gamze and I were determined not to miss any minute of the last transit of Venus visible during our lifetime.

To fulfill our "little" dream, the first weekend this June we traveled to Southern California. After first considering to be at the Santa Monica Pier (not a reliable site due to coastal fog), or the Griffith Observatory (no personal scopes are allowed during public events), we wanted to check what kind of activities local

amateur groups were organizing. Lo and behold, many of them returned my emails with a warm welcome within a few minutes to hours when I sent initial inquiries. We decided to view the last transit of the 21st century with the members of the Local Group Astronomy Club (<http://www.lgscv.org/>) in Santa Clarita, CA (about 35 miles north-west of downtown LA, inland and not prone to coastal fog).

The viewing location was at the very end of a shopping mall parking lot (<http://www.meetup.com/LAAstronomy/events/66566582/>). We were the first to arrive there and leave the last! The LGSCV members had brought about 15 scopes and several binoculars, fitted with white light filters, and three H-alpha solar scopes. Many of them took pictures, some projected the solar disk for easy viewing by everyone, and one member recorded the transit digitally. We enjoyed the whole event under pristine blue skies while many of my friends, ATMoB members and other amateurs were chasing sucker holes on the East Coast. There was not one single cloud until the very end, except for a few thin clouds toward the western horizon right before the sunset. Our dream and the lyrics come true after all: "It Never Rains In Southern California" (by Albert Hammond and Mike Hazlewood)!

We made new friends, hopefully for a lifetime; showed the transiting planet through both of our scopes to many club members and visitors alike (there were more than 100 people in attendance); explained the mechanics of the Venus transit and why it's such a rare event thanks to the on-line articles from Sky & Telescope's website; gave advice on basic star maps that can be found on-line; what first scope would be best suited for most folks; and took pictures (around 500 frames) of the event at the prime focus of the Orion ShortTube 80mm fitted with an Orion white light glass solar filter, and even a few afocal pictures through the Lunt 60mm H-alpha solar scope.

Some of my and Gamze's pictures with captions can be found at the following link on ATMoB's website:
<http://www.atmob.org/gallery/showgallery.php?id=150>

A few additional notes: I noticed the planet approaching the solar disk a few minutes prior to the ingress through the Lunt H-alpha scope. I couldn't discern it visually at the scope (Orion ST80), but checking the images of the ingress afterwards, I was happily surprised to see that the black drop effect was easily captured on the pictures. There was even a satellite pass over the Sun's disk during the transit. And yes, I am now a member of the LGSCV too!

Considering that we did have some sightseeing as tourists (the Hollywood Walk of Fame, Grauman's Chinese Theatre, the Hollywood Sign, Downtown LA, Santa Monica Beach and Pier, Beverly Hills, Bel Air, and many other fun places) all in all our transit trip was a complete success. Our plans to view the next transit of Mercury in May 2016 are in the works now. See you all around!

From Ross Barros-Smith

I was nervously watching the weather while I should have been assembling the upcoming issue of Star Fields on the weekend leading up to the transit. Concluding that the local weather

forecast was risky and having missed the prior transit due to the clouds, drastic action became reasonable. I put out a request among friends online, offering to provide telescopes and inedible cooking in exchange for a place to observe with a better forecast. I received offers of couches in San Diego, Scottsdale, Anchorage, Eindhoven, and Honolulu. Scottsdale proved to be the only option that offered both excellent observing conditions and inexpensive airfare.

I arrived on the afternoon of the transit and quickly cut out solar filters and mounted them in cardboard for a pair of tabletop Dobsonians and my 90mm Maksutov. Finishing the first scope just a few minutes before first contact, my host and I watched from as the blackness around the Sun began to extend into it in the shape of Venus. We were joined later by her husband, who made it in time to observe second contact, and filters for the other two telescopes were completed. The conditions were spectacular, with no clouds and no humidity, making for a sharp image.

While taking turns at the eyepiece, we spent time returning to our laptops to brag to friends and family. My hosts and I conspired to refer to the effort as my "expedition to Sonoran Desert." It was felt that this would carry much loftier and more romantic connotations than simply saying we had dropped some telescopes next to their swimming pool in the middle of suburban Scottsdale while were enjoying mixed drinks.



Photo by Ross Barros-Smith
Ross' view of the transit through a 90mm Maksutov with a Canon 60D in Scottsdale, AZ

~ By various members of ATMoB ~

Sky Object of the Month

The Lunar X and V

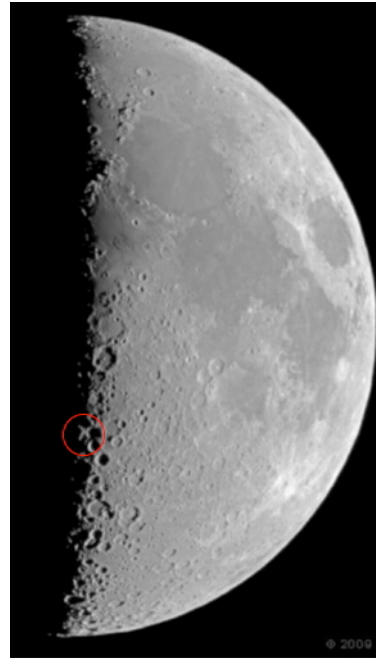
The Moon – what a royal pain in the butt! For a week or so around its full phase, the Moon floods the nighttime sky with a natural form of light pollution, frustrating experienced backyard astronomers who try in vain to view faint deep-sky objects. Its only value, they claim, is to the novice skygazer who seeks an easy target for his or her first telescope.

We need to rethink that attitude. Like it or not, the visual splendor of the Moon far exceeds that of the finest Messier and NGC objects. It's much more than just a "cosmic playpen" for the beginner or a stagnant "been there, done that" object. In fact, a number of serious amateur astronomers religiously observe and study the Moon. To them, the Moon is a world replete with thousands of intricate features that constantly change in appearance as sunlight wends its way across the lunar surface.

Some of the more intriguing lunar sights are transient features - short-lived phantoms formed by shadows cast by crater rims or by high-altitude areas capturing the glint of the rising sun. Many of these occur near the lunar terminator. One of the most remarkable is the "Lunar X" which appears around the time of first quarter Moon. I first learned about the X while reading Philip Harrington's book *Cosmic Challenge*. It results when light from the rising sun first strikes an elevated area formed by the conjunction of four craters near Werner Crater.

Harrington's write-up included a timetable of Lunar X appearances. Tipped off by this information, I decided to see the Lunar X for myself. Peering into the eyepiece, I was amazed at how readily visible the X was. How had I missed it? How, for that matter, had legions of other amateur astronomers failed to see it, or at least announce its existence? Although it appears on a number of early lunar photographs, the Lunar X wasn't formally introduced to the public until 2004 when it was described by Canadian amateur astronomer David Chapman in an issue of *SkyNews Magazine*. Perhaps the Lunar X was lost in the overwhelming amount of detail the first quarter Moon presents.

The accompanying photograph shows the location of the Lunar X (look about one third of the way up from the lunar south pole). This month, it will be visible on the 25th for several hours centered on 6:34pm. Lunar X will again appear on September 22 at 5:46pm and November 20 at 9:25pm. By coincidence, another letter appears near the terminator at the same time as the Lunar X. Can you spot it?



Photos by Jerry Lodriguss (<http://www.astropix.com>)

~ By Glenn Chaple ~

Stellafane Reminder

The 77th Stellafane Convention in Springfield, Vermont will be held through August 16-19th. This year's keynote speakers will be the Meteorite Men, hosts of the show of the same name on the Science Channel, Steve Arnold and Geoff Notkin. Our own Al Takeda is also a program highlight, discussing his work in astrophotography. Early registration discounts are available until July 19th (see <http://www.stellafane.org> for more information).

Because the usual deadline for Star Fields submissions on the second-to-last sunday of the month would fall on the final day of the convention, it has been pushed back one week to August 26th.

~ By Ross Barros-Smith ~

September *Star Fields* **DEADLINE**

Noon, Sunday, August 26th

Email articles to the newsletter editor at
newsletter@atmob.org

POSTMASTER NOTE: First Class Postage

Amateur Telescope Makers of Boston, Inc.
c/o Tom McDonagh, Membership Secretary
48 Mohawk Drive
Acton, MA 01720
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OBSERVING AND PUBLIC OUTREACH

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Virginia Renehan starparty@atmob.org

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 ATMob Observatory and Farmhouse 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.
