

Harford County Astronomical Society



Monthly Newsletter

Volume 35 Issue 11

November 2009

Public Star Party (Open House):

**Saturday, November 21, 2009
at Dusk**

At the HCAS Observatory

Activity: The Lives of Stars

Featured Object: Crab Nebula

General Meeting:

No more general meetings until January, 2010

7:00pm

In the Observatory Classroom

Please check our new website for possible schedule updates and changes:

<http://www.harfordastro.org>



<http://astroleague.org/>



<http://nightsky.jpl.nasa.gov/>

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HCAS General Meeting

Minutes of October 29, 2009

Meeting was called to order at 7:06pm by President Tom Rusek.

Minutes of the last meeting were approved as published in the last newsletter.

Newsletter issues: The newsletter issues are looking great, no one has reported any problems with the newsletter or in receiving it.

Treasurer's Report: Tim Kamel reports there is \$4180.90 in the checking account, without depositing the proceeds from the meteorite raffle. We made \$166 on the raffle, for only a \$10 investment. Currently we are up to 45 members, with no new memberships, but 4 possible from the Open House and Astronomy Day Outreaches.

Outreach: Swanfest on October 11th saw 302 visitors to our table. We had the 8" telescope with a solar filter, eclipse glasses and one of the Galileoscopes set up. Edgewood Public Library indoor/outdoor event brought 25 members to see a presentation given by Tom based on the "Harry Potter" literary series. Grace and Gary showed off the Lunar Samples and Phil brought his meteorites. Telescopes were set up outside after the presentation and we were able to show the public the Moon and Jupiter. We also took the Lunar and Meteorite samples to three schools: Prospect Mill Elementary (199 people), Homestead Wakefield (446 people) and Parkville Middle (795 people).

On October 24, we had our Astronomy Day event at Chesapeake Hall on the main Campus followed by our regular Open house at the Observatory. Although the day was rainy, we had 79 people at the Astronomy day and 35 people at the Open House. Sal Rodano was impressed by the presentation we did for Astronomy Day. In all, we showed the Lunar Sample disk to 1579 people in the matter of a few days. Thank you to everyone who helped out at these events, whether doing presentations or setting up and breaking down, your efforts were appreciated by other club members and the public. Connie at Goddard has contacted Grace and Gary about using our presentation as a model for other clubs and resources for Outreach Events.

Upcoming events: Carroll Manor school is set for November 13 for Kindergarten to 5th grade students. They are expecting over 100 students and family members and are requesting an indoor/outdoor program. If you can help out with telescopes, please let Grace know. Aberdeen Proving ground has not gotten back with us about their program request for mid-November. Joppatown Elementary school is asking for a program for Friday November 20. Tom will give the indoor program and telescopes or other optical equipment will be needed. At the Open House on November 21st, we already have a Daisy troop signed up to attend, they are studying the sky and Earth. APG Youth center asked for help in setting up their telescope, Paul has volunteered to do this for them. Patterson Mill High School has requested a program for March 24, 2010.

Observatory Operations: the Dome repair project is going well. The new windscreen motor is in and operational. The interior of the dome has been washed, and there was talk about repainting it. The next phase will require a welder from the school to install the drive chain. The fold-down part of the windscreen hinge needs repairing, and the faulty door was the cause of some water damage in the storage area. Emails will be sent out when work will need to be done.

Louis Berman contacted us. His father, Harold Berman, a founding club member, has passed away. The club has decided to plant a tree in Harold's memory.

Larry reports that the website has been updated with a player and link to the "365 Days of Astronomy Podcast" that we sponsored in October to Leo's memory. He also has said that all the newsletters up to 2002 are in digital format and available on the website. There was discussion as to whether we need to enter any older newsletters, and this was decided against.

Larry passed out a CD photo disc of the club's AstroPhotos taken with the CCD camera. These are full resolution processed pictures. If you wish to have a copy, contact Larry Hubble directly and he will make you one.

Finally, Larry stated that the debit card for club activities online will be adequate. He needs the card information to get it processed on Web.com.

Grace has brought up the possibility of making a smaller version of the Club's patches suitable for Boy and Girl Scout troops visiting the Observatory. She has gotten feedback that the 4" patch is a little large for the back of vests and sashes. She will look into a 2 1/2" version. She also reports that she has found a really cute patch for the Junior Astronomer's award that are rather inexpensive.

The meeting was adjourned at 8:15pm.

- Karen Carey

Observation Reports

The best times to observe at Broad Creek are between the last quarter and first quarter of the lunar cycle. The next two such periods are :

Nov. 9 through Nov. 24

Dec.8 through Dec. 24

Try to keep some of these dates open on your schedule!

Because of the unpredictable weather conditions, we cannot set a specific date and time to observe. Sometimes the decision to go to BC is made within a few hours before sunset.

In any case, all club members will be notified by email.

For any questions, contact Roy Troxel at: rtroxel@comcast.net

Broad Creek Sunday, 10/11, 2009

Sunday, October 11, was not particularly a good day. It was partly cloudy even though the Clear Sky Chart was predicting that it was to be a clear day and night.

However, I was itchy. It had been four weeks since my last observing session and I wanted to do some astrophotography with my new DSLR. I was hoping to do some deep sky stuff, possibly a star cluster.

It was a last minute decision but I thought to take a chance and started calling people at 5:00 PM. I called Roy and Gary and both were amenable, so we met at Astronomy Hill a little after sunset. I brought my Meade 114 mm f/8 and my LXD-75. I brought my DSLR and also my LPI, just in case. I did not use it.

Gary brought his 8" Newtonian on a GEM, and spent a lot of time trying to get it to work under field conditions.

Roy did not bring a scope. He spent his time helping Gary.

For the first time ever, I used my Polar Alignment Scope to get a good polar alignment and had some pretty good GoTos all night. I spent a little time looking at Jupiter and its moons. No matter how many times I look at it, it still amazes me.

I was now ready to start doing some photography. About this time, Larry Hubble showed up, having heard about this get together from Gary. I put the adapter on the camera and put it in the scope, but could not reach focus. Bummer. I knew that this was common for Newtonian scopes but was hoping it would not happen to me. What is the solution? Try a Barlow, which will put a field lens closer to the primary. I tried a 2X Barlow, but it was a short tube, still would not reach focus. So next I tried a 3X Barlow. This is a lot more power than I had hoped to use but this was a long tube Barlow and it did reach focus.



I spent the rest of the night shooting some 225 shots of various durations. They were all failures except for one. First I tried the Pleiades. But the power I was using only gave me a star or two in the field. Next I tried M13. I got in the field but it was so dim that I needed longer exposures, on the order of 2.5 to three minutes. This was beyond the ability of the tracking in my mount and the shots all show star trails. Next I tried 1/2 of the Double Cluster. This one was brighter but still no good.

Either I showed too few stars or I showed star trails.

My only success was Alberio. I guess it was bright enough that I could take shots of under one second, which were pretty steady and showed no trails. I took about ten shots. Overall, it was not a bad night. The temperature was cool for most of the session, getting a little colder as we left. However, we were prepared and dressed for the occasion.

I am not disappointed with the photography. It is only my second time with the DSLR and I expect that I will need to learn a lot more before I can do some decent shots. I know that the scope I was using, at 4.5", was too small for these targets. I need to limit my shots to no more than 30 seconds and probably need to do some work on the mount just to get that.

We packed up and left a little after 11pm.

- *Tim Kamel*



Broad Creek
October 25/26, 2009
10:30pm to 2:30am

I arrived at BC's gate (see above) around 10:30pm. Cathy Tingler arrived a few minutes later, as the first quarter moon was descending behind the trees. At this time the sky was totally clear of clouds, although seeing wasn't the best, maybe 2/5.

While I was still setting up, Cathy located Albireo with her spotting scope. We also observed the Ring nebula, low in the northeast. The moon was now behind the trees in the southwest, but Jupiter was high enough to permit some observation, although the image wobbled due to the low thick atmosphere. The four moons, however, were quite bright and a number of bands were apparent on the planet. Not much detail otherwise.

I decided to try for star clusters next. Saw M35 in Gemini, but it was low on the eastern horizon, so I couldn't detect the secondary cluster NGC2158. NGC1647 in the "face of the bull" Taurus. This is an open cluster. Finished with M37 in Auriga.

Moving to the southern sky, I saw almost none of the nebulosity around Zeta Orionis in Orion's belt, could be seen, even with the UltraBlock filter. This includes the emission nebulae IC434 and NGC2024, "The Flame". (IC434 harbors the Horsehead Nebula.)

The special treat for the night, however, was the variable star R Leporis, in the constellation Lepus. This is a crimson-colored variable, discovered by astronomer J. R. Hind in 1848. Its apparent magnitude varies from +5.5 to +11.7 with a major period of 427 to 432 days. It is between 1100 and 1500 light years from us. The color is metallic-looking, but obviously not of this earth. R Leporis is a "carbon" star which has burned off much of its hydrogen and helium, so it is

the burning carbon layer that we're seeing. For a discussion on R Leporis, see: <http://stars.astro.illinois.edu/sow/hinds.html>

After midnight, Gemini was high enough to observe the Eskimo Nebula(NGC2392), using the 12mm Nagler eyepiece (121x).

Mars is now in Gemini as well, displaying a distinct gibbous phase. Using a red filter, I could detect some markings, but it was hard to distinguish any shapes. The planet is now about 90 million miles away. Used a 9mm Nagler EP, yielding 175x.

We ended the observing session at 2:10am with the Orion Nebula (M42). Five stars were visible in the Trapezium, again using the 9mm Nagler.

- Roy Troxel

Broad Creek Sunday, 11/07/2009

Sunday, November 7, was a beautiful day, the third nice day in a row. It was in the low 70's and prediction was for temperatures not dropping below 53 by midnight. Clear Sky Chart prediction was for perfectly clear skies that night, average transparency and better than average seeing. Hoping to find that there was session at Broad Creek that night, I checked my e-mail and sure enough, I had a note from Gary George that he and Roy Troxel were going up and wanted to know if I would like to join them. Of course I did and I put out a note to the rest of the members. This was our first viewing session with the change to no daylight savings time. The sun now sets around five and we can be viewing by 6 pm and get three hours of star gazing and still be home by 10. Not too shabby for a Sunday night.

I was the last to get to Broad Creek, arriving a little after 5 PM. Roy was already there with his 120 MM Orion Achromat and he was planning on doing some astrophotography using the Club's Orion Starshoot. Gary was there intending to help him and bringing a laptop with the software on it. Gary also brought his neighbor Ben, who is interested in astronomy.

Larry Hubble was also there with his new C-11 on a GEM. This was to be its first official session and Larry wanted to put it through its paces and use it to do some astrophotography with his DSLR.

I also brought a camera, my LPI, but wasn't really planning on using it. I hadn't done any observing in some time and thought I would do that. However, with everyone else shooting I decided to join in using my 5" Maksutov.

Well, all in all, it was not a particularly good night for any of us and we all walked away with lessons learned.

The first casualty was Roy. The laptop with the software for the camera would not run, kept asking for the drivers. This computer had an install and was checked recently. Now the drivers were gone. None of us had an install disk. The camera and the scope got packed up for the night. Gary now has two copies of the disk and one is to stay with the camera so that an install can be done in the field if needed.

Larry had alignment issues with his new mount that he worked his way through and started taking photos only to find out that he was not able to track longer than 30 seconds. He was not happy with the shots that he took and is trashing them.

As for me, my troubles started when I got there and found out that I had left my warm jackets home. All I had in the car was my eyepiece vest and a light waist wind breaker. In my travel bag I had a wood hat and a pair of gloves. I also had a ton of hand warmers. I figured with a low temperature of 53, I should be OK.

Next was the mount. It kept giving me bad alignments and after several tries, I decided my AA batteries were going bad so I went to using my Orion power pack and lighter adapter. That worked but when I change power sources on an ETX scope, I am supposed to do a Train Drive. That wasn't happening in the dark. Next, I started up the lap top to drive the camera and found that my DC to AC converter was not converting. Since Gary was no longer using his power pack, I asked if I could borrow it and I was off taking shots of Jupiter. I had no problem taking short duration shots but if I tried to stack more than 6 shots, the image went bad. This has happened before with other scopes and I do not know why. I kept trying and took some 100 shots (easy to do at .01 of a second). Most were fair, many were bad and a few were good and I have stacked them to produce this shot. I know that this is my third shot of Jupiter, and not a really good one, but the LPI is a planetary camera, after all. My attempts to use it on star clusters were failures.



Then the power pack ran out of power and my photo taking session was over.

I then spent the rest of the night doing star gazing and saying hello to some old friends. I started in the west and looked at the Ring Nebula. Working to the north, east, south and back to west, I hit the Double Cluster in Perseus, M 36/37/38 in Auriga, the Pleiades (tough object in an f/15 Mak, too big) in Taurus and the Dumbbell. I ended the night looking at Jupiter at 150 power. Really great views through a Mak.

By 9 O'clock, I was freezing. Larry had to get home because he had work the next day. Gary and his neighbor had already left. Roy and I decided that this was a good time to pack it in. I got home, unpacked and put everything away and was in bed by 10:30.

I am looking forward to my next session.

-Tim Kamel

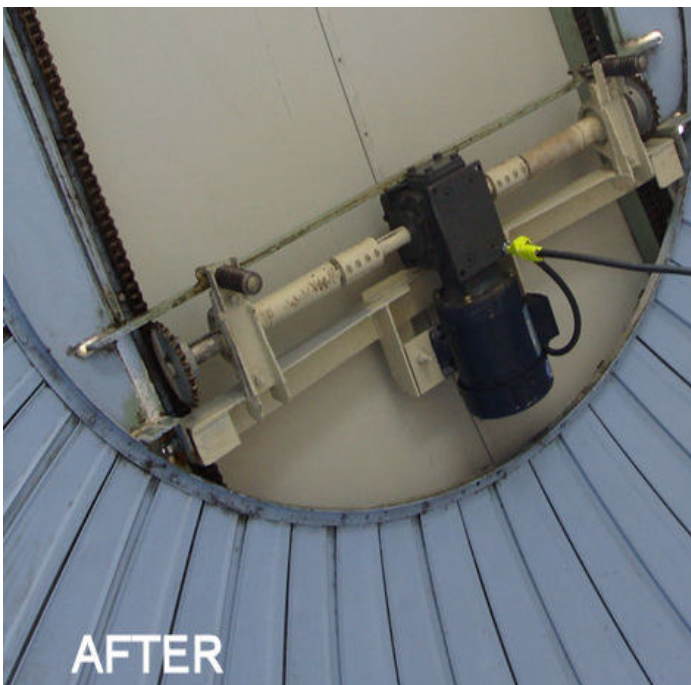
Observatory Upgrades

Just to bring everyone up to date , Thursday morning, Nov. 11, Mark, Larry and myself met at the dome to install the drive motor bracket underneath the dome floor. We had successfully mounted the two angle-iron brackets in between the studs under the floor, and now we had temporarily installed the baseplate that will hold the motor and gear reducer. Mark needs to re-drill a couple holes in the baseplate to allow for the actual mounting, but all in all, this part of the renovation is 99% complete,



After the re-drilling of the holes in the baseplate, we will mount the motor and gear reducer then insert the drive shaft, and align it up with the motor, and set this all in place. Then we can drill into the wooden shelf up on the deck where the drive shaft will come into contact with the drive chain. But before actually connecting the drive shaft up to the chain, we will need to install the new wheels.

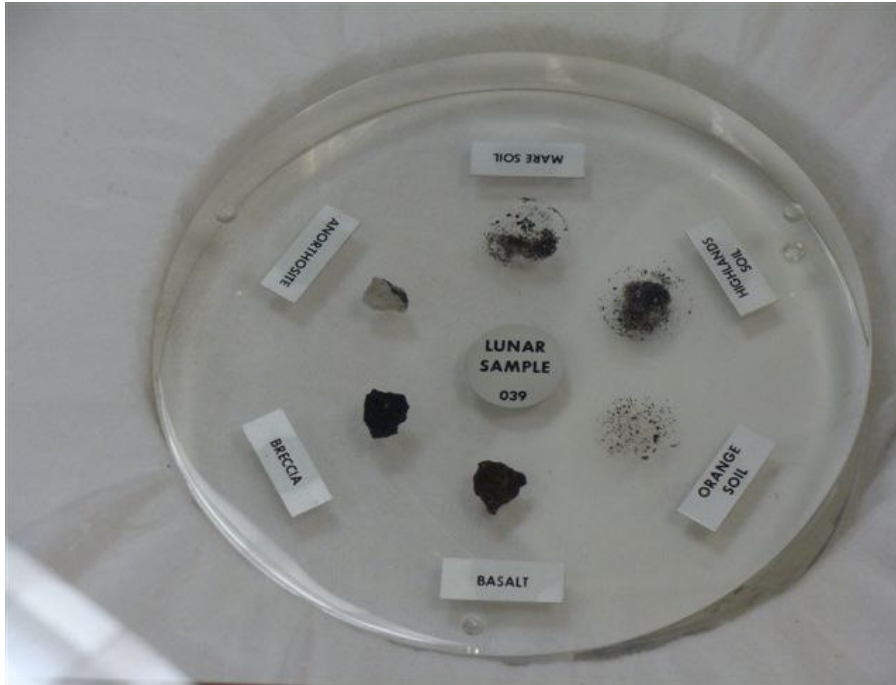
Mark has said that when we install the wheels we will install the drive chain all in the same day, in a non-stop procedure. The actual date for this will be set by Mark because we will need to have the college get the welder in at that point in time. So we are getting close at this point, but we are still a few miles away from completion. Mark will e-mail me again when we are going back up to install the motor and gear reducer, this final part will probably take another couple hours and at that point, we will set up the date for the wheels. Let's keep our fingers crossed.



Any comments or questions, please contact Gary George at gg43920@aol.com

Outreach Programs

Lunar Samples Tour Harford and Baltimore Counties



Gary George, Phil Schmitz and Grace Wyatt are certified lunar borrowers. They have been authorized by Goddard Space Flight Center to borrow lunar samples to display. They took advantage of that certification from October 20 to October 24 and showed the lunar samples to almost 1,600 people in four days. Gary and Grace picked up the samples from Goddard on October 20 and delivered them to Harford Community College Security for appropriate storage.

They picked the samples up the next morning to show at Prospect Mill Elementary School. They were joined by Larry Hubble for a presentation to 199 students and teachers. It was amazing how excited the children were to see "moon rocks". One of the mothers called me to tell me that her two sons were so excited when they got home from school; they were still talking about seeing moon rocks, two weeks later.

Gary and Phil picked up the samples on October 21 for delivery to Homestead/Wakefield Elementary School. Phil brought along a sampling of his meteorites for display and Mark Kregel participated in the presentation. Mark is involved with Homestead/Wakefield School as an advisor and science judge, and also assists with various science programs. At this school, pieces of paper were provided for students to ask questions. Mark took all the questions and plans to answer them and return them to the school. One student simply wrote on his piece of paper "you rock". The students were excited at this school and had many questions. We had 446 students and teachers stop by to see the lunar samples.

The samples were busy on the 22nd. After Homestead/Wakefield, they went to Edgewood Library for a presentation by Tom Rusek. Tom did a presentation called Harry Potter's World--Renaissance Astronomy which tied in nicely with the International Year of Astronomy and Galilean Nights. Dave Jayroe brought one of the Galileoscopes, and it was set up after the indoor presentation. The two most prominent objects in the sky were the moon and Jupiter--both ideal objects for a Galileoscope on a Galilean Night. Gary, Phil and Grace were present with the lunar samples and Phil's meteorites. Karen Carey and Dave Jayroe assisted with telescopes. There were 25 visitors at the presentation. On Friday, the samples traveled to Parkville Middle School where they were welcomed by practically the entire school. The samples arrived at 10 AM for

display. Gary and Grace brought the samples. Phil was already set up with his meteorites and Karen Carey was able to assist on this day using a computer to show students how the objects in the sky change overnight because of the rotation of the earth. Tim Kamel was also able to assist with the events of the day.

These students were a little older and just as interested as the younger students. When told the astronauts brought back 842 lbs of lunar rocks and soil from 1969 to 1972, one young man asked if it was moon pounds or earth pounds.

The students came during science class. Some of the students had already had the class before the samples arrived. Not wanting to miss out, some of those students came during their lunch time to see the samples and one group of students convinced their English teacher to bring them to see the samples. We had 795 visitors at that school.

The next day was Astronomy Day. The samples were set up for the daytime and night time presentations. During the day, we had 79 visitors and 35 more visitors that night. The samples were returned to Security for safekeeping until Monday when they were returned to Goddard.

Our experience with the lunar samples was exciting, fun and extremely rewarding to see so many people so excited about seeing a little bit of moon soil and rocks. The sample disk was very small, just 6 inches across. It was amazing to see so many young people clammering to get a close look, ask questions and linger to take a second look at something so foreign to them. Forty years ago the world stood still when a space ship was launched. Now objects come and go to space and most people don't even know. This experience brought back some of the magic and excitement I remember from watching the astronauts collect the samples.

Open House October 24, 2009

Saturday, October 24 was Astronomy Day. You'd think we would finally catch a break with the weather. Not a chance. It rained again, all day and into the night. I think that makes the sixth month in a row. I have lost track.

We had a really good program planned for this date. We started off at Chesapeake Hall at the College at 11 AM till 4 PM with tables set up to display various themes. Most significant, Gary demonstrated the Moon Rocks sample from NASA and Phil did a meteor display. Larry and Ricky Hubble demonstrated astrophotography using his scope and camera. Tom Rusek did a presentation on the stars. Karen did a piece on "birthday" stars. Grace manned the entrance desk and I had a laptop demonstrating some of our astrophotos as well as a sample of binoculars. We also had a display of scopes in the middle of the hall. Also participating today were Mark Kregel, Sal Rodano, Tom Miller, Jimi Hajek, Paul Sokolowski, David Jayroe and Garry Lang. All in all, we had about 90 guests come by.

At 7:00 PM, we moved the program to the Observatory. We displayed the moon rocks and the meteorite collection. It was still overcast, but it had stopped raining and we could see some patches of sky. We had about 30 people join us, including several HS students.

Later in the evening, the sky started clearing up and I set up the 8" club Dob and was able to show some views of the crescent moon and of Jupiter between the passing clouds. We closed up at about 9 or so, and by then about half the sky was clear. Great!

It was a long day but very satisfying. A lot of people came by and we had a lot of good questions. A lot of members pulled together to pull off a "museum class exhibit", as we were told.

- *Tim Kamel*

Astronomy Day, October 24



Mark Kregel conducts discussion on the universe's origin.



Phil and Karen answer the visitors' many questions.

Upcoming Outreach Events

Friday, November 20, 2009:

Paul Sokolowski will be at the Aberdeen Proving Ground Youth Center at 4 PM showing them how to use their 8" reflector. Tom Rusek will give a presentation at the Joppatowne Elementary School.

More Astronomy Day Photos



This newsletter is the official publication of:

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