

# Harford County Astronomical Society

Bel Air, Maryland  
www.harfordastro.org



*Volume 33 Issue 1*

*January 2007*

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## **Public Star Party (Open House):**

**Jan. 27, 2007 at dusk**

Technical School Parking Lot,  
Next to the Observatory

## **General Meeting:**

**Feb 3, 2007, 7:30pm**

At the Observatory

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## **Club Calendar for 2007:**

### **Meeting Night**

Jan 6, 2007

Feb 3, 2007

Mar 3, 2007

Apr 7, 2007

### **Open House/Public Star Party**

Jan 27, 2007

Feb 24, 2007

Mar 24, 2007

Apr 28, 2007

### **Outreach Program:**

Bel Air Library, Jan. 23, 7:00pm

*Please check the website for possible schedule updates and changes:*

<http://www.harfordastro.org>

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### **In This Issue:**

**Minutes of January Business Meeting**

**Recent HCAS Events and Observations**

**Messier Objects for Winter**

**Harford Community College Spring Observation Schedule**

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## HCAS Business Meeting

Minutes - January 6th, 2007

1. President Jim Garrett opened the meeting at 7:30 PM. The December 2006 meeting minutes were published in the newsletter. The minutes were approved with one small change. Mark Kregel, not Jim Garrett, will be working on wiring the observatory with Cat 5 cable.

Jim commended Monroe Harden on the quality of the club's meeting minutes. He also thanked Roy Troxel for doing a good job on the newsletter. Roy said that the deadline for the next newsletter is January 13th. Mark said he would provide a copy of the HCC Astronomy class observing schedule for publication.

2. Treasurer: Tim Kamel reported that the club's bank balance was \$5485.48. One new member paid his dues this month.

3. Observatory operations: none this month.

4. Outreach:

a. There was a good turnout at this month's open house. 3 people brought their new telescopes out so that club members could help them resolve some problems. A photographer and reporter from the "Baltimore Examiner" came and took pictures. One was printed in the paper; Grace Wyatt said she would get copies of the paper for the club's records. She already had the actual digital photograph files.

b. The Steppingstone Museum event was also successful. A few kids came out in the bitter cold to look through the scopes.

c. Tin Rusek will provide an indoor and outdoor program at the Bel Air library on January 23rd. He asked members to bring their scopes to the outdoor session.

d. Tom will host groups of scouts at the next 2 open houses. He will start with a presentation in the observatory classroom, followed by walking out to the observing field to join the regular open house activities in the Harford Tech parking lot area.

e. The club will provide materials for the Whiteford library's display case in February. Tom will also do a presentation there on March 13th.

5. Old business:

a. The group discussed Tom Rusek's proposal to meet with the Harford Community College leadership to share information about the club's activities and the school's needs and desires. Mark Kregel noted that we needed to be sure we went through the proper channels at the school, and he thought it would be a good idea to start with the science department. He suggested that we contact Sal Rodano (a club member), Debbie Gabel, and/or Jim Dimario.

The club approved a motion to proceed forward with this proposal. The first step will be to prepare a letter describing what we want to discuss and coordinating that among the club members so that we have a unified position before going forward. The next step will be to present the letter and request a meeting with the science department contacts listed above. Finally, if necessary, we will then schedule a meeting with the school leadership.

Tim Rusek is the lead for this activity.

The group agreed that the meeting will not include detailed requests for funding, since that could be a touchy subject at the school. These meetings should address generalities at first, including our open houses, support for the school's astronomy classes, and other activities the club is doing.

b. Mike continues to research the possibility of getting a scrolling text sign to show the way to the open house site. 24-36 inch wide signs cost between \$600 and \$700. He will keep looking for other options. Grace said that the "Aegis" may have one we could borrow.

c. The Broad Creek observing site is accessible at this time. The road is not too muddy and the gates and locks work. Roy has gone there several times, and he has been joined by a friendly policeman a few times.

#### 6. New business:

a. Tim Kamel asked if we had written permission to use the high school parking lot for our open house events. Tom said that he received verbal permission from the school's vice principal. The group agreed that copies of written permission letters would be valuable in case the police or other authorities question our right to be there.

Tim agreed to draft a letter to the high school, Steppingstone museum, Broad Creek, and any other facility we can think of, thanking them for letting us use their sites for club activities. He will include a draft letter of authorization allowing us to continue using their facilities along with a copy of the club's insurance certificate.

b. The club agreed to host a viewing event on March 3rd for the lunar eclipse. This will happen at sunset, and the club's meeting that night will take place after the eclipse ends, around 7:30 PM.

c. Phil Schmitz asked if the club was interested in taking a trip to the Baltimore Science Center again. The group agreed that the last trip there was worthwhile, so Jim will contact Phil and set up a date.

d. The group discussed the club's by-laws, which were printed in last month's newsletter. There are several things required by the by-laws that we are not doing, such as having a functioning executive committee and Board of Directors. These groups were established when the club was much larger, but with the smaller membership now they are not needed.

No requests for amendment were received since the publication of the by-laws last month. Given the current club size, we will continue to operate the way we are, and we will return to the larger leadership groups when the membership grows large enough to warrant it.

e. Tim asked if we should distribute the membership list to all members. And should we allow members to opt in, or opt out, of being on this distributed list? The club agreed that future membership forms will include a statement that member information would be included on a list provided to other members, but a check in a box could opt the member out of being on the list. For the near term, Roy will put a similar announcement in the January newsletter.

8. The meeting was adjourned at 9:05 PM.

- Monroe Harden

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## **Treasurer's report**

January 3<sup>rd</sup>, 2007

As of 12/20/06, balance in the checking account is \$5485.48.

There have been no changes in the number of members. There are no other financial issues to report.

### **\*\*Notice to Members\*\***

There have been occasions where members have requested information about other members, such as e-mail addresses, street addresses, and phone numbers. This is done for various reasons, such as mailings, observing sessions, etc.

If you object to having your membership information released to other members, please advise me, Tim Kamel at [hkamel32@comcast.net](mailto:hkamel32@comcast.net) and I will mark your information to not be shared. I would appreciate your response by 2/15.

Note that we do not share information with non-club members.

You should also note that the only information we have on our membership list is what is on the membership application forms. This includes names, addresses, phone numbers, officer positions and e-mail addresses.

I also maintain a business record that holds information about payments, membership types (Individual, Family, etc.) and subscriptions to magazines. This is not shared.

Tim

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### **Upcoming Outreach Programs (so far):**

1. Bel Air Library on January 23, 2007 @ 7pm.  
Outdoor program to follow @ 8pm.
2. Observatory on January 27, 2007 @ 7pm  
Scouts (belt loops) and parents (10-11 year olds), 20 to 30 people.
3. Observatory on February 24, 2007 @ 7pm.  
Forrest Hill Girl Scouts (10 year olds), 20 to 30 people.
4. Whiteford Library on March 13, 2007 @ 7pm.  
Outdoor program pending.
5. Scouting Camporee on June 2, 2007 at 7pm.  
Location: North of Bel Air on Route 165 (more info. later).  
Belt loops and 100 to 200 people expected.

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### Earth Globes Still Available

HCAS has received a donation of a number of older globes. If anyone would like one, please pick it up at or before the next meeting or let Grace ([dgracew@comcast.net](mailto:dgracew@comcast.net) or 410-836-7285) know you are interested in getting one. The globes will be donated after the next business meeting. The globes are stored in observatory storage.

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### HCAS at Whiteford Library

HCAS will be dressing the display case at the Whiteford Library for the month of February. I will be putting the items in on February 1 and removing them on February 28. It is quite a large case (4' x 5' and 17" deep). If anyone has anything they think would make a good display or would like to help with the case, please contact Grace at [dgracew@comcast.net](mailto:dgracew@comcast.net) or 410-836-7285. If you have something for the display case, please include a list of the items you put in the case including the value of the item. The library has insurance on the things in the display cases and it is for insurance purposes we must list each item and cost.

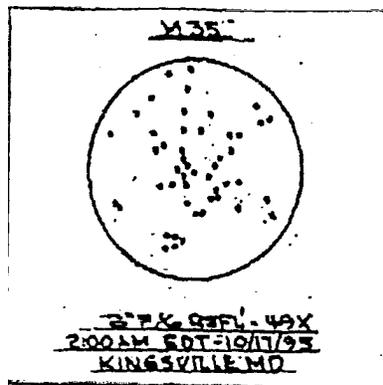
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### Messier Objects for Winter

*By Steve Krall*

#### M35:

1/22/95--11:55 pm--10" F/5 Refl.



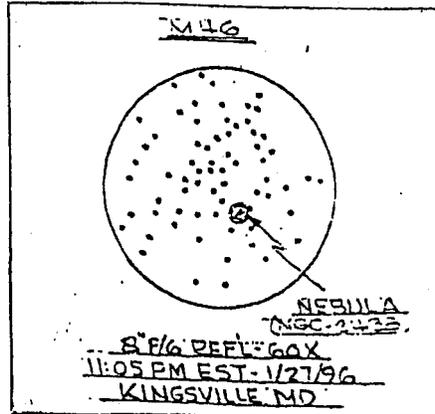
On an especially clear night away from the urban skyglow, M35's faint, pale patch of light may be seen with the naked eye in Gemini, tucked just below and to one side of the dim stars which form Castors feet. To track down this cosmic jewel, focus your telescope's Tetrads on bright Aldebaran and journey eastward on a straight line thru Zeta Tauri and continue about 5 degrees farther to M35, one of the sky's finest cluster. It's a striking sight, little compressed, exceedingly bright, numerically rich, circular and is packed with wall to wall glistening blue/white stars. Although its members are bonded by mutual attraction, astronomers now know that such clusters are indeed drifting apart and its stars eventually scattered about the milky way, just as our sun with her

entourage of planets probably strayed from such a similar cluster once upon a time long ago.

*Note: Messier described M35 as a "cluster of very small stars near the left foot of Castor."*

### M46:

3/24/96--9:35 pm--8 inch F/6 Refl.



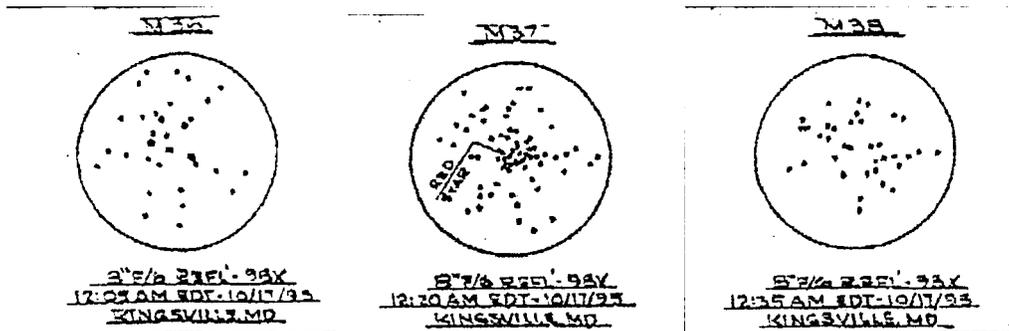
Tracking down this lovely cluster, lying in Puppis, a scanty part of the sky lacking decent markers to guide you can be daunting. Try for it, using low power, by stepping off 12 degrees to the east of Sirius, a most worthy guide star, where M46 will bob up as a faint, large, bluish-gray patch in close proximity to M47- just a whisker away to its northwest. Higher magnification resolved it very nicely, revealing M46 for what it really is, a grand ball of small sparkling stars, extremely rich, fairly loose, uniformly dispersed and resolvable to the edge of the field of view. It is a glorious sight in every respect. While you are admiring this marvelous beauty, you might pause to focus on the small, ashen-gray, planetary nebula [NGC2438] seemingly suspended in the foreground of all those twinkling stars-it is the very image of the Ring Nebula in Lyra.

*Note: Messier described M46 as "a cluster of very small stars, the stars can not be distinguished excepting in a good telescope. Contains a little nebulosity."*

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### M36, M37, M38

01/25/95—8:50pm to 10:20pm—10" F/5 Refl.

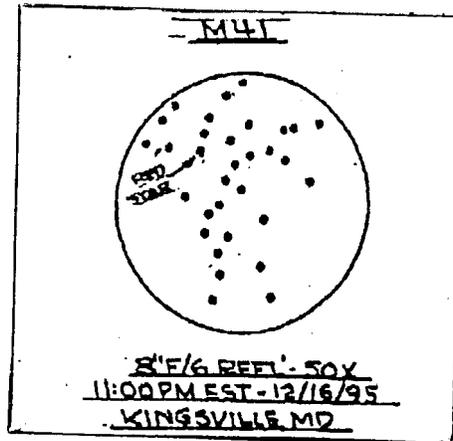


These three open clusters are an amateur's ideal set up for a triple play in Auriga. They are approximately of the same brightness, numerically rich, easily resolvable and are very close to each other. They can be found with the least effort in a small telescope, just eyeball your scope on that side of the pentagon opposite Capella and your apt to stumble upon one of the clusters. I particularly favored M37 whose large field of numerous stars looked like a mass of sparklers. (M37 puts me in mind of NGC869 in Perseus ) Just as bright but somewhat smaller and less compressed than M37, M36 contains fewer stars, spread out in an irregular pattern with a small concentration of its brighter stars in the center some of which are arranged in a configuration of the letter "H". M38 whose stars are not quite as bright or as numerous as either M37 or M36 has a straggly appearance and looks curiously as if it's imbedded in the rich starry background of the Milky Way. Since these clusters are conveniently lying in proximity to each other, it gives the observer the opportunity to study and compare them at his leisure.

*Note: Messier described these clusters as "at little distance from each other, containing small stars."*  
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**M41:**

1/26/95--11:45pm—10 inch Refl.



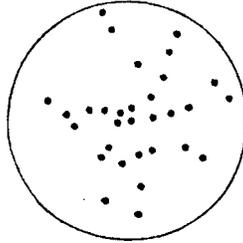
Located in Canis Major, you can easily bring this absolute gem to light with a small telescope. Look for it, positioned at a convenient angle in the sky, about 4 degrees below shining Sirius, (use your Telrad) appearing as a large, numerically rich, open cluster containing a rectangular assemblage of sparkling blue/white stars in a field about the size of the moon. This cluster is an inspiring sight and I was pleased with its brilliancy and magnitude but I particularly relished spying a solitary, ruddy star in the midst of all those glittering stars.

*Note: Messier described M41 as "a cluster of stars below Sirius, appears nebulous in a small telescope, it's nothing more than a cluster of stars."*

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**M93:**

1/25/95--9:40 pm--10" F/5 Refl.



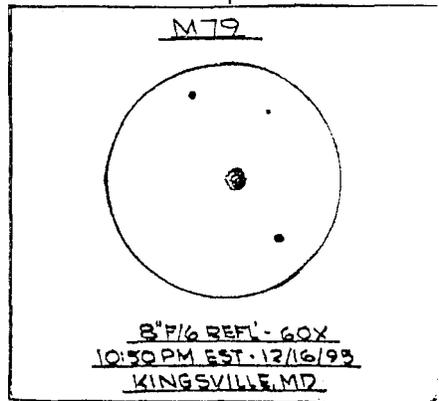
Using low power you can easily locate this wide, open cluster. First locate brilliant, unwavering Sirius in Canis Major, slide down to the southeast to Wesen (Delta Majoris) another bright star, then move directly east for about 10 degrees (your fist) from Wesen. Sweeping in that area, I finally spotted M93 appearing as a splatter of twinkling stars barely concealed in the thinnest nebulosity. However, higher power easily lifted that tenuous haze revealing a rich medley of randomly, scattered large and small stars in which I could discern a formation of stars in a configuration of a large 'V'. M93 is a pleasing sight to behold and I preferred using 100x (medium power) on it to appreciate the overall brightness and wide expanse of this pretty cluster.

*Note: Messier described M93 as "a cluster of small stars without nebulosity."*

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**M79:**

12/16/95--9:15pm—8-inch f/6

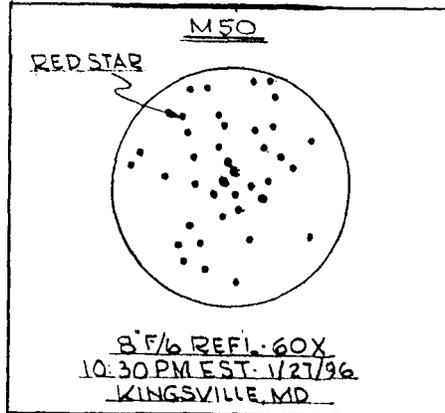


Lying isolated in Lepus, an obscure, scrumpy constellation, low in the sky and without the bright guide stars to show you the way, M79 can be a challenging target. Try sweeping for it for it about three degrees southwest of faint Beta Lupi on a line extended from Alpha Lupi. An intersecting line running directly south from Orion's brilliant Rigel can also get you close to where you can find this very small, featureless, round, extremely compact, ash-gray, globular cluster in your low power field. Even on the most favorable nights I could barely make out this object's small, bright core. Sensing some possibility of resolvability here, I increased my magnification in my fervent desire to resolve this cluster but to no avail. M79 does have some interest but use a larger aperture and wait for one of those clear, winter nights to appreciate this one.

*Note: Messier described M79 as " This nebula is a fine one, brilliant center, the nebulosity is a little diffused."*

**M50:**

3/24/95--8:45 pm--10" F/5 Refl.



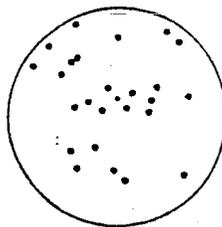
Located in Monoceres a rather blank, sparsely populated constellation lacking the celestial beacons to show the way, you might assume that finding M50 would be an arduous undertaking. Actually it can be found rather easily by tracking on a straight line less than halfway from brilliant Sirius in Canis Major up to radiant Procyon in Canis Minor. It is an open cluster, rather compact, not very bright, brighter toward the center and packs a generous number of large and small stars. Stepping up my magnification a notch enhanced my view of this fine cluster and I glimpsed a lone red star just off center and numerous dimmer stars radiating outwardly. I was particularly attracted to the central region where I espied a small circular formation of the brightest stars in an interesting display.

*Note: Messier described M50 as a "cluster of small stars more or less brilliant."*

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**M47:**

3/24/95--9:10pm--10" F/5 Refl.



M47, one of the principal objects in Puppis, a lackluster constellation, barren of those all-important bright starry beacons to surely guide you, may be a little troublesome to find. However, by sweeping about ten degrees ( your fist ) eastwardly off reliable and ever radiant Sirius, it's impossible to miss this brilliant display of dazzling, blue/white stars. It is nothing short of splendor by any measure. M47 is composed of numerous-very bright stars as well as many small ones spread out over a large field in an elongated, irregular pattern. I could also discern a small group of stars toward the center in an uncommon resemblance to the letter "H". I found low power most favorable to contemplate this impressive looking open cluster and I particularly appreciated its luminosity which at first glance literally pops out at you. While you are in the neighborhood you

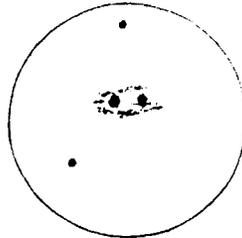
can observe the only other Messier object in Puppis, namely M46, a wonderful, somewhat evasive, soft glowing, cluster of gleaming stars just breath away to the southeast.

*Note: Messier erred in M47's position. It has been identified as NGC 2422.*

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### **M78:**

1/25/95--10:50 pm--10 inch Refl.



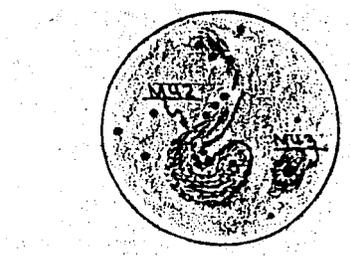
Fit for a small telescope, you can easily spot this luminous, oblong shaped object in Orion. Look for it, using your Telrad, a couple of degrees northwest of Zeta Orionis, the easternmost star in Orion's belt. It is a rather inadequate, mediocre looking nebula involving only two prominent stars enveloped in a small, faint, rectangular, silver-gray patch. A larger telescope showed it brighter against the dark sky but was of no other interest. Fortunately, while you are here, you can take the opportunity to view other near-by attractions since M78 is located in one of the most wondrous constellations in the sky, namely the Orion Constellation.

*Note: Messier described M78 as "a cluster of stars with much nebulosity."\**

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### **M42/M43:**

1/26/95--9:40 pm--10 inch F/5 Refl.



You don't need an atlas to locate M42/M43, these spectacular nebulae can be readily spotted with the unaided eye in Orion. Look for them located near the bowman's quiver suspended several degrees below his star studded belt where M42 appears as a grandiose, glowing, swirling, blue-green cloud formation so very tenuous and delicate that it is difficult to ascertain its actual extent. One of M42's dominant features is the Trapezium, a cluster of at least four brilliant, newly hatched, blue-white stars lying in a cavity jutting deep in the center of that gaseous cloud. Look just below M42 to find M43, another diffuse cloud formation similar to M42 but smaller, less brighter, less stunning and containing one lone shining star engulfed in nebulosity. M42/M43 is an unforgettable sight. I especially liked the brightness, the color variations, the wide expanse and the turbulence. You can get all of this inspiring spectacle in the field of a small, low power telescope, it's wonderful.

Note: Messier described M42 as "a fine nebula in Orion's sword around the star Theta which is included there with three other stars that can be seen in some good instruments." Note: Messier described M43 as "the position of a little star surrounded by nebulosity and which is below the nebula of Orion's sword"

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## Open House

December 30, 2006



From the *Baltimore Examiner*

On 12/30/2006, we had our last open house function for the year 2006. It was a good night, with warmer than average temperatures and average seeing. Transparency was fairly good early in the evening but deteriorated with thin clouds later in the evening. We did have a beautiful ring around the moon.

We again set up on the parking lot pavement at the Technical High School instead of on the grassy space near Thomas Run Road. This continues to work well for setting up stepladders and equipment. We are still looking at getting a sign but us setting up away from the road did not interfere with attendance. We were also clearly visible to two Deputies who drove onto the site with the apparent intent of challenging our presence. One sat in the entrance drive while the other drove around us to see what we were doing. They then conferred and left without even a polite hello. Later on, another Deputy drove in with a car in tow and proceeded to issue a citation to the other driver while both kept their headlights on. Bummer.

Public participation was good with individuals and couples making the rounds between the scopes. I would put the number of guests at about 40.

Participation by club members was also good. Grace Wyatt, Mark Kregel, Mike Talbert and Roy Troxel came. Kathy Dannenfelser and her husband came, as did Stephen Krall. Doug Wititch was also present.

Of course, our main attraction was the moon. Other subjects included the Orion Nebula, the Pleiades and Hyades, The Double Cluster in Perseus and assorted clusters in Auriga. Saturn was also attempted but it was still too close to the horizon by the time the session ended.

Something a little different this month was three guests asking for help with their scopes. We had an 8 year old that received an Orion StarBlast and wanted some assistance in using it. A teenage girl also received a StarBlast on an EQ mount and was having a major problem setting up the mount. Lastly, a teacher that we had helped set up a Konus equatorial reflector during the Telescope Buyers Workshop came to get some assistance in using the scope. We were able to work with these guests and get them set up.

The session broke up a little after 10 PM.

Tim



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## Observation Reports

### Baltimore County

December 16, 2006

As I was packing my scope in the car, I looked up once again to see a mostly blue sky. By the time I got on the road toward Freeland (northwest Baltimore County), the blue sky was gone! Totally overcast. Oh well, I thought about pulling off the interstate (I83) and calling the person whose house I was heading to. But I decided to continue onward. After meeting Glenn and his brother-in-law Ryan, we headed to a mowed hay field near his house to observe. Others were coming up later. The sky was looking better. So we decided to set up the scopes, about one hundred feet from the road in the hay field. As it got darker, the sky got clearer, although clouds hung around the entire horizon. I estimated that we were seeing 4<sup>th</sup> magnitude, naked eye. The temperature was around 40 degrees and there was no wind.

I aligned my scope on Vega, and got to work. My scope, a 16" light bucket, doesn't usually show star colors very well (without using filters). I was using my 40 mm eyepiece (lowest power I have) on Alberio, and the colors were striking! Everybody could easily see the colors. In all, there were seven people observing. I next went to the double double in Lyra, (I switched to my 12mm 2" eyepiece), and all four stars could be seen.

Somebody mentioned about seeing some Geminids the previous two nights and wondered if we would see some tonight. I said I rarely see meteors when I am using my scope, because I am either checking out some galaxy on a star chart, looking through the finder to line up the spot where I think the galaxy should be, or actually looking through the eyepiece at an empty field of view, where the galaxy is supposed to be, oh well. By the time I look up, the meteor is gone. So I figured no meteor sightings for me tonight.

I decided to show them the double cluster in Perseus, it did not disappoint. The stars splattered across the field of view, like diamonds sprinkled on a piece of black velvet. We moved on to M15, the very nice globular cluster in Pegasus, a halo of stars could be seen around the cluster. We looked at M45 through the finder scope (9x60) for a better view, several dozen stars were seen.

One person said they had never seen a galaxy in a telescope, so I went for the obvious one, M31; they were awed by the view. M31's core as well as quite a bit of the disk could be seen. M32 was visible in the bottom of the eyepiece field. I also saw M110 but it would not fit in the view with the other two.

Finally, M42 was high enough to take a peek, but I wasn't expecting it to look too good since it was just above the clouds on the horizon. However, the view was fine. The four main stars of the trapezium were visible as well as a good bit of nebulosity. As M42 got higher we kept going back to it to get an even better look. Then I decided to awe them with M1, after all, it is one of the easiest Messier objects to locate, being near Zeta Tauri – the lower horn of the Bull. I got Zeta in the field, located the two faint stars that make an equatorial triangle with Zeta, and aimed the crosshairs of the finder just above the two faint stars, looked in the eyepiece, and there it was! I didn't know if anybody else would see it, it was barely brighter than the background sky. One by one, everyone looked and everybody could see it! I explained that it was a star that exploded in the year 1054 (as seen from Earth). They were impressed. We looked at M1 a little while later, and it had completely cleared the haze and was completely obvious then. To me it appears to be "S" shaped, as we are only seeing the center part of the explosion, not the wispy tendrils that are easily seen in the Hubble Space Telescope photo. We also checked out Sigma Orionis, a nice quadruple star, just below the belt of Orion. We saw three stars of Castor's six, the other three being spectroscopic binaries.

Next up was the brilliant cluster M35 in Gemini, it was spread out across the field of view. We finished the observing session by looking at the Hyades cluster in Taurus, not too bad. I realized that nobody saw a Geminid. However as we were packing up the scopes, I glanced up at the sky and a brilliant Geminid, about magnitude 2 streaked across the sky. It definitely came from the direction of Gemini. The only other two people left, Glenn and Ryan, were not looking up at the sky and they did not see it. It was ironic that I was the only one who saw a Geminid that night.

Phil Schmitz

## Observation Reports

December 23, 2006

I observed in my back yard tonight for the first time in several months, at least since early summer. Summer for me is usually not a good time to do observing. Nights start late and are short. Transparency is usually poor and the bugs just ruin any enthusiasm I have left. The weather this last Fall seemed poor and I missed out on the transit of Mercury, the Orionids and the occultation of the Pleiades last month due to clouds.

Tonight, after 2 days of rain, the weather promised to be beautiful and I could not resist. I thought the transparency was better than average and seeing was average. Light pollution was worse than average and the Christmas lights on the houses visible from my back yard did not help. However, I could see 4-5 stars in the Pleiades and that is dark enough for me.

I went out about 9:15 PM and observed for about 2 hours. I took out my 10" Newtonian and set it up on my LXD-75 GOTO mount. I had bought this scope, as an OTA, last April and tonight was my second time that I was putting it to use. It is out of collimation and my attempts to collimate it have not been successful. Tonight, I thought I would use it anyway because I have three new 2" GSO eyepieces that I wanted to try out. After doing my alignments, I started off with M 42, one of my favorite subjects. I probably spent 45 minutes looking at it through various 1.25" and 2" eyepieces including some X-Cels and a 20 mm Televue Plossl. As usual, a great DSO to observe and the nebulosity was very obvious, including the fish mouth. M43 was visible by averted vision. The Trapezium was a delight but I could not bring in any more than the 4 stars. Stars E & F continue to elude me as they did when I tried for them my last visit to Broad Creek using my 8" F/4. In fact, the entire image broke down when I used a 10 mm X-Cel and I could not bring the Trapezium to focus, even when it was dead center in the eyepiece. I suspect this would be the poor collimation working against me in this fast scope.

My next target was M45, also a favorite. However, even though M45 is to the west of M42, my scope slewed to the east across over 300 degrees of sky and arrived at least 10 degrees off target. Not sure why that happened but I have experienced this before. I moved the scope manually and synchronized. I then enjoyed one of the advantages of a fast scope – wide fields of view. I could see almost all of the Pleiades in my 50, 42 and 30 mm 2" GSO eyepieces. The view was very bright and the stars were pinpoint to the edge of the field.

My next target was M38 in Auriga but again the scope slewed the long way around and was again well off target. I could not see M38 in my finder so had to go back to M42, synchronize and then do a GOTO to M 38 from there. It worked and M38 was dead center in the view. So, I decided to spend the rest of the session observing in this immediate area. I also observed M37 and M36 in Auriga; M41 in Canis Major; and M44 in Cancer. I tried for M46 in Puppis but it was low, in the tree branches and did not show much. Six open clusters in all, each distinct from the others in size and brightness. I also tried for M81 and M82 but the eyepiece was too high and I did not want to mess with its position. I then tried for Saturn but it was also low and in the tree branches and the view was poor. The image was dancing around and would not hold focus even at low power. Before packing it in, I gave M42 one last look.

This session was somewhat spontaneous and I did not prepare an observing list. I missed out on several nearby open clusters including M35, M67, M48 and M50.

The 10" OTA weighs 35 pounds and I have been resisting bringing it to the dark sites because it is bulky and difficult to get into my car trunk. I should try bringing it to one of the dark sites at least once to see how it performs. I also need to try again to get the scope collimated, even if I only use it in my back yard.

Addendum, 12/26/06 – I just read a post on a Yahoo Group called LXD75 Telescopes and referencing something called a “Meridian Flip”. It seems that as equatorial scopes (I am assuming GEM's) that traverse the Meridian end up with their counterweights higher than the OTA. Apparently, this creates a risk for gearbox collision on GOTO scopes. The electronics on these scopes recognize the hazard and will flip the orientation of the scope to keep the OTA higher than the counterweight. Live and learn!

Tim

## **Broad Creek**

Dec. 19, 2006

Around 4pm, I returned home from the dentist. Ugh. When I looked up at the sky, there wasn't a cloud in sight, and the sky was turning a dark blue. It looked like it might be a good night to visit Broad Creek, so I checked the Clear Sky Clock. According to that source, the cloud cover was 0%, but the transparency was "below average" and the seeing was "poor". I stepped outside again, and the sky still looked good to me, so I began loading the 120mm refractor into my car. However, I decided to wait until late to visit the site, because I wanted to view the galaxies in Leo and Virgo. I also wanted to see what Saturn (now in Leo) would look like from Broad Creek.

I arrived at BC around 11:30pm. It was cold, about 38°F. All around the horizon, there was a slight haze that extended upward about 25 degrees. Beyond that level, however, the sky was very clear! In fact, have never seen the stars of Orion so bright. I looked down on the ground to see if it was casting a shadow. The Milky Way was a like a veil - not the brightest I've seen it, but it extended across the top of the sky, beginning at Auriga in the northwest and going southward through Taurus, the northern part of Orion and then Canis Major.

After setting up the scope, I first tried a look at Saturn, but it was still within the haze that lay on the horizon. I was able to see the Cassini Division and some bands, but they flickered in and out of view. I next attempted to view the triplet of galaxies below the triangle in Leo, but they were definitely lost in the haze. Hmmm. I decided I'd return to them later.

### **Clusters**

Next I tried some star clusters, and what a show that was! M35 in Gemini and M67 in Cancer were filled with intense points of light, of varying colors. Refractors were made for star clusters: no spiky images. Encouraged by these views, I pressed the "Cluster" button on my push-to's control box, and obtained a read-out of the many clusters available at that time. I spent the next hour with about a dozen of them.

There is M46, M47 and M93 – all located in an obscure constellation called Puppis, just below Canis Major. Almost all these stars are intense blue-white ones. M46 is the faintest, because it is the farthest away – about 5400 light-years – but it looks fine in the high powers.

I tried some high powers on the Beehive Cluster, but it didn't appear as impressive as it does when using low powers or binoculars – not enough stars.

One curious object is M78, located in Orion. At 125x, it looks like two eyes staring back at you. Actually, it is two stars surrounded by nebulosity. The nebula glows completely by the reflection of light from the two stars.

## Galaxies

My next task was to examine some galaxies, but here I was to be a little disappointed. Virgo was still in the haze, so I turned toward the Pinwheel, M101, in Ursa Major. It was dim and when I increased the magnification, it became dimmer, though larger. I was able to discern the general shape however, and then turned toward two spindle-shaped galaxies, NGC253 in Sculptor and M82 in Ursa Major – so shaped because they are galaxies seen edgewise. (The thinness of these galaxies actually makes them brighter, because their light is more concentrated.)

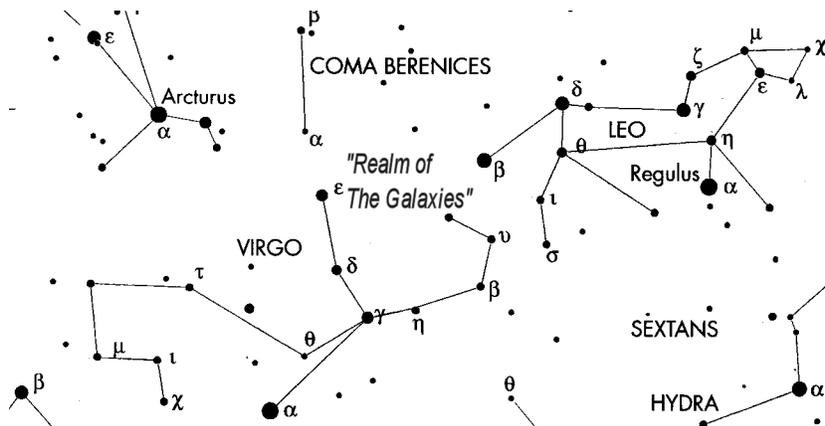
I then tried some of the more famous objects, such as the Owl Nebula and the Whirlpool Galaxy, but like the Pinwheel, they were too dim. It then occurred to me that I'd probably reached the limit of my 120mm aperture. A larger reflecting telescope, say 11" to 14", would probably make these objects appear very impressive.

## Back to Saturn

It was now about 1:30am and Saturn was clear of the haze, so I tried again to view it. With the help of the Orion "Shorty" Barlow lens, I got the power up to 250x, and took a peek. The planet was now intensely bright which made me squint to see the details. I added one lens of my variable moon filter, which made the planet drab-looking, but I could see the detail more clearly: bands, 3 rings and a darker polar region. I spotted three satellites.

By 2:00am, the temperature had dropped severely, so I began packing up the refractor. I noticed that most of the haze was disappearing from the horizon and the stars of Virgo were now quite clear, giving me a good shot at the galaxies. But it was just too cold to stay around, so I packed everything up and drove home.

Roy Troxel



*(These constellations were all near the zenith, at 4am.)*

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**Broad Creek**  
December 29, 2006

I awoke around 4am this morning and drove to BC. There were a lot of clouds near the horizon and a haze that extended upward about 30 degrees. But near the zenith, the sky was black and clear, with Leo and Virgo shining brightly.

I assembled my scope and after a few minutes was looking at M95, M96 and M105 in Leo, at about 40x. They all fit within the range of the eyepiece, about 1.3 degrees. 40x was enough to detect the elliptical and circular shapes of the galaxies. I was tempted to go to a higher magnification, but it was now 5am, and the sky would be lightening up within an hour or so. I finished up Leo with M65 and 66, near Denebola.

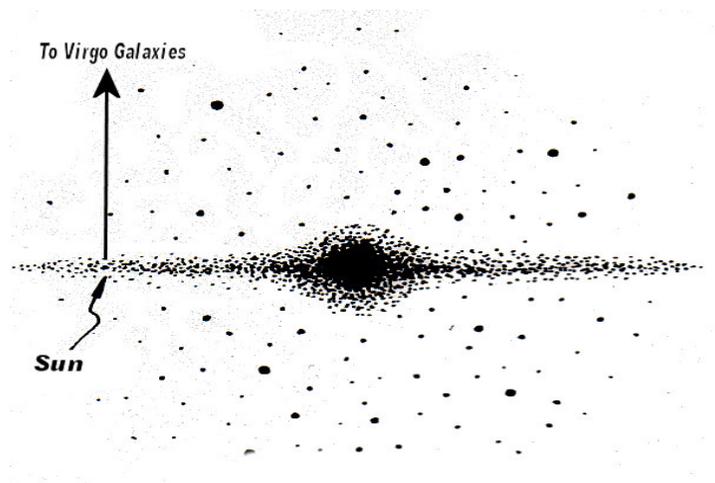
I then went to the Virgo cluster and spent the next half-hour scanning the area: M84, 85, 86, 87, 88, and 89, plus some NGCs. I wasn't sure which was which, but I could definitely detect structures in many of them: oval, circular, and diagonal. That was all I wanted to do at the time. Under higher magnification, I'm sure I could have seen more distinct features, like arms.

Around 6am, I turned to M81 and M82, both in Ursa Major, but the sky was now getting lighter. Both galaxies were distinct, but not as bright as I had seen them last summer.

Jupiter was about 10 degrees above the eastern horizon with a brightening sky behind it. I was able to detect some of the bands and all four Galilean moons, but the sight was actually hurting my eye, so I turned toward Saturn. It was at this point that my eyepiece began to fog up. Frost was forming on the tripod, but interestingly the object lens was still clear. Nonetheless, it was time to pack up.

A dog barked. A goose honked. I drove toward Bel Air to get some coffee.

Roy



*Viewed from our own galaxy, the galaxies in Virgo appear perpendicular to the Milky Way. When these galaxies appear near the zenith, the Milky Way appears on the horizon.*

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## **Harford Community College Spring 2007 Observation Schedule**

The Harford County Community College has an astronomy program and we, as the Harford County Astronomical Society, have supported this program for many years. This is a little more than just an outreach program; it is an expectation. We have had a close relationship with the College, use one of their classrooms for our monthly meetings, use the observatory and store our equipment there. The College also insures our activities while on College grounds.

The support is fairly simple. We set up telescopes at the Observatory and allow the students to observe the objects that they are being taught in class. Dr. George Thomson, the Astronomy Professor, takes the lead in talking with the students and lets us know where to point the scopes. The students arrive from their class at about 9:30 PM and observe till about 10:00 PM. We would plan on getting there shortly after 9:00 PM to set up and get ready.

### **January**

Jan 29            (1st Quarter) - Observatory orientation (if clear)

### **February**

Feb 5            (Full Moon - No session)

Feb 12           (moonless)

Feb 19           (moonless)

Feb 26           (1st quarter)

### **March**

Mar 5            (Full moon - No session)

Mar 12           (moonless)

Mar 19           (NO SESSION - College Closed for Spring Break)

Mar 26           (1st quarter)

### **April**

Apr 2            (Full moon - No session)

Apr 9            (moonless)

Apr 16           (moonless)

Apr 21           (moonless - session to be held at 4:00 am)

Apr 22           (moonless - session to be held at 4:00 am ONLY  
if Apr 21st session is clouded out)

Apr 23           (1st quarter)

Apr 30           (Full moon – No session)

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