

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 33 Issue 10

October 2007

Note:
General Meetings Have Been Changed to
THURSDAY NIGHTS

Public Star Party (Open House):
Oct 20, 2007 at dusk
At the Observatory

General Meeting:
Thursday, Oct 25, 2007, 7:00pm
At the Observatory

Club Calendar for 2007:

Open House/Public Star Party

Nov 17, 2007
Dec 15, 2007

Meeting Night

Nov 29, 2007
Dec 27, 2007

Please check the website for possible schedule updates and changes:

<http://www.harfordastro.org>

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HCAS Business Meeting

Minutes of September 27th, 2007

1. President Tom Rusek opened the meeting at 7:05 PM.
2. The minutes of the August meeting were published in the last newsletter. They were approved by a voice vote.
3. Treasurer: Tim Kamel reported that the club has \$5013.18 in the bank. There are currently 39 paid-up members, which is no change from last month.
4. Observatory operations:
 - a. Tom Rusek thanked Roy Troxel, Tim Kamel, and Mark Kregel for getting the observatory telescope's go-to function back in operation. He also thanked Sal Rodano and HCC for providing a grinder to be used to fix the dome's rotation problem.
 - b. We are looking into putting a screen and a computer projector up in the classroom to allow better presentations to be given there. The school will pay for this. Sal is working with them to obtain and mount these items.
 - c. Someone used the observatory telescope between the open house on September 22nd and the astronomy class observing session on September 24th. The user(s) did not secure the telescope properly. The dome was still plugged in and the telescope transformer was also plugged in. *** All observatory users need to follow the proper procedures for setting up and shutting down the observatory. ***
5. Outreach:
 - a. HCC's Family Fun Days took place on September 15-16. Grace Wyatt, Tom Rusek, Lucy Albert, and Karen Carey run the HCAS table. 372 people attended over the 2 day event. These numbers, plus those from the month's other outreach activities, were reported to the Night Sky Network.
 - b. The presentation at the Abingdon library on September 24th went well. Tom gave an indoor lecture and then several club members had their telescopes outside for an observing session. The sky was very dark after they shut off the library's external lights. The event was written up in the "Bel Air News and Views" blog.

c. 99 people attended the open house on September 22nd, including 2 Girl Scout groups. The visitors enjoyed looking through the members' telescopes and the observatory scope. There was a minor accident at the observatory. A teenaged girl missed a step coming down the stairs and twisted her ankle. Tim Kamel offered to call an ambulance, but she refused the offer. She said she was OK. The group agreed that the lights on the stairway are too dim once the main lights are shut off for observing. Tim sent a letter to Sal to see if the school can help us install better lighting there.

d. SwanFest takes place at Swan Harbor Farm on October 14th. Tom Rusek, Mike Talberd, and Grace Wyatt will be there.

e. Tom will give a short indoor presentation to a senior citizen's home in November.

6. Observing Reports: Karen Carey attended a star party at Dundalk Community College. They have a 16 inch telescope provided by the local Wal Mart.

7. Old business:

a. The Open House sign is in the storage room. We need a tripod and a way to secure it before we use it again. If enough people show up to support an open house, we can station someone by the sign to point cars in and secure the sign.

b. The Aegis newspaper ran an article on the club's membership in the Night Sky Network.

c. Another Night Sky network teleconference is coming up. Grace has the phone numbers for anyone interested in listening in. The conference will discuss the new "Exploring the Solar System" tool kit.

d. We did not win the Astronomy magazine outreach contest. They did thank us for participating. Grace will send a copy of the letter to the school to show them the different things we are doing in the community.

e. The HCC Astronomy class is underway. The club supports them with Monday night observing sessions. Members supporting this activity arrive at 9 PM to set up, and the students arrive at 9:30 PM. They are usually finished by 10:30 PM.

8. New business:

a. Tim Kamel reported that the last security access roster he saw was dated June 2007. It also had some incorrect information. He will ask Sal for the name of the right contact person at HCC security so that he can send an updated roster. He will also tell them of the club's two-person rule for observatory telescope operations.

b. During the effort to fix the observatory scope's go-to problem, Astrophysics informed us that our mount had a "C" model chip. They have an upgraded "D" model available for \$45. The club agreed to purchase this new chip. Tim asked them what a new hand controller would cost, and they said it would be \$985. Since this is very expensive, Tim suggested that we buy a protective cover/sleeve for the controller to reduce its vulnerability to damage. He will find out how much this costs.

c. Grace said that the college was looking for items to put into a time capsule. The group agreed to give them a copy of the latest newsletter.

d. Lucy Albert suggested that we consider restructuring the club meetings to include a shorter, officer/board-only business meeting, followed by the larger general meeting and

presentation. By doing this, visitors would not have to sit through club business that may be of no interest to them, and members could choose which parts of the meetings to attend.

10. The meeting was adjourned at 7:52 PM. After the formal business meeting ended, Lucy Albert gave a presentation on the upcoming Shuttle mission to repair and upgrade the Hubble Space Telescope. She also had handouts, pins, and stickers about the mission.
- Monroe Harden

Recent Open House and Outreach Presentations

Harford County Community College Family Fun Weekend September 15 & 16, 2007

Tom, Barbara and Angela Rusek, Grace Wyatt, Lucy Albert and Karen and Maggie Carey represented HCAS at the HCCC Family Fun Weekend.

We spent the day telling people about our club, giving out Hubble prints, talking about telescopes and teaching astronomy to the 372 people who stopped by our table. Lucy brought her telescope with solar filter and gave people a look at the sun. Even the HCCC mascot, Owl, stopped by to take a look at the sun. It was our first public opportunity to use the Night Sky Network materials and they were well received. We used the "Can you make an eclipse?" kit to allow people to understand lunar and solar eclipses. During the last hours of the second day, Karen spotted the moon in the sky and we were able to use the styrofoam moons in the kit to explain phases of the moon. One woman commented she wished astronomy had been taught in such easy terms when she was in school. She thought maybe she would have had a better understanding and appreciation for astronomy.

We had two pairs of solar glasses. They were a huge hit. People would put them on, look at the sun and exclaim: Awesome, cool, amazing, WOW or it looks like the moon. Kids would pass them to their parents or siblings and tell them to look at the sun too. We were also able to give out some information about the Kepler Mission and habitable planets.

The coordinator of the Homeschool Association of Harford & Surrounding Areas stopped by to let us know she has a link to our website on the Homeschool website. We have started giving out cards for the Junior Astronomer Certificates again at the open house events. A young man and his mom stopped by to tell us they would be at the open house Saturday so he could find some more things on his Junior Astronomer card.

These outreach events are easy and fun. If you have never helped out at a public event like this, try to make time for the next one. We will be at Swanfest on October 14, 2007 from 11 AM to 4 PM. You don't need to come for the entire 5 hours, just stop by for some of the fun. The other benefit of helping out at an event like this is that you get the opportunity to learn astronomy from some of the other more experienced members.

Harford County Community College Family Fun Weekend (cont.)



Above: Observing the sun. Below: Demonstrating lunar phases



Abingdon Library
Sept. 24, 2007



Above: Tom Rusek explains the solar system. Below: Observing session outside the library.



Abingdon Library
September 24, 2007

On September 24th, we had an outreach program for the Abingdon Library. There were two segments to this program. An inside program was provided by Tom Rusek to about 28 guests. This program lasted about one hour, after which there was an out door program that also was

scheduled for about one hour, though about 10 persons strolling through the property stopped by as we were setting up the equipment for quick looks at what we were looking at.

It was again a beautiful night, with mild temperatures. We had average seeing and better than average transparency. The library was able to shut off the out door spotlights. We could see Kochab in Ursa Minor naked eye using direct vision, even with a moon two days short of full.

Participation from the club included Roy Troxel with his 120 mm refractor, Mike Talbard with his 11" SCT. Joe Manning brought his 12.5" home built Dob and I brought along my inimitable ETX-70 refractor, just to expose the public to the range of equipment that is available. I actually had several people inquire about cost and availability.

Obvious targets were the moon, Jupiter, the Double Cluster and other brighter cluster. The moon limited viewing of the faint fuzzies. The double star Alberio was also a hit with its nice color contrast.

After the last guests left, we continued viewing for a bit, bringing in Uranus and Neptune.

-Tim Kamel

Open House September 22, 2007

On this date, we had our open house session for the month of September. Unlike the last few months, we had a great night. Transparency was good. Seeing was average. Temperature was moderately hot. Turnout was high with a count of 99 persons. The largest group was two Girl Scout troops and their siblings and parents. The rest were adults enjoying the nice night.

On hand from the club were Mark, Roy, Mike, Grace, Tom and Tim. The C-14 in the observatory was operational and working well. We kept it focused on Jupiter for as long as we could, as this is likely the last open house this year where Jupiter can be seen. After Jupiter dropped below the tree line, we started hitting some of the Messier and NGC objects, including M 13 and a portion of the Double Cluster. Youngsters got a kick out of seeing the Rag Doll in the Double Cluster. The other scopes on the pads were directed at the moon and various Messier objects.

After the event, some members stayed behind and used the C-14 to do some observing. It is a remarkable scope.

Tim Kamel

HCCC Astronomy Class Support 9/17/2007

Tonight was the first class for Dr. Thomson's astronomy class. On hand to provide support were Mark Kregel (14" reflector), Roy Troxel (120 mm refractor), Mike Talbard (11" SCT), Grace Wyatt and Tim Kamel (operating the main scope in the dome). Dr. Thomson and about 13-14 of his students came out.

Focus for this night was a brief orientation. Transparency this night was good and seeing was average. The C-14 was trained on Jupiter and the bands and 3 moons could be seen. The scopes on the pads were trained on the moon and other targets of opportunity.

After the class left, the members on hand spent some time using the C-14 to observe some targets, including M-13 and the Double Cluster (actually only half of it since the field of view is so narrow, even with a 40 mm eyepiece).

- Tim Kamel

HCCC Astronomy Class Support 10/8/2007

On October 8th, we again provided support for Dr. Thomson's astronomy class. We had a beautiful night with good transparency and average seeing. On hand were Roy Troxel, Mark Kregel and Grace Wyatt. The dome was again open and Mark had his 14" reflector in place.

Jupiter was not available tonight, being low and behind the trees. We considered several objects before settling for M57, the Ring Nebula. The first half of the class arrived and we waited till they were in the dome before shutting down the lights to improve adaptation. The ring was clearly visible in the C-14 using a 25 mm Orthoscopic eyepiece. One of the students indicated she could see a green tinge to the Ring.

After the second group also finished looking at the Ring, we changed to M11, the Wild Duck Cluster, with its mix of faint and bright members and a lone yellow star.

We adjourned at about 10 PM. Though it was a beautiful night, we all had other things to attend to, including me with a 6 AM business appointment the following morning.

- Tim Kamel

Night Sky Network

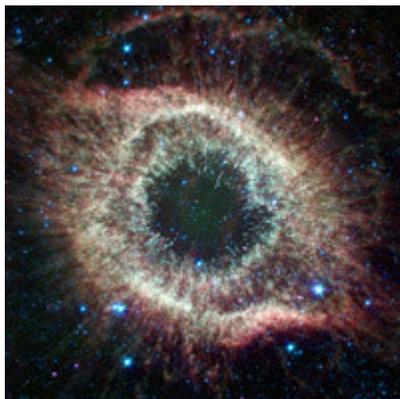


<http://nightsky.jpl.nasa.gov/>

The Night Sky Network is sponsored and supported by the NASA Jet Propulsion Lab's PlanetQuest public engagement program.

Spitzer Celebrates Fourth Anniversary with Celestial Fireworks

August 24, 2007



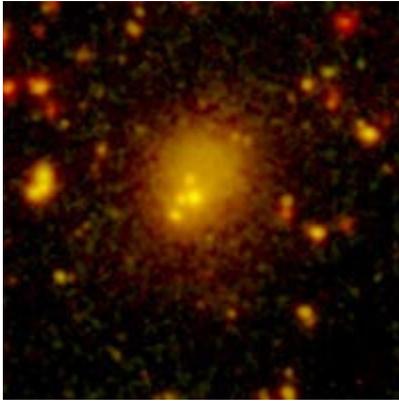
A newly expanded image of the Helix nebula lends a festive touch to the fourth anniversary of the launch of NASA's Spitzer Space Telescope. This spectacular object, a dying star unraveling into space, is a favorite of amateur and professional astronomers alike. Spitzer has mapped the expansive outer structure of the six-light-year-wide nebula, and probed the inner region around the central dead star to

reveal what appears to be a planetary system that survived the star's chaotic death throes.

<http://www.jpl.nasa.gov/news/features.cfm?feature=1445>

NASA'S Spitzer Spies Monster Galaxy Pileup

August 06, 2007

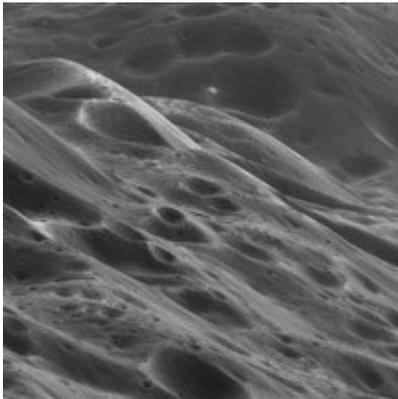


One of the biggest galaxy collisions ever observed is taking place at the center of this image. The four yellow blobs in the middle are large galaxies that have begun to tangle and ultimately merge into a single gargantuan galaxy.

<http://www.jpl.nasa.gov/news/news.cfm?release=2007-087>

Saturn's Moon Iapetus Is the Yin-and-Yang of the Solar System

September 12, 2007



PASADENA, Calif. – Scientists on the Cassini mission to Saturn are poring through hundreds of images returned from the Sept. 10 flyby of Saturn's two-toned moon Iapetus.

Images show a surface that is heavily cratered, along with the mountain ridge that runs along the moon's equator. Many of the close-up observations focused on studying the strange 20-kilometer high (12 mile) mountain ridge that gives the moon a walnut-shaped appearance.

<http://www.jpl.nasa.gov/news/news.cfm?release=2007-101>

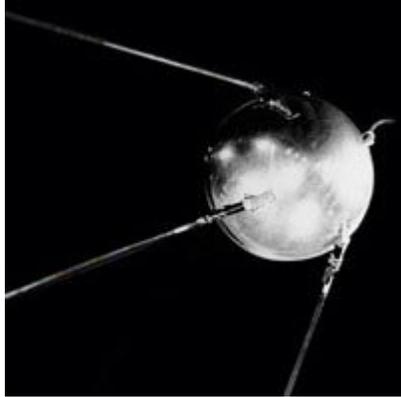
The Phoenix Mission Will Explore the Northern Martian Polar Cap



Phoenix will fly to a site farther north than any previous Mars landing. The solar-powered lander will robotically dig to underground ice and will run laboratory tests assessing whether the site could have ever been hospitable to microbial life. The instruments will also look for clues about the history of the water in the ice. They will monitor arctic weather as northern Mars' summer

progresses toward fall, until solar energy fades and the mission ends.
<http://phoenix.lpl.arizona.edu/index.php>

***Sputnik*: 50th Anniversary of the Beginning of the Space Age**



The Space Age began on October 4, 1957, with the Soviet Union launching *Sputnik*, the first orbiting artificial satellite. The object orbited at an altitude of 560 miles, weighed 184 pounds and measured about two feet in diameter. The instrumentation broadcast details on the satellite's speed and temperature, as well as atmospheric density and composition.

This event sent cultural and political shock waves across the United States, resulting in a turning point in the Cold War.

To read NASA's account, see this page:

<http://solarsystem.nasa.gov/missions/profile.cfm?Sort=Alpha&Letter=S&Alias=Sputnik>

...and for the Russian viewpoint:

http://alpha.news.yahoo.com/s/nm/20071002/sc_nm/russia_space_sputnik_dc

Recent HCAS Observing Sessions

Timonium, Maryland

October 13, 2007

Venus, Saturn and Regulus formed an, almost, right triangle with Regulus at the apex, Venus and Saturn as the base. This was an easy binocular and unaided formation.

At 200x Venus showed a definite crescent with small horns and a possible smudginess near the terminator just below the mid-point. It is about 28 arc seconds in diameter and 42% illuminated.

Saturn at 200x displayed the rings and ring shadow very nicely with the Cassini Division just visible. The rings plane is starting to flatten out so ring detail is becoming a challenge. Titan was quite visible but I saw no other moons in the brightening sky.

Mars at 200x was a nice reddish disk with a large smudge in the upper right quadrant, Syrtis Major. No hint of polar caps or other surface features. As compared with Venus it is about 10.5 arcseconds in diameter and 86% illuminated. It did not look gibbous to me.

I was using a 4" f-8 TMB (100/800 Classic) apo refractor on a Celestron CI-700 GEM. For Venus I used a neutral density filter stacked with a green filter. No filters for Saturn or Mars. Eyepieces were University Optics Abbe Orthoscopes with Celestron Ultima 2x barlow.

- Bill Geertsen

Broad Creek

*Note: Grace Wyatt is now the Broad Creek site coordinator.
If you have questions about using the site,
please contact her at 410-836-7285 or dgracew@comcast.net.*

About a year ago (Fall, 2006), I began a project of learning the constellations for each season, as well as the prominent objects within them. These objects for the most part were Messier objects, plus some significant NGCs. I'm pleased to say that my project is finished, having spent a year happily observing the flow of the seasonal constellations at our Broad Creek dark sky site. (Well, it hasn't always been dark; there is usually a glaring light dome to the southwest, as well as two lesser domes in the northeast and due North.)

Here are the highlights of some recent visits:

September 1, 2007

7:30pm to 10:00pm

During the past few months, the skies over Harford County have frequently been clouded. Even when there are no clouds, there are "pockets" of low transparency and/or bad seeing in various parts of the sky, with the result that certain faint objects can be seen, but others can't. That was the kind of night this was.

Jupiter was very clear just after sunset. I was able to use my scope's highest power, 250x, and observed six or seven bands across the planet. Two blue filters, 80 and 82A, helped a great deal to steady the image.

As the sky darkened, I saw the easily-resolved M2 cluster in Aquarius, along with two dim and distant globulars, M72 and M73, which were not easily resolved that night. Two well-known nebulae in that area were completely invisible – the Saturn Nebula (NGC7009) and the Helix (NGC7239).

Swooping down to Capricorn, I caught another nice cluster, M30. On the other hand, the M75 cluster in nearby Sagittarius remained invisible (a victim of the SW light dome).

By 8pm, the Milky Way was high in the sky, with the transparency and seeing vastly improving for that area. The tiny constellations of Sagitta and Vulpecula revealed solid views of the cluster M71 and the planetary nebula, M27 (also known as "The Dumbbell" or "Apple Core").

The Scutum Star Cloud was also distinctly seen, along with its outstanding cluster, M11, the "Wild Duck" (so-called because it resembled a flock of those birds to a 19th-Century astronomer named W. H. Smyth). The open cluster M26 was equally bright, leaving me to conclude that seeing is always better near the zenith, at least at Broad Creek.

The western part of Pegasus, touching the Milky Way, presented the dense star cluster M15 and the bright thin galaxy, NGC7331. This was the only night I have been able to see 7331, because for some reason, that area is very non-transparent. However, three galaxies that I couldn't see were: M33 (Triangulum), M74 (Pisces), or M77 (Cetus). Again, this was partly because of the seeing conditions in that area of the sky, but also because my 120mm refractor just doesn't detect galaxies very well, but prefers star clusters and planets.

Speaking of planets, I was able to find Neptune, but not Uranus – another anomaly in the transparency/seeing conditions, since Neptune is the dimmer of the two planets.

Finally, I tried for the two objects that had eluded me all summer – The Veil Nebula and the North America Nebula. They are both in Cygnus, which was now at the zenith. Attaching the narrowband filter to the eyepiece, and kneeling low to the ground (I was still using the refractor), I was able to navigate to both these objects, with the help of the Intelliscope push-to controller. I haven't see these nebulae since then.

September 20, 2007

12:00Midnight to 3:00am

The sky was unusually clear at midnight, and this time I was able to get good views of the M33 galaxy in Triangulum and the NGC7331 galaxy in Pegasus. Mars was high in the sky. Using a 125x eyepiece with a #15 yellow filter, the planet appeared in gibbous phase, with suggestions of surface markings and a polar cap. Moving to 250x, with the help of a Barlow lens, didn't really improve the view, however. It will not be until December 18 that Mars reaches its closest point to earth, so viewing the planet should be easier at that time.

Next, I explored various star clusters in Taurus and Perseus – and there are many of them. Both constellations share an arm of the Milky Way, consequently they contain many clusters, but these must be distinguished from the numerous background stars, which isn't always easy.

I would recommend just sweeping your scope around Perseus, Cassiopeia and Taurus for about half an hour on a really clear night, and you will be almost hypnotized by the various clusters and asterisms you will see, each with its own configuration. Many of these, like M34 or M52, are often overlooked because of the better-known Double Cluster and the Pleiades.

I decided to try my luck with nebulae, having exhausted galaxies and clusters. I screwed on the narrowband filter to my 60x eyepiece, and used the push-to controller to get a view of the Ring Nebula (M57 in Lyra), which was now low in the west. I also got a glimpse of the North America nebula and part of the Veil Nebula in Cygnus, but it was the Dumbbell (M27 in Vulpecula) that provided the sharpest view. I concluded the nebula session with M42 in Orion. I removed the filter and tried to see all six stars of the Trapezium, but to no avail.

Conclusion: My 120mm just wasn't made for galaxies; however, I am awaiting the arrival next month of my 12.5" Obsession reflector which will make these objects more accessible.

October 6, 2007

7:15pm to 10:30pm

Cathy Tingler, Grace Wyatt and myself began setting up at BC around sunset. Through my scope, Jupiter appeared steady, though low to the horizon, showing three or four bands, with spots on the two prominent southern bands.

As the sky darkened, Sagittarius entered the SW light dome and began obscuring the nebulosity there, although Cathy was able to observe some of the brighter clusters with her scope.

Both seeing and transparency turned into haze as the evening developed, making galaxies hard to spot, with the exception of Andromeda and its companion M32. Even some of the star clusters were dimmer than usual. However, I was able to get good views of three clusters: M11 ("Wild Duck" in Scutum), M2 (globular in Aquarius) and M15 (globular in Pegasus). I was also able to get glimpses of Uranus and Neptune.

By 10:30pm, the sky was becoming very hazy and dew was forming on all the optics, so we packed up and left for the night.

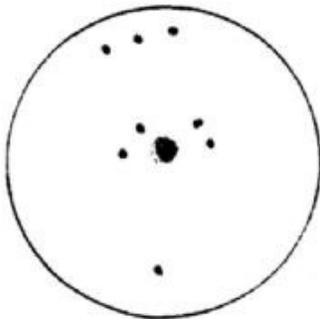
- Roy Troxel

Messier Objects

By Steve Krall

Steve uses a 10-inch, F/5 reflector, unless otherwise noted. The observations were made in Kingsville, Maryland. He prefers the star-hopping method over using a go-to device. (This is the last installment of the series. Thanks for the input, Steve.)

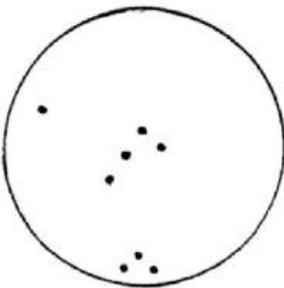
M72 8/20/95 12:10am



You can spot this globular cluster rather easily. Look for it on a very clear night, parked about halfway between two fairly bright stars, Epsilon Aquarii and Theta Capricorni. It appears as a small, shimmering grayish, semi-transparent bubble. It is somewhat bright overall, rounded not resolvable. It's also very faint, occasionally demanding averted vision, and at times shows a grainy, mottled appearance toward the center. Higher power brightened and enlarged the image a little but was of no real benefit. I preferred moderate power and felt it was the only way to go to view this elusive individual.

While you are here, you can nudge your scope just a pulse away to the east to observe M73, one of the poorest objects in the Messier catalog.

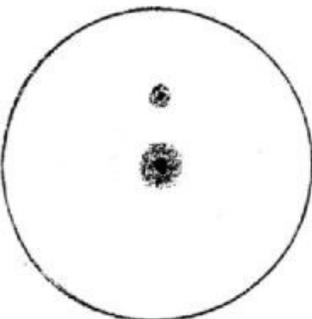
M73 8/20/95 12:30am



Although this skimpy open cluster appeared bright enough overall to be picked up with a low-power eyepiece, I was compelled to increase the magnification to actually resolve this group of four faint, loosely-bound stars, three of which are arranged in a triangular pattern. Other than this geometric configuration, I found little of interest in this asterism. However, I was amused by the controversy Messier initiated when he included this dubious object in his famous catalog. He described M73 as "a cluster of three or four small stars which look like a nebula at first sight... contains little nebulosity."

[Editor's Note: Some observers claim the four stars might be a related system. For a discussion of this, see: <http://seds.org/messier/m/m073.html>]

M77 9/28/95 2:00am



On a clear, moonless winter's night, you can track down this spiral galaxy in Cetus. It is located about one degree to the southeast of 4th magnitude Delta Ceti. It is rather large, rounded, much brighter at the center, and almost transparent at times. It is surrounded by a faint halo and resembles a globular cluster.

Miscellaneous

Seeing in the Dark

The PBS special by Timothy Ferris has an interactive Web site at:

<http://www.pbs.org/seeinginthedark/>

A Motorized Binocular Chair

Check this out:

<http://ghonis2.ho8.com/garysbinochair1.html>

Community College of Baltimore County Star Parties

Here is the link for the schedule to the Star Parties at CCBC - Dundalk. I am planning on being there on 10/5, but definitely cannot make it on 11/16. There was definitely a lack of telescopes there, any help I'm sure would be appreciated.

<http://www.ccbcmd.edu/catonsvilleplanetarium/starparties.html>

- Karen Carey

This newsletter is the official publication of:

Harford County Astronomical Society

**P.O. Box 906,
Bel Air, MD 21014.**

*Items for the newsletter are due to the editor by the 13th of the month
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Please send all contributions (electronic format is strongly
encouraged) to:
Roy Troxel at:
rtroxel@comcast.net.

Address regular mail to:
HCAS Newsletter
c/o Roy Troxel
301 Tiree Court #403,
Abingdon, MD 21009.

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