

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 33 Issue 4

April 2007

Public Star Party (Open House):

April 28, 2007 at dusk
Technical School Parking Lot,
Next to the Observatory

General Meeting:

May 5, 2007, 7:30pm
At the Observatory

Club Calendar for 2007:

<u>Open House/Public Star Party</u>	<u>Meeting Night</u>
April 28, 2007	May 5, 2007
May 26, 2007	June 2, 2007
June 23, 2007	June 30, 2007
July 21, 2007	July 28, 2007
Aug 18, 2007	Aug 25, 2007
Sept 22, 2007	Sept 29, 2007
Oct 20, 2007	Oct 27, 2007
Nov 17, 2007	Nov 24, 2007
Dec 15, 2007	Dec 22, 2007

Please check the website for possible schedule updates and changes:

<http://www.harfordastro.org>

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HCAS Business Meeting

Minutes of April 7, 2007

1. Treasurer Tim Kamel opened the meeting at 7:34 PM.

2. The meeting started with a presentation by Lewis Berman on the founding and early history of the club. Mr. Berman was one of the club's founders. He lived in Huntsville, AL as a young child and his family participated in the Huntsville astronomy club run by Werner von Braun in the 1960s. When the family moved to Harford County, he met up with other astronomy-minded friends in Edgewood and with help from Norm Sperling, they founded the Harford County Astronomical Society. The total solar eclipse of 1970 formed a sense of interest among the public and led to the club's formation. 61 people attended the first meeting at Edgewood Junior High School. The HCAS constitution and structure was based on the organization of von Braun's Huntsville club. Lewis Berman was the first club president.

3. The business meeting began at 8:40 PM.

4. Treasurer: Tim Kamel reported that the club's bank balance was \$5383.14. There are 54 members on the books now.

5. Observatory operations: none this month.

6. Outreach:
 - a. Grace Wyatt reminded the group that there was an outreach event this Friday, April 13th, at Darlington Elementary School. They want 7 telescopes for the kids and parents to use to look at 7 different objects. Roy Troxel, Grace, Tim, and Mark Kregel said they would participate.

 - b. Tom Rusek will lead a program for about 12 scouts on April 20th.

 - c. The club meeting on June 2nd will take place at the Girl Scout campout event. Details will be available at next month's meeting.

 - d. Aberdeen Earth Day is on April 21st. The rain date is April 22nd. Anyone wishing to participate should contact Grace. The weather hotline for the event is 410-297-4215. This number will have a recorded message after 7:00 AM on the 22nd in the event of inclement weather.

 - e. Swan Fest at Swan Harbor Farms is on October 14th.

 - f. The boy scouts requested HCAS support for an aviation day event on April 22nd at APG. Since this was the rain date for the Earth Day festival we already committed to, the club

agreed to decline their invitation for this year due to the scheduling conflict. We do not have sufficient people and display items to run two public events simultaneously.

7. Old business:

a. Tim Kamel received the 10 inch telescope and accessories from Mrs. Ina Bennett. He will bring it to the observatory in the near future since it was donated to the club. It is a Coulter Odyssey F4.5 10 inch scope, worth about \$225-250.

b. Mike Talbert received the scrolling sign for use in identifying the open house location. It is a 40" x 6 " multi color scrolling sign. He will get a deep cycle battery and inverter to power the sign along with a mount.

c. There has been no consensus yet about the possibility of moving the monthly meetings to a week night. The group agreed to place a question on the renewal form asking members which nights they could not support and indicate their preference of a meeting night. The club will then make a decision based on this member input.

8. New business: Cathy Tingler will send her annual contact email to Broad Creek to make sure the club's relationship with the facility and permission to use the site are still in good standing. She will also report that all keys are currently accounted for.

9. The meeting was adjourned at 8:57 PM.

Founder Lewis Berman Recalls Early Days of HCAS



Mr. Berman gave a slide presentation to the group, documenting the founding of HCAS in 1970. He was 14 years old at the time, and had lived in Huntsville, Alabama, during the development of the Army's space program.

Recent Open House and Outreach Presentations

HCCC Astronomy Class Support

4/2/2007

We provided support for the HCCC Astronomy class tonight. We again had a full moon but proceeded with the session anyway since this was the first clear Monday in 4 weeks.

Participating tonight from the club were Roy, Mike, and myself. Dr. Thomson and about 15 of his students were on hand from the astronomy class.

With the moon low to the East, we concentrated our viewing in a westerly direction. Venus had dropped below the roofline of the observatory by the time the session started. Saturn was still high and a beautiful target for viewing.

Point sources, such as double stars and open clusters, are not affected by light pollution and made good targets. These included the Pleiades, the Beehive and the open clusters in Auriga. I neglected to record the double clusters we viewed.

Tim Kamel

Future Outreach Events

Darlington Elementary School

2119 Shuresville Road
South of the Intersection of Rte 1 and Rte 161
Friday, April 20, 2007
7pm to 9:30pm

Behind the school is an athletic field with the largest horizon on the property. Basically, this is an introductory observing session for about 30 students (and their parents) that is part of a larger science program. The School is looking to set up 7 stations and rotate the students through it. Each station would target a different subject. So far, we have 3 stations covered and need 4 more scopes or binoculars and a person to explain what is being seen through the instruments. Likely we will also need step stools or ladders

This session was originally scheduled for 4/13/2007 but was postponed due to high winds and cooler temperatures, which would combine to produce low wind chills that would be uncomfortable for the students.

Carroll Manor Elementary School

4434 Carroll Manor Road, Baldwin, MD.
Friday, May 4, 2007 – Rain date is May 11, 2007
7pm to 9pm

This is an astronomy night and is being billed as Starry Night. Attendance expected is on the order of 150 guests. We are being asked to man 4-6 stations with scopes and/or binoculars and also if we could do a table with some handouts.

Scouting Camporee

Location: North of Bel Air on Route 165
June 2, 2007
7pm (More info. later).

Recent HCAS Observing Sessions



Photo by Roberto Ramos

Mercury and Venus taken February 5th, 2007 at dusk. I was in Edgewood. I used a Pentax ZX-M camera and 35mm lens and Kodak 400 speed film....Robb

Stepping Stone

March 18, 2007

7:15pm – 11:00pm

It was a beautiful day on March 18th and Roy and I went stargazing that night. Early on, we had some threatening clouds but these dissipated and by 8:00 PM we had clear skies all the way to the horizon.

We did our observing from Steppingstone this time. We had an ice storm a couple of days ago and were concerned that Broad Creek would be iced over. I think we made the right decision because when we got to Steppingstone, the paved parking lot was free of ice and was completely dry, but there were accumulations of ice on the grassy ground and even on some of the roadways.

Conditions there remain the same as the last time I was there, in December 2005. Setting up in the parking lot offers a level and firm base and Steppingstone is a lot easier to get to than Broad Creek. The down side is still the same. There are trees to the north and south of the parking lot and in the parking lot, limiting where one would set up. This will get even worse after spring when the trees get their leaves. It is also not as dark as Broad Creek and the light dome from Havre De Grace is significant.

We arrived at sundown and finished packing up at about 11:00 PM. Transparency was good. Seeing was average for what we get here, which is to say it was 2/5, or fair. It was dark enough to see 4-5 of the Pleiades stars. It is a little chilly. There are also occasional wind gusts that disturb the view. These last a few seconds to as long as a minute but they eventually stop around 9 PM.

Roy brought along his 120 mm Orion Achromat. I brought along my “new” Criterion RV-6 Dynascope. This is my second RV-6 and is a recent acquisition. It was posted as an E-Bay auction in January and was listed as a “pick-up” only. The seller had bought it in 1975 but was giving it up to get a metal detector (talk about a change in direction!). I checked the address and it was in Littlestown, PA, just across the border from Warminster. Since I do like the quality of

these scopes but am reluctant to take my 1967 vintage RV-6 away from my house, I decided to bid on it. I thought I would have a shot at it since the "pick-up" only requirement would limit the number of bidders. Obviously, I won the bid and picked it up Martin Luther King Day. It is a beauty. Aside from some discoloring of the tube, it does not have a scratch or a dent on it. The clock drive still works and there is not a spot of rust. It looks like it just came off the assembly line. It also came with four Criterion eyepieces and an old catalog from the mid 1970's.

We started off the session by checking out Venus, so bright to the west and the only visible object so close after sunset. The disk is still fairly small but is showing a slightly gibbous face. Saturn is next and is glorious, as always.

Roy and I do our alignments and start chasing faint fuzzies. Memorable this night is a bunch of "doubles". The Double Cluster in Perseus is visible behind some branches that spoil the view somewhat by dimming the view and taking away from the contrast. We view M 81 & 82 in Ursa Major and M 95 & 96 in Leo. Both these double galaxies are easy in these scopes. M 65 & 66 in Leo are also easy but there is no sign of the third galaxy in the "Leo Triplet". Each of the three doubles is visible in a 32 mm GSO Plossl. We also spend some time looking at the Orion Nebula and the Pleiades. The three open clusters in Auriga are always a joy.

Back to Saturn using several eyepieces and powers. Titan is readily visible. There are two other moons close to the rings that fade in and out of view. The 13 mm Lanthanum gives the best view with what seems to be a darker background and sharper views.

The OTA seemed well collimated. The 4 Criterion eyepieces perform OK. The biggest complaint is the narrow fields of view (my guess is about 35 deg AFOV). Otherwise, do not give up much to modern, coated eyepieces of the same design. I thought the 7 mm AR gave views that were a little rough but I think that is due to the floaters in my viewing eye. The 25 mm Kellner and the 32 and 40 mm GSO Plossls also performed well and gave much better AFOVs. No surprises here, though. These are long focal length eyepieces being used in an F/8 scope. Really can't go wrong with them. Lastly, the 13 mm Lanthanum is in a class by itself.

The mount, on the other hand, did not perform well tonight. I must have been sloppy in aligning to the north because slews of any distance did not produce a target in the eyepiece and I had to constantly do a search.

Again, another pleasant night of observing. Though the mount took some effort to work properly, the scope and the eyepieces did all right. Sky conditions were fine and there were some nice views of some faint galaxies, not-so-faint clusters and two bright planets.

Tim

Another interesting sight that evening was the double star system, Cor Caroli or α Canes Venatici. At 50x, these appeared as two intensely white stars about 20 seconds apart, but easily resolvable. Some observers have seen them as yellow and blue.

Trivia: Cor Caroli is Latin for "Heart of Charles." The star was named by Edmund Halley (of comet fame) in honor of King Charles II of England.

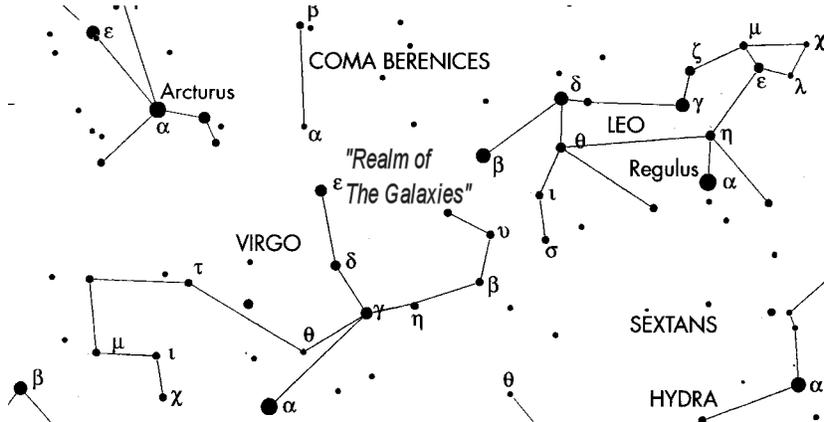
Roy

Messier Objects for Spring

By Steve Krall

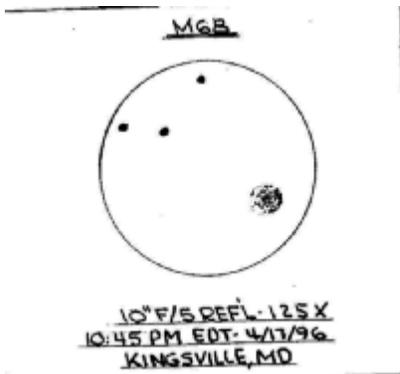
Steve uses a 10-inch, F/5 reflector unless otherwise noted. The observations were made in Kingsville, Md.

*****The Virgo-Coma Galaxies*****



Most of the objects discussed here lie between the stars Vindemiatrix (ϵ Virginis) and Denebola (β Leonis), and northward into the constellation Coma Berenices. Sometimes called the "Virgo Cluster," these galaxies are over 40 million light years away. On a clear night, dozens of them are faintly visible, sometimes two or three in the same field of view of your eyepiece.

M68:

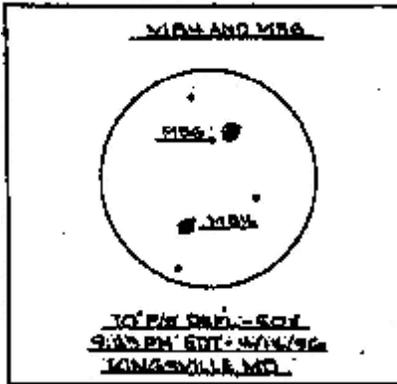


Locating this globular cluster lying very low in the southern sky and obscured in the usual hazy combo of cloud and light pollution can be a difficult endeavor. But at a favorable time, you can pinpoint this haunting object by rappelling down from Delta Corvi on a straight line extended about 3 degrees below Zeta Corvi, preferably on a moonless night and when it is on or almost at the meridian. Even under the best circumstances, M68's pale image provides pitifully little contrast against the sky's background, making it notoriously difficult to detect. In a larger telescope it appears fairly large, rounded, smoke-gray in color and lusterless. At this time, I could not resolve any stars, although the higher power brightened the center a tad. To finally observe this globular

cluster residing in that icy halo of our Milky Way so very remote was satisfying to me. Messier deserves high honors for the discovery of this elusive object.

Note: Messier found M68 on 3/19/1780 and described it as "a nebula without stars in Hydra. It is very faint, very difficult to see in a telescope."

M84 and M86:

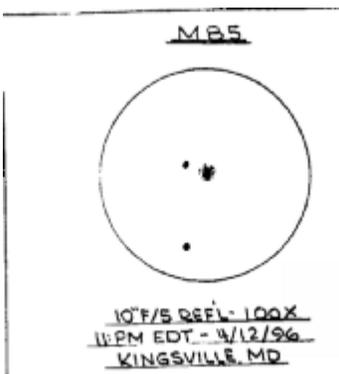


You need a truly clear night to uncover the small, eerie misty puffs of light from these two galaxies located in the famous Virgo Cluster. Searching for this pretty duo in that cluttered field of galaxies can be intimidating but with patience galore and with a star atlas in hand, you can pluck this pair out of that maze of galactic objects rather easily. Look for them half way on an imaginary line on an imaginary line extending from Vindemiatrix (ϵ Virginis) to Denebola (β Leonis) where you can find them in the same field of view, appearing rounded, very dim and ash-gray in color.

Although somewhat of a disappointment after viewing so many stunning open star clusters, it was an exciting experience to catch sight of these island universes lying a mind-boggling 42 million light years away.

Note: Messier described M84 and M86 as "without a star, in Virgo, on the same parallel, the center brighter, surrounded by nebulosity, they have the same appearance and are seen together in the same field."

M85:

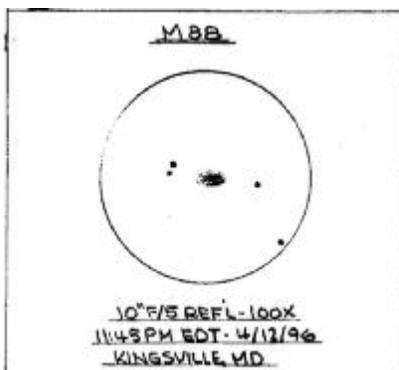


You can find M85 in Coma Berenices, appearing as a lone straggler tagging along on the northwest edge of the main stream of the Virgo Cluster. An E1-type galaxy, M85 looks like a small, rounded, faint, ashen globular cluster, suddenly brighter toward the center and more than a little hard to detect out of that disarray of galactic objects. The stratagem I used to find M85 was to first locate M100 (easier to find), which lies exactly one-fourth of the way from Denebola on a straight line to Arcturus. Then, by using M100 as a pivot, so to speak, you can swing up to M85 only an eye blink away to the northeast. I found using 50 power suitable to search for this one. However, once located, I preferred 100 power,

allowing me to better examine this distant, obscure object.

Note: Messier described M85 as "a nebula without a star, near the ear of Virgo. This nebula is very faint."

M88:

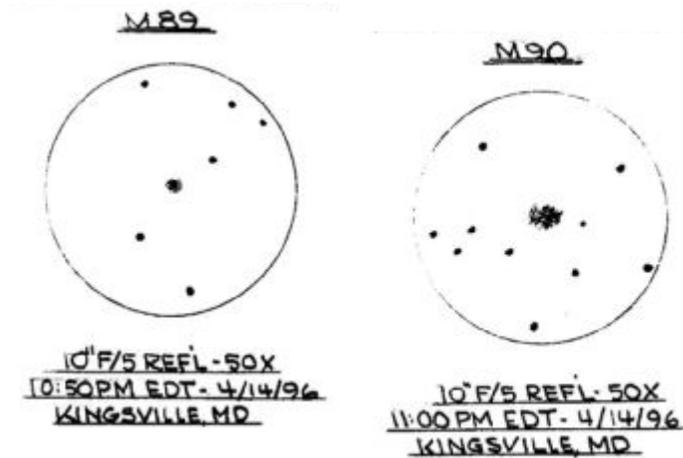


Exactly 8 degrees from Vindemiatrix and two degrees above a straight line terminating at Denebola, where it appears as a small, faint, grayish glow which seems to fade in and out of the background at times (a phenomenon which can be overcome by using averted vision). Using more power, M88 looked fairly large for a Virgo object, rather bright, oval-shaped and is uncommonly similar to nearby M90, but as is typical of these ghostly-looking galaxies in Virgo, no stars or structural detail can be resolved. I enjoyed the discovery of

this elusive object and I look forward to another session to re-observe this shy denizen.

Note: Messier described M88 as “between two small stars and one of 6th magnitude, which appear at the same time as the nebula in the field of the telescope. It is one of the fainter nebulae and resembles the one reported in Virgo as M58.”

M89 and M90:

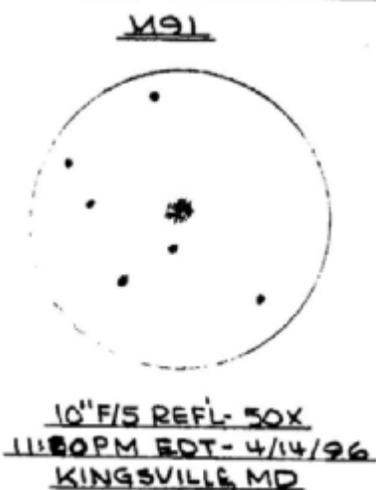


Searching for M89 and M90 is hardly a casual undertaking. However, you can find them by first drawing a straight line from Denebola to Vindemiatrix from which you can jump-start your search northwest on that line for 6 degrees and then turn due north just a fraction of a degree to home in on M89's star-like image, a difficult object at low power. However, using higher power you can make out its small, round, center. Widening your view just a

grayish disk with a bright tad to the north you can easily spot your other Messier object, namely M90 – a football-shaped, smoke-gray object, bright and large, nice to contemplate and a welcomed sight after some tedious gazing at these dim, evasive patches of light in the Virgo Cluster. At the risk of revealing *too many* faint, non-Messier objects, I opted to use my larger telescope anyway, referring to my atlas if need be to sort out any non-Messier objects which might show up.

Note: Messier described M89 and M90 as “light that is faint and pale, seen with difficulty.”

M91:



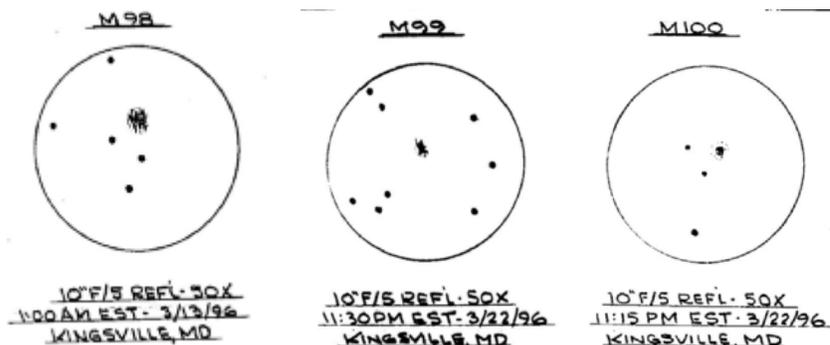
This controversial object whose true identity has been debated by some can be found in the thick of things, here in the Virgo-Coma cluster. If you dare to take a swipe at this extremely faint, tantalizingly elusive object you can start at Vindemiatrix and take off on a line to Denebola for about 6.5 degrees and then turn abruptly due north for about 2 degrees, where you will find M91 and possibly nearby M88 or NGC4571 hugging the edge of your field of view.

Provided that you have kept your wits about you so far, and have been clever enough to use averted vision, M91 will appear as a rather large, delicate image, not quite round, blue-gray in color, almost transparent at times and as a very faint, phantom-like image which occasionally fades out of sight. A demanding object, M91 does not come gift-wrapped, and finding this retiring Coma-Virgo denizen was something

of a coup for me.

Note: Messier described M91 as “above the preceding M90, its light again fainter than M90.”

M98, M99 and M100:



To track down the ethereal-like images of these three galaxies, try for them on a moonless night on or close to your meridian, along a line drawn from Denebola to Arcturus – two reliable stars – where you can locate M98 about 6 degrees east of Denebola appearing as a faint, ashen-colored, semi-transparent, nebula. It is rectangular in shape, rather small and seems to vanish at times demanding averted vision. Just a pulse away to the east you can find M99, a very difficult, very dim, soft glowing target with some brightening toward the middle. Averted vision would be helpful to make out this tiny, glowing pebble.

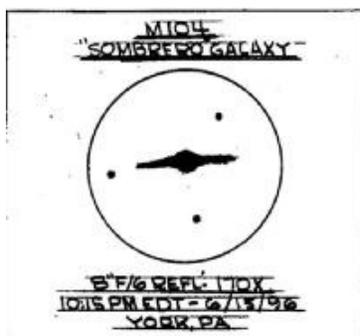
Cautiously shuffling still further eastward and still along that line, you can detect M100, a round, fairly small, diffuse galaxy much brighter and larger than M99 with a bright center surrounded by a smoky-gray halo. This one should show up even better on a darker night, preferably during a new moon. Although these galaxies can be detected with modest-sized optical instruments, the need for dark, clear nights to capture the lights of these cosmic denizens is essential.

Note: Messier described M98 as a “nebula without a star of an extremely faint light about the northern wing of Virgo difficult to find (seems to disappear in the background).”

Note: Messier described M99 as “of a very pale light, nonetheless a little clearer than the preceding M98.”

Note: Messier described M100 as having “the same light as the preceding: easy to see, round.”

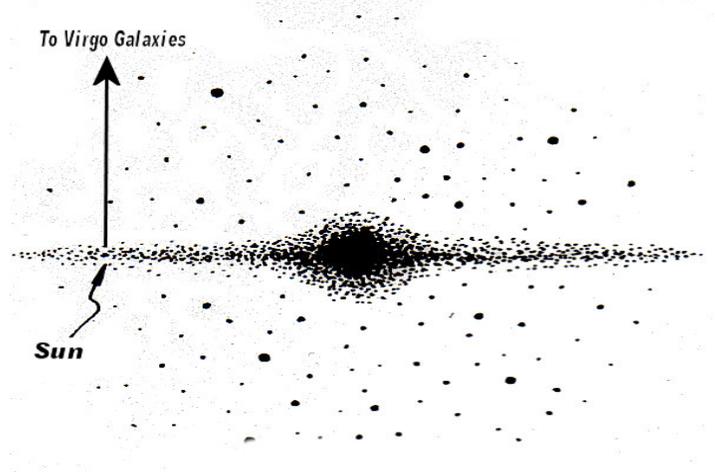
M104:



This is another one of my favorite Messier objects, the “Sombrero” galaxy, so-called because of its resemblance to the broad-rimmed hat. It can be found (fittingly enough) on the southern border of Virgo. Easy to locate, look for this enchanting object about 7 degrees due west of Spica, that admirable beacon in the heavens or move your scope about 5 degrees to the northeast of Algorab in Corvus. There you can find M104 appearing fairly large, bright, sliver-gray in color, lens-shaped, elongated with a thick, brighter central hub that gradually thinned out to the edge. M104 is a delight to look at, differing from the

other small, faint elusive Virgo galaxies to its north. Using low/moderate power, I found M104 especially pleasurable to observe but I was particularly elated that I could view this galaxy edge-on because it helps me to identify with the structure and shape of our own Milky Way.

Note: Mechain described M104 as "a faint nebula."



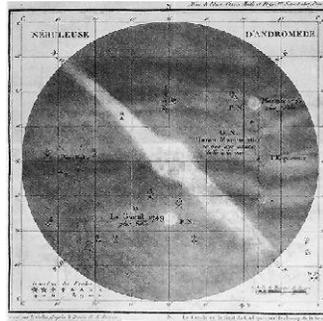
Viewed from our own galaxy, the galaxies in Virgo appear perpendicular to the Milky Way. When these galaxies appear near the zenith, the Milky Way appears on the horizon.

Messier Marathon Information

<http://www.seds.org/messier/xtra/marathon/marathon.html>

There are no Messier objects at all at Right Ascensions 21:40 to 23:20, and only the very northern M52 is between RA 21:40 and 0:40. This chance effect leads, at considerably low northern latitudes on Earth (best around 25 degrees North), to the chance to observe all 110 Messier objects in one night! This opportunity occurs once every year, around mid-March to mid-April.

About Charles Messier (1730-1817)



A modern photograph of the Andromeda Galaxy compared with Messier's chart from the 1700s. Messier includes the two smaller objects, M32 and M110. Note the grid lines on M's chart: The chart is based on many observations, using different telescopes. Messier was determined to make his measurements as accurate as possible.

Professional telescopes in Messier's time were not even as good as the modern "beginner" scopes for sale in department stores. The achromatic refractors had extremely long focal lengths in order to overcome chromatic aberration – up to 20 feet long – and were pulled into position by assistants. The reflectors had mirrors made of an alloy called speculum metal which had to be polished every few months because of tarnishing. On the other hand, Messier didn't have to put up with light pollution. (Messier's work is clearly the result of professional observing skills triumphing over limited equipment.)

To learn more about Messier's telescopes and observing techniques, check here:
<http://www.seds.org/messier/xtra/history/m-scopes.html>

General Announcements

Earth Day, April 21

Earth Day is coming up soon. It is scheduled for Saturday, April 21 from 11 AM to 4 PM. . It is held in Festival Park in Aberdeen (off of Parke Street—across from City Hall and Comcast Cable). In the event of rain, it is rescheduled for the next day at the same time. If you plan to come and the weather looks "iffy", please call 410-297-4215 after 7 AM on the day of event for a recording giving instructions about the day. We could use some more volunteers. If you have equipment for solar observing, please bring it out to let people take a look at the sun. If you don't have equipment, come out anyway and help with our table. Earth Day attracts a huge crowd of people. We give out information about our club, about astronomy in general and about light pollution. You don't have to answer technical questions, there will be others there that day who can do that and you will learn a lot hearing the answers those people give. It is fun to work the event and see what else is going on around us! Contact Grace Wyatt at 410-836-7285 or dgracew@comcast.net if you have any questions. Thanks.

Missing Newsletters

I have finished sorting through and organizing all the club newsletters and newspaper articles. They have all been put into archival safe plastic protectors and are stored in the office at the observatory. A number of newsletters were missing. Since someone had made a request for missing newsletters in the 80s, I will not be asking for any newsletters dated prior to 1990. Here is a list of all newsletters that are missing from 1990 to present:

1990--April, May, June, July, August, September, October, December
1991--February, March, April, May, June, July, August, September, October, November, December
1992--All newsletters are missing
1993--All newsletters are missing
1994--January, February, March, April, May, June, July
1997--August
1999—June

If you have a copy of any of the missing newsletters, please either donate them to the club or let me borrow them to make copies for our records. Thank you for your assistance.

Grace Wyatt 410-836-7285 dgracew@comcast.net P. O. Box 272, Bel Air, MD 21014

Astronomy Podcasts

You can now subscribe to regular free astronomy discussions and audio podcasts. Astronomy Cast offers you a fact-based journey through the cosmos. Each week Fraser Cain of UniverseToday.com and Dr. Pamela Gay of Southern Illinois University take on topics ranging from the nearby planets to ubiquitous dark matter. The podcast is in a semi-technical talk show format.

You can subscribe by going to the AstronomyCast web site at:
<http://www.astronomycast.com/podcast>

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
of publication.*

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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