



Minutes of the September 21, 2002 General Meeting

Meeting opened by Pres. Lucy Albert. Minutes of past meeting approved. Treasurer's report: \$2112.57.

Old Business:

1. Observatory - Excellent progress has been made on the observatory...so much so that the only thing stopping us from making it operational is to align, calibrate and "tweek" the telescope. That is completely in our hands and the all present agreed to form a group of experts from among our membership to take that on. We will assess our equipment during the next week, and during the StarBQ on 28 September, to ensure we have all the "pieces and parts". Ralph Smith was suggested as an appropriate lead to manage the expert group...we will contact Ralph to see if he will take this on. Finally, we may get to see something from our observatory!
2. StarBQ - This Saturday, 28 September, will be our annual StarBQ. Starting at 6:00 P.M at the observatory, this is a family event and will allow us to meet new and old members and even look at the sky if it cooperates! Those attending should bring a covered dish and the meat of their choice...and of course, 'scopes! The StarBQ will be held each year on the Saturday in September that falls closest to the last quarter moon.
3. StarParties/ Observations - Reports from members attending the Black Forrest Star Party indicated super conditions. Phil Schmitz reported on his second trip to the Garret Co. PA site. See his report on the first trip in this issue of AstroViews. Phil is going back during 5-6 October...HCAS members are welcomed. If interested, contact Phil at: paschmitz@hotmail.com. Bruce Wrinkle described the fantastic aurora display he observed during a trip to New York State on 6 September. His observations, and those shared by others present certainly indicate that we're in a period of unusually active displays.

New Business:

1. Tom Rusek asked for a means to contact other members to respond to short notice requests for astronomical demonstrations. We settled on EMAIL as being the most useful tool, either a direct message to all membership and/or an announcement on our Yahoo HCAS group site.
2. Tom Rusek was pleased to announce a grant of \$250.00 made to HCAS by Battelle Memorial Institute. Battelle is a large science and technology firm that is currently building and expanding research facilities in our area. The company has a long history of supporting community efforts in science education and we are very grateful to Tom and Battelle for making this grant possible.
3. We have been contacted by the Astrographics company with a proposal to link their web site with ours. Astrographics products can be seen at: <http://www.astrographics.com/>. Any orders processed through the link on our HCAS web site will earn our club a minimum 15% referral fee. As there is no up front cost to the club, we agreed to implement this link.
4. Dr. Ian Griffin of Space Telescope has submitted a grant proposal for \$25,000.000 to his organization to establish a Near Earth Object survey capability using the HCC Observatory. Members present at his lecture to our club back in March may remember the excitement generated for the prospect of our club's involvement in a meaningful scientific project. We anticipate and hope for a favorable decision on this proposal.
5. Public Star Parties. Tom Rusek and Mark Kregel reported on the excellent survey of our proposed new public start party site adjacent to the observatory grounds. Following last month's meeting, several members took time to mow and clean up the area, the result being a very favorable layout for a location with easy access,

shielding from lights and good sky exposures. Tom will continue to work out details with the Sal Rodano and Tom Collins from Harford Community College. Additional work, such as filling some depressions in the ground, is underway. Strong sentiment was voiced that we should have as a goal to hold our October Public Star Party at this new location. When the final decision is made on that, we will announce to the membership via the Yahoo Group site.

6. Grace Wyatt has made all the necessary arrangements for us to participate in the Swan Fest, 13 October to be held at Swan Harbor Farm, Havre de Grace, from 11:00 a.m. to 5:00 p.m.. At no cost to our club, we'll have an area to set up for some solar observing and to generate interest in our organization. Please consider supporting this with equipment and time! I will post the directions on the Yahoo site. Please contact Grace for details at: dgracew@comcast.net.

Program:

Bruce Wrinkle shared two of his most recent acquisitions with us and gave some background on his extensive collection of meteorites. Clearly, I for one would enjoy a more extended lecture of his holdings and Bruce is willing to do that, estimating it would take 2-3 hours for a useful program given the size of his collection and the technical nature of the subject. Members who would be interested in this program should contact me and we'll try to arrange for a time that works for everyone.

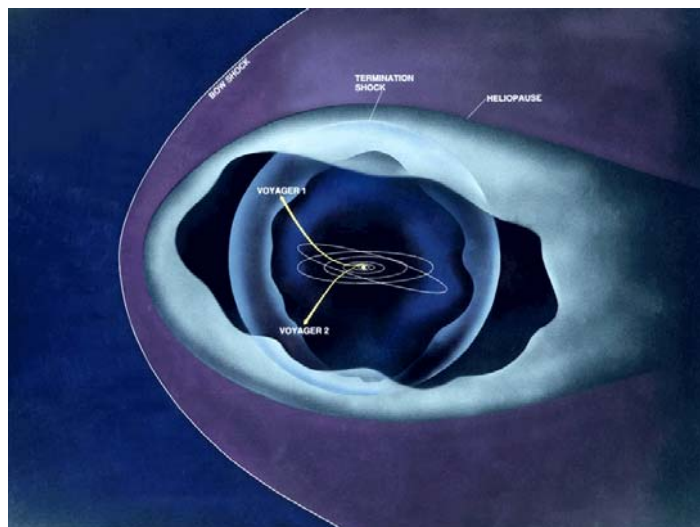


Seeking the Edge of the Solar System

In September and August, respectively, 2002, the Voyager 1 and 2 spacecraft will observe their 25th anniversaries in space, continuing to perform long after their original mission to visit the Jupiter and Saturn systems. After Voyager 1's encounter with the two gas giants, it was aimed upward out of the plane of the ecliptic. Voyager 2, after its visit at Jupiter and Saturn, was given two more planetary destinations, Uranus and Neptune. It completed its "grand tour" of the outer planets in 1989. It was then aimed downward out of the ecliptic plane.

Now, at about 85 AU, Voyager 1 is the most distant human-made object. Round-trip light time is 24 hours. Voyager 2 is at about 68 AU. Their mission now is to study the heliosphere, the vast bubble of space within the Sun's influence, and the heliopause, the boundary of the solar system with interstellar space. At the heliopause, the outward pressure exerted by the solar wind balances the inward pressure of the interstellar wind. The region where solar wind particles begin piling up against the heliopause is the termination shock, where the solar wind should drop from about 1,500,000 kilometers (nearly 1,000,000 miles) per hour to 400,000 kilometers (250,000 miles) per hour. Voyager 1 is already detecting a slowing of the solar wind from the pressure of inbound interstellar particles leaking through the heliopause.

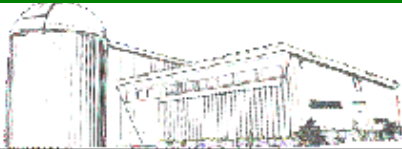
No one knows exactly how much farther Voyager 1 must travel to reach the termination shock or the heliopause. Dr. Ed Stone, Voyager Project Scientist since mission inception, estimates that the spacecraft could reach the termination shock within three years. Once there, Dr. Stone predicts it will still have about 5 billion to 8 billion kilometers (3 billion to 5 billion miles) and 10 to 15 years to go before actually crossing the heliopause into interstellar space. Because the heliosphere expands and contracts with the level of solar activity and the inward pressure of the interstellar wind is uncertain, it is very difficult for scientists to estimate the actual extent of the heliosphere.



Voyagers 1 and 2 are headed out of the solar system in search of the heliopause, the region where the Sun's wind stops and interstellar space begins.

Read more about the Voyager mission to find the heliopause at <http://voyager.jpl.nasa.gov/> . For children, go to http://spaceplace.nasa.gov/vgr_fact1.htm to read about the Voyagers' grand tour of the outer planets and find out the secret code they use to send pictures back from space.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

October				2002		
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5 Star Party, Dusk at Broad Creek and the observatory
6 New Moon	7 Discussion Nite at Observatory, 7:30 p.m.	8	9	10	11	12 Open House @ new site next to observatory???
13 First Quarter	14 Discussion Nite at Observatory, 7:30 p.m.	15	16	17	18	19 General Meeting, Joppa Hall, RM J70, at 7:30 p.m.
20	21 Full Moon Discussion Nite at Observatory, 7:30	22	23	24	25	26 Star Party, Dusk at Broad Creek and the observatory
27	28 Discussion Nite at Observatory, 7:30 p.m.	29	30	31		

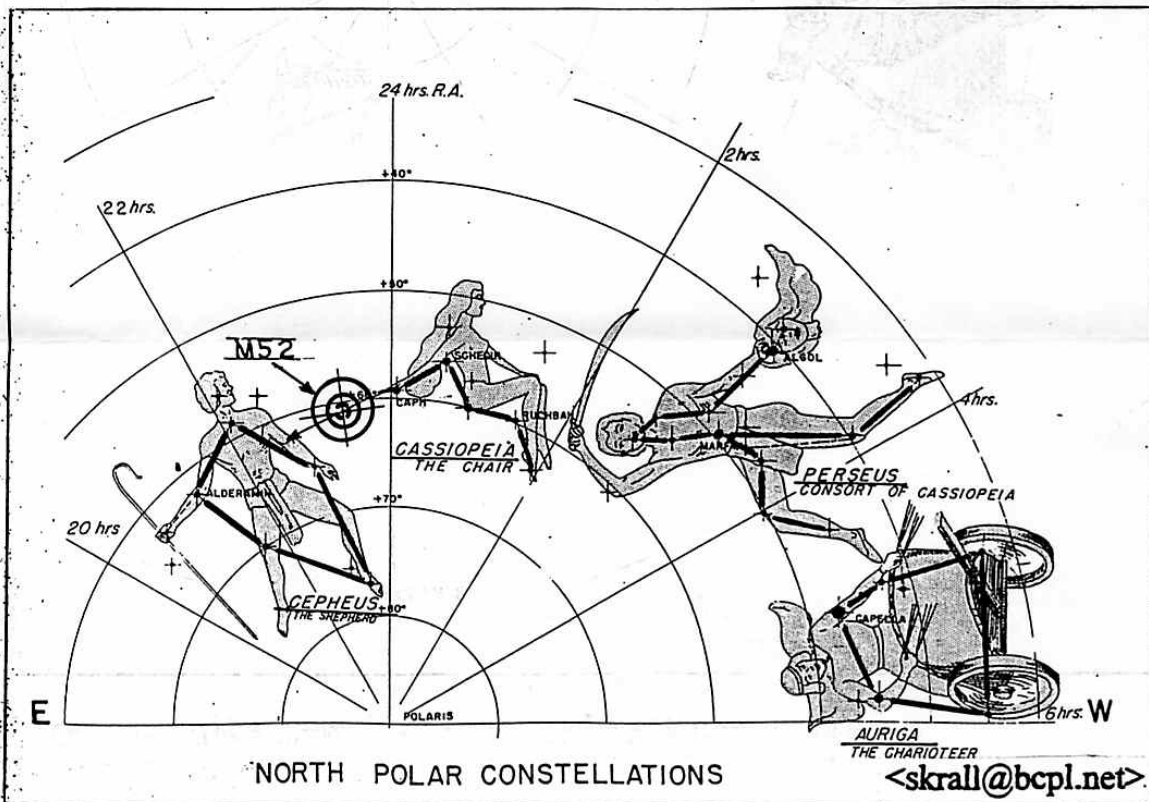
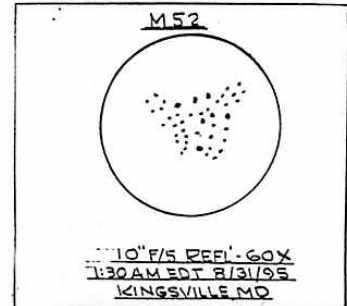
MESSIER NOTES: STEVE KRALL

M 52--10/27/94--12:00 am--10inch F/5 Refl.

The autumn evening skies offer the Messier buff some great looking open clusters. Probably, one of the finest is in Cassiopeia, namely M52. It is a large, bright, Vee shaped splash of stars, an easy target lying on a line from Schedir thru Chaph extended several degrees in the direction of Cepheus. Low power can be disappointing on this one but higher magnification easily revealed a mix of stars across the spectrum, it is numerically rich, a little compressed and dominated by a group of dazzling blue-white stars. M57 is also circumpolar from this latitude (never rising or setting) so you can observe it all year around but wait for this treasure when it is high above the pole where it can stand out in contrast to the black sky. I especially liked M52 for its unique shape, diversity of stars and its nice soft glow.

Note: Messier described M52 as "a cluster of very small stars mingled with nebulosity, which can be seen only with an achromatic telescope."

[NGC 7654--Type CI--Mag. 6.9-- Dist. 7kly--Size 13'--Dia. 26 ly]



Observer's Report. Mt. Davis, Somerset Co., Pennsylvania by Phil Schmitz

On August 9 - 10, 2002 four Maryland Science Center employees/volunteers enjoyed a "stellar" night under the skies at Mt. Davis, Somerset Co., Pennsylvania. Doug Wittich, Michele Snyder, Melissa Jan and Phil Schmitz ventured out to Mt. Davis with an 8" Dobsonian and a 16" Dobsonian along with binoculars. Our hosts Pat and Jack Orner, Steve Vincent and his friend Kathy provided a incredible cook out for us. It included, freshly picked corn on the cob, which they cooked over an open fire in a kettle. Hot dogs, turkey sausage, a variety of chips, drinks and other side dishes were provided as well.

When darkness fell, the band of the Milky Way was pasted from Cassiopeia in the Northeast to Scorpius in the Southwest! It was difficult to determine the constellation patterns. It looked as if someone had spilled thousands of gemstones all over the sky! That sight alone was probably worth the trip.

Altogether, there were probably six or seven scopes set-up at the site. Unless otherwise noted, all of the following objects were observed in the 16" Dobsonian with a 12mm Nagler 2" eyepiece. We started out at M22, a giant globular cluster in Sagittarius, easily resolved to the core. Staying in Sagittarius, the Omega Nebula, M17, was outstanding, as was the Lagoon Nebula, M8. Wisps of nebulosity were all over the field of view on these two objects. All three lobes of the Trifid Nebula (M20) were obvious, no O-III filter required. Moving on to M51, a spiral galaxy in the constellation of Canes Venatici, the spiral pattern was obvious, no imagination required. The large galaxy M101, in Ursa Major, was easily visible. Next came M81 and M82, both of these galaxies were impressive (they were also both visible together in the 40mm eyepiece).

M13 in Hercules cost us our night vision. This incredibly bright globular is a showstopper! The small nearby galaxy NGC6207 was seen in the same field of view (40mm eyepiece). Globular M92, also in Hercules is just a little smaller and less bright than M13, it also resolved to the core. In the constellation of Scorpius, M4, a very loose globular cluster, resolved to the core. M80, a small bright dense globular did not resolve to the core, however, the outer stars of this globular were seen (Personal note: This is the first time I have resolved the outermost stars of M80 - a real treat!). Overall, we were able to resolve to the core, about seven of the nineteen globulars seen this evening. Also in Scorpius, NGC6302, a planetary nebula, known as the bug nebula looked like a bug smeared on your windshield (I guess that is how it got its name). M11, the Wild Duck cluster, an open cluster in the constellation of Scutum, looked more like a globular since it is so densely packed with stars. M30, a globular in Capricornus, is one of the most overlooked Messier objects. This globular is slightly squashed and has at least four chains of stars coming out of it! Definitely one to be revisited again and again.

M27, a planetary in Vulpecula, just about filled the 2 inch eyepiece field, another fantastic object to look at. The center of the Ring Nebula (M57) was filled in! The tenuous regions were clearly visible! The central star, however, was not visible, but with all that nebulosity, I wasn't surprised. M31, the bright spiral in Andromeda engulfed its companion M32, and M110 wasn't bad either! The faint companion galaxy to M31, NGC185, which lies across the border in Cassiopeia was barely visible (NGC147, the other small companion, was not visible). M76, a small planetary in Perseus, was very obvious as a dumbbell shaped object. One could easily trace the knots and details of the Veil Nebula in Cygnus. We saw both sides of this supernova remnant! The Blinking Planetary, NGC6826, in Cygnus, lived up to its name. The Saturn Nebula, NGC7009, in Aquarius showed its lobes! (Personal note: This is the first time I have seen the lobes, they were faint but they were there). One of the faintest Messier objects, M74, was no problem to see, it is in Pisces. M33 was obvious in 11X80 binos as a soft blur embedded in a stellar background. In the 16", the H2 regions were all over the place, one, known as NGC604, stood out the best. To see a star-forming region in another galaxy is a real treat. This

H2 region in M33 must be at least as big as the one in the Magellanic Cloud (Tarantula Nebula).

M1, a supernova in Taurus, clearly showed some shape. NGC40, a planetary in Cepheus, is similar to the Blinking Planetary in Cygnus, but the blinking is not as obvious. The open clusters M36, M37 and M38 in Auriga were dazzling with their many stars, as of course were the Pleiades, M45, in Taurus. M42 was weak since it was peaking up over the eastern sky as twilight was upon us. We also saw Mercury and Venus in the evening sky and Saturn (with Titan) and Jupiter (with all four Galilean satellites) in the morning sky. In all, over 70 objects were seen, including a few double stars like Almach, Mesarthim and Iota Orionis. But as you can tell, this was not a night for double star observing! The sky was turning so fast (I know, it's really the Earth that is turning), I had to skip searching in some constellations, like Ophiuchus and Serpens, I couldn't keep up! Can't wait for the next clear new moon weekend!!!

Editor's note: This is the site mentioned in the minutes of the general meeting. Phil and Doug were absolutely charged about the great seeing available at this site. HCAS members wishing to enjoy the hospitality of the folks in Somerset Co. should contact Phil at his EMAIL address listed in the minutes.

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