



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC November 2022 Meeting

<p><u>Next Meeting:</u> Friday November 18th, 2022</p> <p><u>Time:</u> 7pm ET</p>	<p><u>Place:</u> <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement)</i></p> <p><u>Address:</u> 1900 Queens Road Charlotte, NC 28207</p>
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Astrophotography at GHRO

Astrophotography can be rewarding as it can allow us to observe objects of the night sky with much greater detail than we could imagine if we only could see them with our eyes (either aided by binoculars or telescopes or not). During star parties with the public, many of the participants even want to take a picture with their phones of what they see through the eyepiece.

A few of our members are taking remarkable photographs from our club's dark sky site at GHRO. This month they will explain the process of imaging and processing the image data to get the remarkable results they will share with us.



Figure 1 ESA/ Hubble & NASA,
J. DaICanton



Figure 2 GHRO Milky Way, Justin

From the President:

Dear Friends,

The end of the year is upon us!

We had an amazing year with speakers from academia, private space exploration, and Club members who all made the current year something to remember. A dedicated group of volunteers were present at numerous community events and GHRO activities – we are the envy of the Astro community in the southeast.

We made some big changes in 2022: we developed a CAAC new website, improved the infrastructure at GHRO, and held our first series of auctions after a several year hiatus. Additionally, we improved the sound system at our Myers Park meeting facility, substantially increased the scholarship fund, and set in motion the platform for future live streaming events. I am also excited to announce that Southern Star will return for 2023. In summary, the hard-working members of the CAAC community got a lot done to which I am both proud and grateful.

December Party:

While the Club traditionally does not have a December meeting, I am pleased to announce that we are returning to our annual holiday celebration at Charlie Clayton's house this year. We will come together for a potluck celebration on December 3rd at 6:30 PM. If you are going to attend, please contact Charlie at 704-821-9891. I look forward to seeing you!

Charlie's Address: 306 Riverton Rd, Matthews, NC 28105

Club Dues: It's that time of year again – please go to the CAAC website and select the appropriate dues levels for you and your family. <https://charlotteastronomers.org/>

Lastly, I want to thank the Board of Directors for all their hard work. As a volunteer organization, the Board spends a great amount of time interacting with community while serving the Club's needs. Without them, the Club would not be the vibrant and growing group of Astronomy friends we have today.

Clear skies,

Joel
CAAC President

Secretary's Report:

1. October was the start of the 2023 CAAC annual membership.
 - Annual individual/family membership, which includes access to the CAAC dark sky [observatory](#) (GHRO) - \$60.00
 - Dues are collected at the October meeting and are pro-rated for members joining in January or later.
 - Students up to 18 years old - \$15.00 per year.
 - Private Observing Pads - additional \$25.00 per year.
Optional fee for members with private concrete observing pads at the club's dark sky location. Contact the Observatory Director for additional information.

Membership Applications are available through the CAAC Treasurer at monthly meetings.

Click <https://charlotte-amateur-astronomers-club-2.square.site/> to navigate to the CAAC online store. Then select "CAAC Membership" to add it to your cart

2. We are excited to announce the launch of the new CAAC website, <https://charlotteastronomers.org/>! With great appreciation to the Website Modernization Team (our talented team of volunteers, Mark Hoecker, Tom Clarkson, Steve Rogish, Justin Peatross, and Rick Bassham), the CAAC website has been updated to provide better service to our members with easier navigation, up to date announcements and postings, and accessible communication.
Please explore and enjoy your new CAAC website.
3. If you are a former CAAC member and have not been keeping up with your membership dues, firstly please come back! We'd love to reconnect you with the love of astronomy through our club, use of GHRO observatory, and the camaraderie of our members.

Please also remember to return your badges on the table near the exit at the end of the meeting before you leave! Doing this will significantly reduce the chances of badges getting lost and reduce the amount of time (and cost) of having to re-create your name tag if it is lost. Thank you!

4. Register with the **Night Sky Network!** It is imperative that all members of the CAAC join the Night Sky Network (NSN). Many of the club's outreach activities are managed by the NSN, as well as club communications (newsletters, event notifications, general email). The NSN is a wonderful tool specifically designed for amateur astronomy clubs like ours. Membership allows you to contact other members via email, and receive last minute updates for outreach events via text message:
http://nightsky.jpl.nasa.gov/club-apply.cfm?Club_ID=1468&ApplicantType=MemberPre-Monthly

My Do
CAAC Secretary

CAAC Treasurer's Report as of 10/31/2022

Operating Fund

Purpose: Enable the CAAC to pursue our non-profit goals, maintain our facilities, and run our programs.

*Funds are acquired through ongoing receipts of dues, fees, and annual Southern Star income (or expense).

*Funds are expended to meet operating obligations of the club.

1	Operating Fund Balance: 09/30/2022	\$8,106.53
2	Income: Dues and Fees Donations Club Reimbursement GHRO Infr. Improv. Expenses: X-fer Expenses: Monthly Meeting Parking Lot New Building GHRO Utilities (alarm, elec, internet) Service fee to accept credit cards	 \$4,445.00 \$176.12 \$522.33 \$928.90 \$221.24 \$2,725.00 \$3,042.99 \$418.90 \$147.59
3	Operating Fund Balance: 10/31/2022	\$7,623.16

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Non-Operating Fund Balance: 09/30/2022 Scholarship Fund CAAC Self Insurance Fund Contingency Fund GHRO Infrastructure Improvement	 \$6,706.87 \$20,000.00 \$7,366.75 \$928.90
2	Income: Interest	 \$0.30
3	Expenses or Transfers: GHRO Infr. Improv. Expenses	 \$928.90
4	Non-Operating Funds Balance: 10/31/2022 Scholarship Fund CAAC Self Insurance Fund Contingency Fund GHRO Infrastructure Improvement	 \$6,706.87 \$20,000.00 \$7,367.05 \$0.00

Scott Goforth
CAAC Treasurer

News from GHRO

1. Cosmic Camporee was a rousing success with over 40 members showing up for camping and great food! The skies cooperated and a good time was had by all.
2. The next star party (after Cosmic Camporee) is Saturday, November 19 beginning at dusk. There is no telescope training in November.
3. Sun City is coming to GHRO for two sessions...December 3rd and December 17. I expect 30-40 people on each evening. Help running the telescopes is needed, please let Jim Gaiser know if you can assist. Hours will be from 1 hour before sunset until 10 PM both nights.
4. Don't forget that the current sky conditions and weather can always be viewed at weather.ghro.club The Clear Sky Clock is found at the bottom of our home page...www.charlotteastronomers.org.
5. The new telescope storage building, near the all members pad is available for rent. The fee is \$10/month for a 3'x3' spot inside, with a 6 month minimum commitment; there are 9 spots available. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Jim Gaiser or Rick Bassham if you have any questions.



GHRO Information

GHRO is located at [1427 Bloomwood Drive, Lancaster, SC](#). (some GPS show city as Pageland). Gravel road leading to the observatory is located 5.22 miles east of the "522 Grill" on Taxahaw, Rd.

Facebook FAQ

<https://www.facebook.com/CharlotteAstronomers/> scroll down to NOTES, then Frequently Asked Questions page for more information about GHRO. Be sure to share your astronomy photos and observing tips.

Night Sky Network -- "Heading to GHRO"

For updates on GHRO, be sure to join the <https://nightsky.jpl.nasa.gov/index.cfm> "Heading to GHRO" message group.

Jim Gaiser, Director GHRO.

As always, we care about the safety and security of all visitors to our observing facility, the GHRO. To keep us all mindful for the need to keep alert while visiting the observatory, we provide the following reminder. Please share this with your family and any visitors who may join you at the observatory. Thank you.

*** WARNING ***

This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

By using this facility, users assume the risk of personal injury, and loss or damage to personal property. All persons should use extreme caution at all times.

Users of this facility agree to hold harmless the Charlotte Amateur Astronomers Club, its Directors, and its members for any and all injuries sustained while participating in club activities or using this facility.

CAAC Outreach Opportunities

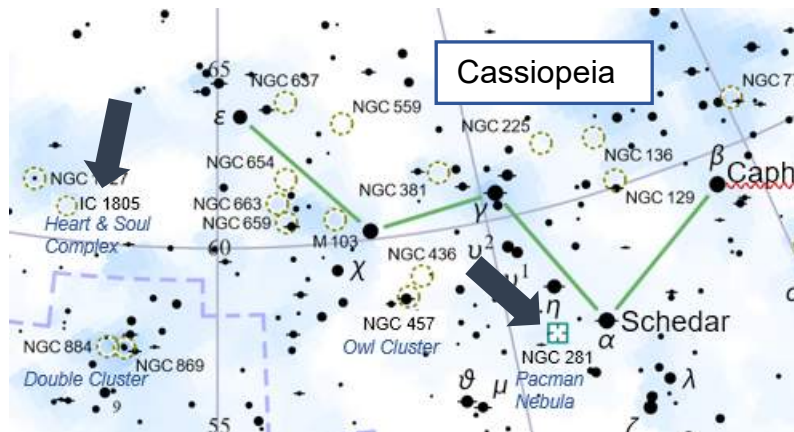
1. **On deck:** Park Road Montessori School on December 12. We expect approximately 25 students and their parents.

Best regards,

Ken Steiner

November Sky Challenge

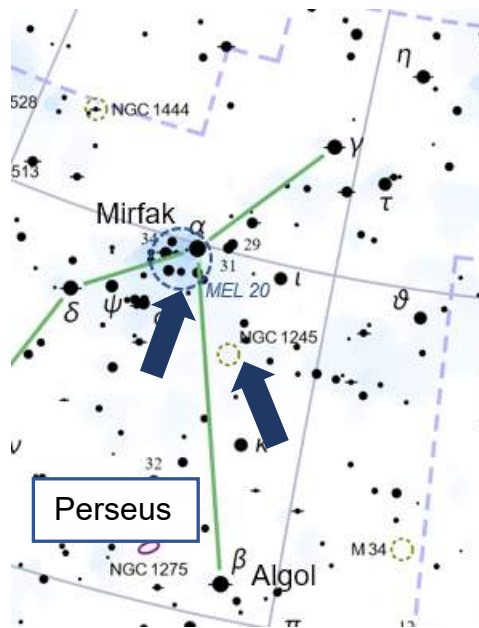
Are you looking for something to discover in the night sky? Try these with a modest size telescope, with some patience and persistence! Or come down to the GHRO and get a really fine look! This month, a nebula, a nebula with a cluster, and another cluster!



NGC 281, IC 11 or Sh2-184 is a bright emission nebula and part of an H II region in the northern constellation of Cassiopeia and is part of the Milky Way's Perseus Spiral Arm. Colloquially, NGC 281 is also known as the **Pacman Nebula** for its resemblance to the video game character.

E. E. Barnard discovered this nebula in August 1883, who described it as "a large faint nebula, very diffuse."

The Heart & Soul Nebula Complex, IC 1805, lies some 7,500 light years away from Earth and is located in the Perseus Arm of the Galaxy in the constellation Cassiopeia. It was discovered by William Herschel on November 3, 1787. The nebula's intense red output and its configuration are driven by the radiation emanating from a small group of stars near the nebula's center. This open cluster of stars known as Melotte 15 contains a few bright stars nearly 50 times the mass of our Sun,



Mel 20 (Melotte 20) or the **Alpha Persei Cluster**, is an open cluster in the constellation of Perseus. To the naked eye, the cluster consists of several blue spectral type B type stars. The most luminous member is the ~2nd magnitude white-yellow supergiant Mirfak, also known as Alpha Persei.

The Hipparcos satellite and infrared color-magnitude diagram fitting have been used to establish a distance to the cluster of ~172 pc. The distance established via the independent analyses agree, thereby making the cluster an important rung on the cosmic distance ladder. The age of this cluster is about 50-70 million years.

EXTRA... Take a look at nearby **NGC 1245**. This open cluster, discovered by William Herschel in 1745 is nearly one billion years old and about 200 stars.

Acknowledgements:

Wikipedia for excerpts.

Mag Star 7 Star Atlas Project © 2005 Andrew L. Johnson for star maps (clipped)

Edited by Mark Hoecker

What's Up in the Sky?

Highly Recommended Download and print a good *FREE* star map (including interesting objects to look for) monthly from:

Skymap <http://www.skymaps.com/downloads.html>

[You'll also find a good monthly sky map in each issue of *Sky & Telescope* or *Astronomy* magazines.](#)

New to the Night Sky?

Are you puzzled by folks in the club who point up in the sky and say "There's Gemini... and you can see Leo rising over there...and doesn't Regulus look clear tonight"? Are you trying to figure out where those darn constellations are? Those large star atlases are pretty intimidating... confusing... and expensive.

A good starting point could be called, *My First Star Atlas*... but in reality it is 4 simple but very helpful *FREE* star chart pages from the Stephen F. Austin State University – called **SFA Star Charts**. Pages 2 & 3 show you about 90% of everything you need to get started. There are even a couple pages that explain how to use a star chart. Clear and straight-forward.

Go to this link and print out the pdf file on the largest paper you have available, though standard letter paper is fine:

<http://observe.phy.sfasu.edu/SFAStarCharts/SFAStarChartsAll.pdf>

While these charts do not show the myriad of deep sky objects, they DO show the constellations and brightest stars – a good introduction to the night sky!

Happy Observing!

An **ENHANCED** Star Atlas – **FREE!**

Our CAAC member, Mark Hoecker, has used the *Mag 7 Star Atlas – Color Milky Way version* (available on the internet) and added some enhancements including:

- A star map index to quickly identify the individual star chart you are looking for.
- Blue directional arrows at the edge of each chart guiding you to the adjacent chart. Also large page numerals were added in the lower right corner, helpful when thumbing through the charts.
- Finally, he manually added common star names and a selection of deep sky object names to the star charts, helpful in finding your way around the sky.

Such enhancements are allowed under the Creative Commons License by Andrew L. Johnson, author of the original charts.

SUGGESTION: While printing at the largest paper size you have available is helpful, a great alternative if you have a "letter size" color printer with a manual auxiliary feed slot, is to print on "legal size" (8½ x 14-inch) heavy paper or even "card stock". You could also punch holes and place in a legal-size report cover available at office supply stores. You would then have a wonderful star atlas to help you through the night skies!

If you have access to a color printer that can print on 11 x 17-inch paper (or card stock), you can print a magnificent copy whose readability will rival that of very nice, commercially available atlases.

To download your **Mag-7 Star Atlas Milky Way version – ENHANCED**, go to the CAAC website and scroll down the left column to "Mag 7 Star Atlas" and follow the link.

Happy Observing!

Endowment Corner

Gifts for the Present:

Qualified Charitable Distributions:

Qualified Charitable Distributions (QCD) If you are 70½ or older, you may make a tax-free gift directly from your IRA. That gift does not count as taxable income, but does count toward your annual Required Minimum Distribution (RMD). This is a great way to direct your RMD to a good cause and to avoid the income tax normally incurred.

To make a contribution or learn more, please visit <https://charlotteastronomers.org/endowment/>

Ken Steiner, Chair, CAAC Stewardship Foundation

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