



Charlotte Amateur Astronomers Club  
[www.charlotteastronomers.org](http://www.charlotteastronomers.org)

## CAAC March 2022 Meeting

<p><b><u>Next Meeting:</u></b> Friday March 18th, 2022</p> <p><b><u>Time:</u></b> 7pm ET</p>	<p><b><u>Place:</u></b> <i>Virtual Meeting - From the comfort of your home</i></p> <p><b><u>Address:</u></b> Zoom web conference link (See newsletter info below)</p>
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### Space Weather and solar storms: How magnetic fields “there” affect us “here”

We will take a look at space weather, what it is and how it is produced. From there we'll see how space weather affects us on the earth's surface.

Speaker: Dr. Jim Gaiser

Dr. Gaiser earned his PhD degree in Atomic Physics from Auburn in 1981. After a stint as an Assistant Professor at East Carolina University in the 80's, he transitioned into Medical Physics, where he's practiced that profession for 34 years. He's held various positions of leadership in CAAC and is now the Observatory Director. His lifelong interest in Astronomy began when he looked up to see Echo I in 1961. His first telescope was a 75mm, f15 Unitron refractor that he got in 1967, Tom Blevins recently refurbished it for his grandchildren. His astronomical interests include asteroid occultations and astrophotography.



## CAAC Virtual Meeting Login Instructions

1. If you have not used Zoom before go to Zoom.com and download the Zoom program onto your computer.
2. **To Log In:**

Click on the meeting link below:

<https://us06web.zoom.us/j/85169643345?pwd=eEhMcGJpTXpPRWlrSmhCbkhNa3dMdz09>

If needed Meeting ID: **851 6964 3345**

Passcode: **2022**

This manual “log in” rather than invitation to everyone prevents all the emails showing up on the invite. This is a security issue for your privacy.

3. When on the Zoom screen to prevent chaos and overloading bandwidth:
  - a. Mute your microphone-icon lower left of screen
  - b. Mute Video icon on the lower left of screen.
  - c. You will be able to see and hear leaders of the meeting when they are speaking
4. If you wish to ask questions of the speaker after the main presentation:
  - a. Submit on the chat feature which is at the bottom of the screen. You will then type out your question and hit enter.
5. Excellent Zoom tutorials are available on You Tube:
  - a. <https://www.youtube.com/user/ZoomMeetings>

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## From the President:

Greetings Friends,

I have some exciting announcements this month. I'm happy to report that we are planning to reopen club meetings to in person activities beginning in May. We are in the process of testing our ability to stream live events and hold in person meetings at the same time. Please stay tuned for more announcements and we look forward to seeing you in person.

At the request of our facility provider, we are required to ask all people who attend the meeting to be fully vaccinated. We will define "fully vaccinated" per the current CDC guidelines and request that you check those guidelines at your convenience as they may change. Additionally, there will be a temporary limit of 75 members. Historically, 75 members would not pose an undue restriction on attendance.

While I am excited to announce that we will soon have in-person meetings, I regret to inform the membership that there will not be a Southern Star convention in 2022. This is a great disappointment to the club but is a result of COVID-19 restrictions at the facility and available dates that would meet our club's requirements. We have engaged the facility for a 2023 Southern Star convention and will provide further information as it becomes available. We fully expect to have a Southern Star convention in 2023.

One goal that I set aside as club president was to update the club's website. I am pleased to announce that the Board voted at its most recent meeting to form a website committee. The job of the website committee is to make recommendations to the Board on content and to create a budget for the website modernization project. If you would like to be a member of the committee, or provide feedback as to what you would like to see as part of the website refresh, please reach out to a member of the board at your earliest convenience.

And finally, I would like to remind the membership that we have an upcoming club election for the Board of Directors. If you would like to be a member of the Board of Directors either for a specific position or serving in an at-large capacity, please contact me no later than April 14th for inclusion on the larger ballot. We would be very interested in discussing with members those who would consider serving as the club's Vice President. This is an important leadership opportunity and we hope that you will consider serving in such a capacity. I intend to seek reelection and your approval as club president for the 2022-2023 year.

Thank you all for sticking with us during the COVID era. I hope that we have met your expectations and that you continue to remain active and engaged with the club. We have some exciting speakers planned for 2022, and I look forward to seeing you'll in person and sharing discuss.

Best wishes,

Joel Levy  
CAAC President

## CAAC Treasurer's Report as of 2/28/2022

### 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	<b>Operating Fund Balance: 01/31/2022</b>	<b>\$11,481.82</b>
2	<b>Income:</b> Dues and Fees \$505.00 GHRO Infr. Improv. Expenses: X-fer \$7,566.00  <b>Expenses:</b> GHRO Utilities (alarm, elec, internet) \$403.90 GHRO Facility GHRO Infrastructure Improvements \$7,566.00 Service fee to accept credit cards \$15.64	
3	<b>Operating Fund Balance: 02/28/2022</b>	<b>\$11,567.28</b>

### Non-Operating Funds

**Purpose: Administer gifts and donations for designated use.**

1	<b>Non-Operating Fund Balance: 01/31/2022</b> Scholarship Fund \$1,489.36 CAAC Self Insurance Fund \$20,000.00 Contingency Fund \$7,364.49 GHRO Infrastructure Improvement \$13,649.76	
2	<b>Income:</b> Interest \$0.30	
3	<b>Expenses or Transfers:</b> GHRO Infr. Improv. Expenses \$7,566.00	
4	<b>Non-Operating Funds Balance: 02/28/2022</b> Scholarship Fund \$1,489.36 CAAC Self Insurance Fund \$20,000.00 Contingency Fund \$7,364.79 GHRO Infrastructure Improvement \$6,083.76	

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***From the Southern Star Planning Committee***

It is with regret that we have to announce that there will not be a 2022 Southern Star Convention held this year. Due to the uncertainty with the Covid-19 pandemic, hosting a spring 2022 convention was not possible. After exploring options to host Southern Star in the fall, we unfortunately were not able to secure dates at Wild Acres in the fall for this year.

The Southern Star Committee looks forward to bring back this wonderful event to you all and fellow astronomers in the spring of 2023.

Thank you so much for your patience and we look forward to seeing you all next year!

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**ATTENTION: CAAC needs your help!**

CAAC is looking for talented volunteers to help take the CAAC website and online platform to revamp our website and take it to a new level! We are forming a website committee and we need your help in the following areas

Work with web development company on:

- Design/UI suggestions
- Content updates
- Website features/functionality
- Social media integration

If you are interested, please contact Joel at [levyjoelh@yahoo.com](mailto:levyjoelh@yahoo.com) and we'll get you plugged in

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## News from GHRO

1. The new telescope storage building, near the all members pad, is ready for use. The board has approved a fee of \$10/month for a 3'x3' spot inside, with a 6 month minimum commitment; there are 10 spots available. The building will be on the general alarm system by the end of the month and will have a surveillance camera mounted inside as well. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Jim Gaiser or Rich Bassham if you have any questions.
2. Electricity costs have soared in recent months as new observatories are coming on line and the existing ones are starting to get a lot of use. The cost has risen not because of increased pricing from our electricity provider, but solely because of increased use. To this end, the board approved allocating a fraction of the electric bill to those observatory users that use it. We will be implementing power monitoring later in the spring and hope to have the program fully implemented by end of summer. Observatory owners are already paying a premium (\$125/year) compared to pad owners (\$25) but this is not covering the electric bill.

The philosophy is that services that are provided to the entire membership, such as WiFi service, use of the Outreach Center and use of club owned observatories should be borne by the entire club. That's what our dues pay for. Observatory owners should be responsible for the additional cost of the electricity they use over and above the "telescope use" while they image. The power demands of a telescope and computer are small compared to the power consumed by the use of air conditioning and heating, refrigerators and the like. Those costs should not be borne by the club, but by the individual. Feel free to contact Jim Gaiser if you have any questions about this new policy.

3. The next training session will be Saturday, March 19 beginning at 5 PM. Please contact Jim Gaiser at [jegaiser@gmail.com](mailto:jegaiser@gmail.com) to register. Dress warmly, you never know this time of year!
4. The next star party is Saturday, March 26 beginning at dusk. Finger crossed for clear skies.

**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 \*\*\*

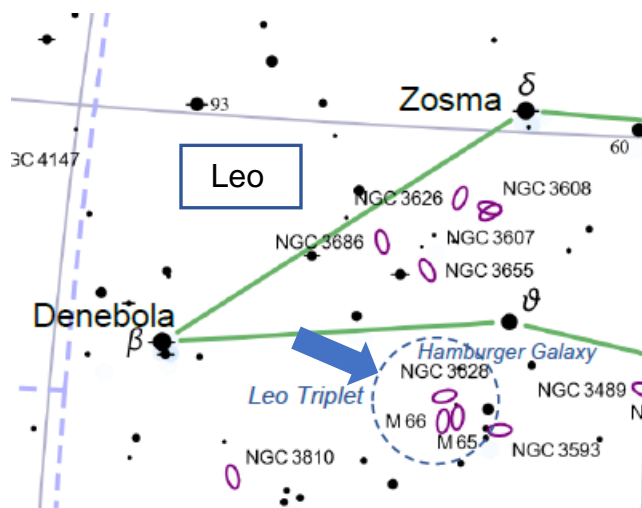
This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

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.

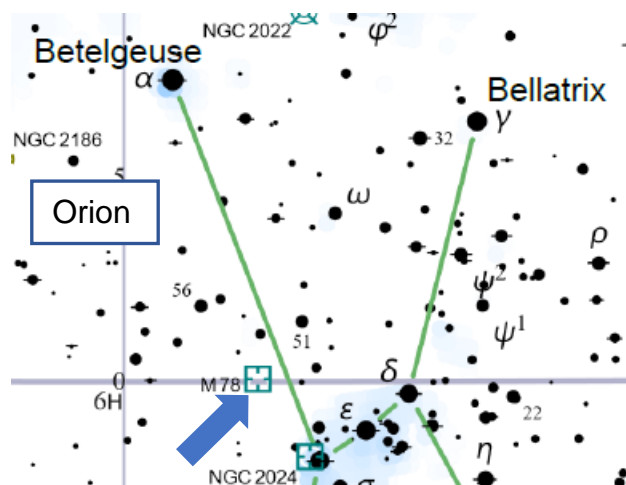
Users of this facility agree to hold harmless the Charlotte Amateur Astronomers Club, its Directors, and its members for any and all injuries sustained while participating in club activities or using this facility.

# March 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, three interesting galaxies and two nebula!



You have the opportunity to see three galaxies in one view of your eyepiece. The Leo Triplet, a.k.a. the M66 group, consists of **M66**, **M65**, and **NGC 3628**. These galaxies are tilted at different angles to each other. The triplet is located in the eastern part of Leo, about a quarter of the way on a line from Denebola to Regulus (the bright star at the bottom of the Leo “backward question mark” or “sickle”). They have visual magnitudes of 8.9, 10.2, and 10.2, respectively. NGC 3628 is a barred galaxy and is also known as the “Hamburger Galaxy.”



**M78** is a bright reflection nebula located close to the celestial equator, and about four degrees east of Mintaka (Delta Orionis), the westernmost star in Orion’s belt. Like all reflection nebulae, M78 is seen because it scatters light from another source, usually nearby stars.

The nebula was discovered 230 years ago by Pierre Mechain, and later included in Messier’s famous catalog where it is described to be “a cluster of stars with much nebulosity”. In small telescopes, M78 appears like an oval smudge of grayish

light that is slightly brighter on its southern end.

The nebula can be glimpsed with binoculars on an exceptional dark sky, but if you observe in less than ideal conditions a 4.5-inch telescope is the minimum required. Observers using larger instruments may see M78 as comet-shaped, with a broad tail of material arcing away from two 10th magnitude stars in the head.

If you watch carefully, you might also notice **NGC 2071** in the same eyepiece field, just a few arcminutes away from M78. Though not likely to be seen through binoculars, this companion nebula is detectable in 3 to 4-inch telescopes as a faint glow northeast of M78.

Acknowledgements:

NightSkyInfo [www.nightskyinfo.com/archive](http://www.nightskyinfo.com/archive) for target descriptions, adapted.  
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:

### Cash

A gift of cash is simple, has immediate impact, and provides tax savings due to the charitable deduction that you can receive. The easiest way to make an outright gift is to write a check to the CAAC Stewardship Foundation.

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

Ken Steiner  
Chair, CAAC Stewardship Foundation

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### CAAC CONTACTS

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