

Grand Strand Astronomers Newsletter

ISSUE #01
March 1, 2023



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Meeting Recap

Held on February 2, 2023

This was a first ever joint meeting between the Grand Stand Astronomers and the Lowcountry Stargazers. The purpose of the dual meeting is to discuss promotion of Hampton Plantation as an official Dark Sky sight.

The meeting was opened with introductions from each club and attending to some club business.

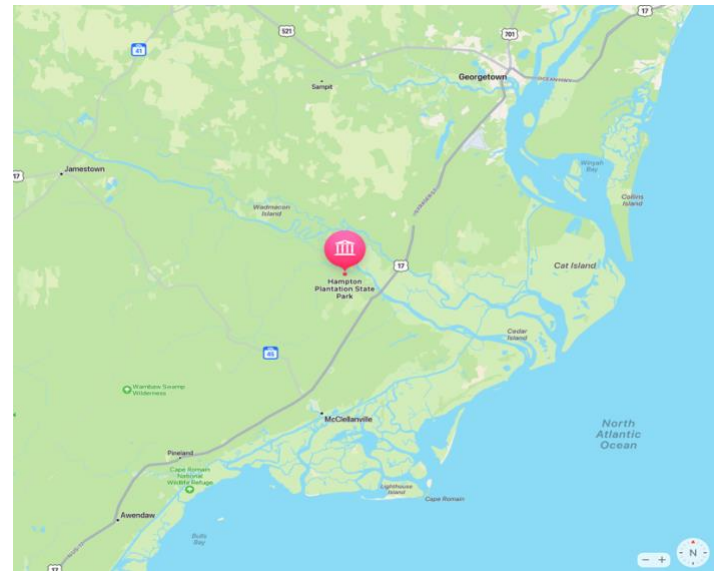
Mike Lyons of the LCS gave an excellent presentation on the Ancient Beliefs about Mars and What We Know Now.

Messier Marathon: Plans are being made to hold a Messier Marathon at Hampton Plantation around March 18 (give or take a day) Early spring allows one to see all Messier objects in one night (sun down to sun up). More details to come.

While discussing upcoming observing opportunities, it was suggested that we hold a Messier Marathon Observing Session at Hampton Plantation around March 18. Messier Marathon is a term describing the attempt to find as many Messier objects as possible in one night. GSA already has the park reserved for that evening, and the park personnel are agreeable to

the “all nighter.” So it looks like a go if the weather cooperates.

The two clubs held an in depth discussion on the proposed Memorandum of Understanding submitted by Hampton Plantation that gives support for their efforts to become recognized as a dark sky site. See darksky.org for information on what this means. The MOU includes request for participation by clubs for events, education programs, steering committee support, and help with ground maintenance. Of course, keeping the sky dark (limiting artificial light) and some financial support were on there too. Clarification is requested on these two points so that each club has a clear understanding of what they need.



Hampton Plantation Location

Club Announcements

Annual Dues Can Now Be Paid Online

Many thanks to Ian (Club President) and John (Club Treasure), for working out how to pay our club’s annual dues on line through our website. Simply go to gsastro.org and select Join/Renew pull down. Fill in the information and your payment method via PayPal.

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All club members dues are due now so please submit them soon if you haven't already done so.

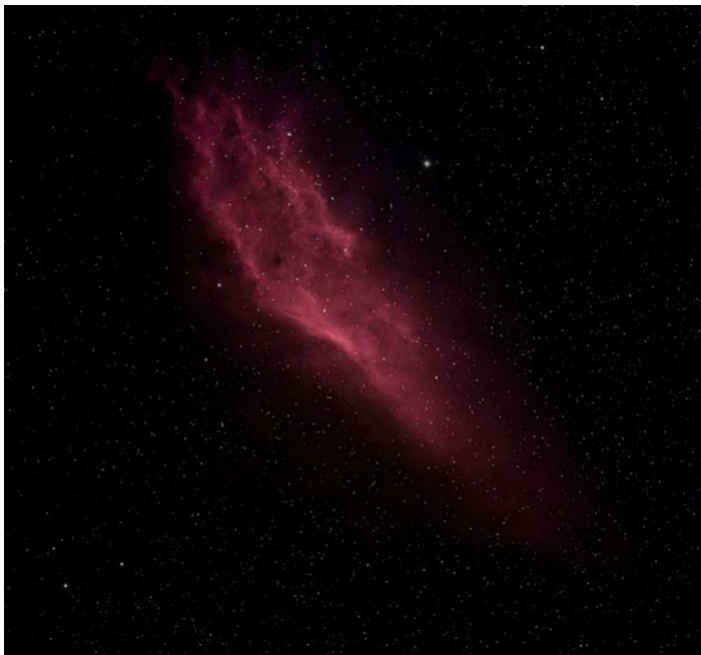
Also, you can send in your dues by check if that works better for you. Make your check payable to Grand Strand Astronomers and mail it to Grand Strand Astronomers, 1771 Alford Rd, Conway, SC 29526

Club meetings will continue to be online for now; but missing personal interaction, the club plans to hold social events soon. This was discussed at the last board meeting and some possible restaurants to hold the event were noted. More to come.

Photo of the Month

Submitted by Chris Taylor

The California Nebula



NGC1499 - The California Nebula is an emission nebula located in the constellation Perseus. Its name comes from its resemblance to the shape of the US State of California and it glows through excitation of gases in the nebula from a nearby high energy star

called Menkib (to the upper right of the image). The nebula is 2.5° long (around 5x the diameter of the moon), is also pretty faint and difficult to observe visually

By a happy coincidence, the California Nebula sits at the same latitude as Central California in the night sky.

The California Nebula is 1000 light years away and some 60 light years across.

The picture was taken from Forestbrook (Myrtle Beach) on the nights of January 10 and February 13 using a 135mm Samyang Lens, QHY183C Astronomy Camera with 405 x 30 second images and 30 x 60 second filtered images stacked together for a total integrated exposure time of 3 hrs 52 min 30s

Articles of Interest

[How to Determine Which Eyepieces to Use with Your Telescope](#)

Article by Celestron posted July 30, 2020



Every scope Celestron manufactures includes the following information in its specifications chart: the minimum useful magnification and the maximum useful magnification. This information provides the theoretical limits for each telescope model. These limits assume a night of good stable atmosphere, good transparency, a scope

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that has been allowed to cool to ambient air temperature, and well collimated optics (for Newtonians and Cassegrains).

If you choose an eyepiece that causes the telescope to exceed its highest useful magnification, the image will be magnified but will not carry or enhance any more details. This is generally defined as 60x per inch (25.4mm) of aperture. If you choose an eyepiece that provides magnification lower than the lowest useful magnification, the exit pupil becomes larger than what the human eye can support. Your view will become vignetted (encircled by a black ring) and you'll never see the entire field of view. The lowest useful magnification is 3.6x per inch (25.4mm) of aperture.

For this article, we'll use the AstroMaster 130EQ as an example. This telescope's focal length is 650mm. (To find the focal length of your telescope, look at the telescope's nameplate or retaining ring.) The aperture is 130mm. The scope's highest useful magnification is 307x and the lowest is roughly 19x.

To determine the **focal lengths of eyepieces** that fall within the magnification limits, you must take the focal length and divide by the magnification.

$$\text{High Powered Eyepiece} = \frac{\text{Focal Length of Telescope}}{\text{Highest Useful Magnification}}$$

$$\text{Low Powered Eyepiece} = \frac{\text{Focal Length of Telescope}}{\text{Lowest Useful Magnification}}$$

For the AstroMaster 130EQ, the highest useful magnification is achieved with a 2.1mm focal length eyepiece. The lowest useful magnification is achieved with a 34mm focal length eyepiece. Celestron offers several options for eyepieces that fall within these limits.

A 2.3mm X-Cel LX eyepiece will give you 282x, which is close to the highest useful magnification of the optics. An Omni 4mm eyepiece with a 2x Barlow lens will exceed your highest useful magnification at 325x. It's unlikely that any eyepiece will be a perfect match, but with the right combinations of eyepieces and Barlows, you can achieve numbers that are very close.

Remember, the performance of your telescope will always be limited by your seeing conditions. Choosing an eyepiece with too much magnification on a night with poor seeing conditions will only magnify the turbulence in the atmosphere, providing poor quality views.

To determine the magnification of a given eyepiece when paired with your telescope, use this equation:

$$\text{Magnification} = \frac{\text{Focal Length of Telescope}}{\text{Focal Length of Eyepiece}}$$

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Events and Outings

Club Meetings:

The next club meeting is scheduled for March 3 at 7:00 PM. Meeting link will be provided by e-mail and also on Facebook.

Club Outings:

The next club outing is scheduled for March 18 at Hampton Plantation beginning at sundown.

Comments and suggestions welcomed. Send comments to gsastro@info.com