The Focal Point

The Atlanta Astronomy Club
Established 1947
February 2023

Vol. 35 No. 6

Editor: Tom Faber

Table of Contents

Charlie Elliott February Meeting

February 18 at 4:30 p.m.

The Search for Other Homes for Life in Our Galaxy

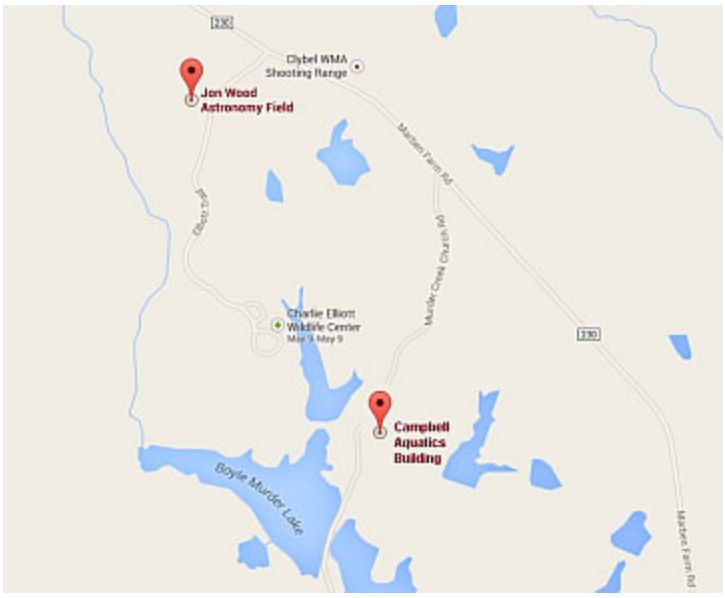
This Month — Please join us when we gather on Saturday, February 18, at 4:30 p.m., at the Charlie Elliott Wildlife Center Campbell Aquatics Building.

Our featured guest will be Mr. Hodari-Sadiki James, a Ph.D. candidate at Georgia State University, where he has blended his expertise in bioengineering with his love for astronomy. His journey in STEM started as a high school student in Jamaica, where his interest in science was sparked. He then went on to study physics and biology at Berea College (Kentucky) and work at the college's Weatherford Planetarium.

After completing graduate studies in biomedical engineering at the University of Cincinnati, Hodari moved to Atlanta and worked as a bioengineer. In 2017, he made the switch to astronomy and joined the Ph.D. program at GSU, where he now studies nearby late-type stars as a part of the RECONS (REsearch Consortium On Nearby Stars) group.

Hodari's research is focused on finding the best potential homes for life in our own galaxy. By analyzing high-resolution optical spectra of K & M-type stars within 50 parsecs of Earth, he can determine important stellar properties like age, activity, temperature and metallicity. His goal is to better understand our universe and find new places that could potentially support life.

Meeting Agenda — First, we'll have opening remarks and general introductions by our club director Steve Siedentop for the benefit of newcomers. Then a presentation of what's up in the sky this (and part of next) month by Observing Supervisor Dennis Ruzeski. Afterwards,



Credit: Google Maps

Outreach Coordinator Marie Lott will present Night Sky Network Outreach Award pins and certificates to club members who participated in that program in 2022. We're also open to those who wish to share any of their own observing experiences or questions.

Afterwards will be the feature presentation.

Following that (and weather-permitting), we'll head out to the nearby Jon Wood Astronomy Field; all are invited to bring their own telescopes or binoculars or at least their interest in astronomy. Sunset on our meeting night will be at 6:23 p.m., so be sure to be on the observing field before then. The sooner, the better.

Observing on the Jon Wood Astronomy Field

Following that (and weather-permitting), we'll head out to the Charlie Elliott Wildlife Center in Mansfield and the Jon Wood Astronomy Field; all are invited to bring their own telescopes or binoculars or at least their interest in astronomy. Sunset on our meeting night will be at 5:56 p.m., so be sure to be on the observing field before then. The sooner, the better. Location, Location, Location — To find the Jon Wood Astronomy Field: Head to Mansfield on Hwy 11, Turn off Hwy 11 onto Marben Farm Road (just south of Mansfield), Turn right onto Elliott Trail, Go a short distance, then turn right onto the dirt driveway that leads up to the Jon Wood Astronomy Field.

Continued on next page.

A Few Items to Note…

Plan to treat this outing like you would a camping trip and be prepared. Dress appropriately for the weather and the environment, bring snacks and drinks if needed, and plan to take your garbage with you. There is a regularly serviced Porta-Potty on Jon Wood Astronomy Field available for use during the observing session.

The main gate on Elliott Trail closes to new entry at 7 p.m. and will automatically open at any time for exiting traffic. If you plan to observe on Jon Wood Astronomy Field, please arrive before 7 p.m. or make arrangements with a club member for access.

For more information about Charlie Elliott Wildlife Center, visit:

https://georgiawildlife.com/charlie-elliott-wildlife-center

Our Monthly Meetings and Public Observing Nights

Our monthly meetings and public observing nights are free and open to the public. Visit the "Our Calendar" tab at the top of the page for our 2022 meeting, observing, and outreach schedule. Start times vary through the year so please check back for details.

View our Full Calendar of all meetings & outreach events here:

http://ceastronomy.org/blog/outreach/charlie-elliott-astronomy-calendar

It's easy to become a member of Charlie Elliott Astronomy!

Charlie Elliott Astronomy Membership Form here:

http://ceastronomy.org/blog/wp-content/uploads/2022/05/Membership_Form_2022.pdf

Pay dues with PayPal here: http://atlantaastronomy.org/membership/

March is Membership Renewal Month

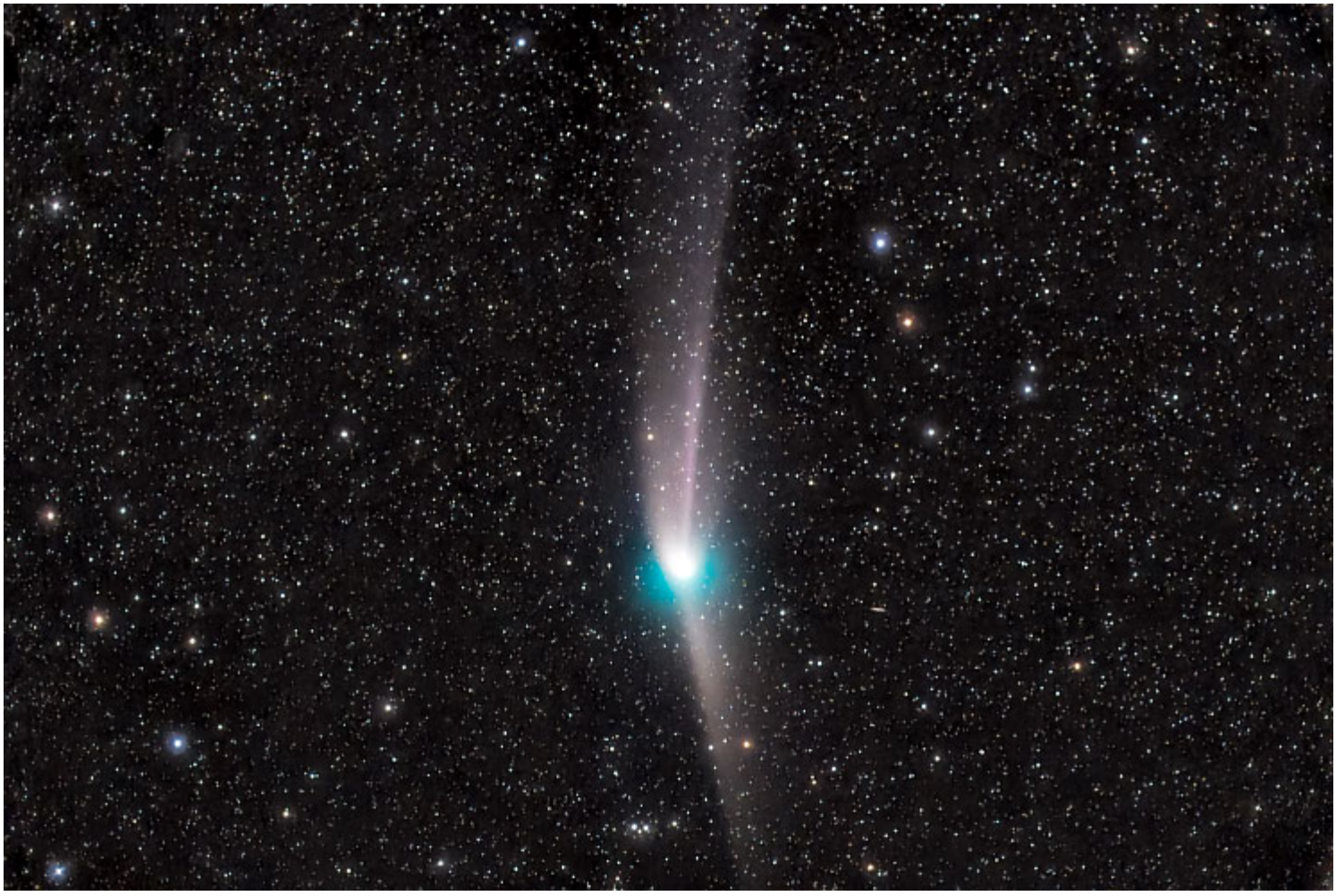
The AAC has moved to a "one-date-for-all" membership renewal. ALL CLUB MEMBERS, with certain exceptions, should submit their $30 dues for 2023 by the end of March. Please send your renewals to AAC Treasurer Sharon Carruthers, or renew online using PayPal. For more information see:

http://atlantaastronomy.org/?page_id=22

Thank You for your support of the AAC!

Comet 2022 E3 (ZTF) by Dan Llewellyn

Comet 2022 E3 (ZTF) January 24, 2023 5:52am EST. Taken with my Askar 108 with reducer, focal length 420. It is now over 3 degrees wide. You wonder, why didn't I rotate the camera to get the comet in landscape to get even more of the tail. Well, I imaged 3 deep sky objects earlier, and when I did my flats at 2am they had some interference lines in them. I fell asleep knowing I could do the flats after the comet with a different light source. I had no idea the comet would span the entire short side of the chip!! So I was stuck, if I rotated the camera, the deep sky objects I did earlier would be a fail. So, I had to go with the setup as it was. Haha, live and learn!



M81 by Richard Jakiel

The bright spiral galaxy M81 in Ursa Major. Richard took this image using a telescope at Hard Labor Creek Observatory.

For more information about M81 see: https://en.wikipedia.org/wiki/Messier_81

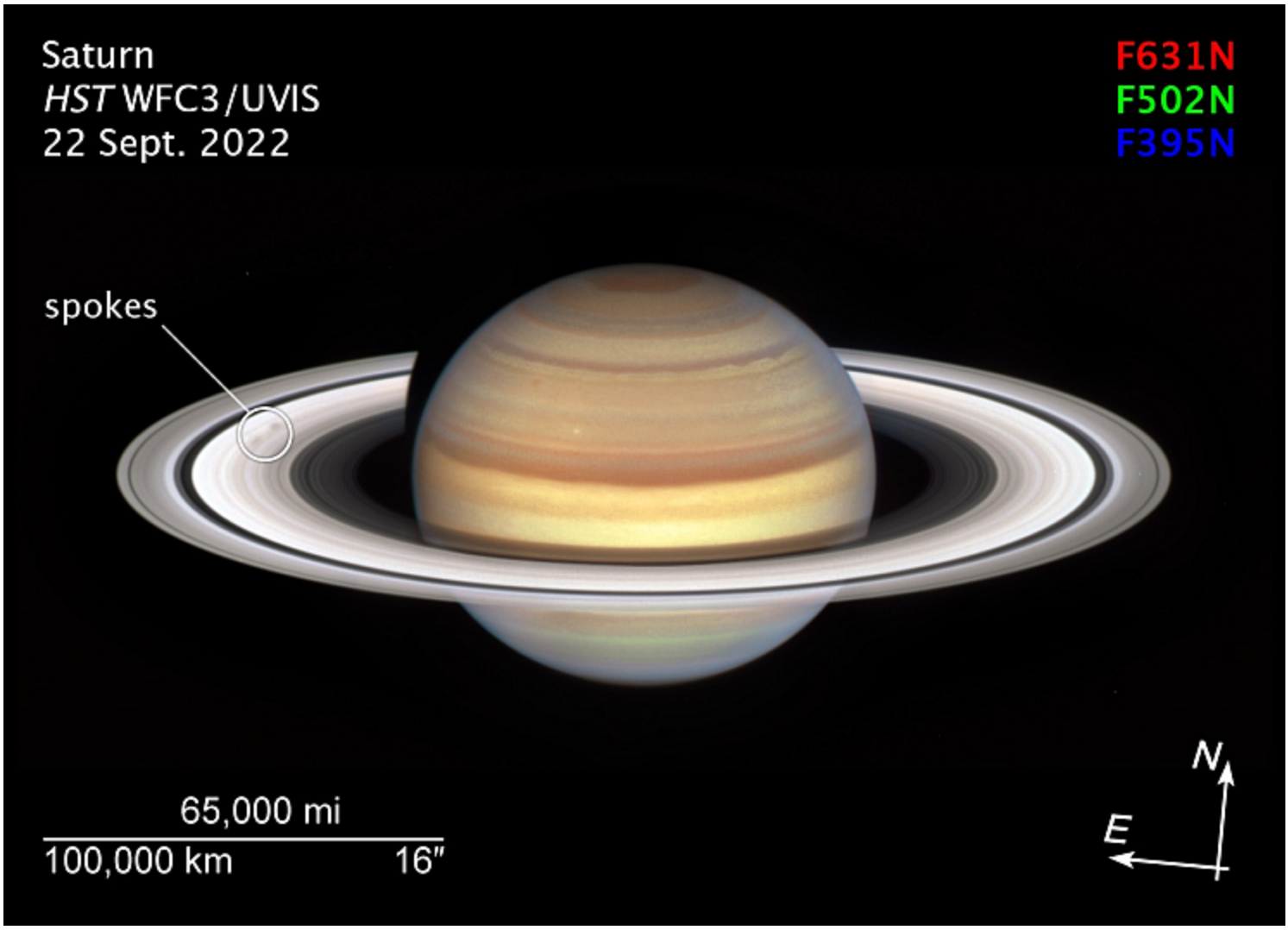
NGC 6914 by Dan Llewellyn

NGC 6914 is a bright reflection nebula in the constellation Cygnus. Also called the Bluebird Nebula, it lies about 6,000 light years away. You can see the bird in the left center, facing the right with its wing facing you.. It's fairly large, takes up about 2/3rds of the vertical. Unfortunately I cut off its full tail at the bottom. This image has a flaw. I have an internal scope reflection from a star at the bottom right of the image (it's the large donut). I'm not gonna photoshop it out. Tweet tweet! This was taken on September 25th 2022 using my C14 Edge HD at F11 3910 FL. A stack of 80 - 1 minute subs using a Sony A7s3 and Orion LPR.

For more information about NGC 6914 see https://en.wikipedia.org/wiki/NGC_6914

Lunar Halo by Tom Faber

This bright lunar halo occurred on the evening of February 6, 2023. This photo is from shortly before midnight that evening. The bright star to the right of the moon is Regulus. Halos (solar & lunar) are formed by the refraction of light in tiny ice crystals that make up cirrus or cirrostratus clouds.



Hubble Captures the Start of a New Spoke Season at Saturn

NASA/STScI News Release - February 09, 2023

New images of Saturn from NASA's Hubble Space Telescope herald the start of the planet's "spoke season" surrounding its equinox, when enigmatic features appear across its rings. The cause of the spokes, as well as their seasonal variability, has yet to be fully explained by planetary scientists.

Like Earth, Saturn is tilted on its axis and therefore has four seasons, though because of Saturn's much larger orbit, each season lasts approximately seven Earth years. Equinox occurs when the rings are tilted edge-on to the Sun. The spokes disappear when it is near summer or winter solstice on Saturn. (When the Sun appears to reach either its highest or lowest latitude in the northern or southern hemisphere of a planet.) As the autumnal equinox of Saturn's northern hemisphere on May 6, 2025, draws near, the spokes are expected to become increasingly prominent and observable.

The suspected culprit for the spokes is the planet's variable magnetic field. Planetary magnetic fields interact with the solar wind, creating an electrically charged environment (on Earth, when those charged particles hit the atmosphere this is visible in the northern hemisphere as the aurora borealis, or northern lights). Scientists think that the smallest, dust-sized icy ring particles can become charged as well, which temporarily levitates those particles above the rest of the larger icy particles and boulders in the rings.

NASA's Hubble Space Telescope has observation time devoted to Saturn each year, thanks to the Outer Planet Atmospheres Legacy (OPAL) program, and the dynamic gas giant planet always shows us something new. This latest image heralds the start of Saturn's "spoke season" with the appearance of two smudgy spokes in the B ring, on the left in the image.

The shape and shading of spokes varies—they can appear light or dark, depending on the viewing angle, and sometimes appear more like blobs than classic radial spoke shapes, as seen here. The ephemeral features don't last long, but as the planet's autumnal equinox approaches on May 6, 2025, more will appear. Scientists will be looking for clues to explain the cause and nature of the spokes. It's suspected they are ring material that is temporarily charged and levitated by interaction between Saturn's magnetic field and the solar wind, but this hypothesis has not been confirmed.

Credits - Science: NASA, ESA, Amy Simon (NASA-GSFC). Image Processing: Alyssa Pagan (STScI)

The ring spokes were first observed by NASA's Voyager mission in the early 1980s. The transient, mysterious features can appear dark or light depending on the illumination and viewing angles.

"Thanks to Hubble's OPAL program, which is building an archive of data on the outer solar system planets, we will have longer dedicated time to

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study Saturn's spokes this season than ever before," said NASA senior planetary scientist Amy Simon, head of the Hubble Outer Planet Atmospheres Legacy (OPAL) program.

Saturn's last equinox occurred in 2009, while NASA's Cassini spacecraft was orbiting the gas giant planet for close-up reconnaissance. With Cassini's mission completed in 2017, and the Voyager spacecrafts long gone, Hubble is continuing the work of long-term monitoring of changes on Saturn and the other outer planets.

"Despite years of excellent observations by the Cassini mission, the precise beginning and duration of the spoke season is still unpredictable, rather like predicting the first storm during hurricane season," Simon said.

While our solar system's other three gas giant planets also have ring systems, nothing compares to Saturn's prominent rings, making them a laboratory for studying spoke phenomena. Whether spokes could or do occur at other ringed planets is currently unknown. "It's a fascinating magic trick of nature we only see on Saturn —for now at least," Simon said.

Hubble's OPAL program will add both visual and spectroscopic data, in wavelengths of light from ultraviolet to near-infrared, to the archive of Cassini observations. Scientists are anticipating putting these pieces together to get a more complete picture of the spoke phenomenon, and what it reveals about ring physics in general.

The Hubble Space Telescope is a project of international cooperation between NASA and ESA. NASA's Goddard Space Flight Center in Greenbelt, Maryland, manages the telescope. The Space Telescope Science Institute (STScI) in Baltimore conducts Hubble science operations. STScI is operated for NASA by the Association of Universities for Research in Astronomy, in Washington, D.C.

The **Atlanta Astronomy Club, Inc**., one of the South's largest and oldest astronomical society, meets at **3:00 P.M.** on the 3rd Saturday of each month at the Fernbank Science Center in Decatur, or occasionally at other locations or times. Membership fees are **$30** for a family or single person membership. College Students membership fee is **$15**. These fees are for a one year membership.

Magazine subscriptions to ***Sky & Telescope*** or ***Astronomy*** can be purchased through the club for a reduced rate. The fees are **$33** for Sky & Telescope and **$34** for Astronomy. Renewal forms will be sent to you by the magazines. Send the renewal form along with your check to the Atlanta Astronomy Club treasurer.

The Club address: Atlanta Astronomy Club, Inc., P.O. Box 76155, Atlanta, GA 30358-1155. AAC Web Page: **http://www.AtlantaAstronomy.org.** Send suggestions, comments, or ideas about the website to webmaster@AtlantaAstronomy.org. Also send information on upcoming observing events, meetings, and other events to the webmaster.

Atlanta Astronomy Club Online

While this newsletter is the official information source for the Atlanta Astronomy Club, it is only up to date the day it is posted. So if you want more up to date information, go to our club's website. The website contains pictures, directions, membership applications, events, updates, and other information. http://www.atlantaastronomy.org You can also follow the AAC on Facebook by joining the AAC group, and on Twitter at http://twitter.com/atlastro.

AAC Officers and Contacts

President: Dave Lumpkin President@AtlantaAstronomy.org

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Observing Chair: Daniel Herron Observing@AtlantaAstronomy.org

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Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

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Board: Open

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Elliott Astrophotography Coordinator: Mike Mardis

Elliott Chapter AL Liaison: David Whalen

Elliott Facilities Coordinator: Matt Harvey facilities@CEastronomy.org

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PSSG Co-Chair: Open

Sidewalk Astronomy: Open sidewalkastronomy@AtlantaAstronomy.org

Light Tresspass: Ken Edwards, Contact info TBA

Woodruff Observ. Coordinator: Sharon Carruthers Treasurer@AtlantaAstronomy.org

AAC Webmaster: Daniel Herron

The Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

We're here to help! Here's how how to reach us:

Atlanta Astronomy Club
P.O. Box 76155
Atlanta, GA 30358-1155
www.atlantaastronomy.org
On Twitter at http://twitter.com/atlastro

www.beetagg.com

FIRST CLASS

Calendar by Tom Faber (Times EDT/EST unless noted)

AAC Events are listed in BOLD

Feb 5th, Sunday: Full Moon.
Feb 10th, Friday: Moon near Spica evening.
Feb 13th, Monday: Moon Last Quarter.
Feb 16th, Thursday: Saturn conjunction with the Sun.
Feb 18th, Saturday: **CEA Chapter Meeting and Observing starts 4:30PM.**
Feb 20th, Monday: New Moon.
Feb 22nd, Wednesday: Moon near Jupiter evening.
Feb 27th, Monday: Moon First Quarter. Moon near Mars.
Mar 1st, Wednesday: Venus near Jupiter evening.
Mar 7th, Tuesday: Full Moon.
Mar 12th, Sunday: Daylight saving time begins at 2:00 AM.
Mar 14th, Tuesday: Moon Last Quarter.
Mar 18th, Saturday: **CEA Chapter Meeting, Potluck, and Observing starting at 5:30 PM.**
Mar 20th, Monday: Spring Equinox 5:24 PM.
Mar 21st, Tuesday: New Moon.
Mar 22nd, Wednesday: Moon near Jupiter evening.
Mar 27th, Monday: Mercury near Jupiter evening.
Mar 28th, Tuesday: Moon First Quarter.
Apr 6th, Thursday: Full Moon.
Apr 13th, Thursday: Moon Last Quarter.
Apr 15th, Saturday: **CEA Chapter Members Observing Night.**
Apr 20th, Thursday: New Moon.
Apr 22nd, Saturday: **CEA Chapter Meeting at 6:00 PM.**
For more event listings and updates see the calendar at www.atlantaastronomy.org

Atlanta Astronomy Club Listserv

Because of the shutdown of Yahoo Groups, the Atlanta Astronomy Club Mailing List has been moved to IO Groups. You can visit the group, start reading messages and posting them here: https://groups.io/g/AtlantaAstronomyClub.

Focal Point Deadline and Submission Information

Please send articles, pictures, and drawings in electronic format on anything astronomy, space, or sky related to Tom Faber at focalpoint@atlantaastronomy.org. Please send images separate from articles, not embedded in them. Articles are preferred as plain text files with images separate but Word documents or PDFs are okay. **The deadline for March is Sunday, February 26. Submissions received after the deadline will go in the following issue**.