ASTROFILES

Auburn Astronomical Society Newsletter

October 2023 *Newsletter Editor — John Wingard — jwin1048@gmail.com*

Moon Phases

November 5 — Last Quarter

November 13 — New Moon

November 20 — First Quarter

November 27 — Full Moon

December 5 — Last Quarter

December 12 — New Moon

December 19 — First Quarter

December 26 — Full Moon

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News and upcoming activities

We hope that everyone has been enjoying the first phases of fall this year with the cooler nights (and days!) and the clearer skies that continue to darken earlier each evening. Personally, this time of the year has always been one of my favorite times of the year to get out and do some observing or imaging. The annular solar eclipse last month has come and gone and for the most part, this region was not the best for viewing due to widespread cloud cover. However, a few members were able to at least get some fleeting glimpses through some openings in the clouds. AAS member Mike Lewis set up some of his equipment on the campus of Central Alabama Community College near his home in Alexander City, AL. He reports that although he did not attract many interested bystanders, he managed to capture an image of the eclipse through some thin clouds. Look on the next page for this photo and a few others of his setup that day. Just a reminder that we also have another total solar eclipse coming up on April 8, 2024. Although we won't be near to the path of totality, we should get a nice partial eclipse from our area. It looks like we will experience about 80% coverage in this area, which will be better than the one last month. The nearest direction from here to get into the totality path looks to be towards the direction of northeastern Arkansas. It's not too early to begin to plan where you want to be and what you want to capture since next April will be here before you know it.

We have recently received some encouraging news from the Gayle Planetarium in Montgomery, AL. It seems that there is a new coordinator, Mr. Lee Tinker, and he has already reached out to us to share the news and looks forward to re-establishing our relationship with the planetarium once they are ready to resume activities. Mr. Tinker has also been involved with a couple of other astronomy clubs and organizations. He has also agreed to continue to be the keeper of the club's big 12.5" Dobsonian that has been kept inside the planetarium dome for many years now. Here's hoping that everything continues to go well with the planetarium plans.

It has been suggested that the club possibly plan to gather a group of interested members and try to attend one of the two remaining scheduled public viewing nights at the James Wylie Shepard Observatory at the University of Montevallo, either Wednesday, November 15th or Wednesday, November 29th, 7-9 PM CT, weather permitting. We could even meet somewhere to eat beforehand. Please let me know if you would be interested and which date would work best for you.

Annular Solar Eclipse — October 14, 2023

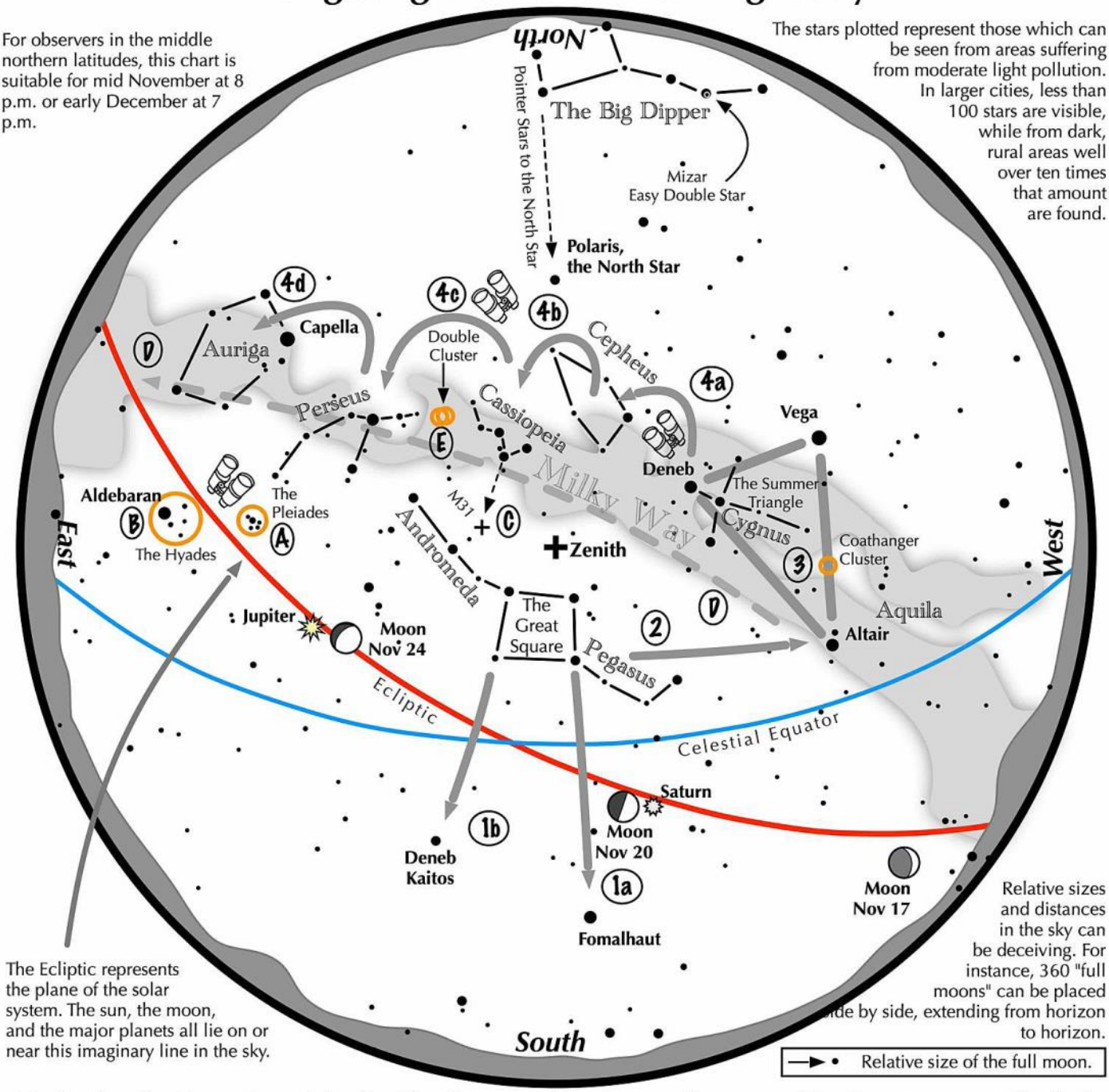
AAS member Mike Lewis set up some scopes with solar filters on the campus of CACC in Alexander City, AL to view the annular solar eclipse. However, the entire region was plagued with extensive cloud cover that day and he was only able to capture the photo at the left using his cell phone through one of the scopes.

AAS Stargaze at Camp Tukabatchee — Prattville, AL—Saturday, October 21, 2023

Earlier this year the AAS was contacted about providing a stargaze at Camp Tukabatchee, a scout camp located in Prattville, AL. The event on Saturday, October 21, 2023 was to be part of their annual Spookoree event. AAS President Allen Screws and members Mike Lewis and Frank Ward made the trip and brought their scopes. Allen arrived earlier in the day and set up the solar scope to give views of the Sun. Based on their reports, this was one of the largest events we have ever participated in. It was reported that there were as many as 500-600 scouts and family members in attendance with up to half of that group actually getting an opportunity to look through the telescopes. Fortunately the weather was nice and the skies were clear. Along with a first-quarter Moon, the attendees got to view Jupiter, Saturn, M31, and others. That night also happened to be International Observe the Moon Night.

The photo below was provided by AAS member Mike Lewis, obviously taken before nightfall and the arrival of the scouts and their families. Thanks to Allen, Mike and Frank for coming and hopefully providing a spark that would create further interest in astronomy for some of the participants.

Navigating the November Night Sky



Navigating the November night sky: Simply start with what you know or with what you can easily find.

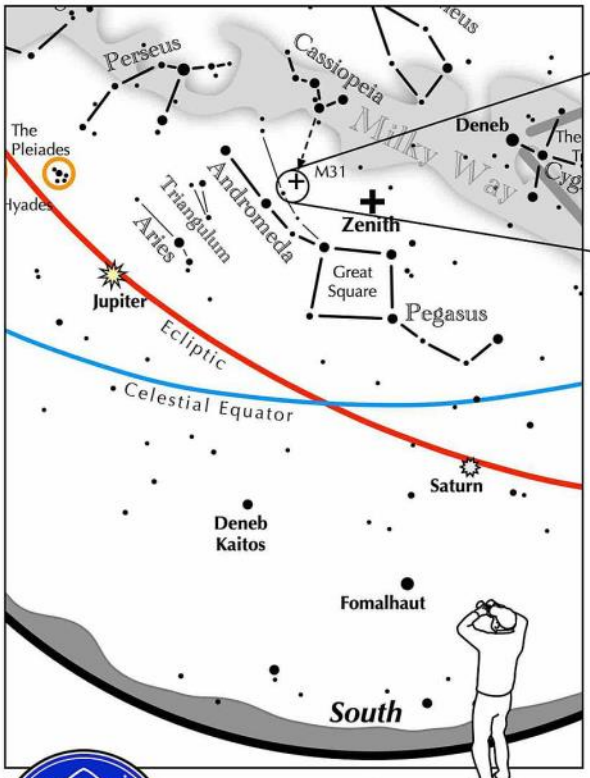
1. Face south. Almost overhead lies the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend a line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the south. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second brighest star in the south.
2. Draw a line westward following the southern edge of the Square until it strikes Altair, part of the "Summer Triangle."
3. Locate Vega and Deneb, the other two stars of the Summer Triangle. Vega is its brightest member, while Deneb sits in the middle of the Milky Way.
4. Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, then to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights

A and B: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas. **E.** The Double Cluster.

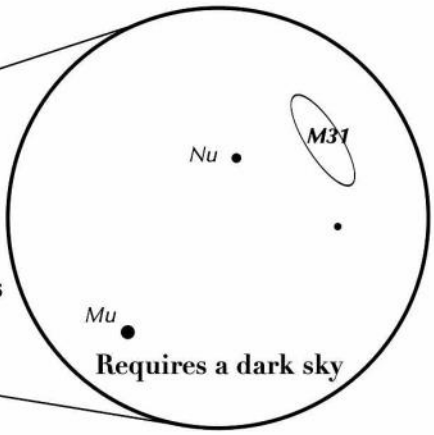
Astronomical League *www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.*

If you can observe only one celestial event this month, consider this one:



South
90 minutes after sunset

View through 10x50 binoculars



Have you seen M31, the Andromeda Galaxy?

Look high in the south 90 minutes after sunset in November.

- Find the Great Square nearly at the zenith.
- Identify the line of four stars beginning at the northeast corner of the Great Square and extending northeast.
- Identify a second but dimmer line extending more northeasterly than the first line. These two lines represent Andromeda.
- Identify the third star on each line.
- A line passing through those two stars and extending northwest for the same length lands on M31.

or ...

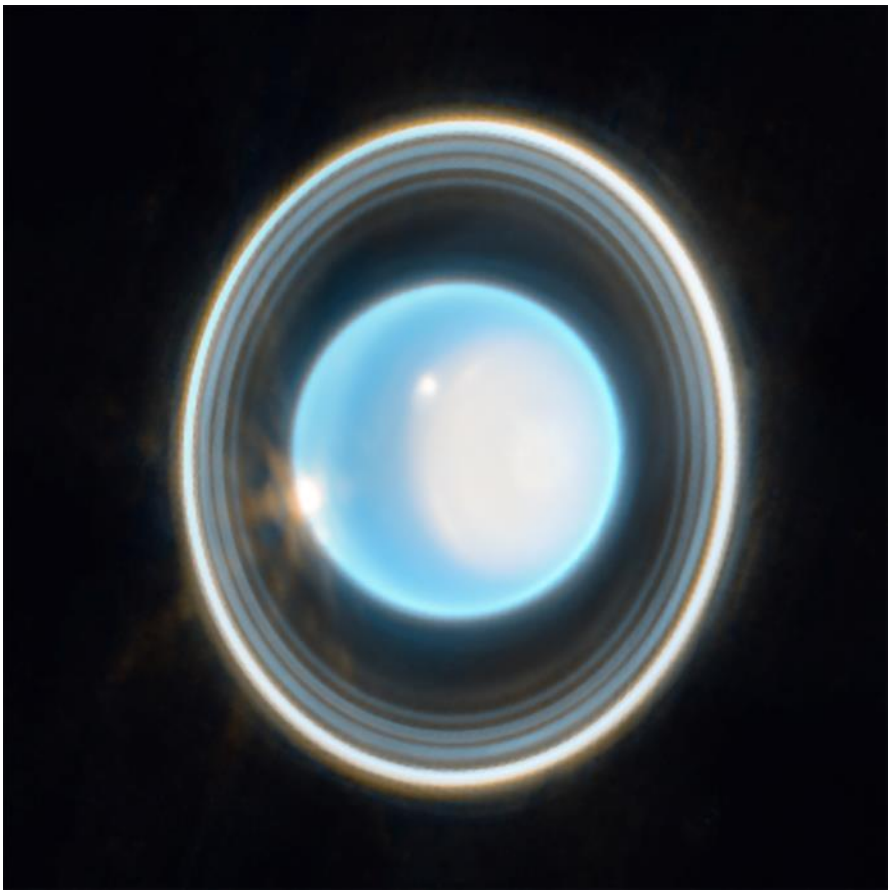
- Draw an arrow pointing southward through the three westernmost stars of Cassiopeia's "W."
- Extend that line for the same length as Cassiopeia is wide.
- It ends on M31.

This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Spy the Seventh Planet, Uranus

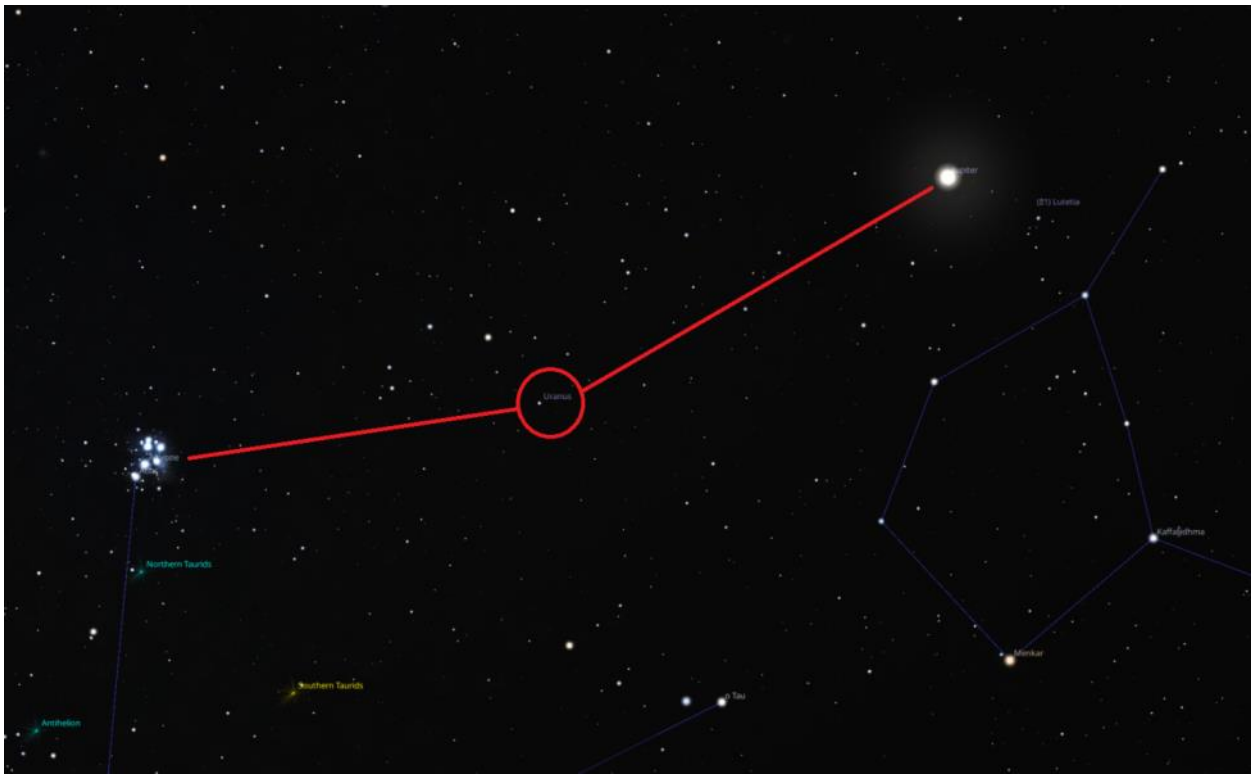
By Liz Kruesi



You might be familiar with Saturn as the solar system's ringed planet, with its enormous amount of dust and ice bits circling the giant planet. But Uranus, the next planet out from the Sun, hosts an impressive ring system as well. The seventh planet was the first discovered telescopically instead of with unaided eyes, and it was astronomer extraordinaire William Herschel who discovered Uranus March 13, 1781. Nearly two centuries passed before an infrared telescope aboard a military cargo aircraft revealed the planet had rings in 1977.

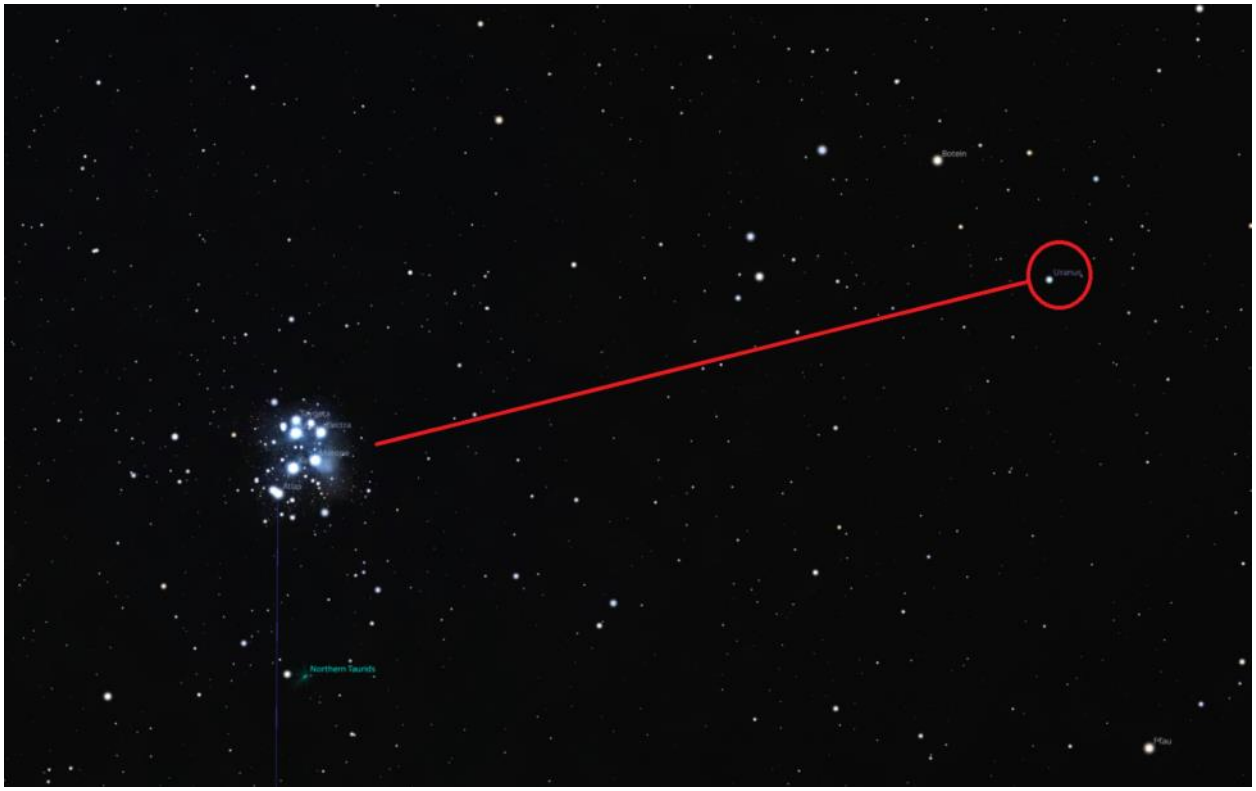
Since that discovery, multiple observatories have revealed more details of Uranus and its ring system. Most recently, the NASA-led JWST space observatory captured the planet and its rings in detail. This recent image combines just 12 minutes of exposure in two filters to reveal 11 of the planet's 13 rings. Even some of the planet's atmospheric features are visible in this image. Even with advanced imaging like that from JWST, much of Uranus remains a mystery, including why it orbits the Sun on its side. This is because only one spacecraft has ever visited this planet: NASA's Voyager 2, which flew by the distant planet in the mid-1980s.

Planetary scientists are hoping to change that soon, though. Scientists recommended in a report released last year from the National Academies of Sciences, Engineering, and Medicine that Uranus be the focus on the next big planetary science spacecraft mission. Such a large-scale mission would gain insight into this icy giant planet and the similar solar system planet, Neptune.



Sky map picturing M45, Uranus and Jupiter, Stellarium

If you want to catch a view of Uranus with your own eyes, now is prime time to view it. This ice giant planet lies perfectly positioned in mid-November, at so-called “opposition,” when its position in its orbit places it on the other side of the Sun from Earth. That location means our star’s light reflects off Uranus’ icy atmosphere, and the planet appears as its brightest.



Sky map picturing M45 and Uranus, Stellarium

To find it, look overhead just after midnight on November 13. Uranus will lie about halfway between the brilliant planet Jupiter and the diffuse glow of the Pleiades star cluster (M45). While Uranus may look like a bright blinking star in the night sky, its blue-green hue gives aways its identity. Binoculars or a telescope will improve the view.

For more about this oddball planet, visit NASA's Uranus page.

Image 1:

Uranus hosts 13 faint rings, 11 of which are visible in this JWST image. The planet was 19.67 times the Earth-Sun distance from our planet (1.83 billion miles) when JWST captured exposures through two near-Infrared filters on February 6, 2023. The white region in the right side of Uranus is one of the planet's polar caps. This icy world orbits the Sun differently from the rest of the solar system's planets – Uranus rolls along on its side.

[NASA, ESA, CSA, STScI; Image Processing: Joseph DePasquale (STScI)]

Auburn Astronomical Society

Application for Membership

To insure that our records are accurate, please print information clearly

Name: _____

Address: _____

City: _____ **State:** _____ **ZIP:** _____

Phone: _____ **Date of Application:** ____/____/____

E-Mail: _____

Telescopes owned (if any): _____

_____

Area(s) of special interest: _____

_____

Enclose $20.00 for regular annual membership, payable in January. *Full-time* student membership is $10.00.

For *NEW* members joining after January, refer to the prorated dues table below for the month you are joining:

Jan $20.00	Feb $18.33	Mar $16.66	Apr $14.99	May $13.33	Jun $11.66
Jul $10.00	Aug $8.33	Sep $6.66	Oct $4.99	Nov $2.33	Dec $1.66

☐ New—Just Joining

☐ Renewal

Please make checks payable to: Auburn Astronomical Society and return this application with your payment to:

Auburn Astronomical Society
c/o John Wingard, Sec/Treasurer
5 Wexton Ct.
Columbus, GA 31907

Note: At this time we do not have an option for online payment of dues.

The Auburn Astronomical Society is a member of the Astronomical League, the national organization representing astronomy clubs throughout the United States. As a club benefit, paid members of the Auburn Astronomical Society are eligible to received quarterly issues of *The Reflector*, the official publication of the Astronomical League. It will be mailed to the address that you provided above but could be delayed somewhat until their mailing lists are updated.

For additional information about our club, please go to our website *www.auburnastro.org* . You can also follow us on our Facebook page. Just search for "Auburn Astronomical Society."