

# ASTROFILES

## Auburn Astronomical Society Newsletter

**November 2021**

*Newsletter Editor — John Wingard — [jwin1048@gmail.com](mailto:jwin1048@gmail.com)*

### Moon Phases

November 11 — First Quarter  
November 19 — Full Moon  
November 27 — Last Quarter  
December 4 — New Moon  
December 10 — First Quarter  
December 18 — Full Moon  
December 26 — Last Quarter  
Jan. 2 (2022) — New Moon

### Stay in touch with us



<http://www.auburnastro.org>



[https://www.facebook.com/  
groups/79864233515/](https://www.facebook.com/groups/79864233515/)

### News and events

I don't know about you but it feels good once again to start getting out and enjoying activities with friends and family after being restricted from doing so by COVID for so long. As we enter into the winter season it gets dark earlier in the evening and the skies are generally clearer, making it ideal for enjoying the heavens with our telescopes. Several members of the Auburn Astronomical Society ventured to Montgomery, AL on the evening of November 15, 2021 to conduct a stargaze for members of Cub Scout Pack 4. AAS members Allen Screws, Mike Lewis and Jim and Tina Harstad set up their scopes in the soccer field at the Holy Spirit Catholic Church. Instead of stars, the primary targets of interest were the planets Venus, Jupiter, Saturn, and the Moon. You really don't need to be in a dark area to view these type objects. The scouts and their families were thrilled to view the planets and for many it was their first experience looking through a telescope. Thanks to the AAS members for coming out to support this worthwhile endeavor! (Photos courtesy of Mike Lewis)



Here are a few more photos from the stargaze in Montgomery for the Cub Scouts



## Additional images from AAS members



(Above) This very nice image of the recent lunar eclipse on November 19, 2021 was taken by AAS member Mike Lewis using a 115mm refractor from his location in Alexander City, AL.

(Below) Here is an excellent image of the nebula Sharpless2-171 in the constellation of Cepheus. This image is a combination of over 70 hours of data collected from AAS members Jay Hall and Chris Young using two different telescopes. The data was then combined in processing to produce the final image. This nebula is approximately 2,700 light years away from us.





**This article is distributed by NASA Night Sky Network**

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [night-sky.jpl.nasa.gov](http://night-sky.jpl.nasa.gov) to find local clubs, events, and more!

## **The James Webb Space Telescope: Ready for Launch!**

David Prosper

NASA's James Webb Space Telescope is ready for lift-off! As of this writing (November 15), the much-anticipated next-generation space telescope is being carefully prepared for launch on December 18, 2021, and will begin its mission to investigate some of the deepest mysteries of our universe.

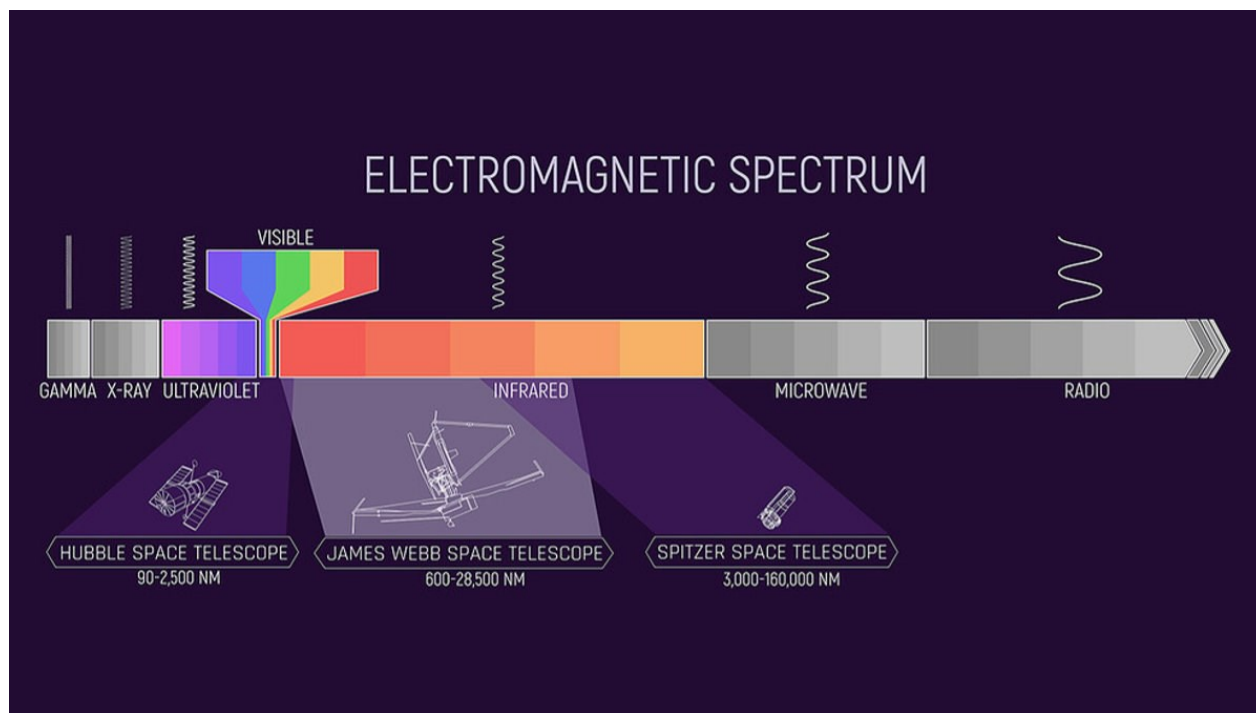
The development of the Webb began earlier than you might expect – the concept that would develop into Webb was proposed even before the launch of the Hubble in the late 1980s! Since then, its design underwent many refinements, and the telescope experienced a series of delays during construction and testing. While frustrating, the team needs to ensure that this extremely complex and advanced scientific instrument is successfully launched and deployed. The Webb team can't take any chances; unlike the Hubble, orbiting at an astronaut-serviceable 340 miles (347 km) above Earth, the Webb will orbit about one million miles away (or 1.6 million km), at Lagrange Point 2. Lagrange Points are special positions where the gravitational influence between two different bodies, like the Sun and Earth, "balance out," allowing objects like space telescopes to be placed into stable long-term orbits, requiring only minor adjustments - saving Webb a good deal of fuel.

Since this position is also several times further than the Moon, Webb's sunshield will safely cover the Moon, Earth, and Sun and block any potential interference from their own infrared radiation. Even the seemingly small amount of heat from the surfaces of the Earth and Moon would interfere with Webb's extraordinarily sensitive infrared observations of our universe if left unblocked. More detailed information about Webb's orbit can be found at [bit.ly/webborbitinfo](http://bit.ly/webborbitinfo), and a video showing its movement at [bit.ly/webborbitvideo](http://bit.ly/webborbitvideo).

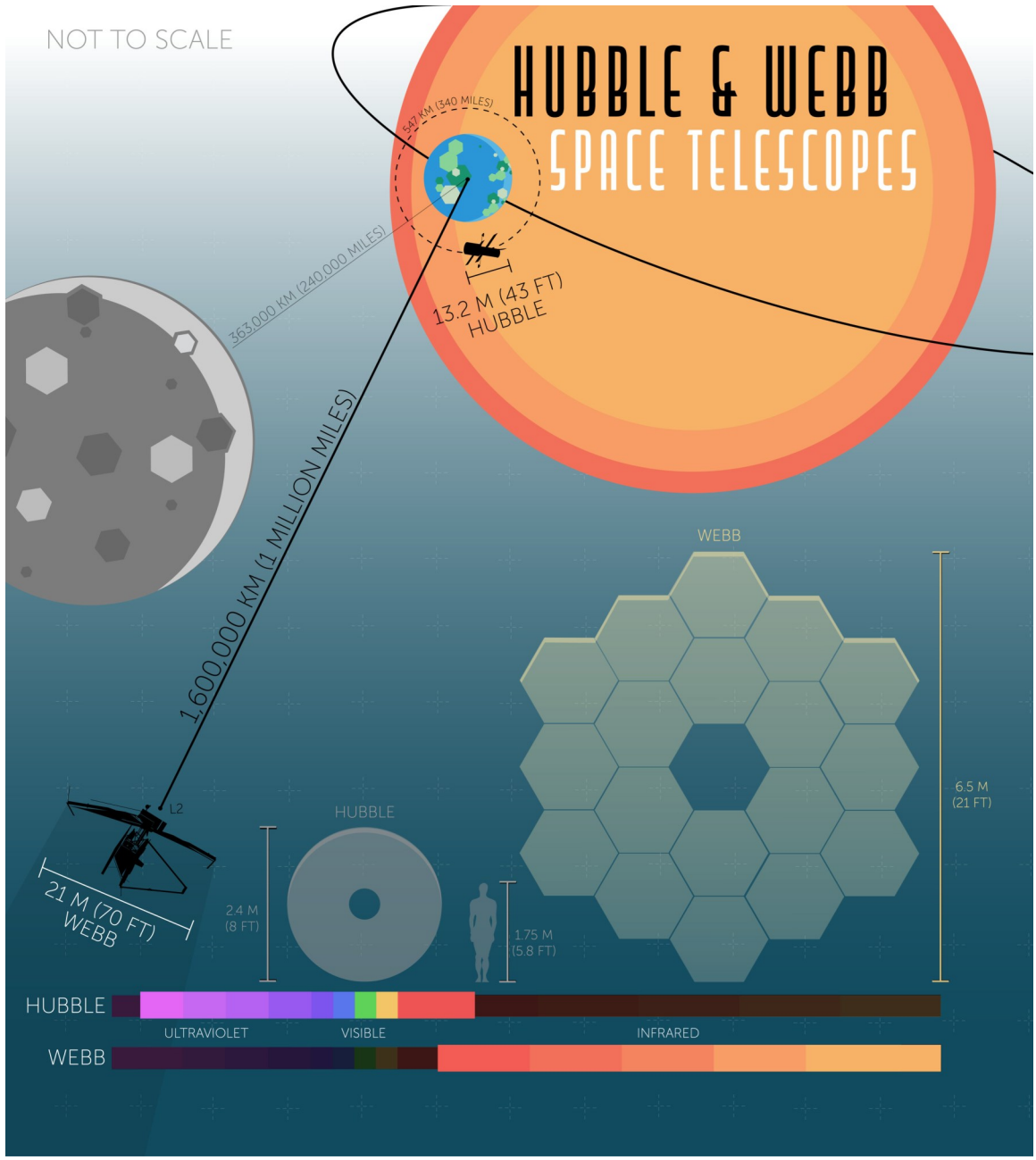
Once in its final position, its sunshield and mirror fully deployed and instruments checked out, Webb will begin observing! Webb's 21-foot segmented mirror will be trained on targets as fine and varied as planets, moons, and distant objects in our outer Solar System, active centers of galaxies, and some of the most distant stars and galaxies in our universe: objects that may be some of the first luminous objects formed after the Big Bang! Webb will join with other observatories to study black holes - including the one lurking in the center of our galaxy, and will study solar systems around other stars, including planetary atmospheres, to investigate their potential for hosting life.

Wondering how Webb's infrared observations can reveal what visible light cannot? The "Universe in a Different Light" Night Sky Network activity can help - find it at [bit.ly/different-light-nsn](http://bit.ly/different-light-nsn). Find the latest news from

NASA and Webb team as it begins its mission by following #UnfoldTheUniverse on social media, and on the web at [nasa.gov/webb](https://nasa.gov/webb).



*Webb will observe a wide band of the infrared spectrum, including parts observed by the Hubble - which also observes in a bit of ultraviolet light as well as visible - and the recently retired Spitzer Space Telescope. Webb will even observe parts of the infrared spectrum not seen by either of these missions! Credits: NASA and J. Olmstead (STScI)*



*Webb will follow up on many of Hubble's observations and continue its mission to study the most distant galaxies and stars it can - and as you can see in this comparison, its mirror and orbit are both huge in comparison, in order to continue these studies in an even deeper fashion! Credits: NASA, J. Olmsted (STScI)*



## Auburn Astronomical Society Membership Application Form

Name:

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Address:

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City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Date of Application\* \_\_\_\_/\_\_\_\_/\_\_\_\_

E-mail:

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Telescope(s):

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Area(s) of special interest:

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Enclose: \$20.00 for regular membership, payable in January. *Full-Time* student membership is half the Regular rate.

\* For NEW members joining after January, refer to the prorated Dues Table below:

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

Make checks payable to: Auburn Astronomical Society and return this application to:

Auburn Astronomical Society  
c/o John Wingard, Secretary/Treasurer  
#5 Wexton Court  
Columbus, GA 31907

For questions about your dues or membership status, contact: [jwin1048@gmail.com](mailto:jwin1048@gmail.com)

**Thank you for supporting the Auburn Astronomical Society**