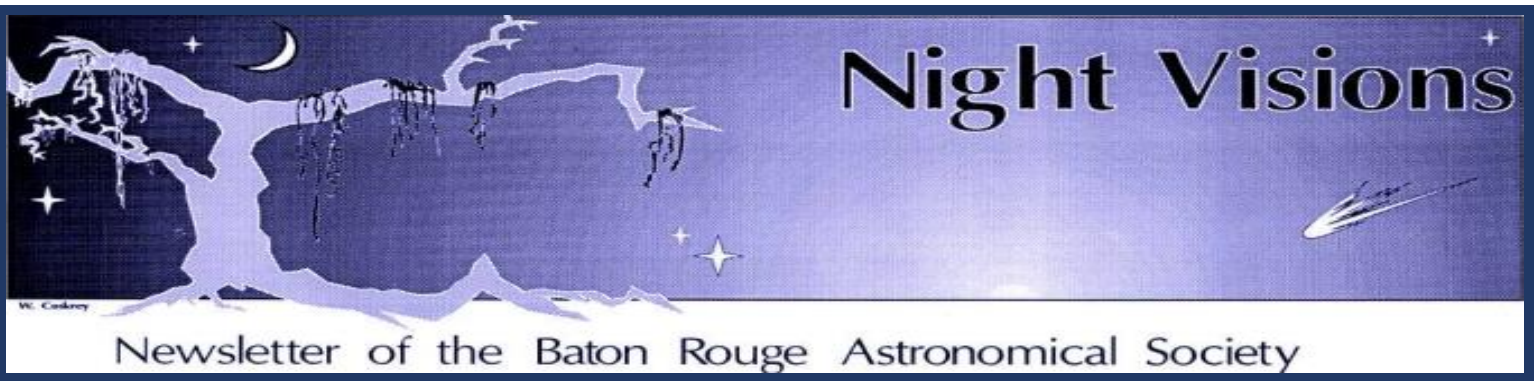

Newsletter of the Baton Rouge Astronomical Society

April 2025

Meetings at Highland Road Park Observatory and online through YouTube and Jitsi

https://meet.jit.si/brasmeet

Calendar:

- 3 April, 8PM: Sidewalk Astronomy at Gonzalez Library
- 4 April, 8PM: Sidewalk Astronomy at Vacherie Library
- 6 April, 9AM: Zippity Zoo Fest
- 8 April, 7PM: Sidewalk Astronomy at Perkins Rowe
- 11 April, 9AM: Port Hudson School Day
- 12 April, 8:30PM: Starparty at Landolt Observatory
- 14 April, 7PM: BRAS Meeting at HRPO
- 28 April, 6PM: BRAS Quarterly Planning Meeting at HRPO
- 3 May: International Astronomy Day
- 4 May, TBD: LASM

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President's Message

I spoke about this a little bit at our last meeting, but I want to expand more on it here. As far as I'm concerned, public outreach is the most important thing we can do as a club. All of us in BRAS are here because someone else planted the wonder of astronomy within our brains. I think a lot of us were exposed to the hobby or even the science as children. Someone took the time to show us a constellation or maybe the craters the moon with a telescope. If we were really lucky, we got to see the rings of Saturn. How cool was that!

The hobby of astronomy for most people follows an interesting pattern. First, as young kids, we're excited about the stars and the planets and telescopes. As we get a little older, say high school age, other "celestial bodies" capture more of our attention. Astronomy is temporarily set aside for more earthly pursuits. But some stick with it (thankfully). They are the wiz kids that major in Physics and Astronomy in college. Unfortunately, they are also the exceptions. For the rest of us it's an interest that may or may not flare up again.

For me, my interest in astronomy was rekindled when my sons asked to see Comet Hale-Bop with a telescope. Several members of BRAS had set their scopes up at a BREC park for the public to look through. My sons were hooked and so was I. Soon afterwards I built an 8" f/7 dob. I know some of you had similar experiences; I suspect many of you did.

When my sons were in elementary school, I used to take my telescope to their school whenever they had a "family science night". We didn't call it STEM in those days. Hundreds of kids (and usually their parents) got their first telescopic views of the night sky at those events. Whether the hobby took hold or not, memories were made. Gonzales is a small enough town that I see those "kids" from time to time. Some years back, I was ordering lunch at a fast-food restaurant. The guy taking my order at the counter asked me "Are you Jeff's dad?". I said yes. He told me he remembered looking through my telescope in 3rd Grade.

Last fall I had a similar encounter. During Sidewalk Astronomy at the Gonzales library, a woman in her early 30's brought her daughter to look through our scopes. I asked her if she went to Gonzales Primary. She said yes and knew both of my sons. She remembered looking through my telescope at the school. Now her daughter is looking through my telescope. The cycle continues.

So if you want to make a lasting impression on a young mind, I urge you to get involved with one of our club's public outreach events. Whether it's a STEM night at a local school or Sidewalk Astronomy at Perkins Rowe or one of the local libraries, you will be rewarded in ways you can't imagine. If you love astronomy, share the love with others.

Vice President's Word

Hi Everyone,

First off, one more big thank you to Ashley Elliott, out guest speaker for last month's meeting. Even though the math was a bit over my head, it was a lot of fun to hear from someone that obviously has so much passion for her work. I'm still amazed by the fact we can now see features on other stars. (It was fun to hear her refer to "starspots"!)

For our April meeting on Monday the 14th at 7pm, I'd like to plan for an "activity" meeting. It's always a gamble with the weather, but I think a club meeting where we actually get outside and do some real time viewing of the night sky would be a fun time. We'll come up with a short list of things to locate and view. (e.g. constellations, clusters, nebulae and planets.) We'll also have the club Seestar set up so download the Seestar app to your phone or tablet for a chance to learn how to use it yourself.

We'll begin the meeting inside with our usual bit of light business to give it time to get darker outside. Again, start hoping now for some clear sky that evening for what could be a fun time. This will be a great time for less experienced observers to get some tips from some of the veterans, too!

Finally, don't forget to get your raffle ticket a chance at the "every scope needs a good home" C8 optical tube. It's not gorgeous, but it works and it could be a fun starter scope or "fix-me-up" scope for someone.

I hope to see you all out at the meeting or at one of our outreach events!

Clear Skies,

Ben Toman

Outreach Report

Hi Everyone,

We had a busy month and for the most part the weather cooperated. Our first two Sidewalk Astronomy events were great. Clear skies and happy people! The Sidewalk Astronomy in Lutcher unfortunately saw mostly clouds, but that won't stop us from trying again. Sooner or later we'll get some clear skies over there!

Rockin' At The Swamp was a fun day, as always. The weather forecast chased most of the exhibitors (us included) inside, but that was fine. We had a lot of people stop by to see us and we had a nice setup for it. Families got to learn about meteorites, the planets, craters on the Moon and we had the club laptop providing a great slideshow of astrophotos taken by club members (mostly Scott C.)

A huge thank you to our volunteers for these events. Susan, Roz, Chad, Scott L., Scott C., Chris R., Chris K., Coy, John, David, Don, Steve M. and Ben. We could not do these events without your support and it is greatly appreciated!

Finishing out this month we'll have the Star Night at St. George School which should be a fun time so hopefully we'll have some good weather for some telescope viewing. Then it's on to April!

Of course, we'll have our two Sidewalk Astronomy events at Perkins Rowe and the Library in Gonzales. We also need plenty of help for our day at the Baton Rouge Zoo for Zippity Zoo Fest. Again, that is a long day so please consider signing up for a shift to help us staff the day. (Keep in mind, I may need to have all the names of the volunteers ahead of time if you want to be able to get in to the Zoo without paying admission!)

Finally, we were just asked for another School Day at the Port Hudson Historic Site. We've been having a great time going up there and being a part of their events.

Please take a look at the list of events and let me know if you'd like to help out. No experience is necessary! We'll get you up to speed on one or two demos or you can do some telescope outreach if you want to bring a scope. It's always a fun time!

Clear Skies,

Ben Toman

Keep on Rockin': from the Bluebonet swamp, Susan and Chad look at Moon crates, John talks about the solar system, Chris detoxes from doing Rocks earlier in the day by reviewing the relative size of the planets and John has a little lunch while Roz thinks about John Young's Gemini 3 mission.

Upcoming Outreach Events

Thursday, April 3rd

8pm-9:30pm

Sidewalk Astronomy at Gonzales Library

Perkins Rowe: Top: Coy, David, and Roz help people get out of this world. Bottom, Don explains to folks what they're looking at while Ben does his best to impress some woman.

Sunday, April 6th

9am-5pm

Zippity Zoo Fest

Demos, club info, solar observing

(Several people needed for shifts throughout the day)

Tuesday, April 8th

7pm-9pm

Sidewalk Astronomy at Perkins Rowe

Port Hudson: Top: Suzan and Roz show off the solar system model, Student's check the map while Chad talks about lunar phases, and Don welcomes an incoming group. Bottom: improvising for a cloudy day: Scott shows how to use the optical train model and Don uses it to show how a reflector telescope works.

Friday, April 11th

9am-11:30am

Port Hudson Historic Site School Day

Sunday, 4 May

TBD, but probably early morning/late afternoon

LASM, May the Fourth be With You event

Demos, club info, and possible Solar Observing

Secretary's Summary

- Meeting abruptly started, 27 People in attendance, 5 onine
- March Program: LSU Physics Astronomy Graduate Student Ashley Elliot talked with the club about her work on Astronomical Optical Interferometry
- Don reviewed the past months outreaches
- Ben talked about upcoming outreaches at St. George School, Zoo, LASM, and sidewalk astronomy
- A new $5 raffle was started for an old Celestron 8" SCT, with mechanical mount, but without a tripod.
- Meeting adjourned; several members stuck around to do some stargazing

Guest Speaker Ashley Elliot talks about her work with CHARA.

Oh no, not again: Scott uses the club's Seestar to watch the progression of the March Lunar Eclipse from HRPO. Clouds occulted the eclipse exactly as totality began, bringing back painful memories from the 2017 Solar Eclipse.

Observatory Notes

No information was provided before the publishing deadline. For information on upcoming events at Highland Road Park Observatory, consult https://www.brec.org/calendar/2025/04?park=190.

Sky Map

Map centered on 15 April at 10PM. For an interactive sky map, go to https://in-the-sky.org

Quick Picks—Events for April

- Tue 1 Pleiades 0.6°S of Moon
- Wed 2 Jupiter 5.5°S of Moon
- Fri 4 First Quarter Moon
- Sat 5 Pollux 2.0°N of Moon
- Sat 5 Mars 2.2°S of Moon
- Sun 6 Beehive 2.6°S of Moon
- Tue 8 Regulus 2.2°S of Moon
- Thu 10 Mercury 2.1° of Saturn
- Sat 12 Full Moon
- Sat 12 Spica 0.3°N of Moon
- Sun 13 Moon Apogee at 406,295 km.
- Wed 16 Antares 0.4°N of Moon
- Wed 16 Mars at Aphelion
- Sun 20 Last Quarter Moon
- Mon 21 Mercury at Greatest Western Elongation - 27.40°
- Tue 22 Lyrid Meteor Shower
- Thu 24 Venus 2.4°N of Moon
- Thu 24 Saturn 2.3°S of Moon
- Fri 25 Mercury 4.4°S of Moon
- Sun 27 Moon Perigee at 357,119 km.
- Sun 27 New Moon
- Tue 29 Pleiades 0.5°S of Moon
- Wed 30 Jupiter 5.4°S of Moon

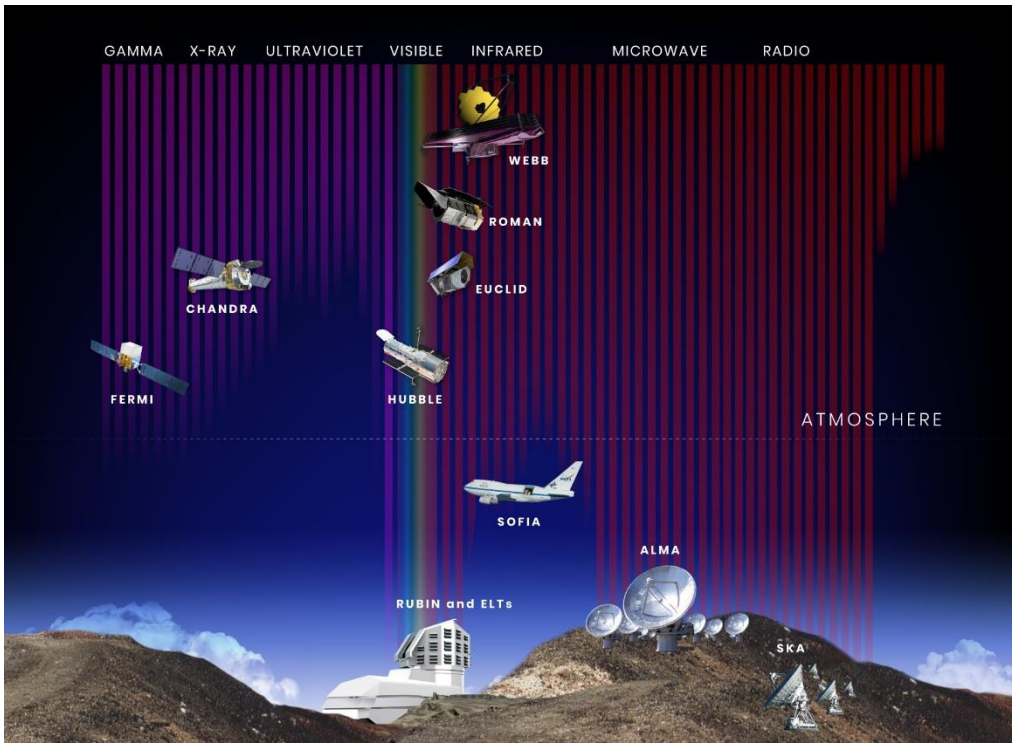
Looking up

April’s Night Sky Notes: Catch the Waves!

By Kat Troche

The Electromagnetic Spectrum

If you’ve ever heard the term “radio waves,” used a microwave or a television remote, or had an X-ray, you have experienced a broad range of the electromagnetic spectrum! But what is the electromagnetic spectrum? According to Merriam-Webster, this spectrum is *“the entire range of wavelengths or frequencies of electromagnetic radiation extending from gamma rays to the longest radio waves and including visible light.”* But what does **that** mean? Scientists think of the entire electromagnetic spectrum as many types of light, only some that we can see with our eyes. We can detect others with our bodies, like infrared light, which we feel as heat, and ultraviolet light, which can give us sunburns. Astronomers have created many detectors that can "see" in the full spectrum of wavelengths.



This illustration shows the wavelength sensitivity of a number of current and future space- and ground-based observatories, along with their position relative to the ground and to Earth’s atmosphere. The wavelength bands are arranged from shortest (gamma rays) to longest (radio waves). The vertical color bars show the relative penetration of each band of light through Earth’s atmosphere. Credit: NASA, STScI

Telescope Types

While multiple types of telescopes operate across the electromagnetic spectrum, here are some of the largest, based on the wavelength they primarily work in:

- **Radio:** probably the most famous radio telescope observatory would be the Very Large Array (VLA) in Socorro County, New Mexico. This set of 25-meter radio telescopes was featured in the 1997 movie Contact. Astronomers use these telescopes to observe protoplanetary disks and black holes. Another famous set of radio telescopes would be the Atacama Large Millimeter Array (ALMA) located in the Atacama Desert in Chile. ALMA was one of eight radio observatories that helped produce the first image of supermassive black holes at the center of M87 and Sagittarius A* at the center of our galaxy. Radio telescopes have also been used to study the microwave portion of the electromagnetic spectrum.

- **Infrared:** The James Webb Space Telescope (JWST) operates in the infrared, allowing astronomers to see some of the earliest galaxies formed nearly 300 million years after the Big Bang. Infrared light allows astronomers to study galaxies and nebulae, which dense dust clouds would otherwise obscure. An excellent example is the Pillars of Creation located in the Eagle Nebula. With the side-by-side image comparison below, you can see the differences between what JWST and the Hubble Space Telescope (HST) were able to capture with their respective instruments.

NASA's Hubble Telescope captured the Pillars of Creation in 1995 and revisited them in 2014 with a sharper view. Webb's infrared image reveals more stars by penetrating dust. Hubble highlights thick dust layers, while Webb shows hydrogen atoms and emerging stars. You can find this and other parts of the Eagle Nebula in the Serpens constellation. Credit: NASA, ESA, CSA, STScI, Hubble Heritage Project (STScI, AURA)

- **Visible:** While it does have some near-infrared and ultraviolet capabilities, the Hubble Space Telescope (HST) has primarily operated in the visible light spectrum for the last 35 years. With over 1.6 million observations made, HST has played an integral role in how we view the universe. Review Hubble's Highlights here.

The Crab Nebula, located in the Taurus constellation, is the result of a bright supernova explosion in the year 1054, 6,500 light-years from Earth. Credit: X-ray: NASA/CXC/SAO; Optical: NASA/STScI; Infrared: NASA/JPL/Caltech; Radio: NSF/NRAO/VLA; Ultraviolet: ESA/XMM-Newton

- **X-ray:** Chandra X-ray Observatory was designed to detect emissions from the hottest parts of our universe, like exploding stars. X-rays help us better understand the composition of deep space objects, highlighting areas unseen by visible light and infrared telescopes. This image of the Crab Nebula combines data from five different telescopes: The VLA (radio) in red; Spitzer Space Telescope (infrared) in yellow; Hubble Space Telescope (visible) in green; XMM-Newton (ultraviolet) in blue; and Chandra X-ray Observatory (X-ray) in purple. You can view the breakdown of this multiwavelength image here.

Try This At Home

Even though we can't see these other wavelengths with our eyes, learn how to create multiwavelength images with the Cosmic Coloring Compositor activity and explore how astronomers use representational color to show light that our eyes cannot see with our Clues to the Cosmos activity.

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