STRATFORD ASTRONOMY GROUP

MAY 7THY, 2024

AGENDA

- Meet and Greet
- Club NEWS and Activities
- Club Q & A
- Equipment Lessons
- Software and Imaging Information
- Latest Astronomy NEWS
- What's UP this Month
- Show and Tell
- Astronomy Lessons
- Cosmology Lessons
- Conclusion

MEET AND GREET

Welcome
New Visitors

Regrets

PREVIOUS MEETING REVIEW

Meeting attended by 20:

Nick Assiouras
Paul Bartlett
Michael Burns
Colleen Divine
Bob Greer
Patrick Hayes
Wolfgang Keller
Tom Kimber
Bryan Lapier
Carolyn Lapier
Rick Lyons
Michael Maranger
Ron Meidinger
Jim Nafziger
Jamie Page
Tim Pauli
Richard Rosenthall
Richard Skevington
Bill Thompson
Peter Tenits

UPCOMING MEETINGS

NEXT MEETING DATES

Date	Start	End	Facility and Spaces
~~September 12, 2023~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~October 3, 2023~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~November 7, 2023~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~December 12, 2023~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~January 9, 2024~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~February 6, 2024~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~March 5, 2024~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~April 2, 2024~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
~~May 7, 2024~~	~~7.00 PM~~	~~9:00 PM~~	~~St. Michael's CSS, Room 104~~
June 4, 2024	7.00 PM	9:00 PM	St. Michael's CSS, Room 104

CLUB NEWS AND ACTIVITIES

Group Funds

Total = $1726.40

- If you would like to contribute to the group, then please e-transfer Tim at:

timannemariepauli@gmail.com

or by cheques:

Tim Pauli

96 Front Street

Stratford, ON

N5A4H2

CLUB NEWS AND ACTIVITIES

EQUIPMENT:

STRATFORD ASTRONOMY CLUB EQUIPMENT

CLUB EQUIPMENT LOCATION:

Paul Bartlett is now storing all the group's equipment. If you wish to borrow an item, then please contact him at:

1948paul.bartlett@gmail.com

519-274-2010

New Equipment Donation: Tim

NEW DONATION

Soligor (Japanese)

This donation was made in memory of Rosemarie Richards by her family.
She was one of the founding members of our group.

Catadioptric
D=114mm
F=1000mm
Focal Ratio 1:8.7

SEESTAR S50

Hi everyone,

The group is thinking about purchasing the Seestar 50 scope. It is a good scope for beginners with easy setup and portability. The attachments have information on the Seestar 50.

Thanks ,Tim:

	Price	Shipping	Tax	Total	
Kahn Scope Toronto	$ 679.95	$ 24.08	$ 91.52	$ 795.66	Back order
Telescopes Canada	$ 674.00	$ 16.11	$ 87.71	$ 779.82	Available
Seestar	$499USD	Free	$ 64.87	$ 689.27	USA Taxes?
Ontario Telescopes	$ 674.00	$ 16.11	$ 87.62	$ 761.62	Back order

SEESTAR S50 TABLET

$400

10.2" iPad WiFi 64GB (9th generation)

$400

Galaxy Tab A9+ (11.0", Wi-Fi) (128Mb)

CLUB NEWS AND ACTIVITIES

- New Web site: (https://stratfordastronomy.com/)
  Tim Pauli - Owner/Administrator
  Ken Roberts - technical contact
  Tom Kimber - Administrator/Editor
  Doug Fyfe - Administrator
  Michael Burns- Administrator
  Tom will build it on WordPress.

- Museum: Tim

I received the below from the Stratford Perth Museum. I think the 27th is the last day of school. The 28th may be a PA day.
I will away and not be available for this event. Please discuss at the next SAG meeting on Tuesday.

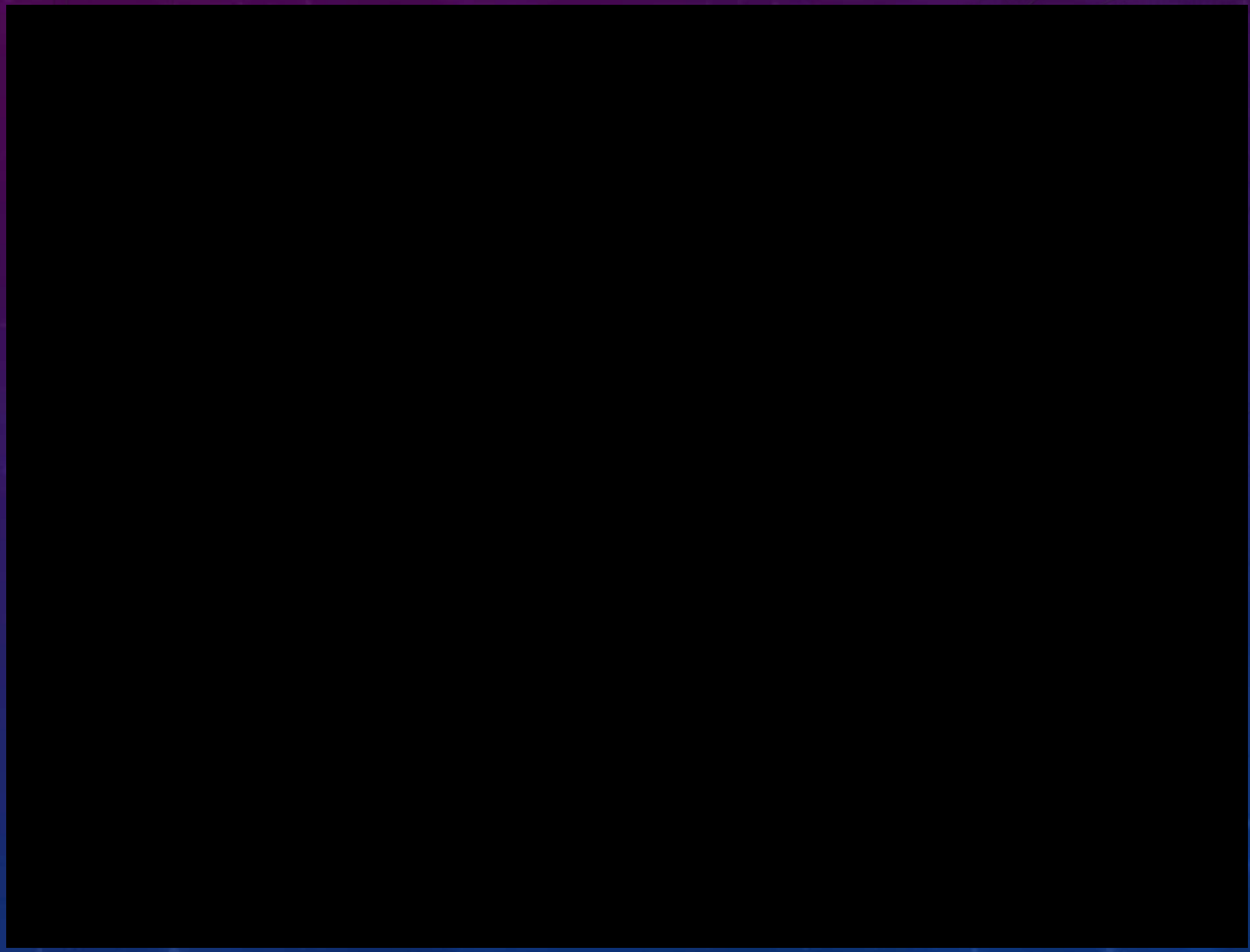
Thanks
Tim

CLUB Q & A

LATEST ASTRONOMY NEWS

APRIL

APRIL 8TH: SOLAR ECLIPSE



APRIL 10TH: BIDEN SAYS JAPANESE WILL BE FIRST NON-AMERICAN ON MOON

• A Japanese person will be the first non-American to walk on the moon, US President Joe Biden announced Wednesday during a state visit by Japan's prime minister.

•US-Japan "ties stretch up to the moon where two Japanese astronauts will join future American missions, and one will become the first non-American ever to land on the moon," Biden said during a press conference.

•The United States has set a goal of returning to the moon for the first time since 1972. Only 12 people have walked on the moon, all of them Americans and all white men.

•Under the Artemis program of NASA, the United States has also set a goal of sending a woman and a person of color to the moon.

•The Artemis II mission expected in late 2025 will fly around the moon. The program's third mission—scheduled for the end of 2026 but facing possible further delays—intends to land humans on the lunar surface.

April 11th: NASA unveils probe bound for Jupiter's possibly life-sustaining moon

US space scientists on Thursday unveiled the interplanetary probe NASA plans to send to one of Jupiter's icy moons as part of humanity's hunt for extra-terrestrial life

The Clipper spacecraft is due to blast off in October bound for Europa, one of dozens of moons orbiting the solar system's biggest planet, and the nearest spot in our celestial neighborhood that could offer a perch for life.

"We have instruments like cameras, and spectrometers, a magnetometer and a radar that can... penetrate right through ice, bounce off liquid water and back to the surface to tell us how thick is the ice and where is liquid water located," Pappalardo said.

APRIL 24: JAPAN'S MOON LANDER WASN'T BUILT TO SURVIVE A WEEKSLONG LUNAR NIGHT. IT'S STILL GOING AFTER 3

•Japan's first moon lander has survived a third freezing lunar night, Japan's space agency said Wednesday after receiving an image from the device three months after it landed on the moon. he Japan Aerospace Exploration Agency said the lunar probe responded to a signal from the earth Tuesday night, confirming it has survived another weekslong lunar night.

•Temperatures can fall to minus 170 degrees Celsius (minus 274 degrees Fahrenheit) during a lunar night, and rise to around 100 Celsius (212 Fahrenheit) during a lunar day.

•The probe, Smart Lander for Investing Moon, or SLIM, reached the lunar surface on Jan. 20, making Japan the fifth country to successfully place a probe on the moon. SLIM on Jan. 20 landed the wrong way up with its solar panels initially unable to see the sun, and had to be turned off within hours, but powered on when the sun rose eight days later.

•SLIM, which was tasked with testing Japan's pinpoint landing technology and collecting geological data and images, was not designed to survive lunar nights.

APRIL 27TH: NASA HEARS FROM VOYAGER 1, THE MOST DISTANT SPACECRAFT FROM EARTH, AFTER MONTHS OF QUIET

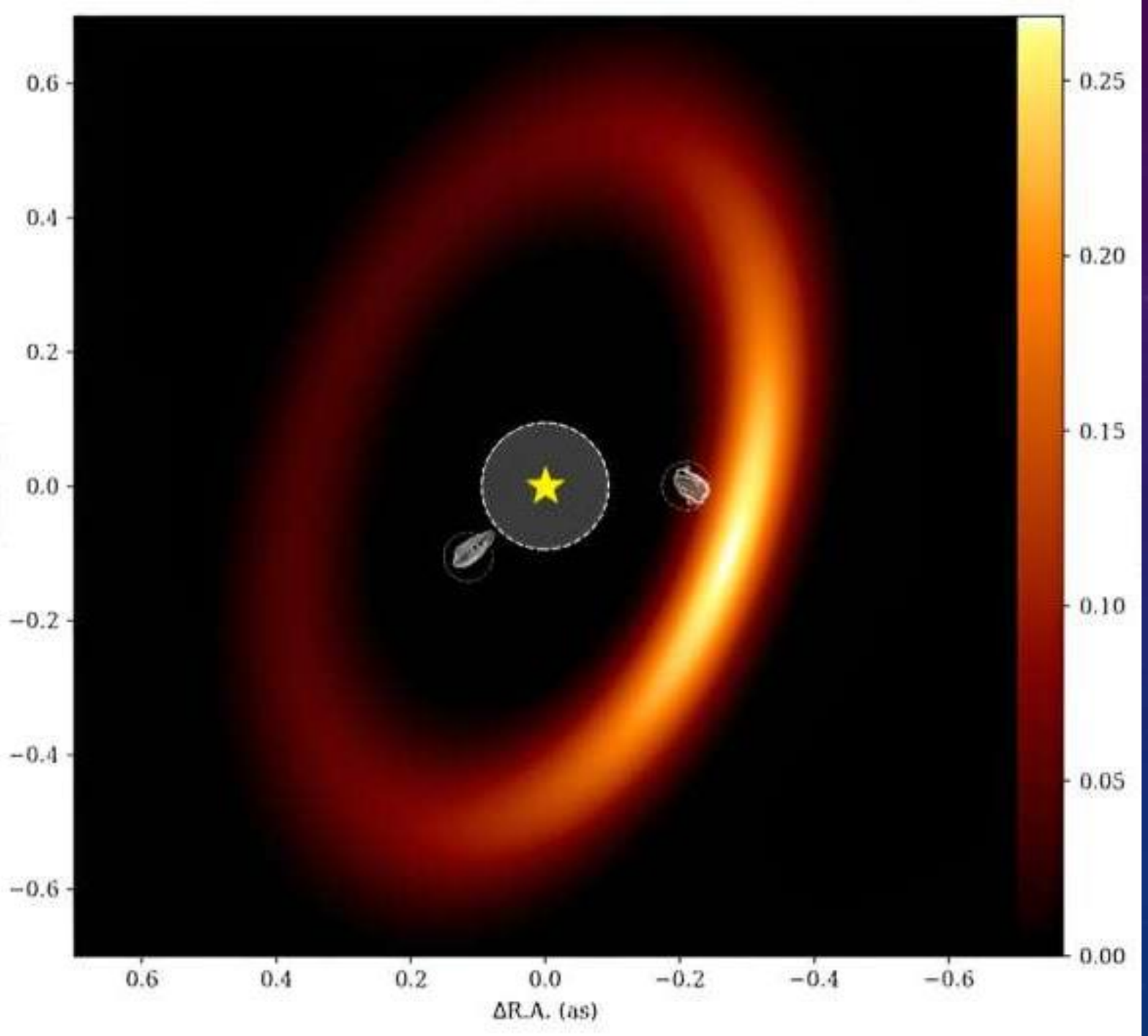
•NASA has finally heard back from Voyager 1 again in a way that makes sense. he most distant spacecraft from Earth stopped sending back understandable data last November. Flight controllers traced the blank communication to a bad computer chip and rearranged the spacecraft's coding to work around the trouble.

•NASA's Jet Propulsion Laboratory in Southern California declared success after receiving good engineering updates late last week. The team is still working to restore transmission of the science data.

•It takes 22 1/2 hours to send a signal to Voyager 1, more than 15 billion miles (24 billion kilometers) away in interstellar space. The signal travel time is double that for a round trip.

•Contact was never lost, rather it was like making a phone call where you can't hear the person on the other end, a JPL spokeswoman said Tuesday.

•Launched in 1977 to study Jupiter and Saturn, Voyager 1 has been exploring interstellar space — the space between star systems — since 2012. Its twin, Voyager 2, is 12.6 billion miles (20 billion kilometers) away and still working fine.



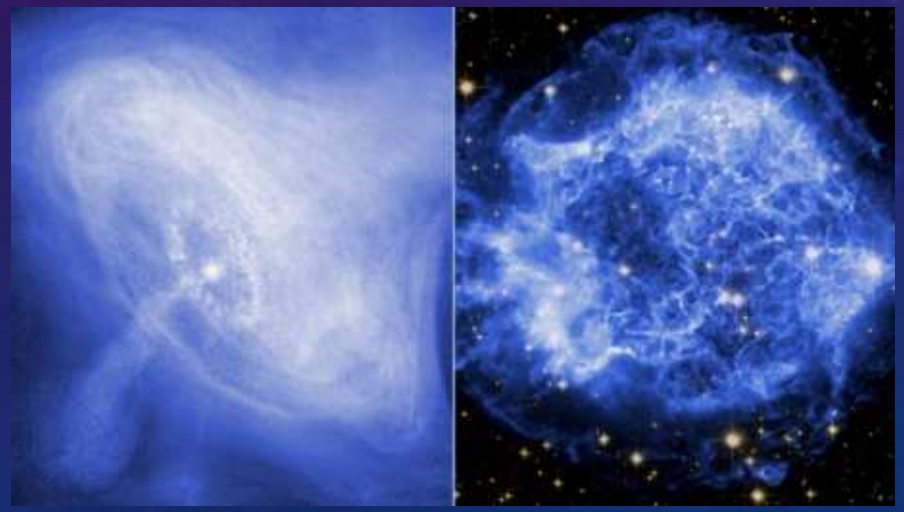
April 30th: JWST uses interferometry mode to reveal two protoplanets around a young star

The JWST is flexing its muscles with its interferometry mode. Researchers used it to study a well-known extrasolar system called PDS 70. The goal? To test the interferometry mode and see how it performs when observing a complex target.

The mode uses the telescope's NIRISS (Near Infrared Imager and Slitless Spectrograph) as an interferometer. It's called Aperture Masking Interferometry (AMI) and it allows the JWST to reach its highest level of spatial resolution.

A team of astronomers used the JWST's AMI to observe the PDS 70 system. PDS 70 is a young T-Tauri star about 5.4 million years old. At that young age, its protoplanetary disk still surrounds it. PDS 70 is a well-studied system that's caught the attention of astronomers. It's unique because its two planets, PDS 70 b and c, make it the only multiplanet protoplanetary disk system we know of.

NASA'S CHANDRA RELEASES TIMELAPSE MOVIES OF CRAB NEBULA AND CASSIOPEIA



New movies of two of the most famous objects in the sky—the Crab Nebula and Cassiopeia A—are being released from NASA's Chandra X-ray Observatory. Each includes X-ray data collected by Chandra over about two decades. They show dramatic changes in the debris and radiation remaining after the explosion of two massive stars in our galaxy.

- The Crab Nebula, the result of a bright supernova explosion seen by Chinese and other astronomers in the year 1054, is 6,500 light-years from Earth. At its center is a neutron star, a super-dense star produced by the supernova. As it rotates at about 30 times per second, its beam of radiation passes over the Earth every orbit, like a cosmic lighthouse.

- The second billing in this doubleheader is just as spectacular. Cassiopeia A (Cas A for short) is the remains of a supernova that is estimated to have exploded about 340 years ago in Earth's sky. While other Chandra movies of Cas A have previously been released, including one with data extending from 2000 to 2013, this new movie is substantially longer, featuring data from 2000 through to 2019.

WHAT'S UP

STRATFORD ASTRONOMY GROUP

WHAT'S UP FOR FEBRUARY

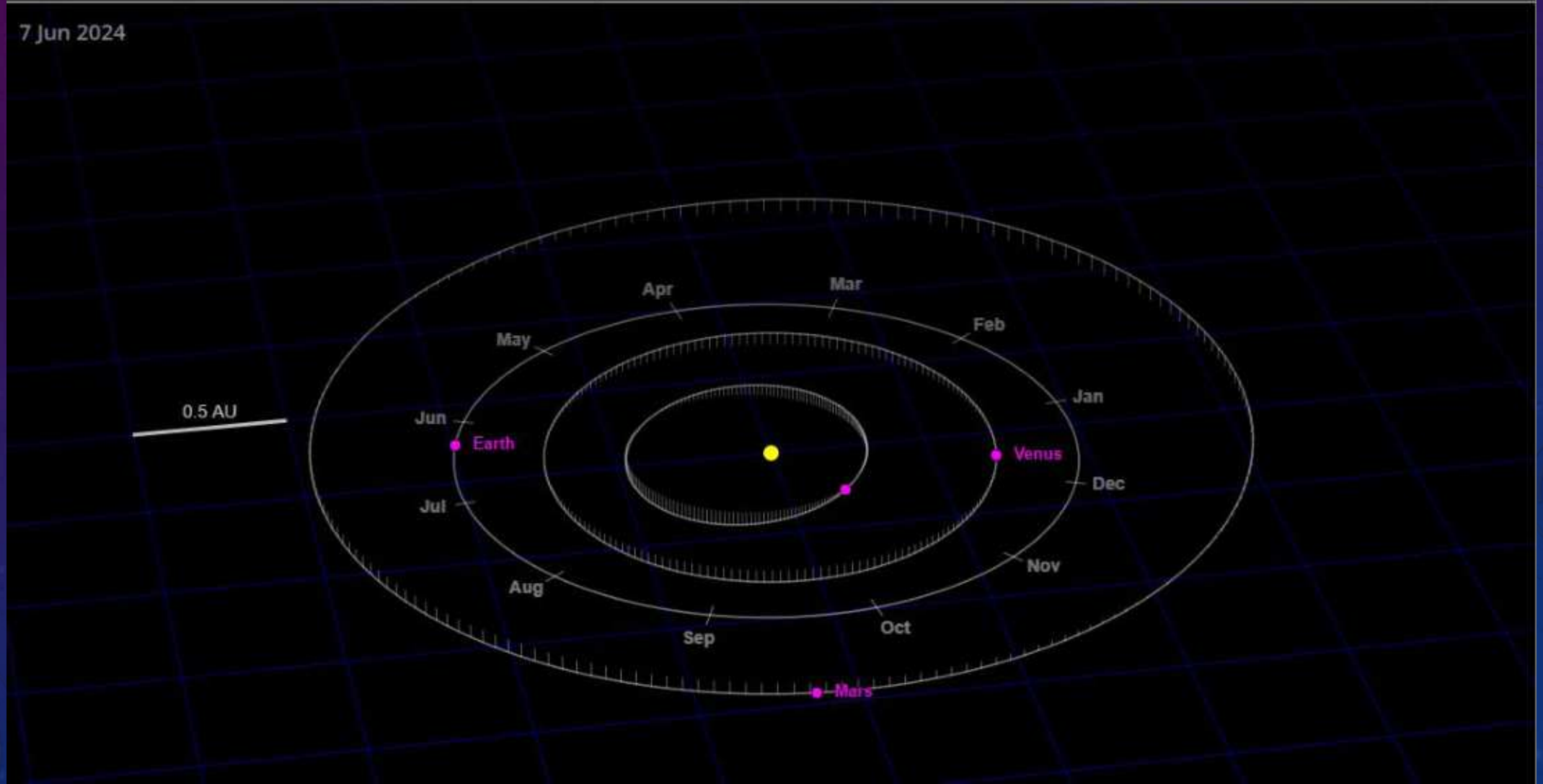
HEY, THERE BE A MOON OVERHEAD

MOON PHASES FOR THE MONTH OF JUNE

« June 2024 »

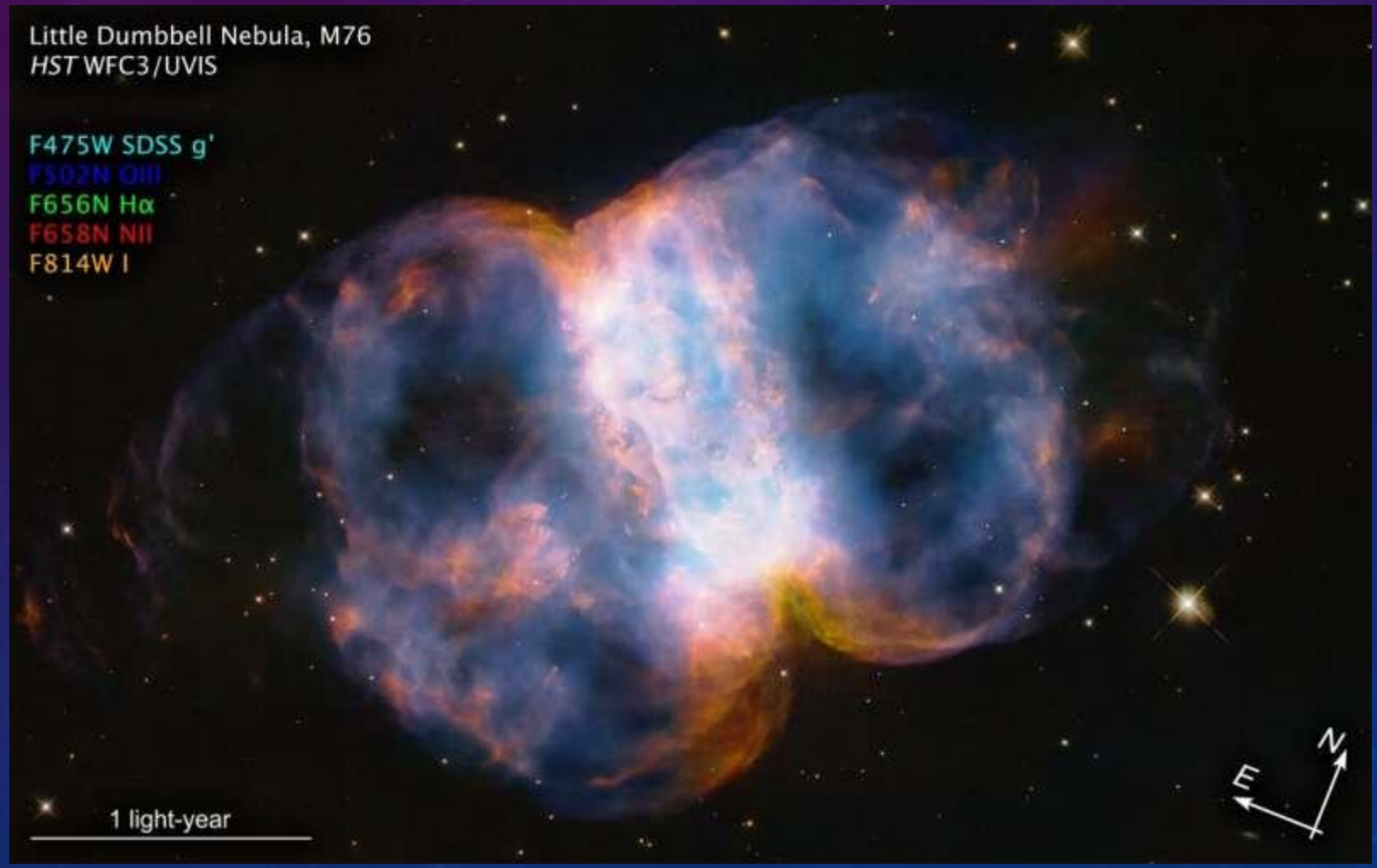
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 The Great Globular Cluster in Hercules is well placed
2 The Moon at perigee Close approach of the Moon and Mars Conjunction of the Moon and Mars Asteroid 43 Ariadne at opposition	**3** Messier 12 is well placed	**4** Conjunction of Jupiter and Mercury Close approach of Jupiter and Mercury Venus at superior solar conjunction	**5** The Moon at perihelion Conjunction of the Moon and Jupiter Messier 10 is well placed	**6** New Moon Messier 62 is well placed	**7**	**8**
9	**10** Daytime Arietid meteor shower 2024 Messier 92 is well placed	**11** Comet 154P/Brewington passes perihelion	**12**	**13** Mercury at perihelion	**14** Moon at First Quarter The Moon at apogee Mercury at superior solar conjunction	**15** NGC 6388 is well placed
16 Lunar occultation of Spica The Butterfly cluster is well placed NGC 6397 is well placed	**17**	**18** The cluster IC 4665 is well placed	**19**	**20** Lunar occultation of Antares June solstice The Ptolemy cluster is well placed	**21** Full Moon	**22** The Moon at aphelion The Lagoon Nebula is well placed
23 NGC 6541 is well placed	**24**	**25**	**26**	**27** June Bootid meteor shower 2024 The Moon at perigee Close approach of the Moon and Saturn Lunar occultation of Saturn Conjunction of the Moon and Saturn Asteroid 42 Isis at opposition	**28** Close approach of the Moon and Neptune Lunar occultation of Neptune Moon at Last Quarter The cluster NGC 6633 is well placed	**29** Saturn enters retrograde motion
30 Comet 13P/Olbers passes perihelion Messier 22 is well placed						


Sun
Mercury
Uranus
Mars
Neptune
Saturn
Morning Sky
Opposition
Evening Sky
Daylight


7 Jun 2024
0.5 AU
Apr
Mar
Feb
May
Jan
Jun
Earth
Venus
Dec
Jul
Nov
Aug
Oct
Sep
Mars

LATEST WEBB/HUBBLE IMAGES

Hubble Hubble celebrates 34th anniversary with a look at the little dumbbell nebula



Hubble spots magnificent barred galaxy NGC 2217

HUBBLE CAPTURES A BRIGHT GALACTIC AND STELLAR DUO

- This image from the NASA/ESA Hubble Space Telescope features NGC 3783, a bright barred spiral galaxy about 130 million light-years from Earth that also lends its name to the eponymous NGC 3783 galaxy group.

TOP OF HORSEHEAD NEBULA FROM WEBB TELESCOPE

SHOW AND TELL

COSMOLOGY TALK