

## A3 Tsuchinshan-ATLAS Visits the Inner Solar System

*Dave Minerath, Editor*

Comet A3 Tsuchinshan-ATLAS has been one of the hottest topics of late, making its visit to the Inner Solar System. The comet is named by its co-discoverers at the Asteroid Terrestrial-impact Last Alert System (ATLAS) telescope in South Africa (discovered February 22, 2023) and the Purple Mountain (Zijin Shin or Tsuchinshan) Observatory in China (from images taken on January 9, 2023). Therefore, the comet also has the nickname Tsuchinshan-ATLAS.



*Credit-Ernie Mastroianni*

The orbit of the comet suggests a 80,000 year orbit...however, According to Karl Battams, a scientist who works on the SOHO/LASCO and Sungrazer Project for the U.S. Naval Research Laboratory, the comet is “most certainly dynamically new from the Oort Cloud and it’s not possible to model back if it had been near the sun in the ancient past.” Battams also stated that with this orbit the comet’s path has

*Continued on p. 2*

## November General Meeting Minutes

*Don Woelz, NCSF Secretary*

At 6:30 on October 3, 2024, at the Jackson Community Center, Jeff Setzer introduced Joyce Jentges and her presentation for the evening, the upcoming launch of NASA's Europa Clipper.

Joyce's program outlined the mission of the Europa Clipper to study the habitability of Jupiter's moon, Europa. The SUV-sized probe carries 5 instruments to survey conditions on and around Europa. Because of intense radiation in the Jupiter system, the sensitive instruments are enclosed in a radiation shield called the Vault. Also accompanying the probe is a plaque with a poem on it, and a memory chip with the names of 2.6 million people who signed up to have their names included. At the time of the presentation, the Europa Clipper was scheduled to launch on October 10, 2024, at approximately 11:30 am. More information can be found at <https://science.nasa.gov/mission/europa-clipper/>.

After the presentation, these announcements were made:

*Continued on p. 3*

## November Events

### General Meetings

All general meetings are held at the Jackson Community Center  
N165 W20330 Hickory Lane  
Jackson, WI  
unless otherwise noted.

Thursday, November 7, 6 PM  
Presentation Topic: The Dwarf  
Smart Telescope by Joe Barboza

Thursday December 5, 6pm  
Presentation Topic TBD





*Credit-James Neal*

### *A3 Tsuchinshan-ATLAS Visits the Inner Solar System Continued from p. 1*

been slightly changed, and it is quite possible that it will get nudged again in the future such that it will never return to the Inner Solar System.

In fact, there was some speculation that the comet would break up during the visit and not be visible. According to a paper submitted to arxiv.org (link at the end of this article) the comet should have broken up into pieces and faded away out of existence. Clearly this did not happen!

Comet A3 Tsuchinshan-ATLAS is wrapping up its visit to the Inner Solar System this month and into November, but it's still possible to see it on a dark night with binoculars. Eventually it will take a larger and larger telescope to observe it and it will eventually fade into the stellar background.

There were many fine images captured of the comet during its visit this month, some of them are included as part of this story and shared throughout the newsletter.

Further reading:

<https://earthsky.org/space/comet-c-2023-a3-sep-oct-2024-tsuchinshan-atlas/>  
<https://arxiv.org/abs/2407.06166>



*Credit-Ernie Mastroianni*



*Photo Credit-James Neal*

“The dinosaurs became extinct because they didn’t have a space program. And if we become extinct because we don’t have a space program, it’ll serve us right.” -Larry Niven

### September General Meeting Minutes Continued from p. 1

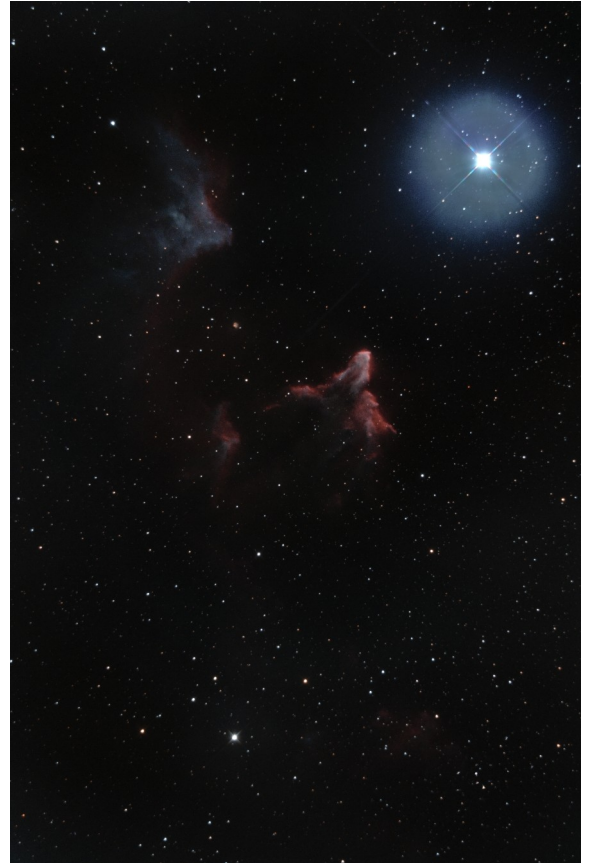
The Panarusky telescope repair to the mirror mounting mechanism is nearly done. The mirror has been cleaned. Repairs to the building structure have expanded to include new siding and trim as needed, and repairs to the rails and structure that supports the roof when opened. Volunteers are needed to assist with painting and miscellaneous assistance and should contact Steve Showalter or Gene DuPree.

(Editor's note: this work has already been completed)

Jim Hahn will be giving a presentation at the Mequon Nature Preserve on Wednesday, October 23 at 7:00 pm entitled 'The Sun's Place in Space.' 🪐

Black Hole Quiz! Answers on the last page, so no peeking)

1. The point thought to represent the center of a black hole is known as a \_\_\_\_\_.
2. The Chandrasekhar limit is \_\_\_\_\_.
3. When stars die, they become black holes if they have masses of at least \_\_\_\_\_.
4. Every object has a radius within which its mass, if condensed, would require a gravitational escape speed equal to the speed of light. This radius is called \_\_\_\_\_.



SH2-185. Photo Credit-Don Woelz

## Observation Reports

Compiled from the Slack #outreach channel

The first public night of October was on Friday, October 11. James Neal, Jeff Setzer, and Jim Hahn were on hand to help with the public viewing. Judging by the posts on the #outreach and #imaging channels, it looks like it was a good night under the stars and aurora!



Credit-Jeff Setzer

The next night, October 12, wasn't a good night.

There was an observing night at Pike Lake on Saturday, October 19<sup>th</sup>. Gene DuPree estimated about 200 visitors in total that night. The club was well represented by the DuPrees, Al Steinberg, Joe Barboza, Steve Schowalter, Jeff Setzer, and Jim Hahn.

Jeff posted a very nice photo of somebody using Al Steinberg's binocular to observe C/2023 A3. 🪐



## This Month in Astronomy History

Nov. 30, 3340 B.C. – Spiral petroglyphs on the Loughcrew Cairn L Megalithic Monument in Ireland indicate this was the earliest observed solar eclipse for which a record exists.

November 1919-the “Greek Drama” at the Royal Society/Royal Astronomical Society. At this meeting, the results of the 1919 solar eclipse expeditions, conducted to test part of Einstein’s Theory of Relativity, we announced. The controversy that caused the meeting to devolve into a session resembling a Greek Drama was the enthusiasm that one of the experiment principles, Arthur Stanley Eddington, had in support of Einstein’s theory. It gave rise to the term *Eddington Bias*, a form of selection bias that could affect survey results.



*Einstein and Eddington during a visit to the Cambridge Observatory sometime long after the 1919 meeting. Reproduced from Douglas, A. Vibert. 1957. The Life of Stanley Eddington. Nashville: Nelson, Plate 11, 115*

November 1972 – Small Astronomy Satellite Explorer 48 launched. SAS 2 was the second in the series of small spacecraft designed to extend the astronomical studies in the X-ray, gamma-ray, ultraviolet, visible, and infrared regions. The primary

## In the Sky This Month

<https://spacetourismguide.com/october-night-sky/>  
<https://www.timeanddate.com/astronomy/sights-to-see.html>



November 1 – New Moon

November 12 – Peak of the Northern Taurids Meteor Shower

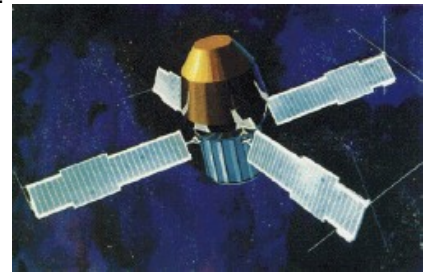
November 16 – Uranus at Opposition

November 16 – Mercury at greatest elongation east

November 17/18 – Leonids Meteor Shower



objective of the SAS-B was to measure the spatial and energy distribution of primary galactic and extragalactic gamma radiation with energies between 20 and 300 MeV. The instrumentation consisted principally of a guard scintillation detector, an upper and a lower spark chamber, and a charged particle telescope.



*SAS\_B (Image Credit-NASA)*

Further reading:

<https://www.astronomy.com/science/a-timeline-of-famous-eclipses/>

<http://www.carrowkeel.com/sites/loughcrew/cairn11.html>

<https://www.ancientpages.com/2015/07/31/ancient-irish-were-first-to-record-an-eclipse-5355-years-ago/>

<https://aas.org/posts/news/2020/01/month-astronomical-history-november>

[https://en.wikipedia.org/wiki/Small\\_Astronomy\\_Satellite\\_2](https://en.wikipedia.org/wiki/Small_Astronomy_Satellite_2)

<https://nssdc.gsfc.nasa.gov/nmc/spacecraft/display.action?id=1972-091A> 🪐

“I know the sky is not the limit because there are footprints on the Moon — and I made some of them!”  
 -Buzz Aldrin

(Photo credit-Buzz Aldrin (via Wikipedia))



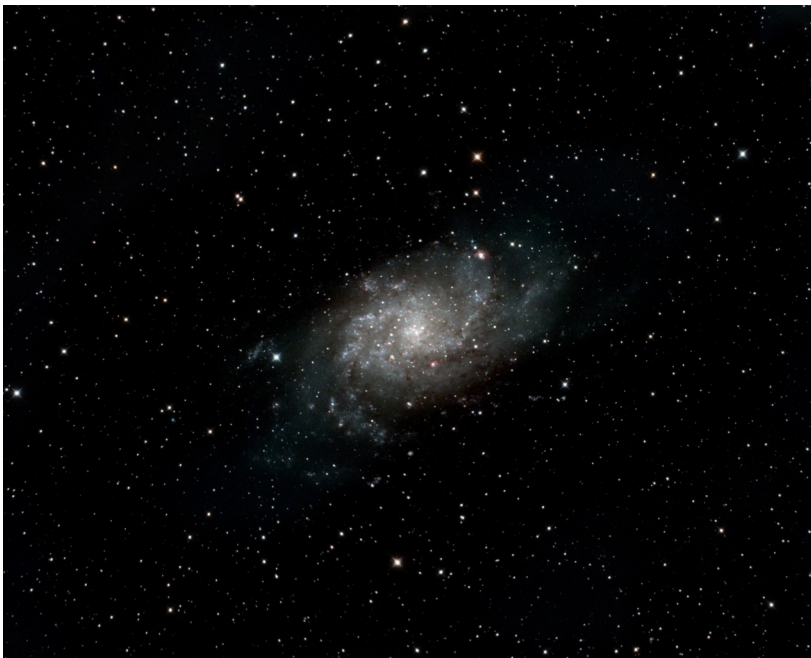
## Observatory Work this past Month

*All photos courtesy of Gene DuPree*

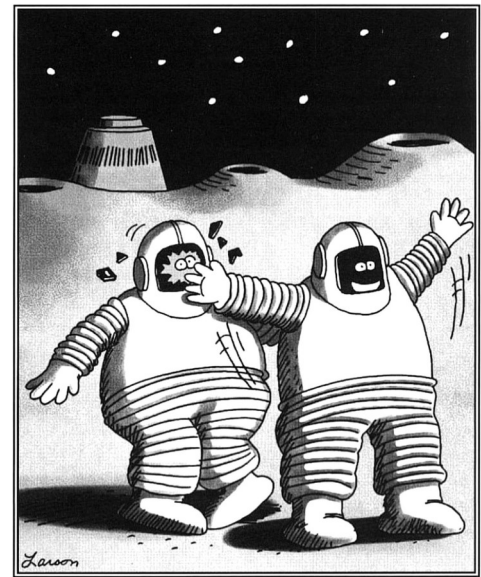
Steve Showalter and Gene DuPree applied quite a bit of elbow grease to the observatory this month, taking advantage of good weather to make improvements to the structure. Details are in the monthly meeting notes starting on page one of this newsletter.



Many thanks to Steve and Gene for their hard work in improving the observatory. 🪐



M33 (Photo Credit-Don Woelz)



"We've made it, Warren! ... The moon!"



## Board of Directors, 2024

President - Jeff Setzer  
1418 Trillium CT  
West Bend, WI 53095  
262-338-8614  
[astrosetz@hotmail.com](mailto:astrosetz@hotmail.com)

Vice President -  
Joyce Jentges  
336 N Main Street, Apt.3  
Cedar Grove, WI 53013  
262 483- 4270  
[joycejentges@hotmail.com](mailto:joycejentges@hotmail.com)

Treasurer - Gene DuPree  
6219 Jay St.  
West Bend, WI 53095  
262-675-0941  
[grdupree@charter.net](mailto:grdupree@charter.net)

Secretary- Don Woelz  
4892 Lois Lane  
West Bend WI 53095  
(414) 732-7705  
[woelzd@charter.net](mailto:woelzd@charter.net)

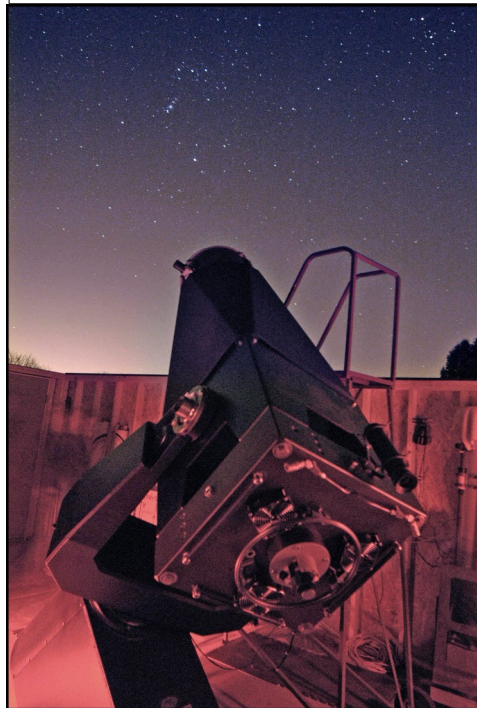
Kevin Bert  
2292 Ridgewood Road  
Grafton, WI 53024  
(262) 674-0610  
[kevin.bert@hotmail.com](mailto:kevin.bert@hotmail.com)

Mark Zellner  
N58 W5624 Edgewater  
Drive  
Cedarburg, WI 53013  
(262) 204-8283  
[mk.zellner@yahoo.com](mailto:mk.zellner@yahoo.com)

James Neal  
341 Deer Meadow Dr.  
Fredonia, WI 53021  
(812) 580-3731  
[penn.dm@gmail.com](mailto:penn.dm@gmail.com)

## Black Hole Quiz Answers:

1. Singularity
2. The maximum mass a white dwarf star can contain without becoming a neutron star or black hole.
3. Three times the mass of the sun.
4. The Schwartzchild Radius



NCSF is a member of the [North Central Region of the Astronomical League](#)



NCSF supports the [International Dark Sky Association](#)

SPECTRUM newsletter is published monthly by the Northern Cross Science Foundation, Inc. (NCSF), a non-profit amateur astronomy organization based in southeastern Wisconsin.

<https://ncsf.info>

NCSF on Facebook:

Members:

<https://www.facebook.com/groups/284397465372797/>

Public:

<https://www.facebook.com/NCSFAstronomy/>

Slack:

<https://ncsfastro.slack.com>

Editor:

Dave Minerath  
7430 N. Boyd Way  
Fox Point WI 53217  
[dave.minerath@mac.com](mailto:dave.minerath@mac.com)

Submissions for publication may be sent to [newletter@ncsf.info](mailto:newletter@ncsf.info) by the third Saturday of the month prior to publication. 🪐