



the EYEPIECE



the FORT WAYNE ASTRONOMICAL SOCIETY • PO Box 11093 • Fort Wayne, IN 46855

Volume: 58

Issue : 1

January 2017

Editor: Gene Stringer, 9609 Colsons Hill, Fort Wayne, IN 46825, (260) 489-8135

E-Mail: genestringer@mac.com

FWAS Web page: <http://fortwayneastronomicalsociety.com>

GENERAL MEETING

Visitors Welcome

Tuesday Evening, January 17, 7:30 PM

Georgetown Public Library, 6600 East State Blvd. Fort Wayne, IN 46815

Observing the Moon, Sept. 11, 2016

By Laura Ainslie

Join us as Laura describes some stories about features on our nearest satellite.

General Meetings are held the third Tuesday of each month, 7:30pm. Check our web site for location.

Three Craters, One Question, Three Lives

We are not exactly sure, but we believe this presentation will be on some lunar features and how they got their names. The Moon has been studied more by Laura than any other member of our Society, (that we know of), so is arguably our best Lunar observer. Given her creative perspective we expect that the presentation won't be finalized until the final hour.

See you at the Georgetown Library.

After the meeting you are invited to join the group that meets for continuing discussions at a restaurant to be selected at the meeting.

Calendar Events Jan-Feb

Scheduled events for the next two months:

Saturday Public star gazing at Jefferson Township Park is closed until April. (Observatory is available for members or scheduled observing events).

January

General Meeting Tuesday, Jan 17

Board Meeting Tuesday, Jan 24

February

General Meeting Tuesday, Feb 21

Board Meeting Tuesday, Feb 28

Eyepiece Back Issues

Members going to our web site will notice that we have started a new year with January, and some 2016 back issues are missing. Not to worry – back issues are available on CD in the Observatory library.

Address Change?

Has your address changed recently? If so, please notify Dave Wilkins at 444-3070 so that he can update our membership list.

Membership Dues

Good News: your current membership is good through March 31 of 2017. Membership dues are due by 1 April at a rate of \$36 for individuals and families and \$25 for students.

While dues are not due until March we encourage members to renew early.

Star*Quest Update

by Gene Stringer

Preparation is underway to prepare the Star*Quest Observatory for a grand opening in April. Storage shelves and a desk with book shelves have been installed in the Control Room. Plans are to install a work bench and more book shelves.

Phil Hudson and Bill Needham have been transferring items stored in the shed to the shelves in the Control Room. Two transport carts have been purchased for servicing and maintenance of the scopes in the viewing wings.

The well for the 16" RJ scope is leaking, requiring periodic vacuuming of ground water. This will be repaired later this spring when temperatures rise and water recedes.

There is still much to do before the observatory is fully functional, including the following remaining items from our Construction Support Task List:

5. Install Lamps (Alan Pareis). – Alan is researching the current technology for red lighting for improvement over the original design.

Continued on page 2

Board Meeting Highlights

- The Board did not meet in December
- The Star*Quest observatory is under preparation for a grand opening in April.
- Our new observing season will begin in April 2017 at Jefferson Township Park.
- The next board meeting will be on Tuesday, 24 Jan., at 7:30 p.m. in Phil Hudson's office.

FWAS OFFICERS

President: Larry Clifford 824-2655
Vice-President: Phil Hudson 484-7000
Secretary: Gene Stringer 489-8135
Treasurer: Dave Wilkins 444-3070

APPOINTED POSITIONS

Observatory Director: Open
Star*Quest Project Manager: Gene Stringer 489-8135
Star*Quest Treasurer: Dave Wilkins 444-3070

EDITORIAL STAFF

Eyepiece editor, Gene Stringer, 489-8135
Distribution, Gene Stringer 489-8135 & Phil Hudson 484-7000

Submissions to the Eyepiece are cheerfully accepted by E-mail (preferred) or on CD or other media, or on paper. Submissions may be edited

Continued from page 1

7. The HC telescope requires significant rework to place it in service.

- Metal surfaces need to be stripped and repainted.
- Jon Thomas has repaired the fine adjustment control for the declination axis.
- The 12.5" mirror must be installed and the optical train collimated.
- The Sky Wizard must be installed.

9. Plan & install signs.

10. Landscaping (Laura Ainslie) – Laura's plans will create a welcoming garden at the north entrance and other plantings on the site.

- A suitable ramp must be installed at the south door before the public can be allowed to exit it to view telescopes on the external pads.
- The ground level must be raised around the external scope pads to provide stability for step stools and chairs used there.

Planning is continuing for acquiring furniture and equipment for the control room.

Members may schedule times on the 16" Richard Johnstone telescope for viewing or photography by calling Gene Stringer at 489-8135, weather permitting (check the clear sky chart on the website).

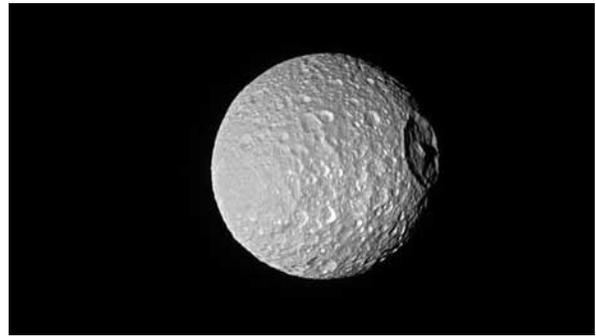
For Sale

Arcturus 2 inch 2x Barlow. Two element multi-coated optics with a brass compression ring, threaded for filters. Includes a 1.25 adapter. Priced new at \$79, this item is offered at \$40.

Burgess Multi-Reticle Finder. Not your typical red-eye, this finder features a selection of projected patterns for aligning your scope. Priced new at \$65, this item is offered at \$35.

All proceeds to the Star*Quest Project. View it at the January meeting or contact Gene Stringer at 489-8135.

Mimas' Mountain



Jan 9, 2017

Shadows cast across Mimas' defining feature, Herschel Crater, provide an indication of the size of the crater's towering walls and central peak.

Named after the icy moon's discoverer, astronomer William Herschel, the crater stretches 86 miles (139 kilometers) wide -- almost one-third of the diameter of Mimas (246 miles or 396 kilometers) itself.

Large impact craters often have peaks in their center -- see Tethys' large crater Odysseus in PIA08400. Herschel's peak stands nearly as tall as Mount Everest on Earth.

This view looks toward the anti-Saturn hemisphere of Mimas. North on Mimas is up and rotated 21 degrees to the left. The image was taken with the Cassini spacecraft narrow-angle camera on Oct. 22, 2016 using a combination of spectral filters which preferentially admits wavelengths of ultraviolet light centered at 338 nanometers.

The view was acquired at a distance of approximately 115,000 miles (185,000 kilometers) from Mimas and at a Sun-Mimas-spacecraft, or phase, angle of 20 degrees. Image scale is 3,300 feet (1 kilometer) per pixel.

The Cassini mission is a cooperative project of NASA, ESA (the European Space Agency) and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colorado.

For more information about the Cassini-Huygens mission visit <http://saturn.jpl.nasa.gov> and <http://www.nasa.gov/cassini>. The Cassini imaging team homepage is at <http://ciclops.org>.

Credit: NASA/JPL-Caltech/Space Science Institute

Last Updated: Jan. 9, 2017

Editor: Tony Greicius

Downloaded from:

<https://www.nasa.gov/image-feature/jpl/pia20515/mimas-mountain>

This article is provided by *NASA Space Place*. With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology. Visit spaceplace.nasa.gov to explore space and Earth science!



Big Science in Small Packages

By Marcus Woo

About 250 miles overhead, a satellite the size of a loaf of bread flies in orbit. It's one of hundreds of so-called CubeSats—spacecraft that come in relatively inexpensive and compact packages—that have launched over the years. So far, most CubeSats have been commercial satellites, student projects, or technology demonstrations. But this one, dubbed MinXSS (“minks”) is NASA’s first CubeSat with a bona fide science mission.

Launched in December 2015, MinXSS has been observing the sun in X-rays with unprecedented detail. Its goal is to better understand the physics behind phenomena like solar flares – eruptions on the sun that produce dramatic bursts of energy and radiation.

Much of the newly-released radiation from solar flares is concentrated in X-rays, and, in particular, the lower energy range called soft X-rays. But other spacecraft don't have the capability to measure this part of the sun's spectrum at high resolution—which is where MinXSS, short for Miniature Solar X-ray Spectrometer, comes in.

Using MinXSS to monitor how the soft X-ray spectrum changes over time, scientists can track changes in the composition in the sun's corona, the hot outermost layer of the sun. While the sun's visible surface, the photosphere, is about 6000 Kelvin (10,000 degrees Fahrenheit), areas of the corona reach tens of millions of degrees during a solar flare. But even without a flare, the corona smolders at a million de-

grees—and no one knows why.

One possibility is that many small nanoflares constantly heat the corona. Or, the heat may come from certain kinds of waves that propagate through the solar plasma. By looking at how the corona's composition changes, researchers can determine which mechanism is more important, says Tom Woods, a solar scientist at the University of Colorado at Boulder and principal investigator of MinXSS: “It's helping address this very long-term problem that's been around for 50 years: how is the corona heated to be so hot.”

The \$1 million original mission has been gathering observations since June.

The satellite will likely burn up in Earth's atmosphere in March. But the researchers have built a second one slated for launch in 2017. MinXSS-2 will watch long-term solar activity—related to the sun's 11-year sunspot cycle—and how variability in the soft X-ray spectrum affects space weather, which can be a hazard for satellites. So the little-mission-that-could will continue—this time, flying at a higher, polar orbit for about five years.

If you'd like to teach kids about where the sun's energy comes from, please visit the NASA Space Place: <http://spaceplace.nasa.gov/sun-heat/>



Astronaut Tim Peake on board the International Space Station captured this image of a CubeSat deployment on May 16, 2016. The bottom-most CubeSat is the NASA-funded MinXSS CubeSat, which observes soft X-rays from the sun—such X-rays can disturb the ionosphere and thereby hamper radio and GPS signals. (The second CubeSat is CADRE — short for CubeSat investigating Atmospheric Density Response to Extreme driving - built by the University of Michigan and funded by the National Science Foundation.) Credit: ESA/NASA



Fort Wayne Astronomical Society
P.O. Box 11093
Fort Wayne, IN 46855

This Issue is Available in color on the Web



Fort Wayne Astronomical Society, Inc. 1959
 P.O. BOX 11093 • FORT WAYNE, IN 46855 • USA
 FortWayneAstronomicalSociety.com

Next General Meeting:
Tuesday January 17, 7:30 pm
Gerogetown Library

8800 East State Blvd, Fort Wayne IN, 46815

[StarQuest Observatory Donations](#)

[Next General Meeting](#)

[Newsletters](#)

[About our Society](#)

[Public & Group Observing](#)

[Newsstand](#) [Store](#)

[Want to Join?](#)

[Our Favorite Links](#)

[Officers and Contacts](#)

[Clear Sky Chart](#)

[Star Charts](#)

[Member Library](#)

[Buying First Telescope](#)

Observing the Moon, September 11, 2016 Three Craters, One Question, Three Lives

by Laura Ainslie



January Night Sky: The Moon is in first quarter the 5th. The name quarter moon, even though it's really a "half-moon" shape, refers to the fact that, starting from new moon, our natural satellite has now completed the first quarter of its orbital journey around Earth. The evening of Thursday, Jan 12th, Venus will reach its widest separation east of the Sun and will reach its highest point in the SW night sky. As a bonus, Venus will also be located less than 23 arc-minutes to the upper right of Neptune, in same field of a small telescope. Jan. 24 pre-dawn – Old Moon meets Saturn. 12th - Full Wolf Moon.