President’s column March 2017

Mike Rogers

March 1st meeting:

Devin Silva, currently a National Science Foundation Astronomy and Astrophysics Postdoctoral Fellow in the Department of Physics and Astronomy at Michigan State University, recently met with the woman who organizes events at the Lansing Lugnuts Stadium. Devin is considering holding an “Astronomy on Tap” event there in May. One of the ideas that he had was to add a night sky observing component to the event, which would evolve setting up telescopes on the stadium concourse. He wants to gauge how many of us would like to assist with this.

I was able to do some naked eye observing from the deck of our cruise ship sailing off the Yucatan Peninsula Feb. 10-17. The lights on the top deck were kind of bright, but I shielded my eyes and got some good views of Canopus, Sirius and Orion. Even with the cruise ship light pollution, it was easy to see how inky black the Caribbean skies were.

Mike Rogers
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As always, please let me know if you have ideas or suggestions for upcoming programs.

Let’s make sure the eclipse is a discussion topic at each meeting over the next few meetings.
Please email your program suggestions to me at mwrogers7@gmail.com

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Club dues are due. Please send to Chuck $12.00
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Thank you all for supporting the group.
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Mysterious white dwarf pulsar discovered

*Date:* February 7, 2017  
*Source:* University of Warwick  
*Summary:* An exotic binary star system 380 light-years away has been identified as an elusive white dwarf pulsar, the first of its kind ever to be discovered in the universe. An exotic binary star system 380 light-years away has been identified as an elusive white dwarf pulsar -- the first of its kind ever to be discovered in the universe -- thanks to research by the University of Warwick.

Profsessors Tom Marsh and Boris Gänsicke of the University of Warwick's Astrophysics Group, with Dr David Buckley from the South African Astronomical Observatory, have identified the star AR Scorpii (AR Sco) as the first white dwarf version of a pulsar -- objects found in the 1960s and associated with very different objects called neutron stars.

The white dwarf pulsar has eluded astronomers for over half a century.

AR Sco contains a rapidly spinning, burnt-out stellar remnant called a white dwarf, which lashes its neighbor -- a red dwarf -- with powerful beams of electrical particles and radiation, causing the entire system to brighten and fade dramatically twice every two minutes.

The latest research establishes that the lash of energy from AR Sco is a focused 'beam', emitting concentrated radiation in a single direction -- much like a particle accelerator -- something which is totally unique in the known universe.

AR Sco lies in the constellation Scorpius, 380 light-years from Earth, a close neighbor in astronomical terms. The white dwarf in AR Sco is the size of Earth but 200,000 times more massive, and is in a 3.6 hour orbit with a cool star one third the mass of the Sun.

With an electromagnetic field 100 million times more powerful than Earth, and spinning on a period just shy of two minutes, AR Sco produces lighthouse-like beams of radiation and particles, which lash across the face of the cool star, a red dwarf.

As the researchers previously discovered, this powerful light house effect accelerates electrons in the atmosphere of the red dwarf to close to the speed of light, an effect never observed before in similar types of binary stars. The red dwarf is thus powered by the kinetic energy of its spinning neighbor.

February meeting minutes

John French gave a nice overview of several comets that are gracing our skies this year, Encke, Johnson, Clark, Panstarrs, Honda-Mrkos-Pajdusakova, Tuttle-Giacobini-Kresak, Neowise, and Schaumasse. John showed the comets locations and paths across the sky and different points of view in the solar system. He spoke of the naming conventions of comets and asteroids, the size and composition of comets their gas tails meteoroids and their orbital deferent’s. John pointed out the distances to the ort cloud and its repository of comets that may shift and come towards the inner solar system. He showed us the orbits of the major asteroid belt and asteroid groups like Jupiter’s Trojan asteroids, which are much closer than the ort cloud comets and trans-Neptunian objects like Pluto, Sedna, Quaoar.. The comets vary in brightness, some are telescopic, most are visible in binoculars and a couple may make it to naked eye visibility, and are both evening and morning objects. John finished up with showing us the cool new “Spartan Star-tacular”. Big Thanks to John for the awesome sky preview and Star-tacular show.

If you have Astronomy items for sale, images, test reports or observations you would like to post to the newsletter, please send them to me at kmelvin33@gmail.com.
Hubble captures brilliant star death in 'rotten egg' nebula

The Calabash Nebula -- which has the technical name OH 231.8+04.2 -- is a spectacular example of the death of a low-mass star like the sun. This image taken by the NASA/ESA Hubble Space Telescope shows the star going through a rapid transformation from a red giant to a planetary nebula, during which it blows its outer layers of gas and dust out into the surrounding space. The recently ejected material is spat out in opposite directions with immense speed -- the gas shown in yellow is moving close to one million kilometers per hour (621,371 miles per hour).

Astronomers rarely capture a star in this phase of its evolution because it occurs within the blink of an eye -- in astronomical terms. Over the next thousand years the nebula is expected to evolve into a fully-fledged planetary nebula.

The nebula is also known as the Rotten Egg Nebula because it contains a lot of sulphur, an element that, when combined with other elements, smells like a rotten egg -- but luckily, it resides over 5,000 light-years away in the constellation of Puppis.

Story Source:

Materials provided by NASA/Goddard Space Flight Center. Note: Content may be edited for style and length. ScienceDaily, 3 February 2017.

Outreach observing

On January 1st the first night of the year I set up the “12” Weiser” scope up town in Fowlerville at dusk. I set up just on the side of the sidewalk in a small section of grass in front of the now closed Curtis grocery, there is also a take-a-book leave-a-book library box there so I left a few sky calendars and a older unopened sky pub calendar with nice big images. It was pretty cold, the Moon, Venus and Mars made ideal targets. Mars and Neptune were visible in the same field of view in the 12” scope with 55mm and 26mm eyepiece’s, I pointed out to the viewers that Mars and Neptune had not been that close since 1605 and told two youngsters that they were probably the only one’s in there school to see that. For an hour and a half I only had three people stop by that night. On the night of the 18th I set up at the city park next to the fire hall, there was a outdoor basketball game finishing up, we had great record breaking weather for a few days in February. There were a few people walking around the park some with pets, I passed out sky calendars and cards both nights. We viewed Venus’ large crescent phase at its brightest, one young man commented “oh wow that’s Venus I thought that was a plane or somthin”. I pointed out Mars and showed a few the Orion Nebula. I had about 12-15 people view thru the scope that night again about an hour and a half till everyone left, with many thanks from people appreciative to look thru the scope.

Kurt

Membership Info:

Are you interested in learning more about astronomy or do you want to use the observatory? Do you need more info on becoming a member?

The Capital Area Astronomy Club meets the first Wednesday of the month at Abrams Planetarium.

For membership information please contact

chuck_taricska@yahoo.com
or
mwrogers@gmail.com
Fox Park Observatory Update:
We had a great weekend out at Fox Park on Feb. 18 and 19. Friday was public night and the skies were awesome. A few families came out with young kids and we were able to show them Venus, Mars and Uranus, along with the Galaxies M31, M81 and M82. Kevin pointed out the Christmas Tree Cluster and ET Cluster in his refractor. A visitor from Jackson brought some very nice eyepieces to test out. We put the new 17 inch Dob to work looking at the Orion Nebula- the views were unbelievable!! Details and shading in the dust clouds took your breath away. Tim let one young visitor use his 12 in Dob and star hunt some of the objects we pointed out earlier, he did a great job star hopping, and his even though the rest of his family was out in the car staying warm, he wanted to stay out and keep observing. Saturday night we had Astrophotography night. Three visitors came with cameras to learn to shoot star trails. Jason, Kevin and I worked on getting some images while helping the visitors. A great weekend. Please come out and observe sometime.
--Chuck

The planetarium is open

The Observatory is open
(Weather permitting)

The Sky is open

Go look up!

AND ENJOY

MICHIGAN STATE UNIVERSITY

Abrams Planetarium
755 Science Rd.
East Lansing, Michigan
48824

UPCOMING EVENTS

M.S.U. observatory open house, Closed for winter.

Fox park observatory open houses: The March dates are March 3, 17, 18, and 31. Astrophotography night is March 3rd. Weather permitting, check their website for details.jb.foxpark@gmail.com

Abrams Planetarium programs: Planetarium Shows
• Family Show: Ice Worlds
• Feature Show: One World, One Sky
• Lecture series
• March 16, 2017 "Dark Matter and Beyond: The Future of the Large Hadron Collider" Reinhardt Schwenhorst, Associate Professor, High Energy Physics-Experimental