

Antares



The Newsletter of the Kansas Astronomical Observers

Meeting time: February 17, 2018 3:00 pm

Location: **Great Plains Nature Center**

Speaker: **Heather Kincaid** - Earth & Space Science Teacher at Height High School
Topic: **Exoplanets**

KAO Website: <http://www.kaowichita.com>
The Night Sky Network: <http://www.nightsky.jpl.nasa.gov>
The Astronomical League: <http://www.astroleague.org>

If you have comments or suggestions for an article in the newsletter, e-mail them to:
kevin.l.kight@gmail.com *Please begin the subject line with "Antares"

Current Club Officials

President: Jerelyn Ramirez jerelyn.ramirez@gmail.com
Vice-President: Tony Haidai thaidai@cox.net
Treasurer: Paul Ramirez ramirezpm2@gmail.com
Newsletter/Media: Kevin Kight kevin.l.kight@gmail.com

Next Month's Meeting: March 17 at Great Plains Nature Center

Club Updates:

Membership Dues:

Just a reminder, membership dues for the 2018 year are due.

Meeting Speakers:

For those members that wish to create and present during a club meeting, or that have a suggestion for a guest speaker, contact Club Vice-President: Tony Haida (thaidai@cox.net)

Newsletter Items for Publication:

Please submit items for publication prior to the 7th of each month to be included in that month's newsletter.

January Club Meeting:

See addendum for a short update about the January club meeting.

Eyepieces for Sale:

See addendum for a collection of TeleVue Eyepieces club member David Stanislaw is wishing to sell.

Solar and Planetary Items:

Moon Phases:

Last Quarter: February 7
New Moon: February 15
First Quarter: February 23
Full Moon: March 1

Planets:

Mercury – Hidden in Solar Glare
Venus – Hidden in Solar Glare
Mars – Visible in the morning rises approximately 2:45am; next to Jupiter in Scorpius
Jupiter – Visible in the morning; rises at 1:30am in Libra, transiting 6:30am
Saturn – Visible in the morning; rises approximately 4:50 am in Sagittarius
Uranus – Sets approximately 11:30pm in Pisces
Neptune – Sets approximately 8:00pm in Aquarius

Coming up March 7-8, The planets Saturn, Mars, and Jupiter will form a near-straight light with the moon, which will be just above Antares.

Comets:

Listed below are comets possibly visible in telescopes (cutoff at magnitude 11). Magnitudes shown are approximate predictions for mid-month. Links are provided for additional information: <http://cometchasing.skyhound.com/>

No Comets are Visible This Month

Event Reports:

If you've participated in a club event, please submit an event report to be included here by the 7th of each month. It doesn't have to be anything formal, just a brief description about the event and how it went. Credit will be given unless you request to be kept anonymous.

Upcoming Regional Events:

Messier Marathon #1 – Friday, March 16 – Saturday, March 17
Butler County State Lake, Latham, KS 67072
(7:00 PM - 7:30 AM)

Lets stay up all night to try and find all the Messier objects in one night. March is the best time to try this attempt. Now all we need a clear sky. So come on out and try to find as many Messier objects as you can. If finding Messier objects is not your thing you can still join the fun and observe whatever you like.

Messier Marathon #2 – Friday, April 13 – Saturday, April 14
Butler County State Lake, Latham, KS 67072
(7:30 PM - 7:00 AM)

Lets stay up all night to try and find all the Messier objects in one night. This is the backup data for the Messier Marathon #1. Now all we need a clear sky. So come on out and try to find as many Messier objects as you can. If finding Messier objects is not your thing you can still join the fun and observe whatever you like.

Symphony in the Flint Hills - Saturday, June 9

Rosalia Ranch, Northeast Ivanpah Road, El Dorado, KS 67042

Setup Time: 10:00 AM

This is an all day event. Telescopes are set up for solar viewing while educational outreach presentations are held inside the educational tent before the concert begins. This is a collaboration with the Salina Astronomy Club. At the conclusion of the concert patrons come by for some evening viewing. Jupiter will be high in the sky at sunset. It is possible to view the GRS (Great Red Spot) after 11:00 p.m. This will be a Moon free event. Saturn will be rising on the eastern horizon after the sun sets with Venus in the west.

Contact Jerelyn about this if you are interested in volunteering.

Fall River Star Party – Friday, August 10- Saturday, August 11

Fall River State Park & Campgrounds, Fall River, KS 67047

(7:30 PM - 11:59 PM)

Come join us at the annual Fall River event. Join us for an evening of dark skies and deep space viewing. Mars and Saturn will be featured this night with Jupiter and Venus setting in the west just after sunset.

Upcoming KAO Public Events:

Pluto Plooza – February 13

Sand Hills State Park Campground 4207 East 56th Avenue, Hutchinson, KS 67502

(7:00 pm – 9:00 pm)

Pluto Plooza is a star party sponsored by the Cosmosphere. Visitors must RSVP for this event. You can contact Laurie either by phone 620-665-9323 or email laurieg@cosmo.org. Back up rain date is for Thursday February 15th at Hobart-Detter Field in Carey Park, same time.

Full Moon Walk – March 1

Great Plains Nature Center, 6232 E. 29th Street North, Wichita, KS 67220-2200

(6:30 pm – 8:30 pm)

Setup Time: 6:00 PM; See below about registration

When the moon is full, join us for stargazing at Great Plains Nature Center under a rising full moon. Enjoy an evening under the stars and planets.

If you are planning to go on the walk, you must make a reservation (like the public). If you are ONLY there to assist with stargazing, please e-mail Rachel Roth at GPNC to confirm. rachel@gpnc.org. See NSN Calender for details.

Partner/Feature Articles:

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!



What Is the Ionosphere?

By Linda Hermans-Killiam

High above Earth is a very active part of our upper atmosphere called the ionosphere. The ionosphere gets its name from ions—tiny charged particles that blow around in this layer of the atmosphere.

How did all those ions get there? They were made by energy from the Sun!

Everything in the universe that takes up space is made up of matter, and matter is made of tiny particles called atoms. At the ionosphere, atoms from the Earth's atmosphere meet up with energy from the Sun. This energy, called radiation, strips away parts of the atom. What's left is a positively or negatively charged atom, called an ion.

The ionosphere is filled with ions. These particles move about in a giant wind. However, conditions in the ionosphere change all the time. Earth's seasons and weather can cause changes in the ionosphere, as well as radiation and particles from the Sun—called space weather.

These changes in the ionosphere can cause problems for humans. For example, they can interfere with radio signals between Earth and satellites. This could make it difficult to use many of the tools we take for granted here on Earth, such as GPS. Radio signals also allow us to communicate with astronauts on board the International Space Station, which orbits Earth within the ionosphere. Learning more about this region of our atmosphere may help us improve forecasts about when these radio signals could be distorted and help keep humans safe.

In 2018, NASA has plans to launch two missions that will work together to study the ionosphere. NASA's GOLD (Global-scale Observations of the Limb and Disk) mission launched in January 2018. GOLD will orbit 22,000 miles above Earth. From way up there, it will be able to create a map of the ionosphere over the Americas every half hour. It will measure the temperature and makeup of gases in the ionosphere. GOLD will also study bubbles of charged gas that are known to cause communication problems.

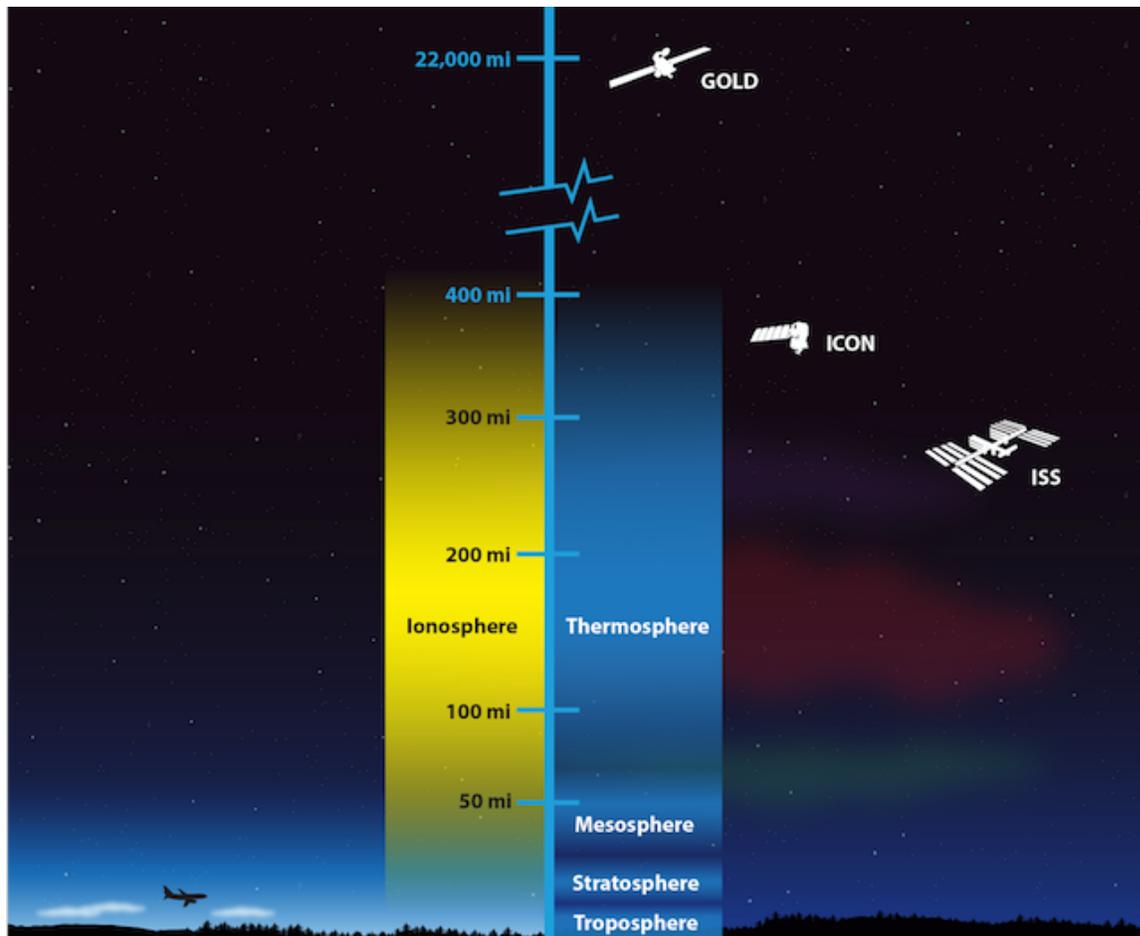
A second NASA mission, called ICON, short for Ionospheric Connection Explorer, will launch

later in 2018. It will be placed in an orbit just 350 miles above Earth—through the ionosphere. This means it will have a close-up view of the upper atmosphere to pair with GOLD’s wider view. ICON will study the forces that shape this part of the upper atmosphere.

Both missions will study how the ionosphere is affected by Earth and space weather. Together, they will give us better observations of this part of our atmosphere than we have ever had before.

To learn more about the ionosphere, check out NASA Space Place:

<https://spaceplace.nasa.gov/ionosphere>



This illustration shows the layers of Earth’s atmosphere. NASA’s GOLD and ICON missions will work together to study the ionosphere, a region of charged particles in Earth’s upper atmosphere. Changes in the ionosphere can interfere with the radio waves used to communicate with satellites and astronauts in the International Space Station (ISS). Credit: NASA’s Goddard Space Flight Center/Duberstein (modified)