

Antares



The Newsletter of the Kansas Astronomical Observers

Meeting time: December 21 3:00pm

Location: **Great Plains Nature Center (GPNC)**

Speaker: N/A Christmas Party
Topic: N/A

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: January 18 @ 3:00pm, Great Plains Nature Center

Club Updates:

Call for Meeting Speakers:

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

Newsletter Items for Publication:

Please submit items for publication prior to the 10th of each month to be included in that month's newsletter.

Club T-shirts available:

Club T-Shirts are always available to all club members year around. (or anyone who wants to support the club) \$10 each, indicate size and quantity to Jerelyn Ramirez or Paul Ramirez by email or at club meetings / outings. There is a 2week turnaround as they are printed on demand

Club T-shirts and Calendars available:

We do have a few Astronomy calendars left, they are \$10 each.

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Club Membership Dues:

It is time to renew for your 2020 club dues. The rates are \$20 per person, \$35 for an adult couple, and \$30 for an adult and one minor. Mail dues to Treasurer Paul Ramirez, 106 E. Mount Calvary Rd., Saint Marys, KS 66536. NOT NOT SEND CASH. Make check out to KAO please. Include any changes in your contact information, such as phone, address, or email, this way we can update our records so you can receive the club newsletters and Reflector magazine.

Club Membership Update:

One new club members:

Thomas Roberts from Wichita.

We have 68 club members.

November Club Meeting:

Attached is a summary of the November Club Meeting.

Eyepieces for Sale

David Stanislaw has eyepieces for sale. See attached ad for details.

Solar and Planetary Items:

Moon Phases:

Last Quarter: November 19
New Moon: November 26
First Quarter: December 3
Full Moon: December 11

Last Quarter: December 18
New Moon: December 25
First Quarter: January 2
Full Moon: January 10

Planets:

Mercury – Rises Approximately 6:30am
Venus – Hidden in Solar Glare
Mars – Rises Approximately 4:45am
Jupiter – Hidden in Solar Glare
Saturn – Hidden in Solar Glare
Uranus – Visible in Aries; rises approximately 2:30pm
Neptune – Visible in Aquarius; Transits approximately 600:pm

The Winter Solstice is on December 21

Comets:

Listed below are comets possibly visible in telescopes from the Wichita area (approximately cutoff at magnitude 15; if available the observed magnitude is used in favor of the JPL prediction). Magnitudes shown are approximate predictions for mid-month. Links are provided for additional information:

<http://cometchasing.skyhound.csom/>

C/2017 T2 (PANSTARRS): An all night comet in Auriga (Mag 11)

<https://theskylive.com/c2017t2-info>

Event Reports:

If you've participated in a club event, please submit an event report to be included here by the 10th 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.

Mead Middle School Events

Jerelyn Ramirez has provided an event report for the Mead Middle School Event

Upcoming Regional Events:

See NSN for latest information

Upcoming KAO/Public Events:

See NSN for latest information and new events as they are added

ACMS Science Spectacular - January 24

Andover Central Middle School, 901 Central Avenue, Andover, KS 67002

7:00 PM - 9:00 PM

Setup 6:00 PM

We will be setting up hands on astronomy demonstrations inside then telescope observing if weather permits. It is January so be prepared for cold weather.

Planned activities:

Quarter Solar System

Pocket Solar System

Gravity and the Fabric of Space demonstration

Where are the Black Holes

Protecting Earth from Cosmic Radiation

OSIRIS-REx Mission if bad weather

See NSN for details and volunteer info

Partner Article



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Spot the Young Stars of the Hyades and Pleiades

David Prosper

Orion is the last of a trio of striking star patterns to rise during the late fall and early winter months, preceded by the diminutive Pleiades and larger Hyades in Taurus. All three are easily spotted rising in the east in early January evenings, and are textbook examples of stars in different stages of development.

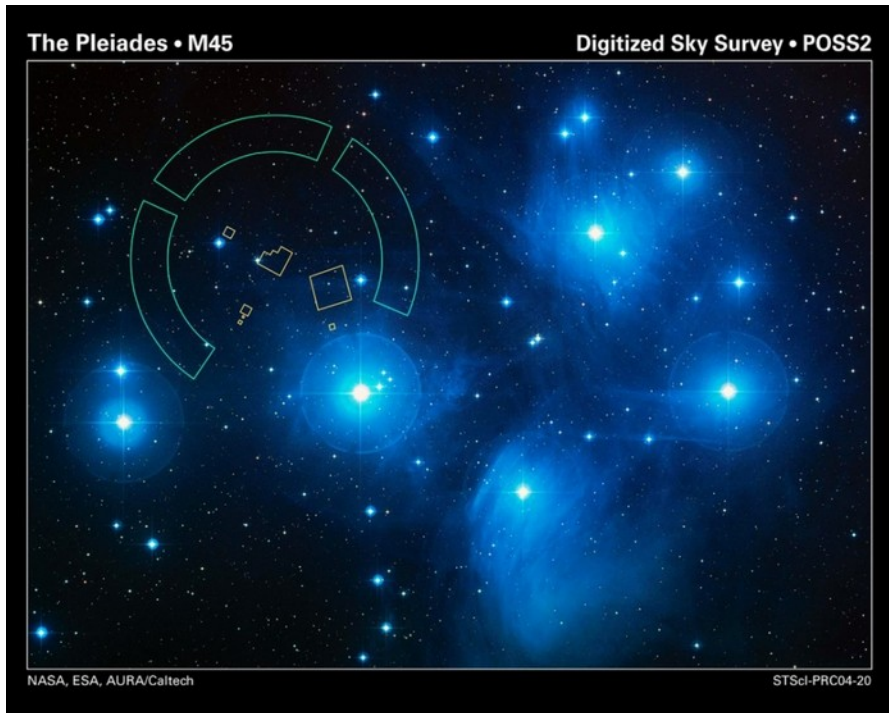
As discussed in last month's Notes, the famous Orion Nebula (M42), found in Orion's "Sword," is a celestial nursery full of newly-born "baby stars" and still-incubating "protostars," surrounded by the gas from which they were born. Next to Orion we find the Hyades, in Taurus, with their distinctive "V" shape. The Hyades are young but mature stars, hundreds of millions of years old and widely dispersed. Imagine them as "young adult" stars venturing out from their hometown into their new galactic apartments. Bright orange Aldebaran stands out in this group, but is not actually a member; it just happens to be in between us and the Hyades. Traveling from Orion to the Hyades we then find the small, almost dipper-shaped Pleiades star cluster (M45). These are "teenage stars," younger than the Hyades, but older than the newborn stars of the Orion Nebula. These bright young stars are still relatively close together, but have dispersed their birth cocoon of stellar gas, like teenagers venturing around the neighborhood with friends and wearing their own clothes, but still remaining close to home - for now. Astronomers have studied this trio in great detail in order to learn more about stellar evolution.

Figuring the exact distance of the Pleiades from Earth is an interesting problem in astrometry, the study of the exact positions of stars in space. Knowing their exact distance away is a necessary step in determining many other facts about the Pleiades. The European Space Agency's Hipparcos satellite determined their distance to about 392 light years away, around 43 light years closer than previous estimates. However, subsequent measurements by NASA's Hubble Space Telescope indicated a distance of 440 light years, much closer to pre-Hipparcos estimates. Then, using a powerful technique called Very Long Baseline Interferometry (VLBI), which combines the power of radio telescopes from around the world, the distance of the Pleiades was calculated to 443 light years. The ESA's Gaia satellite, a successor to Hipparcos, recently released its first two sets of data, which among other findings show the distance close to the values found by Hubble and VLBI, possibly settling the long-running "Pleiades Controversy" and helping firm up the foundation for follow-up studies about the nature of the stars of the Pleiades.

You can learn more about the Pleiades in the Universe Discovery Guide at bit.ly/UDGMarch , and find out about missions helping to measure our universe at nasa.gov.



Caption: Locate Orion rising in the east after sunset to find the Orion Nebula in the “Sword,” below the famous “Belt” of three bright stars. Then, look above Orion to find both the Hyades and the Pleiades. Binoculars will bring out lots of extra stars and details in all three objects, but you can even spot them with your unaided eye!



Caption: Close-up of the Pleiades, with the field of view of Hubble's Fine Guidance Sensors overlaid in the top left, which helped refine the distance to the cluster. The circumference of the field of view of these sensors is roughly the size of the full Moon. (Credit: [NASA](#), [ESA](#) and AURA/Caltech)