Carpe Noctem

The News of Central Texas Astronomical Society

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Seasons Greetings

Happy Holidays

The Star of Bethlehem is perhaps the most famous star known to man. Yet it was transitional. Religious scholars attribute it to a miracle that fulfilled the prophecy detailed in the Book of Micah in the Old Testamant. More recently, scientists have tried to tie the appearance of the star

to a super nova occurring in the Andromeda or the Milky Way galaxies. Others have ascribed the bright star as the conjuction of two planets or of the Moon and a planet.

The issue with an occurrence of a natural pehomenon is put this way. The occurrence had to be in the winter sky, had to be near the Messiah's birth, and in the southern sky. The probability of a star occurring in this fashion begins with a probability of 1/400 billionth, and then decreases when timing, and visibility are considered. The probability of occurrence approaches 1/ 1-trillionth. That is tiny.

Either way, we celebrate the birth of the Messiah at this time of year and reflect on a year past while envisioning the year to come.

We with the CTAS leadership wish our members a bright and glorious Holidays and their best year in 2020.

Stargazers- PJMO Opportunity

Now that the telescope is operational, we will begin training old and new operators in January. This training will give qualified members access to the observatory and remote operations to conduct observatory projects and personal research and imaging.

This is a call for any member to express interest in the training. A minimum of on-site training will be required to gain familiarity with the hardware, and subsequent training can be done remotely. Before setting specific dates, please respond directly to dick_campbell@baylor.edu with the following info:

1. Contact Info: Name:
   & email:
   mobile phone (text capability):
   Location (we may schedule some classroom sessions off-site):
2. I have previous experience operating PJMO: Yes/No. All training will be done in the evenings. My availability for on-site training is:
   Weekend nights only (Fri/Sat)
   Yes/No
   Weeknights only (Sun-Thu)
   Yes/No
   Only these nights
   (_____)
   I'm flexible
   Yes/No

If you are inexperienced, please don't feel hesitant to sign up. The system is relatively easy to operate, and it will be a great learning experience for you. Responses will be accepted continually, and scheduling will be based on the availability of the early responders.

Find a Habitable Planet

The Habitable Exoplanet Hunting project, organized by the Czech Astronomical Society is starting a new campaign in January 2020 to search for an Earth sized exoplanet at star GJ 3470.

The PJMO observatory is ideally suited for observing light curves and recording exoplanet transits, as we have demonstrated this capability on numerous occasions. This campaign would give us the opportunity to participate in the possible discovery of a new Earth-like planet. The goal of the project is to observe the star continually in order to discover any transiting planets.

If you are interested in participating in this project - as an operator, or just casual observer, please express your interest to Brad Walter (bswalter@att.net), and he can provide details, and links to background information

Presidents Letter – December 2019

Happy Days are here again -the observatory is fully operational and we are preparing for operations and training. So, be on the lookout for further announcements regarding training classes. Concomitantly, I am appointing Aubrey Brickhouse as the Chair of the Operations Committee effective immediately.

Dean Chandler has dedicate the last 15 years of his service to keeping the Turner Research Station and PJMO up and running and has successfully guided the upgrade over the past year. However, Dean has requested to step down and we should all thank him for his unfailing service to CTAS.

Aubrey is inviting any CTAS members who wish to participate in any facet of the operations of our facilities to reach out to him to join the Operations Committee. This committee has responsibility for site maintenance and upkeep, Internet and computer services, and telescope

operations. If you have skills in any of these areas that you can donate to CTAS, please reach out to Aubrey (email in the membership directory)
Dick Campbell

President

2020 CTAS Events Calendar

Here are the events scheduled for 2020. These will all be recorded on the Calendar of Events on our web site. In the event of discrepancies, the web Calendar of Events is the official schedule, as changes may occur throughout the year.

New Moon	Member SP	Meetings	Open House
1/24/20	1/25/20	1/21/2020*	1/18/20
2/23/20	2/22/20	2/18/20	2/15/20
3/24/20	3/28/20	3/17/20	3/21/20
4/22/20	4/25/20	4/21/2020*	4/18/20
5/22/20	5/23/20	5/19/20	5/16/20
6/21/20	6/13/20	6/16/20	6/20/20
7/20/20	7/25/20	7/25/2020**	7/18/2020
8/18/20	8/22/20	8/18/20	8/15/20
9/17/20	9/12/20	9/15/20	9/19/20
10/16/20	10/10/20	10/20/2020*	10/17/20
11/14/20	11/14/20	11/17/20	11/21/20
12/14/20	12/12/20	12/15/20	12/19/20

*General Business Meeting
**Star-B-Que and General Meeting

Clear Skies!

Dick Campbell

New Members

William Anderson
Alex, Christy, Emily, and William Londenberg
Miranda and Stephen Lynch
Daniel Maddux
Bryant and Dani McGuire
Michael, Millie, and Rebecca Peikoff
Anna Shirey
Tammy Snow
Paul and Susan Walton
Mike West
Michael Wright

We welcome you aboard the Starship CTAS.

CTAS at the Waco Mammoth National Monument

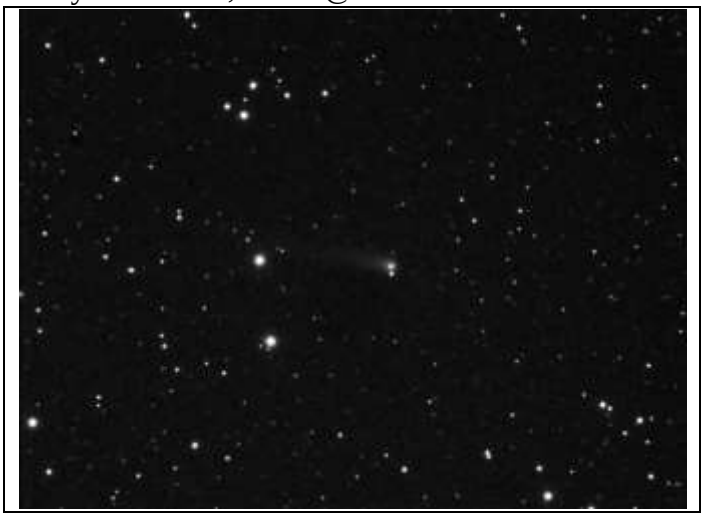
by Johnny Barton

On October 19, CTAS members, Dick Campbell, Eric Rachut, Johnny Scarborough and Johnny Barton, participated in the Fall Fossil Festival sponsored by the City of Waco at the Waco Mammoth Monument.

Several hundred gazers attended, and many visited the CTAS booth during the 10am to 3pm event. Most stopped by to talk with Dick and Eric who manned a tent-booth, passing out CTAS brochures. Outside the booth, Johnny Scarborough gave visitors views of the Suns' solar flares with his telescope and H-Alpha filer. Plus, Johnny Barton had his telescope aimed at a day-time Moon giving visitors a close-up view of lunar craters.

Dave Eisfelt

A 2 minute monochrome image of comet C2018 N2 ASASSN taken at Eldorado Star Party on Oct 23 , 2019 @ 1:00 AM local time.



Jeffrey McClure

This astrophoto was taken and color corrected using the Hubble Palette and shifting the green to yellow. Here you can see the entire nebula I was shooting for.

The California Nebula, NGC 1499 in narrow band. Six 300 second each of Hydrogen alpha mapped to red, Sulfur II mapped to green, and Oxygen III mapped to blue. SBIG 8300STF with Baader filters, Canon 70-200 f2.8 lens set to 200mm, Orion mini-guide scope with ZWO-AS1224MC camera, Celestron AVX mount. Captured and initial processing in Nebulosity 4 and finish work in Adobe Lighroom 5.

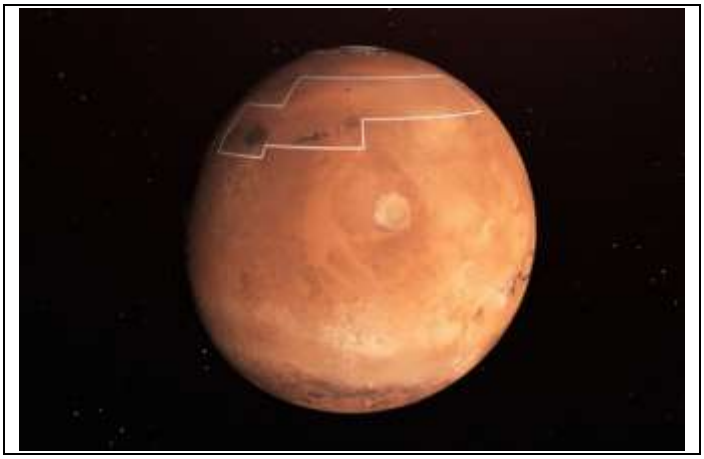
Johnny Barton

I got out last night (December 3, 2019) to take advantage of a very transparent sky to image an approaching comet. Comet C/2017 T2 PanSTARRS was discovered back on Oct.2, 2017 when at mag. 20. It's been heading in towards the Sun with a perihelion date in early May 2020. It makes its closest approach to Earth on Dec. 29, but it will be at its brightest around perihelion. Astronomers are predicting maximum brightness anywhere between 9 to 6th magnitude.

The image is a stack of 4 photos X 61 second that were taken around 10 pm as the Moon was setting with my 12.5" Newt. and the Canon T4i at 3200 iso. It's showing a distinctive dust tail as it moves thru the constellation Auriga. It will continue its trek to the north and will become circumpolar in early Spring as it approaches perihelion.

Aubrey Brickhouse

Researchers just found water ice inches below Mars' surface



A team of researchers has found that on large areas of Mars, ice is only inches below the surface and would be easy to get to. This gives planners of future Mars missions many options when deciding where on our neighboring planet astronauts should land.

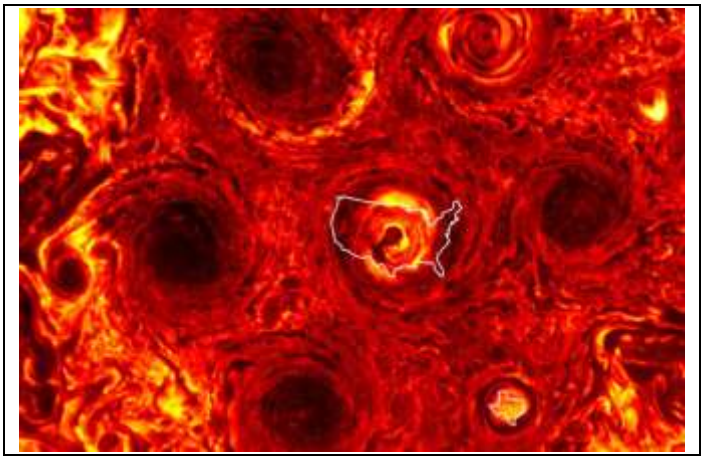
The researchers present their work in a paper published Tuesday in the journal *Geophysical Research Letters*

Astronomy News

For the latest news in the universe about astronomy go to:

http://www.astronomy.com/news

Texas Sized Tornado on Jupiter



Juno, a NASA spacecraft has discovered a huge new cyclone at the gas giant's south pole. It's the sixth in what's now a hexagonal array of cyclones surrounding one central storm at the pole.

Scientists announced the discovery at the American Geophysical Union in San Francisco.

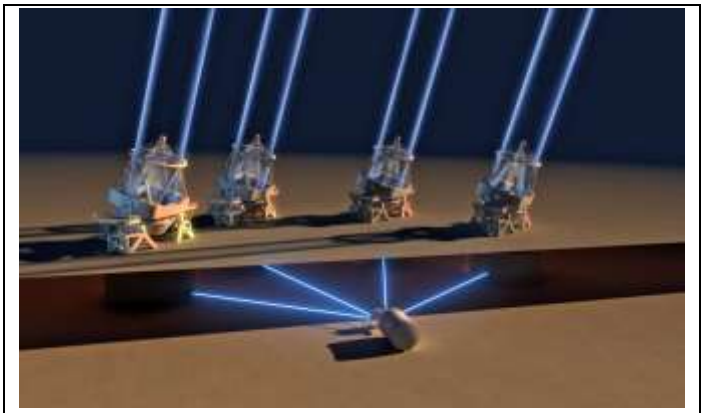
ESO's Matisse Telescope

On Cerro Parana in the Chilean Atacama Desert

MATISSE (Multi AperTure mid-Infrared SpectroScopic Experiment) observes infrared light — light between the visible and microwave wavelengths of the electromagnetic spectrum, covering wavelengths from 3–13 micrometers (μm).

MATISSE is a four-way beam combiner, meaning it combines the light collected from up to four of the 8.2-meter VLT Unit Telescopes MATISSE and the VLTI possess the imaging power of a telescope up to 200 meters in diameter.

After 12 years of development this very complex instrument, initial observations have now confirmed that MATISSE is working as expected.



Artists concept of how the four beams combine.

A photo of the four telescopes.

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