



Carpe Noctem



The News of Central Texas Astronomical Society

March - April 2017

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President: Aubrey Brickhouse

Editor: Kent Swarts

Meyer Telescope Upgrade

By: Aubrey Brickhouse

As you probably know by now, the Meyer telescope is running on 1990's technology and this has limited our ability to get most members involved with projects like double stars, deep space objects, astrophotography, etc. And as I stated in my President's letter, we are entering a contract with Peter Mack that will update the 24" telescope instrument package and the control computers later this year. So why is this important?

This package will allow us to enable members to take advantage of several items:

- Locating Objects: One of the telescope controls is through planetarium software and that gives you "point and click" to go to your favorite objects.
- Autofocusing: Focusing has been a pain and now that is automated
- Auto guiding: That has been near impossible because of the size of the guide camera chip and the X/Y positioning mechanism is not reliable.
- Weather station: The scope will be better protected through the ability of the weather station to shut it down for excess humidity or strong winds.
- Tracking and Pointing: Peter also thinks that our tracking and pointing

will also improve which saves set up time.

- Plate Solving: Another "Wow" factor is the ability to "Plate Solve". Plate solving gives the telescope the ability to recognize where it is at any time by taking a picture of what it is pointed at and syncing the telescope to that known position. That is a time saver for astrophotography as it centers your object on the "crosshairs" of the chip.
- All Sky Camera: We also now have an "All Sky Camera" that allows you to know what is going on in the sky if you want to run remotely.

What this means is that members can get easily trained and use the telescope to do things like running Astronomical League's Double Star awards and deep space awards. (Still can't use it for Messier Award as that requires a "no goto" telescope.) We have all the filters needed for Astrophotography and if you want to get involved in that, we will hold workshops for interested people after the upgrade.

Now all this cost money and CTAS will begin a "Capital Fund Raising" campaign as soon as the contract is signed. We will need to raise an additional minimum amount of \$10,000. So please consider donating to the telescope upgrade project as soon as possible. As we are a 501 c(3)

organization and you can deduct any amount that you give this year. Any amount is accepted and you can do it online or send a check to our Treasurer. Identify the donation as Telescope Upgrade and make any checks to CTAS.

President's Letter, March - April

We are pleased that Dean Chandler completed the terms and conditions along with a contract with Peter Mack of ACE to upgrade our 24" telescope instrument package. It is at Peter's for final contract signature. If all goes well, we should be able to have a new package installed by the end of the year and be operational with some significant upgrades to our telescope system. We should hopefully improve things like tracking, guiding and search capabilities and at the same time integrate a weather station that will automatically shut down if the wind or bad weather is threatening. Of course, this cost money but with some generous donations we should be able to cover the upgrade.

2017 has been good for our Membership Star Parties at Meyer's. We have had a good turnout at all three so far and many people set up on the field using their telescopes. You are missing out if you do not make an effort to come and be involved.

It's almost time for our April General Business Meeting on April 18th. This time we will meet in Temple Texas at the Golden Corral on the north bound access of I35. If you check the web site events you will find a link to a map to the Temple Golden Corral.

We are still looking for someone to set up a team and find a good location in Waco to again hold public outreach star parties each month in sync with our star parties in Bell County and in Hubbard. Let me know if you are interested.

Our July General Business meeting will be at the July Star B Q at the Meyer Observatory so put that on your calendar. We always have a good turnout for those.

Keep looking up.

Aubrey Brickhouse

Presidnet

Carpe Noctem 20 and 10 Years ago

VOLUME IV, NUMBER 4 1997

The McLennan County Astronomy Club had their first Comet Party in Hewitt City Park and it was a

success with live TV coverage and around 250-300 visitors. John McAnally gave a live interview to KCEN during their 10pm news. Based on that success the club was scheduling several more in April in Hewitt and Mother Neff State Park.

VOLUME XIV, NUMBER 4 2007

Dean was happy to report that our new concrete road was about two thirds completed. After recent rains, we regrouped to add a drain that would direct excess water into the lake on the adjacent property. This change should reduce erosion of the lower parking area. The April Member Star Party was, once again, at Three Mountain Retreat and it was expected that the road would be ready in plenty of time for the May TRS party. The Observatory Dedication was set for the afternoon of Saturday, June 9, 2007, at the Bosque Conservatory in Clifton followed by a Star Party at the Observatory. Seth Shostak of the SETI Institute was the keynote speaker. Seth is an exciting public speaker, and gave the program great public appeal.

Editor Note:

It is interesting to follow these blurbs from previous issues. One can follow the club's development, expansion & acquiring more depth. We are a dynamic well organized institution, and have an interesting mix of members.

Comets ER61 PanSTARR & 2017 E4 Lovejoy

By: Johnny Barton

Got out the past two mornings, March 30 and 31, to image two comets. ER61 PanSTARRS has been heading toward to Sun since its discovery in 2015 and is about on schedule as far as brightness, about 9 mag. At this time it is going for a possible 7th mag in June.

The big surprise is comet 2017 E4 Lovejoy. This is the 6th comet discovered by Australian amateur astronomer, Terry Lovejoy, who discovered it on March 9th when it was at 12th mag. I was expecting a 10th mag. Comet as it was listed at last observations. But, to my surprise, as I focused it in with my 12.5" Newt. At 47X, it's greenish hue was very obvious and sporting a much brighter coma at between 7-7.5 mag! That's almost a 5 mag. Jump in just three weeks! At that pace we could be looking at a 2nd or 3rd mag. Comet when it reaches perihelion around April 26th. This one is definitely worth keeping an eye on in the next few weeks,

because as comets go, anything can happen. Or, it could easily fizzle out as it approaches the Sun; we'll see.



ER61 PanSTARRS. See faint tail.

Comet PanSTARRS is sporting a faint, and short, dust tail now. Comet Lovejoy also has a tail. It's a very thin ion tail pointing 1 degree to the upper right (west), but barely visible in my image. I needed a longer exposure in a darker sky, but I had to wait for it to clear a tall cottonwood to my East, and twilight was in full force at 6:23 am.



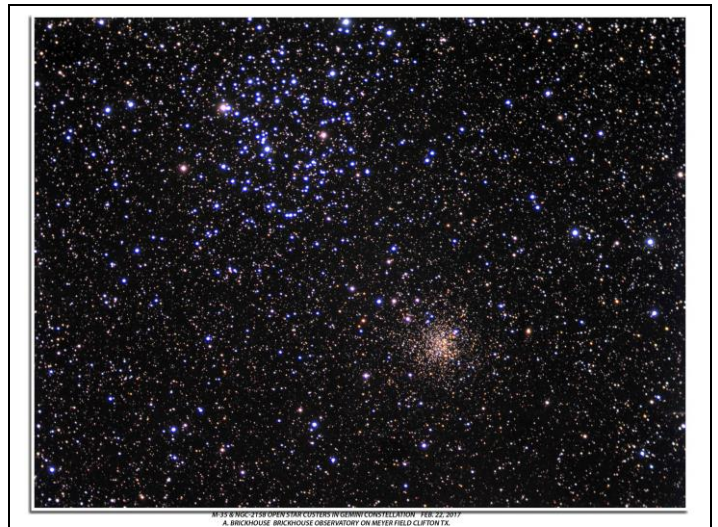
2017 E4 Lovejoy

Both images are 2X45 sec. at 6400 iso taken with my Canon T4i and the 12.5" f/6 Newt.

Spider Cluster & M35

By: Aubrey Brickhouse

Just processed this image from data shot on Feb. 22, 2017 at Brickhouse Observatory. This photo is M 35 and NGC 2158 both Open Clusters in the Gemini Constellation. M35 is the blue stars about 2500 light years from earth whereas NGC 2158 is a more compact cluster of older stars poor in metals located about 10,000 light years away. Sometimes NGC 2158 is called the spider cluster.



Editor's Note: Objects given the designation "M" are Messier objects and appear in his catalogue.

M35

By: Jeffrey McClure

A striking contrast between the wide angle image of Aubrey's and my close up image.



Comet 41P/Tuttle-Giacobini-Kresak

By: APOD

Comet 41P/Tuttle-Giacobini-Kresak poses for a Messier moment in this telescopic snapshot from March 21. In fact it shares the 1 degree wide field-of-view with two well-known entries in the 18th century comet-hunting astronomer's famous catalog. Sweeping through northern springtime skies just below the Big Dipper, the faint greenish comet was about 75 light-seconds from our fair planet. Dusty, edge-on spiral galaxy Messier 108 (bottom center) is more like 45 million light-years away. At upper right, the planetary nebula with an aging but

intensely hot central star, the owlsh Messier 97 is only about 12 thousand light-years distant though, still well within our own Milky Way galaxy. Named for its discoverer and re-discoverers, this faint periodic comet was first sighted in 1858 and not again until 1907 and 1951. Matching orbit calculations indicated that the same comet had been observed at widely separated times. Nearing its best apparition and closest approach to Earth in over 100 years on April 1, comet 41P orbits the Sun with a period of about 5.4 years.



Exoplanet Update

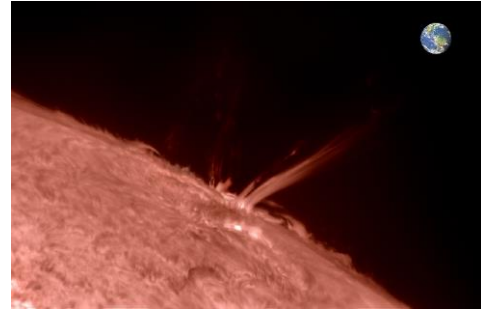
By: Kent Swarts

Scientists are rapidly expanding our knowledge of planets found in other solar systems. Since the first find in 1996, 2950 planets have been identified. There are an additional 2504 candidates. With so many stars having even more planets, we must begin to wonder what sort of life exists on planet within the habitable zone. Nearly 2800 planets have a radius up to 6 times Earth. Gravity is based on density of the planet, so a planet can have a large radius and possess a gravity near Earth's. Why can't there be intelligent life on another planet. It may not be as advanced as we, but it could, like us, be thinking about space.

Solar Flares:Compiled by: Kent Swarts

Thanks to NASA.

Since April 1st, AR2644 has erupted nearly a dozen times, producing a series of M-class solar flares. Almost every part of Earth experienced a shortwave radio blackout at least once during the fusillade. Earth-effects will subside as the sunspot rotates onto the far side of the sun.



Behind it is coming AR2645 that will produce M-class flares.

Mars Opportunity:

As the mission reaches the 12th anniversary of its landing on Mars, Opportunity is examining clues in "Marathon Valley" about Mars' history.

The mission has just passed the 12th anniversary. NASA's senior Mars rover, Opportunity, worked through the lowest-solar-energy days of the mission's seventh Martian winter, while using a diamond-toothed rock grinder and other tools in recent weeks to investigate clues about the Red Planet's environmental history.

The modern Mars environment lent a hand, providing wind that removed some dust from Opportunity's solar panels in the weeks before and after the Mars southern hemisphere's winter solstice on Jan. 2.

"Opportunity has stayed very active this winter, in part because the solar arrays have been much cleaner than in the past few winters," said Mars Exploration Rover Project Manager John Callas, of NASA's Jet Propulsion Laboratory,



Observatory Open House	Apr 15
Hubbard & Belton Star Party	Apr 15
CTAS General Business Meeting	April 18
Member Star Party	Apr 22

May Star Parties

Observatory Open House	May 27
Hubbard & Belton Star Party	May 27
Member Star Party	May 20

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