Carpe Noctem

The News of Central Texas Astronomical Society

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PJMO Status

By: Dean Chandler

All,

Several folks have pitched in on various items, and things are going along well at the observatory site:

1. Brad Walter finished painting and sealing the roof of the storage container near the observatory.
2. Technicians from Quality Hydraulics overhauled the motor that runs the dome dropout. It works (and sounds) much better now. Also, I opened and closed the dome several times, and did not experience the power dropout that Dick and I experienced before it was repaired.
3. Last week I tested the UPS, which then appeared to be working fine, but more recently had a problem. I plan to investigate that myself.
4. I updated Windows 10 on the computer that will be the new telescope computer. Then Dan Doyle configured Windows 10 to make it fit into our network. I now plan to add the software we will need in order to support the new ACE telescope control system.
5. The control room air conditioner failed. Johnny Scarborough has been working with our repair company to get it repaired. We expect to have it back tomorrow morning.
6. Thanks to Dick Campbell and a representative from Parsons Roofing the roof leak has been sealed. I was in the control room during a moderate downpour, and there was no leaking. I bought a pack of four ceiling tiles to replace damaged ones. Dick Campbell installed them, and the place looks as good as new.
7. Johnny Scarborough plans to paint the dome fan covers, which have been peeling.
8. Willie has located some folks who are willing to take up the mantle from the Pattersons and keep our buildings clean and our site mowed.
9. Johnny Scarborough and I discarded several old items and rearranged others. Actually the site is on the road to becoming much neater, but you wouldn't know it right now. We should have things back in place in the next few days.

President's Letter – Mar-Apr

Greetings CTASers. Daylight Saving Time is back once again and that means later sunsets and shorter nights. I hope everyone has had a chance to do some observing. When it isn't foggy, the morning skies have been especially beautiful, with some interesting celestial pairings lately.

Work continues on upgrading the observatory telescope, a new control computer, and a new weather station. On the instrument camera front, we are getting the loan of several cameras to test side-by-side in April. I'm hoping these tests will allow us to make a decision. Don't forget to make a donation to the camera fund when you renew your membership. In the meantime, our new guide camera is available for imaging on the 24-inch if you want to come out and play with the big guy.

Our Quarterly Business Meeting will be held on April 14th in conjunction with the Member Star Party at PJMO. And we have a special treat! The

program will be a presentation by Dean Chandler of his recent cruise to Antarctica. Let;s hope for Clear Skies on the 14th, but if not, the meeting will still be conducted regardless of clouds. Hope to see you there!

We have several exciting projects coming up with the 24-inch this year. So, keep your eyes on the event calendar, and remember you are always welcome to come out and observe or volunteer for these events.

Clear skies!

Dick Campbell
President

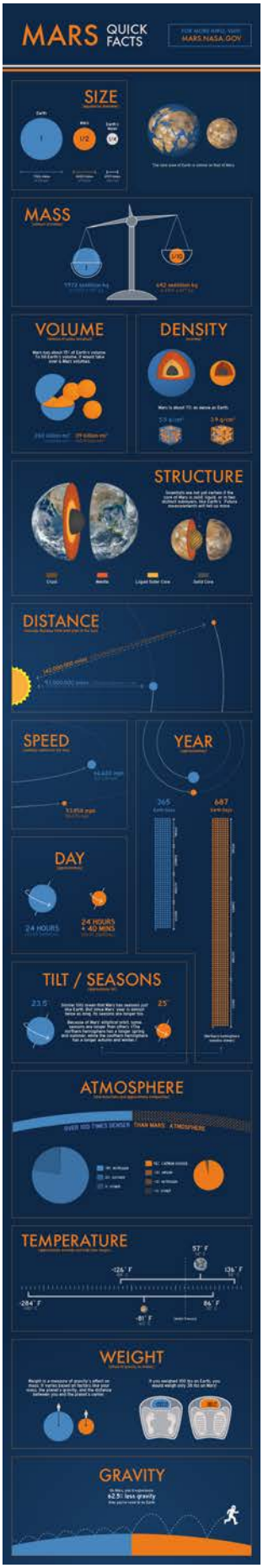
Mars

By: Kent Swarts

No other planet in our solar system has garnered the attention drawn by Mars, the Red Planet.

In 1877, the Italian astronomer Giovanni Schiaparelli planned to observe Mars with a new powerful refractor telescope. When he slew the telescope into position, he saw deep trenches meandering across the red planet's surface, which he called "canali" or grooves. However, canali translates in English to canal. Mars fever began. Since then, thousands of stories have been authored about little green men, attacks on Earth, and people watch Mars to see spaceships lift off its surface. Hundreds of thousands of images have been taken of our neighbor and fourteen successful probes have been sent to Mars to orbit, and to land. They survey from one position or roam.

We know more about Mars than any other planet, yet we speculate on how Mars formed, when there was water and how much and what its atmosphere must have been like. Geologically, we know nearly as much about the red planet as we do Earth thanks to all the observations—from Earth, space and landers. See the image to find out how Earth and Mars compare and to get basic information about the two planets. The planets are similar in several ways and probably developed quite similarly if Mars formation had not been halted by a cataclysmic event. More below.



The current rovers (Opportunity, Curiosity) are following old "river beds" across the planet with the hope of finding out when Mars had water, how much and when most of it escaped the planet. They have made remarkable headway and are providing the scientists clues as to the time line of water on Mars. Substantial evidence has been gained for researchers to establish that rivers ran across the surface at one time, and were formed from the watershed of snow and ice capped mountains or from the poles since the planet has a tilt of 25^0.

In this vein, scientists break Mars history into three periods. The two oldest from oldest to youngest are the Noachian (meaning Noah) and Hesperian during which most carbonates formed. Carbonates are formed from fossils of ancient sea creatures. The most recent period is the Amazonian. To form a fossil record, Mars had to have an oxygen rich atmosphere at one time. Because the planet is small (.35 the gravity of Earth), it is unable to maintain its atmosphere, which boils off to space. Thus, scientists are trying to figure out when Mars had a viable atmosphere, what it contained and when it essentially vanished. Today dust storms are seen on the planet and have pelted the rovers with sand and rocks. Scientists now know that the dust storms are escaping methane from under the surface. All the science journeys to Mars are completing this record.

Since the planet has two inner layers compared to Earth's three, it does not have plate tectonics and is a dead world. However, it used to have volcanoes several in chains like the Ring of Fire, so scientists are puzzled. As more is learned about the geologic record, questions will be answered. One related question puzzling scientists is why Mars is so small.

Evidence gathered by exploration, about the asteroid belt, and from Mars rocks hitting Earth, and by modeling indicate that Jupiter interrupted Mars evolution when it "jumped" into a closer orbit. Mars in all likelihood would have formed to be similar to Earth (keeping mind that Earth's size was dictated by the collision with it sister planet in the same orbit). If Jupiter had not affected Mars, then the Red Planet may have had plate tectonics, a sustainable atmosphere and water. If it had these things then it would have been as habitable as Earth.

Want to learn more about Mars? Check out NASA's website @ Mars.NASA.gov

Astrophotograqphy

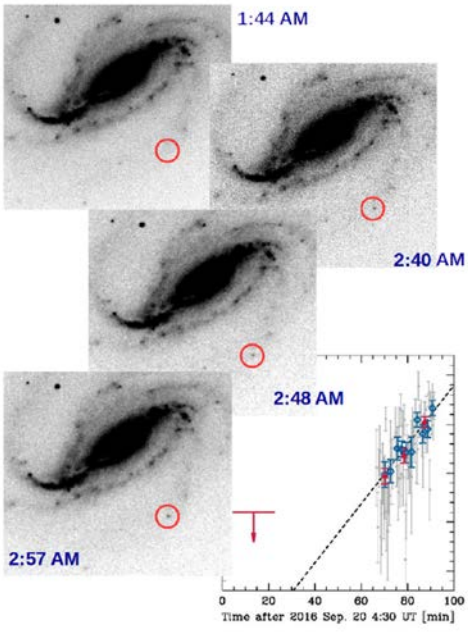
By: Aubrry Brickhouse

Last year Aubrey took an image of Lower's Nebula. This year, he worked on the image and published it.

Amateur Astronomer Spots the Birth of a Super Nova

By: Kent Swarts

In the early morning Victor Buso while gazing at the stars, he captured a brilliant flash on film. He immediately knew what he saw. His discovery is a landmark for astronomy because it is the first nova ever captured during the catastrophic event.



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Observatory Open House	**Apr 21 & May 21**
Hubbard & Belton Star Party	**Apr 21 & May 21**
Member Star Party	**May 14**