NEXT MEETING IS FRIDAY
FEB. 10TH, AT 7:00 PM
IT IS AT ODOM ACADEMY
IN THE LIBRARY,
THIS IS FOR FEBRUARY ONLY
IT'S ON W. VIRGINIA OFF 4TH STREET

BRENDA’S MINUTES
ASSET Minutes January 13, 2017

Fabulous turnout. Thirty-six present, including 10 visitors and two new members. Several of the visitors were there because of the outreach we did at the recent Children’s Museum event. There is a star party at Dishman Elementary March 6. The star party at Hodges Gardens will be March 22-26. Martin Dies star party April 22. Check newsletter for details of these events. News about the solar eclipse August 21 was presented by Will. Not too early to be thinking about this event, especially if you think you might want to see it. Check out NASA Heliophysics to learn about the sun. FEBRUARY MEETING WILL BE AT ODOM ACADEMY. Bill is working on details for the required training to use our new solar telescope. Watch for that information to be out soon. Also in the planning stages are classes about basic astronomy for those interested.

Attendance: 36
February refreshments: Eddie and Cat
Brenda Tantzen
ASSET Secretary

WILL’S WORDS

Hello, ASSET! I hope all of you are well. We are meeting at Odom Academy for February. Bill got with the staff and secured us the room. Thanks, Bill! It’s that time of year folks. Dues are due. If you would like to continue to get the newsletter and have access to all the perks that come with the club, please see Eddie & Cat and get those dues in. We would love to have you join and support the club. Your membership means a great deal to this group. We have plenty of opportunities coming to do some much needed astronomy outreach! Sharon has us set up with King Middle School on February 1st. As of writing this the weather looks like it is a GO. We have a few of these events coming this spring so help out if you can. If you’re more interested in some deep sky observing, the Hodges Gardens Star Party is March 22nd-26th. This is a fantastic star party and it’s close to home! I’ll have more on that at the February meeting.

See you at Odom! WILL
MOVING ON INTO 2017 - Well, from Brenda’s Minutes, ASSET had a good January meeting attendance wise. Two new members and about 10 visitors. It shows that the star parties and programs at Sharon’s BISD Frank Planetarium really pay off! Now we got to keep it rolling. I still want to invite past members that have dropped out to rejoin, and encourage those who haven’t paid your 2017 dues yet, to do so. Eddie & Cat have done a good job with Treasurer. Getting the dues paid, helps to get the roster completed and sent off to the Astronomy League, and that keeps your REFLECTOR coming. Will has a star party lined up for March 6th and the Hodges Gdns. SP starts March 22nd. Hey, you all that are not familiar with Solar Scopes, you won’t want to miss Will’s training classes. Always watch for club emails, and Will and I are going to try to keep you updated on events during the month.

ASSET MEETING AT ODOM ACADEMY 2550 W. VIRGINIA : SEE LOCATION ON FRONT PAGE

MOON FEATURES AND STAR PARTIES

When we participate at our public star parties, the Moon is the most shown object. As people look through our telescopes we try to explain what they are seeing. There is data and features to tell them about. Data should be in generalities in most cases. Features are, light & dark areas and craters. That information is followed up with why & how they are there. As the teacher, in this case, you need to sound out the observer to see how much info they can understand or take in. Sometimes, all they want is just a peek, but others won’t want to leave. So you need to be able to answer questions and explain simple Moon facts, usually rather quickly. That means, too much detail is just as bad as no detail. You are on the spot, so to speak. I am saying, have a spiel ready for the individual situation, and they will appreciate the short time they spend with you. My comment, is after a couple hours or more of that, you start wondering how long this is going to last? But as we finish up with the viewing, you do have a good feeling of accomplishment and the fun of being with your fellow members. Another great evening!

STAR PARTY AHEAD FOR THE ASSET CLUB

HODGES GARDENS STAR PARTY

is a star party in March that is a must for an astronomy hobbyist. With it being so close to Beaumont (a couple of hours) and being in a beautiful Louisiana state park like Hodges Gardens, and very inexpensive ($15), paid when you get there, and this 4 day event can be attended by individual days, like just Friday & Saturday night. How can you beat that? The Star Party is a camp out event, with tenting & travel trailers (no hook ups). If you are a camper, it is perfect. The Baton Rouge Astronomy Society sponsor the star party. If you register by Mar.1st it is $10 plus $2 a day park fee. Will and others that are going and can answer any questions you have. Please check with them at the Feb. ASSET meeting.
GEMINI'S 3 GREAT SITES

As Gemini is getting high in the sky, it is now time to check these 3 objects. You can see them easily with small telescopes and medium power eyepieces. M 35 is a wonderful open cluster which you have seen before, but did you notice NGC 2158, another open cl. that you may think is a globular cluster. You just need to move your scope over a tad, and this fainter object is there. 2158 is resolvable with tiny pin pricks of light. These 2 clusters together are well worth while to check after. Now there is a planetary neblua, NGC 2392, that ranks with the best, also. The Eskimo Neb, or Clownface Neb. A planetary nebula is a glowing shell of ionized gas ejected from old red giant stars late in their lives. This planetary takes medium power, but you can use more if you want. You can see the central star and ghostly glow around it, and maybe some detail in the glow. You will enjoy them!

Curiosity, the Mars Rover Discovers Mud Cracks?

Did you see on EarthSky the story of the mud cracks? NASA has been using its Curiosity rover, now on lower Mount Sharp, Mars, to examine slabs of rock cross-hatched with shallow ridges. They look for all the world like cracks in drying mud. I cropped the image so I could enlarge it so you could see the possible cracks. Curiosity science team member Nathan Stein – the Caltech grad student who led this most recent investigation – described a particular site, known as Old Soaker among Mars scientists. He said: “Mud cracks are the most likely scenario here.” If this interpretation holds up, NASA said, these would be Curiosity’s first confirmed mud cracks, technically called desiccation cracks by scientists. Stein remarked: “Even from a distance, we could see a pattern of four- and five-sided polygons that don’t look like fractures we’ve seen previously with Curiosity. It looks like what you’d see beside the road where muddy ground has dried and cracked.” Stein and his fellow scientists believe that this cracked layer formed more than 3 billion years ago and was subsequently buried by other layers of sediment, all becoming stratified rock. (Look up the EarthSky article, and read more.)

GET READY FOR SATURN TO BE FANTASTIC

Currently, Saturn is located in the constellation of Ophiuchus, not too far to the west of Sagittarius and that point in the sky where the position of the sun marks the winter solstice. The northern half of the rings are now tilted all most 27 degrees toward Earth, which is as “open” as they can get. This certainly makes Saturn a “must-see” object for those with telescopes. And for prospective observers use low, medium or higher powers for great views. If your scope has the quality to use over 250X, splitting the rings and seeing the faint moons will be inspirational. Saturn has 52 known natural satellites, or moons, and there are probably many more waiting to be discovered. Saturn’s largest satellite, Titan, is a bit bigger than the planet Mercury. (Titan is the second-largest moon in the solar system; only Jupiter’s moon Ganymede is bigger.) Of course now Saturn is an early morning object, which may be hard to view at that time, but the early morning is when the night sky is going to yield the best and sharpest views of the rings & planet.
Comet Campaign: Amateurs Wanted
By Marcus Woo

In a cosmic coincidence, three comets will soon be approaching Earth—and astronomers want you to help study them. This global campaign, which will begin at the end of January when the first comet is bright enough, will enlist amateur astronomers to help researchers continuously monitor how the comets change over time and, ultimately, learn what these ancient ice chunks reveal about the origins of the solar system.

Over the last few years, spacecraft like NASA’s Deep Impact/EPOXI or ESA’s Rosetta (of which NASA played a part) discovered that comets are more dynamic than anyone realized. The missions found that dust and gas burst from a comet’s nucleus every few days or weeks—fleeting phenomena that would have gone unnoticed if it weren’t for the constant and nearby observations. But space missions are expensive, so for three upcoming cometary visits, researchers are instead recruiting the combined efforts of telescopes from around the world.

"This is a way that we hope can get the same sorts of observations: by harnessing the power of the masses from various amateurs," says Matthew Knight, an astronomer at the University of Maryland.

By observing the gas and dust in the coma (the comet’s atmosphere of gas and dust), and tracking outbursts, amateurs will help professional researchers measure the properties of the comet’s nucleus, such as its composition, rotation speed, and how well it holds together.

The observations may also help NASA scout out future destinations. The three targets are so-called Jupiter family comets, with relatively short periods just over five years—and orbits that are accessible to spacecraft. "The better understood a comet is," Knight says, "the better NASA can plan for a mission and figure out what the environment is going to be like, and what specifications the spacecraft will need to ensure that it will be successful."

The first comet to arrive is 41P/Tuttle-Giacobini-Kresak, whose prime window runs from the end of January to the end of July. Comet 45P/Honda-Mrkos-Pajdusakova will be most visible between mid-February and mid-March. The third target, comet 46P/Wirtanen won’t arrive until 2018.

Still, the opportunity to observe three relatively bright comets within roughly 18 months is rare. "We’re talking 20 or more years since we’ve had anything remotely resembling this," Knight says. "Telescope technology and our knowledge of comets are just totally different now than the last time any of these were good for observing."

For more information about how to participate in the campaign, visit http://www.psi.edu/41P45P46P.

Want to teach kids about the anatomy of a comet? Go to the NASA Space Place and use Comet on a Stick activity! http://spaceplace.nasa.gov/comet-stick/
WILD WORDS OF THE NIGHT SKY!

There are some constellations in the night sky that are next to impossible to pronounce. I have a lot of problems myself, so here are the ones difficult for me and maybe you. Actually the Astronomy Magazine web site, (astronomy.com/observing/get-to-know-the-night-sky/2010/11/constellation-pronunciation-guide,) is an audio voice pronunciation guide. So you can hear all 88 constellations, exactly as the name is pronounced. These are constellations we can see, so try these and see how you do first:

- Camelopardalis (The Giraffe) ca-MEL-oh-PAR-dal-is
- Coma Berenices (Berenice’s Hair) CO-ma bare-uh-NYE-sees
- Canes Venatici (The Hunting Dogs) KAN-es veh-NAT-ih-see
- Eridanus (The Celestial River) eh-RID-uh-nuss
- Equuleus (The Little Horse) eh-KWOD-lee-us
- Ophiuchus (The Serpent Bearer) Oaf-ih-YOU-kus

HOW EARTH & MOON LOOK FROM MARS
FROM ASTRONOMY MAG. WEB SITE:
Mars was 127 million miles away from Earth when the picture was taken on November 20 from the NASA’s Mars Reconnaissance Orbiter using the High Resolution Imaging Science Experiment (HiRISE).

NASA/JPL-Caltech/Univ. of Arizona Photo

HAVE YOU BEEN TO THE SPACE CENTER RECENTLY! The Manned Space Flight Education Foundation Inc. is a 501(c)(3) nonprofit educational foundation offering extensive science education programs and a space museum. The top Houston attraction over the last few years has made significant upgrades to the exhibits. The experience is designed to engage adults and children alike. See NASA Mission Control, the world’s largest collection of moon rocks and lunar samples and has more than 400 things to see and do. Everything you need for a day is there and the prices are not bad for all to get to interact with the exhibits. The prices are approximately $30, a few dollars cheaper for seniors and $25 for kids. I know a lot of you have been there, but maybe not lately. Go to spacecenter.org to get all the info. Jane and I went last summer. GREAT!

BepiColombo: ESA’s mission to Mercury

European Space Agency space probes have visited many worlds in our Solar System, but so far none have been to the planet Mercury. That will change soon thanks to the BepiColombo mission! Here is why the mission has an unusual name. BepiColombo is named after Giuseppe (Bepi for short) Colombo, a scientist who studied Mercury’s orbit, and helped lay the groundwork for interplanetary travel. Set for launch in 2018, BepiColombo will travel through space for over seven years before reaching the elusive planet Mercury! After it arrives, BepiColombo will separate into two craft. The first of these is called the Mercury Planetary Orbiter. This ESA probe will study the surface of Mercury, and use high-tech instruments to investigate the inside of the planet. The second craft is called the Mercury Magnetospheric Orbiter. Run by the Japan Aerospace Exploration Agency, it will study the magnetic field around Mercury. Cool fact: Mercury is the least-explored planet in the inner Solar System. When BepiColombo arrives in late 2025, it will be only the second spacecraft to orbit Mercury in the entire history of planetary exploration! (Article taken from the European Space Agency web site, so you can read much more there on the project.)

VOLCANOES ON THE MOON?
The question has been, how long ago? It had been felt the volcanism and volcanos were billions of years ago, but recently evidence is now pointing to only millions of years, only a blip in time. If dinosaurs had telescopes, they might have seen lava occasionally oozing from the surface of the moon. Now new data from NASA’s Lunar Reconnaissance Orbiter, or LRO, hints that lunar lava flowed much more recently. This kind of finding is the kind of science that is literally going to make geologists change thinking about the moon. A lot more information on the web site of space.com.
WHAT’S HAPPENING IN THE SOLAR SYSTEM
WHERE ARE THE PLANETS?

VENUS - On Feb. 3rd Venus attains its brightest while in the western sky. Can you believe it, almost −5 mag., actually −4.8. I don’t remember it ever being that bright. It can cast shadows on Earth, and you should go out and see it if you are in a dark area. MARS - It is chasing Venus to the horizon after dark, so be aware it is about 5° above Venus. Mars is not good through the telescope any more till it gets high in the morning sky. Mars on Feb. 26th ends up passing Uranus at only .6 of a degree away, so that will be an interesting situation in the western sky. UrANUS - is low in the west, so not good in the scope except for the passing of Mars and Uranus, on the 26th, and it is smaller in diameter. Then NEPTUNE is approaching the Sun, so we can say good-by to it for several months, until it rises in the morning sky. Well now for you early risers, and those who stayed up all night, an (“all-nighter”), the morning sky has JUPITER & SATURN, shining nicely for favorable viewing. Now Jupiter is coming up around midnight and Saturn is up a couple of hours before the Sun. Saturn will be better in the telescope toward the end of February. Jupiter will get to be 42” in diameter and that is its maximum size. Jupiter has a close approach to Earth in a 12-year cycle, but this year is its farthest closest approach. Of course, it will look great in the telescope and you should attempt to use your higher powers (250X and up) if possible. The planet is in Virgo and close to the alpha star, Spica. The really big thing about Saturn is the ring system this year, has opened up to the maximum of 27° so some fantastic views of the ring system are wonderful. MERCURY - will not be good till after the 20th of the month, visible at dawn in the morning sky. PLUTO is next to the Sun, so not viewable. The SUN AND MOON flirt with the Earth’s shadow on Feb. 10th. It will be a Penumbral Lunar Eclipse across all of North America. You will be hard pressed to see anything.