

STARSCAN

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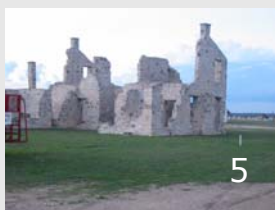
April 2004

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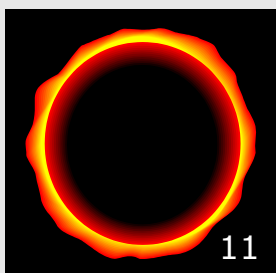
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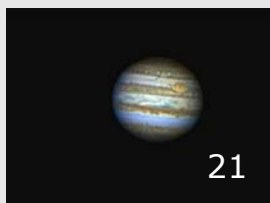
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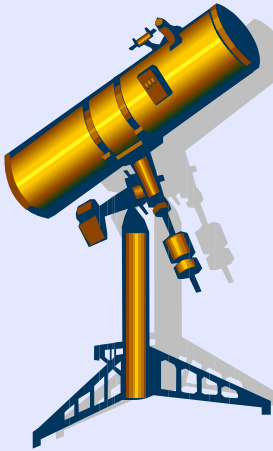
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Saturday Evening Star Party at the George Observatory

Randy Brewer



It has been a while since I took a scope to the deck of the George Observatory for a Saturday evening star party. So last Saturday (2/21/04) Keith Rivich and I made arrangements to meet at late arrival, since the park was full, with our campers. Keith just got a new 30+ foot monster "Pull Toy" for Michael and Kim. Dolly and I got there about 10:30 in the morning and set up on the back corner of the lot. We left room for the Rivich camper to pull in close to us since there was no power and we would be sharing generators.

Dolly and I enjoyed the morning just hanging around the camper. Paul Downing arrived a little later and joined us under the awning for a nice visit. He was going to spend the night with the Rivichs in their camper. About 12:30 the Rivich toy pulled in. We got them set up and immediately proceeded to cook lunch. Burgers grilled outside were on the menu today. After consuming numerous great hamburgers and the appropriate liquids, we decided to go for a bike ride through the park.

Preparations included hooking up young Michael's new bike trailer to Kim's bike. Naturally, once the ride began, Michael promptly went to sleep. We rode from Late Arrival to the observatory where Kim and Michael rested while Dolly and I went on to the trails around Horseshoe Lake. On the back side of the lake, we stopped to admire a 12' long alligator sunning on the bank. He was drawing quite a crowd of observers by the time we went on.

Upon returning to the camper, it was time to stow the bikes and break out the scope for the trip to the deck to get set up for an evening of viewing. After getting set up, I began to scan where I thought that the very new slice of the Moon would be above the setting sun. I didn't get it until the sun actually set. It was a very thin slice indeed at less than one day old and only 3.3% phase.

Next was Venus, which looked like a perfect little half moon at 68% phase. Seeing was holding very nicely on the 6" refractor. Finally, my VIP of the evening, Saturn, was the next target. I planned to stay on it for most of the evening. It was simply stunning. The crowds made the obligatory Uhhhs and Ahhhs with the occasional WOW!!!! Since I stayed on Saturn most of the evening, I had multiple opportunities to point out features to look for to the excited observers. I had them look at the Cassinni division, the Crepe Ring, the shadow of the planet on the rings, the varying colors on the surface of the planet, and of course its many surrounding moons.

Later I did swing over to Jupiter once it rose to about 35 degrees above the horizon. But by now the high - thin clouds that we had been dealing with throughout the evening were getting much thicker. Jupiter still looked great through the haze.

Through the evening, many people asked if they could try to take pictures of Saturn through my eyepiece with their digital camera. I obliged their request if there wasn't too much of a line and watched them try to get the "perfect shot". This seems to be requested more and more as people get their new digital cameras out. I must thank the people who came to watch the scope for me so I could take the necessary pit stops as night went by.

I broke the scope down just after 10:30 PM since the crowd was waning and the weather was worsening.

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Dolly and I retreated to the camper and broke out the wine to celebrate the successful evening. Shortly, Paul, Keith, and Kim showed up with Michael in tow. By the time we got the popcorn going, Dennis, Tracy, David Jenkins, Jack and Judy showed up to round out the party list. We shared lots of stories (and drinks) well into morning. It was a great evening to top off a super day.

Overall, we had a wonderful weekend at the park. We intend to get out to late arrival more often this year for club observing also.

Hope to see you at the George the next time we are there...

Fort Bend County Light Ordinance Passes

To all NHAC, HAS, and JSCAS members,

Please give a great round of applause to Dr. Philip Inderwiesen (and to his wife Pat) for their unflappable efforts, hundreds of hours of time in crafting an ordinance that became acceptable to the Ft Bend County Commissioners. Phil has been such a leader, carrying the ball, handling objections, working with everyone to make sure that we ended up with an ordinance to be proud of, and that the commissioners can enforce. I can't say enough about his polish, his congenial personality (especially when we were attacked with words that were unspeakable from the people who just did not understand) and he stood his ground with such calm, remaining cool-headed and working to make this a reality. The George Observatory, its staff, its volunteers, the young people of this area will be in his debt in what he has accomplished.

Thanks to all who have supported us in this endeavor that took the time off work for court hearings, meetings, phone calls, passing out fliers, e-mailing friends, and writing letters to newspapers. The George Observatory is in your debt.

Thank you,
Barbara Wilson

Help turn off the lights...

Join the
International Dark-Sky Association (IDA)

<http://www.darksky.org>

"To preserve and protect the nighttime environment and
our heritage of dark skies through quality outdoor lighting."

Ft. McKavett Star Party March 2004



To me, the Fort McKavett Star Parties are more than star parties; they are my astronomy vacations. They are a chance to get away from the stress of city life; to unwind for a few days. While TSP can offer some of the same benefits, the fort provides a far better environment. The staff is friendly and very eager to be of service. The dust problems you have to endure at TSP don't exist at the fort. Unlike most vacations that end with "I'm glad to be home", I really hate to leave the tranquility of the fort. This spring's March star party was no different.

With advance permission from Buddy Garza, supervisor at Fort McKavett, president Bob Taylor, Triple Nickel and his sons Travis and Todd, Carl Reynolds and I began our trek west from Houston at 9:00 Sunday morning. Now I won't mention names, but Triple made the comment about hoping the forecast rain would be hard enough to wash off his camper. The old adage still applies: *be careful what you wish for*. It wasn't long before we were in torrential rains. Our RV train passed by a long line of cars that had pulled onto the shoulder following one massive bumper bender. The good news is that it did not appear that anyone was hurt, except maybe their insurance company's pocket book.

Just east of San Antonio, the rain finally stopped and the rest of the trip was fairly uneventful. After we arrived at the fort, we circled our RVs and began setting up camp. The sky was completely overcast and very liquid. I didn't even mind setting up my popup in the light rain. We were away from Houston and all the stress, rush, smells, and foul people that go with it. Ah, life in the country, so great!

The light rain didn't last forever, but the clouds prevented observing Sunday night. Hey, if you don't have stars, you can still party. We made a communal dinner of boiled shrimp and sat around talking and having fun.

Sunday night's feast was just the start of the great food. After careful planning and shopping prior to the start of the trip, and coordinating between ourselves on communal and individual meals, we ate really well. The key is to coordinate your eats and drinks. It's so easy to make the Fort McKavett trip really something special by planning, in advance, group meals with others who are attending. Out of the three day event, only Friday night's "bring your own" cook out and the Saturday's noon BBQ are organized by the club. All other meals and side trips are left to the attendees.

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Monday's forecast wasn't much better than Sunday's. However, on Tuesday, we were finally able to do some observing. The transparency was fairly good, but we had a pretty stiff wind. I was able to track down a couple of items from Chris Randall's observing list. It was really great to be back under dark skies. My observing plan took high winds in account. When the wind started blowing the scope off the targets with the scope pointed into the wind, I just turned the scope downwind and looked in another part of the sky.

For the rest of the trip, our days would start out cloudy but gradually improve as the day progressed. By night fall, the skies would clear and we could observe until the clouds returned somewhere around midnight. Most nights were a little soft, with some patches of steady sky. Saturday had the worst cloud cover during the day. However, just at dark, the clouds blew out and the wind died down. Late Saturday night however, a fierce storm blew in accompanied by heavy rains and strong wind gusts. John and Vera, who were tent camping, weathered the storm better than I expected. They reported minimal wetness in the tent.

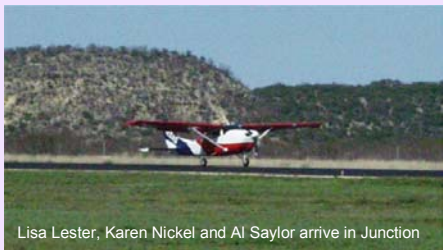
Setting the weather issue aside, there was an influx of members on Wednesday. By dark, Randy Brewer, Ron Rosenwald, Chris Randall, Brian Zemba, Vera and Dr. John te Velde had all arrived. The remaining astronomers arrived Thursday and Friday.



Vera and John te Velde

The award for the person traveling the farthest went to Vera te Velde. Vera traveled 29.5 hours by bus, from Pasadena California to Abilene where she caught a ride with her father, who came from Stillwater, Oklahoma. For those who may have forgotten Vera, her first star party was at our March 2001 Fort McKavett event. Having finished high school a year early and acing her SAT, she is now a Freshman at CalTech.

Becky and Shane Ramotowski drove 10 hours from Albuquerque. Andy Saulietis, one of our club elders, stopped by for a fast visit Friday night on his way to San Antonio from New Mexico. Kelley Knight came from Austin and Eric Juhre brought some friends from San Antonio. Barry Deans, a local Rancher from Voca Texas, once again came out to discuss astronomy.



Lisa Lester, Karen Nickel and Al Saylor arrive in Junction

Karen Nickel and Lisa Lester, along with Lisa's 16" truss tube Dobsonian, were flown to Junction on Thursday by Al Saylor, a good friend of Dave Brown and Triple. This was Al's first star party. Before he left the next day, he had already started logging his observations and even did a simple sketch.

Before the star party, Lisa received an e-mail from Kaycie Sullivan, Texas Tech at Junction, requesting help with two new telescopes purchased for their 5th grade outreach astronomy program. Bob Taylor, Triple Nickel and sons and I visited Kaycie on Thursday. She explained the problems she was having with her new telescopes. These are Konus 200 Newtonian reflectors on German Equatorial mounts. The telescopes were of Chinese manufacture, need I say more? The instruction manuals were so poorly translated that they were useless. But that was just the start of their problems.

The secondary mirror on one of the telescopes had come unglued and fallen onto the primary. Bob fixed that problem, while Triple helped Kaycie research pointing devices and other brands of tele-

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scopes. We invited Kaycie and her staff to bring the scopes to the fort so we could help with their collimation and to give some quick lessons in their use. Kaycie and her assistants came out that night. The scopes were collimated without problem, but we found that the equatorial mounts were nearly impossible to use. The axis clutches would not hold and the fine tracking mechanisms were so poorly manufactured that they actually cause the scopes to jump and bump when being used. It was usually Triple's eye that got the bump. Aesthetically speaking, the scopes look very nice. Unfortunately the two scopes we examined and attempted to use were of inferior quality.



The Friday night "bring your own" cook out was once again a great success. Bob Taylor fired up the big grills about 5:30 in the evening. Cooking began about 6:00. A wide variety of main dishes were grilled. There were also plenty of side dishes to be shared and enjoyed.

The Saturday BBQ consisted of sausage, brisket, chicken, beans, salads, tea, and cake. Buddy Garza and family, along with Evelena Contreras, served the food. As usual, the food was great and no one left hungry.



The dinner was dedicated to J.C. Meador, JSCAS member and frequent attendee to the fort star parties. Buddy's mother made a special cake to honor J.C. Triple Nickel brought a slide show of pictures of J.C.'s life. Lisa Lester made a display of pictures of J.C. taken at the fort as well as some memorabilia.

The group picture was taken after the BBQ. Several members then went on a geo-cache quest down near the quarry and springs. That was followed by Kelley Knight teaching some of the children how to make Alka-Seltzer rockets. I understand that was a great success.



Saturday night, the Friends of Fort McKavett served nachos, chopped beef sandwiches, hot dogs and drinks at the post hospital (park headquarters).

The public star party on Saturday night was poorly attended. Those visitors who did attend really appreciated looking through our scopes. The wind had died down, the temperatures were fairly mild, and the sky was clear though a little soft. Some of the objects that I showed were the Ghost of Jupiter, the Tau Canis Major cluster, M42, M51, the Antennae, Venus, E.T., M46, and a spectacular transit on Jupiter.



The Jupiter transit was really exciting. At 8:25, Ganymede started across the face of Jupiter. Initially, the moon appeared as a bright disk. Later the disk darkened, which some mistook for a shadow. Ganymede's shadow began crossing Jupiter at about 10 o'clock. Io began its transit at 11:14. By the time Io's shadow appeared on Jupiter, Io had blended into the background and I lost sight of it. Ganymede had started to blend into the background as well. By the time Io's shadow ap-

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peared, I could barely make out Ganymede. This transit, with two shadows and Ganymede showing will be one of those special moments to be remembered.

Overall, my March astronomy vacation was very successful. I hiked when I wanted, I visited when I wanted, I rested when I wanted and I ate when I wanted. I was able to de-stress completely. The air out there is so fresh and clean; free of the hydrocarbons that float around Deer Park, where I live. It was great to visit with friends that I haven't seen in a while. I was even able to observe five nights.

We owe Buddy Garza, Gabe Schooley, Robin Street, Johnny Johnson, Alfredo Munoz and the Friends of Fort McKavett a great debt of gratitude for hosting the event.

SUNSPOTTING

Ken Steele



"It's not going to blind me, is it?"

"Wow!"

This was the typical sequence of comments that were heard on Saturday, March 20, 2004, at the Museum of Natural Science. The museum was hosting a day of Solar-related activities and had invited members of various area astronomy clubs to bring their telescopes and solar filters so the public could see the Sun with their own eyes.

JSCAS brought two out of the three telescopes, with FBAC bringing the third. In addition there were some museum volunteers who manned booths and even demonstrated a solar projector that allowed anyone to see the sun with their naked eye, without the use of a telescope.

Ed and Eleta Malewitz brought their small Takahashi refractor and Ken Steele brought his 8" Dob (Ken thanks the Lesters for lending him their solar filter). Morning viewing was affected by partly cloudy skies, but there was still plenty of viewing time for anyone who wanted to look.

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Sun-Earth Day

Eleta Malewitz

To console ourselves since we couldn't make it to the Fort, Ed and I spent Saturday afternoon at the Houston Museum of Natural Science, supporting their Sun-Earth Day. Ken Steele was the first one there, and valiantly held down the fort all by himself for the first two hours.

Just before noon, a gentleman named Terry (whose last name I can't recall) from the Fort Bend Astronomy Club had arrived. He had just finished setting up when we got here.

We had a steady stream of people until 3:00. Thereafter, the crowds came in spurts. There were a total of three scopes: Ken's 8" Dob, Terry's 8" Meade LX200 and our Takahashi refractor, all sporting Thousand Oaks filters.

There were a surprising number of sunspots, considering we're approaching the solar cycle minimum. The museum had displays set up outside to demonstrate things like making a sundial, observing sunspots by projecting the image on paper, etc. We got a free lunch, and free parking out of it (nice, since Ed and I had to park on the 5th floor of the garage -- everything else was FULL.)

There were even some folks who videotaped interviews with Ed and Terry about their scopes and the sun, for a Webcast on a local Website. Terry had tried to borrow the FBAC solar scope to bring, but someone beat him to it and took it to the fort, so he was disappointed.

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All three telescopes had plenty of viewers throughout a sunny afternoon. There was so much sun, in fact, that Ken, who came prepared to look at the sun, forgot the sun could also see him, and is now nicely red all over from no hat or sunblock. Way to go, Ken!

Most comments we heard reflected the two remarks at the top of this article, but all the comments showed how amazed the public was at facts they didn't know about the sun. Kids and adults both got a kick out of seeing multiple sunspots, and JSCASer's also enjoyed it. This was a great way to have a daylight star party using the only star that really counts – Sol! Maybe we should factor in a couple of daylight star parties throughout the year. In any case, we can do this next year, but we hope it doesn't interfere with the Ft McKavett trip!

Happy Sunspotting.



Photo by Eleta Malewitz

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(L to R) Carolyn Sumners, Eleta Maelwitz and James Wooten
Photo by Ed Malewitz

I was surprised to hear that this is the third year the museum has done Sun-Earth Day, though it's the first time they've solicited involvement from the local clubs. I think this was the first year they've held it in conjunction with the Vernal Equinox, so they could get a double event. We urged the museum's director, Carolyn Sumners, to contact us next year. With luck their event and our Ft. McKavett trip won't conflict again!

We had plenty of sun to show the folks, so, needless to say, it was HOT out there. But we were able to slip away inside the museum to refill our water bottles and cool down in the AC for a few minutes at a time, plus they fed us pizza, so we even got to sit down for a short lunch break.

So while you folks at the fort were enjoying sublime BBQ and showing the sun to the public there, we had pizza and showed the sun to the public here. Although not as much fun, it was a consolation, at least. And our efforts were most appreciated by James and Carolyn.

Member Recognition

Roger Sinnott, in his April 2004 Sky & Telescope article on the Outer Planets in 2004 (page 106), quotes JSCAS member Scott Ewart several times. Scott lives in Philadelphia but regularly attends TSP, staying in the JSCAS bunkhouse.

Randy Brewer had his image of Jupiter with Europa transit and IO on <http://www.spaceweather.com/> on March 3rd. Randy also had a wonderful image of NGC 7331 in Pegasus in the May 2004 issue of Sky & Telescope (Page 145).

[SpaceWeather.com](http://www.SpaceWeather.com) featured images of Venus in the daytime by Becky Ramotowski on March 24th and Randy Brewer on March 25th.

Portrait of a Space Artist

Ken Lester



The JSCAS membership is composed of people from almost every walk of life. There are chemists, physicists, financial advisors, human resource specialists, computer programmers, writers, teachers, electricians, carpenters, and medical personnel just to name a few. We come in all ages, from teenagers to the retired. Our astronomical specialties also vary. We love to build telescopes, grind mirrors, observe visually, or capture images using film or CCD cameras. We specialize in planets, comets, eclipses, satellites, meteor showers, variable stars, double stars, nebulae, galaxies, or clusters. Such diversity makes for a well rounded club membership.

Our club is very fortunate to have, as a member, a very talented artist. Bobbie Kelley has been a member of JSCAS for a number of years. She was born in Texarkana and grew up in Lake Charles, but in Bobbie's words, she moved to Texas "as quick as I could" (in 1969).

Bobbie began painting eleven years ago, not because of an interest in art; rather it was her love of space. "I can remember as a very young child, looking up at the stars and wishing that I could just jump off the ground and keep on going straight up forever."



According to Bobbie, "... I was, like most of the space loving people that I know, interested in *Star Trek*. It just so happened that it was my son who was the artist in the family. He was very good at drawing and had other artistic skills early on. Not surprisingly, it became his major in high school. About a year before he was to graduate, I asked him if he would paint me a picture of the crew on the bridge of the Enterprise (The Next Generation). Well, he considered that to be in his words, 'so silly Mom!' I told him 'never mind, I'll do it myself'. So six months after he left home, I gathered what supplies he had left behind and began painting a portrait of Jean Luc Picard. That was followed by portraits of all the senior officers of the Enterprise. Needless to say, the results were quite surprising as well as amazing — I couldn't believe it (neither could my son). I just had to ask, 'Did I do that?'."



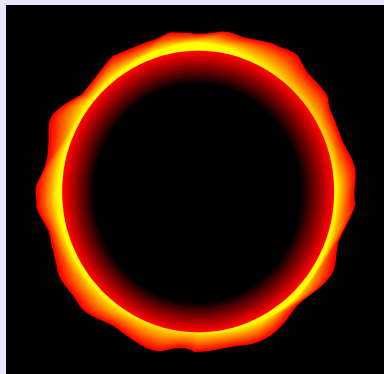
After several other portraits of a slightly different genre, Bobbie began to paint space scenes. She is currently accepting commissions to paint portraits. According to Bobbie, "I'm certainly willing to compose just about anything with a space theme."

Bobbie's sense of humor shows through in her "off-road" painting (left) that she has made available on T-shirts.

Bobbie can be reached by phone at 281-990-8469 or by e-mail at bobbieakelley@yahoo.com.

JSCAS PANAMA SOLAR ECLIPSE TRIP NEWS

Paul Maley



I recently completed a detailed site inspection trip in preparation for the 30th JSCAS solar eclipse expedition in April 2005. The only real opportunity to see this nearly total eclipse from land is to fly to Panama where the end of the eclipse is visible just before sunset. The trip represents the least costly trip to a solar eclipse for the next 13 years. At mid eclipse it "may" be possible, if you have the right filter combination, to image prominences and corona since the percent of the sun covered is more than 99%. The remarkable Bailey's Beads are expected to be visible completely around the sun's disc for about 16 seconds.

This expedition is a huge milestone in the history of the club since it represents more than 1,000 tour participants for *Ring of Fire Expeditions* since we began this activity in March 1970. It is important to note that as of now the Panama trip is 50% sold out. We have reserved slots for a maximum of 42 persons. Presently 7 JSCAS members have signed up with folks from other states and Australia (and soon, South Africa) as the remainder of the contingent. Astronaut Claude Nicollier is also planning to join the group for his 4th JSCAS trip.

The results of my trip including photos can be found at <http://www.eclipsetours.com/panama>. Simply click on this link and you can read about the details of the trip and then click on the link which is titled SITE INSPECTION REPORT.

IMPORTANT NOTE TO ALL: We are hearing now that fares will be increased between the US and Panama for 2005, perhaps as much as \$150. This means that the \$999 current price will unfortunately have to be increased according to Carlson Wagonlit Future Travel, assuming Continental Airlines announces this around the middle of May. However, there are few ways to get to Panama. Continental has the only nonstop flight (3.5 hours) – just one per day. All other ways are indirect and take a lot more time. Our hotel is an all inclusive property (all meals and drinks included) located a mere 20 miles from the centerline and about a two hour drive from the Panama City airport. Having spent three days at the Royal Decameron Hotel the week of March 6, I can attest that it is a nice hotel with good food and relaxing atmosphere. Even if you did nothing else but eat, sleep and sit on the beach for the duration of our trip (April 6-10), it would be a very nice vacation. A tour to see the Miraflores locks of the Panama canal is included.

We could easily spot the Southern Cross and the rest of the southern Milky Way from there since the hotel is located just 8 degrees north of the equator. During a solar eclipse there is never a moon to contend with and this time will not be any different. A good dark place from which to watch/photograph the sky is located about ½ mile north by foot from the hotel. It is an abandoned airfield. We and members of the Panama Astronomical Society watched an asteroid occultation from that same runway on March 8 and I could spot 8th magnitude stars in my 7x35 binoculars with the full moon in the sky!!

Anyone who is interested in going with us should plan to sign up before September since we expect the trip to be filled by that point. The real problem is that this is the best hotel in that region and it is normally full with charters from Canada and Italy during that time of year. Also, there is limited access by air from Houston. If you have any eclipse related questions, please contact me during the day at 281.244.0208 and I will be happy to answer them.

Current Events

MOST DISTANT OBJECT IN SOLAR SYSTEM DISCOVERED

NASA PRESS RELEASE: 04-091: NASA-funded researchers have discovered the most distant object orbiting Earth's sun. The object is a mysterious planet-like body three times farther from Earth than Pluto.

"The sun appears so small from that distance that you could completely block it out with the head of a pin," said Dr. Mike Brown, California Institute of Technology (Caltech), Pasadena, Calif., associate professor of planetary astronomy and leader of the research team. The object, called Sedna for the Inuit goddess of the ocean, is 13 billion kilometers (8 billion miles) away, in the farthest reaches of the solar system.

This is likely the first detection of the long-hypothesized "Oort cloud," a faraway repository of small icy bodies that supplies the comets that streak by Earth. Other notable features of Sedna include its size and reddish color. After Mars, it is the second reddest object in the solar system. It is estimated Sedna is approximately three-fourths the size of Pluto. Sedna is likely the largest object found in the solar system since Pluto was discovered in 1930.

Brown, along with Drs. Chad Trujillo of the Gemini Observatory, Hawaii and David Rabinowitz of Yale University, New Haven, Conn., found the planet-like object, or planetoid, on Nov. 14, 2003. The researchers used the 48-inch Samuel Oschin Telescope at Caltech's Palomar Observatory near San Diego. Within days, telescopes in Chile, Spain, Arizona and Hawaii observed the object. NASA's new Spitzer Space Telescope also looked for it.

Sedna is extremely far from the sun, in the coldest known region of our solar system, where temperatures never rise above minus 240 degrees Celsius (minus 400 degrees Fahrenheit). The planetoid is usually even colder, because it approaches the sun only briefly during its 10,500-year solar orbit. At its most distant, Sedna is 130 billion kilometers (84 billion miles) from the sun, which is 900 times Earth's solar

distance.

Scientists used the fact that even the Spitzer telescope was unable to detect the heat of the extremely distant, cold object to determine it must be less than 1,700 kilometers (about 1,000 miles) in diameter, which is smaller than Pluto. By combining available data, Brown estimated Sedna's size at about halfway between Pluto and Quaoar, the planetoid discovered by the same team in 2002.

The elliptical orbit of Sedna is unlike anything previously seen by astronomers. However, it resembles that of objects predicted to lie in the hypothetical Oort cloud. The cloud is thought to explain the existence of certain comets. It is believed to surround the sun and extend outward halfway to the star closest to the sun. But Sedna is 10 times closer than the predicted distance of the Oort cloud. Brown said this "inner Oort cloud" may have been formed by gravity from a rogue star near the sun in the solar system's early days.

"The star would have been close enough to be brighter than the full moon, and it would have been visible in the daytime sky for 20,000 years," Brown explained. Worse, it would have dislodged comets farther out in the Oort cloud, leading to an intense comet shower that could have wiped out some or all forms of life that existed on Earth at the time.

Rabinowitz said there is indirect evidence that Sedna may have a moon. The researchers hope to check this possibility with NASA's Hubble Space Telescope. Trujillo has begun to examine the object's surface with one of the world's largest optical/infrared telescopes, the 8-meter (26-foot) Frederick C. Gillett Gemini Telescope on Mauna Kea, Hawaii. "We still don't understand what is on the surface of this body. It is nothing like what we would have predicted or what we can explain," he said.

Sedna will become closer and brighter over the next 72 years, before it begins its 10,500-year trip to the far reaches of the solar system. "The last time Sedna was this close to the sun, Earth was just coming out of the last ice age. The next time it comes back, the world might again be a completely different place," Brown said.

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CLOSE EARTH APPROACH BY ASTEROID

A small near-Earth asteroid (NEA), discovered Monday, March 15th, 2004 by the NASA-funded LINEAR asteroid survey, made the closest approach to Earth ever recorded.

The object, designated 2004 FH, is roughly 30 meters (100 feet) in diameter and passed just 43,000 km (26,500 miles, or about 3.4 Earth diameters) above the Earth's surface on March 18th.

NASA reports that, on average, objects about the size of 2004 FH pass within this distance roughly once every two years, but most of these small objects pass by undetected. This particular close approach is unusual only in the sense that scientists know about it. The fact that an object as small as asteroid 2004 FH has been

discovered now is mostly a matter of perseverance by the LINEAR team, which is funded by NASA to search for larger kilometer-sized NEAs, but also routinely detect much smaller objects.

DEIMOS TRANSIT CAPTURED BY OPPORTUNITY

The rover Opportunity captured images of the Martian moon Deimos, transiting the Sun on March 4th, 2004. Although Deimos orbits Mars every 30 hours, the 10 by 7.5 mile body only transits the Sun twice per Martian year.



Charles 'Pete' Conrad Astronomy Awards Act

108th CONGRESS

2d Session

H. R. 912

AN ACT

To authorize the Administrator of the National Aeronautics and Space Administration to establish an awards program in honor of Charles 'Pete' Conrad, astronaut and space scientist, for recognizing the discoveries made by amateur astronomers of asteroids with near-Earth orbit trajectories.

HR 912 EH

108th CONGRESS

2d Session

H. R. 912

AN ACT

To authorize the Administrator of the National Aeronautics and Space Administration to establish an awards program in honor of Charles 'Pete' Conrad, astronaut and space scientist, for recognizing the discoveries made by amateur astronomers of asteroids with near-Earth orbit trajectories.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'Charles 'Pete' Conrad Astronomy Awards Act'.

(Continued on page 14)

(Continued from page 13)

SEC. 2. DEFINITIONS.

For the purposes of this Act--

(1) the term 'Administrator' means the Administrator of the National Aeronautics and Space Administration;

(2) the term 'amateur astronomer' means an individual whose employer does not provide any funding, payment, or compensation to the individual for the observation of asteroids and other celestial bodies, and does not include any individual employed as a professional astronomer;

(3) the term 'Minor Planet Center' means the Minor Planet Center of the Smithsonian Astrophysical Observatory;

(4) the term 'near-Earth asteroid' means an asteroid with a perihelion distance of less than 1.3 Astronomical Units from the Sun; and

(5) the term 'Program' means the Charles 'Pete' Conrad Astronomy Awards Program established under section 3.

SEC. 3. PETE CONRAD ASTRONOMY AWARD PROGRAM.

(a) IN GENERAL- The Administrator shall establish the Charles 'Pete' Conrad Astronomy Awards Program.

(b) AWARDS- The Administrator shall make awards under the Program based on the recommendations of the Minor Planet Center.

(c) AWARD CATEGORIES- The Administrator shall make one annual award, unless there are no eligible discoveries or contributions, for each of the following categories:

(1) The amateur astronomer or group of amateur astronomers who in the preceding calendar year discovered the intrinsically brightest near-Earth asteroid among the near-Earth asteroids that were discovered during that year by amateur astronomers or groups of amateur astronomers.

(2) The amateur astronomer or group of amateur astronomers who made the greatest contribution to the Minor Planet Center's mission of cataloguing near-Earth asteroids during the preceding year.

(d) AWARD AMOUNT- An award under the Program shall be in the amount of \$3,000.

(e) GUIDELINES- (1) No individual who is not a citizen or permanent resident of the United States at the time of his discovery or contribution may receive an award under this Act.

(2) The decisions of the Administrator in making awards under this Act are final.

(f) AUTHORIZATION OF APPROPRIATIONS- From sums otherwise authorized to be appropriated, there are authorized to be appropriated such sums as may be necessary to carry out this Act. Passed the House of Representatives March 3, 2004.

The U.S. House of Representatives has passed a resolution that will grant cash awards to amateur astronomers for significant discoveries of near-Earth orbit asteroids. The bill now goes to the U.S. Senate for consideration.

In Memoriam — Dr. Janet A. Mattei



Dr. Janet Mattei, the Director of the American Association of Variable Star Observers (AAVSO), succumbed to Acute Myelogenous Leukemia on March 22, 2004. She had been the AAVSO director since 1973. As the Director of the AAVSO, she was responsible for the quality control of over 450,000 observations per year, submitted by observers--mostly amateur astronomers--worldwide.

She was an internationally recognized astronomer specializing in the field of variable stars, particularly eruptive (cataclysmic) and pulsating (long period) variables. She coordinated over 600 observing programs between amateur and professional astronomers using large, ground-based telescopes in well-known observatories and space satellites. She provided observations from the AAVSO International Database for over 600 projects for multi-wavelength data correlation. She was keenly interested in education and she provided guidance in setting up over 200 observing programs in schools and for student science projects.

"I never met Janet, but she has been an inspiration to me as a fellow astronomer with a passion for stars. I think what I most admired about her was no matter how many or how few variable observations you did, she was always thankful. She will be dearly missed."

Becky Ramotowski

She was the principal investigator of two NASA-funded IDEA grants for the AAVSO education program: "Partnership in Astronomy" and co-director of AAVSO's major education project: Hands-On Astrophysics: Variable Stars in Math, Science, and Computer Education, funded by the National Science Foundation. She played a key role in amateur astronomers being given observing time on NASA's Hubble Space Telescope (HST), and served in the working group to choose the amateur astronomers who would observe with HST from 1986 to

1995. Dr. Mattei published over 180 papers on variable stars and related topics, mostly in refereed journals, and abstracted in Astronomy and Astrophysics Abstracts.

— Biographical information provided by AAVSO

In his announcement to the AAVSO, Dr. Mario Motta, MD. said: *"The AAVSO has lost a strong leader who has guided our organization to greatness. The world of astronomy has lost a patron of her field. Amateur astronomers the world over have lost a mentor who bridged the world of amateurs and professionals. I, along with many others the world over who knew her well, have lost a dear friend who will be deeply missed."*

Clyde Tombaugh's 16" Telescope For Sale

Hernan Contreras found this ad on Astromart (<http://www.astromart.com/viewad.asp?cid=256963>)

The 16-inch telescope was Clyde Tombaugh's biggest effort. Although the mirror was completed around 1944, heavy work on the metal superstructure did not begin in earnest until about 1957 and the telescope finally saw first light in Las Cruces around 1960. Its primary system is a 16-inch f/10 mirror hand-ground, figured, and completed by the discoverer of Pluto himself. The mirror is outstanding; during the early 1980s, Tombaugh and David Levy used an 8mm eyepiece (which gives a magnification of 524) to observe the spokes in Saturn's rings with it. The telescope was designed to hold both a 16-inch f/10 mirror and a shorter-focus 18-inch f/6 mirror (not included?) There is also a rare and beautiful weight-driven sidereal clock. Clyde Tombaugh spent some 1500 hours on this project, 100 of which were on the mirror alone. The massive tube contains 1 ton of steel; he drilled through the equivalent of 20 feet of steel for the bolts.

This may be your chance to get a piece of history .

Directions & Parking for Haak Vineyards & Winery

Please note that parking lot B is an overflow parking lot only, and may not be accessible under wet/rainy conditions.

Haak Winery and Vineyards
6310 Avenue T
Santa Fe, Texas 77510
Phone: (409) 925-1401
or (409) 925-0976

MEETING LOCATION & DATE CHANGE

Our April meeting will be held in conjunction with the Haak Winery Star Party on April 17th. This is a change in location and date. The meeting and star party will be held the third Saturday in April.

Plan to arrive around 6:30 to set up your scope. The meeting will start at 7:00. Bring your dinner and enjoy listening to our Guest Speaker, Ann Micklos, from the Kennedy Space Center.

After the meeting enjoy the stars with the Haak Winery guests. The address is 6310 Ave. T, in Santa Fe, Texas. The winery is located 1.8 miles south of State Highway 6 between Alvin and Galveston, Texas.

Visit their website at <http://www.haakwine.com>

LOWELL OBSERVATORY ANNOUNCES 2ND ANNUAL STAR PARTY

The Lowell Observatory Star Party II unfolds from June 17-20 at the Observatory's Mars Hill campus with observing at nearby Arizona Snowbowl. Highlights include observing on the 24" Clark Telescope, tours of the U.S. Naval Observatory and Lowell Observatory's Anderson Mesa dark sky research site, special talks by astronomers, an astronomy marketplace, and Lowell's spectacular multimedia show.

Kenneth Herkenhoff from USGS will present "Mars Rovers", with the latest from Spirit and Opportunity, by a U.S. Geological Survey scientist directly involved. Talks by Lowell astronomers will include: "Recent Comets," hear about two 2004 comets by expert David Schleicher; "Killer Asteroids," by Brian Skiff, an update on the productive Lowell Observatory Near-Earth Asteroid Search; "Our Variable Sun," an introduction to the seething world behind our Sun's steady light by Jeffrey Hall; and "Big Stars in Small Galaxies," by Deidre Hunter, with current research on effects of massive stars on dwarf galaxies. Project manager Thomas Sebring will present "The Discovery Channel Telescope at Lowell Observatory," a behind-the-scenes look at building the new 4.3-meter, \$30,000,000 versatile instrument.

Detailed information is available at <http://kraken.lowell.edu>. Mark your calendar, and please consider attending the event.

Contact:
Russell Tweed
Lowell Observatory
928-774-3358
Russell.Tweed@lowell.edu

Astronomy 101

Observing Logs

Ken Lester

This month I present a brief primer on observing logs. Your observing log is a record of your experiences at the eyepiece. It allows you to record not only the once in a lifetime events you've seen but your everyday experiences as well.

There are many benefits to keeping a log book. First, it is a record of objects observed. Astronomy clubs and organizations issue certificates for successfully completing observing programs. The observing log is used to verify you have met the award criteria. Second, it provides a means for reliving your most memorable observing sessions. Third, recording your observations allow you to compare what you see with past observations to determine if any changes have occurred. Finally, by

recording your observations, you actually become a better observer. You make a point to study what you see, noting all the details. The more you write down, the more focused your observations become.

The information that you record is up to you. If you intend to earn observing awards, like the Messier Certificate, then be sure to record at least the information required by the organization issuing the award.

To illustrate the types of data that you may wish to log, I have included one of Chris Randall's log sheets. You can see that Chris records a wide variety of data. Also note that Chris draws the objects he observes.

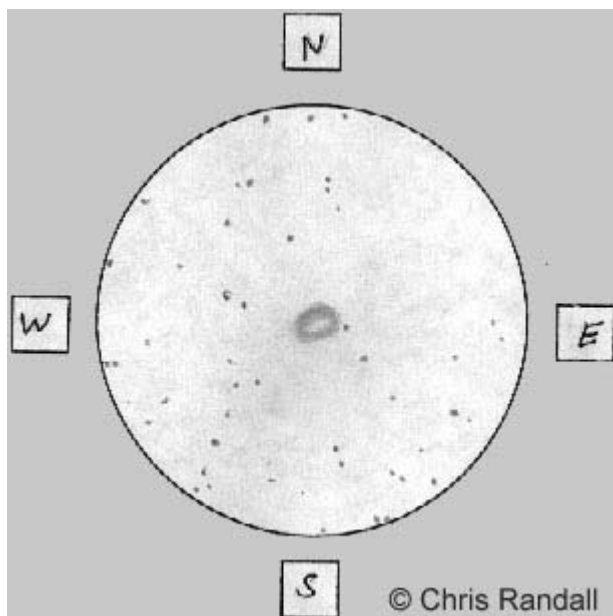
Several fields on Chris' log sheet may not be familiar to beginners.

Field of View: To determine your eyepiece field of view do the following: position a star at the very edge of the field and time how long, in seconds, it takes for the object to drift through the center of the field

(Continued on page 18)

OBSERVER LOG

Observer: Chris Randall Date: 04 Sep 94
 Location: Late Arrival - Brazos Bend State Park - Texas Time: 23:16
 Latitude: 29° 22' 14" N Longitude: 95° 37' 53" W Time Zone: CDT
 Altitude: Transparency: 5 (0-6) Seeing: 7 (0-10) Position: 2hr W
 Telescope: 10" f/6.3 SCT Eyepiece: 13 mm Nagler
 Field of View: 0.406° Magnification: 123X Filter: None
 Object: M 57 - NGC 6720 Type: Planetary Nebula Size:
 R A: 18h 53.6' Dec: +33° 02' Magnitude: 9.0 V P
 Constellation: Lyr Chart #: SA 8



Description:

Very bright planetary nebula. Toroid in shape, only slightly elongated NE/SW. Center is almost clear. The center of the toroid shape is brighter. The outer edge is well defined, sharp. The inside edge is a little diffuse. No stars noted in the nebula nor the central star. A definite disk was noted. A light green-yellow color tint was noticed.

CBR Sep '94

(Continued from page 17)

to the opposite edge. This time divided by four gives the field diameter in minutes of arc.

Seeing: Turbulence in Earth's atmosphere effects the views through a telescope, especially at high magnifications. If the stars appear to be "twinkling" it is a sign that the seeing is poor. On such nights, the image bounces around and is blurred by the unsteady air, preventing you from observing any details. The more details that can be observed at high power, the better the seeing. Absolute steady air is a rarity.

Transparency: The clarity of the air is called transparency. The clearer the sky, the dimmer the objects that can be seen with the unaided eye.

The scales used for seeing and transparency are numeric, an example would be from 1-5, where 5 is best. The scale you use is up to you. The values you put down in your log are your opinion of the conditions compared to the best and worst you've ever seen.

Your drawings should show the orientation of the field through the eyepiece. To determine your orientation, turn off your drive and watch where the object exits the field. This is west. If you are using a Newtonian reflector, north is 90° counterclockwise from west. If you are using a Schmidt-Cassegrain or a refractor with a star diagonal, north is 90° clockwise from west.

Not every observer who logs their observations chooses to log so much information. In fact, some observers prefer to keep a journal or diary of their observations. A journal is an excellent opportunity to capture the total moment. For example, you can record who you were with and interesting details of the observing session not connected with the object you are observing. Record anything that will capture the spirit of the moment. You can even record your frustrations and failures. Journals can also hold your sketches and the details of the object you are viewing.

I hope that you newcomers will choose to start recording your observing sessions. What and how you record is up to you. Its fun to read and recapture your experiences at the eyepiece.

HOUSTON AREA ASTRONOMY CLUBS

Brazosport Astronomy Club
Meets the Third Tuesday of the month, 7:45PM
At the Planetarium
400 College Drive
Clute, Texas
For more information, contact Judi James at the Planetarium
979-265-3376

Fort Bend Astronomy Club <http://www.fbac.org/>
Meets the third Friday of the month, 7:00 p.m.
First Colony Conference Center
3232 Austin Pkwy
Sugar Land, Texas

Houston Astronomical Society <http://spacsun.rice.edu/~has/>
Meets the first Friday of the month, 8:00 p.m.
University of Houston, University Park
Science and Research Building, room 117

North Houston Astronomy Club <http://www.astronomyclub.org/>
Meets the fourth Friday of the month, 7:30 p.m.
In the Teaching Theater at Kingwood College
20000 Kingwood Drive
Kingwood, Texas

Visual Observing

By Chris Randall

April 2004

★SSO: (Solar System Objects) Summary for 15 April 04

Object	Const	Mag	% Ill	Rise Time	Transient	Set Time
Sun	Psc	-26.7	100	06:54	13:20	19:46
Moon	Aqr	--	12	04:58	10:40	16:22
Mercury	Psc	5.4	0	06:53	13:24	19:59
Venus	Tau	-4.5	40	09:11	16:18	23:29
Mars	Tau	1.5	94	09:43	16:43	23:48
Jupiter	Leo	-2.3	100	16:05	22:32	04:55
Saturn	Gem	0.7	100	11:19	18:16	01:17
Uranus	Aqr	5.9	100	04:36	10:14	15:53
Neptune	Cap	7.9	100	03:31	08:54	14:18
Pluto	Ser	13.8	99	23:44	05:12	10:41
Ceres (1)	Gem	8.5	96	11:51	19:16	02:36
Iris (7)	Sex	9.8	98	16:32	22:36	04:35
Astraea (5)	Vir	9.9	99	20:33	02:21	08:09
2003 YX151	Gem	8.0	97	11:38	18:34	01:34

Highlighted times denote daylight events.

★BSO: (Bright Sky Objects)

Mel 111 – Open Cluster in Coma Berenices, Magnitude 1.8, Size 275'.

NGC 3228 – Open Cluster in Vela, Magnitude 6.0, Size 18.0', ~ 15 Stars.

NGC 3201 (C-79) – Globular Cluster in Vela, Magnitude 6.9, Size 20.0'.

NGC 3031 (M-81) – Galaxy in Ursa Major, Magnitude 7.9 (B), Size 27.1' x 14.2'.

★DSO: (Dark Sky Objects)

NGC 3132 (C-74) – Planetary Nebula in Vela, Magnitude 8.2 (P), Size 1.5' x 0.9'.

NGC 3115 (C-53) – Galaxy in Sextans, Magnitude 9.9 (B), Size 7.2' x 2.4'.

NGC 4321 (M100) – Galaxy in Coma Berenices, Magnitude 10.1 (B), Size 7.5' x 6.3'.

Trio in Leo (Three amazing Galaxies in one FOV):

NGC 3627 (M-66) – Galaxy in Leo, Magnitude 9.7 (B), Size 9.1' x 4.1'.

NGC 3623 (M-65) – Galaxy in Leo, Magnitude 10.3 (B), Size 9.8' x 2.8'.

NGC 3628 – Galaxy in Leo, Magnitude 10.3 (B), Size 14.8' x 2.9'.

★CDMP: (Chris' Don't Miss Pick)

The Antennae– Interacting Galaxies (Arp 244) in Corvus. Look for the tails!

NGC 4038– Magnitude 10.9 (P), Size 3.7' x 1.7'.

NGC 4039 – Magnitude 11.1 (P), Size 4.0' x 2.2'.

JSCAS Star Party News

Lisa Lester



Spring has arrived and with it better skies...we hope! The April showers that bring May flowers need to happen in the first half of the month as we have two star parties scheduled after Easter! Please get out your calendars and set aside Saturday, April 17th and Saturday April 24th. Yes, I know they are back to back and I try to avoid that but please just forgive me and come!

The first star party is at the Haak Winery and it is a combination meeting and star party! Come early to set up your scope but don't forget your picnic basket! Our fearless leader, Bob Taylor will host a short meeting (starting at 7:00pm) with a wonderful speaker, Ann Micklos. Spread out your picnic and eat while Ann stretches your brain! The star party begins at 8:30 and I'm sure we will have a large turnout of interested stargazers.

Our second star party will be at Moody Gardens. Hopefully all of their construction will be completed by then. We will set up at our new location in the grassy area between the hotel and the beach. Visit our star party website for a map and more information. Plan to arrive about 30 minutes before dusk so that you have plenty of time to set up and visit a little!

There will be electricity at both locations but don't forget your insect repellent!

JSCAS Library

Lisa Lester

There have been a number of recent donations to the JSCAS library. I'm not going to list them all here but I would like to thank Ken Steele, Ed & Eleta Malewitz, Bob Hammond and Ron Rosenwald for their wonderful donations! I just love it when someone brings me items for the library and I don't even make it home from the meeting with them because someone has already checked them out! This has happened to me several times with these donations! Ken and I have been working to update the library listings and by the time you read this all of the new materials should be logged in and the revised list posted on the website.



Items can be checked out for as long as you like, provided no one else is requesting them. However, please don't forget to eventually return what you checked out. Currently there are 3 items from 2000, 1 item from 2001, and 4 items from 2003 which have been checked out but not returned. Its OK if you are still using them; just return them when you are finished.

We currently have some 135 different books, articles, videos and software products available for loan. Please email me at lesteln@swbell.net or call me at 281-479-1102 if you see something on the list that you'd like me to bring to either of the upcoming star party events or to our meetings. I'm already delivering one book to someone at the Haak Winery and would be happy to bring more!

Member's Gallery



**Jupiter and Its Moons
Io and Ganymede
Ed Grafton©**

In this image, IO can be seen as the "yellowish" star to the right. Ganymede's shadow is very pronounced on the right side, on the northern edge of the North Equatorial Belt (north is down in this image). On the lower left of the image, Ganymede can be seen in transit across Jupiter. Ganymede appears somewhat oblate in this image due to its albedo features as seen against the globe of Jupiter.



**Jupiter, Europa, Ganymede and Io
Glenn Schaeffer©**

Taken at Ft. McKavett, Texas, March 20, 2004 using an 20" Obsession and ToUcam Pro II. Going from left to right, Europa peeking out just before going behind Jupiter, small dark spot is Ganymede, large dark spot is Ganymede's shadow, and to the right is Io. Seeing was poor at 3~4 out of 10.



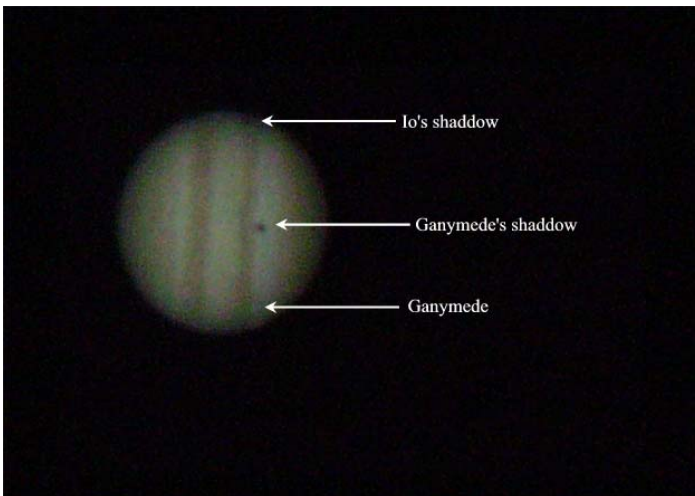
**Jupiter, Io, and Europa
Randy Brewer©**

Shot with a webcam and Mewlon 300 at F/12 on February 26, 2004. Notice Io to the left and Europa and its shadow on the right side.



Ganymede Transit Across Jupiter Lisa Lester©

Single image taken A-focally with a Canon PowerShot A40 and a 16" f5.0 Dobsonian at 145X, Ft. McKavett, Texas, March 20, 2004 11:19 CST



Ganymede and Io Transit Across Jupiter Ken Lester©

Single image taken A-focally with an Olympus C2500L and a 22" f4.54 Dobsonian at 149X, Ft. McKavett, Texas, March 20, 2004 11:43 CST



Jupiter and Io Glenn Schaeffer©

"Jupiter and Io at f/10. I finally got some clear weather to shoot in. Seeing was good (7/10) but shooting through a persistent cloud (transparency 5/10) that just seem to hang over my house was challenging. Also, the full moon was about 7.8 degrees from Jupiter. I began to see what the ToUcam Pro II and my 20" Obsession combination could really do. Cloud knots, white ovals and blue festoons galore! Just unbelievable! I used all 792 frames stacked with Registax2." Taken March 6, 2004.



Jupiter and the GRS
Glenn Schaeffer©

Taken March 19, 2004 at Fort McKavett,
 Texas. 20" Obsession, f/10 ToUcam Pro II
 webcam, seeing 5/10.



Venus
Glenn Schaeffer©

Taken March 18, 2004 at Ft. McKavett,
 Texas. 20" Obsession @ f/10 ToUcam Pro II
 webcam.



Mercury Setting
Becky Ramotowski©

Taken with digital camera at Ft. McKavett, Texas.

Johnson Space Center Astronomical Society

An association of amateur astronomers dedicated to the study and enjoyment of astronomy. Membership is open to anyone wishing to learn about astronomy.

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SIGS

Observing Awards
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Binocular Observing
Leslie Eaton
Telescope Making
Bob Taylor
Deep Sky Observing
Chris Randall

April Meeting Agenda

Our next meeting will be April 17th at the Haak Winery. The meeting will be held in conjunction with the Haak Winery Star Party. You are encouraged to bring your scopes for the public star party after the meeting.

6:30 Set up scopes for star party
7:00 Welcome!
7:05 Ann Micklos, from the Kennedy Space Center
8:05 Announcements
8:30 Star Party

Bring your dinner while we listen to our Guest Speaker, Ann Micklos, from the Kennedy Space Center.

See page 16 for a map to the Haak Winery.

Starscan Submission Procedures

Original articles of astronomical interest will be accepted up to **6 P.M. April 25th**.

The most convenient way to submit articles or a Calendar of Events is by electronic mail, however computer diskettes or CDs will also be accepted. All articles should include author's name and phone number. Also include any picture credits. The recommended format is Microsoft Word. Text files will also be accepted.

Submitter bears all responsibility for the publishing of any e-mail addresses in the article on the World Wide Web.

Editor's electronic address is: lesteke@swbell.net. Be sure to include the word Starscan in the subject line for proper routing of your message.

Starscan Staff

Editor	Assistant Editors
Ken Lester	Sheila Steele
	Ken Steele

Cover Image

By Ed Grafton©
Jupiter with its moons Io and Ganymede
Taken March 21st at 04:46 UT from Houston, Texas
with a C14 @f27 and ST5 CCD camera