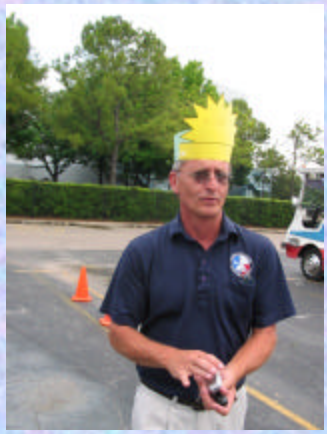
Starscan

Johnson Space Center Astronomical Society

Volume 23, Number 6 June 2007

OUR MEMBERS OUT IN THE COMMUNITY



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Message from the el Presidente

Look for the article about the solar viewing party with the children at Space Center—Houston.

Letter from the Editor

By Connie Haviland

This past month was a busy one. Between the community projects and TSP, our members even got some time to provide us with some great photography. Also, as you know, we are losing a couple of our members to the hill country, Fort McKavett, Texas. Yes, we are going to miss Ken and Lisa Lester. They have provided us with so much of their time and knowledge and friendship. Their hard work and efforts that they have contributed to this club are immeasurable. We will be able to see them each and every time we go to the fort and catch up on things, while sharing the open and (most times) clear skies.

We have a lot of things in this edition of the Starscan, so I hope you enjoy reading it as much as I enjoyed putting it together.

Star Party Dates—2007

By Lisa Lester

Summer—too hot and too many mosquitoes (nothing planned)

August 11, 2007 Moody Gardens

September 8, 2007 Haak Winery

September 15, 2007 Moody Gardens

October 11 – 14, 2007 Fort McKavett

October 19, 2007 All Clubs Meeting

October 20, 2007 Astronomy Day at the George Observatory

November 10, 2007 Haak Winery

Any additions or changes will be announced at the June meeting

Space Center Houston Solar Observing
By Bob Taylor (pictures provided by Chris Randall)

On April 30th, Hernan Contreras, Walt Gardiner, Chris Randall and I provided solar viewing and a presentation about the sun to about 250 fourth graders from Bethune Academy over at Space Center Houston. The sky was mostly cloudy but we were able to get a peek at the sun through the occasional open spot in the sky. We've presented at this venue the past two Decembers and it's become VERY popular with many schools. The students were studying the solar system that month and we were able to give them some instruction that wasn't available in their classrooms. The SCH events coordinators are always appreciative when we can break away from our jobs and come out to help them. Thanks again for those who donated their time to help educate these young folks!!

Our fearless president, relaying messages to the back of a very long line of students

Looks like everyone had a great time.

Walt! Is that you way back at the end of the line (top, right picture)?

A few words about TSP, and some snapshots.....*by Chuck Shaw*

I arrived one day late to the Ranch (on Monday afternoon) under beautiful blue skies. However, by the time I finished setting up about 3:30pm or so, the clouds had come in from the SW, and shortly afterwards, it started raining!!!! (ugh)..... Oh well, I was tired from driving anyway.....

Several of the afternoons were nice, warm, and partly sunny. Speakers were fun to listen to, and vendors were always fun to go "browse"..... The Thursday afternoon "festival of the tinned Mollusks" was Great! (as always!), and Dennis entertained us with his Uke and singing and custom TSP songs he wrote. There was lots of laughing and fun times just relaxing together.

Several evenings were spent in the bunkhouse swapping *Astro* stories. Andy showed slides of the JSC 16" scope that is now operational at his place in Cloudcroft. He went through the whole history of the scope; all the way back to the Apollo Program (would probably make a GREAT article for the Starscan!!).

Al Nagler and Jim Burnell came visiting a couple of nights, and Al gave us a presentation titled "Giant Eyepieces that Swallowed Spacecraft". It was a really entertaining presentation about his history in optics, and his participation in the building of the simulator visuals for the Apollo Lunar Module and other spacecraft. It was as an offshoot of some of this design work that the idea for the designs of some of his outstanding Nagler eyepieces took root..... Small world, eh? I never knew he played such a role in the early space biz!!

Jim Burnell (of AIP4Win CCD processing software fame) was with Al, and on another visit, Jim gave us his presentation on filters that he gave at the North East Astro Imaging Conference this year.... Also way cool! Wow, the JSCAS was getting private evening programs!!!!!

One afternoon Al and Jim and Scott Ewart and I went to see the Radio Antenna (part of the VLA) just north of the ranch. On the way back, a group of fine looking horses was grazing nearby in a very picturesque setting, and Jim stopped the car to take a picture. The horses started wandering over to check things out, and that's when we discovered "Uncle Al" had really never been around horses..... He was so funny, trying to be brave.....but he gave it all away when he started talking to them as they approached the car and he said: "Here they come!!!! Jim, here they come!!!!!! Nice.....'big thing'..... hello there nice.... 'big things'....." A little further down the road Jim stopped again to take a picture of a Bison and a large steer laying in a field. This time Al actually got out of the car and walked (behind) Jim up to take a photo!!!! He did admit he was staying closer to the car than anyone else was "just in case".... <grin> All in all, a great adventure!!!

Friday Several of us JSCAS'ers took the observatory tour and a huge afternoon t-storm pounded the mountain! Cold air and hail and then thick fog... Wow, what weather extremes from the bright sunny skies driving up there!!!! The Hobby Eberly scope was MOST impressive!! However, I must admit the 82" is still my favorite. It just LOOKS like a big scope is supposed to look I think!!!

Friday night the weather actually cleared after a day of rain, but the dew was simply unbelievable! I had a 1/4" of water pooled on my card table from the dew.

That's also where my laptop was sitting! Seemed to keep going though, but I did tilt the table to "drain" the puddle a couple of times! Charlie McCloud was smarter..... He had built a foam board enclosure, and his stuff stayed nice and dry!!! Shane and Becky were showing off amazing views of Jupiter, with a shadow transit as a special treat! (planetary viewing at TSP?????)

Don Halter was showing of how his Argo Navis worked to Dick Miller, and you could hear Dick's squeals of joy as Don's scope would put object after object in the eyepiece for Dick (the joy was coming out due to Dick having just bought himself an ArgoNavis, and Don's impressive demo of how well it works was making Dick feel fine that he too had one!!!!!

Dick felt even better after the Great Texas Star Party Giveaway however, when he won a regular door prize as well as one of the grand prizes!! (We now refer to him as "Lucky" Miller!!!!, since this was the second time at TSP he won one of the Grand Prizes!!!!! All in all, JSCAS folks did well at the door prizes, with I think 6 winners!!! Scott Ewart was honored for his absolutely beautiful 12.5" Newtonian and split ring mount as part of the ATM competition (he had also won well deserved top awards at Stellafane for mechanical and craftsmanship with this scope)..... Everyone also really liked the fact at was made out of a beer keg!!!!

I am sure I left out all sorts of other fun things, but like the times we go to the fort and the weather turns sour but we still enjoy each other's company, the TSP

PICS FROM TSP
PROVIDED BY CHUCK SHAW

Andy explains things to Bob Kirschmann

Chuck and the Robo-Scope

Scott Ewert's Beer Keg Scope

Emergency "Stop Button" for the Hobby Eberly Telescope

MORE TSP...*BY DENNIS WEBB*

My recollection of attendees from JSCAS (alphabetically - might get a couple other folks lists because somebody always gets left off):

Jim Cate
Hernan Contreras
Scott Ewart (New York affilliate)
Don Halter
Mike and Becky Little
Charlie McLeod
Dick Miller
Richard Nugent
Fred (actually Alfred) Miller (Corpus Christi affilliate)
Gordon Pegue (Albuquerque affiliates)
Jack Petersen
Shane and Becky Ramotowski (Albuquerque affiliates)
Jeff Rowe (Austin affiliate)
Andy Sauleitis - spelling? - (Cloudcroft Affiliate)
Chuck Shaw
Ann and Dennis Webb

New honorary member Robert Burns
Recognitions and door prizes (May also compare with other folks lists)

Dick Miller - Grand prize (his second in TSP history): small imaging refractor + a TSP check
Fred Miller - Bob's knobs!
Dennis Webb - hooded sweatshirt
Hernan Contreras (can't remember what his prize was)
Jack Petersen - lunar atlas
I think there was one or two more

The Millers winning minor prizes were consecutive on Saturday night!

This was a special TSP for me in three ways. First, my wife Ann came for the whole week. Second, my Arp book was finally out and we had it for sale. Third, I have become a musician again and performed several times at the TSP.

Wife Ann - This was my 14th TSP and it had always been a separate vacation. I thought she would enjoy beating the May heat in the mountains and we would spend some time sightseeing in the area (I usually stick close to the ranch). We had a great time together exploring Fort Davis, Marfa, and Alpine - we saw our first javelina ever and our first antelope in Texas. We found a comfortable cabin in town and the commute for attempted observing and successful astronomical fellowship was very workable. She enjoyed the talks and afternoon socials and we are going to do it again. We took our time getting to TSP, overnighting Sunday night in Fredricksburg. The hill country and mountain country was amazingly green and flowery. We did two circles of the Marfa-Alpine-Ft Davis loop and the scenic loop around by the McDonald Observatory. I went out to the Prude several evenings for socializing and one partial night of observing and the drive back was easy, although the first night, I got lost in the rain trying to find the front gate where I had parked my van - it was "starless and bible black" and you could not see trees or mountains silhouetted agains the sky and all the damp dirt looks the same by red flashlight. I had visions of falling into a ravine and being found mummified months later by coyotes. Calmness and dead reckoning prevailed and, dripping, I found the front gate by lightning flash and my car by remote chirper. Anyway we had a great week and had a pleasant trip back Sunday on Highway 90.

In the twilight glow, I see clouds,
Observers cryin' in the rain.
When we wrapped our scopes and parted,
I feared we'd not observe again.

Venus is like a dying ember
Only memories remain
Through the ages, I'll remember
T. S. P. 07 in the rain

(instrumental break)

When we meet again up yonder
We'll observe the sky again
In a land that knows no lightning (and hail)
Observers cryin' in the rain.
--end song---

Arp Book - This was the first TSP since release of my Willmann-Bell Arp book so I needed to do some promoting. I had made arrangements for George Kepple and Glen Sanner (the Astrocards and Night Sky Observer's Guide guys http://astronomy-mall.com/AstroCards/) to sell the book. Coauthor Jeff Kanipe and I had autographed some copies at the North East Astronomical Forum (NEAF) where we spoke last month; publisher shipped these to me and I hauled them across the state to George and Glen - complex operations. NEAF is a "buying stuff" gathering and I had bought one of those "shake-to-charge" flashlights, which was admired by all the other astronomers (http://shakelight.notanumberinc.com/flashlight/ compact size). Some may recall that Chuck Shaw spoke at last year's NEAF so we have two consecutive JSCAS speakers so we need to get another of us at NEAF 08! We sold a good number of books at TSP and I got to autograph several that people had brought with them. Several contributors got to autograph the books as well. Being skilled in self promotion, I donated two copies to the Great Texas Giveaway and they gave them away! We got to spend some time with Willmann-Bell publishing power couple Perry and Patricia Remakulas, where they pushed the idea of another book (hoo boy...).

Musical stuff - Last fall, I realized I had not regularly made music for 12 years and decided it was time to get back into it. I have figured out how to play guitar acceptably and sing with enthusiasm. So I had hauled the new guitar and ukulele to TSP, forcing musical performances on several groups of polite astronomers, culminating in a Saturday night performance during the awards ceremony of the following adaptation of Willie Nelson's "Blue Eyes Crying in the Rain". (Becky made me do it)

The Ukulele is a perfect instrument. Everyone should get one!

Observing was poor as most nights were completely clouded out. Spend part of the one night I got to observe getting my 14-year old Chuck Shaw equatorial platform (under my 17.5" dob) working again (several bolts had come loose after 14 years of hauling it around Texas - lesson: check your stuff before TSP) - thanks to Chuck and Shane for tool loans and new friend Robert Burns for helping with diagnosis and repair. Not much observing but still a great week! Can't wait for next year! (Start is a little later on June 1).

Bunkhouse - afternoon chatting at the bunkhouse - Chuck Shaw, Adele Micha, Gain Lee, Jeff Rowe

Javelina running away after munching prickly pear

Don&Dick.jpg - Don Halter explains ArgoNavis to Dick Miller

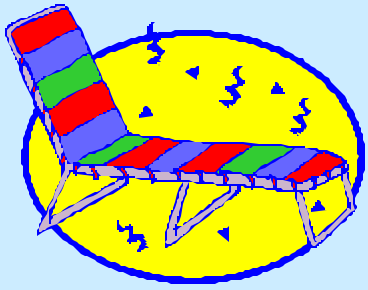
Clouds on the mountains

By Dennis Webb

KEN AND LISA LESTER'S "GOING AWAY" PARTY

As we all know our beloved Ken and Lisa have decided to depart for Darker Skies, less pollution, less stress, less congestion, less expenses, less... Hey can I go with you guys? Anyway, I asked Ken and Lisa if it would be alright with them If I throw a going away party at my place. They agreed and we have set the date for:June 16th, 2007 from 3:00 pm till ?? Please RSVP so I have an idea of how much food to prepare.

Email address is: Matt Hommel [mhommel@verizon.net]



"Brewer's Bayou Bash"

It is time again for a PARTY ! ! !

Let's gather in and around the pool for food and drinks. We will provide Hamburgers & Hot Dogs and a variety of drinks. Feel free to bring anything else that you want to throw on the grill and any drinks that you prefer. Bring your favorite lawn chairs and come have some fun...

The date is Saturday, June 9th.

The time is noon until whenever... Please RSVP to me OFFLIST so we will have enough eats. Please park in the grass to keep the driveway open…...Randy Brewer [randy@randybrewer.net]

HAS Invitation

George Stradley has sent us an invitation to join HAS on June 9, 2007, to observe with them at their "dark" site near Columbus. Activities will include a modest picnic of hamburgers and hot dogs, a laser tour of the night sky constellations and a telescopic tour of their observatory building. They are providing "light windows" for those who want to leave early if they wish. They are requesting that you bring your gear and observing list, along with a power-strip and cable and enjoy the dark skies. Or, just bring a lawn chair and enjoy the night sky. They recommend appropriate clothing and beverages (non-alcoholic, please) and they will provide the food. They need an RSVP, with the number in your party and your club affiliation, by June 5, if you plan to attend the picnic. This is so they will have enough food for everyone. They said you can come without an RSVP, but no guarantee for food or a space with electrical power. George said to contact him at stradley@sbcglobal.net.

Every year, usually on the last weekend in April, Galveston has an air show. I attended the air show this year and I observed a phenomenon I had not seen before, and did not understand. The air show featured an F-16, two F/A-18 Super Hornets, and an F-15. When one of these aircraft would engage in one of the intense maneuvers that were the main attraction, a cloud would form near the upper surface of the wing, and then dissipate rapidly. I use the term "upper surface of the wing" to refer to that part of the wing which is uppermost when the plane is parked on the runway. It wouldn't necessarily be the upper surface during the flying demonstration, which was deliberately designed to present the aircraft in an unusual orientation, except possibly during combat or training for combat.

The F/A-18 on one occasion had the whole central part of the plane briefly surrounded by a cloud, with the nose and tail sticking out. The air show announcer said that this was because it had accelerated to just below the speed of sound. I thought the pilots were releasing water through holes in the wing for dramatic effect. Some of the services had members there. The guys with Air Force insignia (just blue jeans for pants) were selling T-shirts, caps, and probably patches. I asked them why the clouds form. They said it was because the humidity was high and the plane was pulling a lot of *gs*. What that tells me is that the pressures had to be very different on different sides of the plane, because I didn't think the engine was capable of delivering more than a couple of *gs* in straight-ahead acceleration. The AF guys specifically told me that the pilots were not releasing anything to cause this.

The closest I ever came to seeing anything like this myself is back in the days when I would distill one of my preparations (I was an organic chemist) in the partial vacuum produced by a water aspirator. It is unwise to hook the hose from the aspirator directly to the still, because a sudden loss of water pressure can lead to water being sucked into the still, a highly undesirable outcome. The solution is to connect the aspirator to a suction flask, that serves to trap any backflow, and gives you time to disconnect the hose to your still, as the aspirator makes a distinctly different sound when the water pressure drops. Upon completion of the distillation, if the hose were suddenly disconnected, a cloud would form momentarily in the trap and then dissipate within a second or two. In other words, my experience is that one gets these temporary clouds when the pressure increases suddenly. The difficulty I am having is that the pressure above the upper surface of the wing has to be lower than the surrounding pressure, otherwise the plane would not fly. In other words, the cloud formed in a place where the pressure ought to be decreasing as the air flowed over the wing. It is an elementary observation that decreasing the pressure causes liquids to vaporize and increasing pressure causes vapors to condense.

The F-15s had more persistent white trails emanating from their wingtips, and I supposed that this was really the release of some powder to enhance the drama of their flight. The propeller driven planes that also performed at the air show released material to make their tracks visible.

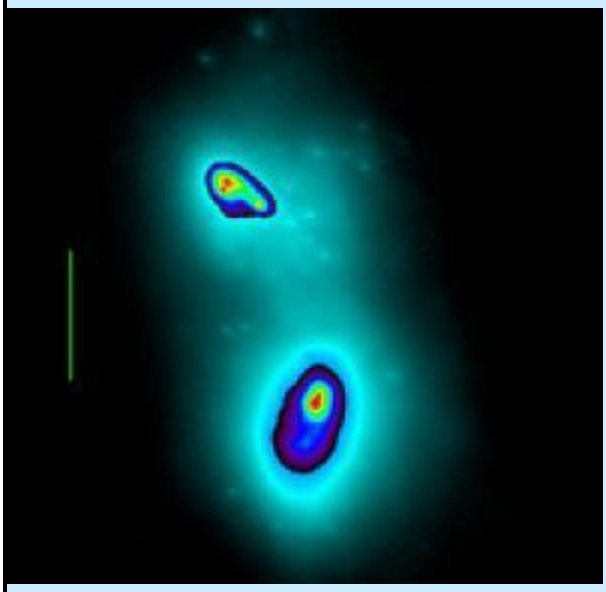
(Editor added: Can anyone give their answer to this phenomenon?)

Adaptive Optics Pinpoints Two Supermassive Black Holes In Colliding Galaxies

Source: University of California - Santa Cruz (May 18, 2007)

Thanks Dale Evans for providing this for us

Science Daily — Astronomers have used powerful adaptive optics technology at the W. M. Keck Observatory in Hawaii to reveal the precise locations and environments of a pair of supermassive black holes at the center of an ongoing collision between two galaxies 300 million light-years away.



NGC 6240 is an ongoing collision of two gas-rich disk galaxies. Using adaptive optics at the Keck II Telescope, researchers have resolved young star clusters formed because of the merger (small blue dots), and have identified which features within the twin nuclei are associated with the two supermassive black holes known to inhabit the nuclear regions. The green vertical line represents one second of arc, or 1,600 light years at the distance of NGC 6240. (Credit: C. Max, G. Canalizo, W. de Vries)

The new observations of the galaxy merger known as NGC 6240 reveal that each of the black holes resides at the center of a rotating disk of stars and is surrounded by a cloud of young star clusters formed in the merger, said Claire Max, professor of astronomy and astrophysics at the University of California, Santa Cruz.

"People had observed this pair of colliding galaxies at different wavelengths and seen what they thought were the black holes, but it's been very hard to make sense of how the observations at various wavelengths correspond to each other," Max said. "The adaptive optics results enabled us to tie it all together, so now we can really see it all--the hot dust in the infrared, the stars in the visible and infrared, and the x-rays and radio emissions coming from right around the black holes."

Adaptive optics (AO) enables astronomers to counteract the blurring effects of turbulence in Earth's atmosphere, which degrades images seen by ground-based telescopes. Max, who directs the Center for Adaptive Optics at UC Santa Cruz, is the lead author of a paper describing the new findings published by the journal Science. Her coauthors are Gabriela Canalizo, who worked with Max as a postdoctoral researcher at Lawrence Livermore National Laboratory (LLNL) and is now at UC Riverside, and Willem de Vries, a physicist with LLNL and UC Davis.

Images of NGC 6240 in visible light from the Hubble Space Telescope show the outer parts of the colliding galaxies distorted by their ongoing merger into long tidal tails of stars, gas, and dust. In the bright central region, two distinct nuclei can be discerned, but clouds of dust obscure much of the visible light from the core. The presence of two supermassive black holes in NGC 6240 was first demonstrated by x-ray observations from NASA's Chandra X-ray Observatory in 2002. Two pointlike radio sources were also detected in the central region.

But trying to match up the data from one instrument with those obtained at different wavelengths by other instruments is very difficult because there are few common reference points in the various wavelength regimes, Max said. The infrared images her group obtained using the AO system on the 10-meter Keck II Telescope provided the high spatial resolution needed to identify features in NGC 6240 that can be seen in different wavelengths.

"With the infrared images we got at Keck, we were able to line up the information from all the different wavelengths to determine which features in the images are the black holes," Max said.

The infrared wavelengths are less affected by dust than visible light, and the Keck infrared images show distinct nuclei with complex substructure surrounded by many faint point sources. The faint point sources are young star clusters produced in a burst of star formation triggered by the collision of the two gas-rich galaxies. Pinpointing which of the features in the infrared images correspond to the positions of the black holes involved several steps and required Keck adaptive optics observations at different infrared wavelengths.

"We uncovered it piece by piece, until we were able to make the correspondence between the black holes and the features seen at different wavelengths, as well as the stuff around them," Max said. "It really shows how powerful the Keck adaptive optics system is. We were also fortunate to have an extraordinarily good observing night."

Cont'd.

Galaxy mergers are thought to play a major role in the evolution of galaxies and may help explain many of their properties. For example, astronomers have found that the mass of the black hole at the center of a galaxy is highly correlated with large-scale properties of the galaxy itself. The "coevolution" hypothesis explains this correlation as the result of both the black hole and the galaxy around it growing incrementally in repeated merger events over cosmic timescales.

"The gravitational influence of the black hole is actually limited to a relatively small region right around it, so how can it affect the rest of the galaxy" But if the black hole and the galaxy around it evolved together through the same sequence of merger events, that would explain the correlations," Max said. "That's why people are so excited about understanding galaxy mergers, and here we're seeing it in action."

The two black holes in NGC 6240 will eventually, in 10 million to 100 million years, spiral into each other and merge, producing a powerful burst of gravitational radiation, she said.
Note: This story has been adapted from a news release issued by University of California - Santa Cruz.
http://www.sciencedaily.com/releases/2007/05/070517142607.htm

From the Sky & Telescope and Astronomy Magazine Departments

Changes in the Sky & Telescope Subscription Policy

Folks, I think a wave of common sense has taken over the folks at Sky Publishing. I received a letter from them stating the new policy toward *new* and *renewing* subscriptions. I don't mind writing letters for anyone in the club but it never seemed to be a very efficient way to conduct the subscription process. To my delight, I received a letter from which parts are reprinted below:

Dear Club Treasurer,

Thank you for being a participant in our club program. We wanted to take a moment and tell you about some changes we're making to out Club Plan.

Sky and Telescope subscription orders and service have been transferred to and off-site location. We have reviewed our current procedures and have made the following adjustments to accommodate this change.

1. Club members will now be able to renew directly via mail or phone. You will not be required to validate club memberships at the time of renewal. The subscribers may mail in the renewal notices with payment or renew via phone at 1-800-253-0245.

2. Club Treasurers (Secretary in our case!) may continue to submit group renewals but must submit full address and payment with the order.

3. You (meaning the Tres/Sec) will be asked to annually review a list of the current Sky&Telescope subscribers in your club to validate their membership. This will give you the opportunity to review the accuracy of the information we have for your club members. The club must maintain 5 member subscriptions to Sky&Telescope to be eligible for the special club subscription rates.

Treasurers will be asked to send NEW club subscribers to me for processing. New member subscriptions may be sent at any time during the year.

SKY Publishing
Attn: Jane O'Brien
90 Sherman St.
Cambridge, MA 02140-3264

So in short folks, you can now renew your S&T directly if you are on the club plan already, you no longer need a letter from the secretary. However, if you are a new subscriber, your information and justification for the reduced subscription rate still has to be handled through the JSCAS Secretary. If there are any questions, please contact me by email listed on the JSCAS web site, a meeting, or send your new subscription form to my home address: 2407 Elkton Ct., Pearland, TX 77584. I'll get it going in the mail 48-72 hours after I receive it.

Attention Astronomy Magazine SUBSCRIBERS...

I recently received an "Urgent Warning" from Kalmbach Publishing on a bright pink form. It would seem that other third party companies have been phone soliciting subscribers asking them to renew. These groups are not authorized to represent Kalmbach Publishing and are not affiliated with them in any way. As such, the publishers of Astronomy Magazine request that you **DO NOT RENEW** your subscription with any phone solicitor nor give out any personal information. .

Authentic renewals will only come from Kalmbach in Milwaukee or Waukesha, Wisconsin.

What's Happening at the George!!!

Cynthia Gustava

The George Observatory has groups every Friday night in the month of June (see below) starting at 7:30 p.m. And of course, regular Saturday night public observing starting at dusk. Volunteers for these events are always appreciated!

June 1: HMNS Members' Night (150-200)
June 8: HMNS Family Observing and Overnight
June 15: Austin High School (100)
June 22: LeBlanc Group (50)
June 29: Campfire USA Observing and Overnight

AND AS A HEADS-UP:

August 12-13...Perseid Meteor Shower
The George Observatory in Brazos Bend State Park will host viewing the peak of the annual Perseid meteor shower the night of Sunday August 12 and lasting until dawn Monday, August 13.
This annual shower is caused by the Earth passing through the dust trail left behind by Comet Swift-Tuttle. The bright streaks of light will be seen crossing the sky around 11:00 pm to near dawn.

Predictions are that we can expect to see a few Perseid meteors as early as 10:00 p.m. on Sunday evening, but many more will be expected after midnight when the constellation of Perseus has climbed high into the north-eastern sky. Watchers can expect to see a meteor a minute during the peak hours just before dawn on August 13.

For more information on these activities or to volunteer, please contact either Barbara Wilson at bwilson@hmns.org or Cynthia Gustava at cynm31@houston.rr.com

Another HMNS Members' Night will be held at the George Observatory on Friday August 24, from 7:30-10:00 p.m. These usually book out completely, so come join the fun and show the night skies to the members of the Houston Museum of Natural Science!

JUNE 2007

★ **SSO**: (Solar System Objects) Summary for the 15 June 07

Object	Const	Mag	% Ill	Rise Time	Transit	Set Time
Sun	Tau	-26.7	100	06:20	13:20	20:20
Moon	Gem	----	1	06:31	13:59	21:25
Mercury	Gem	2.3	12	07:41	14:35	21:33
Venus	Cnc	-4.3	46	09:47	16:36	23:29
Mars	Psc	0.8	88	02:56	09:16	15:35
Jupiter	Oph	-2.5	100	19:27	00:37	05:46
Saturn	Leo	0.8	100	10:41	17:20	00:02
Uranus	Aqr	5.8	100	01:16	07:06	12:56
Neptune	Cap	7.9	100	23:56	05:24	10:52
Pluto	Sgr	13.9	99	20:15	01:38	07:01

Highlighted times denote daylight events.

Lunar phases for June 07

Full	Third	New	First
8th 06:43	14th 22:13	22nd 08:15	30th 08:49

Central Daylight Time

BSO: (Bright Sky Objects)

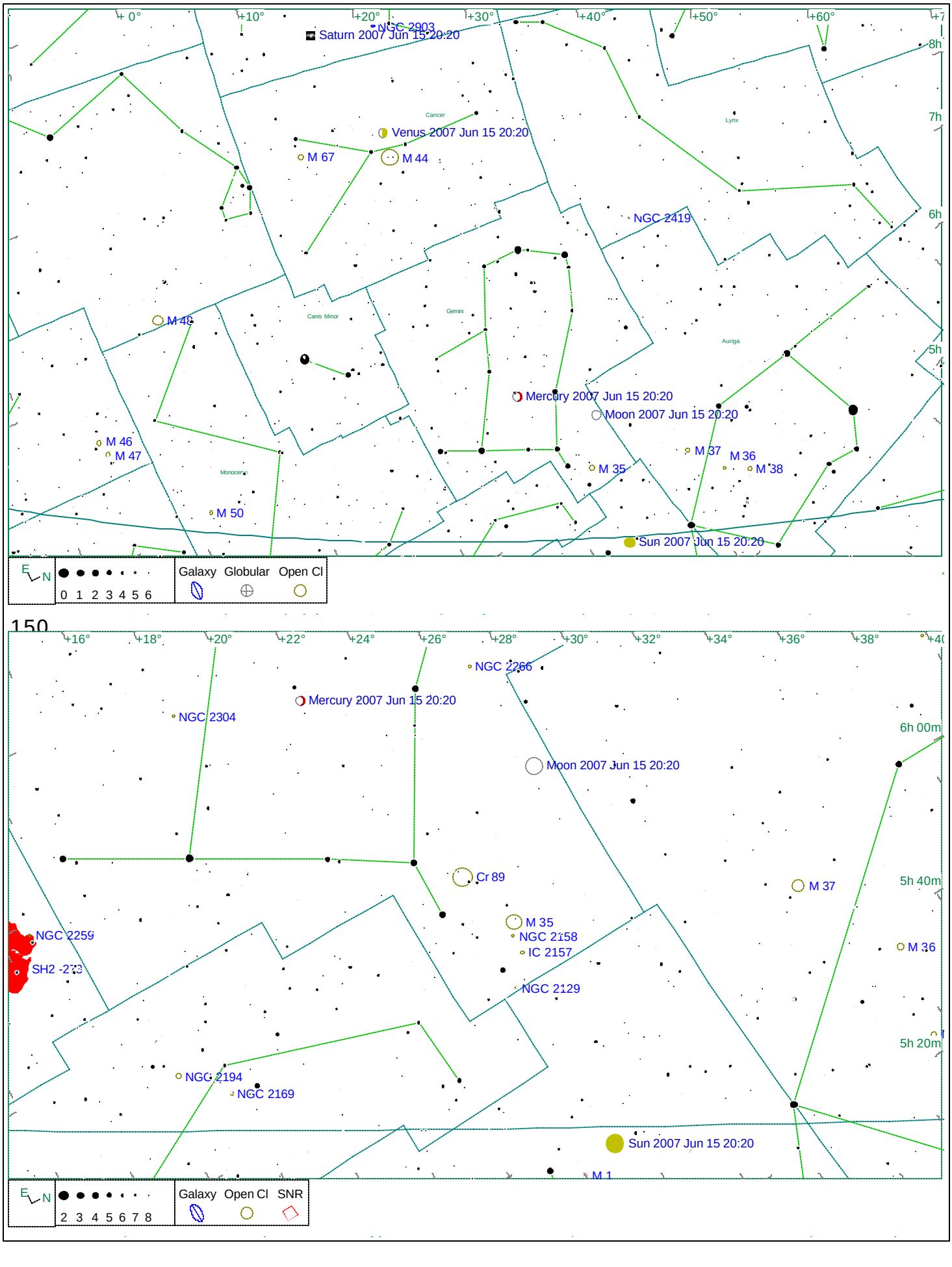
NGC 5662 (Cr 284, Mel 127) – Open Cluster in Centaurs, Magnitude 5.5, Size 12', Stars70.
NGC 5904 (M 5) – Globular Cluster in Serpens, Magnitude 5.7, Size 23'.
NGC 5822 (Cr 289, Mel 130) *– Open Cluster in Circinus, Magnitude 6.5, Size 39', Stars 150.
NGC 5823 (C 88, Cr 290, Mel 131) * - Cluster in Circinus, Magnitude 7.9, Size 10', Stars 100.
* Objects are low on horizon, on the boundary of Lupis and Circinus.

DSO: (Dark Sky Objects)

NGC 5897 (H-19-6) – Globular Cluster in Libra, Magnitude 8.4, Size 11'.
NGC 5694 (C 66) - Globular Cluster in Hydra, Magnitude 10.2, Size 4.3'.
NGC 5466 (H-9-6) - Globular Cluster in Bootes, Magnitude 9.2, Size 9'.
NGC 5634 - Globular Cluster in Virgo, Magnitude 9.5, Size 5.5'.

CDMP: (Chris' Don't Miss Pick)

Mercury - On June 2 at 05:00 CDT, Mercury will achieve its Greatest Eastern Elongation, of 23.4°, from the Sun, It will be at Inferior Conjunction between the Earth and Sun on June 28. So this is a great time of year to view this elusive inner planet. The moon might be a good help to find mercury on the 15th because it's only 7.8 degrees south of and slightly above the moon. It will only be 15 degrees above western horizon at sunset on that day.
Also on the 8th of June at 23:00 CDT Venus will be at its greatest eastern elongation (45°).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NGC 2903
Saturn 2007 Jun 15 20:20
Venus 2007 Jun 15 20:20
M 67
M 44
NGC 2419
M 46
M 47
M 50
Mercury 2007 Jun 15 20:20
Moon 2007 Jun 15 20:20
M 35
M 37
M 36
M 38
Sun 2007 Jun 15 20:20
Cancer
Lynx
Canis Minor
Gemini
Auriga
Monoceros
E
N
0 1 2 3 4 5 6
Galaxy
Globular
Open Cl
150
+16°
+18°
+20°
+22°
+24°
+26°
+28°
+30°
+32°
+34°
+36°
+38°
NGC 2266
Mercury 2007 Jun 15 20:20
NGC 2304
6h 00m
Moon 2007 Jun 15 20:20
Cr 89
M 37
5h 40m
M 35
NGC 2158
IC 2157
NGC 2259
SH2 -273
M 36
NGC 2129
5h 20m
NGC 2194
NGC 2169
Sun 2007 Jun 15 20:20
M 1
E
N
2 3 4 5 6 7 8
Galaxy
Open Cl
SNR

SPECTACULAR GRAZING OCCULTATION JUNE 12
From: PAUL MALEY <pdmaley@yahoo.com

Hi everyone:

1. There is a special grazing occultation of a 5.7 magnitude star by the 10% sunlit moon occuring on the morning of Tuesday June 12 north and west of Houston. I will be organizing an expedition for this spectacular event (assuming it is clear) somewhere between Waller and Columbus. The reason for this location is that the graze occurs low in the ENE and if you are between I-45 and 290 chances are there is a lot of blockage by trees. A flat horizon is really needed.

2. I have also posted asteroid occultations of interest to the Houston area for the remainder of 2007.

All events are at the usual place http://eclipsetours.com/events.

May 14, 2007 Texas Parks and Wildlife (http://www.tpwd.state.tx.us/newsmedia/releases/?req=20070514e)

Minor Planet Named for Texas State Park

NEEDVILLE, Texas — Brazos Bend has always been a Texas state park offering plenty to see and do. Now, it's also a minor planet orbiting within our solar system.

"Brazos Bend" is the official name recently accepted by the International Astronomical Union to designate a minor planet discovered through telescopes located inside Brazos Bend State Park at The George Observatory, a satellite facility of the Houston Museum of Natural Science.

Joseph Dellinger, Max Eastman and Bill Dillon are a team of volunteer researchers at the George Observatory who spent four years observing the minor-planet Brazos Bend before it was eligible to receive its name.

"There's typically a delay between when you discover a minor planet and when you get to name it," said Dellinger.

The asteroid, originally designated as HC67, was first discovered in April 2001. According to Dellinger, it's not an easy task to find an asteroid that hasn't already been mapped. To acquire the naming rights for a minor planet, a great deal of time and observation is required.

"You don't get credit for just spotting an asteroid one night," said Dellinger. "You usually have to get another observation recorded within the next couple of days, and this is usually when most asteroids are lost."

Fortunately HC67 was not lost, and Dellinger and his team tracked the asteroid further.

"You have to keep following it for a month or two if you want to be able to spot it again the next year. Then, you have to cover it from year to year until you have the orbit so well nailed down that one observation in a century will be enough. This usually takes about four years of observation," he said.

At the point that a minor planet's orbit is determined well enough, the asteroid is given a permanent number. HC67 was designated 63387, meaning it is the 63,387th asteroid to receive a permanent number since the first time an asteroid was numbered in 1801.

After years of tracking asteroid number 63387, Dellinger and his team offered the honor of naming this piece of the sky to Brazos Bend State Park, since the park has been home to the observatory for many years.

"I thought it would be a nice gesture to the park," said Dellinger. "It's one of our better discoveries."

Brazos Bend State Park Superintendent Steve Killian thought giving the minor planet the namesake of Brazos Bend was only fitting."The [park] staff and I thought it was a great way to showcase our great park, home of the George Observatory," said Killian. "We really have a hand-in-glove relationship with the observatory. We're partners, and it is really a wonderful opportunity to have

observatory inside the park. It allows our neighbors from the Houston metropolitan area to really see a night sky. The stars are big and bright in Texas, and here especially, you can see that."

Brazos Bend, however, is not so easy to spot. The minor planet's intensity of brightness is measured at a magnitude of 15. Stars of the big dipper are a magnitude 3. The greater the magnitude number, the dimmer the star appears. The dimmest star visible to the naked eye is a magnitude 6.

"The brightest [asteroids] were all taken before we even got started," said Dellinger. "We're always discovering things at the outer limits of our capabilities. If it was easy to find, someone already discovered it."

Still, the night sky over Brazos Bend's 5,000 acres offers an unobstructed view of the stars unlike any other in the Houston area.

Twenty-one years ago, when Brazos Bend was still a fairly new state park, Halley's Comet returned to the night sky. Droves of Texans flocked to Brazos Bend to get a better look.

"Thousands of people visited the park in 1986, and the idea of an observatory inside Brazos Bend became quite popular," said Barbara Wilson, director of the George Observatory. "In 1989, we opened the observatory."

Today, the George Observatory offers a number of educational opportunities. On Saturday evenings, it is open to the public for a small fee. An available 36-inch Gueymard Research Telescope is one of the largest telescopes in the nation open to public use.

In addition to stargazing at the observatory, Brazos Bend State Park has plenty of other outdoor opportunities.

"The park has ecological habitats of tall grass coastal prairies, live oak slope forests, bottomland hardwood forests, ponds, lakes, creeks and the Brazos River. This diversity is what makes Brazos Bend a special place to view abundant wildlife," said Killian. "Our best known viewable resident is the American Alligator. We have more than three hundred that are greater than six feet in length."

In addition to wildlife viewing, the park has fishing, picnicking and camping opportunities and more than 34 miles of hiking, biking and equestrian trails.

"It's a great place to get out and experience a natural part of Texas." Killian said.

Now, with a minor planet orbiting above, "out-of-this-world" is not only a figurative description for Brazos Bend, but a literal one as well.

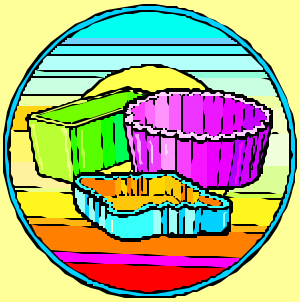
Brazos Bend State Park is located approximately an hour's drive southwest of Houston. The park is open all week, year-round, from 8 a.m. to 10 p.m. Monday through Thursday, and from 7 a.m. to 10 p.m. Friday through Sunday.

More information on Brazos Bend State Park can be found on the Texas Parks and Wildlife Web site, and additional information on The George Observatory can be found through the Houston Museum of Natural Science Web site.

Photo courtesy of the Houston Museum *of Natural Science*

If anyone has anything for sale (astronomy items only), please let me know if you want it listed here. I will make sure it gets some "space" in the Starscan

If you have a favorite recipe for starparties, TSP outdoor cooking or anything that provides a stargazer with fuel and energy to go the long haul through the night star-hopping, send it my way and we will put it here.



Houston Area Astronomy Clubs

Brazosport Astronomy Club
Meets the Third Tuesday of the month, 7:45p.m.
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.
Houston Community College—Southwest Campus
Lecture hall #7, Rooms 102/104
Stafford, Texas

Houston Astronomical Society http://spacibm.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 Theatre at Kingwood College
20000 Kingwood Drive
Kingwood, Texas 77339

Members' Gallery
June 2007

I apologize for not having the full name for this member. I thought it was a great shot taken on Saturday, May 19th

Alignment of Venus and the Moon
Twilight, barely 1-degree apart

Done by:
Markh [astro@netslyder.net]
Canon 30D and 400mm L 5.6 .5 sec at f19

Johnson Space Center Astronomical Society

Club Officers

President – Bob Taylor

Vice President – David Haviland

Secretary – David Haviland

Starscan Editor – Connie Haviland

Star Party Chairperson – Lisa Lester

Librarian – Bob and Karen Taylor

Historian – Susan De Chellis

Scientific Expeditions – Paul Maley

Web Master Chris Randall

SIGS

Observing Awards – Triple Nickel

Astronomy 101 — Triple Nickel

CCD Imaging – Al Kelly

Binocular Observing – Leslie Eaton

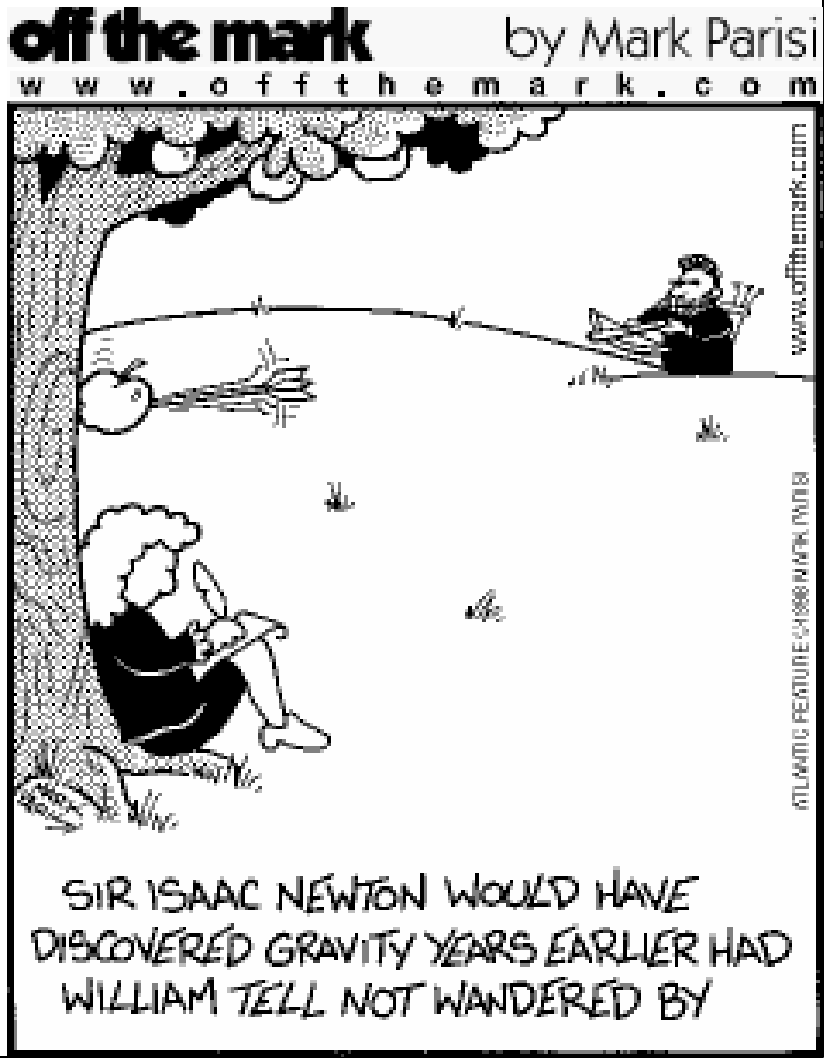
Telescope Making – Bob Taylor

Starscan Submission Procedures

Original articles of some relation to astronomy will be accepted up to 6 p. m. (1800 hrs) on the 25th of each month. THE most convenient way to submit articles or a Calendar of Events is by email is preferred but hard copies (CD, disk) are also accepted. All articles must include author's name and phone number. Also include any picture credits. Word, Wordperfect, and text files will be accepted.

Please send all submissions to:
txconstance@houston.rr.com

The author of individual articles bears all responsibility for publishing any e-mail addresses in the article on the World Wide Web.

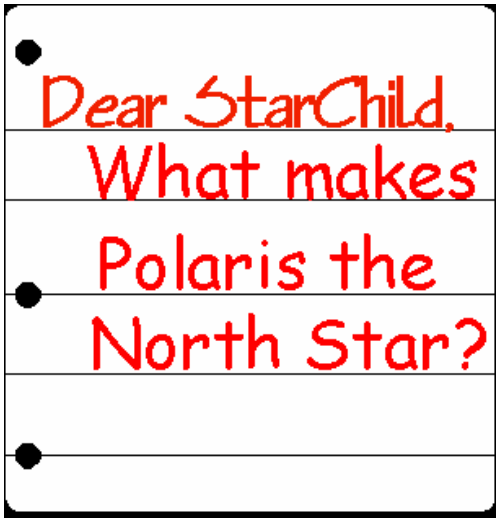


Astronomy and Kids

This is the section strictly for kids (or kids at heart). We will be including information, stories, ideas, puzzles or anything that has to do with astronomy. The only difference here is, it will be directed for children. We don't discourage parents or any other adult to get involved. In fact, we encourage it strongly. So we hope you enjoy this section and if it touches a child's interest in astronomy, our goal has been achieved. Enjoy!!

QUESTION OF THE MONTH

Courtesy of NASA Aeronautics and Space Association
http://www.nasa.gov/home/index.html



Look for the answer next month in our July issue

PUZZLES AND SOLUTIONS

A P W D F P W P E R D V H Q C N C X D A A A Q L L L Z L E Y

C K D R I W S C C E A X Y Y L A G A O R S E N L W E O N C X

Z L A G O Q I E C B G D K T R A M E P C O T T O Q G U Y I A

C W L V J T L L M I L K Y W A Y L E P H A J R S M W T L T L

D O Y M C E I A U J L Y M O N O R T L R I L A O A A D S S A

H U N A S N S X P D A O M I W M R L E O E T N M N R L B L G

R P L T A T N K V W S M F D G A T O R M P T E T S O D Y O B

M A I T T C C O N S T E L L A T I O N O O A N E T I M A S T

G A I T D B L P H I N U S I T Y X E E S I A R C U E N Y Y B

L O O X O F L E D D D L O J N C T P F P S F U D N S C A M M

N T F O B F R L R R E L A P B A E F L H S P T M U M J B C A

A R T G G E C O A D A S C P I Y C E F E A X Q O Q S R D G N

Q E B H D R M P X C U E Y E A Y A A F R C Y G B M V H E P J

S M U L E A C L I A N D R O M E D A T E L O I V A R T L U W

V U D E C L I T A T I O N Y I E T S F J A V P J T Q H P T O

U Z T P E P P J H Z I O N D T O S I X A C A D O A T Q H M G

W X C M O I P Z D S D B E M I R A T L G N T N O F X L I M C

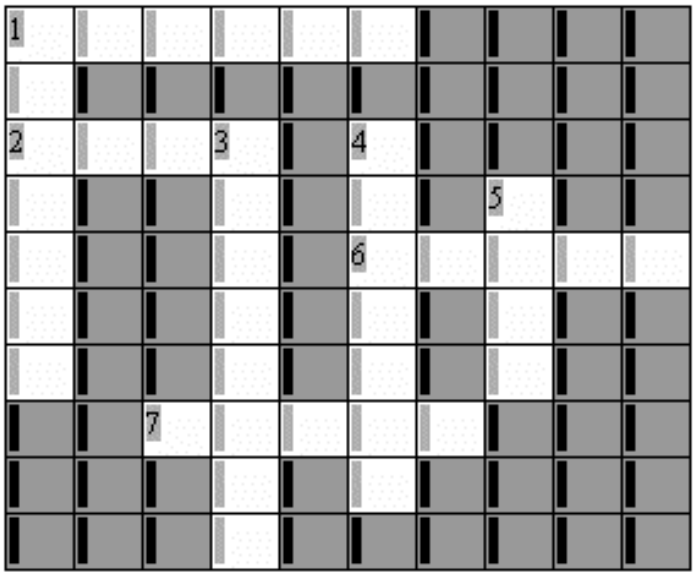
F Q A A L O C S S Q T C S Y H S R S I A I Y C U G P A N X P

N C W C U D W A R F U P E G O E D D O A I A K S N A C U F V

C S E M D B C P E I T S K D G W A F E V A W O I D A R S T D

ADRASTEA
ANDROMEDA
ANOMALY
ASTRONOMY
BOOTES
CAELUM
CAMELOPARDUS
CANISMAJOR
CASSIOPEIA
CELESTIAL
CHROMOSPHERE
CONSTELLATION
DECLINATION
DELPHINUS
DOPPLER
DWARF
ECLIPTICAL
GALACTIC
GALAXY
MILKYWAY
RADIOWAVE
SOLSTICE
ULTRAVIOLET

JUNE'S CROSSWORD PUZZLE



ACROSS

1. One of Jupiter's moons
2. The name of the Earth's moon
6. When looking through a telescope, you should have a good eye _____.
7. A bright object that orbits the sun, often glows with a tail

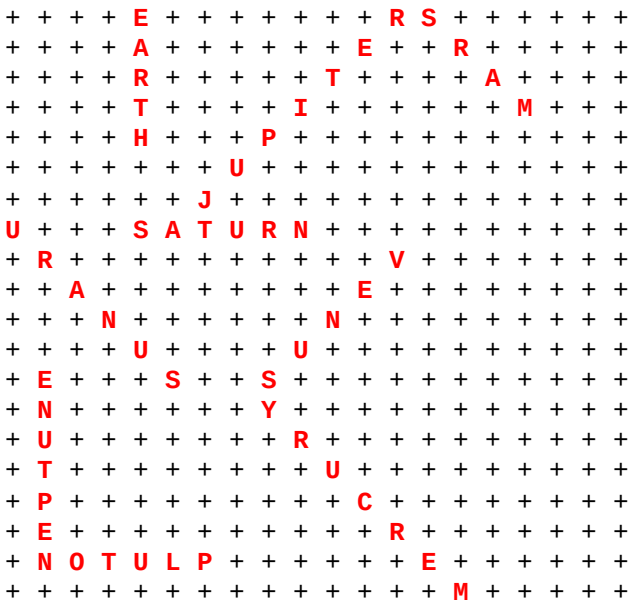
DOWN

1. When the moon passes in front of the Sun
3. A small object that orbits the sun
4. Greek name for Zeus, one of the planets
5. The Asteroid _____can be found between Mars and Jupiter

Puzzle of the month

S SPACE
U L
NEPTUNE
T
MOON
A
P

Planets Solution



ORDER OF PLANETS

1. Mercury
2. Venus
3. Earth
4. Mars
5. Jupiter
6. Saturn
7. Uranus
8. Neptune
9. Pluto

The New Way Taught in 6th Grade on How to Remember the Order of the Planets
BY Sarah Haviland

My----------Mercury
Very----------Venus
Educated----------Earth
Mother----------Mars
(an absolute brain)----------Asteroid belt
Just----------Jupiter
Served ----------Saturn
Us----------Uranus
Nine----------Neptune
Deep-Pan Pizzas----------Dwarf Planet Pluto