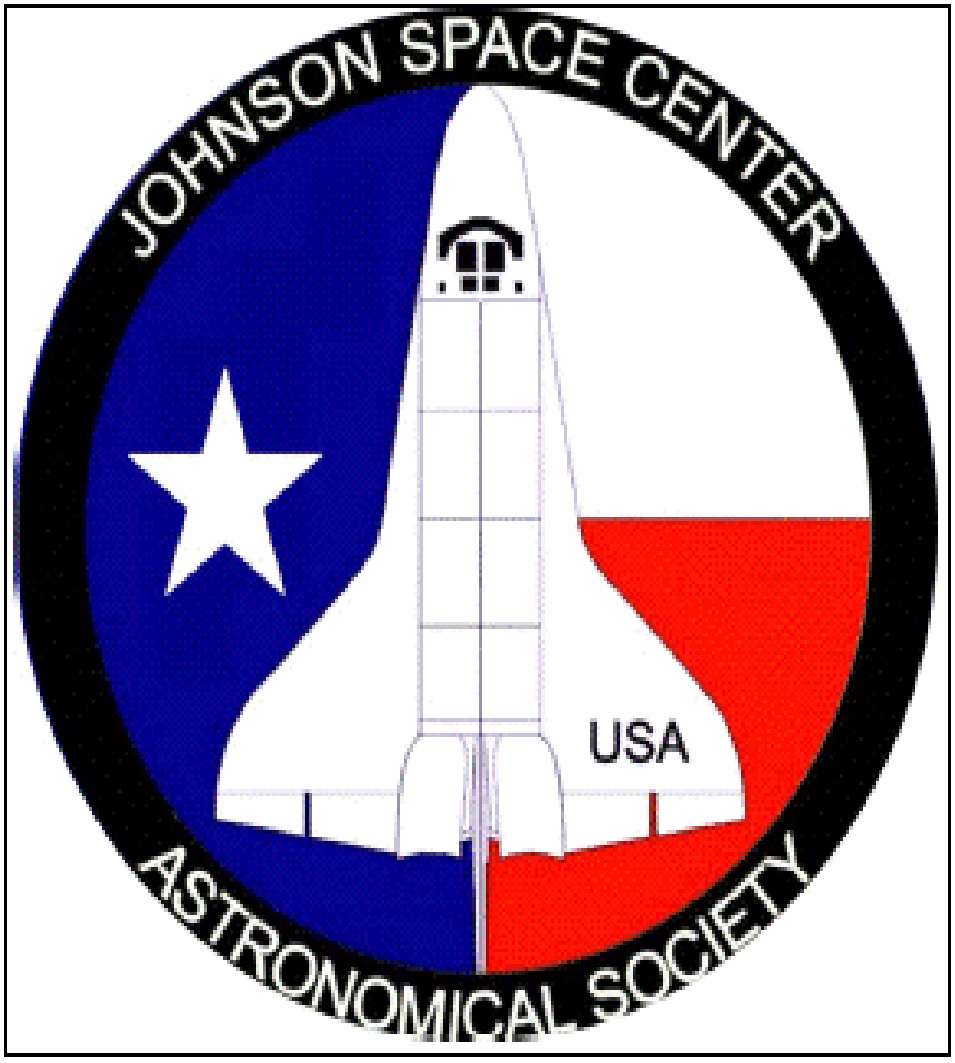
Starscan

Johnson Space Center Astronomical Society

Volume 23, Number 5 May 2007

FORTY YEARS AND COUNTING!



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Message from the el Presidente

Well we didn't receive anything in particular from our infamous President this month. But I can tell you we, here at the Star Scan desk did receive an email that went something like this: *"This sounds like a plot to take over!!! I like it!!!"* With that said and done, I want to inform everyone at JSCAS, there is a new Star Scan Editor. Me, Connie Haviland.

Letter from the Editor

By Connie Haviland

That's right. I have either lost my mind, gone insane or can at least plea temporary insanity; but yes, I have decided to volunteer to be the editor for the Star Scan. I certainly hope I can keep the quality of this newsletter up to the standards that my predecessors have provided for me to follow.

I will continue to include all that has been in the previous volumes of the Star Scan, but I have decided to add a few more things to it. These ideas will be added as I am able to collect the stories, articles and ideas in the future. I still need articles and pictures and any ideas from the club. Please, keep sending them to me.

One of the new ideas I have decided to add is an "Astronomy and Kids" section. We have several members who have children and I hope that this trend will build where we have more members with children. I feel that if I add something in the Star Scan for the children, they can become more involved with Astronomy. This section will be both educational, but most of all, FUN. I believe that is what Astronomy is all about.

Another idea I want to include is a "Women in Astronomy" section. We have several women in our club, who are very active in Astronomy and I want to provide articles that will include their contributions, as well as other women. So if you find articles on Women in Astronomy, please send them to me.

Most of all, this is YOUR Star Scan. This is for you. I want this to reflect us, the members of JSCAS. I need your help and input. I will be setting a date, the same day of each month, for articles for YOUR Star Scan. I want to thank those who have always contributed in the past and for those, I know will be there in the months to come.

Star Party Dates

By Lisa Lester

Star Party Dates - 2007

May 13 – 19, 2007 Texas Star Party

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 May meeting

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.

Astronomers Astonished by 'Monstrous' Star Explosion

By Ker Than
Staff Writer (Adapted From: Space.com)
posted: 07 May 2007
02:04 pm ET

Updated at 3:05 pm EDT.

Scientists have detected a stellar explosion that is the brightest and most energetic ever recorded, and which could be the first evidence of a new type of supernova fueled by an antimatter engine. The "SN 2006gy" explosion occurred in a galaxy 240 million light-years away, called NGC 1260, and was 100 times more energetic than typical supernovas. It was detected in September 2006 using ground-based telescopes and NASA's Chandra X-ray space observatory. It brightened slowly for 70 days, and at its peak emitted more than 50 billion Suns worth of light-shining 10 times brighter than its host galaxy-before dimming slowly. Most supernovas reach peak brightness in days to a few weeks.

"Of all exploding stars ever observed, this was the king," said Alex Filippenko of the University of California, Berkeley, who led ground-based observations of the supernova at Lick Observatory in California and Keck Observatory in Hawaii. "We were astonished to see how bright it got and how long it lasted."

NASA has released an image and animation of what the explosion might have looked like.
The finding, presented today at a NASA press conference and detailed in an upcoming issue of *The Astrophysical Journal*, provides evidence for a fundamentally different type of supernova explosion that only occurs with the universe's most massive stars.

The monster supernova suggests the first stars that illuminated the universe died in explosive light-shows. "We may have witnessed a modern-day version of how the first generation of the most massive stars ended their lives," Filippenko said.

Astrophysicists also think the supernova could be a preview of what they will see when a massive star in our own galaxy explodes.

Going out with a bang
Supernovas are stellar swan songs. They occur when ancient, massive stars do as poet Dylan Thomas advised, that is, to "burn and rage at the close of day," and "rage, rage against the dying of the light."

Most supernovas are the result of stars with 8 to 20 times the mass of our Sun collapsing under their own gravity. Astronomers think something different happened with SN 2006gy, whose star was much bigger--about 150 solar masses.

Stars this massive are extremely rare: Scientists estimate there are only a dozen or so such stars in the Milky Way's stellar population of 400 billion.

Supermassive stars are thought to produce so much gamma-ray light at the end of their lives that some of the radiation is converted into matter and antimatter, mostly electrons and positrons. Anti-matter particles have the same mass as ordinary matter but opposite atomic properties such as spin and charge. Gamma radiation is the energy that prevents the outer layers of a star from collapsing; once it starts disappearing, the star's outer layer falls inward, triggering a thermonuclear explosion that destroys the star.

The new findings suggest some of the first stars in the early universe, which were also very massive, went out in spectacular explosions like SN 2006gy, instead of bypassing the supernova stage and collapsing directly into black holes.

"In terms of the effect on the early universe, there's a huge difference between these two possibilities," said study leader Nathan Smith, also of UC Berkeley. "One pollutes the galaxy with large quantities of newly made elements, and the other locks them up forever in a black hole."

Eta Carinae

Scientists think SN 2006gy could be a sign of things to come in our own galaxy. Eta Carinae, the most luminous star in our Milky Way, is located some 7,000 light-years away and seems poised to undergo its own explosion at any moment.

"This could happen tomorrow or it could happen 1,000 years from now," said Mario Livio of the Space Telescope Science Institute in Baltimore, who was not involved in the research. Eta Carinae is an unstable star currently radiating about 5 million times more energy than our Sun and is undergoing eruptions on its surface that are similar to what scientists think happened on the star that produced SN 2006gy just before it blew. Despite its relatively close proximity to us, Eta Carinae's death is not likely to pose any significant threat to life on Earth, scientists say. "I think we can sleep quietly tonight for Eta Car not extinguishing life on Earth," Livio said, "but [SN 2006gy] and all the questions it brings about will keep us awake for quite a while."

Figure 1: The supernova SN 2006gy is the brightest and most energetic stellar explosion ever recorded, and may be a long-sought new type of explosion. At top, an artist's illustration shows how SN 2006gy may have appeared at a close distance. The bottom left panel is an infrared image by the Lick Observatory of NGC 1260, the galaxy containing SN 2006gy. The panel to the right shows Chandra's X-ray image of the same field of view. Credit: X-ray: NASA/CXC/UC Berkeley/N.Smith et al.; IR: Lick/UC Berkeley/J.Bloom & C.Hansen

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.

David Haviland
Veep and Secretary

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.

David Haviland
Veep & Secretary.

Volunteer at the George? When? Try nearly every weekend!

By David Haviland (with a lot of help from Cynthia Gustava)

If you are alone on a Friday, or even a Saturday night, Cynthia Gustava and the folks at the George would like to talk to you. Nearly every weekend, weather permitting, the folks at the George Observatory are running special events on Friday nights and public viewing on Saturday nights. Those at the George realize that it is tough for folks to get to the George on Friday nights, but they would appreciate any help on Saturday nights. Cynthia notes that the number of deck scopes continues to dwindle every month but if you have an evening to "burn" they would appreciate your brining your scope (no matter the size or the number of holes) out to the deck. No telescope, no problem. They can also use the help for people to fill in as a floater to baby-sit scopes if owners need a break, offer bottled water and canned drinks through the evening, volunteer to be on a dome door and count heads/be crowd control, or running laser point constellation tours.

The main events they would like help with are:

May 18 – Friday Night Special Event with Beckendorff Jr. High (30) – 7:30 p.m. – Observing to start at 8:30
Building Manager = CGustava

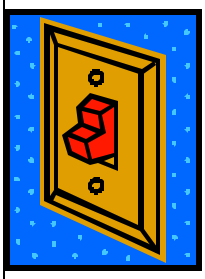
May 19 – George Observatory Saturday Night Public Viewing beginning at dusk
Building Manager Team = CGustava/LFerguson

May 25 – Friday Night Special Event with Rice University Astronomy Class – 7:30 p.m. – Observing to start at 8:30
Building Manager = CGustava

May 26 - George Observatory Saturday Night Public Viewing beginning at dusk
Building Manager Team = CGustava/MLockwood

June 1 – HMNS (Houston Museum of Natural Science) Member's Night - 7:30 p.m. – Observing to start at 8:30
Building Manager = BWilson

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



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"

The International Dark-Sky Association invites you to share your knowledge, expertise and experience with your colleagues at the **2nd Annual IDA Asia-Pacific Meeting**, to be held **July 12, 2007** in **Beijing, China**. Top-notch speakers and panelists will enlighten attendees to the hot topics and recent trends that you don't want to miss! This meeting will immediately follow the July 4-11, 2007, Quadrennial CIE Session held in Beijing, China. As updated information becomes available, it will be posted to the IDA website at www.darksky.org.

Observing for May 2007

By Chris Randall

May 2007

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

Object	Const	Mag	% Ill	Rise Time	Transit	Set Time
Sun	Tau	-26.7	100	06:28	13:15	20:04
Moon	Ari	----	1	05:15	12:09	19:11
Mercury	Tau	-1.0	81	07:18	14:17	21:20
Venus	Gem	-4.2	62	09:19	16:25	23:35
Mars	Psc	.09	90	03:53	09:52	15:51
Jupiter	Oph	-2.5	100	21:46	02:55	08:04
Saturn	Leo	0.7	100	12:33	19:17	01:57
Uranus	Aqr	5.9	100	03:17	09:06	14:55
Neptune	Cap	7.9	100	01:58	07:26	12:55
Pluto	Sgr	13.9	99	22:19	03:43	09:06

Highlighted times denote daylight events.

Lunar phases for May 07

Full	Third	New	First
2nd 04:09	9th 22:27	16th 14:27	23th 16:02

Central Daylight Time

★ **BSO**: (Bright Sky Objects)

NGC 5139 (C 80) –Globular Cluster **Omega Cenari** in Centarus, Magnitude 3.9, Size 55'.
NGC 5272 (M 3) – Globular Cluster in Canes Venatici, Magnitude 6.3, Size 18.
NGC 5286 (C 84) – Globular Cluster in Centarus, Magnitude 7.4, Size 11'.
NGC 5024 (M 53) – Globular Cluster in Coma Berenices, Magnitude 7.7, Size 13.

★ **DSO**: (Dark Sky Objects)

NGC 5194 (M 51, Arp 85) – Galaxy in Canes Venatici, Magnitude 9.0, Size 10' x 8'.
NGC 4594 (M 104) – Galaxy in Virgo, 11.6, Size 8' x 3'.
NGC 4303 (M 61) – Galaxy in Virgo, Magnitude 10.2, Size 6' x 5'.
NGC 4236 (C 3) – Galaxy in Draco, Magnitude 10.1, Size 22' x 7'.

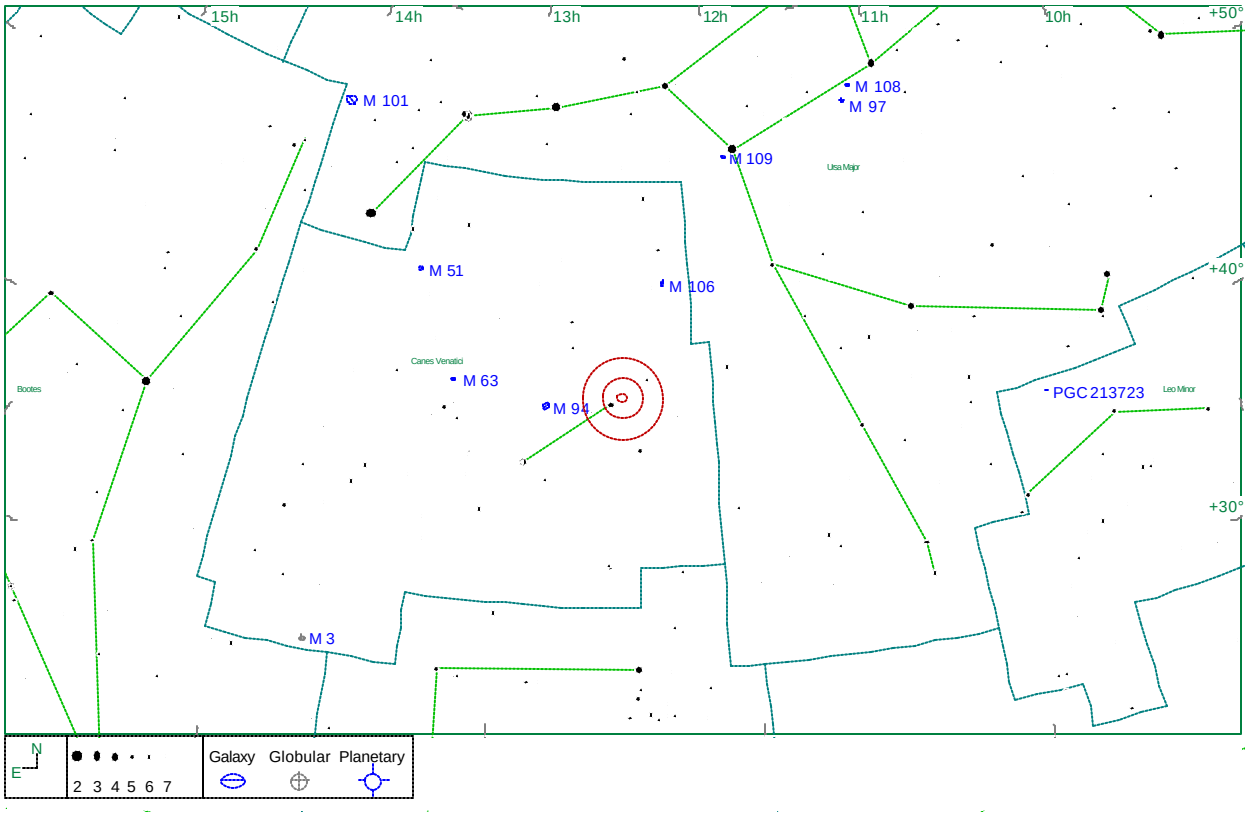
★ **CDMP:** (Chris' Don't Miss Pick)

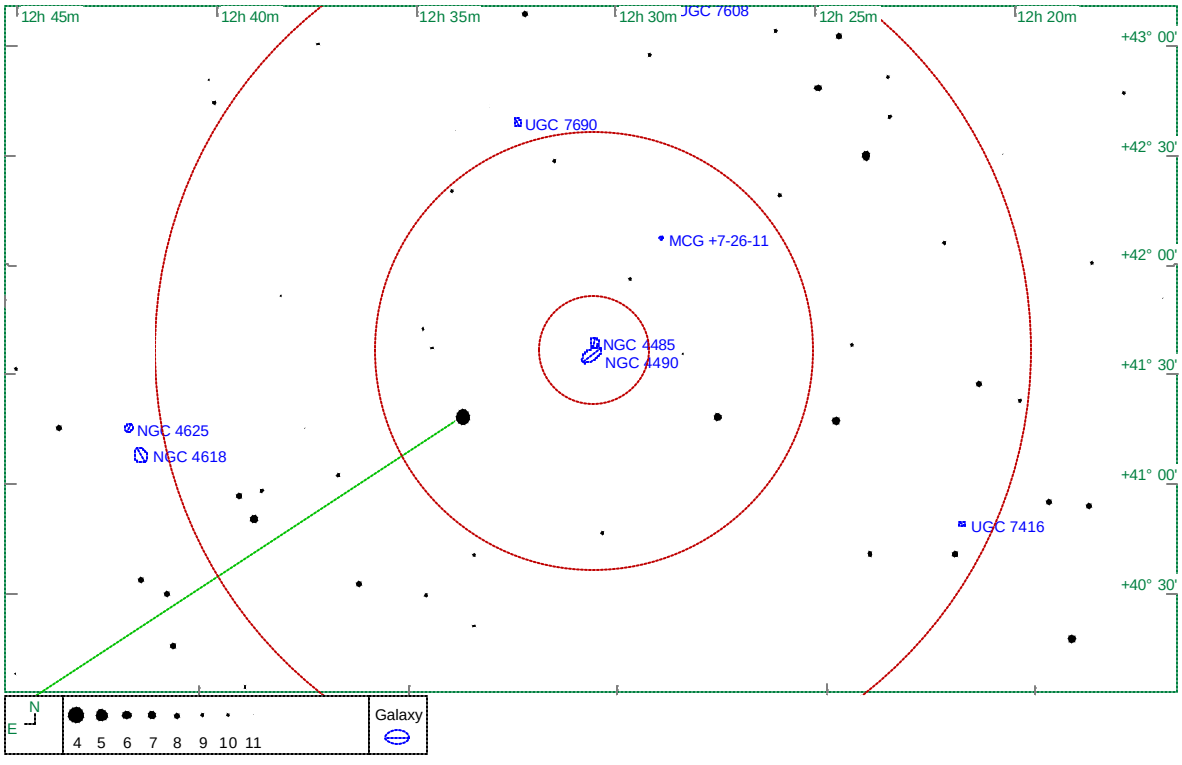
NGC 4485/4490 – Cocoon Galaxy in Canes Venatici, Magnitude 12.3/10.2, Size 2.6' x 1.9'/6.3' x 2.7'.

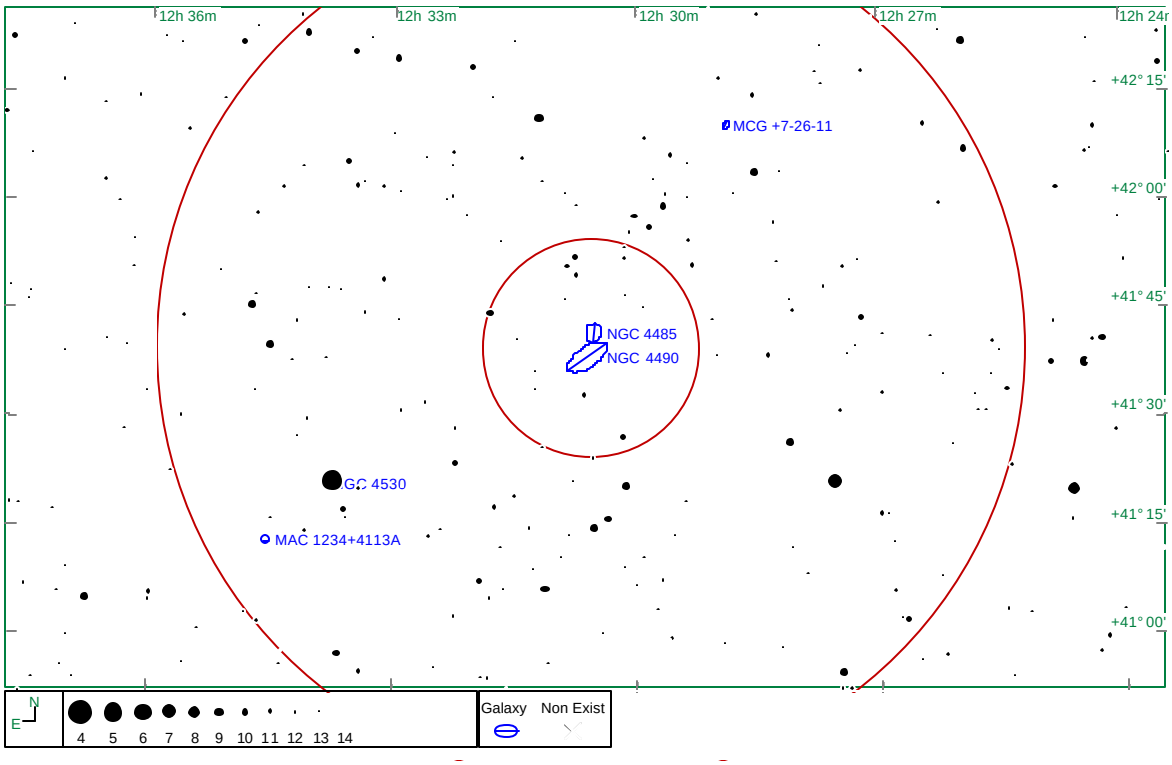
This pair of galaxies often goes by the nickname of the "Cocoon Galaxy." Each "blob" is actually a spiral galaxy that has been distorted by the other. Hints of spiral structure are still evident in the smaller galaxy. These

(continued next page)

galaxies have already passed their closest approach (perigalacticon) and are now speeding away from each other. A tail of stars stretches between the galaxies which are separated by at least 24,000 light years. All of this action takes place 40-50 million light years away. These interacting galaxies make a good real-world example for astronomers to compare computer models (simulations) of galactic collisions. Note the incredible number of star forming regions that have developed along facing sides of each galaxy.







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.
First Colony Conference Center
3232 Austin Pkwy
Sugarland, 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

Members' Gallery

The moon is a sentimental favorite of some and as such Al Kelly's image of Mare Fecunditatis was definitely "eye candy".

L/RGB image of the Mare Fecunditatis region of the Moon, made from images taken by Al Kelly with a Starlight Express MX916 and a Celestron CGE 1400 at f5.4 on 4/21/07 from Friendswood, Texas, using Schuler RGcBc filters. Single 0.01-second exposures through red, green, and blue-filters were acquired in Astroart and processed in AIP4WIN and Photoshop.

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.

"Sure it's beautiful, but I can't help thinking about all that interstellar dust out there."

Astronomical Sustenance!!

Leave no doubt astronomers need food. Beyond barbeque, roasted pigs, steaks, burgers, fish, etc., let's not forget coffee, energy drinks are also within their own "food group". Of course the one food group saving for last is that of chocolate in its various incantations. Half the human population considers chocolate a life sustaining force.

At this past trip to Ft. McKavett, those of us that arrived on Thursday were treated to a wonderful party at the Lester's new hide out near the Fort. It seems that one of the most popular of desserts were the Brownie Bites and a few were clamoring for the recipe afterward. With thanks to Lisa Lester (and Rachel Ray) we offer the recipe here, trying at all costs to obey copyright laws,

Brownie Bites
MAKES 4 DOZEN
PREP TIME 15 min (plus chilling)
BAKE TIME 50 min

2 sticks (8 ounces) unsalted butter 8 ounces unsweetened chocolate, cut into small pieces 2% cups sugar 4 large eggs, at room temperature 1 teaspoon pure vanilla extract 1 cup flour % teaspoon salt 4 ounces chocolate chips Y3 cup canned unsweetened coconut milk tube store-bought decorating icing.

1. Preheat the oven to 350°. Line an 8-inch square baking pan with
enough foil to let flaps hang over two sides; grease the foil.

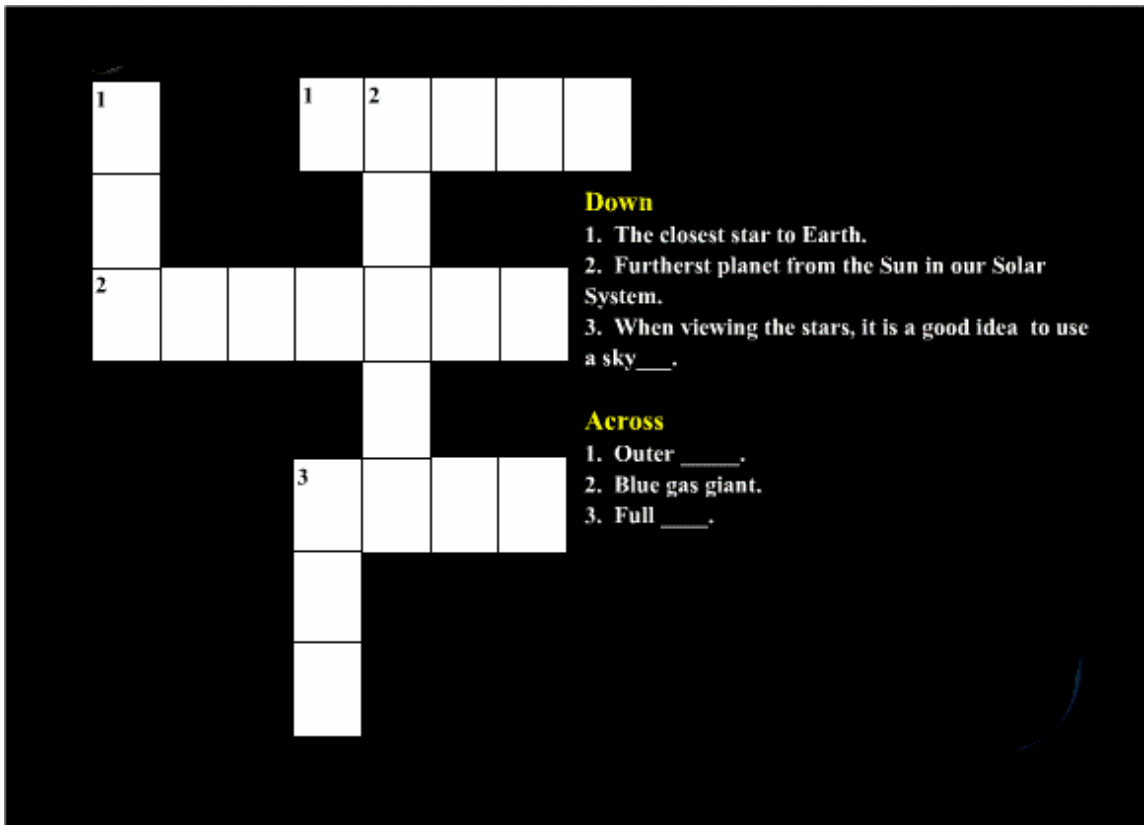
2. In a double boiler, melt together the butter and unsweetened chocolate, stirring occasionally. Let cool slightly, then beat in the sugar, eggs and vanilla with a wooden spoon until glossy. Stir in the flour and salt. Spread the batter evenly in the prepared pan and bake until the top cracks and a toothpick inserted into the center comes out moist, about 50 minutes. Let cool.

3. Meanwhile, place the chocolate chips in a medium bowl. In a small saucepan, bring the coconut milk to a simmer. Pour the coconut milk over the chocolate chips and let stand for 5 minutes, then whisk until smooth. Pour the warm glaze over the cooled brownies and tilt the pan to coat evenly. Refrigerate until the glaze is set, about 2 hours. Using the foil flaps, gently remove the chilled brownies from the pan and cut into 1-inch squares. Decorate the Brownie Bites with the icing.

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!!

Puzzle of the month



Word Search Puzzle of the Month

Planets

y n g s e v t f p n c c r s f w p h s l
b s j b a o l w p b u e n y r n f w f a
x m l e r h f d w y t e m g w a s m v q
x m c g t y z c y i s i j t r e m v s y
c d t f h n k p p y s d u m z s g v d y
n c f c b u l u v v w k t b k l a j g m
f e e y k d j a w s z d m w t m v a y g
u t z f s a t u r n i c o d v b g g v d
e r o i v y w n y m v m v c g v q j m m
b e a a c o q y q h x e d o l w b j i g
b e q n s j v x k w n c f g g h q g q d
m t e u u w w j q u e r i h e a f u g g
j e f t p s a k s t d z z z z y o b s m
j n v u y y i t y a f l c d p h w j s p
c u c l x i d e n r g j r q d b t f j x
w t d d c a p b n h u c i i e k s q i x
u p c b q b v h v w n c i u a c o i a u
t e f e f j e d v e y s r u f j z r x h
g n o t u l p x m g w a m e l w m w g z
q x r z w w h c a i f t i k m s u k k j

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

After you have solved the word search puzzle, put the planets in the order that they appear from the Sun. And this editor counts Pluto as a planet.

Next month's edition will have the answers, along with a new puzzle. In addition, I hope to add some Word Search and even something to draw or color. Have fun.