

Starscan

Johnson Space Center
Astronomical Society

Volume 23, Number 12 December 2007



**ANOTHER GREAT CLUB PRESIDENT STEPS
DOWN**



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CONNIE HAVILAND

Message from the el Presidente

Howdy All,

After one year as VP and three years of enduring the grueling tasks of President of the JSCAS, I gracefully step down next month and David Haviland will take over said duties. Chris Randall will be serving as David's V.P. as well as his other duties. I gotta say, it's been a real hoot playing ring master over this organization! After trying desperately to get impeached on numerous occasions I realized it was just easier to perform the task at hand. My favorite experience was probably our 40th anniversary dinner. It was fun to research events of the past and share them with the club. There we're so many events and activities to choose from, it was difficult to choose which ones would hit the cutting room floor! I want to thank everyone for putting up with my antics (it's obvious I like attention) and hopefully my term won't be referred to as "the dark years". See ya in the cheap seats!!!

Bob Taylor

Letter from the Editor

By Connie Haviland

We say goodbye to yet another President to our fun and exciting club, Bob Taylor. Although he will no longer stand at that podium on a regular basis, his presence will not go unnoticed, I am sure. Bob is the type of person that stands out and makes things exciting, fun, and down-right enjoyable.

Bob, this month's edition of the Starscan is dedicated to you. You have given us so many memories and I am certain there will be many more. Your dedication to this club and it's members have not gone unnoticed. You have touched the lives of so many people, both in our club and those who have visited our club. You have done an outstanding job and this editor wants to thank you.

So I have set aside a few pages that says what our members want to say to you...Thanks Bob Taylor for being here and for being who you are...

Merry Christmas everyone!! The staff of the Starscan want to thank you for a wonderful year. We look forward to a new year and many wonderful articles for you to enjoy. As always, may you be blessed with peace, happiness, good health and prosperity, but above all, always clear skies!!! Happy holidays everyone!!!

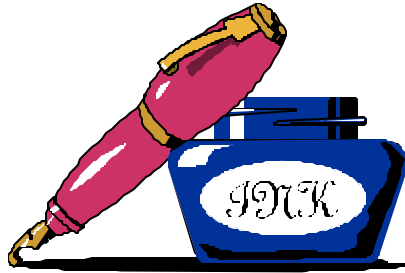


Star Party Dates—2007

By John Erickson

**THERE ARE NO STAR PARTIES SET ASIDE FOR DECEMBER
WE WILL BE BACK NEXT YEAR
MAY YOU HAVE A WONDERFUL HOLIDAY AND CLEAR SKIES FOR VIEWING**

Letters to the Editor



I AM SITTING ASIDE THIS SECTION FOR LETTERS TO BOB TAYLOR

NOTE FROM THE EDITOR: I have exercised editorial prerogative with some of the following comments. These are comments said and/or sent to the editor, that have been edited for publishing of this newsletter.

Bob is the one that got me hooked on mirror grinding. Now I am building a mirror lab complete with a mirror coating machine for which Bob has agreed to build a mirror cell. I have always found Bob to be willing to go out of his way to help others and never ask for anything in return. Conversely, if you happen to get an opportunity to do something for him, he is genuinely appreciative, as if he can't imagine what he did to deserve such kindness. One measure of a good person is that they do good without noticing that they have done it, it is simply in their nature. By that measure you'll not likely find better than Bob. We all owe Bob a huge amount of thanks for all he's done over the years. If you ask him about it, I'll bet his response is "You don't owe me nothin". Cheers to you Bob.

Matt Hommel

The cover page for this month's Starscan is Bob at Astronomy day 2007 reading from the sacred STARSCAN book of scripture. Thank You Bob!

Taken by
Chris Randall

Our club has been very fortunate that Bob Taylor stepped up to be our president for the last 3 years. Tradition has it that club officers run a second term then retire. In Bob's case, no one stepped up to take over the reigns after year 2 so Bob volunteered to serve a third term. Now its time for someone else to do their part.

We all know of Bob's dedication to the club during his presidency. I wonder how many know how generous he is with his time in an unofficial capacity. I'd like to take this opportunity to thank Bob for all he has done for me, not as president but as a friend.

First of all, Bob tested my new 22" mirror and found that it had problems. I was successful in getting the mirror maker to replace the mirror, which Bob also tested, this time with his seal of approval.

I was able to attend one of his classes on welding that he held for club members. Now I can't say I really learned how to weld but I did get a good start with the basics. It was great fun and all appreciated his efforts.

On another occasion, while at Fort McKavett many years ago, he noticed that our truck had a flat tire. He immediately grabbed tools and changed the tire for me. That's just so like him, always helping out.

Speaking of helping out: Bob always made himself available to go to the schools around Fort McKavett during JSCAS' outreach programs. When looking for presenters, we always were able to count on Bob. He's so unselfish with his time.

Now I haven't covered all the times he's come to my rescue but I would like to tell you about the last time I needed his help. Last June, during a visit to his place in Hunt, we all went to the river for some fun in the sun. As bad luck would have it, I fell, breaking my wrist. Being in a great deal of pain and completely helpless to maneuver my floatation device back up the river, good ole Bob towed me all the way back to where we could exit the river. What a great guy! I am so lucky to be able to call Bob Taylor my friend. Thanks Bob, you're the greatest.

Ken Lester

Thanks Bob for all you have done for the club and it's members.

Al and Loretta Kelly

Thanks Bob for everything.

Chuck and Connie Shaw

Thanks Bob!!

Dick and Nancy Miller

Thank you Bob.

Lynn Dippel

A little over eight years ago I decided to overhaul my 10 inch dobsonian and then use the leftover parts with a few additions and major modifications to make my Dad a telescope. I could not have done this without the help of Bob Taylor. Not only did Bob refigure the mirror so I could have it recoated in time for TSP, but he also shortened the Sonotube for me and then hauled the finished scope out to TSP in 1999 just so I could surprise my Dad with it.

Bob was "in" on the surprise from the get go, and even though Bob had a ton of his own TSP packing and planning to do, he didn't even blink when I asked him for help. The recoated mirror only came back about 3 days before TSP departure time and Bob never wavered a bit, he was dedicated to helping out with making the scope for my Dad a reality. Surprising my Dad with a telescope at TSP was one of the best moments of my life, and I could not have had that moment without Bob and Karen.

Becky Ramotowski

Thank you Bob for the many hours you have contributed to this club over the past years.

Jim Cate

Thank you Bob for all you have done for the club..

Walter Gardiner

Thanks Bob.

Bob and Claudia Hammond

Thank you Bob.

Dennis Webb

Thank you Bob.

Wes Doucet

The first time I attended a JSCAS meeting was the Winter Solstice party in 2001. I remember all of the men in the group wanted to win the Astronomy Monopoly. Instead, I won it. I had never been to a star party before and I walked away with the game. It was then that I met many of the members in the club; Bob and Karen Taylor were among them.

Since then, I have come to respect Bob and Karen very much. They attended my Eagle Court of Honor, along with several other members, yet this meant a great deal to me, since they had been very active in scouting. You can see that dedication and leadership in their personalities and I am honored to know I can call them my friend. Both Karen and Bob have shown me respect as a member of this club, a part of the younger members who are coming into the club and learning from those who have been in astronomy for some time. I know I can ask Bob anything and he is always there, more than willing to help me understand more.

Thank you Bob, and Karen, for all you have done and given to this club. I am proud to say I am a member of JSCAS because of members like you two.

John Cavuoti, II

Thanks Karen for sharing Bob with us....

Connie Haviland



I probably can't say anything about Bob that most folks don't already know, or that someone else hasn't already said. Bob is special. You realize that as soon as you meet him. My first acquaintance with Bob was when I started grinding a mirror. (And yes, Bob, I will finish the project...some day...) Bob volunteered to be my mentor, and he immediately became like an old friend to me. He wanted updates on my progress and was always available to answer my silly questions and give advice. He even made a special trip to visit my house and observe my work. And tools! Bob loves tools, and he loves to lend them out. That's rare. I'll lend things out, but frankly, I do it hesitantly, wondering if I'll get them back. Not Bob, he seems to give without thinking about it. And he also freely lends anyone else's stuff, like Triple's Foucault tester...:-)

These are just a couple examples of Bob's giving personality. He freely and enthusiastically gives anything he has to help someone else; time, tools, whatever it is. And he does so without expecting anything in return. Bob, you're a gem, a real rarity. Thanks for all the time and help you have selflessly directed my way. I hope we remain friends so I can somehow return even a fraction of it back to you. Thank you Bob.

Dan Beaver

RAT (aka Robert Allen Taylor),
I will always remember being ready to follow you to Mexico with that shipment of hot M-16s.what a way to get to know you and your sense of humor! Not that you'd ever take advantage of a young (but older) impressionable one-striper with your charismatic leadership style. Of course writing my initials on your rear with compressor blade dye was more than enough payback! I also can't look at a clear night sky without recalling that night on your playscape, talking about how cool it would be to build a scope, and hoping to rope you into the idea so I could take advantage of your talents in a shop. Look at you now, telescope, and mirror maker extraordinaire! You're truly one of a kind, and I am thrilled to have had the chance to run with you and Karen for all these years. It's always a hoot. Best of luck.

Buffalo (aka Jeff Stone)

What can I say about Bob Taylor... quite a bit actually.

Although I had been attending JSCAS meetings for some time, my first meeting was under Hernan's regime, it was sometime before I made a trip to the Fort. In fact, it wasn't until March of '01, where Triple gave a "pep-talk" encouraging people to go to the Fort, when I attended my first outing there. Well, being somewhat of an educator I answered Lisa Lester's call for volunteers to go to Menard and I hitched a ride with Triple. Well, there is the character sitting in the back seat of Triple's truck with a singular whit that just about has me in stitches all the way to Menard. Needless to say this character was Bob Taylor. I knew that afternoon this was a guy I wanted to know better and still do to this day. Later, after we got back to the Fort, Bob gave me a "tour" of his Dob and I was truly amazed. Bob is a man of true character, an optimist, with something good to say about nearly everyone.

Bob, you have been a friend, mentor, and it has been an honor and privilege to have been your V.P. for the last three years. I am forever thankful that our paths crossed and hope for continued and growing friendship in the future.

With honor,
David Haviland

Some wanted to send pictures....



FROM KEN LESTER



FROM BECKY RAMOTOWSKI



Picture provided by
Chris Randall



Remaining
Pictures
Provided
By
Randy
Brewer



By Hernan Contreras

Feliz Navidad a cada uno. ¡Puedes tener un Año Nuevo llenado de paz, de felicidad, de prosperidad y de cielos claros!!!



TRANSLATION FOR EVERYONE WHO DOES NOT SPEAK SPANISH: Merry Christmas to everyone. May you have a New Year filled with peace, happiness, prosperity and clear skies!!!








DECEMBER OBSERVING

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

Object	Const	Mag	% Ill	Rise Time	Transit	Set Time
Sun	Oph	-26.7	100	07:08	12:15	17:22
Moon	Aqr	----	36	11:26	17:14	23:03
Mercury	Oph	-1.2	100	07:10	12:12	17:15
Venus	Lib	-4.1	71	03:56	09:27	14:58
Mars	Gem	-1.6	100	18:05	01:13	08:20
Jupiter	Sgr	-1.8	100	07:36	12:41	17:47
Saturn	Leo	0.6	100	23:04	05:28	11:53
Uranus	Aqr	5.9	100	12:02	17:49	23:39
Neptune	Cap	7.9	100	10:46	16:13	21:43
Pluto	Sgr	14.0	99	07:16	12:38	18:03
Comet Holmes 17P (outburst)	Per	17.6 1.2	98	13:12	21:48	06:19

Highlighted times denote daylight events.

Lunar phases for December 07

Third 	New 	First 	Full 	Third 
01st 06:44	09th 11:43	17th 04:17	23th 19:16	31st 01:51

Central Standard Time

★ BSO: (Bright Sky Objects)

Mel 20 (Alpha Persei Association, Cr39) – Open Cluster in Perseus, Magnitude 1.2, Size 185', #Stars 50.

NGC 869 + 884 (C 14, Cr 24+25, Mel 13+14) – Open Clusters in Perseus, Magnitude 5.3+6.1, Size 30' ea, #Stars 200+150.

NGC 1039 (M 34, Cr 31) – Open Cluster in Perseus, Magnitude 5.2, Size 35', #Stars 60.

NGC 1342 (Cr 40, Mel 21) – Open Cluster in Perseus, Magnitude 6.7, Size 14.0', #Stars 40.

★ DSO: (Dark Sky Objects)

M 77 (Arp 37) – Galaxy in Cetus, Magnitude 8.8, Size 6.9' x 5.9'.

IC 342 (C 5) – Galaxy in Cam, Magnitude 9.2, Size 18 x 17

NGC 925 – Galaxy in Triangulum, Magnitude 10, Size 9.8'x6.0'

NGC 1232 (A-41) – Galaxy System in Eridanus, Magnitude 10.5, Size 7.4' x 6.4'

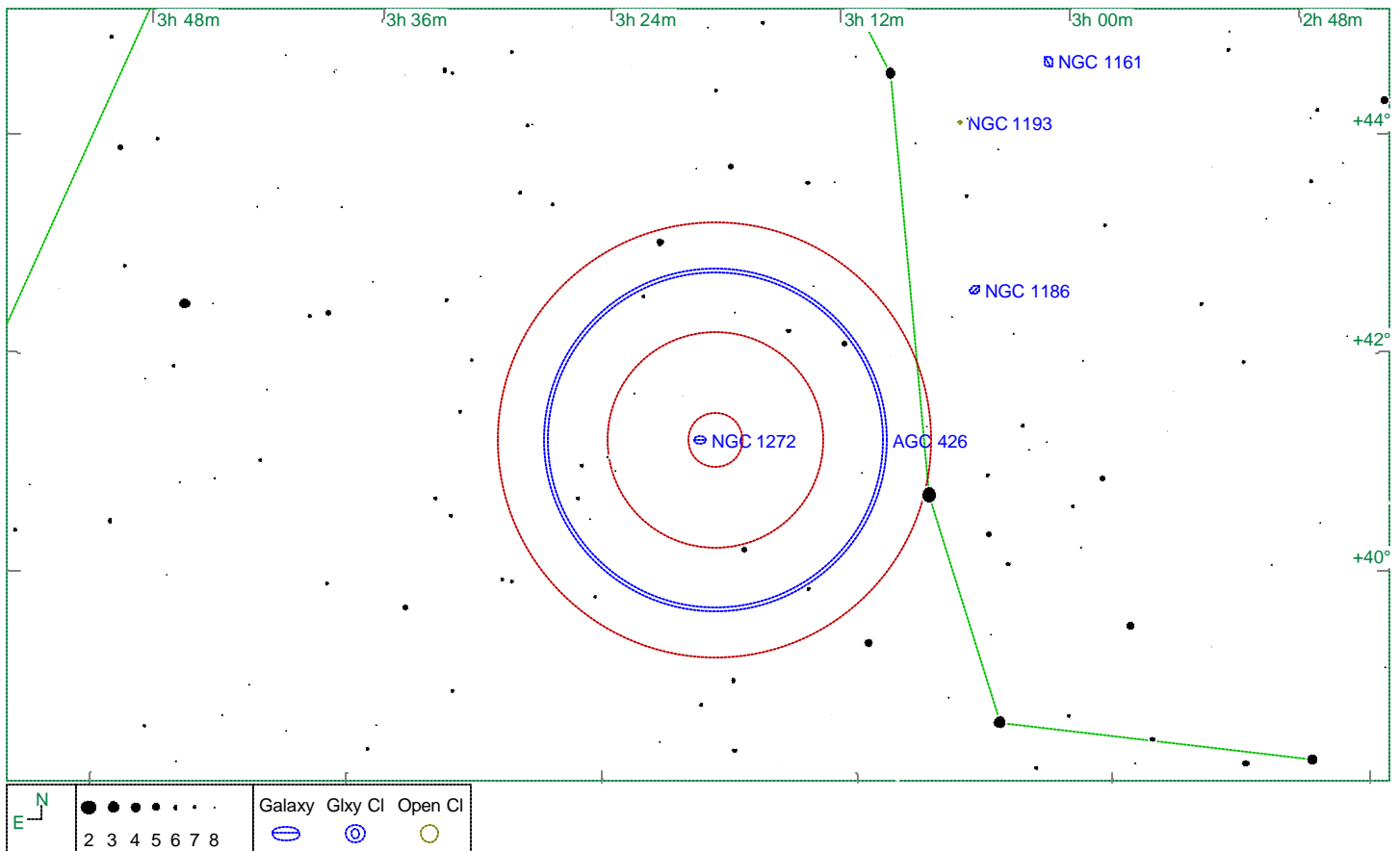
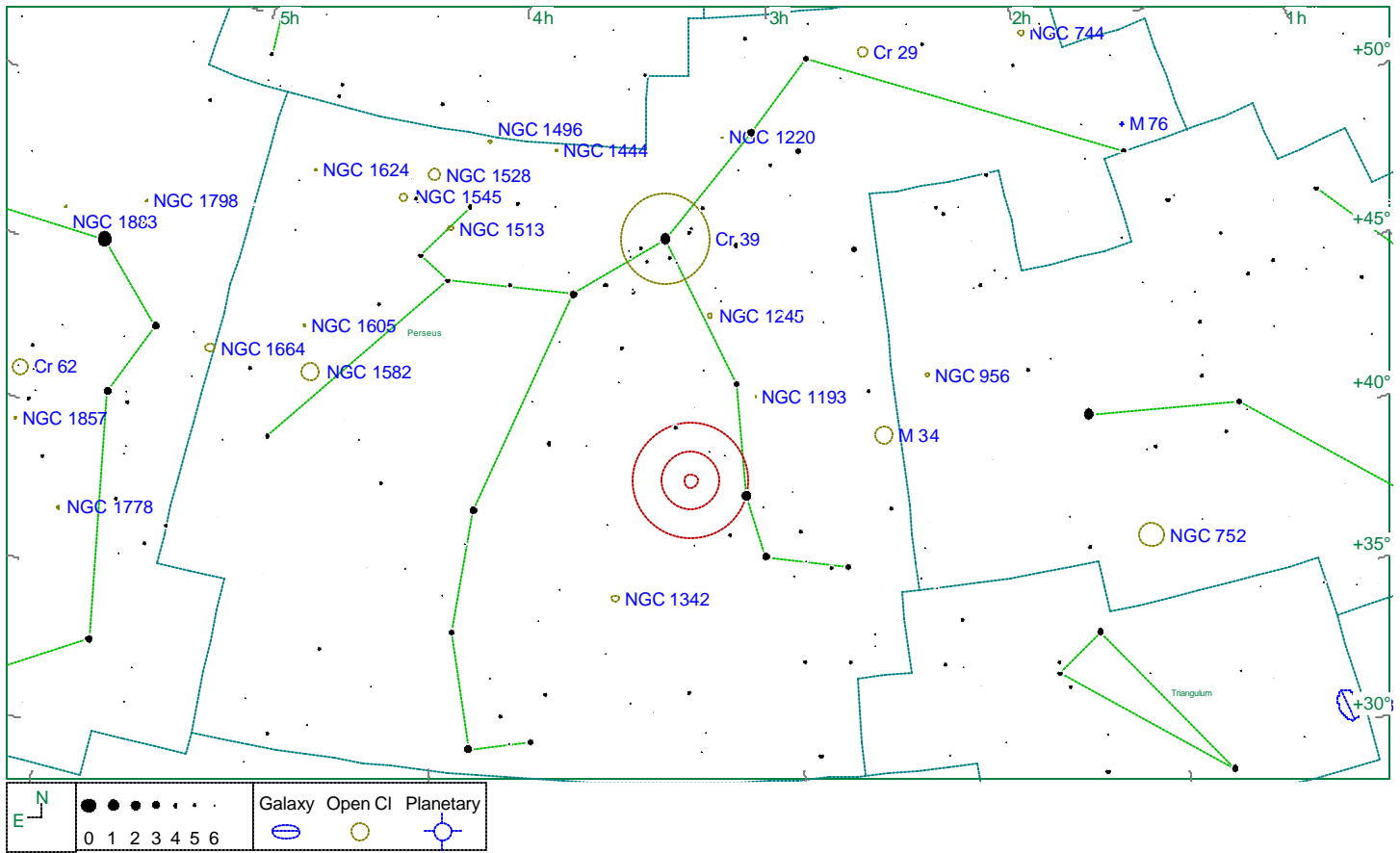
★ CDMP: (Chris' Don't Miss Pick)

Abel 426 – Galaxy Cluster in Perseus, Magnitude 12.5, Size 190.4', #Galaxies 88.

George Abell compiled a catalog of galaxy groups in the 1950's. Abell surveyed the then recently completed Palomar Sky Survey plates to find clusters of galaxies. He assigned numbers according to richness of the number of galaxies and the distance of the cluster. He found that the magnitude of the 10th brightest galaxy was a good indicator of the relative brightness of the cluster. This ground breaking work has stood the test of time as a valuable system for evaluating galaxy clusters.

There are 88 galaxies that compose this cluster, but there are several viewable in nominal amateur equipment. These are NGC 1272 through NGC 1278 and IC 1907. These will be a challenge, but will be well worth it when you find them.

For this and more information go to <http://www.saguaroastro.org/content/Abel-Galaxy-Clusters.htm>





Charlie has two challenges this month..guess he wants to give you a little something extra to think about before going into the new year.



Shuttle Replacement: I can think of several reasons why NASA would want to replace the Space Shuttle. However, I don't know which reasons actually motivated the switch. The new orbiter would be a good subject for a future JSCAS program, but I would appreciate a brief explanation of the planned advantages of the replacement in the next Starscan.

RESPONSE TO LAST MONTH'S CHALLENGE

Provided by ??

CHARLIE'S CHALLENGE LAST MONTH: Could someone either explain this to me or refer me to a publication where it is explained as to why high-performance jet airplanes in operation show the exhaust containing luminous patches alternating with non-luminous ones?

GUESS YOU STUMPED THEM CHARLIE!!!



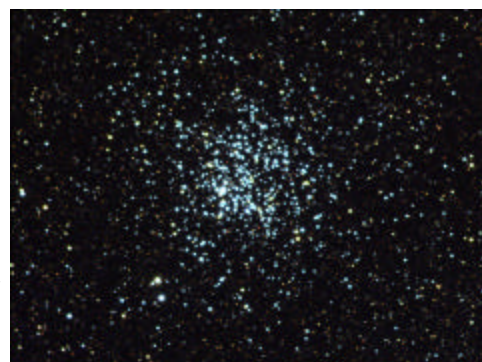


M11 taken 2002 by Al Kelly

I notice that many of Al Kelly's images contain lots of closely spaced stars. It seems likely that some of these are double stars. In the past double stars were critical to understanding important aspects of astronomy. In particular, the masses can be obtained from careful observation of the orbits of double stars. This in turn was responsible for un-

derstanding things like mass-luminosity relations and estimates of distances that were too far away to be measured by parallax. The thought occurs to me that if Kelly has imaged these same star fields several years in the past, he might be able to discern that some of the stars had moved and would thus probably be members of a double or multiple system. If so, then perhaps the professional astronomers might be interested to know so that they could make the painstaking measurements that a full analysis of double star dynamics requires.

It is also possible that such double star observations and analyses have already been carried out to the point that whatever fundamental understanding of stellar processes they contribute has already been obtained. Also, the improvements in parallax measurements contributed by the Hipparcos satellite may have reduced the util-

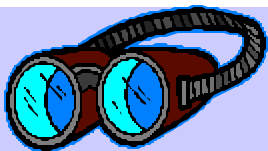


M11 taken 2005 by Al Kelly

ity of double star work. I really don't know whether the professionals care much about double stars any more, but Kelly's well-resolved images suggest possible professional interest.

COMMENT FROM THE EDITOR: *Hey Al, want to comment here? I am not sure exactly what Charlie's question is, so I am bumping this to you...C. Haviland*





FORT (Forward Observing Recon Team)

By Ken Lester (special operations team)

Last year in June Fort McKavett hosted the children's camp Old Stories New Voices. The week long camp brought to deserving children a variety of cultural experiences that they might otherwise not experience.

Fort McKavett will once again be part of the Old Stories New Voices program in 2008 and 2009. In preparation of these camps, organizers from Colorado and Pennsylvania met with the Fort McKavett staff and organizers from Austin in early November.

As a participant in these meetings, during my networking with these folks, I mentioned that I was drawn to the Fort for the Astronomy opportunities. Immediately, I was asked to bring out my telescope and give them a star party.

After work, Lisa and I set up the 8" and 16" scopes. Our first object of the evening was Comet Holmes. I must say we wooed the crowd with that one! Next we showed all the easy targets like M57, the Veil Nebula, the double cluster, M31, and ET.

Since our audience had put in a long day of travel and meetings, our star party didn't last very long. However, there was great praise for our efforts. Most have never looked through a telescope before let alone seen some of the wonders we showed. It was definitely a wonderful experience for Lisa, our guests and myself.

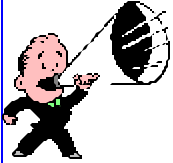
JSCAS is alive and well at Fort McKavett!!!



What's Happening at the George!!!

Cynthia Gustava

Need volunteers



George Observatory November Events

December is a fairly quiet month at the George Observatory. However, we have the usual Saturday night public viewing nights and a couple of Friday night events mid-month. With the time change, viewing starts at around 5:30 p.m. Park gate now locks at 10:00 p.m., until next Spring.

Saturday, December 1 – Public Viewing Night

Building Managers: Tracy Knauss and Mary Lockwood

Volunteer deck scopes and dome operators needed

Friday, December 7 – Girl Scout Sky Search and Overnight (60 girls and adults)

Volunteer deck scopes, laser pointers, and dome operators needed

Saturday, December 8 – Public Viewing Night

Building Managers: Mary Lockwood and Joe Mills

Volunteer deck scopes and dome operators needed

Friday, December 14 – Friday Night Groups

Cub Scout Pack (50) and Civil Air Patrol (40)

Volunteer deck scopes, laser pointers, and dome operators needed

Saturday, December 15 – Public Viewing Night

Building Managers: Barbara and Buster Wilson

Volunteer deck scopes and dome operators needed

Saturday, December 22 – Public Viewing Night

Building Managers: Justin McCollum and Carl Sexton

Volunteer deck scopes and dome operators needed

Saturday, December 29 – Public Viewing Night

Building Managers: Leonard Ferguson and Cynthia Gustava

Volunteer deck scopes and dome operators needed

NOTE TO CYNTHIA: SORRY FOR THE DELAY WITH THIS MONTH'S STARSCAN...



JSCAS LIBRARY

Karen Taylor

BOOK REVIEW

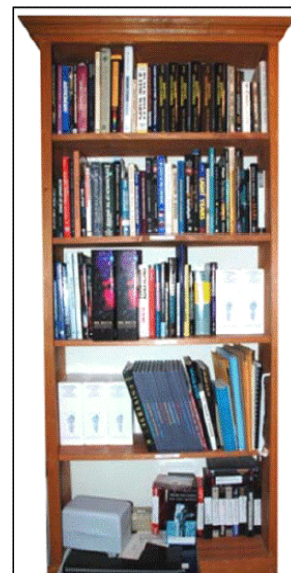
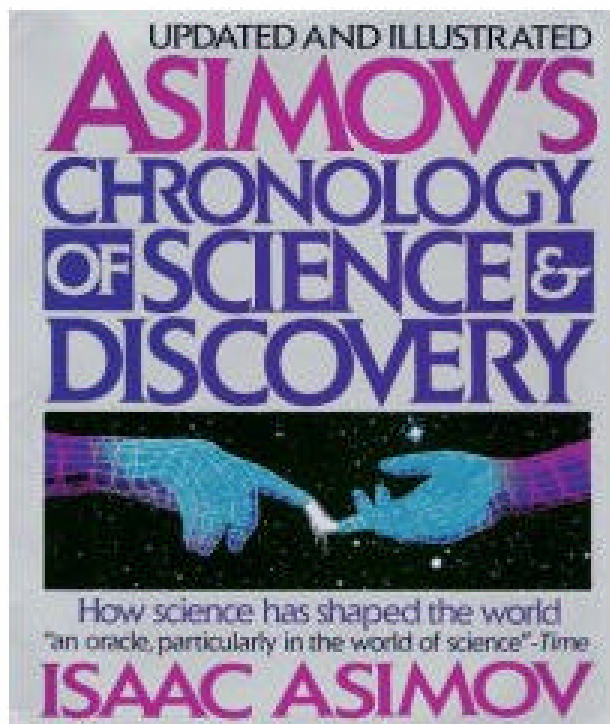
Bob Taylor

Book Description

Isaac Asimov's innovative exploration of the relationship between science and society over the past 4 millions years.

About the Author

To list Isaac Asimov's honors, as to list his books, would be excessive. Let it simply be noted that Isaac Asimov was the most famous, most honored, most widely read, and most beloved science fiction author of all time. In his five decades as an author, he wrote more than four hundred books, won every award his readers and colleagues could contrive to give him and provided pleasure and insight to millions. He died in 1992, still at work.





FOR SALE: 17-INCH F/4.5 DOB
made by Andy Saulietis. Good optics but needs work. It has been sitting my garage, mostly for the last 10 years, unused. I now have another scope and need to make room for it. Best offer.

Paul Maley, 281.2440208 (daytime) or
pdmaley@yahoo.com email:
paul.d.maley@nasa.gov (tel.)
281.244.0208 (fax.) 281.244.7622

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JSCAS Mirror Lab

Matt Hommel
PROGRESS REPORT



Since my last agonizing installment of Starscan Fluff, I have installed the Monster Mirror Grinder and I have managed to grind an 8" blank all the way to the polishing stage. I had to go back through the grits a couple of times, but I got it right prior to the grinding tool shooting out through the bottom of the blank, which is a good thing. Still at about F3.8, there is not much more room for error.

Also, I have decided to up the capacity of my grinder from 30" to a full Meter or 40". I figured, what the heck, it's a nice round number. I replaced the high torque motor with an even higher torque motor. Nothing else was really required. It appears that the swing arm will accommodate it and the turntable can easily be overlaid with a larger diameter disk.

I am looking forward to getting the mirror coater so I can practice on the 8" I am currently polishing.



Cheers,
Matt

FRED'S SHRIMP, PORK SAUSAGE, AND SMOKED TURKEY GUMBO

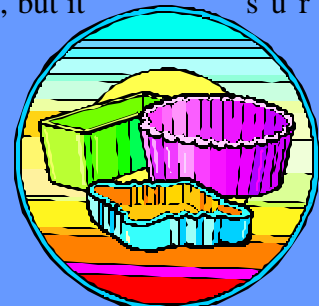
16 cups of water (1 gallon)	10 oz. Fresh or frozen okra thawed, trimmed, cut into ¼ in. rounds (2 c.)
1lb. Shrimp	¾ c. thinly sliced scallions or green onions
1lb. Pork sausage (I used <u>Prasek's</u> .)	½ tsp. ground black pepper
4 c. smoked turkey/chopped in 2" cubes (may sub cooked chicken and 1 smoked ham hock)	¼ tsp. cayenne pepper
½ c. all purpose flour	1 c. chicken broth
¼ to ½ c. vegetable oil	½ tsp. crushed red pepper
2 garlic cloves minced	½ tsp. chili powder
2 medium yellow onions, chopped	½ tsp. thyme
2 green bell peppers, diced	2 bay leaves
1 red bell pepper, diced	1 T. kosher salt
2 celery ribs, chopped	2 T. Creole seasoning (<u>Tony Chachere's</u>)
	1 tsp. Worcestershire sauce

Prep: Chop onions, bell peppers, celery, and okra. De-vein shrimp, retain shells for stock. To make stock combine shells with 6 to 8 cups of water. Bring to a boil; reduce the volume of the stock by simmering. Cut sausage into ¼ in. rounds, fry in a small amount of oil in a skillet at about 300 F; remove sausage, retain oil; add flour and extra oil if needed to thoroughly wet the flour (like making gravy). Heat the flour and oil mixture to about 375 -400F. Constantly scrape the bottom of the skillet until the mixture is chocolate in color. NEVER STOP SCRAPING OR MIXTURE WILL BURN. Toss in onion and garlic into roux when it reaches the desired color. Sauté onions and garlic until onions start to clear. Add bell peppers and celery. Continue to sauté. Strain shrimp shells from stock. Pour stock into large pot. Add roux and vegetables to hot stock. Add chopped sausage and turkey, chicken broth, and spices. Bring mixture to a boil. Reduce heat and simmer 3 to 4 hours. Okra may be added earlier or later in the cooking to reach desired okra texture. Add shrimp and scallions/green onions 5 minutes before serving. Salt to taste.

If serving a large group you may wish to add the uncooked rice directly to the mixture. Add the required water for the rice. This should be added about 30 to 45 minutes before serving.

Serve with file (sassafras powder), if desired.

Accompaniments: cooked white rice. (I hear roux can be made by micro waving oil and flour 30 seconds at a time until desired color is reached. I've not tried this, but it s u r e would be faster and easier.)



Members' Gallery—December 2007

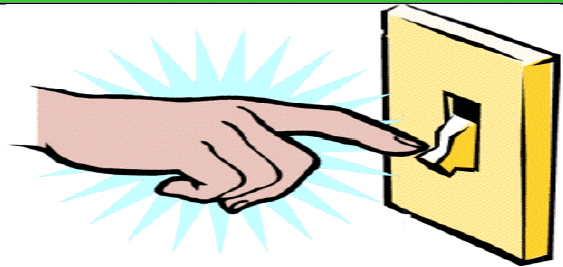
Al Kelly



December 6, 2007
LRGB of NGC 1491
(Perseus). L:R:G:B = 90:40:24:28 min.

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."



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

Houston

Area

Astronomy

Clubs

Johnson Space Center Astronomical Society

2007-Club Officers

President – Bob Taylor
Vice President – David Haviland
Secretary – David Haviland
Starscan Editor – Connie Haviland
Star Party Chairperson – John Erickson
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
Deep Sky Observing – Chris Randall

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. I have set up a special email account so that I can keep all of the Starscan articles, pictures, information, etc, separate from all of the other email I get. This makes it much easier to edit and set up the Starscan

Please send all submissions to:
conniesstarscanaccount@gmail.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

MEMO

Question of the Month:

IT'S CHRISTMAS
BREAK AND THERE IS NO
WORK FOR THE MONTH OF
DECEMBER. MERRY CHRIST-
MAS, FELIZ NAVIDAD,
HAPPY WINTER SOL-
STACE..AND HAPPY NEW
YEAR!!!!



WORD SEARCH SOLUTION

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

(Over,Down,Direction)

AFGHANISTAN	(14, 11, N)
ANDROMEDA	(4, 3, SE)
ANNIVERSARY	(1, 11, NE)
CLOCK	(9, 16, SW)
DAYLIGHTSAVINGS	(15, 1, S)
DISCOVERY	(17, 10, S)
DOBSONIAN	(1, 14, E)
EGYPTIAN	(8, 1, W)
EQUINOX	(3, 7, NE)
GLOBULAR	(12, 4, SW)
HARMONY	(1, 17, E)
HEMISPHERIUM	(13, 1, SW)
ORION	(20, 13, S)
PLANETARIUM	(12, 15, NW)
SCHMIDTNEWTONIAN	(1, 2, SE)
SHUTTLE	(12, 14, SE)
SOLTICE	(18, 18, N)
SPACESTATION	(12, 16, W)

SOLUTION TO THE QUESTION OF THE MONTH—NOVEMBER

QUESTION OF THE MONTH: What is a Solstice, when is it and which one is happening next month?

ANSWER: . Solstice

Either of two times of the year when the sun is at its greatest distance from the celestial equator. The summer solstice in the Northern Hemisphere occurs about June 21, when the sun is in the zenith at the tropic of Cancer; the winter solstice occurs about December 21, when the sun is over the tropic of Capricorn. The summer solstice is the longest day of the year and the winter solstice is the shortest. A highest point or culmination.

The **Winter Solstice**, historically known as Midwinter, occurs around December 21 or 22 each year in the Northern hemisphere, and June 20 or 21 in the Southern Hemisphere. It occurs on the shortest day or longest night of the year, marking the astronomical beginning of winter. Worldwide, interpretation of the event varies from culture to culture, but most hold a recognition of rebirth, involving festivals, gatherings, rituals or other celebrations. Many cultures celebrate or celebrated a holiday near the winter solstice; examples of these include Christmas, Hanukkah, Kwanzaa, New Years, Pongal and many other festivals of light. (credit: Wikipedia)

The solstice on or about December 21st that marks the beginning of winter in the Northern Hemisphere. [Origin: 1625–35] Dictionary.com Unabridged (v 1.1)

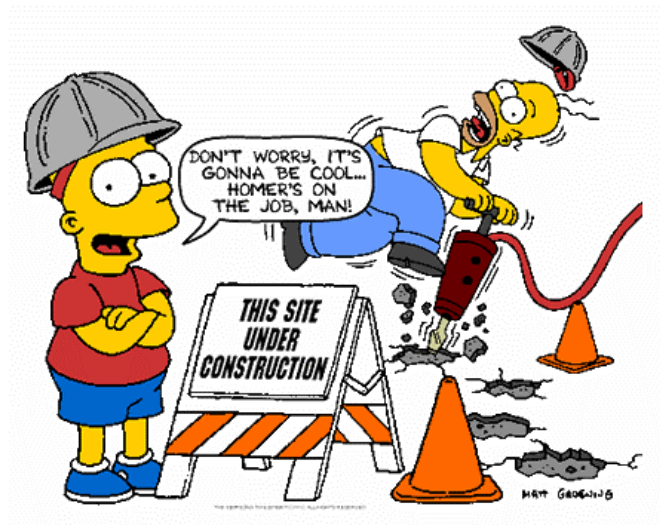
Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.

Winter Solstice: December 22, when the sun is at its southernmost point. Summer Solstice: June 21, when the sun is at its northernmost point (*WordNet® 3.0, © 2006 by Princeton University.*)



CROSSWORD PUZZLE & SOLUTIONS

STILL...





*Snoopy says, never stop looking up..reach for the stars
and may you always have clear skies!!!!*

