

First Light

Newsletter of the Alachua Astronomy Club

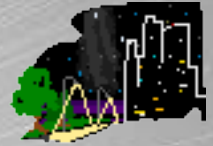


North Central Florida's
Amateur Astronomy Club
29°39' North, 82°21' West

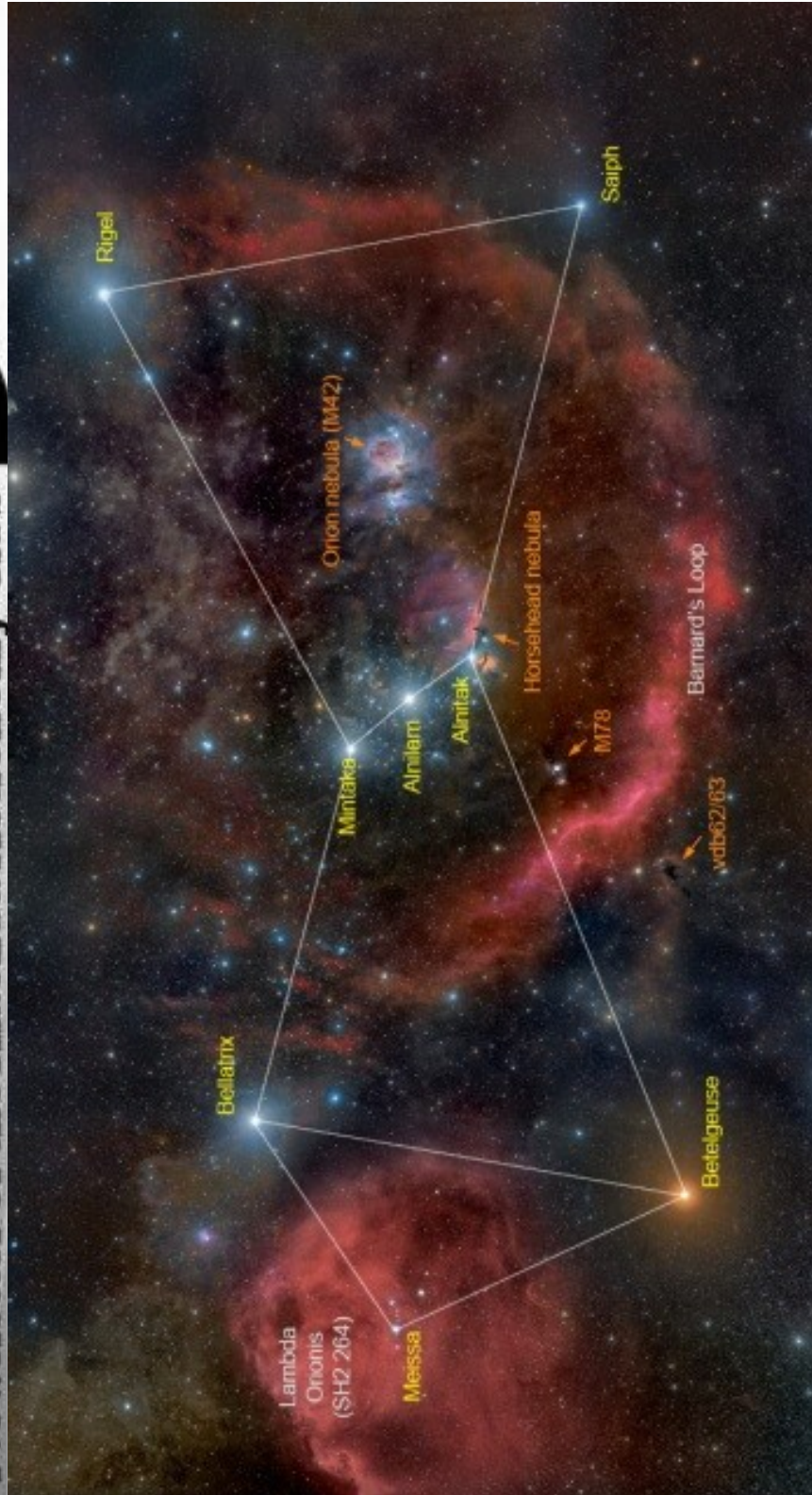
November/ December /January
Issue 98.1/99.1/100.1



Member
Astronomical
League



Member
International
Dark-Sky Association



Credit & Copyright:: Rogelio Bernal Andreo
Explanation: Cradled in cosmic dust and glowing hydrogen, stellar nurseries in Orion the Hunter lie at the edge of a giant molecular cloud some 1,500 light-years away. Spanning nearly 25 degrees, this breath-taking vista stretches across the well-known constellation from head to toe (left to right). The Great Orion Nebula, the closest large star forming region, is right of center. To its left are the Horsehead Nebula, M78, and Orion's belt stars. In this mosaic of broadband telescopic images, additional image data acquired with a narrow hydrogen alpha filter was used to bring out the pervasive tendrils of energized atomic hydrogen gas and the arc of the giant Barnard's Loop.



It's November, do you know which stars are out? The viewing this summer was so dismal I lost all track of what was in the sky. October was a breath of fresh air with Cygnus, my favorite constellation, and the teapot so nicely positioned. The weather has held up nicely, encouraging a return to a more routine viewing pattern. Bring on the Pleiades, Orion, Auriga, and the rest of the stellar zoo. I've got a scope waiting for you.

Alas, it's November. The last board meeting for the year is over, and next week is the last general meeting for 2010. My term is coming to a close rapidly, and as I will not be seeking a second term, I find myself in a reflective mood. For those of you who may wonder, I need to break from my role as club president to attend to work and other matters. It need not be a permanent break.

I am confident the new officers and board will transition smoothly, taking over the current crop of projects and establishing us as a premier astronomy club. Of the many things accomplished this year, without question, the highlight is the Newberry Star Park(NSP).

What started as a simple suggestion from Doug Engh at our January meeting has in the course of the year, become a reality. If all continues on schedule, the club will celebrate the official groundbreaking of the NSP as the theme of the January regular club meeting. Dress nicely! We fully expect to see the Newberry City Commissioners, members of the Recreation Department, and likely some press coverage at this meeting.

The project would not have succeeded without the help of the NSP Committee. The members of the committee are: Tandy Carter, Joe and Gay Halde-man, Ivo Rabell, Marianne Gamble, Mike Toomey, Chuck Broward, Bob Lightner, Doug Engh, and myself. I tip my hat to the committee members for their hard work.

The establishment of the NSP gives us an excellent stage to conduct educational and outreach activities as well as provide a home of sorts for the club. In return for the physical facilities, the club has agreed to participate in school and community events. This is a great lead-in for my concluding message to the club for my term.

Take time to enjoy the sky. Better yet, take a kid star gazing. Or an adult, or anyone you can. The sky is full of wonders that never get dull. Fancy equipment is not necessary to enjoy the constellations, a meteor shower, or the phases of the moon. If asked, be able to give an answer to the question "Does the moon rotate". The correct answer, of course.

There is something special about being able to hear John Denver sing "I've seen it rainin' fire in the sky. The shadow from the starlight is softer than a lullabye ", and know exactly what he was meant.

With that, I look forward you seeing you under the stars.

Best Regards, Rich



M45 Pleiades: At a distance of only 440 light years, this open star cluster in the constellation Taurus is an easy naked eye object in the winter sky.

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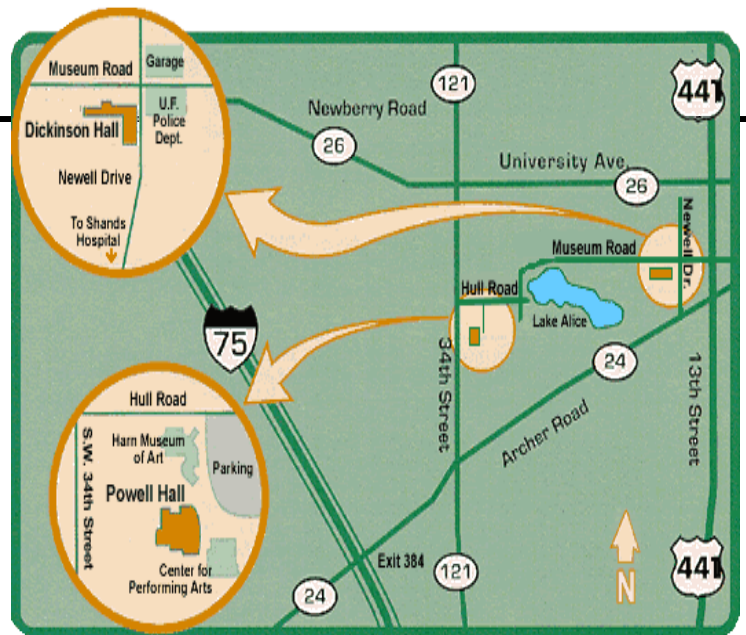
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AAC Meeting Location - AAC regular meetings are held on the second Tuesday of each month at 7:00 p.m. at the Florida Museum of Natural History, **Powell Hall**, in the Lucille T. Maloney Classroom, on UF campus, unless otherwise announced. All meetings are free and open to the public. Join us for some great discussions and stargazing afterwards. Please visit our website for more information (floridastars.org). There is no monthly meeting in December.



Submitting Articles to FirstLight

The AAC encourages readers to submit articles and letters for inclusion in *FirstLight*. The AAC reserves the right review and edit all articles and letters before publication. Send all materials directly to the *FirstLight* Editor.

Materials must reach the *FirstLight* Editor at least 30 days prior to the publication date.

Submission of articles are accepted **by e-mail or on a CD**. Submit as either a plain text or Microsoft Word file. (In addition, you can also send a copy as a pdf file but you also need to send your text or Word file too.) Send pictures, figures or diagrams as separate gif or jpg file.

Mailing Address for Hard Copies or CDs

Note: Since our mailbox is *not* checked daily, mail materials well before the deadline date. (Hence, submission by e-mail is much preferred!)

c/o FirstLight Editor
The Alachua Astronomy Club, Inc.
P.O. Box 141591
Gainesville, FL 32614-1591 USA

By E-Mail; Send e-mail with your attached files to **FirstLight@floridastars.org**.

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SPECIAL EVENTS - 2010

See the AAC website for details

<u>Event</u>	<u>Date</u>	<u>Location</u> Check the website for directions	<u>Start/End Time</u>
Starry Night	November 12, Friday	Florida Museum of Natural History	Sunset approx. 5:35 pm ET
Starry Starry Night	November 13, Saturday	The Villages	Sunset: 5:34pm
Stargazing at Dudley Farm Historic State Park	Saturday, November 20	Dudley Farm Historic State Park	7:00pm-10:00pm

STAR PARTY / OBSERVATION SCHEDULE: Upcoming Events - 2010

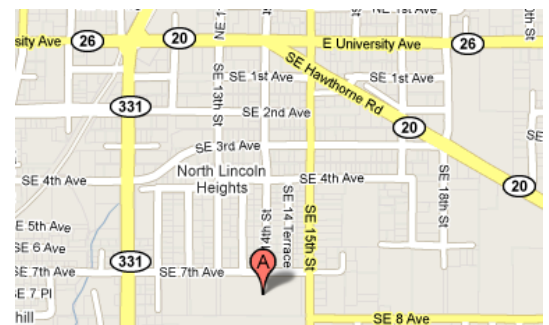
<u>Star Party Event</u>	<u>Date</u>	<u>Location</u> Check the website for directions	<u>Start/End Time</u>
AAC November Star Party	November 6th, Saturday	Rosemary Hill Observatory	Sunset approx. 6:40 pm ET
Holiday Party: Celebrating AAC's 23rd Birthday! «Potluck Dinner, Music, Games & More»	December 11 Tentative	TBA	Sunset approx 5:30pm ET

School Outreach Program: Upcoming Events - 2010-2011

<u>School</u>	<u>Date</u>	<u>Location</u> Check the website for directions	<u>Start/End Time</u>
Joseph Williams Elementary	January 6th, 2011	1245 SE 7 th Avenue, Gainesville, FL 32641	Sunset 5:46 pm ET Start: 6:30 pm ET

Additional Info for Joseph Williams Elementary Event:

Astronomical Dark: 18:55
 Moon Phase (Days): 2
 Moon Set: 20:09
 Highlights Jan 6: Jupiter, Uranus; Orion Nebula and other
 Link to Map: <http://www.mapquest.com/mq/7-Gok7>
 Number of Students: 40
 Grade: 5



November Club Meeting

Tuesday, November 9, 2010, 7:00 p.m. ET

Speaker: Knicole D. Colón

Title: **Characterizing Extrasolar Planets and the Search for Potentially Habitable/Earth-like Planets**

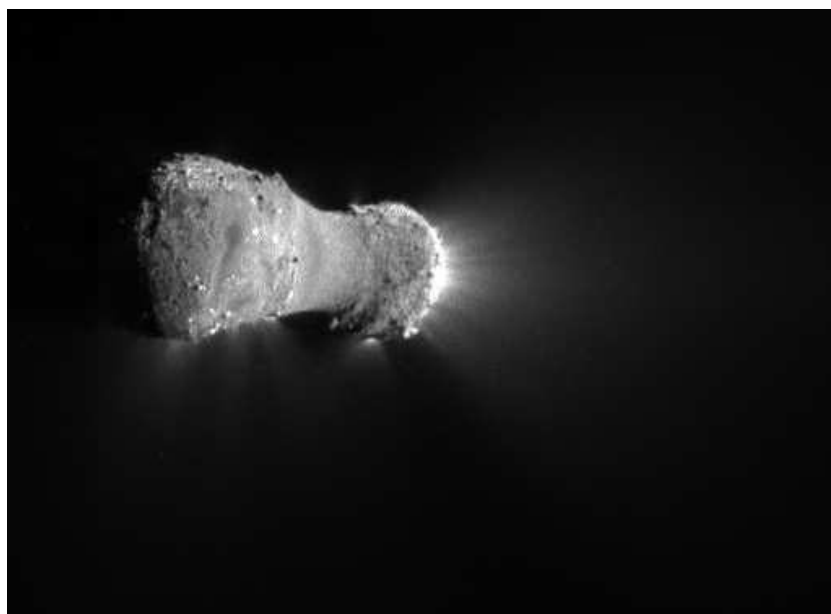
Location: Powell Hall, Florida Museum of Natural History
(*Lucille T. Maloney Classroom*), UF Campus, Gainesville FL

Preview: Knicole Colón will discuss how she and other astronomers at the University of Florida are using the transit technique to characterize extrasolar planets. In particular, she will describe the telescope (Gran Telescopio Canarias or GTC, currently the world's largest optical ground-based telescope) as well as the new observing technique that they are using to probe the atmospheres of transiting extrasolar planets. Knicole will present some of their recent results, and conclude with a discussion of how we can use their observing technique to characterize the atmospheres of super-Earth-size planets in the future.

About the Speaker: Knicole was born in California, but raised mostly in New Jersey. In the Spring of 2007, she received a B.S. in Physics and a Minor in Mathematics from The College of New Jersey (formerly Trenton State College), located in Ewing, NJ. During her undergraduate career, she spent a summer at the Arecibo Radio Observatory in Puerto Rico, where she worked on a project related to star formation. She moved to Gainesville, FL in the Fall of 2007 and received an M.S. in Astronomy from the University of Florida in the Spring of 2009. She received a prestigious National Science Foundation Graduate Research Fellowship in 2009. Currently, she is in her fourth year of graduate school at UF, with the goal of graduating with a Ph.D. in Astronomy in 2012. Her current research includes using the 10.4-meter Gran Telescopio Canarias in the Canary Islands as well as the 30-inch UF-owned telescope at Rosemary Hill Observatory to observe transiting extrasolar planets. Her general research interests include the search for and characterization of extrasolar planets, especially their atmospheres. She is also interested in the planets, comets, asteroids, and moons in our own Solar System. Outside of research, she enjoys spending time with family and friends, reading science fiction and fantasy books, watching football (the NFL, particularly the Philadelphia Eagles) and playing StarCraft. She has her dad to thank for getting her interested in both football and astronomy!



Knicole D. Colón



Close Encounter with a Comet:

On November 4 NASA's Deep Impact (EPOXI) probe flew past Comet Hartley 2 only 435 miles from the comet's active nucleus. The spacecraft has since turned its high-gain antenna toward Earth and data are being transmitted to mission control at JPL. Even without processing, the first raw images are spectacular: The comet has a dumbbell shape, with rough ends and a smooth middle. Jets come from rough terrain and seem to be correlated with specific topographic features. The middle is covered with some kind of fine dusty material that has collected in a topographic low point. The images reveal a comet bristling with gaseous jets; even on the comet's night side where volatile ices are temporarily protected from solar heating. Distinct lines of jets trace the comet's day-night terminator.

The photos below were taken on October 16 at the "Other Worlds Star Party", organized by the Lunar Observation Group (LOG) Meeting at Bellamy Road Gallery, Melrose, FL.



Fig. 1 AAC members and guests at Oct 16 Other Worlds Star Party / LOG Meeting at Bellamy Road Gallery, Melrose, FL.



Fig. 3 Star party attendees set up telescopes as darkness arrives to offer views of the Moon and Jupiter.

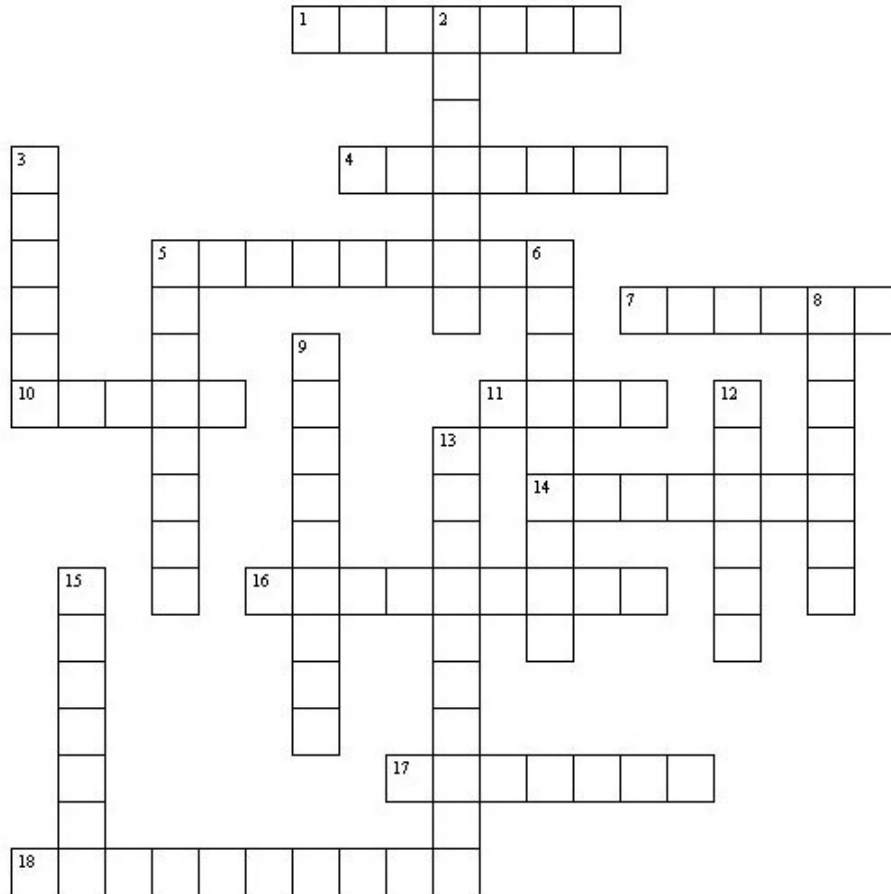


Fig. 2 Dr. Howard Eskildsen gives his presentation "Impact!" in the comfort and beautiful setting at Bellamy Road.



Fig. 4 Audience members await the lowering of the screen and an introduction to The Keyhole Project, a multi-media space art production by Tim Malles.

ASTRONOMY 101



ACROSS

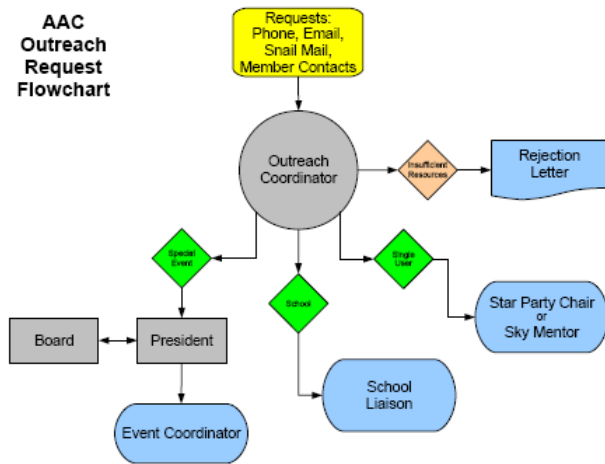
- 1 THIS STAR IS IN URSA MINOR.
- 4 SPECTRAL CLASSES OF STARS.
- 5 THE PRINCESS.
- 7 ALPHA DRACONIS STAR.
- 10 A BLUE STAR IN ORION.
- 11 ALPHA LYRAE.
- 14 A POPULAR DUO IN CYGNUS.
- 16 ANDROMEDA AND PEGASUS SHARE THIS STAR.
- 17 QUASI-STELLAR OBJECTS.
- 18 THE REPETITION OF ECLIPSES.

DOWN

- 2 ALPHA SCORPII.
- 3 SPINNING NEUTRON STAR.
- 5 THE BIG DIPPER.
- 6 THE FOLLOWER OF PLEIADES.
- 8 THE BARRINGER METEORITE CRATER.
- 9 COMETS HANG OUT HERE.
- 12 THE SCORCHED ONE.
- 13 A RED STAR IN ORION.
- 15 THE LITTLE SHE GOAT.

Solutions can be found on the next page.....

AAC Outreach Request Flowchart



Over the summer, the Board of Directors decided to re-organize our outreach protocols. Since many of our outreach requests are either the brainchild of our members or are relayed through our members on behalf of other organizations, it is important that our members understand our new system.

In the future, the Outreach Coordinator (OC) will act primarily as a switchboard for all outreach requests. The OC will collect all pertinent information concerning an activity, and then convey that information to the Board for consideration.

The Board will make a determination as to whether or not we pursue an activity. If approved, an Event Coordinator (EC) will be assigned specifically to that event. The School Liaison will act as the Event Coordinator for all school star parties. Once an EC is assigned to an event, they will be provided with the latest copy of the Event Coordinator Guide. If you have any doubt as to who the adult-in-charge is, by all means, contact the Outreach Coordinator for assistance.

Please appreciate that we have a lot of constraints when we schedule outreach events. A few examples include weather trends, moon phases, sunset times (especially for younger audiences), other club activities, competing local events (especially UF football) and so forth. Since the Board meets bi-monthly, it is very important that all requests be relayed promptly to the OC.

It remains club policy that we need at least 3 months notice to schedule an outreach event. In fact, most of 2011 has already been mapped out. However, do not feel discouraged from introducing new outreach possibilities; but please be patient as we integrate your ideas with existing club goals.

Mike Toomey

Outreach Coordinator

1. Polaris 2. Antares 3. Pulsar 4. OBAFGKM 5. Andromeda 6. Aldebaran 7. Thuban 8. Arizona 9. Oortcloud 10. Rigel 11. Vega 12. Sirius 13. Betelgeuse 14. Albiro 15. Capella 16. Alpheratz 17. Quasars 18. Sarosycle

Solutions for the cross word puzzle from page 7:

Jack Horkheimer, born **Foley Arthur Horkheimer** (June 11, 1938 – August 20, 2010), was the executive director of the Miami Space Transit Planetarium. He was best known for his astronomy show *Jack Horkheimer: Star Gazer*, which started airing on PBS on November 4, 1976.

Jack Horkheimer was probably best known for his naked-eye astronomy television show *Jack Horkheimer: Star Hustler*, which started in 1976 and was broadcast nationally in 1985. Created, produced and written by Horkheimer, the show changed its name to *Jack Horkheimer: Star Gazer* in 1997 because Internet searches were producing results for the adult magazine *Hustler*.

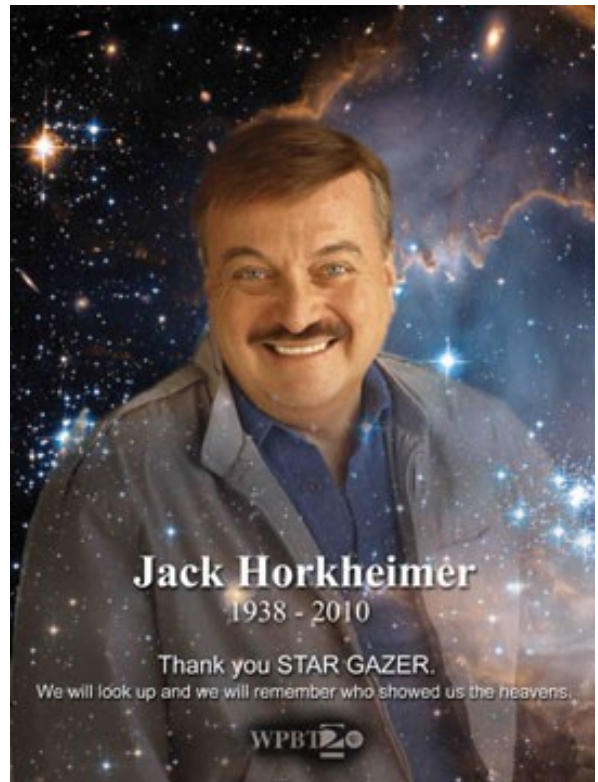
Horkheimer was known nationally for his commentaries about "astronomical events." He was a science commentator for local Miami news station. starting in 1973. In 1986, he helped promote an event for viewing Halley's Comet, traveling towards the equator aboard the supersonic airliner Concorde. He appeared on CNN several times, narrating solar eclipses and even hosted shows on Cartoon Network.

Jack Horkheimer received many awards during his lifetime.

These are some of the more major awards and honors he received.

- International Award for Multi-Media from the society of European astronomers (1976)
- Klumpke-Roberts Award presented by the Astronomical Society of the Pacific (2000)
- The main belt asteroid (1999 FD9) was renamed 11409 Horkheimer by the International Astronomical Union (2001)
- 25th Anniversary Classic Telly Award for *Star Gazer* (2003)
- Silver Medallion Award from the city of Miami
- Honorary Doctorate Degree presented by the International Fine Arts College
- 12 Good Men Award from Ronald McDonald House
- Outstanding Contributions Award from the United States House of Representatives

Horkheimer died at his Florida home on the morning of August 20, 2010 at the age of 72. His death was related to the respiratory ailment that he suffered from since childhood.





The Events Timeline for Building of the Observatory in Newberry

April 13, 2010 Doug Eng from the NADA visits the AAC and proposes an Astronomical Observatory at the Easton Newberry Sports Complex.

April 13, 2010 NSC Committee formed to look into this.

June 1, 2010 NSC Committee recommends that we go ahead to the BOD and the BOD agrees.

June 12, 2010 AAC holds a Star Party at the site.

June 14, 2010 NSC Committee makes a presentation to the City of Newberry Commission Meeting

June 28, 2010 City of Newberry unanimously agrees to build the observatory.

July 19, 2010 Committee met at the site with the City of Newberry and PPI Construction.

August 21, 2010 Ground Breaking

September 7, 2010 clearing and construction begins on the complex.

October 13, 2010 main building delivered.

January 11, 2011 will be the grand opening and "first light" with our monthly meeting held at the NSC.



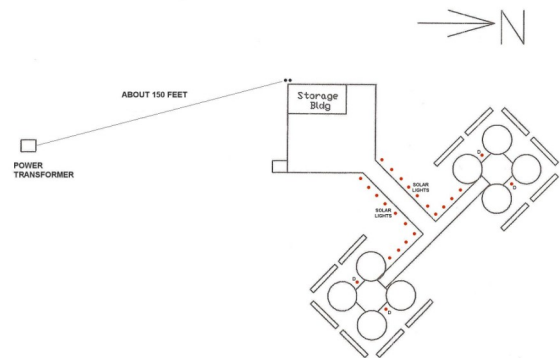
Groundbreaking Ceremony



Concrete pouring



New storage shed



Location layout

Holiday Party: Celebrating AAC's 23rd Birthday! «Potluck Dinner, Music, Games & More»

SATURDAY, DECEMBER 11, 2010, 6:00 p.m. ET — Dinner Served 6:30 p.m.

Speaker: None but lots of fun!

Location: Home of Mark & Cindy Barnett, 3111 NW 18th Place, Gainesville, Florida, (352) 373-2244

Time: Approximately 6:00 p.m. EDT

Preview: AAC will hold its annual December holiday party — a potluck dinner. (There will be no regular Tuesday meeting in December.) Club will buy drinks and paper products. (There will be a food sign up sheet at our November meetings — see below.)

Food to Bring:

If you miss signing up at the November meetings, please e-mail to potluck (at) floridastars.org and indicate what food dish you will bring:

Wings, ham rolls, cheese & crackers, finger sandwiches, taco salad w/chips, dessert or other (please designate)

Also indicate the number of adults and children (give ages) who will attend.

Last year we celebrated our 22nd anniversary. This year we celebrate our club's 23rd anniversary! Good food, games, our traditional astro slide quiz, sci-fi space music, more.

Begins approximately at sunset. Lasts till whenever.

Maps to Barnett Residence:



Jupiter did shine bigger and brighter September 21 than it has in almost 50 years. At this day, it was at opposition, directly opposite the Sun in Earth's sky. On the 21st, Jupiter rose at sunset, did set at sunrise, and remained visible all night.

This opposition was special because Jupiter, the largest of all the solar system's planets, was close to perihelion, the closest point in its orbit to the Sun. That meant it was physically closer to Earth during this opposition than a normal one.

The unexpected disappearance of Jupiter's South Equatorial Belt (SEB) earlier this year also made this opposition unusual. The SEB has vanished from sight before, and its return is often impressive, with dramatic storms erupting suddenly. It may be days or years before Jupiter again looks "normal," just one more reason observers should target the king of planets.

At its nearest, Jupiter will sparkle at magnitude -2.9 , and its equator will span $49.9''$, making it hard to ignore.

- ◆ Jupiter is the largest planet in the solar system. More than 1,000 Earths could fit inside Jupiter, and all the other planets together make up only about 70 percent of Jupiter's volume.
- ◆ It takes Jupiter about 12 years to orbit the Sun once, but only about 10 hours to rotate completely, making it the fastest-spinning of all the solar system's planets.
- ◆ Jupiter rotates so rapidly that its polar diameter, 83,082 miles (133,708 kilometers), is only 93 percent of its equatorial diameter, 88,846 miles (142,984 km).
- ◆ Jupiter reflects 52 percent of the sunlight falling on it, more than any other planet except Venus (65 percent).
- ◆ Jupiter's four bright moons, Io, Europa, Ganymede, and Callisto, are easily visible through small telescopes. Io takes less than 2 days to orbit, so its relative position visibly changes in an hour or so — less when it appears close to Jupiter.
- ◆ Our line of sight lies in the plane of the jovian moons' orbits, so we see occultations (when a moon moves behind Jupiter), eclipses (when Jupiter's shadow falls on a moon), and transits (when a moon passes in front of Jupiter) at various times.
- ◆ Jupiter's moon Ganymede is the solar system's largest satellite, with a diameter of nearly 3,300 miles (5,300 km), greater than that of Mercury.

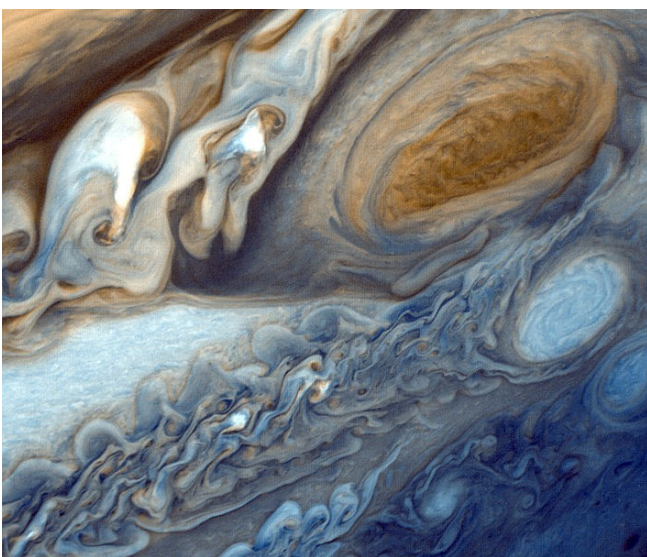
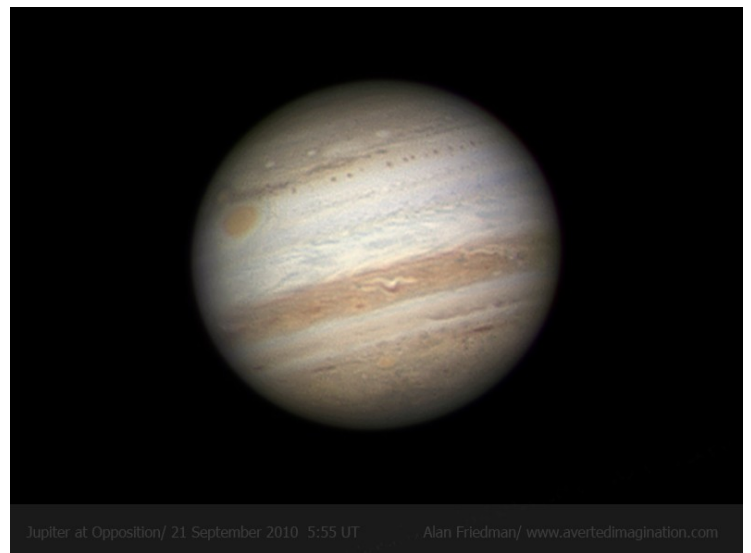


Image of Jupiter taken by Voyager 1 in the year 1979



Jupiter captured on the night of opposition with an Astro-Physics 10" maksutov/cassegrain telescope. Reprinted with kind permission of Alan Friedman, www.avertedimagination.com

.....And some ALCor Notes.

The ATM-Observers group has spent an active 2010. Over the past months we have met at various locations to explore different observing tools and techniques, and have even enjoyed some good brownies and other goodies in the process!

For those of you who have not participated in the ATM-Observer group we exist to share hands-on astronomy with one another. The goal is to enable group members to learn from one another, to play with different astro-toys, and to share ideas and techniques among the group.

The monthly meeting themes are chosen by the members of the group, and the group will not exist without this sharing!

The theme for the November 16th (third Tuesday) meeting at 2240 NW 14th Ave, Gainesville (my house) will be "Tips and Techniques for Coping with Dew". Hopefully members will bring and describe some of the methods they are trying out to keep our north Florida evening moisture at bay. Heaters, blowers, shrouds, tents, old towels...everything will be looked at the meeting.

On the evening of December 21st. we will have a "Refractor Shootout". The location of this event will be announced prior to the meeting, but most likely will be either at out-going AAC president Rich Russin's home, or at the Newberry Club Observatory.

The goal of this event is to compare various portable refractors, using a object list created by Mike Toomey, plus a few other objects in the sky. We did this event a year ago with reflectors, with somewhat inconclusive results....most of the 'scopes present were pretty darned good.

2011 should be a exciting year for amateur astronomy. The increasing growth in quality telescopes, software, and observing tools gives the group a lot to explore!

We also have new club member Greg Beckner who, when he is not wrecking his mirror grinding hands playing softball, is working on "pushing glass". Hopefully in the coming year he can become a focal point for building reflectors from "scratch" (no pun intended, well, maybe it was). There is a possibility that the Newberry observatory building will house a small workshop for such endeavors.

Please be thinking of subjects and ideas you would like to explore in 2011. We have the capability of building observing aides such as eyepiece cases, observing chairs, etc. and can even do simple machine work. The ATM-Observing group is a forum for looking at new equipment, and if you have a skill or talent you would like to share with the club, please drop a line to Chuck at "gatorchuck_at_gmail_dot_com".

Meetings are not restricted to presentations! We are a mix of hands-on people, observers, and socializers....so come and join in! Meetings are usually held on the third Tuesday of the month.
ALCOR NOTES!

ALCor stands for Astronomical League Correspondent. The AAC is a member of the Astronomical League. We belong to the AL for several reasons. A major reason is that they offer club insurance, and another is that they offer a variety of Observing Programs and Certificates. I have been pretty lax in promoting the AL to club members and hope to do better in 2011. Several club members have earned observing awards from the AL, and these programs are a fun way to improve your observing skills.

So, Get out of your easy chair, push away from the computer desk, and join us for some hands on astronomy!

Clear Sky Chuck





On November 18, 2010, a humble spot was carried into view by solar rotation on the northeast limb of the sun. It was a simple, solitary spot (Hsx) with distinct umbra (dark center) surrounded by a filamentary penumbra, characteristic of a quiescent, slowly fading spot. Most spots like this would gradually fade as they transited the solar globe with little fanfare. However, on October 22, a new plage (bright areas surrounding the spots) boiled into view by the southeast margin of the original spot and sparked further development.

The next day a group of new spots appeared in the plage, and by the 24th, a large spot appeared that rivaled the original spot. This created what could be humorously imagined as a two-headed monster sunspot. But it was not done with its surprises.

The very next day another medium sized spot arose near the center of the lower group of spots. A movie from the Solar Dynamics Observatory shows it migrating forward towards the lower leading spot, and by the 26th the two spots had merged.

Figure A shows the progression from a single simple spot, to a slightly more complex group. Figure B shows the continued enlargement and development in AR 1117. In the image, arrows labeled "1" show the original spot. Arrows labeled "2" identify the second large spot to appear and "3" denotes the spot that later arose and merged with "2" to form a mega spot that dwarfs the original spot in the region.

This region produced several flares, though none powerful as the time of this writing. What will the sun conjure next? Keep watching; the solar cycle is just getting started, and the best may be yet to come.

Figure A

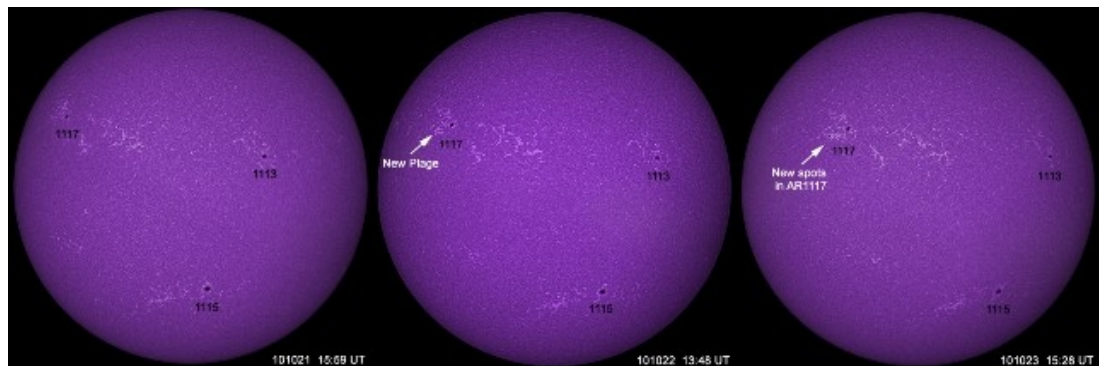
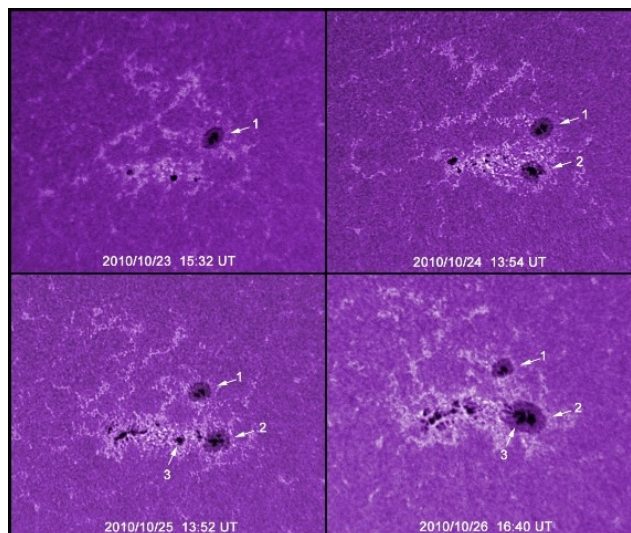


Figure B



Synopsis of the September 14 General Monthly Meeting

There are several ways to detect planets orbiting distant stars. On September 14, Scott Fleming from the University of Florida presented the MARVELS survey.

The MARVELS survey exploits the fact that a moving source of light changes its color ever so slightly. The survey takes great advantage of the new generation of multi-object Doppler instruments being developed at UF. In fact, the UF team is applying this new cutting-edge Doppler technique in developing the next generation EXtremely high Precision ExtrasolaR planet Tracker (EXPERT) instruments, aiming for 0.5-1 m/s long term Doppler precision for $V < 8$ solar type stars at various 2 meter class telescopes around the world through international collaborations.



Scott Fleming—University of Florida

What is mind boggling is the fact that these detectors can sense motions as slow as 1 meter per second. That is a medium fast walking speed! And this speed is measured while the detector itself is simultaneously rotating with the earth at 465m/s and flying with our planet around the sun at 29,974m/s !

But why is a change in the color of a distant star evidence for a planet? The answer is, that a planet is not simply orbiting a star, but more accurately, both the star and the planet are orbiting a common center of gravity. Due to the huge discrepancy in mass between the star and the planet, the motion of the star itself amounts just to a tiny wobble. And it is this tiny wobble that scientists aim to detect.

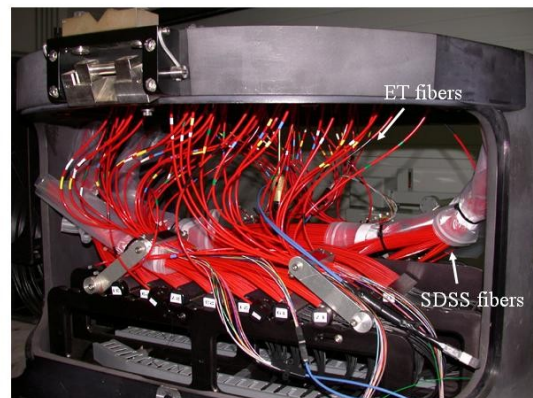
Researchers are constantly honing and tuning their instruments to improve the threshold for detection of star motion with the goal to reach below the 0.5m/s range. This is the area of sensitivity that would enable the detection of an earth like planet orbiting a sun like star.

The first confirmed detection of an extrasolar planet was made in 1992, with the discovery of several terrestrial-mass planets orbiting the pulsar PSR B1257+12. The current count (Fall of 2010) of detected extrasolar planets is about 500. There are first indications of planets orbiting their host stars in habitable zones and it seems only a question of time that an earth size planet with the potential of harboring life will be discovered.

More at <http://www.astro.ufl.edu/et/index.html>



New color coded Keck ET fibers plugged into the SDSS fiber cartridge ready for Doppler detection of new planets in Mar. 2006





Clusters, Hartley, and the Heart

Credit & Copyright: Rogelio Bernal Andreo, <http://blog.deepskycolors.com/>

Explanation: An alluring Comet Hartley 2 cruised through planet Earth's night sky on October 8, passing within about a Full Moon's width of the famous double star cluster in Perseus. The much anticipated celestial photo-op was recorded here in a 3 frame mosaic with greenish comet and the clusters h and Chi Persei placed at the left. The well-chosen, wide field of view spans about 7 degrees. It extends across the constellation boundary into Cassiopeia, all the way to the Heart Nebula (IC 1805) at the far right. To capture the cosmic moment, a relatively short 5 minute exposure was used to freeze the moving comet in place, but a longer exposure with a narrow-band filter was included in the central and right hand frames.



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