The Focal Point

The Atlanta Astronomy Club
Established 1947
October 2012

Vol. 25 No. 5

Editor: Tom Faber

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October General Meeting

Join us for the October meeting of the Atlanta Astronomy Club on Friday, October 19th at 8PM. The meeting will take place in the Parlor Room of the Hitson Center of the Sandy Springs Methodist Church, 86 Mt Vernon Hwy, NE, Sandy Springs, GA 30328 (see map on pg 7). Refreshments will be provided starting around 7:30PM.

The Program:

Our program for October will be a presentation by Ralph Howard. He is the state director for the Georgia Chapter of MUFON (Mutual U.F.O. Network). He will be talking about their organization, its mission, structure and their field investigations. For more information about MUFON see: http://www.mufonga.org/index.html

For future programs, I would like to keep our programs interesting and on subjects you want to hear about. Please let me know if you have any program ideas or if you know of someone who could do a program for us. Just contact me (Mark Banks) at: programs@atlantaastronomy.org

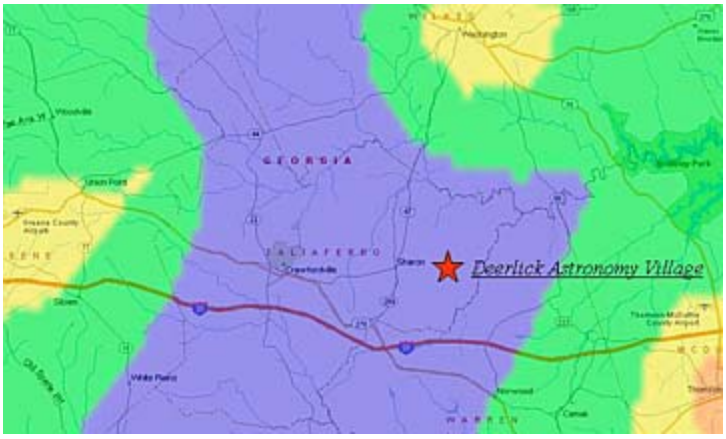
Upcoming AAC Meetings:

Our meetings will usually be held on the 3rd Friday of the month. Future meeting dates for 2012 are Nov 16, and **Saturday** December 8th for the Christmas potluck meeting. Meetings will be at the Parlor Room of the Hitson Center unless noted otherwise.

The 2012 Peach State Star Gaze!

Late News!! Our keynote speaker will be world-class imager Damian Peach! Damian will present talks on Friday and Saturday.

The next Peach State Star Gaze is coming soon! The AAC's annual star party will again be held at the Deerlick Astronomy Village near Sharon, GA, and run from Sunday, October 7 to Sunday, October 14 (new moon is October 15). DAV has an 11-acre field that has room for RVs, campers, and tents. Limited power is available on the field. Full rest rooms with showers are available along with a 40' x 40' pavilion and gas BBQ grill. This year Micki's Kitchen returns to provide us with coffee, refreshments and meals (and brownies!). The Atlanta Astronomy Club's 24" telescope will be set up on the field and AAC's clubhouse will be open. We will have speakers, workshops, and vendors. Please visit us at www.AtlantaAstronomy.org/pssg/ for details.



The Deerlick Astronomy Village, located about 100 miles east of Atlanta and 50 miles west of Augusta, has some of the darkest skies in the state.

The AAC field at the DAV during the 2010 PSSG - Photo by Tom Faber.

September Meeting Minutes

By Pixie Bruner, AAC Recording Secretary. Photos by Tom Faber

The September 21st Atlanta Astronomy Club meeting had 43 attendees and many new faces were welcomed (photo below). Marc Merlin (right) debunked the popular misconceptions of the elusive "Higgs-Boson" particle (bottom) and how much more research is needed before its discovery is confirmed. Next month, our speaker Ralph Howard will present a talk on how to become a field investigator researching GA reports of UFOs and how to be a real "MiB". It is a fabulous talk before Halloween.

Program Chair Mark Banks announced that AAC Corresponding Secretary Tom Faber received the 2012 Mabel Sterns Newsletter Award - 3rd place for Exceptional Club Newsletter for his work on the *Focal Point* (photo right center - by Kat Sarbell).

Peter Macumber (bottom right - on right) gave an updated on the Peach State Star Gaze. The PSSG is October 7-14th at the Deerlick Astronomy Village in Sharon, GA and is honored to have world-class imager and ALPO Jupiter division lead Damien Peach presenting on Friday and hosting an imaging workshop on Saturday. This years Peach State line-up is amazing and not only will Jonn Serrie be performing ambient soundscape music on Friday and Memory Splice will be performing EDM (Electronic Dance Music) on Saturday evening to entertain and keep sleepy astronomers awake and going. We look forward to seeing you at PSSG and the next meeting on the third Friday of October at the Hitson Center in Sandy Springs. Wishing you all Clear skies!

CE Chapter Outreach

By Theo Ramakers, Outreach Coordinator

http://ceastronomy.org/tramakers

The summer vacation is over and you can see this in our outreach. The Charlie Elliott chapter did reach out to schools and organizations seven times in September. The groups covered church youth groups, neighborhoods, and schools such as Stone Mountain Middle school where 320 students saw our program for the fourth year in a row and observed the sun. Several Newton county schools, who now are aware of our outreach and sending one request after another and we did already Rocky Plains Elementary and others are to come in October. One 6th grade class of Stone mountain Middle also came out to the Jon wood Field for night sky observing even though it was a relative cloudy day and will be back in October. Finally neighborhoods saw the Moon at "Observe the Moon" night and the Harbour Oaks Montessori school made again a 2 day field trip to Charlie Elliott, and we presented a solar event with solar observing, as well as an evening event with observing of the night sky at the Jon Wood field.

Thanks everyone who helped!

Clear skies!

Next Charlie Elliott Chapter Meeting

Join us for our next meeting at 4 p.m., Saturday, October 20, 2012 Charlie Elliott Conference Center – **Note the time change**

Meeting Agenda

Feature Presentation: Nebulae, Annette Michel: Our feature presentation this month will be a program on Nebulae, by chapter member Annette Michel. A nebula is an interstellar cloud of dust or gas, and many are large and bright enough to be seen with a small telescope from Charlie Elliott. Annette's presentation will be followed by a short presentation "This Month's Sky" by John Towne. Everyone is welcome!

Sunset Time Alert: When the meeting is indoors, and if the meeting runs extra-long, a "Sunset Time Alert" will be announced. While we'd love for everyone to stay for the entire meeting, we also realize that some folks prefer to leave a bit earlier so as to set up their equipment at the observing field before dark.

Observing after the Meeting: All are invited to the observing field immediately after the meeting on the Jon Wood Astronomy Field at Charlie Elliott Wildlife Center (weather-permitting), or to stay on the observing field if the meeting was outdoors. Everyone is welcome!

Hubble eXtreme Deep Field

NASA/STScI News Release - 25 September 2012

Like photographers assembling a portfolio of their best shots, astronomers have assembled a new, improved portrait of our deepest-ever view of the Universe. Called the eXtreme Deep Field, or XDF, the photo was assembled by combining ten years of NASA/ESA Hubble Space Telescope observations taken of a patch of sky within the original Hubble Ultra Deep Field. The XDF is a small fraction of the angular diameter of the full Moon.

The Hubble Ultra Deep Field is an image of a small area of space in the constellation of Fornax (The Furnace), created using Hubble Space Telescope data from 2003 and 2004. By collecting faint light over one million seconds of observation, the resulting image revealed thousands of galaxies, both nearby and very distant, making it the deepest image of the Universe ever taken at that time.

The new full-colour XDF image is even more sensitive than the original Hubble Ultra Deep Field image, thanks to the additional observations, and contains about 5500 galaxies, even within its smaller field of view. The faintest galaxies are one ten-billionth the brightness that the unaided human eye can see [1].

Magnificent spiral galaxies similar in shape to the Milky Way and its neighbour the Andromeda galaxy appear in this image, as do large, fuzzy red galaxies in which the formation of new stars has ceased. These red galaxies are the remnants of dramatic collisions between galaxies and are in their declining years as the stars within them age.

Peppered across the field are tiny, faint, and yet more distant galaxies that are like the seedlings from which today's magnificent galaxies grew. The history of galaxies — from soon after the first galaxies were born to the great galaxies of today, like the Milky Way — is laid out in this one remarkable image.

Hubble pointed at a tiny patch of southern sky in repeat visits made over the past decade with a total exposure time of two million seconds [2]. More than 2000 images of the same field were taken with Hubble's two primary cameras: the Advanced Camera for Surveys and the Wide Field Camera 3, which extends Hubble's vision into near-infrared light. These were then combined to form the XDF.

"The XDF is the deepest image of the sky ever obtained and reveals the faintest and most distant galaxies ever seen. XDF allows us to explore further back in time than ever before," said Garth Illingworth of the University of California at Santa Cruz, principal investigator of the Hubble Ultra Deep Field 2009 (HUDF09) programme.

The Universe is 13.7 billion years old, and the XDF reveals galaxies that span back 13.2 billion years in time. Most of the galaxies in the XDF are seen when they were young, small, and growing, often violently as they collided and merged together. The early Universe was a time of dramatic birth for galaxies containing brilliant blue stars far brighter than our Sun. The light from those past events is just arriving at Earth now, and so the XDF is a time tunnel into the distant past when the Universe was just a fraction of its current age. The youngest galaxy found in the XDF existed just 450 million years after the Universe's birth in the Big Bang.

Before Hubble was launched in 1990, astronomers were able to see galaxies up to about seven billion light-years away, half way back to the Big Bang. Observations with telescopes on the ground were not able to establish how galaxies formed and evolved in the early Universe.

Hubble gave astronomers their first view of the actual forms of galaxies when they were young. This provided compelling, direct visual evidence that the Universe is truly changing as it ages. Like watching individual frames of a motion picture, the Hubble deep surveys reveal the emergence of structure in the infant Universe and the subsequent dynamic stages of galaxy evolution.

Notes:

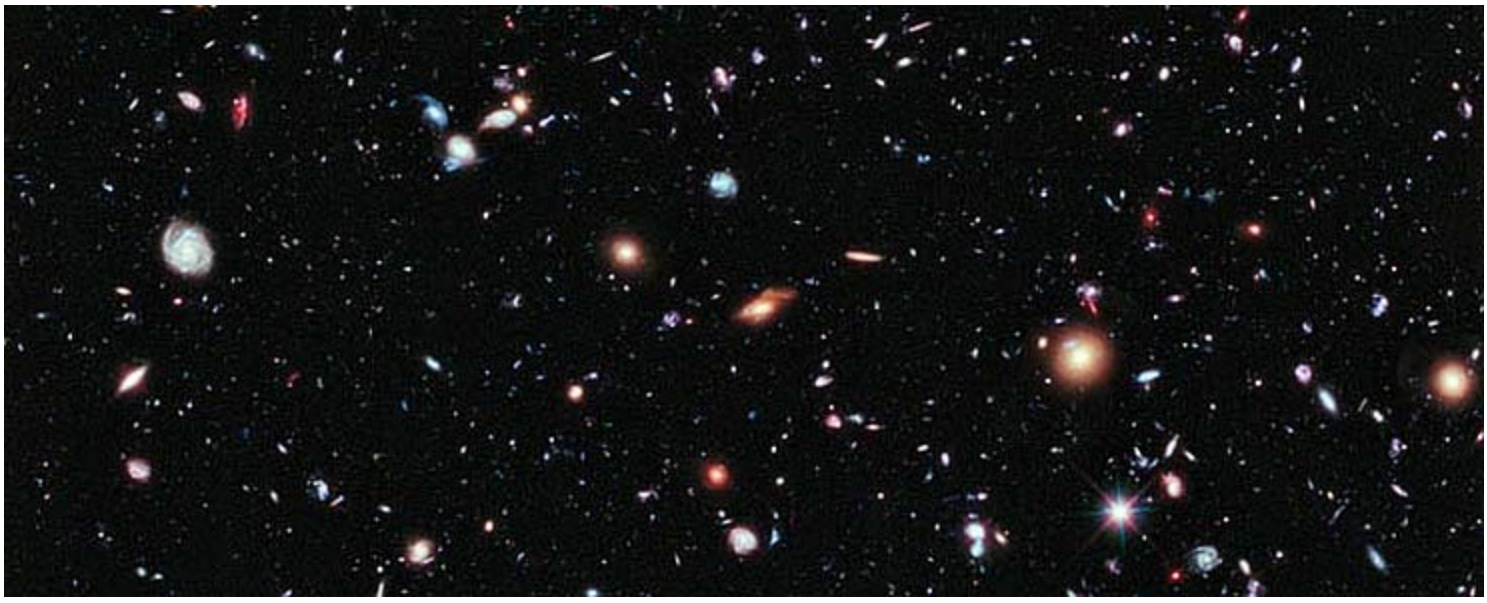
The Hubble Space Telescope is a project of international cooperation between ESA and NASA.

The HUDF09 team members are G. Illingworth (University of California, Santa Cruz), R. Bouwens (Leiden University), M. Carollo (Swiss Federal Institute of Technology, Zurich (ETH)), M. Franx (Leiden University), I. Labbe (Leiden University), D. Magee and P. Oesch (University of California, Santa Cruz), M. Stiavelli (Space Telescope Science Institute), M. Trenti (University of Cambridge), P. van Dokkum (Yale University), and V. Gonzalez (University of California Observatories/Lick Observatory).

[1] The faintest objects detected in the XDF are 31st magnitude.

[2] The total exposure time is approximately two million seconds, or 23 days. Because Hubble can only observe for about 45 minutes of every 97-minute orbit, the observations that make up the XDF represent 50 days of telescope time.

Image credit: NASA, ESA, G. Illingworth, D. Magee, and P. Oesch (University of California, Santa Cruz), R. Bouwens (Leiden University), and the HUDF09 Team



The Astronomical League

As a member of the **Atlanta Astronomy Club** you are automatically also a member of the **Astronomical League**, a nation wide affiliation of astronomy clubs. Membership in the AL provides a number of benefits for you. They include:

* You will receive *The Reflector*, the AL's quarterly newsletter.

* You can use the Book Service, through which you can buy astronomy-related books at a 10% discount.

* You can participate in the Astronomical League's Observing Clubs. The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club, Binocular Messier Club, the Herschel 400 Club, the Deep Sky Binocular Club, and many others.

To learn more about the Astronomical League and its benefits for you, visit http://www.astroleague.org

Visit to Kennedy Space Center

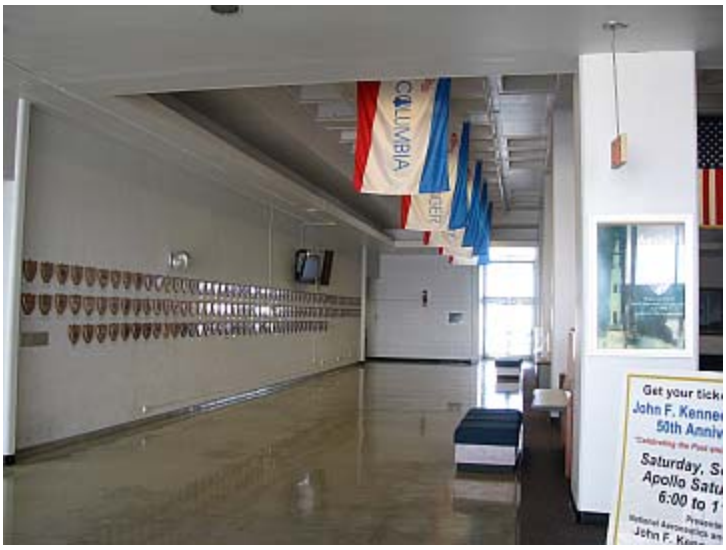
by Tom Faber, AAC Corresponding Secretary

In September Kat Sarbell and I visited the Kennedy Space Center to go on two newly added tours of the Space Center. These tours went to areas that were off-limits to the public while launch operations were being conducted there, but with the end of the Space Shuttle program they are now open. In addition to a tour added earlier that takes visitors inside the Vehicle Assembly Building, there are now two new tours that take visitors inside the Launch Control Center and to Launch Pad 39-A.

On our first day at the center we went on the Launch Control Center tour. This tour takes visitors into Firing Room 4 on the 3rd floor of the Launch Control Center, which was used to conduct launch operations for the final 21 Space Shuttle launches. Two days later we went on the tour of Launch Pad 39-A. This tour took us inside the launch pad's perimeter fence and allowed us to get off the bus and take photos on the southeast side of the pad and in the flame trench on the north side of the pad!

The following are a few of the many photos we took on these tours. All photos by Tom Faber.

The Launch Control Center is the low building in the foreground of this photo. It is adjacent to the 526 foot tall Vehicle Assembly Building, where Saturn Vs and the Space Shuttles were stacked and prepared to be moved out to the launch pads.



In the lobby of the LCC are flags for the five Orbiters that flew in space. On the wall are plaques for every mission launched from here since the first one - Apollo 4 in 1967.

The plaques for Challenger's and Columbia's final flights with no landing date tags. The worn areas on the wall are where employees have rubbed where the landing tags would have been. I rubbed them too.

View of the firing room from the Launch Director's & Assistant Launch Director's consoles. Through the doors on the far wall are the computer systems that all these consoles are tied in to. We didn't get to go in there!

What's left of Firing Room 3. Our tour guide said some of the equipment went to museums and the rest was scrapped. Note plaques on the wall in the upper left for missions whose launch was controlled from this room.

Plaque on the wall in the lobby of the LCC.

View of Launch Pad 39-A at our first stop southeast of the pad. The Mobile Launch Platform from the final Shuttle launch is still on the pad.

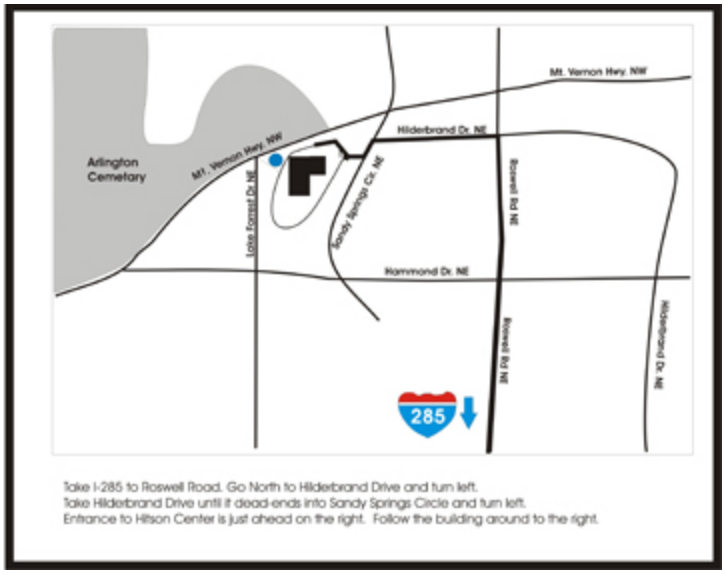
Kat Sarbell at the opening to the flame trench. This was our second stop at the pad. The blast deflector is visible in the trench under the Mobile Launch Platform. It deflects the SRB exhaust out this way and the main engine exhaust out the other way. The floor and walls of the trench are covered with refractory bricks. The bricks were blackened and really pitted. You didn't want to be here during a launch!!

The bottom of the Mobile Launch Platform with the two openings that the SRBs fired through in the foreground and the opening for the Shuttle Main Engines in the back. In the lower left and lower right are nozzles that blast water from the large water tank into the flame trench during a launch.

A view inside the VAB showing Endeavour with the tail cone attached. A few days later Endeavour was moved out to the Shuttle Landing Facility runway and mounted atop the 747 transport aircraft for its flight to LA.

The *Focal Point* Archives

The AAC began publishing the *Focal Point* as a PDF online in June 1998. Since then every issue has, and still is, available for download from the club's web page. Recently that archive has expanded. Sharon Carruthers has scanned 61 issues of the AAC's newsletter (then called *The Atlanta Astronomers' Report*) from 1948 to 1977. Although many issues from this period are still missing these provide a valuable record of the club's early years. In addition I (Tom Faber) came across 19 issues of the *Focal Point* from the years 1995-1998 that I scanned to make available on the club's web site. Again not every issue during this period is available but it is another step in maintaining and making available to all a record of the AAC's history. Our web master Daniel Herron has uploaded these to the web site as PDF's for download. Just visit www.atlantaastronomy.org and click on the "Focal Point Archives" link on the right side of the page. If you have any of the missing issues of the club's newsletter that you would like to scan and submit to Daniel as a PDF please do!



The AAC's meeting location at the Hitson Center in Sandy Springs.

The **Atlanta Astronomy Club, Inc**., one of the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the 3rd Friday of each month in the Parlor Room - Hitson Center in Sandy Springs, or occasionally at other locations or times. Membership fees are **$30 ($42)** for a family or single person membership. College Students membership fee is **$15 ($27)**. These fees are for a one year membership ($12 per year extra charge to receive a printed *Focal Point* by mail).

Magazine subscriptions to ***Sky & Telescope*** or ***Astronomy*** can be purchased through the club for a reduced rate. The fees are **$33** for Sky & Telescope and **$34** for Astronomy. Renewal forms will be sent to you by the magazines. Send the renewal form along with your check to the Atlanta Astronomy Club treasurer.

The Club address: Atlanta Astronomy Club, Inc., P.O. Box 76155, Atlanta, GA 30358-1155. AAC Web Page: **http://www.AtlantaAstronomy.org.** Send suggestions, comments, or ideas about the website to webmaster@AtlantaAstronomy.org. Also send information on upcoming observing events, meetings, and other events to the webmaster.

Atlanta Astronomy Club Online

While this newsletter is the official information source for the Atlanta Astronomy Club, it is only up to date the day it is printed. So if you want more up to date information, go to our club's website. The website contains pictures, directions, membership applications, events updates and other information. http://www.atlantaastronomy.org You can also follow the AAC on Facebook by joining the AAC group, and on Twitter at http://twitter.com/atlastro.

AAC Officers and Contacts

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Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

Recording Secretary: Pixie Bruner Secretary@AtlantaAstronomy.org

Board Chair: Daniel Herron, Observing@AtlantaAstronomy.org

Board: Brigitte Fessele, Contact info TBA

Board: David Lumpkin, Contact info TBA

Board: Steve Phillips sandsphillips@att.net

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Elliott Webmaster: Theo Ramakers 770-788-0843 webmaster@CEastronomy.org

Elliott Outreach Coordinator: Theo Ramakers 770-788-0843 outreach@ceastronomy.org

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PSSG Co-Chair: Joanne Cirincione starrynights@AtlantaAstronomy.org

Sidewalk Astronomy: Brad Isley sidewalkastronomy@AtlantaAstronomy.org

Light Tresspass: Open - Contact Mark Banks if you would like to volunteer for this position

Woodruff Observ. Coordinator: Sharon Carruthers Treasurer@AtlantaAstronomy.org

AAC Webmaster: Daniel Herron, Observing@AtlantaAstronomy.org

The Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

FROM:
Tom Faber
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We're here to help! Here's how how to reach us:

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P.O. Box 76155
Atlanta, GA 30358-1155
www.atlantaastronomy.org
On Twitter at http://twitter.com/atlastro

FIRST CLASS

www.beetagg.com

Calendar by Tom Faber (Times EDT/EST unless noted)

AAC Events are listed in BOLD

Oct 3th, Wednesday: Venus near Regulus.

Oct 7th - 14th: Peach State Star Gaze!!

Oct 7th, Sunday: Draconid Meteors.
Oct 8th, Monday: Moon Last Quarter.
Oct 12th, Friday: Moon near Venus in the morning.
Oct 15th, Monday: New Moon.
Oct 19th, Friday: **AAC Meeting, 8PM.**
Oct 20th, Saturday: **CE Chapter Meeting, 4 PM.**
Oct 21st, Sunday: Moon First Quarter. Orionids Meteors.
Oct 29th, Monday: Full Moon.
Nov 6th, Tuesday: Moon Last Quarter.
Nov 13th, Tuesday: New Moon.
Nov 16th, Friday: **AAC Meeting, 8PM.**
Nov 17th, Saturday: **CE Chapter Meeting, 4 PM. DSO at location TBA.**
Nov 20th, Tuesday: Moon First Quarter.
Nov 28th, Wednesday: Full Moon.
Dec 6th, Thursday: Moon Last Quarter.
Dec 13th, Thursday: New Moon.
Dec 8th, Saturday: **AAC Christmas Potluck/Meeting, 6PM.**

For more event listings see the calendar at : www.atlantaastronomy.org

Atlanta Astronomy Club Listserv

Subscribe to the Atlanta Astronomy Club Mailing List: The name of the list is: AstroAtlanta. The address for messages is: AstroAtlanta@yahoogroups.com . To add a subscription, send a message to: AstroAtlanta-subscribe@yahoogroups.com . This list is owned by Lenny Abbey.

Focal Point Deadline and Submission Information

Please send articles, pictures, and drawings in electronic format on anything astronomy, space, or sky related to Tom Faber at focalpoint@atlantaastronomy.org. Please send images separate from articles, not embedded in them. Articles are preferred as plain text files but Word documents or PDF's are okay. You can submit articles anytime up to the deadline. **The deadline for November is Friday, October 26th. Submissions after the deadline will go in the following issue.**