

The Focal Point

The Atlanta Astronomy Club
Established 1947
August 2013

Vol. 26 No. 3

Editor: Tom Faber

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August General Meeting & Potluck

Note Meeting is on Saturday @ 4PM

Please join us for the August meeting and potluck dinner of the Atlanta Astronomy Club on **Saturday**, August 17th starting at 4PM. Our August meeting talk will be about various astronomy apps. Our speaker will be long time club member David Lumpkin. Our August meeting will take place at the Atlanta Freethought Society (AFS) building in Smyrna. For the August 17th meeting the club will provide hamburgers, hot dogs & drinks. We ask that you bring a side dish or desert to share. The picnic pavilion next to the AFS building is fenced in and there is a swing set for the kids so please feel free to bring the young astronomers with you.

We also will be having the quarterly board meeting before the meetings. This will keep the board members from having to come back at a later time for the board meetings. As always, board meeting are open to all members. If you wish to address the board please let us know so we can put you on the meeting agenda.

So please join us for our August 17th meeting that will be as follows:

- * 4:00 PM Board Meeting.
- * 6:00 PM Covered Dish Dinner
- * 7:00 PM Beginners Q & A help session.
- * 8:00 PM Main Meeting.

After the main meeting, stargazing if weather permits.

Upcoming AAC Meetings

Our meetings will usually be held on the 3rd Saturday of the month. Future meeting dates are Sept 21st, Oct 19th, Nov 16th, Dec 14 for the December meeting and Holiday potluck dinner. Locations TBA.

Future Programs:

In order to keep our programs interesting and relevant for everyone from

Continued on page 2

The 2013 Peach State Star Gaze!

The next Peach State Star Gaze is coming soon! This will be the **20th Anniversary Peach State** and will again be held at the Deerlick Astronomy Village near Sharon, GA, and run from Sunday, September 29 to Sunday, October 6 (new moon is October 4). 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 AtlantaAstronomy.org/pssg/ for details and registration.

Our keynote speaker will be NASA astronaut Dr. Donald R. Pettit. Dr Pettit's biography is on page 3. More information will be upcoming on Dr. Pettit and other speakers and programs.



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.

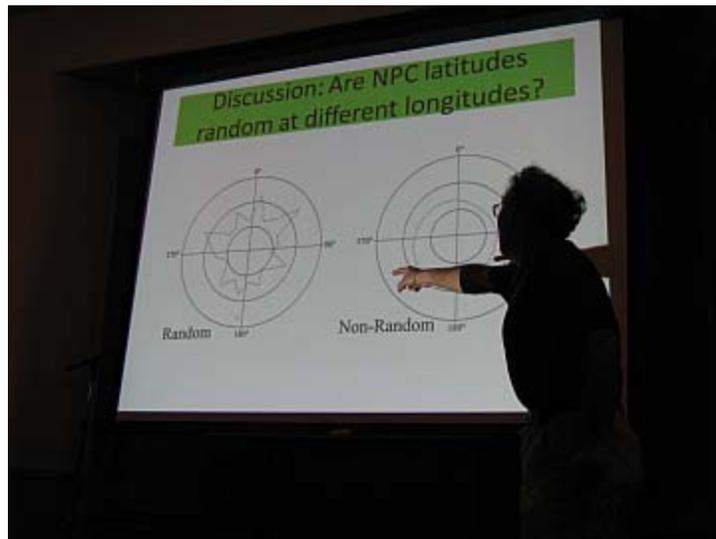
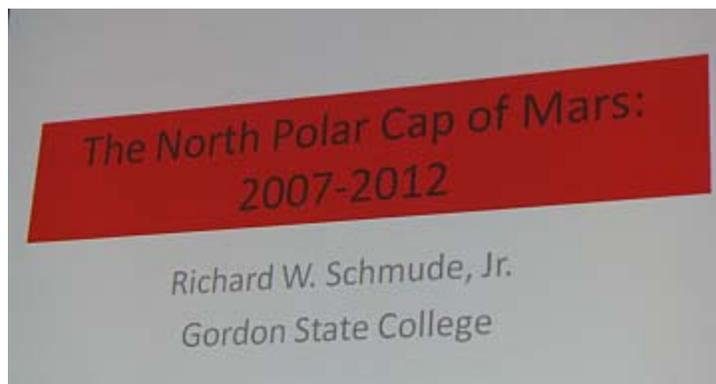


The AAC field at the DAV during the 2010 PSSG - Photo by Tom Faber.

July AAC Meeting Report

Photos by Tom Faber unless noted.

The July meeting of the Atlanta Astronomy Club was held on Friday, July 19 starting at 8PM at the Atlanta Freethought Society building. There were 26 members and several guests present (photo below). Our speaker for the evening was Dr. Richard Schmude of Gordon State College (photo bottom). Dr Schmude presented a talk about entitled "The North Polar Cap of Mars 2007-2012". (photos right). After Dr. Richard Schmude's talk, we held club elections and then the officers presented reports on the club's activities and upcoming events. Peter Macumber gave an update on the next Peach State Star Gaze (the 20th anniversary PSSG) to be held September 29 to October 6.



Continued from page 1

beginners to old pro's I need your help. Finding topics of interest to our members and speaker to do the programs is always a challenge. I am including a list of ideas I have and would like your input of additional program ideas. If you would like to do a program or know someone who would be a good speaker please let me know.

You can contact me at: programs@atlantaastronomy.org Thanks, Mark Banks

1. The Drake equation updated with the latest information on exoplanets.
2. Exobiology: Life as we know it and what else may be out there.
3. Near earth objects: Comets, Asteroids and all that other stuff out there.
4. The electromagnetic spectrum: How we use it to explore what's out there.
5. Star life cycles: Use the H.R. Diagram to explore the life & death of stars.
6. Spectroscopic analysis: How we use it to explore the universe.
7. Radio Astronomy: What we can learn from the radio part of the spectrum.
8. Science fiction Vs. Fact: What fiction has become true and what the future holds.
9. Atmospheres: What we can learn by observing weather on other planets.
10. Earth observations: How NASA, ESA, JAXA & others observe Earth.
11. Solar observing: What we know about our home star & would like to know.
12. A biographical program on any famous Astronomer / Scientist.

From the President's Desk

I want everyone to know about some changes in our meetings. Your board of directors, in their infinite wisdom, has decided to move our meetings to Saturday nights. This, we hope, will make it easier for many of you to get to the meetings. So please mark your calendars for the 3rd Saturday of each month.

For the August 17th meeting the club will provide hamburgers, hot dogs, and drinks. We ask that you bring a side dish or dessert to share. The picnic pavilion next to the AFS building is fenced in and there is a swing set for the kids so please feel free to bring the young astronomers with you.

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- * 8:00 PM Main meeting.

After the main meeting, stargazing if weather permits.

I look forward to seeing ya'll there!!!

Mark Banks, President, Atlanta Astronomy Club

Donald R. Pettit (Ph.D.) NASA Astronaut

PERSONAL DATA: Born in 1955 in Silverton, Oregon. Married with two children.

EDUCATION: Graduated from Silverton Union High School, Silverton, Oregon, in 1973; received a Bachelor of Science in Chemical Engineering from Oregon State University in 1978 and a Doctorate in Chemical Engineering from the University of Arizona in 1983.

EXPERIENCE: Staff scientist at Los Alamos National Laboratory, Los Alamos, New Mexico from 1984 to 1996. Projects included reduced gravity fluid flow and materials processing experiments onboard the NASA KC-135 airplane, atmospheric spectroscopy on noctilucent clouds seeded from sounding rockets, fumarole gas sampling from volcanoes and problems in detonation physics. He was a member of the Synthesis Group, slated with assembling the technology to return to the moon and explore Mars (1990) and the Space Station Freedom Redesign Team (1993).

NASA EXPERIENCE: Selected by NASA in April 1996, Dr. Pettit reported to the Johnson Space Center in August 1996. A veteran of three spaceflights, Dr. Pettit has logged more than 370 days in space and over 13 EVA (spacewalk) hours. He lived aboard the International Space Station for 5-1/2 months during Expedition 6, was a member of the STS-126 crew, and again lived aboard the station for 6-1/2 months as part of the Expedition 30/31 crew.

SPACEFLIGHT EXPERIENCE: Expedition 6 (November 23, 2002 to May 3, 2003). Dr. Pettit



completed his first spaceflight as NASA International Space Station Science Officer aboard the station, logging more than 161 days in space, including over 13 EVA hours. During their 5-1/2 months aboard the ISS, the crew worked with numerous U.S. and Russian science experiments. Dr. Pettit and Mission Commander Ken Bowersox performed two EVAs to continue the external outfitting of the orbital outpost. The Expedition 6 crew launched on STS-113 Space Shuttle Endeavour and returned to Earth on Soyuz TMA-1.

STS-126 Endeavour (November 14 to November 30, 2008) launched at night from the Kennedy Space Center, Florida, and returned to land at Edwards Air Force Base, California. It was NASA's 4th shuttle flight in 2008 and the 27th shuttle/station assembly mission. Highlights of the almost 16-day mission included expanding the living quarters of the International Space Station to eventually house six-member crews by delivering a new bathroom, kitchenette, two bedrooms, an exercise machine and a water recycling system. During the mission, Dr. Pettit operated the robotic arm for a total of four EVAs performed by three members of the crew. STS-126 also delivered a new resident to the station, replacing Greg Chamitoff, Expedition 17/18, with Sandy Magnus, Expedition 18. STS-126 returned to Earth after completing 250 orbits in more than 6 million miles.

Expedition 30/31 (December 21, 2011 to July 1, 2012) launched to the International Space Station aboard the Soyuz TMA-03M craft from Kazakhstan. NASA Flight Engineer Don Pettit, Russian Soyuz Commander Oleg Kononenko and European Space Agency Flight Engineer Andre Kuipers of the Netherlands docked to the Rassvet module of the station on December 23, 2011 restoring the station's crew complement to six. They continued scientific research and marked a new era of commercial resupply services from the United States by greeting the first SpaceX Dragon spaceship, which launched from Cape Canaveral Air Force Station in Florida aboard a SpaceX Falcon 9 rocket. Following a series of tests of its maneuverability and abort systems, the capsule was grappled and berthed to the space station by the crew members of Expedition 31. Dr. Pettit landed in Kazakhstan after 193 days in space orbiting the Earth 3,088 times and traveling more than 76 million miles.

Dr. Pettit has spent a total of 370 days in space in three flights.

ALCon 2013 Report

By Ken Poshedly

Well, it's been a week since the big ALCon 2013 thing and I just want to thank all of you who contributed to make it so memorable. While it remains to be seen if it made money or not, I personally heard from one attendee who was at first apprehensive about coming to Atlanta and not only did she truly enjoy the conference, but was thrilled with Atlanta!

The support staff of Sharon and Peter Macumber, Marie and Tim Lott, Mark Banks, Phil Johnson and wife, Mike Shaw and wife and others who I may be forgetting really impressed Astronomical League President Carroll Iorg and Vice President John Goss.

I was told that things began to fall apart behind the scenes at last year's ALCon in Chicago but they somehow held it together. Carroll and John told me that after watching YOU guys in action on our first day (Wednesday, July 24), their fears of any problems here were totally gone. I had told them how the Peach State Star Gazes were such a success due in LARGE part because of YOU guys and that I had no doubt that everything was in good hands.

As for the presentations, it was a most professional conference and included locals Tom Crowley, Dan Llewellyn, Rich Jakiel, Richard Schmude, Steve Ramsden, Pixie Bruner, Dr. Hal McAlister, Tim Puckett and Chris Hetlage. You and all the out-of-towners were great.

We also owe a big thank you to the Fernbank Science Center for its support. Yes, there was a fee (mandated by DeKalb County Schools), but thanks to Doug, it was truly less than it could have been. And thanks to director Doug Hrabec for providing the Fernbank shuttle van service (at no charge) to get folks between the Emory Conference Center Hotel and the Fernbank Science Center. Heck, Doug even drove the van himself on Friday of the event! And I believe that we should seriously consider meeting at Fernbank once again like we used to.

As for the dinners, the Agnes Scott event on Friday night was a real treat, thanks to a great meal, cheerful and professional staff, and two extremely cheerful students hand-picked by Dr. Chris DePree to do the planetarium presentation and observatory show-and-tell.

The Saturday night awards banquet was so much more special thanks to special appearances by Eugenia Abbey (widow of our late, great friend Leonard Abbey), Maria Zorka (widow of our late and super-great ALCor Art Zorka) and by Carol Barber Camp (the last surviving member of the Barber family which so graciously provided our club with its Villa Rica observing site). Personal recollections by Maria and Carol were most touching.

And congrats to our own Dan Llewellyn for his receipt of the Atlanta Astronomy Club's service award -- something which is truly deserved. And let's not forget the beautiful and ethereal music by John Serrie, who is now a regular at our Peach State Star Gazes.

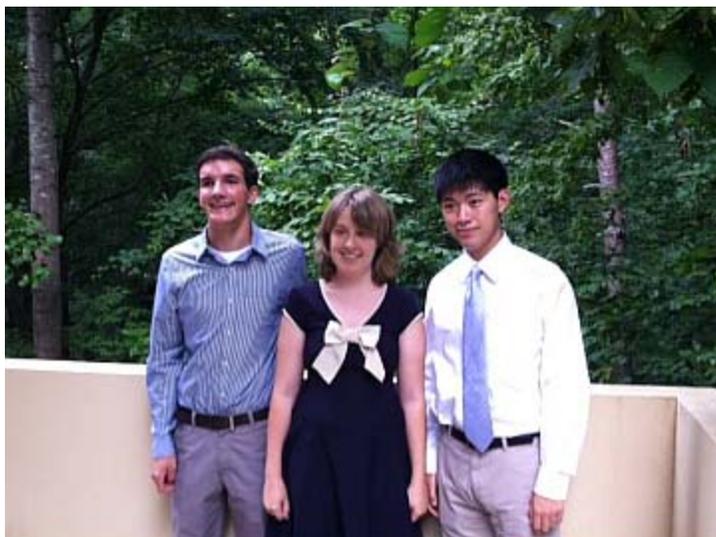
Again, thanks to all!

Editor's Note: On the following pages are some photos from the 2013 ALCon held in Atlanta July 24-27. Unless otherwise noted all photos are courtesy of the Astronomical League's Facebook page.



Sophia Lahey (center) receives her Horkheimer/Smith Award from AL President Carroll Iorg (left) and Greg Bragg from Explore Scientific.

*Photo Right: Theo Ramakers posing at ALCon2013 with the Astronomical League's 2013 National Young Astronomer Award Winner Mark Moretto!
Photo by Theo Ramakers.*



Congratulations to the National Youth Astronomy Award winners Mark Moretto (left) and Henry Lin (right) and Horkheimer/Smith Award winner Sophia Lahey (center).



Henry Lin during his presentation.





Mark Moretto during his presentation.



Solar Telescopes were set up on the sidewalk outside of Fernbank Science Center during the daytime.



Beverly Johnson, Marie Lott, and Sharon Carruthers. Thanks to the many volunteers that made ALCON 2013 a success!



ALCON attendees gathering in the planetarium at Fernbank Science Center for one of the many talks presented. Photo by Theo Ramakers.



ALCon attendees gathering in the planetarium at Fernbank Science Center for one of the many talks presented. Photo by Theo Ramakers.



Theo (on the right) in the planetarium at Fernbank Science Center for one of the talks. Photo by Theo Ramakers.



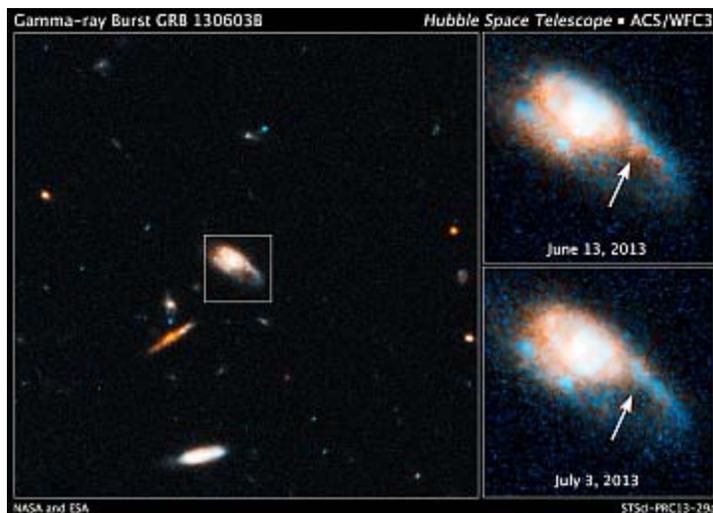
AAC member Ken Poshedly, who played a major role in the ALCon 2013, at Fernbank Science Center. Photo by Theo Ramakers.

Hubble Finds Telltale Fireball After Gamma Ray Burst

NASA/STScI News Release August 3, 2013

NASA's Hubble Space Telescope recently provided the strongest evidence yet that short-duration gamma ray bursts are produced by the merger of two small, super-dense stellar objects.

The evidence is in the detection of a new kind of stellar blast called a kilonova, which results from the energy released when a pair of compact objects crash together. Hubble observed the fading fireball from a kilonova last month, following a short gamma ray burst (GRB) in a galaxy almost 4 billion light-years from Earth. A kilonova had been predicted to accompany a short-duration GRB, but had not been seen before.



These images taken by NASA's Hubble Space Telescope reveal a new type of stellar explosion produced from the merger of two compact objects. Hubble spotted the outburst while looking at the aftermath of a short-duration gamma-ray burst, a mysterious flash of intense high-energy radiation that appears from random directions in space. Short-duration blasts last at most a few seconds. They sometimes, however, produce faint afterglows in visible and near-infrared light that continue for several hours or days and help astronomers pinpoint the exact location of the burst. NASA, ESA, N. Tanvir (University of Leicester), A. Fruchter (STScI), and A. Levan (University of Warwick).

“This observation finally solves the mystery of the origin of short gamma ray bursts,” said Nial Tanvir of the University of Leicester in the United Kingdom. Tanvir lead a team of researchers using Hubble to study the recent short-duration GRB. “Many astronomers, including our group, have already provided a great deal of evidence that long-duration gamma ray bursts (those lasting more than two seconds) are produced by the collapse of extremely massive stars. But we only had weak circumstantial evidence that short bursts were produced by the merger of compact objects. This result now appears to provide definitive proof supporting that scenario.”

A kilonova is about 1,000 times brighter than a nova, which is caused by the eruption of a white dwarf. The self-detonation of a massive star, a supernova, can be as much as 100 times brighter than a kilonova. Gamma ray bursts are mysterious flashes of intense high-energy radiation that appear from random directions in space. Short-duration blasts last at most a few seconds, but they sometimes produce faint afterglows in visible and near-infrared light that continue for several hours or days. The afterglows have helped astronomers determine that GRBs lie in distant galaxies.

Astrophysicists have predicted short-duration GRBs are created when a pair of super-dense neutron stars in a binary system spiral together. This event happens as the system emits gravitational radiation, creating tiny

waves in the fabric of space-time. The energy dissipated by the waves causes the two stars to sweep closer together. In the final milliseconds before the explosion, the two stars merge into a death spiral that kicks out highly radioactive material. This material heats up and expands, emitting a burst of light.

In a recent science paper Jennifer Barnes and Daniel Kasen of the University of California at Berkeley and the Lawrence Berkeley National Laboratory presented new calculations predicting how kilonovas should look. They predicted the same hot plasma producing the radiation also will block the visible light, causing the gusher of energy from the kilonova to flood out in near-infrared light over several days.

An unexpected opportunity to test this model came June 3 when NASA's Swift space telescope picked up the extremely bright gamma ray burst, cataloged as GRB 130603B. Although the initial blast of gamma rays lasted just one-tenth of a second, it was roughly 100 billion times brighter than the subsequent kilonova flash.

From June 12-13, Hubble searched the location of the initial burst, spotting a faint red object. An independent analysis of the data from another research team confirmed the detection. Subsequent Hubble observations on July 3 revealed the source had faded away, therefore providing the key evidence the infrared glow was from an explosion accompanying the merger of two objects.

The team's results will appear Aug. 3 in a special online publication of the journal Nature. For images and more information on the kilonova, visit: <http://hubblesite.org/news/2013/29>

DSO Dates and Locations

The dates and locations for the AAC Dark Sky Observing for the remainder of the year are: May 11th at Charlie Elliott, June 8th at DAV, July 13th at Woodruff, August 10th at Brasstown Bald, September 7th at Woodruff, October 18th at DAV, November 2nd at DAV, and December 7th at Charlie Elliott.

New Feature on the AAC Web Site

The Beginner's Guide to Astronomy at: http://atlantaastronomy.org/?page_id=778

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

President: Mark Banks Programs@AtlantaAstronomy.org

Program Chair: Richard Jakiel President@AtlantaAstronomy.org

Observing Chair/BoD Chair: Daniel Herron
Observing@AtlantaAstronomy.org

Corresponding Secretary: Tom Faber
Focalpoint@AtlantaAstronomy.org

Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

Recording Secretary: Open

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

ALCor: Open - President@AtlantaAstronomy.org

Elliott Chapter Director: Larry Owens director@ceastronomy.org

Elliott Observing Supervisor: John Towne
observing@ceastronomy.org

Elliott Recording Secretary: Marie Lott mtlott@comcast.net

Elliott Coordinator: Alesia Rast Alesia_Rast@mail.dnr.state.ga.us

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

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

Georgia Astronomy in State Parks: Sharon Carruthers
Treasurer@AtlantaAstronomy.org

PSSG Chairman: Peter Macumber pmacumber@nightsky.org

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

Sidewalk Astronomy: Brad Isley
sidewalkastronomy@AtlantaAstronomy.org

Light Trespass: 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

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

AAC Events are listed in BOLD

- Aug 3rd, Saturday: Moon near Jupiter morning.
- Aug 4th, Sunday: Moon near Mars morning.
- Aug 5th, Monday: Very thin crescent moon in line with Mercury, Pollux, & Castor.
- Aug 6th, Tuesday: New Moon.
- Aug 9th, Friday: Moon near Venus in evening.
- Aug 10th, Saturday: **CE Chapter Meeting @ 6:30PM. DSO @ Brasstown.**
- Aug 12th, Monday: Perseid Meteors.
- Aug 14th, Wednesday: Moon First Quarter.
- Aug 17th, Saturday: **AAC Meeting & Potluck Dinner, 4PM at AFS.**
- Aug 20th, Tuesday: Full Moon.
- Aug 28th, Wednesday: Moon Last Quarter.
- Aug 31st, Saturday: Moon near Jupiter in morning.
- Sept 1st, Sunday: Moon near Mars & Jupiter in morning.
- Sept 5th, Thursday: New Moon.
- Sept 7th, Saturday: **CE Chapter Meeting. DSO @ Woodruff.**
- Sept 8th, Sunday: Moon near Venus in evening.
- Sept 12th, Thursday: Moon First Quarter.
- Sept 19th, Thursday: Full Moon.
- Sept 20th, Friday: **AAC Meeting, 8PM at AFS.**
- Sept 26th, Thursday: Moon Last Quarter.

Sept 29th, Sunday - Oct 6th, Sunday: Peach State Star Gaze!!

Oct 4th, Friday: New Moon.

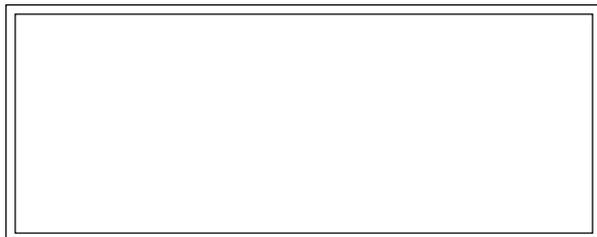
For more event listings see the calendar at www.atlantaastronomy.org

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 .

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 September is Friday, August 23rd. Submissions after the deadline will go in the following issue.**



FIRST CLASS



www.betage.com



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

Atlanta Astronomy Club
P.O. Box 76155
Atlanta, GA 30358-1155
www.atlantaastronomy.org

On Twitter at <http://twitter.com/atlastro>

Newsletter of The Atlanta Astronomy Club, Inc.

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The Focal Point