

# The Focal Point

The Atlanta Astronomy Club  
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Editor: Tom Faber

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## July General Meeting

By Keith Burns, A-V Coordinator

The July meeting of the Atlanta Astronomy Club will be held on **Saturday** July 24th, 2010 at 2PM. Location is the Tellus Northwest Georgia Science Museum near Cartersville, Georgia. For directions to Tellus, see the website at [www.tellusmuseum.org](http://www.tellusmuseum.org). The meeting will take place in classroom 4. This will be a standard meeting with an astronomy related talk with business meeting to follow talk. The meeting will run for 1½ hour. Anyone from the public is invited to attend. After the meeting ends, we will head outside for solar viewing weather permitting (the museum closes at 5PM). After we finish observing, we will head on over to one of the local restaurants for dinner.

Anyone who is planning on going to this meeting, please email me and give me the names of all the folks in your party attending. Title the email, "July



Stephen Ramsden - [Ceastronomy.org](http://Ceastronomy.org) web site.

Tellus Meeting." Email it to [Keith\\_B@Bellsouth.net](mailto:Keith_B@Bellsouth.net). I need this information so I can let the folks at Tellus know who is coming. That way they won't charge you an entrance fee. I need this information by no later than Wednesday night July 21st. If there is even a chance you will be going, please let me know. It is far better that they have your name than not have it. When you come to Tellus on that Saturday, go to the front check-in desk to the right of the entrance doors; tell them you are with the Atlanta Astronomy Club and what your names are. They will check your names off and may give you some kind of pass.

*Continued on next page*

## The Peach State Star Gaze!

By Keith Burns, A-V Coordinator

The next Peach State Star Gaze is fast approaching! The AAC's annual star party will again be held at the Deerlick Astronomy Village near Sharon, GA. This year the PSSG will run from Sunday, October 3 to Sunday, October 10 (new moon is October 7). DAV has an 11-acre field that has room for RVs, campers, and tents. Limited power is available on the field. Full restrooms with showers are available on the field along a 40' x 40' pavilion and gas BBQ grill. 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, vendors, and if anyone has anything they want to sell, you can set up your own swap table. Keep checking our website as information is always being updated. Registration is required to attend and will open soon. Please visit us at [AtlantaAstronomy.org/pssg/](http://AtlantaAstronomy.org/pssg/). You can also email us at [pssg@atlantaastronomy.org](mailto:pssg@atlantaastronomy.org). For information about the DAV visit the Deerlick Astronomy Village's web site at [Deerlickgroup.com](http://Deerlickgroup.com).

## Woodruff BSC Volunteers Needed

By Sharon Carruthers, AAC Treasurer

SUMMERTIME!! The time for Beaches, B-B-Ques and BoyScouts! The Summer Scout Camping season is fast upon us. This is our best opportunity to bring the wonders of the sky to eager and enthusiastic youngsters. We are looking for at least one volunteer a week to go up to Woodruff Boyscout Camp and set up one or more scopes to give the scouts an opportunity to use the scopes and view the night sky to earn their Astronomy Badge. You can bring and use your own telescope or use the scopes that we have in the warm-up shed – a 10" Discovery Dob and I have a 6" Dob that I will leave in the shed (The Club's 24" is now permanently at the DAV).

Our on-field viewing with the scopes will be on Thursday nights. The scouts usually come down to the field as it gets dark (from 9:30 – 10 p.m.) and stay for an hour or two. We need volunteers to commit to go up on Thursdays. The remaining dates are July 15, 22, and 29. Please phone (770-941-4640) or e-mail ([Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)) me if you can commit to one or more evenings.

## The Program:

The meeting starts out with the monthly announcements Power-Point that will run before the meeting starts. After the meeting starts, we move on our featured speaker AAC and CE Chapter member Stephen Ramsden. Stephen will present a talk about the sun and solar observing.

If you have any information you want to put into the pre-meeting announcement power point, please let the Keith Burns know via email. You can contact him at Keith\_B@bellsouth.net. If you have any announcements you want to make during the meeting, please contact our President Mark Banks. That way he can schedule the time for you during the meeting. His contact information is on page 7 of the Focal Point.

## Upcoming AAC Meetings:

Dr. Richard Schmude will be speaking on August 20th about the latest Jupiter data.

## Future Meeting Dates:

Future meeting dates for 2010 are Sept 17th, Oct 22nd, Nov 19th, and Dec 11th (Saturday). Meetings held in Room 207 unless noted.

## Parking News Update at Emory University

Starting in July the parking deck behind the admissions building will be open again for parking. So those of you who have been walking from either the Peavine or Fishburne parking decks will not have to do that anymore. Plus they are opening a new Barnes and Noble and other shops on the top floor. So there will be a few things to do while waiting for the meeting to start. This new facility and parking area is located next to the Math and Science Building and directly behind the Admissions building. Math and Science is across the street from our usual meeting place at Whitehall.

## June General Meeting Minutes

by Kat Sarbell for Julie Moore, AAC Recording Secretary

Photos by Tom Faber

The June meeting of the Atlanta Astronomy Club was held on Friday, June 25 at Emory University's White Hall downstairs from the room we normally meet in. Twenty-five (25) members and visitors were present. Due to the technical difficulties that Keith Burns was experiencing with the projector, club president Mark Banks began the meeting at 8:15 PM. This evening, our meeting began with a talk given by our guest lecturer. Club program chair Rich Jakiel introduced Lorraine (Rain) Glynn of the Dragon\*Con Space Track (photo top right). As he joked around during his introduction, he told her, "You should join the club." Keith then started Rain's photo presentation depicting scenes of happy convention-goers in their imaginative costumes. Rain gave a very detailed talk about her interest in both science and science fiction, and how she became interested in volunteering for the Space Track at Dragon\*Con.

Club updates followed Rain's lecture. Rich informed the club that we will conduct sidewalk astronomy at Dragon\*Con Labor Day weekend; volunteers will set up their scopes at the hotel's pool for convention visitors to look through. He also reminded the club that the next meeting would be at Tellus Museum and would include solar observing. In August, Dr. Richard Schmude will give a lecture about the planet Jupiter. Observing chair Daniel Herron reiterated the need for volunteers at the Woodruff Boy Scout Camp on Thursday nights this summer. Corresponding secretary Tom Faber announced that he needs an article about the Peach State Star Gaze (PSSG) for the next *Focal Point*. Upon hearing this Peter Macumber, PSSG organizer, said that online registration for the PSSG may be open this weekend. Keith, who also is the Georgia Astronomy in State Parks



(GASP) coordinator for the club, pointed out that the next GASP event will be in August at the Mentone Library in Alabama. He emphasized that if you're interested in camping for this GASP event to let him know, as this will help him procure campsites at Little River Canyon State Park.

## First Woodruff Scout Session

By Daniel Herron, AAC Observing Chair

Last night was the first Boy Scout Camping event of the summer season. The Atlanta Astronomy Club works with the Boy Scouts of Georgia to help the scouts earn their astronomy merit badges. The camp is located in Blue Ridge, GA about 100 miles north of Atlanta. Every Thursday from June thru August volunteers from the Atlanta Astronomy Club members head up to the Woodruff Boy Scout Camp to share the sky with the boys.

Last night I arrived on the field around 9pm. It was cloudy and trying to rain, with a drop here and there, it was enough to prevent me from getting my telescope out of the car. I opened the warm-up shed, turned the power on and readied the site. While waiting for the scout to show up I inventoried the equipment in the shed and cleaned up a little. Just as I finished the scouts arrived. Their scout leaders (adults) and 25 scouts showed up and took seats on the large concrete pad on the field. It was no longer raining but still cloudy.

While waiting, and hoping, for the clouds to go away I talked to the boys for about 40 minutes about the legends behind the constellations, the zodiac, other interesting constellations and how to locate some them. I then talked to the boys about how stars are formed, the different types of stars and how they "die". I spoke to them about the moon, craters, and other formations on the lunar surface, then went into why and how eclipses happen.

We then switched over to a Q&A session and I tried my best to answer the questions. The boys were very well educated on astronomy stuff and asked good questions and even the adults joined in. After about 15 minutes of questions it cleared a little right at the end and I was able to point out Mars and Saturn and show them through my scope. Mars was underwhelming, but Saturn, as always, stole the show. They were amazed that you could see the rings and how clear it was!

At around 11pm they left the field and I packed up and headed home. By 1AM I was in bed and resting after a fun and exciting night under the sky.

## June CE Chapter Minutes

By Steve Bieger

The June meeting of the Charlie Elliot Chapter of the AAC was held on the 12th at the Charlie Elliott Wildlife Visitor Center and was preceded by a pot luck dinner. The dinner began approximately 5:20PM and continued through meeting time. The meeting was called to order at 6:05PM by CE Chapter Director Theo Ramakers. The final meeting attendance was approximately 33 members and guests.

The program began with the guest speaker, Dr. Richard Schmude, executive director of ALPO and coordinator of the Jupiter section. The title of his presentation was "Jupiter - Recent Events (2007 - 2010)". Dr Schmude gave an enlightened talk on three phenomenon on Jupiter that provide interesting clues to the makeup of the planet's gas clouds and structure. He explained the difference between the zones and bands of clouds of Jupiter and how features migrate across these regions and also described how the northern temperate zone has recently disappeared in visible light. Next, he talked about two recent events on Jupiter that were apparent impacts, however, he brought forth some ideas that may also explain the evidence recently caught by amateur astronomers. Dr Schmude encouraged everyone to continue with their imaging work. His work on these recent events is being compiled into a report that he will complete later this year for ALPO.

The meeting continued with the follow up to the May elections since the offices of Director and Recording Secretary had not yet been filled. No nominations were received before or during the June meeting for director. Dan Schmidt offered to help as secretary and nominated himself, Debbie Jones seconded. Theo Ramakers advised that he would be able to continue as director if some of the load could be shared amongst the group; he would like to continue his focus on outreach. Annett Michel offered to take on the creation of a program committee; Marie Lott offered to assist in this area and they will follow up on this activity. Steve Bieger offered to assist with the chapter's web publishing. With this, Marie Lott nominated Theo to continue as director, Clevis Jones seconded. Both Dan and Theo were unanimously voted in.

Theo presented the Astronomical League's Master Outreach Program certificate and pin to Stephen Ramsden. Stephen has been a tireless promoter of astronomy outreach through his Charlie Bates Solar Observing program. Theo then went on to present a short review of recent events at the Charlie Elliot and at Jon Wood field. Stephen Ramsden explained that he has received some hardware from Lunn that has been donated. Stephen will insure that these scope kits get distributed to a school or individual who can construct them and be a part of the promotional activity. Steven Phillips gave his monthly Observing 101 presentation. Venus, Castor, Pollux, Jupiter and Uranus were among his key targets for the evening. His object of the Month was Neptune since it has been approximately one Neptunian year since its discovery in 1846. Steve listed several groups of targets for June and this time of year - double stars, galaxies, globular clusters and planetary nebulae.

The meeting wrapped at 8:30 PM, in time for those interested to head out to the viewing field.

## CE Chapter Outreach Programs

by Theo Ramakers, CE Chapter Director

The Chapter did several outreach events in June. One for the boy scouts camping at Bert Adams Scout Reservation in Covington on June 19, where 300 scouts and parents camped over for Father's day. Only the first scouts arriving following the campfire did manage to take a look at the moon, Saturn, Mars and Venus. The others had to be contend looking at the clouds that had moved in. The second group was Charlie Elliott's Summer Camp and we did three events for them. Two on June 29th - a solar event in the morning (top photo), and in the evening an indoor workshop in

which each kid made a scale model of the distances of the orbits of the planets (middle photo). The third event for this group was on Thursday night where each participant got a chance to see Venus at half phase, Mars and Jupiter (bottom photo). They had to leave before they could take a look at some star clusters and nebulas. However, they went home with a lot more knowledge about the solar system than when they arrived.



## Next CE Chapter Meeting

The next meeting will be on August 7th and begin at 5:00PM. The meeting will include a talk on a topic TBA, Observing 101 presentation, and observing after dark (weather permitting). Future meeting dates this year are: Sept 11, Oct 2, Nov 6, and Dec 4.

## Measuring the Cosmos - Part 2

The Race is On...

By Sharon Carruthers, AAC Treasurer

Galileo Galileo described the two main methodologies to measure stellar parallax:

1) Fix a telescope to a frame such that it points straight up. Note any star that sweeps through the center of the telescope; then observe it again 6 months later. Any shift in position relative to the center of the eyepiece would be the parallax.

2) Observe a star 6 months apart, using a more distant second star in the field of view as a frame of reference, to see if it shifts position. Double stars with a bright (closer) and dim (farther) star were the obvious choices. However, Galileo did not realize that many double stars were actually binary pairs and thus both the same distance away.

Robert Hooke (1669) used Galileo's first method. He cut a whole through the roof of his apartment in London, England, fixed on Gamma Draconis (which is directly overhead in London). He gave up after 4 observations due to ill health and bad weather.

James Bradley (1725) also used Gamma Draconis. He had George Graham build a precision telescope that tilted slightly north or south by turning a micrometer screw. When Gamma Draconis passed overhead, the scope was adjusted using the micrometer until it was centered in the eyepiece. The readings could be collected, averaged and analyzed over the 6 months. Over the year, the star should move along a north-south line: southernmost in December; northernmost in June; and on the center in March and September. After making 80 observations over 2 years, he made the startling discovery that Gamma Draconis was moving (by 40 arcseconds) but in the wrong direction - the maximum southward deviation occurred in March, not December, and the maximum northward deviation occurred in September, not June. Bradley had discovered *stellar aberration* - not parallax, but proof that the earth moved. Stellar aberration is caused by the observer on Earth moving perpendicularly away from the light coming from the star and the fact that light has a finite speed.

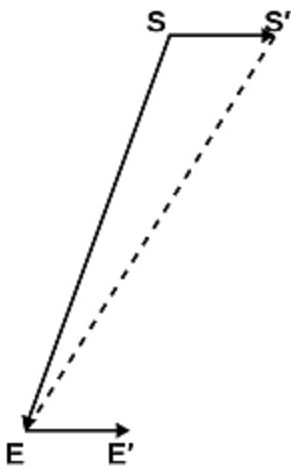


Diagram: Light is coming from the star (S) to the telescope on Earth (E) (assuming no stellar parallax and light moving instantaneously).

However, because the earth moves from position E to E', during the time it takes light to travel from S to E, it appears that the light is coming from S'. The star is displaced by the angle SES'. This is analogous to walking in the rain. Even if the rain is falling directly perpendicularly to the ground, if you walk forward, it seems that it is coming at an angle towards you. The faster you move (such as driving a car in the rain) the greater the angle.

In 1767, William Herschel started a double star search for parallax, by cataloging doubles of less than 5 arcseconds. However, he read a paper by John Michell in 1782, indicating that many double stars might actually be binary pairs (stars orbiting each other) and unsuitable for parallax measurement and abandoned the project.

While many astronomers had attempted parallax measurements, their results were often wildly at odds with each other. By the 1830's the field of narrowed down to three promising candidates: Friedrich Bessel, Wilhelm Struve and Thomas Henderson, who entered a neck and neck race to be the first. Each opted to use stars with the greatest proper motion (i.e.

movement relative to surrounding stars) under the assumption that they probably were the closest to the earth and would therefore have the greatest parallax.

Wilhelm Struve and Friedrich Bessel were friends who met in 1814. Struve obtained the "Great Refractor" from Fraunhofer, an incredibly accurate telescope, and recorded the positions of over 3 thousand double and multiple star systems - two-thirds being new discoveries. He made 17 observations of Vega in 1836, and computed a rough parallax of one-eighth of an arcsecond. He published this preliminary result, and spent the next year refining the data. That year, Struve added 96 new measurements and by late 1839 was able to claim Vega had a parallax of 0.2613 arcsecond with 10% uncertainty, putting the star at roughly 800,000 astronomical units (26 light-years). This parallax angle was twice his preliminary result, which made him doubt his results. As Vega's distance is greater than both Alpha Centauri and 61 Cygni, and thus had a smaller parallax, Struve's results were the hardest to compute.

Thomas Henderson was sent to run the Royal Cape Observatory at the Cape of Good Hope 1832, and hated it so much, he returned to England a year later,

Henderson opted for Alpha Centauri, the third brightest star, which is invisible from Europe, because it has a large proper motion. He made 19 precise measurements but was unsure that this would be sufficient to prove parallax. He was also using a damaged instrument (a mural circle) that had a reputation for being inaccurate. For this reason he delayed analyzing and reporting his findings until after he left Africa and had more data from his assistant. He finally published his results on December 1838, 2 months after Bessel. Ironically, he lost first claim to Bessel because he sat on his data for several years.

His parallax measurement of Alpha Centauri was just over one arcsecond, a distance of 200,000 astronomical units - later refined 0.76 arcseconds, or 4.3 light-years ago. Alpha Centauri is actually a triple system, with the red dwarf Alpha Centauri C, or Proxima Centauri, currently the closest to our Sun.

Friedrich Bessel selected 61 Cygni, one of the fastest moving stars in the northern hemisphere, with a proper motion of 5.2 arcseconds/year. John Dollond built a precision instrument - a heliometer - to Bessel's exacting specifications (which Bessel then spent 5 years testing and calibrating!). The objective lens was sliced into two precisely even halves, which could be aligned laterally by turning a thumbscrew. When the lens was offset, double images of all the stars would appear. He would make a background star near 61 Cygni line up on top of 61 Cygni itself in order to get a very precise angular separation. The design canceled out the effects of atmospheric turbulence. Bessel abandoned his project for three years because the first background star he chose was too faint but picked it up again in 1837 (after Struve wrote to him telling him he had calculated a preliminary parallax for Vega), using 2 brighter nearby stars. He would sometimes take sixteen measurements per night and average them together for greater accuracy.

By October 1838, he had enough observations to determine that 61 Cygni appeared to move with its maximum amount in June and December. He published his results in *Astronomische Nachrichten* with the title "Determination of the distance of the 61st star of the Swan" in December 1838. Struve graciously acknowledges Bessel's priority because he felt Bessel's results were more accurate than his own.

After 2 thousand years, an astronomer had finally proved "It Moves!" using parallax.

Bessel's parallax angle of 61 Cygni was 0.3136 arcseconds; making it 660,000 astronomical units (96 trillion-km) from Earth. He later refined this to 0.348 arcseconds. The modern-day value is 0.287 arcseconds, putting the star 11 light-years from Earth.

Next month: Modern methods of Parallax Measurement.



## M-27 by Dan Llewellyn

This image of the Dumbbell Nebula was taken on June 13 at the Deerlick Astronomy Village. Dan used a Celestron C-14 at 3 meter focal length and a Starshoot Pro II color camera.

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## Georgia Astronomy in State Parks

by Keith Burns, A-V Coordinator & GASP Coordinator

One of the main things we do in the Atlanta Astronomy Club is provide sidewalk astronomy events for the public. As an offshoot of sidewalk astronomy, a group of us formed GASP. GASP or Georgia Astronomy in State Parks goes out to select state parks, and we do an astronomy talk with viewing through telescopes following the talk. In case of rain, we set up the telescopes inside and show them to the attendees. The events are always scheduled on a Saturday night. Currently we are doing four of these events per year.

Any Atlanta Astronomy Club member is welcome to join us and help out at one of these events. You don't need a telescope - just being able to answer questions is a big help when dealing with the public. For more information on the group, please email me at [keith\\_b@bellsouth.net](mailto:keith_b@bellsouth.net).

There are two events remaining for this year.

August 14th, at Moon Lake Community Library in Mentone, Alabama. This is a special event to help out the Late Roger Dowiat family support the Library and promote astronomy in the community. Roger was an avid supporter of the club and provided us with a field for some of our DSO events. We will be camping at Desoto Falls State Park Located about 10 minutes from the library. Start time is 8:30PM Eastern Time or 7:30 PM Central Time. If you are planning on coming to Mentone to help out, please send me an email ([Keith\\_B@Bellsouth.net](mailto:Keith_B@Bellsouth.net)) and let me know. If you want to camp at Desoto State Park, please let me know too. This is so I will know how many sites they need to set aside. Title your email "Mentone Sidewalk Event."

November 13th, at Red Top Mountain State Park on Lake Allatoona near Cartersville, Georgia. This event is close enough to Atlanta for any club member to attend. Only 45 minutes north of downtown Atlanta. This event usually draws a large crowd of people. Start time is 7PM.

We are always looking for new state parks to explore and perhaps do an event at. So if you have any ideas, please let me know. Hope to see you at the next event, "out in the wilds and under the stars."



*Keith Burns and Kat Sarbell have their scopes set up and are waiting for darkness to fall, the clouds to break, and the guests to arrive to view the sky after Sharon finishes her talk. Photos by Tom Faber.*



*As it got dark the clouds began to break up and Venus popped into view. Soon the sky was clear and the visitors were able to view a number of objects through the scopes.*

### Recent past event update:

The GASP event scheduled at Tugaloo State Park on Lake Hartwell June 12 was a success (photos above). While the weather started out mostly cloudy that night, it did clear up for the 60 folks who came out for the event. Sharon started out the evening with a half filled room of folks but soon later comers filled the remaining seats to catch the tail end of her talk. There were 6 folks from the original GASP group there to help out: Harold and Claudia Champ, Tom Faber, Kat Sarbell, Sharon Carruthers, and Keith Burns. We spent the evening Friday night sitting around a Citro Guard candle, as the temperature outside was too warm for a campfire. During the day on Saturday we spent sitting around a group of fans we had collected. The only complain for the entire weekend was the very hot and humid temperatures. Saturday night I walked down to the lake and spent several hours taking pictures of the clear summer skies. Plus I enjoyed a wonderful view of Jupiter rising over the still lake.

## Dragon\*Con Sidewalk Astronomy Event

By Keith Burns, AAC A-V Coordinator

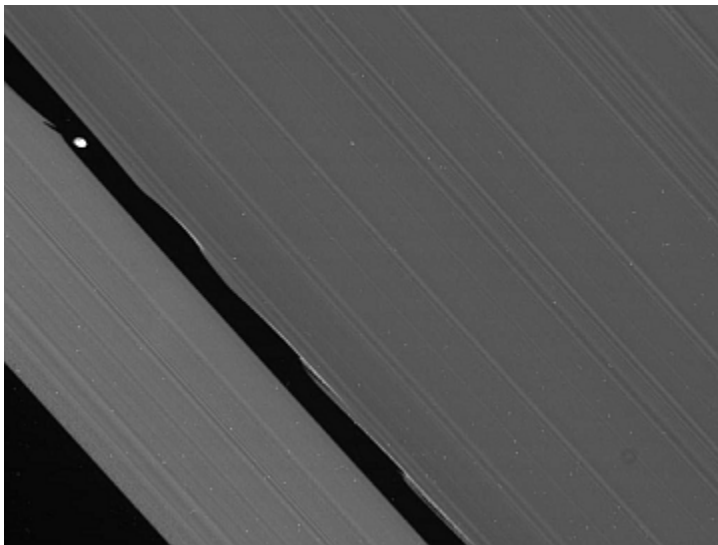
Anyone who attended the June meeting heard Lorraine (Rain) Glynn who is the organizer of the Space track at Dragon\*Con give a great talk. Dragon\*Con is a yearly convention held on Labor Day weekend. It takes place in Downtown Atlanta at several hotels. See the Dragon\*Con website for more information at <http://www.dragoncon.org>. This year the dates are Friday Sept 3rd to Monday Sept 6th. The space track features all kinds of talks on space topics including astronomy. We have been asked to help-out by providing astronomers with telescopes setup for conventioners to view the wonders of the night skies. The dates for the sidewalk events are the evenings of Friday Sept 3rd and Saturday Sept 4th. We are also making plans to setup a table to help promote astronomy in the Atlanta metro area and the club at the event. There will be more information on this later. If you can help out with the sidewalk events by bringing a telescope, send me an email at [Keith\\_b@bellsouth.net](mailto:Keith_b@bellsouth.net). Please title the email "Dragon\*Con Sidewalk Event". Let me know what nights you can come to help-out.

## A Closer Look at Daphnis

NASA/JPL News Release - July 06, 2010

NASA's Cassini spacecraft has captured the closest images of Saturn's moon Daphnis to date. In these raw images obtained on July 5, 2010, the moon can be seen orbiting in a rift known as the Keeler Gap in one of Saturn's rings. Daphnis was discovered by Cassini in 2005. The scalloped edges along the ring gap are caused by Daphnis' feeble gravity - the tiny moon is only 4.3 miles across.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. JPL, a division of the California Institute of Technology in Pasadena, manages the Cassini mission for NASA's Science Mission Directorate, Washington, D.C. JPL designed, developed and assembled the Cassini orbiter. More information about the Cassini-Huygens mission is at: <http://www.nasa.gov/cassini> and <http://saturn.jpl.nasa.gov>.



*Saturn's moon Daphnis - This raw, unprocessed image of Saturn's moon Daphnis orbiting in a rift in Saturn's rings was taken on July 5, 2010, by NASA's Cassini spacecraft. The camera was pointing toward Daphnis, and the image was taken using the CL1 and CL2 filters. This image has not been validated or calibrated. A validated/calibrated image will be archived with the NASA Planetary Data System in 2011. Image Credit: NASA/JPL/Space Science Institute.*

## 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>. You may also contact the AAC's Astronomical League Correspondent Art Zorka for more information about the AL's Observing Clubs. Contact Art at [artzorka@yahoo.com](mailto:artzorka@yahoo.com) or by phone at 404-633-8822.

## Heavy Metal Rock Set to Take the Stage

NASA/JPL News Release - July 9, 2010

On its way to a 2014 rendezvous with comet 67P/Churyumov-Gerasimenko, the European Space Agency's Rosetta spacecraft, with NASA instruments aboard, will fly past asteroid Lutetia this Saturday, July 10. The instruments aboard Rosetta will record the first close-up image of a metal asteroid. They will also make measurements to help scientists derive the mass of the object, understand the properties of the asteroid's surface crust, record the solar wind in the vicinity and look for evidence of an atmosphere. The spacecraft will pass the asteroid at a minimum distance of 3,160 km and at a velocity of 15 km per second.

"Little is known about asteroid Lutetia other than it is about 100 km wide," said Claudia Alexander, project scientist for the U.S. role in the Rosetta mission, from NASA's Jet Propulsion Laboratory in Pasadena, Calif. "Allowing Rosetta's suite of science instruments to focus on this target of opportunity should greatly expand our knowledge of this huge space rock, while at the same time giving the mission's science instruments a real out-of-this-world workout."



*This artist's concept represents ESA's Rosetta spacecraft passing by an asteroid. On July 10, the Rosetta spacecraft will pass asteroid Lutetia at a minimum distance of 3,160 kilometers and a velocity of 15 kilometers per second. Credit: ESA*

Previous images of Lutetia were taken by ground-based telescopes and show only hints of the asteroid's shape. Lutetia will be the second asteroid to receive the full attention of Rosetta and its instruments. The spacecraft previously flew within 800 km of asteroid Steins in September of 2008. The Lutetia flyby is the final scientific milestone for Rosetta before controllers put the spacecraft into hibernation early in 2011, only to wake up in early 2014 for approach to comet 67P/Churyumov-Gerasimenko.

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NASA has contributed an ultraviolet instrument (Alice); a plasma instrument (the Ion and Electron Sensor); a microwave instrument (Microwave Instrument for the Rosetta Orbiter); and portions of the electronics package for the double focusing mass spectrometer of the Rosetta orbiter sensor for ion and neutral analysis (ROSINA), among other contributions to this international mission. NASA's Deep Space Network, managed by JPL, will be providing support for tracking and science operations.

JPL manages NASA's participation in the Rosetta mission. Learn more about NASA's contribution to Rosetta at: <http://rosetta.jpl.nasa.gov>.

## Georgia Astronomy in State Parks

The following GASP events are currently scheduled:

**Aug 14** - Special Event:  
Moon Lake Community  
Library in Mentone,  
Alabama.

**Nov 13** - Red Top Mtn SP.

For more information about these events, contact Keith Burns at 770-427-1475 or [Keith\\_B@bellsouth.net](mailto:Keith_B@bellsouth.net).



*The GASP volunteers at FDR State Park on Labor Day weekend 2004 - From left to right: Joanne Cirincione, Keith Burns, Harold and Claudia Champ with Ginger, Peter Macumber, Sharon Carruthers, Tom Faber, Kat Sarbell, and Holly and John Ritger. Photo by Holly Ritger.*

## 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>.

The **Atlanta Astronomy Club, Inc.**, the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the Friday closest to full moon of each month at Emory University's White Hall or occasionally at other locations or times. Membership fees are **\$30 (\$35)** for a family or single person membership. College Students membership fee is **\$15 (\$20)**. These fees are for a one year membership (\$5 per year extra charge to receive the *Focal Point* mailed).

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](mailto:webmaster@AtlantaAstronomy.org). Also send information on upcoming observing events, meetings, and other events to the webmaster.

## AAC Officers and Contacts

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**AAC Webmaster:** Daniel Herron [observing@AtlantaAstronomy.org](mailto:observing@AtlantaAstronomy.org)

## Directions to White Hall at Emory

Our meetings are generally held in White Hall. To get to White Hall, turn onto Dowman Drive from North Decatur Rd at the five way intersection (across from Everybody's Pizza). White Hall is located across from the new Science & Math building. The best places to park are the Peavine and the Fishburne Parking Decks. The Fishburne deck is located on Fishburne Drive which is accessible from N. Decatur Rd. Turn onto Dowman and then right on Fishburne. You can also access Fishburne Drive from Clifton Road just north of N. Decatur. The Peavine parking deck is accessible from N. Decatur Rd. Turn onto Oxford Rd, go to the back entrance of Emory and turn onto Eagle Row. Take that to the Peavine deck. You can also access the Peavine deck from Clifton Rd. Turn onto Asbury Circle. It's the intersection next to the railroad tracks on Clifton. For maps to the decks see <http://map.emory.edu>. For more detailed directions to Emory University, visit [www.atlantaastronomy.org](http://www.atlantaastronomy.org) or go to the Emory web site.

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

### AAC Events are listed in BOLD

- July 11th, Sunday: New Moon.  
July 18th, Sunday: Moon First Quarter.  
July 24th, Saturday: **AAC Meeting at Tellus Museum, 2PM.**  
July 25th, Sunday: Full Moon.  
July 28th, Wednesday: Delta Aquarids Meteors.  
July 30th, Friday: Mars near Saturn. **August Focal Point Deadline.**  
Aug 1st, Sunday: Venus near Saturn.  
Aug 3rd, Tuesday: Moon Last Quarter.  
Aug 6th, Friday: Mercury at Greatest Elongation East.  
Aug 7th, Saturday: **Charlie Elliott Chapter Meeting at 5PM. DSO at Mentone, AL - Contact Daniel Herron for details.** Saturn near Venus.  
Aug 9th, Monday: New Moon.  
Aug 11th, Wednesday: Moon near Mercury.  
Aug 12th, Thursday: Moon near Venus, Mars, and Saturn.  
Aug 13th, Friday: Perseid Meteors.  
Aug 14th, Saturday: **GASP at Mentone Library - See p. 7 for details.**  
Aug 16th, Monday: Moon First Quarter.  
Aug 18th, Wednesday: Mars near Venus.  
Aug 19th, Thursday: Venus Greatest Elongation East, Neptune at Opposition.  
Aug 20th, Friday: **AAC Meeting at White Hall, Emory University, 8PM.**  
Aug 24th, Tuesday: Full Moon.  
Aug 27th, Friday: **September Focal Point Deadline.**  
Sept 1st, Wednesday: Moon Last Quarter.  
Sept 3rd, Friday: Mercury Inferior Conjunction.

**October 3rd-10th: Peach State Star Gaze at DAV!!!**

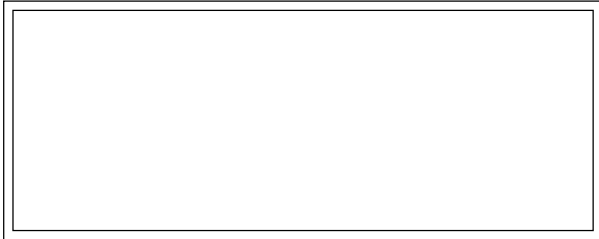
### Atlanta Astronomy Club Listserv

Subscribe to the Atlanta Astronomy Club Mailing List: The name of the list is: AstroAtlanta. The address for messages is: [AstroAtlanta@yahoogroups.com](mailto:AstroAtlanta@yahoogroups.com) . To add a subscription, send a message to: [AstroAtlanta-subscribe@yahoogroups.com](mailto:AstroAtlanta-subscribe@yahoogroups.com) . This list is owned by Lemmy 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@atlantaastro.org](mailto:focalpoint@atlantaastro.org). Please send images separate from articles, not embedded in them. Articles are preferred as plain text files but Word documents or PDFs are okay. You can submit articles anytime up to the deadline. **The deadline for August is Friday, July 30th at 6:00 PM. Submissions will not be accepted after the deadline.**

FIRST CLASS



Newsletter of The Atlanta Astronomy Club, Inc.



*The Focal Point*

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



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