

# The Focal Point

The Atlanta Astronomy Club  
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Editor: Tom Faber

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## August General Meeting

by Keith “Kosmic Kow” Burns, AAC President

The next meeting of the Atlanta Astronomy Club will be held on August 15th. We have shifted the meeting schedule to follow more closely with the lunar calendar. The meeting will take place in room 207 of White Hall on the Emory University Campus. Directions are on page 7 of the Focal Point and on our website. Note that Emory University is in the process of making improvements to the parking and roads. So for the next year we will have to endure road construction plus the closing of some of our favorite parking spots. For now the best places to park are the Peavine and Fishburne Parking Decks. Fishburne parking deck is located on Fishburne which is accessible from North Decatur Road and turn onto Dowman and then right on Fishburne. You can also access Fishburne Drive from Clifton Road southbound on right before the N. Decatur Rd intersection. The Peavine parking deck is accessible from North Decatur Road. Turn onto Oxford Road. Take that to back entrance of Emory and turn onto Eagle Row. Take that to the Peavine Parking lot/deck.

The best thing about our meetings is the socializing that goes on, plus we also love to hear the latest on new discoveries in science. The last several years we have also started to include several short talks before the main talk geared towards beginners or anyone wanting ideas on objects to look for when out under the stars with their telescopes.

Our featured speaker of the night is Dr Amy Lovell who will speak on Meteor showers and comets. (She is pictured to the right.) The following is in the speaker’s own words. The proper title is “Asteroids, Comets, and Meteors for Everyone. As the space age and high-powered ground-based telescopes progress, we are endowed with a wealth of information about the small bodies that are found throughout the solar system. I will discuss some interesting new results in the studies of asteroids and comets, and a dramatic rise in the number of known meteor streams. Connections between these categories of objects continue to surprise and amaze us.”

*Continued on top of next page*

## Peach State Star Gaze is Approaching!!!

by Peter Macumber, PSSG Chair

The PSSG will be held for the second year at our new home at the Deerlick Astronomy Village (DAV). Come and join us for the week or a couple of days under some of the darkest skies in Georgia. This is the 15th year of the Peach State Star Gaze. In order to celebrate our 15th birthday, we will have a party Friday evening with cake and ice cream. Micki's Kitchen will be back, providing food and drink throughout the day and night.

*Below: The AAC field at DAV during the PSSG '07 - Photo by Tom Faber.*

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## Speaker Biography

I have a BA in Physics-Astronomy from Agnes Scott College and PhD from the University of Massachusetts Amherst (1999). I served as the Five College Astronomy Science Education Postdoctoral Fellow (1999-2000), and have been on the faculty in the department of Physics and Astronomy at Agnes Scott since 2000. My current titles are Associate Professor of Physics and Astronomy, Chair of the Department and Director of the Center for Teaching and Learning. I spent the summer in Green Bank, WV, finishing up an exciting round of observations of OH molecules in comets with the Green Bank Telescope (GBT). In the 2006-2007 academic years, I spent a sabbatical as a visiting scientist at the Arecibo Observatory (the world's largest radio telescope) in Puerto Rico. My research is centered on longer-wavelength observations of objects within the solar system: large main-belt asteroids and comets. I've also dabbled in planetary atmospheres and molecular cloud chemistry.

I live in Decatur, I have a husband and two children, and I like music, travel, and slightly dangerous sports.

## September-October Meeting Announcements

September 19th: Dr. Chris Sirola of Southern Miss will give a talk titled "Happy 100th Birthday Tunguska!"

October 17th: Dr. Angela Sarrazine of Fernbank Science Center will speak on "Open Cluster Research: Strengthening the Cosmic Distance Ladder."

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## PSSG *Continued from page 1*

Speakers are lined up to provide us with varied and comprehensive talks and workshops. Don Parker, Ron Buta, Bill Keel, Charlie Warren, Jonn Serrie and the NASA Bus are all scheduled to appear. Vendors are lined up to provide you with an opportunity to buy that "gotta have" accessory. An impressive collection of door prizes is accumulating to be won by the attendees.

This year's PSSG starts on Sunday, September 28th and runs a full week until Sunday, October 5th. The website has been updated with information, pictures and registration information. Check out the details at <http://www.AtlantaAstronomy.Org/PSSG>. If you register online, you can pay with Pay Pal or print your form and mail it with a check. If you wish to volunteer and help in the organization and running of the event, please contact Joanne Cirincione ([starrynights@AtlantaAstronomy.org](mailto:starrynights@AtlantaAstronomy.org)). As a special benefit for volunteers, we have a Speaker and Volunteer dinner on Saturday evening. Registration is same price as last year, but we have lowered the entrance and camping fees. These savings will help you pay for the extra cost of gas. Deadline for early registration is September 5th. Don't delay - we want to see you at the 15th Annual Peach State Star Gaze!



The DAV and Peach State have some of the darkest skies in Georgia!

## AAC July General Meeting Minutes

by Richard Jakiel, AAC Recording Secretary

Meeting photos by Tom Faber

The July 17th general meeting of the AAC started at 8:15 PM, with 35 members and guests in attendance. President Keith Burns (photo below) was presiding. Due to the late start, Keith thought it best to jump to the main speaker of the night - Dan Llewellyn.



Dan's talk (photo below) was in two parts - the first dealt with the equipment required for planetary imaging - including cameras, telescopes/ mounts, Barlows and using a laptop or desktop computer. But the meat of the talk centered on image processing techniques using Registax and Photoshop programs. Dan began with "live" processing of a Jupiter avi file with Registax and followed up with further enhancing the image with a variety of Photoshop methods (photo top of next page). An avi file of Mars was also processed, and the final results were extremely dramatic.



After the main presentation's Q and A session, Keith covered the main business portion of the meeting outlining upcoming speakers, observing, telescope workshop, and GASP events. Larry Wallace discussed the progress of the DAV build-out including the installation of insulation and the AC in the "Bear Cave".

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Art Zorka gave a 5-minute summary of summary of the AAC's continued support and involvement with the AL. In particular, Art is looking for donations of various observing club program books/manuals for the ACC library. The AAC will then buy the remaining booklets and manuals to complete the set. Members wishing to participate in an observing club program will be able to borrow the appropriate copies.

Keith ended the night with another edition of "There's Nothing to See", this time focusing on a series of objects in Scorpius. The meeting was finally adjourned at 10:15 and members headed off to the "meeting after the meeting" at Athens Pizza.

## Charlie Elliot Chapter Meeting Minutes

*Editor's Note: No minutes were submitted for the 7/26 CE meeting. This is from the CE web site:*

2008-07-26 Chapter Meeting - Lecture: Probes to the Planets - Presented by Fred Buls, instructor of Astronomy at Perimeter College; the presentation of the Astronomical League's Honorary Messier Award for Ray Major; Observing 101 for July by Jon Wood, and Current Events in Astronomy and space exploration by Theo Ramakers.

## Charlie Elliott Future Meetings

Join us for our next meeting August 30 at 5:00PM at the Charlie Elliott Wildlife Center Visitors' Center.

Lecture: "Jupiter" - Dr. Richard Schmude Jr., Professor of Chemistry, Gordon College will be our featured speaker with a presentation called: "Jupiter Update". In 2006, Jupiter had two spectacular storms: Oval BA and a white oval in its south polar region. I will discuss both of these storms in this talk. Oval BA underwent a color change in late 2005. Oval BA also changed in both size and drift rate at the end of 2005. These two changes may have triggered its color change. A second oval in Jupiter's polar region underwent and oscillation in both longitude and latitude. This oscillation will be described. People will also get the chance to carry out a longitude measurement for themselves in this presentation. Dr. Richard Schmude, Jr. received his Ph.D. in Physical Chemistry in 1994 from Texas A&M University under the guidance of Dr. Karl Gingerich. In September of that same year he began teaching chemistry and astronomy at Gordon College. Richard began studying Mars in 1986. He has studied the red planet at every opposition since then. Most of his work has centered on measuring the brightness and color of Mars. A large review of Mars brightness and color was recently published in the professional journal *Icarus*. Much of this review is based on Richard's measurements. Richard who is the current coordinator for the ALPO Jupiter Section, recently published a detailed feature story about his studies of Jupiter's apparition

in 2003-4 in ALPO's *The Strolling Astronomer*.

Observing 101 Lecture - Jonathan Wood will present his continuation of the Observing 101 discussion by presenting tools and challenges.

"Astronomy Current Events" - Join chapter director Theo Ramakers for a presentation on current events in astronomy and space exploration.

Observing after the meeting - Join our members at the observing field, starting just after the meeting.

Future meetings are on: Sep. 27, Oct. 25 (set CE meeting schedule for 2009), Nov. 29, Dec. 27. For meeting updates and other information please check the CEastronomy website: <http://www.CEastronomy.org>

## August GASP Events

by Keith "Kosmic Kow" Burns, AAC President

August 9th the **GASP** group will be doing an evening side walk astronomy event at the soon to be Bucks Shoals State Park. Start time is 8PM with slide show and telescope viewing afterward. The new site is located east of Cleveland on GA 384 about 1-2 miles south of GA 115. From Atlanta you can get there several ways. The first is via GA 400 north to GA 115 and take GA 115 east through Cleveland and then 6 miles to GA 384. Turn right onto GA 384 and go south for 1-2 miles until you cross GA 254. Proceed south for another 1/2 mile and turn left onto Clover Leaf Drive. It's a narrow gravel road so watch for the road signs. Proceed on Clover Leaf Drive thru the metal gates to the field on the right. It's across the street from a house.

The second way to get to Bucks is north on I-85 to I-985, then I-985 north to GA 365. Take GA 365 north to the Baldwin city limits. Turn left onto GA 384 and go north toward Helen for about 4-6 miles. You will drop down a big hill and cross into White County then cross over the Chattahoochee River. You will climb up another big hill. At the top of the hill the back entrance to the park is on Clover Leaf Drive on the right side of the road - watch for the sign. Turn right and proceed until you pass thru a gate. The observing spot is located on the right.

Another **GASP** event will occur on Labor Day weekend at John Tanner State Park west of Carrollton, GA. The evening of August 30th we will hold a sidewalk event in the park. The location within the park will not be known until we get there Friday. You can call the park on Saturday to find out more info. Come on out and camp for the weekend. You can also come on out for the day on Saturday and spend the evening doing some sidewalk astronomy with your fellow astronomers and the public. The park has a lake and a beach for swimming. The park is only an hour's drive west of downtown Atlanta on I-20. Follow the park exit signs on the interstate and side roads. For information online, look at [www.gastateparks.org](http://www.gastateparks.org). For more information contact Keith Burns at [president@atlantaastronomy.org](mailto:president@atlantaastronomy.org).

## 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>

## Woodruff Boy Scout Camp

Club volunteers Peter Macumber, Joe Sheppard, Nicole Johnson & Philip Johnson showed campers views of the night sky at the final summer session at Woodruff on July 24. Photo by Philip Johnson.



## A Note from the President

I wanted to thank all who have volunteered over the years to help out in events we have held. You can't put a price on that as the volunteers worked for free and didn't ask for anything in return.

There are two GASP events coming up this month. The first is on August 9th at the future site of Bucks Shoals State Park. The second event will be August 30th at John Tanner State Park. If you have never attended one of these, they are worth the trip. You will have lots of fun plus we get a chance to show the public the wonders of the night sky. Both events are posted on the website and in the August issue of the *Focal Point*.

The August Club meeting will take place on the 15th at Emory University. We are honored to have returning speaker Dr Amy Lovell come and speak on comets and meteor showers. August is a month full of meteor showers so this is a timely talk for this time of year.

On June 22nd we held our 1st board meeting of the new 2008-2009 year. Congratulations to Don Hall for being elected as our new Board chairman.

Our main fundraiser for the club is the upcoming Peach State Star Gaze. The dates are Sept 28th - Oct 5th. It's a weeklong event so come for a week or for a few days or for the weekend. We will use the money raised from this event to improve our club's own site out at Deerlick Astronomy Village. The event will take place at Deerlick. Come hear great talks, learn at workshops, have many nights of observing with fellow astronomers, and just plan old relax.

For those on the east side of Metro Atlanta, the Charlie Elliott Chapter has monthly meetings and observing. Their meetings are always held on Saturday afternoons with observing that night weather permitting of course.

Enjoy,

Keith "Kosmic Kow" Burns

AAC President

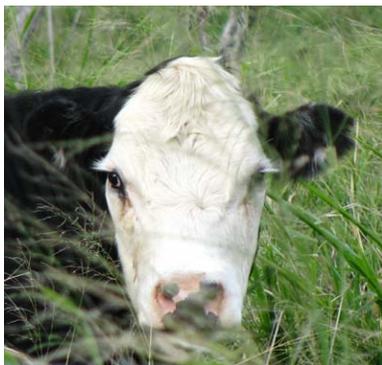


Photo by Tom Faber

## Spitzer Reveals "No Organics" Zone Around Pinwheel Galaxy

NASA/JPL News Release - July 21, 2008

The Pinwheel galaxy is gussied up in infrared light in a new picture from NASA's Spitzer Space Telescope. The fluffy-looking galaxy, officially named Messier 101, is dominated by a mishmash of spiral arms. In Spitzer's new view, in which infrared light is color coded, the galaxy sports a swirling blue center and a unique, coral-red outer ring.



*The tangled arms of the Pinwheel galaxy, otherwise known as Messier 101, are decked out in red in this new infrared image from NASA's Spitzer Space Telescope. The Pinwheel galaxy is located 27 million light-years away in the constellation Ursa Major. It is what's called a flocculent spiral, which means that its spiral arms are not well defined. The red color shows the dust, while the blue glow around the galaxy is from starlight. In this infrared composite, blue indicates light with a wavelength of 3.6 microns, green corresponds to 4.5 microns, and red to 5.8 and 8.0 microns. The contribution from starlight (measured at 3.6 microns) has been subtracted from the 5.8- and 8-micron images to enhance the visibility of the dust features. NASA/JPL-Caltech/STScI*

A new paper appearing July 20 in the *Astrophysical Journal* explains why this outer ring stands out. According to the authors, the red color highlights a zone where organic molecules called polycyclic aromatic hydrocarbons, which are present throughout most of the galaxy, suddenly disappear.

Polycyclic aromatic hydrocarbons are dusty, carbon-containing molecules found in star nurseries, and on Earth in barbecue pits, exhaust pipes and anywhere combustion reactions take place. Scientists believe this space dust has the potential to be converted into the stuff of life.

"If you were going look for life in Messier 101, you would not want to look at its edges," said Karl Gordon of the Space Telescope Science Institute in Baltimore, Md. "The organics can't survive in these regions, most likely because of high amounts of harsh radiation."

The Pinwheel galaxy is located about 27 million light-years away in the constellation Ursa Major. It has one of the highest known gradients of metals (astronomers refer to all elements heavier than helium as "metals") of all nearby galaxies in our universe. In other words, its concentrations of

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metals are highest at its center, and decline rapidly with distance from the center. This is because stars, which produce metals, are squeezed more tightly into the galaxy's central quarters.

Gordon and his team used Spitzer to learn about the galaxy's gradient of polycyclic aromatic hydrocarbons. The astronomers found that, like the metals, the polycyclic aromatic hydrocarbons decrease in concentration toward the outer portion of the galaxy. But, unlike the metals, these organic molecules quickly drop off and are no longer detected at the very outer rim.

"There's a threshold at the rim of this galaxy, where the organic material is getting destroyed," said Gordon.

The findings also provide a better understanding of the conditions under which the very first stars and galaxies arose. In the early universe, there were not a lot of metals or polycyclic aromatic hydrocarbons around. The outskirts of the Pinwheel galaxy therefore serves as a close-up example of what the environment might look like in a distant galaxy.

In this image, infrared light with a wavelength of 3.6 microns is colored blue; 8-micron light is green; and 24-micron light is red. All three of Spitzer instruments were used in the study: the infrared array camera, the multiband imaging photometer and the infrared spectrograph.

Other authors of the paper include Charles Engelbracht, George Rieke, Karl A. Misselt, J.D. Smith and Robert Kennicutt, Jr. of the University of Arizona, Tucson. Smith is also associated with the University of Toledo, Ohio, and Kennicutt is also associated with the University of Cambridge, England.

NASA's Jet Propulsion Laboratory, Pasadena, Calif., manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center at the California Institute of Technology, also in Pasadena. Caltech manages JPL for NASA. Spitzer's infrared array camera was built by NASA's Goddard Space Flight Center, Greenbelt, Md. The instrument's principal investigator is Giovanni Fazio of the Harvard-Smithsonian Center for Astrophysics. Spitzer's infrared spectrograph was built by Cornell University, Ithaca, N.Y. Its development was led by Jim Houck of Cornell. The multiband imaging photometer for Spitzer was built by Ball Aerospace Corporation, Boulder, Colo., and the University of Arizona, Tucson. Its principal investigator is George Rieke of the University of Arizona. For more information about Spitzer, visit <http://www.spitzer.caltech.edu/spitzer> and <http://www.nasa.gov/spitzer>.

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## Satellites Discover What Powers Northern Lights

NASA News Release - July 24, 2008

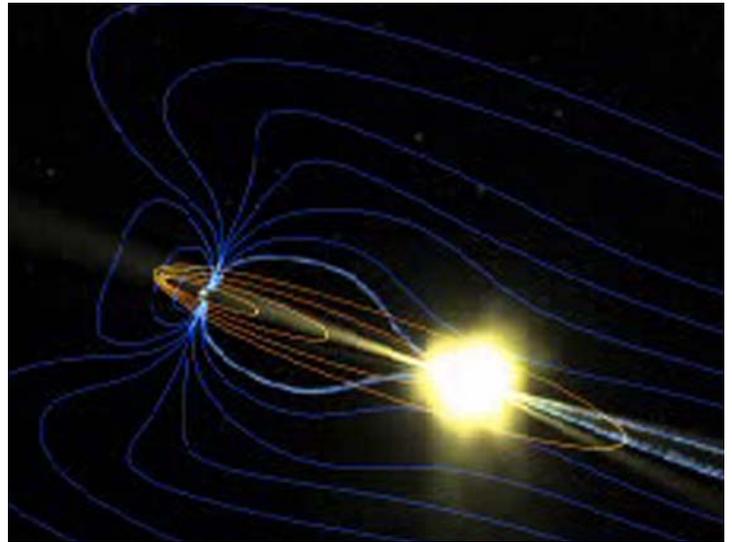
GREENBELT, Md. -- Researchers using a fleet of five NASA satellites have discovered that explosions of magnetic energy a third of the way to the moon power substorms that cause sudden brightenings and rapid movements of the aurora borealis, called the Northern Lights.

The culprit turns out to be magnetic reconnection, a common process that occurs throughout the universe when stressed magnetic field lines suddenly snap to a new shape, like a rubber band that's been stretched too far.

"We discovered what makes the Northern Lights dance," said Dr. Vassilis Angelopoulos of the University of California, Los Angeles. Angelopoulos is the principal investigator for the Time History of Events and Macroscale Interactions during Substorms mission, or THEMIS.

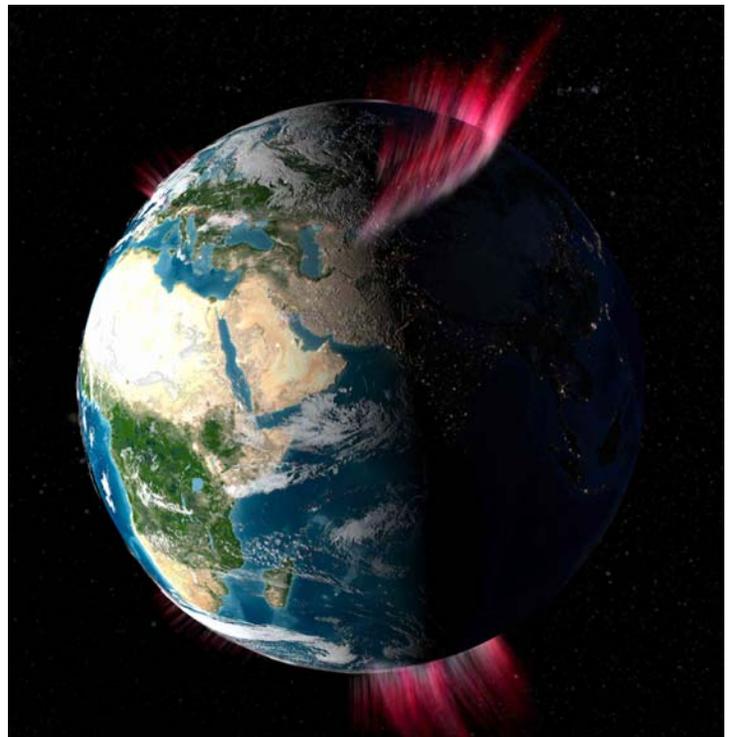
Substorms produce dynamic changes in the auroral displays seen near Earth's northern and southern magnetic poles, causing a burst of light and movement in the Northern and Southern Lights.

Substorms often accompany intense space storms that can disrupt radio communications and global positioning system signals and cause power outages. Solving the mystery of where, when, and how substorms occur will allow scientists to construct more realistic substorm models and better predict a magnetic storm's intensity and effects.



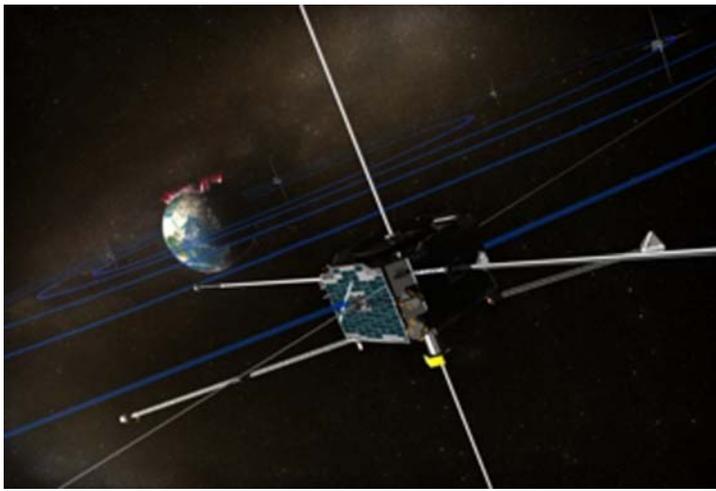
*This artist's concept shows the explosion of energy responsible for sudden increases in the brightness and movement of the Northern Lights. NASA*

"As they capture and store energy from the solar wind, the Earth's magnetic field lines stretch far out into space. Magnetic reconnection releases the energy stored within these stretched magnetic field lines, flinging charged particles back toward the Earth's atmosphere," said David Sibeck, THEMIS project scientist at NASA's Goddard Space Flight Center in Greenbelt, Md. "They create halos of shimmering aurora circling the northern and southern poles."



*Artist's concept of a substorm. Credit: NASA*

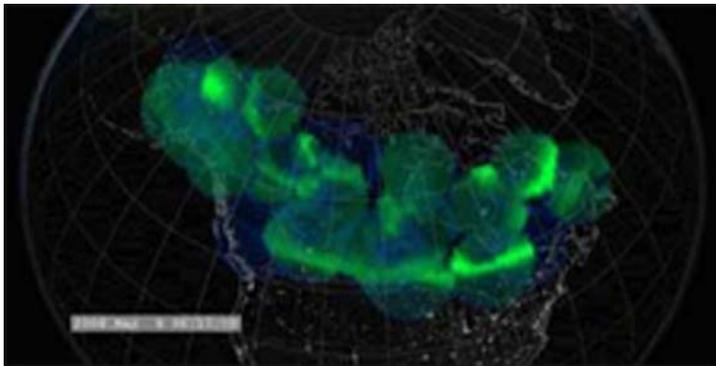
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Artist's concept of one of the THEMIS satellites in orbit of Earth. NASA

Scientists directly observe the beginning of substorms using five THEMIS satellites and a network of 20 ground observatories located throughout Canada and Alaska. Launched in February 2007, the five identical satellites line up once every four days along the equator and take observations synchronized with the ground observatories. Each ground station uses a magnetometer and a camera pointed upward to determine where and when an auroral substorm will begin. Instruments measure the auroral light from particles flowing along Earth's magnetic field and the electrical currents these particles generate.

During each alignment, the satellites capture data that allow scientists to precisely pinpoint where, when, and how substorms measured on the ground develop in space. On Feb. 26, 2008, during one such THEMIS lineup, the satellites observed an isolated substorm begin in space, while the ground-based observatories recorded the intense auroral brightening and space currents over North America.



A collection of ground-based All-Sky Imagers (ASI) captures the aurora brightening caused by a substorm. Credit: NASA/Goddard Space Flight Center Scientific Visualization Studio

These observations confirm for the first time that magnetic reconnection triggers the onset of substorms. The discovery supports the reconnection model of substorms, which asserts a substorm starting to occur follows a particular pattern. This pattern consists of a period of reconnection, followed by rapid auroral brightening and rapid expansion of the aurora toward the poles. This culminates in a redistribution of the electrical currents flowing in space around Earth.

THEMIS is the fifth medium-class mission under NASA's Explorer Program. The THEMIS team's findings will appear online July 24 in *Science Express* and Aug. 14 in the journal *Science*.

## Astronomers Able to See Disks Surrounding Black Holes

University of Calif. Santa Barbara News Release - July 23, 2008

For the first time, a team of international researchers has found a way to view the accretion disks surrounding black holes and verify that their true electromagnetic spectra match what astronomers have long predicted they would be. Their work will be published in the July 24 issue of the science journal *Nature*.

A black hole and its bright accretion disk have been thought to form a quasar, the powerful light source at the center of some distant galaxies. Using a polarizing filter, the research team, which included Robert Antonucci and Omer Blaes, professors of physics at the University of California, Santa Barbara, isolated the light emitted by the accretion disk from that produced by other matter in the vicinity of the black hole.

"This work has greatly strengthened the evidence for the accepted explanation of quasars," said Antonucci.

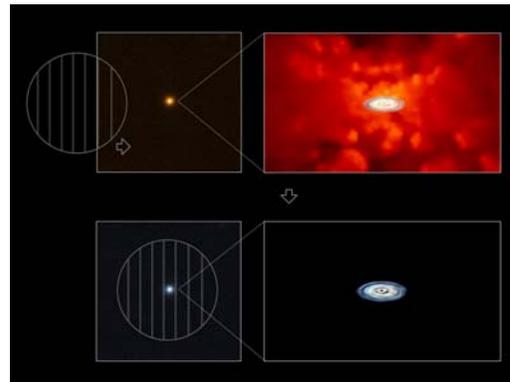
According to Antonucci, the physical process that astronomers find most appealing to explain a quasar's energy source and light production involves matter falling toward a supermassive black hole and swirling around in a disk as it makes its way to the event horizon - the spherical surface that marks the boundary of the black hole. In the process, friction causes the matter to heat up such that it produces light in all wavelengths of the spectrum, including infrared, visible, and ultraviolet. Finally, the matter falls into the black hole and thereby increases the black hole's mass.

"If that's true, we can predict from the laws of physics what the electromagnetic spectrum of the quasar should be," said Antonucci. But testing the prediction has been impossible until now because astronomers have not been able to distinguish between the light emanating from the accretion disk and that of dust particle and ionized gas clouds in the area of the black hole.

By attaching a polarizing filter to the United Kingdom Infrared Telescope (UKIRT) on Mauna Kea in Hawaii, the research team, led by Makoto Kishimoto, an astronomer with the Max-Planck Institute for Radio Astronomy in Bonn, and a former postdoctoral fellow at UCSB, eliminated the extraneous light and was able to measure the spectrum of the accretion disk. Doing so, they demonstrated that the spectrum matches what previously had been predicted. The researchers also used extensive data gathered from the polarization analyzer of the Very Large Telescope, an observatory in Chile that is operated by the European Space Observatory.

What makes the polarizing filter able to perform its magic is the fact that direct light is not polarized - that is, it has no preference in terms of the directional alignment of its electrical field. The accretion disk emanates direct light, as do the dust particles and ionized gas. However, a small amount of light from the accretion disk, which is the exact light the

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A polarizing filter attached to a telescope suppresses the light emitted by dust particles and ionized gas clouds around the quasar so its true electromagnetic spectrum can be revealed. Credit: Makoto Kishimoto, with cloud image by Schartmann.

researchers want to study, reflects off gas located very close to the black hole. This light is polarized.

"So if we plot only polarized light, it's as if the additional light isn't there and we can see the true spectrum of the accretion disk," Antonucci said. "With this knowledge we have a better understanding of how black holes consume matter and expand."

Studying the spectrum of a glowing object such as a quasar provides astronomers with an incredible amount of valuable information about its properties and processes, Antonucci noted. "Our understanding of the physical processes in the disk is still rather poor, but now at least we are confident of the overall picture," he said.

## Georgia Astronomy in State Parks (GASP) Events

The following are the GASP events scheduled for the remainder of this year:

**August 30** - John Tanner State Park.

**November 8** - Red Top Mountain State Park.

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



*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 Website

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 (when available) and other information. <http://www.atlantaastronomy.org>

The **Atlanta Astronomy Club, Inc.**, the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the third Friday of each month at Emory University's White Hall or occasionally at other locations or times. Membership is open to all. 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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**Webmaster Atlanta Astronomy:** Peter Macumber 770-941-4640  
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## Directions to White Hall at Emory

Our meetings are generally held in a classroom in White Hall. To get to White Hall, turn onto Dowman Drive from North Decatur Road at the five way intersection (across from Everybody's Pizza). White Hall is located across from the new Science & Math building. Parking is available along Dowman Drive on both sides of the road. **The parking lot on the left behind the Admissions Building may be closed.** Additional parking is available in two parking decks near White Hall. 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 (All times EDT unless noted)

August 2nd, Saturday: **DSO at Brasstown Bald** - Contact Dave Lumpkin for details. Moon near Venus & Regulus.

August 8th, Friday: Moon First Quarter.

August 12th, Tuesday: Perseid Meteors.

August 13th, Wednesday: Mercury, Venus, Saturn grouping next several nights.

August 14th, Thursday: Neptune Opposition.

August 15th, Friday: **AAC Meeting at White Hall, 8PM, Emory University.**

August 16th, Saturday: **Telescope & Instr Workshop** - Contact Sharon Carruthers for details. Full Moon.

August 22nd, Friday: **Focal Point Deadline.**

August 23rd, Saturday: **DSO at DAV** - Contact Dave Lumpkin for details. Moon Last Quarter.

August 28th, Thursday: Moon near M44 - Morning.

August 30th, Saturday: **CEC Meeting** - See pg 3 for details. **GASP at John Tanner State Park - See pg 7 for details.** New Moon.

September 6th, Saturday: Mercury, Venus, Mars close together for next week.

September 7th, Sunday: Moon First Quarter.

September 10th, Wednesday: Mercury at Greatest Elongation East.

September 12th, Friday: Uranus Opposition.

September 15th, Monday: Full Moon.

September 19th, Friday: **AAC Meeting at White Hall, 8PM, Emory University.**

September 20th, Saturday: **Telescope & Instr Workshop** - Contact Sharon Carruthers.

September 22nd, Monday: Moon Last Quarter. Equinox at 11:44AM.

September 23rd, Tuesday: **Focal Point Deadline.**

September 27th, Saturday: **CEC Meeting** - See pg 3 for details.

**September 28th, Sunday - October 5th, Sunday: Peach State Star Gaze!!!**

September 29th, Monday: New Moon.

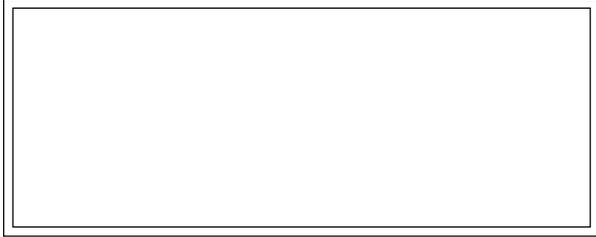
## Atlanta Astronomy Club Listserv

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 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 are okay. You can submit articles anytime up to and including the deadline date. **The deadline for September is Friday, August 22th at 4:00 PM ... Submissions will not be accepted after the deadline.**

## FIRST CLASS



Newsletter of The Atlanta Astronomy Club, Inc.

FROM:

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