The Focal Point

The Atlanta Astronomy Club
Established 1947
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Editor: Kat Sarbell

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Get ready for the Peach State Star Gaze!

by Peter Macumber - PSSG Chair, and Joanne Cirincione - PSSG Co-Chair

The AAC's Peach State Star Gaze (PSSG), is back in Georgia! We will be moving to a permanent home at the Deerlick Astronomy Village (DAV) in Sharon, Georgia. It is east of Atlanta and 50+ miles west of Augusta, GA. It has some of the darkest skies in Georgia. Below is a photo of Grier's Field, the main observing area.

The Peach State for this year will take place October 7 - 14. We will have speakers, vendors and workshops. The speakers and workshop leaders include: Sean Walker, Vic Menard, Michael Covington (DSLR Astrophotography), Larry Owens, Bob Holzer (Robotic imaging), Scott Hamond, Mark Sandberg (Light Pollution Workshop), Sharon Carruthers (Star Hopping), and Tom Crowley (Solar Observing and Listening). If it happens to be cloudy and observing becomes impossible, we will run movies in the Big Tent.

Important Notice - There will be NO October General Membership Meeting due to the Peach State Star Gaze occurring during the week before.

Please visit us at AtlantaAstronomy.org/pssg/. You can also email us at pssg@atlantaastronomy.org. Please also visit the Deerlick Astronomy Village's site at Deerlickgroup.com.

Pre-registration is now closed but walk-ins are still welcome. Walk-in rates will apply. If you would like to volunteer and be a part of this, contact a PSSG staff member when you arrive at the event. We need volunteers to help us with the new venue.

Above: Light pollution map of the DAV area from ClearDarkSky. The DAV has some of the darkest skies in Georgia!

September AAC Meeting Minutes

By Richard Jakiel, AAC Recording Secretary

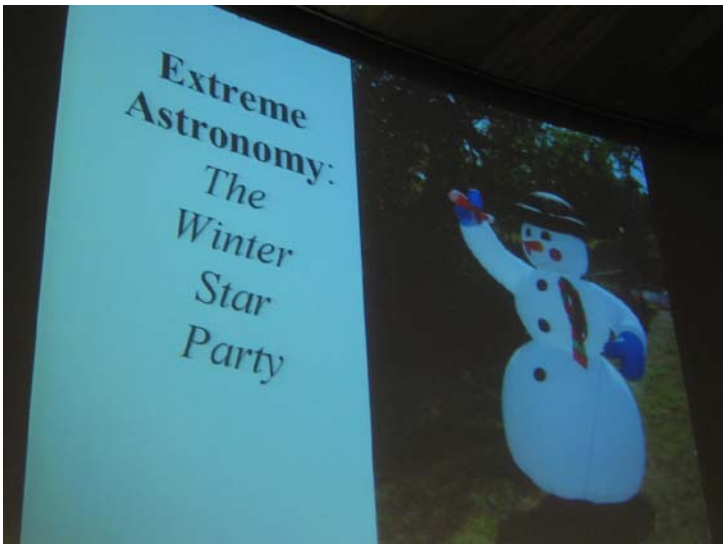
Meeting photos by Tom Faber

The September 21st General Meeting of the AAC started at 8 PM with President Peter Macumber (photo below) presiding. At least 40 AAC members and their guests were in attendance. Peter briefly discussed several orders of business including the upcoming PSSG at DAV and the DAV build-out. The PSSG is now well past the 'break even' point, with a projection of well over 100 attendees. He also mentioned that the last day for advanced registration was September 21, which spurred on a fury of last minute payment and registration forms by the membership.

The DAV build-out is going close to plan, with the near completion of the large AAC building. On the weekend of September 29-30, the last (?) phase of build-out will commence. This includes the placement of siding + painting, plus the construction of the small "dog-house" for the AAC's large 24-inch scope. Other items of business included the next meeting at Charlie Elliot (Oct 6th) and the last GASP event of the year (Nov. 3rd) at Red Top Mountain State Park.

A Look at Other Star Parties

After the business portion of the meeting, Peter (photo above right - center) introduced that evening's presentation on Star Parties. Alex Langoussis (photo above right on right) gave a 15 minute presentation on the Winter Star Party (photo right) held each year at a Girl Scout Camp on the Florida Keys. He focused on the 'star party' experience, plus displayed many images of the types of telescopes and equipment often found at this (and other) large star parties. Rich Jakiel (photo below on left) followed Alex with a presentation on last year's Texas Star party located in the mountains of West Texas. Highlights of his talk were the tour of McDonald Observatory's facilities and the spectacular, rugged desert landscape of the region.



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

AAC Observing Events for 2007

by Daniel Herron, Observing Chair

Here are some dates in 2007 for Observing events (all dates subject to change). I am sure some will be added or changed during the course of the year but I will try and stick to them if possible. I will update the locations and times later as well as add them to the AAC web site and the Yahoo Astro Atlanta List.

DSO Dates (locations noted if known/decided) October @ DAV (PSSG), November 10th, December 8th

GASP Events November 3rd - Red Top Mountain State Park.

New member Orientation/Open Houses (all at Villa Rica for now unless noted) October 20 (New member Orientation), December 15th (Open House - New member Orientation).

The Next AAC Board Meeting

The next Board Meeting of the Atlanta Astronomy Club is scheduled for Sunday, October 28th at 5:00PM at Bradford Map, Globe & Telescopes, 300 Hammond Dr, Sandy Springs. Contact Tom Crowley for details.

Charlie Elliott Chapter Meeting Minutes

by Clevis Jones, CE Recording Secretary

(These minutes have been edited for space constraints.)

Attendance: Eighteen guests and members attended the September 15 Charlie Elliott Chapter meeting at Perimeter College (I-20 & Exit 98). A special thank you to Fred Buls and Perimeter College for allow us to use the college facilities!

Business: Steve Bieger presented a preview of the one hour special PBS presentation of "Seeing in the Dark". Clevis Jones showed two short movies of the BRILLIANT fireball that lit the night skies of New Mexico on Sept 13 to four times the brightness of the full Moon! Director, Larry Owens, opened the meeting announcing that 20 plus Scouts from Troop 231 would be on the CE observing field at sunset for some observing through our telescopes and discussions about the night sky.

2007 remaining schedule for the CE Meetings is: October 6 (note: Peach State will be taking place on the 13th), November 3 (back to 3 PM for the winter), December 15.

Feature Presentation: "Super Nova 2006gy: A Super-Dupernova" presented by Fred Buls, instructor of physics and astronomy at Perimeter College. "Supernova 2006GY, which took place in NGC 1260, a spiral galaxy that's 238 million light years away, is the most luminous supernova ever observed, peaking out at about 100 times a typical supernova luminosity. It's thought to have been a 'pair instability supernova.' This is a type of thermonuclear supernova that theorists for decades have claimed should end the lives of very heavy stars, and SN2006GY is the first compelling candidate."

What's Up Tonight: Steve Bieger, in light of the sunset meeting with the Scouts, gave a somewhat abbreviated presentation starting with "It is International Astronomy Day".

Current Events: Clevis Jones sped up (to everyone's relief) his presentation on Endeavour, Discovery, Mars Rovers, Iapetus, Kaguya, & the August Lunar eclipse.

Observing Session: Scout Troop 231, thanks for coming by. Thank you volunteers! Several hours after the Scouts left, the volunteers dragged themselves away from the dark, clear, dry, and cool evening.

Charlie Elliot Future Meetings

by Clevis Jones, CE Recording Secretary

Meeting dates and programs:

October 6 at 5:00 PM at the Charlie Elliott Visitor's Center

Feature Presentation by Patrick Durusau: "Topic Maps" - There is a sea of scientific and astronomical data available world wide on the Internet that can be used for personal or professional discoveries. How does one obtain useful results when searching this convoluted and disjointed treasure house? Please join Patrick for an in-depth discussion on how to obtain results. Patrick focuses his energies on topic maps and related technologies both in ISO and OASIS standards. For more complete information on Patrick, please see: http://www.durusau.net/general/background.html

The November 3 meeting is a TIME change to the 3:00 PM winter schedule. Feature Presentation – Dr. Richard Schmude on Mars (Mars' close approach is in December).

December meeting: Pot Luck and Larry Owens Planetary Imaging Workshop

For meeting updates, directions, & live broadcasts: please check the CEastronomy website for the most current information! http://www.CEastronomy.org

Bradley Observatory Open House Series 2007-2008

Amateur Astronomy - Unlike nuclear physics or space flight, astronomy is a scientific discipline to which those without advanced degrees in the subject can and do make significant contributions. An amateur is defined as "a person who engages in a study for pleasure rather than for financial benefit or professional reasons." This year, we will hear from and about a number of "amateur" astronomers, and the contributions that they have made, and are making to our understanding of the universe. All lectures will be held at Bradley Observatory on the Agnes Scott College campus. They begin at 8PM and afterwards there will be a planetarium show and observing with the Beck Telescope (weather permitting).

October 12, 2007: "Planetary Imaging for the Amateur Astronomer"- Larry Owens (Director, Charlie Elliot Chapter of the AAC).

November 9, 2007: "Sixty Years of Amateur Astronomy: 1947-2007" - Chris De Pree (Agnes Scott College).

December 14, 2007: "The Stonehenge Observatory" - Dan Reichert (UNC Chapel Hill).

February 8, 2008: "Comets and the Meteor Shower Connection" - Amy Lovell (Agnes Scott College).

March 7 , 2008: "How to Make a Telescope" - Ed Abin (Fernbank Science Center).

March 21, 2008: W. A. Calder Spring Equinox Concert and Open House.

April 11, 2008: "NASA's Dawn Mission: Exploring the Asteroid Frontier" - Lucy A. McFadden (University of Maryland).

May 9, 2008: Kevin Marvel (American Astronomical Society).

For additional information including directions to Bradley Observatory visit http://bradley.agnesscott.edu.

A Stooge's View of Mars

Rich Jakiel took this photo on September 4th at 9:36 UT at the WiseGuy Observatory in Douglasville, GA.. The stats on Mars at that time were as follows: Diameter = 8.28", Central Meridian = 314.5°, Phase = 0.86. The telescope used was a 12" Meade LX200 at f/20 with a DMK AF04.AS camera with RGB (IR=L), 3000 frames each, 4000 for IR. The seeing was poor to fair (a 4 out of 10), the transparency was a 5 out of 10.

Rich wrote, "Here is my first attempt at LRGB imaging of Mars. The disk is still quite small (8.3") and markedly gibbous. The dust is now settling enough for the albedo features to become more pronounced.

This image uses stacks of ~3000 frames for RGB and 4000 frames in the near IR (>742 nm) for the luminance. I used my 12-inch LX200 at f/20, while the camera is the monochrome DMK 21AF04.AS.

The seeing was rather poor for most of the run, and after a couple miserable attempts at f/30, I dropped it down to f/20 (2x Barlow), and then later resampled the image at 150%. Image processing was done with Registax 4, Photoshop, IRIS and AIP4WIN 2.0."

Mars Orbiter Gives Insights About Water and Climate

NASA/JPL News Release, September 22, 2007

PASADENA, Calif. -- NASA's Mars Reconnaissance Orbiter is examining several features on Mars that address the role of water at different times in Martian history.

Features examined with the orbiter's advanced instruments include material deposited in two gullies within the past eight years, polar ice layers formed in the recent geologic past, and signs of water released by large impacts when Mars was younger.

Last year, discovery of the fresh gully deposits from before-and-after images taken since 1999 by another orbiter, Mars Global Surveyor, raised hopes that modern flows of liquid water had been detected on Mars. Observations by the newer orbiter, which reached Mars last year, suggest these deposits might instead have resulted from landslides of loose, dry materials. Researchers report this and other findings from Mars Reconnaissance Orbiter in five papers in Friday's issue of the journal Science.

"The key question raised by these two deposits is whether water is coming to the surface of Mars today," said Alfred McEwen of the University of Arizona, Tucson, lead scientist for the spacecraft's High Resolution Imaging Science Experiment camera and co-author of three of the papers. "Our evidence suggests the new deposits did not necessarily involve water."

One of the fresh deposits is a stripe of relatively bright material several hundred yards long that was not present in 1999 but appeared by 2004. The orbiter's Compact Reconnaissance Imaging Spectrometer for Mars reveals the deposit is not frost, ice or a mineral left behind by evaporation of salty water. Also, the researchers inspected the slopes above this and five other locations that have bright and apparently young deposits. The slopes are steep enough for sand or loose, dry dust to flow down the gullies. Bright material seen uphill could be the source.

Other gullies, however, offer strong evidence of liquid water flowing on Mars within the last few million years, although perhaps at a different

This image from HiRISE image shows gully channels in a crater in the southern highlands of Mars. Credit: NASA/JPL/University of Arizona

phase of repeating climate cycles. Mars, like Earth, has periodic changes in climate due to the cycles related to the planets' tilts and orbits. Some eras during the cycles are warmer than others. These gullies are on slopes too shallow for dry flows, and images from Mars Reconnaissance Orbiter's high-resolution camera show clear indicators of liquid flows, such as braided channels and terraces within the gullies.

Another new finding from that camera may help undermine arguments that very ancient Mars had a wet climate on a sustained basis. Landscapes with branched channels and fan-like deposits typical of liquid flows were found around several impact craters. Images show close association between some of those flow features and ponded deposits interpreted as material melted by the impact of a meteoroid into ice-rich crust. This new evidence supports a hypothesis that ancient water flows on the surface were episodic, linked to impact events and subsurface heating, and not necessarily the result of precipitation in a sustained warmer climate. Crater-digging impacts were larger and more numerous during the early Martian era when large drainage networks and other signs of surface water were carved on many parts of the planet.

The Mars Reconnaissance Orbiter has examined ice-rich layered deposits near the Martian poles with the ground-penetrating Shallow Subsurface Radar instrument, and other experiments. The radar detected layering patterns near the south pole that suggest climatic periods of accumulating deposits have alternated with periods of erosion, report Roberto Seu of the University of Rome and his co-authors. Maria Zuber of the Massachusetts Institute of Technology and her collaborators used effects of Mars' gravity on the orbiter to check whether layered deposits at the south pole are high-density material, such as rock, or lower-density such as ice. Their

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observations add to other evidence that the layers are mostly water. Kenneth Herkenhoff of the U.S. Geological Survey, Flagstaff, and others used the high-resolution camera to trace a series of distinctive layers near the north pole.

An accompanying paper by Windy Jaeger of the U.S. Geological Survey, Flagstaff, and co-authors uses images from the high-resolution camera to show lava flows completely draping a young Martian channel network called Athabasca Valles. This creates ponded lava over an expanse that other researchers had interpreted in 2005 as a frozen sea.

This image from HiRISE shows a portion of the Athabasca Valles channel system. Part of a streamlined "island" is visible on the right, and dune-like landforms that occur on the channel floor can be seen on the left. Credit: NASA/JPL/University of Arizona

Richard Zurek, project scientist for Mars Reconnaissance Orbiter at NASA's Jet Propulsion Laboratory, Pasadena, Calif., said, ³These latest increases in observational capabilities, individually and in combination, reveal a more complex Mars, a planet with a rich history that we are still learning to read."

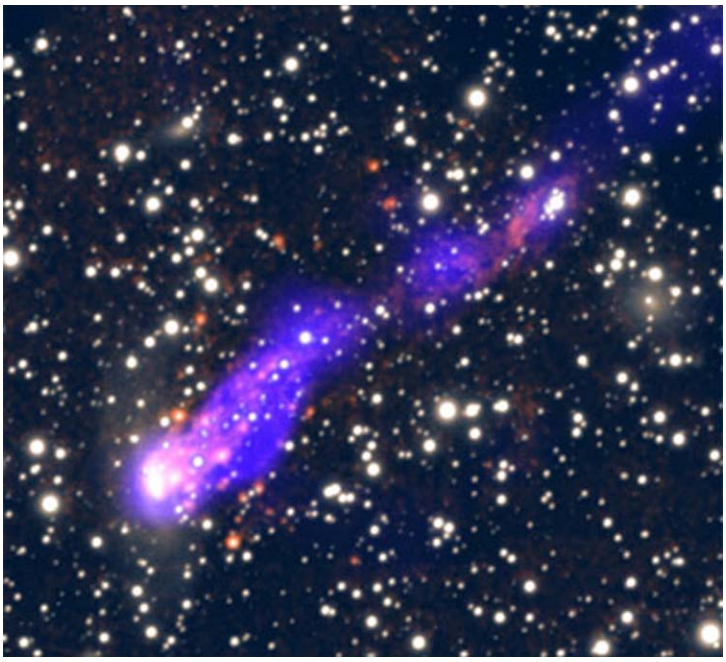
JPL manages the mission for NASA¹s Science Mission Directorate, Washington. Lockheed Martin Space Systems, Denver, is the prime contractor and built the spacecraft. The University of Arizona operates the High Resolution Imaging Science Experiment camera, built by Ball Aerospace & Technologies Corp., Boulder, Colo. The Johns Hopkins University Applied Physics Laboratory, Laurel, Md., operates the Compact Reconnaissance Imaging Spectrometer for Mars. The Shallow Subsurface Radar was provided by the Italian Space Agency; its operations are led by the University of Rome, and its data are analyzed by a joint Italian-U.S. science team.

Orphan Stars Discovered in Long Galaxy Tail

Chandra X-Ray Center News Release, September 24, 2007

Astronomers have found evidence that stars have been forming in a long tail of gas that extends well outside its parent galaxy. This discovery suggests that such "orphan" stars may be much more prevalent than previously thought.

The comet-like tail was observed in X-ray light with NASA's Chandra X-ray Observatory and in optical light with the Southern Astrophysical Research (SOAR) telescope in Chile. The feature extends for more than 200,000 light years and was created as gas was stripped from a galaxy called ESO 137-001 that is plunging toward the center of Abell 3627, a giant cluster of galaxies.



This composite image of X-ray and optical light shows a tail that has been created as a galaxy plunges into a cluster, shedding material and forming stars behind it. Credit: X-ray: NASA/CXC/MSU/M.Sun et al; H-alpha/ Optical: SOAR (MSU/NOAO/UNC/CNPq-Brazil)/M.Sun et al.

"This is one of the longest tails like this we have ever seen," said Ming Sun of Michigan State University, who led the study. "And, it turns out that this is a giant wake of creation, not of destruction."

The observations indicate that the gas in the tail has formed millions of stars. Because the large amounts of gas and dust needed to form stars are typically found only within galaxies, astronomers have previously thought it unlikely that large numbers of stars would form outside a galaxy.

"This isn't the first time that stars have been seen to form between galaxies," said team member Megan Donahue, also of MSU. "But the number of stars forming here is unprecedented."

The evidence for star formation in this tail includes 29 regions of ionized hydrogen glowing in optical light, thought to be from newly formed stars. These regions are all downstream of the galaxy, located in or near the tail. Two Chandra X-ray sources are near these regions, another indication of star formation activity. The researchers believe the orphan stars formed within the last 10 million years or so.

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The stars in the tail of this fast-moving galaxy, which is some 220 million light years away, would be much more isolated than the vast majority of stars in galaxies.

"By our galactic standards, these are extremely lonely stars," said Mark Voit, another team member from MSU. "If life was to form out there on a planet a few billion years from now, they would have very dark skies."

The gas that formed the orphan stars was stripped out of its parent galaxy by the pressure induced by the motion of the galaxy through the multimillion degree gas that pervades the intergalactic space of the galaxy cluster. Eventually most of the gas will be scoured from the galaxy, depleting the raw material for new stars, and effectively stopping further star formation in the galaxy.

This process may represent an important but short-lived stage in the transformation of a galaxy. Although apparently rare in the present-day universe, galactic tails of gas and orphan stars may have been more common billions of years ago when galaxies were younger and richer in star-forming gas.

These results will appear in the December 10th issue of The Astrophysical Journal. NASA's Marshall Space Flight Center, Huntsville, Ala., manages the Chandra program for the agency's Science Mission Directorate. The Smithsonian Astrophysical Observatory controls science and flight operations from the Chandra X-ray Center in Cambridge, Mass. The SOAR (Southern Astrophysical Research Telescope) is a joint project of Michigan State University, Conselho Nacional de Pesquisas Científicas e Tecnologicas (CNPq-Brazil), The University of North Carolina at Chapel Hill, and the National Optical Astronomy Observatory.

NASA'S Dawn Spacecraft Enroute to Shed Light on Asteroid Belt

September 27, 2007

CAPE CANAVERAL, Fla. - NASA's Dawn spacecraft is on its way to study a pair of asteroids after lifting off Thursday from the Cape Canaveral Air Force Station at 7:34 a.m. EDT (4:34 a.m. PDT).

Mission controllers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., received telemetry on schedule at 9:44 a.m. EDT (6:44 a.m. PDT) indicating Dawn had achieved proper orientation in space and its massive solar array was generating power from the sun.

"Dawn has risen, and the spacecraft is healthy," said the mission's project manager Keyur Patel of JPL. "About this time tomorrow [Friday morning], we will have passed the moon's orbit."

During the next 80 days, spacecraft controllers will test and calibrate the myriad of spacecraft systems and subsystems, ensuring Dawn is ready for the long journey ahead.

"Dawn will travel back in time by probing deep into the asteroid belt," said Dawn Principal Investigator Christopher Russell, University of California, Los Angeles. "This is a moment the space science community has been waiting for since interplanetary spaceflight became possible."

Dawn's 4.8-billion-kilometer (3-billion-mile) odyssey includes exploration of asteroid Vesta in 2011 and the dwarf planet Ceres in 2015. These two icons of the asteroid belt have been witness to much of our solar system's history. By using Dawn's instruments to study both asteroids, scientists more accurately can compare and contrast the two. Dawn's science instrument suite will measure elemental and mineral composition, shape, surface topography, and tectonic history, and will also seek water-bearing minerals. In addition, the Dawn spacecraft and how it orbits Vesta and Ceres will be used to measure the celestial bodies' masses and gravity fields.

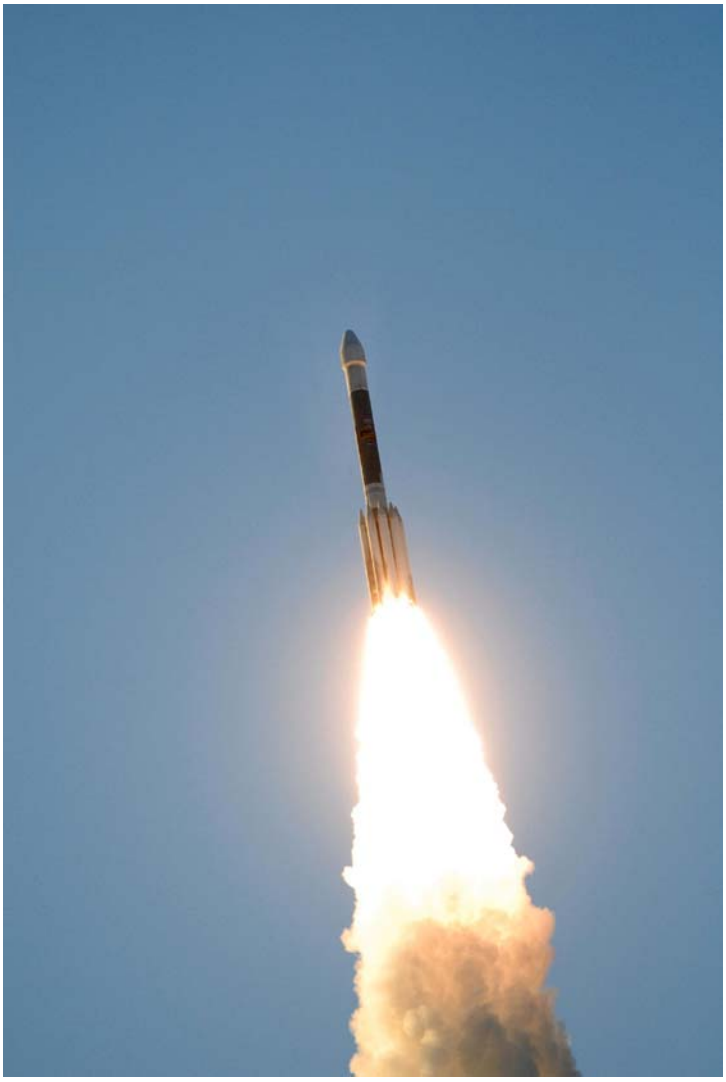
The spacecraft's engines use a unique, hyper-efficient system called ion propulsion, which uses electricity to ionize xenon to generate thrust. The 30-centimeter-wide (12-inch) ion thrusters provide less power than conventional engines but can maintain thrust for months at a time.

The management of the Dawn launch was the responsibility of NASA's Kennedy Space Center, Fla. The Delta 2 launch vehicle was provided by United Launch Alliance, Denver.

The Dawn mission to Vesta and Ceres is managed by JPL, a division of the California Institute of Technology, Pasadena, Calif., for NASA's Science Mission Directorate, Washington.

The University of California, Los Angeles, is responsible for overall Dawn mission science. Other scientific partners include Los Alamos National Laboratory, N.M.; Max Planck Institute for Solar System Research, Katlenburg, Germany; DLR Institute for Planetary Research, Berlin; Italian National Institute for Astrophysics, Rome; and the Italian Space Agency. Orbital Sciences Corporation of Dulles, Va., designed and built the Dawn spacecraft.

To learn more about Dawn and its mission to the asteroid belt, visit: http://www.nasa.gov/dawn



A Delta 2 Heavy sends the Dawn spacecraft on its way to the asteroid belt. The "Heavy" version of the Delta 2 has larger, more powerful solid rocket boosters than the standard Delta 2. Photo Credit: NASA

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 or go to the Emory web site.

Georgia Astronomy in State Parks (GASP) Events

There is one more scheduled GASP event for 2007:

November 3rd - Red Top Mountain State Park

For more information about these events, contact Joanne Cirincione at Starrynights@ AtlantaAstronomy.org.

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.

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** for a family or single person membership. College Students membership fee is **$15**. These fees are for a one year membership.

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.

AAC Officers and Contacts

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

Webmaster Atlanta Astronomy: Peter Macumber 770-941-4640 pmacumber@nightsky.org

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 Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

FROM:
Kat Sarbell
506 Treeridge Parkway
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We're here to help! Here's how how to reach us:

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Atlanta, GA 30358-1155
www.atlantaastronomy.org

FIRST CLASS

Calendar by Tom Faber (All times EDT/EST unless noted)

October 3rd, Wednesday: Moon Last Quarter. Mars near M35.

October 5th, Friday: Moon near M44.

October 7th, Sunday: Moon near Venus and Saturn.

October 7th - 14th: Peach State Star Gaze at DAV - See pg.1 for details.

October 11th, Thursday: New Moon.

October 12th, Friday: Bradley Observatory Open House, 8PM. See pg.3 for details.

October 19th, Friday: Moon First Quarter.

October 20th, Saturday: **New Member Orientation at Villa Rica - Contact Daniel Herron.**

October 21st, Sunday: Orionid Meteors.

October 25th, Thursday: Full Moon. **Focal Point Deadline.**

October 27th, Saturday: Moon near M45.

October 28th, Sunday: **AAC Board Meeting, 5PM at Bradford Map & Telescope, 300 Hammond Rd, Sandy Springs. - Contact Tom Crowley for details.**

November 1st, Thursday: Moon Last Quarter.

November 3rd, Saturday: **GASP at Red Top Mountain State Park - See pg.7.**

November 4th, Sunday: Daylight Savings Time Ends at 2:00AM.

November 5th, Monday: Moon near Venus.

November 7th, Wednesday: Moon above Mercury and Spica.

November 8th, Thursday: Mercury Greatest Western Elongation.

November 9th, Friday: New Moon. Bradley Observatory Open House, 8PM. See pg.3 for details.

November 10th, Saturday: **DSO at loaction TBA - Contact Daniel Herron for details.**

November 16th, Friday: **AAC Meeting at White Hall, 8PM, Emory University.**

November 17th, Saturday: Moon First Quarter.

November 18th, Sunday: Leonid Meteors.

November 24th, Saturday: Full Moon - near M45.

Atlanta Astronomy Club Listserve

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 Kat Sarbell 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 and including the deadline date. **The deadline for November is Thursday, October 25th at 4:00 PM .... Submissions will no longer be accepted after the deadline.**