

The Focal Point

The Atlanta Astronomy Club
Established 1947
April 2005

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Editor: Kat Sarbell

Table of Contents

- Page 1**...April Meeting, March Spring Banquet
Page 2...April Board Meeting, CEC Meetings & Minutes
Page 3...2005 Zombie Party, Intermediate-Mass Black Hole
Page 4...”First Detection of Light from Extrasolar Planets”
Page 5... “Hubble Spies Cosmic Dust Bunnies”
Page 6... Space Shuttle Return to Flight
Page 7...Saturn's Moon Mimas, Club Info: GASP, Memberships, Contacts, Website
Page 8...Calendar, AAC List Serve Info, Focal Point Deadline

April General Membership Meeting

The meeting will take place on Friday, April 15th at White Hall at Emory University. Please join us for refreshments from 7:30-7:55 PM. The meeting will start at 8:00 PM. Programs and speaker TBA. See below for directions.

Directions to White Hall at Emory

Meeting Location Information:

Turn onto Dowman Drive from North Decatur Road at the five way intersection (across from Everybody’s Pizza). White Hall is located on the right across from the new Science & Math building. Parking is available along Dowman Drive on both sides of the road. There is also a gated parking lot on the left behind the Admissions Building. After 6PM there is no fee to park there. For more detailed directions on how to get to Emory University, visit www.atlantaastronomy.org.



Board member Mike Boni (left) and Ralph Bowman relax at their table.

The March Spring Banquet

The annual Spring Banquet took place the evening of Saturday, March 19th, at the 5 Seasons Brewery and Restaurant. About forty-five people showed up to enjoy great talks and dining. As guests arrived and mingled, images taken by club members were displayed on a giant screen. Club president Chuck Painter welcomed everyone to the annual celebration, and the officers in the club gave news and announcements. Club member Chris Hetlage gave a review of the Winter Star Party and showed slides that he had taken while there. The keynote speaker was author Tom Clark, and his



Nelda Langoussis checks in guests at the banquet.



Guests enjoy drinks and socializing before the lectures.



Tom Buchanan (left) and board member Tom Faber enjoy the lecture.



Guests wait for the talk to begin - and for dinner to be served!
All banquet photos by Mike Smith.

presentation was about Amateur Telescope Making. He elaborated on how he got interested in astronomy (his wife's hobby) and what led him to design and build Dobsonians. He is the editor and publisher of *Amateur Astronomy Magazine*, a quarterly magazine written for and by amateur astronomers and telescope makers. Tom is also the author of *The Modern Dobsonian*, and copies were available for sale during the event. After the dinner and discussions, many guests stayed in the bar for more socializing.

April Board Meeting

by Nancy "Gumby" Berninger

The Board is scheduled to meet Monday, April 11th, at 7:30 PM, at Donovan Conrad's office in Buckhead. The address of the meeting place is ReMax of Buckhead

2911 Piedmont Road

Atlanta GA, 30305

Directions to the office are as follows:

South of Peachtree Road, just past Pharr Road and the Cactus Car Wash. Entrance into Montieff Commons Business Park is to the left. There will be a building right in front of you when you enter the place, ReMax (2911) is the first building directly to the left. The front door is facing Piedmont, across from the postal drop boxes. We will be on the second floor conference room...just wander upstairs, you can't miss it. If the door accidentally gets locked, just use the doorbell!

Charles Elliot Chapter Future Meetings

April 9: Saturday at 5:00 PM (NOTE: 5:00 PM is the NEW SPRING-SUMMER SCHEDULE)

- General Meeting Open To The Public - Location Charlie Elliott Wildlife Visitor Center
- Current Events: Clevis Jones
- What's Up Tonight: Observing report by Debbie Jones
- Feature Presentation: "This is Your Life", Chapter member Jim Honeycutt, B.S. & M.A.T., Instructor in Astronomy at Oxford College of the Emory University. Chapter member Jim Honeycutt will give a presentation on stellar evolution. Jim currently teaches astronomy at Oxford College of Emory University. Jim received his B.S. and Master of Arts in Teaching in Physics from Georgia State University, and taught at Newton and Eastside High Schools for 31 years. Please join Jim for a great lecture - everyone is welcome!

May 7, 2005, at 5:00 PM (Note: Meeting date is tentative and may be changed to Saturday May 14)

- General Meeting Open To The Public - Location Charlie Elliott Wildlife Visitor Center
- Current Events: TBD
- What's Up Tonight: Observing report by Debbie Jones
- Officer Elections: Consider volunteering to serve the Charlie Elliott Chapter as an officer. Director, Recording Secretary, and Observing Supervisor are all elected positions with a term of one year. Volunteer, nominate and vote for your favorite officer at this month's meeting.
- Feature Presentation: "The Search for Life in the Universe", Long time chapter member Bill Snyder will present a program on the search for life in the universe. Please join Bill for an interesting and thought provoking presentation - everyone is welcome!

For updates, please check the CEC website for the most current meeting information - <http://www.atlantaastronomy.org/CEWMA/>

Charlie Elliott Chapter March Meeting Minutes

by Clevis Jones, CEC Recording Secretary

The location for the March meeting was a multimedia equipped classroom at Oxford College, in Oxford, GA. Hosts Jim Honeycutt and Bill McKibben rolled out a wonderful welcome wagon - refreshments and all. Twenty-two members and visitors attended the CEC March program. Larry Owens, Chapter Director, began the monthly program at 3:00 PM, Saturday, March 12, 2005. Larry gave news and updates. Please see the CEC Web site for complete details.

Clevis Jones gave a report on current events. Debbie Jones, CEC's observing supervisor, covered numerous objects suitable for viewing this evening. Larry Owens presented "How to Image the Planets."

As mentioned, this evening there was a Boy Scout troop of 15 Scouts and 4 adults scheduled to meet the CEC volunteers at the CE observing site - the Scouts were an hour early and that set the tone for a GRAND night of sharing the night sky. Even the weather tried to cooperate with a cool temperature, light winds, and a clear (although somewhat unstable) sky. After the Scouts left - many folks just spent the next several hours sharing and enjoying the different views of objects each telescope presented, not to mention the good companionship.

2005 Zombie Party April 7-9th

The zombie party is an annual three day star party hosted by the Atlanta Astronomy Club. It is held at the Woodruff Boy Scout Camp near Blue Ridge, Ga. This year the Zombie party will be held from noon on Thursday, April 7th to Noon Sunday April 10th.

Cost: Single person: \$10 per day – \$20 for all three days; Family: \$20 per day or \$40 for all three days (family consists of two adults and a max of two kids).

Only 75 people per night allowed on the field so make a reservation as soon as possible!! In order to reserve a spot please make your check payable to the Atlanta Astronomy Club and mail to this address, along with your Admission Form and signed Hold Harmless Agreement (Both available in the files section): C/O Stephen Bieger, 3760 Loveland Terrace, Chamblee, GA 30341, 770-457-9148

The Site: William Calder Observatory (Woodruff BSC) is named in honor of our club's founder Dr. William A. Calder. The Calder Observatory has a microwave, coffee, and snack supplies. In front of it is a concrete pad that is reserved for the setup of the club's 24-inch truss tube telescope; and to the sides are 3 piers (with power) and four concrete pads for small scopes. The site has two port-a-potties; and a freeze tap pipe and sink 40 feet to the northwest of the observatory building. NO drugs or alcoholic beverages are permitted. Attendees should stay within the boundaries of the field unless invited to other areas of the Camp by the Scouts.

Rules: Common courtesy will be expected of anyone using the facility. The Club and the Scouts will advise anyone wishing to use the facility of the following rules of conduct.

1. No white lights should be used on the observing field, except in emergencies.
 2. Vehicles may be parked on the observing field.
 3. No alcoholic beverages or illegal drugs will be allowed on the Woodruff Scout Reservation.
 4. Only certified Club members may operate the Club's equipment.
 5. All users of the facility must sign a visitor's log.
 6. All users of the facility will adhere to the Scout's Outdoor Code, and will leave the site in the same or better condition than it was upon arrival.
 7. All users of the facility agree to follow the applicable safety rules.
 8. The Woodruff speed limit of 14 mph will be observed at all times. Drivers agree to exercise extreme caution, due to the presence of many pedestrians.
 9. Neither the Scouts nor the Club assume any responsibility for injuries or other losses sustained by anyone using the facility. Users of the facility assume all risks associated with activities that necessarily take place in the dark and/or in the out-of-doors.
 10. On site power reserved for observing purposes only! Site power is not guaranteed but is on an 'as available' basis only. Site power not to be used for campers, heaters, electric blankets, etc.
 11. Only quiet generators allowed.
 12. Dark sky etiquette applies.
 13. It is the responsibility of the attendees to provide their own meals. (Available on site are: a microwave, running water and a coffee maker)
 14. 2 Port-O-Potties are provided; no showers are available on site.
- Directions to the Woodruff Observing Field: Take I75 to I575 to GA 515. Follow 515 through Ellijay and Blue Ridge. Go 2.2 miles past the intersection of 515 and GA 60. Take a left on Loving Road, and follow it until it ends. Turn right on GA 325 and go about 50 yards to Boy Scout Road. Turn right again. The entrance to the Scout Camp is about 2.5 miles

on the right. Take the main entrance road (Turner Gap Rd.) and follow it past the lake (on your left). The road is paved until the second ranger's house (on the left). Turn left in front of the house (Chestnut Gap Road) and drive about a half mile, and again the road ahead gets rough. Turn right at a sign that says "private property, do not enter". Ignore the sign and go down the road. Less than a hundred yards from Turner Gap Rd, there is a gate. Continue up this road, at the end it opens to the right at field. You will see the observatory building in middle of the field at the north edge.

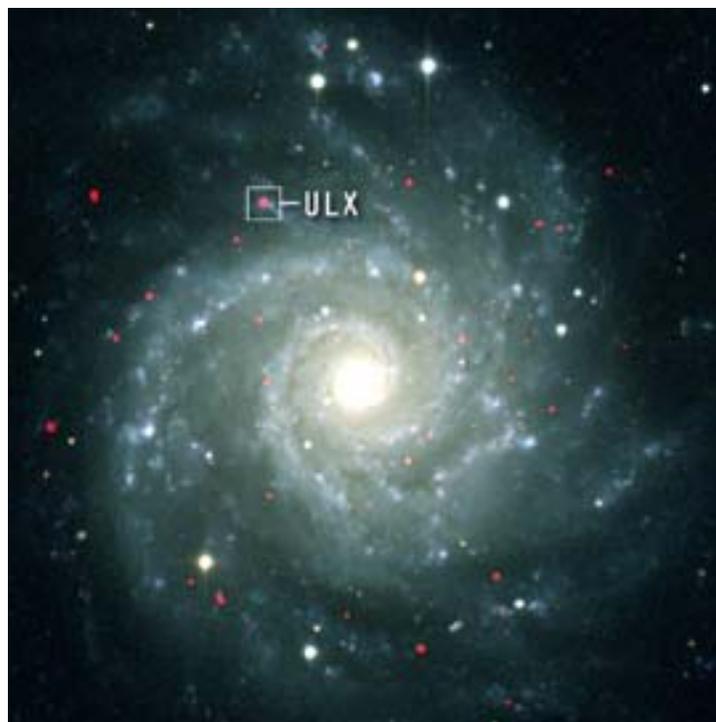
If you have additional questions please contact Daniel Herron, at (770) 330-9679 or Observing@atlantaastronomy.org.

X-rays Signal Presence of Elusive Intermediate-Mass Black Hole

CHANDRA X-RAY CENTER NEWS RELEASE

Peculiar outbursts of X-rays coming from a black hole have provided evidence that it has a mass of about 10,000 Suns, which would place it in a possible new class of black holes. The timing and regularity of these outbursts, observed with NASA's Chandra X-ray Observatory, make the object one of the best candidates yet for a so-called intermediate-mass black hole.

Scientists have strong evidence for the existence of stellar black holes that are about 10 times as massive as the Sun. They have also discovered that supermassive black holes with masses as large as billions of Suns exist in the centers of most galaxies. Recent evidence has suggested that a new class of black holes may exist between these extremes -- intermediate-mass black holes with masses equal to thousands of Suns.



This composite X-ray (red)/optical (blue & white) image of the spiral galaxy M74 highlights an ultraluminous X-ray source (ULX) shown in the box. ULX sources are distinctive because they radiate 10 to 1000 times more X-ray power than neutron stars and stellar mass black holes. Chandra observations of this ULX have provided evidence that its X-radiation is produced by a disk of hot gas swirling around a black hole with a mass of about 10,000 Suns. Credit: X-ray: NASA/CXC/U. of Michigan/J.Liu et al.; Optical: NOAO/AURA/NSF/T.Boroson

"It is important to verify the existence of intermediate-mass black holes, because they would bridge the gap between stellar-mass black holes and supermassive black holes in the centers of galaxies," said Jifeng Liu of the University of Michigan in Ann Arbor, and lead author on a paper describing their discoveries that appeared in the March 1 issue of the *Astrophysical Journal Letters*. "Our observations don't settle the debate, but the behavior of this object is strong evidence in favor of their existence."

Liu and his colleagues used Chandra to observe a black hole in the galaxy Messier 74 (M74), which is about 32 million light years from Earth. They found that this source exhibits strong, nearly periodic variations in its X-ray brightness every two hours, providing an important clue to the black holes' mass. The black hole also fell into a class of sources called ultraluminous X-ray sources (ULXs) because they radiate 10 to 1000 times more x-ray power than neutron stars and stellar mass black holes.

Some astronomers believe these mysterious ULXs are more powerful because they are intermediate mass black holes. Others think ULXs are regular stellar-mass black holes that appear to be much more powerful in X-rays because their radiation is beamed in a jet toward Earth.

Chandra's discovery of the persistence and long time period of the X-ray variations (called quasi-periodic oscillations, because they are not strictly periodic) of the ULX in M74 is an argument against a beamed jet. These variations are likely produced by changes in a disk of hot gas around the black hole. More massive black holes have larger disks, which in turn are expected to vary over longer periods.

Independent observations of a wide range of black hole X-ray sources with masses ranging from ten to tens of millions solar masses have revealed a relationship between the time scale of quasi-periodic oscillations and the mass of the underlying black hole. Using this technique, the observed two-hour variation implies that this ULX has a mass of about 10,000 Suns.

Such a large mass would place this black hole well above the stellar-mass black hole limit of a few dozen solar masses. How then did it form? The leading theories under consideration are that intermediate-mass black holes form as dozens or even hundreds of black holes merge in the center of a dense star cluster, or that they are the remnant nuclei of small galaxies that are in the process of being absorbed by a larger galaxy.

Chandra observed M74, which is in the constellation of Pisces, twice: once in June 2001 and again in October 2001. The European Space Agency's XMM-Newton satellite also observed this object in February 2002 and January 2003. Other authors on the research paper are Joel Bregman, Ed Lloyd-Davies, Jimmy Irwin, Catherine Espaillat, and Patrick Seitzer, all of the University of Michigan in Ann Arbor. Miriam Krauss (Massachusetts Institute of Technology), Roy Kilgard (Univ. of Leicester and Smithsonian Astrophysical Observatory) and their colleagues have also reported extreme variability and the presence of QPOs for this object.

NASA's Marshall Space Flight Center, Huntsville, Ala., manages the Chandra program for NASA's Science Mission Directorate, Washington. Northrop Grumman of Redondo Beach, Calif., was the prime development contractor for the observatory. The Smithsonian Astrophysical Observatory controls science and flight operations from the Chandra X-ray Center in Cambridge, Mass.

(Right) The transiting planet TrES-1 is one of two planets that have been directly detected using the Spitzer Space Telescope. This artist's concept of the TrES-1 shows it orbiting a mere 4 million miles from its sunlike star. Credit: David A. Aguilar (CfA)

First Detection of Light from Extrasolar Planets

HARVARD-SMITHSONIAN CENTER FOR ASTROPHYSICS NEWS RELEASE

Two teams of astronomers announced at a press conference today that they have directly detected light from two known planets orbiting distant stars. This discovery opens a new frontier in the study of extrasolar planets. Researchers now can directly measure and compare such planetary characteristics as color, reflectivity, and temperature.

A team led by David Charbonneau of the Harvard-Smithsonian Center for Astrophysics (CfA) will publish their detection of the planet TrES-1 in the June 20th issue of *The Astrophysical Journal*. A team led by Drake Deming of the Goddard Space Flight Center (GSFC) published their observations of the planet HD 209458b in today's online issue of *Nature*.

"It's an awesome experience to realize we are seeing the glow of distant worlds," said Charbonneau. "When I first saw the data, I was ecstatic."

Each of the two target planets periodically crosses in front of and behind its star. When in front, the planet partially eclipses the star and blocks a small portion of the star's light. Similarly, the system dims slightly when the planet disappears behind its star since the star blocks the planet's light. By observing this "secondary eclipse," astronomers can tease out the faint signal of the planet from the overwhelming light of the nearby star.

Planets can't hide the heat

Charbonneau and his colleagues used the Infrared Array Camera (IRAC), a Smithsonian-developed instrument aboard NASA's Spitzer Space Telescope, to observe TrES-1 in the infrared region of the spectrum. Deming and his associates used Spitzer's Multiband Imaging Photometer for Spitzer (MIPS) to observe HD 209458b.

"Planets like TrES-1 are tiny and faint compared to their stars, but the one thing they can't hide is their heat," said Charbonneau. "We are like detectives. Previous clues told us the planet must be there, so we put on our 'infrared goggles' and suddenly, it popped into view."

Infrared offers an advantage because the star outshines the planet by a factor of 10,000 in visible light, while in the infrared the star is only about 400 times brighter, making it easier to pick out a planet's feeble light. Astronomers compare the challenge to trying to spot a firefly buzzing next to a searchlight.

Planet TrES-1

IRAC team members Lori Allen and Tom Megeath (CfA) planned the TrES-1 observations, which required precise timing to catch the system just before and after the secondary eclipse, as well as precise pointing. Their experience with the performance of the IRAC were crucial in obtaining the best data possible. Allen and Megeath also provided insights into IRAC instrument features encountered during data analysis.



"Teasing out the signal from TrES-1 was both challenging and exciting," said Allen. "We were actually seeing light from another world hundreds of light-years away from us, circling around another sunlike star."

Although two groups previously claimed to have directly photographed an extrasolar planet, neither one is confirmed and neither orbits a sun-like star.

Using Spitzer data combined with previous measurements, Charbonneau and his colleagues confirmed that TrES-1, which orbits its star at a distance of 4 million miles, has a temperature of about 1,450 degrees Fahrenheit (1060 Kelvin). They also calculated that the planet has a reflectivity of only 31%, meaning it absorbs the majority of the star's light that falls on it.

CfA researcher Guillermo Torres modeled the dynamics of the TrES-1 system to constrain the planet's orbit. He determined that the orbit has been made very nearly circular by the tidal effect of the nearby star, as expected.

Future exoplanet research

Charbonneau is quick to point out that the achievement of directly detecting an extrasolar planet's light is only the beginning. "We've caught our first 'firefly.' Now we want to study a swarm of them."

Astronomers expect the Trans-Atlantic Exoplanet Survey (TrES) network, which spotted TrES-1, to locate additional "hot Jupiters." That ground-based network is designed to spot planets orbiting bright stars, which can be more easily studied with Spitzer and other instruments. By comparing many "hot Jupiter" planets, researchers hope to determine what gases their atmospheres contain and how their composition was affected by when and how they formed.

The paper on the TrES-1 finding is authored by Charbonneau, Allen, Megeath, and Torres; Roi Alonso (IAC), Timothy Brown (NCAR), Ronald Gilliland (STScI), David Latham (CfA), Georgi Mandushev (Lowell Observatory), Francis O'Donovan (Caltech), and Alessandro Sozzetti (University of Pittsburgh/CfA).

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, Pasadena, Calif. JPL is a division of California Institute for Technology, Pasadena. Headquartered in Cambridge, Mass., the Harvard-Smithsonian Center for Astrophysics (CfA) is a joint collaboration between the Smithsonian Astrophysical Observatory and the Harvard College Observatory. CfA scientists, organized into six research divisions, study the origin, evolution and ultimate fate of the universe.



This artist's concept shows what a fiery hot star and its close-knit planetary companion might look close up if viewed in visible (left) and infrared light (right). In visible light, a star shines brilliantly, overwhelming the little light that is reflected by its planet. In infrared, a star is less blinding, and its planet perks up with a fiery glow. Credit: NASA/JPL-Caltech



Hubble Spies Cosmic Dust Bunnies

Like dust bunnies that lurk in corners and under beds, surprisingly complex loops and blobs of cosmic dust lie hidden in the giant elliptical galaxy NGC 1316. This image made from data obtained with the NASA Hubble Space Telescope reveals the dust lanes and star clusters of this giant galaxy that give evidence that it was formed from a past merger of two gas-rich galaxies.

The combination of Hubble's superb spatial resolution and the sensitivity of the Advanced Camera for Surveys (ACS), installed onboard Hubble in 2002 and used for these images, enabled uniquely accurate measurements of a class of red star clusters in NGC 1316. Astronomers conclude that these star clusters constitute clear evidence of the occurrence of a major collision of two spiral galaxies that merged together a few billion years ago to shape NGC 1316 as it appears today.

NGC 1316 is on the outskirts of a nearby cluster of galaxies in the southern constellation of Fornax, at a distance of about 75 million light-years. It is one of the brightest ellipticals in the Fornax galaxy cluster. NGC 1316, also known as Fornax A, is one of the strongest and largest radio sources in the sky, with radio lobes extending over several degrees of sky (well off the Hubble image).

NGC 1316's violent history is evident in various ways. Wide-field imagery from Cerro Tololo Interamerican Observatory in Chile shows a bewildering variety of ripples, loops and plumes immersed in the galaxy's outer envelope. Amongst these so-called "tidal" features, the narrow ones are believed to be the stellar remains of other spiral galaxies that merged with NGC 1316 some time during the last few billion years. The inner regions of the galaxy shown in the Hubble image reveal a complicated system of dust lanes and patches. These are thought to be the remains of the interstellar medium associated with one or more of the spiral galaxies swallowed by NGC 1316.

The U.S. team of scientists, led by Dr. Paul Goudfrooij of the Space Telescope Science Institute in Baltimore, Maryland, used the ACS onboard Hubble to study star clusters in several nearby giant elliptical galaxies. Their study of NGC 1316 focused on globular clusters, which are compact stellar systems with hundreds of thousands to millions of stars formed at the same time.

The unprecedented sensitivity of the Hubble ACS data permitted the team to detect faint globular clusters previously impossible to reach. By counting the number of globular clusters detected as a function of their brightness they could, for the first time, see evidence of the gradual disruption of star clusters created during a past merger of gas-rich galaxies. They found that the relative number of low-mass clusters is significantly lower in the inner regions than in the outer regions, by an amount consistent with theoretical predictions.

These Hubble ACS images were taken in March 2003. The color composite is a combination of data taken in F435W (blue), F555W (yellow-green), and F814W (infrared) filters. The team's results have improved our understanding of how elliptical galaxies and their star clusters may have formed during galaxy mergers and then evolve to resemble 'normal' elliptical galaxies after several billions of years.

Credit: NASA, ESA, and The Hubble Heritage Team (STScI/AURA)

Acknowledgment: P. Goudfrooij (STScI)

Space Shuttle Return to Flight

The first Space Shuttle flight since the loss of the Columbia is scheduled to launch between mid-May and early June. The orbiter was attached to the External Tank/Solid Rocket Booster assembly on March 31 and it is scheduled to be rolled out to the launch pad on April 4th.

The seven astronauts who will fly the mission take a break from training to pose for the STS-114 crew portrait. In front are astronauts Eileen M. Collins (right), commander; Wendy B. Lawrence, mission specialist; and James M. Kelly, pilot. In back are astronauts Stephen K. Robinson (left), Andrew S. W. Thomas, Charles J. Camarda, and Soichi Noguchi, all mission specialists. Noguchi represents Japan Aerospace Exploration Agency (JAXA). The two astronauts in the white EVA suits with backpacks, Noguchi and Robinson, will conduct the mission's three spacewalks.

Image Credit: NASA



(Right) Suspended from an overhead crane in the Vehicle Assembly Building at NASA's Kennedy Space Center, the orbiter Discovery is lowered toward the Solid Rocket Booster and External Tank already stacked on the top of the Mobile Launcher Platform. After Discovery has been mated to the External Tank/Solid Rocket Booster assembly on the MLP and all umbilicals have been connected, workers will perform electrical and mechanical verification tests of the mated interfaces to verify all critical vehicle connections before the Shuttle is moved to the launch pad. Image Credit: NASA/KSC.





Saturn's Moon Mimas

shines in reflected ultraviolet light from the Sun in this Cassini image. Ultraviolet images of Saturn's moons often reveal the walls of their myriad craters in greater contrast than do images taken in visible light. This view, which shows the large impact crater Herschel, is no exception. Mimas is 397 kilometers across.

The image was taken with the Cassini spacecraft narrow-angle camera using a filter sensitive to wavelengths of ultraviolet light centered at 338 nanometers. The image was

acquired on Feb. 18, 2005, at a distance of approximately 938,000 kilometers from Mimas and at a Sun-Mimas-spacecraft, or phase, angle of 99 degrees. The image scale is 6 kilometers per pixel. Credit: NASA/JPL/Space Science Institute

GASP (Georgia Astronomy in State Parks) Events

The following GASP events have been scheduled for 2005 so far:

April 30th - Hard Labor Creek State Park.

September 3rd - FDR State Park.

October (Date TBA) - Florence Marina State Park

November 19th - Unicoi State Park.

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

Editor's Note

Most of the images in the Focal Point, like the ones in the previous articles, are in color, but you won't see them in color if you are getting the mailed version. You can download the full color version from the AAC web site each month. By reviewing the Focal Point over the Internet instead of having it mailed, you can save the club about \$12 a year in printing and mailing costs. It may not sound like much, but the more people that use the Internet to receive the Focal Point, the more money the club can save. Just send an email to Kat Sarbell (FocalPoint@AtlantaAstronomy.Org) requesting that you be removed from the mailed Focal Point list.

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. 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 **\$29** 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 is: Atlanta Astronomy Club, PMB 305, 3595 Canton Road A9, Marietta, Georgia 30066.

Atlanta Astronomy Club Hot Line: Timely information on the night sky and astronomy in the Atlanta area. Call **770-621-2661**.

Internet Home 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 Contacts

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Elliott Recording Secretary: Clevis Jones
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planetographer@comcast.net

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zoser@mindspring.com

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starrynights@AtlantaAstronomy.org

Light Trespass: Mark Sandburg

Mentor Program: Keith Burns 770-427-1475
Keith_B@bellsouth.net

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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>

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

- April 1st, Friday: Moon Full..... April Fools! Actually it's Last Quarter.
April 3rd, Sunday: Daylight Savings Time begins 2AM.
April 4th, Monday: Jupiter at Opposition.
April 7th-10th, AAC Zombie Party - See page 3 for details.
April 8th, Friday: Moon New. Bradley Observatory Open House. 8PM, Agnes Scott College.
“The Galactic Center Black Hole and Friends” Ted La Rosa - Kennesaw State University.
April 9th, Saturday: Charlie Elliott Chapter Meeting starts at 5PM. See p.2 for details.
April 11th, Monday: Board Meeting. 7:30 PM. Buckhead ReMax office. See p.2 for details.
April 13th, Wednesday: Conjunction Mars-Neptune.
April 15th, Friday: AAC Meeting. 8PM. White Hall at Emory University.
April 16th, Saturday: Moon First Quarter. Astronomy Day at Fernbank Science Center starts at 10AM. Contact Fernbank Science Center for details.
April 22nd, Friday: Lyrids Meteor Shower.
April 24th, Sunday: Moon Full (Grass, Egg, Easter, or Paschal Moon).
April 26th, Tuesday: Mercury at Western Elongation.
April 30th, Saturday: GASP at Hard Labor Creek State Park, Contact Joanne Cirincione for details. Open House at Villa Rica, 7PM, Contact Daniel Herron for details.
May 1st, Sunday: Moon Last Quarter.
May 5th, Thursday: Eta Aquarid Meteor Shower.
May 8th, Sunday: Moon New.
May 13th, Friday: Bradley Observatory Open House. 8PM, Agnes Scott College. “The Quest of a Supernova Hunter” Tim Puckett-Puckett Observatory. (Last Open House until Fall)

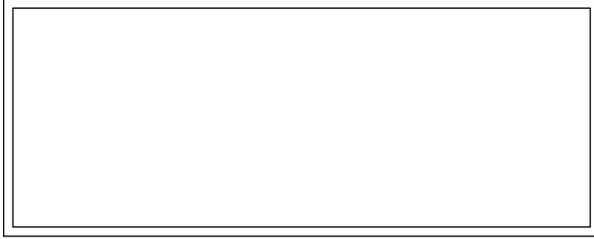
Atlanta Astronomy Club Listserve

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 Info

Please send articles, pictures, and drawings in electronic format on anything astronomy related to Kat Sarbell at focalpoint@atlantaastronomy.org. **You can submit articles anytime up and including the deadline date. The deadline for May is Thursday, April 21st at 4:00 PM ... Submissions will no longer be accepted after the deadline.**

FIRST CLASS



The Focal Point

Newsletter of The Atlanta Astronomy Club,

Inc.

FROM:

Kat Sarbell

2025 Peachtree Road, Apt.#408

Atlanta, GA 30309

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

Atlanta Astronomy Club

PMB 305

3595 Canton Road A9

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