

The Focal Point

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June General Membership Meeting

By Keith “Kosmic Kow” Burns

The meeting will take place on Friday, June 17th at White Hall at Emory University. Please join us for refreshments from 7:30 to 7:55 PM. A small donation in the “kitty” collection box for refreshments is requested but not required. The meeting will start at 8:00 PM.

The meetings consist of three parts: the first part consists of a short 10 to 15 minute business meeting. This includes any announcements of meetings, up coming events, and things of general interest. The second part is our featured speaker for the night. And the third part are questions and answers with the speaker. Afterward we adjourn the meeting and head off to a local eating establishment for supper, dessert, or just a drink.

This month our featured speaker is Dr. Chris De Pree of Agnes Scott College. The title of his talk is “The Copernican Revolution: Art and Astronomy in Krakow, Prague, Venice and Florence.” This summer, Chris De Pree (Professor of Physics & Astronomy) and Donna Sadler (Professor of Art History, Agnes Scott College) led 16 students on a 2-week trip through Poland, the Czech Republic and Italy. On the trip—part of the Agnes Scott College Global Connections program—they explored sites of astronomical and artistic significance from the 16th and 17th centuries and the connections between the great scientists and artists of the early renaissance. In his talk, Dr. De Pree will give an overview of the astronomy of this period, describe the trip itself, and show images from these great European cities.

Here is a little bit of information about our speaker. The Director of Bradley Observatory, Dr. De Pree is Associate Professor and Chair of Physics and Astronomy at Agnes Scott College. His research is in the area of massive star formation—young, highly obscured versions of the O and B stars that dominate regions like the Orion Nebula. Primarily a radio

astronomer using the Very Large Array and other radio interferometers, Dr. De Pree has also made observations with the Hubble Space Telescope, Chandra X-Ray Observatory, and the Spitzer Space Telescope. He is the author of several popular science books, including *The Complete Idiot’s Guide to Astronomy* (3rd Ed, 2004) and *Physics Made Simple* (2005).

See page 7 for directions to White Hall at Emory University.

Chris De Pree at the Bradley Observatory’s Beck Telescope.



Peering Back in Time with Chris De Pree

By Jack Krost

[Reprinted by permission from the Oakhurst Leaflet, a publication of the Oakhurst Neighborhood Association (www.oakhurstga.org) in Decatur. Submitted by Nancy Berninger. You can contact Jack Krost at Jkrost@aol.com.]

Chris De Pree thinks any idiot should be able to appreciate astronomy. That’s why he co-authored, “The Complete Idiot’s Guide to Astronomy.” The book, written with Alan Axelrod and now in its third edition, explores everything from the possibility of life on Mars to the expanding universe and how it will all end.

But De Pree is no idiot.

He chairs the Astronomy Department at Agnes Scott College, is the director of its Bradley Observatory, is the author of many scholarly works and is pursuing research with fellow scientists at Harvard and North Carolina State Universities into the formation and unique characteristics of massive stars, many times larger than our sun. Some of that research can get very detailed, and perhaps seem arcane to the casual observer. Because such stars are often within dense molecular clouds, they can’t be studied with normal telescopes. De Pree and the other researchers rely on the Very Large Array, a series of 27 huge radio antennas, each 82 feet in diameter, set in a Y formation in a remote part of New Mexico.

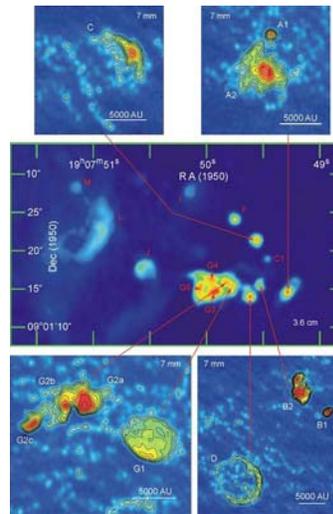
As his book shows, however, De Pree sincerely wants the rest of us to understand it all. So the Decatur resident, who lives near campus on Candler Street, spends a good amount of time with the public. That’s where the Bradley Observatory comes in. You can see the observatory towering into the sky, a short distance from McDonough Street. Dedicated in 1950, it’s got a large telescope with a 30-inch reflector, known as the Beck Telescope. The building and telescope were refurbished in 2000. And

once a month, you can peer into the telescope yourself. You can also attend lectures that are open to the public and see presentations on constellations at the building's planetarium. The open house programs are held on Fridays at 8 pm. Last month, De Pree talked about his specialty, the birth and death of massive stars. Other discussions this spring will be led by visiting professors on March 18, April 8 and May 13. You can park on the lot off McDonough Street and walk up the sidewalk that leads to the observatory. There are more details at: <http://bradley.agnesscott.edu>.

"You'll find that a lot of astronomers have a fervor to show other people what we do," says De Pree. "It's a service to the community, a way of giving back in return for the public support we get when we receive research grants." The tradition of open house events goes back a long time at Agnes Scott, even before the Bradley Observatory was built. It was started by Bill Calder, a professor in physics and astronomy who taught from the late 1940s to early 1970s and invited the public over for freewheeling discussions. That evolved into the current lecture programs.

De Pree has been at Agnes Scott since 1996. He originally came to the college as a visiting professor, after working at Oglethorpe University in Atlanta and the University of North Carolina in Chapel Hill. His wife, Julia, is a professor in French at Agnes Scott. "I love Decatur," De Pree says. "It's a classic American small town, within a city." And it's a perfect place for the De Prees to raise their two daughters, Claire, 9, and Madeline, 6. De Pree teaches several basic and advanced astronomy courses. He's also currently teaching a history of astronomy course that will involve a period of travel in Europe for him and his students later this spring.

Last year, he teamed up with a biology professor to teach a course exploring the possibility of alien life on other solar systems in the universe. "That's one of the benefits of working in a small liberal arts college like this. You can do some innovative things," he says. But being from a small school doesn't preclude De Pree from doing advanced research. The stars he studies are from 25,000 to 40,000 light years away. In other words, the images picked up by the Very Large Array were sent that many years ago. So in a sense, De Pree and his fellow researchers are looking back in time.



Radio image of a distant region with massive stars.

The particular stars De Pree studies may be more than five times larger than our sun. But they burn much more brightly and burn themselves out more quickly. While stars like our sun might last 10 billion years, massive stars are lucky if they last 10 million years. De Pree is particularly interested in stars that are still being formed within molecular clouds.

He's published his findings in a series of scholarly journals. But if you'd prefer not to wade through them, you might try the *Idiot's Guide* or some other books aimed at the public that De Pree has written. His latest book,

"Physics Made Simple," came out in January. He also co-wrote "Recent Advances and Issues in Astronomy" and helped to update the "Concise Encyclopedia of Science." "It's fun to think that maybe someone who never took an astronomy course or even thought about astronomy might pick up one of my books and become interested in the subject," De Pree says.

Who knows? It could be you.

AAC May Meeting Minutes and Election

The May meeting for the Atlanta Astronomy Club was held on May 20, 2005 in White Hall at Emory University. In attendance were 40 club members and 16 visitors. Club president Chuck Painter opened the meeting and awarded a door prize (an AAC coffee mug) to one of our visitors for answering an astronomy question correctly. Since the elections were to be held that night, Chuck made his closing remarks for the year. He mentioned many accomplishments that the club had achieved, including

- * the new training program at Villa Rica (VR), including train-the-trainer classes
 - * repair of the Maksutov and the dome at VR
 - * the Second Zombie Party (ZP) at Woodruff
 - * refurbishment of the club's 20"
 - * procuring a new trailer for storage at Charlie Elliott
 - * the successful transition of leadership of the Peach State Star Gaze (PSSG) from Ken Poshedly to Joanne Cirincione and Peter Macumber
 - * selection of a new light pollution officer
 - * the new Mentoring program established by Keith Burns & Phil Sacco
- ...and he gave his thanks to the people in the club as "unsung heroes" who were not officers but gave generously to supporting the club:

Dan LLewelyn - for restarting the Amateur Telescope Makers as the Telescope Workshop

Steve Bieger - for activities at VR & ZP

Michael Smith - for helping, volunteering, and training at the ZP

Phil Bracken - for support at PSSG and hosting at his cabin the Emory Astronomy Club with Rick Williamon

Ralph Bowman - for his extensive repair work at VR, including the Maksutov

Left: A distant region shows many stars of different ages. (This picture is also available at: http://antwrp.gsfc.nasa.gov/apod/image/9906/ngc3603_hst_big.jpg)

Keith Burns - for starting the Mentoring program and heading the elections nomination committee

Sharon Carruthers - for her volunteering with the PSSG, Georgia Astronomy in State Parks (GASP), bringing refreshments to the meetings, and helping Kelly Llewelyn with accounting

Peter Macumber - for organizing the PSSG, web site, membership lists, labels for the Focal Point and volunteering for GASP

Daniel Herron - for taking up the post of Observing chair

We then proceeded on to the election!

The nominations were as follows:

President: Mark Banks, Jim Moore, and Philip Sacco

Program Chair: Open (Keith Burns and Peter Macumber were nominated at the meeting.)

Observing Chair: Daniel Herron

Corresponding Chair: Katherine Sarbell

Treasurer: Sharon Carruthers

Recording Secretary: Art Russell

Board: (2 years) Ken Poshedly, Art Zorka, and Larry Owens

Board: (1 year) Tom Crowley

Jim and Mark spoke; Art Russell read a prepared statement for Phil. The candidates answered questions from the members. The club members then voted, and Tom Faber & Nancy Berninger left to count the votes. Chuck also left the room to supervise the vote count. During the counting, Keith gave an Astronomical League (AL) observing award to Daniel Herron.

Keith, Daniel, and Larry also gave news and updates. Chuck, Nancy, and Tom returned to announce the results of the vote. Phil Sacco was elected president, and Keith Burns was chosen as program chair. Art Zorka asked if the unopposed candidates were to be transferred to their new positions by default. A motion was made that they be accepted by acclamation, and it was seconded, voted on, and passed.

Nancy then welcomed our speaker for the evening, Charles Osbourne, the director of the Pisgah Astronomical Research Institute (PARI). After an interesting talk with slides and pictures, Mr. Osbourne answered questions from the group. Many members then drove to Athens Pizza.

A Message from Your New Treasurer

by Sharon Carruthers

Well, I'm not exactly new – sort of recycled from a previous term...First, if you need anything from the club: a member packet; a new badge; a hard copy of the membership handbook (digital copies can be downloaded from the club website); name, address or Focal Point mailing change; issues, questions or renewals of magazine subscriptions; or anything else, contact me at Treasurer@AtlantaAstronomy.org; or call 770-941-4640 (H) or 404-843-9610 (W).

Secondly, due to the nature of the AAC – we have no office and all positions are staffed by volunteers – we have our mail delivered to a post office box. If the treasurer lives far from the box, then someone else drops by, usually once a week to pick up and pass the mail on to him or her. This can cause a delay of **2-3 weeks** before your paperwork is even processed. And if the treasurer is away due to family, work, or holidays, we have no “temp staff” to fill in.

The fastest way to get something to me is to send it to my home address: Sharon Carruthers, 1057 Trestle Drive, AUSTELL GA 30106-1583

I am planning to relocate our PO box to a more central location in Atlanta to make it more convenient for me and future treasurers to get the mail more often – so watch for an address change for the club in the next 3 months. I'm looking forward to serving my fellow AAC members in the coming year!!

Charlie Elliott May Meeting Minutes

by Clevis Jones, CEC Recording Secretary

ATTENDANCE: Twelve members and guests.

BUSINESS: Election of Officers: The new officers assume their responsibilities in June and they are

Director – Larry Owens

Observing Supervisor – no volunteers: to be appointed by Director

Recording Secretary – Clevis Jones

Larry Owens gave an update on the Byers mount project. Completion time is expected to be this summer. He also covered the availability of a cabin available for rent near the CEWC. He reported that the CEC chapter has been given a 2nd 16” Starfinder Dob and various parts by Missy Wood. Larry asked for program ideas from the members and guests – if you have suggestions, contact Larry.

Larry issued a call for volunteers for:

- Observing Supervisor for the CEC

- CEWC Jake’s Day on Saturday May 21st, 10 AM – 2 PM.

- CEWC Summer camp – a volunteer(s) is needed to present an astronomy program one time during the week of June 12-17. Jim Honeycutt volunteered to cover the weeks of June 20-24 and July 18-22. You might want to ask him if he could use some help.

- Current Events for the June program

To volunteer, and/or for further information, Larry Owens may be contacted at planetographer@comcast.net

CURRENT EVENTS REPORT: Larry Owens discussed the Deep Impact mission to Comet 9P Temple 1 (some of the members’ names are inscribed on a disk aboard the impact projectile), the Mars rovers Spirit and Opportunity, Hubble, and Space Shuttle mission STS 114.

OBSERVING REPORT – What’s Up Tonight: Debbie Jones covered the highlights for the sky that night. As outgoing Observing Supervisor, this was her last report for the club. Over the last year Debbie has coordinated events, contributed to other events, and given a “What’s Up Tonight” report for each of the twelve meetings. Her help and her excellent, informative reports will be sorely missed – on behalf of the members, THANK YOU DEBBIE.

FEATURED PROGRAM: “The Search for Life in the Universe”: Long time chapter member Dr. Bill Snyder presented a program on how life in the universe might be defined, and by what means detected – a very interesting and informative program.

OBSERVING SESSION: There were twenty-two observers on the field.

Charlie Elliot Chapter Future Meetings

by Clevis Jones

MEETING DATES AND PROGRAMS:

June 4, 2005, at 5:00 PM, at the Charlie Elliott Visitor’s Center classroom. Enter through the left side door nearest the back of the building.

General meeting open to the public. Astronomy Current Events: TBD. Feature presentation: “CCD Imaging” by Jerry Armstrong. The celebrated “Space Artist”, comet hunter and supernova discoverer, Jerry Armstrong will present a program showcasing his CCD images and perhaps a discovery story or two. Jerry has been an amateur astronomer and imager for many years, retired from the Cobb County Fire Department and is a Vietnam veteran. Please join Jerry and the Charlie Elliott chapter for an entertaining evening of astronomy - everyone is welcome!

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

The Telescope & Instrument Workshop (T&IW formerly The ATM Group)

by Sharon Carruthers

Why did we call this the T&IW instead of the standard ATM (Amateur Telescope Makers)? 'Cause we thought ATM made it sound like all we did was make telescopes, which might keep people away (O.K., maybe that was dumb). But we are dedicated to ALL the NON-OBSERVING needs of our members – problems and projects with telescopes, binoculars, mounts, motors, optics, equipment and accessories.

We are the place to bring new scope that you just can't get to work!!

We don't offer formal classes – it is all driven by networking and mentoring. Show up & we will find someone to help you. We will offer specific topics (i.e. collimation, cleaning optics, mirror grinding & testing) at a meeting if our attendees express an interest. (The previous ATM group started on a 16" Dob for the Club – we would like to see work on that moving forward again.)

Meetings will be on Saturday morning at 11:00 a.m. (unless people want to change this) and will be on the Saturday after the General Meeting for the next 4 months (these are Full Moon weekends). Our next meeting will be on June 18, and the topic will be Cleaning Optics. Future meetings will be on July 16, August 20, Sept 17, and Oct 15 (this is the Saturday BEFORE the General Meeting, which is on Oct 21).

Location: Bradford Map, Globe & Telescopes, 300 Hammond Dr, ATLANTA 30328 (Sandy Springs)

For More info, contact: Dan Llewellyn at zoser@mindspring.com or 404-633-7562 (W); or

Sharon Carruthers at Treasurer@AtlantaAstronomy.org or 770-941-4640 (H); 404-843-9610 (W)

Comet-hitting probe tweaks its course to target

NASA News Release, May 15, 2005

Fifty-nine days before going head-to-head with comet Tempel 1, NASA's Deep Impact spacecraft successfully executed the second trajectory correction maneuver of the mission.

The burn further refined the spacecraft's trajectory, or flight path, and also moved forward the expected time of the Independence Day comet encounter so impact would be visible by ground- and space-based observatories.

The 95-second burn - the longest remaining firing of the spacecraft's motors prior to comet encounter -- was executed on May 4. It changed Deep Impact's speed by 18.2 kilometers per hour (11.3 miles per hour).

"Spacecraft performance has been excellent, and this burn was no different," said Rick Grammier, Deep Impact project manager at NASA's Jet Propulsion Laboratory, Pasadena, California. "It was a textbook maneuver that placed us right on the money."

Right on the money is where Deep Impact has to be to place a 1-meter-long (39-inch) impactor spacecraft in the path of a comet about as big as the island of Manhattan that is bearing down on it at 37,100 kilometers per hour (6.3 miles per second). At the same time, from a very comet-intimate distance of 500 kilometers (310 miles), a flyby spacecraft will be monitoring the event. This all occurs in the wee hours of July 4 - at 1:52 a.m. Eastern time (July 3, 10:52 p.m. Pacific time) -- at a distance of 133.6-million kilometers (83-million miles) from Earth.



"With this maneuver our friends working the Hubble Space Telescope are assured a ringside seat," said Deep Impact Principal Investigator Dr. Michael A'Hearn of the University of Maryland, College Park. "Their observations, along with space telescopes Chandra and Spitzer and numerous ground-based observatories, will provide us with the most scientific bang for our buck with Deep Impact."

Deep Impact is comprised of two parts, a "flyby" spacecraft and a smaller "impactor." The impactor will be released into the comet's path before a planned high-speed collision on July 4. The crater produced by the impact could range in size from the width of a large house up to the size of a football stadium, and from 2 to 14 stories deep. Ice and dust debris will be ejected from the crater, revealing the material beneath.

The Deep Impact spacecraft has four data collectors to observe the effects of the collision. A camera and infrared spectrometer, which comprise the High Resolution Instrument, are carried on the flyby spacecraft, along with a Medium Resolution Instrument. A duplicate of the Medium Resolution Instrument on the impactor will record the vehicle's final moments before it is run over by comet Tempel 1 at a speed of about 37,100 kilometers per hour (23,000 miles per hour).

The overall Deep Impact mission management for this Discovery class program is conducted by the University of Maryland in College Park, Maryland. Deep Impact project management is handled by JPL. The spacecraft was built for NASA by Ball Aerospace & Technologies Corporation, Boulder, Colorado.



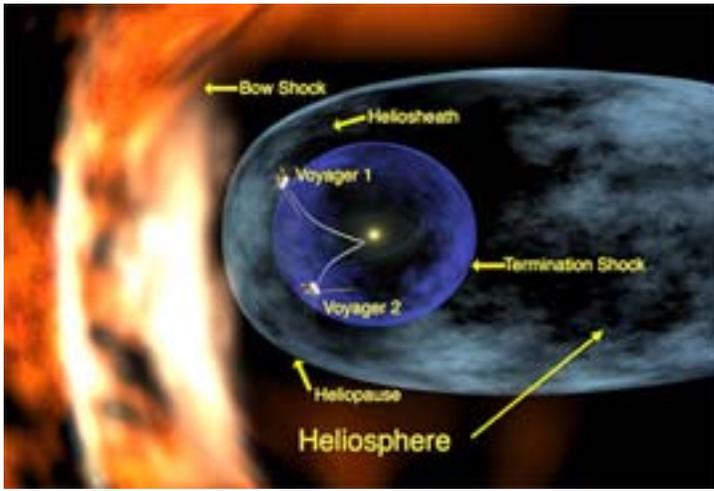
Voyager nears edge of interstellar space

NASA News Release, May 24, 2005

NASA's Voyager 1 spacecraft has entered the solar system's final frontier. It is entering a vast, turbulent expanse, where the sun's influence ends and the solar wind crashes into the thin gas between stars.

"Voyager 1 has entered the final lap on its race to the edge of interstellar space," said Dr. Edward Stone, Voyager project scientist at the California Institute of Technology in Pasadena. Caltech manages NASA's Jet Propulsion Laboratory in Pasadena, which built and operates Voyager 1 and its twin, Voyager 2.

In November 2003, the Voyager team announced it was seeing events unlike any in the mission's then 26-year history. The team believed the



This artist's concept shows the locations of Voyagers 1 and 2. Voyager 1 has crossed into the heliosheath, the region where interstellar gas and solar wind start to mix. NASA/Walt Feimer

unusual events indicated Voyager 1 was approaching a strange region of space, likely the beginning of this new frontier called the termination shock region. There was considerable controversy over whether Voyager 1 had indeed encountered the termination shock or was just getting close.

The termination shock is where the solar wind, a thin stream of electrically charged gas blowing continuously outward from the sun, is slowed by pressure from gas between the stars. At the termination shock, the solar wind slows abruptly from a speed that ranges from 700,000 to 1.5 million mph and becomes denser and hotter. The consensus of the team is Voyager 1, at approximately 8.7 billion miles from the sun, has at last entered the heliosheath, the region beyond the termination shock.

Predicting the location of the termination shock was hard, because the precise conditions in interstellar space are unknown. Also, changes in the speed and pressure of the solar wind cause the termination shock to expand, contract and ripple.

The most persuasive evidence that Voyager 1 crossed the termination shock is its measurement of a sudden increase in the strength of the magnetic field carried by the solar wind, combined with an inferred decrease in its speed. This happens whenever the solar wind slows down.

In December 2004, the Voyager 1 dual magnetometers observed the magnetic field strength suddenly increasing by a factor of approximately 2 1/2, as expected when the solar wind slows down. The magnetic field has remained at these high levels since December. NASA's Goddard Space Flight Center, Greenbelt, Md., built the magnetometers.

Voyager 1 also observed an increase in the number of high-speed electrically charged electrons and ions and a burst of plasma wave noise before the shock. This would be expected if Voyager 1 passed the termination shock. The shock naturally accelerates electrically charged particles that bounce back and forth between the fast and slow winds on opposite sides of the shock, and these particles can generate plasma waves.

"Voyager's observations over the past few years show the termination shock is far more complicated than anyone thought," said Dr. Eric Christian, Discipline Scientist for the Sun-Solar System Connection research program at NASA Headquarters, Washington.

The result is being presented today at a press conference in the Morial Convention Center, New Orleans, during the 2005 Joint Assembly meeting of Earth and space.

Right: This Chandra image shows the Orion Nebula Cluster, a rich cluster of young stars. NASA/CXC/Penn State/E.Feigelson & K.Getman et al.

Chandra catches X-ray super-flares

NASA News Release, May 10, 2005

New results from NASA's Chandra X-ray Observatory about the Orion Nebula imply super-flares torched our young solar system. Such X-ray flares likely affected the planet-forming disk around the early sun, and may have enhanced the survival chances of Earth.

By focusing on the Orion Nebula almost continuously for 13 days, a team of scientists used Chandra to obtain the deepest X-ray observations ever taken of any star cluster. The Orion Nebula is the nearest rich stellar nursery, located just 1,500 light years away from Earth. The Orion Nebula provides an unparalleled view of 1,400 young stars, 30 of which are prototypes of the early sun. Scientists have discovered these young stars erupt in enormous flares that dwarf, in energy, size and frequency, anything seen from our sun today.

"We don't have a time machine to see how the young sun behaved, but the next best thing is to observe sun-like stars in Orion," said Scott Wolk of Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass. "We are getting a unique look at stars between one and 10 million years old - a time when planets form."

A key finding is the more violent stars produce flares one hundred times as energetic as the more docile ones. This difference may specifically affect the fate of planets that are relatively small and rocky, like the Earth.

"Big X-ray flares could lead to planetary systems like ours, where Earth is a safe distance from the sun," said Eric Feigelson of Penn State University in University Park. He is the principal investigator for the international Chandra Orion Ultradeep Project. "Stars with smaller flares, on the other hand, might end up with Earth-like planets plummeting into the star."

According to recent theoretical work, X-ray flares can create turbulence when they strike planet-forming disks, and this affects the position of rocky planets as they form. Specifically, this turbulence can help prevent planets from rapidly migrating towards the young star.

"Although these flares may be creating havoc in the disks, they ultimately could do more good than harm," said Feigelson. "These flares may be acting like a planetary protection program."

About half of the young suns in Orion show evidence of planet-forming disks including four lying at the center of proplyds (proto-planetary disks) imaged by NASA's Hubble Space Telescope. X-ray flares bombard these disks, likely giving them an electric charge. This charge, combined with motion of the disk and the effects of magnetic fields, should create turbulence in the disk.



The numerous results from the Chandra Orion Ultradeep Project will appear in an upcoming issue of The Astrophysical Journal Supplement. The team contains 37 scientists from institutions in the US, Italy, France, Germany, Taiwan, Japan and the Netherlands.

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



This illustration shows an X-ray flare from a young star. NASA/CXC/A.Hobart

Odd spot on Saturn's moon Titan baffles scientists

NASA News Release, May 25, 2005

Saturn's moon Titan shows an unusual bright spot that has scientists mystified. The spot, approximately the size and shape of West Virginia, is just southeast of the bright region called Xanadu and is visible to multiple instruments on the Cassini spacecraft

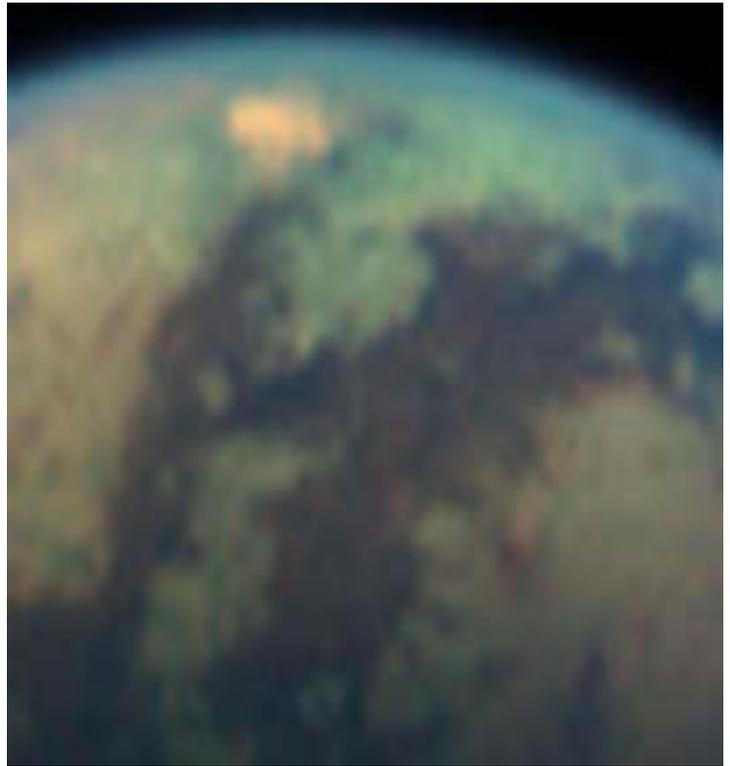
The 483-kilometer-wide (300-mile) region may be a "hot" spot -- an area possibly warmed by a recent asteroid impact or by a mixture of water ice and ammonia from a warm interior, oozing out of an ice volcano onto colder surrounding terrain. Other possibilities for the unusual bright spot include landscape features holding clouds in place or unusual materials on the surface.

"At first glance, I thought the feature looked strange, almost out of place," said Dr. Robert H. Brown, team leader of the Cassini visual and infrared mapping spectrometer and professor at the Lunar and Planetary Laboratory, University of Arizona, Tucson. "After thinking a bit, I speculated that it was a hot spot. In retrospect, that might not be the best hypothesis. But the spot is no less intriguing."

The Cassini spacecraft flew by Titan on March 31 and April 16. Its visual and infrared mapping spectrometer, using the longest, reddest wavelengths that the spectrometer sees, observed the spot, the brightest area ever observed on Titan.

Cassini's imaging cameras saw a bright, 550-kilometer-wide (345-mile) semi-circle at visible wavelengths at this same location on Cassini's December 2004 and February 2005 Titan flybys. "It seems clear that both instruments are detecting the same basic feature on or controlled by Titan's surface," said Dr. Alfred S. McEwen, Cassini imaging team scientist, also of the University of Arizona. "This bright patch may be due to an impact event, landslide, cryovolcanism or atmospheric processes. Its distinct color and brightness suggest that it may have formed relatively recently."

Other bright spots have been seen on Titan, but all have been transient



The visual and infrared mapping spectrometer instrument onboard Cassini has found an unusual bright, red spot on Titan. NASA/JPL/University of AZ

features that move or disappear within hours, and have different spectral (color) properties than this feature. This spot is persistent in both its color and location. "It's possible that the visual and infrared spectrometer is seeing a cloud that is topographically controlled by something on the surface, and that this weird, semi-circular feature is causing this cloud," said Dr. Elizabeth Turtle, Cassini imaging team associate, also from the Lunar and Planetary Laboratory.

"If the spot is a cloud, then its longevity and stability imply that it is controlled by the surface. Such a cloud might result from airflow across low mountains or outgassing caused by geologic activity," said Jason Barnes, a postdoctoral researcher working with the visual and infrared mapping spectrometer team at the University of Arizona.

The spot could be reflected light from a patch of terrain made up of some exotic surface material. "Titan's surface seems to be mostly dirty ice. The bright spot might be a region with different surface composition, or maybe a thin surface deposit of non-icy material," Barnes added.

Scientists have also considered that the spot might be mountains. If so, they'd have to be much higher than the 100-meter-high (300-foot) hills Cassini's radar altimeter has seen so far. Scientists doubt that Titan's crust could support such high mountains.

The visual and infrared mapping spectrometer team will be able to test the hot spot hypothesis on the July 2, 2006, Titan flyby, when they take nighttime images of the same area. If the spot glows at night, researchers will know it's hot.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The visual and infrared mapping spectrometer team is based at the University of Arizona. The imaging team is based at the Space Science Institute in Boulder, Co.

GASP (Georgia Astronomy in State Parks) Events

Here are the GASP events schedule for 2005:

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.

The GASP volunteers, 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 at FDR State Park on Labor Day weekend 2004.



Editor's Note

Most of the images in the Focal Point are in color, but you won't see that 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 your name be removed from the Focal Point mailing list.

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.

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

President: Philip Sacco 404-296-6332
president@atlantaastronomy.org

Program Chair: Keith Burns 770-427-1475
programs@atlantaastronomy.org

Observing Chair: Daniel Herron observing@atlantaastronomy.org

Corresponding Secretary: Kat Sarbell 404-352-0652
focalpoint@atlantaastronomy.org

Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

Recording Secretary: Art Russell
secretary@atlantaastronomy.org

Board: Tom Crowley 404-233-6886 crowleytj@hotmail.com

Board: Tom Faber 770-923-6832 tfaber@america.net

Board: Chris Hetlage 770-242-6584 chrishet@comcast.net

Board: Larry Owens planetographer@comcast.com

Board: Ken Poshedly 678-516-1366 poshedly@bellsouth.net

Board: Art Zorka Contact Info TBA

Elliott Chapter Director: Larry Owens
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Elliott Observing Chair: Position not yet filled

Elliott Recording Secretary: Clevis Jones
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Elliott Coordinator: Alesia Rast Alesia_Rast@mail.dnr.state.ga.us

Webmaster Charlie Elliott: Larry Owens
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PSSG Chairman: Peter Macumber pmacumber@nightsky.org **Co-Chairman:** Joanne Cirincione starrynights@AtlantaAstronomy.org

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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 EDT unless noted)

June 3rd, Friday: Mercury Superior Conjunction. Sidewalk Astronomy Chatahoochee Nature Center 7-10 PM - Contact Daniel Herron for details.

June 4th, Saturday: DSO at Brasstown Bald - Contact Daniel Herron for details. CEC Meeting 5PM

June 6th, Monday: Moon New.

June 11th, Saturday: New Member orientation at Villa Rica - Contact Daniel Herron for details.

June 12th, Sunday: Pluto at Opposition.

June 14th, Tuesday: Moon First Quarter. Earliest Sunrise (~6:25AM at Atlanta).

June 15th, Wednesday: Moon near Jupiter.

June 16th, Thursday: June Lyrids Meteor Shower.

June 17th, Friday: AAC Meeting. 8PM. White Hall at Emory University.

June 18th, Saturday: Telescope & Instrument Workshop at 11AM - Contact Sharon Carruthers.

June 21st, Tuesday: Solstice occurs at 2:46AM.

June 22nd, Wednesday: Moon Full.

June 25th, Saturday: Conjunction Venus-Saturn.

June 26th, Sunday: Conjunction Mercury-Saturn.

June 27th, Monday: Conjunction Mercury-Venus. Latest Sunset (~8:52PM at Atlanta).

June 28th, Tuesday: Moon Last Quarter.

June 29th, Wednesday: Moon near Mars,

July 3rd, Sunday: Mercury & Venus in M44.

July 5th, Tuesday: Earth at Aphelion.

July 6th, Wednesday: Moon New.

July 7th, Thursday: Conjunction Mercury-Venus.

July 8th, Friday: Grouping of the Moon, Mercury, & Venus.

July 9th, Saturday: Mercury at Eastern Elongation. DSO at Charlie Elliott - Contact Daniel Herron.

July 14th, Thursday: Moon First Quarter.

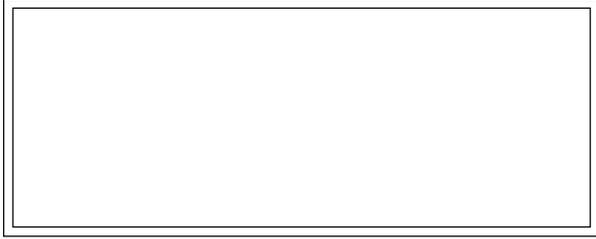
Atlanta Astronomy Club Listserve

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 July is Thursday, June 23rd 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

Marietta, GA 30066