

The Focal Point

The Atlanta Astronomy Club
Established 1947
March 2013

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Editor: Tom Faber

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March General Meeting

Note Meeting Location Change!

Join us for the March meeting of the Atlanta Astronomy Club on Friday, March 15th at 8PM. **We are no longer meeting at the Hitson Center in Sandy Springs. Our March meeting will take place at the Atlanta Freethought Society (AFS) building in Smyrna.** This is the same location we were meeting at prior to going to the Hitson Center. Refreshments will be provided starting around 7:30PM. Directions to the meeting at The Atlanta Freethought Building: Take I-285 to exit # 16. Go south (in towards Atlanta) about half a mile. Turn right on to North Church Lane. The first Building you see on the left is it (Looks like a small brick church). The street address is 4775 North Church Lane S.E., Smyrna 30080.

The Program:

The March program will be about celestial navigation. Don German will start by defining astronomer's coordinates and navigator's coordinates. He will then explain what celestial bodies can be used for navigation, how they are chosen and how their position is used to create a navigational triangle on the celestial sphere that results in a line of position for the mariner. One site provides a line of position (LOP) and two or more sites can provide a fixed position. The need for accurate positions has been a driving force over the centuries for ever more accurate star charts and clocks.

Our Speaker:

Our speaker will be Don German. He is the NASA/JPL Solar System Ambassador from Tellus Science Museum. Don retired from the U.S. Army in 2008 as a Maritime Training and Standards Officer. Don was a Vessel Master with a high level of interest in teaching and practicing celestial navigation. After retiring he joined Tellus as a volunteer and educator. Last year he applied for and was accepted as a NASA/JPL Solar System Ambassador. This gives Don direct access to NASA/JPL engineers and scientists, so he can help us stay up to date on what they are doing.

March is Membership Renewal Month

MEMBERSHIP RENEWALS: The AAC has moved to a "one-date-for-all" membership renewal. ALL CLUB MEMBERS, with some exceptions, should submit their \$30 (\$42 if you wish to receive the *Focal Point* by mail) dues for 2013 by March 20th. Please renew your membership by this date. There will be an R1 in the upper right corner of your *Focal Point* mailing label if you receive it in the mail. If you receive the *Focal Point* online you will receive an email - be sure we have your current email address. If you see either an RF or an xxx on your mailing label that means that your membership is about to expire or has expired. Please send your renewal right away. If you wish to switch from the mailed *Focal Point* to downloading the PDF version (and save \$12) notify Sharon Carruthers at Treasurer@AtlantaAstronomy.org. Also please notify Sharon with any changes to your contact information.

Future Programs:

In order to keep our programs interesting and relevant I need your help. Please let me know (Mark Banks at: programs@atlantaastronomy.org) of any subjects you may be interested in for a future program. Also, if you or someone you know would like to do a program for us please contact me.

Upcoming AAC Meetings:

Our meetings will usually be held on the 3rd Friday of the month. Future meeting dates are Apr 19, May 17, June 21, July 19, Aug 16.

Images by Chuck Painter

Club member Chuck Painter imaged these two sections of the Veil Nebula in Cygnus. The image below shows the eastern portion of the Veil (NGC 6992). Chuck acquired the data for this image at the Peach State Star Gaze.

Continued on page 3



February AAC Meeting Report

Photos by Tom Faber

The February AAC meeting which was held on the 15th had about 40 attendees including a few new faces. Tamara Bogdanovic, an assistant professor at the Georgia Tech's Center for Relativistic Astrophysics (photo bottom left) presented a talk about galaxy collisions and the interactions of their super massive black holes. Tamara talked about actual observed colliding galaxies and showed images of many interacting galaxies (photo top right). She then talked about research being done at the Georgia Tech Center for Relativistic Astrophysics and showed examples of computer simulations of colliding galaxies and their central black holes (photo middle right).

After Tamara's talk and many questions, the AAC officers presented information about club business and upcoming activities. Certificates for public outreach were presented to several club members. Richard Jakiel accepted a certificate for Pixie Burner who wasn't at the meeting (photo lower right).

After the meeting a number of people went to a nearby restaurant for food, drink, and discussions.



Before the AAC meeting, an astronomy talk was presented for those new to astronomy. Here Sharon Carruthers talks about the Milky Way galaxy.



Bradley Observatory Open Houses

The following are the dates of the Bradley Observatory Open House Lecture Series for the 2012-2013 school year. All Open Houses are on Fridays and begin at 8PM. Lecture topics TBA. See <http://legacy.agnesscott.edu/academics/bradleyobservatory> for more information.

March 22, 2013 (Spring Equinox Concert), April 12, 2013, May 10, 2013.



The second image is the Witch's Broom, the western portion of the Veil, NGC6960. The data for this image was acquired at a location in north Georgia and comprises 4 hours of data. Both these images were taken with the following set up: 8" Astrotek Ritchie-Chretien, Orion ST-80 guidescope, Orion Starshoot Pro Camera, Orion Starshoot autoguider, Atlas EQ-G mount, Image captured with Maxim DL (limited edition) and guided with PHD (Push Here Dummy). Image processed with Nebulosity and PixInsight.

Charlie Elliott Chapter Meeting Minutes

by Marie Lott, CE Chapter Recording Secretary

Minutes of the February 9, 2013 Meeting of the Charlie Elliott Chapter of the AAC

The February 9th 2013 meeting of the Charlie Elliott Chapter of the Atlanta Astronomy Club was held in the CEWC Conference Center in Mansfield, GA at 4 PM with 16 adults and 5 youth in attendance.

Theo Ramakers gave out the 2012 Night Sky Network awards to chapter members who made significant contributions to public outreach events in 2012. Pins and certificates were given to Theo Ramakers, Frank Garner, Steve Siedentop, Jeff Rebitzke, Kiernan Rebitzke-Brown, Marie Lott, Dan Schmitt and Jack Fitzmier. Theo aced the outreach totals with 61 events! For upcoming outreach events in March, help will be needed at Charlie Elliott for an all day Girl Scout event - 500 scouts are expected. (Contact Theo for the new date.) March 23rd will be our annual solar event at Anna Ruby Falls, so bring your solar scopes and filters up to Unicoi for a nice day of outreach at the falls.

Theo gave a presentation about his new solar imaging technique using a 3.8 micron Baader film made specifically for imaging. The combination of that filter with an additional green planetary filter has given Theo some promising results with his C11 scope. John Towne finished up the meeting with his monthly "What's Up" slideshow highlighting the locations of our favorite planets and other selected observing targets for the coming month. John's challenge object for the month is the emission nebula NGC 2359, "Thor's Helmet", located 15,000 light years away in Canis Major. The nebula has an extremely hot pre-supernova-stage central star.

After the meeting, members and guests set up 20 scopes and binoculars on the Jon Wood Astronomy Field for a nice night of observing, complete with a great view of Mercury and Mars at sunset followed later by a bright, full-sky ISS pass.

The next chapter meeting will be at 5 PM on Saturday March 16th in the CE Conference Center. This will be our quarterly potluck ("Dinner and a Movie") night.

The Next Charlie Elliott Meeting

Join us for our next meeting at 5 p.m., Saturday, March 16, at the Charlie Elliott Conference Center.

Meeting Agenda

Feature Presentation: Dinner and a Movie, plus What's Up

Please join us for our quarterly "pot luck" dinner! Bring your favorite dish or just your appetite and enjoy an astronomy related movie while having dinner. Everyone is welcome. After dinner, John Towne will present "What's Up"; a presentation about the skies over Charlie Elliott this month. Place: Charlie Elliott Conference Center, March 16, at 5:00 PM.

Sunset Time Alert

When the meeting is indoors, and if the meeting runs extra-long, a "Sunset Time Alert" will be announced. While we'd love for everyone to stay for the entire meeting, we also realize that some folks prefer to leave a bit earlier so as to set up their equipment at the observing field before dark.

"Observing after the Meeting"

All are invited to the observing field immediately after the meeting (weather-permitting) (or to stay on the observing field if the meeting was outdoors). Everyone is welcome.

Place: Jon Wood Astronomy Field at Charlie Elliott Wildlife Center.

2013 Meeting dates: April 13, May 11, June 8, July 13, August 10, September 7, October 12, November 2, December 7.

Stellar Motions in Outer Halo Shed New Light on Milky Way Evolution

STScI News Release - February 21, 2013

Peering deep into the vast stellar halo that envelops our Milky Way galaxy, astronomers using NASA's Hubble Space Telescope have uncovered tantalizing evidence for the possible existence of a shell of stars that are a relic of cannibalism by our Milky Way.

Hubble was used to precisely measure, for the first time ever, the sideways motions of a small sample of stars located far from the galaxy's center. Their unusual lateral motion is circumstantial evidence that the stars may be the remnants of a shredded galaxy that was gravitationally ripped apart by the Milky Way billions of years ago. These stars support the idea that the Milky Way grew, in part, through the accretion of smaller galaxies.

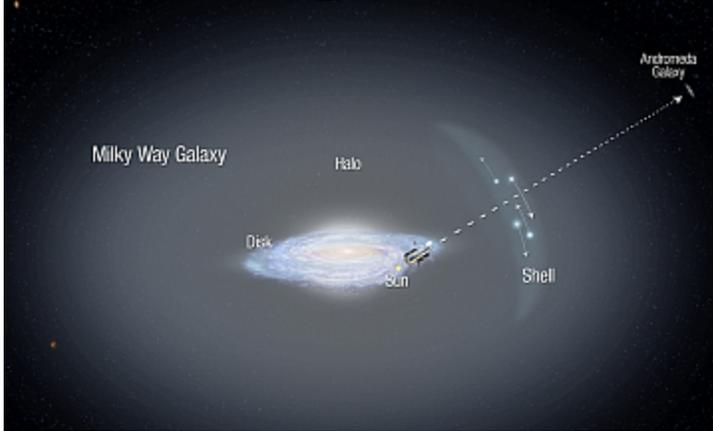
"Hubble's unique capabilities are allowing astronomers to uncover clues to the galaxy's remote past. The more distant regions of the galaxy have evolved more slowly than the inner sections. Objects in the outer regions still bear the signatures of events that happened long ago," said Roeland van der Marel of the Space Telescope Science Institute (STScI) in Baltimore, Md.

They also offer a new opportunity for measuring the "hidden" mass of our galaxy, which is in the form of dark matter (an invisible form of matter that does not emit or reflect radiation). In a universe full of 100 billion galaxies, our Milky Way "home" offers the closest and therefore best site for detailed study of the history and architecture of a galaxy.

A team of astronomers led by Alis Deason of the University of California, Santa Cruz, and van der Marel identified 13 stars located roughly 80,000 light-years from the galaxy's center. They lie in the Milky Way's outer halo of ancient stars that date back to the formation of our galaxy.

The team was surprised to find that the stars showed more of a sideways, or tangential, amount of motion than they expected. This movement is different from what astronomers know about the halo stars near the Sun, which move predominantly in radial orbits. Stars in these orbits plunge toward the galactic center and travel back out again. The stars' tangential motion can be explained if there is an over-density of stars at 80,000 light-

Sideways Stellar Motions Suggest Shell in Milky Way Halo



This illustration shows the disk of our Milky Way galaxy, surrounded by a faint, extended halo of old stars. Astronomers using the Hubble Space Telescope to observe the nearby Andromeda galaxy serendipitously identified a dozen foreground stars in the Milky Way halo. They measured the first sideways motions (represented by the arrows) for such distant halo stars. The motions indicate the possible presence of a shell in the halo, which may have formed from the accretion of a dwarf galaxy. This observation supports the view that the Milky Way has undergone continuing growth and evolution over its lifetime by consuming smaller galaxies.

Illustration Credit: NASA, ESA, and A. Feild (STScI). Science Credit: NASA, ESA, A. Deason and P. Guhathakurta (University of California, Santa Cruz), and R. van der Marel, T. Sohn, and T. Brown (STScI)

years, like cars backing up on an expressway. This traffic jam would form a shell-like feature, as seen around other galaxies.

Deason and her team plucked the outer halo stars out of seven years' worth of archival Hubble telescope observations of our neighboring Andromeda galaxy. In those observations, Hubble peered through the Milky Way's halo to study the Andromeda stars, which are more than 20 times farther away. The Milky Way's halo stars were in the foreground and considered as clutter for the study of Andromeda. But to Deason's study they were pure gold. The observations offered a unique opportunity to look at the motion of Milky Way halo stars.

Finding the stars was meticulous work. Each Hubble image contained more than 100,000 stars. "We had to somehow find those few stars that actually belonged to the Milky Way halo," van der Marel said. "It was like finding needles in a haystack."

The astronomers identified the stars based on their colors, brightnesses, and sideways motions. The halo stars appear to move faster than the Andromeda stars because they are so much closer. Team member Sangmo Tony Sohn of STScI identified the halo stars and measured both the amount and direction of their slight sideways motion. The stars move on the sky only about one milliarcsecond a year, which would be like watching a golf ball on the Moon moving one foot per month. Nonetheless, this was measured with 5 percent precision, made possible in visible-light observations because of Hubble's razor-sharp view and instrument consistency.

"Measurements of this accuracy are enabled by a combination of Hubble's sharp view, the many years' worth of observations, and the telescope's stability. Hubble is located in the space environment, and it's free of gravity, wind, atmosphere, and seismic perturbations," van der Marel said.

Stars in the inner halo have highly radial orbits. When the team compared the tangential motion of the outer halo stars with their radial motion, they were very surprised to find that the two were equal. Computer simulations of galaxy formation normally show an increasing tendency towards radial

Continued on page 7

ALCon 2013 — Call for Papers

Interested parties are hereby invited to submit papers on the astronomy-related topics of their choice for presentation at the Astronomical League's 2013 convention, ALCon2013, being held here in Atlanta, Georgia, July 24 through 27. The Atlanta Astronomy Club is working with the Astronomical League in presenting this year's event. Papers will be presented on Wednesday, July 24, and Thursday, July 25, at the Fernbank Science Center Jim Cherry Planetarium; the location is equipped with a full array of audio-visual equipment. A total of 22 time slots are available. Participants are encouraged to submit research papers, presentations, and experience reports concerning various aspects of Earth-based observational astronomy. Suggested topics for papers and presentations include the following:

- New or ongoing observing programs and studies, specifically, how those programs were designed, implemented and continue to function.
- Results of personal or group astronomical studies.
- New or ongoing activities involving astronomical instrumentation, construction or improvement.
- Challenges faced by Earth-based observers such as changing interest levels, deteriorating observing conditions brought about by possible global warming, etc.

The preferred format is Microsoft PowerPoint, though 35mm slides are also acceptable. The final presentation should not exceed 20 minutes in length, to be followed by no more than five (5) minutes of questions (if any) from the audience. A hard-copy version of the paper should be made available for future web site publication. Two consecutive 20-minute sessions can be scheduled if the subject material so requires.

Please submit by June 15, 2013, the following:

- Title of the paper being presented.
- A four- or five-sentence abstract of each paper.
- The format in which the presentation will be.
- A 100-word biography and a recent photograph of the presenter for posting on the ALCon 2013 website and inclusion in the printed program guide.

Address all materials to:

ALCon 2013

c/o Ken Poshedly

1741 Bruckner Court

Snellville, Georgia 30078 USA

E-mail is the preferred method for contact: ken.poshedly@alpo-astronomy.org

Besides the daily technical presentations, there will several optional side-trips

- A Thursday evening trip to the AAC's other observing site at the Deerlick Astronomy Village well east of Atlanta.
- A Friday night "Star B-Q" at the nearby Agnes Scott College Bradley Observatory, which is where the AAC was founded.
- A mid-day Saturday venture to the AAC's William Barber Observatory site.

Lodging for out-of-towners will be at the nearby Emory Conference Center Hotel, which is lowering its standard room rate considerably for attendees of ALCon 2013. Registration and other fees are included in the event registration form.

The Astronomical League is coming to Atlanta!



ALCON 2013 ATLANTA

Summer Skies, Southern Hospitality July 24-27, 2013 • Atlanta, Georgia

Location: Fernbank Science Center

Host Organizations: Atlanta Astronomy Club, Astronomical League

Partnering Organization: Association of Lunar and Planetary Observers (ALPO) • This year, ALPO presentations will be mainstreamed with League talks



Accommodations...

Emory Conference Center Hotel

- Shuttle service between hotel and presentations at Fernbank Science Center and Agnes Scott College Bradley Observatory for those without transportation
- Be sure to ask for the Astronomical League rate. 1-800-933-6679, emoryconferencecenter.com/index.cfm
- Saturday night's Awards Banquet



Primary Venue: Fernbank Science Center

- Talks held in 70 foot planetarium
- Evening shows with Zeiss Mark V projector coupled with various special effects projector
- 0.9 meter Cassegrain reflector in the Ralph Buice Memorial Observatory
- Vendor displays



Atlanta Attractions

- World of Coca-Cola
- Georgia Aquarium
- Zoo Atlanta
- Inside CNN
- Atlanta Botanical Garden
- Olympic Games venues



Conference Speakers...

Chris Hetlage, Deerlick Astronomy Village, a distinctive dark sky community.

Tim Puckett, Supernovae Research



Saturday night's Awards Banquet Keynote Speaker:

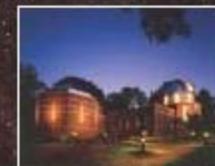
Charles Wood, Sky and Telescope Lunar 100 creator

Star BQ, Friday, July 26, Agnes Scott College Bradley Observatory:

Bradley Observatory Tour; 30-inch Beck Cassegrain; Planetarium Presentation

Other ALCon 2013 Excursions

- Atlanta Astronomy Club's Villa Rica Observatory; Full size roll-off roof observatory with 20-inch Newtonian reflector
- Atlanta Astronomy Club's observing site at the Deerlick Astronomy Village



Check www.ALCon2013.astroleague.org for more information as it becomes available.



The Astronomical League is coming to Atlanta!

ALCon 2013 Registration Information—July 24-27, 2013

Mail completed form with your check made payable to ALCon 2013 to:

Astronomical League, ALCon 2013 Registration,
9201 Ward Parkway, Suite 100, Kansas City, MO 64114

Please use one form for each attendee. One check is acceptable for your group. You may also register online at www.alcon2013.astroleague.org and make remittance with PayPal.

First Name: Last Name:

Name and Title for ID badge:

E-mail Address:

Mailing Address:

Address, Line 2 (if needed):

City, State or Province and ZIP or Postal Code:

Country: ALPO Member?

Daytime Phone Number: Alternate Phone Number:

Astronomical Club, Society, or Organization Affiliation:

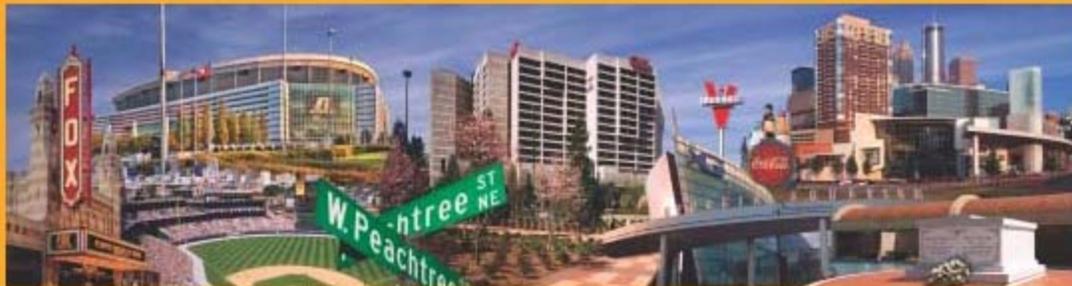
You may make your room reservations at the Emory Conference Center Hotel by calling 800-933-6679. Be sure to ask for the Astronomical League ALCon 2013 special rate before the room block is fully booked. Free parking and free Internet.

The organizers reserve the right to make such changes to the program and speakers as may be necessary due to conditions outside of their control.

Early Registration Fees (after July 8, add \$20)

Please check each item you wish to include in your registration and enter the amount in the box on right.

	Amount
Individual 2 or 3 day registration: \$50	<input type="text"/>
Single day registration: \$35	<input type="text"/>
Couples 2 or 3 day registration: \$75	<input type="text"/>
Students: \$20	<input type="text"/>
Children younger than 15 years of age accompanying adults registering: free	
Shuttle bus from Emory Conference Center Hotel and the Fernbank Science Center (for those needing transportation), 8:15 a.m. to 11:15 a.m. and 2 p.m. to 5 p.m.	
\$20 Wednesday <input type="checkbox"/> \$20 Thursday <input type="checkbox"/> \$20 Friday <input type="checkbox"/>	<input type="text"/>
Boxed Lunches: Choice of Ham and Swiss, Turkey and Cheddar, or Mediterranean Veggie sandwiches with a pickle spear, a half-sized Jumbo Cookie, chips, and water bottle: \$9. Check one for each day. Wednesday: Ham and Swiss <input type="checkbox"/> ; Turkey and Cheddar <input type="checkbox"/> ; or Mediterranean Veggie <input type="checkbox"/> Thursday: Ham and Swiss <input type="checkbox"/> ; Turkey and Cheddar <input type="checkbox"/> ; or Mediterranean Veggie <input type="checkbox"/> Friday: Ham and Swiss <input type="checkbox"/> ; Turkey and Cheddar <input type="checkbox"/> ; or Mediterranean Veggie <input type="checkbox"/>	<input type="text"/>
Friday night Star BQ (Please select one) Pan Roasted Chicken Breast with mushroom ragout \$32 <input type="checkbox"/> Tender Beef Brisket with a caramelized onion jus \$37 <input type="checkbox"/> Grilled Eggplant Steak with chick peas and feta cheese \$32 <input type="checkbox"/>	<input type="text"/>
Shuttle from Emory Conference Center Hotel to Star BQ at Agnes Scott College Bradley Observatory and return: \$20	<input type="text"/>
Saturday night banquet: 1. Vegetarian: Gnocchi with pesto cream, olive oil poached tomatoes, grilled zucchini and shitake mushrooms: \$45 <input type="checkbox"/> 2. Pan seared sage and garlic infused chicken breast served with red onion marmalade on creamy polenta: \$45 <input type="checkbox"/> 3. Grilled bourbon glazed boneless pork loin with mustard braised greens and smoked cheddar mashed potatoes: \$45 <input type="checkbox"/> Please select one	<input type="text"/>
ALCon merchandise Silk-screened T-shirt, White <input type="checkbox"/> ; or Royal Blue <input type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> XL <input type="checkbox"/> XXL <input type="checkbox"/> XXXL <input type="checkbox"/> : \$20 Embroidered polo shirt, White <input type="checkbox"/> ; or Royal Blue <input type="checkbox"/> Mens: S <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> XL <input type="checkbox"/> XXL <input type="checkbox"/> XXXL <input type="checkbox"/> : \$25 Womens: S <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> XL <input type="checkbox"/> XXL <input type="checkbox"/> XXXL <input type="checkbox"/> : \$25	<input type="text"/>
Help the League help amateur astronomy by making a tax deductible donation	<input type="text"/>
Total Enclosed:	<input type="text"/>



motion if one moves further out in the halo. These observations imply the opposite trend. The existence of a shell structure in the Milky Way halo is one plausible explanation of the researchers' findings. Such a shell can form by accretion of a satellite galaxy. This is consistent with a picture in which the Milky Way has undergone continuing evolution over its lifetime due to the accretion of satellite galaxies.

The team compared their results with data of halo stars recorded in the Sloan Digital Sky Survey. Those observations uncovered a higher density of stars at about the same distance as the 13 outer halo stars in their Hubble study. A similar excess of halo stars exists across the Triangulum and Andromeda constellations. Beyond that radius, the number of stars plummets.

Deason immediately thought the two results were more than just coincidence. "What may be happening is that the stars are moving quite slowly because they are at the apocenter, the farthest point in their orbit about the hub of our Milky Way," Deason explained. "The slowdown creates a pileup of stars as they loop around in their path and travel back towards the galaxy. So their in and out or radial motion decreases compared with their sideways or tangential motion."

Shells of stars have been seen in the halos of some galaxies, and astronomers predicted that the Milky Way may contain them, too. But until now there was limited evidence for their existence. The halo stars in our galaxy are hard to see because they are dim and spread across the sky.

Encouraged by this study, the team hopes to search for more distant halo stars in the Hubble archive. "These unexpected results fuel our interest in looking for more stars to confirm that this is really happening," Deason said. "At the moment we have quite a small sample. So we really can make it a lot more robust with getting more fields with Hubble." The Andromeda observations only cover a very small "keyhole view" of the sky.

The team's goal is to put together a clearer picture of the Milky Way's formation history. By knowing the orbits and motions of many halo stars it will also be possible to calculate an accurate mass for the galaxy. "Until now, what we have been missing is the stars' tangential motion, which is a key component. The tangential motion will allow us to better measure the total mass distribution of the galaxy, which is dominated by dark matter. By studying the mass distribution, we can see whether it follows the same distribution as predicted in theories of structure formation," Deason said.

This study will appear in an upcoming issue of the *Astrophysical Journal*.

The **Atlanta Astronomy Club, Inc.**, one of the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the 3rd Friday of each month in the Parlor Room - Hitson Center in Sandy Springs, or occasionally at other locations or times. Membership fees are **\$30 (\$42)** for a family or single person membership. College Students membership fee is **\$15 (\$27)**. These fees are for a one year membership (\$12 per year extra charge to receive a printed *Focal Point* by mail).

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.

Atlanta Astronomy Club Online

While this newsletter is the official information source for the Atlanta Astronomy Club, it is only up to date the day it is printed. So if you want more up to date information, go to our club's website. The website contains pictures, directions, membership applications, events updates and other information. <http://www.atlantaastronomy.org> You can also follow the AAC on Facebook by joining the AAC group, and on Twitter at <http://twitter.com/atlastro>.

AAC Officers and Contacts

President: Richard Jakiel President@AtlantaAstronomy.org
Program Chair: Mark Banks Programs@AtlantaAstronomy.org
Observing Chair/BoD Chair: Daniel Herron
Observing@AtlantaAstronomy.org
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Focalpoint@AtlantaAstronomy.org
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Recording Secretary: Pixie Bruner
Secretary@AtlantaAstronomy.org
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Board: Brigitte Fessele, Contact info TBA
Board: David Lumpkin, Contact info TBA
Board: Steve Phillips sandsphillips@att.net
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Elliott Chapter Director: Larry Owens director@ceastronomy.org
Elliott Observing Supervisor: John Towne
observing@ceastronomy.org
Elliott Recording Secretary: Marie Lott mtlott@comcast.net
Elliott Coordinator: Alesia Rast Alesia_Rast@mail.dnr.state.ga.us
Elliott Webmaster: Theo Ramakers 770-788-0843
webmaster@CEastronomy.org
Elliott Outreach Coordinator: Theo Ramakers 770-788-0843
outreach@ceastronomy.org
Georgia Astronomy in State Parks: Sharon Carruthers
Treasurer@AtlantaAstronomy.org
PSSG Chairman: Peter Macumber pmacumber@nightsky.org
PSSG Co-Chair: Joanne Cirincione
starrynights@AtlantaAstronomy.org
Sidewalk Astronomy: Brad Isley
sidewalkastronomy@AtlantaAstronomy.org
Light Tresspass: Open - Contact Mark Banks if you would like to volunteer for this position
Woodruff Observ. Coordinator: Sharon Carruthers
Treasurer@AtlantaAstronomy.org
AAC Webmaster: Daniel Herron, Observing@AtlantaAstronomy.org

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

AAC Events are listed in BOLD

- Mar 4th, Monday: Moon Last Quarter. Mercury at Inferior Conjunction.
- Mar 10th, Sunday: Daylight Saving Time begins 2AM.
- Mar 11th, Monday: New Moon.
- Mar 15th, Friday: **AAC Meeting, 8PM.**
- Mar 16th, Saturday: **CE Chapter Meeting, 5 PM.**
- Mar 17th, Sunday: Moon near Jupiter.
- Mar 19th, Tuesday: Moon First Quarter.
- Mar 20th, Wednesday: Vernal Equinox 7:02AM. **Membership Renewals Due**
- Mar 22nd, Friday: **April Focal Point Deadline.**
- Mar 27th, Wednesday: Full Moon.
- Mar 28th, Thursday: Venus at Superior Conjunction.
- Mar 29th, Friday: Uranus conjunction with sun.
- Mar 30th, Saturday: Mercury at greatest western elongation.
- Apr 3rd, Wednesday: Moon Last Quarter.
- Apr 10th, Wednesday: New Moon.
- Apr 11th, Thursday: Thin crescent moon in west after sunset.
- Apr 13th, Saturday: **CE Chapter Meeting, 5 PM.**
- Apr 14th, Sunday: Moon near Jupiter.
- Apr 18th, Thursday: Moon First Quarter. Mars conjunction with sun.
- Apr 19th, Friday: **AAC Meeting, 8PM.**
- Apr 20th, Saturday: Astronomy Day at Tellus Museum 10AM-10PM.
- Apr 25th, Thursday: Full Moon.
- Apr 26th, Friday: **May Focal Point Deadline.**

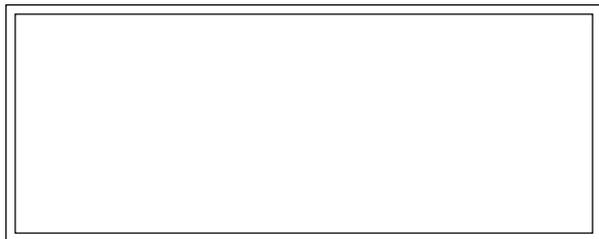
For more event listings see the calendar at www.atlantaastronomy.org

Atlanta Astronomy Club Listserv

Subscribe to the Atlanta Astronomy Club Mailing List: The name of the list is: AstroAtlanta. The address for messages is: AstroAtlanta@yahoogroups.com . To add a subscription, send a message to: AstroAtlanta-subscribe@yahoogroups.com . This list is owned by Lenny Abbey.

Focal Point Deadline and Submission Information

Please send articles, pictures, and drawings in electronic format on anything astronomy, space, or sky related to Tom Faber at focalpoint@atlantaastronomy.org. Please send images separate from articles, not embedded in them. Articles are preferred as plain text files but Word documents or PDF's are okay. You can submit articles anytime up to the deadline. **The deadline for April is Friday, March 22nd. Submissions after the deadline will go in the following issue.**



FIRST CLASS



www.bctagg.com



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

Tom Faber
2206 Tretridge Parkway
Alpharetta, GA 30022

Atlanta Astronomy Club
P.O. Box 76155
Atlanta, GA 30358-1155
www.atlantaastronomy.org

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

Newsletter of The Atlanta Astronomy Club, Inc.

FROM:

