

The Focal Point

The Atlanta Astronomy Club
Established 1947
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Editor: Peter Macumber

From the Prez

By Ken Poshedly <ken.poshedly@mindspring.com>

Many of you already know that Georgia is home to one of the most active amateur astronomy organizations in the country—the Atlanta Astronomy Club. Not just a few guys in a treehouse, the club offers something for just about every level of astronomer, from the beginner through the advanced amateur.

Our Amateur Telescope Makers group provides a means for those who simply don't trust or don't want store-bought optics in their scopes; our Villa Rica site with its Walter F. Barber Observatory is the location of choice for those who enjoy observing in numbers at a site already equipped with at least some amenities (electricity, warm-up building and porta-potties); our Peach State Star Gaze is now recognized across the land as one of the most desirable star parties to attend, especially now that we'll go "international" and feature lunar atlas author Antonin Rukl at the PSSG Y2K in April of next year; and our meetings range full gamut from the how-to's to the why's of astronomy. Our training sessions, remote-site observing sessions and other activities make us a very desirable group to know.

But how many of you know that Georgia—specifically Atlanta—is home also to one of the most active professional research centers, as well? Specifically, the Georgia State University Department of Physics & Astronomy, with its offices at the university in downtown Atlanta and research center at its observatory at Hard Labor Creek State Park near Rutledge, is on the forefront of stellar research. Under Dr. Harold (or "Hal" as he is wont to be called) McAlister, the Center for High Angular Astronomy (CHARA) has been using speckle interferometry to produce a database of information about stars outside our solar system.

This month, we are proud to have as our invited speaker, Doug Gies of the GSU astronomy department. His presentation on "Be" stars will cover some of that research and the results so far. Incidentally, the letters are pronounced separately and not as the word "be"; the capital letter "B" refers to the stellar classification of this star (a very luminous supergiant) and the lowercase letter "e" refers to other physical characteristics of this type of star.

Dr. Gies' credentials include: Bachelor of Science degree in Physics and Astronomy, University of Toronto; Master Science degree in Astronomy, University of Toronto; Ph.D. in Astronomy, University of Toronto;

Postdoctoral Fellow, University of Texas at Austin, 1985-1988; Assistant Professor, Georgia State University, 1988-1994; Associate Professor, Georgia State University, 1994-present We hope to feature more speakers from the GSU astronomy department in the future and look forward to learning from them.

Please welcome this month's new members:

Cobiella,Angel Willis,Chris & Ingrid Smith,Jim M. Burkhalter,Hank & Seiko Martin,Thomas D. Cook,Skip (Daniel) Gheesling,Sheilla Kaleida,Katie

Minutes

By Art Zorka <magicart@mindspring.com>

June 18th, 1999 meeting of the Atlanta Astronomy club was called to order at 8:11pm by President Ken Poshedly. 57 members were in attendance. Seven visitors, all of whom learned about the AAC from our Web page, introduced themselves and were welcomed.

Secretary Peter Macumber announced that the club had 355 members. 60 members were receiving the monthly newsletter, The Focal Point, via E-mail. Deadline for the next issue is July 3rd.

Just-a-member Philip Sacco, recently returned from star gazing in California, announced the door prize and gave out tickets. The prize was a PC/Mac compatible version of Redshift 2.

Gil Shillcutt, Vice President and Chair of the Observing Committee introduced his coordinators and each spoke of their plans and hopes for the coming year. Included were Keith Burns, heading up the programs at Walter Barber Observatory in Villa Rica and Astronomical League Awards; Philip Sacco, Coordinator for programs at the Charles Elliott Wildlife Management Area; Art Zorka, New-comer Orientation; Rich Jakiel, Tracy Wilson, Amateur Telescope Making; and, Geoff Powers, Image Making group.

Astronomical League Awards were presented to Rich Osment as the newest member of the Herschel Club. Rich has been accumulating his Herschel list objects since 1991.

The Lunar Club Certificate and pin was presented to Jim Moore, making him our newest lunatic.

Gil Shillcutt asked that all those interested in mentoring contact him via e-mail at:

gil.shillcutt@choicepointinc.com or calling him at 404.467.1437

Eric Shelton gave instructions for subscribing to the AAC LISTSERV on the Internet.

Eugenia Abbey, Program Vice President then introduced our speaker for the evening, Mr. Bob Fried. Bob is a past President of our Atlanta club and twice President of the Astronomical League. Bob now resides in Flagstaff, Arizona. He has built his own observatory, which is very often used by professional astronomers and students from the university, for study. He spoke to us about the contributions small telescopes have the opportunity to make to the science of astronomy.

The meeting adjourned at 9:45

From the Observing Chair

By Gil Shillcutt

July finds us smack dab in the middle of that Summer weather pattern. Afternoon thundershowers breed damp conditions, feeding morning fog that burns off, and inevitably, feeds clouds for afternoon thundershowers. Not much to do about it if you want to live in Atlanta.

Take heart, though. We've seen some breaks in the clouds over the last month, and have even gotten in some good sessions. Both the Deep Sky Session at Charles Elliott and the Training Program at Villa Rica went off well. For the next couple of months, we have a busy schedule, with a couple of favorites.

July 10 — Dark Sky, Dusk, Brasstown Bald

July 17 — POHO, 6:00pm, VR

July 17 — ATM Workshop, 9:00am, ASC Bradley Observatory

July 24 — Quarterly Work Party at VR. 9:00am

July 24 — Training, 6:00pm, CEWMA

July 31 — ATM Workshop, 9:00am, ASC Bradley Observatory

August 6 — ATM Meeting, 8:00pm, ASC Bradley Observatory

August 7 — Training, 6:00pm, VR

August 13-15 — Dark Sky, Perseids, Zombie Party @ Cox Field

August 14 — ATM Workshop, 9:00am, ASC Bradley Observatory

August 21 — Astro Techniques, 6:00pm, VR

August 28 — ATM Workshop, 9:00am, ASC Bradley Observatory

Some highlights: The Dark Sky Session at Brasstown Bald was a real hit last year, and gave us what was generally acknowledged to be the best skies of the entire year. Last year's Zombie Party (2 Day Star Party) at Cox field was where the AstroCows were discovered. A run-in with the RainMaker convinced both them and the clouds to stay away.

The July Training Program will be at Charles Elliott, presenting the opportunity for more folks to become familiar with the 24" Tectron. If you want to have access to the scope, this program is mandatory. Of all our programs, this is the only one that may be canceled due to rain. Please stay on top of the weather should you plan to attend.

During the month of June, Rich Jakiel determined that he'd not be able to serve as the Training Director, and Steph Whetstone has stepped forward to assume the mantel. We'll miss Rich, and his great wealth of knowledge and experience in this role. Steph, though a bit newer to astronomy, has really advanced his knowledge, and has learned a great deal about different types of equipment in addition to all of the club's equipment. He'll be a great leader in this role. Look for information on the Club's official training documentation in the near future, including information about the Walter F. Barber Jr. Memorial Observatory, the 24" Tectron and the check-out procedures.

The Amateur Telescope Makers group is going strong as well. The 16" mirror is nearing completion, and we'll begin construction of the optical tube assembly soon. The bi-weekly sessions are a great opportunity to learn more about the construction of telescopes and optics, and also about how to improve the scope you currently have.

Hope to see you out there. Clear Skies!!

Observing Techniques

By Gil Shillcutt

Lately, I've seen quite a few observing reports. Going over Astronomical League reports and looking through such gems as the "Celestial Harvest" publication have given me a new perspective on the process. Lets just say that I've been intrigued by the various formats that people use to put together their own "Observing Catalogs". The capability to provide a complete observing report has grown far beyond what was possible even just a few years ago, when folks would make drawings, and have perhaps a few miscellaneous, certainly cryptic notes per object. It's the computer that makes this possible, and the specific tools that make this possible include:

Sky Charting software (e.g. MegaStar, SkyMap Pro, The Sky)

Telescopic Control software (e.g. the above, plus TPoint, etc.)

Observing software (e.g. DeepSky 2000)

Image Processing Software (PhotoShop, Corel PhotoPaint, Picture Window)

The Internet

Your Imagination

To tell you the truth, I have found the typical one-line object observing report to be more stale than a 20-year old box of saltines. Though these can get the basics across, such as where the object is, and its relative visibility, no real impression is created. Therefore, I set out to create a one page observing report that can be generated either prior to, or subsequent to observing an object. This one page document should provide all the data necessary to get a very good feel for what the object is going to look like through a scope. Here are the things that seem to be important for some of the faint fuzzies that I try to hunt down:

An image of the sky, acquired through the Digitized Sky Survey pages on the Internet, manipulated by Lview Pro image processing software. These images are 1 degree on a side, to provide plenty of the surrounding field to recognize the object in its setting, and so that the objects are consistently portrayed.

Finder Chart – Generated by sky charting software. I use SkyMap Pro. The key here is to provide a map that is of the proper scale and depth to allow the location of the object without using automated pointing systems, such as an LX200 or SkyComm. Though these types of tools make quick work of finding objects, they occasionally fail.

Notes from various sources. SEDS on the Internet and SkyMap Pro provide good basic data. Another great source is the Uranometria Observing Guide, or the newly published Night Sky Observer's Guide.

My notes on the subject, including (where applicable) visual impressions, involved objects, time and date of the observation, scope used, eyepiece used, camera used, film used, exposure time, sky conditions.

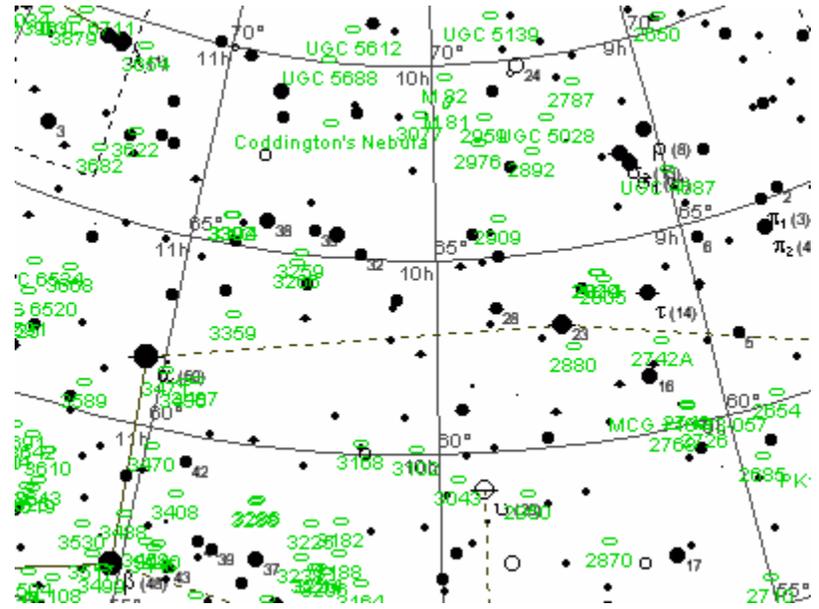
My photo and/or drawing of the object. Since I'm not much on drawing, I have to take photographs. Folks like Richard Jakiel (illustrator extraordinaire) are able to work with a greater variety of magnifications, and thus deliver accurate renderings (see his Simeis 147 observing report at:

<http://www.angelfire.com/id/jsredshift/s147obsrpt.html>)

Simple enough? I guess not. The idea is to provide a complete observing record that I can refer back to for later reference, and share with others as required. The following page shows what is possible.

Focal Point

The deadline for the August Focal Point is July 31st.



c:\my_documents\images\dss_m82.gif

note glow from M81 at bottom.

Notes on M82:

From SEDS:

M82 (NGC 3034), type Ir-II, in Ursa Major “Cigar Galaxy”

RA — 09 : 55.8 (h:m)

DEC — +69 : 41 (deg:m)

Distance — 12000 (kly)

Mag — 8.4

Size — 9x4 (arc min)

From SkyMap Pro:

Basic object information

Name: M 82

Type of object: Galaxy

Magnitude: 8.4

Size: 13.0'x6.0'

Position angle: 65°

Position (epoch of date)

RA: 9h 55m 47s

Declination: +69° 41' 21"

Constellation: Ursa Major

Local information

Altitude: 53° 27' 6"

Azimuth: 352° 58' 53"

Transit: 15h 51m 32s

Star atlas chart numbers:

Herald-Bobroff Astroatlas, Chart C-13

Millennium Star Atlas, Charts 537-538 (Vol II)

Sky Atlas 2000.0, Chart 2

Uranometria 2000 Chart 23, Vol 1

Saguaro Astronomy Club v6 Data

Names Names and designations

M 82

NGC 3034

Catalog position for epoch J2000.0

RA: 09h 55m 54.0s

Dec: +69° 40' 57"

Constellation: Ursa Major

Object information

Magnitude: 8.4

Size: 13.0'x6.0'

Position angle: 65°

Object class: Ip

Description: vB,vL,vmE(ray)

Notes: PA 65,M81 group,eruptive,H IV 79

Forming a most conspicuous physical pair with its neighbor, M81 (THE showpiece galaxies for many Northern hemispherers), this galaxy is the prototype of an irregular of the second type, i.e. a “disk” irregular. Its core seems to have suffered dramatically from a semi-recent close encounter with M81, being in a heavy starburst and displaying conspicuous dark lanes. This turbulent explosive gas flow is also a strong source of radio noise. In the infrared light, M82 is the brightest galaxy in the sky; it exhibits a so-called infrared excess (it is much brighter at infrared wavelengths than in the visible part of the spectrum). This behaviour can also be observed for the companion of M51, NGC 5195, and the peculiar galaxy NGC 5128 (Centaurus A). The visual appearance is that of a silvery sliver, as John Mallas decribed it. As a member of the M81 group, M82 is 12 million light years distant.



C:\my_documents\images\m82_mini.jpg

My Notes: Photo taken w/ 10" Meade OTA. 1 hr on Fuji 800 SuperG Plus, f7 w/Lumicon GEG, guide w/ST-4. Dark lane visible in photo is easily seen in 20" f3.9 w/ 9mm Nagler & Paracorr. Vague in 10".

A Night to Remember on “The Mountain”

By David Hanon

My wife and I had been planning a trip to Hawaii for a couple of years. We finally worked it into our schedule in May 1999. As our trips have become accustomed, it included a visit to a spot for some sky viewing. We planned to visit Sandra and Terry Teets, friends from the Barnard Society Club, who live a little over an hour’s drive from the summit of Mauna Kea and as a bonus, Terry has a 10” SCT and a 4WD.

The skies were partly cloudy at the 1,000-foot level as we left Terry’s house heading for Mauna Kea. The plan was to do some observing and try some CCD imaging, comparing the sky background of one of the world’s premier observing sites to our skies back home. The skies stayed partly cloudy until we reached about 6000 feet. Then we broke through the cloud layer and saw perfectly clear skies above. The sky started a light blue and turned increasingly darker as we gained altitude. We had a place picked out to pull off the road and set up the scope a little above the 13,000-foot level and just behind some cinder cones from the observatories.

It took about 30 minutes to set up the scope and a few more minutes to get it aligned and tracking. By the time we were ready for observing the sky was approaching astronomical twilight. The sky was breathtaking! On a previous trip to the summit of Mauna Kea a few years earlier the sky had not looked that good to me. Familiar constellations got lost in the myriad of extra stars that were visible. Venus sat atop a pyramid of Zodiacal light in the west. Mars blazed bright orange overhead. It was hard to tear our eyes from the view to start looking through the scope. We noted a cinder cone to the South, which would make a beautiful foreground for a wide-angle star trail photo for another night.

The first object we viewed with the scope was the Eta Carina Nebula. I had seen it before at the Winter Star Party, but wasn’t ready for what we saw. Dark wide dust lanes stretched out of the low-powered field of view. We had to trace them by using the slewing controls on the scope. Fine detail abounded in the bright Keyhole region. I wished I had had my camera and telephoto to piggyback on the scope. The next object was Omega Centari. It was well resolved to the core, a sign that seeing was good. It looked like a can of worms. Stars seemed to be arranged in short strings. I have seen this effect before visually, but not in photographs. We looked at Centarus A. We could have drawn it to look like the photos. This led us to a host of familiar M objects, NGC objects, and then some less familiar objects from the Herchel list. All views were better than we had ever seen anywhere else.

Finally we drug ourselves away from viewing to try some CCD imaging. It took a while to hook up the camera and get it focused. Then we had some trouble getting the guider calibrated. Since CCD imaging was somewhat new to Terry, and I was working with unfamiliar equipment, it took longer than we anticipated to get started. Maybe the altitude was beginning to affect us. Meanwhile, I glanced off to the East and noted that there was a cloudbank all along the eastern horizon. We kept working with the CCD equipment until we became a little frustrated that we were wasting some prime observing time and decided to forget the imaging for the night. After removing the camera and replacing the visual adapter, it looked like the cloud situation had become considerably worse. We analyzed the clouds a little closer. They sure were bright. Where was the light coming from to illuminate them? They weren’t moving! It was the Milky Way—like I had never seen it before! It came up parallel to the eastern horizon, which meant the plane of our galaxy was nearly parallel to our horizons. Parts of the Milky Way on the West Side of the great rift were visible, that I had only seen in photos.

We continued tracing the dust lanes of galaxies, viewing the colors of planetary nebulae, and marveling at the perfect sky. We did fail however, to see the central star in M57. We continued until we were exhausted and could not

absorb any more sights. Although it was cold, the temperature never reached freezing, and the winds, which can be brutal on Mauna Kea, were calm. We packed up and headed down “The Mountain” with a night to remember!

My next night on the Big Island was pretty memorable also, as Linda and I viewed molten lava flowing from lava tubes into the Pacific ocean from a few hundred feet. I will have to wait and tell that story in “Earth and Seismograph.”

LIGHT POLLUTION NOTES

by Tom Buchanan, Light Pollution Chairman

Henry County — from The Atlanta Journal-Constitution, p E7, June 14, 1999:

“Henry County has formed a CID [Community Improvement District] to get street lamps installed in about 200 unincorporated subdivisions, taxing developments about \$265,000 annually for the projects, said Tim Young, a county planner.”

billboards — from The Atlanta Journal, Section A, June 21, 1999:

The state billboard lobby wants to remove the state’s 70-foot height restrictions on outdoor advertising.

Note: Joan Brown, the Georgia Garden Club legislative liaison, called me on June 29, said there will be a public hearing about this issue on Tuesday, July 13, at 3:00 P. M. at the Georgia Department of Transportation’s office on New Peachtree Road in Chamblee. She asked that as many people as possible write to the G-DOT Board members and to Mr. Steve Parks, Deputy Commissioner.

Cobb County — from The Atlanta Journal, January 27, 1999:

The Board of Commissioners voted unanimously to put a six-month moratorium on applications to erect billboards. The county legal staff may need to rewrite the billboard law.

Forsyth County — from the same Atlanta Journal article:

The county also imposed a six-month moratorium on billboards in late January.

Gwinnett County — from The Atlanta Journal, March 10, 1999:

The county also imposed a six-month moratorium on billboards in November 1998.

Suwanee: December 17, 1998:

A one-year moratorium of billboards

NightSky.Org

The Focal Point is available in color online in PDF format. The free Adobe(R) Reader allows you to view, navigate, and print PDF files across all major computing platforms.

Visit **NightSky.Org/AAC** on the web. In a private sub-web, the past year of Focal Points can be found. Check it out. If it works for you, send me an e-mail and I will stop sending you a copy snail-mail. It will also save the club a dollar. The Focal-Point web can be entered by using the Username of **AAC** and a password of **polaris**. These names a case sensitive! Type AAC in capitals, type polaris in lower case.

Peter

Club Officers

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Mark Banks	Sidewalk Astronomy	404-257-2766
Stephen Blalock	AAC Webmaster	770-948-9820. <i>stephen.blalock@gtri.gatech.edu</i>
Tom Buchanan	Light Pollution	770-521-2136
Lynn Crowley	Beginner's Contact & Socials	404-233-6886
Julie Moore	Hospitality and Refreshments	770-242-6735
Ken Poshedly	Publicity	770-979-9842 <i>ken.poshedly@mindspring.com</i>
Chrissy Mondel	Ladies of the Night ... Sky	404-296-6332 <i>chrissy@NightSky.Org</i>

NOTES

Remember to send renewals to the club and payable to the club. You can mail them to the PO Box, as on the outside back or directly to Sharon.

Remember S&T is now \$30

Astronomy is \$29

Club membership is \$25 or \$10 for student.

Sidewalk Astronomy

It's that time of year again when we get a lot of requests for stargazing events. We are always in need of volunteers to help out. You don't even need a scope. If you can just come out and talk to people, answer their questions about the night sky, it would be of great help.

Some upcoming events:

Friday July 23rd - 830PM Conyers Pavilion

Friday August 13th - 830PM Conyers Pavilion

Saturday August 14th - Norcross Cub Scouts

September (TBD) - Camp Twin Lakes, Rutledge GA.

Wednesday September 22nd - 800PM Delmall Retirement Com., Law

If you have any request for a stargaze or would like to volunteer, please give me a call. **Mark Banks** @ 404-257-2766

HAPPENINGS AT THE WALTER BARBER OBSERVATORY

The quarterly open house is scheduled for (Saturday) July 17. The program starts at 6 P.M. We need people to help in many positions. People are needed to direct parking of cars, food preparation, run a club telescope, or bring your own scope. This program is designed to show the public the stars. We always find a way to make this fun for us and them. I guess you can call it a sidewalk astronomy event.

The next work party is scheduled for the 24 of July. We are planning to clean the observatory scopes, equipment, and building. After the cleaning is done, we will finish painting the 20-inch scope and observatory floor. The warm-up shed also needs a good cleaning and sorting of the stuff stored in it. Paint the floor of the warm-up shed. Come dressed for cleaning and painting. Bring old brushes and rollers with if you have any.

The construction of the new bathroom facilities building has been (nearly) completed. We are waiting for the delivery of the new compost toilet. The grading of the observatory grounds will be completed soon. We have hired someone to do the job. He can do it quicker and cheaper. Now if it will only stop raining.

Keith Burns, VR Coordinator, AL Coordinator

Emily Campbell Boland

The Club has just learned of the passing last year of Emily Campbell Boland, at Wesley Woods.

Emily was one of the early members of the Club. She was an enthusiastic participant in our activities from the late 40's until her job took her away from the Atlanta area in the mid-50's. She returned after a few years, and late in life married another early Club member, Fay Boland.

Emily participated in every phase of the Club's activities. She owned a small telescope, and wrote for our first publication, *The Atlanta Astronomers' Report*.

After Fay's death in the 70's, Emily continued to attend meetings. We last saw her at a meeting when she was almost 85 years old. She particularly enjoyed our visits to the Fernbank planetarium.

Though few current members knew her, Emily played an important part in the early development of the Club. Her contribution was an important one.

Anna Belle Close
Lenny Abbey

Atlanta Astronomy Club

Friday, July 16th

Emory University, Geoscience Building

Our July meeting will be held on Friday, July 16 at 8 p.m. in the auditorium (Room 303) of Emory University's Geoscience Building.

Note: We are using this location during the summer while White Hall is being renovated.

Our speaker will be Dr. Doug Gies, of Georgia State University's Department of Physics and Astronomy. His subject will be:

“Be” Stars - Stars That Ring.

Giant white stars that scientists call “Be-type stars” for their physical characteristics sometimes show evidence of being surrounded by disks of hydrogen gas. Why these disks seem to come and go is a mystery. But there is another mystery about Be-type stars. They undergo periods of pulsation which are similar to the oscillations of a ringing bell!

Come and learn about just one of the celestial mysteries being investigated.

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 (check the hot line for details). Membership is open to all. Annual dues are \$25 (\$10 for students). Discounted subscriptions to Astronomy, and Sky & Telescope magazines are available.

Hot Line: Timely information on the night sky and astronomy in the Atlanta area is available on a twenty-four hour basis on the Atlanta Astronomy Club hot line: **770-621-2661**.

Internet Home Page: **<http://stlspb.gtri.gatech.edu/astrotxt/atlastro.html>**

Subscribe to the Atlanta Area Astronomers Mailing List!

Send SUBSCRIBE AAA-LIST Your Name to LISTSERV@SKYWATCHER.DORM.ORG

For further information send an e-mail to Eric Shelton shelton2@bellsouth.net



Newsletter of The Atlanta Astronomy Club, Inc.

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[We're here to help! Here's how how to reach us:](#)

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