

The Focal Point

The Atlanta Astronomy Club
Established 1947
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Editor: Kosmic Guy

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December General Membership Meeting

The **December meeting** will take place on **Friday December 12th**. The meeting will take place at Math and Science Building located across the street from White Hall on the Emory University Campus. Starts at **7 PM sharp**. Planetarium show after dinner?

Happy Holidays Earthlings!! I'm pleased to announce that I'll be assisting Rich with our Annual Holiday Covered Dish Dinner. Here are specifics regarding the event: When? Friday, December 12. Time? 7:00 p.m. Where? Emory University's observatory(New Math and Science Building) (directly across from White Hall). Who's invited? AAC members, non-members, family, friends, etc **AS LONG AS YOU BRING A DISH!!** :) What to bring? You're welcome to bring whatever you'd like; however, below is a list of staple items we need: Green Bean Casserole, Sweet Potato Souffle, Squash Casserole, Mashed Potatoes, Macaroni (and Cheese), Cornbread Dressing for Turkey, Corn, Pastas/Salads, Cranberry Sauce, Breads/Rolls, Apple Pie, Pumpkin Pie, Cake, or Cookies.

RSVP: Rauna Long —> raunalong@hotmail.com PLEASE DO NOT RSVP ON THE LISTSERVE!!

During last years dinner we *mysteriously* ran out of food before everyone was served. With proper planning and organization this should not be a problem this year.

1.) If you would like to attend this event I ask that you bring at least one covered dish item per 2 people attending. For clarity: If you bring yourself and your spouse—>Please bring at least one covered dish. If you bring yourself, your spouse, and 2 neighbors—> Please bring at least TWO covered dishes. IM-

PORTANT~ ONE COVERED DISH SHOULD SERVE BETWEEN 10-12 PEOPLE!!

2.) If possible, let me know what dish(es) you're bringing so that I can "fill in the gaps" for anything we are lacking for the dinner.

3.) RSVP raunalong@hotmail.com as soon as possible with the following information: a.) Your Name, b.) Number attending, c.) Children attending? Ages? d) Item(s) you are bringing. The AAC will provide the following for the potluck dinner: Smoked Turkey, Ham, Iced Tea, Sodas, Coffee, and Cups/Plates/Utensils. We look forward to seeing you on December 12!!

Cheers, Rauna

Other notes - meetings for **December and January** will be on the **2ND FRIDAY** of the month due to accommodating speaker schedules and the christmas holidays.

This month the meeting will take place on the Emory University Campus in the Math and Science Building. The Math and Science Building located across the street from our usual meeting place of White Hall. Street access is via North Decatur Road. Take North Decatur to Dowman Drive (5 way intersection). Turn onto Dowman Drive and Emory Observatory/Math and Science Building is the second building on left side of road. Note that Dowman Drive changes names to Dickey Drive but still same road. Parking is available along Dowman Drive and a parking lot is located behind the Admissions Building. Access is via first left after turning onto Dowman Drive from North Decatur Road.



Emory Observatory aka the Math and Science Building.

Robert E. Fried

1930 – 2003

Robert Fried was an important figure in the middle years of the Atlanta Astronomy Club. He joined about 1960, and remained a member until he moved from Atlanta around 1977. He was a captain for Delta Airlines, flying DC-8, DC-9 and L-1011 aircraft.

Bob discovered astronomy even before he moved to Atlanta in the late 50's. His first telescope was a department-store refractor, with an aperture of about 90 mm. He first joined a small astronomy club that had been established in south Fulton County, but soon he learned that the AAC was



more suited to his interests. Bob wanted to build a “real” observatory, and do real research. He never wavered from this goal.

As he progressed through the pilot's hierarchy at Delta and his salary increased, Bob began to plan a home/observatory in southwest Atlanta. The domed observatory comprised the third floor of the structure. He named the observatory “Braeside” in honor of his wife's ancestral home in Scotland.

For the telescope, he obtained one of the first three 16” disks that found their way to Atlanta. These huge disks had been purchased by Agnes Scott College's astronomer, Bill Calder, when they were surplus by the military after World War II.

The 16” Cassegrain primary and its hyperboloidal secondary mirror were the only mirrors that Bob ever ground. He wanted to be an observer, not a telescope maker.

Bob was a consummate mechanic and machinist. He built the fork mounting for the telescope on his own, and almost completely without help. The whole thing was moved by motors, something almost unheard of in amateur instruments at that time. The telescope never actually “went into service” because Bob was always improving it and drilling new holes in the tube.

Next he undertook to build a photometer. It only took a few weeks for him to produce a laboratory-grade instrument that would be the pride of any professional observatory. It was completely automated, rotating filters into and out of position, focusing and making measurements without human assistance.

Bob was the kind of person that you naturally wanted to give things to. He once asked me if I would give him my watch! (But that's another story.) About 1975, as Bob was waiting in an airport for a connection to his next flight, he discovered that the man sitting next to him was named Steve Jobs (the co-

inventor of Apple Computers). Being an excellent salesman, as well as an astronomer, Bob managed to get Jobs to offer a free computer if Bob would share his experiences in automating his telescope with Apple. Thus began the computerized telescope. At that time there were very few computerized telescopes in existence because the desktop computer was only a year or so old. Nobody could afford to do it. Bob received the Apple computer, and soon the slewing motors were humming, being operated from a control console somewhere on the dome floor.

When Bob built the observatory part of the house, he was warned about the evils of domes. And lo, the large house turned out to be a large heat sink. The telescope's performance fell far short of expectations.

Driven by his desire to do serious observing, Bob decided to move to a better climate. He chose Boulder, Colorado, where he had once lived. High above the city is Flagstaff Mountain (has a ring to it, doesn't it?). Bob bought property there, in the middle of a pine forest. Once again he built a home, but this time the observatory building was many feet away from the heat of the house. This project consumed several years, and at the end of it the telescope's performance was much improved, but not what had been expected. The 100-mph winds cresting over Flagstaff Mountain didn't help!

So, after about four years, another move was made. This time Bob made a careful study of the regions of the country which could be expected to produce superb seeing. As Percival Lowell had found a century before him, he decided that the best choice was Flagstaff, Arizona.

Bob purchased some land adjacent to the U.S. Naval Observatory's Flagstaff station. Again a house was built in a pine forest. Again the observatory was isolated from the house. But this time the telescope was placed on a tower two-stories tall. Now it all came together! The telescope, photometers, CCD cameras, computers and dome all operated together flawlessly. Bob didn't have to leave his house to do an observing run. The telescope and observatory even shut themselves down and closed up automatically if it became cloudy!

The next step was to find observational work to do. He wanted to do something that would be meaningful to professionals who could use large volumes of accurate magnitude measurements. But he didn't wait until the observatory was finished to search out the researchers who needed him. At Patrick Moore's suggestion, he attended professional meetings and spread the word of Braeside and its unique capabilities far and wide. He soon found a number of researchers who were anxious to sign him on to their projects. According to his Sky & Telescope obituary, which will appear in the next issue:

His prodigious output of high-precision photometric data was well known in the professional astronomical community and

Continued on the next page.

had resulted in him coauthoring more than 60 technical papers on cataclysmic variables in research journals.

As he approached 70, Bob was determined that his observatory, and its work, should not die with him. Therefore he and his wife donated the observatory, house and property to Arizona State University. The couple could continue to live in the house and operate the observatory, but upon their deaths, the school would take over. The university promised to continue to operate Braeside as an astronomical observatory on a permanent basis. Braeside's web site is at: <http://phyastweb.la.asu.edu/braeside/>

Bob served as president of the Atlanta Astronomy Club, and was a two-term president of the Astronomical League. During his tenure as AL president he instituted a reorganization aimed at improving the League's services, and the method in which they were delivered. He was also a member of the American Astronomical Society (our national professional organization for astronomers). In the past few years Bob came to Atlanta to speak to our club twice.

Bob's interest in aviation continued after his retirement from Delta. Flagstaff is a remote place, and Bob bought a small Cessna to fly back and forth to Phoenix and other destinations. He donated time to Angel Flight and Flights for Life, organizations that provide air transport for patients and medical supplies to and from remote locations. On November 13, 2003, while on one of these missions, Bob radioed that he was having engine trouble. Nothing further was heard from him. By the time rescue personnel reached the wreckage, Bob was dead.

These days, 72 years doesn't seem long enough to fit a life's activities and work into. But Bob was a man who accomplished very much. Every time it appeared that he had gone as far as an amateur could go, he drew upon some source of renewed energy, enthusiasm, creativity and ability that dwelled within. During his years in Atlanta his house was the social center of the Club. We had many observing parties and meetings there. Whenever a prominent astronomer came to town, it was more than likely that he would stay with the Frieds. Horace Dall, Karel and Harriett Hujer and Josef Klepesta are just a sample of their prominent guests.

When I think back over the experience of having known Bob I realize that what drew so many people into his orbit (his "redeeming feature" as he would have called it) was that he was having fun, and he somehow transmitted his feeling of joyous fun to those around him.

The most fitting epitaph for Bob might be the words of Rabindranath Tagore, the teacher of Bob's early mentor, Karel Hujer: "I slept and dreamt that life was joy. I awoke and saw that life was service. I acted and behold, service was joy."

Lenny Abbey

Charlie Elliott Chapter

Note that there will be **no meeting in December** due to scheduling conflicts with the Christmas Holidays. See you again January.

Additional information on the Chapter including pictures, can be seen at the website. New location for the CEC website is the following. <http://www.AtlantaAstronomy.Org/CEWMA>

Professional Astronomers Meeting

January 4 - 8, 2004 - American Astronomical Society

The 2004 Annual Meeting of the **American Astronomical Society**.

Hosted by: Georgia State University

Date: January 4 - 8, 2004. (Sunday through Thursday)

Forwarded herein is a request for volunteers to help out with the January 2004 meeting of the American Astronomical Society. The last time the AAS met in Atlanta our members helped out as volunteers. Those that attended enjoyed the experience and report that they had an opportunity to attend the events as well as take in the displays. It looks like the same courtesies will be extended to our volunteers in January.

Please contact Dr. Douglas Gies of Georgia State University for additional information and to let him know that you'd like to participate as a volunteer.

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 fee's 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 & Tel or Astronomy can be purchased through the club for a reduced rate. The fees are **\$33** for Sky & Tel and **\$29** for Astronomy. Renewal forms will be sent to you by the magazines. Send the renewal form along with you check to the Atlanta Astronomy Club treasurer.

Club address is:

Atlanta Astronomy Club
PMB 305
3595 Canton Road A9
Marietta, Georgia 3006

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.

The Astronomical League

As a member of the AAC, you are automatically a member of the Astronomical League. AL for short. I am the ALCOR for the club. My job is to relay information from the AL to our

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membership. The AL consists of a national organization. Members in the AL include individuals and other astronomy clubs. Check out the website for the AL at www.astroleague.org to see what they offer. You also get the AL newsletter called

The Reflector four times a year. If you have any questions about the AL, please contact me. Email and phone numbers on page 7 of this publication.

Get the Focal Point Online

The Focal Point is available online in PDF color format. The free Adobe(R) Reader allows you to view, navigate, and print PDF files across all major computing platforms. Download the free reader at www.adobe.com. Download the FP at www.atlantaastronomy.org. If it works for you and you want to get the FP via email, send Peter Macumber an e-mail at pmacumber@AtlantaAstronomy.org

VR Christmas Party and/or Observing

Join us Saturday December 20th for a celebration of the Christmas season. The place is the Walter F. Barber Jr Observatory located north of Villa Rica. This is an alternative for those who don't have another party to go to that evening or just want to hang out with a bunch of like minded people aka amateur astronomers. Bring that scope if you want or don't. If you need an excuse not to go shopping, then come here instead. Starts at around dusk. For more information, contact our dedicated observing chairman Dan "the Planet Man" Llewellyn.

Board Meeting, 11/11/03

Atlanta Astronomy Club Board of Directors met at 7:30 PM on Tuesday, Nov 11, 2003 at Fernbank Science Center. In attendance were: Dan Llewellyn, Mike Boni, Mark Banks, Keith Burns, Sharon Caruthers, Peter Macumber, Joanne Cirincione, Tom Crowley, Jim Moore, Rich Jakiel, Ken Poshedly, Evelyn Whalen, Brigitte Fessele, and Julie Moore. Jim Moore moderated in the absence of Alex Langoussis.

Action Items: Tabled was a motion to establish a PayPal account for the club. Club brochures were discussed, but no motion was brought to the floor.

Other items: Mark Banks: Telescope-buying workshop is scheduled for Sat. Nov. 22, 3:45 PM at Fernbank. Rain date is Nov. 29. Rich Jakiel: Christmas Party at Emory: Rhona is taking care of the food. Bring several large dishes per family. Spring Star Party: At Woodruff. Date is March 18-20, 2004. Small fee will cover expenses and extra monies will be spent developing the site at Woodruff. Banquet: April 24, location not yet established. March meeting to be 2nd Friday, March 12th.

Jim Moore: PSSG committee to be appointed by president, consisting of current members and more volunteers, temporarily co-chaired by Peter and Joanne.

Dan Llewellyn: Lights at Villa Rica becoming a problem again. Another neighbor is breaking light covenant. Motion passed to send a letter from lawyer Bill White asking for compliance. Board authorized up to \$200 for expenses involved in this. Sharon will check with builder to make sure the covenant information is getting to buyers.

The meeting adjourned at approximately 8:45.

Respectfully submitted,

Julie Moore

Recording Secretary

How to Choose Eyepieces

By Michael A. Covington

The eyepiece of a telescope has more optical elements than any other part, and more than anything else, it determines what it feels like to look through the telescope. In what follows I want to give a few guidelines for choosing eyepieces wisely.

What is the f-ratio of your telescope?

F-ratio is focal length divided by aperture (diameter). If you have a short, "fast" telescope (f/4 or f/5), you're going to need expensive eyepieces (Nagler or Radian) because the light rays from the objective are converging so sharply that only the most elaborate eyepieces can steer them all to the right places. With an f/8 or f/10 telescope, you have much more liberty to use less expensive designs.

What focal lengths do you need?

You can calculate some suggested eyepiece focal lengths (in mm) with these formulae:

Shortest usable = f-ratio \times 0.5

High power (planetary) = f-ratio \times 0.75

Medium power (moon, deep sky) = f-ratio \times 1.5

Low power (deep sky) = f-ratio \times 3

Lowest usable = f-ratio \times 6

For example, with an f/10 telescope, a good lineup would be 7.5, 15, and 30 mm (I actually use 8, 14, and 32). With an f/5 telescope, the suggested lineup would be about 4, 8, and 15 mm, and you might add 30 mm for an even lower power.

Do you need a wide field?

Conventional Orthoscopic and Plössl eyepieces have an apparent field of about 50 degrees. Older designs, such as Ramsden and Kellner, are a bit smaller; many newer designs are much larger.

Continued on the next page.

This affects how much of the sky you can see at a particular magnification. It's like looking through a bigger porthole.

Personally, I find a 50-degree field adequate and a 60-degree field more than ample. Other observers like the "spaceship-like" views through the 82-degree apparent field of the newest Tele Vue eyepieces, but I find it a bit disconcerting. Also, it's hard for me to hold my eye at exactly the right position.

If you use a computerized "go-to" telescope, a relatively wide field can be very helpful because the telescope may not aim itself straight at the object you're seeking.

Do you have a 2-inch eyepiece tube?

You'll need a 2-inch-diameter eyepiece tube if you want to use conventional (Plössl or similar) eyepieces longer than 32 mm, or super-wide-field eyepieces longer than about 22 mm. Otherwise, a 2-inch tube doesn't buy you anything. It's all a matter of whether the lenses of the eyepiece need to be bigger than you can fit into a 1¼-inch tube. That happens only with long focal lengths and wide fields.

Do you wear glasses?

If you wear glasses while observing, and perhaps even if you don't, you'll want eyepieces with ample *eye relief* (eye-to-lens distance). Tele Vue Radians, Vixen Lanthanum LV eyepieces, and several other newer designs have 20 mm of eye relief regardless of focal length.

With older designs, such as Kellner, Orthoscopic, and Plössl, the eye relief is proportional to the focal length. So a 32-mm Plössl is comfortable for everybody, and a 50-mm Plössl has enough eye relief for an elephant – but when you get down to 6 mm, you almost can't get your eye close enough to see, even if you don't wear glasses.

I strongly prefer the newer designs with 20 mm of eye relief. In my experience, Tele Vue Radians are as sharp (with an f/10 telescope) as any eyepieces I've tried, including Orthoscopics.

So what do I actually use?

So what do I actually use on my telescope? It's an f/10 Schmidt-Cassegrain, and I use 8-mm and 14-mm Tele Vue Radians (60-degree field) and a 32-mm Tele Vue Plössl (50-degree field). All three of these have 20 mm of eye relief and are parfocal (you don't have to refocus much when changing eyepieces). I rather wish the 14-mm Radian would transmute into an 18-mm (anybody want to trade?), since that would "fill the gap" better between 8 and 32 mm.

For wider fields, I also use a 40-mm König (actually "Orion Ultrascopic") in a 2-inch tube. And at the other end, I use a 2× Barlow lens for the highest-power planetary and double-star views.

Do you wear glasses while observing?

If so, you'll need eyepieces with ample eye relief (eye-to-eyepiece distance).

For example, most Schmidt-Cassegrain telescopes are f/10; ordinary Newtonians range from f/8 down to f/5; and compact Dobsonians and rich-field instruments are often about f/4.

F-ratio is important for two reasons. First, it determines the eyepiece focal lengths that will work well. (See next question.)

Second, it determines whether you need an expensive, highly corrected eyepiece. With an f/15 telescope, almost any eyepiece will work well. At f/8, you begin to notice that some of the cheapest eyepiece designs (Kellner, Huygens) aren't as sharp as they could be. And at f/4, only the best eyepieces will give a sharp image.

The reason? At lower f-ratios, the cone of light that enters the eyepiece is converging more sharply, and the eyepiece has a harder job of catching all the light rays and getting them to the right places.

With an f/4 telescope, it's probably best to try every eyepiece before buying it, if you can; expect to need high-end Radian and Nagler eyepieces for best performance, though some Orthoscopics, Plössls, and Königs will work well (and others, inexplicably, won't).

If you have an f/6 to f/8 telescope, stick with the more respected designs (Plössl, Orthoscopic) and you'll do fine. An f/10 to f/15 telescope will work well with even cheaper types.

Now what focal lengths do I need?

You can calculate the practical focal lengths from the f-ratio of your telescope. (They're actually calculated from aperture and magnification, but f-ratio gives us a shortcut when doing the calculations.) The key formulas are:

Shortest usable focal length (for high-power viewing) in mm = f-ratio × 0.5. Typical high-power planetary eyepiece, in mm = f-ratio × 0.75. Typical medium-power eyepiece, in mm = f-ratio × 1.5. Typical low-power eyepiece, in mm = f-ratio × 3. Longest usable focal length (for wide fields) in mm = f-ratio × 7. Here the numbers 0.5 to 7 are the size of the exit pupil.

So if you have an f/10 telescope, a reasonable lineup of eyepieces would be 7.5, 15, and 30 mm (I actually use 8, 14, and 32). To extend the ends of the range you could add 5-mm and 40-mm eyepieces .

Charlie Elliott Chapter Website

For those who don't know, we have a chapter of the Atlanta Astronomy Club called the Charlie Elliott Chapter. They meet monthly at the visitor's center on the Charlie Elliott Wildlife Management Area property. Located east of Covington, Georgia about 12 miles south of I-20. So for those of you on the east side of town, check them out. Visit their website at <http://www.AtlantaAstronomy.Org/CEWMA> .

Stardust

by Patrick L. Barry and Dr. Tony Phillips

Philosophers have long sought to “see a world in a grain of sand,” as William Blake famously put it. Now scientists are attempting to see the solar system in a grain of dust-comet dust, that is.

If successful, NASA’s Stardust probe will be the first ever to carry matter from a comet back to Earth for examination by scientists. It would also be the first time that any material has been deliberately returned to Earth from beyond the orbit of the Moon.

And one wouldn’t merely wax poetic to say that in those tiny grains of comet dust, one could find clues to the origin of our world and perhaps to the beginning of life itself.

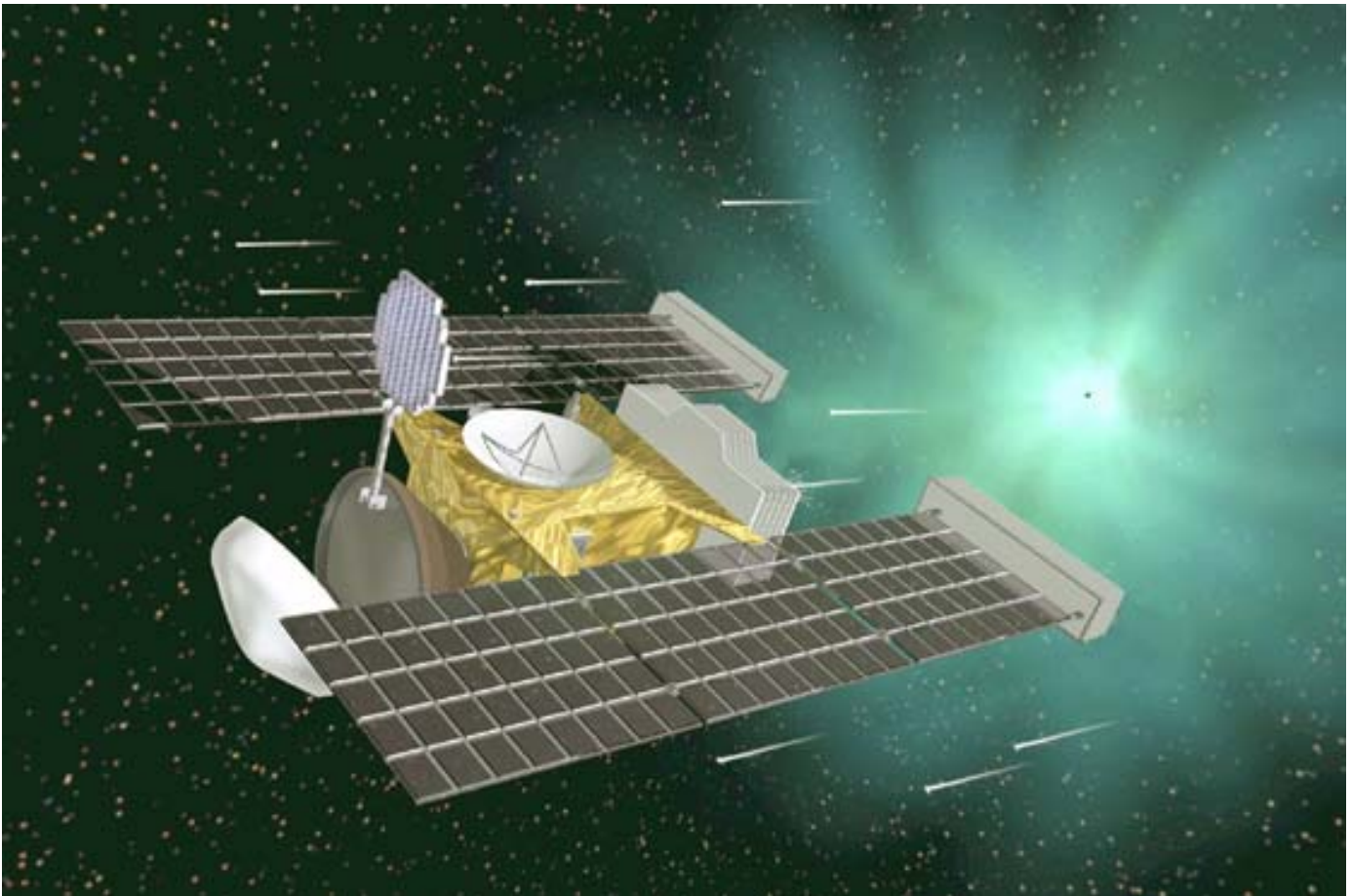
Comets are like frozen time capsules from the time when our solar system formed. Drifting in the cold outer solar system for billions of years, these asteroid-sized “dirty snowballs” have undergone little change relative to the more dynamic planets. Looking at comets is a bit like studying the bowl of leftover batter to understand how a wedding cake came to be.

Indeed, evidence suggests that comets may have played a role in the emergence of life on our planet. The steady bombardment of the young Earth by icy comets over millions of years could have brought the water that made our brown planet blue. And comets contain complex carbon compounds that might be the building blocks for life.

Launched in 1999, Stardust will rendezvous with comet Wild 2 (pronounced “Vilt” after its Swiss discoverer) on January 2, 2004. As it passes through the cloud of gas and dust escaping from the comet, Stardust will use a material called aerogel to capture grains from the comet as they zip by at 13,000 mph. Aerogel is a foam-like solid so tenuous that it’s hardly even there: 99 percent of its volume is just air. The ethereal lightness of aerogel minimizes damage to the grains as they’re caught.

Wild 2 orbited the sun beyond Jupiter until 1974, when it was nudged by Jupiter’s gravity into a Sun-approaching orbit-within reach of probes from Earth. Since then the comet has passed by the Sun only five times, so its ice and dust ought to be relatively unaltered by solar radiation. Some of this pristine “stuff” will be onboard Stardust when it returns to Earth in 2006, little dusty clues to life’s big mysteries.

To learn more about Stardust, see the mission website at stardust.jpl.nasa.gov. Kids can play a fun trivia game about *Continued on the next page.*



In above illustration, NASA’s Stardust mission will capture dust from comet Wild 2 and bring them back to Earth for study.

comets at spaceplace.nasa.gov/stardust .

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Atlanta Astronomy Club Listserv

If you have email access with a computer, then you can subscribe to the Atlanta Astronomy Club Listserv. This is a source for up to the minute info on observing events. You can also post questions about astronomy. You can talk to fellow astronomers about the hobby.

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 . To cancel your membership, send a message to AstroAtlanta-unsubscribe@yahoogroups.com . Messages for the list-owner (me) go to: AstroAtlanta-owner@yahoogroups.com or to LAbbey@mindspring.com . The "home page" for the list, from which you can change your account defaults is: <http://www.yahoogroups.com/group/AstroAtlanta>. This list is owned by Lenny Abbey.

Atlanta Astronomical Imagers Listserv

To join the AAI group simply subscribe to the AAI listserv described below. Once subscribed, you will be connected to a wealth of knowledge and content.

As stated above, the AAI will also maintain a Yahoo Groups listserv. The name of this Yahoo Group is Atlanta_Astro_Imaging. To learn more about the Atlanta_Astro_Imaging group, please visit <http://groups.yahoo.com/group/AtlantaAstroImaging> . To join the AAI listserv simply send an email to; AtlantaAstroImaging@yahoogroups.com . If you wish to unsubscribe simply send an email to AtlantaAstroImaging-unsubscribe@yahoogroups.com . All are welcome to join, even if you just want to see the wonderful images produced by this group. The moderators are Chris Hetlage, mailto:chrishet@attbi.com and Donovan Conrad mailto:donovan@donconrad.com .

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>

AAC Contacts

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Villa Rica Observ. Coordinator: Vacant at this time

Woodruff Observ. Coordinator: John Lentini 7-984-0175
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The Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

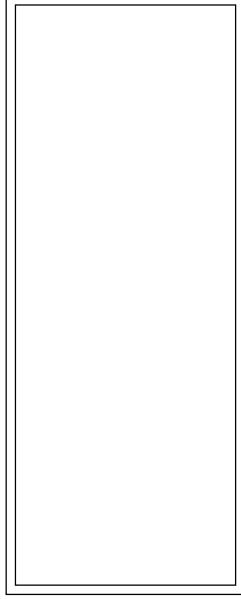
FROM:

Kosmic Guy
3740 Burnt Hickory Road
Marietta, Georgia 30064

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

Atlanta Astronomy Club
PMB 305
3595 Canton Road A9
Marietta, GA 30066

FIRST CLASS



Calendar

December 12th: Christmas Potluck Dinner. To be held at Emory University. Starts at 7PM. Planetarium show to follow potluck dinner.

December 20th: Villa Rica Christmas Party and Observing. Will take place at the Walter F. Barber Jr Observatory.

January 1st: Focal Point Article Deadline. Hey, it maybe New Years Day but there's still a deadline. This could be an interesting issue. Hopefully I will have recovered from the partying of the night before.

January 4th-8th: American Astronomical Society annual meeting to be held at Georgia State University.

January 9th: General Membership Meeting. To be held at Emory University White Hall. Starts at 8PM.

January 10th: Winter Scouters Campout. Camping and sidewalk astronomy with the scout leaders. Dinner provided to those who help out. Location is frosty Woodruff. Contact John Lentini for more information.

January 17th: Dark Sky Observing. Location is Woodruff BSC. Starts at Dark.

January 31st: How To Use Your Telescope. Location to be at the Walter Barber Jr. Observatory near Villa Rica, Georgia.

February 1st: Focal Point Article Deadline.

February 20th: General Membership Meeting. To be held at Emory University White Hall. Starts at 8PM. Speaker and topic to be announced.

February 21st: Dark Sky observing session to be held at Woodruff Boy Scout Camp.

March 1st: Focal Point Article Deadline.

March 6th: Open House/ Orientation at Villa Rica. Note Full Moon but that's okay.

Newsletter Deadline and Info

Please send articles, pictures, and drawings on anything astronomy related. All formats are acceptable. Pictures can be sent as either JPEGs, GIFs, or other formats. I can also scan hard copies of pictures. Articles can either be sent to Kosmic Guy at the following address. Send it to Keith Burns 3740 Burnt Hickory Road Marietta, Georgia 30064 or send it via email to **Keith_B@bellsouth.net**. You can submit articles anytime up and including the deadline date. **The deadline for January is 11:59 PM January 1st. Submissions will no longer be accepted after the deadline.** Note that the editor will start working on the newsletter on **January 1st**. It takes me a week to do the newsletter.