FORT BEND ASTRONOMY CLUB
P.O. BOX 942
STAFFORD, TX 77497-0942

The FBAC Observer

VOLUME 18, ISSUE 1

JANUARY, 2004

A Message From The President

First of all, I would like to wish all of you a Happy New Year! I would also like to cover a few issues that have been brought to my attention recently so we may bring them to closure. The club officers met and had a majority vote on the following issues:

Membership Dues

There have been recent issues concerning FBAC collecting club dues from members that haven't paid in quite some time. Originally, our intentions were to send a friendly reminder & invoice to members stating dues that were currently owed. After listening to comments from club members and rethinking the issue, we have decided that if a member has not paid their dues within 60 days of the September deadline, they will forfeit their membership to the club. If they wish to rejoin at a later date, they may do so and pay a prorated membership rate based on the month they are rejoining. We will continue to send out a letter or email to those who are about to meet the 60 day deadline as a friendly reminder. We do not want to loose club membership, but we will not pressure people into remaining a club member if they don't desire to do so.

Club Scopes

The club has four loaner scopes to issue out to members that would like to use them. However, there are a few stipulations that must be met before you may check one out. The member shall be in good standing with the club, meaning their membership dues must be current. The member shall have at least participated in the club in the last three months. Participation is defined by helping out at the club monthly meetings by setting up, giving talks, or helping with "Astronomy On Wheels" events, or by volunteering on any telescope at the George Observatory. The scopes may be checked out for a three-week period. If at the end of the three-week period no one else has requested the scope, the current user may extend the usage to another 3 weeks. If the member is not going to use it any longer, it needs to be returned ASAP to Keith Rivich who is managing the dispersion of the scopes. Keith will also be creating a check-off list for each of the scopes to assure that all parts and components are returned and in the same condition it was issued If you would like to check out a scope, please contact Keith at icgalaxies@cs.com.

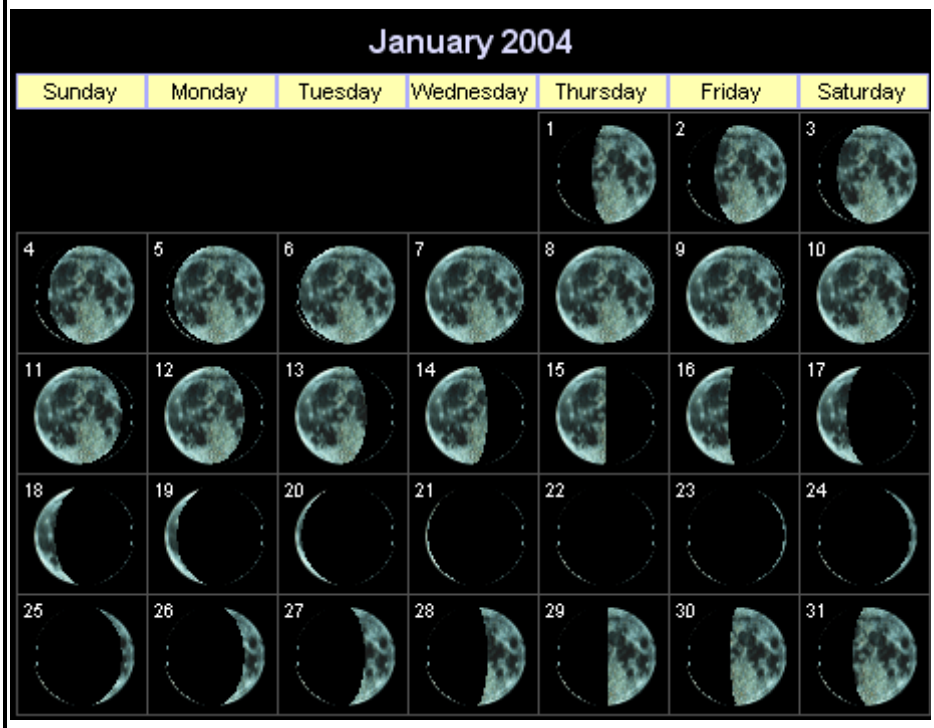
Randall's Remarkable Card

Some members have reported that their Randall's card is no longer donating money directly to the club. I spoke to a Randall's representative and found out what has happened. It turns out that your cards have somehow become "unlinked" to FBAC's charity organization number. To get the link reactivated, you must go to the customer service desk and request a Remarkable Card application with the "Good Neighbor Program" listed at the bottom. Fill out the applications and fill in the section that denotes a "Charity Number". FBAC's Charity # is 5814. Once processed, this will relink your card to the club. Unfortunately, this is the only way we can reestablish money that is to be donated to the club. Please take the time next time you're in one of their stores to fill out the application. The money received is quite substantial and really helps the general fund. I will also be contacting other grocery stores for similar programs. HEB & Wal-Mart don't have such programs being they have no discount card system.

If you have any questions about any of these topics, you may privately email or call me for discussion. See you at the next meeting!

Derek

INSIDE THIS ISSUE:



What's Happening In January?

Venus in the SW will brighten this month, continuing until May when it will show a marked crescent phase even in binoculars.

Mars is quickly fading from mag +0.2 to +0.7.

Saturn, at opposition on December, 31, shines at mag –0.4 in Gemini. Low in the ENE at dusk early but will be visible in the E later in the month.

Jupiter rises late in the evening. At mag –2.2 to –2.4 it will be seen in the hindquarters of Leo.

By months end, **four bright planets can be seen simultaneously** in the brief interval between Jupiter rising and Venus setting.

Morning planets: Jupiter in the SW to WSW at dawn, Saturn early in the month very low in WNW at dawn, and Mercury low in ESE to SE at dawn, brightening rapidly early on.

Day By Day For January

January 3-8—Mercury, Jupiter, Saturn span 167 degrees.

January 5—Antares is visible in the southeast just below the Scorpions head. Is it possible the summer constellations are that close?

January 6—Gamma and Delta Cap shine near Venus 1 hour after sunset.

January 7—Full Moon. Venus passes 0.8 degrees north of Gamma Cap.

January 8—Venus passes 1 degree north of Delta Cap.

January 9—Minor planet Ceres at opposition and visible in binoculars.

January 12—Keep your eyes on the moon and Jupiter until sunrise and see Jupiter in daylight.

January 14—6th mag Uranus visible in binoculars 0.9 degrees north of Venus and 0.5 degrees left of Sigma Aquarii.

January 17—Mercury at greatest elongation.

January 18—A shrinking moon is near Antares. Venus and Mars are 45 degrees apart and closing.

January 19—Last easy moon, one hour before sunrise.

January 21—New moon.

January 22—Young moon very low in the west.

January 24—Moon and Venus near. Look early to see Venus in the daytime.

January 26—Venus aligns with the west side of the Great Square of Pegasus.

January 28—Moon approaching first quarter. Jupiter rises just before Venus sets. Can you see them both today?

January 31—Venus and Jupiter are nearly 2 degrees up in opposite directions. Try to see them both now.

Adaptive Optics In The 21st Century
By Wes Whiddon

Anticipation

You've been waiting for this all day. A cold front blew through earlier and the sky has been deep sea blue ever since. Late in the afternoon you gather all your paraphernalia—telescope, star charts, cold weather clothing, coffee thermos and, with the scope set up and ready, you wait for darkness. While you wait, you scan your charts and make a list of objects you'll observe that evening.

The sun creeps below the horizon and the night sky begins to reveal itself. The first thing that becomes visible is a bright star in the southeast. You realize this is Sirius, the Dog Star and you can't resist the first light of the evening. Besides, like any good observer, you want to check out your telescope.

As you swing the big Dob around, you sense the mechanics of the machine in your hands. The azimuth bearing is clean and feels like melted butter. The scope moves in elevation without so much as a hairbreadth of backlash. Collimation is dead on and Sirius is an easy target in the Telrad.

You lean into the eyepiece and twist the focuser knob. Light that began its journey over eight years ago slowly comes into focus. At least that's what you want it to do. Instead, the image in the eyepiece won't stay still. It wavers and wallows around in the field of view. You crank the focus knob back and forth but nothing helps. Sirius is just a blob and you realize that the seeing is terrible. As the night wears on, things improve somewhat but the cold front that cleared the sky also brought turbulence perturbing the atmosphere and destroying an evening of observing for you. Finally you pack up and drive home, disappointed that the observing session you were looking forward to was a bust.

In The Beginning

This scenario has probably happened to most of us in one way or another. We're all aware of the problems ground based telescopes have with atmospheric distortion. The very air we breathe can defeat our best efforts to behold the wonders of the night sky. Sir Isaac Newton even wrote about bad seeing when he exclaimed, "the air through which we look upon the stars is in perpetual tremor." Mixing of air at different temperatures, which constantly changes speed and direction of starlight as it passes through the atmosphere causes the tremors Newton spoke of. And 400 years later, there's not much we can do about it. Or is there?

Work on a new technology called adaptive optics began in the early 1970s when the U.S. Department of Defense began to support a program that would allow ground based telescopes to image Soviet satellites in high resolution. The first images were obtained in the early 1980s using a 1.6-meter Air Force telescope in Hawaii.

At about the same time and for the next decade or so, astronomers and the military were simultaneously advancing the state of the art in AO. Prototype systems were tested at Mauna Kea, Chile, the Canary Islands, Arizona, and California.

In the late 1980s, an Air Force research team showed that an AO system could be made to operate using a laser artificial star as a wave front reference. Unfortunately the work was classified and unavailable to the astronomical community until about five years later. Since then, adaptive optics in one form or another have been in regular use at large telescopes all over the world. Even the giant Very Large Telescope Array, which consists of four 8-meter scopes at Cerro Paranal in Chile, is scheduled to have AO on each telescope in the near future.

How It Works

The resolution of an optical system under optimum conditions is limited by the diffraction of light. This "diffraction limit" is such that a fully-dilated human eye should be able to separate objects as close as 0.3 arc-minutes in visible light and a telescope as large as Keck with a 10 meter mirror should be able to resolve objects as close as 0.013 arc-seconds.

Unfortunately, sky conditions being what they are, these theoretical limits are never reached for even the largest ground based telescopes. Atmospheric distortion typically limits the seeing to a size of 0.5-1.0 arc-seconds even at the best sites in the world. This is the same as observing through no atmosphere using a 20-centimeter (8 inch) scope.

But fortunately adaptive optics can overcome a great deal of these perverse effects, providing astronomers sharper images that approach the theoretical limits. Sharper images also mean improved contrast and, for astronomers who consistently deal with very dim images, this means fainter objects can be detected and studied.

The mechanics of AO can be very complex. Over the past 25 years several different systems have been developed but all rely on one thing—distorting the shape of a mirror in lockstep with changes in seeing.

Here is a simplified explanation of a typical operation:

When a beam of light from a star passes through a vacuum, a slice across the beam will contain a uniform pattern of phases moving at the speed of light along the beam. When the light passes through a uniform medium its speed is slowed but the pattern of phases remains the same. If it passes through a non-uniform medium, such as our atmosphere, some parts of the beam are slowed causing distortion in the uniform wavefront of the beam.

An adaptive optics system works by checking the shape of the distorted wavefront and using an optical element—the deformable mirror—to restore the uniform wavefront by applying opposite canceling distortion.

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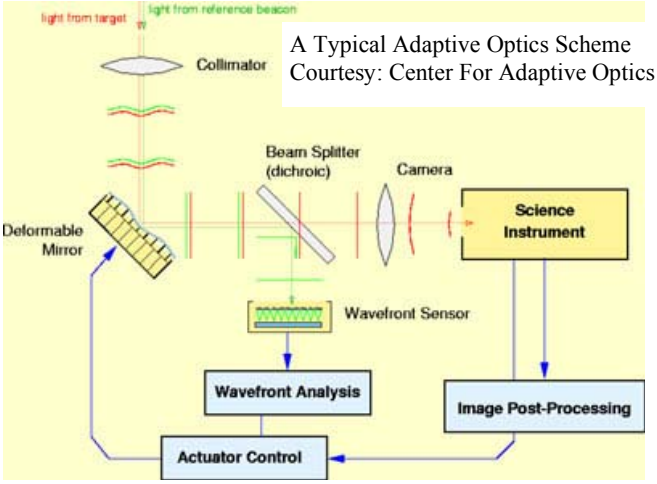


A Typical Adaptive Optics Scheme
Courtesy: Center For Adaptive Optics

Adaptive Optics—Continued from page 3

Basic systems use a reference beacon—usually a bright star in the field of view—whose light provides a way to probe the shape of the wavefront. Light from the reference beacon is analyzed by a wavefront sensor that commands a set of actuators, which change the surface of the deformable mirror, providing necessary compensations. For a well performing system, these compensations must be provided as quickly as possible during wavefront changes. This means the mirror's shape has to be updated several hundred or more times per second.

One of the drawbacks to AO is the need for a bright "guide star" in the field of view during exposures. But, as mentioned earlier, significant advances have been made using lasers. These coherent beams of light can provide an artificial guide star and allow imaging in parts of the sky that don't have the so called reference beacons.

A New Way Of Doing Things

Moore's Law as applied to computers states that the power of a CPU will double every 18 months. This doesn't seem to be the case for adaptive optics but there have been some significant recent advances.

One of these is a new system installed on the MMT telescope on Mt. Hopkins, south of Tucson. This system not only provides adaptive optic imaging but also reduces thermal background noise associated with the telescope itself.

The system uses a novel approach that changes the shape of the secondary mirror obviating the need for a separate, light reducing optics package. Opticians and astronomers from the University of Arizona's Steward Observatory and the University of Florence designed and built a secondary mirror that does double duty by acting as a normal secondary and providing the wavefront correction simultaneously.

To do this, the opticians used two pieces of low coefficient of thermal expansion glass. These were ground to matching spherical shapes and bonded together with an extremely thin layer of pitch. The convex surface was then ground down to a membrane only 2 mm in thickness. The desired hyperboloid optical surface was polished into the membrane and it was released by baking at 120 degrees C, melting the pitch. The front convex surface of the membrane, coated with aluminum, became the deformable mirror.

Problems controlling the shape of the membrane developed early on, though. Due to its thinness, resonances developed that caused a kind of "ringing" in hundreds of modes. To solve this problem, the opticians placed another piece of glass only 40 micro-meters away from the membrane. This reference plate causes the adjacent airspace to act as a viscous damper, smoothing out the vibrations.

To provide for mirror deformation, there are 336 voice-coil type actuators. These are similar to the coils used to move loud-speaker cones in audio systems. Each actuator is coupled to a rare-earth magnet mounted on the back of the membrane. Current passing through these coils creates a variable magnetic field, moving the glass membrane. Capacitive sensors mounted on the reference plate are used to send position signals to the electronics package consisting of 168 digital signal processors. The electronics system reads the sensors and updates the drive currents to the actuators to keep the mirror shape correct. Telescope vibrations, wind buffeting, and gravitational attraction all conspire to change the shape of the mirror but the scope has been operated in winds as high as 50 km/hr.

But there is still another advantage to this system—the secondary mirror can be cooled. There are 336 holes drilled in the stiffening reference plate mounted above the secondary mirror membrane. The actuators are mounted on a "cold plate" above the reference plate and pierce through the 336 holes. The cold plate is grooved in such a way as to allow a 50/50 mixture of distilled water and methanol to circulate through. This allows the secondary mirror to be cooled significantly below ambient temperature, reducing noise currents in the system.

The Payoff

One way to overcome atmospheric distortion is, of course, to send the telescope above the atmosphere. The Hubble Space Telescope has provided us with some of the most amazing images. But the cost of launching and maintaining a device like Hubble is staggering. And problems with launch vehicles and the necessary rigors of launch limit space telescopes to a fairly small aperture. Ground based telescopes with AO have the potential for 4-5 times the resolution of Hubble. Even now, astronomers are searching for extra-terrestrial planets using adaptive optics. One day very soon, we may be able to actually see one of these Jupiter sized objects.

How Does All This Apply To My Observing?

Unfortunately, as an amateur observer, there's not a lot to be done. Right now there are no visual AO systems in use (that this author knows of, that is). But there is one device available for imaging: the AO-7 from Santa Barbara Instruments Group. Nowhere near as sophisticated as professional scientific packages, it uses a tip/tilt mirror for correction. Nevertheless it gives CCDers a two-fold improvement in resolution and guiding. At least that's what the manufacturer claims. We can only hope that someone, somewhere is working on a simple and inexpensive gadget that will let us visually overcome the "tremors" of our atmosphere.

CONSTELLATIONS GONE FOREVER
by Leonard Pattillo, FBAC

AFTER writing about all 88 constellations a few years ago, I thought it would be nice to know of the constellations that are no longer around, and maybe what happened to them. The constellations we are going to find out about are those that have achieved at least some degree of currency, for constellations invented by one astronomer, either to make his own name or to flatter his patrons, could be introduced at will and be completely ignored by everyone else. As an example, in 1754 the English naturalist John Hill invented thirteen new constellations, tucked into spaces between existing constellations, representing various unappealing animals including a toad (Bufo), a leech (Hirudo), a spider (Aranea), an earthworm (Lumbricus), and a slug (Limax). Hill was a noted satirist, and he may have been attempting to play a joke on astronomers—a joke that never caught on.

Several constellations were introduced for mercenary reasons by astronomers wishing to immortalize their kings or governments, usually in the hope that such a gesture would advance their career, as it often did. A German astronomer, Julius Schiller of Augsburg, attempted to populate the sky entirely with Biblical characters—for example, the familiar constellations of the zodiac were changed to represent the twelve apostles. These attempts to politicize and Christianize the sky were rejected by other astronomers. It is possible to name a constellation yourself, all you have to do is make a major discovery in the constellation of your choice, like the source of the Anti-Matter, and you can name it "Yournameus Anythingus". The only hurdle is getting the IAU to recognize it as a genuine bonofide asterism.

NON-ASTRONOMERS ARE OFTEN PUZZLED BY THE IDEA OF A DISUSED CONSTELLATION—-SURELY, A CONSTELLATION IS EITHER THERE OR NOT THERE....However, the patterns we see in the stars are purely a product of the human imagination, so humans are free to amend the patterns as they choose—and astronomers did so during the heyday of celestial mapping in the seventeenth and eighteenth centuries.

The constellations we are going to talk about in the up-coming months are a selection of those that, for one reason or another, are no longer recognized by astronomers, although they will be found on old star maps.

ANTINOUS

Antinous was the boy lover of the Roman Emperor Hadrian and hence is a real character, not a mythological one, although the story reads like fiction. Antinous was born *c.AD* 110 in the town of Bythinium, near present-day Bolu in north-western Turkey. At that time this area was a Roman province, which is how he came to meet the Emperor. While on a trip up the Nile river with Hadrian in AD 130, Antonius drowned near the present-day town of Mallawi in Egypt. Supposedly an oracle had predicted that the Emperor would be saved from danger by the sacrifice of the object he most loved, and Antinous realized that this description applied to him. Whether the drowning was accident or suicide, Hadrian was heartbroken by it. He founded a city called Antinopolis near the site of the boy's death and commemorated him in the sky from stars south of Aquila, the Eagle, that had not previously been considered part of any constellation.

The constellation Antinous was mentioned as a sub-division of Aquila by Ptolemy in his *Almagest* (which was written about twenty years after the famous drowning), and it was first depicted in 1551 on a star globe by Gerardus Mercator. Tyco Brahe listed it as a separate constellation in 1602. Antinous was depicted as being carried in the claws of Aquila. Hence he has sometimes been confused with Ganymede, another celestial catamite, who was carried off by an eagle for Zeus.

ARGO NAVIS—THE SHIP OF THE ARGONAUTS

MOST of us are familiar with the constellations that were born of Argo Navis: **Carina**,**the Keel, Puppis the Stern**, and **Vela, the Sail**. Argo Navis , the 50 oared Galley that Jason and the Argonauts sailed in search of the golden fleece from Colchis in the Black Sea, was well known to Greek astronomers, and listed by Ptolemy. Jason entrusted the building of the ship to a master ship builder, Argus, after whom it was named. Jason had the ship built under orders of the goddess Athene at the port of Pagasae, using timber from nearby Mount Pelion. Into the prow Athene fitted an oak beam from the oracle of Zeus at Dodona in the north-western part of Greece. Being an oracle, this oak beam could speak and it was crying for action by the time the Argo left port.

Jason took with him a crew of fifty of the greatest Greek heroes, including the twins Castor and Polydeuces, the musician Opheus and Argus, the ship's builder.

Argo Navis was described as the finest ship that ever braved the sea with oars. Even in the roughest seas the bolts of Argus held her planks together safely, and she ran as sweetly under the oars as she did under sail. Issac Newton thought the voyage of the Argo was commemorated in the twelve signs of the zodiac, although the connections are hard to see.

(Continued on page 6)

Constellations Gone Forever—Continued From Page 5

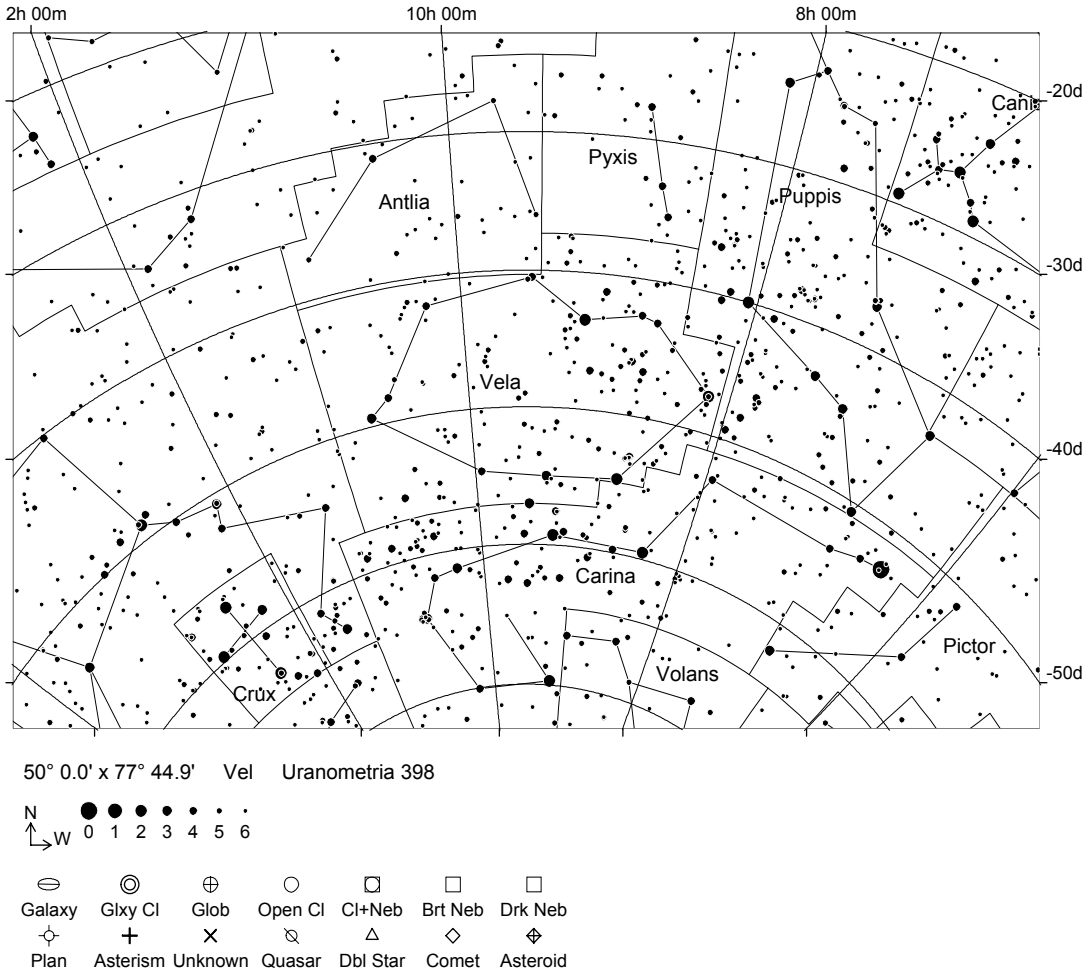
Among the greatest dangers the Argonauts faced en route were the Clashing Rocks, or Symplegades, which guarded the entrance to the Black Sea like a pair of sliding doors, crushing ships that tried to pass between them. As the Argonauts rowed along the Bosphours, they could hear the terrifying clash of the Rocks and the thunder of the surf. The Argonauts released a dove and watched it fly ahead of them. The Rocks converged on the dove, nipping off its tail feathers, but the bird got through. Then, as the Rocks separated, the Argonauts rowed with all their might. A well-timed push from the divine hand of Athene helped push the ship through the Rocks just as they slammed together again, shearing off the mascot from Argo's stern. Argo had become the first ship to run the gauntlet of the Rocks and survive. Thereafter the Clashing Rocks remained rooted apart.

Once safely into the Black Sea, Jason and the Argonauts headed for Colchis. There they stole the golden fleece from King Aeetes, and made off with it back to Greece by a roundabout route. After their return, Jason left the Argo beached at Corinth, where he dedicated it to Poseidon, the sea god.

Eratosthenes said that the constellation represents the first ocean-going ship ever built, and the Roman writer Manilius concurred. However the first ship was actually built by Danaus, father of the fifty Danaids, again with the help of Athene, the builder of Argo. Danus sailed the ship with his daughters from Libya to Argos.

Only the stern of Argo is shown in the sky. Map makers attempted to account for this either by depicting its bow vanishing into a bank of mist, as Aratus described it, or by passing between the Clashing Rocks. Robert Graves recounts the explanation that Jason in his old age returned to Corinth where he sat beneath the rotting hulk of Argo, contemplating past events. Just at that moment the rotten beams of the bow fell off and killed him. Poseidon then placed the rest of the ship among the stars. Hyginus, though, says that Athene placed Argo among the stars from steering oars to sail when the ship was first launched, but says nothing about what happened to the bow.

Argo was first divided into three parts by the French astronomer Nicolas Louls de Lacaille in his catalog of the southern stars published in 1763 and it now lies permanently dismembered.



EAST DOME SCHEDULING
KEITH RIVICH

The FBAC owns and operates an 18", fork mounted newtonian telescope which is housed at the George Observatory in Brazos Bend State Park. As part of our agreement with the Observatory we are responsible for supplying volunteers during nights of public use, which includes all Saturday nights and some Fridays. In return we are allowed full access to the scope for personal use. Included with the scope are a full set of Televue eyepieces and filters, several sets of star-charts and reference books, a computer with charting programs and a CCD camera. To have access to this equipment you MUST go through a short training program AND volunteer at least once each quarter. The training can take place on the same night that you volunteer.

During the dark-moon period, which runs from several days prior to third-quarter moon to several days past new-moon, use of the scope is scheduled due to demand. At all other times the scope is available on a first come basis. If you volunteer for a public night, even during the dark-moon period, then the scope is yours for the remainder of the night. To schedule a dark moon night I must be contacted no later then the full-moon prior to the next observing runs. Each month I will publish the current East-dome volunteer schedule, observing schedule, and research team schedule.

JANUARY, 2004 SATURDAY NIGHT SCHEDULE

See http://users3.ev1.net/~keithrivich/astronomy/eastdome/calender.html for updates

DARK MOON OBSERVING SCHEDULE

This part of the schedule will be continually updated and posted at http://users3.ev1.net/~keithrivich/astronomy/eastdome/calender.html For more information on how to schedule dark-moon nights call me at any of the numbers posted below.

Also available are the clubs 8" dobsonian reflector and the Solaris scope (for viewing sun w/ H Alpha filter).

The clubs Meade 8" and 10" LX-200 loaner scopes are available for use. For an update on availability please call me or go to

http://users3.ev1.net/~keithrivich/astronomy/eastdome/page3.html

For more information or to sign up as a volunteer please contact me at: HM 281-468-8491 or WK 713-771-6944 or e-mail at icgalaxies@cs.com

Minor planets and other such things

Most of us will agree that this years Christmas party was a great success. Good food, good company, good grief how could I have eaten so much turkey and ham. I'm still trying to figure out how Chuck managed to get his son to draw his name for one of the top door prizes. If you weren't there, you missed a great time

Since there was no official meeting in December, there are no official—or any other kind—minutes to report.

Our esteemed VP, Cynthia G. (I can't mention her last name. Just think officer who does all the hard work finding speakers for the meetings) has asked me to put the following schedule in the newsletter:

January meeting novice speaker: Don d'Entremont presenting the Ecliptic A.K.A. The Zodiac. This actually sounds ominous. Wasn't there a serial killer by that name?

January meeting main speaker: Larry Mitchell and the Life of William Herschel. Interesting coincidence there. Herschel has objects and so does Larry. If you don't believe me, just look them up in MegaStar.

February meeting novice speaker: Jennifer Lopez of Legacy Land & Trust on Conservation Easements and Ambient Light Issues. This sounds like a great one to me. If she can just give me some tips on how to get my neighbor's porch light turned off.

February meeting main speaker: Jack Nickel, NASA Pilot Trainer speaking on Space Shuttle Pilot Training. Jack spoke at one of our recent meetings where I discovered we were in the same squadron at RAF Bentwaters.

March meeting novice speaker: Open. Cynthia is looking for volunteers. Please email her at cynm31@ev1.net or call her if you can help out.

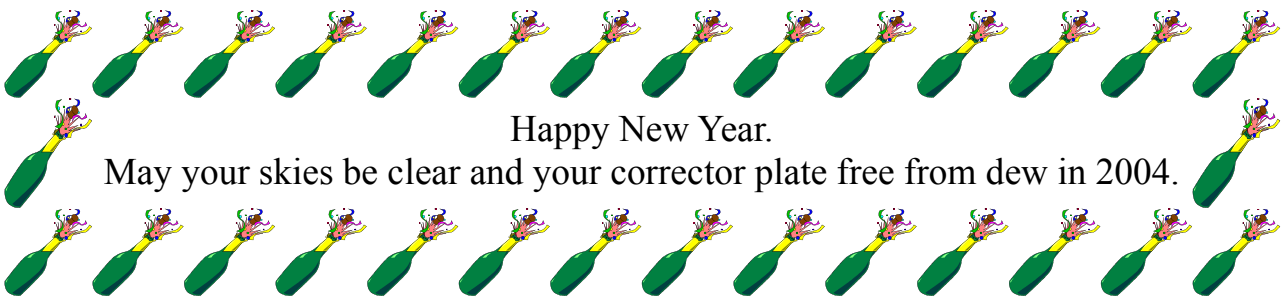
March meeting main speaker: Jeff Kanipe and Dennis Webb who talk about those strange little things known as Arp Galaxies.

Looks like we've got quite a lineup of great speakers coming in the first quarter of 2004. Don't miss the meetings.

In other news, British scientists and astronomers have not heard a peep out of the Beagle lander. But they have successfully executed a critical maneuver bringing the Mars Express mother ship from an equatorial to a polar orbit. This means the Mars Express will fly directly over the Beagle landing zone on January 7. The angle of overflight will give them one last chance to communicate with the downed spacecraft. Hopefully it doesn't turn out to be a dog.

Did you know this about Saturn:

- The main rings cover an area of just over 15 billion square miles (40 billion square kilometers), or eighty times the total surface area of the Earth.
- They span 174,000 miles (280,000 kilometers), or about 73 percent of the distance separating Earth and the Moon.
- It's little wonder that they vanish when edge-on to Earth — the rings are probably less than 100 feet (30 meters) thick.
- The total amount of material in the rings is surprisingly small, about the same mass as Saturn's moon Mimas (120 miles or 195 kilometers across).
- In 1676 Giovanni Domenico Cassini (1625-1712) observed a gap in the rings known today as the Cassini Division. It's caused by gravitational resonances with Mimas. Other, smaller gaps are associated with different moons.
- In 1858 physicist James Clerk Maxwell (1831-1879) proved that the rings had to be made of billions of particles orbiting independently.



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Dedicated to the acquisition and dissemination of information pertaining to the science of astronomy

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We're On The Web
Http://www.fbac.org

You are invited to submit your opinions for inclusion on this page. Please be thoughtful and respectful of others in your comments. Rants will not be published. All articles should be 450 words or less and are subject to editing for clarity and length before publication. Please submit in Word format to:
stargazer411@earthlink.net

The Fort Bend Astronomy Club meets on the third Friday of every month except for those months when special meetings are called. The next regular meeting will be at 7:15 PM on January 16, 2004 at the First Colony Conference Center, 3232 Austin Parkway, Sugar Land, TX. Dues are $30/year for the first member, $5 per additional household member. Student dues are $15/year.

The **Houston Astronomical Society** meets the first Friday of the month in room 117 of the University of Houston Research Building. The novice program begins at 7:00 PM and main meeting at 8:00 PM.

For the **Johnson Space Center Club**, refer to the JSCAS web site for meeting times and sites. There is a link on the FBAC web site.

North Houston Astronomy Club meets on the 4th Friday of the month at Kingwood College. The meeting starts at 6:45 PM, main meeting at 7:30 PM.

Does FBAC Need A New Constitution? An Expression Of Editorial Opinion

I was poking around on the internet one day and ran across the web site for the Austin Astronomical Society. This is a group located—naturally—in Austin with a very active membership and a robust observing program.

When I run across another club's web site, I like to check things out and one of the items I found on the site was a copy of their constitution. Big deal, you may say. And rightfully so because I've read a few of these over the years and always noticed that they are pretty much the same. Officers duties, membership requirements, dues structure, etc. are the usual fare.

But I noticed something different about the AAS constitution. They have a provision for voting members and officers out of the club.

Now at this point, I would like to say that there is no agenda involved here. I'm merely making a statement about a document that I believe is the foundation of any organization like ours.

When clubs are formed and incorporated, things are usually simple. Membership may number in the tens rather than hundreds and everybody knows everybody. The whole organization is made up of friends who may have been together for a long time.

But time changes things. Clubs grow, the original instigators go away or, even worse, they die off, and new stock takes their place. Some of the old timers are left but they're worn out from holding some kind of office year after year. So as part of a natural progression, new people begin to fill in places of responsibility. And there's nothing wrong with this. It's great that a club is able to draw in newbies who are willing to pitch in and be leaders. But what happens when things go wrong? How does an organization cope with an untenable situation involving a club member or officer?

And this is what I'm driving at. Our by-laws do not address this situation in any shape or form. Nowhere do they specify what we would do if a member or officer became unmanageable or did not properly perform club duties. What would happen if, God forbid, we ever faced this problem.

The entire text of our by-laws is available on the web site at http://www.fbac.org/Forms/bylaws.html. Read it and see that we have no protection or recourse in a case such as this other than voting a person or officer out of office by the general membership. And even that isn't spelled out in any form.

It is the opinion of this editor that the time has come to revise our by-laws, even to the point of rewriting them entirely. There are many gaps in the document that need to be filled. Gaps that could cause us to come to grief somewhere down the road.

—Wes Whiddon