

The **ASTERISM** Summer Edition

Volume XVII No. 9

June 2006

WELCOME TO THE NEW... ASTERISM, SUMMER EDITION

by Vince Henderson,
AAI President

Hello fellow members of AAI, I am very pleased to welcome you to our inaugural edition of the *Asterism, Summer Edition*. This electronic-only version of the *Asterism* is intended to keep you advised of activities going on in the club throughout the summer months. I am also pleased to announce that Leticia Shapp will serve as Editor of ASE. Aaron Zuckerman will continue to edit the regular *Asterism* from September through May. (Editor's note: emails addressed to editor@asterism.org will go to both Aaron and myself during the summer months.)

Many members are not aware that the observatory runs year-round programs and public events that are just as impressive as those held during the rest of the year. There are special training classes on the operation of equipment, senior QO training and, for those who have taken the step to becoming a QO, AAI offers training in the use of our new CCD camera and our Daystar Hydrogen Alpha filter.

There is nothing like the thrill and pride of being able to use state-of-the-art professional equipment while doing your own projects under the domes at Sperry Observatory.

By offering you the ASE, it's our hope many members who have not taken full advantage of their memberships will begin to realize they are part of something big and important and that they have the ability to change lives, including their own.

AAI is going to work toward promoting astronomy to the students at Union County College as well as doing outreach events for the general public. We're looking for new blood from our ranks to step forward and make the change to becoming a contributing member. To be fair, without the help of a handful of active and dedicated members, there might not be AAI programs at all. Don't leave all the work to the trusted few. We're looking for new volunteers and increased participation in our activities from the silent majority. Does that mean you?

There are so many resources available, why not approach a Trustee or someone from the Executive Committee or myself, and let us know of your interest in being more involved.

So please browse through the ASE, your companion during the summer months, and stay active in your love of astronomy and in the programs held at AAI.

I'm looking forward to seeing some new faces this year. Until then, I wish you all,

Clear Skies!

LET'S GET ACQUAINTED

Greetings! My name is Leticia Shapp. I am very honored that Mr. Henderson has asked me to edit *Asterism, Summer Edition*. This will fit in very well with my other activities because I'm home for the summer from Muhlenberg College where I will be entering my Junior year in the Fall.

My interest in astronomy began when I was very young, but the means to really explore that interest didn't "take off" until my eleventh birthday when I asked my father for a telescope. He bought a 12-inch DOB for me. But it was delivered with a manufacturing defect, and he had to return it. Now, almost ten years later, I still don't have a telescope, although Dad

does encourage me to use any of the thousands of dollars worth of his equipment. For all of the resources available to me, I am following the advice Mr. Witzgall gives in his tutorial on the AAI website. I use mounted binoculars, a planisphere, and the Golden Books *Skyguide*.

Whether you read the ASE online or print a hard copy for later perusal, you can always get additional copies because both the summer and the regular editions of *Asterism* will be available from the archive in the "Newsletter" section of the AAI website. For people who don't have a high-speed internet connection, the full text of ASE without the graphics and formatting are also available in the archive. The text file should be a very small file for quick downloading even via a dial-up connection.

I hope you come to regard the ASE as an additional member benefit. Please look it over and drop me a line at editor@asterism.org -- I'm very eager to incorporate any improvements you might suggest.

PLANTING SEEDS IN WINTER

by Bonnie B. Witzgall

When the terrorists carried out their ghastly compulsions in 2001, every US airport shut down for security reasons. Many of the big airports throughout the world also suspended service. If any

good came from this act, it benefited the world's astronomers and meteorologists. By eliminating jet trails, atmospheric disturbances and extra fluid droplets in the clouds, researchers attained more pristine seeing conditions over the big cities. It gave people a glimpse of how the skies would appear with less air pollution and minus the man-made lights.

More than twenty years ago, in a world far different than today, we had our own personal glimpse of an unspoiled sky adjacent to a major airport. Yet, unlike the Terrorist's plan, our venture was subject to a methodical security check by an alert officer... but with delightful results.

In March 1985, many Air Traffic Controllers began a nationwide strike. Via Presidential Decree, President Regan fired those who did not return to their stations. This instantly immobilized many of the nation's mid-size and smaller airports. They suspended their schedules and shut down their massive landing field lights until replacement employees were hired. It was during this time we chose to visit our two good friends in Worcester, Massachusetts. My husband, Al, had just built a new 7-inch *f*/4 Newtonian telescope. He wanted to have First Light under a good Winter sky and amid a receptive audience. Our friends suggested the ridge atop one of the hills north of their city. It would be on the back road approach at the rear of the airport. With the airport lights and planes inactive, it would be a good observing site. This early March night was clear, cloudless and about 12° above zero. Sky conditions were excellent for a First Light ceremony and we would never have this dark city sky opportunity again. The four of us

layered on every warm garment we could find, piled into the car and set out for the vacant airport.

Following the soaring road and our friend's directions, we descended on a service road that ended at a cul-de-sac. It was the access road for the very tall Worcester Water Tower adjacent to the empty airport. High snow banks from a previous storm outlined the road's edge, but the dead end's black roadway was clean and dry. Bathed by crescent moonlight and frozen darkness, the water tower took the lofty form of a War of the Worlds Martian Walking Machine. It silently watched as we arrived and set up the new instrument on the dry asphalt.

The seeing conditions were superb! Al 'star hopped' from one magnificent object to another. With Venus and Mars only five degrees apart, Al sincerely enjoyed this exceptional night. The rest of us did feel his delight, but we were collectively shivering to death. As Al retrieved each object from the sky, our friends and I took turns leaving the warm sanctuary of the car. Each person would move to the eyepiece, celebrate the sky with Al and then scamper back to the warm vehicle. The Water Tower and we were the only witnesses to this special place... until that white car with magnitude minus ten headlights swiftly and silently invaded our tiny settlement.

Those blinding headlights aimed right at us, destroyed our night vision. As the mystery car door opened, the

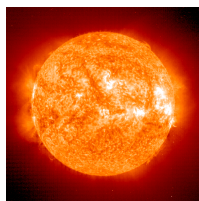
interior car lights lit up the occupant's Worcester Police uniform. He was not wearing a coat or any special protection from the harsh cold, but he was wearing a scowl. He strode robustly to our observing place and I remember saying, "Oh, officer, please don't chase us away. We're from New Jersey! It's our new telescope and we deliberately came here to take advantage of the clear skies over Massachusetts." Between the harsh car lights and wintry air, his eyes were forced into narrow squints. It was hard to interpret his reaction. After all, the officer did have a job to do. Sternly he said, "Well, you know you shouldn't be here." He then paused and asked, "Can you really see stars through that thing?" "Yes, Sir", Al explained. "Come look for yourself! This is the Andromeda Galaxy. Every star you see here is larger than our Sun." The curious officer removed his hat and stepped up to the cold eyepiece. We saw the great galaxy reflect in his eye and his frosty cheeks slowly expand into a gentle smile.

The officer stayed affixed at the eyepiece, his warm breath forming thin vapors around his thoughtful face. Perhaps we had planted the seeds of fascination. Maybe our activity sparked a memory from his boyhood when his skies were translucent and it was safe to encounter strangers on a dark back road. After what seemed like a very long time, his rigid body finally shivered and he stepped back from the telescope. We all stood motionless and breathless in the cold. Our frozen eyes

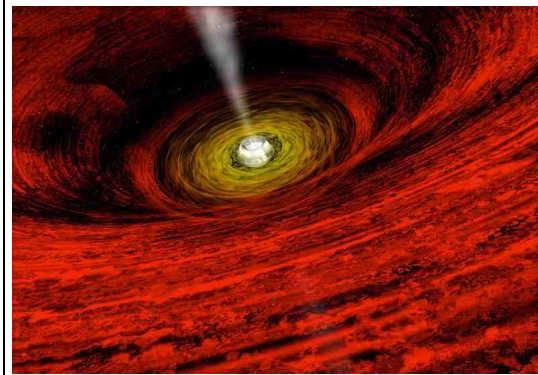
staring, awaiting his decree. His rosy upturned cheeks remained smiling, as he said, "Well... don't stay too long". His face retained a slightly impish expression as he grabbed the tip of his hat and slightly nodded toward us. Briskly he returned to his patrol car and, to our astonishment, turned off his car lights. The police officer then slipped away into the cold darkness and was gone. Our observing outpost once again returned to its secret isolation.

Taking the officer's advice, we did not stay too long after that. Although elated by our unexpected victory, we all became chilled as a nippy hilltop wind had developed. After stealing a few more views of M1, Al packed up the scope and we drove back to town without incident.

What an amazing event! What a story he could tell Headquarters! I often wonder what that Worcester officer wrote in his evening report. Did he tell of an encounter with crazed New Jersey astronomers freezing in the dark under a Martian Water Tower? Maybe he made a mental note to take advantage of his cold, clear night patrols and to look up at the infinite sky. During September 2001, all the nation's airports closed for agonizing reasons. Perhaps back then, no one had the passion to venture out and observe. During the 1985 airport closings however, some tourist astronomers took advantage and planted the warm seeds of enthusiasm.

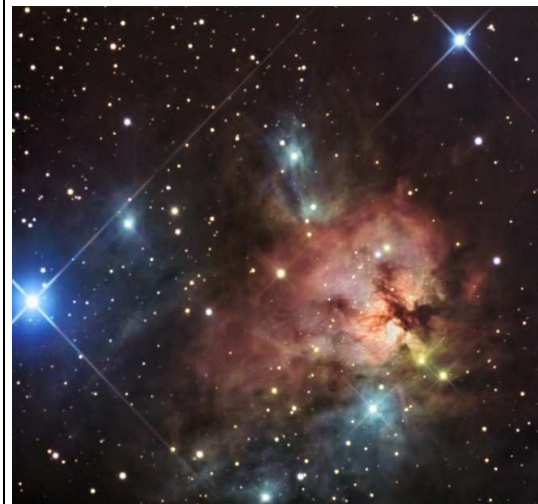


APOD For May 28, 2006



GRO J1655-40:
Evidence for a Spinning Black Hole
Drawing Credit: A. Hobart, [CXC](#)

APOD For May 25, 2006



NGC 1579: Trifid of the North
Credit & Copyright: [R. Jay GaBany](#)
([Cosmography.com](#))

Did you know that you can access an entire archive of thousands of images like these from the Astronomy Picture Of the Day website? Just visit the "Special Notice" page on the AAI website and click on whatever APOD is being displayed. That will open the APOD site, and you will get a full paragraph of descriptive info for that day's APOD. Near the bottom of that page, you can click on "Archive" to see a listing of the thousands of pictures on that site.

OFFICERS, TRUSTEES, AND COMMITTEE CHAIRS

The following table shows the current slate of elected officers, trustees, and committee chairs. The bold entries are new assignments as of June 1, 2006. See www.asterism.org for updates.

President	Vince Henderson
Vice President	Al Zuckerman
Recording Secretary	Steven Clark
Corresponding Secretary	Dr. Lew Thomas
Treasurer	Nancy Twaskas
2004 - 2007 Trustee	Phil Salimbene, Chairperson
2005 - 2008 Trustee	Joe Arcaro
2006 - 2009 Trustee	Elvira Pratsch
Asterism Editor	Aaron Zuckerman
Club Liaison	Gordon Bond
College Liaison	Don Kruse
Computer Services	Ray Shapp
Displays & Presentations	TBA
Finance	Al Zuckerman
Instrument Qualifications	Al Witzgall
Journal	TBA
Library	Brian Lemley
Membership	Judy Waidlich
Observation	Wayne Augenstein
Observatory	Anthony Espinoza
Photography	Ed Carlos
Program	Al Zuckerman
Public Relations	Sarah Shuttleworth
Refreshments	Bonnie Witzgall
Research	Ed Carlos
Sales & Promotions	Anita Glick
Telescope Services	Tom Koscica

ELECTRONS ARE GOOD FOR YOU

By Ray Shapp,
Computer Services Committee

This "electronic only" version of the *Asterism* newsletter for the summer months is intended as an experiment to try to convince you to relinquish the paper version year-round. For those folks who prefer it, the regular edition will continue to be printed in black and white on paper, and AAI will continue to

pay the postage for the U.S. post office to deliver it to you, however consider the benefits of reading the newsletter online.

The electronic version will always be uploaded to the AAI website before the U.S. Postal Service can possibly deliver the paper version to your house. A notice will be posted on the AAI website in the "Special Notice" section and an email will be sent to you via the aagroup at Yahoo

as soon as each new issue is posted on the website.

All the images will be in full color. This is especially important for viewing celestial images in which the imager is attempting to portray true colors. Photos of people are also enhanced when viewed in color.

All the references to website addresses and email addresses are "clickable". That means you can view the cited web pages or send email

merely by double-clicking on the hyperlink or address. For this feature to work reliably I recommend you obtain version 7.0 of the free Adobe Reader or later. You can get it directly from:

<http://www.adobe.com/products/acrobat/readstep2.html> or you can download it from the AAI website by clicking on the icon in the "Newsletter" section. An additional benefit of using the new version is that it launches more quickly and it has enhanced search capability.

That brings up another benefit of the electronic newsletter. You can search for every instance of a word or phrase merely by making a few clicks of your mouse.

For those of us who have "well seasoned vision" (that means we need reading glasses), you can enlarge the type size to any extent desired.

Your dog will never eat your electronic newsletter.

You may not remember where you stored a paper copy of a newsletter, but you can always find the current or a back issue if you know where a computer is. That includes any internet-capable computer anywhere in the world.

If a significant fraction of the membership will relinquish delivery of the paper version of

the newsletter, your club will save hundreds of dollars in postage every year. You will also be helping to conserve paper and ink and the most precious resource of all -- the time it takes for someone to fold, stamp and mail your paper issues to you every month.

Please send me an email at ray@asterism.org to join your fellow members who have opted to halt delivery of the paper newsletter. Go ahead, click on that address. Please do it now.

CLUB EMAIL ADDRESSES

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All three Trustees of AAI

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Executive Committee

ray@asterism.org
Ray Shapp for the website

Logo for Asterism, Summer Edition credit: Justin Shapp

DOME DUTY FOR JUNE

2 June Team E
9 June Team A
16 June Team B
23 June Team C
30 June Team D

DOME DUTY FOR JULY

7 July Team E
14 July Team A
21 July Team B
28 July Team C

FRIDAYS AT SPERRY

June 2, 2006

Explore Planet Earth From Home Ray Shapp

Using the Tools on the Sloan Digital Sky Survey Website

Ed Carlos
(two short talks)

June 9, 2006

The "Hubble Diagram" Using the Sloan Digital Sky Survey
Ed Carlos

June 16, 2006

TBA

June 23, 2006

Some image processing with CCDops and with Maxim DL
(Continuing last month's talk)
Hank Adams

June 30, 2006

Stardust@Home Training
Ray Shapp

DR. LEW'S SEMINARS

Some of the topics for upcoming seminars include:

- How long would a released hammer take to reach the

International Space Station? A closed form solution.

- Do Kepler's Laws work for the satellites of Jupiter and Saturn?
- How many years elapse between

successive planetary line-ups?

- How far away is the horizon?

All schedules above were accurate at time of publication. Check www.asterism.org for latest info (click Club Activities)

AAI members, Cindy and Alan Midkiff, were treated to an inside tour of the twin 10-meter Keck telescopes on Mauna Kea. Alan will be presenting a video and narration of the highlights of that behind-the-scenes treat for us during an up-coming "Fridays at Sperry" talk. Here are some still photos to whet your appetite.



Keck Mirror Lab

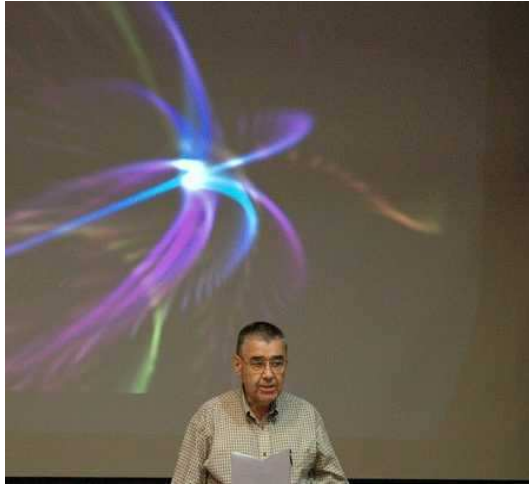
Each hexagon is 6 feet across and costs \$1 million a copy. There are 12 spares and they are rotated out of the cell in groups of three so that the telescopes never experience any downtime for realuminization (note: the Hale loses four days every 18 months for recoating).



Sites on Mauna Kea

CCW from top left: Keck Headquarters, Model of twin 'scopes in HQ foyer, Suburu, Keck I, and Keck II (L to R), Signpost at 13,000 foot elevation, lava fields on Saddle Road between Mauna Loa and Mauna Kea.

At our final General Meeting of the year, AAI members share their special astronomical projects. This year it was held on May 19th in the Roy Smith Auditorium on the Union County College campus. Photos courtesy of Ed Carlos.



Mike Luciuk and Screen Saver

Mike Luciuk and Wayne Augenstein (not pictured) gave us a glimpse of their fabulous trip to Egypt to view the Total Solar Eclipse of March 29, 2006.



Clif Ashcraft and Al Witzgall

Before delivering his talk, Clif Ashcraft received a certificate of appreciation for leading the team that repaired the coarse focuser and the lens cell of the 10-inch refractor. Later Clif showed the results of his mastery of ToUcam video imaging.



Aaron Zuckerman and Chaplenko Egg

Aaron Zuckerman holds the “egg” presented to our club by the estate of former president and long-time corresponding secretary, George Chaplenko.

THEATER IN THE SKY

by Ron Ruemmler

June 2006 is a perfect, month-long, one-ring circus. Everything happens over the western horizon one hour after sunset. Enjoy the show.

Start each night with Jupiter, high in the south. Then turn right and find Saturn, low in the west. For the first half of the month, look for three objects in a horizontal line to the right of Saturn and a bit lower. These are Mars, Pollux, and Castor. Then drop way down and further to the right to find Mercury.

Watch Mars slowly creep toward Saturn until the 17th when the two planets are less than one degree apart. This is the only non-twilight conjunction of two naked-eye planets in 2006. At the same time, Asellus Australis, the Southern Donkey, one of the few visible stars in Cancer, the Crab, is the same distance on the other side of Saturn from Mars. All this is just to the left of the Beehive star cluster which Mars just passed directly through the day before. On the 27th, the slender crescent Moon joins these five objects for a lovely gathering.

All four planets are having an exceptional month. Jupiter has just passed opposition from the sun and is well placed for observation until after midnight. This is the last month that the rings of Saturn are easily observable in a telescope before the planet falls into the murky haze of summer twilight. Mars is beginning a full three months of exceptional dimness, so any nearby objects are welcome aids to its location. Mercury, usually a short-term visitor, spends the entire month at this same location just above the WNW horizon. Because of Daylight Saving Time, Mercury will not set until after 10 PM.

Finally, Venus, the brightest planet of all, stands alone the early morning twilight.

JUNE SKY CALENDAR

2 FRI 9:30 PM Regulus lower right of fat crescent Moon
3 SAT 7:06 PM First Quarter Moon
4 SUN 9:30 PM Saturn on lower edge of Beehive star cluster
6 TUE 9:30 PM Spica just left of Moon
7 WED 9:30 PM Jupiter upper left of Moon
8 THU 9:30 PM Jupiter upper right of Moon
10 SAT 9:30 PM Mercury directly below Castor
10 SAT 9:30 PM Antares upper right of almost full Moon
11 SUN 2:04 PM Full Moon
13 TUE 9:30 PM Beehive star cluster between Saturn and Mars
14 WED 5:25 AM Earliest sunrise of the year
15 THU 9:30 PM Mercury directly below Pollux
15 THU 9:30 PM Mars inside Beehive star cluster
16 FRI 11:00 AM Pluto at opposition from the Sun
16 FRI 9:30 PM Mars between Saturn and Beehive star cluster

17 SAT 9:30 PM Mars just above Saturn; best conjunction of 2006
18 SUN 10:08 AM Last Quarter Moon
20 TUE 4:00 PM Mercury at greatest elongation from the Sun
21 WED 8:26 AM Summer solstice; longest day of the year
22 THU 4:30 AM Venus lower left of crescent Moon
23 FRI 4:30 AM Venus right of thin crescent Moon
25 SUN 12:06 PM New Moon
25 SUN 9:00 PM Mars at aphelion; maximum distance from the Sun
26 MON 9:30 PM Extremely thin crescent Moon directly below Pollux
27 TUE 8:32 PM Latest sunset of the year
27 TUE 9:30 PM Crescent Moon above Mercury and right of Saturn
28 WED 9:30 PM Crescent Moon just above very dim Mars
29 THU 9:30 PM Crescent Moon just right of Regulus