Southwest Florida Astronomical Society
SWFAS

The Eyepiece
October 2008

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A MESSAGE FROM THE PRESIDENT

The fall season has arrived and along with it we hopefully can expect the bad weather that has plagued us will start to dissipate. This should make for better observing conditions to move out the telescopes and enjoy the fall skies.

Planets in the evening sky for October consist of Venus (in the southwest), Mars (in the west), Jupiter (in the south), and Uranus (in the southeast). We can look forward to the Orionid meteor shower on October 21st. Observers can expect to see around 10 meteors per hour shortly after midnight. Comet C/2008 (McNaught) can be seen after October 18th in the constellation Ophiuchus. The comet, with a magnitude of around 8th or 9th, will be in the vicinity of the globular star cluster M107. This offers observers two objects to look at in the same area of the sky.

I would be remiss not to mention the passing of SWFAS member Steve Nelson. Steve was one of the most active members in the club. He served as Treasurer for two years. During this time he worked very hard work getting SWFAS recognized as a non-profit organization with the IRS. Steve was the Coordinator for viewing each month at the Caloosahatchee Regional Park and worked with the park supervisor in getting us permission to observe there. Steve could always be counted on to support every event that SWFAS was involved in, and he will surely be missed. Our condolences go out to Steve's wife and family for their loss.

October Meeting

Our October meeting will be at the Calusa Nature Center Planetarium at 7:30 pm on Thursday, October 2nd. For our program, we will be watching the planetarium show, ***The Planets***. ***The Planets*** is narrated by Kate Mulgrew (Captain Janeway of ***Star Trek: Voyager***) and looks at the planets in our Solar System and reveals what is currently known about them. The program was produced by the Southeastern Planetarium Association.

Carole's note: I had hoped to show SWFAS members a show from the Media Globe 2, which was to be installed on September 15th. Unfortunately, the installation of the new equipment has been delayed until early next year. ***The Planets*** is a brand new show, and I hope that it will be an acceptable substitute.

Hubble Science Data Control System Fails

NASA assesses February - or later - launch for Hubble servicing mission

A critical equipment failure aboard the Hubble Space Telescope on the eve of a long-awaited fifth and final shuttle servicing mission put astronomical observations on hold and has forced NASA managers to delay the mid-October flight of Atlantis. Pending an engineering review, the long-awaited servicing mission is expected to slip from Oct. 14 to mid February - and possibly later - to give engineers and astronauts time to shoehorn replacement hardware into an already challenging five-spacewalk mission.

Shuttle Program Manager John Shannon said he expects a decision on how to proceed by the end of next week. Assuming the Hubble mission is, in fact, delayed to next year, NASA will press ahead with launch of the shuttle Endeavour on a space station assembly mission around Nov. 14, two days earlier than currently planned.

The problem aboard Hubble cropped up shortly after 8 a.m. Saturday September 28th when channel A of the telescope's control unit/science data formatter, or CU/SDF-A, began acting erratically. The telescope's flight computer, following pre-programmed instructions, then acted to "safe" the payload computer and science instruments. An attempt by ground controllers to reset the formatter was not successful. Troubleshooting continues, but engineers are not optimistic.

The telescope is not in any danger, but science operations are on hold until engineers can reconfigure the observatory to use channel B of the control unit/science data formatter. Engineers plan to make the switchover Thursday or Friday, October 2nd or 3rd, after a detailed readiness review.

"All the testing and all the efforts so far to restore (the A-side electronics) indicates it has totally failed," said Hubble Program Manager Preston Burch. "Our only option at this point is to switch over to science data formatter B, which is the redundant channel. Unfortunately, switching to that side will require the switch over of the spacecraft data management system to the B side as well. ... So this is a major event for Hubble."

The backup, or "B side," of the data management system has not been powered up since the telescope was launched in 1990. Even if it works - and if five instrument subsystems successfully make the transition to their own B channels - NASA would still be faced with a loss of redundancy in a critical system and a subsequent failure would permanently disable the observatory.

A spare science instruments command and data handling system is available at the Goddard Space Flight Center in Greenbelt, Md. But it is not flight qualified and it has not been powered on since 2001. Extensive testing and checkout will be required to upgrade

it to flight status. The box weighs about 135 pounds and measures 21.5-by-32.5-by-9.5 inches. Burch said the shuttle can easily accommodate the additional hardware and nothing will have to be removed to make room.
Installation of the box is expected to take about two hours to complete. The unit would be attached to the door of electronics bay No. 10 with 10 bolts and one electrical connector. Engineers have not yet decided where the work might go in the already tight spacewalk timeline.
-from CBS News Space News (complete article at www.spaceflightnow.com/shuttle/sts125/080929hubble/)

Hubble L-1 Webcast

Tune in the day before the launch to learn what it takes to fly a difficult servicing mission to the Hubble Space Telescope. Seven astronauts will work in space aboard space shuttle Atlantis for 11 days to capture the orbiting observatory and install two cutting-edge instruments plus a host of equipment. After the crew of Atlantis is finished, Hubble will be ready to complete at least five more years studying the cosmos.
Hosted by Damon Talley of NASA's Digital Learning Network and Rebecca Sprague of NASA Public Affairs at Kennedy Space Center in Florida, the L-1 webcast features interviews with the crew, a Hubble astronomer and up-close looks at all the work going into this exciting mission.
For more information about this event, visit http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts125/launch/sts125_webcast.html.

Amateur Astronomers See Perseids Hit the Moon

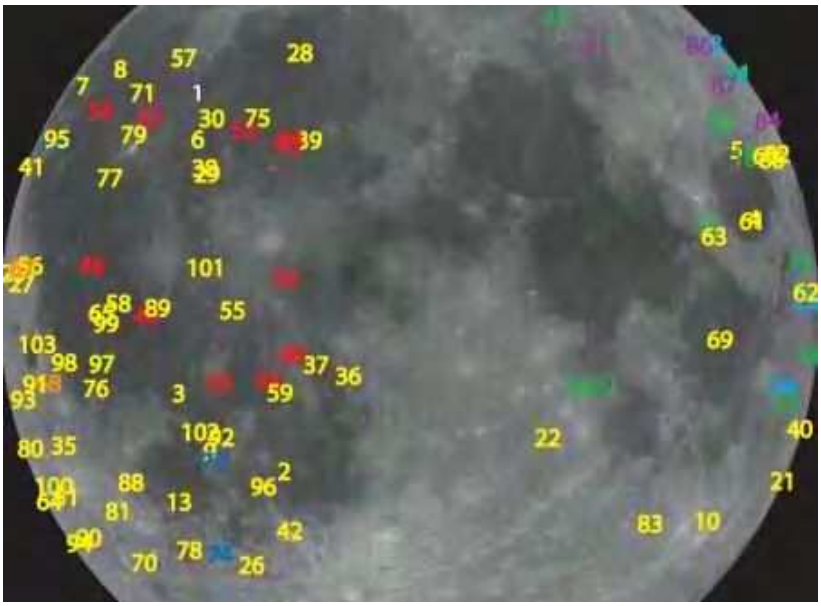
There's more than one way to watch a meteor shower.
One, the old-fashioned way: Find a dark place with starry skies and count the meteors streaking overhead. Two, the new way: Find a dark place with starry skies and then *completely ignore the meteors*. Instead, watch the Moon. That's where the explosions are.
On August 9th, a pair of amateur astronomers on opposite sides of the United States did it the new way. With the Perseid meteor shower just underway, they fixed their cameras on the Moon and watched meteoroids slam into the lunar surface. Silent explosions equivalent to ~100 lbs of TNT produced flashes of light visible a quarter of a million miles away on Earth. It was a good night for "lunar Perseids."
"I love watching meteor showers this way," says George Varros, who recorded this impact from his home in Mt. Airy, Maryland:

The flash, which lit up a nighttime patch of Mare Nubium, was a bit dimmer than 7th magnitude--"an easy target for my 8-inch telescope and low-light digital video camera."

Hours later, another Perseid struck, on the western shore of Oceanus Procellarum. This time it was Robert Spellman of Azusa, California, who caught the flash. "It's exciting to witness these explosions in real time," he says. "I used a 10-inch telescope and an off-the-shelf Supercircuits video camera."

Rob Suggs of NASA's Meteoroid Environment Office has reviewed the data. "They look real to me," he says. "The flashes appear in multiple video frames and the light curves are similar to other lunar meteors we've recorded in the past."

Suggs would know. Along with colleague Bill Cooke, he leads a team at the Marshall Space Flight Center that has recorded more than 100 lunar explosions since 2005. "We monitor lunar meteors in support of NASA's return to the Moon," Suggs says. "The Moon has no atmosphere to protect the surface, so meteoroids crash right into the ground. Our program aims to measure how often that happens and answer the question, what are the risks to astronauts?"



Left: *A map of 100 lunar meteors observed by astronomers at the Marshall Space Flight Center since 2005. Every impact on the map was bright enough to see with an amateur telescope.*

NASA's official lunar meteor observatories are located in Alabama and Georgia. Both were off-line on August 9th, so the NASA team didn't see how many Perseids were hitting the Moon that night. "This shows how amateur astronomers can contribute to our research," points out Suggs. "We can't observe the Moon 24-7 from our corner of the USA. Clouds, sunlight, the phase of the Moon—all these factors limit our opportunities. A global network of amateur astronomers monitoring the Moon could, however, approach full coverage."

Suggs hopes other amateurs will take up this hobby, not only to improve NASA's lunar impact statistics, but also to support the agency's LCROSS mission: In 2009, the Lunar CRater Observation and Sensing Satellite (LCROSS) will intentionally dive into the Moon, producing a flash akin to a natural lunar meteor. Unlike natural meteoroids, which hit the Moon in random locations, LCROSS will carefully target a polar crater containing suspected deposits of frozen water. If all goes as planned, the impact will launch debris high above the lunar surface where astronomers can search the ejecta for signs of H2O. The impact flash (if not hidden by crater walls) and the debris plume may be visible to backyard telescopes on Earth.

- *From Science@NASA, Author: Dr. Tony Phillips*

25th Annual StarFest in Kingsport, Tennessee

We would like to invite you to our 25th Annual StarFest event on October 24-26, 2008 at beautiful Bays Mountain Park in Kingsport, Tennessee.

Registration cost is $60 and includes lots of interesting talks, solar and nighttime observing and all meals during the event. Registration forms will be mailed this week. If

you do not receive one in the next week or so, please let me know or follow the link below to download a form.
All the details, maps and registration forms may be downloaded at:
http://www.baysmountain.com/planetdept/starfest/starfest2008.html
Event Highlights:

- Special 25th annual "Starry Nite Live!" presented by our very own Mark Marquette on Friday night followed by an evening of observing.
- Solar Observing.
- Interesting talks and art, photo & ATM displays by fellow astronomy enthusiasts.
- Swap Shop.
- Lots of great meals provided with registration.
- Sunday morning breakfast with a "guaranteed to be entertaining" talk by long-time StarFester Paul Lewis, a NASA Solar System Ambassador and Astronomy Outreach Coordinator at the University of Tennessee, Knoxville.
- Featured Guest Speaker P. Clay Sherrod, Astronomical researcher and consultant; Environmental lobbyist and consultant, Arkansas Sky Observatory, Petit Jean Mountain, Arkansas

- *Jason Dorfman, 2008 StarFest Chairman*

NASA Mars Lander Sees Falling Snow, Soil Data Suggest Liquid Past

NASA's Phoenix Mars Lander has detected snow falling from Martian clouds. Spacecraft soil experiments also have provided evidence of past interaction between minerals and liquid water, processes that occur on Earth.
A laser instrument designed to gather knowledge of how the atmosphere and surface interact on Mars has detected snow from clouds about 2.5 miles above the spacecraft's landing site. Data show the snow vaporizing before reaching the ground.
Phoenix experiments also yielded clues pointing to calcium carbonate, the main composition of chalk, and particles that could be clay. Most carbonates and clays on Earth form only in the presence of liquid water.
Since landing on May 25, Phoenix already has confirmed that a hard subsurface layer at its far-northern site contains water-ice. Determining whether that ice ever thaws would help answer whether the environment there has been favorable for life, a key aim of the mission.
The Phoenix mission, originally planned for three months on Mars, now is in its fifth month. However, it faces a decline in solar energy that is expected to curtail and then end the lander's activities before the end of the year. Before power ceases, the Phoenix team will attempt to activate a microphone on the lander to possibly capture sounds on Mars.
"For nearly three months after landing, the sun never went below the horizon at our landing site," said Barry Goldstein, JPL Phoenix project manager. "Now it is gone for more than four hours each night, and the output from our solar panels is dropping each week. Before the end of October, there won't be enough energy to keep using the robotic arm."
More information about Phoenix is at http://www.nasa.gov/phoenix **.**

The Bone-Dry Moon Might be Damp

Cosmochemists have written in stone that the Moon is almost totally devoid of water, but new analyses of volcanic glasses suggest that they need to do some editing.

Detailed analysis of the first lunar samples collected by Apollo 11 astronauts in 1969 revealed no evidence that lunar magmas contained even a smidgeon of water. Analysis of samples returned by subsequent missions did not contradict this important observation. It became a tenant of lunar science that the Moon is bone dry.

But is it really completely dry? Recent analyses of lunar volcanic glasses suggest that a smidgeon, maybe even a mega-smidgeon, of water is present. Alberto Saal and his colleagues have measured volatile elements in lunar volcanic glass beads, using ion microprobe capabilities not available until a few years ago. They measured OH- (hydroxyl) anions (which are fragments of the H_2O) molecule). All the measurements (of OH-, sulfur, fluorine, and chlorine) had higher concentrations in the center of the 276-micrometer beads, and decreased progressively towards the surface. This is a classic diffusion profile, suggesting that these elements were present in the droplets of magma when erupted, but began to be lost to the surrounding volcanic gases. Saal and his colleagues calculated how much of these volatiles were present upon eruption. They concluded that the lunar magmas contained about 745 parts per million of water, similar to the amount in magmas produced at mid-ocean ridges on Earth. The results imply that the region of the lunar interior that melted to make the magmas contained about the same amount as in the Earth's depleted upper mantle, which is way more than a smidgeon. This may have implications for the origin of the Moon. It certainly will spark new research on lunar volatiles--and lots of arguments!

- Written by G. Jeffrey Taylor, Hawai'i Institute of Geophysics and Planetology

MESSENGER Ready to Range to Mercury's Surface

On October 6, the MESSENGER spacecraft will fly by Mercury for the second time this year. The entire MESSENGER science payload is now powered and configured to collect data during next week's encounter.

During MESSENGER's first Mercury encounter, the first direct measurements of the topography of Mercury from spacecraft were taken. The results provide evidence for a complex geologic history and indicate that Mercury's craters are shallower than those on the Moon at a given crater diameter, as expected because of the higher surface gravity. Mariner 10, the only spacecraft to visit Mercury prior to the MESSENGER mission, imaged about 45% of the planet's surface. In January, MESSENGER's Mercury Dual Imaging System (MDIS) captured an additional 21% of Mercury's surface. During its upcoming encounter with Mercury, the 1,287 planned MDIS images will cover much of the remaining portion of Mercury's surface not yet seen by spacecraft. A map of Mercury's surface with images from Mariner 10 overlaid by mosaics by the narrow-angle camera (NAC) acquired during MESSENGER's first Mercury flyby is available online at http://messenger.jhuapl.edu/gallery/sciencePhotos/image.php?gallery_id=2&image_id=205.

MESSENGER's first flyby of Mercury covered two general areas of Mercury surface: the crescent view of Mercury seen as the spacecraft approached the planet and the fuller view of Mercury acquired as the spacecraft departed. Similarly, Mercury will appear as a thin crescent during the inbound portion of MESSENGER's second Mercury flyby and as a nearly full disk during the outbound portion of the encounter. The areas of the surface that will be imaged by the NAC are shaded in purple in the figure.

See Mercury through the "eyes" of MESSENGER's imagers with the Mercury Flyby Visualization Tool, now available at http://messenger.jhuapl.edu/encountersm2/.

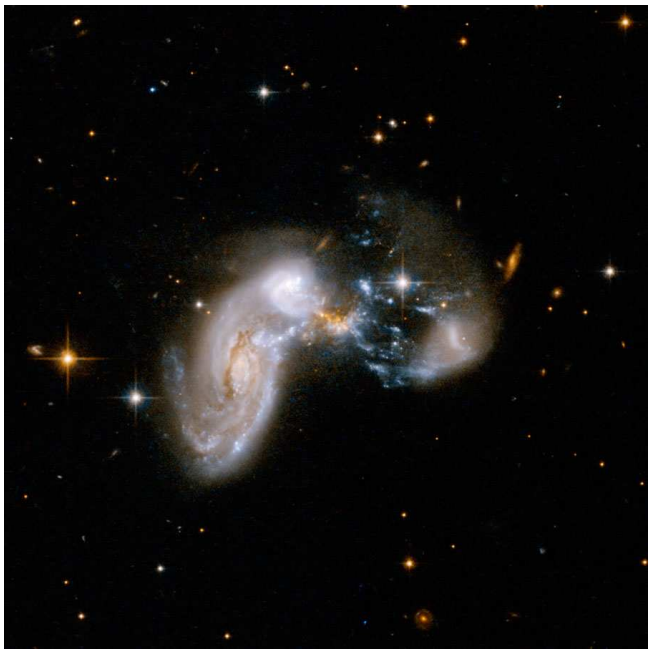
This updated Web feature offers a unique opportunity to see simulated views of Mercury

from MESSENGER’s perspective, during approach, flyby, and departure, or in real-time (as the observations actually occur).
The map of Mercury’s surface combines Earth-based low-resolution radar images from the Arecibo Observatory in Puerto Rico, high-resolution image mosaics from the Mariner 10 spacecraft flybys of Mercury in 1974 and 1975, and images from MESSENGER's first flyby of Mercury on January 14, 2008.

Ulysses Reveals Global Solar Wind Plasma Output at 50-Year Low

Data from the Ulysses spacecraft show the sun has reduced its output of solar wind to the lowest levels since accurate readings became available. The sun's current state could reduce the natural shielding that envelops our solar system.
The sun's solar wind plasma is a stream of charged particles ejected from the sun's upper atmosphere. The solar wind interacts with every planet in our solar system. It also defines the border between our solar system and interstellar space.
This border, called the heliopause, is a bubble-shaped boundary surrounding our solar system where the solar wind's strength is no longer great enough to push back the wind of other stars. The region around the heliopause also acts as a shield for our solar system, warding off a significant portion of the cosmic rays outside the galaxy.
"Galactic cosmic rays carry with them radiation from other parts of our galaxy," said Ed Smith, Ulysses project scientist. "With the solar wind at an all-time low, there is an excellent chance the heliosphere will diminish in size and strength. If that occurs, more galactic cosmic rays will make it into the inner part of our solar system."
Galactic cosmic rays are of great interest to NASA. Cosmic rays are linked to engineering decisions for unmanned interplanetary spacecraft and exposure limits for astronauts traveling beyond low-Earth orbit.
In 2007, Ulysses made its third rapid scan of the solar wind and magnetic field from the sun's south to north pole. When the results were compared with observations from the previous solar cycle, the strength of the solar wind pressure and the magnetic field embedded in the solar wind were found to have decreased by 20 percent. The field strength near the spacecraft has decreased by 36 percent.
"The sun cycles between periods of great activity and lesser activity," Smith said. "Right now, we are in a period of minimal activity that has stretched on longer than anyone anticipated."
Ulysses was the first mission to survey the space environment over the sun's poles. Data Ulysses has returned have forever changed the way scientists view our star and its effects. The venerable spacecraft has lasted more than 17 years, or almost four times its expected mission lifetime.
More information about the Ulysses mission is available at http://ulysses.jpl.nasa.gov .
-NASA News Release, September 23, 2008

.The Space Place



Extreme Starburst
by Dr. Tony Phillips

Caption:The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.

A star is born. A star is born. A star is born. Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.
Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.
"We call it the 'Baby Boom galaxy," says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."
Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of Astrophysical Journal Letters.
The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.
This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capek. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.
The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."
Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance. Meanwhile… A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at www.spitzer.caltech.edu/Media/mediaimages. Kids can play the new Spitzer "Sign Here!" game at spaceplace.nasa.gov/en/kids/spitzer/signs.
This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

LCROSS Downloads Available
The Night Sky Network held an LCROSS webcast on Augus t 28th from NASA/Ames Research Facility in California. Watch the archive on the web at:
http://quest.nasa.gov/lunar/ASP
Download the Activity Guide here:
http://nightsky.jpl.nasa.gov/download-view.cfm?Doc_ID=291

Get Ready for IYA 2009
The Night Sky Network has a treat in store for you for 2009! Keep an eye out for updates on our International Year of Astronomy (IYA) plans. This includes easy access to free materials from NASA, a searchable database of activities for you to use with the public, and IYA packets for each month that will support your outreach efforts and connect them to worldwide programs. The kickoff begins this fall just in time to plan your events for IYA 2009. It looks like a spectacular year ahead.

Quarterly Prizes
Remember to get those events logged before October 4th to qualify, and increase your chance of winning the Quarterly Prize- a beautiful Mars Globe with bonus Phoenix Mars Lander DVD! We will pick five clubs randomly from the NSN events held between July 1 and September 30th. The more events you log using NSN resources, the better your chances. The drawing will be held on October 6th.

Just like you, the Astronomical Society of the Pacific (ASP) believes in improving science literacy through the enjoyment of astronomy. To keep up-to-date on activities, events, and resources provided by the ASP, sign up for free monthly notifications here:
http://www.astrosociety.org/pubs/newsletter.html
- Marni Berendsen, Kenneth Frank and Vivian White, Night Sky Network Administrators

New Resource Guide on Women in Astronomy at the ASP Website
An updated, expanded resource guide to the role women have played and are playing in the development of astronomy is now available on the ASP website at www.astrosociety.org/education/resources/womenast_bib.html
The guide includes both printed and web-based materials, and has general references on the topic plus specific references to the work and lives of 32 women astronomers of the past and present. All the materials are at the non-technical level and thus appropriate for student papers, curriculum development, or personal enrichment.
The guide makes reference to 178 different web resources, as well as books and articles that are either in print or found in many larger libraries.

This resource guide is part of a series that can be found on the Society's website, on such topics as the astronomy of many cultures, debunking astronomical pseudo-science, and resources for astronomy education.

George Ellery Hale is the Subject of PBS Documentary

The Journey of Palomar is the story of American astronomer George Ellery Hale's dramatic public and private struggles to build the world's four largest telescopes, which set the stage for astronomy and space exploration throughout the 20th century, revealing the greatest discoveries since Galileo and Copernicus. The documentary, airing Monday, November 10, 10:00-11:30 p.m. ET (check local listings) on PBS, traces Hale's lifelong efforts to build these great instruments, culminating with the most famous telescope in the world, the million-pound telescope on Palomar Mountain.
Producers Todd and Robin Mason contracted to create a Teacher Guide to the program that not only has a guide to using the documentary in the classroom, but is rich with hands-on activities to address the science and discoveries made using Hale's great telescopes. The guide is complete. It will be available on the project website and distributed on the DVD. You can find the trailer at: www.journeytopalomar.org

SWFAS Minutes – September 4, 2008

7:30 – Bob Francis – President: Bob called meeting to order.

Welcome to new members and visitors.

Winter Star Party in February at the Keys.

Bob reviewed the 2008 Star Party. It is held by the Southern Cross Astronomical Society. SCAS has over 200 members. This year will be a very big year the 25th Anniversary. It is expected to be a very big event and will sell out quickly. Get your applications in soon. The Star party will be extended by another day and a half – running Saturday AM through the following Sunday AM.

Anyone interested, go the website www.scas.org and find the application form. Last year the cost was $135.00 for the permit & camping. There is a caterer on site and Bob says the brownies are phenomenal!!

The food is reasonably priced, about $10-$15 a day. One can also cook food on site too. Last year was the best 7 days in 24 years for viewing! The weather was perfect. The year prior, it was rained out.

There are showers and food is available 24/7. This event presents a perfect opportunity to buy equipment – up to 30% off. Tickets are sold for the entire week only. One is able to come & go as you please. Don't forget your ticket!! No entry is allowed without a ticket. Get there early to get a good spot. Bob, Charlie, Alice and others usually have a section they go to every year. There are also chickie huts available which have 6 beds. If you stay off-site, there are no lights allowed. You cannot drive your car on or off.

Bob will bring in a CD of last year's Star Party to show everyone what to expect. Once again, get your tickets early. You can always sell the tickets if you do not go.

Mike Harden – Vice President: Not present.

Karen Nichols – Secretary: Minutes are in the newsletter.

Ramona Huddleston – Treasurer: Read Treasurer's report.

Bob Francis commented on the expenses accrued for work done on the 12 ½" telescope behind the planetarium. Bob & Stewart Rorer have been restoring the telescope out back as a "thank you" to Carole for letting the club use the facility for our meetings.
The next project Bob & Stewart is to work on the base of the telescope.

Carole Holmberg – Newsletter Editor: Carole now has Adobe Acrobat and the newsletter will be sent out in that format. On Sept. 15th, the Planetarium will be getting a new machine!! Some of the cool features are live sky tours, constellation outlines, and the skies from the past to skies of the future!

The Nature Center is having a telescope observing on Monday. A volunteer is needed for this event.

Charlie Paul & Chuck Pavlick – FAK: Both Charlie & Chuck went down to the FAK, once in late July and again in early August. The conditions were not very good. This summer SW FL has had a lot of rain. In August, if you have never seen the Milky Way, it is fantastic! Next dates planned to go to the FAK is Sept. 23rd.

A reminder – Especially this year with all the rain, the mosquitoes are pretty bad. Be sure to put mosquito repellant on & take a bottle down. DEET works really well. Thermosel is also good and is sold at Walgreens, Home Depot and WalMart for about $20.

Steve Nelson – Caloosahatchee Regional Park: Not present.

Bob commented this area has some light pollution and is not as good for observing as the FAK., but it is a lot closer. There is a pavement to set up your scopes. Steve has reserved the following dates for observing at the Regional Park - Sept. 20, Oct. 25, Nov. 22, and Dec. 20. Steve sends out an email to members when he's going to the park.

Jamie – Librarian: Not present.

Danny Secary – Historian: Not present.

Dan Fitzgerald – Webmaster: Not present

Bob commented if anyone has any photos they want put on the website, send them to Dan.

Sanders Lewallen – Equipment Manager: Not present.

Upcoming Events:
Star Party at the Keys in February 2009.
SWFAS is not supporting any events at this time.

Program: Video – Passport to Pluto.

Meeting adjourned at 9:10 PM.

Calendar of Events
Thursday, October 2nd, 7:30 pm, **Meeting at the Calusa Nature Center Planetarium**

Monday, October 6th, MESSENGER flys by Mercury

Wednesday, October 8th, 1:30 am, Launch of STS-125

Monday, October 9th, **Telescope Observing at Calusa Nature Center and Planetarium**
(SWFAS members are welcome to join us. Contact Carole at 275-3435 for more information)

Tuesday, October 21st, Orionid Meteor Shower peaks (unfavorable viewing conditions this year)

Saturday, October 25th, sunset, **Telescope Observing at Caloosahatchee Regional Park**

Thursday, November 6th, 7:30 pm, **Meeting at the Calusa Nature Center Planetarium**

Friday, November 14th, proposed launch for Space Shuttle Endeavor

Saturday, November 22nd, sunset, **Telescope Observing at Caloosahatchee Regional Park**

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www.theeyepiece.org