

Johnson Space Center Astronomical Society

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Ring of Fire in Panama

Ken Lester





and I have just returned from Paul's latest eclipse tour: to see the hybrid solar eclipse in Panama. The trip was all inclusive. That translates to a few extra pounds of baggage coming back around the old waist (which I've already lost, thank you). Included in the price of the tour were unlimited food and beverages (both soft and hard), at the While this was great on the hotel. pocket book, it was bad on the waistline.

The four day tour started at Houston's Intercontinental Airport with Astronaut Claude Nicollier ensuring everyone got He also distributed on the plane. JSCAS Panama Eclipse 2005 shirts for those who had ordered them. These

shirts were our standard club shirts, navy blue, polo style, with the JSCAS emblem and the words "Panama Eclipse 2005". They looked great.

The 3¹/₂ hour long flight was fairly decent. Clearing customs took a while so it was dark by the time

we boarded the bus for the 90 minute trip to our resort hotel, the Royal Decameron Hotel at Farallon on Panama's Pacific coast.

We arrived at the hotel after the normal closing time for the restaurants. However, Paul had already arranged for one of their seven restaurants to remain open for us. The dinner buffet was great with a wide range of foods to choose. By the time we were finished, our luggage was waiting outside our rooms for us.

Thursday was Panama City tour day which was included in the price of our eclipse tour. After breakfast, Paul, a hotel representative and a tour representative briefed us about





the hotel, procedures, and eclipse day. We then boarded buses for the 90 minute trip back to the city. There were two tour buses and I felt fortunate to be

Not only did Louis keep us well informed on the rich local history, culture and customs; he also made some unscheduled stops the other bus didn't make. One such stop was to deposed General Noriega's house in the city.

On our visit to the original settlement, the skies

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decided to open up and it poured down rain preventing us from visiting the many ruins which are in the process of being preserved. We had to settle for visiting the indoor markets and spending money.

Lunch was on a small island connected to the mainland by a land bridge. The islands and land bridge served as a breakwater for the canal. The lunch was excellent and relaxing. It gave us a chance to stretch our legs before re-boarding the bus for more sightseeing.

The tour included a trip to Miraflores locks, where we watched ocean going cargo ships being lowered 27 feet

to Pacific sea level. Water is pumped into the empty lock until the water level matches the level of the lock containing the waiting ship. The doors between the two locks are then opened and the ship is guided by small rail engines until the ship is completely in the new lock. The giant lock doors are then closed and water is pumped out until the ship is lowered to the level of the Pacific. Once the ship has been lowered, the forward doors are opened and the ship is guided out of the lock.

The Miraflores visitor's center is very modern and





has some exceptional viewing areas for the public. The locks are a major source of revenue for Panama.

We arrived back at the hotel around 7:30, just in time to get ready for dinner. There were 6 specialty restaurants at the hotel. You could choose from fish and seafood, Italian, Thai, Mediterranean, Japanese or grilled food. Lisa and I chose Sushi Samba, the Japanese restaurant. The chef put on a cooking show with lots of fire and bravado. The food was excellent and watching the chef was a treat.

Friday was eclipse day. Paul gave a presentation in the morning which included our proposed destination, times to check for changes in plans, and simulations of Bailey's beads. Claude told us about the plans for a star party, weather permitting, at an abandoned airfield within walking distance. Paul introduced Hana Druckmüller, the project organizer of the Mathematical Methods of Visualization of Solar Corona project (see page 7) who gave us a briefing on their project.

Also staying at the hotel was Nixy (Nick) Yellop from the UK. Nixy was handing out free eclipse glasses and had set up 3 H-alpha scopes for the hotel guests to use. Nixy is a major player of sunworshippers.org, an organization whose sole aim is to introduce as many people as possible to the spectacle that is our Sun. One of their goals is to put an H-alpha scope in every school in the UK. Visit their web site at www.sunworshippers.org.

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Eclipse day weather was the best we had seen so far during our trip. The morning was sunny and everything really looked promising. However, as our targeted departure time approached, clouds started to build. Paul and Claude studied the weather reports to decide where our best chance was to see the ring of fire. Originally, we were going to split our groups, sending one group north and the other south. As it turned out, the southern location had rain, so both groups ended up at the Penonome airfield.

Nixy of sunworshippers.org sets up a PST for the hotel guests

When we arrived at the airfield, there were lots of tour buses already there. Some of the groups

there were from France and Belgium. The Panamanian Association of Amateur Astronomers (APAA), were at the airfield, helping to get things organized. They were also selling eclipse day Tshirts. Their president, Aulio Hernandez, is also a member of JSCAS, attending our meetings every chance he gets. It was great to see Aulio again.

At first contact, the clouds really didn't interfere with our viewing. However, as we approached eclipse maximum, the clouds became a real problem. It was decided that those who wanted to would go with Claude in an attempt to get out from under the clouds. Quite a few members boarded the bus and headed north.



The moment of eclipse maximum

Those of us who remained waited anxiously for the clouds to thin. Just minutes before second contact, the clouds thinned enough to get a good view of the eclipse. At eclipse maximum, a small roar could be heard up and down the runway as everyone gasped in awe, some cheering and



clapping.

This was my first solar eclipse. While I was not disappointed in the event or the images I took of the eclipse, I did learn a few things for my next trip. The first is to have a sturdier mount for the camera. The wind was quite brisk and buffeted the camera a lot. This resulted in most shots being blurry. The second is to have a longer focal length lens to get a larger image of the eclipse. Last, stay lower to the ground. This will increase stability of the mount and also result in a steadier picture.

Saturday was a free day. Our tour members split up and went on some optional tours that the hotel (Continued on page 6)

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offered. Some went birding, some went scuba diving, some just lounged around the pools. I was invited to join Hernan and Evelina Contreras on a taxi tour to el Valle de Antón. The valley formed some 35,000 years ago when the plateau between four volcanoes collapsed. The drive to the valley was very nice despite the taxi breaking down. The taxi managed to limp into town and while we shopped, another taxi arrived so we could continue our tour. It was great to tag along with Evelina and Hernan. They graciously translated everything the driver said. We visited their zoo, which was lush with flowers and tropical plants.



Orchids grew from the trees. Their selection of exotic birds was wonderful. Hernan and I hiked through the rain forest, over suspension bridges and treacherous rocks to a waterfall. We even saw



a hummingbird in a nest. We went to the local hot springs where the water is heated by geothermal activity below. On our way out of the city, we even saw NASA headquarters, Panama. Well, the sign said NASA.

The most difficult part of the trip was having to say goodbye to our new friends and to Panama. It's a beautiful country, full of smiling faces and beautiful flowers.

In closing, I just wanted to say thank you to the tour organizer, Paul Maley. Paul puts an incredible amount of time into making his tours run smoothly and in keeping the participants well informed, both before and



Left: APAA club members with Aulio Hernandez (4th from left) and Paul Maley (4th from right). Right: Ring of Fire group photo at Penonome airfield

during the trip. Thanks Paul! Unless otherwise noted, all images were taken by Ken Lester.

M²V Eclipse Photography Project

Ken Lester

Why is solar eclipse photography so difficult? One reason is the extreme contrast which makes it impossible to record the entire event on a single image. Another reason is that there is little chance for making experiments. If anything goes wrong, it may be years before another opportunity occurs

to do the experiment again. Finally, processing the images taken during a total eclipse is very complicated and time consuming. There was a need to develop software dedicated just for this purpose.

In 2002, Miloslav Druckmüller, professor of mathematics at the Brno University of Technology, Czech Republic, set out to develop new mathematical methods to make the processing of corona images more effective. The result is the M²V project, <u>Mathematical Methods of V</u>isualization of Solar Corona.

M²V project organizer, Hana Druckmüller, was a member of the Ring of Fire expedition to Panama. Hana gave a presentation to tour participants explaining their project and invited all professional and amateur astronomers who have high quality images of total solar eclipses to participate in this project. Hana can be reached via e-mail at hanadruck@seznam.cz.



M²V project organizer, Hana Druckmüller

According to the M2V website, www.zam.fme.vutbr.cz/~druck, "this image (below left) is a composition of 21 different images with various exposition times processed by means of Corona 3.0 software. These images I took with MTO Maksutov - Cassegrain telescope. The part of the Sun obscured by the Moon was replaced by SOHO EIT 30.4 nm (He II) image taken at 11:14 UT. Orange color palette is used for SOHO image display in order to distinguish between both images. There is a big difference between this image and image composed with SOHO EIT 19.5 nm. While the 19.5



nm image shows coronal features the 30.4 nm image shows more features corresponding to solar chromosphere i.e. colder gas layer. Prominences, cold gas clouds in hot corona, are very well visible on 30.4 nm too, as it is illustrated on the pair of small pictures on the left. Chromosphere and prominences are not visible on polar regions on the image taken in visible light during eclipse because my observing place was nearly on the eclipse central line and for the whole eclipse they were obscured by the Moon. "

Dave Brown Memorial Park Dedication

Ken Lester

"... if I'd been born in space I know I would desire to visit the beautiful Earth more than I've ever yearned to visit to space. It is a wonderful planet." These words, etched on shiny black marble for all to see, were sent to friends and colleagues by Dave Brown from Columbia as it orbited around Earth on her last mission.



As a tribute to Dave, on April 16th, his friends at Polly Ranch, where Dave lived, renamed their beautiful neighborhood park the Dave Brown Memorial Park. Situated near the end of Polly Ranch's runway, amongst old oak trees, the park features

picnic tables for BBQs and playground equipment for the kids. There is even a trail around a picturesque lake, complete with island.

The dedication of the park began at 1:00 when Dave's good friend, Al Saylor, began introducing the speakers. April 16th was declared Dave Brown Day in Friendswood via a proclamation read by Friendswood's mayor, Kimball W. Brizendine. The proclamation was then given to Dave's family, represented by his brother, Doug. Also sharing stories about Dave were Lee Moran, a fellow astronaut as well as the president of Polly Ranch's homeowner's association.

Completing the ceremonies was a flyover of 4 vintage airplanes in the missing man formation followed by a NASA T38 streaking nearly straight up just as the final words of dedication were spoken.



A plane begins to veer off for the missing man formation.

This was a wonderful day to remember our friend and fellow club member. The weather couldn't have been better. It was truly a fitting way to honor him.



Family Space Day



Family Space day for April, 2005, focused on The Life Cycle of Stars. The kids learned about how stars form as well as the changes stars go through as they age and ultimately what happens to stars when the "die". The kids made mobiles showing the differences in life cycle changes between small and large stars. They learned all about white dwarfs, neutron stars and black holes. It never



ceases to amaze me how the folks at LPI can demonstrate all the wonders of the Universe with glitter and glue. There was also finger painting this month. These LPI folks are brave! Thanks as always to Mike Madera and Stephanie Shipp.

Attendance was good and everyone had a blast as always.

Till Next Month, Matt Hommel.

All images by Matt Hommel

CELESTRON PURCHASED BY SW TECHNOLOGY CORPORATION, A DELAWARE COMPANY, AFFILIATE OF SYNTA TECHNOLOGY CORPORATION

Leading telescope manufacturer purchased by long term overseas optics manufacturer (Celestron Press Release)

TORRANCE, CA – April 6, 2005 – Celestron, one of the world's leading designers and manufacturers of telescopes, binoculars, spotting scopes and microscopes, today announced that SW Technology Corporation, a Delaware company, an affiliate of Synta Technology Corporation ("Synta"), acquired all of the outstanding members ownership interests of the company. Synta is a well-known optics manufacturer that has participated in the development of some of Celestron's most popular products, such as the NexStar GT computerized telescope line. Synta has been a Celestron supplier for over 15 years.

Celestron will continue to be led by the senior management team of Joseph A. Lupica and Richard L. Hedrick with Chairman Alan Hale and Celestron founder Tom Johnson remaining as consultants. Synta and its related companies will continue to manufacture and supply other telescopes and related products for Celestron. As a result of the acquisition, Celestron will be in a position to meet all current financial obligations and continue to lead the product engineering, development and manufacturing processes from the Torrance, California headquarters. All product warranties will stay in effect and product support will not be interrupted or delayed. The company's first goal is to fill a three month backlog of product orders and work to resume full scale production and product development operations.

"I have always had great admiration and respect for Celestron's products and have had a very close and warm relationship with the company and its management team for the past 15 years," said David Shen, Synta founder. "I am committed to maintaining Celestron's reputation of quality and innovation and will support their continued efforts to create and engineer products that give value to the consumer. I want to assure everyone that Celestron's operations will remain in Torrance, the management team will stay intact, and Celestron will continue to develop innovative products of the highest quality for amateur astronomers."

Shen said that since the reorganization in 2002 Celestron has been unable to take advantage of the market demand for its products because it was under capitalized. In addition, the long and expensive litigation initiated by its US competitor made it more difficult for the company to meet customer demands for existing and new products. Shen says those issues are now in the past. With the additional capital infusion required for the growth of the company, Shen has "full confidence that the current senior management team will be able to carry through the expansion of Celestron and continue to develop and manufacture high-end telescopes and related products to its loyal clientele."

"Synta has deep understanding of the telescope industry and appreciation for the value of Celestron's products," said Celestron CEO Joseph A. Lupica. "They are investing in Celestron to grow Celestron's business and that is a very positive development. This acquisition is in the best interest of Celestron dealers, employees, consumers and the telescope industry as a whole. Synta and Celestron will form a strong team to provide competitive products of the highest quality for consumers." Lupica added, "I am very excited to be in a position whereby our entire workforce will be able to focus 100% of our energies on the development, production and distribution of high quality optical products. I am just as excited when I consider the innovative products we will be able to develop with the assistance of one of the leading telescope suppliers in the world, Synta Technology. It's time to go back to work for our customers doing what we do best."

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This acquisition takes place among rumors that Celestron would be purchased by their main competitor, Meade Instruments. Although officials at Meade Instruments have expressed an interest in acquiring Celestron, the action has been blocked by the FTC several times. According to Lupica, Meade has continually approached Celestron management with buyout offers over the past few years. He pointed out that Celestron's senior management had a fiduciary responsibility to consider all reasonable offers, including an offer from a major competitor that would be subject to them obtaining the approval of the FTC. Celestron management also negotiated with several other interested parties before accepting Synta's offer.

In response to a recent article in the Orange County Register, Lupica said, "We chose not to comment for the OC Register article because we felt it was inappropriate to comment on matters that were still in negotiation. Contrary to previous reports that the company is being purchased for a price below liquidation value, in fact each existing owner is getting a return on their original investment."

About Celestron

With corporate offices and manufacturing, in Torrance, California, Celestron has been a leading designer, manufacturer and importer of high-quality optical products including telescopes and related accessories, binoculars and microscopes for almost 40 years. Celestron is a leader in the sale of performance telescopes worldwide and has very strong brand-name recognition among serious amateur astronomers for superior optics, outstanding design, and innovative technology. Celestron sells its products worldwide through a variety of specialty retail outlets and international distributors. Celestron is a privately held company.

Known throughout the world for superior optics, Celestron is recognized for many industry firsts including:

First to offer a commercially available fully computerized "GoTo" telescope First to offer GPS telescopes

First to offer a commercially available Schmidt-Cassegrain telescope

First to offer commercially available Schmidt cameras

First to offer a larger aperture Schmidt-Cassegrain (22") true observatory telescope for consumers or research facilities

First to offer PEC (Periodic Error Correction) in consumer telescopes

First to offer StarBright® multi-coatings for the highest throughput transmission \

More information is available at http://www.celestron.com.

About Synta Technology Corporation

David Shen, a mechanical engineer and avid optical designer, is the founder of Synta Technology Corporation of Taiwan. For the last 20 years, Synta and its related companies worked to continually improve its manufacturing process through technological innovations and providing its clientele with high quality products at affordable pricing. Synta and Celestron have been conducting business together for over 15 years. The longevity of the relationship is due to the similarity in the vision of both companies as shared by their senior management team.

FYI...

Need a red sheet of plastic to cover your laptop screen? Try one of these sources: Aero-Shield Plastics Inc., 12131 Sowden, Houston, TX 77080, 713-462-8021 or Texas Art Supply in Friends-wood near Baybrook Mall.

Object	Const	Mag	% III	Rise Time	Transit	Set Time	
Sun	Tau	-26.7	100	06:28	13:16	20:05	
Moon	Leo		48	12:26	19:25	01:45	
Mercury	Ari	-0.5	75	05:37	12:05	18:33	
Venus	Tau	-3.9	98	07:14	14:08	21:06	
Mars	Aqr	0.5	86	02:58	08:39	14:19	
Jupiter	Vir	-2.3	100	16:26	22:26	04:22	
Saturn	Gem	0.8	100	10:31	17:25	00:23	
Uranus	Aqr	5.9	100	02:53	08:35	14:18	
Neptune	Сар	7.9	100	01:42	07:07	12:32	
Pluto	Ser	13.8	99	21:56	03:23	08:49	
Tempel 9P	Vir	9.8	94	16:16	22:41	05:01	
Machholz C/2004 Q2	UMa	9.7	93	12:49	22:16	07:40	

Highlighted times denote daylight events.

★BSO: (Bright Sky Objects)

Mel 111 (Cr 256) – Ópen Cluster in Coma Berenices, Magnitude 1.8, Size 275'.
M3 (NGC 5272) – Globular Cluster in Canes Venatici, Magnitude 6.3, Size 18'.
M53 – Globular Cluster in Coma Berenices, Magnitude 7.7, Size 13'.
M40 – Asterism (Double Star) in UMa, Magnitude 9.5.

★DSO: (Dark Sky Objects)

M106 (NGC 4258) – Galaxy in Canes Venatici, Magnitude 9.1, Size 18' x 7.3'.
M64 (NGC 4826) – Galaxy in Coma Berenices, Magnitude 9.4, Size 10.1' x 5.4'.
M87 (NGC 4486) – Galaxy in Virgo, Magnitude 9.6, Size 7.4' x 6.0'.
M100 (NGC 4321) – Galaxy in Coma Berenices, Magnitude 10.1, Size 7.5' x 6.3'.
NGC 4565 – Galaxy in Coma Berenices, Magnitude 10.4, Size 15.9' x 1.8'.

★CDMP: (Chris' Don't Miss Pick) NGC 4567 & 4568 "Siamese Twins" Interacting Galaxies In Virgo NGC 4567 Magnitude12.1, Size 3.3' x 2.0'. NGC4568 Magnitude11.7, Size 4.8' x 2.0'.

This pair of Spiral Galaxies in Virgo is known as **"The Siamese Twins"** or **"The Butterfly Galaxies"**. Both are classic spiral galaxies with small bright nuclei, several knotty arms, and arm segments. Both also have a hint of an inner ring. The pair is probably a member of the Virgo Galaxy Cluster. NGC 4568 is currently the host galaxy of Supernova 2004cc (Type Ic) and was also the host of Supernova 1990B a Type Ic that reached a maximum magnitude of 14.4.

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Since they both have nearly the same red shift they may well be very close or in actual contact. However, other than a dim general x-ray glow involving both galaxies there is no indication of interaction. Neither galaxy is distorted nor are there any tidal tails. If they are in contract, their orbital dynamics is such that they have not become distorted. Based on their red shifts they are roughly 120 million light years away (Hubble Constant of 62 Km per sec., per Megaparsec) and at that distance the projected distance between their nuclei is only 45,200 light years.







Hubble Spies Cosmic Dust Bunnies March 31, 2005 STScI-2005-11

Like dust bunnies that lurk in corners and under beds, surprisingly complex loops and blobs of cosmic dust lie hidden in the giant elliptical galaxy NGC 1316. This image made from data obtained with the NASA Hubble Space Telescope reveals the dust lanes and star clusters of this giant galaxy that give evidence that it was formed from a past merger of two gas-rich galaxies.

For more Hubble information visit: http://hubblesite.org/

Credit: NASA, ESA, and The Hubble Heritage Team (STScI/AURA)

Mars Exploration Rover Mission

Durable Mars Rovers Sent Into Third Overtime Period News Release: 05-091, April 5, 2005

NASA has approved up to 18 more months of operations for Spirit and Opportunity, the twin Mars rovers that have already surprised engineers and scientists by continuing active exploration for more than 14 months.

"The rovers have proven their value with major discoveries about ancient watery environments on Mars that might have harbored life," said Dr. Ghassem Asrar, deputy associate administrator for NASA's Science Mission Directorate. "We are extending their mission through September 2006 to take advantage of having such capable resources still healthy and in excellent position to continue their adventures."

Read the rest of the story at: http://marsrovers.jpl.nasa.gov/newsroom/pressreleases/20050405a.html

Movie Clip Shows Whirlwinds Carrying Dust on Mars

April 21, 2005, News release: 2005-061

NASA's Mars Exploration Rover Spirit is taking movies of dust devils -- whirlwinds carrying dust -- scooting across a plain on Mars.

Clips consisting of a few frames of two different dust devils are available online at: http://marsrovers.jpl.nasa.gov and http://www.nasa.gov/vision/universe/solarsystem/mer_main.html.

These were taken on April 15 and April 18, and capture more movement as seen from the surface than any previous imaging of martian dust devils.

"This is the best look we've ever gotten of the wind effects on the martian surface as they are happening," said Dr. Mark Lemmon, a rover team member and atmospheric scientist at Texas A&M University, College Station.

Read the rest of the story at: http://marsrovers.jpl.nasa.gov/newsroom/pressreleases/20050421a.html



Cassini Mission

North and South on Tethys April 22, 2005

This view of Saturn's moon Tethys shows the contrast between the more heavily cratered region near the top and the more lightly cratered (and presumably younger) plains toward the bottom part of the image and near the limb. Some of the larger craters in the latter region appear to be somewhat subdued or filled in. Tethys is 1,071 kilometers (665 miles) across.

This view shows principally the anti-Saturn hemisphere on Tethys. North is up and tilted 20 degrees to the left.

The image was taken with the Cassini spacecraft narrowangle camera on March 9, 2005, through a filter sensitive to wavelengths of ultraviolet light centered at 338 nanometers. The view was obtained at a distance of approximately 200,000 kilometers (127,000 miles) from Tethys and at a Sun-Tethys-spacecraft, or phase, angle

of 120 degrees. Resolution in the image is 1 kilometer (0.6 mile) per pixel.

Moons Section Now Online Apr. 20, 2005

A moons section has been added to the JPL Cassini-Huygens website. This section includes the latest information on the fascinating worlds orbiting around the ringed planet. The moons section can be accessed directly at: http://saturn.jpl.nasa.gov/science/moons/index.cfm.

NASA's Spitzer Telescope Sees Signs of Alien Asteroid Belt For Release: April 20, 2005

NASA's Spitzer Space Telescope has spotted what may be the dusty spray of asteroids banging together in a belt that orbits a star like our Sun. The discovery offers astronomers a rare glimpse at a distant star system that resembles our home, and may represent a significant step toward learning if and where other Earths form.

"Asteroids are the leftover building blocks of rocky planets like Earth," said Dr. Charles Beichman of the California Institute of Technology, Pasadena, Calif. Beichman is lead author of a paper that will appear in the Astrophysical Journal. "We can't directly see other terrestrial planets, but now we can study their dusty fossils."

Asteroid belts are the junkyards of planetary systems. They are littered with the rocky scraps of failed planets, which occasionally crash into each other, kicking up plumes of dust. In our own solar system, asteroids have collided with Earth, the moon and other planets.

If confirmed, the new asteroid belt would be the first detected around a star about the same age and size as our Sun. The star, called HD69830, is located 41 light-years away from Earth. There are two other known distant asteroid belts, but they circle younger, more massive stars.

Read the rest of the story at: ... http://www.spitzer.caltech.edu/Media/releases/ssc2005-10/release.shtml

STUDENTS RECEIVE INTERNATIONAL AWARD For Immediate Release April 7, 2005 International Dark-Sky Association (IDA)

Benjamin Jones, a San Antonio, Texas student, received the first place prize for the high school category (grades 10-12) in the George and Edythe Taylor student award program of the International Dark-Sky Association (IDA). Philip Chan Su-Chern, a student in Singapore, won the top honors in the 7-9 grade levels.

These awards were announced today at the 17th annual meeting of the International Dark-Sky Association (IDA). Physicians, engineers, artists, national park staff, astronomers, government officials, and many others are currently meeting in Tucson, Arizona, to discuss their shared interest in the nighttime environment and its affect on human activity.

The award encourages students to explore the worldwide problem of light pollution through science, technology, society, and the environment. The judges were impressed by the students' eloquent communication skills, by the fact that they were sharing their projects with the world, and by the fact that these projects "made a big difference".

The award is given in honor of George and Edythe Taylor. George was a career lighting engineer who won honors from the Illuminating Engineering Society of North America (IESNA) for his contributions to the field. He was the IESNA's 54th President (1958-59) and was always interested in and supported education.

Benjamin Jones used a variety of methods to raise awareness in Texas about the problems and solutions of light pollution. He wrote articles for newspapers, spoke before planning commissions, and serves as the representative for IDA Texas in his area. He also won first place in a regional science fair with his light pollution research project.

Philip Chan Su-Chern's project investigated "Challenges of Overcoming Light Pollution in Modernday Cities: Drawing parallels between Tucson and Singapore". In addition to his research, he contacted Members of Parliament, Town Council, and the National Parks Board of Singapore. He concluded "... the battle to reduce light pollution in Singapore can be won through a concerted effort of all authorities."

The IDA is a non-profit, education and research organization, dedicated to preserving and protecting the nighttime environment and our heritage of dark skies through quality outdoor lighting.

Light pollution is a problem with workable solutions, and students identify with it. Today's students are the first in history to grow up without the awe-inspiring splendor of a beautiful star filled sky. In a world with limited natural resources and an increasing need to protect our ecosystem, too much energy is being squandered on wasteful lighting. Obtrusive nighttime lighting adversely affects humans, wildlife, and flora. Students find that by raising awareness and changing practices in their own community, they contribute to worldwide solutions.

Details about the IDA are at: http://www.darksky.org Details about the IESNA are at: http://www.iesna.org Details about the award program and judging criteria are at: http://www.darksky.org/education/edaward.html

Ben Jones, a member of HAS, is the grandson of Barbara Wilson, prominent Houston area amateur astronomer, teacher and staff astronomer at the George Observatory. Congratulations Ben and Barbara!

Star Party News

Ken Lester

We have finished up our spring star parties. Last month's Haak Winery star party was partly cloudy but the public turnout was fantastic. According to the Haaks it may have been the best attended event they have had.

The Challenger 7 star party had beautiful clear skies and lots of scopes. Bob Hammond even brought out his 22". Unfortunately only about a dozen people showed up. In addition, there was a change in procedure in which we were no longer allowed to park around the traffic circle where we set up our scopes. According to the park staff it was for safety reasons. While the park turned off the lights in the observing area, there were two very annoying, unshielded lights in the parking lot which caused considerable problems with glare.

Our next scheduled public star party isn't until August. I will join those going to the Texas Star Party on May 1st. Here's hoping for clear skies...

Event	Date	Sun Set	Moon		Jupiter		Saturn		Mars		Venus		
			Illum.	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2005													
Moody Gardens	Aug 13	20:22	60	15:00	00:31	11:18	23:01	05:43	19:29	00:11	13:12	209:50	22:08
Challenger 7	Sep 10	19:50	45	13:56	23:57	09:51	21:25	604:08	17:47	22:56	12:14	10:34	21:44
Fort McKavett	Sep 29 to Oct 2	19:25	11	04:01	17:47	08:55	20:21	03:03	16:38	321:50	11:14	11:04	21:32
Haak Winery	Nov 5	19:18	7	09:41	20:33	08:37	20:01	02:41	16:16	621:25	10:51	11:14	21:30
Moody Gardens	Nov 12	17:48	89	15:19	02:56	04:48	16:47	23:29	11:53	317:14	05:40	09:33	321:05

Below is the schedule of JSCAS star parties for 2005.

Sky & Telescope and now Astronomy Magazine Subscriptions – Don't Forget about the Club Discount!

Sky & Telescope offers a "Club Discount" on subscriptions. You can subscribe to Sky and Telescope for \$10 off the normal price (\$32.95 with the club discount). Astronomy magazine is also offering a club discount. JSCAS members can subscribe to Astronomy for \$29 a year. We need to have a minimum of five subscribers to take advantage of the discount. I need **four** more people to sign up. If you are a current subscriber, *please* contact me so I can put you on the list for the club discount when your subscription is due for renewal!

Contact me by the email listed on the JSCAS web site, catch me at a meeting, or send your check and renewal form to my home address: 2407 Elkton Ct., Pearland, TX, 77584. I'll put your renewal in the mail within 48 hours after I receive it.

David Haviland Vice-president and Secretary

Houston Area Astronomy Clubs	 Brazosport Astronomy Club Meets the Third Tuesday of the month, 7:45 p.m. At the Planetarium 400 College Drive Clute, Texas For more information, contact Judi James at the Planetarium 979-265-3376 Fort Bend Astronomy Club http://www.fbac.org/ Meets the third Friday of the month, 7:00 p.m. First Colony Conference Center 3232 Austin Pkwy Sugar Land, Texas Houston Astronomical Society http://spacibm.rice.edu/~has/ Meets the first Friday of the month, 8:00 p.m.
	Science and Research Building, room 117 North Houston Astronomy Club http://www.astronomyclub.org/ Meets the fourth Friday of the month, 7:30 p.m. In the Teaching Theater at Kingwood College 20000 Kingwood Drive Kingwood, Texas

Member Recognition

Becky Ramotowski's image of the solar eclipse taken from Tijeras, NM appeared on space-weather.com.

The May-June issue of NightSky features a story on observing Jupiter which includes an image taken by **Ed Grafton**.

Aulio Hernandez, a JSCAS member who lives in Panama, had a picture of the annular solar eclipse on spaceweather.com.

Upcoming Events

Texas Star Party: May 1st thru 8th near Fort Davis, Texas.

ArkLaTex Star Party: The Red River Astronomy Club (RRAC) will host the first ArkLaTex Star Party from September 1st through Labor Day, September 5th near Nashville, Arkansas. In a message from Roy Clingan of RRAC, Roy stated: "Armed with new technology, amateurs are contributing vast amounts of data and research to the scientific community. Hear what you can do in the fields of spectroscopy, cataclysmic variables, NEO and super nova searches. There are also presentations on collimation, imaging and a history of amateur contributions."

The ArkLaTex Star Party will supply dark skies, plenty of camping space, a vendor (Rex's Astro Stuff), presentations by professional and amateur astronomers, meals, T-shirts, swap meet, showers, electricity, door prizes, movies on a 72 inch screen and broad band internet access on the field via wireless connection. There are also many interesting, beautiful and historic sites surround Nashville, including a diamond mine, an Indian village and canoeing.

For more information, please visit: http://ww.rrac.org.

MEMBER'S GALLERY



LUNAR HALO ©Mat Hommel

Taken in New Mexico. The small blue dot might be those pesky almond eyed aliens on final approach into Roswell. They hide in the glare of the moon until after the base leg when they turn on final approach. If they overshoot Roswell there's an alternate runway visible from the Solar Observatory in Sunspot NM. That's the way they tell the story anyway (not kidding). Well, that or a photographic aberration, you decide.



NGC-5566 ©Randy Brewer

The center galaxy is NGC-5566. To the right is NGC-5569 and on top is NGC-5560. They are in the constellation Virgo. Taken with a 14.5" RC at f/9 using an SBIG ST-10XME camera and Don Goldman's LRGB Filters. Exposure LRGB = 120:15:15:15 minutes. The image was taken April 5th, 2005 at Ft. Davis, Texas.



M-66 ©Randy Brewer

Taken with a 14.5" F/9 RC with an SBIG ST-10XME camera wsing SBIG LRGB Filters. The image was taken on April 5th, 2005 at Ft. Davis, Texas. Exposure: LRGB = 60:30:30:30 minutes



Annular Eclipse ©Ken Lester

This image near eclipse maximum was taken at Penonome airfield, Panama, on April 8th. It was taken with a Nikon D70 and a 75~300 mm zoom lens set at 300 mm. The lens was covered with Baader solar film. The image has been cropped, with contrast and brightness enhanced in Microsoft Draw.



Omega Centauri ©Becky Ramotowski

The image above is a 2 minute exposure at ASA 1600 made with a Nikon D-70 and a Nikon 180 lens mounted on a Losmandy G-8. The NR feature of the D70 was enabled. This image was taken at Tijeras, NM.



M51 ©Al Kelly

L/RGB image of the Whirlpool galaxy (M51) in Ursa Major, made from images taken with a Starlight Express MX916 and a 32" Newtonian on 4/2/05 from Danciger, Texas, using Schuler RGcBc filters. Five 300-second unfiltered exposures, five 120-second sub-exposures in red, four 120-second sub-exposures in green, and six 120second sub-exposures in blue were self-guided in Astroart and processed in AIP4WIN and Photoshop.

For Sale

Celestron C-8 and astrophotography equipment: I recently contracted cancer and my health is rapidly failing. I have a Celestron C-8 SCT with all accessories for astrophotography. I would like to sell the equipment to one who would use it to its potential. This equipment would be an excellent way for someone wishing a quality astronomical/astrophotography system at a reasonable cost.

Equipment included...

- Celestron C-8 SCT with carrying case
- Wedge
- Deluxe tripod
- Full complement of Celestron eyepieces
- Two full aperture solar filters
- Variable speed drive corrector for sidereal, lunar and solar rates
- · Electronic star tracker interfaced to above drive absolute necessity for astrophotography
- Guide scope 72mm, f/8 refractor
- Full cable set and current inverters for rural operation from a car battery
- · Lumicon Hydrogen-alpha/beta/Oxygen III transmission and Sodium rejection filters
- Custom carry case for accessories
- Revised NGC catalog, Sky Publishing Atlas of the Heavens, various books on astrophotography, astrophotometry, telescope making, etc.
- Olympus OM-1 camera body
- 50mm, 100mm and 200mm Zuiko lenses
- Telemore focal length doubler
- Olympus 7mm, 14mm and 25mm macro extension tubes
- Olympus right angle viewer
- Remote cable release
- Olympus interchangeable focusing screens
- Various filters, accessories, gadgets, etc.

Any reasonable offer will be considered.

J. H. (Jay) Van Velkinburgh 6914 Cherry Hills Rd Houston, TX 77069 281.397.9211 (Home)

Help turn off the lights...

Join the International Dark-Sky Association (IDA) http://www.darksky.org "To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting."



Johnson Space Center Astronomical Society	May Meeting Agenda				
An association of amateur astrono- mers dedicated to the study and enjoyment of astronomy. Mem- bership is open to anyone wishing to learn about astronomy. OFFICERS President Bob Taylor Vice President David Haviland Secretary David Haviland Starscan Editor Ken Lester Star Party Chairperson Lisa Lester Librarian Lisa Lester	 May 13th, 7:30 p.m., Center for Advanced Space Studies/ Lunar Planetary Institute, 3600 Bay Area Blvd. (at Middle- brook Drive). Welcome!!! Guest Speaker: Dennis Webb Break SIG reports, Star Party News Astronomical Oddities — Hernan Contreras Last Words, Door Prizes Any unfinished discussions can be continued over food and beverages at a location to be announced at the end of the meeting.				
Historian	Starscan Submission Procedures				
Scientific Expeditions Paul Maley Web Master Chris Randall	Original articles of astronomical interest will be accepted up to 6 P.M. May 25th. The most convenient way to submit articles or a Calendar of Events is by electronic mail, however computer diskettes or CDs will also be accepted.				
SIGS Observing Awards Triple Nickel CCD Imaging Al Kelly Binocular Observing Leslie Eaton Telescope Making Bob Taylor Deep Sky Observing Chris Randall	All articles should include author's name and phone number. Also include any picture credits. The recommended format is Microsoft Word. Text files will also be accepted. Submitter bears all responsibility for the publishing of any e-mail addresses in the article on the World Wide Web. Editor's electronic address is: lesteke@swbell.net. Be sure to include the word Starscan in the subject line for proper routing of your message. Starscan Staff Editor Ken Lester Associate Editors Sheila Steele Ken Steele				
Cover Image Randy Brewer©					

On the bottom is NGC 3718 in Ursa Major. The smaller one on top is NGC-3729. Notice the tails coming off of both ends of 3718 bending back to form a figure 8. Also notice the hundreds of faint little background galaxies. Taken with 14.5" RC at f/6 at Ft. Davis, Texas on April 4, 2005. Exposure LRGB = 120:40:40:40 minutes

Note: Randy's original image was cropped and rotated to produce the cover image.