FIRST LIGHT

Journal of the South Bay Astronomical Society – January 2006
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, January, 6th, 7:30 PM

Guest Speaker: Kenneth P. Klaasen

"Deep Impact: Your First Look Inside a Comet"

The December 2 Meeting

It was a dark and stormy night. Well, it was, but that didn¹t keep 32 people from attending a lecture by Kara Knack, giving us an "Update on the Griffith Observatory Renovations". Before she spoke, we heard some reports from various members, who had observed from Kitt Peak, toured the Deep Space Network at Canberra, Australia, and seen some bright bolides of the Leonid meteor shower while visiting New Mexico. We also held elections for the four executive positions in the SBAS. The four candidates were elected unanimously.


Kara knack Receives Certificate of Appreciation From Pres Greg Benecke

Dr. Dave Pierce then introduced he evening¹s speaker, who began by reviewing the history of the Griffith Observatory. This was the third planetarium in the United States, when it opened in 1935, and operated until 2002 when it was closed for much-needed renovations and expansion. To preserve the building's appearance, most of the expansion is below ground. The new Zeiss projector is unlike any other projector in the world, and is expected to create the best artificial sky anywhere. The murals are being cleaned of 70 years of airborne dirt, and the 18 bullet holes (!) in the telescope domes have been filled in.

For those of you who are worried that some much-beloved displays will disappear, fear not; the Foucault pendulum, Tesla coil and solar telescope remain. The bust of James Dean will also remain, relocated to a position that will allow tourists to take its picture with the Hollywood sign in the background. The Griffith Observatory will reopen sometime after September 2006.

With so much bad news in the newspapers nowadays, it is heartwarming to hear a success story. The planning and rebuilding of this world-class facility was clearly well done, and the various levels of government that have paid for approximately half of the cost should be congratulated for supporting such a constructive effort. Kara Knack pointed out that the total cost will be in excess of 90 million dollars, and almost half of it has been raised by FOTO (Friends Of The Observatory). If you wish to become a member of FOTO, go to http://www.griffithobs.org to join. This site also has lots of other information about the Observatory and its renovation.

After a question-and-answer period, the meeting adjourned at 9:07, and the RASC Observer's Handbook was distributed to those who had ordered them.

-***Steven Morris***

ANNUAL SBAS CLUB DUES RENEWAL TIME IS HERE: DETAILS SEE PAGE 4

SMALL BODIES EDUCATOR CONFERENCE

On December 3rd and 4th I attended the 'Small Bodies Educator Conference' conducted by the JPL Education Office. The Conference was held at the von Karman Auditorium at JPL in Pasadena. The audience was dominated by K-12 educators from Southern California. However, only about 90 minutes was spent on educational materials and resources of the day and a half conference. The remaining time was presentations on the NASA missions that JPL supports to the outer planets, Kuiper Belt, comets and asteroids, thus the title 'small bodies'.

The opening presentation was given by Dr. Michael Brown, the discoverer of the 10th planet. He discussed the controversy over what defines a 'planet' as there is no generally accepted scientific definition. His talk started with the inner planets and went out through the gas giants to Pluto, Sedna, the Kuiper belt and Oort cloud. This provided an overview for the remaining presentations. He talked about the process used to discover the tenth planet. He uses a scope at Palomar to map the sky. The computer picks out nightly about 100 objects that may have changed. He then reviews these images and found the planet. The sky mapping project should complete next year.

After lunch, Dr Scott Sandford, Stardust and Hayabusa Science Co-investigator, NASA Ames Research Center, who had just returned from Japan that day, gave us the latest information on the Stardust and Hayabusa missions. Both are classified as 'sample and return' missions. Stardust launched in February 1999 has collected samples of the comet Wild2 using aerogel and is scheduled to return to earth on January 15, 2006. Hayabusa touched down on 'Itokawa' on November 20th past and is scheduled to return in the June/July 2007 timeframe. He showed pictures of the differing asteroids, some were solid and others had a surface of ice. Asteroids can even have a satellite orbiting them (about 20% of the time).

With the popularity of the movies like Deep Impact, Dr. Don Yeomans, Near Earth Objects (NEO) Program Manager, JPL, was very timely. His project is actively cataloging asteroids and comets with near earth orbits. There are over 300,000 asteroids and they are discovering over 5000 a month. The key is finding these potential threats as early as possible. He discussed the asteroid 2004MN4 which passed the earth last year within the orbit of the moon. This asteroid will reappear once more in the next decade when they will be able to ascertain whether it will be on a collision course for its return in 2039.

The first day ended with a presentation by Dr Bonnie Buratti, New Horizons Science Co-Investigator, JPL, on the New Horizons mission, the first mission to Pluto and the Kuiper Belt. They are hoping for a launce on January 11, 2006. Expect to flyby Jupiter in February 2007, reaching Pluto and its major moon (they now have found 3) Charon in July 2015. The exploration of Kuiper Belt objects will take place in the 2016 - 2020 timeframe.

Sunday started with a presentation by Edward Miller, Dawn Mission Payload Manager. Dawn is NASA's mission to the main belt asteroids. They will initially visit asteroids Vesta (#4) and Ceres (#1). Both are planetary remnants but have differing characteristics. Cerces, 1000 km in diameter, has a 100 km water-ice mantel. Vesta, 520 km has an iron core of 300 km.

Interestingly, pieces of Vesta have been found on earth but none of Cerces. A major question to be answered by this mission is why did these two asteroids evolve so differently when they are about the same distance from the sun. Launch is scheduled for June 17, 2006, reaching Mars in February 2009, getting a gravity assist to get to Vesta in October 2011; leaving in May 2012, arriving at Cerces August 2015 through January 2016. Which asteroids to visit next is TBD. The key portion of this mission is the use of an ION propulsion system, the first planetary mission to use this technology.

Next was an interesting talk by Dr David Dunham, President of the International Occultation Timing Association and John Hopkins APL who was in L.A. for an occultation on Saturday. This is an area of science where amateur astronomers can make a contribution. These occultations have lead to the discovery of double stars as well as refining the shapes of asteroids.

The Deep Impact mission was presented by Jennifer Rocca, Deep Impact Flight Director and Activity Lead, JPL. Using videos of the launch (impressive) and of the approach to comet Tempel1 and the impact (more impressive) she talked about all the activities and planning that went into this mission. This was the first mission to examine in detail the nucleus of a comet. While the final measurements of the crater are still being determined (and there are betting pools) it's estimated that the crater is 200 to 300 feet in diameter with a depth of 20'. Again these are just estimates. The comet's nucleus is over 3 miles long and she described the impact's effect as being similar to a bug hitting the windshield of a 747.

The final presentation before the noon concluding remarks was on the ESA's Rosetta mission to rendezvous and land on a comet. Launch was in February 2004 with a 2014 projected arrival.

To summarize, the focus of the conference on these small bodies in our solar system is to help answer the questions about the formation of the solar system. Comets and asteroids are primordial material that has not been affected over the 4.5 billion year life of our solar system. By understanding their makeup we can find out about earth's early existence.

This was the third Educator's conference held (first two focused on Mars and Saturn). They want to hold three a year. The cost was $35.00 and IMO well worth the expense and time. More information about these missions can be found at the JPL website: www.jpl.nasa.gov. If you have any questions or comments, I can be reached at the email address below.

- Arnie Stodolsky

NexStar 8 Available to SBAS Members

All members in good standing (with at least six months of continuous membership) can borrow the club's Nexstar8 for up to 7 days. The fee of $5 for a weekend, or $10 for an entire week, is nonrefundable and will be added to the club's Accessories Fund "Wish List" for future purchases. A fully refundable deposit of $200 cash or check is required. Loss or damage is the responsibility of the borrower. A copy of the complete South Bay Astronomical Society Nexstar 8 Borrowing Rules and Agreement is available upon request. The **Accessories Fund "Wish List"** – Member contributions of any amount or donations will be appreciated, as will any suggestions for new purchases!

SBAS Membership Benefits

Contact John Collins for magazine subscriptions at club rates: "Sky & Telescope" $32.95 and "Astronomy" $34.00! Make your check payable to SBAS and mail the payment and your subscription / renewal form directly to South Bay Astronomical Society, P.O. Box 1999, Redondo Beach, CA 90278.

Part of your SBAS membership dues goes toward membership in the Astronomical League. All paid members should be receiving the "Reflector", the league's newsletter, four times a year. As a member organization, we can participate in a number of award programs they offer. These are based on completing various observing challenges. Check out the Astronomical League website at **www.astroleague.org**

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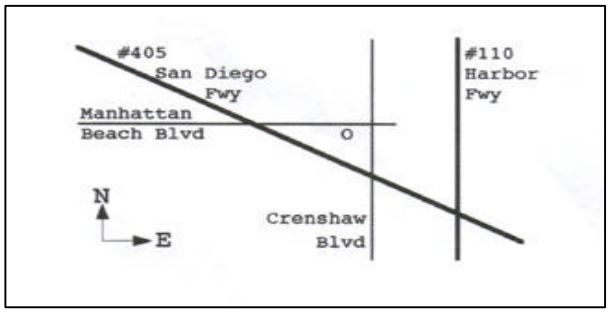
Annual Membership Renewal

Renew your SBAS membership – Keep this amazing newsletter coming plus meetings and observing trips! Renew your membership in the group that brings you great monthly programs, the company of fellow observers, and many chances throughout the year to share the excitement of the night sky with students and new friends. If you just joined us this year, then you can renew your membership on a pro-rated basis to adjust your membership term to the standard calendar-year schedule. Renewal cost as a function of when your membership expires, is as follows:

Membership Expiration	Renewal Fee Due Now! Individual/Family	Student
Dec. '06 or later	$ 0.00	$ 0.00
Nov. '06	$ 2.50	$ 2.08
Oct. '06	$ 5.00	$ 4.17
Sept. '06	$ 7.50	$ 6.25
Aug. '06	$10.00	$ 8.33
July '06	$12.50	$10.42
June '06	$15.00	$12.50
May '06	$17.50	$14.58
Apr. '06	$20.00	$16.67
Mar. '06	$22.50	$18.75
Feb. '06	$25.00	$20.83
Jan. '06	$27.50	$22.92
Dec. '05 or before	$30.00	$25.00

To renew, check your membership expiration date in the upper right corner of the mailing label on the back page of this newsletter. This is what our records show for your membership expiration date. Please renew, according to the schedule above, by check to: South Bay Astronomical Society, P.O. Box 1999, Redondo Beach, CA 90278. (Payments will also be accepted at our general meetings!)

Monthly General Meetings



We normally meet on the first Friday of each month at 7:30 p.m. in the Planetarium at El Camino College. If the first Friday is on or close to a holiday, we usually defer the meeting until the second Friday of the month.

The Planetarium is on the south side of Manhattan Beach Blvd., one block west of Crenshaw Blvd. (near the center of the map at left).

The domed roof of the planetarium is visible from the street. There is on-street parking, and we can often use campus parking: check inside to see if you need a FREE parking permit for your car. Park in northeast corner lot, temporarily, due to the construction project

We enjoy the planetarium facilities through the courtesy of the El Camino College Administration, and have several faculty members of the Astronomy Department as members of our Club. Our meetings always include an informal opening, when new attendees are invited to introduce themselves and let us know about their interests in astronomy. Members share their latest news and observations at this time. The rest of the evening is devoted to guest speakers, who range from amateur astronomers to professional astronomers to representatives from local aerospace companies to college professors. We are fortunate to have all these talented people in our area, willing to come and talk to us.

Monthly Planning Meeting

Committee members (and anyone else with an interest in Society activities) meet each month, usually on the Monday following the general meeting. Meetings are sometimes rescheduled due to travel and other circumstances. Exact date and time of each month's meeting will be announced in the schedule of events in *FIRST LIGHT* each month, and should also be verified with a committee member. The **January 6th** planning meeting will be held at 7:30 PM at the home Ray Grace, 2706 Spreckels Lane in Redondo Beach (310) 370-1913. Take Hawthorne Blvd to 190th St., turn West to Inglewood Ave., then turn North (right) and proceed two blocks to Spreckels Lane and turn Right. If driving South on Inglewood Ave., Spreckels Lane is two blocks south past the light at Ralston Ave., and turn Left, to the 4th house on the right (South side). Parking is available on both sides of the street.

January – Comets & Asteroids

No near-earth asteroids visible this month.

No comets visible this month.

Asteroid Occultations Visible from the LA Area

Date	Local Time		Durn	Star	Mag	Star	Planet	
D M Y	Hr	Min	secs	mag	drop	No.	No	Name
24-Dec-05	5	43	4.7	9.7	5.4	TYC 2947-00950-1u	806	Gyldenia
31-Dec-05	18	13.9	4.2	8.1	5.8	HIP 2482	213	Lilaea
4-Jan-06	1	55.3	5.8	9.9	2.9	TYC 1917-02019-1u	598	Octavia
13-Jan-06	0	19.4	15.2	9.7	5.2	TYC 0848-00586-1u	909	Ulla
15-Jan-06	18	30.6	3.3	10.6	2.5	TYC 5814-01354-1u	247	Eukrate

Observing Reports

Backyard Observing

With the cold front that passed through on the previous day and conditions still predicted to be marginal, I decided not to make the trip out to the desert for a weekend of observing. Instead, I setup my Nexstar 11 in the backyard. It is probably one of the least favorable observing sites I have, what with at least 16 street lights visible over the back fence. I figured I'd at least try to experiment some more with the Meade DSI.

After spending nearly two hours, I finally gave up trying to get a decent image of Mars. A visual check confirmed that the sky was just too unstable or maybe my scope was still cooling down. Either way, the images of Mars were just a watery mess.

For a while, as I waited for the scope to cool some more and the wind to die down, I just shot random pictures of stars to play with the different settings. Since the DSI is designed for deep-sky imaging (duh!), it seems to work best if I just let it auto adjust the exposure settings. That doesn't work for planets, apparently, and it takes some tweaking of the slider bars to make a planetary image come out.

The wind finally settled down and I looked through Starry Night for some potential targets. After fiddling with a couple that were just too big for the FOV of the DSI, I settled on M77, a fairly bright, tightly wound spiral galaxy. I did several imaging runs of it, the last one composed of about 100 images of 20 seconds exposure each. I hadn't done a precise polar alignment so a 30-second exposure tending to show signs of drift. Twenty seconds was just enough to get an image without getting the drift. In the end, after some post-processing to subtract the skyglow from the LA light pollutions, I got a surprisingly good image. The core is pretty bright but the tightly wound spiral arms are visible. It took of an hour to get all that imaging done.

I moved on to another target, but was soon foiled by another problem. I'd set the scope up at sunset and had plugged the dew heater in. By midnight the battery was getting pretty low and the scope stopped tracking. Next time, I'll have to remember to use the alternate battery or AC power to run the scope!

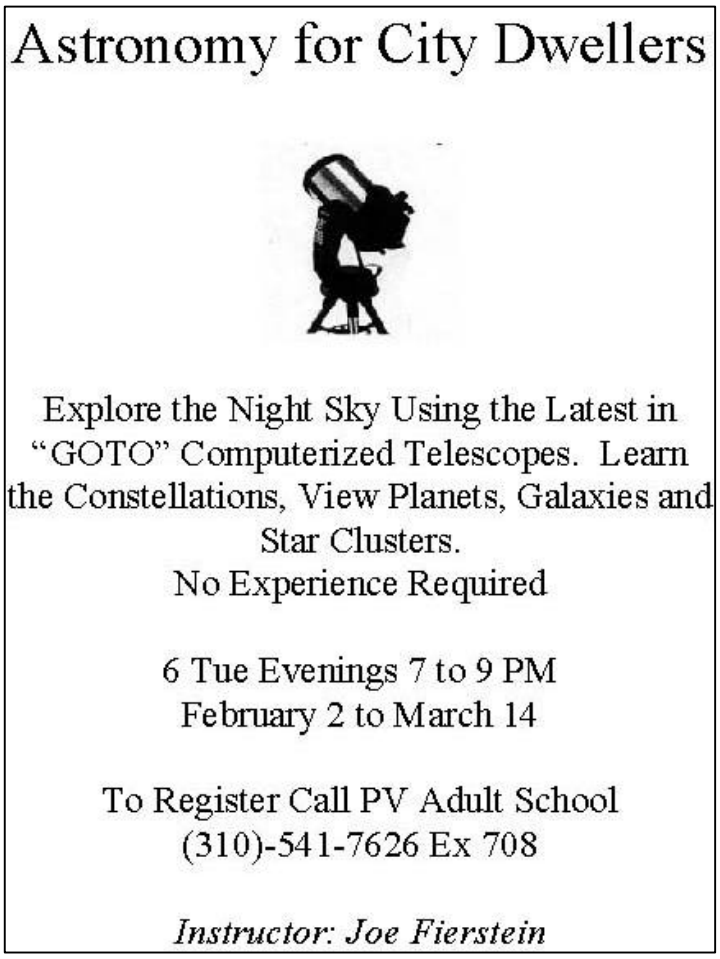
- ***Ken Munson***

DeepSky Software

A club discount on the Deepsky software is available. I received a reply from Steven Tuma, the author and a price list with discounts. (go to deepskysoftware.net for product details and product offerings). The base price for the CD version is $52.99, The DVD version is $69.99. He is offering discounts from 35% (for 2-4 copies) to 50% off (for greater than 20 copies). Discounts are also available to current owners who wish to upgrade to the latest version just released. Any member wanting to take advantage of this incredible offer should contact Arnie Stodolsky to coordinate a group purchase.

- Arnie Stodolsky

Astronomy for City Dwellers



Once again, it's time for folks new to astronomy to get a little practical experience at the hobby. At least they can experience as much as can be done from inside the city. That's always a good place to start! Check out Joe Fierstein's class via the Palos Verdes Adult School.

The 12.5" Scope Project

At the monthly planning meeting we discussed naming the 12.5" scope that was recently donated to the club for renovation. Ray Grace recognized a radio operator's call sign on the equipment and looked it up. The telescope was built by Eugene Torquato of Carson, California. Hence, the 12.5 inch scope will now be know as "The Torquato Telescope".

Mt. Wilson Trip

Just a reminder for those who may have forgotten (yes, it's been a long wait!), we are schedule to spend the night at the Mt. Wilson Observatory 60-inch scope on Saturday, April 29, 2006. Those who will be going should remember to dress warmly, bring food, water and a red flashlight and sleeping bags if you want to catch a nap before sunrise.

Schedule of Coming Events

23 December Friday **NOTE: This is a special Friday session**	**In Town Dark Sky Observing Session –** Weather Permitting**:** Please contact Greg Benecke to confirm that the gate will be opened! Take Hawthorne Blvd. south across Pacific Coast Hwy.; continue up the hill past Silver Spur and turn left at Highridge. Go one mile and turn left on Whitley Collins, up one block and turn left on Northbay Rd., the new parking lot is at the end on the left. Enter parking lot and turn left, the gate is at the east end (it should be open about 15 minutes before sunset) and a paved road leading into the playground where we have traditionally set up. If at all possible, drop your equipment off and park your car in the new parking lot (less than 200 feet away). If you are absolutely certain that your vehicle does not drip anything you can park with your equipment. *Drive with care* to avoid steel pillars supporting basketball nets**. Note: If you a visitor, not bringing a scope, it is requested that you park in the small parking lot on Northbay Rd.**
30 December Friday Evening	**Out-of-Town Dark Sky Observing Session** Contact Greg Benecke for location.
3 January Tuesday	**Quadrantid Meteor Shower Peak** The Quadrantids emanate from the constellation of Boötes, but they get their name from a now defunct constellation called Quadrans Muralis. The Quadrantids are rich in faint meteors and are of moderate speed.
6 January Friday Evening 7:30 PM	**Monthly General Meeting** Guest Speaker: Kenneth P. Klaasen from JPL Topic: Deep Impact: Your First Look Inside a Comet
9 January Monday Evening 7:30	**Monthly Planning Meeting** See directions on Page TBD
19 January Thursday Evening	**Star Party at Catskill Ave Elementary School** 23536 Catskill Ave, Carson
20 January Thursday Evening 7:00 PM	**Von Kármán Auditorium (Thursday) & Vosloh Forum at Pasadena City College (Friday)** "Oceanography and Supercomputing" Ichiro Fukimori, JPL Principal Scientist. This presentation will describe how oceanography has evolved from ships to satellites, and to the latest innovation in computer models that combines all these different views of our global oceans.
21 January Saturday Evening	**In-Town Dark Sky Observing Session** See directions above.
28 January Saturday Evening	**Out-of-Town Dark Sky Observing Session** Contact Greg Benecke for locations.
3 February Friday Evening 7:30 PM	**Monthly General Meeting** Guest Speaker: TBD Topic:

South Bay Astronomical Society

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General Meeting at El Camino College Planetarium:
Friday, January 6th at 7:30 P.M.

Guest Speaker: Kenneth P. Klaasen

"Deep Impact: Your First Look Inside a Comet"

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South Bay Astronomical Society
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