FIRST LIGHT

Journal of the South Bay Astronomical Society - August 2005
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, August, 5th, 7:30 PM

Guest Speaker: Nora DeMuth

"The Summer of Wonder: A Student's Perspective on Life at JPL"

The July 8 Meeting

President Greg Benecke opened the meeting at 7:39 with a review of recent observing sessions. The most notable were the efforts of several club members to watch comet Tempel 1 while the impactor from the Deep Impact spacecraft crashed into the comet during the night of July 3-4. Unfortunately, light pollution kept many observers from seeing anything from inside the city, although a couple of observers reported a marginal detection as the comet brightened after the impact. Joe Fierstein screened a ten-minute video ³Impact: Your First Look Inside a Comet², produced by JPL shortly after the January liftoff, containing the usual excellent graphics.

This month¹s featured speaker was Dr. Gary Peterson, a professor of geology at San Diego State University, speaking on ³Europa - The Other Ocean². He began by pointing out that Europa¹s geology can be best appreciated by comparing it to the other Galilean satellites, with the outermost (Ganymede and Callisto) receiving the least amount of temperature increase due to tidal heating, and the innermost (Io) being incredibly hot and active. Europa¹s intermediate amount of heating leads to the intriguing possibility that an ocean of water exists deep beneath Europa¹s ice cover, over a silicate core.

In support of this thesis, Dr. Peterson showed a variety of close-up photographs taken by the Galileo spacecraft. Very few craters are found on Europa¹s surface, indicating that resurfacing does occur. The spiderweb of fractures that crisscross Europa are just what one would expect for a tidally-stressed ice surface floating above liquid water. Indeed, almost-identical features are seen in photographs of ice ledges in the Earth¹s polar regions. Other regions of Europa look like an ice surface
Had been broken into huge fragments, which then froze together as a jumble. These surface features, so similar in appearance to icebergs frozen into an ice sheet on Earth, argue strongly that Europa¹s surface and underlying ocean is made of water, and not some more exotic material. Water is the only common substance which is denser as a liquid than as a solid, and these solid surface fragments clearly had been floating before being frozen in. Dr. Peterson ended by pointing out that Europa¹s ocean may be the best candidate for life outside of Earth in the Solar System, but as the ice surface may be as much as one hundred kilometers thick, the chance of drilling down to this ocean to collect and study living organisms is a remote possibility.

A lively question-and-answer session followed. For example, one audience member pointed out that if life existed in this underground ocean, evidence for it could be found as fossils in the surface ice, formed after cratering or fracturing had brought ocean water to the surface. Dr. Peterson agreed that this was our best chance of finding if life existed there.

President Benecke then presented Dr. Peterson with a plaque in appreciation of his efforts, and led the thirty audience members in a round of applause. The meeting ended at 9:30.

- Dr. Steven Morris

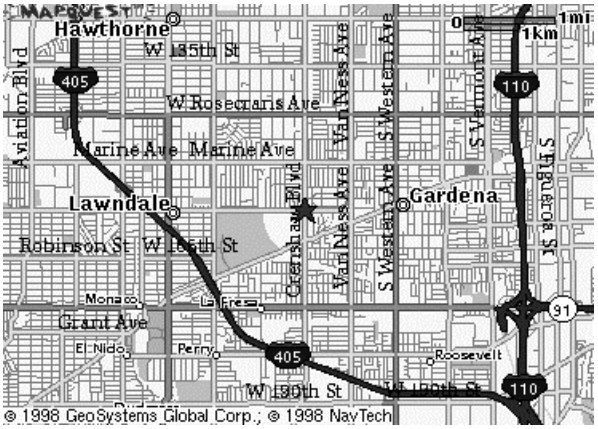
Planning Meeting – July 11

On July 11, the planning group (Greg Benecke, Joe Fierstein, Bill Eisele, Craig Gates, Ray Grace and ken Munson) met at Joe Fierstein's home to discuss plans and events for the club. Topics discussed were the upcoming Mt. Palomar trip and the possibility of combining this trip with an overnight camping trip to observe the Perseid Meteor Shower which peaks the night before. Upcoming events were mentioned and are listed in the Upcoming Events section below. Joe Fierstein brought up the possibility of a tour of the Goldstone Deep-Space Tracking Facility. He will contact the site to determine if a tour can be arranged. Ken Munson reported on efforts to establish a 'telescope clinic' in the not-too-distant future at a city park. Torrance Parks and Recreation is very open to the idea. Ken also raised the idea of offering observing certificates as a means of inspiring younger members. More to come on these as the concepts evolve.

Our SBAS Committee

President	Greg Benecke	217-1512	BeneckeRUs@aol.com
Program Chairman	Joe Fierstein	377-9834	Joefiers@aol.com
Treasurer **Newsletter Reproduction** **Astronomical League Rep.**	John Collins	- - -	Jcollins@runbox.com
Astronomical League Liaison	Bill Eisele	542-5070	Astronomy131@aol.com
SBAS Website Webmaster	Alex Athas	- - -	sbas_elcamino@yahoo.com
***First Light* Editor**	Ken Munson	782-0873	kenmunson333@sbcglobal.net
Observing Committee	Greg Benecke	217-1512	BeneckeRUs@aol.com
	Craig Gates	376-6387	- - -
Executive Committee	Mike Mayerchak	831-9188	Mmayerchak@aol.com
	Mark Braden	540-2810	Bradenm@fnic.com

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). Click on the map to get a display that can be zoomed out for a regional view. The zoom display appears in a separate browser window, which can be closed to return to this page.

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 by any **August 8th** at 7:30 PM at the home of Joe & Miriam Fierstein. Take Hawthorne Blvd. south past Pacific Coast Hwy. up the hill passing Silver Spur Rd. and Highridge until you get to the light at Eddinghill Dr., then turn right and go downhill to the 'T' intersection at Golden Meadow where you turn left up 2 blocks and turn left on Willow Tree Dr. to 3rd house on the right side from the corner – 7022 Willow Tree Dr., Rancho Palos Verdes.

Telescope Refurbishment Project

Club members, Greg Benecke, Joe Fierstein, Ray Grace and Ken Munson made a visit to a home in Carson to view a home built fork-mounted Newtonian telescope that is being offered to the club. Once housed in a backyard dome but now reduced to being covered by a tarp, this scope is desperately in need of a new before time and the elements damage it beyond repair. Although havingsuffered in recent years, the scope looks to be in rea sonably good condition. The approximately 13-inch mirror and other optics could use a good cleaning and the electronics could use some refurbishment. Perhaps the most difficult job, initially, will be getting it out of the backyard where it is currently located. It will have to be disassembled and moved to a storage/work location for the projected refurbishment. The executive board has not made a decision as to whether the club should this on as a project. Anyone wishing to volunteer time, effort and storage space for the scope should contact Greg or other board members.

Obituary

Dr. William Ball, father of our member Roy Ball, passed away on June 27 '05. He was 91. Dr. Ball was a physicist who worked on the Manhattan Project and also at TRW. He had a keen interest in astronomy and with his son Roy frequently attended our SBAS meetings and star parties. He was with us during our last visit to MT. Wilson and despite having difficulty walking he struggled up the ladder to the eye piece of the 60inch 'scope. Dr. Ball is listed in Who's Who in America and in Leaders in American Science. Our sincere condolences go out to the family.

SBAS Membership Benefits

Contact John Collins for magazine subscriptions at club rates: "Sky & Telescope" $32.95 and "Astronomy" $29.00! 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**

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!

August - Comets & Asteroids

Near-Earth Asteroid Flybys in August:

Date	Identification	Magnitude	Distance

No near Earth asteroids visible in May

Comets at Perihelion in August:

Date	Identification	Magnitude

No visible comets at perihelion.

Comets Visible In August:

Name	Magnitude	Constellation
9P/Tempel 1	10.0 – 10.9	Lib-Sco

Asteroid Occultations in August:

Date			LocTm		Durn	Star Mag		Star	Planet	
y	m	d	h	m	secs	mag	drop	No.	No	Name
2005	Aug	06	2	14.6	7.3	10.2	3.1	TYC 6877-00369-1u	435	Ella
2005	Aug	11	12	5.9	9.9	9.4	6 .0	TYC 6854-02451-1u	1300	Marcelle
2005	Aug	12	10	28.4	7.2	10.7	5.7	TYC 5630-00792-1u	1144	Oda
2005	Aug	13	2	2.7	10.7	7.5	3.0	HIP 7948	89	Julia
2005	Aug	30	3	52.0	17.4	10.8	1.1	TYC 4684-01624-1u	23	Thalia

Star charts for the Asteroid Occultations are available on the SBAS website! Check on the JPL Ephemeris Generator page for coordinates of objects: **http://ssd.jpl.nasa.gov/cgi-bin/eph**

- Ken Munson

Observing Reports

July 2, Ridgecrest School - The July 2nd Ridgecrest viewing session was fogged out in a most heavy way. There was actually a good turnout of people but we were right in the fog as we talked while hoping for it to clear. We stayed for about 2 hours until the last of us gave up.

July 3, Ridgecrest School - We had a somewhat impromptu observing session at Ridgecrest on July 3rd to catch the Deep Impact probe hit Comet Tempel 1. We had a hard time trying to pinpoint the location of the comet by matching up the star field seen on Starry Night with that seen through the eyepiece. And the patterns displayed on my version were different that what Garth McGee's copy was showing. Awhile after the Impact Garth identified an object that had not been seen in the field previously. I confirmed the presence of the object in my scope, but it was so low that I was reaching the limits of low elevation that I could observe. After I got home I resolved the discrepancy between Garth's and my Starry Night. I \found I was missing a data base for the dimmest stars and I was mistaking brighter stars on the display for the dimmer star I was actually seeing. With hat resolved I have no doubt that the object that Garth had identified was indeed Comet Tempel 1 post impact.

July 9, Mt. Pinos - Since I was not going to go out on the July 9 Dark Site Trip and I had the week off I decided to go to Mt. Pinos on the night of July 6. Garth McGee joined me up there with a couple of guests. There were a few other astronomers from the Kern Astronomy club. It was a nice night in general. The seeing was fair. I had never been up to Mt. Pinos to observe because of all the stories I had heard about how crowded it is on New Moon weekends, so this was an interesting change of pace. I don't think it is quite as dark as Redrock Inyokern Road but probably about the same Cottonwood Spring. Since this was far darker than Ridgecrest School I decided to try and find Comet Tempel 1. I was able to do so without too much effort. There was a clearly diffuse glow right where it should have been. Of course I had no way to compare how it looked then to how it looked shortly after the impact 3 days earlier. I got some good views of the better Globular Clusters to be seen this time of year. I spent some time looking a various nebulas through filters to enhance their contrast and detail. The Veil, North American and Pelican nebulas were really nice with the OIII filter. Unfortunately the wind continued to increase as the night wore on. All of the Kern astronomers called it a night surprisingly early and most packed up and went home. I guess to them this is a similar jaunt to us going up to Ridgecrest School. I packed up as twilight broke to try to beat the morning rush hour coming home I did not. I took me about two hours and fifteen minutes to get home compared to the nearly three hours to get there in rush hour traffic that afternoon before.

- Greg Benecke

Interesting Astronomical Freeware

Recently, I and my family took a vacation in Toronto, Ontario, Canada to visit some relatives. Along with the usual tourist-type activities, one of the most interesting places we visited was the Ontario Science Center in Toronto. It's a huge place with 3 or 4 floors of exhibits. Naturally, I found the space exhibit to be the most interesting. The item I found most interesting was a computer setup that allowed you to create your own planetary system. You could specify the sizes and initial velocities of the central star and any surrounding planets and then let it go. I could have spent an entire day playing with that one, trying out various models but the kids wanted to see the rest of the museum.

When I got home, I went looking on the web to see if there was any such software easily available. It turns out there is! PLANETS written by Willem Janssen of the Netherlands, is a nice piece of freeware that does a neat job of simulating planetary systems. It has the ability to model up to 16384 planets, adding rings to planets (or to the main star to simulate an asteroid belt), and it even has a 3D glasses mode for those who happen to have the red/green 3D glasses!

It's pretty intuitively obvious software to use and within minutes you can find yourself creating some fairly complex models of solar systems. It's interesting and educational as well for both adults and children. It's surprising how difficult it is to get a stable solar system like ours. So far, every time I've tried, the big planets have always migrated inward, tossing the smaller inner planets out of the system or simply absorbing them.

Using the disk feature you can model an entire galaxy and observe what happens when it collides with another galaxy. One surprise I've had with using the disk feature is how quickly it resolves into individual strands, much like Saturn's rings do, when you have small satellites orbiting inside, outside and within the ring zone. It's

pretty good software for freeware and can be addictively fascinating. The program can be downloaded from:

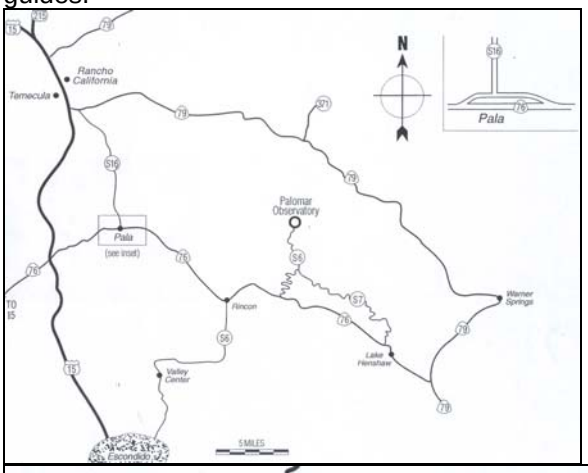
http://www.student.kun.nl/willemjanssen/planets.html

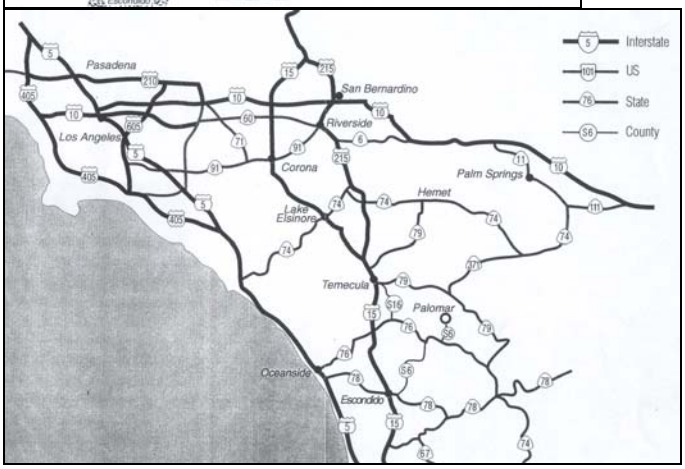
It is a zipped file which can be extracted to any desired directory. The program is stand alone and does not require that it be 'installed' into the operating system. Once unzipped, click on the 'Planets' main program file and off you go!

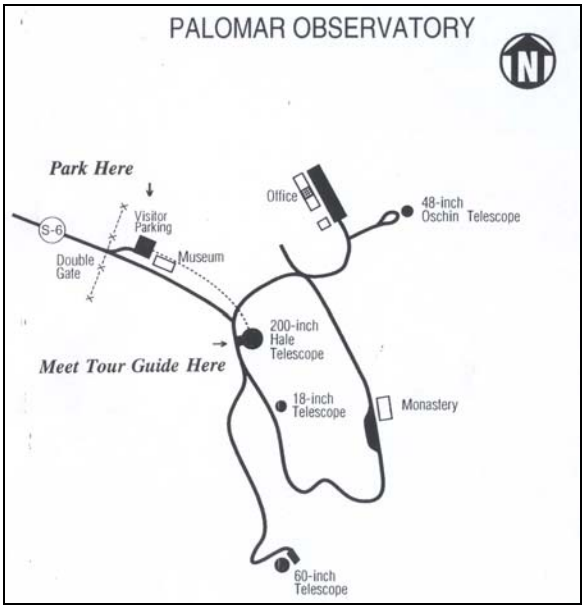
- Ken Munson

Mt. Palomar Trip – August 13

On August 13, those who have signed up will be making a trip to Mt. Palomar for a personal tour of the historic 200 inch Hale Telescope. It looks to be an exciting trip to be able to stand next to such a huge and historical instrument. Be advised that the dome is kept cool at predicted nighttime temperatures, therefore, it would be advisable to bring along a jacket. Ray Grace (310-370-1913) has offered to be the coordinator for this trip. If possible, coordinate arrangements to carpool to the site. Allow up to 3 hours for a trip from the LA area. All members attending should meet on the steps of the museum at 12:30 PM before proceeding to meeting the tour guides.







To reach Palomar, exit Interstate 15 at state highway 76 eastbound. Twenty five miles from the interchange, County Road S-6 exits to the left and climbs to the Palomar summit and ends at the Observatory gates. The maps shown here can also be downloaded from the Observatory website (http://www.astro.caltech.edu/palomarnew/images/socal.jpg).

Schedule of Coming Events

5 August Friday 7:30 P.M.	**Monthly General Meeting:** The speaker for the evening will be SBAS' Nora DeMuth presenting "The Summer of Wonder: A student's perspective on life at JPL".
6 August Saturday Evening	**Out-of-Town Dark Sky Observing** – New Moon August 4th Please contact Greg Benecke to confirm the location.
6 August Saturday Evening	**Southern Iota Aquarid Meteor Shower Peak** The Southern Iota Aquarids possess a duration extending from July 1-September 18. The August 6 maximum produces an hourly rate of 7-8 from a radiant position of RA=337°, DECL=-12°.
8 August Monday 7:30 P.M.	**Monthly Planning Meeting** Refer to page 2 for directions.
12 August Monday Evening	**Perseid Meteor Shower Peak** Please contact Greg Benecke to confirm if there will be any out-of-town observing for this shower.
13 August Monday Evening	**Mt. Palomar Tour** See page 6 for details.
18 August Thursday Evening	**Von Kármán Auditorium (Thursday) & Vosloh Forum at Pasadena City College (Friday)** "Technology of Tomorrow Today" presented by Dr. Karina Edmonds. The next time you pick up a cordless tool or look up at your satellite dish, will you think of NASA? Perhaps not, but chances are that you are enjoying one of the many benefits of technologies developed as a result of space exploration.
25 August Thursday Evening	**Northern Iota Aquarids Meteor Shower Peak** The Northern Iota Aquarids occur during August 11- September 10. Maximum occurs on August 25, at which time 5-10 meteors per hour can be seen from RA=350°, DECL=0°.
27 August Saturday Evening	**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
3 September Saturday Evening	**Out of Town Dark Sky Observing Session** Please contact Greg Benecke to confirm the location
9 September Friday Evening	**Monthly General Meeting** The speaker for this meeting will be announced at the August monthly meeting.

South Bay Astronomical Society

* * * * * * * * *

General Meeting at El Camino College Planetarium:
Friday, August 5th at 7:30 P.M.

Guest Speaker: Nora DeMuth

"The Summer of Wonder: A Student's Perspective on Life at JPL"

* * * * * * * * *

South Bay Astronomical Society
P.O. Box 1999
Redondo Beach, CA 90278