FIRST LIGHT

Journal of the South Bay Astronomical Society - October 2002
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, October 11th, 7:30 PM

Guest Speaker: Mr. John McKinney (JPL)

”NASA’s Deep Impact Mission to Comet Temple 1”

AstroImage 2002 Conference

On August 23-25, 2002, the Orange County Astronomers (OCA) presented a three-day conference on astroimaging. I met Joe Fierstein and Dan Trimble on Sunday and we had lunch at the Irvine University where the meetings were held. The conference started Friday evening with a three hour "Introduction to Astroimaging" seminar by OCA Astroimage group chairman Greg Pyrus and author/speaker Robert Reeves. If you haven't done any imaging before, it was a general review to get you into the subject. If you were an experienced imager you had a chance to meet experienced members on a one-to-one basis.

Saturday offered the main presentations from speakers. Jack Newton was the keynote speaker and presented his technique for advanced CCD imaging and CCD solar image manipulation. Robert Reeves summarized the process of Hypering to make film more sensitive and adaptable to astrophotography. Don Goldman clearly summarized the dilemma in getting proper color images using CCD chips of various sensitivities to different colors and filters of

variable bandwidth. He pointed out that professional astronomers mainly deal with black and white images and don't put much weight in how the images look in color, but amateur astronomers make a big deal of it. Ron Wodaski presented techniques for image reduction, manipulation, etc., and this was followed the next day by a workshop where he introduced his new method of zones to enhance images. The afternoon started by a keynote address by Jack Newton followed by Steve Mandel (widefield CCD imaging), Don Wantowitz (systematic film testing), Ron Dantowitz (high-resolution video) and Bill & Sally Fletcher (tricolor Schmidt camera).

Sunday was dedicated to presentations by various vendors that introduced many interesting new advances in astroimaging. Apogee Instruments presented new advances in CCD chips that are in the planning stages. One interesting one is the ability to address individual pixels on the camera chip to be able for example, to stop recording saturated individual pixels and continue to expose the others receiving weaker light flux. This will allow to image dim areas next to very bright stars, also with the advent of MOS technology with extremely large pixels in the chips. Hutech presented a guiding Borg telescope system with off center eyepiece to match the guiding image to the main telescope image. I got one and you may see it at my observatory if you attend the October Planning Meeting. Adam Block from Kitt Peak Visitor Center invited everybody to the tours of the observatory in Tucson, Arizona. Advanced Telescope System discussed the parameter needed in the design of a stable telescope platform. Doug George creator of Maxim software from Cyanogen was available to talk to anyone at the exhibit and presented how he produced his new Main Sequence Software. A planetarium of images taken all over the world and available in your computer (if you have one gigabyte of disk space, and one gigabyte of free space to run it!). Imelda Joson from Sky & Telescope discussed "Astrophotography, Then and Now" and generated a vivid discussion as to when will film photography will become history and be replaced by digital CCD images. A representative from Oceanside Photo and Telescope was available to discuss his products. Ron Wodanski's workshop on zones was greatly received by all of us that have to remove noise, tweak midtones and sharpen highlights so that we can make a big deal of the color of our amateur images of the sky.

- Carlos Lemmi

Minuteman Missile Launch Photos on Website

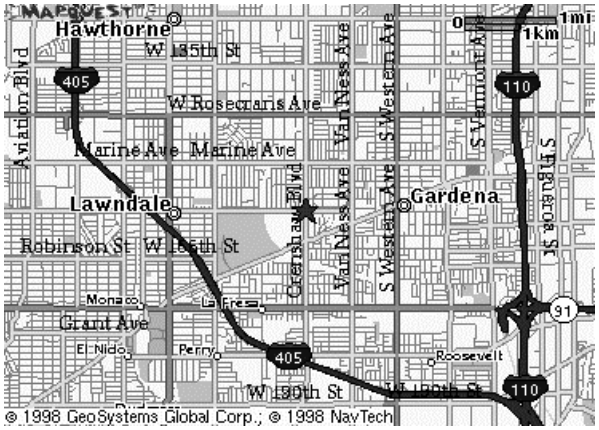
I've taken a sequence of photos of the Minuteman Missile launched on September 19th at 7:32 PM, using my handheld digital camera. This photograph is number five in the series (which has been formatted to fit within the space available for publication). Pictures 8 and 9 were 16 sec. time exposures and they show a blue glow that was not visible to the naked eye. All nine photographs can be viewed on the SBAS website in order, from the initial launch to the final dissipation of the exhaust trail, showing the brilliant colors found in the atmosphere at sunset.

- Delbert Crawford

Your SBAS Committee

President	Greg Benecke	217-1512	BeneckeRUs@aol.com
Treasurer **Astronomical League** **Newsletter Reproduction**	John Collins	----------	Jcollins@smad.com
Program Chairman	Joe Fierstein	377-9834	Yussel@aol.com
SBAS Website Webmaster	Alex Athas	----------	sbas_elcamino@yahoo.com
***First Light* Editor**	Laura Lucas	798-7281	Ipsaloquator@aol.com
Observing Chairman	Bill Whiddon	548-8179	William.whiddon@trw.com
Astronomical League	John Collins	320-0555	Jcollins@smad.com
Executive Committee	Mark Braden	540-2810	Bradenm@fnic.com
	Ron Rennie	326-5589	Rkgrennie@yahoo.com
	Mike Mayerchak	831-9188	Mmayerchak@aol.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. See page 4 for temporary parking instructions.

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 who are willing to come and talk to us.

Monthly Planning Meetings

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 member or visitor wishing to attend. All are welcome!

We will meet on Monday, October 14th at 7:30 PM at the home of Carlos & Ronni Lemmi. 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 make an immediate left turn on Abbotswood Dr. to – 6624 Abbotswood Dr., Rancho Palos Verdes.

SBAS Membership Benefits

*"**Welcome**"* to our newest members – Albert Fader and Ronald Taylor!

Contact John Collins for subscriptions, at club rates, to "Sky & Telescope" at $29.95 and $29.00 for "Astronomy" magazines! Make your check payable to SBAS and mail payment and your subscription / renewal form directly to SBAS c/o Microcosm, Inc. at 401 Coral Circle, El Segundo, CA 90245-4622.

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! Do any members have a suggestion for the "wish list"?

"Friends of the Nexstar" is the group of members who have donated equipment or accessories for the SBAS telescope, and the planning committee has granted them the privilege of a wavier of the deposit & fee for borrowing the Nexstar8. Members include: Greg Benecke, Joe Fierstein, Dr. Steve Morris, John Evans and Dan Trimble.

SBAS Members $ Buy $ Sell $ Trade $ Listing:

- The SBAS steamer trunk case for an SC 8" or less is still available - for *free!* Call Greg Benecke if you are interested. Members send your advertisements to Laura Lucas!

Mt. Wilson Observatory Reminder

Try to carpool as observatory parking is very limited. We will meet at the gate at 6:30 PM to be escorted to the parking area. If you arrive after the designated time, use the pay phone at the gate to call 793-3065 and ask for an escort to the 60 inch telescope. Wear good shoes for using the stepladder and dress warmly (gloves & a warm hat is advisable). Bring a lounge chair or sleeping bag to relax in. Bring food, snacks & water to last while you're there. You can bring your camera if you want to take handheld photos and don't forget your **RED** flashlight!

Important Note: I will notify all attendees if The Forest Service closes Angeles Crest Hwy. due to the current fire and continuing fire danger until the end of the fire season, which is not until December.

- Greg Benecke

El Camino College Planetarium Shows

The ECC Planetarium's new manager is Jed Laderman. The planetarium shows are every Saturday night for the rest of this year except Nov 30 and Dec 28. There is a sky show at 7:30pm, a feature presentation at 8pm, and, weather permitting, observation on the roof of the Math & Computer Sciences building at 9pm. The shows are $3 and there is free parking in Lot C.. You can call (310) 660-3373 for more information.

- Steve Schrier

Viewing Report from Montana

I had scheduled my vacation time this year to coincide with the period of new moon so as to take advantage of Montana's dark skies. Late summer in Montana is usually a very dry and hot time which makes for good grain harvests. Unfortunately, it wasn't that way this time. From LA all the way through Utah, the skies were extremely clear and the wind very light. Found a great place to do some viewing the next time I'm up in Utah in the summer. It's a parking lot at 9,000 feet on a scenic highway around the back of Mount Nebo in the Wasatch Range. I bet that place would offer some great viewing.

As soon as I entered Montana, though, the skies clouded over and it stayed cloudy and rained frequently for almost the entire time I was there. Finally on the last day, it cleared up so I stayed one more night. And what a night it was! The sky was incredibly clear and stable. The double-double of Epsilon Lyra could easily be split. I was able to complete several more items from the Nexstar Deep Sky 50 list of objects, including M31. M31 was very spectacular in the dark Montana sky. At the lowest power, it filled the entire eyepiece and I could even see the glow of the spiral arms. The Double Cluster of Perseus was very beautiful. Saw more stars in them than I'd seen in a long while. One of the items on the Nexstar list was star cluster NGC 7510. This small, tight cluster was just a dim cloud at lowest power (50x). Switching to the 10mm eyepiece (125x), I was able to resolve it into a number of moderate to faint stars. The cluster is almost rectangular in shape with the brighter stars at one end of the cluster. NGC 457, known as the Owl Cluster, was very bright and easily seen as the body and wings (arms). I still see it as bearing more resemblance to the character ET from the movie of that name. NGC 7662, the Blue Snowball planetary nebula, shown with wonderful brightness. Clearly not a point of light like nearby stars.

The best thing about this night was being able to once again share the night sky with my father. We'd spent a lot of hours together peering through a Mead 2-inch refractor telescope that I'd bought when I was 12. It was a lot of fun and very satisfying to do it again after all these years. He was thrilled to see the planet Uranus which he'd never seen before, although disappointed at not seeing the rings of Saturn again. As the evening progressed, the temperature began dropping rapidly. The mosquitoes which, initially had been such a nuisance, quickly left the scene. However, a new problem arose. Dew began collecting on the scope. I was sure I'd packed my dew shield in the car but couldn't find it. Finally, after an hour of struggling against the dew, I gave up and started packing the telescope back into the car for the trip home. Naturally, that's when I finally found the missing dew shield. It had velcroed itself to the back of the rear seat where it blended with the color and was hard to see!

- Ken Munson

Timing is Critical as Launch Windows Approach

Rosetta

There will be greater tension than usual among engineers and scientists at Europe's spaceport at Kourou, French Guiana, in January 2003, as they gather to see ESA's comet-chasing spacecraft Rosetta depart on its long journey. If it is to keep its rendezvous with Comet Wirtanen in 2012, Rosetta must lift off on its Ariane-5 launcher within the launch window, no sooner than 03:40 CET on 13 January 2003 and no later than the end of that month. Before it can meet Comet Wirtanen far out in space, the spacecraft is due to pass by Mars in August 2005, then do high-speed fly-bys of the Earth in November 2005 and November 2007. "The cosmic clock of the Solar System fixed our launch date when Comet Wirtanen was selected as Rosetta's target ten years ago," comments John Ellwood, project manager for the mission. "Although there are risks in a precise, rather short launch window, it's had the advantage that everyone concerned knew there was no room for discussion -- they had to be ready." Because the Earth rotates, Kourou must be correctly positioned in relation to the direction in which the spacecraft must head off, on the first leg of its interplanetary journey. The daily window is about 20 minutes, during which time the Earth rotates through 5 degrees. More on Rosetta - http://sci.esa.int/rosetta

Mars Express

In May 2003, similar concerns about a launch window will preoccupy the engineers and scientists of ESA's Mars Express mission, at the Baikonur Cosmodrome in Kazakhstan, in the former Soviet Union. There the launcher will be a Soyuz-Fregat rocket. Scientists have always planned to use the especially favorable relative positions of Earth and Mars occurring in mid-2003 (and not repeated until 2020) for Mars Express to have an express flight to the Red Planet. Opportunities to fly to Mars occur every 26 months, but the travelling distance varies a lot because the orbit of Mars is elliptical. The 2003 opportunity coincides with a time when the Earth is about to overtake Mars, as the planets orbit around the Sun, and when Mars happens to be in the closest sector of its orbit. The Mars Express launch window opens at 20:41 CET on 23 May 2003 and closes at 17:47 CET on 21 June 2003. More on Mars Express - http://sci.esa.int/marsexpress

- ESA Science News

Schedule of Coming Events

28 September **Saturday** **Evening**	**In-Town Dark Sky Observing at Ridgecrest School** – Weather Permitting 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.
4 October **Friday** **6:30 P.M.**	**Mt. Wilson Observatory Trip –** New Moon (October 6) Contact Greg Benecke for any additional information that you may require!
11 October **Friday** **7:30 P.M.**	**Monthly General Meeting:** John McKinney of JPL is our speaker and the topic is "NASA's Deep Impact Mission to Comet Temple 1". Mr. McKinney is mission manager for the NASA Deep Impact Project, responsible for Flight Operations and has been awarded the NASA Exceptional Service Medal and the NASA Exceptional Achievement Medal.
12 October **Saturday** **Evening**	**Mt. Wilson Observatory – Public Outreach Star Party** The Mt. Wilson Observatory is hosting a star party, open to the public, to join amateur astronomers in a parking lot star party (the observatory's large telescopes will not be used). Please call (626) 793-3100 for detailed information.
14 October **Monday** **7:30 P.M.**	**Monthly Planning Meeting** See page 3 for location and directions.
17 (JPL) **18 (PCC)** **October** **Thursday / Friday** **7:00 P.M.**	**Theodore von Karman Lecture Series** – Admission is Free! "A Billion Suns: The Lives & Deaths of Stars" lecture is presented at the JPL von Karman Auditorium (JPL) and the Pasadena City College Forum (PCC). For more information, call JPL at (818) 354-0112.
26 October **Saturday** **Evening**	**In-Town Dark Sky Observing at Ridgecrest School –** Weather permitting. Refer to the September 28th entry above for directions to this site.
1 November **Friday** **7:30 P.M.**	**Monthly General Meeting:** Speaker for the evening will be Mr. Chris Conselice on the topic of the birth of galaxies.
4 November **Monday** **7:30 P.M.**	**Monthly Planning Meeting** Location to be scheduled.
21 (JPL) **22 (PCC)** **November** **Thursday / Friday** **7:00 P.M.**	**Theodore von Karman Lecture Series** – Admission is Free! "Space & Earth Exploration - 2020" is the lecture is presented at the JPL von Karman Auditorium (JPL) and the Pasadena City College Forum (PCC). For more information, call JPL at (818) 354-0112.
30 November **Saturday Evening**	**In-Town Dark Sky Observing at Ridgecrest School** – Weather Permitting. Refer to September 28th entry above for directions to this site.

South Bay Astronomical Society

* * * * * * * * *

General Meeting at El Camino College Planetarium:
Friday, October 11th at 7:30 P.M.

Guest Speaker: Mr. John McKinney (JPL)

"NASA's Deep Impact Mission to Comet Temple 1"

* * * * * * * * *

South Bay Astronomical Society
c/o Microcosm, Inc.
401 Coral Circle
El Segundo, CA 90245-4622