FIRST LIGHT

Journal of the South Bay Astronomical Society - March 2003
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, March 7th, 7:30 PM

Guest Speaker: Mr. Don Nicholson (Mt. Wilson Institute)

"The New Interferometer at the Mt. Wilson Observatory"

SBAS to Participate in Whaley Middle School's "Star Party"

SBAS members will be participating in a "Star Party" at Whaley Middle School for the first time on Friday evening, **March 14th.** Directions: Take the 91 Fwy. eastbound then the 710 Fwy. north exiting at Rosecrans and turn left (west). The next block is Gibson so turn LEFT (south) onto Gibson. The school is there at the southwest corner of Gibson and Rosecrans. Turn right into the parking lot. You can drive to the back of the parking lot and continue left around to the back of the school where the expansive PE fields are located. We will set up the star party there. The school's address is 14401 S. Gibson, Compton.

- Joe Fierstein

3rd Annual SBAS Messier Marathon

On the evening of **March 29th**, SBAS will be holding our **3rd Annual Messier Marathon** at Redrock-Inyokern Road. Everyone is invited to join us for this outing. Bring your own telescope or share the views through the club's Nexstar 8 or other club member's instruments. The desert is very cold at night during this time of year and the temperature can dip well into the 20's. We can't stress enough the need to dress warmly. Bring some snacks and drinks for the late night munchies. I hope to see many of you there!

Directions to the site: From Torrance go north on Interstate 405 until it ends at Interstate 5. Proceed north on Interstate 5 about 4 miles to State Route 14, the Antelope Valley Freeway. Proceed north on Route 14 through Palmdale, Lancaster, and Mojave. At the North end of Mojave, 14 takes a sharp right toward Red Rock Canyon State Park. From this turn proceed about 28 miles North, which will take you through the park and about 2 miles past the North boundary of the park. Start slowing down as you pass the sign for Opal Canyon. In about a half mile turn right on the dirt road marked Inyokern Road. Site A is about 1.25 miles from the turnoff in an open area to the right. We plan to use Site B which is a little further from the turnout, a total of about 1.6 miles from Route 14, also on the right side. In the rare event that both sites are occupied by astronomy unfriendly campers, we have used a third site an additional mile or so down the road, also on the right. Most people will arrive before sundown, but if you arrive after dark, please be courteous and do not pull into the observing area with your car headlights glaring in the direction of the scopes.

- Greg Benecke

Montemalaga School "Star Party" Report

The SBAS put on a star party for the Montemalaga School on Feb. 19th. We had a good show of support from our members. Jim Madison, Bill Eisele and Joe Fierstein brought their 17", 13", and 6" Dobs, respectively, Mike Rivas set up his 12" LX200 GPS, and I had my C8 Deluxe. The School made sure that we were fed this year with Pizza and fruit. As always it is fun to see the joy and excitement as kids, and even adults, see the astronomical sights for the first time. Saturn and Jupiter were clearly favorites, as was the Orion Nebula. I would estimate that we had close to 200 people look through the scopes.

- ***Greg Benecke***

In-Town Observations at Ridgecrest

The sky was clear as the sun set, but on the horizon our nemesis, the marine layer, was approaching. As the equipment was readied, we found ourselves in the fog. Ever the optimists, we decided to wait it out. After a while, it seemed that the wait was worthwhile, but the clearing was fairly short-lived, about an hour, followed by brief openings. Ken Munson used the opportunity to see first light through his just acquired Nexstar 11 GPS. Craig Gates also had his Nexstar 11 GPS along. The LX200 GPS family was well represented there with Mike Rivas (12"), Al Fader (8"), and Ed Sabin (8"). Tom Spargo had his 5" Orion Maksutav and I had my trusty C8. Deanna Chafe and her children joined us for a while. Chris Talbot, with a Meade 8" SCT, and his friend Hal Shimizu came out after finding us on the internet. Dew heaters and my hot air gun were put to good use before we finally faced reality and packed it in before 10:00 P.M.

- ***Greg Benecke***

Lamentations

By Roger Curry

Hostile photons in the air,
Hostile photons everywhere!
Silv'ry beams of cold moonlight
Spell the end of starry night.

Lovers by the Moon do croon,
Fiddlers play the Moon a tune,
But the man who hunts the sky
In search of wispy nebulae,
Spurns the moon and bids her go
To that netherworld below.

"Moon that's rising in the trees,
You've spoilt my view of galaxies!
From the sky the stars you've swept—
I wish that you had overslept!"

Visit the Northeast Florida Astronomical Society website at: **www.nefas.org**

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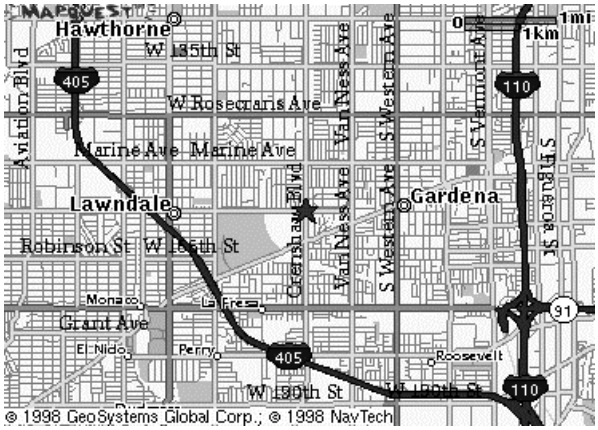
Monthly General Meetings



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 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, March 10th at 7:30 PM at the home of Greg Benecke. From Crenshaw Blvd., head West on 182nd St. Shortly after going under the 405 overpass you will see a Fire Station on the right. Turn right into the cul-de-sac just after the Fire Station. From Prairie Ave., head East on 182nd St. Go one block past the second traffic light (Yukon Ave.) and make a left into the cul-de-sac just before the Fire Station. You are making the correct turn if you see a sign saying "Park Place" on the white fence on the Northwest corner next to the Fire Station. Greg's house is the first one on the left side of the cul-de-sac 18161 Patronella Ave., Torrance.

SBAS Membership Benefits

"Welcome" to our newest SBAS Members: Hongpyo H. Lee, Garth Magee, Marty DeWan, Julie & James Edwards, Bill Guger, Tom Spargo, Paula Mayhew and Joe Laconic.

Contact John Collins for magazine subscriptions at club rates: "Sky & Telescope" $29.95 and "Astronomy" $29.00! Make your check payable to SBAS and mail the 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, as will any suggestions for new purchases!

Observing at Redrock Canyon

I rented a van and took my three girls out to the Redrock/Inyokern Road site for the Feb. 1st new moon weekend observing session. The sky, as we left LA, was looking pretty bad and it didn't get any better as we headed north on Hwy 14. By the time we stopped for gas and a snack in Mojave, the sky was clouded over and the wind was blowing dust everywhere. Since we'd already come so far, I figured I'd at least let the kids have the afternoon to play in the park which we'd never had time to do before. We found a campsite nestled against the cliffs and set up the tent. The kids went climbing and found another girl their age to play with. By 6 PM we were huddled in the car eating a cold dinner as the wind and dust howled around us. We talked and played games until 7 when Stephie mentioned how bright the stars were. I got out and, like magic, the sky was absolutely clear and the stars were blazing with brightness. A whole lot of twinkling going on, so the air was none too steady but hey, there were STARS!

After a couple more huge gusts, the wind suddenly died down to a whisper. I quickly got the telescope set up in an open area away from the cliffs, which seem to focus the wind rather than protect me from it. Upon returning to the car for another load of equipment, I saw why the wind had died down. Having completely destroyed our tent, it seemed the wind god was appeased with the sacrifice and relented! The temperature was quite mild and I didn't even need gloves till after 10 PM. It turned out to be a pretty good evening after all, even though the air was too unsteady for any planetary viewing. Hardly any detail visible on Jupiter or Saturn although the GRS was supposedly there around 8 PM. Missed the comet (2002 V1) which we'd seen at the in-town session because it went down before I got set up. It was a fairly good night for deep sky observation in spite of the occasional gust of wind that shook the scope.

I started out around the northpole with a little known cluster (NGC 1624 in Camelopardalis) which is also home to a patch of nebulosity. NGC 663 in Cassiopeia, next to M103, is also a pretty open cluster of 7th to 10th magnitude stars. Moving on to Auriga, M38, M37 and M36 shown with incredible brightness and clarity. Even M1, the Crab Nebula, glowed quite nicely for a change. An interesting discovery in this area, next to M35 was NGC 2158. In my Nexstar 5, it was a faint gray cloud. Later research showed it to be a very dense star cluster made up of 9th to 11th magnitude stars. Those with larger telescopes should check this little gem out! More such gems were found in Monoceros. NGC 2252 is a nice open cluster that resembled a proud horse in profile to my eye. NGC 2244, the Rosette Nebula cluster, glowed with the haze of nebulosity, although too indistinct for me to see any detail on this night.

I finished the night by sweeping the area from Ursa Major to Leo and Virgo for galaxies. The sky was a little steadier and the wind was almost completely gone by then. NGC 4631 is apparently an irregular sort of galaxy. It looked a lot like a humpback whale to me, narrow and tapered at one end and wide at the other with a slight bend to it. M51 was very nice with a faint suggestion of spiral arms. For brief moments, the clarity improved so that I could see the tiny dust smudge that gives M64, the Blackeye Galaxy, its name. Markarian's Chain, a sprinkling of galaxies in the Virgo cluster from M84 to M88 made an interesting challenge to follow. It is just so amazing to be able to point the telescope to the part of the sky and sweep back and forth among so many galaxies! It just never ceases to amaze me! Around 1:30 AM the wind, having circled around to the north, began to blow again. Having had a successful night in spite of earlier adverse indications, I decided to shutdown and not risk any more dust damage to the scope.

- ***Ken Munson***

A 70,000-Carat U.S. Space 'Gem' Marks its Sapphire Anniversary

At a mere 31 pounds, it was tiny by today's spacecraft standards. Yet as it sprang skyward from Cape Canaveral, Fla., 45 years ago today, January 31, 1958, aboard a Jupiter-C rocket, the Explorer 1 satellite carried with it the enormous hopes and dreams of a Cold War America. The country was still reeling from the former Soviet Union's shocking launches of Sputnik 1 and 2 the previous fall and the failure of America's first Vanguard project launch the month before. The rocket was quickly swallowed by the night sky, and for 90 long minutes President Eisenhower and America waited tensely to learn the fate of the mission. Finally, from a California desert tracking station came the reply: "Goldstone has the bird." America had launched its first Earth-orbiting satellite and entered the Space Age.

Today we remember Explorer 1 for both its pioneering place in U.S. space history and its immediate contributions to science as the initial discoverer of the Van Allen Radiation Belts around Earth. For its developers at NASA's Jet Propulsion Laboratory, Pasadena, Calif. -- then operated by the U.S. Army -- those memories are fond indeed. Dr. William Pickering, then JPL's director and leader of the project, recalls the media's reaction to Explorer 1's success. "We were told there was going to be a press conference at the National Academy of Sciences (in Washington). About 2 a.m. we got into a car and drove over to the Academy. I can remember sitting in that car with (Dr. James) Van Allen and (Dr. Wernher) von Braun -- just the three of us. It was a cold, rainy night there in Washington and I think all three of us wondered a little bit about what was going to happen and who was going to be there at that hour of the morning. They took us around to the back door of the Academy and into the great hall. It was completely filled with people. The media were there and very enthusiastic when we got there...at the end of (the press conference), I think all three of us realized that life was going to be different."

Explorer 1's official chronology spans to 1954, when the Army authorized work on a joint Army-JPL program called Orbiter. In 1955, the U.S. government announced plans to launch a scientific satellite during the International Geophysical Year (July 1957 to December 1958). Orbiter competed head to head with another proposal from the Navy called Vanguard. Vanguard won, partly because it relied less on military technology. Despite the decision, JPL continued developing some Orbiter technology for use in tests of reentry heat shields for missiles. After Sputnik's "shot heard 'round the world," Orbiter was renamed Explorer and was approved for development as a backup program. Then came Vanguard's failure and Explorer 1 suddenly found itself front and center.

In just 84 days, Pickering and his JPL team worked with the U.S. Army Ballistic Missile Agency in Huntsville, Ala.; top experts from U.S. academia and the military; and legendary space luminaries such as German rocket scientist Dr. Wernher von Braun to develop Explorer 1's science package and communications system, as well as the high-speed upper stages for the Jupiter-C rocket. The work would mark JPL's shift in emphasis from rockets to what sits on top of them. "We regarded ourselves as the experts in the rocket business, having made both the Corporal and Sergeant rockets for the Army and having developed most of the underlying design features of the modern rocket, both liquids and solids," Pickering said.

Explorer 1's main science experiment was a cosmic ray detector built by Dr. James Van Allen of the State University of Iowa. It was designed to measure the cosmic radiation environment in Earth's orbit -- high-speed ions (atoms stripped of electrons) from the distant universe. It sought to measure the flow of cosmic ray ions of the lowest energies, which are completely absorbed by the atmosphere and can't be studied from the ground. Explorer 1 was launched into a highly elliptical orbit and carried no onboard tape recorder. Therefore, its data could only be collected when it was within range of a tracking station, for just minutes at a time. The data collection soon revealed a mystery: at the low points of the orbit the cosmic ray count was near the expected value, but at the high portions of the orbit none were counted at all. Van Allen theorized the instrument might have been saturated by very strong radiation from a belt of charged particles trapped in space by Earth's magnetic field. Two months later, Explorer 3 confirmed the existence of these belts, which would become known as the Van Allen Radiation Belts.

- NASA New Release

Schedule of Coming Events

1 March **Saturday** **Evening**	**Out-of-Town Dark Sky Observing Trip –** New Moon March 3rd Contact Greg Benecke to arrange dates and site locations.
7 March **Friday** **7:30 P.M.**	**Monthly General Meeting:** Our speaker, Mr. Don Nicholson of the Mt. Wilson Institute, will discuss the new Interferometer at the Mt. Wilson Observatory.
10 March **Monday** **7:30 P.M.**	**Monthly Planning Meeting** See page 3 for location and directions.
14 March **Friday** **6:00 P.M.**	**Whaley School "Star Party"** Details can be found on Page 2.
20 (JPL) **21 (PCC)** **March** **7:00 P.M.**	**Von Karman Auditorium Lecture Series** – FREE "The Cassini-Huygens Mission to Saturn" is presented by Dr. Robert Mitchell, Cassini Program Manager: The birth and evolution of the four-year mission. Cassini will arrive at Saturn in 2004. For more information call: (818) 354-0112
22 March **Saturday** **Evening**	**In-Town Dark Sky Observing at Ridgecrest School** – Weather Permitting: If the weather conditions are marginal, contact Greg Benecke to confirm that he will be opening the gate! 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.
29 March **Saturday** **Evening**	**3rd Annual SBAS Messier Marathon –** New Moon April 1st Our annual marathon will be held at the Inyokern Redrock Rd. site. Details can be found on page 1. Contact Greg Benecke if you have any questions or suggestions on the marathon.
4 April **Friday** **7:30 P.M.**	**Monthly General Meeting:** Speaker to be arranged at a later date.
7 April **Monday** **7:30 P.M.**	**Monthly Planning Meeting** Location to be scheduled.
17 (JPL) **18 (PCC)** **March** **7:00 P.M.**	**Von Karman Auditorium Lecture Series** – FREE "Mars Global Surveyor Across the Centuries" is presented by Dr. Terry Martin, JPL research scientist, Earth and planetary atmospheres: How the Mars Global Surveyor mission contributes to future Mars exploration. For more information call: (818) 354-0112
26 April **Saturday** **Evening**	**In-Town Dark Sky Observing at Ridgecrest School** – Weather Permitting. Refer to March 22nd entry for directions to the site & instructions on weather conditions.

South Bay Astronomical Society

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

Guest Speaker: Mr. Don Nicholson (Mt. Wilson Institute)

"The New Interferometer at the Mt. Wilson Observatory"

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