

FIRST LIGHT



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

Monthly General Meeting: Friday, January 11, 7:30 PM

Guest Speaker: Mr. Don Gales

"Palos Verdes Weather"

Observations & Nexstar Comparison Reports

@Highridge Park - Joe Fierstein brought his 6" Dob, Shawn Beaval brought his 8" LX90, Brian Hunt (a new member) brought the 8" Dob that he and his son built for a school science project, and, of course, I had my C8 Deluxe. Annie Chiu (if I am not mistaken) joined us later after she spent quite a while trying to find the park entrance. The sky was clear and fairly steady, but soon the wind came up, making the images very shaky. We were able to locate comet Linear, but it was just a fuzzy blob in the sky glow with not much of a tail visible. We spent some time looking at Saturn and Jupiter and looking up Jupiter's moon motions, hoping to see a transit. No luck there but we did conclude that the Red Spot was coming around to the center meridian. Unfortunately these days, the Red Spot could easily be renamed the Pale Spot. There is not much color contrast, especially through a SCT. Trying to improve the observation, we spent some time trying different filters to see which brought out the Red Spot the best. We concluded Green was best with Blue a close second. Just for kicks I tried my Parks Light Pollution filter, which provided some interesting color contrast effects with some of the major bands, but it did not make the Red Spot more visible. With the wind showing no sign of abating, all packed up and left before 10:00.

- G. Benecke

@Joshua Tree Lake - I went to Joshua Tree Lake Campground on the weekend of December 8 for another dark sky observing session. This time I borrowed the club's 8 inch Nexstar in order to do a side-by-side comparison against my Nexstar 5. Although the atmosphere was very windy and cloudy on the way out, once I arrived the wind died down to nothing and the clouds rapidly cleared away. Through the night the seeing conditions were excellent with only a couple of high, thin clouds that passed over. The temperature was fairly cold, dropping into the mid to high 40's.

I arrived early enough to set up both telescopes and get them sighted in on a distant hilltop. The Nexstar 5 was mounted on the tripod with an equatorial wedge while the Nexstar 8 was mounted directly on the tripod. Both telescopes have the same tripod. As the stars came out, I shot the alignments for both scopes, using the 2-star technique for the 5" and auto-alignment for the 8". For both of them, I followed my standard procedure of repeating the alignment process three times to ensure that I had as precise an alignment as I could get. After getting the alignment, I go to the 'named star' menu and tell the scope to find the star I just shot for alignment. I readjust pointing until the 'go-to-named-star' results in the star being at or close to the center of the field of view. Then I go to the first alignment star and repeat that process. As a final check, I then go to a third star, usually off the line that connects the alignment stars. For long-term viewing, I have found it best to shoot two stars that are on opposite side of the sky.

With my Nexstar 5, I can do this process once and I can count on reliable pointing for the rest of the night. The Nexstar 8 has a known problem with tracking and this became evident over the course of the night. Initially, after the repetitive alignment process, it had excellent pointing and found objects, both NGC and Messier as well as the comet 2000WM1 and the asteroid Vesta. However, the more frequently I moved to new objects the worse it got at being able to put the object in the field of view, let alone the center. Since the Nexstar 5 has exhibited similar deficiencies, I believe the cause to be predominantly in the elevation motor. Pointing accuracy on the Nexstar 5 has been much better since I began using the equatorial wedge (depending on how well I manage to do the polar alignment!). With the Nexstar 8, I had to repeat the alignment process several times as the accuracy of pointing degraded.

I ran through some quick checks of prominent objects, planets, galaxies and a few clusters to provide some comparison of performance. Comparing stars, and planets, the Nexstar 8 was slightly better at resolving some of the double stars than the 5". At moderate power, with good seeing conditions, the 5" can occasionally resolve the Cassini Division between the outer rings of Saturn. With the 8", this division was clearly visible. Even without filters, cloud bands could also be distinguished on Saturn. In the 5", comet 2000WM1 appears as a fairly bright gray cloud that can be seen to be moving across the background stars. The 8" brought the cometary halo into much clearer focus, showing the tail much more clearly. Most pleasing, though, was seeing the coma as a tiny bright object at the center of the cloud. However, it was in viewing the dim deep-sky objects where the Nexstar 8 really shone. Since the 5" had better accuracy, I would first find an object with it, then with the 8". With the 5" at JTL, I can usually find dim nebulae and galaxies down to 10.4 or 10.5 magnitude. In the 8", these dim objects were significantly brighter, some of them showing more structure than I'd ever seen before. Had I printed out maps showing objects dimmer than 10.5, I probably could have found them fairly easily with the 8".

Perhaps one of the more pleasing moments occurred while examining one of my favorite star clusters, M38. As the Nexstar 5 slowly closed in on it, I saw a dim, gray patch pass by. Curious as to what it was, I moved the scope back over it and found what looked like a large globular star cluster but I couldn't resolve very many stars with the 25mm eyepiece. With the 40mm eyepiece on the 8", the increased brightness clearly indicated a large number of stars although of dim magnitude (8 or 9 and up). When I put my 20mm eyepiece in the 8", it suddenly resolved into a beautiful, dense but still open cluster of stars. The higher magnification and increased brightness of the 8" really turned this into a breathtaking view! Later examination of my star maps seems to indicate that this object was NGC 1907.

A night at JTL isn't without its amusing moments. Being about the only person in the campground made me a little nervous as I have heard coyotes howling in the hills nearby. After dark, while examining a map, I heard a noise behind me. Thinking it was a person, I turned around only to find this dog face staring at me out of the darkness! Luckily, it turned out to be the owner's dog who had come to see where my kids were and why they hadn't come to play (I hadn't brought them along). When I woke up the next morning after a short nap, I got out of the car to again find the dog nosing around my camp. I greeted him "Good Morning!" and he looked up at me. In the second that we locked eyes, it suddenly hit me: "That's not a dog!" He took off at high speed across the prairie about as fast as I jumped back in the car!

- *K. Munson*

SBAS Constitution and By-Laws

Our president, Greg Benecke, has discovered new information on gaining tax exempt status, and the SBAS Committee has concluded that it is in the best interests of our organization to postpone the vote on the final version of the Constitution and By-Laws temporarily. We will need to perform a complete review of the IRS Publication 557, Tax Exempt Status of an Organization, Section 501(c)(3) of the IRS Code with the possible intention of filing IRS Form 1023. We will keep you posted on further developments in this very important process.

Your SBAS Committee

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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.

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, January 13th at 7:30 PM at the home of Greg Bencke. 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

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 dues to the SBAS 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!

1) Eyepieces: 1.25 inch 26mm.

"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 waiver of the fee for borrowing the Nexstar8. Current members in this group include: Greg Benecke, Joe Fierstein, Steve Morris, John Evans and Dan Trimble.

SBAS Members **\$ Buy \$ Sell \$ Trade \$** Listing:

For Sale! Odyssey 13.1" Telescope \$550 obo – Call Bob at (310) 373-7873.

2002 SBAS Budget

The concept of an Annual SBAS Meeting in November is new to the club as embodied in the Constitution and Bylaws draft printed in the December First Light. I believe that the membership should be informed on the financial matters of the club, and to begin our new year, we are presenting our Projected 2002 Budget.

2002 Budget

Projected amounts are based on a membership of 70:

Income

Dues (\$30.00/member)	\$2,100.00
Total Projected Income	<u>\$2,100.00</u>

Expenses

Postage for First Light (\$35.00/mo)	\$ 420.00
Astronomical League Membership (\$3.50/member/year + \$10.00)	255.00
Liability Insurance	330.00
Speaker Honoraria (\$25.00/month)	300.00
Annual Donation to El Camino Astronomy program	200.00
Misc. Expenses	<u>100.00</u>
Total Projected Expenses	<u>\$1,605.00</u>

Light Pollution and Artificial Night Sky Brightness



While most people are aware of the problems of air, water and noise pollution, many are in the dark about light. The Milky Way is dimming, not because the end of the Universe is near, but rather as a result of light pollution: the inadvertent illumination of the atmosphere from street lights, outdoor advertising, homes, schools, airports and other sources. One of the more dramatically evident effects of light pollution is the disappearing of the starry sky due to artificial night sky brightness or “sky glow”. Artificial night sky brightness is produced by scattering of the light from atmospheric molecules and from particles and droplets suspended in the atmosphere, called aerosols. Solid particles are mainly originated by wind erosion, volcanism, or meteoritic activity, droplets are mainly due to humidity.

Urbanization and poorly controlled lighting has created a severe light pollution problem in industrialized countries. The majority of the wasted light comes from electricity generated with fossil fuels. Burning all the coal and oil contributes to the greenhouse gases and acid rain. City dwellers have already lost most of the constellations, the planet Saturn, and a host of medium magnitude stars. They can forget about observing most meteor showers or faint displays of Northern Lights. Whole generations of kids in cities and suburbs are growing up seldom if ever having seen the Milky Way and what a sky full of thousands of stars might look like. Young sky watchers grow up to be scientists, philosophers, explorers and school teachers, but are not likely to watch – or be inspired by – a blank sky!

Pierantonio Cinzano and Fabio Falchi of the Department of Astronomy of the University of Padova, Italy, and Chris Elvidge of the National Oceanic and Atmospheric Administration in Boulder, CO have completed the first world atlas of Artificial Night Sky Brightness. Their work, published in the Monthly Notices of the Royal Astronomical Society, found that about 20% of the world population and more than two-thirds of the U.S. population can no longer see the Milky Way – a hazy swath of stars that spans the sky from horizon to horizon. Worse yet, about 10% of the world’s population, including more than 40% of USA residents and one-sixth of those in the EU, live under skies so light polluted that their eyes can never fully dark-adapt. They are studying the effects of the increase in light pollution

which is exponential almost everywhere with average yearly growth rates as large as 5% - 10% measured both in the U.S. and Europe. Surveillance of the night sky is based on the measurements of the upward light flux emitted by the sources on the Earth's surface obtained from the Defense Meteorological Satellite Program (DMSP) Operational Linescan System (OLS) of the U.S. Air Force.

In recent years engineers have developed more efficient bulbs with "sky friendly" fixtures that can preserve dark skies and decrease energy costs. It's a daunting problem: thousands of communities with billions of light bulbs, all aglow. Fortunately, light pollution is reversible. The stars are still out there shining bright – patiently waiting for us to turn down the lights.

- L. Lucas

Useful Websites

Here are a few sites on the internet that you might find valuable. The Nexstar site can be informative if you have thought about gaining some knowledge about our Nexstar 8 <http://members.home.net/nexstar>. The Weather site is an interactive site that you can use to learn how to predict weather for observations by Satellite Meteorology at the Naval Research Laboratory, Monterey, CA http://kauai.nrlmry.navy.mil/sat_products.html. The third site is an Ephemeris generator, which is really handy with a 'go-to- telescope! If you know the name or number of any known object in the solar system, you can get predictions on where to point your telescope by inputting the az/el or RA/Decl. I've used it to find comets and asteroids. <http://ssd.jpl.nasa.gov/cgi-bin/eph>

- K. Munson

Entertaining Fund Raiser

Audiences Unlimited pays groups of 10+ people to attend studio television show tapings, up to \$10 - \$18 per person! Over 40 shows to choose from including: "Everyone Loves Raymond", "Spin City", "The Drew Carey Show" and "According to Jim". Some shows have a minimum age requirement of 18 years for admittance. If there are any members interested in participating in a "fund raiser", and being entertained at the same time, we will supply you with more information on this exciting opportunity!

- R. Rennie

Aerospace Astronomy Club Auction

AUCTION NOTICE! The Aerospace Astronomy Club is dissolving and will be holding an auction to sell its equipment which includes a 13-inch Newtonian, C8 and a wedge, A5 Astrophysics, C4 (reflector?), filters and eyepieces – Televue Plossels and 26mm Nagler.

- G. Benecke

Griffith Observatory Renovation

The Griffith Observatory will close on January 7th for a 3-year renovation. The historical building, opened in 1935, attracts nearly 2 million people each year. The observatory's building, with its three familiar copper domes, will be expanded underground to double its space without changing its classic architecture. Renovation plans feature an advanced Zeiss Mark IX sky projector, a 200-seat presentation center, classrooms, a conference room, an expanded bookstore, and two large exhibit areas.

The last programs include "Christmas Star", now showing through Jan. 1st (except Dec. 25), exhibit projectors reconfigure planetary conjunctions to see the astronomical events that could have sent the Wise Men on their journey, and "Oceans of Mars" shows Jan. 3-6. Information: (323) 664-1181. www.griffithobs.org

- J. Fierstein

Schedule of Coming Events

<p>5 January Saturday Evening</p>	<p>In-Town Dark Sky Observing at Ridgecrest School (Primary Site)</p> <p>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. Proceed up hill to end of median strip, turn around and return to the gate about 50 yards up from Highridge. Turn right and enter the ball field. Drive with care to avoid steel pillars supporting basketball nets. Alternate Site – If Ridgecrest is inaccessible, we will meet at Highridge Park which is on Highridge and you turn right into the parking lot just before Whitley Collins.</p>
<p>11 January Friday 7:30 P.M.</p>	<p>Monthly General Meeting: “Palos Verdes Weather”</p> <p>Mr. Gales is a professional meteorologist who writes about the weather for the P.V. News. As a naturalist, he collects weather data by zones in P.V. and has published a book on the flora and fauna of the Palos Verdes Peninsula.</p>
<p>12 January Saturday Evening</p>	<p>Out-of-Town Dark Sky Observing at Inyokern Rd.</p> <p>Contact Greg Benecke for directions to the site.</p>
<p>14 January Monday 7:30 P.M.</p>	<p>Monthly Planning Meeting</p> <p>See page 3 for location and directions.</p>
<p>24 (JPL) & 25 (PCC) January Thursday 7:00 P.M.</p>	<p>Theodore von Karman Lecture Series - Admission is Free!</p> <p>“Beyond the Winds” 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.</p>
<p>1 February Friday 7:30 P.M.</p>	<p>Monthly General Meeting:</p> <p>Speaker for the evening will be scheduled at a later date.</p>
<p>2 February Saturday Evening</p>	<p>In-Town Dark Sky Observing at Ridgecrest School</p> <p>Directions are shown in January 5th entry above.</p>
<p>4 February Monday 7:30 P.M.</p>	<p>Monthly Planning Meeting</p> <p>Location to be scheduled.</p>
<p>8 February Friday 7:30 P.M.</p>	<p>Cornerstone Elementary School</p> <p>More details to follow in the February newsletter for a “star party” that gets a “big” turnout!</p>

South Bay Astronomical Society

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

Guest Speaker: Mr. Don Gales

“Palos Verdes Weather”

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South Bay Astronomical Society
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