FIRST LIGHT

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

Monthly General Meeting: Friday, April 5, 7:30 PM

Guest Speaker: Kara Knack

”Expansion of Griffith Observatory”

Second Annual Messier Marathon Report

It was a very blustery day and the clouds gave me doubt about the odds of success for the SBAS Second Annual Messier Marathon. When my son Larry and I arrived at the site, Ken Munson already had his Nexstar 5 set up. I found Ken staying warm in Craig Gates' motor home along with Craig's son-in-law, Trent. Craig had not yet set up his Nexstar 11 GPS and Nexstar 5. While setting up my C8 Deluxe, Bill Eisele arrived with the club's Nexstar 8. It was so windy we had to use our vehicles as windbreaks.

Shortly after sunset, Tony Sandate arrived for a few hours of viewing. While waiting for a persistent cloud to dissipate and reveal Polaris, we spent some time looking at comet Ikeya-Zhang through my scope and Tony's Binoculars. To the naked eye it was visible in the late twilight as a fuzzy star. The tail was visible in the binoculars. The coma and dust tail were very prominent in my scope with a 55 mm eyepiece.

Ken and Bill got started ahead of me on the marathon by performing two star alignments. Craig and Trent were not going for the marathon, but instead just enjoyed viewing at a relaxed pace. I was unable to complete my polar alignment due to that persistent cloud blocking the view of Polaris. Finally it dissipated and I was able to get going on the Marathon. For the second year in a row I was unable to locate the first object, M74. I don't know if Bill or Ken were successful on this one. By the time I gave up on M74 I was 40 minutes behind last year's pace.

My next miss was M79, also for the second year in a row. I believe Ken and Bill got this one. Other than the wind, which at times was very gusty, the rest of the night went fairly smoothly. There were a few scattered clouds that required deviation from the planned order. It wasn't until I got into Sagittarius close to 3:00 A.M. that things started to get difficult. The East was clouding up.

I wasn’t able to complete Sagittarius with the last object bagged at 3:49 A.M. I hadn't missed anything since M79, but it was clear that it was time to throw in the towel, with seven objects left for me. I believe Ken and Bill had gotten a couple more before they were shut down. Since the wind was kicking up fine sand, we all packed up our optics and got a couple hours of shut-eye before making the drive home.

- Greg Benecke

Ridgecrest Observations

Ridgecrest Star Party on Sat., March 9th. From left to right:
Jim Madison, Livia, Menashe, Yehuda & Yehashua Fierstein, Ken Munson, John Evans, Greg Benecke & Bill Eisele.

The evening started off with high clouds moving our way from the northwest. A little while after dark, these clouds closed in over us and we were left looking through holes and thin spots at bright objects until about 8:30 PM when the sky cleared. I have read somewhere, that high thin clouds are accompanied by steady seeing. This night seemed to bear this out as we were rewarded for our patience with unusually good views of Saturn and Jupiter.

Jupiter's Red Spot, which appears as a pale spot in the lower dark tropical band, was visible through out the night. Experimenting with different eyepieces and filters, we were able to use up to 400x magnification with a 5.2mm eyepiece on 2030mm F.L. telescope (8" SC). Later on in the evening about 11:00 or 12:00, Greg Benecke and I returned our telescopes to Jupiter at about 200x magnification (8mm & 9mm eyepieces). We were able to see Jupiter's closest moon as a sharply defined disc instead of its usually indistinct point of light.

There were two comets visible if you know where to look. Linear was somewhere in Pegasus and comet Ikeya-Zhang in the western sky. Ken Munson found it with his Nexstar 5. We did some star splitting which reveals how good or bad the seeing is and lets you know if your scope is working up to its potential. Mizar, in addition to being a naked eye double with its companion Alcor in the Big Dipper, is also a double itself. The telescope reveals it quite easily. Castor in Gemini is also a double. Ken Munson pointed out Algieba in Leo's neck that turned out to be a gold colored pair of apparently the same magnitude. We tried to split Sirius, but it was low on the horizon and being 1,000 times brighter than its companion, makes it difficult even under ideal conditions.

In addition to the people that brought telescopes, we had visitors coming and going throughout the night. I would say that we had a very good turn out and participation seems to be on the increase. Those in attendance were Terry and Kathy Reeve, Ken Munson, Greg Benecke, Bob Baker, Dr. Palmer, Bill Eisele, John Evans, Jeff Chobanian, Jeff Lawrence, Bob Weringer & Halley, Joe Fierstein, Yehuda Fierstein, Livia Fierstein, Yehashua Fierstein, Menashe Fierstein, Tony Sandate and myself.

- ***Jim Madison***

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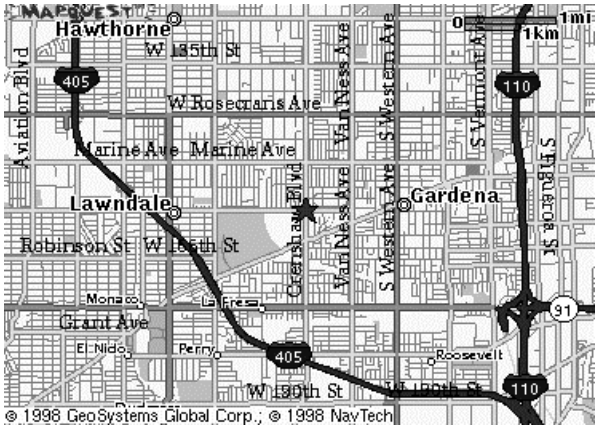
Monthly General Meetings



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, April 8th at 7:30 PM at the offices of Microcosm, Inc., at 401 Coral Circle in El Segundo. Take El Segundo Blvd. west to Douglas and turn left. Turn right at first street which is Coral Circle and follow around the first bend to the left and continue down the street and Microcosm is on the right in the crook of the second bend.

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! 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:
SBAS is offering a steamer trunk case for an SC 8” or less for *free!* Call Greg Benecke if you are interested. Members send your advertisements to Laura Lucas!

An Occidental Tourist

Success! As many of you probably know by now, Occidental College has dropped its plans to build an athletic field with several banks of extremely powerful lights, that would have ruined the night sky for a large community near Pasadena. More than forty members of the SBAS were kind enough to sign a petition at the March 1st meeting, requesting that these lights not be installed. It is encouraging to know that light pollution is not some unstoppable force that we must meekly accept. Thanks to all who signed.

- ***Steven Morris***

SBAS Receives Donation

Thanks to Cathy Webster, Event Coordinator for the Montemalaga School of Palos Verdes Estates for a very generous $100.00 donation to SBAS for our much appreciated participation at their Feb. 21st Star Party!

Get Ready for Astronomy Day!

It's been confirmed. We will celebrate Astronomy Day on Sunday, **April 21st** at the Farmers Market in the Peninsula Shopping Center. It is located in Rancho Palos Verdes, at the corner of Hawthorne and Silverspur Drive. Traveling south on Hawthorne, turn left at Silverspur Dr. and turn right into the first driveway and park. We will be there from 9AM till 1PM. Setup is at 8:30AM. If you have a sun filter bring your scope, if not come any way and help answer questions. It's fun and it gets us new members.

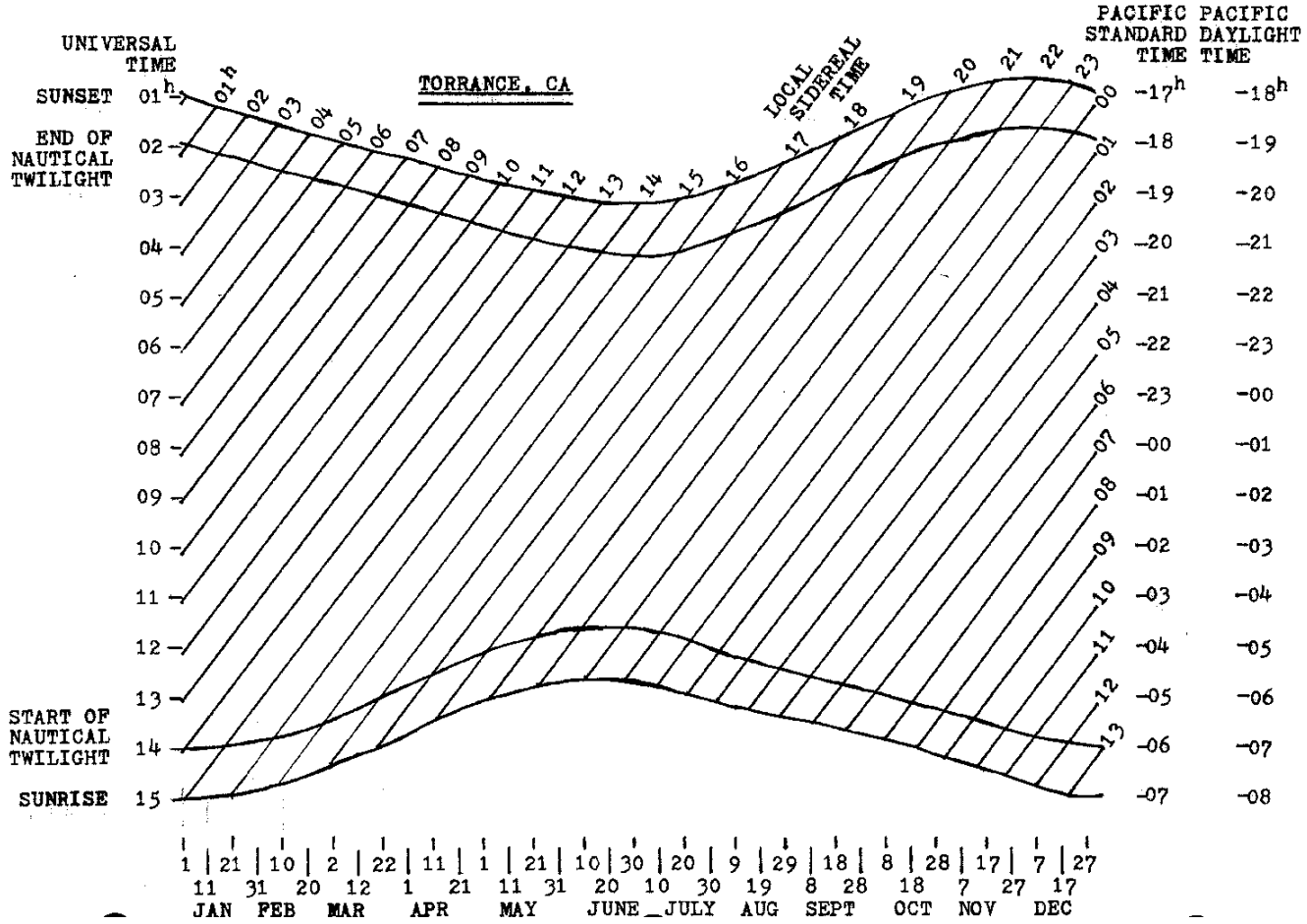
- Joe Fierstein

The Sky From Torrance

Here is a companion chart to the table published last month about observing the sky from Torrance. For each night of the year, you can find the times of sunset, sunrise and the times of nautical twilight. I chose nautical twilight (with the Sun's center 12 degrees below the horizon) instead of astronomical twilight (with the Sun's center 18 degrees below the horizon) as more appropriate when observing under brightly-lit city skies.

The local sidereal time is indicated by the slanting lines. All the times listed in this chart will change by a few minutes from one year to the next, and will vary slightly throughout the South Bay, but they should still be handy in planning a night's observing.

On April 5th for example, nautical twilight ends at 19:15 PST (7:15 PM) and the local sidereal time is 08:20. Since the Right Ascension of 8h 20m passes through Cancer the Crab, this constellation will be at its highest point in the sky.



- Steven Morris

Astronomers Uncover Orbital Mystery Of Jupiter's Tiny Moons

In what could be the ultimate in fast-forward, Cornell University planetary scientists have used one of the world's most powerful computing clusters to simulate motions of the small moons of Jupiter over a one billion-year epoch. From this, the researchers have learned how the tugs and pulls of the sun and planets -- even from hundreds of millions of miles away -- shake out the permanent moons of the giant planets from those that get tossed away.

In a three-month computing marathon, the Velocity I cluster at the Cornell Theory Center was able to mimic cosmic conditions over eons that would cause physical perturbations in the moons of Jupiter. The calculations were produced by entering orbital data from hypothetical moons of the planet. As a result, the astronomers now have an explanation for the unusual orbits of 12 confirmed small, eccentric moons of Jupiter.

Joseph Burns, Cornell professor of astronomy and engineering, and Valerio Carruba, Cornell graduate student in astronomy, detailed their research in a talk, "On the Orbital Distribution of Irregular Satellite Systems," at the American Astronomical Society's Division for Planetary Sciences meeting.

"The big moons are the ones you know and love, and their orbits are circular and they are always in the planets' equatorial plane," says Burns. "The small moons, about 10 to 100 miles in diameter, have been captured by the large planets and they have distant, elongated, elliptical orbits that are highly inclined. We wanted to know why."

None of the irregular moons (that is, those with non-circular orbits) has an inclination -- the angle relative to the planet's orbital plane -- between 47 degrees and 141 degrees. Thus, there is an area of Jupiter's sky free from moons of any sort. The astronomers discovered that any tiny moons that might once have orbited well off Jupiter's orbital plane, have smashed into the planet or have been tossed into a perpetual orbit around the sun, says Carruba. Below the 39-degree orbital plane, the eccentricities of the moons' elongated-elliptical orbit change little.

In other words, an observer positioned on Jupiter's equator would see the four large Galilean moons grouped directly overhead and the tiny satellites (the 12 confirmed plus a dozen other recently discovered moons) scattered as much as 40 degrees away. Far to the north and south there would be no moons.

To try to explain this phenomenon, the astronomers turned to the Cornell Theory Center's Velocity I cluster. The 256-processor cluster consists of 64 Dell PowerEdge servers, each with four Intel Pentium III Xeon 500 Mhz processors and running Microsoft Windows 2000 operating system. The astronomers "installed" hypothetical moons around Jupiter, programmed in the physical perturbations that would likely occur in a simulated scenario and mimicked cosmic conditions for a period of one billion years.

In addition to finding how the sun's gravity pulls the moons from their orbits, the researchers are studying why the orbits of the tiny moons are tightly clumped together. The astronomers have deduced that the moons were once larger objects broken apart by cometary or asteroidal collisions.

Burns says this research is an early step to understanding how the giant planets were formed. "This research is similar to how archaeologists -- by investigating what remains -- reconstruct the birth and death of civilizations," says Burns. "As planetary scientists, we have a comparable opportunity to decipher the origin of giant planets by interpreting the orbital distribution structure of irregular satellites that still orbit their planets. We hope to use the observed distribution to start to unravel the formations of the planets themselves."

- ***JPL***

Jet Propulsion Laboratories "Open House"

JPL will hold their annual Open House on Sat. & Sun., May 18 – 19 from 9:00 AM to 5 PM. Exhibits, demonstrations about ongoing research, presentations on new technologies, solar system exploration, spacecraft communications and much more. For additional information and directions, call JPL at (818) 354-0112.

Schedule of Coming Events

5 April **Friday** **7:30 P.M.**	**Monthly General Meeting: "Expansion at Griffith Observatory"** Kara Knack is past president of "FOTO" Friends of The Observatory and she writes for The Griffith Observer.
6 April **Saturday** **7:30 P.M.**	**In-Town Dark Sky Observing at Ridgecrest School** 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.
8 April **Monday** **7:30 P.M.**	**Monthly Planning Meeting** See page 3 for location and directions.
18 (JPL) **19 (PCC)** **April** **Thursday / Friday** **7:00 P.M.**	**Theodore von Karman Lecture Series** – Admission is Free! "The Changing Ozone Layer" 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.
21 April **Sunday** **8:30 A.M.-1:00 P.M.**	**Astronomy Day – Celebration!** Directions to the Peninsula Shopping Center's Farmers Market are detailed on page 4.
3 May **Friday** **7:30 P.M.**	**Monthly General Meeting:** Speaker for the evening will be scheduled at a later date.
4 May **Saturday** **Evening**	**In-Town Dark Sky Observing at Ridgecrest School** Directions are shown in April 6th entry above.
6 May **Monday** **7:30 P.M.**	**Monthly Planning Meeting** Location to be scheduled.
9 (JPL) **10 (PCC)** **May** **Thursday / Friday** **7:00 P.M.**	**Theodore von Karman Lecture Series** – Admission is Free! "The Odyssey to Mars" lecture is presented at the JPL von Karman Auditorium (JPL) and the Pasadena City College Forum (PCC). For additional information, call JPL at (818) 354-0112.
24 – 26 **May** **Friday - Sunday**	**RTMC – Astronomy Expo!** Riverside Telescope Makers Conference held at Camp Oaks in Big Bear, CA. Features awards for innovative telescope design, speakers, workshops, swap meet and observing.

South Bay Astronomical Society

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

Guest Speaker: Kara Knack

"Expansion at Griffith Observatory"

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South Bay Astronomical Society
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