

FIRST LIGHT



Journal of the South Bay Astronomical Society – January 2009
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, January 9th, 7:30 PM

Guest Speaker: Dr. Gary Peterson, San Diego State University

“The Capture of The Moon”

Outreach at Cornerstone School



On Thursday, December 18th, club members, Joe Fierstein, Ron Rennie and Ken Munson gathered at Cornerstone Elementary School in Rancho Palos Verdes for a daytime lecture and solar viewing session. Ron presented his video of the recent solar eclipse he viewed in Novosibirsk to the assembled grade-schoolers. Afterwards, one class at a time, the children were led out onto the playground area where we had set up three solar observing stations. Ron set up a pair of binoculars with a mirror for easy observing, Joe set up his 6-inch home-made Newtonian and I set up my 11-inch Nexstar with the club's Personal Solar Telescope (PST) piggy-backed on top. Using some small models and the real sun, Joe demonstrated to the children how an eclipse happens by showing how a small model of the moon could cast its shadow on the model of the earth. The next hour and a half were very busy as nearly 300 students took turns at all the viewing stations.



The younger members were entranced by seeing the red sun in the PST although they didn't really understand why it was different or special. Unfortunately, once again, the sun remains unusually quiet with no spots or prominences visible. The older guys, i.e., 3rd graders and up, had many interesting questions and many of them came back for repeat viewings, particularly through the PST. The event finally ended at about 12:30 and the teachers thanked us for putting on a great show for the kids.

- Ken Munson

The December 5 Meeting

President Ken Rossi gavelled the meeting to order at 7:36, and began by welcoming newcomer George Manas. In a review of last month's activities, several members reported hearing the sonic booms of the Space Shuttle on its return to Earth, one member went to Edwards Air Force Base and saw it land, and Ron Rennie reported seeing it as it flew at very high altitude over Lomita. Several members also reported viewing the recent conjunction of Venus, Jupiter and the Moon in the evening sky.

As our Society's Constitution requires, President Rossi issued a 'State of the Society' report. We currently have eighty members. Little progress has been made toward having a permanent observatory despite serious efforts, but work continues. Joe Fierstein will be leading our Society's contribution to the International Year of Astronomy in 2009. Ken also thanked the staff of El Camino College, particularly Professor Perry Hacking, for the College's continued support.

Craig Gates invited interested members to attend his six-week class on "Astronomy for City Dwellers", through the Palos Verdes Adult School. After a ten-minute social break, Ron Rennie screened the 30-minute DVD "Time Travel, Tunneling, Tennis and Tea" from the "Einstein's Relativity and the Quantum Revolution" series produced by the Teaching Company. In this lecture, Professor Richard Wolfson begins by pointing out that physics can be divided into Classical Physics (up to the year 1900) and Modern Physics. Modern Physics can be described with two big ideas. The first, from relativity, is that the laws of physics are the same for everyone, whatever your motion relative to anyone else. The second, from quantum mechanics, is that the Universe is 'grainy'. This is easy to accept when dealing with matter being made of microscopic particles called atoms, but is counterintuitive when applied to energy.

Ron Rennie then screened a 30-minute video of his own production, "Russian Eclipse Tour 2008" chronicling his trip from Moscow through Novosibirsk to St. Petersburg. Starting at Moscow, Ron traveled to Star City 25 miles away to see the world's largest centrifuge (used to train astronauts) and other memorabilia of the Russian space effort. Ron also visited Red Square and the Kremlin, before jetting off to Novosibirsk for the eclipse. The video included an instructive computer animation of the Moon's partial and total shadow traversing the globe of the Earth, as well as the total eclipse itself as viewed from the shores of Lake Ob, complete with the ooh's and aah's of the

The video ended at St. Petersburg, with a brass band playing the Star-Spangled Banner outside St. Catherine's summer palace! President Rossi presented Ron Rennie with a plaque to thank him for his efforts, to the applause of the 35 people present, and the meeting ended at 9:29.

- Dr. Steven Morris



Superstar Hide and Seek

by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

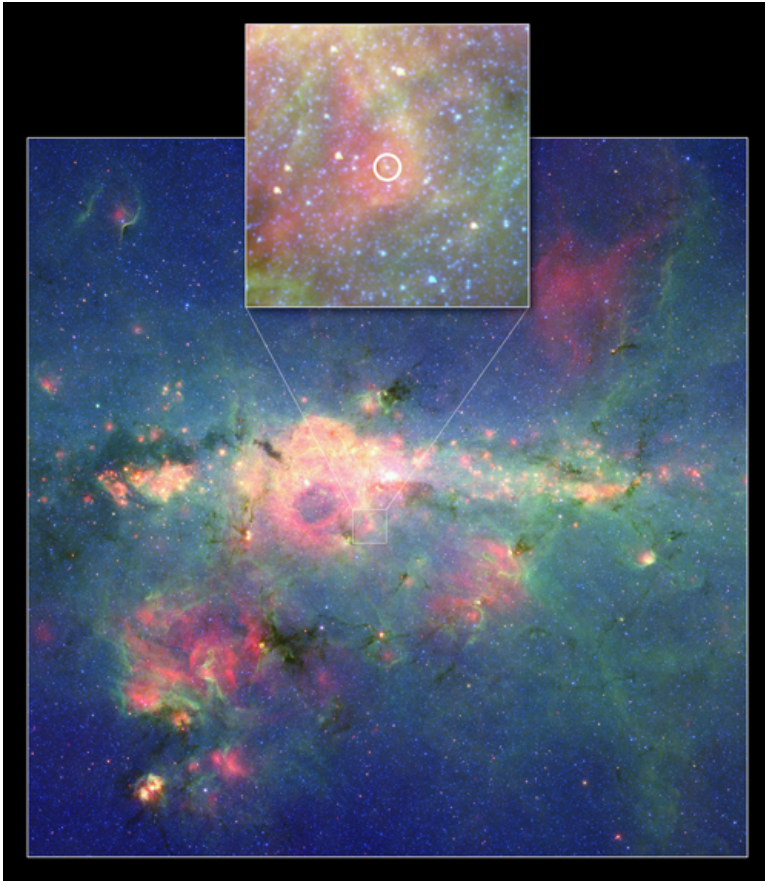
Earlier this year, they found one.

"It's called the Peony nebula star," says Lidia Oskinova of Potsdam University in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes,

but Spitzer is an infrared telescope able to penetrate the dusty gloom.

“Using data from Spitzer, along with infrared observations from the ESO’s New Technology Telescope in Chile, we calculated the Peony star’s true luminosity,” she explains. “In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns.”



The “Peony Nebula” star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

“There’s no threat to Earth,” she believes. “Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don’t appear to be any supermassive stars within a thousand light years of our planet.

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at www.spitzer.caltech.edu. Kids (of all ages) can read about “Lucy’s Planet Hunt” using

the Spitzer Space Telescope at spaceplace.nasa.gov/en/kids/spitzer/lucy.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

SBAS Executive Board

| | | | |
|---|-----------------|----------|--|
| President | Ken Rossi | 515-1586 | ken_a_rossi@yahoo.com |
| Vice-President | Ron Rennie | 326-5589 | vidron@sbcglobal.net |
| Secretary | Steve Pedersen | 378-6479 | eponstlyusc82@earthlink.net |
| Treasurer & Astronomical League Rep. | Arnie Stodolsky | 937-0220 | astodols@ix.netcom.com |

SBAS Committees

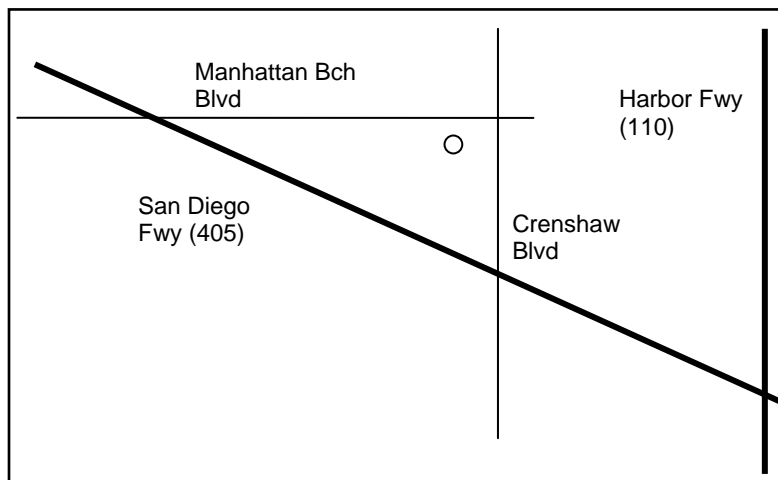
| | | | |
|------------------------------------|-----------------|----------|--|
| Program Chairman | Ron Rennie | 326-5589 | vidron@sbcglobal.net |
| Astronomical League Liaison | Bill Eisele | 542-5070 | Astronomy131@msn.com |
| Newsletter Reproduction | Arnie Stodolsky | 937-0220 | astodols@ix.netcom.com |
| Publications Committee: | | | |
| 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 | - - - |
| Membership Committee | Ray Grace | 370-1913 | rgrace3@verizon.net |
| Publicity Committee | Joe Fierstein | 377-9834 | joefiers@aol.com |
| | Arnie Stodolsky | 937-0220 | astodols@ix.netcom.com |
| Property Committee | Arnie Stodolsky | 937-0220 | astodols@ix.netcom.com |
| Outreach Committee | Joe Fierstein | 377-9834 | joefiers@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 (16007 Crenshaw Bl. In Torrance). 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).

The planetarium is the only round, domed building on campus. 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, 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. The January 12th planning meeting will be held 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.

Membership Dues Schedule

| Month Join/Due | Member (Family) | | Student | Expires |
|----------------|-----------------|---------|---------|---------|
| | USMail | Email | | |
| January | \$38.50 | \$33.00 | \$22.90 | 12/2009 |
| February | \$35.00 | \$30.00 | \$20.85 | 12/2009 |
| March | \$31.50 | \$27.00 | \$18.75 | 12/2009 |
| April | \$28.00 | \$24.00 | \$16.70 | 12/2009 |
| May | \$24.50 | \$21.00 | \$14.60 | 12/2009 |
| June | \$21.00 | \$18.00 | \$12.50 | 12/2009 |
| July | \$17.50 | \$15.00 | \$10.45 | 12/2009 |
| August | \$14.00 | \$12.00 | \$8.40 | 12/2009 |
| September | \$10.50 | \$9.00 | \$6.25 | 12/2009 |
| October | \$49.00 | \$42.00 | \$29.20 | 12/2010 |
| November | \$45.50 | \$39.00 | \$27.10 | 12/2010 |
| December | \$42.00 | \$36.00 | \$25.00 | 12/2010 |

To simplify the dues, we suggest that all membership expire in December. Dues are \$42.00/year for FirstLight via US Mail, or \$36.00 via Email notification (\$25.00/year for students) and expire on December 31, of the current year. New members use Month Join, and current members select your expiring Month to calculate the amount. Members that expire in October or November may wish to write one check and include next years membership. Make checks payable to the South Bay Astronomical Society. Dues may be paid at the general meeting or mailed to:

South Bay Astronomical Society

Attn: Arnie Stodolsky

P.O. Box 1937

Redondo Beach, CA 90278

SBAS Membership Benefits

Contact Arnie Stodolsky for magazine subscriptions at club rates: "Sky & Telescope" \$32.95 and "Astronomy" \$34.00/1 year or \$60.00/2 years!

Note: S&T subscribers at the club rate renew their subscriptions by mailing their renewal notice and check or calling the 800# on the renewal notice.

Only new subscribers or subscribers converting their subscription to the club rate need to contact Arnie or send a check to the PO Box. Astronomy subscriptions and renewals still go through Arnie or via the PO Box.

Astronomical League Observing Clubs

All SBAS members in good standing are also members of the Astronomical League and are eligible to participate in the League's Observing Clubs. The Astronomical League provides many different observing programs (clubs). These programs are designed to provide a direction for your observations and to provide a goal. The programs have certificates and pins to recognize the observers' accomplishments and for demonstrating their observing skills with a variety of instruments and objects. For more information go to:

<http://www.astroleague.org/observing.html>.

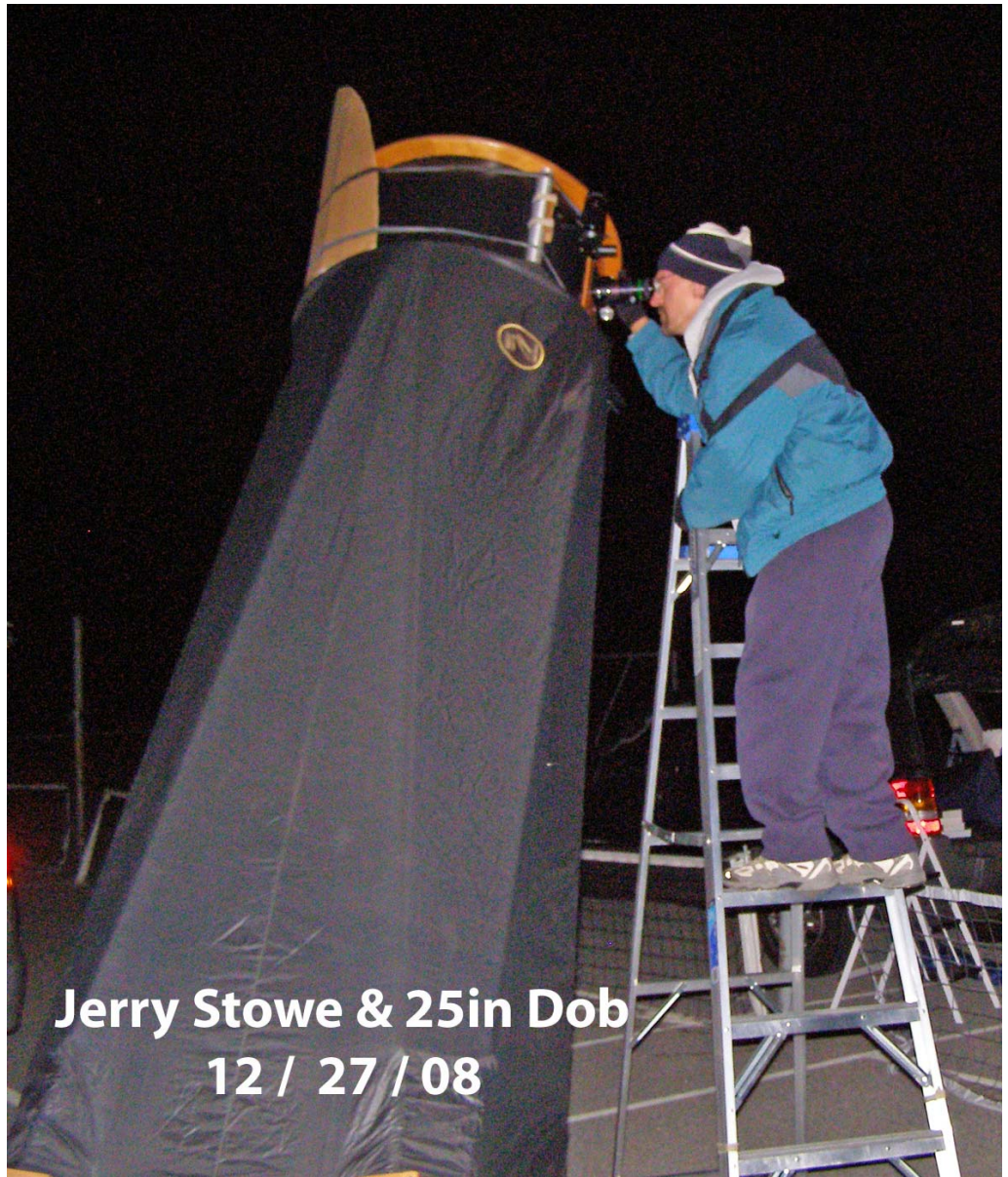
Observing Reports

Ridgecrest School – On Saturday, December 27th, Ken Rossi, Ken Munson, Joe Locasio, and Gerry Stowe gathered at the Ridgecrest School site for an in-town observing session. The prediction had been for clear skies but high thin clouds dimmed that hope all day long. As the sun set, more clouds gathered in the west, threatening an early end to the evening. The temperature dropped rapidly after sunset and quickly settled at about 45 degrees F. With no significant breeze, that temperature was reasonably tolerable. The thick clouds in the west seemed to thin as they passed overhead. The brighter stars shone through nicely and the seeing was pretty stable. At one point, several of us were able to see 6 stars in the Trapezium of M42 in TBD's 16 inch Dob. The light-gathering power of Gerry Stowe's 25 inch Dob was impressive as he was able to bring in some faint nebulae, including Hubble's Variable Nebula.

For myself, I did a check of the collimation of my Nexstar 11 since getting it back into the correct configuration with the help of Craig Gates. The collimation looked very good so I decided to try to wide-field

astrophotography since I hadn't done any of that for over 4 months. The Nikon camera was mounted on the 80mm scope and the Meade DSI was configured as an autoguider on the Nexstar. Once again, set up was amazingly easy and the scopes just seemed to be perfectly polar aligned with little effort on my part. Why is it never this easy out in the desert?

I proceeded with some test shots and then settled down for some serious efforts. The high thin clouds continued to worry me and I decided not to go for very long exposures. It turns out, 10 seconds wasn't nearly long enough. Thirty seconds was just about right and I did get a magnificent view of the nebulosity in Orion's Sword (M42 and a couple of other patches). Unfortunately, my batteries ran out of power by about 10 PM and I was forced to shut down earlier than I had expected. I'm not sure why the batteries, which have usually lasted easily all night long died so quickly that night. Oh well, the successful night's viewing, in spite of the clouds, made up for being sick through most of the holidays.



- Ken Munson

Schedule of Coming Events

| | |
|--|---|
| 3-4 January | <p>Quadrantid Meteor Shower Peak</p> <p>The Quadrantid meteor shower is one of the strongest meteor showers of the year, but observers can be disappointed if conditions are not just right. The point from where the Quadrantid meteors appear to radiate is located within the extinct constellation Quadrans Muralis. On modern star charts, this radiant is located where the constellations Hercules, Boötes, and Draco meet in the sky.</p> |
| 9 January Friday Night 7:30 PM | <p>Monthly General Meeting</p> <p>Guest Speaker: Dr. Gary Peterson, San Diego State University</p> <p>Topic: The Capture of The Moon</p> |
| 12 January Monday Night 7:30 PM | <p>Monthly Planning Meeting</p> <p>See directions on Page 4.</p> |
| 15 January Thursday 7:00 PM | <p>JPL's Von Karman Lectures: Spirit and Opportunity: The Corps of Discovery for Mars Rolls On by Dr. Steve Squyres, Principal Investigator, Mars Exploration Rovers</p> <p>For five Earth years, the intrepid robotic explorers Spirit and Opportunity have been successfully conducting field geology at two different locations on the surface of Mars. Originally designed for a 90-Martian-day mission, the twin rovers have exceeded that requirement by a factor of 20. The rovers have traversed great plains, climbed mountains, descended into deep craters and survived lethal dust storms and frigid winters. As the rovers move, each day becomes a brand new mission with new sights and new geology to explore.</p> <p>Location: Von Karman Auditorium at JPL 3800 Oak Grove Dr. Pasadena</p> |
| 17 January 10 AM – 3 PM Rose Bowl | <p>Girl Scout Cookie Campaign Kickoff</p> <p>Several members are needed to staff the booth and, if possible, provide scopes. Contact Joe Fierstien to coordinate.</p> |
| 17 January Saturday Night | <p>In Town Dark Sky Observing Session at Ridgecrest Middle School– 28915 NorthBay Rd. RPV, Weather Permitting: Please contact Greg Benecke to confirm that the gate will be opened!</p> |
| 24 January Saturday Evening | <p>Out-of-Town Dark Sky Observing Session</p> <p>Contact Greg Benecke to coordinate a location.</p> |
| 30 January 6 – 8 PM | <p>Silver Spur Elementary School Star Party</p> <p>5500 Ironwood St. RPV 90275</p> |

South Bay Astronomical Society

* * * * *

***General Meeting at El Camino College Planetarium:
Friday, January 9th, at 7:30 P.M.***

Guest Speaker: Dr. Gary Peterson

“The Capture of The Moon”

* * * * *

**South Bay Astronomical Society
P.O. Box 1937
Redondo Beach, CA 90278**