The Observer

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS
Member of The Astronomical League
http://sbvaa.org/

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Meeting:

May 18, 2013

Location:

San Bernardino County Museum, 7:00 p.m. Redlands, CA. California St. exit, I-10 Fwy.

Pre-meeting Dinner, 5:00 p.m.,

The Sizzler
1800 So. Waterman Ave.
San Bernardino, CA

After the meeting telescopes will be set up for viewing and members will be available to answer questions. Bring your telescope to observe with us.

No telescope is too humble, and beginners are always made welcome!

After viewing the group will head for Coco's in Redlands, Tennessee exit, I-10 Fwy.

Program

Summer Celestial Delights

Once again our own Martin Carey and Chris Clark will show us the wonders of the summer sky. Although the days are getting longer and the nights shorter, there are many beautiful objects both "near" and far that are well worth staying up for -- or driving out to a dark sky site for an even better view.

Along with a broad description of what is coming up for us, Martin and Chris will highlight a number of deep space objects that are seen in their prime from Grandview.

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Calendar of Upcoming Events

May 11, Star Party at Johnson Valley

May 18, Club meeting at the museum

May 24 - 27, RTMC at Big Bear

June 7 - 9, "**GRANDVIEW**" at Ferguson Campground (*rain date, July 5 - 7*)

June 15, Moon Party outreach at the Museum

June22, Club meeting at the Museum

July 6, Star party at Johnson Valley

July 13, Club meeting at the Museum

Oak Glen Outreach: A Rousing Success!

By Chris Clarke

Well, our first outreach of the year was very successful! At least 20 club members were on hand to share views of the universe to about 150 happy and excited visitors. Everything from refractors to big dobs to Schmidt & Maksutov "cassies" were on hand.

The young crescent moon was stunning in early twilight along with big-banded Jupiter. Although there were high clouds early on, they were on the move and slowly gave way to clearer skies. The temperature was down in the low 50's and it was a pretty nice night. Unfortunately, there was some heavy dewing because of high humidity and several scopes had wet corrector plates which shut down a few instruments early on.

After a while, Saturn came up and was a thrilling sight for first-time viewers. As it rose, the atmospheric seeing made it go through some really strange "gyrations." After it got higher, it got a lot better—people were amazed to see the rings so clearly.

Many deep sky objects were found, like M81 & M82 (especially nice in Scott Freeman's dob), M42, M35, M41, and other goodies. I didn't get a chance to go around and look through all of the scopes as I was manning my own, but I heard that everyone had great views through their instruments, and the visitors were very pleased and satisfied by it all.

After everyone left after 10 pm, the sky was at its best and some of us stayed for almost an hour chatting and catching other objects that were now high enough in the dark clear sky. I saw splendid views of M3, M13 , M51, and the "Leo Trio." All that made up for last month's star party out there where we were clouded out! Going home, it was quite foggy going down the road and the valley was overcast, which made for the "dark blanket effect" that made the Oak Glen site darker than normal.

All in all, everyone had a great time—this is what The Wildlands Star Party/Outreaches are all about!

(See picture below of this outreach and that of Astronomy Day)

Kepler Finds 3 New Habitable Zone Planets

NASA's Kepler mission has discovered two new planetary systems that include three super-Earth-size planets in the "habitable zone," the range of distance from a star where the surface temperature of an orbiting planet might be suitable for liquid water.

The Kepler-62 system has five planets: 62b, 62c, 62d, 62e and 62f. The Kepler-69 system has two planets: 69b and 69c. Kepler-62e, 62f and 69c are the super-Earth-sized planets.

Two of the newly discovered planets orbit a star smaller and cooler than the sun. Kepler-62f is only 40 percent larger than Earth, making it the exoplanet closest to the size of our planet known in the habitable zone of another star. Kepler-62f is likely to have a rocky composition. Kepler-62e orbits on the inner edge of the habitable zone and is roughly 60 percent larger than Earth.

The third planet, Kepler-69c, is 70 percent larger than the size of Earth, and orbits in the habitable zone of a star similar to our sun. Astronomers are uncertain about the composition of Kepler-69c, but its orbit of 242 days around a sun-like star resembles that of our neighboring planet Venus.

Scientists do not know whether life could exist on the newfound planets, but their discovery signals we are another step closer to finding a world similar to Earth around a star like our sun.

"The Kepler spacecraft has certainly turned out to be a rock star of science," said John Grunsfeld, associate administrator of the Science Mission Directorate at NASA Headquarters in Washington. "The discovery of these rocky planets in the habitable zone brings us a bit closer to finding a place like home. It is only a matter of time before we know if the galaxy is home to a multitude of planets like Earth, or if we are a rarity."

The Kepler space telescope, which simultaneously and continuously measures the brightness of more than 150,000 stars, is NASA's first mission capable of detecting Earth-size planets around stars like our sun.

Plan Ahead

2nd Annual Arizona Science & Astronomy Expo

November 16 & 17, 2013, Tucson, Arizona.

Last year's inaugural expo was outstanding with top speakers and a massive vendor hall. For 2013, two stellar speakers have already signed: **Alex Filippenko**, world renowned astrophysicist and professor of astronomy, and **Timothy Ferris**, astronomer and author of twelve best selling books.

November 16th and November 17th 2013. Being held at the Tucson Convention Center Tucson AZ.

Orbiting its star every 122 days, Kepler-62e was the first of these habitable zone planets identified. Kepler-62f, with an orbital period of 267 days, was later found by Eric Agol, associate professor of astronomy at the University of Washington and co-author of a paper on the discoveries published in the journal Science.

The size of Kepler-62f is now measured, but its mass and composition are not. However, based on previous studies of rocky exoplanets similar in size, scientists are able to estimate its mass by association.

"The detection and confirmation of planets is an enormously collaborative effort of talent and resources, and requires expertise from across the scientific community to produce these tremendous results," said William Borucki, Kepler science principal investigator at NASA's Ames Research Center at Moffett Field, Calif., and lead author of the Kepler-62 system paper in Science. "Kepler has brought a resurgence of astronomical discoveries and we are making excellent progress toward determining if planets like ours are the exception or the rule."

(JPL, April 18, 2013)

Outreaches at Oak Glen & the Museum

(Photos by Robin Hennen)