



The Observer

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member of The Astronomical League

<http://sbvaa.org/>



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Since 1958

May 2018

Meeting:

May 5, 2018

Location:

First Christian Church
2102 E. Foothill Dr.
San Bernardino, CA

7:00 p.m.

Pre-meeting Dinner,
5:00 to 6:30 p.m.,

Jenny's Family
Restaurant
7750 Palm Ave.
Highland, 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.

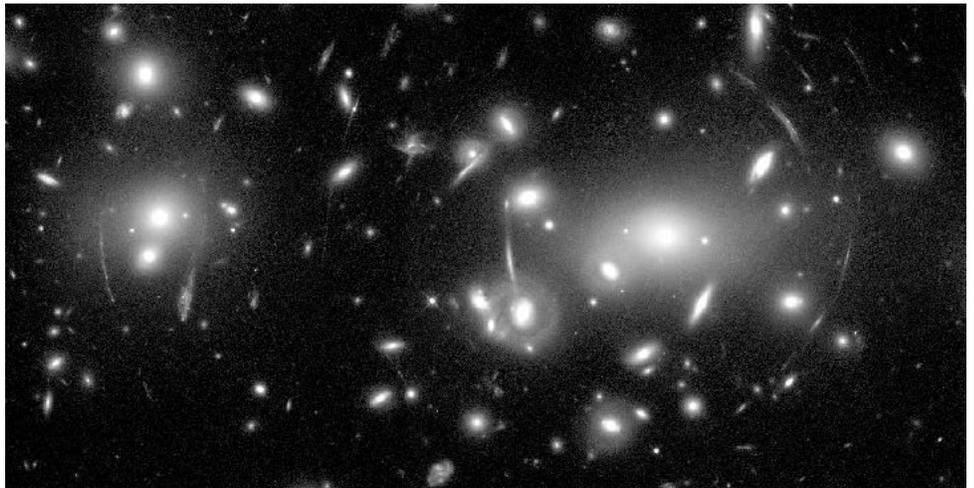
***No telescope is too humble,
and beginners are always
made welcome!***

Program

Gravitational Lensing

With Hubble

Gravity distortion, gravitational lensing and the Einstein Ring — all this and more. Using Abell 2218, we will learn how gravitational lensing is used by astronomers to study the cosmos at extraordinary distances.



In 2002, using the distant Abell 2218, as a gravity lens astronomers were able to detect galaxies at a distance of 13 billion light years; Without the brightness boost afforded by gravitational lensing these galaxies would have been nearly impossible to detect.

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Calendar of Upcoming Events

Apr. 26, Outreach, Beattie Middle School, Highland

May 5, Club Meeting

May 12, Outreach, Pioneer Town

May 18, Outreach, Competitive Edge Academy, Yucaipa

May 19, Outreach, Whitewater

May 25 - 28, RTMC

June 2, Club Meeting

June 15-17, GRANDVIEW

Almost Time For Grandview

Megan has secured us a reservation for Noren Campground for June 15, through the 17th. Yes, it's a long drive but the dark, dark nights make it worth it. The campground is a little lower in elevation than the actual Grandview Campground but only by a few hundred feet.

The days will likely be warm to quite warm and nights cool to cold so bring appropriate clothing for a variety of conditions — we'll be in the mountains after all.

As are all the camping areas in the area, the site is "dry." You need to bring adequate water for drinking, cooking and bathing. There are, however, toilet facilities and a few covered picnic tables.

So make plans to join us for some of the best viewing you have.

Dark skies, food and fellowship: It doesn't get any better than this.



Stunning Jupiter Image

This image of Jupiter's iconic Great Red Spot and surrounding turbulent zones was captured by NASA's Juno spacecraft this month.



The color-enhanced image is a combination of three separate images taken on April 1 between 3:09 a.m. PDT (6:09 a.m. EDT) and 3:24 a.m. PDT (6:24 a.m. EDT), as Juno performed its 12th close flyby of Jupiter. At the time the images were taken, the spacecraft was 15,379 miles (24,749 kilometers) to 30,633 miles (49,299 kilometers) from the tops of the clouds of the planet at a southern latitude spanning 43.2 to 62.1 degrees.

Citizen scientists Gerald Eichstädt and Seán Doran processed this image using data from the JunoCam imager.

JunoCam's raw images are available at www.missionjuno.swri.edu/junocam for the public to peruse and process into image products.

More information about Juno is online at <http://www.nasa.gov/juno> and <http://missionjuno.swri.edu>.

Cube Sats Ready For First Test

In May, engineers will be watching closely as NASA launches its first pair of suit case size CubeSats designed for deep space. The twin spacecraft are called Mars Cube One, or MarCO, and were built at NASA's Jet Propulsion Laboratory in Pasadena, California.

Both MarCO spacecraft will be hitching a ride on the same rocket launching [InSight](#), NASA's next robotic lander headed for Mars. The MarCOs are intended to follow InSight on its cruise through space; if they survive the journey, each is equipped with a folding high-gain antenna to relay data about InSight as it enters the Martian atmosphere and lands.

The MarCOs won't produce any science of their own, and aren't required for InSight to send its data back home (the lander will rely on NASA's Mars orbiters for that, in addition to communicating directly with antennas on Earth). But the twins will be a crucial first test of CubeSat technology beyond Earth orbit, demonstrating how they could be used to further explore the solar system.

This will be a test of power units, propulsion and communications modules in a “nano-satellite.”

For more info go to
<https://www.jpl.nasa.gov/>

For Sale
Vintage (1979) Star-Liner 14" Newtonian
Telescope On a Massive German Equatorial
Mount

For details email Michael Oliver at starcrest01@msn.com or call at 909.553.0555

