

The Observer

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member of The Astronomical League

<http://sbvaa.org/>



Volume #57, Issue 9

Since 1958

September, 2015

Meeting:

September 19, 2015

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.,

Denny's
702 E. Highland 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!***

Program

Pulsars & Quasars

The program for the September club meeting will be a video episode from the famed Universe series titled, "Pulsars and Quasars."



"Rapidly spinning, superheated orbs, pulsars have rotations so precise they are the most accurate clocks in the universe. Unlock the secrets of these strange objects and discover the magnificence of quasars—possibly massive rotating centers of galaxies that burn with the energy of a trillion suns and are the cause of interstellar pyrotechnics."

SBVAA Officers

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Calendar of Upcoming Events

September 11 - 13, Grandview

September 19, Club Meeting

October 10, Star Party, Johnson Valley

October 24, Club Meeting

November 1, (Sunday) DST ends

November 14, Star Party, Johnson Valley

November 21, Club Meeting



The 2016 “Deep Space Mysteries” calendars from Astronomy Magazine are here. They will be available for sale starting with the club meeting in September (hopefully on the 19th) . We have 30 for sale on a first come first served basis. The retail for this calendar is \$12.99 plus tax or over \$14 altogether. Your cost, through the club this year, is \$10 a savings of \$4. See Fidel, the club treasurer, at the back of the room to make your purchase. “Reservations are accepted.”

This calendar is filled with stunning images of stars, planets, galaxies, and other deep space This calendar is filled with stunning images of stars, planets, galaxies, and other deep space wonders. A highly informative essay accompanies each inspiring photograph. For each month, celestial viewing opportunities, historical events, and national holidays are listed. . A highly informative essay accompanies each inspiring photograph. For each month, celestial viewing opportunities, historical events, and national holidays are listed.

Images From Grandview, June, 2015



Images From Oak Glen, August, 2015



Complete Observing Setup For Sale

Clyde King a long-time member is selling off a complete C9.25 Celestron system with equatorial mount and two cases of accessories including a solar filter. All in good shape. All for \$ 2,500.00. Clyde can be reached by phone at 909-708-7742. The C9.25 is a great scope for both visual and imaging!



Largest Structure in the Universe Discovered?

According to the Royal Astronomical Society, a team of American and Hungarian astronomers have found what appears to be a ring of nine galaxies that is five billion light years across. This pattern of galaxies would be a nearly impossible chance phenomenon, the odds being 1 in 20,000, according to the leader of the team, Dr. Lajos Balazs of Konkoly Observatory in Budapest. This suggests that the galaxies are bound together into this arrangement, most likely by gravity, in the same way that our sun is bound to the other stars of our galaxy, or by some as yet undiscovered force.

The sheer size of the configuration, one ninth of the entire observable universe, makes this new discovery not only a candidate for the largest “structure” so far observed, but also a phenomenon that cannot be explained by our current theories of physics and how the universe was formed.



(Artist's Conception)

So far, the “galactic structure” still just a hypothesis. The team located it indirectly by measuring Gamma Ray Bursts (GRBs) recorded from both space and ground-based observatories. GRBs are intense bursts of radiation associated with enormous collapsing stars; they generally originate close to galactic centers and are often used to pinpoint the locations of distant galaxies. These nine bursts are quite interesting to astronomers because they all seem approximately the same distance away from us—seven billion light-years—and form a ring. So either there are nine galaxies in a ring, or the bursts signify something else entirely.

Assuming it is a nine-galaxy ring, this discovery calls into question our current understanding of physics and how the universe was formed, which suggests that there should be a limit to how large

structures in the universe can be. To put it another way, there is a limit to how far apart things can be in the universe and still have some kind of influence on each other. When galactic bodies are close together, they form a vast array of structures (planetary systems, galaxies, and so on) because different objects are bound together by gravity. But objects that are too far apart simply ought not be able to exert any substantial influence.

This leads to one of the assumptions of modern-day astrophysics: the Cosmological Principle. When you look at the universe at a large enough scale, the matter should look uniformly random. There shouldn't be any "pattern," because everything is too far apart to produce any meaningful structure. If these nine galaxies really are bound together in a five billion light-year wide dance, then we have to think a lot harder to figure out how that might be possible.



An image of the distribution of GRBs on the sky at a distance of 7 billion light years, centered on the newly discovered ring. The positions of the GRBs are marked by blue dots and the Milky Way is indicated for reference, running from left to right across the image. Credit: L. Balazs.

For the full article, go to:

http://secondnexus.com/technology-and-innovation/one-ring-to-rule-them-all/?ts_pid=2

(Thanks go to Associate Editor Megan Huynh for discovering this article.)