



The Observer

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member of The Astronomical League

<http://sbvaa.org/>



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Since 1958

March, 2018

Meeting:

March 3, 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

Space Wars



Outer space is already an essential part of America's ability to fight wars. Our military depends on satellites for many things, such as communications, reconnaissance and targeting information. But so far, no country has put weapons into space, although the U.S. and China have both shown they can shoot down satellites with ground-based missiles. If weapons do become a part of space, how will they work, how effective will they be, and what type of damage could they do? From ground-based lasers to telephone-pole sized rods hurtling from space at two miles per second to the far out weapons of the distant future, it's time to "lock and load" for Space Wars.

Another outstanding program from *The Universe* series.

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Calendar of Upcoming Events

Mar. 17, Star Party, Oak Glen

Mar. 20, Vernal Equinox

Apr. 7, Club Meeting

Apr. 14, Outreach, Oak Glen

Apr. 26, Outreach, Beattie Middle
School, Highland

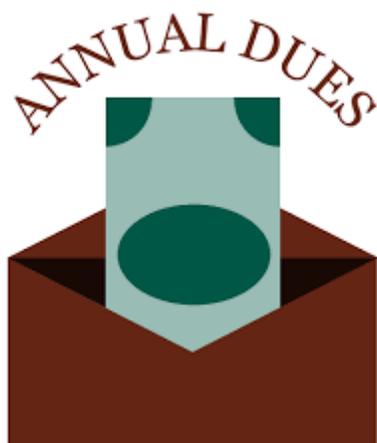
May 5, Club Meeting

May 12, Outreach, Pioneer Town

May 25 - 28, RTMC

June 2, Club Meeting

It's That Time Again



Yes, dues are due. It's still just \$30 for an individual or family membership.

See Fidel at the meeting -- with your check of course.

Outreaches



Inspiring a new generation!

TRAPPIST-1 Exoplanets Might Be Water Planets

A series of papers released February 5, gives further insights into the TRAPPIST-1 system discovered in 2016. Astronomers now say that water appears to be present in significant quantities on all of the planets, in some cases up to five percent of the planet's mass.



The picture it paints is rough, but the researchers found that the planets weren't dense enough to be made of just rock and metal. Volatiles—elements and compounds with low boiling temperatures—must be present, they say, and the best explanation is water. The amount varies, but some planets could potentially have more water than exists on Earth. Water could be liquid on the three planets within the habitable zone, the researchers say in a [paper](#) published in the journal *Astronomy & Astrophysics*. On planets further from the star, a layer of ice may cover the surface, and on the second planet from the star, a thick atmosphere of water vapor is likely present.

Densities, while important clues to the planets' compositions, do not say anything about habitability. However, the study is an important step forward as astronomers and planetary geologists and biologists continue to explore whether these planets could support life.

(For the full story, go to astronomy.com)

One of the Oldest Stars in the Milky Way Discovered

In a new [study](#) published in *The Astrophysical Journal Letters*, a team of Spanish astronomers announced the discovery of one of the first stars to form in the Milky Way. The unevolved star, called J0815+4729, is located 7,500 light-years away in the halo of the Milky Way and likely formed just 300 million years after the Big Bang, some 13.5 billion years ago.



After identifying J0815+4729 as metal-poor, the researchers analyzed its physical and chemical properties by breaking down the star's light into its constituent parts using spectroscopy. The team then collected the spectra using the [ISIS](#) spectrograph on the [William Herschel Telescope](#) and the [OSIRIS](#) spectrograph on the [Gran Telescopio Canarias](#) (GTC), both located in La Palma, Spain.

Based on their spectroscopic follow-up, the team determined J0815+4729 has roughly a million times less calcium and iron than the Sun. This is important because only the earliest generations of stars have such low metallicities. Older stars, on the other hand, are formed out of the accumulated material from previous generations of stars, which produce lots of metals during their final death throes.

Because J0815+4729 is so metal-poor while also being so carbon-rich, the researcher are confident the star formed long, long ago, when the Milky Way was just establishing itself some 13.5 billion years ago.

(For the full story, go to astronomy.com)

For Sale

Meade 4504 4.5" (114mm) Equatorial Reflecting Telescope



Includes:

Aluminum tripod

Electronic drive motors for automatic tracking (15V power supply optional - not included).

Battery pack for portable operation (Can use a new plastic battery case – batteries were left in)

Instruction Manual & Video

Meade Astronomy Software - StarNavigator CD (windows 95/98 and works on Windows 10) with print out of "Starry Night and Astronomer's Control Panel"

Can control from PC with optional #505 Connector Cable (not included)

AutoStar hand unit controller

Additional Lenses: SR4mm, H12.5mm & H25mm

Approximate weight 30 lbs.

Meade 395 Achromatic Refractor 90mm Telescope



For full details and additional information, contact Paul Mastracco at:

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Exoplanets



3,700 and counting in our Galaxy alone!