The Observer

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

Volume #58, Issue 10 **Since 1958** **October, 2016**

Meeting:

October 15, 2016

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.,

Pepper Steak Restaurant
26589 Highland Ave.
Highland, CA

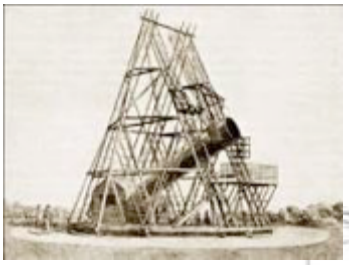
After the meeting telescopes will be set up for viewing and members will be available to answer questions. Bring your telescope to observe with us.

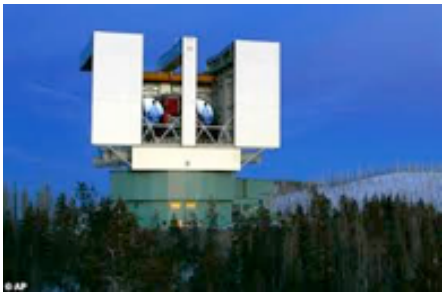
No telescope is too humble, and beginners are always made welcome!

Program

Big, Bigger, Biggest!

October's program is a video describing the evolution of the telescope from its crude beginnings to the LBT (Large Binocular Telescope). The history of the telescope makes for a fascinating story full of unusual and talented people and some wild and near-unbelievable designs. This should be a very entertaining presentation.





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Calendar of Upcoming Events

Oct 6, Outreach, Dunlap School, Yucaipa

Oct 8, Astronomy Day

Oct 15, Club Meeting

Oct 29, Outreach, Oak Glen

Nov 9, Lincoln School, Colton

Nov 10, Outreach, Terrace View School

Nov 12, Club Meeting

Nov 26, Star Party (location TBA)

Dec 3, Annual Holiday Get-together
Shakey's Pizza, Redlands

2016 Night Sky Festival
Joshua Tree National Park

October 28 - 30, 2016

We're now two months out from our 2016 Night Sky Festival, and I wanted to check in with you to see if you were interested in coming out to set up some telescopes. We can reserve campsites for any volunteer astronomers down at the Cottonwood Campground. Let me know if you're interested. Hopefully the weather will be better for us this year!

Best regards,

--
Beth Hudick
Park Ranger, Interpretation
Joshua Tree National Park
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Alberio Mistery?
Bob King, *Sky & Telescope.com*

Many of us consider Albireo the quintessential binary star, but do these suns actually orbit about each other, or are we seeing a chance alignment called an *optical double*? Looking into the literature, we learn that no change in the separation between the two stars has been observed since they were first measured 261 years ago. Nor has the position angle (PA) of the secondary star changed much: 58° to 54°. This slight difference might easily fall within the margin of uncertainty. Albireo's fixed appearance implies an orbital period of at least 75,000 years and probably upward of 100,000 years. Assuming that's true, we'd have to twiddle our thumbs a long time to measure even a niggling fraction of the secondary's orbital arc. Perhaps there's another way to confirm or deny Albireo's gravitational bond. Both stars occupy the same region of space as they orbit around the galaxy, but their proper motions, that is, the direction each star travels across our line of sight, reveals something very interesting. Instead of coming together, these two appear to be drifting apart.

If you go to the double and multiple star bible, the **Washington Double Star Catalog** (WDS), and scroll down to 19307+2758 (the star's right ascension [R.A.] and declination [Dec.]), you'll see that **Albireo** appears to have not one but 14 companions in all! Most are line-of-sight pairings and not physically related. The stars labeled D through L appear to be faint, unrelated field stars. No change in position angle or separation has occurred between observations. Only 11th-magnitude Albireo C has shifted a bit in the past 68 years, but it appears the star is leaving Albireo A behind, so is likely unrelated.

From all appearances then, the two stars, while relatively near one another and moving through space together, appear to be on separate paths and moving at different velocities, which implies they're unrelated. I don't offer this as absolute proof because measurements can vary, but to date, our favorite double appears to be more like two strangers eyeing one another across the room rather than lovers in binary embrace.

(For full article, go to Sky and Telescope.com)

Food For Thought

"Looking at the heavens is no longer a possibility fo the majority of people. We are losing our culture and connection to the past, our scientific history, something that stimulates our thoughts about our place in the universe. We're losing half our landscape. And we've made it go away by turning the sky orange."

Tyler Nordgren, PhD
Professor of physics & astronomy,
Author

Annual Club Barbeque
August 20, 2016

2017 Calendars are Here!

Fidel has the new S&T calendars. He says they are going fast so if you want one, see Fidel ASAP.