



Desert Sky Observer

Volume 34

Antelope Valley Astronomy Club Newsletter

October 2014

Up-Coming Events

- October 04: Astronomy Day Acton Library
- October 08: AVAC Board Meeting/Total Lunar Eclipse Sage Planetarium
- October 10: Club Meeting (Annual Club Business Meeting)
- October 11: SIA Expo at Pierce College (Science Imaging and Astronomy), Prime Desert Moon Walk
- October 22: Acton Library Star Party
- October 23: Partial Solar Eclipse
- October 25: Club Dark Sky Party (TBA)

Monthly meetings are held at the S.A.G.E. Planetarium on the Cactus School campus in Palmdale, the second Friday of each month. The meeting location is at the northeast corner of Avenue R and 20th Street East. Meetings start at 7 p.m. and are open to the public. *Please note that food and drink are not allowed in the planetarium*



President

Frank Moore

I just don't get it. We're in the midst of a drought, right? Why is it then that most every astronomy event we've had this year has been affected by cloudy skies and the threat of rain? The events for September continued with this meteorological trend. At the Prime Desert Woodland Moon Walk on Saturday September 13, we had scattered high clouds. Still, our members were able to share views of Saturn, the Hercules Cluster (M13) and other deep space objects. Darrell Bennet was even able to find Neptune and share it with the public. In addition to mention of the event in the Antelope Valley Press, I "boosted our post" and promoted it on Facebook. There were also students from the iLead Lancaster Charter School in attendance and we had over 200 people there to view through our telescopes.

It's a good thing the students from the iLead school attended the event at PDW, since our Star party scheduled for their school on Wednesday September 16 was canceled due to clouds and thunderstorms. Rose and I were driving through Mojave on our way to the event, looking at the dark clouds on the southern and eastern horizons, when Don Bryden called and said the event had been canceled due to weather. It was raining at his house and the school had called to cancel due to the threat of thunderstorms. Rose and I flipped a U-turn and headed back to Tehachapi.

Ten days later, the Dark Sky Party at the Chuchupate observing site was pretty well clouded out. Don Bryden, Bob Kemp, and a few other brave souls went up on Friday and tried to wait the storms out but by Saturday evening they'd all given up. My understanding is that high winds put the kibosh on the China Lake Astronomical Society's event scheduled at Red Rock Canyon on the same night.

The Antelope Valley Press contacted me this past week concerning an article they are doing on “Stargazing in the Antelope Valley”. The writer had a series of questions for me and asked for other information I thought might be pertinent. It’s due to be published on October 3 in their “Showcase” supplement. Keep an eye out for it and save a copy for Rose and I if you think of it.

We’ll be set up in the parking lot of the SAGE Planetarium for the lunar eclipse on the morning of Wednesday October 8. The public is invited. The eclipse starts at 1:15 AM, totality is at 3:54 AM, and the eclipse is fully over at about 6:30 AM. With sunrise at 6:54 AM, and the moon descending toward the mountain range in the SW, we may lose views of the eclipse before that. Jeremy Amarant has said we can show up any time we want to set up, but that the SAGE won’t be open till 1:00 AM. Rose and I plan to arrive around midnight.

We will be exhibiting at the Science, Imaging, and Astronomy Expo (SIA Expo) at Pierce College in Woodland Hills on Saturday October 11. This event is sponsored and organized by our sponsor Woodland Hills Camera and Telescopes. There will be vendors, manufacturers, astronomy organizations, sponsors, speakers, solar observing with the Charlie Bates Solar Astronomy Project, planetarium shows, RAFFLES, and tons of science related activities for kids. Come out for the show, swing by and help me work the booth or just to visit. One thing nice about the booth, is it gives our members a place to store their bags of purchases, brochures, and other goodies rather than carry them around for the entire show.

<http://www.siaexpo.com/>

<http://www.charliebates.org/>

Also, the Arizona Science and Astronomy Expo (ASAE) will be at the Convention Center in Tucson on November 1st and 2nd. This is now the biggest astronomy expo in the United States and something that really shouldn’t be missed. The board decided that we will not have a booth there this year but I will be going and representing the club. The rest of the board tells me not having a booth is for my own good, kind of an intervention I guess. The first year of the ASAE, I spent most of the expo at the International Dark Sky Association’s annual meetings, didn’t see any speakers, and didn’t have much time to really cruise the vendors, visit, and shop. Last year, I was pretty much cooped up in our booth for two days and again didn’t have time to take in the speakers or other exhibitors. So, this year, I guess I’m a man of leisure (unless I volunteer to help man the IDA booth for a few hours each day).

<http://www.scienceandastronomy.com/>

Now, for the part you’ve been waiting for, the business end of things. The AVAC meeting on Friday October 10 is our Annual Business Meeting. This is where we vote on proposed amendments to our Constitution and bylaws (if any), and elect the Officers on the Executive Board for the coming year. For several months, we have been asking, pleading, even begging for nominations for officers, including self-nominations, and the response has been, to say the least, underwhelming. Many of us on the Executive Board have been serving for many, many, years and some have expressed a desire to take a break and let someone else take the reins. This is your chance to give something back to the club and to, perhaps, realize your vision of the club’s direction. As I’ve said before, we are a legal entity, a 501 (c) (3) non-profit corporation, and we cannot function in that capacity without an Executive Board. Please consider serving the club, the public, and yourself by serving as a leader of YOUR Antelope Valley Astronomy Club.

Don't forget, though we don't have a speaker, Jeremy always has something special to show us after the meeting plus perhaps an extended tour of the night sky.

PLEASE come to the business meeting. Last year, only 18 members bothered to show up. Pretty sad don't you think and barely enough to conduct business? We just got a supply of our \$30.00 AVAC Member discount coupons from Woodland Hills Camera and Telescope and I'll start distributing them at the meeting. Just think, you could go to the on Friday, the SIA Expo on Saturday, and spend your coupon at the Woodland Hills Booth. How much better could it be than that?



Vice President

Rose Moore

Join us this month for several events! First we have Astronomy Day, Saturday October 4th, at the Acton Library with Jeremy! This event runs from 11am to 3pm. Members who would like to attend can bring their telescopes with solar filters and help out Jeremy.

We have 2 special events this month, the Lunar Eclipse (10/8) and a partial Solar Eclipse (10/23). Both will be held at the SAGE Planetarium. We will need members with telescopes for both events. Please see Don's note above for other information, and also check out the club website. The time for the Lunar eclipse is after midnight. Set up time is approximately 1 hour before the start of each eclipse.

We have our Annual Business Meeting on Friday, October 10th! Please attend and make a difference! At this meeting would be a good time to voice your opinions as to what directions you would like to see the club grow. We need nominations for Board members. I will not be running for office at this time. We will also be passing out the Woodland Hills gift certificates to our members.

Coming up on December 6th is our Christmas Party at Julianni's in Lancaster. I'll have a sign up sheet starting at October's meeting. I'll let you know when the deadline is to sign up at a later time. Price will be \$25 per person. Members may bring a guest(s). We will need items for our raffle and silent auction. We'll also be making a trip to Woodland Hills to purchase some items for the event!

Rose



Director of Community Development

Don Bryden

September 26, 2014

As I write this note I'd like to wish everyone a happy Autumnal Equinox! What's that you say? Wasn't that back on the 22nd? Yeah, sure, the actual equinox was on September 22nd but what exactly *is* an equinox? Astronomically, it's when the Earth's tilt is neither toward or away from the sun or more properly, when the sun crosses the celestial equator.

The word, "Equinox" is taken from Latin for "equal night" and refers to that time of the season when there is an equal amount of sunlight and darkness. However, we mark the event when the *center* of the sun crosses the celestial equator. But we make the difference between night and day by sunset. And that doesn't happen until the last limb of the sun drops below the horizon or as the first limb comes up in the morning.

This means that, depending on one's latitude, equal night can happen several days after the actual equinox. So... Happy Equinox (which was sometime last week or so)!

We have a number of outreach events this month starting with a public star party at the SAGE on Wednesday the 8th at 1:30am. On the 11th we have a Prime Desert Moonwalk as well as a booth set up at the SIA Expo at Pierce College and finally come back to the SAGE on the afternoon of the 23rd and check out a partial solar eclipse.

See you out under the Stars!

-Don

Space Place

NOW PLAYING

The Rosetta Mission Asks: What Can We Learn From Comets?

The Rosetta mission will give us an unprecedented look inside a comet, watching the icy traveler become active as it nears the sun.

CLICK ON LINK BELOW....

<http://www.jpl.nasa.gov/video/details.php?id=1322>

News Headlines



September 25, 2014

NASA's Curiosity Mars rover has collected its first taste of the layered mountain whose scientific allure drew the mission to choose this part of Mars as a landing site.

Late Wednesday, Sept. 24, the rover's hammering drill chewed about 2.6 inches (6.7 centimeters) deep into a basal-layer outcrop on Mount Sharp and collected a powdered-rock sample. Data and images received early Thursday at NASA's Jet Propulsion Laboratory, Pasadena, California, confirmed success of this operation. The powder collected by the drilling is temporarily held within the sample-handling mechanism on the rover's arm.

"This drilling target is at the lowest part of the base layer of the mountain, and from here we plan to examine the higher, younger layers exposed in the nearby hills," said Curiosity Deputy Project Scientist Ashwin Vasavada of JPL. "This first look at rocks we believe to underlie Mount Sharp is exciting because it will begin to form a picture of the environment at the time the mountain formed, and what led to its growth."

After landing on Mars in August 2012 but before beginning the drive toward Mount Sharp, Curiosity spent much of the mission's first year productively studying an area much closer to the landing site, but in the opposite direction. The mission accomplished its science goals in that Yellowknife Bay area. Analysis of drilled rocks there disclosed an ancient lakebed environment that, more than three billion years ago, offered ingredients and a chemical energy gradient favorable for microbes, if any existed there.

From Yellowknife Bay to the base of Mount Sharp, Curiosity drove more than 5 miles (8 kilometers) in about 15 months, with pauses at a few science waypoints. The emphasis in mission operations has now changed from drive, drive, drive to systematic layer-by-layer investigation.

"We're putting on the brakes to study this amazing mountain," said Curiosity Deputy Project Manager Jennifer Trosper of JPL. "Curiosity flew hundreds of millions of miles to do this."

Curiosity arrived Sept. 19 at an outcrop called "Pahrump Hills," which is a section of the mountain's basal geological unit, called the Murray formation. Three days later, the rover completed a "mini-drill" procedure at the selected drilling target, "Confidence Hills," to assess the target rock's suitability for drilling. A mini-drill activity last month determined that a rock slab under consideration then was not stable enough for full drilling, but Confidence Hills passed this test.

The rock is softer than any of the previous three targets where Curiosity has collected a drilled sample for analysis.

Between the mini-drill test and the sample-collection drilling, researchers used tools on Curiosity's mast and robotic arm for close-up inspection of geometrically distinctive features on the nearby surface of the rock.

These features on the Murray formation mudstones are the accumulations of resistant materials. They occur both as discrete clusters and as dendrites, where forms are arranged in tree-like branching. By investigating the shapes and chemical ingredients in these features, the team hopes to gain information about the possible composition of fluids at this Martian location long ago.

The next step will be to deliver the rock-powder sample into a scoop on the rover's arm. In the open scoop, the powder's texture can be observed for an assessment of whether it is safe for further sieving, portioning and delivery into Curiosity's internal laboratory instruments without clogging hardware. The instruments can perform many types of analysis to identify chemistry and mineralogy of the source rock.

NASA's Mars Science Laboratory Project is using Curiosity to assess ancient habitable environments and major changes in Martian environmental conditions. JPL, a division of Caltech, built the rover and manages the project for NASA's Science Mission Directorate in Washington.

For more information about Curiosity, visit: <http://www.jpl.nasa.gov/msl> ,

<http://www.nasa.gov/msl> and <http://mars.jpl.nasa.gov/msl/>

You can follow the mission on Face book at: <http://www.facebook.com/marscuriosity>

and on Twitter at: <http://www.twitter.com/marscuriosity>

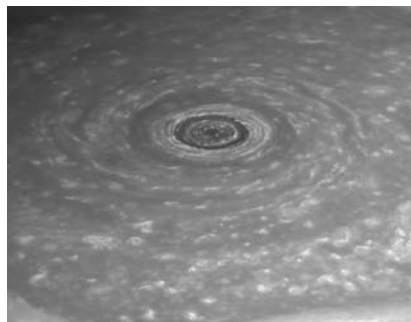
Astrophoto of The Month



Crescent Nebula N6888 Courtesy: Don Bryden Two Goats Observatory

October Sky Data

Best time for deep sky observing this month:
October 20 through October 27



The Eye of Saturn

Like a giant eye for the giant planet, Saturn's great vortex at its north pole appears to stare back at Cassini as Cassini stares at it.

Measurements have sized the eye at a staggering 1,240 miles (2,000 kilometers) across with cloud speeds as fast as 330 miles per hour (150 meters per second). For color views of the eye and the surrounding region, see [PIA14946](#) and [PIA14944](#).

The image was taken with the Cassini spacecraft narrow-angle camera on April 2, 2014 using a combination of spectral filters which preferentially admit wavelengths of near-infrared light centered at 748 nanometers.

The view was obtained at a distance of approximately 1.4 million miles (2.2 million kilometers) from Saturn and at a Sun-Saturn-spacecraft, or phase, angle of 43 degrees. Image scale is 8 miles (13 kilometers) per pixel.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. NASA's Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colo.

For more information about the Cassini-Huygens mission visit <http://saturn.jpl.nasa.gov> and <http://www.nasa.gov/cassini>. The Cassini imaging team homepage is at <http://ciclops.org>.

First Qtr Oct 1 Full Oct 08 Last Qtr Oct 16 New Oct 23



Sun and Moon Rise and Set

Date	Moonrise	Moonset	Sunrise	Sunset
10/02/2014	14:32	00:23	06:48	18:35
10/05/2014	16:46	03:40	06:50	18:31
10/10/2014	20:15	09:16	06:54	18:24
10/14/2014	23:35	12:54	06:58	18:19
10/20/2014	04:02	16:30	07:03	18:12
10/25/2014	08:47	14:13	07:07	18:06
10/31/2014	14:01	00:23	07:12	18:00

Planet Data

	Oct 1			
	Rise	Transit	Set	Mag
Mercury	08:46	14:04	19:22	-0.6
Venus	06:18	12:22	18:25	-4.3
Mars	12:01	16:53	21:45	1.3
Jupiter	02:36	09:26	16:15	-1.9
Saturn	10:09	15:25	20:42	1.1

	Oct 15			
	Rise	Transit	Set	Mag
Mercury	07:15	12:44	18:14	2.4
Venus	06:46	12:31	18:15	-4.4
Mars	11:53	16:41	21:30	1.3
Jupiter	01:52	08:40	15:27	-1.9
Saturn	09:21	14:36	19:51	1.0

	Oct 31			
	Rise	Transit	Set	Mag
Mercury	05:42	11:29	17:15	0.6
Venus	07:20	12:44	18:07	-4.5
Mars	11:42	16:30	21:18	1.3
Jupiter	01:00	07:45	14:31	-1.9
Saturn	08:26	13:40	18:54	0.9

Planet, Sun, and Moon data calculated for local time at Lancaster, CA

A.V.A.C. Information

Membership in the Antelope Valley Astronomy Club is open to any individual or family.

The Club has three categories of membership.

- Family membership at \$30.00 per year.
- Individual membership at \$25.00 per year.
- Junior membership at \$15.00 per year.

Membership entitles you to...

- Desert Sky Observer—monthly newsletter.
- The Reflector – the publication of the Astronomical League.
- The A.V.A.C. Membership Manual.
- To borrow club equipment, books, videos and other items.

AVAC

**P.O. BOX 8545,
LANCASTER, CA 93539-8545**

Visit the Antelope Valley Astronomy Club website at www.avastronomyclub.org/

The Antelope Valley Astronomy Club, Inc. is a 501(c)(3) Non-Profit Corporation.

The A.V.A.C. is a Sustaining Member of The Astronomical League and the International Dark-Sky Association.

Board Members

President:

Frank Moore (661) 972-4775
president@avastronomyclub.org

Vice-President:

Rose Moore (661) 972-1953
vice-president@avastronomyclub.org

Secretary:

Pam Grove
secretary@avastronomyclub.org

Treasurer:

Virginia Reed (661) 824-3932
treasurer@avastronomyclub.org

Director of Community Development:

Don Bryden (661) 270-0627
community@avastronomyclub.org

Appointed Positions

Newsletter Editor:

Bob Kemp (805) 573-9649
dso@avastronomyclub.org

Equipment & Library:

Bill Grove
library@avastronomyclub.org

Club Historian:

Tom Koonce (661) 943-8200
history@avastronomyclub.org

Webmaster:

Steve Trotta (661) 269-5428
webmaster@avastronomyclub.org

Astronomical League Coordinator:

Don Bryden (661) 270-0627
al@avastronomyclub.org

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