
Desert Sky Observer

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC
P.O. BOX 4595, LANCASTER, CALIFORNIA 93539-4595

*The Antelope Valley Astronomy Club is a California non-profit Corporation
Visit the Antelope Valley Astronomy Club website At www.avac.av.org
The A.V.A.C. is a Sustaining Member of The Astronomical League*



Up-Coming Events

September 3: First Quarter Moon

September 10: Full Moon

September 12: Monthly Club Meeting*

September 18: Last Quarter Moon

September 25: New Moon

September 27: Star Party, [Mt. Pinos](#)

Anytime: *Observe*

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

President's Report

Terry Pedroza

Well, It's that time of year again. The Antelope Valley Astronomy Club Annual meeting and elections are next month and we need to get our ducks in a row.

If you would like to nominate someone for an AVAC office, nominations will officially open at the September meeting. Nominations will be accepted up until it is time to vote at the October Annual meeting. The process is quite simple; say, "I would like to nominate 'so and so' for the office of ...". If that person accepts the nomination, then their name will be added to the ballot.

This process need not happen at the meeting. You can tell any board member and they will find out if that individual is willing to accept the nomination. If so, that person is on the ballot. I am encouraged by the growing list of people interested in running for the various offices.

We have not received any proposed amendments to the constitution this year. With that, our meeting may not run as long as in previous years. Our board members should have their annual reports ready for this meeting and I will talk on the state of the club. If you have any business that you would like to have brought up at the meeting, please let me know in advance so that I may add it to the agenda.

Our club is growing and I am encouraged by all the things that are going on in the club. Be a part of this and run for a position on the Executive Board! These next two meeting will be very important, so please plan to attend.

Vice President's Report*Tom Koonce*

Do you know what interests me in amateur astronomy the most? If you know me and guess that it's going to star parties and looking at faint, fuzzy, obscure galaxies with a group of good friends, you'd be 10% right. If you know me and guess that it's inspiring a large group of first time observers with a sense of awe about their universe, you'd be 10% correct, too.

But you'd be 80% right if you guessed that I am interested in amateur astronomy because it is a way for me to connect to the vastness and grandeur of our universe on a very personal level. There is something unsettling- even emotionally revealing- when you have some time to yourself to stare up at the heavens on a dark, clear night. I guess it can be unsettling because of the self-realization that we are truly so small, yet blessed to be sentient in the midst of the vastness of space.

When it's late at night and you stand alone outside camping or at a star party without the voices of your friends near, do you ever consider how fortunate you are to witness such a sight- billions of years in the making? The Milky Way stretched out above your head was for tens of thousands of years a complete mystery to our ancestors. Now, even as we have begun to understand our universe's true properties, more mysteries take the place of the ones we believe we have solved.

The scientific excitement is palatable, even among amateurs. For the first time in recorded history, you and I- average amateur astronomers- with commonly available equipment, have the ability to understand and contribute a bit of knowledge to mankind's understanding of the inner-workings of the universe we live in. Don't you think this is truly incredible?

Every so often, if it's just me and one or two others in the parking lot up on Mt. Pinos during the week, or maybe out at a campsite away from the city lights, I get a sense that all of us really are connected to one another- if just by the basic fact that all of us together inhabit this one, small, beautiful planet. This planet is no more than a blue marble really, circling around an "average" sun in a sea of billions of suns orbiting in our galaxy, itself one of billions known to exist.

I find 80% of my time in amateur astronomy gives me a solid sense of perspective about the rest of my life and my role in it. It's a humbling experience. The other 20% allows me to try to share that sense of awe I get with others. How does amateur astronomy affect you?

Dir. of Community Development*Debora Pedroza*

The end of August this year was a special time for all of us. The majestic Mars was at its closest proximity to our planet, allowing earthlings like us to enjoy its mystery. These once-in-a-lifetime experiences are so awe-inspiring. I am so glad to be alive. (sigh)

Okay, moving on to what I usually do in these newsletters, and that is keeping you up to date with our community calendar of events. By the time you read this, we will have held our "Public Viewing of Mars Star Party" out at the Poppy Reserve on August 30th. The sole purpose of this event was to offer anyone and everyone a chance to see Mars at its closest. Thank you to all who came out to help make this event so special. Aren't we the greatest?

The Aerospace Walk of Honor is being held this year on Saturday, September 20th from 10am to 2pm. The location is on Sierra Highway just south of Lancaster Blvd. (next to the Metrolink station) and parking is available at the Lancaster Museum/Art Gallery parking lot. We are looking for volunteers to come out and help with telescopes, manning the information booth and also to help with set-up and teardown. Set-up time is at 7am on Saturday. This is a fun event to be a part of. There will be displays from NASA, Boeing, Lockheed Martin, Northrop Grumman, the Experimental Aircraft Association, Edwards Air Force Base Flight Test Historical Museum and more. Let me know when you can help out and in what capacity you will help. You can e-mail me or let me know at the next club meeting, which is on Friday, September 12th.

In closing, don't forget to turn in your nominations for the new 2004 board members AND mark your personal calendar for the Darksky Star Party at Mount Pinos on September 27. An absolute must-do! Happy Mars viewing and take good care.



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Doug Drake's *Planet Watch*



Mercury & Jupiter

This is the month to observe Mercury, but you will have to do it just before sunrise, looking to the east. Mercury will be at greatest elongation (the apparent farthest distance from the Sun, as we observe Mercury from Earth) on the 26th of September. You have to be careful because Jupiter will also be in the eastern sky with Mercury. Jupiter can be a guidepost for you because Mercury will be much dimmer and about seven degrees below Jupiter. Jupiter is unmistakably bright so that is your guidepost.

Mars

Yes, Mars was all-time close last month, during opposition. But this month Mars is in a better position for you to see earlier in the evening. I find Mars very pleasant to observe after opposition because I don't have to stay up so late at night to get my observation in. This month Mars will also be about the same apparent size as we shall see it 15 years from now, in 2018.

I have observed, over the last few months, that the southern polar cap is continually becoming smaller. As the polar ice subsides, evaporates and becomes smaller, atmospheric currents begin to flow over the planet. Even though Mars' atmosphere has very little pressure (not very dense) there is enough force to cause the surface dust to be picked up and blown into the atmosphere and cause severe dust storms. Mars is mostly desert, so there is a lot of light dust that can be picked up. Let's hope that Mars remains clear and not obscured because of dust storms. I'm sure we all can all relate to dust storms here in the Antelope Valley. I don't know about you, but I can also relate to some kind of Mars aliens here in the Antelope Valley, too.

Uranus & Neptune

Uranus and Neptune can still be seen in the southern night sky. Uranus, which appears a soft blue-green, can be seen just east of Capricornus. Neptune, much smaller and dimmer than Uranus, can be seen within Capricornus.

Happy viewing, Doug.

Buying a Telescope

by Tom Koonce

With the holidays coming up, many of you may be considering buying your first telescope for Christmas. Before you decide on a telescope, here are three things to do:

1. **Don't rush.** You'll have to do a little research before you can pick out a telescope that suits your needs. Come to a couple of star parties with the club and look through other people's telescopes. In amateur astronomy, this is equivalent to taking a "test drive." Consider buying a good pair of 7 X 50 binoculars first. Take a look at the following sites for additional information.

[Buyer's Guide - How to Choose Binoculars](http://www.kalmbach.com/astro/BuyerGuides/Binocs.html)

[http://www.kalmbach.com/astro/](http://www.kalmbach.com/astro/BuyerGuides/Binocs.html)

[BuyerGuides/Binocs.html](http://www.kalmbach.com/astro/BuyerGuides/Binocs.html)

[Meade - How to Choose a Telescope](http://www.meade.com/support/choosing.html)

<http://www.meade.com/support/choosing.html>

[Celestron - Telescope Basics](http://www.celestron.com/education/tel4ast.htm)

<http://www.celestron.com/education/tel4ast.htm>

2. **Don't blow your money.** A telescope is, and should be, a big investment. Saving money on a cheap setup will only disappoint you. Sure, you can spend under a hundred dollars on a starter scope for a nine-year-old (who's liable to break it anyway), but we strongly recommend that you don't waste a dime on one like that for yourself. Consider buying a used telescope. Consider having a person in the astronomy club help you pick out a telescope that is within your budget. Consider saving until your budget is \$250 or more (think about the cost of a new mountain bike or decent sewing machine). Members often know about unadvertised telescopes for sale.

3. **Don't buy your telescope at a toy store or department store.** The prices will sound good, but the quality of the optics, mounts and materials are inferior. Stick with a reputable brand. Please read this particular recommendation again- it's that important.

I strongly encourage you to come to a star party and write down the type of telescopes you like to look through and what specific eyepieces you think give you the best views. You can then begin your cost research and save for what you really want.



Careful Planning and Quick Improvisation Succeed in Space Biz

by Dr. Tony Phillips

On December 18, 2001, ground controllers at JPL commanded NASA's Deep Space 1 (DS1) spacecraft to go to sleep. "It was a bittersweet moment," recalls Marc Rayman, the DS1 project manager. Everyone was exhausted, including Deep Space 1- which for three years had taken Rayman and his team on the ride of their lives.

DS1 blasted off atop a Delta rocket in 1998. Most spacecraft are built from tried-and-true technology, otherwise mission controllers won't let them off the ground. But Deep Space 1 was different. Its mission was to test twelve advanced technologies. Among them: an experimental ion engine, a solar array that focused sunlight for extra power, and an autopilot with artificial intelligence. "There was a good chance DS1 wouldn't work at all; there were so many untried systems," recalls Rayman.

Nevertheless, all twelve technologies worked; the mission was a big success.

Indeed, DS1 worked so well that in 1999 NASA approved an extended mission, which Rayman and colleagues had dreamed up long before DS1 left Earth- a visit to a comet. "We were thrilled," says Rayman.

And that's when disaster struck. DS1's orientation system failed. The spacecraft couldn't navigate.

What do you do when a spacecraft breaks and it is 200 million miles away? "Improvise," says Rayman.

Ironically, the device that broke, the "Star Tracker," was old technology. The DS1 team decided to use one of the twelve experimental devices- a miniature camera called MICAS- as a substitute. With Comet Borrelly receding fast, they reprogrammed the spacecraft and taught it to use MICAS for navigation, finishing barely in time to catch the comet. "It was a very close shave."

In September 2001, DS1 swooped past the furiously evaporating nucleus of comet Borrelly. "We thought the spacecraft might be pulverized," Rayman recalls. But once again, DS1 defied the odds. It captured the best-ever view of a comet's heart and emerged intact.

By that time, DS1 had been operating three times longer than planned, and it had nearly exhausted its supply of thruster-gas used to keep solar arrays pointed toward the Sun. Controllers had no choice but to deactivate the spacecraft, which remains in orbit between Earth and Mars.

Rayman has moved on to a new project- Dawn, an ion-propelled spacecraft that will visit two enormous asteroids, Ceres and Vesta, in 2010 and 2014. "Dawn is based on technologies that DS1 pioneered," he says.

Even asleep, DS1 continues to amaze.

Find out more about DS1 at <http://nmp.jpl.nasa.gov/ds1>. For kids, go to <http://spaceplace.nasa.gov/ds1dots.htm> to do an interactive dot-to-dot drawing of Deep Space 1.

* * ADVERTISEMENT * *

Astronomy/Space Alert for Southern California (also known as Launch Alert) is a free, e-mail based newsletter providing coverage of missile launches from Vandenberg AFB. Other topics covered include southern California astronomy and space news.

Many of the events mentioned in the newsletter are visible over a large portion of the Southwest. To subscribe, go to:

<http://mailman.qth.net/mailman/listinfo/launch-alert>

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Did you know? ?

The debate continues whether to steer the Hubble Telescope into a controlled crash into the ocean or to service it so that it can continue for another decade.

? ? ?

Astronomy Links on the Web

<http://mars.jpl.nasa.gov/>

(everything Mars exploration)

<http://pages.prodigy.net/sstrott/>

(Steve Trotta's website)

<http://www.astro-tom.com/>

(Tom Koonce's website)

<http://www.projectsandhobbies.com/howtolearnastronomy.htm>

(Getting started in Astronomy ...)

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

(The Astronomical League's homepage)

<http://www.jpl.nasa.gov/>

(JPL's website)

<http://astronomy-mall.com/>

(Astronomy Mall on the Web)

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

(Weather not covered on the Weather Channel)

<http://www.avac.av.org/>

(Hey, that's us! So hop to it!)



At the Crystalaire Country Club, site of the Club Picnic, members mingled after an afternoon light shower passed through the area.



Club members mull over their selections in the silent auction.

A.V.A.C. Membership Information

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

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.

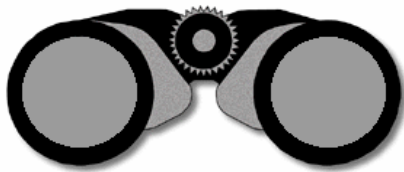
Membership entitles you to...

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

The Desert Sky Observer is available as a separate publication to individuals at a cost of \$10.00 per year. Subscription to the Desert Sky Observer does not entitle the subscriber to membership in the Antelope Valley Astronomy Club and its associated privileges.

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At the September club meeting we will have a Question & Answer session with some of our more experienced members. They will answer your questions- from the basic ("What is an asteroid?") to the complex ("What is the meaning of Life?") Well, maybe not. But come prepared with lots of astronomy questions.

A Look Ahead...**October Calendar****October 10:** Club Meeting and Elections**October 11-12:** Palmdale Fall Festival**October 25:** Star Party, [Kings Canyon Observing Site](#)**November Calendar**

November 14: Club Meeting

November 22: Dark Sky Party

December Calendar

December 12: Annual Christmas Party

Our Sponsors

Al's Vacuum and Sewing: 904 West Lancaster Blvd. (661) 948-1521. Stop by and say “hey” to Matthew and Suzanne.

QNET: 1529 E. Palmdale Blvd., Suite 200. (661) 538-2028. As an Internet provider, they are kind enough to provide us with a free website.

Darkrooms Plus: 20th St. W. near Pep Boys in Lancaster. (661) 945-1444. They offer all club members a 10% discount on all purchases. Stop by and say “hey” to Cathy or Hank.

High Desert Broadcasting: General Manager, Vicky Connors (661) 947-3107; They assist us in advertising our Club.

Woodland Hills Camera: 5348 Topanga Canyon Blvd., Woodland Hills. 888-427-8766.
www.telescopes.net Please welcome our newest sponsor and see the ad above.

Thanks for your generous support!

Don't forget to review the calendar and to help out wherever you can. And consider running for the Board so that the Club can utilize your creative genius... or at least your input.



Aurora “season” is coming. Will we get lucky again in southern California?