



Desert Sky Observer

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC
P.O. BOX 8545, LANCASTER, CALIFORNIA 93539-8545
*The Antelope Valley Astronomy Club, Inc., is a 501(c)(3) Non-Profit Corporation.
Visit the Antelope Valley Astronomy Club website at www.avastronomyclub.org/ The
A.V.A.C. is a Sustaining Member of The Astronomical League and the International
Dark-Sky Association.*



Up-Coming Events

February 03: Full Moon walk and Star Party @ [Prime Desert Woodlands](#)

February 09: Monthly Club Meeting *

February 10: Last Quarter Moon

February 12: Board Meeting

February 17: Dark Sky Star Party @ [Saddleback Butte](#)

February 17: New Moon

February 22: Science Fair and Star Party @ Quartz Hill Elementary School

February 24: First Quarter Moon

* 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*

Club President **Terry Pedroza**

I can't believe that it is already February. We have gotten a great start at this New Year with a great Executive Board from a great Club, the Antelope Valley Astronomy Club. We have also made great headway toward the goals outlined last month. The laptop is coming along nicely. David Abrass, Jeremy Amarant, Karole Barker, Bill Reidhart, Steve Trotta and others have really exceeded the call and gotten this going in the right direction. This is something that last years board started and this year we will see it finished!

The Club trailer is about to get a makeover that I think will really make our club shine at community events. Not only will it store and move our equipment; it will be an integral part of our display. I will keep you updated as we move forward.

A preliminary draft for a board of Trustees has been written and I feel that this will be the year that the AVAC does great things for its community and its members.

This is your club and I invite each and every one of you to become involved in YOUR CLUB. All our members are welcome to attend the Executive Board meeting and it is my hope that all of our members will voice their opinions on what they would like to see their club achieve.

***Vice President
Shane Barker***

For our February 9th program Dick Hague and other members of our club will share with you some of the fascinating tools the Night Sky Network uses in its astronomy outreach programs. There will be some hands on experiences regarding the dimensions of our solar system as well as communications within it. We will also search the February night sky (via our planetarium) for stars already known to possess planets. Of course, as always, Jeremy will give us some insight into an interesting aspect of astronomy using our planetarium at the end of our program.

The Night Sky Network is an outreach program in astronomy. It is one of the Astronomical Society of the Pacific's special divisions and is sponsored and supported by NASA through JPL's PlanetQuest public engagement program. PlanetQuest is a part of JPL's Navigator programs which include among others the extra-solar planet finding missions such as the Kepler Mission, Space Interferometer Mission (SIM), Terrestrial Planet Finder (TPF), Keck Interferometer, and the Michelson Science Center.

The non-profit Astronomical Society of the Pacific (ASP) is one of the nation's leading organizations devoted to astronomy and space science education. It is managing the Night Sky Network in cooperation with JPL. Learn more about the ASP at <http://www.astrosociety.org>. The ASP is over 130 years old.

NASA NIGHT SKY NETWORK: <http://nightsky.jpl.nasa.gov/>

PLANETQUEST: <http://planetquest.jpl.nasa.gov/>

There will be follow up programs through this year with representatives from JPL about specific solar system and planet quest missions. Come along, it will be a fun evening.

Orion is in full view and Sirius is very bright in the clear cold nights. Orion's Belt sets around 3:00 a.m. Plus, around 9:00 p.m. Saturn is in good viewing in Leo and 4:00 a.m. look for Jupiter in Scorpio.

Shane Barker

***Director of Community Development
Rose Moore***

We have a few events coming up! Saturday, Feb. 3rd is another Full Moon Walk with Jeremy for the public. This starts at 6pm at Prime Desert Woodlands. I need volunteers to come out with their scopes so that the public can do a bit of observing before and after the walk. On Thursday, Feb. 22nd, I need volunteers to help with an astronomy star party at the Quartz Hill Elementary Science Fair in Palmdale. The event starts at 6pm, and ends at 7:30pm. Coming up in March is another Full Moon Walk with Jeremy at PDW, starting at 6:30pm. Other events in the works are the Poppy Festival in April; a possible club field trip to XCOR in Mojave; club participation at the student rocket launch in Mojave in May; and others. There will be sign up sheets for the all the upcoming events at the next meeting, please sign up! We can use your support and enthusiasm!

Thanks!

Rose



A Great Big Wreck

by Dr. Tony Phillips

People worry about asteroids. Being hit by a space rock can really ruin your day. But that's nothing. How would you like to be hit by a whole galaxy?

It could happen. Astronomers have long known that the Andromeda Galaxy is on a collision course with the Milky Way. In about 3 billion years, the two great star systems will crash together. Earth will be in the middle of the biggest wreck in our part of the Universe.

Astronomer John Hibbard isn't worried. "Galaxy collisions aren't so bad," he says. A typical spiral galaxy contains a hundred billion stars, yet when two such behemoths run into each other "very few stars collide.

The stars are like pinpricks with lots of space between them. The chance of a direct hit, star vs. star, is very low."

Hibbard knows because he studies colliding galaxies, particularly a nearby pair called the Antennae. "The two galaxies of the Antennae system are about the same size and type as Andromeda and the Milky Way." He believes that the Antennae are giving us a preview of what's going to happen to our own galaxy.

The Antennae get their name from two vast streamers of stars that resemble the feelers on top of an insect's head. These streamers, called "tidal tails," are created by gravitational forces—one galaxy pulling stars from the other. The tails appear to be scenes of incredible violence.



This GALEX UV image of the colliding Antennae Galaxies shows areas of active star formation, which is not in the tidal tails as one might expect.

But looks can be deceiving: “Actually, the tails are quiet places,” says Hibbard. “They’re the peaceful suburbs of the Antennae.” He came to this conclusion using data from GALEX, an ultraviolet space telescope launched by NASA in 2003.

The true violence of colliding galaxies is star formation. While individual stars rarely collide, vast interstellar clouds of gas *do* smash together. These clouds collapse. Gravity pulls the in falling gas into denser knots until, finally, new stars are born. Young stars are difficult to be around. They emit intensely unpleasant radiation and tend to “go supernova.”

GALEX can pinpoint hot young stars by the UV radiation they emit and, in combination with other data, measure the rate of star birth. “Surprisingly,” Hibbard says, “star formation rates are low in the tidal tails, several times lower than what we experience here in the Milky Way.” The merging cores of the Antennae, on the other hand, are sizzling with new stars, ready to explode.

So what should you do when *your* galaxy collides? A tip from GALEX: head for the tails.

To see more GALEX images, visit www.galex.caltech.edu. Kids can read about galaxies and how a telescope can be a time machine at http://spaceplace.nasa.gov/en/educators/galex_puzzles.pdf.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Did you know ? ? ?



Space may seem like a very vast place, but objects and gases can still collide. A bow shock is the result of stellar wind colliding with another force, such as slow moving gas. As the fast stellar wind runs into this gas a shock front is formed, similar to a bow wave of a boat moving through water.

Image credit: Hubble Heritage Team (AURA/STScI), C. R. O’Dell (Vanderbilt), NASA

A Look Ahead...

March 17: Dark Sky Star Party & Messier Marathon

April 14: Dark Sky Star Party

May 12: Dark Sky Star Party

May 25-28: RTMC

News and Headlines

NASA Studies Early Moon Shot for New Space Capsule

NASA is studying a variant of its planned Ares 5 heavy-lift rocket that would enable an Apollo 8-like trip around the Moon in the 2015 time frame, a top U.S. space agency official told reporters Jan. 25.

http://www.space.com/news/070126_ares_moon.html

Watch the Demon Star Change Before Your Eyes

According to a legend, more than two centuries ago, a famous Paris astronomer used to stand on one of the Seine bridges on nights when the variable star Algol was in eclipse, to point out this remarkable phenomenon to passersby.

http://www.space.com/spacewatch/070126_ns_demon_star.html

Mars' Missing Air Might Just be Hiding

Rather than having had its air knocked out into space, Mars might just be holding its breath. New findings suggests the missing atmosphere of Mars might be locked up in hidden reservoirs on the planet, rather than having been chafed away by billions of years' worth of solar winds as previously thought.

http://www.space.com/scienceastronomy/070125_mars_atmosphere.html

Earth's moon destined to disintegrate

The sun is midway through its stable hydrogen burning phase known as the main sequence. But when the sun enters the red giant phase in around 5 billion years things are going to get a lot rougher in the Earth-moon system.

<http://www.cnn.com/2007/TECH/space/01/22/moon.destiny/index.html>

Why Explore Space?

As NASA resumes flights of the space shuttle to finish building the International Space Station, many are questioning whether the project – the most complex construction feat ever undertaken – is worth the risk and expense.

<http://www.spaceref.com/news/viewsr.html?pid=23188>

Probe nears close encounter with Jupiter

A spacecraft is zooming toward a close encounter with Jupiter to study its tempestuous atmosphere, ring system and four of its moons before dashing off to see distant Pluto in 2015, scientists said on Thursday.

<http://www.cnn.com/2007/TECH/space/01/19/new.horizons.jupiter.reut/index.html>

Unexpected cooling effect in Saturn's atmosphere found

In the hunt for interplanetary answers to how atmospheric temperatures are maintained, UCL researchers have ruled out a long held theory. They've found that the hotter than expected temperature of Saturn's upper atmosphere -- and that of the other giant planets -- isn't due to the same mechanism that heats the atmosphere around the Earth's Northern Lights.

<http://www.spaceref.com/news/viewpr.html?pid=21757>

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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Thank you to our sponsors for your generous support!

Al's Vacuum and Sewing: 904 West Lancaster Blvd. (661) 948-1521. Stop by and say "hey" to Matt and Sue and run from Michael.

Woodland Hills Camera: 5348 Topanga Canyon Blvd., Woodland Hills. 888-427-8766. www.telescopes.net

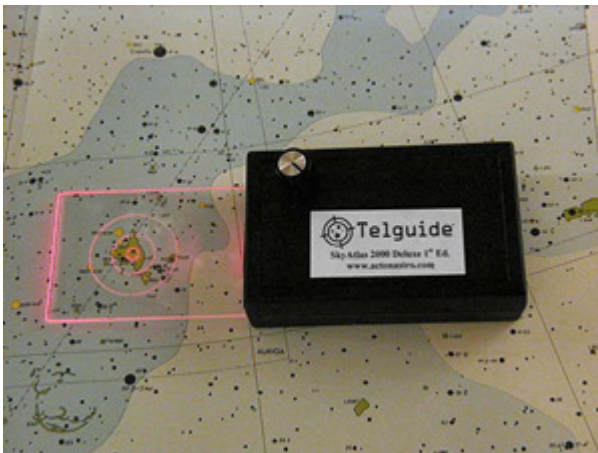
Astro-tom.com: Tom is dedicated to amateur astronomy. <http://www.astor-tom.com>

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

ActonAstro: Club Web space provided by <http://www.actonastro.com>

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WOODLAND HILLS *Camera*



The *Telguide*.

Our own Steve Trotta has invented the Telguide to aid you in your galactic hunts.

For more information on how a Telguide can help you, <http://www.actonastro.com>