



Desert Sky Observer

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC
P.O. BOX 8545, LANCASTER, CALIFORNIA 93539-8545
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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

December 04: Full Moon

December 09: Club Christmas Party

December 12: First Quarter Moon

December 15: Board Meeting

December 20: New Moon

December 27: Last Quarter Moon

Club President

Doug Drake

Here we are at the end of 2006 and our club has again done well for our community and club members. By the end of this year we will have acquired a new 6X12 foot covered trailer that will serve all our club events. We also have a new bar code system with a laptop computer to keep track of incoming/outgoing club equipment and library books; I want to thank Jeremy Amarant, David Abrass, Karol Barker and Bill Riedhart for getting the hardware/software together and making this happen. We have three new Chairpersons; NASA Chairperson Phillip Evans, Night Sky Chairperson Richard Hague and Equipment & Library Chairperson Karol Barker, you all have enhanced our club greatly. Debora Pedroza has served as Youth Exploring Astronomy (YEA) Chairperson since its inception, you're the best. Our club Managers; Newsletter Editor Errol Van Horne, Webmaster Site Steve Trotta and Club Historian Tom Koonce, you all have done an outstanding job month after month.

Our club Board Members for this year have served our club tirelessly and met the mark of gold and they are: Vice President Richard Hague, Secretary Larry Ochsner, Treasurer and Astronomical League Coordinator Steve Trotta and Director of Community Development Rose Moore. As you can see, it takes a lot of volunteer time from a lot of good people to make our club the best it can be. Also, all of you that have volunteered your time to support our community events are also what makes our club the best it can be. Without you our club could not function as an important contributor to our community by enhancing the science of astronomy our families and neighbors both young and old.

We now have a new club Board that will serve you throughout 2007, they will serve you well and they are: President Terry Pedroza, Vice President Shane Barker, Secretary Tom Koonce, Treasure David Abrass, and for her second term, Director of Community Development Rose Moore. Steve Trotta will remain as our Astronomical League Coordinator. My heartfelt thanks goes to each of you, be the best you can be.

Doug

Vice President***Richard Hague***

The year 2006 has been a busy one with all kinds of club activities including many community contacts. The officers for this year have had a lot of fun working with you and each other. The new officers, elected at our business meeting on October 13, will work to provide the club with interesting and illuminating events and programs. It should be a good year.

WE HAD THE FOLLOWING SPEAKERS AND MEETING ACTIVITIES FOR AVAC IN 2006:

Jan.13 Alex Meier, Some Ideas of Modern Cosmology; Feb. 10 Tom Koonce, AVAC member, extra solar planets; Mar. 10 Jeremy Amarant, planetarium director program; April 14 Gary Peterson, planetary geologist, "Mars, where is the water?"; May 12 YEA Awards; June 9 Multi-station astronomy fair; July 14 Kevin Grazer, JPL mission trajectory specialist; Aug. 11 Chris Butler, astro-artist; Aug. 26 Club picnic @ Steve Trotta's; Sep. 8 Nagin Cox, JPL on Kepler and the Mars Rovers; Oct.13 Annual business meeting (Jeremy, short program); Nov. 10 Wally Pacholka, Night Sky Photographer; Dec. 9 Christmas party.

The month of December offers us two meteor showers, the Geminids on morning of December 14 and the Ursids on December 22. The Geminids are one of the strongest showers of the year. Midnight to dawn will give the best views and can produce as many as 100 meteors per hour (if you're lucky). Ursid meteors are slower, tend to be faint, and can produce up to 10 per hour.

The morning after our Christmas party (December 10, really early, about 30 minutes before sunrise!), looking southeast Mercury, Mars, and Jupiter "will be closer than any three naked eye planets will be for 47 years" (quote from Astronomy Magazine for December, 06).

I have thoroughly enjoyed my job this year and I will be working with the Night Sky Network in 2007. I hope to get some of you involved with this great project.

Dick Hague

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

I would like to thank all of you for your help and support this year for all our club events! Our club couldn't do all these events if it wasn't for all of our members support! December is a quiet month for us, no public events scheduled. We are already discussing some club outings for the next year, and Dan Molik has contacted me about doing a school star party for his group near Lake Los Angeles. Wishing all of you a Merry Christmas and Happy New Year! See you all at the club Christmas party, or at our next meeting!

Clear skies!

Rose



Martian Devils

by Dr. Tony Phillips

Admit it. Whenever you see a new picture of Mars beamed back by Spirit or Opportunity, you scan the rocks to check for things peeking out of the shadows. A pair of quivering green antennas, perhaps, or a little furry creature crouched on five legs...? Looking for Martians is such a guilty pleasure.

Well, you can imagine the thrill in 2004 when scientists were checking some of those pictures and they *did* see something leap out. It skittered across the rocky floor of Gusev Crater and quickly disappeared. But it wasn't a Martian; Spirit had photographed a dust devil!

Dust devils are tornadoes of dust. On a planet like Mars which is literally covered with dust, and where it never rains, dust devils are an important form of weather. Some Martian dust devils grow almost as tall as Mt. Everest, and researchers suspect they're crackling with static electricity—a form of “Martian lightning.”

NASA is keen to learn more. How strong are the winds? Do dust devils carry a charge? When does “devil season” begin—and end? Astronauts are going to want to know the answers before they set foot on the red planet.

The problem is, these dusty twisters can be devilishly difficult to catch. Most images of Martian dust devils have been taken by accident, while the rovers were looking for other things. This catch-as-catch-can approach limits what researchers can learn.

No more! The two rovers have just gotten a boost of artificial intelligence to help them recognize and photograph dust devils. It comes in the form of new software, uploaded in July and activated in September 2006.

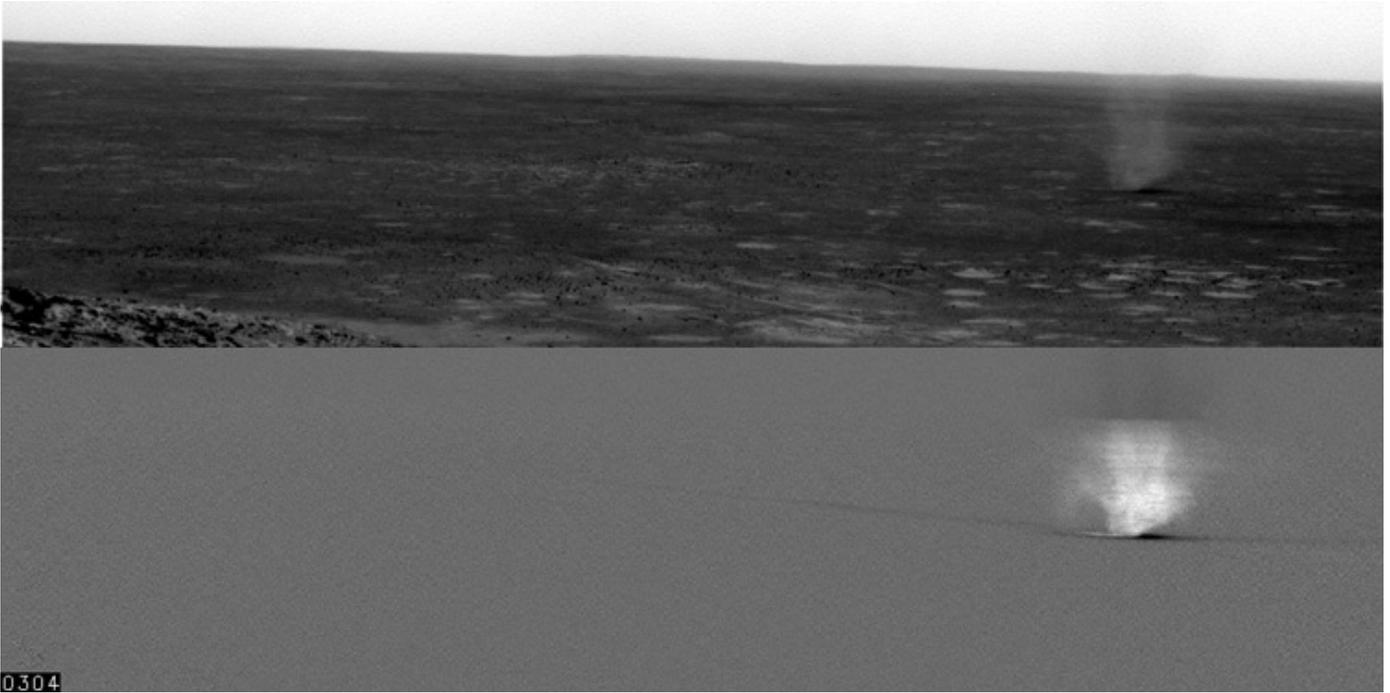
“This software is based on techniques developed and tested as part of the NASA New Millennium Program’s Space Technology 6 project. Testing was done in Earth orbit onboard the EO-1 (Earth Observing-1) satellite,” says Steve Chien, supervisor of JPL’s Artificial Intelligence Group. Scientists using EO-1 data were especially interested in dynamic events such as volcanoes erupting or sea ice breaking apart. So Chien and colleagues programmed the satellite to notice change. It worked beautifully: “We measured a 100-fold increase in science results for transient events.”

Now that the techniques have been tested in Earth orbit, they are ready to help Spirit and Opportunity catch dust devils—or anything else that moves—on Mars.

“If we saw Martians, that would be great,” laughs Chien. Even scientists have their guilty pleasures.

Find out more about the Space Technology 6 “Autonomous Sciencecraft” technology experiment at nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft_tech.html, and the use of the technology on the Mars Rovers at nmp.nasa.gov/TECHNOLOGY/infusion.html.

Kids can visit spaceplace.nasa.gov/en/kids/nmp_action.shtml and do a New Millennium Program-like test at home to see if a familiar material would work well in space



The top half of this image is part of a series of images of a passing dust devil on Mars caught by Spirit. In the bottom half, the image has been filtered to remove everything that did not change from one image to the other. Notice the faint track left by the dust devil. Credit NASA/JPL/Mark T. Lemmon, Univ. of Arizona Lunar and Planetary Laboratory.

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 ? ? ?

4:22PM on Thursday, December 21st marks the Winter Solstice in the northern hemisphere. It is the shortest day of the year and on this day we receive the least amount of direct sunlight because our north pole is tilted away from the sun. The Earth is actually closer to the Sun during the northern hemisphere’s winter than during the summer. From now until June 21st, daylight will increase a little each day.

News and Headlines

Fiery green intruder from space alarms Australians

A fiery green intruder from outer space sparked widespread alarm among bewildered skygazers who witnessed it burning up over Australia, authorities have said. Residents of the states of South Australia and Victoria Monday night deluged police and media with accounts of a green-coloured fireball hurtling westward through the evening sky.

<http://www.physorg.com/news83910411.html>

Astronomers find first ever gamma ray clock

Astronomers using the H.E.S.S. telescopes have discovered the first ever modulated signal from space in Very High Energy Gamma Rays – the most energetic such signal ever observed. Regular signals from space have been known since the 1960s, when the first radio pulsar (nicknamed Little Green Men-1 for its regular nature) was discovered. This is the first time a signal has been seen at such high energies – 100,000 times higher than previously known

<http://www.physorg.com/news83855046.html>

Cosmologists expose flaws in anthropic reasoning

Many scientists never liked it anyway, and now Glenn Starkman from Oxford/Case Western and Roberto Trotta from Oxford show that too many details—and too many unknowns—mean that anthropic reasoning gives inconsistent values of the cosmological constant, some that are far from current estimates.

<http://www.physorg.com/news83924839.html>

Integral catches a new erupting black hole

ESA's gamma-ray observatory, Integral, has spotted a rare kind of gamma-ray outburst. The vast explosion of energy allowed astronomers to pinpoint a possible black hole in our Galaxy

<http://www.spaceref.com/news/viewpr.html?pid=21358>

NASA Completes Milestone Review of Next Human Spacecraft System

NASA has completed a milestone first review of all systems for the Orion spacecraft and the Ares I and Ares V rockets. The review brings the agency a step closer to launching the nation's next human space vehicle.

http://www.space-travel.com/reports/NASA_Completes_Milestone_Review_Of_Next_Human_Spacecraft_System_999.html

NASA Hubble Finds Evidence for Dark Energy in the Young Universe

Scientists using NASA's Hubble Space Telescope have discovered that dark energy is not a new constituent of space, but rather has been present for most of the universe's history. Dark energy is a mysterious repulsive force that causes the universe to expand at an increasing rate.

http://www.spacedaily.com/reports/NASA_Hubble_Finds_Evidence_For_Dark_Energy_In_The_Young_Universe_999.html

Genesis Findings Solve Apollo Lunar Soil Mystery

Ever since astronauts returned from another world, scientists have been mystified by some of the moon rocks they brought back. Now one of the mysteries has been solved.

http://www.moondaily.com/reports/Genesis_Findings_Solve_Apollo_Lunar_Soil_Mystery_999.html

*Editorial**Errol Van Horne*

I believe all but the youngest of us can remember a darker canopy above, with many more visible stars than we now observe, and much shorter driving distances to find those really good “dark-sky” sites. I also believe that we all share a responsibility for doing something positive to not only preserve the sky as it now appears, but to also seek ways to turn back the clock by finding ways to reduce light pollution through education and activism. There many ways we can help, from financially assisting and actively supporting the International Dark Sky Association, the American Astronomical Society, and the Night Sky Network to working with builders, neighborhood improvement groups, our schools, clubs and other organizations. A unique and important way to educate people about light pollution recently came to us by way of email and I am reproducing it here for your review. The greatest impact we can have on the next generation begins with the education of our young people and few things are more important than fostering a true appreciation for our natural environment, including our magnificent night sky.

Dear Friends of Dark Skies,

As you may know, I've been very involved in dark sky efforts for the past twelve years. I've dedicated most of my efforts to dreaming up the best tools that help bring light pollution awareness/action in to mainstream society. Here's some news on one of those tools...

After selling out of a short paperback run, my children's book 'There Once Was a Sky Full of Stars' (Sky Publ.), has been re-introduced as a beautiful, large format hardcover. This book is the first, lyrical children's book that teaches kids about the stars AND fixing light pollution. The story's environmental message is simple, educational and unforgettable for young readers (listeners and parents, too!)

This hard cover release now has expanded distribution, which means that There Once Was a Sky Full of Stars is available to Barnes & Noble, Borders, and any other national book chain or local book store. However, because Sky is a smaller publisher, many stores have not heard of the book. This book can't deliver its important message if it is sitting in boxes in a warehouse.

YOU CAN HELP GREATLY to get this book on the store shelves, into libraries, into schools, etc. Please encourage your club members, friends and family members to ask for it at your local book stores, libraries (the more places that stock it, the more LP awareness gets spread!) Consider it as a gift to children, nieces, nephews, grandchildren, great grandchildren, etc. for the holidays.

We might just change the world!

Sincerely,

Bob Crelin, author
 bob@bobcrelin.com
<http://bobcrelin.com/author.html>

'There Once Was a Sky Full of Stars' by Bob Crelin, Sky Publishing Corp. ISBN# 1931559376

"Bob Crelin's enchanting, educational tale explains how light pollution steals the stars and how children can lead the way to restore the nighttime sky for the enrichment of future generations."

-Robert F. Kennedy, Jr., President, Waterkeeper Alliance

"What a beautiful job of communicating the dark sky issue to the next generation. I enjoyed reading it myself, and very much appreciated the tone of voice. It's such a lovely telling that I think it will have a wide appeal."

-Award-winning & NY Times Best Selling Author Dava Sobel of Longitude, Galileo's Daughter

A.V.A.C. Membership Information

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!

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

Telguide: A supper guide to use with your star chart. www.actonastro.com

Astro-Tom: Tom is dedicated to amateur astronomy. www.astro-tom.com



Al's Vacuum and Sewing

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>



A HARTWIG COMPANY with offices in Palmdale and Lancaster Errol Van Horne (661 305 8148) and Jim Jeffra (661 733 8363) offer residential and commercial real estate services to all club members and their referrals, which include a 15% donation to the Youth Exploring Astronomy Program, of any commission earned from those sources.