Desert Sky Observer

Volume 23 Issue 7 **July 2003**

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

July 6: First Quarter Moon
July 10: **Monthly Club Meeting***
July 13: Full Moon
July 21: Last Quarter Moon
July 26: Annual Club Picnic, Crystalaire
July 29: New Moon
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

I would like to thank those members of the Antelope Valley Astronomy Club who have donated their time and effort at our many community events so far this year. Without your help and support, this club would not be where it is today. It takes a lot of effort to get to where this club is and our members are what do it! We have people working on getting our club sponsorships, events and items that our club wants and needs to grow.

Thank you Matt and Darrel for working so hard on finding the right H alpha filter/scope for our club. I know that we will have one soon. Thank you Board members for all of your time and effort that has helped to make this club prosper. Thank you past board members for showing us the way and what it takes to succeed. Thank you to all of our speakers and guests who have enlightened our members in Astronomy and the related sciences. Thank you members for showing your support in all of our club's endeavors!

Our Club has grown beyond my wildest dreams. When I joined, there were twenty-six members. We have first-rate speakers giving talks, and so much to offer our members and the community that it boggles my mind.

We will be getting to our club elections soon and I am hoping that we have many who would like to be a part of the next great board. If you have the inclination to be a part of our board please see any board member and let them know.

We are still working on a youth liaison and youth group. This will be coming up at a meeting soon and I am hoping for a great response. This has been the one thing that seems to keep slipping through the cracks. I have thought it was off the ground twice and twice I've been mistaken. Doug Drake will be spearheading this effort for me now and I am sure he will make it happen. Thank you, Doug!

Let's keep up the great work and I will see you at the next meeting. Don't forget…The July and August meetings are on the Thursday before the normal Friday. See you Thursday, July 10th.

Vice President's Report

Tom Koonce

ANNUAL CLUB PICNIC

Hi Everyone! Coming up July 26 is our Annual Club Picnic, held at Crystalaire Country Club- full of food, fun and prizes. This year's Raffle and Silent Auction will be, as usual, a blast. Tickets for the Raffle will be $1. The picnic is FREE. If you've never been to one, this is a great chance to bring out your whole family and get to know other Club members, swim, hike, just sit and talk, eat, and look at the stars. Since I'm always asked, yes, there are REAL bathrooms at the picnic site. You may camp over night too. If you plan on camping, please let Matt Leone know at our next

Club meeting. We set up tents on the edge of the Golf Course, and RV's have a nice flat area in which to park.

Once again, the Club will provide hamburgers and hotdogs, paper plates, plastic ware, and napkins. Members are asked to bring any sodas, ice, chips, dips, salads, desserts, etc. that you would like to share with the picnic. Please mark any utensils you bring with masking tape so you get everything back. I will be passing out the signup list one more time at the next meeting and we'll be calling every member to remind them of the Club picnic date and location. Maps will be handed out at the next meeting, and you can go to the club website at http://www.avac.av.org. Please call me at 661-943-8200 if you have any questions.

ASTRONOMICAL LEAGUE OBSERVING PROGRAMS

Since I just completed the Binocular Messier Club observing program, I wanted to encourage other Club members to try this one. It doesn't matter if you have small, medium or large binoculars. There is a section of the observing program designed just for you and you can get the complete award. The program has been completed by people with 7 X 35 binoculars bought at Sears for $29.95. It is organized so that the bigger the binoculars are that you use, the harder the objects are that they give you to observe. You must observe 50 objects from the appropriate list, document the observations and then submit the observations through your Astronomical League Coordinator (for our Club this year, that's me) and you will be awarded a certificate. I had so much fun discovering the galaxies, star clusters and nebulae that I could really see with my binoculars that I encourage everyone to give this observing program a try. Check out: http://www.astroleague.org/al/obsclubs/binomess/binomess.html

For you Deep Sky nuts, the Astronomical League has just started a new observing program that is surprisingly long overdue. The Comet Observers Club has been established. In observing the wonders of the universe, there are perhaps no more wondrous and beautiful objects as comets. Since the invention of the telescope hundreds of years ago, astronomers have continually searched for new comets, and in the process have discovered nebulae, star clusters, galaxies and more. Comets are important members of our solar system, and their study is important to mankind. Thus, having this observing program for members of the Astronomical League is long over due. To qualify for the first level award, you must make observations of 12 comets. The website is: http://www.astroleague.org/al/obsclubs/comet/comet.htm.

For both of these quests, binoculars are essential. You'll need something to hold them after your arms cramp. Check out: How to build a parallelogram binocular mount using simple hand tools… http://www.astro-tom.com/projects/binocular_mount.htm.

Dir. of Community Development

Debora Pedroza

Attention to all club members: Summer is already upon us and before we know it, we will be looking at October and our annual club election for the 2004 board members. It has been a very rewarding experience these past two years serving as our Director of Community Development. We have been able to share our love of astronomy with so many people, young and old. It has been incredibly inspiring to watch, firsthand, an interest become a "spark" and to watch that "spark" ignite into enthusiasm. We meet many nice people and form many new friendships and associations.

On a personal note, I have decided to not run for a board position next year. I have five grandchildren with two more on the way and would like to free up my time to play "old grandma Hubbard." I also would like to learn sign language so that I can further enhance my ability to communicate.

Our club continues to grow in many ways. More members mean more sharing of life experiences. How wonderfully unique it is to be able to raise your levels of awareness and knowledge through the experiences of others! If you are like me, you probably have the notion that being on the board requires a lot of time and effort. Perhaps you feel like you are too new to astronomy to take on such positions. Or maybe you have never really taken the time to read your membership manual to achieve a clearer idea of how the club is run. I was guilty of all of these before I decided to run for a board position. Now I know better.

The position of Director of Community Development is a multi-tasking position but it is my opinion that it is also the most rewarding position. Why, do you ask? Because the multi-tasks involved are achieved by interaction with others and teamwork. You could say that the Director of Community Development is the "Chairperson" of all community events. It is his/her job to initiate membership participation and then to delegate as needed to ensure event success. For example, I will be volunteering to run the next Youth Exploring Astronomy Essay Contest. Because of our avid and caring members, our club was able to successfully fulfill nearly every community request this past year; it was truly a breeze

Making a difference in people's lives is immensely rewarding. I am inviting you, club member, to take on this position of opportunity. I will be readily available to assist in any way that I can and there will be a transition period where we will work together. Present and past board members have been known to pitch in to help, too.

Happy Summer Solstice everyone! Until next time… take good care.

Doug Drake's *Planet Watch*

Mercury
Mercury has already gone around the Sun (in-conjunction with the Sun) and will start to rise higher and higher in the sky at Sunset.

Venus
Venus is becoming in-conjunction with the Sun by the end of this month, so we will have to wait until next month to see Venus just start to rise at Sunset.

Mars
Mars will be twice its brightness by the end of this month and will be high in the southern sky at about 3:00 AM. I know, I know, you'll need a lot of coffee to observe Mars at this time in the morning! Mars has not been as big to observe since 1988. Also a sign of Martian events happens the last of this month, July 30th. Mars stops its apparent easterly movement and begins to retrograde to the west. This is a sign that we (Earth) are approaching Mars and will be at an all-time close point in August!

When we were at Big Bear on May 24 for the RTMC, I pointed my telescope towards Mars at 3:00 AM and found the Southern Polar cap extremely large, covering the whole top-half of the planet. Mars has started its springtime and I'm expecting to see the Southern Polar cap become smaller as Mars goes into Southern summertime.

Jupiter
Jupiter is getting lower and lower in the sunset sky and sets about two hours after the Sun sets. So if you still want to observe Jupiter, now is the time of essence.

Connect with QNet
an AVAC sponsor

* * For Sale * *

For Sale for Benefit of the Club:

0.96" Telescope Accessories and eyepieces - Sold "As Is"
These will not fit telescopes with 1.25" eyepiece holders without an adapter (not included)
Eyepieces:
* Vixen 18 mm Orthoscopic 0.96" Eyepiece - Near new condition
* Vixen 5 mm Orthoscopic 0.96" Eyepiece - Looks new
* Vixen 2X Long Barlow, 0.96" - Looks new
Miscellaneous pieces include:
* Vixen 36.4 mm Camera "T Adapter" (I think this is complete) Great Condition - Camera is screw type thread, probably a Pentax K mount, not sure.
* Unmarked 0.96" to telescope screw adapter (with marks on the rings) Used Condition
* Assorted caps and a tightening knob
* All pieces in a plastic storage bin

Best Offer over $10 accepted by the next Club Meeting. Please e-mail or call Tom Koonce at takoonce@aol.com, 661-943-8200. This is to benefit the Club only.

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Monster Trucks on Mars

by Patrick L. Barry and
Dr. Tony Phillips

We all know what Mars rovers look like now: robotic platforms, bristling with scientific instruments, trundling along on small metallic wheels. Planetary rovers of the future, however, might look a little different- like miniature monster trucks!

Enormous, inflatable tires can easily roll right over the rocks and rugged terrain of alien planets, just as they bound over old cars like as many speed bumps.

That's the idea behind a novel concept for robotic planetary rovers known as the "big wheels inflatable rover." Unlike rovers similar to the Sojourner robot that explored the surface of Mars in 1997 that depend on instructions sent from Earth or complex programmed intelligence to steer through rough terrain, this rover has three beach ball-like tires roughly five feet across that make it a true off-road vehicle.

"We sent this rover out to Death Valley, to a place called Mars Hill that has a general geological formation like Mars, and nothing could stop it," says Jack Jones, the mastermind of the inflatable rover concept at JPL. "It just kept going and going and going."

Lots of current research is devoted to developing advanced robotic intelligence that allows rovers to detect rocks in their path and maneuver around them. The alternative to such on-the-spot intelligence is tedium: Ground controllers on Earth working out the maneuvers by hand and waiting an hour or more for the instructions to travel to the distant planet.

A "big wheels" rover would need such computer intelligence to avoid very large boulders, but Jones asks, "Why worry about every little rock, pebble, and crack when you can just roll right over most of them?"

Jones imagines a scenario where multiple inflatable-wheel rovers could be sent out to explore the Martian terrain- easily and quickly traversing the rugged terrain. Samples gathered by the rovers could be returned to a central, stationary laboratory module for detailed analysis.

"The Martian surface is really very, very rough with a lot of rocks, and to be banging this laboratory equipment up and down over all of these rocks aboard the rovers doesn't make much sense," Jones says. "I suspect it might be better to leave it in a central location."

At the moment it's all very speculative; NASA currently has no definite plans to send inflatable rovers to Mars. But who knows, one day monster truck-like vehicles could be zipping over Mars' rough, red surface.

Kids can baffle their friends with a robot puzzle (including a "Big Wheels" rover) they make themselves at http://spaceplace.nasa.gov/robots/robot_puzzle.htm. For adults, find out more about NASA's inflatable rover program at http://www.jpl.nasa.gov/adv_tech/rovers/summary.htm

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

* * ADVERTISEMENT * *

Calling all Amateur Astronomers!

Take this opportunity to complete the new online survey supported by Astronomical Society of the Pacific (ASP) and have a chance to win a $100 gift certificate to the ASP Catalog!

You will be assisting in developing training and materials for amateur astronomers to help the public understand concepts of astronomy. In addition, the survey is collecting your experiences with any astronomy misconceptions you have come across in your encounters with the public. Click on this link to access the survey:
http://fs8.formsite.com/astrosociety/AstroSurvey/index.html
Or from the ASP web site: http://www.astrosociety.org/

As an added bonus, if 15 or more of your club members respond to the survey, you will receive a copy of your club's responses (no names or other identifiers will be included). This could help in planning programs for your club and can serve as a topic of discussion at a club meeting. Just have your members put your club's full name on the form where they enter their name for the drawing.

We're expecting to close the survey by the end of August or September and will distribute club responses within six to eight weeks after that.

To find out more about the survey and to access it, click on this link:
http://fs8.formsite.com/astrosociety/AstroSurvey/index.html

Thank you for your participation and your contribution to research in amateur astronomy outreach!

Marni Berendsen
Education Project Coordinator
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NASA Spacecraft Will Probe Saturn's Winds

(from the Associated Press)

Astronomers say the winds of Saturn appear to be slowing dramatically just as NASA's Cassini spacecraft approaches the ringed gas planet. Other researchers who study giant planets say the finding is surprising because little change has been detected in the winds of neighboring planets like Jupiter.

A comparison of images taken from one of the Voyager missions in the early 1980s and photos taken by the Hubble Space Telescope from 1996 to 2002 indicate that winds have slowed by about 40 percent at the equator of Saturn. Saturn is the solar system's windiest planet, with wind speeds peaking at 1,000 mph. With the sudden change, the peak winds now are whipping around the planet at about 600 mph.

By comparison, the highest surface wind ever recorded on Earth was a gust of 231 mph clocked on Mount Washington in New Hampshire on April 12, 1934.
The researchers who performed the Saturn analysis say they do not know why its winds are slowing, unlike the steady winds on Jupiter.

"I think most atmospheric scientists would be willing to bet a substantial amount of money that a giant planet's winds don't do things like this," said the study's co-author, Richard French, a Wellesley College professor who has been a principal Hubble researcher for the past seven years.

More than a century of recorded observations of Jupiter, including Voyager and Galileo spacecraft surveys, have shown its winds move at a relatively constant speed without changing.

Recent studies of the other two gas giants in the outer solar system, Uranus and Neptune, also indicate wind speed is fairly constant, although their winds circulate in the opposite direction of Jupiter and Saturn.

In the new study published in the June 5 issue of the journal Nature, French and Agustin Sanchez-Lavega of the Universidad del Pais Vasco in Bilbao, Spain, suggest that the unique rings of icy particles that encircle Saturn may influence the wind speed by casting shadows on the planet's surface during the 30 Earth years it takes Saturn to make a single orbit around the sun.

Researchers who did not participate in the study agree that shadows could cool the Saturn atmosphere enough to slow the winds.

"The ring shadow moves from the northern hemisphere to the southern hemisphere and back again during the Saturn seasons," said Andy Ingersoll, a Caltech astronomer and expert on the atmospheric dynamics of other planets.

"That's a pretty unusual environment, and it probably has an effect," Ingersoll said.

Delta Scorpii Still Showing Off

(from Sky and Telescope online)

For the fourth summer in a row, the head of the bright constellation Scorpius carries a note of excitement. Delta Scorpii, normally magnitude 2.3, became a variable star in July 2000, flaring in a matter of weeks to magnitude 1.9. In the next few months it dipped almost back to normal, then rebrightened. It has fluctuated between about magnitude 2.0 and 1.6 ever since. As of a few days ago it was hovering at 1.6 or 1.7, barely under the official definition of a 1st-magnitude star (1.5). "The outburst keeps gaining strength," writes its discoverer, Sebastián Otero of Buenos Aires, Argentina. The naked-eye look of Scorpius is visibly changed from its age-old state, and Delta stands out as the brightest thing in the big swath of sky between Antares and Spica.

Delta Sco is a large, hot, rapidly rotating star of spectral type *B*0 about 400 light-years away. Spectra show that it began throwing off luminous gas from its equator when the outburst began. A fainter companion star orbits it in a very eccentric, looping orbit; the two stars swing close by each other (separated by about 20 times the primary star's diameter) every 10.6 years. The last time this happened was in the summer of 2000, suggesting that this particular pass somehow triggered the flare-up. No one knows what Delta Sco will do next.

Did you know? ?

Japan's first planetary spacecraft "Nozomi" is scheduled to land on Mars in December, four years behind schedule.

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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.

A.V.A.C. Board Members

President: Terry Pedroza (661) 718-3963 res1atuo@verizon.net

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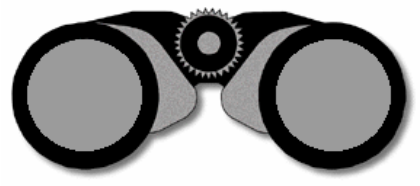
Astronomy Links on the Web

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://antwrp.gsfc.nasa.gov/apod/archivepix.html
(Astronomy Picture of the Day)
http://www.avac.av.org/
(Hey, that's us! So link yourself on over!)

The July speaker for the Club meeting will be our own Doug Drake. He will be speaking on Mars- or at least about Mars.

In August, Nagin Cox will return and speak about "Mars Exploration Rover 2003."

A Look Ahead…



August Calendar

August 3: Sun Party, Boys & Girls Club
August 7: Club Meeting
August 16: Star Party, Prime Desert Woodlands
August 30: Star Party and Barbecue, Steve Trotta's Ranch

September Calendar

September 12: Club Meeting
September 27: Star Party, Mt. Pinos

October Calendar

October 10: Club Meeting and Elections
October 11-12: Palmdale Fall Festival
October 25: Star Party, Kings Canyon Observing Site

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!