



# 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/](http://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

**July 2:** CAP event @ EAFB

**July 5:** Moon Walk and Star Party @ [Prime Desert Woodlands](#)

**July 5:** Dark Sky Star Party @ [Mount Pinos](#)

**July 10:** Robotics workshop with the "Astronomy Dudes" @ [The AERO Institute](#)

**July 11:** Club Meeting @ the Sage - RTMC show and tell

**July 12:** Lunar Club Party at the [Leone's](#)

**July 14:** Executive Board Meeting @ the [Pedroza's](#)

**July 21:** YEA Fieldtrip to JPL

**July 27:** Lunar Club Party at [Pedroza Flats](#) 3:00am

\* 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 20<sup>th</sup> 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**

Hello to all aspiring Astroimagers and photographers. The Antelope Valley Astronomy Club is looking for your images and photos to show off at our meetings, on our website and in our newsletters. Please send all those images and photos that are hiding in the deep dark recesses of your closets and computers so that we may pick from them some that we can feature each month. Also in this way we may archive the history of the AVAC in pictures. So get with it...put them to disc, thumb drive or whatever media you prefer and send them in! I'll be expecting them at the next meeting and the next and so on...

At the May meeting it was brought up that the AVAC should purchase a high end dedicated Solar Telescope. Matt Leone will be investigating the different possibilities and prices for a report at the next board meeting. I will be contacting our "Long Range Planning Committee" chairperson to see how this fits in with our long-range plan and possibly be putting this before the membership in the near future. Stay tuned to see where we go with this!

Have you heard of PATS? The Pacific Astronomy and Telescope Show is coming to Southern California September 13 and 14 2008 at the Pasadena Conference Center and Pavilion. . The Antelope Valley Astronomy Club will be selling tickets to PATS, if you are interested in purchasing them see Tom or Terry. We will also be hosting an AVAC table at PATS telling the World who we are and what fun we have. See you there.

October is drawing near and with it comes the AVAC elections. Are you going to be the next person to step up to the plate and be a part of the AVAC board? If you are interested please see any board person for more information. It is a most rewarding experience.

Clear Skies,  
Terry

*Vice President*  
*Debora Pedroza*

Our club members will experience two new avenues of presentations over the course of our July and August monthly club meetings. Members who participated will be conducting a “show and tell” about their experiences and purchases made at the Riverside Telescope Makers Conference held in Big Bear over Memorial Weekend. This should be fun, informative, humorous, and hands on. The highlight of the evening will surely be the unveiling of the 1930’s homemade vintage telescope. Amazing...and how the fundamentals never change!

In August the club will have the chance to interact with one of our most prudent sponsors, Woodland Hills Camera. Daniel will be coming out with a 60-millimeter Coronado telescope and he hopes to have a 60-millimeter Lunt telescope as well. We will have a chance to view through these scopes, weather permitting. His talk will be on solar viewing in general. He will focus on solar viewing through scopes set up with solar filters as well as viewing with a dedicated solar scope. Here is our chance to ask questions about solar viewing and about Woodland Hills Camera as well.

Speaker slots are open for September and November. My ardent goal at this time is to get an engineer out from the Mars Landers Project. There is also interest in the Explorer1 project. Tune into future DSO articles to see.

We have concluded our first YEA field trip to Griffith Observatory this month and it was a blast! I would like to extend special kudos to Mr. Tom Koonce and Lockheed Martin for all of their diligent planning. It was definitely top notch. Also top notch are the sweatshirts and blankets and binoculars that Lockheed Martin provided the winners.



In this photo, sent in by her mother, Aisha Rigert, and her sister Sara, enjoy Aisha’s new “prizes” in her backyard. Awesome!

Until next time...take good care.

***Director of Community Development***  
***Karole Barker***

We had a very exciting month of events. We had an awesome time with the YEA contest winners at Griffith Observatory on June 19th. The new attractions at the observatory are amazing.

On Wednesday, July 2nd we are doing a star party for about 30 cadets at Edwards Air Force Base at 6:30 p.m. If you did not sign up on the roster, they will not let you on the base for this event.

We had a great turn out for the Prime Desert Woodlands on Saturday, June 7 we had almost 222 people show up that night. We do have some upcoming events at Prime Desert Woodlands on July 5th @ 8:30 p.m., which I still need volunteers to bring out scopes that night. Please let me know if you can make it at PDW. The moon walk in August is 8/16/08.

Don't forget our "Lunar Club" with Matt Leone on July 12th @ 6:00 p.m. @ Matt Leone's house.

If anyone is interested in helping the ASTRONOMY DUDES at the upcoming NASA Robotics Workshop Thursday July 10th from 9:00 a.m. until 12:00 pm at the AERO Institute, they would enjoy the help! As of this moment, they are planning on speaking on the solar system and the Hubble Space Telescope. They will probably also do some solar viewing. This is located at the Palmdale Cultural Center / Library / City Hall. Anyone who wants to help should plan on being at this location at 8:30.

The ASTRONOMY DUDES do enjoy club members assisting them! They will even make you an Apprentice ASTRONOMY DUDE for the Day (AADD)!

Volunteers should send an e-mail to Jeff Reichman, so that he can provide them with the latest information.

On Friday July 25th at the historic Western Hotel/Museum on Lancaster Blvd. for their annual Old fashion ice cream social and outdoor silent movie, "Aelita: Queen of Mars" (1924), in honor of NASA's 50th anniversary. The hotel will provide passes for our club members for the ice cream social and for the viewing of the silent movie, which is from 9:00 to 11:00 p.m.; the ice cream social is from 6:00 p.m. to 8:00 p.m. They would like us in front of the hotel to do some solar viewing.

On Sunday July 27 at 3:00 a.m. to 6:00 a.m. will be a Lunar Club party at Pedroza flats.

Clear Skies,  
 Karole

***Did you know ? ? ?***

The Moon is Earth's only natural satellite. Right? Maybe not. In 1999, scientists found that a 3-mile- (5-kilometer-) wide asteroid may be caught in Earth's gravitational grip, thereby becoming a satellite of our planet. [Cruithne](http://www.space.com/scienceastronomy/top_10_cool_moon_facts-6.html), as it is called, takes 770 years to complete a horseshoe-shaped orbit around Earth, the scientists say, and it will remain in a suspended state around Earth for at least 5,000 years. ([http://www.space.com/scienceastronomy/top\\_10\\_cool\\_moon\\_facts-6.html](http://www.space.com/scienceastronomy/top_10_cool_moon_facts-6.html))



## Space Buoys

By Dr. Tony Phillips

Congratulations! You're an oceanographer and you've just received a big grant to investigate the Pacific Ocean. Your task: Map the mighty Pacific's wind and waves, monitor its deep currents, and keep track of continent-sized temperature oscillations that shape weather around the world. Funds are available and you may start immediately.

Oh, there's just one problem: You've got to do this work using no more than one ocean buoy.

"That would be impossible," says Dr. Guan Le of the Goddard Space Flight Center. "The Pacific's too big to understand by studying just one location."

Yet, for Le and her space scientist colleagues, this was exactly what they have been magnetosphere is an "ocean" of magnetism and plasma surrounding our planet. Its shores are defined by the outer bounds of Earth's magnetic field and it contains a bewildering mix of matter-energy waves, electrical currents and plasma oscillations spread across a volume billions of times greater than the Pacific Ocean itself.

"For many years we've struggled to understand the magnetosphere using mostly single spacecraft," says Le. "To really make progress, we need many spacecraft spread through the magnetosphere, working together to understand the whole."

Enter Space Technology 5.

In March 2006 NASA launched a trio of experimental satellites to see what three "buoys" could accomplish. Because they weighed only 55 lbs. apiece and measured not much larger than a birthday cake, the three ST5 "micro-satellites" fit onboard a single Pegasus rocket. Above Earth's atmosphere, the three were flung like Frisbees from the rocket's body into the magnetosphere by a revolutionary micro-satellite launcher.

Space Technology 5 is a mission of NASA's New Millennium Program, which tests innovative technologies for use on future space missions. The 90-day flight of ST5 validated several devices crucial to space buoys: miniature magnetometers, high-efficiency solar arrays, and some strange-looking but effective micro-antennas designed from principles of Darwinian evolution. Also, ST5 showed that three satellites could maneuver together as a "constellation," spreading out to measure complex fields and currents.

"ST5 was able to measure the motion and thickness of current sheets in the magnetosphere," says Le, the mission's project scientist at Goddard. "This could not have been done with a single spacecraft, no matter how capable."

The ST5 mission is finished but the technology it tested will key future studies of the magnetosphere. Thanks to ST5, hopes Le, lonely buoys will soon be a thing of the past.

Learn more about ST5's miniaturized technologies at [nmp.nasa.gov/st5](http://nmp.nasa.gov/st5). Kids (and grownups) can get a better understanding of the artificial evolutionary process used to design ST5's antennas at [spaceplace.nasa.gov/en/kids/st5/emoticon](http://spaceplace.nasa.gov/en/kids/st5/emoticon).

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

## *AVAC Observing Challenge*

By Tom Koonce

The heat is here, but the July nights are pleasant and the occasional breezes are refreshing. Even up on top of Mt. Pinos I've observed all night with just jeans and a long sleeve shirt on and have been very comfortable. With the great temperature differential between the afternoon and early evening, cooling down your telescope properly this month becomes a problem. Don't expose it to the late afternoon sun and don't leave it in the car with the windows up if you're driving to a remote viewing location. Allow plenty of time for the mirror to stabilize. Also remember that you can get dehydrated on these warmer nights so bring plenty of water and keep up your intake throughout the evening. Comfort equals longer times at the eyepiece, and you'll need that this month since we're going to try a couple of sketches. Bring a stool and a small table outside with you to lay your charts on.

Note: July is a great month to begin formally tracking your observations of the Messier Objects. Ask any Board Member for a copy of the Messier listing and you can start at our next Star Party!

### **Beginner's Challenge**

Find the constellation of Sagittarius along the southern horizon just after dark. You can imagine that it looks like a teapot with the 'clouds' of the Milky Way coming from its spout. Using your widest field, lowest power eyepiece, sweep slowly northward from the star at the end of the spout until you come across M8, the Lagoon Nebula.



Try to make a pencil sketch of the Lagoon Nebula showing its outline, central dark dust lane and both the nearby bright star forming region and the star cluster on the opposite side of the dust lane. Take your time. Compare your drawing to photos of the Lagoon. How did you do? Did you record details that the photos don't show too clearly?

After you have completed your drawing, take some time and continue your low power sweep northeastward along the edge of the Milky Way. You'll come across M24 (the Small Sagittarius Star Cloud), M18 an Open Star Cluster, M17 the Swan Nebula, and M16 the Eagle Nebula. Each of these can be seen under dark skies by nearly any size

telescope. To enhance your view tremendously, try using a special filter on your eyepiece. The AVAC has an "O-III" filter that you can borrow, and several of the club members have them too. This is a filter that only allows the light from ionized oxygen to reach your eye. It has the effect of dramatically improving the contrast of emission nebulae like the Swan and Eagle.

### Intermediate Challenge

Read through the Beginner's Challenge, use your telescope to get familiar with the location and appearance of each of the objects, then get out your binoculars. Beginning at the top of the Teapot, use your 10 x 50 or higher power binoculars and a tripod to positively identify M22, M8, M25, M24, M17 and M16. Add M20, the Trifid Nebula and nearby M21 an Open Cluster, located about 2 degrees northwest of the Lagoon Nebula. If you have a dark night and a steady mount, you can try for M18, but it will probably appear as an inconspicuous group of stars. Use averted vision. Mark each of these objects down as completed on your Binocular Messier List. You are already 1/5 of the way to completing the list and getting your Binocular Messier Pin!

### Advanced Challenge

The center of our galaxy lies in the direction of the constellation Sagittarius, but we can't actually see the center because of all of the galactic dust in the way. "Baade's Window" is a region with relatively low amounts of interstellar "dust" along our line of sight and is a "window" because in this direction we are able to see all the way to the Milky Way Galactic Center (actually, somewhat "south" of the center, in the central bulge) and beyond. It is named after the German astronomer Walter Baade\*. Baade's Window can be used to observe distant stars and is used by professional astronomers to determine the internal geometry of the Milky Way. It lies towards the constellation of Sagittarius.



This is a tough challenge... You will find Baade's Window among the numerous field stars of the Sagittarius Milky Way, and then locate two very nice globular clusters.

NGC 6522 (Mag 9.5), on right in photo to the left, and NGC 6528 (Mag 10.5), on the left, (Tirion Chart 22): Right Ascension: 18:03.6 (hours: minutes); Declination: -30:02 (degrees: minutes); Apparent Magnitude: 8.6; Apparent Diameter: 5.6 (arc minutes); Distance from Sun: 25.4 kly; Distance from Galactic Center: 2.0 kly; Apparent Diameter: 16.4 arc min.

Both of these NGC objects are Herschel 400 objects, so now you only have 398 left to go, and even fewer if you have already completed the Messier list.

\*Walter Baade: Along with Fritz Zwicky, he proposed that supernovae could create neutron stars.

- He took advantage of wartime blackout conditions during World War II, which reduced light pollution at the Mount Wilson Observatory, to resolve stars in the center of the Andromeda galaxy for the first time, which led him to define distinct "populations" for stars (Population I and Population II).
- He discovered that there are two types of Cepheid variable stars, together with Fritz Zwicky identified supernovae as a new category of astronomical objects and proposed the existence of neutron stars. He also identified the optical counterparts of various radio sources. (Source: [http://en.wikipedia.org/wiki/Walter\\_Baade](http://en.wikipedia.org/wiki/Walter_Baade))

Clear Skies!

Tom

## The Adventures of Roswell by Roswell

Greetings and salutations to my friends on planet Earth, especially my friends at the Antelope Valley Astronomy Club! For those that do not know me, I am a friend of club member Jeff Riechmann, recently arrived from a planet located in a galaxy in Orion's Belt.

At the request of Jeff, I have been assisting him at some of the clubs recent outreach programs. We have a sort of Penn and Teller type act. Jeff is the tall goofy-looking guy who tells all of the jokes while I am the short handsome guy who says absolutely nothing, yet it is I, who is the star of the show!

Anyway, May 9, 2008 found us trekking to a beautiful little elementary school in Riverside, California. Lockheed Martin Corporation was sponsoring a Space Day for the kids at Longfellow Elementary School. Also making the trek from the Aerospace Valley was Terry and Debora Pedroza, Dick and Kay Hague and Tom Koonce. Jeff's wife Charlotte also trekked on down to Riverside; however she was working the Lockheed Martin classroom that was dedicated to instructing the future space travelers about "Alka-Seltzer propulsion systems as utilized in intergalactic space travel." (She could be heard singing on the way home *Plop, Plop, Fizz, Fizz, Oh what a blastoff it is!*" Again, she sang the ENTIRE way home!) This was just one of 45 displays and presentations that were organized for the event! They even had a very poor example of an alien spaceship on display that the kids could sit in.

The day started off with Jeff playing catch with the children on the playground using a ball that resembled your satellite, I believe you call it *the moon*. At first Jeff taught the kids what craters were and how they were formed by meteorites. (Or were they formed by meteors or meteoroids?) Terry would also join Jeff in this little game. As the crowd of children grew, when a new child caught the ball, another child had to explain to them what craters were and how they were formed. Later, they were joined by a couple of engineers from JPL. (After watching these engineers, I now understand why you are *still* trying to get out of your solar system!)

As the school day started, my friends from the AV Space Club (editors note: That would be the Antelope Valley Astronomy Club, Roswell!) set up their display of *Rocks From Space!* Each twenty minute session, would start with Dr. Hague (of *Astronomy Dudes* fame) explaining about comets, how the moon was formed and the craters on the moon. Terry Pedroza then would take over talking about meteorites. He even demonstrated how fragile meteorites are! What a guy! Tom would explain how to find meteorites followed by Debora explaining how the Club members came upon their meteorite collections and talking about Kay's lovely meteorite jewelry. Jeff would then finish up by introducing me.

When Jeff would unveil me, you would think I was that other alien currently on Earth, Dennis Rodman, the way the kids reacted! Jeff even had the kids believing he was an alien! Trust me; Jeff doesn't know the first thing about being an alien, although some might say he looks like one! It was so cool! Kids were taking pictures of me; teachers were even having their whole class pose with me for pictures! Jeff even taught the kids how to wave like an alien!

One of your earth kids laughed at me because she thought that I was naked. Jeff explained that I was actually wearing a skin tight space suit. That Jeff, what a knucklehead!

Just when I thought it couldn't get any weirder, since the kids really started to believe that Jeff was an alien, they started asking him for his autograph! Soon it became a game with the kids asking all of the AV Astronomy Club members for their autographs!

Needless to say, it was a great day to be visiting earth and it is my opinion that 200 kids learned a lot about space rocks! And aliens!

These outreach programs were starting to sound like a lot of fun. That was until Jeff took me to the Prime Desert Woodland Preserve the next day for another Space Day presentation. It was a beautiful day and a little warm. A bunch of Club members were there. Shane Barker even had a really neat painting of some of my fellow space travelers.

So Jeff sits in his nice chair under his umbrella keeping the bright rays from your star off of him. He has a nice, cool soda in one hand. He has his big meteorite wrapped in a cloth so it won't get too hot. What did he do for me? Not a *darn* thing! He left me to bake in your star's light! What a knucklehead!

If you want to know what else happened at this event, well, you're just going to have to ask someone else! I'm tired of typing on this computer. I can't wait until you earthlings develop a computer that can read your mind, just like the one we have back home!

By the way, aliens like powdered sugar donuts!

Pleasant Journeys

## Roswell

Ambassador to the AV Astronomy Club

### *Member Profile of the Month*

#### Dick Hague

1. *What is your earliest memory of an interest in astronomy?* December, 1941, shortly after my 11<sup>th</sup> birthday and my new 'bike' allowed me to travel around town.
2. *What was the first thing you remember really looking up and seeing?* The Moon.
3. *Describe your first telescope? How old were you? Was it a gift or a purchase?* Cardboard tubes from a local carpet store and a "lens kit" (\$5.00) from an advertisement in "Amazing Stories" science fiction paper pulp magazine. I put it together with glue and had high hopes to see space heroes, beautiful maidens and BEMs. The telescope was probably about as good as Galileo's first one. I rested it on the porch rail and looked at the Moon. I found Jupiter and could make out the four large moons. My parents, in spite of their war work and all the problems associated with living in So. Cal. during those intense years, noted my deep interest and excitement and sent off for a real telescope (Criterion 4 inch Newtonian on an equatorial mount). It really worked! I had it for years (my kids remember it well).
4. *When did you join the AVAC? What events have you enjoyed the most?* I joined in 2002 or 2003. I enjoy the Outreach, club meetings and annual picnic.
5. *Do you have any formal training in Physics or Astronomy?* I have degrees in physical science.
6. *Are you a "Star Hopper" or a "GOTOer"? Which do you think is best?* I'm a GOTOer! For me it is the best.
7. *Did you go through a binocular phase?* I'm still in a binocular phase.
8. *What kind of telescope do you use most often?* ETX-125
9. *How many telescopes do you have?* Three
10. *What would be your dream scope?* The ETX-125



11. *What is your favorite viewing site and with whom do you like to view?* I observe from Home because it is dark as h—I, and Prime Desert Woodlands. I like to view with any club members.
12. *What is the most beautiful thing you have ever seen through a telescope?* M22, M13; Comets Hale-Bopp, Holmes, and Hyakutake, and Saturn, etc. How does one choose?
13. *What do you enjoy looking at the most? Messier objects, galaxies, double stars, etc?* Messier objects and planets.
14. *Have you ever done any astrophotography or CCD imaging? What kind of equipment did you use?* Some with film and a Minolta SLR. This was years ago. I have a Meade Imager but as of now it has the best of me.
15. *Beyond basic equipment, what three things do you always take with you when observing?* Star chart, binoculars, red light (and warm clothes).
16. *Do you think life, as we know it, is out there somewhere?* Without question!
17. *Of what practical use is astronomy?* The human spirit needs frontiers. We need to look outward, to explore. The technical fallout from the space program and the pursuit of pure astronomy is immense. My first impulse with this question was, "Who cares? It's beautiful all by itself!"
18. *If you only had one night left on Earth to observe the night sky, what object would you like to see again or for the first time?* How can anyone answer this one?
- To fly through space,  
From star to star.  
What wonders to see  
In travel so far
- The power and majesty  
Of all those suns,  
Giving life to their own  
That with vitality runs
- How glorious to fathom  
All the forms nature's made,  
That's why I must journey  
If the fare can be paid
- Give me the breath  
For this grand risk.  
If there's life after death  
Let it be this...
- To travel the stars  
To touch and to know  
What's waiting out there,  
...With triumph I'd go
19. *Complete this sentence: "Every amateur astronomer should..."* "...share his (her) excitement with as many people he (she) can get to stand still for it. I've noted with friends and neighbors that they really like looking through a scope and seem to enjoy my stories and facts I tell about the night sky and space. It appears to be a natural human proclivity."

## *News and Headlines*

### **Martian Dirt Friendly to Life**

Off-world greenhouses might be feasible. That's the word from the Phoenix lander mission scientists, who announced at a teleconference on Thursday that soil analyses have revealed a macédoine of minerals plants on Earth need to survive.

<http://www.skyandtelescope.com/news/22064474.html>

### **Mars and Saturn Get Together**

Two bright planets will approach each other in our evening sky during the next couple of weeks. They are Mars, which was so brilliant during the Christmas season of 2007 and has since diminished dramatically in brightness, and Saturn, which has adorned our evening sky since midwinter.

<http://www.space.com/spacewatch/080627-ns-mars-saturn.html>

### **Gemini sees twin galaxies in embrace**

In what appears to be a masterful illusion, astronomers at Gemini Observatory have imaged two nearly identical spiral galaxies in Virgo, 90 million light-years distant, in the early stages of a gentle gravitational embrace.

<http://www.astronomy.com/asy/default.aspx?c=a&id=7108>

### **Massive asteroid impact on Mars**

The dramatic differences between the northern and southern hemispheres of Mars have puzzled scientists for 30 years. One of the proposed explanations — a massive asteroid impact — now has strong support from computer simulations carried out by two groups of researchers.

<http://www.astronomy.com/asy/default.aspx?c=a&id=7103>

### **NASA Plans to Visit the Sun**

For more than 400 years, astronomers have studied the sun from afar. Now NASA has decided to go there. "We are going to visit a living, breathing star for the first time," says program scientist Lika Guhathakurta of NASA Headquarters. "This is an unexplored region of the solar system and the possibilities for discovery are off the charts."

[http://science.nasa.gov/headlines/y2008/10jun\\_solarprobe.htm](http://science.nasa.gov/headlines/y2008/10jun_solarprobe.htm)

### **Cassini Primary Mission Complete; Ready to Tackle New Assignments**

Saturn's gorgeous rings. Geysers on Enceladus. Methane lakes on Titan. These are just a few of the images that stand out from the Cassini mission's four year survey of Saturn and its remarkable system of rings and moons. On June 30 the Cassini spacecraft completes its primary mission at the ringed planet, and now will embark on an extended two year mission, with hopes of studying more closely the most intriguing targets, Titan and Enceladus and the interaction between Saturn's icy moons and rings.

<http://www.universetoday.com/2008/06/27/cassini-primary-mission-complete-ready-to-tackle-new-assignments/>

**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](http://www.telescopes.net)

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

## *Al's Vacuum and Sewing*

## WOODLAND HILLS Camera



Would you allow your child to set up next to this man? In the Dark? Matt Leone RTMC2008