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# 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, Inc., is a 501(c)(3) Non-Profit Corporation. 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 Darksky Association*



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## Up-Coming Events

**August 7:** Last Quarter Moon

**August 13:** Monthly Club Meeting\*

**August 14:** Perseid Meteor shower

**August 14:** Star Party, Mt. Pinos

**August 15:** New Moon

**August 23:** First Quarter Moon

**August 29:** Full Moon

\* Monthly meetings are 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 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

## President's Report

*Terry Babineaux*

I would like to take this opportunity to thank those of you who called with offers of help or to express concern for those of us in the path of the recent Pine fire. It is a stressful, not to mention surreal, experience to be awakened in the wee hours of the morning by a phalanx of police and firemen with flashing lights and bullhorns rudely announcing that the neighborhood must be evacuated. Knowing that friends wait with helping hands made this experience that much easier.

From the reports I've received, the organizers did a superb job with this year's picnic and I am very sorry that I had to miss it (hats off to Tom Koonce and Tina Elderidge). However, that Saturday looked like Armageddon out here with the sun blocked by gigantic plumes to the northwest from the Pine fire and from the south by yet another fire that started that day in Santa Clarita. Most of us spent the day switching TV channels and scouring the internet for news reports while praying that the wind didn't change direction and sweep the fire towards our homes.

The old saying is true: for every silver lining, there is indeed a dark side. The Milky Way shines brightly here most every night during the summer. The neighborhood has returned to its normal quiet and there is little crime (though I must preface that by noting that the Pine fire is now believed to have been started by arson). Since living in this area, the Pine fire has proven itself the most threatening of the two dozen or so fires that have occurred here over the years. The burnt-out areas resemble moonscapes, depressing to drive past after the fire has gone. The skeletal remains of homes destroyed by the fire that ravaged San Francisquito Canyon two summers ago are especially heartbreaking.

Once the collective sigh of relief has issued, one tends to become reflective. I am no exception. I count a number of superb friends in the Antelope Valley Astronomy Club. To you, a heartfelt "thank you!"

### Vice President's Report

*Doug Drake*

This month brings a meteor shower for us to observe, the Perseid, on the morning of August 12th. To observe meteor showers at their best, you must observe in the wee morning hours between 2:00 and 4:00 a.m. A meteor shower is the result of latent debris, particles and gas left by a comet's pathway that we, earth, fly through. This month earth crosses through the comet Swift-Tuttle's pathway. The particles we see are called meteors and are as small as grains of sand to as large as walnuts, but most are very small.

Hint: Get your star wheel out and find the Perseus constellation location, just below Cassiopeia. Now you will know which direction Perseus is and where the meteor shower will come from. On this morning, I hope I'm home from Ft. Worth so Wendylee and I can bundle up and lie back in a chaise lounge to gaze up at the night sky and observe the Perseids. I think we're going to drink a lot of hot cocoa to stay warm, too. I hope ya'll will be looking forward to this exciting meteor shower too.

By the way, in case you didn't get a view of comet Neat (C/2001 Q4 NEAT) a few months ago, here is a picture taken by the WIYN 0.9-meter telescope at Kitt Peak National Observatory near Tucson, Ariz., on May 7th, 2004.

May your skies be clear and visibility unlimited.



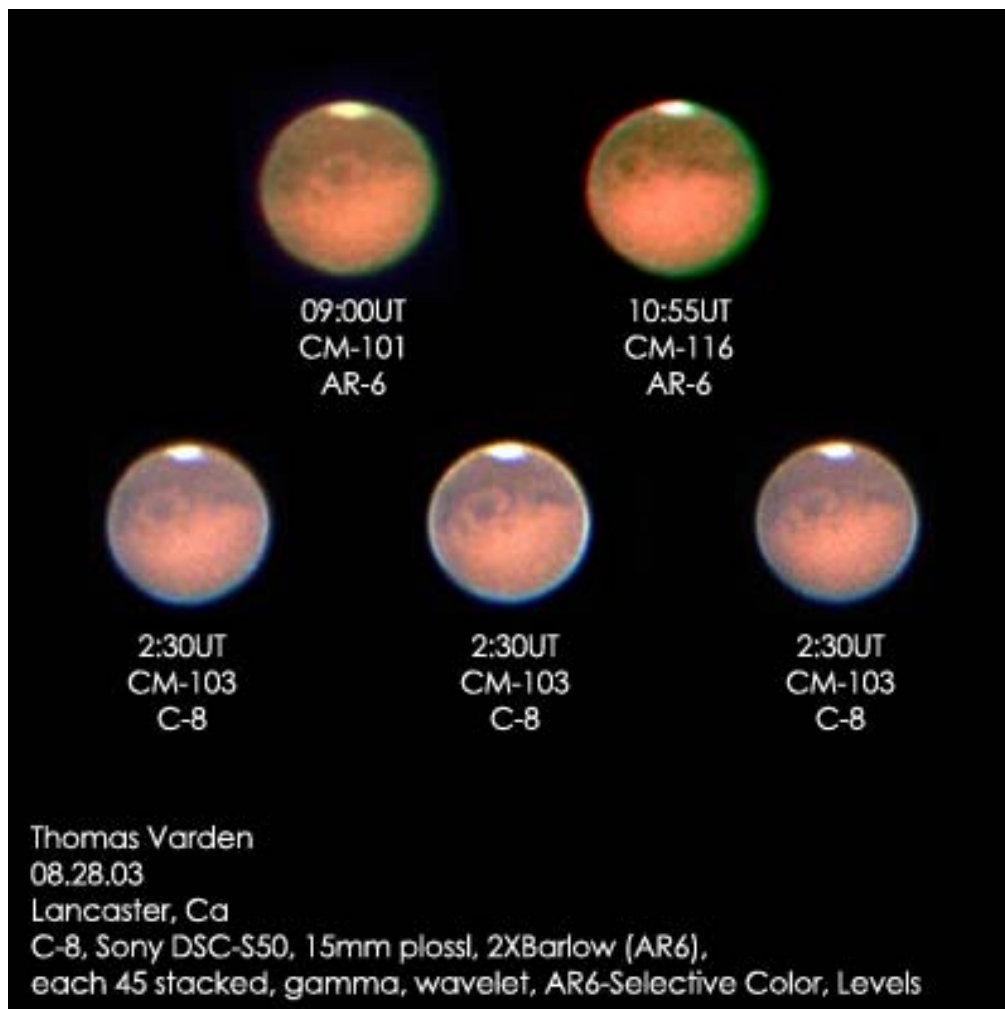
**Dir. of Community Development***Michael Roberson*

I would like to thank everyone who came out to the club's annual picnic. This year's picnic was a success and a lot of fun for all in attendance. Tom Koonce tells us that we had many more items to raffle off and more fun for the silent auction.

Also in the month of July was the club's first outing to a JetHawks game. This was an opportunity for our club to come out and relax while enjoying America's favorite pastime. Hopefully, we will make this an annual event.

I am always looking for more events that our club can be a part of, so if you know of any events which we should attend, please let me know. See me at any of our club meetings and share your ideas with me. If you have any ideas about the club, something you want us to address- a favorite speaker, or just about anything- please contact any member of the Executive Board.

This is your club, so please get involved and make a difference. It is a pleasure to work for you.

**Astrophoto of the Month:**

by Tom Varden

Submit your "Astrophoto of the Month" to the following address by the 20<sup>th</sup> of each month:  
[newsletter@avastronomyclub.org](mailto:newsletter@avastronomyclub.org)

## Doug Drake's *Planet Watch*



### Venus

Venus is the brightest splendor in the eastern morning sky. She dominates the morning sky with such brilliance that you must use an ND filter to observe her half-moon shape. On August 17th, Venus is at its greatest elongation from the Sun.

### Saturn

Saturn rises higher and higher in the eastern morning sky and on August 31st Saturn will be about two degrees, upper left, from Venus. Look for this splendid sight, but only if you're up before sunrise. The Cassini spacecraft now orbits Saturn and will do so for several years, conducting reconnaissance and observations of the planet, the rings and the moons. What will the Cassini spacecraft mission find in this exciting exploration? What of Titan, the largest moon, with liquid bodies of hydrocarbons (oil and gas come from hydrocarbons) and what of the methane ice clouds? Are there any lakes on the surface? We will perhaps find the clues and answers, Mr. Watson, in about four months when the Cassini spacecraft passes Titan once again.

### Neptune

Neptune is at opposition on August 5th; that is, Neptune is closest to Earth on this date and about 2.7 billion miles from Earth. Look for a small blue disk around one-half degree north from theta Capricornus.

### Uranus

Uranus is at opposition on August 27th, about 1.77 billion miles from earth. Look for a very small blue-green disk about one-half degree north from sigma Aquarius. Hint: Look for Neptune and Uranus when the Moon is not up and around midnight for the best observation. Both Neptune and Uranus will be highest and to the south at their opposition time.

### Moon

The new moon occurs on the weekend of August 14th and affords a dark sky all night.



## *Member*

of  
the

## *Month*

This month's featured member is Tom Varden. Here is an example of his out-of-this-world love for astronomy. For more of his interview, go to [www.avastronomyclub.org](http://www.avastronomyclub.org):

**Q:** What is your earliest memory of an interest in astronomy?

**A:** Hearing about the moon landing from my family and stumbling across an Apollo II record set with recordings from the missions.

**Q:** Beyond basic equipment, what three things do you always take with you when observing?

**A:** Heather (my girlfriend), my digital camera and my green laser pointer.

**Q:** Do you think life, as we know it, is out there somewhere?

**A:** Yes. Do the math.

**Q:** What was the funniest incident that ever happened while you were observing?

**A:** A bat or a very large insect dive-bombed me one night at Mt. Pinos. I ran away flailing my arms about like a maniac to the sound of Heather laughing at me. Whatever it was, it had mass.

**\* \* FOR SALE \* \***

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## Waiting for Cassini's "Safe Arrival" Call

by Diane K. Fisher

The evening of June 30, 2004, was nail biting time at Cassini Mission Control. After a seven-year journey that included gravity-assist flybys of Venus, Earth, and Jupiter, Cassini had finally arrived at Saturn. A 96-minute burn of its main engine would slow it down enough to be captured into orbit by Saturn's powerful gravitational field. Too short of a burn and Cassini would keep going toward the outer reaches of the solar system. Too long of a burn and the orbit would be too close and fuel reserves would be exhausted.

According to Dave Doody, a Cassini Mission Controller at the Jet Propulsion Laboratory (JPL), there was a good chance that the earth-bound Cassini crew would have to wait hours to learn whether or not the burn was successful. Of the three spacecraft-tracking Deep Space Network (DSN) complexes around the globe, the complex in Canberra, Australia, was in line to receive Cassini's signal shortly after the beginning of the burn. However, winds of up to 90 kilometers per hour had been forecast. In such winds, the DSN's huge dish antennas must be locked into position pointed straight up and cannot be used to track a tiny spacecraft a billion miles away as Earth turns on its axis. "The winds never came," notes Doody.

The DSN complex at Goldstone, California, was tracking the carrier signal from Cassini's low-gain antenna (LGA) when the telltale Doppler shift in the LGA signal was seen, indicating the sudden deceleration of the spacecraft from the successful ignition of the main engine. Soon thereafter, however, Goldstone rotated out of range and Canberra took the watch.

After completion of the burn, Cassini was programmed to make a 20-second "call home" using its high-gain antenna (HGA). Although this HGA signal would contain detailed data on the health of the spacecraft, mission controllers would consider it a bonus if any of that data were actually captured. Mostly, they just wanted to see the increase in signal strength to show that the HGA was pointed toward earth and to be able to determine the spacecraft's speed from the Doppler data. If possible, they also wanted to try to lock onto the signal with DSN's closed-loop receiver, a necessary step for extracting engineering data.

Normally it takes around one minute to establish a lock on the HGA signal once a DSN station rotates into range. Having only 20 seconds' worth of signal to work with, the DSN not only established a lock within just a few seconds, but extracted a considerable amount of telemetry during the remaining seconds.

"The DSN people bent over backwards to get a lock on that telemetry signal. And they weren't just depending on the technology. They really know how to get flawless performance out of it. They were awesome," remarks Doody.

Find out more about the DSN from JPL's popular training document for mission controllers, Basics of Space Flight ([www.jpl.nasa.gov/basics](http://www.jpl.nasa.gov/basics)) and the DSN website at <http://deepspace.jpl.nasa.gov/dsn/>. For details of the Cassini Saturn orbit insertion, see [www.jpl.nasa.gov/basics/soi](http://www.jpl.nasa.gov/basics/soi). Kids can check out The Space Place at [http://spaceplace.nasa.gov/en/kids/dsn\\_fact1.shtml](http://spaceplace.nasa.gov/en/kids/dsn_fact1.shtml) to learn about the amazing ability of the DSN antennas to detect the tiniest spacecraft signals.

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



The *Telguide*.

Our own Steve Trotta has invented the Telguide to aid you in your galactic hunts. To purchase a Telguide, [click here](#).

## ***Did you know?***      ?

Cassini will not begin studying Saturn's polar regions until August of 2007. You can follow the progress of the Cassini mission at <http://saturn.jpl.nasa.gov>

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### ***Astronomy Links on the Web***

<http://www.astropaws.com>

(Terry Babineaux's astrophotos)

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

(Steve Trotta's website)

<http://www.noexitrecords.com/zerobox/astro.htm>

(Tom Varden's website)

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

(Tom Koonce's website)

<http://saturn.jpl.nasa.gov/multimedia/images/latest/index.cfm>

(the latest Saturn pics from Cassini)

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

(The Astronomical League site)

<http://antwrp.gsfc.nasa.gov/apod/archivepix.html>

(Pic of the Day)

[www.avastronomyclub.org/](http://www.avastronomyclub.org/)

(us desert astronomy folks)

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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 Babineaux (661) 724-1248 [president@avastronomyclub.org](mailto:president@avastronomyclub.org)

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**Secretary:** Larry Ochsner (661) 274-9006 [secretary@avastronomyclub.org](mailto:secretary@avastronomyclub.org)

**Treasurer:** Tom Koonce (661) 943-8200 [treasurer@avastronomyclub.org](mailto:treasurer@avastronomyclub.org)

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**Newsletter Editor:**

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**Club Librarian:**

Herb Boyd (661) 274-8418 [library@avastronomyclub.org](mailto:library@avastronomyclub.org)

**Astronomical League & Club Historian:**

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**Webmaster of Club Site:**

Steve Trotta (661) 269-5428 [webmaster@avastronomyclub.org](mailto:webmaster@avastronomyclub.org)

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## AVAC Product Review

by Terry Pedroza

### The “Pronto” by TeleVue

From the night of first light with my friend, Doug Drake, until the present I have the same feeling about my Televue Pronto. This is the best low cost refractor that I have ever used. With E.D. glass and the best craftsmanship that anyone could expect, this is one first class telescope. Only problem...Televue has stopped making them.

From that first night with Doug, I have treasured every outing with the Pronto. It has given me the most satisfaction of all my scopes. You may say the C-8 gives better views or the Dob is a light bucket, but no scope can be set up and viewed through as quickly as the Pronto.

The Pronto is a 70mm Refractor with a 480 focal length, for a focal ratio of 6.8. It gives great wide field views of our night sky with a maximum field of 5.5 degrees with a 55 mm eyepiece. It has E.D. glass for the optics that gives little or no false color, and what little color it does give actually helps in focusing the scope. At 6 pounds and just 17 inches long, it makes a great travel scope. This scope is useable from 9X through 200X plus.

The craftsmanship is first class all the way. The focuser is feather light and needs to have some tension added with the adjustment so that it will not creep from vibrations; that’s how smooth it is. The dew shield is part of the scope and can be slipped up when needed or left down on the tube when not needed. It also has a screw-on dust shield as a standard feature. I have nothing but the best to say about this scope and hope that you come view through it at the next star party.

### Our Sponsors

**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.

**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.

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

**Thank you to our sponsors for their generous support!**

*Club Picnic photos*



Mm-mm, the food was good!



The cook and the last burger.



The Antelope Valley Astronomy Grocery Store.



Chuck Tedeschi and Sue Critchfield wave off the thought of even more food.



Kellee Koonce and Dorene Poole enjoy the annual picnic with watermelon.



Setting up for a night of observing, hopefully.



All set up and waiting for darkness to arrive, and the clouds to disappear.



Kate Trotta keeps a watchful eye on the kids skipping stones.