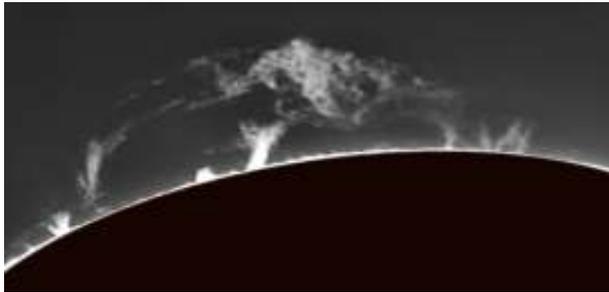


Vandenberg Amateur Astronomical Society
presents
The Sidereal Times



Solar prominence. Courtesy Vahan Yeterian See page 5.

Meeting News:

Meeting started at 7:00PM at the Manzanita School. Talked about VAAS history, battery and regulator Replacement at the observatory. Discussed the Solar eclipse of 20 May and Venus transit for 5 June. Recruited Zaca Mesa Winery Display members.

Special Note:

Eclipse photos from Monica, Steve Riegel and Vahan Yeterian are exhibited on pages 6 & 7.



Lunar Calendar:

Full Moon: 4 June.
Last quarter: 11 June.
New Moon: 19 June.
First quarter 27 June

Presidents Message

The Observatory has been restored to full functionality, in large part due to the combination of the Endeavour Centers getting batteries and voltage regulator and VAAS personnel providing the labor and technical assistance. We will need to conduct lessons on operating the observatory/scope so that the membership makes good use of the facility. In the next several months we will try to have focus topics for 3rd quarter star parties. A few topics that come to mind are How to set up your telescope for beginners, and how to use a CCD Camera with your telescope and how to safely view the Sun.

July and August each year we take a break from membership meetings and News letter. We will still continue to hold star party events. Please take notice of the star party calendar and e-mail reminder notices during July and August. We will continue membership meetings and News letters in September.

There will be a significant astronomical event on June 5th with the transit of Venus across the Sun. Those with solar filters and solar telescopes will be treated to the transit starting around 3:06 PM local time. Those without such equipment might try to project the image onto heavy construction paper or cardboard screen to view the transit. Be very careful not to look directly at the Sun. The next similar event won't be until the year 2117. Let's hope for clear skies at least for that afternoon.

A few of us gathered around the observatory the afternoon of the May 20th to watch the partial eclipse of the Sun starting around 4:00PM. Monica & Craig LeClair, Steve Kliever and his wife and some friends and acquaintances and Dave Covey were in attendance. The marine layer decided not to join us. Steve and Monica have Coronado PST's and some dark filters for folks to use. Dave Covey used his 8" Meade SCT with a solar filter and 2 " 35 mm eyepiece for viewing. Monica and Craig took pictures of the event by coupling the CCD Camera to the Coronado PST. All had a good time and departed about 7:00 PM. (See page 6 & 7 for images).

Clear Skies Dave

Scheduled Events

June 4th

Partial Lunar Eclipse. The eclipse will be visible throughout most of Asia, Australia, the Pacific Ocean and the Americas.

June 5th

Tommie Kunst Junior High School in Santa Maria. Moksha Badarayan has been a long time member of VAAS and is now a Teacher at the Junior High. She has requested help with her 3 science classes. After some discussion Jana, Vince and Vahan volunteered to support a class room or solar observation at the School. This will be the last outreach event for now

June 5 and 6

Transit of Venus across the Sun. This extremely rare event will be entirely visible throughout most of Western Asia and Eastern Australia and Alaska. A partial transit can be seen in progress at sunrise throughout Europe, Western Asia and Eastern Africa. A partial transit can be seen in progress at sunset throughout most of North America, Central America and Western South America. The next Transit will not take place until the year 2117.

Thursday 14 June

Lompoc Library showing "The Dark City" film. VAAS is a co-sponsor of this event and has been requested to bring telescopes for the public to view the sky after the program ends at 8:30 PM. Note: this is not a very dark spot with all the lights surrounding the library parking lot.

June 20th

June Solstice occurs at 23:09 UTC. The North Pole of the Earth will be tilted toward the Sun which will have reached its Northernmost position in the sky and will be directly over the Tropic of Cancer at 23:44 degrees North Latitude. This is the first day of Summer in the Northern hemisphere and the first day of Winter in the Southern hemisphere.

Special Topics

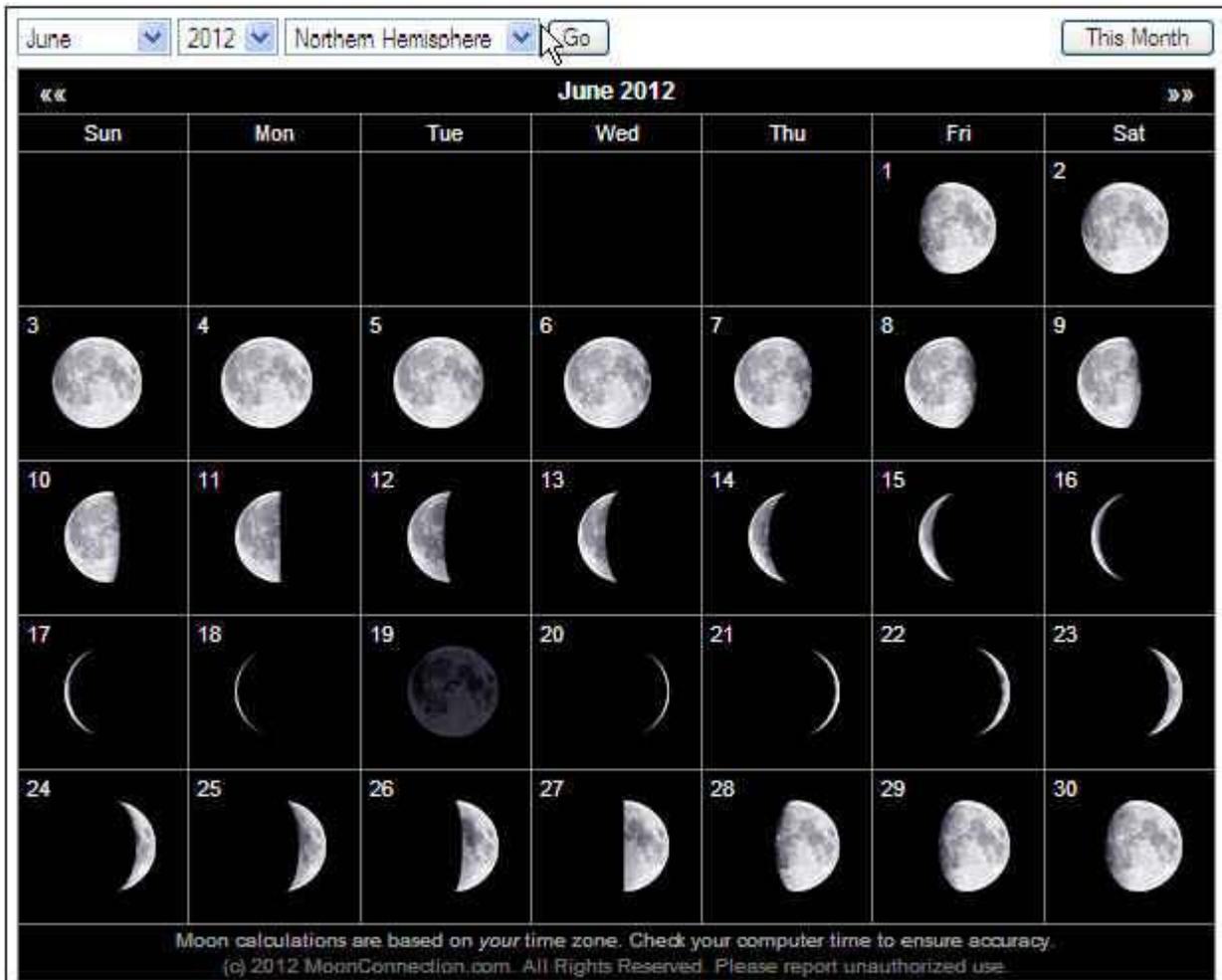
On Saturday May 26th Vahan, Jana and Dave gathered at the Zaca Mesa Winery with telescopes in support of the winery's "Star Gazing and Syrah Lovers" event at about 7:00 PM. Vahan brought his Laptop and CCD Cameras. Jana brought her 4 inch Refractor and Dave brought his 8 inch Meade Schmidt Cassegrain Telescope (SCT). The Event started at 8:00 P and lasted until 10:00 PM. There were about 40 guests and 4 Winery employees that night. The viewing was difficult due to mostly cloudy conditions all night. First we couldn't really align our polar scopes to true North because of the clouds. Then almost all of the Guide/Alignment stars were hidden by the clouds. And Finally the planets and the Moon were playing hide-and-seek with us throughout the night. We mostly stuck with the Moon since it was bright and generally visible through the clouds. Most of the guests were pleased with view the Moon and understood that we were very limited by the cloudy conditions. One other factor that made things a bit uncomfortable was there was a cold wind blowing. Just a few mph but it put the freeze on you if you were not well protected. All-in-all we had fun interfacing with the guests and helping each other out with our equipment.

On May 19th Edmund Burke and Vahan installed a new regulator in the Observatory power system. The new unit is more robust and should give good service. Cleaned out the Battery and Inverter compartments. The old regulator failure mode was it did not recharge the batteries when they were under specification. A complete check out of the system was performed and all appears to be operational. A tech manual and a spare regulator are stored in the observatory file cabinet.

New Regulator installation.



June Moon



Moon Phase:

4 June full, 11 June last $\frac{1}{4}$, 19 June New, 27 June First $\frac{1}{4}$

Moon Folklore

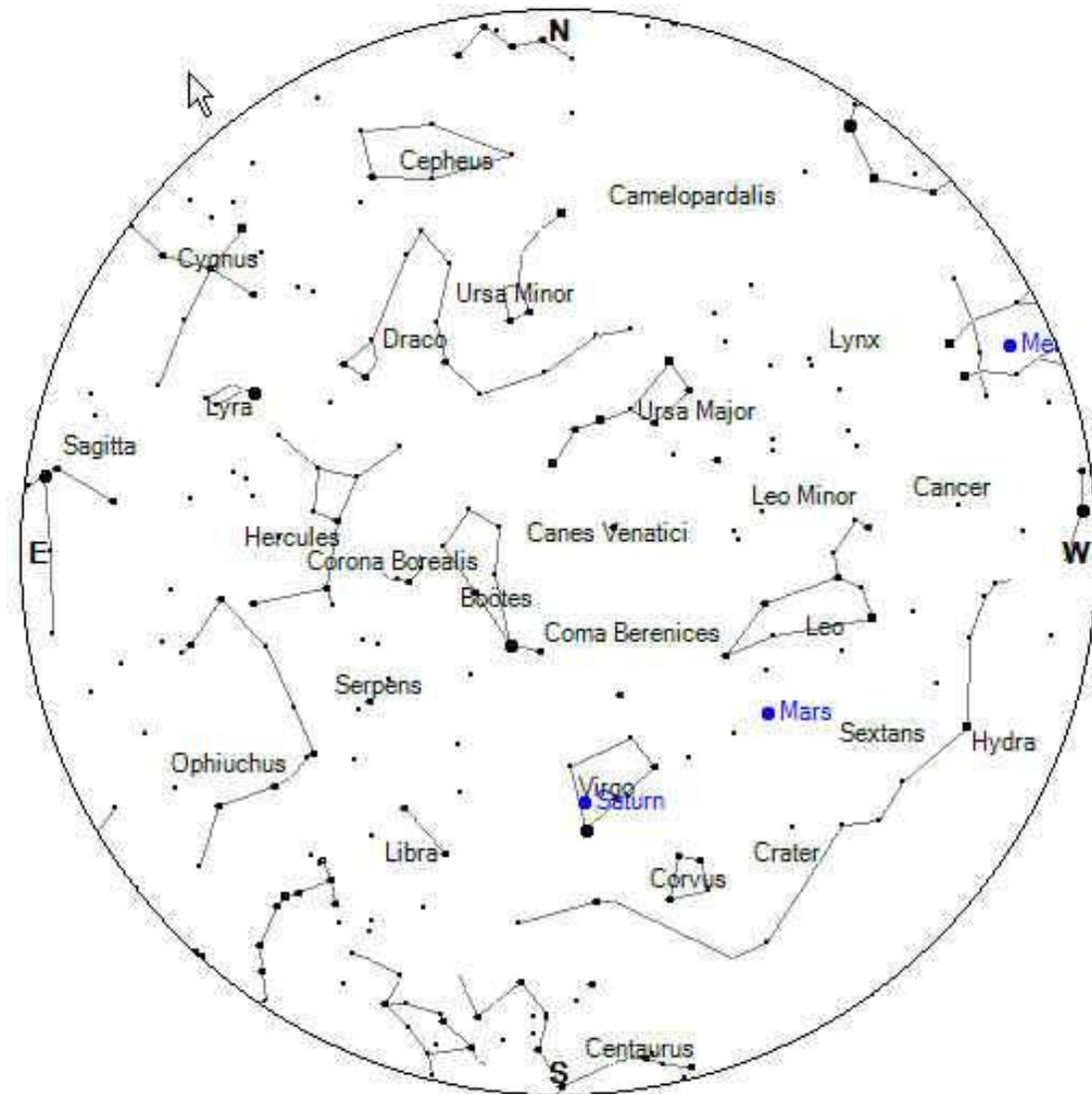
The night of the full Moon is believed to be a good time for Divination and Scrying.

Two new moons in any one month were said to predict a month's bad weather.

Focal reducers An auxiliary lens that reduces a telescopes effective focal length allowing images to be taken much faster and also gives a wider field of view. Some focal reducers may be used for visual observation but most often they are used for photographic work with CCD or film cameras. Example: 8 inch F#10 SCT focal length is 80 inches, A 6.3 focal reducer makes the SCT an F#6.3 or a focal length of 50.4 inches, (wider field brighter image).

June Sky

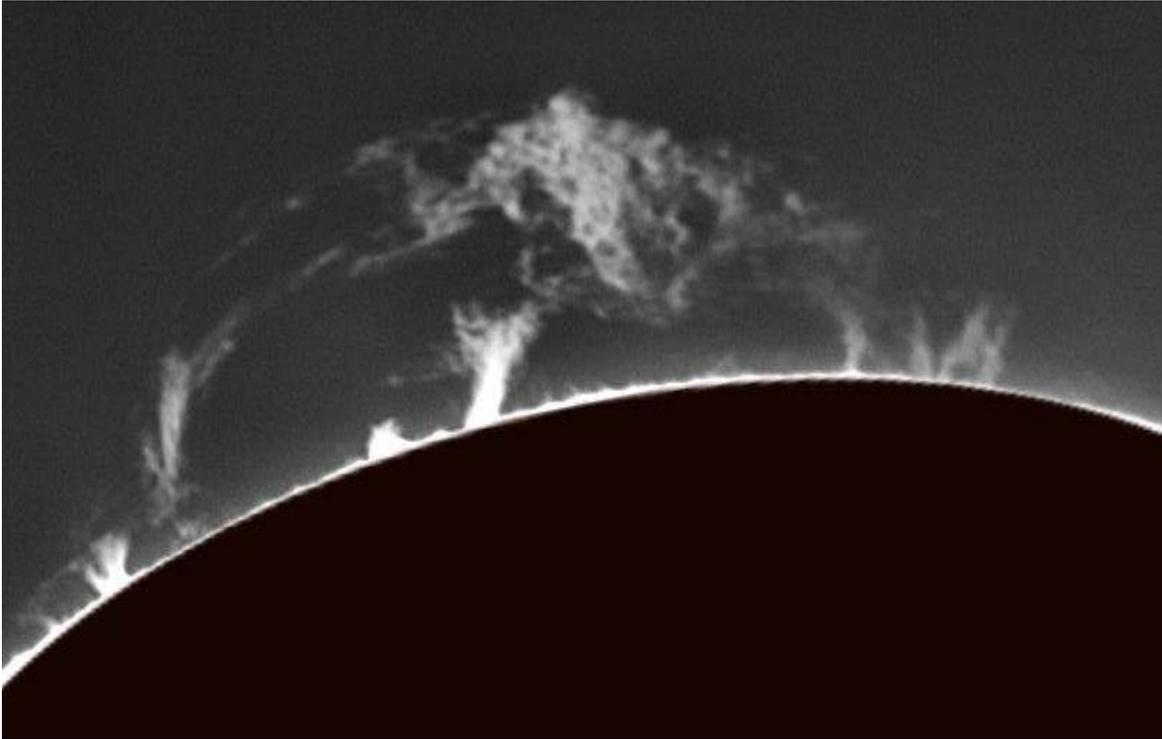
Objects of interest: Mars, Saturn, M13, M27, M57.



Date/Time (Local Time)

Year:	2012	Month:	6	Day:	15	Hour:	21	Minute:	0
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Photo Courtesy Vahan Yeterian



A massive solar prominence erupted during January. Prominences extend outward from the Sun's surface and are often loop shaped. They are anchored to the Sun's surface in the photosphere and extend outward into the Sun's Corona. They are held above the surface by strong magnetic fields. Prominences are cooler plasma (ionized gasses) than the Coronal plasma. Sometimes a prominence will break apart and become a Coronal Mass Ejection (CME). CME's release huge amounts of electromagnetic radiation into space. The ejected material is a plasma consisting of high energy particles of electrons and protons and other materials. When directed toward Earth they can cause power outages satellite malfunctions and geomagnetic storms. Image capture was accomplished with a Coronado 40mm PST and Image Source DMK31 CCD camera. 450 out of 1000 frames were processed using RegiStax image processing software.

Food for thought

Earthshine: Light reflected from the Earth and its atmosphere onto the dark part of the Moon when it is not full. Earthshine explains why the full disk of the Moon remains dimly visible even when only part of it is illuminated by Sunlight.

Night-Sky Light: The faint diffuse glow of the night sky. It comes from 4 main sources: airglow, diffuse galactic light, Zodiacal light, and the light from these sources scattered by the troposphere.

After Image: An image retained by the brain and seen even after looking away from the object. The color of the after image is the complement of that of the object viewed. TV and motion pictures make use of this phenomenon.

For What it's Worth

The smallest resolvable lunar detail per aperture size of a telescope. Data is based on excellent atmospheric seeing conditions and Dawes limit resolution calculation.

<u>Scope Aperture inches</u>	<u>Resolution Arc Seconds</u>	<u>Kilometers</u>	<u>Miles Statute</u>
3	1.52	5.88	3.65
4	1.14	4.4	2.73
6	0.76	2.93	1.82
8	0.57	2.20	1.36
9	0.51	1.95	1.21
10	0.45	1.74	1.0
11	0.41	1.60	0.91
12	0.38	1.47	0.92
14	0.325	1.25	0.77
16	0.285	1.10	0.68
18	0.25	0.97	0.60
20	0.228	0.88	0.54

Eclipse Photos May 20th

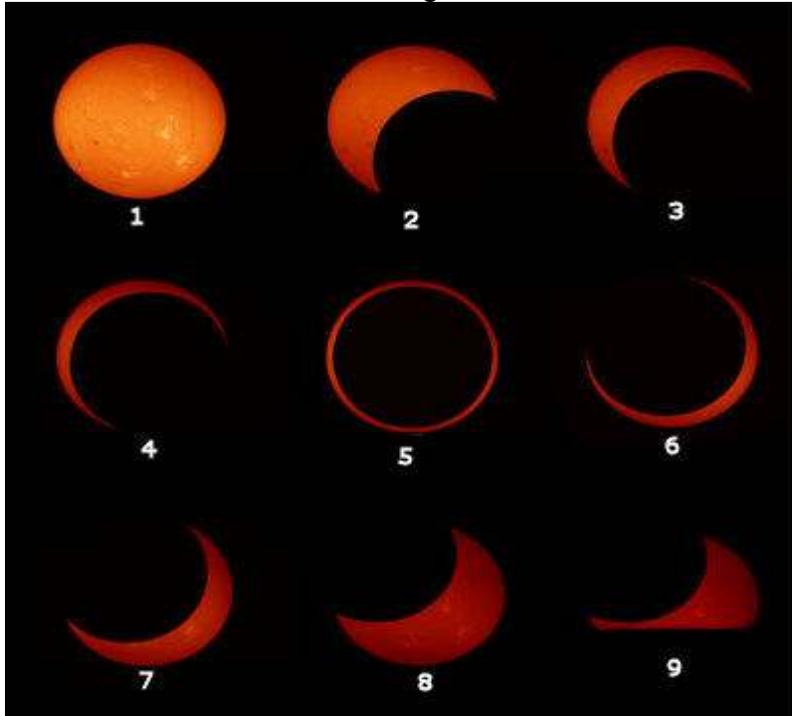
From *Monica LeClair* VAAS Observatory
Patio. Coronado PST Hydrogen Alpha wavelength
Nikon VR Coolpic L5 CCD camera on STD Tripod.



Solar eclipse Mosaic from *Vahan Yeterian*.
8 inch PST equipped with Baader Solar filter White Light images.
Samsung PL100 CCD Camera coupled Afocal to 26 mm ocular.



Annularity Mosaic from *Steve Riegel* in Albuquerque New Mexico.
Lunt 60/50mm double stack and Image Source DMK 31 CCD camera.



Jana Hunking caught the eclipse with her Canon CCD Camera/solar filter while in Reno Nevada.



Star Party at Zaca Mesa Winery 26 May

Dave Covey



Jana Hunking



Vahan Y.



Club Officers



President
Dave Covey



Treasurer
Liberty Partridge



Vice President
Vince Tobin



Newsletter Editor
Vahan Yeterian

*“Astronomy compels the soul to look upward,
and leads us from this world to another”.*
(Plato)



Club Meeting

Club meeting 8 June 2012 7:00 PM
Last meeting till September

Star Parties (as always weather permitting)

(Observatory around 7 pm)

Other Astronomy Club Meetings

Central Coast Astronomical Society

Link to web site...

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

Santa Barbara Astronomical Unit

Link to web site...

[http:// www.sbau.org/#AU_EVENTS_Calendar](http://www.sbau.org/#AU_EVENTS_Calendar)

Night Time Bright Objects (no scope required)

Link to “Heavens Above” web site

[http:// www.heavens-above.com/](http://www.heavens-above.com/)

(Iridium Satellite)

(ISS Visible Pass)

Be sure to set the nearest location from their pull-down menu.

The web site link below will take you to some Great Milky Way interactive images and how It was developed. (Type it in the search box.)

<http://skysurvey.org/>

VAAS web site that includes a discussion group.

Vince Tobin runs the web site and sends reminders to those that have registered into the discussion group.

<http://tech.groups.yahoo.com/group/vaastronomy/>