

Vandenberg Amateur Astronomical Society
presents
The Sidereal Times



Messier 27 (see page 5)

Meeting News:

At the April meeting we discussed Astronomy day Coming Events, star parties and watched a video by Dr. Tyson about the Universe origin. Also possibility of Vince teaching a class on operation of the 14 inch in the observatory.

**Reminder: VAAS meeting May 9th at 7:00 PM
Manzanita school, Hope to see you there.**



Lunar Calendar:

New Moon 28th

Full Moon 14th

A Little Humor: A Higgs Boson walks into a church and the Priest says, "We don't allow Higgs Bosons in here". The Higgs Boson then replies, "But without me how could you have Mass?"



What?

Presidents Message

We had a good turnout at the 11 April meeting. We discussed the past star party results, future star parties dates/locations and recent/near-term astronomical events. We also discussed supporting an outreach event on Astronomy Day Part 1 on 10 May. On Saturday 10 May we are planning on gathering at the Manzanita Charter School's parking lot for some solar viewing between 2PM to 4PM. Please try to support this outreach if you can, even if you don't have a solar telescope setup. Crowd control and answering questions from those waiting to view thru the scopes will be a great help. A potentially new meteor shower is being predicted to peak on 24 May at about 0700 UT. The 24 of May peak is actually just before midnight on Friday 23 May into early Saturday morning for us. The experts are indicating greater than 50 meteors per hour can be expected during the peak when the apparent radiant in the constellation Camelopardalis (near Ursa Major and Ursa Minor). The meteors from this shower are expected to be bright and slow moving, compared to other meteor showers (40,000 mph versus greater than 80,000 mph). I'd recommend gathering at a dark sky location such as the observatory if the marine layer doesn't blanket the area. For this type of event the most astronomical equipment you'll need is a watch, pencil and note pad to keep track of the number of meteors sighted. You'll also want to stay warm while sitting in a chair (just a hint). I would like to encourage the membership to come out to the star parties even if you don't have scopes. Just bring yourself and binoculars, if you have one. I'm sure the other members with scope will share the view and the Observatory likely will be open. The star party events are meant to be fun, educational and in a friendly atmosphere where members are helping other members.

As always, have fun and clear skies, Dave!

Events

May 3rd Star Party at observatory.

May 5 & 6 The Eta Aquarids Meteor Shower is an above average shower capable of producing up to 60 meteors per hour. In the northern hemisphere the rate can reach 30 meteors per hour. It is produced by dust left behind by Comet Halley. The shower runs annually from April 10th to May 28th. It peaks this year on the night of May 5th and the morning of May 6th. Meteors will radiate from the constellation of Aquarius but can appear anywhere in the sky.

May 10th This is Astronomy Day Part 1. An annual event intended to provide interaction between the general public and various astronomy enthusiasts, groups and individuals. **VAAS is doing a Solar show and tell for the Manzanita school in the parking lot 2:00 PM to 4:00 PM and then at the observatory. Try to attend we can use the help.** Also on May 10th Saturn at Opposition. The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This will be the best time to view and photograph.

May 14th Full Moon occurs at 19:16 UTC.

May 24th Star Party at observatory.

Also May 24th possible meteor storm in the early morning hours on Saturday. The Earth will pass through the debris field left behind by a small Comet known as P/209 LINEAR. Astronomers are predicting that this interaction may result in a brief but intense burst of meteor activity that could range from dozens to hundreds of meteors per hour. Nothing is certain but mathematical models are predicting that this could be the most intense meteor shower in more than a decade.

May 31st Star Party at Figueroa Mountain site 1.5.



VAAS Observing site 1.5 Figueroa Mountain

Star Party and Events

April 5th Star party at the observatory was attended by Dave, Vince and Vahan. Clear night but a bit heavy on dew and very cold Brrrrr. Dave spent the night testing his new camera on his 8 inch SCT. Vince set up his 16 inch Dob and Vahan just enjoyed viewing in both scopes.

April 14th Lunar Eclipse was a bust here in Lompoc. Fog and Marine layer. Vahan and Dave Covey went to the observatory in hopes it would be clear on the mesa but it was the same there. Vahan went home and Dave drove to Buellton in hopes the inland weather would be clear, same poor weather there.



Nuts!

April 19th Star Party at the observatory, Dave and Vahan on site 6:30 PM. Vince and two students arrived 7:45 PM. Dave set up his 8" Celestron SCT. Vince worked the 14" in the observatory and did a show and tell for his students. The weather was clear with some thin high cirrus clouds up until 7:45 PM, then the Marine layer rolled in. From then on it was like playing hide and seek with Jupiter and Mars. About 9:00PM A few stars peeked out from behind the clouds now and then sort of like dangling the carrot just out of reach. It was fun despite the poor seeing conditions. Secured and departed at 10:00 PM.

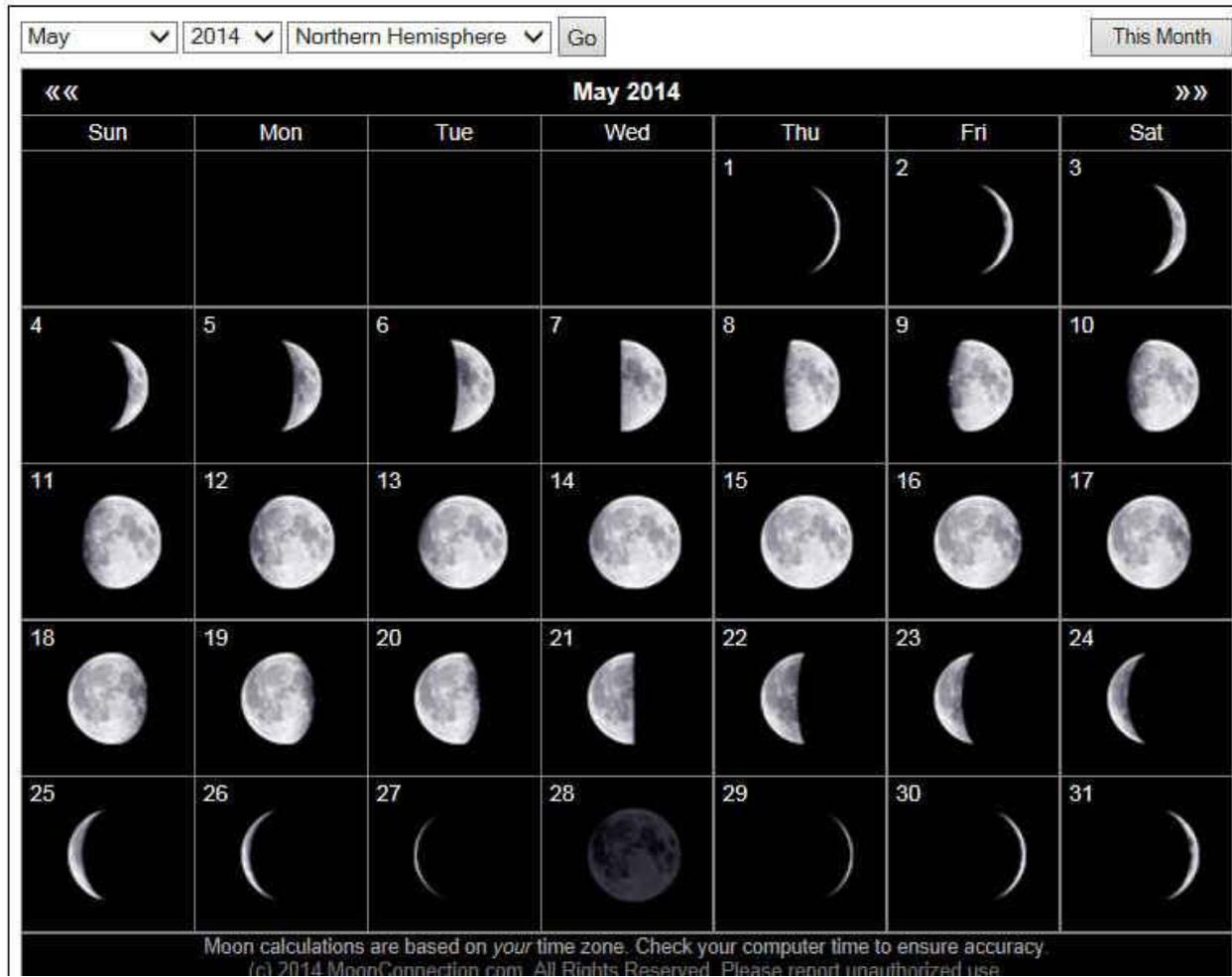
April 26th Star Party at Figueroa Mountain site 1.5. The weather did not cooperate this month. Winds on the mountain were 25 to 30 gusting to 45 mph. This makes the 2nd Figueroa mountain star party that's been scrubbed for weather.



Nuts!



May Moon



Full 14th, New 28th, 1st Quarter 7th, Last Quarter 21st

Moon Folklore

Set eggs to hatch on the Moon's increase, but not if a South wind blows.

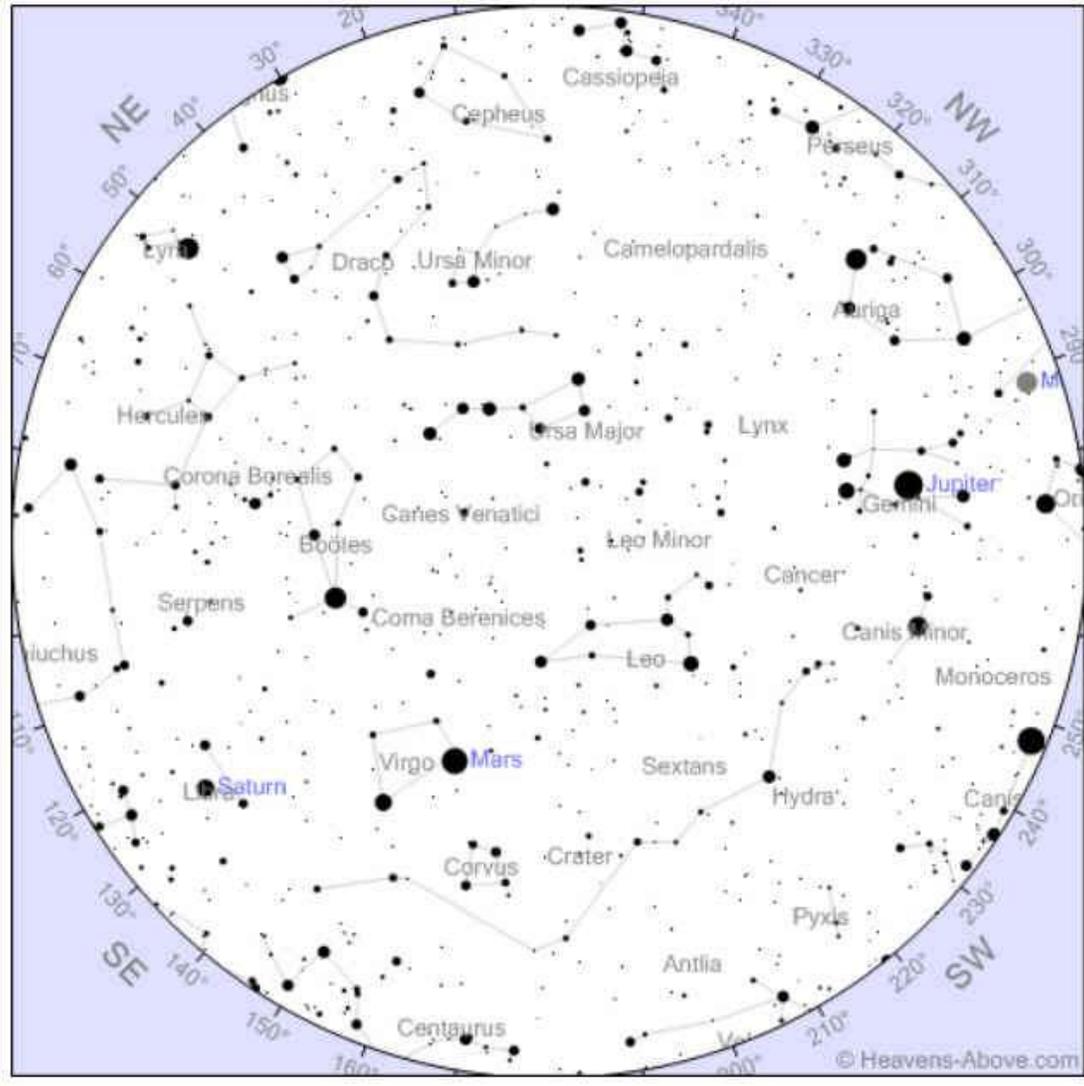
Dig your Horseradish in the full Moon for the best flavor.

Wooden shingles and shakes will lie flatter if cut during the dark of the Moon.



May Sky

Objects of interest, Saturn, Mars, M13, M57



Time

Year	2014	Month	5	Day	2	Hour	6	Minute	00
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Photo Courtesy Vahan Yeterian



Messier 27 NGC 6853 planetary nebula in the constellation of Vulpecula lies at a distance of approximately 1350 light years. Common name is the Dumbbell Nebula. It is shaped like a prolate spheroid viewed from our perspective, and has a central star at magnitude 13.5. The central star is a white dwarf and is estimated to have a radius larger in size than any other known white dwarf. The central star is an extremely hot bluish sub dwarf at a temperature of about 85,000 degrees Kelvin. The luminosity of the gaseous nebula is nearly 100 times that of our Sun. The angular diameter of the luminous body is 6 arc minutes with a faint halo extending out to almost 15 arc minutes. The nebula is approximately 4.5 light years wide and was created about 4500 years ago. Image capture was using a Meade LX-90 12 inch SCT and Meade DSI-2 CCD camera. Twenty images 8 seconds in duration were combined and stacked and partly processed using PSP-9 software. Some guiding errors were encountered.



For what its worth

Crown Glass: Soda-Lime glass used to make lenses and prisms. It has a lower refractive index and less dispersion than Flint glass and is more durable.

Flint Glass: A highly refractive lead containing glass used to make lenses and prisms. Because it absorbs most Ultra Violet light but comparatively little visible light it is also used for telescope lenses. Flint glass typically has a much higher refractive index than does Crown glass and exhibits higher dispersion but is less resistive to damage. Flint glass is used in conjunction with Crown glass to make telescope lenses.

Refractive index: The ratio of the speed of light in a vacuum versus the speed of light through a another medium. It is always greater than one (1) unless in a perfect vacuum as the presence of matter tends to retard the speed of light. When passing through a medium. Long wavelengths refract less than short wavelengths. The refractive index of a medium is dependant on the wavelength of the light passing through it.

Visual Limiting Magnitude

A rough formula for calculating Visual Limiting Magnitude (VLM) of a telescope is:

$$VLM = 7.5 + (5 \times LOG(aperture [cm]))$$

The photographic limiting magnitude is approximately two or more magnitudes fainter than visual limiting magnitude.



VAAS Observatory 3 Club officers, L to R - Treasury Vince, President Dave, Editor Vahan

Club Officers



President
Dave Covey



Vice President
Monica LeClair



Treasurer
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 May 9th 7 PM
Manzanita school
Hope to see you there.....

Star Parties (as always weather permitting)

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.

Dave McNally is the VAAS Web Site Serf/Minion.



M33 by Dave