

Vandenberg Amateur Astronomical Society
presents
The Sidereal Times



M13 image page 5.

Meeting News:

The September meeting started at 7:00PM at the Manzanita School. Discussed picnic plans for 27 Oct. Held nominations for VAAS Officers. Reflected on 6 Oct observatory star party.

Reminder: VAAS meeting 9 **November** see you there.

Crater Clavius 225 Km.



Lunar Calendar:

Last ¼ 7 Nov
New 13 Nov
First ¼ 20 Nov
Full 28 Nov

Presidents Message

By the time most read the newsletter, we will observe the time change BACK to Pacific Standard Time. This means that we will also have longer night viewing sessions. Assuming that the weather cooperates.

Lately going to work on clear early mornings, I have spotted Jupiter and Orion high in the night sky. It will not be too long before they become mid evening spectacular sights. I find this the best viewing season for deep sky objects (longer nights with apparent darker skies).

This is also the time for very local elections or should I say, "Let the annual Railroad begin". We need to elect next year's VAAS officers during the November Meeting.

Speaking for myself I have no official plank or position, except try to have fun while learning about astronomy topics. I suspect the voting will be very short.

VAAS Officer Nominations

President...Dave Covey

Vice President...Vince Tobin

Treasury...Liberty Partridge

News Letter Editor...Vahan Yeterian

Voting will be held at the November 9th meeting.

Dave

Special events

November 3rd Star party at the Observatory 6:00 PM. Bring your scope and set up. Possible Endeavour center class and parents will attend. Number of visitors is not known but there may be quite a few. Weather Permitting.

November 10th, Star party at Figueroa Mountain. Try and be there before dark and be careful driving up the mountain road.

November 13 - Total Solar eclipse. The path of totality Will only be visible in parts of extreme Northern Australia and the Southern Pacific Ocean. A partial eclipse will be visible in Eastern Australia and New Zealand.

November 17 - 18 Leonids Meteor shower. Should produce an average of 40 meteors per hour at their peak. The shower itself has a cyclic peak year every 33 years where hundreds of meteors can be seen each Hour. Also a star party at the VAAS observatory on 17th Nov.

November 27 - Conjunction of Saturn and Venus. The two bright planets will be within 1 degree of each other in the morning sky. Look to the East around Sunrise.

November 28 – Penumbral Lunar eclipse. The eclipse will be visible throughout most of Europe, eastern Africa, Asia, Australia, the Pacific Ocean and North America.

Quite a lot going on this month.....



Special Topics

October 6th

Star party was held at the Observatory. Dave Covey, Vince Tobin and Vahan Yeterian were the attendees. The seeing conditions were very favorable Lots of stars and Milky Way were visible. The Observatory 14 inch scope was in use and Dave had his 8 inch scope set up for photographic work. Vahan worked with Dave on photo objects. (photos on page 8).

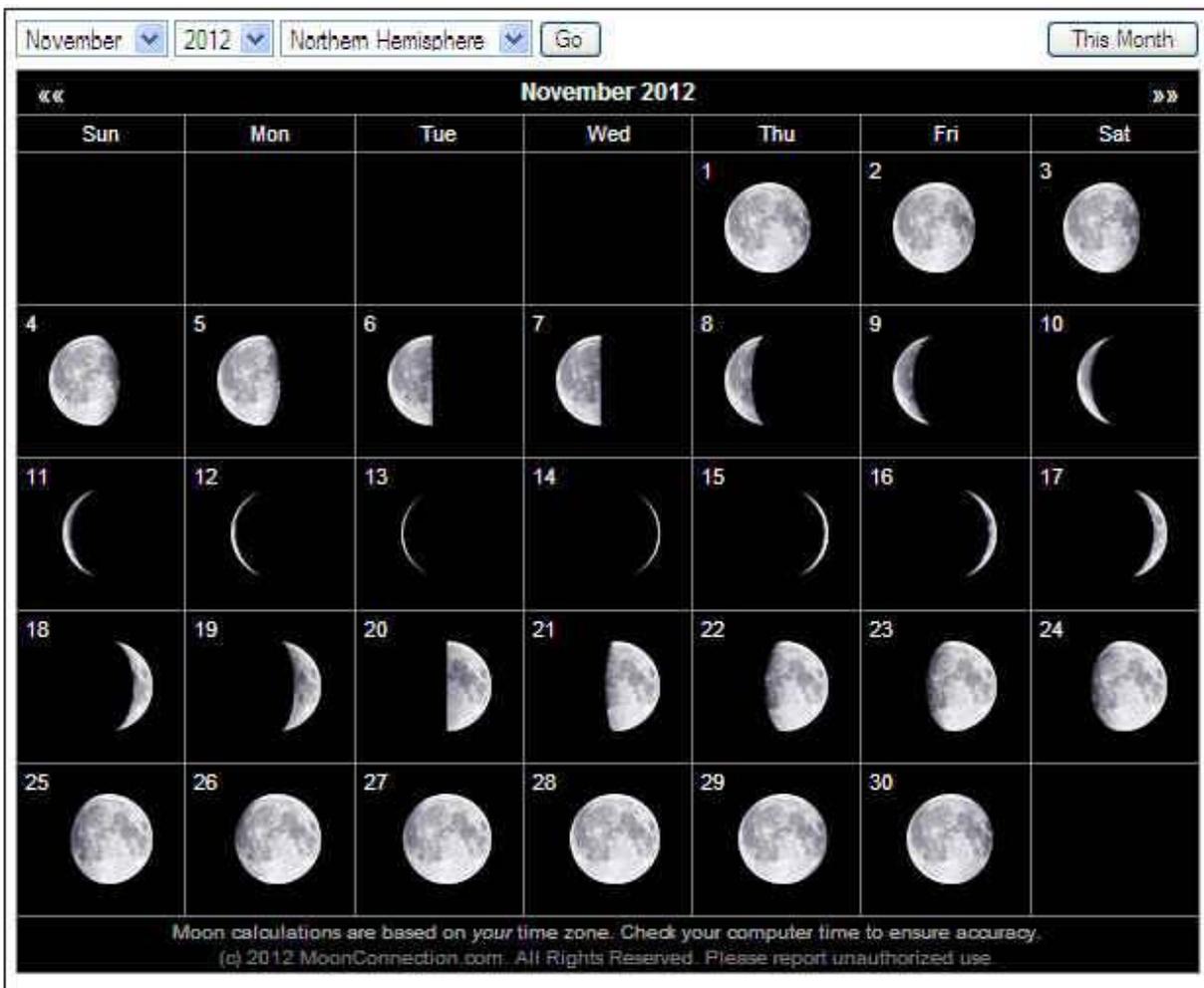
Club Picnic 27 October

The VAAS picnic was held at the VAFB Saddle Club thanks to Craig and Monica LeClair for securing the site. We had a very good turnout, lots of food, lots of non alcoholic drinks, good company and good weather. The Master chef Vahan Yeterian and assistant chef Dave Covey cooked up a storm ranging from Tri-Tip steak, to Chicken and hot dogs. Thanks to all the members who pitched in to provide many delicious servings and help setting up and clean up. It was great to have a fun time together and many stories and ideas were swapped. (Photos on page 7).

It's Just around the Corner.....



November Moon



Moon Phase:

7th Last quarter, 13th New Moon, 20th First Quarter, 28th Full Moon

Moon Folklore

It is unlucky to view the first new moon through glass or through a tree, it is also unlucky to point at the moon.

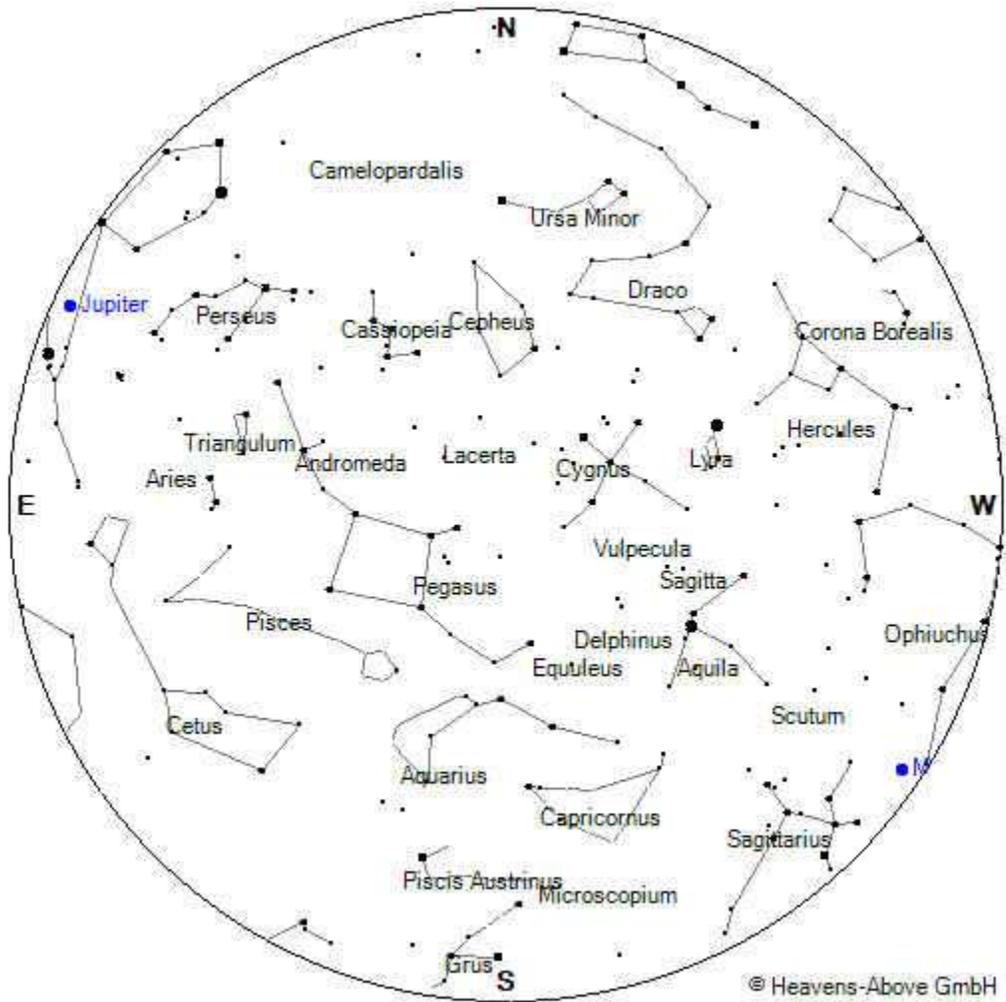
It is bad luck to dig a grave or bury a body during a new moon.

In Roman times, to have a healthy baby, women wore silver crescent moons on their shoes.

According to an old English tradition, when a new wife sees the new moon for the first time after her wedding, she should quickly turn down her bed to ensure a happy marriage.

November Sky

Objects of interest M31, M57, M15, M13, M27, Uranus, Double Cluster



Date/Time (Local Time)

Year: Month: Day: Hour: Minute:

M13 Image courtesy Vahan Yeterian



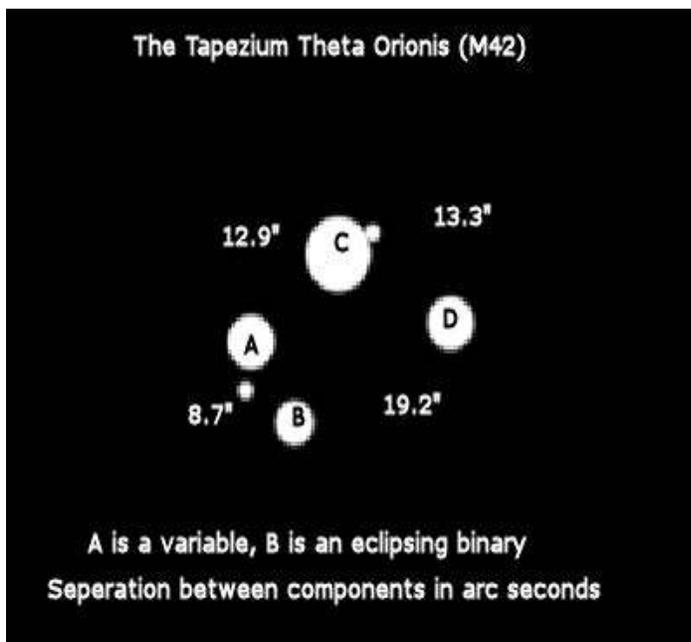
Messier 13 NGC 6205. The Globular cluster in the constellation of Hercules lies at a distance of approximately 25,100 light years. It shines with a total light equivalent to a 6th magnitude star. It has an angular diameter of 23 arc minutes corresponding to a linear diameter of approximately 145 light years. The cluster is estimated to be 24 million years old and have a population of 300,000 stars. In the central portion of the cluster it is estimated that there are one or two stars per cubic light year. All of the stars in the cluster should be the same age, however it appears that during M13's journey around the galaxy it picked up a field star. This young blue star is of spectral class B2 and is tagged Bernard #29. It has been verified by radial velocity measurements that the star belongs to the cluster. The image was photographed using an 8 inch SCT and a Canon 450D (Modified) DSLR camera. Four (4) 60 second raw data exposures were taken at ISO 1600 along with a dark and a bias exposure. These data were then post processed using Images Plus software

For what its worth

What is a Solar Flare?? A flare is defined as a sudden, rapid and intense variation in brightness. A solar flare occurs when magnetic energy that has built up in the solar atmosphere is suddenly released. Radiation is emitted across virtually the entire electromagnetic spectrum, from radio waves at the long wavelength end, through optical emissions to X-rays and gamma rays at the short wavelength end. The energy released is equivalent to millions of 100 megaton hydrogen bombs exploding at the same time! Two scientists R Carrington and R. Hodgson were the first to record a large flare in September of 1859 while observing in white light. As the magnetic energy is being released, particles, including electrons, protons and heavy nuclei are heated and accelerated in the solar atmosphere. The energy released

during a flare is typically on the order of 10^{27} ergs per second. Very large flares can release up to 10^{32} ergs of energy. This energy is 10 million times greater than the energy released from a volcanic explosion. On the other hand, it is less than one-tenth of the total energy emitted by the Sun every second. There are typically three stages to a solar flare. First is the precursor stage, where the release of magnetic energy is triggered. Second, in the impulsive stage protons and electrons are accelerated to energies exceeding 1 MeV. During the impulsive stage radio waves, hard X-rays, and Gamma rays are emitted. The gradual build up and decay of soft X-rays can be detected in the third, decay stage. The duration of these stages can be as short as a few seconds or as long as an hour. Solar flares extend out to the Corona, the outer most atmosphere of the Sun that consists of rarefied gas. The gas temperature is normally a few million degrees Kelvin. Inside the flare the temperature reaches 10 to 20 million degrees Kelvin and can be as high as 100 million degrees Kelvin. Flares occur in active regions of the Sun and coincide with the Sun's 11 year cycle. Note: to convert Kelvin to Fahrenheit... $^{\circ}\text{F} = 9/5 (^{\circ}\text{K}-273)+32$.

The Trapezium is the most famous multiple star system in the entire night sky. It is located in the very heart of M42, the Orion Nebula. It is one of the youngest star clusters known. It consists of about 1000 young stars that are about one million years old. They are crowded into a space about 4 light years in diameter (Same distance as our Sun and our nearest neighbor Proxima Centauri). The trapezium is noted as Theta Orionis. The 4 hot young massive stars ultraviolet ionizing radiation powers the star forming regions entire visible glow. The trapezium is easily resolvable in most amateur telescopes. The brightest stars A,B,C and D range in brightness from magnitude 5 to magnitude 8 and can be seen with the naked eye as the middle star in Orion's sword. The Trapezium is a good test for resolution of ones telescope and also atmospheric seeing conditions. The image below exhibits the trapezium and the separation between components in arc seconds.



VAAS Picnic @ the VAFB Saddle Club



Oct 6th Star party



Note: Vince Tobin showed up about 8:00 Pm.

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 9 November 2012 7:00 PM
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 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/>