

Vandenberg Amateur Astronomical Society presents The Sidereal Times



Messier 13 (see page 5)

Meeting News:

At the January meeting it was Pizza time at Round Table Pizza. Held a brief club meeting, enjoyed the holiday party.

**Reminder: VAAS meeting Feb 14th at 7:00 PM
Manzanita school, Hope to see you there.**



Lunar Calendar:

New Moon (none)
Full Moon 14th

A Little Humor: A Photon goes into a bar and asks the Bartender for a drink. The Bartender asks if he would like a double. The Photon says, "No thanks I'm traveling Light".

Presidents Message

We had a very good turnout at the 10 January holiday meeting. It was great to see and visit with so many of the members of the club.

So far this New Year has not been smiling with clear nights when we had the star parties scheduled. I wouldn't mind so much if we had been rained out but instead it was mostly cloudy conditions.

We'll be gathering at the Observatory on the Saturday closest to New Moon and 3rd quarter moon through March. Please do make an effort to come to the New and 3rd quarter Moon star parties. It is always good to have other members share their experiences and view through different scopes.

FYI-1: Keplers primary mission has been completed after the flywheels failed but not before finding more than 3,500 exoplanets. Of those exoplanets found, a total of 674 were less than 2.5 Earth diameters. That is a lot of near Earth size planets in a very small patch of sky that kepler was conducting its survey.

FYI-2: There is another Rover operating on Mars beside the Curiosity rover. Opportunity rover has been operating on Mars for 10 years. Not bad for a rover that was designed to operate for only 90 days. I wonder if the Ever-ready battery folks are trying to sign Opportunity to a commercial contract?

As always, have fun and clear skies.

Dave.



Events

January 9th

Solar activity sparked a Coronal Mass Ejection (CME) that hit Earth at around 3:00 Pm EST. The source of the incoming CME was Sunspot AR1944 one of the largest Sunspots of the current Solar cycle. AR1944's active region sprawls across more than 200,000 Km and contains dozens of dark cores. The initial impact was weaker than expected but geomagnetic activity could still develop as Earth passes through the CME's wake. This event should spark Auroras in the Northern latitudes. CME type radiation storms put passengers and crew of high flying aircraft in the Northern latitudes at risk due to high radiation levels. Also applies to personnel on the International Space Station.

January 11 and 12

Venus at inferior conjunction, it passed almost directly between Earth and Sun. Venus looked like an incredibly slender crescent as it passed only 5 degrees from the Sun. On 12 January the robotic arm of the ISS reached out and snagged Orbital Sciences Corp. Cygnus supply ship. Docking occurred at 8:05 EST. This marks the first successful contracted cargo delivery. The ship delivered almost 2800 Lbs of equipment and crew Supplies. Included were dozens of new scientific experiments.

February 1st Star party at the Observatory.

February 8th Star Party at the Observatory.

February 14th Full Moon, the Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from the Earth. This phase occurs at 23:53 UTC. This full Moon was known by early American tribes as the full Snow Moon because the heaviest snows fell during this time of year. Since hunting is difficult this Moon has also been known by some tribes as the Full Hunger Moon.

February 22nd Star party at the Observatory.

All January star parties were cancelled due to weather.



Star Party and Events

The January 4th star party was cancelled due to weather, solid overcast.

The January 11th star party was cancelled due to weather, overcast skies cold and wind.

The January 25th star party was cancelled due to weather, solid overcast skies.

Does the above sound like a broken record?

January 10th Holiday Party

Thanks go to Craig and Monica LeClair for arranging the holiday party at Round Table Pizza. Club members and family started showing up at about 6:00 PM. Round Table started serving about 6:30 PM. We had a total of 16 members and family in attendance.

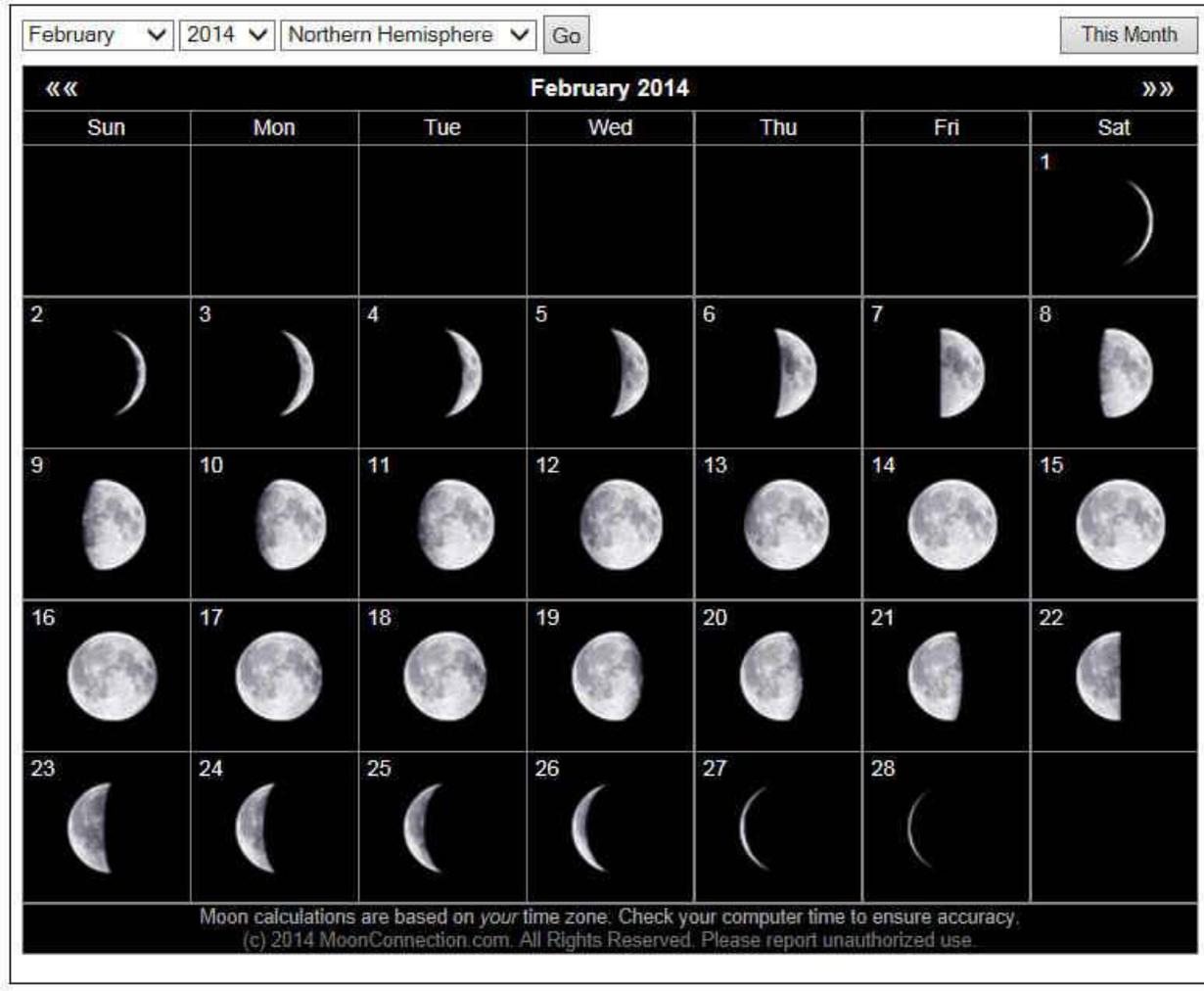
We held a brief club meeting covering a few items, the treasury was handed over to the new treasurer elect Vince Tobin by past treasurer Liberty Partridge. There were plenty of Pizzas with multiple toppings, some Hawaiian and Veggie types, Salads, sodas, wine and some Brew to go around. A special dish of Anchovies was set for Selmer to put on his pizza. Jana brought some candy and cookies for snacks.

There was much interaction between VAAS members like story telling and various adventures with photographing and sketching of images observed with their telescopes and new astro equipment.

All in all it appears that everyone had a good time and their fill of the food and drink. (See page 7 and 8).



February Moon



Full 14th, New (none), 1st Quarter 7th, Last Quarter 22nd

Moon Folklore

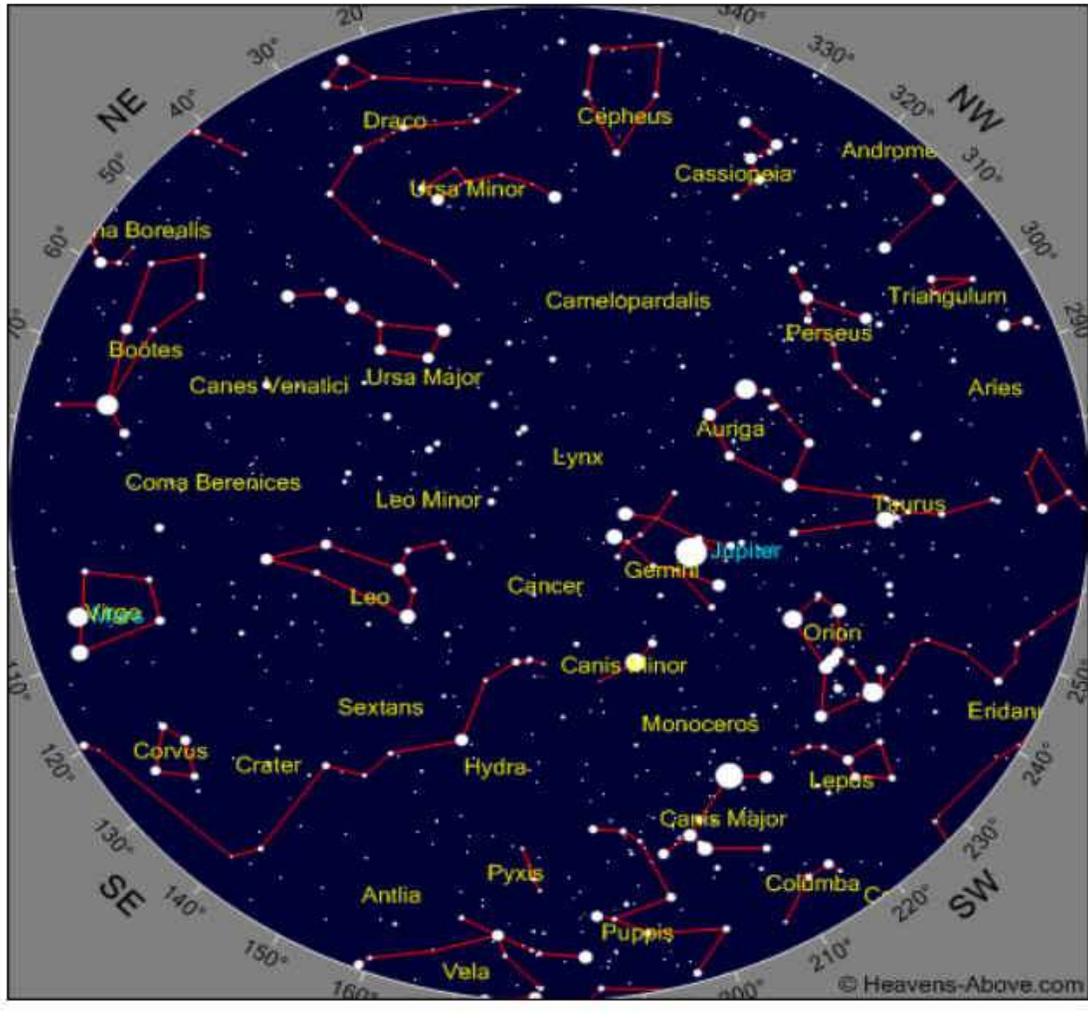
If the new Moon is from the North it will be cold for two weeks, but if from the South it will be warm.

The word Lunatic comes from the Latin Luna because it was believed that people were more apt to exhibit aberrant behavior during a full Moon.

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

February Sky

Objects of interest M42, Jupiter, Double Cluster, M1



Time

Year	2014	Month	2	Day	2	Hour	7	Minute	41
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Photo Courtesy Gary Satterfield



Messier 13 NGC 6205, the globular cluster in the constellation of Hercules lies at a distance of approximately 25,000 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. 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. Forty arc minutes North-East of M13 is the faint (magnitude 11) galaxy NGC 6207. This galaxy has recently produced a type 2 Super Nova SN2004A. Image capture in fairly dark skies with an AT8RC and a Hypercams modified Canon 500D riding on an auto guided hyper tuned Celestron CGEM mount. A total of 17 frames at 7 minutes ISO 800 were dark calibrated and processed in Images Plus software.



For what its worth

Active Optics: an optical system that enables rapid fluctuations in a telescopes image quality, caused by atmospheric turbulence, to be corrected in fractions of a second. These fluctuations are measured by a wave front sensor that uses a reference star to measure the distortions that are taking place. The reference star is typically a bright star close in the sky to the object under study but may also be the object itself or a reflected laser beam that serves as an artificial reference star. The measured distortions are then removed with a phase corrector, very thin mirror in the light path of the telescope that can be rapidly deformed by actuators to the equivalent shape of the wavefront which must be subtracted to produce a sharp image.

Adaptive Optics: Unlike Active Optics, adaptive optics provides real time response and allows the image quality of ground based instruments to rival that of telescopes operating in space. It is used in conjunction with many new telescopes including the Very Large Telescope, the Large Binocular Telescope, and the Keck Telescopes. Adaptive optics was pioneered at the Center for Astronomical Adaptive Optics and will be used extensively in conjunction with another new technique known as nulling interferometry, in the search for extra solar planets and circumstellar dust disks.

Astigmatism: A lens or mirror defect in which the size and shape of an image may vary for different points of focus. Light passing through different parts of an astigmatic lens, for example, is focused at different distances beyond the lens so that the image of a point varies as a short horizontal or vertical line or ellipse. The best focus is a small circle known as the circle of least confusion.

Brandon Eyepieces: Is a brand name of VernonScope and is applied to a variety of products including a well established line of eyepieces. Some of the short to medium focal length Brandon eyepieces are advertised as Orthoscopics, yet then appear upon disassembly to resemble Plossls. They use 4 lenses in an unsymmetrical duplet formulation designed by Chester Brandon. He was one of the designers of the Norden bombsight which played an important role in WWII.

Coude' Focus: A telescope focus used primarily for spectroscopy. In this arrangement light from the primary mirror is reflected along the polar axis to a focus at a fixed place separate from the moving parts of the telescope, or in an entirely separate room of the observatory (the Coude' room) where large pieces of equipment can be fitted without interfering with the telescopes balance. The word Coude' comes from the French word meaning "bent like an elbow" not from a persons name.

Holiday Party @ Round Table Pizza





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 February 14th 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.

