

Vandenberg Amateur Astronomical Society  
presents  
**The Sidereal Times**



Crab nebula Messier 1 See Page 5.

Meeting News:

The February meeting started at 7:00PM at the Manzanita School. Items discussed were Messier marathon, new member Ken Spraker, and Jana's trip to Grand Canyon, and approaching comets.

**NOTE: it's that time of year again to pay your annual Dues for the 2013 operating year.**

**Reminder: VAAS meeting March 8th Manzanita school, Hope to see you there.**



Lunar Calendar:

New 11 March  
First  $\frac{1}{4}$  19 March  
Full 27 March

Presidents Message

Friday 15 February had two significant astronomy news items, the asteroid close pass to Earth (less than 18,000 miles) and the meteor that exploded over Russia. In both cases they were not directly visible in the western United States Sky. There were some injuries to the Russian folks however both events did create some concerns. The meteor shower coming up in April (Lyrids) might cause some concerns or alarm among the general public. The messier marathon in March this year would normally be held at Figueroa Mountain site because the sky is generally darker with fewer obstructions near the horizon than the observatory site. However we plan to do an alternative marathon at the observatory for those that want to use the observatory scope to help locate some of the Messier objects.

Currently the evening sky is dominated by Taurus, Orion, Canis Major and Minor and Gemini. But by mid evening Leo, Virgo and Coma Berenices come into view. Over 20 of the 110 Messier objects are located in this part of the sky. Jupiter is still putting on a bright show in the evening sky with only a brief appearance of Mercury. Mercury won't be visible again in the evening sky until late May.

Lastly a reminder to those that may have forgotten....it's time to pay the yearly membership dues (\$20.00 per family).

Dave

**March 2<sup>nd</sup>** Star party at VAAS Observatory.

**March 9<sup>th</sup>** Star Party Figueroa Mountain.

**March 10<sup>th</sup>** Comet Pan-Starrs will make its closest Approach to the Sun The comet will start to be visible in the evening sky as it makes its closest approach to the Sun. It can be seen just to the left of the setting Sun. It will continue to be visible for the rest of March and into early April.

**March 11<sup>th</sup>** New Moon occurs at 19:51 UTC.

**March 16<sup>th</sup>** Star Party at VAAS Observatory.

**March 19<sup>th</sup>** First quarter Moon.

**March 17<sup>th</sup>** Conjunction of the Moon and Jupiter. The Moon will pass about 1.5 degrees of Jupiter in the evening sky.

**March 20<sup>th</sup>** The March equinox occurs at 11:02 UTC. The Sun will shine directly on the equator and there will Be nearly equal amounts of Day and Night. It is the Vernal equinox in the Northern Hemisphere and the Autumnal equinox in the Southern hemisphere.

**March 27<sup>th</sup>** Full Moon. The Moon will be directly Opposite Earth from the Sun and will be fully illuminated As seen from Earth.

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**Star Party 2 February was Weathered out!**



## **Special Topics**

### **Observatory Power**

Friday 15 Feb Dave C. and Vahan Y. checked the observatory battery and inverter wiring. No signs of corrosion or electrolysis on the cables and connectors. Verified all connections are secure. The inside of the battery and inverter housings are clean and free from foreign matter. Maintenance is complete for this quarter.

### **9 February Star Party**

A reasonably clear night, Ken Spraker, his friend Dave, Dave Covey and Vince Tobin gathered at the observatory. We sighted the planets Mercury, Mars and Jupiter. As for deep sky objects, we looked at M42 (Great Orion Nebula), NGC 2024 (Flame Nebula), M45 (Pleiades), M31 (Andromeda Galaxy), M51 (whirlpool Galaxy) and R Lepus (Hinds Crimson Star) and several other objects. Dew was forming on almost everything outside the observatory making viewing problematic unless you had a dew zapper or heat strips near full. Dew was not the issue inside the observatory, so we continued our observations from there. We shut the down the observatory for the night around 10:00 pm.

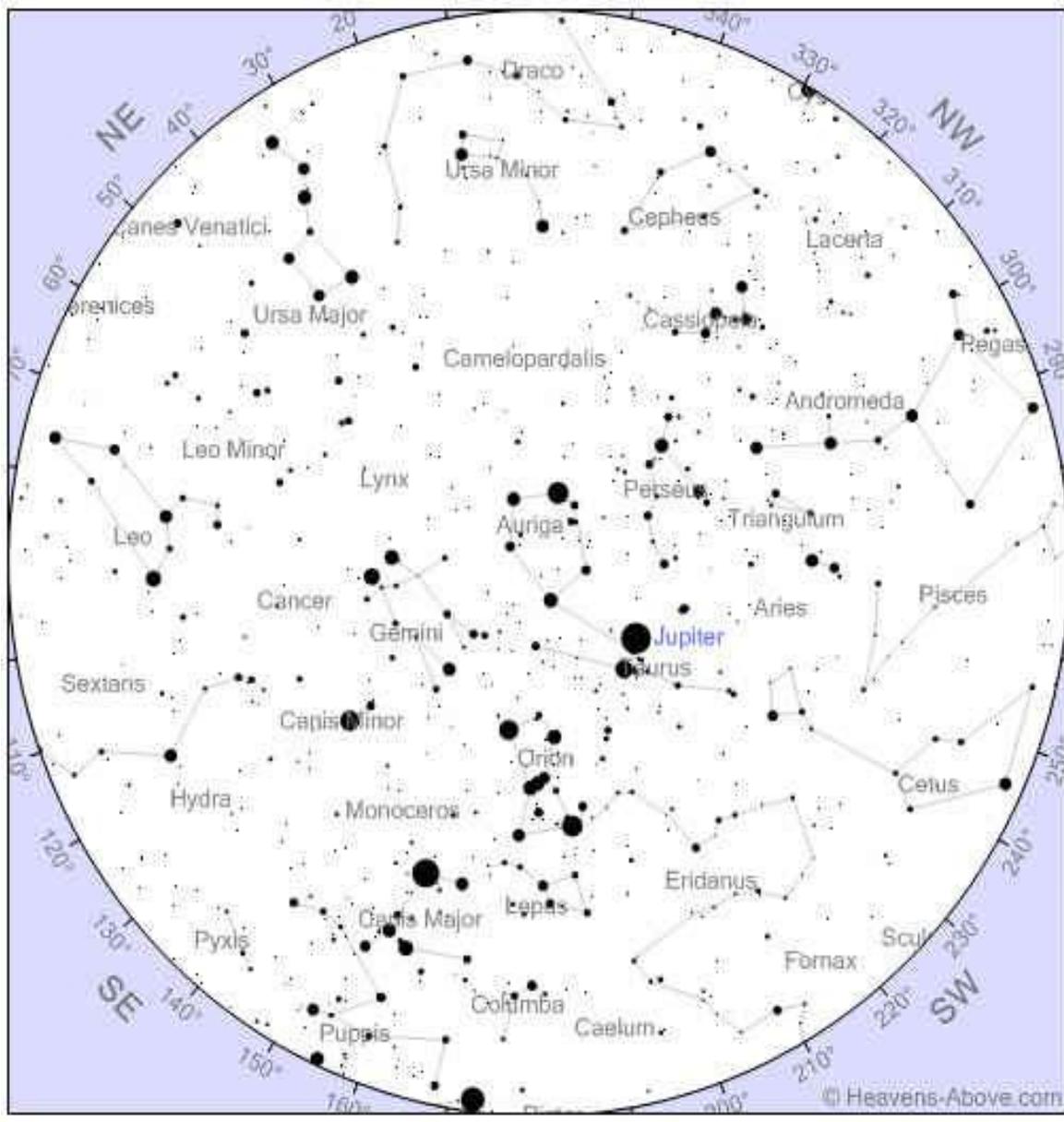
### **16 February Star Party**

Held a star party at the observatory. In attendance were Dave McNally, Jon Walke, Vahan Yeterian, Ken Spraker and his wife Louise. We did a Messier object familiarization, M42, M1 the Double Cluster and a few open clusters in Auriga and of course the Moon and Jupiter. The seeing was pretty good but the moon did blot out some of the fainter objects such as M1 the Crab nebula. All-in-all it was a pretty good night. (See page 7 photos.).



## March Sky

Objects of interest: Comet Pam-Starrs, M1 Crab nebula, M42, Jupiter



Year	2013	Month	3	Day	4	Hour	18	Minute	45
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Photo Courtesy Gary Satterfield



**Messier 1 the Crab Nebula NGC 1952 is a super nova remnant (circa 1054 AD) and a pulsar wind nebula in the constellation of Taurus. It lies at a distance of 6500 light years and is part of the Perseus arm of the Milky Way galaxy. At the center of the nebula lies the Crab Pulsar, a neutron star that emits pulses of radiation from Gamma rays to radio waves. It has a spin of 30.2 times per second. It is the strongest persistent source in the sky with a measured flux of  $10^{12}$  eV. The Nebula's diameter is approximately 11 light years and is expanding at a rate of 1500 Km/sec. The nebula's filaments are remnants of the progenitor star's atmosphere and consists largely of helium and hydrogen, along with carbon, oxygen, nitrogen, iron, neon and sulfur. The filaments temperatures are typically between 11,000 and 18,000 degrees Kelvin with a density of about 1300 particles per Cm cubed. Image capture was accomplished using a Hypertuned VGEM guided with SBIG ST-1/miniBorg50 and PHD AT8RC w/Canon 500D @ISO 1600. 21 frames x 13 minutes.**

## **For What it's Worth**

**Rayleigh Scattering:** The scattering of light by particles that are small in relation to the wavelength of light. Rayleigh scattering of short wavelengths in sunlight by gas molecules in the atmosphere is the reason the sky is blue. Rayleigh scattering, the amount of scattering is inversely proportional to the fourth power of the wavelength thus blue light is scattered by small particles ten times as much as Red. This phenomenon is named after the English physicist Lord Rayleigh 1842-1919.

**Apochromatic:** A lens or optical system virtually free of chromatic aberration, which for practical purposes means that light of at least three different wavelengths is brought to a focus at the same point. The best apochromatic lenses are fluorite crystal and may correct three wavelengths with only two optical elements. However, because fluorite is expensive to manufacture, and, because of its brittleness is difficult to grind and polish and mount. High quality refracting telescopes are very costly. Reflecting telescopes, on the other hand are apochromatic in performance without the extra expense.

**Dark Adaptation:** Heightened sensitivity to light when the eye is subjected to darkness for an extended period. Chemical changes take place in the retina, mostly in the first 20 minutes in darkness but continuing for up to two hours and greatly improves the observers ability to see faint objects. However they can be cancelled quickly by a sudden exposure to light. Most amateur astronomers carry a red filtered flashlight into the field for use reading star charts, setting circles and telescope controls.

## **C-14 Installation**

A really neat rock stable and innovative design by Dave McNally for installation of his C-14 Telescope in the back yard. It sits low and allows the observer to comfortably view and photograph celestial objects. It is constructed of pressure treated 4 x 4's and 2 x 4's coated with several coats of weather proof paint. The front legs (South End) are anchored in the ground 2 feet. A very fine piece of engineering design.



## 16 February Star Party

**Jon Walke**



**Ken and Louise Spraker**



**Dave McNally**



**Vahan**



We did not open the Observatory but instead concentrated in star hopping and familiarizing with some of the Messier objects. Ken had some trouble with the finder scope on his 12" Dobsonian. We made a quick fix securing the diagonal to keep it from detaching from the rear of the finder scope housing. Dave had a rather hefty binocular and tested it on several objects during the evening. It was a bit cold but most of us were dressed warm for the night.

## 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 March 2013 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 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/>