

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



Messier 104, Sombrero Galaxy by Gary Satterfield. Larger image on page 5.

**Meeting News:**

Meeting started at 7:00PM at the Manzanita School. Talked about VAAS history and who owns the Observatory. Discussed some future Out-reach events. Brief up date on observatory battery replacement. Item of interest is the transit of planet Venus across the Sun on June 5<sup>th</sup> 3 pm local time.



**Lunar Calendar:**

Full Moon: 6 May.  
Last quarter: 12 May.  
New Moon: 21 May.  
First quarter 28 May

**Presidents Message**

In the past few months I have been reviewing the VAAS history. The club has never had a large membership, but thanks to the core folks who kept VAAS together we have been very fortunate. Over the many years we have owed a lot to those core folks. We are working to compile the past presidents list and should have it sometime in the near future.

By the time most will be reading this newsletter, we should, with some luck have the new batteries installed in the observatory. Hopefully the observatory will be fully functional by the May meeting.

This is the time for many transitions. Spring is turning into Summer, the Marine layer starts to blanket the coast during the night and the new Moon star parties are on Figueroa mountain. The planets Venus, Mars and Saturn dominate the early evening sky.

There will be two significant astronomy events within the next couple of months. First is the annular solar eclipse on May 20<sup>th</sup>. Those with solar filters will be treated to a partial eclipse of the Sun in the afternoon in Santa Barbara county starting about 6:38 pm local time. The second event is the transit of Venus across the Sun on 5 June. Those with solar filters will be treated to the transit starting around 3:06 pm local time The next similar event won't be until year 2117.

Saturday 21 April Figueroa Mt. Site 1.5 around 7:00 pm PDST. Morrie, Vahan, Dave and Vince were joined by James Inman of the Central Coast Astronomy Society. The weather was excellent, little wind and warm temperatures. We were joined by a birthday party of about 12 adults. Vince worked Venus and the Virgo cluster. While Dave and Vahan worked Mars, Saturn and the Orion nebula and a few globular clusters. Morrie and his son worked X,Y and Z. We all had a great night due to the warm weather and did not have to pull on a sweater or jacket until about midnight. (See page 6).

Clear Skies Dave

## Scheduled Events

**May 5 & 6** Eta Aquarids meteor shower. This is a light shower usually producing about 10 per hour at their peak. Peaks are 5 & 6 May but viewing should be good on any morning from 4 to 7 May. The full Moon will probably wash out all but the brightest meteors. Look toward the constellation of Aquarius.

**May 20<sup>th</sup>** New Moon will be directly between Earth and Sun and not be visible, Occurs at 23:47 UTC.

**Note:** Annular Solar eclipse. The path will begin in Southern China and move East through Japan, the Northern Pacific Ocean and into the Western United States. A partial eclipse will be visible throughout parts of Eastern Asia and most of North America..

### May 26<sup>th</sup>

Saturday Zaca Mesa Winery starting around 8:00 pm.

### June 5<sup>th</sup>

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.

## Planets in Grade School

Some of you may remember how you learned to remember the planets in the solar system. Remember...  
**My Very Educated Mother Just Served Us  
Nine Pizzas..... Remember??**

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

## Special Topics

### Brief VAAS History

VAAS formed in October 1985 with about 10 members from VAFB and 5 from the Public. Total VAAS membership has varied between 15 and 20 over the years. In 1986 VAAS Joined with Western Spaceport Museum and submitted Private Organization forms for Base review. In 1990 WSM Dedicated the observatory and 14 inch scope at what is Now Ken Adams Park. A VAAS Constitution was adopted 1990 to 1998 and the VAAS was the primary operator of the observatory. In 1998 the observatory and telescope Ownership was transferred to Endeavour Center and relocated to Maple High School on VAFB (current location). 1999 to 2006 VAAS continues to operate the observatory and support the Endeavour Center. In 2007 to present the Center relocates to Manzanita School location, the Endeavour center relocates to VAFB Middle School.

**Solar Flares:** A Solar flare is an explosion on the Sun that happens when energy stored in twisted magnetic fields (usually above Sun Spots) is suddenly released. Flares produce a burst of radiation across the electromagnetic spectrum, from radio waves to X-rays and Gamma-rays. Solar flares are classified according to their X-ray brightness in the wavelength range 1 to 8 Angstroms. There are 3 categories: X-Class Flares are big: They are major events that can trigger planet-wide radio blackouts and long lasting radiation storms. M-Class Flares are medium sized events that can cause brief radio blackouts that affect Earth's Polar regions, minor radiation storms sometimes follow an M-Class flare. Compared to X- and M- class events, C-Class flares are small with few noticeable consequences here on Earth. On the other side of the scale Coronal Mass Ejections (CME's) dump larger masses of Energetic particles into Earth's upper atmosphere and orbital environment where satellites fail because of cascading electronics glitches and anomalies. Astronauts in low Earth orbit inside the International Space Station have to retreat to the stations shielded core to wait out the storm. Even there they receive elevated doses of radiation and occasionally they see brief flashes of brilliant white and blue bursts of secondary radiation caused when a stray particle passed directly through the vitreous humor of their eyes at near light speed. If the CME is strong enough Earth reaching radiation can cause power transformers and power grids to fail.

## May Moon

May 2012						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 	2 	3 	4 	5 
6 	7 	8 	9 	10 	11 	12 
13 	14 	15 	16 	17 	18 	19 
20 	21 	22 	23 	24 	25 	26 
27 	28 	29 	30 	31 		

Moon calculations are based on your time zone. Check your computer time to ensure accuracy.  
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### Moon Phase:

6 May Full, 12 May last ¼, 21 May New, 28 May First 1/4

### Moon Folklore

Corn planted under a waning moon grows slower but yields larger ears.

Fence posts should be set in the dark of the moon to resist rotting.

### Food for Thought

#### Dark Adaptation

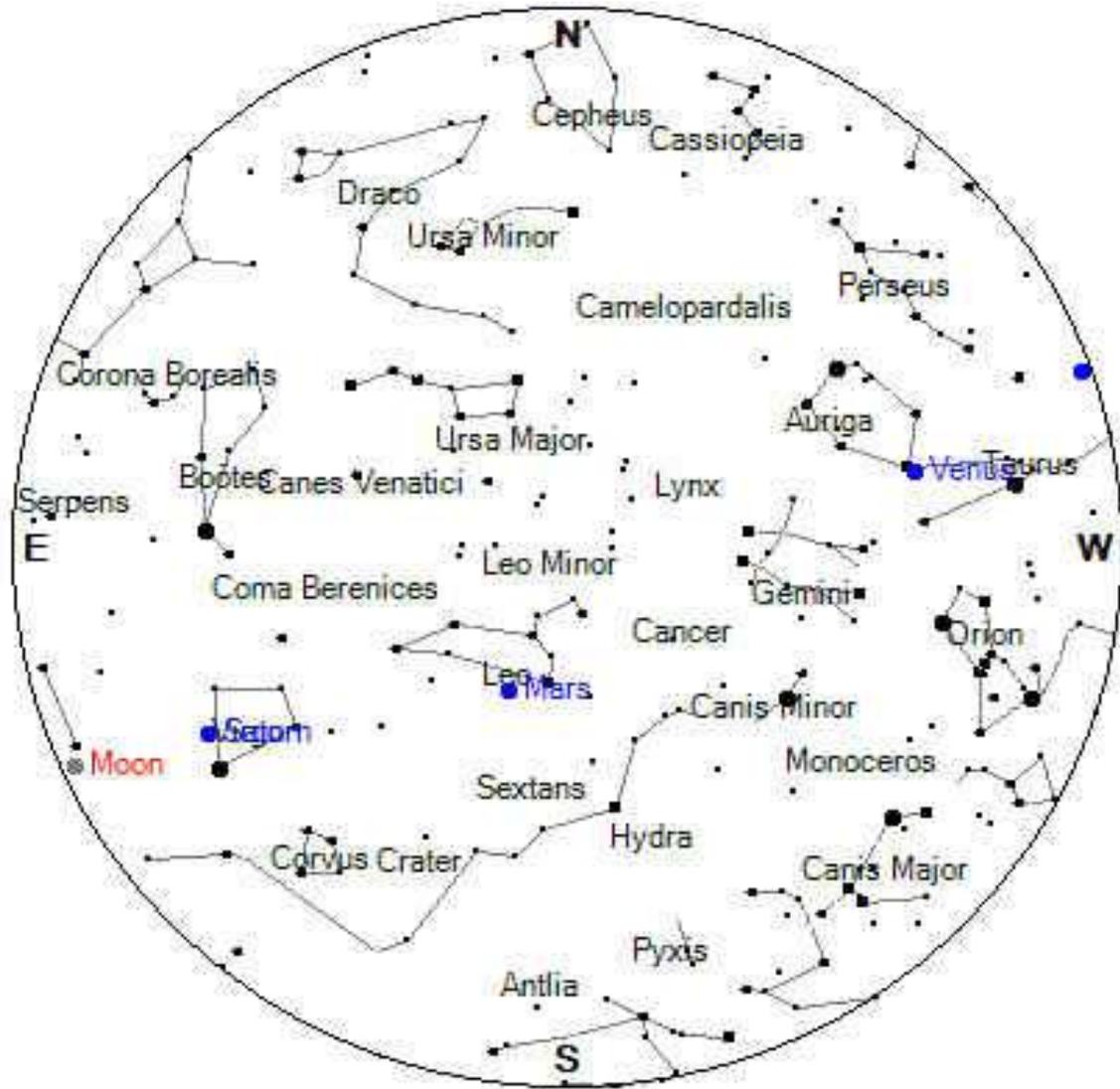
Heightened sensitivity to light when the eye is subjected to darkness for an extended period. Chemical changes take place in the retina mostly in the first 20 minutes in darkness but continue for up to two hours that greatly improves the observer's ability to see faint objects. However that can be cancelled immediately by exposure to light. Use of Red light keeps dark adaptation of the eye.

## May Sky Chart

### Objects of interest

Saturn, Mars, M13

M51, M57



Date/Time (Local Time)

Year:  Month:  Day:  Hour:  Minute:

**Picture of the Month Courtesy Gary Satterfield**



The Sombrero Galaxy, Messier 104 NGC 4594. Distance approximately 29.6 million light years. It is located in the constellation of Virgo approximately 11 degrees west of star Spica. This early type spiral galaxy is of type Sa-Sb with both bright core and dust ring. It is richly populated with globular clusters. The galaxy has a red shift corresponding to a recession velocity of about 1000 Km/sec. At Radio and X-Ray wavelengths the nucleus is a strong source of synchrotron emission ie; high velocity electrons oscillate as they pass through regions of strong magnetic fields. Equipment AT8RC on a CGEM mount with a Canon 500D DSLR, 7 min x 36 frames at ISO 800. Darks, Flats and Bias frames. Image Plus for calibration stacking and DDP, CS2 for final adjustments.

**Re-Cap of F# Ratios**

The ratio of the focal length (F) of a mirror or lens to its diameter (D) expressed as a number (also called the F-Number or F-Stop) F/D. It is a measurement that describes the relative opening or aperture. For example, a lens with a 50 mm focal length with the aperture set at F/2 indicates an aperture diameter of 25 mm whereas F/4 indicates an aperture of 12.5 mm. Borrowing the language of photography, small focal ratios below F/6 are said to be Fast and result in a brighter image for a given aperture. Large Focal ratios equal to or above F/8 are said to be Slow.

## Figueroa Mtn Star Party 21 April

We met at our observing site 1.5 about 7 pm and set up our scopes and equip. It was a beautiful night warm and little or no wind, shirt sleeve weather. We had many guests that dropped in to take a look see.

Dave



Morrie



Vince



Vahan



Jim Inman



## *Club Officers*



President  
Dave Covey



Treasurer  
Liberty Partridge



Vice President  
Vince Tobin



Newsletter Editor  
Vahan Yeterian



### **Club Meeting**

Club meeting 11 May 2012 7:00 PM

Star Parties (as always weather permitting)

19 May (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/>