THE OBSERVER

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member of The Astronomical League

2009, International Year of Astronomy

http://sbvaa.org/

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Meeting:

March 21, 2009

Main Feature:

Establishing a solar observatory on the Moon

Location:

San Bernardino County Museum, 7:00 p.m. Redlands, CA. California St. exit, I-10 Fwy.

Pre-meeting Dinner, 5:00 p.m., Hometown Buffet, Loma Linda, CA

After the meeting telescopes will be set up for viewing and members will be available to answer questions. Bring your telescope to observe with us.

No telescope is too humble, and beginners are always made welcome!

After viewing the group will head for Coco's in Redlands, Tennessee exit, I-10 Fwy.

Program

Keeping Our Future Lunar Astronauts Healthy By Observing the Sun from the Moon

Dr. Edward J. Rhodes PhD. Collaborating Professor in the Department of Physics and Astronomy at University of Southern California, (USC) will speak at the San Bernardino County Museum of Natural History for the clubs March 21st meeting. All monthly meeting are open and free to the public, starting at 7:00 p.m. located at 2024 Orange Tree Ln, Redlands.

Dr. Rhodes shall speak about the research that he has carried out at NASA JPL this past year on the feasibility of having future lunar astronauts place a solar observing instrument on a mountain peak near the lunar South Pole to observe the Sun for the prediction of solar energetic particle storms, which could be hazardous to the astronauts' health and safety.

Dr. Rhodes leads an active program in both ground- and space-based observational helioseismology. One of the pioneers in this field of solar physics he is a NASA-selected Co-Investigator on the Solar Oscillation Investigation (SOI). The SOI-Michelson Doppler Imager flys onboard the NASA-ESA Solar and Heliospheric Observatory spacecraft. Dr. Rhodes is the Principal-Investigator for the 60-Foot Solar Tower at Mt. Wilson Observatory and the High Degree Helioseismic Network (HiDHN). This network onsists of a second station in Ukraine, at the Crimean Astrophysical Observatory. HiDHN provides nearly continuous observations of the sun during the summer months. Beginning in 1992 Ed Rhodes served as a Guest Computational Investigator in the NASA High Performance Computing and Communication Program. As part of this program he and his group employed several NASA-supported supercomputers located at Caltech and at JPL. These computers are still used in addition to a network of dedicated workstations located both at USC and the 60 Foot Solar Tower.

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Calendar of Upcoming Events

March 21, Club meeting at the Museum

March 28, *Messier Marathon [Riverside Astronomical Society's GMARS Site in Landers, CA.]*

April 2, Mentone School, Mentone, CA

April 4, Saturn Party, public outreach at the Museum

April 18, Club meeting at the Museum

April 25, Star party, location to be announced

Editor's Message

By Jim Sommer

Orion is at its best at this time of year, offering many wonderful sites in this very large constellation. Longfellow in his *Occultation of Orion* took note of this.

Begirt with many a blazing star
stood the great giant Algebar,
Orion, hunter of the beast!
His sword hug gleaming by his side,
And on his arm the lion's hide
Scattered across the midnight air
The golden radiance of its hair.

Share the excitement of the night sky with someone!

Recent Outreaches A BIG Success!

By Chris Clarke

The responses have been overwhelming! Just from the February 18, March 3 and 5 school outreaches, we have netted over 800 happy viewers! Almost 400 people were in attendance at Lincoln School in Colton, and at least 250 people were there at Mission Bell School in Jurupa. Smiley School had about 200 folks show up for their "science night" and our viewing.

Luckily, the three nights were blessed with either very clear skies or just a few thin, high clouds. The first-quarter and gibbous moon views were simply stunning and the thin crescent of Venus impressed all that saw it, especially through Fidel's "mammoth" Carroll refractor, which drew the longest of lines.

Left: Fidel "wows" them

Below: Budding astronomer & Matt's XT6.

(Lincoln School photos courtesy of Matt Wedel, roving photographer)

Believe it or not, the maximum number of members and scopes at these events was only six. We could sure use some more help, so if anyone is even remotely interested, please come down and set up a scope! Even if you don't have a scope, you can help watch one while the "operator" takes a quick break.

We have two more events scheduled in early April. One is at Mentone School on Thursday, April 2 and the other is a "Saturn Party" at the Museum on Saturday, April 4. Both events start at dusk, so come on down and enjoy the fun! The smiles and appreciation of the public are well worth the effort.

Full Moon Names for 2009

Full moon names date back to Native Americans, of what is now the northern and eastern United States. Those tribes of a few hundred years ago kept track of the seasons by giving distinctive names to each recurring full moon. Their names were applied to the entire month in which each occurred.

There were some variations in the moon names, but in general the same ones were current throughout the Algonquin tribes from New England on west to Lake Superior. European settlers followed their own customs and created some of their own names. Here is a listing of all of the full moon names, as well as the dates and times for 2009. Unless otherwise noted, all times are for the Eastern Time Zone.

Jan. 10, 10:27 p.m. EST -- Full Wolf Moon. Amid the zero cold and deep snows of midwinter, the wolf packs howled hungrily outside Indian villages. It was also known as the Old Moon or the moon after Yule. In some tribes this was the Full Snow Moon; most applied that name to the next moon. The moon will also be at perigee (its closest point to Earth) on this day, at 6:00 a.m. EST, at a distance of 222,138mi. (357,497 km.) from Earth. **Very high ocean tides** can be expected from the coincidence of perigee with full moon.

Feb. 9, 9:49 a.m. EST -- Full Snow Moon. Usually the heaviest snows fall in this month. Hunting becomes very difficult, and hence to some tribes this was the Full Hunger Moon.

Mar. 10, 10:38 p.m. EDT -- Full Worm Moon. In this month the ground softens and the earthworm casts reappear, inviting the return of the robins. The more northern tribes knew this as the Full Crow Moon, when the cawing of crows signals the end of winter, or the Full Crust Moon because the snow cover becomes crusted from thawing by day and freezing at night. The Full Sap Moon, marking the time of tapping maple trees, is another variation.

Apr. 9, 10:56 a.m. EDT -- Full Pink Moon. The grass pink or wild ground phlox is one of the earliest widespread flowers of the spring. Other names were the Full Sprouting Grass Moon, the Egg Moon, and -- among coastal tribes -- the Full Fish Moon, when the shad came upstream to spawn. This is also the Paschal Full Moon; the first full Moon of the spring season. The first Sunday following the Paschal Moon is Easter Sunday, which indeed will be observed three days later on Sunday, April 12.

May 9, 12:01 a.m. EDT -- Full Flower Moon. Flowers are abundant everywhere. It was also known as the Full Corn Planting Moon or the Milk Moon.

Jun. 7, 2:12 p.m. EDT -- Full Strawberry Moon. Known to every Algonquin tribe. Europeans called it the Rose Moon.

Jul. 7, 5:21 a.m. EDT -- Full Buck Moon, when the new antlers of buck deer push out from their foreheads in coatings of velvety fur. It was also often called the Full Thunder Moon, thunderstorms being now most frequent. Sometimes this is also called the Full Hay Moon. Since the moon arrives at apogee less than 13 hours later, this will also be smallest full moon of 2009. In terms of apparent size, it will appear 12-percent smaller than the full moon of Jan. 10

Aug. 5, 8:55 p.m. EDT -- Full Sturgeon Moon, when this large fish of the Great Lakes and other major bodies of water like Lake Champlain is most readily caught. A few tribes knew it as the Full Red Moon because the moon rises looking reddish through sultry haze, or the Green Corn Moon or Grain Moon.

Sep. 4, 12:03 a.m. EDT -- Full Corn Moon. Sometimes also called the Fruit Moon; such monikers were used for a full moon that occurs during the first week of September, so as to keep the Harvest Moon from coming too early in the calendar.

Oct. 4, 2:10 a.m. EDT -- Full Harvest Moon. Traditionally, this designation goes to the full moon that occurs closest to the Autumnal (fall) Equinox. The Harvest Moon usually comes in September, but sometimes it will fall in early October as is the case in 2009; the next time won't come until 2017. At the peak of the harvest, farmers can work into the night by the light of this moon. Usually the full moon rises an

average of 50 minutes later each night, but for the few nights around the Harvest Moon, the moon seems to rise at nearly the same time each night: just 25 to 30 minutes later across the U.S., and only 10 to 20 minutes later for much of Canada and Europe. Corn, pumpkins, squash, beans, and wild rice -- the chief Indian staples -- are now ready for gathering.

Nov. 2, 2:14 p.m. EST -- Full Beaver Moon. Now it is **t**ime to set beaver traps before the swamps freeze to ensure a supply of warm winter furs. Another interpretation suggests that the name Beaver Full Moon come from the fact that the beavers are now active in their preparation for winter. This is also called the Frosty Moon, and as this is also the next full moon after the Harvest Moon, it can also be referred to as the **Hunters' Moon.** With the leaves falling and the deer fattened, it is time to hunt. Since the fields have been reaped, hunters can ride over the stubble, and can more easily see the fox, also other animals, which have come out to glean and can be caught for a thanksgiving banquet after the harvest.

Dec. 2, 2:30 a.m. EST -- Full Cold Moon. December is usually considered the month that the winter cold begins to fasten its grip.

Dec. 31, 2:13 p.m. EST -- Full Long Night Moon. Nights are at their longest and darkest. The term Long Night Moon is a doubly appropriate name because the midwinter night is indeed long and the moon is above the horizon a long time. The midwinter full moon takes a high trajectory across the sky because it is opposite to the low Sun. This is the second time the moon turns full in a calendar month, so it is also popularly known as a **"Blue Moon."** Full moons occur on average each 29.53 days (the length of the synodic month), or 12.3683 times per year; so months containing two full moons occur on average every 2.72 years, or every 2 years plus 8 or 9 months.

There will be a **partial lunar eclipse** that will be visible from Europe, Africa and Asia with this full moon. At its maximum 7.6-percent of the moon's diameter will become immersed in the Earth's dark umbral shadow.

(Article by Joe Rao, Space.com)

Three Different Ways of Looking at M101:
Three different ways of learning

Hubble

Spitzer

Chandra

Three different telescopes, three different views. Each one reveals something special about this magnificent galaxy. By studying objects in variety of spectrums astronomers and physicists learn new and exciting information about our cosmic neighbors. Star formation, novae, dust composition, and black holes are but a few of the subjects these photos can help us understand the nature of our universe and our place in it.

(Photos courtesy of Hubble Space Telescope/NASA-JPL)

Milky Way much larger than we thought!

For many years astronomers thought that the Great Andromeda Galaxy was the the big guy in the neighborhood and our own Milky Way just its little sister. But recently astronomers have been able to map our galaxy more accurately and the results are startling. They found that the Milky Way is 15% larger in diameter and is spinning 15% faster -- 568,000 mph vs. the previously thought 492,000 mph. The most astonishing discovery was that our galaxy has a whopping 50% more mass than previously thought. This means that our galactic gravity is much stronger. We've all read that Andromeda Galaxy and our Milky Way will pass/merge/crash in a few billion years. The new data about our home galaxy means that the event could come sooner. By sooner, though, we're still talking about billions of years in the future so don't stay up all night waiting for a photo opportunity.

What an exciting time we live in! What new tools we will develop in the next year or decade? What new discoveries will burst upon us like a super nova? Will we find an Earth-like planet? Will SETI one day receive an answer? Yes my friends, this is a very exciting time!

(Extract from Associated Press article by Seth Borenstein)

The SBVAA is trying to plan trip to Mt Wilson Observatory.

If we can get an agreed on date, we will have use of the famous 60" reflector. This is the same telescope that was used by George Hale, Harlow Shapley, Edwin Hubble and Milton Humason. This is our chance to "play" with history -- for an entire night! The dates are taken very quickly so please check the dates below with your calendar and let club prez Jim Butts know A.S.A.P.

The dates available are August 16th or the 21st.
Please indicate which of these date will work for you and reply by return E-Mail as soon as possible so we can book the date that we get the most people interested in.

☐ August 16th

☐ August 21st

Please check the date(s) that you can attend and notify Jim Butts at jamesbutts@msn.com.