



THE OBSERVER

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member THE ASTRONOMICAL LEAGUE

"Celebrating Forty-Seven Years of Amateur Astronomy"

VOLUME #47 ISSUE #01

JANUARY 2005

Cassini/Huygens Astro-video Mars Rover Updates Member Astro Images

MEMBER ASTRO IMAGE: JERRY DAY

Comet Machholz,
C/2004 Q2;

Imaged Dec. 11,
2004 from Johnson
Valley; Canon 300D
DSLR camera;
300mm f/2.8 lens;
Composite of 5 X 5
minute exposures
@ ISO 400.



MEETING: January 15, 2005--7:00PM

"Bring Scopes for Lunar and Planetary Observing"

SAN BERNARDINO COUNTY MUSEUM

CALIFORNIA STREET EXIT FROM INTERSTATE 10

PRE-MEETING DINNER: 5:30PM HOMETOWN BUFFET, LOMA LINDA

SBVAA OFFICERS

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SBVAA

CALENDER OF EVENTS 2005

Meetings held at the
 San Bernardino County Museum
 For information, call Chris Clarke at (909)
 888-6511, ex.1458

January 8.....Star Party (2 days before
 new moon)
 January 15.....Meeting (3rd Saturday)
 February 5.....Star Party (3 days before
 new moon)
 February 19.....Meeting (3rd Saturday)
 March 12.....Star Party (2 day old
 moon-Messier Marathon)
 March 19.....Meeting (3rd Saturday)

January Meeting

Two astrovideos will be presented at the January 15, 2005 meeting. One will provide a discussion to the Cassini/Huygens mission including the Huygens Probe, which will have already just touched down on Titan.

The other video is a NASA discussion of the Mars Rovers progress. The rovers are still working after one year. The discussion also outlines the future of Mars exploration.

Members are encouraged show recent astro-images including Comet Machholz.

2005 SBVAA Club Phone Directory

Just a reminder that the new 2005 Phone Directory is going to be published in the February issue of The Observer. Be sure to update you current phonenumber if it has changed during the past year. And if you want to recieve the new Electronic Observer as a PDF file, be sure to give Tom Lawson your current email address. Because the PDF Newsletter is electronic, I can include extra pages and they are in living color

2005 Desert Sunset Star Party

Pat and Arleen Heimann will again be hosting the Desert Sunset Star Party May 4-8, 2005, at the Caballo Loco RV Ranch southwest of Tucson. Caballo Loco is located east of Kitt Peak and nestled against the Sierrita Mountains. Whipple Observatory on Mt Hopkins is located to the east. Lots to do during the day and great skies at night. There will be speakers and door prizes on Friday and Saturday evenings.

Check our website for details:
<http://www.chartmarker.com/sunset.htm>
 Pat and Arleen Heimann
 ChartMarkers and More
<http://www.chartmarker.com>

email
articles and photos for
The Observer
to: WSMyer@aol.com

President's Message

Jerry L. Day

Jerry_day@eee.org

Happy New Year, one and all! Given the very soggy start to 2005, there has been ample time to reflect on the past year and to savor the year to come.

The year past was memorable for the club, filled with fun activities and events. We enjoyed star parties at Johnson Valley, Owl Canyon, and Lake Silverwood, as well as the semi-annual Grandview excursions. We conducted a number of outreach events at the SBC Museum, as well as at the Assistencia and local elementary schools. We enjoyed good food and good company at the pre-meeting dinners, summer barbecue, holiday get-together, as well as all the post-meeting trips to Coco's. We welcomed many new members to the club in the past year.

The year past was especially memorable for the record-breaking number of bright comets we were able to observe. Comets LINEAR (C/2002 T7), NEAT (C/2001 Q4), Bradfield (C/2004 F4), LINEAR (C/2003 K4), and most recently, Machholz (C/2004 Q2) have each in turn put on a fine show for us all.

The year past was certainly eventful for space exploration and for astronomy, in general.

Kicking off 2004 in grand style, the twin Mars Rovers, Spirit and Opportunity, safely arrived at Mars. The Rovers have returned stunning images and scientific measurements that present overwhelming evidence of a watery past on Mars – evidence of minerals and layered sediments formed in a long lasting shallow sea. Originally designed for a 90-day mission, the Rovers have proven far more resilient and are still operating one year after arrival. What new discoveries will they make in 2005?

In 2004 the astronomical community was stunned when NASA announced that the Space Shuttle would no longer service the Hubble Space Telescope. A roller coaster of controversy and changing plans followed the decision, with the HST's fate still largely uncertain at this date.

In July 2004, after seven years in transit, the Cassini/Huygens Mission finally arrived at Saturn and began to return stunning images of the planet's rings and of its many moons. Perhaps most intriguing were the tantalizing glimpses of the methane shrouded surface of Saturn's giant moon, Titan.

2004 also witnessed the launch of Gravity Probe B, the crash in the Utah desert of the Genesis

solar wind sample return capsule, the discovery of icy worldlets in the outer Solar System, as well as the first transit of Venus in over a century.

2005 should prove even more exciting for astronomy and space exploration. Look for many new discoveries from the Mars Rover and Cassini/Huygens missions. One much anticipated event occurs on January 14th, when the Huygens probe will plunge into the thick atmosphere of mysterious Titan, Saturn's giant moon. What will the Huygens probe find as it parachutes to the surface of Titan? Perhaps we'll know by the next meeting, January 15th.

Finally, 2005 promises to be equally exciting for the club, with a full schedule of meetings, star parties, outreaches, and other events to keep us busy. I look forward to seeing you all there in this brave New Year!

Clear skies.

Upcoming Outreaches

By Chris Clarke

Along with the New Year, we have a new season of outreaches to begin! First of all, we will be visiting our old friends at Kingsbury School on Tuesday, January 25, from 6:30 to 8:30 pm. Setup time is 6:00 p.m. We'll have the full moon, Saturn, M42 and the Pleiades to look at.

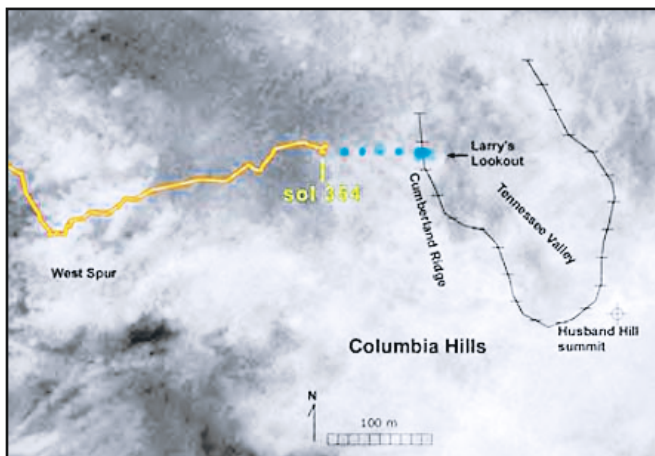
Our resident NASA/JPL Ambassador, James Butts will also be presenting a talk about the Cassini/Saturn Mission to the students and their families. The school is located at 600 Cajon St. in Redlands. Take the I10 to the Orange Street offramp and go south and Orange St. becomes Cajon St. The school is about a mile south of the freeway near the corner of Cypress and Cajon and is on the right side of the street. We set up on the lawn by the auditorium, right next to the flag-pole.

On Wednesday, February 16, we'll be at Smiley School in Redlands, sharing views of the first quarter moon and Saturn to the eager children and their parents. The school is located at 1210 W. Cypress Ave. in Redlands. Setup and viewing times along with more detailed directions will be in the February newsletter.

Remember, these are wonderful opportunities to share the wonders of the universe with people who have never had the chance to experience it first-hand. A view of the moon and Saturn can really excite a child!

If you have any questions, just give me a call at (909) 384-8539.

MARS ROVERS UPDATES



SPIRIT: Approaching an Overlook

The path of NASA's Mars Exploration Rover Spirit through the rover's 354th martian day, or sol (Dec. 31, 2004), plus some future travel options, are indicated on this map of the "Husband Hill" region of the "Columbia Hills" within Mars' Gusev Crater. JPL/NASA



OPPORTUNITY: Heat Shield Flank

This image from NASA's Mars Exploration Rover Opportunity shows a portion of the heat shield that the spacecraft jettisoned shortly before landing. This flank piece broke off from the main piece of the heat shield upon impact. The crater created by the impact of the heat shield can be seen in the upper right of the image. Rover tracks appear across the top of the image. Opportunity took this image with its navigation camera during the rover's 331st martian day, or sol (Dec. 28, 2005). JPL/NASA

CASSINI-HUYGENS UPDATES



Titan Touchdown - January 14, 2005

Joined at the hip for the last seven years, Cassini and Huygens finally separated Dec. 24 PST after a 3.5 billion kilometer (2.2 billion mile) journey through our solar system. While the Cassini spacecraft continues its four-year tour of the Saturnian system, the Huygens probe will plunge into Titan and its mysterious atmosphere on Jan. 14, 2005. Built and managed by the European Space Agency, Huygens will be the furthest object to touchdown on an alien world. The mission will provide information that may help us better understand Saturn's biggest moon, the only moon in the solar system with a thick atmosphere.

On Dec. 24, 2004, pyros blasted and the umbilical cord was cut as Cassini ejected the Huygens probe, sending it on a collision course with Saturn's largest moon. The spacecraft then turned and snapped a parting shot of the spinning probe. Still dormant and without navigation capabilities, the probe will travel the last 4 million kilometers (almost 2.5 million miles) on its own. Timers on board will wake Huygens up just before it enters Titan's hazy atmosphere. JPL/NASA

SBVAA 2005

Calendar of Meetings and Star Parties

All dates are on Saturdays. Meetings are held at the San Bernardino County Museum from 7:00–10:00 pm. Star Party Sites not specified will later be designated. Outreach events to be determined and announced separately. For more information, contact Chris Clarke, Secretary & Outreach Coordinator at (909) 384–8539.

January 8.....	Star Party (2 days before new moon)
January 15.....	Meeting (3rd Saturday)
February 5.....	Star Party (3 days before new moon)
February 19.....	Meeting (3rd Saturday)
March 12.....	Star Party (2 day old moon–Messier Marathon)
March 19.....	Meeting (3rd Saturday)
April 9.....	Star Party (1 day old moon)
April 16.....	Meeting (3rd Saturday)
May 7.....	Star Party (new moon)
May 21.....	Meeting (3rd Saturday)
June 4.....	Star Party (2 days before new moon)
June 18.....	Meeting (3rd Saturday)
July 9.....	Star Party (Grandview---3 day old moon)
July 16.....	Meeting (3rd Saturday)
August 6.....	Star Party (new moon)
August 20.....	Club Barbecue (3rd Saturday)
September 3.....	Star Party (new moon)
September 17.....	Meeting (3rd Saturday)
October 1.....	Star Party (Grandview---2 days before new moon)
October 15.....	Meeting (3rd Saturday)
November 5.....	Star Party (3 day old moon)
November 12.....	Meeting (2nd Saturday)
December 3.....	Star Party (2 day old moon)
December 10.....	Holiday Get-Together (2nd Saturday)

2005 Phases of the Moon

Note: In the tables, d, h, m indicate day, hour, minute, respectively, of Universal Time.

NEW MOON

d h m

JAN. 10 12 03
 FEB. 8 22 28
 MAR. 10 9 10
 APR. 8 20 32
 MAY 8 8 45
 JUNE 6 21 55
 JULY 6 12 02
 AUG. 5 3 05
 SEPT. 3 18 45
 OCT. 3 10 28
 NOV. 2 1 24
 DEC. 1 15 01
 DEC. 31 3 12

FIRST QUARTER

d h m

JAN. 17 6 57
 FEB. 16 0 16
 MAR. 17 19 19
 APR. 16 14 37
 MAY 16 8 56
 JUNE 15 1 22
 JULY 14 15 20
 AUG. 13 2 38
 SEPT. 11 11 37
 OCT. 10 19 01
 NOV. 9 1 57
 DEC. 8 9 36

FULL MOON

d h m

JAN. 25 10 32
 FEB. 24 4 54
 MAR. 25 20 58
 APR. 24 10 06
 MAY 23 20 18
 JUNE 22 4 14
 JULY 21 11 00
 AUG. 19 17 53
 SEPT. 18 2 01
 OCT. 17 12 14
 NOV. 16 0 57
 DEC. 15 16 15

LAST QUARTER

d h m

JAN. 3 17 46
 FEB. 2 7 27
 MAR. 3 17 36
 APR. 2 0 50
 MAY 1 6 24
 MAY 30 11 47
 JUNE 28 18 23
 JULY 28 3 19
 AUG. 26 15 18
 SEPT. 25 6 41
 OCT. 25 1 17
 NOV. 23 22 11
 DEC. 23 19 36

New Moon – The Moon's unilluminated side is facing the Earth. The Moon is not visible (except during a solar eclipse).

Waxing Crescent – The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

First Quarter – One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Waxing Gibbous – The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Full Moon – The Moon's illuminated side is facing the Earth. The Moon appears to be completely illuminated by direct sunlight.

Waning Gibbous – The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Last Quarter – One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Waning Crescent – The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

2004 Holiday Gathering at Roberto's Italian Restaurant



The Annual Club Xmas Party was enjoyed by about 30 members who had a great time getting together and discussing all matter of things over great food. The gift exchange made for lots of happy folks, with many nice presents being handed out. It was a happy occasion for all that attended!

An Invitation To Join

The San Bernardino Valley Amateur Astronomers

- Monthly Meetings/Speakers
- Monthly Star Party
- The Observer Newsletter
- Learn about Astronomy
- Learn about Telescopes
- Learn about Astrophotography

Fill out and mail this form along with \$30.00 Annual Membership Fee. Add an additional \$33.00 to include a one (1) year subscription to "Sky and Telescope" magazine and or \$29.00 for one (1) year subscription to "Astronomy" Magazine.

Make check payable to: San Bernardino Valley Amateur Astronomers.

**Mail to: Fidel Hernandez, SBVAA Treasurer,
27799 21st St, Highland, CA, 92346**

Name _____

Address _____

City and State _____

Zip _____ **Phone** _____

Internet E-mail Address _____

2004 Holiday Gathering at Roberto's Italian Restaurant ...more pics

The Annual Club Xmas Party was enjoyed by about 30 members who had a great time getting together and discussing all matter of things over great food. The gift exchange made for lots of happy folks, with many nice presents being handed out. It was a happy occasion for all that attended!



Photos thanks to Martin Carey

**SBVAA Star Party at Owl Canyon Campground
Rainbow Basin Natural Area, Barstow, CA.**

February 5th, 2005

See Tom Lawson, Star Party Coordinator

**Cassini/Huygens Astro-video
Mars Rover Updates
Member Astro Images
MEETING: January 15, 2005**

“Bring Scopes for Lunar and Planetary Observing”

SAN BERNARDINO COUNTY MUSEUM

2024 ORANGE TREE LANE, REDLANDS, CA

CALIFORNIA STREET EXIT FROM INTERSTATE 10

PRE-MEETING DINNER: 5:30PM, HOMETOWN BUFFET, LOMA LINDA



**SAN BERNARDINO VALLEY
AMATEUR ASTRONOMERS**

393 West La Cadena Dr
Ste 17
Riverside, Ca 92501