



# THE OBSERVER

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member THE ASTRONOMICAL LEAGUE

*"Celebrating Forty-Seven Years of Amateur Astronomy"*

VOLUME #47 ISSUE #02

FEBRUARY 2005

## **Astro Video--'The Big Chill' Klaus Brasch: The CSUSB Observatory Messier Marathon Discussion**

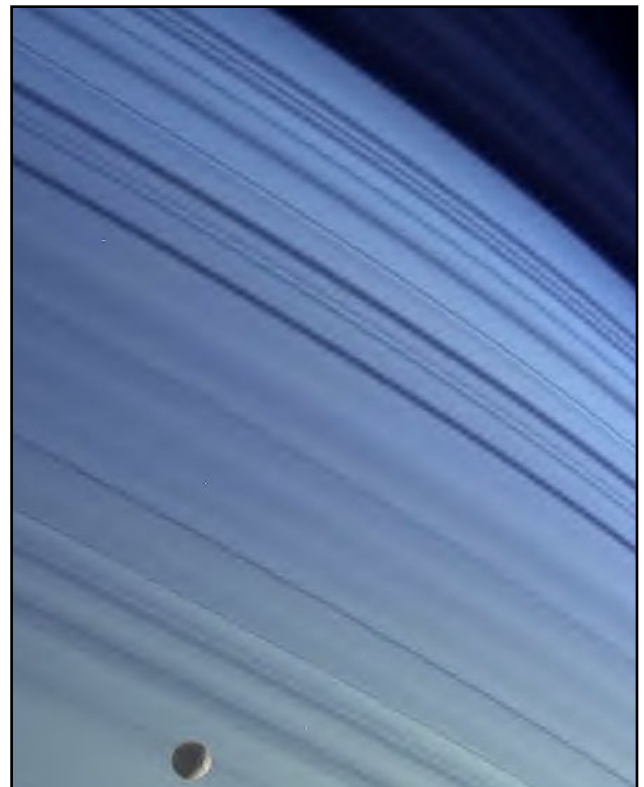
### **Mimas Blues**

February 8, 2005

Mimas drifts along in its orbit against the azure backdrop of Saturn's northern latitudes in this true color view. The long, dark lines on the atmosphere are shadows cast by the planet's rings. Saturn's northern hemisphere is presently relatively cloud-free, and rays of sunlight take a long path through the atmosphere. This results in sunlight being scattered at shorter (bluer) wavelengths, thus giving the northernmost latitudes their bluish appearance at visible wavelengths. At the bottom, craters on icy Mimas (398 kilometers, or 247 miles across) give the moon a dimpled appearance.

The images were obtained using the Cassini spacecraft narrow angle camera on Jan. 18, 2005, at a distance of approximately 1.4 million kilometers (870,000 miles) from Saturn. Resolution in the image is 8.5 kilometers (5.3 miles) per pixel on Saturn and 7.5 kilometers (4.7 miles) per pixel on Mimas.

Credit: NASA/JPL/Space Science Institute



**MEETING: February 19, 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

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)

## Total-Annular Solar Eclipse

Since last year I have been meaning to write this note when I found out that there was going to be a solar eclipse visible from Panama. It is better late than never.

I just received my Astronomical Calendar (Guy Ottewell) for the year 2005 and found out that Panama is exactly on the path of the total-annular solar eclipse to take place on Friday, April 8th 2005. If you look at a map of Panama, I live close to towns called San Carlos, Chame, Coronado & Santa Clara; our exact location is about 58 miles west of Panama City in a small area named Rio Mar - which probably wouldn't be on any map - on the Pacific Ocean side.

The purpose of this note is to invite members of SBVAA to come to my house if they want to observe the solar eclipse. In my main house I have 2 guest bed rooms: one room has a king size bed and the other room has two twin beds. Of those rooms, each room has it's own bathroom. I also have a small guest house that has two bedrooms, one larger room with a king size bed and one smaller room with one twin size bed; each room has it's own bathroom. I also have another much smaller house - a bit more rustic - that has two bedrooms, one bedroom with two twin beds and one small bedroom with a twin size bunk beds and one separate twin bed; that house has only one bathroom. If for some reason, more people are coming, I could always ask my sister for her small house, which is very close by, that has 3 bedrooms, each with two twin beds; it has two bathrooms.

Depending on how many take the offer, I could provide basic food for a small group from one to four. More than that, with all the beds full, then we have to figure out plan B. There is a restaurant close by -beach front - (about 200 - 300 meters) where all three meals can be purchased at very reasonable

prices. April is still the "dry" season, so no rain should be expected. The sky's are sometime unpredictable with high clouds covering. I would leave the touring up to whomever wants to come; there is a lot to see in Panama, just get into the internet and explore. If it is only a couple of people, I do not mind taking them around, but if it is really a large group, then the best thing would be for the group to contract a guide that has the appropriate transportation; I could find out.

The coordinates of my house are: N.: 08\* 27' 40.6" by W.: 79\* 58' 09.1" according to my hand held GPS. I do not know if my house is exactly on the path of the eclipse, but I know it is close or we could go someplace else. I do have open spaces to look up unobstructed. Though not on beach front, I do have beach view and it's walking distance (about 200 meters) to the beach on the Pacific Ocean. My house is about 70 miles west of the main airport of Panama City; close to that airport there is a nice reasonable hotel. If it is just a few (4 or less), coming together, I could go to the airport to pick up and take back; if more, let me know so I can tell you how to get to my house. For air transport from California, there is COPA airline (Panamanian, subsidiary of Continental) that flies directly non-stop from LAX to PTY; Continental airline from LAX, Ontario, or John Wayne to Houston to PTY; Delta through Atlanta; American that goes through Miami. The tickets vary between \$ 450 to \$ 800. To come to Panama you do not require a Visa, just buy - at the exit airport - a tourist card (\$ 5.00 ) which is good for 30 days; a valid American Passport is also required.

Again, sorry about the late note, but it is an invitation; rooms are free. Please let me know if there is any interest, how many are coming and who is coming.

Let's keep in touch.

Roberto Ocaña  
 tatocana@adess.net

## President's Message

Jerry L. Day

Jerry\_day@eee.org

Welcome back and Happy Valentines Day! I trust all remembered that special someone in their life and took time out of busy schedules for a day of romance? In addition to that card, box of chocolates, and flowers, how about offering an astronomer's jewel box of glittering diamonds, sapphires, or rubies – stars?

As for busy schedules, the next few months are a very busy time for the club, at least in terms of outreach events.

To the disappointment of all, heavy cloud cover prevented any viewing during the first outreach of the year, held January 25th at Kingsbury Elementary School in Redlands. Fortunately, there was still much to offer the assembled students, parents, and teachers as NASA/JPL Solar System Ambassador, Jim Butts, was on hand to present the latest findings from the Cassini/Huygens Mission to Saturn.

Looking ahead, we have one more outreach this month, to be held February 16 at Smiley Elementary School in Redlands, followed by no less than three outreaches in March.

The last star party was held Saturday, February 5, at the Owl Canyon campground. Unfortunately, I was not able to attend, but reports are that there was a good turnout. Conditions that night were good, but quite cold. Bill and two new members managed some astrophotography. Rudy attended with several students. Martin brought another new member and set up his 8" Mak while Tom set up his 12" Parks Dobsonian. Most lasted until about 2 AM before turning in for a few hours of sleep and then caravanning out to breakfast. (Sounds like a great time – wish I could have been there!)

Our annual Messier Marathon will be held during

the next star party on the weekend of March 11-12, at the Owl Canyon campground site near Barstow. For those arriving early, Friday night is an opportunity to relax and to practice for the Marathon, to observe favorite or challenging winter and spring deep-sky objects, or even take astro-photos.

The Messier Marathon itself will be held Saturday night. For those new to astronomy, the Marathon is an attempt to view all 110 of the objects cataloged by Charles Messier in the course of one night – from sunset to sunrise. For newcomers, the Marathon is a wonderful opportunity to learn the night sky, to hone observation skills, and to view many of the most impressive and brightest deep-sky objects. For veteran Marathoners, this is an opportunity to achieve a new personal record, to revisit favorite objects, or simply to observe in good company.

In addition to the assorted M-objects, there will be much else to view, with highlights including Jupiter, Saturn, and Comet Machholz.

The next meeting, Saturday, February 19, will feature an astronomy-related video following a short presentation by Dr. Klaus Brasch regarding the status of and fundraising efforts for, the new CSUSB Observatory.

I hope to see you all at these upcoming events.

Clear skies.

## February Meeting

An astrovideo called "The Big Chill" will be presented at the Saturday meeting. It provide an outline of the Global Climate Change, explaining how global warming can bring on an ice age.

Dr. Klaus Brasch will discuss the status of and fundraising efforts for, the new CSUSB Observatory.

Tom Lawson will discuss the upcoming Messier Marathon at Owl Canyon Campground.

# MARS ROVERS UPDATES

## Opportunity Rover Finds an Iron Meteorite on Mars

January 19, 2005

NASA's Mars Exploration Rover Opportunity has found an iron meteorite, the first meteorite of any type ever identified on another planet.

The pitted, basketball-size object is mostly made of iron and nickel according to readings from spectrometers on the rover. Only a small fraction of the meteorites fallen on Earth are similarly metal-rich. Others are rockier. As an example, the meteorite that blasted the famous Meteor Crater in Arizona is similar in composition.

"This is a huge surprise, though maybe it shouldn't have been," said Dr. Steve Squyres of Cornell University, Ithaca, N.Y., principal investigator for the science instruments on Opportunity and its twin, Spirit.

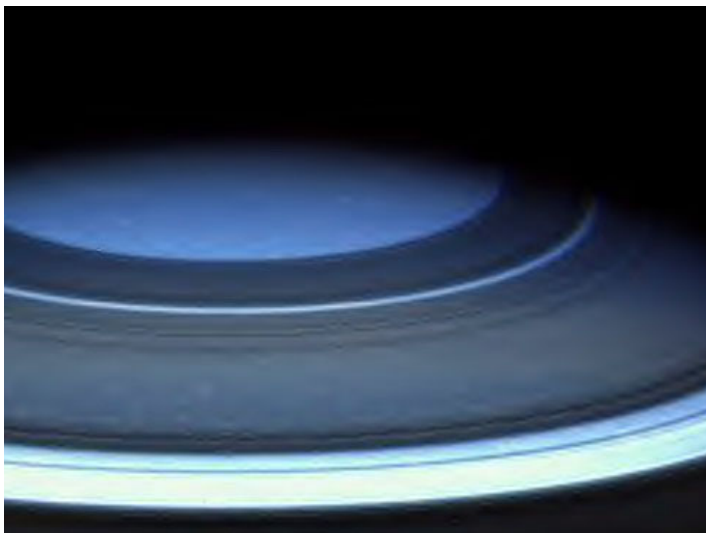
The meteorite, dubbed "Heat Shield Rock," sits near debris of Opportunity's heat shield on the surface of Meridiani Planum, a cratered flatland that has been Opportunity's home since the robot landed on Mars nearly one year ago.



## SPIRIT UPDATE: Spirit Encounters 'Alligator' - sol 381-388, February 07, 2005

Spirit has completed examination of a rock target called "Alligator," using every tool on the instrument deployment device (robotic arm). With Spirit's batteries recharged and atmospheric dust stable again, the rover is in excellent health and ready to approach "Cumberland Ridge," a crest on "Husband Hill."

# CASSINI-HUYGENS UPDATES



## Saturn's Blue Cranium

February 8, 2005

Saturn's northern hemisphere is presently a serene blue, more befitting of Uranus or Neptune, as seen in this natural color image from Cassini. Light rays here travel a much longer path through the relatively cloud-free upper atmosphere. Along this path, shorter wavelength blue light rays are scattered effectively by gases in the atmosphere, and it is this scattered light that gives the region its blue appearance. Why the upper atmosphere in the northern hemisphere is so cloud-free is not known, but may be related to colder temperatures brought on by the ring shadows cast there.

Shadows cast by the rings surround the pole, looking almost like dark atmospheric bands. The ring shadows at higher latitudes correspond to locations on the ringplane

that are farther from the planet -- in other words, the northernmost ring shadow in this view is made by the outer edge of the A ring.

The images were taken with the Cassini spacecraft wide angle camera on Dec. 14, 2004, at a distance of 719,200 kilometers (446,900 miles) from Saturn. The image scale is about 39 kilometers (24 miles) per pixel.

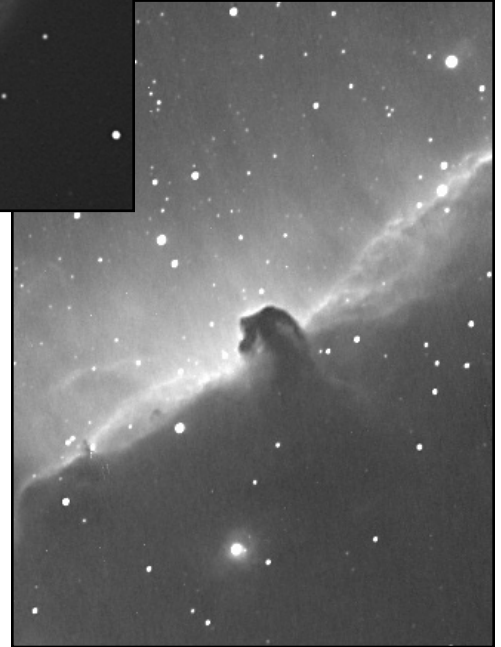
Credit: NASA/JPL/Space Science Institute



**M-51** Taken 2-5-05 from Barstow, Ca. Camera SBIG ST-8E Exposure 6x240, or 24 minutes Prime focus on 10" LX-200gps

### Horsehead

January, 2005 From Loma Linda, Ca.  
Camera: SBIG ST-8E  
Through HA filter  
Orion 80ED piggy back on LX-200  
Exposure: 13x300, 8x301, 4x600 about 2hours



## 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 \_\_\_\_\_



## Stardust Up Close

by Patrick L. Barry and Dr. Tony Phillips

Like discarded lumber and broken bricks around a construction site, comets scattered at the edge of our solar system are left-over bits from the "construction" of our solar system.

Studying comets, then, can help scientists understand how our solar system formed, and how it gave rise to a life-bearing planet like Earth.

But comets have long been frustratingly out of reach -- until recently. In January 2004 NASA's Stardust probe made a fly-by of the comet Wild 2 (pronounced "vilt"). This fly-by captured some of the best images and data on comets yet ... and the most surprising.

Scientists had thought that comets were basically "rubble piles" of ice and dust -- leftover "construction materials" held together by the comet's feeble gravity. But that's not what Stardust found. Photos of Wild 2 reveal a bizarre landscape of odd-shaped craters, tall cliffs, and overhangs. The comet looks like an alien world in miniature, not construction debris. To support these shapes against the pull of gravity, the comet must have a different consistency than scientists thought:

"Now we think the comet's surface might have a texture like freeze-dried ice cream, so-called 'astronaut ice cream': It's solid and can assume odd, gravity-defying shapes, but it's basically soft and crumbles easily," says Donald Brownlee of the University of Washington, principal investigator for Stardust.

Scientists are currently assembling a 3-D computer model of this surface from the photos that Stardust took. Those photos show the sunlit side of the comet from many angles, so its 3-dimensional shape can be inferred by analyzing the images. The result will be a "virtual comet" that scientists can examine from any angle. They can even perform a virtual fly-by. Using this 3-D model to study the comet's shape in detail, the scientists will learn a lot about the material from which the comet is made: how strong or dense or brittle it is, for example.

Soon, the Stardust team will get their hands on some of that material. In January 2006, a capsule from Stardust will parachute down to Earth carrying samples of comet dust captured during the flyby. Once scientists get these tiny grains under their microscopes, they'll get their first glimpse at the primordial makings of the solar system.

It's heading our way: ancient, hard-won, possibly surprising and definitely precious dust from the construction zone.

Find out more about the Stardust mission at [stardust.jpl.nasa.gov](http://stardust.jpl.nasa.gov). Kids can read about comets, play the "Tails of Wonder" game about comets, and hear a rhyming story about aerogel at <http://spaceplace.nasa.gov/en/kids/stardust/>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



The Stardust spacecraft used a grid holding aerogel to capture dust particles from comet Wild 2. In this test, high velocity dust particles are stopped unharmed at the end of cone shaped tracks in a sample of aerogel

# Star Party--February 5, 2005

## Rudy Rodriguez and his Astronomy Students

### Owl Canyon Campground



Photos by Bill Myerchin and Rudy Rodriguez

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

**MESSIER MARATHON: MARCH 12, 2005**

See Tom Lawson, Star Party Coordinator

**Astro Video–'The Big Chill'**

**Klaus Brasch: The CSUSB Observatory Messier  
Marathon Discussion**

**MEETING: February 19, 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**

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