



# Comet Tails

February 2005

## **ASTRONOMY DAY**

**FEBRUARY 12, 2005**

Please remember this Saturday, February 12 2005, is Astronomy Day. PLEASE plan to come with your telescope, your knowledge and your willingness to share it all! Remember to wear your TCAS t-shirt or polo shirt. We will have the kids table again which is a great success with the kids and we are all looking forward to the NASA speaker this year. Call me, 971-0159, if you have any questions. If you have a solar filter, please remember to bring it for some solar viewing and remember to keep solar viewing safe. We are still in a discussion as to which parking lot to set up in, north or south, so please check your email tomorrow morning for conformation of North or South (sounds like a good book!)

## **MESSIER MARATHON CAMPING TRIP!**

**PLEASE REMEMBER TO REGISTER**

It is only a month away! Please plan to join us, even if you can come for only one night. Call David, 772-878-6233, or Patty, 772-971-0159, if you have any questions. There is a registration form on the web page, [www.TreasureCoastAstronomy.org](http://www.TreasureCoastAstronomy.org), and I will have a few at Astronomy Day and the February meeting.

### **FROM THE PRESIDENT'S UNIVERSE**

**David Brown**

Hello to everyone.

First, lets all remember this coming Saturday is Astronomy Day at IRCC. Let's have a great turn out from our club members!! We have an earlier

start time this year, 12 noon to whenever. Bring your scopes, husbands, wives, girlfriends, boyfriends and anyone else you can think of!

**Space News:** The giant Magellan Telescope is truly giant: It will have seven 8.4 meter mirror segments. Cost is around \$15 million. It will give the scope about 4.5 times the collecting power of any current earth-based telescope.

On March 3<sup>rd</sup> the Moon will occult Antares.

The Cassini spacecraft continues its historic mission with new discoveries. Lighting from storms on the planet are a million times more

powerful than terrestrial ones, two new rings are discovered, a new moon, large mountains on the moon Iapetus and many more.

The Russians are using their old ICBM's for commercial space launches. Ahh, capitalism.

See you all Saturday for Astronomy Day

## EDITOR'S STUFF

**Patty Mayer**

I have been busy with organizing Astronomy Day and moving my daughter and grandson into my house, that this portion of the newsletter is skimpy this month. I do want to tell all of you that I was accepted by JPL as a Solar System Ambassador for the 2005 year. It is a volunteer position, but it opens many opportunities for me and for the club, such as the Deep Impact seminar at KSC.

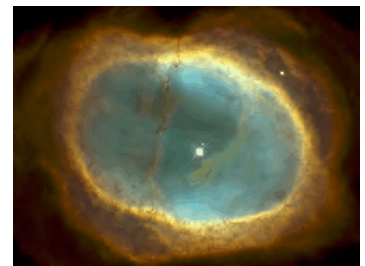
**CONTEST!** Here is a message from Steele Hill of NASA's GSFC: I wanted to let you or someone there know that we are holding a SOHO 1000 comet contest. Just started last week. The idea is to guess when SOHO will find its 1000th comet. We are at 900 comets or a little more now, so this will run for a few months. There are modest prizes for the winners.

The URL for more info. and to enter is <http://soho.nascom.nasa.gov/comet1000/> We have links to SOHO images and movies of comet

## WEB LINK HIGHLIGHT

**JOHN BIONDO**

Astronomy Picture of the Day, <http://antwrp.gsfc.nasa.gov/apod/lib/aptree.html>, is one of the best Astronomy picture sites on the Internet. Postings come mostly from Professional Observatories, but there are many from Amateurs as well. This is probably the most comprehensive image site I have found in my many hours of surfing. Each photo is also explained in great detail.



NGC 3132: The Eight Burst Nebula  
February 6, 2005

## UPCOMING CELESTIAL AND TERRESTRIAL EVENTS

### February Meeting

We have a special guest this month, Mr. George Fleenor. He will be talking about light pollution and its effects on astronomy.

### EVENTS

February 12, 2005 - Astronomy Day 12:00 through 9:00

March 11 - 13, 2005 - TCAS's first annual Messier Marathon camping weekend!

**NEXT NEW MOON IS FEBRUARY 8**

**NEXT OFFICIAL STAR PARTY WILL BE FEBRUARY 5**

**March's new moon is on March 10 -**

**hummmmm, star party at Bluefield or camping at Kissimmee Prairie?**

**CAMPING! CAMPING! CAMPING!**

### ASTRONOMY MINUTES

JANUARY 25, 2005

Started 7:47 and adjourned 8:59

Attendance: 20 members and 2 guests

#### Treasurer's report:

\$1003.54 in the treasury of which \$398.92 is for the astronomy college scholarship (camping money will be replaced)

Of the \$148.40 that was needed to create the logo for our t-shirts, the club has reimbursed the treasury approx \$68. Everytime a t-shirt is purchased a small amount of the money is used to reimburse the logo creation.

Club discussed and voted to state that anyone who joins the club after 3/1 of the calender year that the dues will be \$10. If someone joins between 9/1 to 2/29 the dues are \$20.

#### Presidents report:

Please see the newsletter on our website. And please let us know if you are not receiving a newsletter by emai.

Keith from Port St. Lucie Parks Department said thank you to all who attended and helped out with the special needs kids program at Whispering Pines Park. He will set up another one and will be happy to have us help out!!

### **New business:**

Next dark sky party at Bluefied site: it is 3½ miles farther west and south then Pineland and is ready for us.

Ray Bettancourt donated 2 telescopes to the club. One will be used as a drawing prize for a future astronomy day. Thankyou ray!!!!!!

### **Old business:**

Our club sponsered camping trip 3/12 to 3/14, please fill out the registration and return it with your money to Allan Como. So far 12 people have signed up.

Oxbow outing (off of 25<sup>th</sup> Street) Friday 1/28/05

Astronomy day!! Is here!! 2/12. Please come Friday night 2/11 and bring posters, old magazines and your smiles to help set up the college. Astronomy day is from 12 to 9. Please come out and help bring astronomy to the people!

### **Our meeting:**

David brown did his trivia quiz.

Patty Mayer did a presentation about the "Deep Impact" project that NASA is doing. Sending a probe to comet Temple1 part of which will impact with the comet on 7/4/05 and the other to send back observations. This is part of the Discovery Missions that NASA funds that costs \$299,000,000 or less.

Thank you Patty for a wonderful program.

Adjourned at 8:42 pm

## **HALLSTROM PLANETARIUM**

**Jon U. Bell, Planetarium Director**

The 2004-2005 Season is here! Jon hosts a new show each month on Friday, 7:00 and 8:00 p.m. and on Saturday, 2:00 and 3:00 p.m. TCAS members, please try to come out on Friday nights so you can share a view through your telescope with the public.

You can listen to Jon U. Bell every Monday through Friday on "Skywatch" on WQCS 88.9 FM radio at 7:20 a.m. and 1:00 p.m. for daily sky updates.

[www.ircc.edu/atircc/commout/planetarium/planet.html](http://www.ircc.edu/atircc/commout/planetarium/planet.html)

## WEB PAGES

### Member pages

TCAS ..... [www.treasurecoastastronomy.org](http://www.treasurecoastastronomy.org)  
Dave Holko ..... [www.atkmotors.com/defaultx.htm](http://www.atkmotors.com/defaultx.htm)

### Other Interesting Pages

Sky & Telescope Magazine ..... [www.skypub.com](http://www.skypub.com)  
Astronomy Magazine ..... [www.astronomy.com](http://www.astronomy.com)  
Universe Today ..... [www.universetoday.com](http://www.universetoday.com)  
Space news junkie ..... [www.space.com](http://www.space.com)  
Satellite tracking ..... [www.heavens-above.com](http://www.heavens-above.com)  
Free monthly sky map ..... [www.Skymaps.com](http://www.Skymaps.com)  
International Dark Sky Organization ..... [www.darksky.org](http://www.darksky.org)  
NASA ..... [www.NASA.gov](http://www.NASA.gov)  
Jet Propulsion Labratory ..... <http://www.jpl.nasa.gov/>  
Night Sky Network ..... <http://nightsky.jpl.nasa.gov/index.cfm>  
Astronomy Web Guide ..... <http://astronomywebguide.com/index.htm>

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## 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

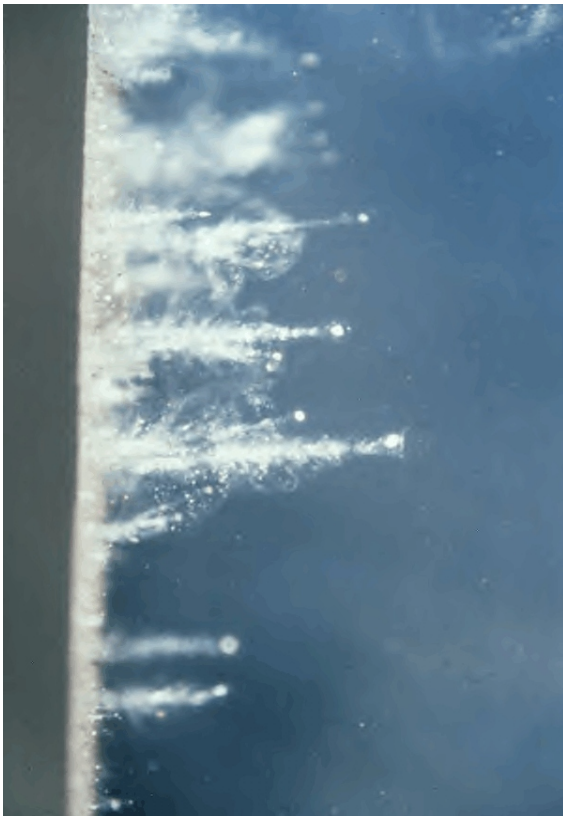
overhangs. The comet looks like an alien world in miniature, not construction debris. To support these shapes against the pull of gravity, the comet must have a different consistency than scientists thought:

"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/>.

*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*