

Triton Fun Company

Science Newsletter March 2007

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Jupiter, Simultaneous !

Special points of interest:

Beautiful Jupiter

Hubble images

Triton Fun stuff

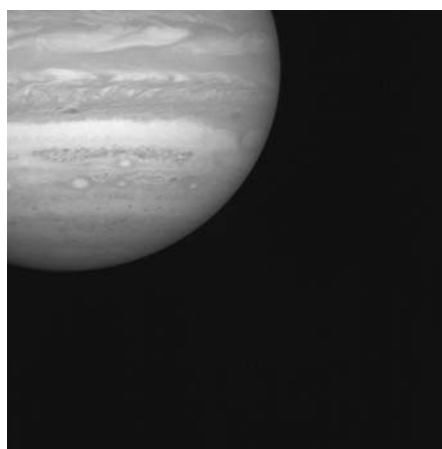
Superfluous questions

The New Horizons mission is on its way to Pluto. It will arrive there in 2015. In order to get there by then, the spacecraft had to get a gravity assist from Jupiter. That is, it had to fly by Jupiter, make a sharp turn and gain energy to boost velocity so it can get to Pluto in a reasonable amount of time (9.5 years rather than the 25 it would take if it tried to go there without a gravity assist from a large outer planet like Jupiter.)

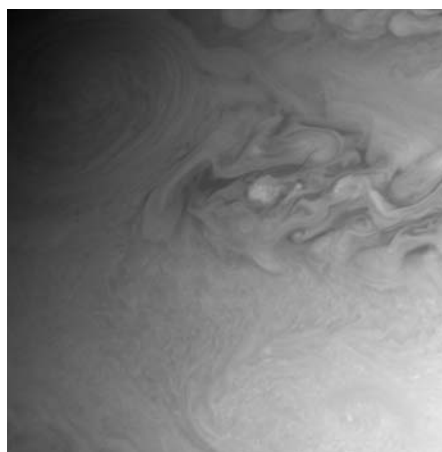
The flyby occurred on February 28, 2007. While it was passing by Jupiter at 1.4 million miles, it observed the planet closely and did scientific observations. This is the 8th spacecraft in history to visit Jupiter. The spacecraft is taking measurements and observations of the Jupiter system for the next few months. It will study the planet, its atmosphere, the satellites, rings and magnetosphere. You can follow the mission and its exciting results at: <http://pluto.jhuapl.edu>

At the same time as New Horizons was flying by Jupiter, the Hubble Space Telescope was also observing the planet. These simultaneous observations allow scientists to examine the images and spectra from 2 different vantage points and get synergistic information.

Here are some of the amazing, preliminary pictures taken during closest approach to Jupiter:



Jupiter as observed by the New Horizons spacecraft on Feb 10, 2007. Note bands, zones, clouds, storms, spots and textures.



Spectacular detail can be seen in Jupiter's atmosphere by New Horizons on Feb 26, 2007. The clouds are larger than Earth.



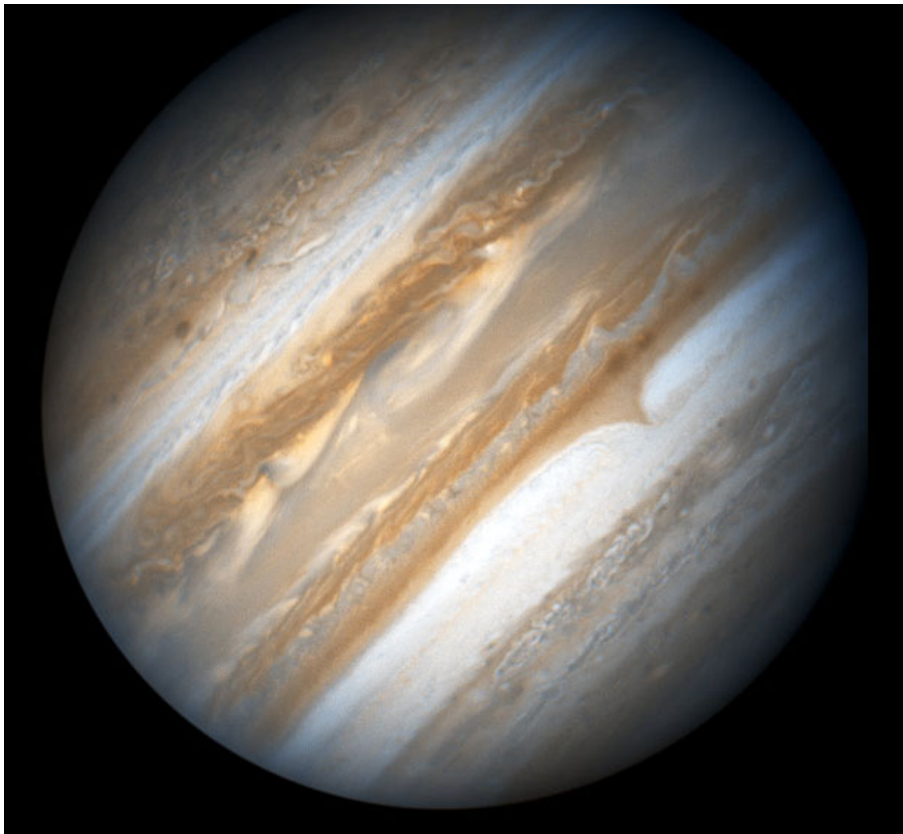
Io, Jupiter's dynamic, volcanically-active moon, taken on Feb 26, 2007 from 2.1 million miles, changes its "spots" frequently: the spots are the calderas of volcanoes from which lava continually pours out

We are always looking for **contributors** to the Science Newsletter. If you would like to write an article about a science subject you are excited about, or contribute a superfluous question, or if you would like to be on our **mailing list** for future newsletters, please e-mail us at:

science@tritonfun.com

Jupiter, Simultaneous ! continued

Photos: Johns Hopkins University Applied Physics Laboratory, Southwest Research Institute, STScI



Stunning Hubble telescope image of Jupiter taken simultaneously with the New Horizons Jupiter encounter on February 12, 2007. Belts and zones are clearly delineated. Features as small as 250 miles across can be seen in this image. Note the dipping of part of a red belt into a white zone; the meteorology on Jupiter is a fascinating and complex phenomenon still not fully understood.

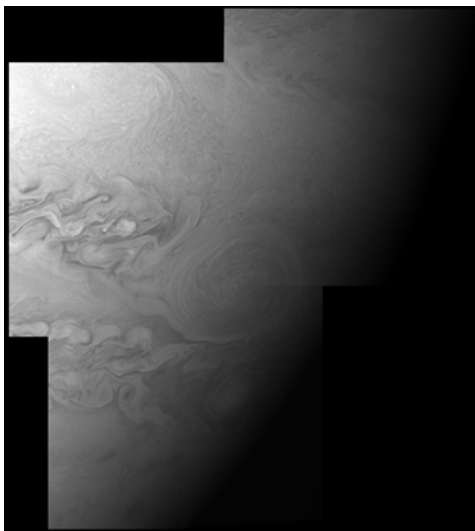


Image of so-called "Little Red Spot" on Jupiter, taken by the Lorri camera on New Horizons. This is a 3 picture mosaic. It was taken at low illumination (near sunset) because the cameras on New Horizons are designed for the low light conditions at Pluto, the planet that the spacecraft is headed for. As Pluto is 30 A.U. away from the Sun, it is very cold and dark there and the observations and instruments take this into account. The "Little Red Spot" was a white oval until just recently, when it turned red, now looking like the Great Red Spot. The red colors are most likely from sulfur and phosphorus compounds that have upwelled from below, then mixed together to form new, colorful clouds from chemical reactions in the atmosphere.

The eventual target of the New Horizons mission is planet Pluto, at the edge of the solar system, which it is scheduled to visit in July of 2015. Pluto is a fascinating place in its own right: it is an ice dwarf similar in size to our Moon, with methane on its bright, cold surface. The temperature is thought to be around 50 degrees above absolute zero (!). The Sun would appear much dimmer at the distance of Pluto than it is here on Earth. However, Pluto also has a transient atmosphere and 3 interesting moons to explore: Charon, Nix and Hydra. Stay tuned for the exploration of this distant frontier planet in our solar system !

Check out our Triton Fun Pluto T-shirts ! (next page —>)

TRITON FUN PRODUCT CATALOG !

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Magnetosphere hats



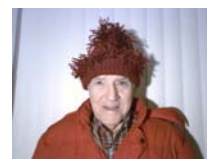
Sun visors -flippable



Nifty bottle holders



Spacecraft T-shirt



Magnetosphere hats



Sputnik shirts

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** Send us your superfluous questions for a future issue ! They can be on any subject. The funnier, the better. M.D., our editor, appreciates the help and will send you a free Triton Fun coffee mug as compensation for your question. Or write an article for us and be read by professional and amateur astronomers and scientists in the U.S. and Canada ! **

Superfluous Questions:

1. In the cartoon, "Top Cat", which of these names is not a name of one of Top Cat's buddies ?
a) Fancy Fancy b) Alley Cat c) Brain d) Choo-Choo
2. Which ingredient is not included in a New York-style egg cream ?
a) chocolate b) milk c) eggs d) seltzer
3. Where is the so-called "Cathedral of Learning" (which is not actually a cathedral) ?
a) Lincoln, Nebraska b) Birmingham, Alabama c) Pittsburgh, Pennsylvania d) Binghamton, New York
4. What is the name of the farthest known galaxy ?
a) Abell 1835 IR1916 b) NGC 5746 c) Cluster XMMXCS 2215-1738 d) Gosfield 21 AB22

—> ANSWERS in next months issue of the Science Newsletter ! <—

** ANSWERS to February's Superfluous Questions: 1. c) Spiral 2. c) LECF 3. c) Williams Bay, WI 4. d) 7