Ads by Gooooogle

Advertisement

NASA Spitzer Space Telescope Image: A Shocking Surprise in Stephan's Quintet

PRESS RELEASE
Date Released: Saturday, March 4, 2006
Source: California Institute of Technology

Images

This false-color composite image of the Stephan's Quintet galaxy cluster clearly shows one of the largest shock waves ever seen (green arc), produced by one galaxy falling toward another at over a million miles per hour. It is made up of data from NASA's Spitzer Space Telescope and a ground-based telescope in Spain.

Ads by Gooooogle Advertise on this site

Original NASA-DVD-Edition
Deutsch. Alle wichtigen Etappen, sensationelles Bild- & Tonmaterial!
www.weltbild.de/nasa

Telescope
High quality Telescope from China
The future is now.
eng.ehsy.com

Four of the five galaxies in this image are involved in a violent collision, which has already stripped most of the hydrogen gas from the interiors of the galaxies. The centers of the galaxies appear as bright yellow-pink knots inside a blue haze of stars, and the galaxy producing all the turmoil, NGC7318b, is the left of two small bright regions in the middle right of the image. One galaxy, the large spiral at the bottom left of the image, is a foreground object and is not associated with the cluster.

The titanic shock wave, larger than our own Milky Way galaxy, was detected by the ground-based telescope using visible-light wavelengths. It consists of hot hydrogen gas. As NGC7318b collides with gas spread throughout the cluster, atoms of hydrogen are heated in the shock wave, producing the green glow.

Spitzer pointed its infrared spectrograph at the peak of this shock wave (middle of green glow) to learn more about its inner workings. This instrument breaks light apart into its basic components. Data from the instrument are referred to as spectra and are displayed as curving lines that indicate the amount of light coming at each specific wavelength.

The Spitzer spectrum showed a strong infrared signature for incredibly turbulent gas made up of hydrogen molecules. This gas is caused when atoms of hydrogen rapidly pair-up to form molecules in the wake of the shock wave. Molecular hydrogen, unlike atomic hydrogen, gives off most of its energy through vibrations that emit in the infrared.

This highly disturbed gas is the most turbulent molecular hydrogen ever seen. Astronomers were surprised not only by the turbulence of the gas, but by the incredible strength of the emission. The reason the molecular hydrogen emission is so powerful is not yet completely understood.

Stephan's Quintet is located 300 million light-years away in the Pegasus constellation.

This image is composed of three data sets: near-infrared light (blue) and visible light called H-alpha (green) from the Calar Alto Observatory in Spain, operated by the Max Planck Institute in Germany; and 8-micron infrared light (red) from

Advertisement

Recent Press Releases

ATK First Quarter Earnings Increase 10 Percent to $1.09 Per Share

ESA Huygens Scientific Archive Data Set Released

Lockheed Martin Delivers Second Spacecraft

Spitzer's infrared array camera.

Send to a friend

Mercury - Venus - The Moon - Mars - Jupiter - Saturn - Pluto

Looking for new bingo players, join Bingo.com, the worlds largest bingo hall. Play FREE Bingo now.

Thousands of jobs available everyday from major job boards.

Stag weekends and Hen weekends

Search SpaceRef News

News from Commercial Space Watch

- ATK First Quarter Earnings Increase 10 Percent to $1.09 Per Share

- Lockheed Martin Delivers Second Spacecraft Structure For Advanced Military Communications Program

- New Image of Genesis I

- Commercial Space Tourists Daisuke Enomoto and Anoushek Ansari Train at RSC Energia

- Dnepr launch vehicle accident during BelKA satellite launch

- Boeing Laser Communications Demonstration Validates a Critical Element of TSAT Network

- NASA Ames Purchases EnSight Gold Licenses To Enhance Visualization Quality,

Structure For Advanced Military Communications Program

Underwater robots work together without human input

Dnepr launch vehicle accident during BelKA satellite launch

Remove the barriers to higher conversion rates, get a website usability analysis or study. Professional web design.

FX News and currency exchange rates currency converters, and currency graphs.

Cheap Holidays and Last Minute Holidays

DVD & CD Burning software and converters (CD, MP3, WAV, WMA, OGG, AVI, MPEG, WMV) CD/DVD burning, ripper.

Alive Web Directory - The web's complete online directory.

Corporate ID, new logo design, Logo Design Company is in the business of providing affordable branding solutions to small businesses.

Collaboration

- NASA GRC Solicitation: Affordable Fission Surface Power Study

- NASA GSFC Solicitation Notice: Small Business Forum

- NASA HQ Solicitation: Leadership Development and Executive Coaching

- MDA to study an Italy-Canada Hyperspectral Mission

- Wyle Announces Human Spaceflight Services Initiative and Appointment of Director for New Unit

- Northrop Grumman Weightless Teacher Program Floats Through Huntsville

- Pratt & Whitney Rocketdyne Completes Mach 5 Testing of World's First Closed-Loop Hydrocarbon-Fueled Hypersonic Propulsion System

- Paragon Space Development Corporation Announces the Hiring of Dr. Lance Bush

-

-

- Play free bingo games and black out bingo.

Copyright © 1999-2006 SpaceRef Interactive Inc. All rights reserved. Privacy Policy