

# Out of this world

Dazzling images showcase success of Boeing-supported Hubble Space Telescope upgrade

## ■ NGC 6302

By Ed Memi  
Photos by NASA

**T**hey say a picture is worth a thousand words, but recent images from the upgraded Hubble Space Telescope elicit just one: Wow.

Stunning new images released last month, including one of butterfly-shaped galaxies far, far away, would not have been possible but for the work of Boeing teams.

Boeing was responsible for readying Hubble's new instruments for launch on the recent—and final—space shuttle servicing mission to the 19-year-old space telescope. As the primary payload integrator for the STS-125 shuttle mission in May, Boeing provided the engineering analysis and support for the complex Hubble payload. It also oversaw installation of a network of power, cooling, mechanical and data interfaces in

**PHOTO:** NASA's Hubble Space Telescope captured NGC 6302, a butterfly-shaped nebula, 3,800 light-years from Earth. The delicate wings are actually roiling cauldrons of gas at more than 36,000 degrees Fahrenheit (20,000 degrees Celsius).



## ■ Markarian 817

the space shuttle's payload bay. In processing the payload for launch, Boeing also had to meet ultra-clean room requirements to safeguard the delicate instruments from even the smallest contaminants.

As a major subcontractor to the shuttle's operations contractor, Boeing also provided extensive engineering support for Shuttle *Atlantis* during the servicing mission, which featured five lengthy back-to-back spacewalks to repair and upgrade the telescope.

NASA says the new instruments are functioning properly, and the recent images clearly show the telescope's enhanced capabilities. The repairs should prolong the life of the telescope to at least 2014.

**PHOTO:** Rings of blue stars encircle the bright, active core of the Markarian 817 spiral galaxy. Star-forming regions and dark bands of interstellar dust appear along its spiral arms.

Boeing lead cargo integration engineer Charlene Miller, who has worked on three of the five Hubble servicing missions, had the task of ensuring the many electrical, data and mechanical connections were tested and worked properly. "When I look at any of the pictures from Hubble, I have this feeling I was a part of that whole effort and it just makes me very proud."

Next, Hubble will tackle a range of observations. These include taking a census of the population of Kuiper Belt objects residing at the fringe of our solar system, witnessing the birth of planets around other stars, and probing the composition and structure of the atmospheres of other worlds. ■

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