

Shuttle Discovery Returns to Earth After Successful Mission

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Space shuttle Discovery lands at Kennedy Space Center, Fla. Image credit: NASA

The space shuttle Discovery and its crew landed at NASA's Kennedy Space Center, Fla., on Wednesday at 1:01 p.m. EST after completing a 15-day journey of more than 6.2 million miles in space. Discovery's STS-120 mission added a key component to the International Space Station and featured an unprecedented spacewalk to repair a damaged solar array.

"This mission demonstrates the value of having humans in space and our ingenuity in solving problems," said Bill Gerstenmaier, associate administrator for space operations, NASA Headquarters, Washington. "The teams on the ground worked around the clock, along with the crews

in space, to develop a plan to fix the array. Our high level of preparedness gave us the edge necessary to make this a successful mission."

Discovery's crew of Commander Pam Melroy, Pilot George Zamka and mission specialists Scott Parazynski, Doug Wheelock, Stephanie Wilson, Clayton Anderson and European Space Agency astronaut Paolo Nespoli delivered the Node 2 module, known as Harmony. Harmony will provide attachment points for European and Japanese laboratories to be added later this year and early in 2008.

In addition to Harmony's installation, Discovery's crew performed three spacewalks and relocated the P6 truss and solar arrays to its permanent position on the left side of the station. During the fourth spacewalk, the crew repaired a torn solar array on the truss, enabling the full deployment of the array.

The crew and ground teams also worked on a problem with one of the station's Solar Alpha Rotary Joints, which allows the right side arrays to track the sun. On the second spacewalk, the joint was inspected, and metal shavings were discovered. Samples of the shavings returned with Discovery for further analysis. In the meantime, use of the joint will be limited to occasional adjustments for optimal position in relation to the sun.

Melroy and Expedition 16 Commander Peggy Whitson made history on Thursday, Oct. 25, when the hatch between the space shuttle and orbiting outpost was opened. They became the first female spacecraft commanders to lead space shuttle and space station missions concurrently.

NASA astronaut and station Flight Engineer Daniel Tani, who launched with the crew aboard Discovery, remained on the station. He is

scheduled to return home aboard space shuttle Atlantis on a mission targeted to launch Dec. 6. Tani replaced Anderson, who spent almost five months on the station, arriving in June 2007 aboard shuttle Atlantis.

Several inspections in orbit revealed no critical damage to Discovery, and the shuttle's thermal protection system was declared safe for re-entry on Tuesday. Workers immediately will begin processing the orbiter for its next flight, targeted for April 2008.

With Discovery and its crew safely home, the stage is set for the next phase of station assembly. Before Atlantis' STS-122 mission delivers the European Space Agency's Columbus laboratory module to the station, Harmony must be relocated to its permanent location at the front of the complex. The station crew will conduct three spacewalks and robotically move two components this month to complete that task, allowing Atlantis to dock and Columbus to attach to Harmony.

Source: NASA

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