

New NASA Software Monitors Space Station Gyroscopes

NASA has added a new computer program to help monitor the four gyroscopes that keep the International Space Station properly oriented without the use of rocket fuel. During a spacewalk on Monday, two astronauts from the space shuttle Endeavour removed and replaced a gyroscope that failed in late 2006.

Computer scientists at NASA's Ames Research Center, Moffett Field, Calif., designed the new software for the space station. The Inductive Monitoring System will be added to a group of existing tools to identify and track problems related to the gyroscopes.

"If the system does something unexpected, the software alerts ground controllers that something is different, an anomaly, and that allows them to analyze the situation and take preventive measures as necessary," said David Iverson, the computer scientist at Ames who spearheaded the five year-effort to develop the software.

During its development, researchers used the software to analyze several months of normal space station gyroscope data collected by the International Space Station Mission Control Center at NASA's Johnson Space Center, Houston. In these tests, problems with the gyroscopes were noticed long before the previous system flagged glitches. NASA started using the software earlier this year.

The software program also has been used in F-18 fighter planes and by the space shuttle's leading edge impact detection system, as well as for electric power plant and water quality monitoring.

Source: NASA

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