International Space Station status report: SS07-14

by Bend_Weekly_News_Sources

The Expedition 14 crew continued work this week on scientific experiments and increased the bandwidth on the International Space Station's computer network.

Commander Michael Lopez-Alegria and Flight Engineer Suni Williams spent time working with experiments that may hold the key to several aspects of long-duration space flight as NASA looks forward to missions back to the moon and on to Mars or other destinations.

Each served as test subject and operator for the Anomalous Long Term Effects in Astronauts' Central Nervous System experiment that examines how cosmic radiation affects brain waves. As test subjects, they wore an electroencephalograph cap that records readings of their brain functions, and over that, a special helmet with Italian-designed instruments that records the amount and types of cosmic rays passing through the station. Since cosmic radiation is even more prevalent at greater distances from Earth, the research could lead to countermeasures important to the safety and productivity of future explorers.

Lopez-Alegria and Williams also worked with the Nutritional Status Assessment experiment tracking how their bodies process nutrients in space and how food supplies are affected by storage in that environment.

Additionally, Lopez-Alegria provided the final samples associated with the Renal Stone Risk during Spaceflight: Assessment and Countermeasure Validation investigation, which is looking at the space effectiveness of a drug used on Earth to prevent kidney stones.

Flight Engineer Mikhail Tyurin worked with three Russian experiments that monitor cosmic rays and background radiation as they relate to long-duration flights and documented the condition of the Earth below from the unique vantage point of the station.

The crew worked on an upgrade to the laptop computer network. The new, integrated station computer network will be 10 times faster than the current network, using Ethernet connectivity over a router and either cables or wireless equipment. This will eliminate drag-through cables from the U.S. segment into the Russian segment. The work was accelerated because of the STS- 117 launch delay.

They also continued preparations for the undocking and discarding of the ISS Progress 23 cargo ship, which will be full of trash when it departs Tuesday, March 27. Russian flight controllers sent commands Friday that piped the last of the Progress 23 oxygen supplies into the station, and vented the Progress' propellant and oxidizer lines overboard to ensure a safe departure. The Progress is scheduled to undock at 1:11 p.m. CDT next Tuesday.

The station traffic schedule includes next Thursday's relocation of the Soyuz TMA-9 spacecraft from the Earth-facing port of the Zarya module to the aft port of the Zvezda Service Module. All three crew members will undock the Soyuz at 5:25 p.m. and redock at 5:53 p.m. This will make room for the arrival of the Soyuz TMA-10 spacecraft carrying the Expedition 15 crew and U.S. spaceflight participant Charles Simonyi. The new crew is scheduled to launch from the Baikanour Cosmodrome in Kazakhstan April 7 at 12:31 p.m. and dock with the station April 9 at 2:15 p.m.

Following a week of joint operations, Lopez-Alegria, Tyurin and Simonyi will climb into Soyuz TMA-9 and head for home April 20. They will leave Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov on board with Williams to start Expedition 15.

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