

NASA Sends First Genesis Early-Science Sample to Researchers

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NASA scientists have sent to academic researchers an unprecedented piece of the sun gathered by the Genesis spacecraft, enabling the start of studies to achieve the mission's initial science objectives.

Scientists at NASA's Johnson Space Center (JSC) in Houston recently shipped a piece of the Genesis polished aluminum collector to researchers at Washington University in St. Louis. The shipment marked the first distribution of a Genesis scientific sample from JSC since the science canister arrived on Oct. 4, 2004. Preliminary examination of the sample by researchers has confirmed it contains solar ions, traces of the solar wind.

"Reaching this point in our work and being able to send out this first Genesis scientific sample marks a milestone in recovery efforts, following the spacecraft mishap upon re-entry last September," said Dr. Eileen Stansbery, Deputy Director of JSC's Astromaterials Research and Exploration Science Directorate. "The team has done an outstanding job of curating these precious samples, performing preliminary exams, investigating numerous techniques to reduce or eliminate contamination that occurred upon impact, and preparing the samples for distribution to researchers," she noted.

Washington University researchers Charles Hohenberg and Alex Meshik will study the sample to try to determine detailed information about the gases that make up the sun.

Although most of the solar wind is comprised of hydrogen, Genesis' goal

was to capture samples of all elements in the periodic table to allow a detailed study of the sun's composition. The aluminum collector was designed to capture solar wind samples that can be used to measure the amounts of neon, argon, krypton and xenon, called the noble gases, the sun contains.

"Gaining a better understanding of the noble gas elements in the sun is one of the 19 specific scientific measurement objectives originally proposed for the Genesis mission," said Stansbery. "We are delighted to provide this sample to our Washington University colleagues. We look forward to the results of the research they are already conducting in this critical area, and we are increasingly optimistic that even more science data will be obtained from Genesis samples in the coming months," she added.

The Washington University study is the first of two scientific objectives that make up the initial research program planned for Genesis. The other early science objective involves studies of nitrogen from samples.

Genesis clean-room activities are now focused on preparing the second early science sample, the gold foil, for distribution in the next few weeks to researchers at the University of Minnesota. The gold foil collected bulk solar wind and will be used to study nitrogen isotopes.

Genesis was launched Aug. 8, 2001, from the Cape Canaveral Air Force Station in Florida on a mission to collect solar wind particles. The science phase of the mission was completed on April 1, 2004, following the collection of samples that began on Dec. 5, 2001. Following an extensive recovery effort since its Sept. 8 impact at a Utah landing site, the first scientific samples from the Genesis space probe arrived at JSC on Oct. 4, 2004.

Source: NASA

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