

2004 Genesis Mission Status Updates

November 11, 2004

TCM-14 was the last maneuver planned for nominal mission. December 16 is the last DSN communication with the spacecraft.

August 29, 2004

TCM-10 was done safely and precisely as planned early this Sunday morning. All planned events occurred per design. We are now headed to UTTR. Flight Team at JPL and LMSS did a great job!

August 11, 2004

TCM 9 occurred on Monday, August 9 at 3:15 am (PDT). The purpose of this maneuver was to keep the spacecraft on course and set up for a final maneuver which is targeted to Earth entry. TCM 9 was the first opportunity to use the highly accurate Spin Control technique by which the size of the maneuver was directly observable via the telemetered spin rate of the spacecraft. Early results indicate that the maneuver was successfully completed with less than 1% execution error.

April 21, 2004

Days since Launch of August 8, 2001: 986 days

Days to Earth Return: 140 days

Upcoming events:

Earth Flyby: May 1, about 10:00 UTC, the Genesis spacecraft will be at a distance from earth of 392,300 km and traveling about 1.26 km/s.

February 2, 2004

The Genesis spacecraft continues its mission collecting solar wind material expelled from the Sun. Telemetry from the Genesis spacecraft indicates that all spacecraft subsystems are reporting nominal operation.

There are three collector arrays aboard Genesis that are exposed to, or hidden from, the solar wind. One collector array for each of the three solar wind regimes. Which collector array is exposed is determined by the data received by sensitive ion and electron monitors located on the spacecraft's equipment deck. These monitors scrutinize the solar wind passing by the spacecraft and relay this information to the onboard computer, which in turn commands the collector arrays to deploy and retract as needed. Recent solar activity has called for the 'low solar speed' array to be deployed 92% of the time. Also, the H-Array, which handles high-speed solar wind was unshaded 8% of the time.

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The Genesis team is reconfiguring the spacecraft's rejection grid after a safing event which occurred on Jan. 29. The team will power back on the spacecraft's concentrator with a new, lower maximum voltage limit during a scheduled tracking pass on Feb. 3.

Telemetry from the Genesis spacecraft indicates that it is spinning at a rate of 1.6 rotations per minute. The spacecraft's space age 'gas gauge' indicates propellant usage totals are about 20.39 kilograms (45 pounds).

Genesis Vital Statistics:

Days since Launch of August 8, 2001: 895 days

Days to planned completion of primary science collection: 66 days

Days to Earth Return: 223 days

Months/Days of Accumulated Science Collection: 24.87 months / 757 days

Upcoming events:

Release Phase Systems Design review scheduled for February 4/5

Kickoff of final SKM (SKM-5C) on February 25th

Return Phase Critical Events Readiness Review February 26