

# NASA Tests Unique Jumbo Jet with Opening in Side; Plane's Airborne Telescope Will Be Used to Study Cosmos

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The rear fuselage of the Stratospheric Observatory for Infrared Astronomy's 747SP is illuminated during telescope testing operations in preparation for aircraft and science checkout flights. The telescope cavity door is open with the lower flexible door partially extended. (NASA Photo / Tom Tschida)

(PhysOrg.com) -- A NASA jumbo jet that will help scientists unlock the origins of the universe with infrared observations reached a milestone Friday when doors covering the plane's telescope were fully opened in flight.

The Stratospheric Observatory for Infrared Astronomy, a modified 747 jet known as SOFIA, flew for one hour and 19 minutes, which included two minutes with the telescope's doors fully opened. The goal was to

allow engineers to understand how air flows in and around the telescope. It was the first time outside air has interacted with the part of the plane that carries the 98-inch infrared telescope.

"Today we opened the telescope cavity door, the first time we have fully exposed the telescope and the largest cavity ever flown while in flight," said Bob Meyer, SOFIA program manager at NASA's Dryden Flight Research Center in Edwards, Calif. "This is a significant step toward certifying NASA's next great observatory for future study of the universe."

Besides these test flights of the airplane, two flights to operate and verify the scientific capabilities of the telescope assembly are planned for spring 2010. Telescope systems such as the vibration isolation system, the inertial stabilization system and the pointing control system will be tested during daytime flights.

These flights will prepare the telescope assembly for the first flight with the telescope operating. That first [flight](#) will be the initial opportunity scientists have to use the telescope and begin the process of quantifying its performance to prepare for SOFIA's planned 20-year science program.

SOFIA is a joint venture of NASA and the German Aerospace Center. NASA supplied the aircraft. The [telescope](#) was built in Germany.

**More information:** [www.nasa.gov/sofia](http://www.nasa.gov/sofia)

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