

ABSTRACT

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"The On-Orbit Performance of SIRTf - An Initial Assessment"

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The launch of SIRTf - the Space Infrared Telescope Facility – is planned for April, 2003. SIRTf will complete NASA's family of Great Observatories and serves as a cornerstone of NASA's Origins initiative. It carries an 85 cm aperture, all-beryllium telescope cooled to ~5.5K, and three focal plane instruments providing imaging and spectroscopy at wavelengths between 3 and 180 μ m. The combined cryogenic- and radiative-cooling system has a lifetime requirement of 2.5yrs, with a prelaunch prediction in excess of 5yrs. SIRTf will use an earth-trailing heliocentric orbit, drifting away from Earth at about 0.1au/yr. Observing time on SIRTf is available to the entire astronomical community through a peer-reviewed proposal process. This paper will present an initial report on the on-orbit performance of SIRTf, with emphasis on the cryogenic, thermal, pointing and optical systems which contain the bulk of SIRTf's new technology outside of that in the instruments. An accompanying series of papers will provide companion reports on the on-orbit performance of the instruments.

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