

# Stratospheric Observatory for Infrared Astronomy (SOFIA)

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The joint U.S. and German SOFIA project to develop and operate a 2.5-meter infrared airborne telescope in a Boeing 747-SP is now in its final stages of development. Flying in the stratosphere, SOFIA allows observations throughout the infrared and sub-millimeter region, with an average transmission of greater than 80%. SOFIA has a wide instrument complement including broadband imagers, moderate resolution spectrographs capable of resolving broad features due to dust and large molecules, and high resolution spectrometers suitable for kinematics studies of molecular and atomic gas lines at km/s resolution. These instruments will enable SOFIA to make unique contributions to a broad array of science topics. The first successful flight tests of the aircraft with the telescope mounted, began in 2007. First science flights will begin in 2009, and the observatory is expected to operate for more than 20 years. The sensitivity, characteristics, science instrument complement, future instrument opportunities and examples of first light science will be discussed.