

THE STRATOSPHERIC OBSERVATORY FOR INFRARED ASTRONOMY (SOFIA)

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The Stratospheric Observatory for Infrared Astronomy (SOFIA) is a joint U.S./German Project to develop and operate a 2.5-meter infrared airborne telescope in a Boeing 747-SP that flies in the stratosphere at altitudes as high as 45,000 feet and is capable of observations from 0.3 microns to 1.6 mm with an average transmission of greater than 80 percent. SOFIA will be staged out of the NASA Dryden Flight Research Center aircraft operations facility at Palmdale, CA and the SOFIA Science Mission Operations Center (SSMOC) will be located at NASA Ames Research Center, Moffett Field, CA. Open door test flights began in December of 2009. First science flights will begin in 2010, and the number of flights will ramp up annually with a flight rate of over 100 eight to ten hour flights per year expected by 2014. The observatory is expected to operate until the mid 2030's. We review the status of the SOFIA facility and its initial complement of eight focal plane instruments that include broadband imagers, moderate resolution spectrographs that will resolve broad features due to dust and large molecules, and high resolution spectrometers capable of studying the kinematics of molecular and atomic gas lines at km/s resolution.