

SOFIA -- A Versatile Facility for Infrared and Submillimeter Astronomy in the New Millenium

Mark Morris

Department of Physics and Astronomy
University of California, Los Angeles, CA

SOFIA, The Stratospheric Observatory for Infrared Astronomy, is a joint US and German project to develop and operate a 2.5-meter infrared telescope in an airborne platform, a Boeing 747-SP. NASA has contracted with the Universities Space Research Association (USRA), teamed with Raytheon E-Systems and United Airlines, to build and operate the observatory. The telescope assembly is being provided by a consortium of German companies led by MAN-GHH. Work has been under way for over a year on both the telescope and the aircraft, and first science flights are expected to begin in 2001. Observations and instrument development will proceed through the 20-year lifetime of the observatory, with 20% of the observing time (and a similar fraction of the instrument development) being assigned to German investigators. SOFIA will be used for observations from the UV to submillimeter wavelengths (0.3 microns to 1.6mm), with particular emphasis on mid and far-infrared, and submillimeter. The initial complement of instruments has been selected, and will be discussed, as will the broad scientific themes which SOFIA will be used to address. The prospects for THz astronomy are particularly exciting, and will be featured. Unlike its predecessor, the Kuiper Airborne Observatory, SOFIA will have facility instrumentation in addition to more specialized instruments built by selected principal investigator teams.