

1. TITLE:

SIRTF TELESCOPE TEST FACILITY

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6. ABSTRACT TEXT:

An optical test Dewar is being constructed with the unique capability to test mirrors of diameters 1 m,  $f \leq 6$ , at temperatures from 300 to 4.2 K with a ZYGO Mark IV interferometer. The facility possesses extensive thermometry throughout for characterization of the test chamber thermal environment and Dewar performance. The facility features warm photon shielding through the use of crushed iridium filled joints. Optical access is controlled with cryogenically coded shutters. The entire Dewar is vibration isolated with a transmissibility of 0.01 @ 10 Hz. The facility will be on line in early 1995 for its first user, the Infrared Telescope Technology Testbed (ITTT) for the Space Infrared Telescope Facility (SIRTF) at JPL. The design requirements for this facility and the resultant design and implementation experiences and challenges will be presented.

7. KEYWORDS:

Infrared, cryostat, optical, SIRTF

8. PRINCIPAL AUTHOR BIOGRAPHY:

Thomas S. Luchik is Group Supervisor for the Jet Propulsion Laboratory's Low Temperature Science and Engineering Group. His Ph.D. is from Purdue University.