JPL CRYOCOOLER DEVELOPMENT AND TEST PROGRAM OVERVIEW

R. G. Ross, Jr.
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California 91109

Extensive near-term and future space-instrument programs within NASA and the Ballistic Missile Defense Organization (BMDO) depend on the successful development of long-life, low-vibration space cryocoolers. The most demanding near-term programs include a number of science instruments selected for NASA's Earth Observing System (Eos) program, and a number of space reconnaissance instruments associated with the BMDO'S Brilliant Eyes and Brilliant Pebbles programs; all of these programs require delivery of similar types of flight coolers in the next few years.

To help ensure the success of these cooler commitments, the Jet Propulsion Laboratory (JPL) has implemented an extensive cryocooler program in cooperation with the Air Force Phillips Laboratory (AFPL), the Air Force Space Division, the Aerospace Corp., and NASA Goddard Space Plight Center. This program is directed at assisting industry in developing advanced cryocoolers that successfully address the broad array of complex performance requirements needed for NASA and BMDO long-life space instruments. The JPL cryocooler program includes extensive characterization and life testing of industry-developed Stirling coolers, development and test of advanced vibration-suppression systems for mechanical cryocoolers, flight tests of advanced low-vibration Stirling-cooler systems, and development and flight testing of advanced sorption cooler systems for detector cooling to 10 K,

Ronald G. Ross Jr.
Jet Propulsion Laboratory
M/S 233-105
4800 Oak Grove Dr.
Pasadena, CA 91109

Phone (818) 354-9349
FAX (818) 393-4206

Prefer Oral Paper