THERMAL CONTROL AT CRYOGENIC TEMPERATURES OF LARGE TELESCOPE SYSTEMS FOR SPACE MISSIONS

Alfred E. Nash

Jet Propulsion Laboratory, California Institute of Technology

ABSTRACT:
The astronomical science community has made recommendations for the nation's science priorities in astronomy and astrophysics, including a number of new initiatives for observing the universe requiring large cold space borne apertures. In response, NASA has strategic plans to bring about missions to accomplish these scientific objectives. We report on our study of the requirements, possible approaches, and the challenges therein to realize the cryogenic thermal control systems necessary for these future missions.

This research was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement by the United States Government or the Jet Propulsion Laboratory, California Institute of Technology.