

THE DEEP SPACE 4/CHAMPOLLION COMET RENDEZVOUS AND LANDER TECHNOLOGY DEMONSTRATION MISSION. William D. Smythe, Paul R. Weissman, Brian K. Muirhead, Grace H. Tan-Wang, Dara Sabahi, and James M. Grimes. Jet Propulsion Laboratory, Mail stop 183-601, 4800 Oak Grove Drive, Pasadena, CA 91109.

The Deep Space 4/Champollion mission is designed to **test and validate** technologies for landing on and anchoring to small bodies, and sample collection and transfer, in preparation for future sample return missions from comets, asteroids, and satellites. In addition, DS-4 will test technologies for advanced, multi-engine solar electric propulsion (SEP) systems, inflatable-rigidizable solar arrays, autonomous navigation and precision guidance for landing, autonomous hazard detection and avoidance, and advanced integrated avionics and packaging concepts.

Deep Space-4/Champollion consists of two spacecraft: an orbiter/carrier vehicle which includes the multi-engine SEP stage, and a lander, called Champollion, which will descend to the surface of the 46P/Tempel 1 cometary nucleus. The spacecraft will launch in April, 2003 and land on the comet in September, 2006. Deep Space 4/Champollion is a joint project between NASA and CNES, the French space agency.