

New Technologies for Future Small Body Missions

Launched on October 24, 1998, Deep Space 1 (DS1) was the first mission of NASA's New Millennium Program, chartered to test in space high-risk, new technologies important for future space science programs. The advanced technology payload that was tested on DS1 comprises solar electric propulsion, solar concentrator arrays, autonomous on-board navigation and other autonomous systems, several telecommunications and microelectronics devices, and two low-mass integrated science instrument packages. The technologies were rigorously exercised so that subsequent flight projects would not have to incur the cost and risk of being the first users of these new capabilities. Missions that were previously considered impossible or unaffordable should be feasible because of the success of DS1's testing.