

DPS Abstract:

Exploration at the Edge of the Solar System: The Pluto-Kuiper Express Mission

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The Pluto-Kuiper Express mission is one component of the Outer Planets/Solar Probe Project which is part of the exploration strategy laid out in the Solar System Exploration Roadmap. The first three missions of this project are the Europa Orbiter, Pluto-Kuiper Express and the Solar Probe. All require challenging new technologies and the ability to operate in deep space and at Jupiter. Use of common management and design approaches, avionics, and mission software is planned to reduce the costs of the three missions.

The Pluto-Kuiper Express mission is planned to launch in 2004 and is designed to provide the first reconnaissance of the Solar System's most distant planet, Pluto, and its moon Charon. A gravity assist from Jupiter will allow an 8-year flight time to Pluto and the possibility of encountering one or more Edgeworth-Kuiper Belt objects after the Pluto encounter. The primary science objectives for the mission include characterizing the global geology and geomorphology of Pluto and Charon, mapping their surface composition and characterizing Pluto's neutral atmosphere and its escape rate.

This mission is currently soliciting scientific investigations through a NASA Announcement of Opportunity.