

The Hayabusa Spacecraft Sample Return Mission

The Hayabusa (originally known as MUSES-C) engineering spacecraft was launched by the 5th Mu V launch vehicle on May 9, 2003 by the Japan Aerospace Exploration Agency (JAXA). It was designed to acquire samples from the surface of near-Earth asteroid 25143 Itokawa (1998 SF36) and return them to Earth. The main objectives of the mission were to demonstrate the performance of various technologies such as ion engine performance, autonomous navigation and control, asteroid surface sampling, and recovery of the return capsule after high speed re-entry. Hayabusa successfully returned a small capsule to Earth in June 2010 with a parachute assisted landing in Woomera, Australia. Details of the Hayabusa mission and the recovery operation will be presented for discussion.