

Thursday, March 16, 2006
POSTER SESSION II: RESULTS OF THE HAYABUSA MISSION
7:00 p.m. Fitness Center

Franzen M. A. Haseltine J. D. Kramb J. Ostrowski D. R. Sears D. W. G.

Fluidization as a Potential Mechanism for Formation of Polar Surface Features on Asteroid Itokawa [#1022]

The Hayabusa mission imagery of asteroid Itokawa has revealed smooth textures in the polar regions that may have been caused by fluidization.

Yoshikawa M. Michel P.

Orbital Evolution of Asteroid (25143) Itokawa: Its Past, Present, and Future [#1545]

The orbital evolution of asteroid Itokawa was studied. It is found that Itokawa most likely comes from the inner part of the main belt, and will collide with the Sun or terrestrial planets. This is the typical evolution of Near Earth Objects.

Maruya M. Ohyama H. Uo M. Muranaka N. Morita H. Kubota T. Hashimoto T. Saito J. Kawaguchi J.

Modeling and Analyzing Itokawa Topography for Hayabusa Touchdown and Sample Collection [#1702]

This paper describes the 3-D model of Itokawa constructed during the Hayabusa proximity observation, and it also describes the topographical aspect of site selection for safe touchdown.

Michikami T. Nakamura A. M. Honda C. Saito J. Hiraoka K. Nakamura R. Demura H. Ishiguro M.

Hirata N. Miyamoto H.

The First Look of Blocks on Asteroid 25143 Itokawa by the Hayabusa Spacecraft: A Comparison of the Observed Number Density with the Estimated [#1843]

We examine the origin of blocks on surface of Itokawa, by comparing the observed number with the estimated number of blocks. Our results mean that the blocks of Itokawa are not direct consequences of impact cratering process.

Gaskell R. Saito J. Ishiguro M. Kubota T. Hashimoto T. Hirata N. Abe S. Barnouin-Jha O. Scheeres D.

Global Topography of Asteroid 25143 Itokawa [#1876]

Digital maps of the asteroid Itokawa have been constructed using multi-image photogrammetry from 600 Hayabusa images. They are combined to construct high resolution global and local topography, and are used as control points for determining the pole and spacecraft position and orientation.

Tholen D. J. Hirata N. Gaskell R. W. Ishiguro M. Saito J.

Comparison of Ground-based Lightcurve Observations of (25143) Itokawa with Synthetic Lightcurves Generated from Asteroid Shape Models [#2223]

The light scattering properties of the surface of Itokawa are being constrained by matching the observed rotational lightcurve behavior with synthetic lightcurves based on shape models derived from both radar and Hayabusa spacecraft observations.

Yokota Y. Ishiguro M. Nakamura A. M. Nakamura R. Tholen D. Smith P. Saito J. Kubota T. Hashimoto T.

Opposition Effect on Itokawa: Preliminary Report from Hayabusa Images [#2445]

Opposition surge of the airless body surface is thought as a useful tool to investigate the property of the regolith. Hayabusa has three Optical Navigation Cameras. We will present the current status of the analysis of data.

Abe S. Mukai T. Hirata N. Barnouin-Jha O. S. Cheng A. Mizuno T. Nakamura R. Scheeres D. Yoshikawa M.

Gaskell R. Demura H. Hashimoto T. Kubota T. Matsuoka M.

Determination of Gravity and Density of Asteroid 25143 Itokawa by Light Detection and Ranging Instrument on Hayabusa Spacecraft [#2461]

The Light Detection And Ranging instrument (LIDAR) onboard the Hayabusa spacecraft provided the scientific data of the gravity estimation. In this paper, we will describe the mission specifications for the LIDAR instrument and the gravity and density results obtained by LIDAR.

Abell P. A. Vilas F. Jarvis K. S. Gaffey M. J. Kelley M. S.

Mineralogical Composition of (25143) Itokawa 1998 SF₃₆ from Visible and Near-Infrared Reflectance Spectroscopy: Evidence for Partial Melting [#1513]

Spectral reflectance ground-based observations of (25143) Itokawa were obtained to support the Japanese Hayabusa mission. Detailed analyses of the spectra indicate that this object is likely a primitive achondrite with a 70:30 olivine/pyroxene ratio.

Okada T. Yamamoto Y. Inoue T. Shirai K. Arai T. Ogawa K. Hosono K. Kato M.

Thermal Radiometry of Asteroid Itokawa by the XRS Onboard Hayabusa [#1965]

Thermal radiometry of asteroid Itokawa has been conducted by the XRS onboard Hayabusa. Preliminary results show the global averaged temperature in the daytime is 340 ± 10 K, consistent with relatively high thermal inertia by Mueller et al. (2005).