
 [EE] Evening Poster | P (Space and Planetary Sciences) | P-PS Planetary Sciences

[P-PS03] Small Bodies in the Solar System: Current Understanding and Future Prospects

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In this session, we welcome presentations regarding small bodies in the Solar System from a variety of approaches (i.e., laboratory experiments, observations, explorations, theoretical modeling, and sample analyses). Especially this year, the Hayabusa2 spacecraft is about to rendezvous with its mission target (Ryugu, C-type asteroid), and ready to make remote-sensing observations for acquiring detailed information of the primordial body. Taking account of the situation, we aim to organize our current understanding of these primordial bodies and further discussing future prospects in this research field.

[PPS03-P14] Optical spectra of (25143) Itokawa via Hayabusa/AMICA observation

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Understanding of space weathering effect is important since it provides a clue to the evolution scenario of target asteroids. The near-Earth asteroid (25143) Itokawa shows a diverse of spectral properties in Hayabusa/AMICA images, suggesting a various degree of space weathering on the surface. It is known that the space weathering changes the spectra of siliceous asteroids redder, eliminating the absorption around 1 μm . Taking the advantage of the availability of AMICA at 0.38-1.01 μm , we contrive to derive the spectra at different terrains on Itokawa. It is, however, reported that the scattered light components severely degrade the AMICA images, especially at the wavelengths $>0.86 \mu\text{m}$. Here we upgraded a technique introduced in Ishiguro (2014) using a simplex technique for the subtraction of scattered light components, and derive the spectra using full set of AMICA seven channels. Our new technique enables to apply for the longest channel (i.e., zs-band at 1.01 μm) images. From these reflectance spectra, we tentatively estimated the surface ages at the different location to be 0.8-2 Myr. Based on this data together with results in previous publications, we shall discuss about the evolutionary scenario of this asteroid.