

Wednesday, March 19, 2014

[W354]

REGOLITH PROCESSES ON SMALL BODIES FEATURING ITOKAWA

1:30 p.m. Waterway Ballroom 6

Chairs: Faith Vilas
Daniel Britt

- 1:30 p.m. Keane J. T. * Matsuyama I.
[Hill Slope Failure as a Mechanism to Resurface Asteroids During Planetary Flybys](#) [#2733]
The signatures of space weathering are being mysteriously wiped off of asteroids during planetary flybys. We propose a new mechanism for how this happens.
- 1:45 p.m. Noviello J. L. * Ernst C. M. Barnouin O. S. Daly M.
[Block Distribution on Itokawa: Implications for Asteroid Surface Evolution](#) [#1587]
Our observations indicate that small blocks are potentially affected by differing accretionary or geological processes relative to the large ones.
- 2:00 p.m. Basilevsky A. T. * Head J. W. Horz F. Ramsley K.
[Survival Time of Meter-Sized Rock Boulders on the Surface of Asteroid Itokawa](#) [#1688]
The meter-sized boulders on Itokawa should have a survival time 2.5–3 times longer comparing to similar boulders on the lunar surface.
- 2:15 p.m. Sears D. W. G. * Tornabene L. L. Osinsky G. R. Hughes S. S. Heldmann J. L.
[The Ponds on Eros: Possible New Insights from Experiment, Vesta, Mars, and Terrestrial Analogs](#) [#1606]
Recent discoveries of water on Vesta, and new ideas concerning energetic events and volatile surfaces, we suggest that fluidization have formed the Eros ponds.
- 2:30 p.m. Gillis-Davis J. J. * Scott E. R. D.
[Explaining the Sulfur Depletion on Eros and the Different Space Weathering of S-Type and V-Type Asteroids](#) [#1189]
We report on what caused S depletion on Eros, and why S-type asteroids appear more weathered than the surface of Vesta.
- 2:45 p.m. Vilas F. * Hendrix A. R.
[Searching for Evidence of UV/Blue Space Weathering in S-Complex Asteroid Photometry from the Sloan Digital Sky Survey](#) [#2772]
Differences in UV/blue space weathering of S-complex asteroids is sought in the Sloan Digital Sky Survey Moving Object Catalog photometry.
- 3:00 p.m. Koga S. * Sugita S. Kamata S. Ishiguro M. Hiroi T. et al.
[Spectral Evolution Tracks of S-Type Asteroids Suggested by Principal Component Analysis of Multi-Band Images of Itokawa](#) [#1721]
We performed PCA for spectra of Itokawa using high-resolution multiband images and found a possible spectral evolution track of S-type asteroids.
- 3:15 p.m. Meier M. M. M. * Alwmark C. Bajt S. Böttger U. Busemann H. et al.
[A Precise Cosmic-Ray Exposure Age for an Olivine Grain from the Surface of Near-Earth Asteroid \(25143\) Itokawa](#) [#1247]
We have determined the masses of seven Hayabusa grains, and the He,Ne content of three grains, all of which have a cosmic-ray exposure age of 1.5 Ma (within error).

- 3:30 p.m. Fujiya W. * Hoppe P. Ott U. Meier M. M. M. Bochsler P.
[Solar Wind Boron Observed in a Hayabusa Sample and a Gas-Rich Meteorite](#) [#1802]
Boron-10 excesses were found in asteroidal regolith, possibly due to implanted solar wind. However, the isotopic ratios cannot be explained by current models.
- 3:45 p.m. Thompson M. S. * Christoffersen R. Zega T. J. Keller L. P.
[Nanoscale Analysis of Space-Weathering Features in Soils from Itokawa](#) [#2121]
An analysis of grains from asteroid Itokawa for microchemical and structural evidence of space weathering using transmission electron microscopy.
- 4:00 p.m. Keller L. P. * Berger E. L.
[A Transmission Electron Microscope Investigation of Space Weathering Effects in Hayabusa Samples](#) [#1935]
Itokawa dust / Electron microscope pics / Show space-altered rims.
- 4:15 p.m. Britt D. T. * Schelling P. K. Consolmagno G. J. Bradley T.
[Space Weathering on Volatile Rich Asteroids](#) [#2067]
Space weathering processes and products on volatile-rich asteroids can include the in situ production of organics through Fischer-Tropsch catalytic reactions.
- 4:30 p.m. Nakauchi Y. * Abe M. Tsuchiyama A. Kitazato K. Yasuda K.
[Laboratory Simulation of Solar Wind Implantation on Hydrated Silicate Minerals](#) [#2004]
The reflectance spectra of hydrated silicate minerals irradiated solar wind protons showed a conspicuous change at the bands related to bonding state of -OH.