

Thursday, March 22, 2012
SMALL BODY STUDIES II: EARTH-CROSSING TO MAIN BELT
8:30 a.m. Waterway Ballroom 5

Chairs: Lucy Lim

Andrew Rivkin

- 8:30 a.m. Lim L. F. * Emery J. P. Moskovitz N. A. Granvik M.
[*The Near-Earth Encounter of 2005~YU55: Thermal Infrared Observations from Gemini North*](#) [#2202]
 We conducted thermal infrared photometry and spectroscopy (7.9–14 and 18–22 μm) of the C-type NEO 2005 YU55 using the Michelle instrument at Gemini North. Temperature and thermal inertia will be discussed.
- 8:45 a.m. Moskovitz N. A. * Yang B. Lim L. F. Emery J. P. Granvik M. Sheppard S. S. Willman M. McMillan M.
[*The Near-Earth Encounter of Asteroid 2005 YU55: Visible and Near-Infrared Spectroscopy*](#) [#2080]
 In Nov. 2011 the asteroid 2005 YU55 passed between Earth and the Moon. During this encounter we conducted an observing campaign to study this object's chemical and physical properties. Here we present visible and near-infrared spectroscopic results.
- 9:00 a.m. Nakamura E. * Makishima A. Moriguti T. Kobayashi K. Tanaka R. Kunihiro T. Tsujimori T. Sakaguchi C. Kitagawa H. Ota T. Yachi Y. Yada T. Abe M. Fujimura A. Ueno M. Mukai T. Yoshikawa M. Kawaguchi J.
[*Space Environment of an Asteroid Preserved on Micro-Grains Returned by the Hayabusa Spacecraft*](#) [#1375]
 In this paper, we summarize the results of our comprehensive initial analysis of the sizes, morphology, mineralogy, and geochemistry of five lithic grains from Itokawa.
- 9:15 a.m. Zolensky M. E. * Nakamura T. Mikouchi T. Hagiya K. Ohsumi K. Tanaka K. Noguchi T. Kimura M. Tsuchiyama A. Nakato A. Ogami T. Ishida H. Uesugi M. Yada T. Shirai K. Fujimura A. Okazaki R. Ishibashi Y. Abe M. Okada T. Ueno M. Mukai T. Yoshikawa M. Kawaguchi J.
[*The Shock State of Itokawa Samples*](#) [#1477]
 We made a determination of the impact shock state of the recovered Itokawa samples.
- 9:30 a.m. Mazrouei S. * Daly M. Barnouin O. Ilnicki M. Kahn E.
[*Distribution of Boulders on Asteroid 25143 Itokawa*](#) [#2404]
 The objective is to confirm and update any previously identified trends in the global and regional distributions of boulders on Itokawa. Trends found should provide insights to Itokawa's current state following the disruption of its parent body.
- 9:45 a.m. Fraeman A. A. * Arvidson R. E. Murchie S. L. Rivkin A. S. Bibring J.-P. Gondet B. Manaud N. Langevin Y. Choo T. Humm D.
[*Analysis of CRISM and OMEGA Observations of Phobos and Deimos*](#) [#2525]
 Data from CRISM and OMEGA provide the highest-spatial-resolution spectra of Phobos ever acquired and the first disk-resolved hyperspectral observation of Deimos. We discuss these data and analyze them for clues to the moons' surface compositions.
- 10:00 a.m. Chappaz L. * Melosh H. J. Vaquero M. Howell K. C.
[*Material Transfer from the Surface of Mars to Phobos and Deimos*](#) [#1422]
 The Russian Phobos-Grunt mission originally planned to return 200 grams of surface material from Phobos. An analysis of the possibility that such a sample may also contain material ejected from the surface of Mars by large impacts is performed.

- 10:15 a.m. Ramsley K. R. * Head J. W. III
[*The Origins of Phobos Grooves from Ejecta Launched from Impact Craters on Mars: Tests of the Hypothesis*](#) [#1054]
 With modeling techniques, we test six major predictions of the J. Murray hypothesis (that the main groove-forming process on Phobos is the intersection of Phobos with ejecta from primary impact events on Mars to produce chains of secondary craters).
- 10:30 a.m. Hergenrother C. W. * Scheeres D. J. Nolan M. d'Aubigny C. Barucci M. A. Clark B. E. Dotto E. Emery J. P. Lauretta D. S. Licandro J. Rizk B.
[*Lightcurve and Phase Function Photometry of the OSIRIS-REx Target \(101955\) 1999 RQ36*](#) [#2219]
 We present visible wavelength photometry of the OSIRIS-REx target asteroid (101955) 1999 RQ36. We find a rotation period of 4.2968 ± 0.0017 hr and phase slope of 0.039 mag/deg. YORP induced rotation rate changes should be detectable by OSIRIS-REx.
- 10:45 a.m. Rivkin A. S. * Howell E. S. DeMeo F. E. Vervack R. J. Binzel R. P. Magri C. Nolan M. C. Fernandez Y. R. Cheng A. F. Barucci M. A. Michel P.
[*New Observations and Proposed Meteorite Analogs of the MarcoPolo-R Target Asteroid \(175706\) 1996 FG3*](#) [#1537]
 CV chondrites show spectra like the target of MarcoPolo-R.
- 11:00 a.m. Binzel R. P. * Polishook D. DeMeo F. E. Emery J. P. Rivkin A. S.
[*Marco Polo-R Target Asteroid \(175706\) 1996 FG3: Possible Evidence for an Annual Thermal Wave*](#) [#2222]
 Pre- and post-perihelion spectral measurements (0.8–2.5 μm) of 1996 FG3 show substantially different thermal fluxes. We may be detecting deep absorption and re-radiation of the annual thermal wave rather than just diurnal thermal flux balance.
- 11:15 a.m. Barucci M. A. * Belskaya I. Fulchignoni M. Fornasier S. Leyrat C.
[*Surface Composition of Asteroid \(21\) Lutetia: Lesson Learned from the Rosetta Flyby*](#) [#1586]
 During the close encounter of the Rosetta spacecraft with (21) Lutetia on July 10, 2010, the instruments OSIRIS, VIRTIS, ALICE, and MIRO were turned on to characterize the surface properties of the asteroid.
- 11:30 a.m. Shepard M. K. * Taylor P. A. Nolan M. C. Howell E. S. Benner L. A. M. Giorgini J. D. Warner B. D. Harris A. W. Clark B. E. Ockert-Bell M. Coley D.
[*Radar Observations of Seven X/M-Class Main-Belt Asteroids*](#) [#1228]
 Using the Arecibo radar, we observed seven new X/M-class MBAs. We find 40% of 26 total observed have metal-like radar albedos. Four W-class (hydrated M's) have metal-like radar albedos. Forty percent of X/M MBAs show evidence of bifurcation.
- 11:45 a.m. Fieber-Beyer S. K. * Gaffey M. J. Blagan J. R.
[*Near-Infrared Spectroscopy of 3:1 Kirkwood Gap Asteroids \(660\) Crescentia, \(797\) Montana, \(879\) Ricarda, \(1391\) Carelia, and \(1644\) Rafita*](#) [#1530]
 The 3:1 Kirkwood gap asteroids are a mineralogically diverse set of asteroids located in a region that delivers meteoroids into Earth-crossing orbits.