

Monday, July 24, 2017
SPECIAL SESSION: DIFFERENTIATED BODIES IN THE ASTEROID BELT:
PSYCHE, VESTA, AND CERES
9:15 a.m. Sweeney A

Summary of our understanding of differentiated bodies in the asteroid belt from meteorites, telescopic and spacecraft observations

Chairs: Vishnu Reddy
Lucille Le Corre

- 9:15 a.m. Reddy V. * Shepard M. K. Takir D. Sanchez J. A. Richardson J. Emery J. P. Taylor P. A.
[Psyche: State of Knowledge from Ground-Based Observations](#) [#6335]
 We present results from a multi-year campaign to characterize asteroid (16) Psyche, the target of NASA Discovery mission. Our results suggest that Psyche is covered with exogenic carbonaceous impactor similar to Vesta.
- 9:45 a.m. Takir D. * Emery J. P. Hibbitts C. A.
[3- \$\mu\$ m Spectroscopy of Water-Rich Meteorites and Asteroids: New Results and Implications](#) [#6389]
 We will present new 3- μ m spectra of water-rich asteroids and carbonaceous chondrites. We will then compare the spectra of meteorites and asteroids to determine new possible matches.
- 10:00 a.m. Le Corre L. * Becker K. J. Li J.-Y. Reddy V. Gaskell R. Blewett D. T. Lucey P.
[Controlled Color Mosaics of Vesta with Dawn Framing Camera Images](#) [#6135]
 Registration of Dawn Framing Camera color images from high altitude mapping orbit phases to an updated shape model of Vesta allows the creation of controlled mosaics for photometric modeling, study of space weathering and composition of the surface.
- 10:15 a.m. Kiefer W. S. * Mittlefehldt D. W.
[Core Formation on Asteroid 4 Vesta: Iron Rain in a Silicate Magma Ocean](#) [#6305]
 Initially small liquid metal drops must grow to about 10 cm in size before sinking through the convecting silicate magma ocean to form a core. The required magma temperature is consistent with moderately siderophile element abundances in eucrites.
- 10:30 a.m. Fudge C. * Sharp T. G. Ma C. Hu J. Wittmann A. Tschauer O.
[Northwest Africa 10658, a Uniquely Shocked Eucrite with a Range of Deformation, Transformation and Recrystallization Effects](#) [#6297]
 We report a range of shock effects and high pressure minerals preserved in NWA 10658, and discuss a previously undescribed transformation of plagioclase to garnet.
- 10:45 a.m. Pieters C. M. * Nathues A. Thangiam G. Hoffmann M. Platz T. De Sanctis C. Ammannito E. Tosi F. Zambon F. Pasckert J. H. Hiesinger H. Jaumann R. Schröder S. Castillo-Rogez J. C. Ruesch O. McFadden L. A. O'Brien D. P. Sykes M. Raymond C. A. Russell C. T.
[The Context of Aliphatic Organics on Ceres](#) [#6307]
 Ceres organics are associated with very small fresh craters found across an elongate 200 km region. We investigate whether the origin of these materials come from Ceres or an external source.
- 11:00 a.m. McSween H. Y. * Raymond C. A. Prettyman T. H. De Sanctis M. C. Castillo-Rogez J. C. Russell C. T. Dawn Science Team
[Geology of Dwarf Planet Ceres and Meteorite Analogs](#) [#6003]
 The geology of Ceres, a carbonaceous chondrite-like body, is surprisingly complex, and can be attributed to its large size.