

Tuesday, March 20, 2018
CERES: SERIOUSLY A NEW DAWN
1:30 p.m. Waterway Ballroom 4

[T253]

Chairs: Jennifer Scully
Carol Raymond

- 1:30 p.m. Raymond C. A. * Russell C. T. Rayman M. D. Polanskey C. A. Joy S. P. et al.
[*Dawn's Continued Exploration of Ceres*](#) [#2931]
 Dawn continues on / Going lower than before / Probing new secrets.
- 1:45 p.m. Lawrence D. J. * Peplowski P. N. Beck A. W. Feldman W. C. Prettyman T. H. et al.
[*Compositional Variability on the Surface of 1 Ceres Revealed Through GRaND Measurements of High-Energy Gamma Rays*](#) [#1691]
 High-energy gamma rays have been measured by Dawn/GRaND at the asteroid Ceres. They are sensitive to both hydrogen and water-free average atomic mass.
- 2:00 p.m. Prettyman T. H. * Yamashita N. Ammannito E. Castillo-Rogez J. C. Ehlmann B. L. et al.
[*Carbon on Ceres: Implications for Origins and Interior Evolution*](#) [#1151]
 Measurements by Dawn's GRaND reveal super-chondritic concentrations of carbon within Ceres' regolith, consistent with the presence of carbonates and organics.
- 2:15 p.m. Vinogradoff V. * De Sanctis M. C. De Angelis S. Raponi A. Ferrari M. et al.
[*The Nature and Evolution of the Organic Matter in Ceres*](#) [#1419]
 Organic matter was discovered at the surface of Ceres. Considering an endogenous source of this matter, we have investigated its nature and evolution.
- 2:30 p.m. Hughson K. H. G. * Russell C. T. Sizemore H. G. Schmidt B. E. Buczkowski D. L. et al.
[*Characterizing the Composition and Elastic Properties of the Near-Surface of Ceres: Insights from Flexural Modeling of the Nar Sulcus Fractures*](#) [#2348]
 Nar Sulcus represents a unique normally faulted terrain on Ceres. We use flexural modeling of these faults to estimate the mechanical properties of Ceres.
- 2:45 p.m. Mao X. * McKinnon W. B.
[*Effect of Impacts on Ceres' Spin Evolution*](#) [#2708]
 Monte Carlo simulations of impacts onto Ceres shows that its spin state may have changed by up to several percent.
- 3:00 p.m. Scully J. E. C. * Bowling T. Bu C. Buczkowski D. L. Longobardo A. et al.
[*The Formation and Evolution of Ceres' Occator Crater*](#) [#1626]
 We synthesize the studies that have been undertaken to investigate the driving forces behind Occator Crater and its distinctive bright regions, called faculae.
- 3:15 p.m. Hesse M. A. * Castillo-Rogez J. C.
[*Longevity of the Cryomagma Chamber Beneath Occator Crater on Ceres*](#) [#1679]
 Thermal model for impact induced cryomagma chamber beneath Occator Crater shows it cools in less than 10 Ma, but may develop porous connection to mantle brine reservoir.
- 3:30 p.m. Quick L. C. * Buczkowski D. L. Scully J. E. C. Ruesch O. Castillo-Rogez J. et al.
[*Thermal and Compositional Evolution of a Brine Reservoir Beneath Ceres' Occator Crater: Implications for Cryovolcanism at the Surface*](#) [#2921]
 We explore the progressive crystallization of a brine reservoir beneath Ceres' Occator Crater and implications for the formation of Cerealia and Vinalia Faculae.

- 3:45 p.m. Raponi A. * De Sanctis M. C. Frigeri A. Ammannito E. Ciarniello M. et al.
[*Variations in the Amount of Water Ice on Ceres' Surface Suggest a Seasonal Water Cycle*](#) [#1491]
Local detection of increasing amount of water ice on Ceres' surface indicates an active body, and a possible seasonal cycle.
- 4:00 p.m. Sizemore H. G. * Chilton H. T. Hughson K. H. G. Sori M. M. Buczkowski D. L. et al.
[*A Global Inventory of Ice-Related Morphological Features on Dwarf Planet Ceres*](#) [#1624]
We present a comprehensive global catalog of morphological features related to subsurface ice on Ceres and discuss implication for heterogeneity.
- 4:15 p.m. Landis M. E. * Byrne S. Combe J.-P. Marchi S. Castillo-Rogez J. et al.
[*Impact-Driven Production of Ceres' Surface Ice Patches and Their Exospheric Contribution*](#) [#1640]
We calculate vapor produced from observed water ice patches on Ceres and evaluate the contribution of small ice-exposing impacts to Ceres' transient exosphere.
- 4:30 p.m. Zolotov M. Yu. *
[*Dawn Data Agree with a Compressed Undifferentiated Ceres*](#) [#1341]
Dimensions and gravity of Ceres are interpreted in the framework of a compressed chemically uniform body with grain density of 2.2–2.4 g/cm³ and 2–10% porosity.