Monday, March 20, 2017

CERES: FEATURES, COMPOSITION, AND EVOLUTION
8:30 a.m.  Montgomery Ballroom

Chairs:  Debra Buczkowski
Ernesto Palomba

8:30 a.m.  Raymond C. A. *  Castillo-Rozeg J. C.  Ermakov A.  Park R. S.  Marchi S.  et al.
Large-Scale Heterogeneity of Ceres:  Clues to Interior Evolution [#1506]
Ceres is nearly hydrostatic with compensated topography. Correlation of residual gravity anomalies with other data provide clues to its evolution.

Floor-Fractured Craters on Ceres:  Implications for Internal Composition and Processes [#2117]
We present a geomorphic and topographic analysis of the Ceres floor fractured craters and propose hypotheses for their formation.

9:00 a.m.  Thangjam G. *  Nathues A.  Platz T.  Mengel K.  Cloutis E. A.  et al.
Understanding Cere’s Compositional Heterogeneity from Bright and Dark Materials [#2235]
The bright and dark materials on dwarf planet Ceres is intended to study using both FC and VIR data to shed light into the surface compositional heterogeneity.

Discovery of Organics Rich Terrains on Ceres [#1493]
Here we report about the discovery of organic rich areas on Ceres by the Dawn VIR instrument. The spectra show a strong 3.2–3.5 μm band.

9:30 a.m.  Pieters C. M. *  Nathues A.  Thangiam G.  Hoffman H.  De Sanctis C.  et al.
Context of Unusual Red Organic-Rich Areas on Ceres and Geologic Constraints for Their Origin [#1296]
Organic material recently identified on Ceres is found to be associated with a family of small fresh craters, providing an important constraint for its origin.

Topography and Geomorphology of the Interior of Occator Crater on Ceres [#1440]
The crater floor of Occator on Ceres contains plain material is about 500 m thick and due to impact melt hydrothermal alteration or cryovolcanic crater filling.

10:00 a.m.  Stein N. *  Ehlmann B.  Ammannito E.  Palomba E.  De Sanctis M. C.  et al.
Characteristics, Formation, and Evolution of Faculae (Bright Spots) on Ceres [#2547]
Faculae (bright spots) on Ceres are comprehensively mapped and categorized. Potential mechanisms for their formation and evolution are evaluated.

10:15 a.m.  Palomba E. *  Longobardo A.  De Sanctis M. C.  Stein N. T.  Ehlmann B.  et al.
Bright Spots on Ceres:  Occator, Oxo, and the Others [#1566]
By using the VIR data, a catalogue of 98 Ceres Bright Spots was obtained and analyzed to reveal if they have a common or a different origin and evolution.

Ceres’ Pitted Terrains:  Morphological Context and Implications for Ground Ice [#2033]
Ceres is the third terrestrial body known to host pitted crater materials. We discuss cerean pit morphology, development, and implications for ground ice.
Layered and Low-Aspect-Ratio Ejecta on Ceres: Probing the Effect of Ground Ice on Fluidized Ejecta Deposits [#1609]
Ceres supports a multitude of flows similar to martian fluidized ejecta. We analyze and model these flows to assess the effect of ground ice on their genesis.

11:00 a.m. Platz T. * Nathues A. Schorghofer N. Preusker F. Mazarico E. et al.
Surface Water-Ice Deposits in the Northern Shadowed Regions of Ceres [#2447]
This study describes how permanent shadow maps are generated and how water-ice deposits were detected (including processes leading to water-ice deposition).

Elemental Measurements of Ceres by Dawn: The Search for Nickel [#1677]
Elemental mapping data acquired by Dawn’s Gamma Ray and Neutron Detector provide new insights into the hydrothermal evolution of Ceres.

11:30 a.m. Lawrence D. J. * Peplowski P. N. Feldman W. C. Prettyman T. H. Russell C. T. et al.
High-Energy Gamma Rays from Dawn’s Gamma Ray and Neutron Detector: A Measure of Ceres’ Hydrogen Concentration [#2098]
High-energy gamma rays measured by Dawn/GRaND provide a measurement of Ceres’ hydrogen concentration, and may also be sensitive to Fe variations.

Evolution of Large Volatile-Rich Bodies: New Insights from Ceres [#2172]
We study the feedbacks between chemistry and geophysics at Ceres observed by Dawn. This knowledge is transferred to other large volatile-rich bodies.