

Tuesday, March 20, 2018

[T256]

IMPACTS I: PLANETARY IMPACT CRATERING

1:30 p.m. Montgomery Ballroom

Chairs: Nadine Barlow
Julien Salmon

- 1:30 p.m. Abramov O. * Mojzsis S. J.
[Impact Bombardment on Terrestrial Planets During Late Accretion](#) [#2962]
This presentation will outline current understanding of late accretion impact bombardment and present modeling results on how it affected terrestrial planets.
- 1:45 p.m. Salmon J. * Canup R. M.
[Disk Accretion Efficiency in a Multiple-Impact Lunar Origin Scenario](#) [#2641]
We investigate the accretion of the Moon from the protolunar disk in the context of a multiple-impact lunar origin scenario.
- 2:00 p.m. Wiggins S. E. * Johnson B. C. Collins G. S. Bowling T. J. Melosh H. J. et al.
[Impact-Generated Porosity at Depth Within the Lunar Crust](#) [#2157]
We utilized a new routine that tracks tensionally generated porosity from impacts, and find that impacts can create deep lying porosity within the lunar crust.
- 2:15 p.m. Chandnani M. * Herrick R. R. Kramer G. Y.
[Geology of Unusually Deep Lunar Craters in the Simple-Complex Transition](#) [#2636]
This study aims to unravel the mystery behind the formation of unusually deep simple lunar impact craters occurring in the simple-complex transition.
- 2:30 p.m. Trowbridge A. J. * Johnson B. C. Freed A. M. Melosh H. J. Graves K.
[Why the South-Pole Aitken Basin is Not a Mascon](#) [#2686]
We modeled the formation of South Pole-Aitken (SPA) Basin using a joint hydrocode and finite element approach to investigate why SPA is not a mascon basin.
- 2:45 p.m. Paige D. A. * Russell P. S. Jogi P. Curren I. S.
[3-D Ballistic Model for the Distribution of Antipodal Ejecta from the Tycho Impact](#) [#2757]
A 3-D ballistic model reveals the effects of lunar rotation and topographic shadowing on the emplacement of ejecta at the antipode of Tycho.
- 3:00 p.m. Piatek J. L. Tornabene L. L. Capitan R. Murphy I. Barlow N. G. et al.
[Characterization of Thermophysical Ejecta Facies in Well-Preserved Martian Craters](#) [#2691]
Ejecta, left by / Impact — continuous and / Discontinuous. Thermal signatures / Large, small, radial, or not / Clues to formation.
- 3:15 p.m. Barlow N. G. * Tornabene L. L.
[Comparison of Central Pit Craters Across the Solar System and Implications for Pit Formation Models](#) [#1687]
A comparison study of central pit craters across the solar system is revealing new insights into the mechanisms involved in pit formation.
- 3:30 p.m. Harriss K. H. * Fisher C. Burchell M. J.
[Breaking the Ice! An Investigation of Impact Cratering Mechanisms that Occur on Icy Moons with Subsurface Oceans](#) [#1225]
Impact cratering mechanics for liquid filled ice sphere, an analogue to icy moons with subsurface oceans.

- 3:45 p.m. Silber E. A. * Johnson B. C.
[*Formation of Multiring Basins on Europa*](#) [#1349]
We use iSALE-2D shock physics code to model the formation of multiring basins on Europa.
- 4:00 p.m. Bjornes E. E. * Johnson B. C. Silber E. A.
[*Formation of Impact Craters on Ganymede and Callisto as a Constraint on Ice Shell Structure*](#) [#1548]
Modeling of cratering events on Ganymede fits a broader range of data than previous work and suggest the ice shell has a conductive layer roughly 12 km thick.
- 4:15 p.m. Otto K. A. * Marchi S. Melosh J. H. Towbridge A. J.
[*Concentric Fracturing Around Craters on Ceres*](#) [#2211]
We investigate craters on Ceres with concentric fractures beyond the crater rim and model the fracture formation with the help of a soft subsurface layer.
- 4:30 p.m. El Mir C. * Ramesh K. T. Richardson D. C. Barnouin O.
[*Hypervelocity Impacts onto Small Asteroids: Disruption Thresholds, Momentum Transfer, and the Effect of Rotating Targets*](#) [#2490]
Using a hybrid numerical scheme (Material Point Method and N-body code), we simulate the outcome of high-velocity impacts onto rotating asteroids.