

Thursday, March 23, 2017
SMALL IMPACTS AND SMALL IMPACTORS
8:30 a.m. Waterway Ballroom 6

[R505]

Chairs: Ingrid Daubar
Daniel Durda

- 8:30 a.m. Daly R. T. * Schultz P. H.
[*Projectile Preservation During Oblique Hypervelocity Impacts*](#) [#1573]
 Experiments reveal that parts of the projectile survive oblique impacts and are preserved in craters under conditions relevant to the asteroid and Kuiper belts.
- 8:45 a.m. Herrick R. R. *
[*Examination of the Shape and Appearance of Highly Oblique Impacts on the Moon, Mars, and Mercury*](#) [#2803]
 Butterfly craters / On Moon, Mars, and Mercury / Much is similar.
- 9:00 a.m. Sefton-Nash E. * Faes Z. Witasse O. Buchenberger B.
[*The Orbit Planes of Impactors that Formed Elongated Martian Craters*](#) [#2454]
 We analyze the geometry of elongated craters on Mars to constrain the orbit planes and timings responsible for shallow angle impacts.
- 9:15 a.m. Watters W. A. * Davison T. M. Collins G. S.
[*Secondary Cratering on Mars: 3-D Simulations and High-Resolution Morphometry*](#) [#2877]
 The impact hydrocode iSALE3D was used to simulate low-velocity impacts. Results were compared with high-resolution morphometry of young martian secondaries.
- 9:30 a.m. Daubar I. J. * Banks M. E. Schmerr N. C. Golombek M. P. Hartmann W. K. et al.
[*Crater Clusters on Mars: Implications for Atmospheric Fragmentation, Impactor Properties, and Seismic Detectability*](#) [#2544]
 New dated clustered impacts: Impact direction, impact angle, dispersion, and elevation dependence indicate impactors are weak and less seismically detectable.
- 9:45 a.m. Hundal C. B. * Golombek M. P. Daubar I. J.
[*Chronology of Fresh Rayed Craters in Elysium Planitia, Mars*](#) [#1726]
 We use superpositions of secondary craters as seen in HiRISE images to determine relative ages among seven fresh rayed craters 1.5–13.9 km in diameter.
- 10:00 a.m. Lagain A. * Bouley S. Baratoux D. Costard F.
[*Variation of the Recent Martian Impact Cratering Rate from Ejecta Blanket Ages*](#) [#1107]
 By dating craters on Mars, we show that the inferred rate is inconsistent with the assumed constant flux, but rather with a late spike, modifying terrains ages.
- 10:15 a.m. Williams J.-P. * Bandfield J. L. Paige D. A. Greenhagen B. T. Speyerer E. J. et al.
[*A Recent, Large Multi-Impact Event on the Moon*](#) [#2637]
 A survey of recent impact craters, identified by their association with thermally distinct cold spots, reveals a recent, large multi-impact event on the Moon.
- 10:30 a.m. Rhoden A. R. * Nayak M. Asphaug E. Ferguson S.
[*Co-Orbital Debris as a Source of Small Impactors and Albedo Features on Tethys*](#) [#2953]
 Debris from Trojans / Rains down on Saturn's Tethys / Craters, grooves abound.

- 10:45 a.m. Schenk P. * Hoogenboom T. Kirchoff M.
[*Auto-Secondaries on a Midsize Icy Moon: Bright Rayed Crater Inktomi \(Rhea\)*](#) [#2686]
Doctor, you mentioned the ratio of a million secondaries to each primary. Wouldn't that necessitate the adoption of the so-called autosecondary relationship?
- 11:00 a.m. Durda D. D. * Grosch D. J. Chocron S. Walker J. D. Housen K. R. et al.
[*Meter-Scale Target Impact Experiments: Measuring Momentum Enhancement Factor Size Scaling Effects*](#) [#1264]
We present results from a series of impact experiments designed to measure the momentum enhancement factor for meter-scale targets.
- 11:15 a.m. Tatsumi E. * Sugita S.
[*New Crater Scaling Law for Coarse-Grained Targets Based on Dimensional Analysis*](#) [#1911]
We propose the new crater scaling law for rubble-piles with coarse surfaces based on impact experiments to estimate crater retention ages accurately.
- 11:30 a.m. El Mir C. * Ramesh K. T. Richardson D. C.
[*A New Approach to Simulation of Asteroidal Impact Events: From Damage to Disruption and Gravitational Accumulation*](#) [#2590]
We present a hybrid numerical scheme that uses the Material Point Method and an N-body gravitational code to simulate the outcome of high-velocity impact events.