

Thursday, March 22, 2018

[R555]

## IMPACTS III: SHOCK METAMORPHISM AND EXPERIMENTS

1:30 p.m. Waterway Ballroom 6

**Chairs:** George Flynn  
Aaron Cavosie

- 1:30 p.m. Sims M. \* Jaret S. J. Carl E. R. Rhymer B. Schrodt N. et al.  
[Pressure-Induced Amorphization in Plagioclase Feldspar: A Time-Resolved Powder Diffraction Study During Rapid Compression](#) [#2010]  
We examine the effect of compression-rate on amorphization of plagioclase feldspars. We identify a specific mechanism to explain the formation discrepancies.
- 1:45 p.m. Rucks M. J. \* Whitaker M. L. Glotch T. D. Parise J. B.  
[Formation of Tissintite and Its Implications for Impact Studies](#) [#2534]  
Pressure range defined / Tissintite will blow your mind / Shock P-T refined.
- 2:00 p.m. Seeley J. R. \* Milam K. A.  
[Optical and X-Ray Diffraction Analyses of Shock Metamorphosed Dolostone at Increasing Depths Within the Central Uplift of the Wells Creek Impact Structure](#) [#2755]  
Determining if shock metamorphic fabrics and crystal lattice distortions in dolomite decrease with increasing depth in the central uplift of Wells Creek Crater.
- 2:15 p.m. Ma C. \* Tschauner O. Beckett J. R. Liu Y.  
[Discovery of Chenmingite,  \$FeCr\_2O\_4\$  with an Orthorhombic  \$CaFe\_2O\_4\$ -Type Structure, a Shock-Induced High-Pressure Mineral in the Tissint Martian Meteorite](#) [#1564]  
Chenmingite is a new high-pressure mineral, formed by solid state transformation from chromite under high pressure and temperature during the Tissint impact on Mars.
- 2:30 p.m. Erickson T. M. \* Kring D. A.  
[Contrasting Shock Microstructure Development in Zircon from Porous and Crystalline Target Lithologies](#) [#1263]  
This study characterizes and quantifies deformation in zircon across a range of shock classes in both porous sedimentary and crystalline target rocks.
- 2:45 p.m. Root S. \* Townsend J. P. Davies E. J. Lemke R. W. Bliss D. E. et al.  
[Shock Compression of Forsterite \( \$Mg\_2SiO\_4\$ \) to 950 GPa](#) [#1777]  
Forsterite ( $Mg_2SiO_4$ ) single crystals were shock compressed to 950 GPa to constrain the equation of state in pressure regions relevant for planetary impacts.
- 3:00 p.m. Davies E. J. \* Root S. Spaulding D. K. Kraus R. G. Stewart S. T. et al.  
[Forsterite Shock Temperatures and Entropy](#) [#1672]  
Melted ejecta can degas in space. During accretion, planetesimals fragment and erode. How much rock melts and vaporizes?
- 3:15 p.m. Park J. \* Herzog G. F. Caffee M. W. Koeberl C.  
[Meteorite Be-10 of Cosmogenic Origin in Tektite-Like Glasses from Belize](#) [#1296]  
Tektite-like glasses from Belize have  $\sim 8\times$  less  $^{10}Be$  than and a different source from Australasian tektites. The  $^{10}Be$  is meteoric, maybe from subducted sediment.
- 3:30 p.m. Pu J. \* Xiao Z.  
[Tektites and Microtektites in China](#) [#1416]  
The observations and analyses of splash-form tektites and microtektites will provide clues for the possible source crater of the Australasian strewn field.

- 3:45 p.m. Hamann C. \* Hecht L. Schäffer S. Heunoske D. Salge T. et al.  
[Impact Vaporization and Condensation: Laser Irradiation Experiments with Natural Planetary Materials](#) [#2144]  
Rock-rain in the lab / So delicate and complex / We have a close look.
- 4:00 p.m. Kurosawa K. \* Okamoto T. Yabuta H. Komatsu G. Matsui T.  
[Shock Vaporization and Post-Impact Chemistry in an Open System Without any Diaphragms](#) [#1960]  
We developed a new experimental method for gas guns, which allows us to investigate shock vaporization in an open system without contaminations from the gun.
- 4:15 p.m. Flynn G. J. \* Durda D. D. Molesky M. J. May B. A. Cogram S. N. et al.  
[Recoil from Crater Ejecta in Hypervelocity Impacts of Hydrous and Porous Targets](#) [#1167]  
Hypervelocity cratering of a porous meteorite and a porous serpentine produced substantial momentum enhancement from ejecta, especially for the hydrous target.
- 4:30 p.m. Huber M. S. \* Kovaleva E. Dixon R. D. Pittarello L.  
[Impact-Generated Pseudotachylites Do Not Necessarily Have the Composition of Their Host](#) [#1906]  
Veins form in granite. Clasts and melt go to gabbro. Compositions mix.