

Tuesday, March 22, 2016

[T306]

POSTER SESSION I: IMPACT STUDIES: TARGETS AND EJECTA

6:00 p.m. Town Center Exhibit Area

Bell M. S. *POSTER LOCATION #102*[*Characterization of Shock Effects in Calcite by Raman Spectroscopy: Results of Experiments*](#) [#1196]

Raman spectral analysis of calcite systematically shocked from 9.0 to 60.8 GPa provides evidence for its stability under these experimental conditions.

Rucks M. J. Glotch T. D. *POSTER LOCATION #103*[*Shock Effects in Northwest Africa 6234: A Spectroscopic Investigation of the Mineralogy of the Shock Generated Melts*](#) [#2608]

Shock induced melting / Though first look is not shocking / Still may hold much more.

Shimaki Y. Kunihiro T. Suzuki A. I. Hasegawa S. Nakamura E. *POSTER LOCATION #104*[*Shock Metamorphism of Olivine Monolith and Regolith Impacted by Steel*](#) [#3037]

Impact experiments of steel into olivine monolith and regolith were conducted to examine physical and chemical interaction on asteroids.

Bhattacharya A. Dutta A. *POSTER LOCATION #105*[*Raman Spectroscopic Studies of Shock Induced Diamonds from Ordinary Chondritic Meteorites*](#) [#2150]

Microdiamonds of different polytypes from ordinary chondrites along with shocked silicates identified by Raman Spectroscopy indicates to its HPHT origin.

Wickham-Eade J. E. Burchell M. J. *POSTER LOCATION #106*[*Fragmentation of Basalt and Shale Projectiles in Hypervelocity Impacts in the Laboratory*](#) [#1235]Here we report on the survival of basalt and shale projectiles fired into water at speeds up to 6 km s⁻¹.Daly R. T. Schultz P. H. *POSTER LOCATION #107*[*Hypervelocity Impact Experiments Implicate Impact Melt as a Host for Impact-Delivered Water on Asteroids*](#) [#1319]

Experiments at the NASA Ames Vertical Gun Range have documented projectile-derived water in impact glasses. We explore the implications for asteroids.

Christoffersen R. Montes R. Cardenas F. Cintala M. J. *POSTER LOCATION #108*[*Experimental Investigation of the Distribution of Shock Effects in Regolith Impact Ejecta Using an Ejecta Recovery Chamber*](#) [#2452]

Carbon plates with wax / Catch small impact ejecta / Effects seen by SEM.

Kowitz A. Guldemeister N. Schmitt R. T.

Reimold W. U. Wünnemann K. et al.

POSTER LOCATION #109[*Revision and Recalibration of Existing Shock Classifications for Quartzose Rocks Using Low Shock Pressure*](#)[*Recovery Experiments \(2.5–20 GPa\) and Meso-Scale Numerical Modeling*](#) [#1412]Shock deformation (≤ 20 GPa) experimentally generated in dry + water-sat. porous sandstones + quartzite results in a revision of existing shock classifications.

Carl E. C. Danilewsky A. D. Liermann H. L.

Mansfeld U. M. Langenhorst F. L. et al.

POSTER LOCATION #110[*Phase Transitions of SiO₂ Under Dynamic Compression and Up to 1200 K*](#) [#1225]

Time-resolved X-ray diffraction experiments reveal a transition from quartz to stishovite under dynamic compression with rates up to 3 GPa/s and up to 1200 K.

Chen Y. Liu Y. Asimow P. D. Guan Y.

POSTER LOCATION #111[*Experimental Study of Chemical Effects During Impact Process: Preliminary Results*](#) [#1777]

We report preliminary shock experiments on analogous Earth rocks to investigate the effect of impact on the volatile signatures in martian meteorites.

- Ishiyama K. Kumamoto A. Takagi Y. Nakamura N. Hasegawa S. **POSTER LOCATION #112**
[Measurements of the Permittivity, Density, and Volume Fraction of Crack Around Artificial Impact Crater](#) [#1976]
An anisotropic crack around artificial impact crater changed the bulk permittivity, which was explained by the effective medium theory.
- Kurosawa K. Okamoto T. Yabuta H. Komatsu G. Matsui T. **POSTER LOCATION #113**
[Shock Vaporization of Water Ice in an Open System Investigated Using a Two-Stage Light Gas Gun](#) [#1838]
We constructed a new experimental system to investigate shock vaporization and post-impact chemistry of icy materials.
- Jack S. J. Strait M. M. Flynn G. J. Durda D. D. **POSTER LOCATION #114**
[Meteorite Disruption with Varying Speeds and Sizes of Projectiles](#) [#2659]
The speed and size of the projectile used to disrupt a sample affects the size range of the fragments produced.
- Dahl J. M. Schultz P. H. **POSTER LOCATION #115**
[Syncompressional Shear Measurements in Oblique Impact Experiments](#) [#2976]
In situ shear measurements from impact experiments show that oblique impacts can generate substantial horizontal shear strains.
- Davies E. J. Root S. Stewart S. T. Spaulding D. K. Jacobsen S. B. **POSTER LOCATION #116**
[Experimental Study of Shock-Induced Vaporization of Rocky Planet Constituents](#) [#3001]
Z machine charging / Flyer hits samples, shocking / Now we analyze.
- Shirai N. Akhter R. Ebihara M. **POSTER LOCATION #117**
[Precursor Materials of Australasian Tektites in Light of Chemical Compositions](#) [#1847]
We determined elemental abundances including platinum group elements of the Australasian tektites in order to place constraints on their precursor materials.
- Koerberl C. Schulz T. **POSTER LOCATION #118**
[Osmium Isotopic Investigation of Tektite-Like Glasses from Belize](#) [#1654]
Os isotopic analysis of tektite-like glasses from Belize show a volcanic provenance but no extraterrestrial component.
- Harris T. H. S. **POSTER LOCATION #119**
[Tektite Suborbital Summary](#) [#1033]
Advances in hydrocode modeling of oblique impact, shock ionization, high-temp plasmas and X-ray CT clarify inter-hemispheric transport of Australasian tektites.
- Meier M. M. M. Artemieva N. **POSTER LOCATION #120**
[Two Alternative Scenarios to Explain the Strange Extraterrestrial Spinel Grain Record of the Late Eocene](#) [#1552]
We propose two alternative interpretations of the recently reported ET spinel grain peaks in the Late Eocene: A NEO breakup and an Eltanin-like marine impact.
- Hoffmann V. H. Kaliwoda M. Hochleitner R. Funaki M. Torii M. **POSTER LOCATION #121**
[Investigating Possible Belize Tektites — Request of an Extended Database on Magnetic and Raman Spectroscopical Signature of Natural Glasses](#) [#2482]
The focus of our contribution is a first step towards an extended database of the magnetic and Raman Spectroscopical signature of natural glasses.
- King D. T. Jr. Cornec J. H. Petruny L. W. Zou H. **POSTER LOCATION #122**
[Tektites of Western Belize — Characteristics and Possible Origin](#) [#2910]
Belize tektite composition and inclusions suggests a local volcanic target. The ~800 ka tektites are found in a residual layer atop a Miocene clay formation.

Harris R. S. Fleisher C. Jaret S. J.

POSTER LOCATION #123

[Mineralogy of Spherules at the Cretaceous-Paleogene Impact Boundary in South Carolina: Implications for Plume Processes and Bolide Identification](#) [#2840]

Ti-Fe oxides grains contained in altered impact spherules at the C-Pg boundary in South Carolina record the high temperature reactions in the vapor plume.

Hamann C. Wilk J. Hecht L. Kenkmann T.

POSTER LOCATION #124

[Melt Formation on Shatter Cone Surfaces in Sandstone, Part II: Melt Composition](#) [#2381]

We study melt films detected on experimentally produced shatter cones and discuss P-T conditions that led to melting and lubrication of the striation surfaces.

Wilk J. Hamann C. Kenkmann T. Hecht L.

POSTER LOCATION #125

[Melt Formation on Shatter Cone Surfaces in Sandstone, Part I: Surface Morphology](#) [#2636]

We analyzed with SEM shatter cone like features, displaying curved and striated surfaces, found in the MEMIN hypervelocity cratering experiments.