Characterization of Shock Effects in Calcite by Raman Spectroscopy: Results of Experiments

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

Shock Effects in Northwest Africa 6234: A Spectroscopic Investigation of the Mineralogy of the Shock Generated Melts

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

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

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

Here we report on the survival of basalt and shale projectiles fired into water at speeds up to 6 km s⁻¹.

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

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

Shock deformation (≤20 GPa) experimentally generated in dry + water-sat. porous sandstones + quartzite results in a revision of existing shock classifications.

Phase-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.

We report preliminary shock experiments on analogous Earth rocks to investigate the effect of impact on the volatile signatures in martian meteorites.
Measurments of the Permittivity, Density, and Volume Fraction of Crack Around Artificial Impact Crater

An anisotropic crack around artificial impact crater changed the bulk permittivity, which was explained by the effective medium theory.

We constructed a new experimental system to investigate shock vaporization and post-impact chemistry of icy materials.

The speed and size of the projectile used to disrupt a sample affects the size range of the fragments produced.

We determined elemental abundances including platinum group elements of the Australasian tektites in order to place constraints on their precursor materials.

Os isotopic analysis of tektite-like glasses from Belize show a volcanic provenance but no extraterrestrial component.

Advances in hydrocode modeling of oblique impact, shock ionization, high-temp plasmas and X-ray CT clarify inter-hemispheric transport of Australasian tektites.

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.

The focus of our contribution is a first step towards an extended database of the magnetic and Raman Spectroscopical signature of natural glasses.

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.