

PRINT ONLY: IMPACTS

Andreoli M. A. G. Hart R. J. Webb S. J. Cooper G. R. J. Haddon I.

The 144 Ma Morokweng Impact Structure, South Africa: Evidence for a ~240 km Crater [#1236]

The Morokweng impact crater coincides with the Jurassic-Cretaceous boundary and hosts boulder-size pristine LL chondrite clasts in its ≥ 870 m melt sheet. Here we review borehole and geophysical data from which we derive a 240-km-crater diameter.

Belyatinskaya I. V. Fel'dman V. I. Milyavskiy V. V. Zhernokletov D. M. Borodina T. I.

Shock Metamorphism of Rock-forming Minerals under Step-like Shock Compression of Southern Ural's Amphibolite [#1547]

The shock-metamorphism of rock-forming minerals has been studied with the use of recovery assemblies of planar geometry. Differences between changes of minerals under step-like shock compression and spherical converging shock waves were revealed.

Fel'dman V. I. Kiselev A. K.

Shock-melted Impactites at the Svetloyar Meteorite Crater Volga Area, Russia [#1198]

Pumices found at the Svetloyar meteorite crater provide additional evidence for the impact genesis of this structure.

Fujii Y. Nakamura A. M. Hiraoka K.

Laboratory Experiments of Compaction and Fragmentation of Porous Bodies at Low Velocity Collisions [#1934]

We performed collision experiments of gypsum spheres 50 mm in diameter with porosity of 31, 51, and 62% at velocity around 1 m/s. No clear porosity dependencies were found in the degree of compaction and the restitution coefficient.

Jourdan F. Armstrong R. A. Reimold W. U. Pati J. K. Renne P. Koeberl C.

Elusive Age of the Paleoproterozoic Dhala Impact Structure, India: First SHRIMP U-Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ Chronological Results [#1244]

The first SHRIMP U-Pb single zircon and argon chronological results are presented for the impact melt rock of the newly discovered Paleoproterozoic Dhala impact structure (India). Both methods failed to resolve the impact age.

Klimczak C. Wittek A. Doman D. Riller U.

Heterogeneous Fabric Development in the Onaping Formation and the Sudbury Igneous Complex as Indications for a Fold Origin of the NE-Lobe of the Sudbury Basin, Canada [#1079]

Post-impact deformation of the Sudbury Basin.

Kosarev I.

Spectral Opacities and Equations of State of Cosmic Body Material Vapors [#1048]

Optical and thermodynamic properties of cosmic body material vapors are important characteristics dominating the ablation process of a cosmic body in the atmosphere. These properties were calculated on the base of 16 chemical elements for various types of cosmic bodies.

Luetke S. Deutsch A. Berndt J. Langenhorst F.

Trace Elements in Ivory Coast Tektites, Microtektites, and Fallback Particles of the Lake Bosumtwi Impact Crater, Ghana: A LA-ICP-MS Study [#1613]

LA-ICP-MS trace element data of Ivory Coast tektites, microtektites, and glassy fallback particles indicate a soil contribution to the precursor materials of the tektites. A variable Ni/Co ratio seems to be characteristic of the fallback particles.

Remo J. L. Petaev M. I. Jacobsen S. B.

Experimental Simulation of High P-T Planetary Processes: Physics of Laser-induced Shocks in Solid and Powdered Targets [#1420]

We discuss physical processes taking place in our laser-induced shock experiments of solid and powdered metal-silicate targets and the approach to calculation of shock parameters such as pressures and temperatures and their gradients.

Rosales D. Vidal E. Ishitsuka J. Benavente S.

Geomagnetic Study of Carancas Meteorite and Its Crater [#1744]

In order to study the structure of the Carancas meteorite crater and to determine the presence or absence of some fragments of meteorite, we performed a geomagnetic survey considering the magnetic properties of the meteorite.

Setoh M. Nakamura A. M. Hiraoka K. Yamashita Y. Hasegawa S. Onose N. Okudaira K. Michel P.
Experimental Study of Stress Wave Attenuation in Porous Sintered Glass Beads Targets [#1797]

We performed impact experiments of disc-shaped sintered glass beads in order to study the attenuation rate of particle velocity in porous targets. We found that the attenuation did not depend much on both the impact velocity and target porosity.

Švardalová L. Skála R. Trnka M. Houzar S. Novák M.

Extremely Heterogeneous Muong Nong Type Moldavites [#1962]

This paper deals with the heterogeneity of moldavites. Optical microscopy and BSE were used for analysis. Glass of two different textures (porous and compact) was identified. Due to their structure and heterogeneity, studied samples are analogous to Muong Nong-type indochinites.

Tancredi G. Ishitsuka J. Rosales D. Vidal E. Dalmau A. Pavel D. Benavente S. Miranda P. Pereira G. Vallejos V. Varela M. E. Brandstätter F. Schultz P. H. Harris R. S. Sánchez L.

What Do We Know About the “Carancas-Desaguadero” Fireball, Meteorite and Impact Crater? [#1216]

On September 15, 2007, at noon local time, a fireball was observed and heard in the southern shore of the Lake Titicaca, close to the border between Peru and Bolivia. A crater was formed due to the impact of a chondrite meteorite weighing more than 2 tons.

Tsikalas F.

Post-Impact Modification Correction Factor: A Necessity to Better Constrain Cratering Scaling Law Estimates and Impact-related Consequences at All Buried Impact Craters [#1009]

Post-impact modification correction is a necessity for buried craters as it provides a qualitative relation between modification response and overburden, and a quantitative correction of crater morphology and structure utilized in cratering mechanics.

Vishnevsky S. A. Gibsher N. A.

High-Pressure Water Inclusions in Popigai Monomineral Impact Glasses: A Criterion of Shock and Evidence of Prolonged Shock Pressure Release for the “Wet” Compressed Lithologies [#1043]

Dense water inclusions in Popigai monomineral glasses are described as a new criterion of shock metamorphism and evidence of prolonged shock pressure release for the “wet” compressed lithologies.

Wright A. J. Parnell J. Ames D. E.

Characterization of Carbonaceous Material from the Sudbury Impact Structure Using Raman Microspectroscopy [#1134]

Samples from the 1.85 Ga Sudbury impact structure have been analyzed using Raman microspectroscopy in order to characterize the carbonaceous material and to investigate the relationship between the carbonaceous strata associated with the structure.