

Tuesday, March 13, 2007

POSTER SESSION I: IMPACT CRATERING FROM EXPERIMENTS AND MODELING
6:30 p.m. Fitness Center

Ernst C. M. Schultz P. H.

Temporal and Spatial Resolution of the Early-Time Impact Flash: Implications for Light Source Distribution [#2353]

The distribution and evolution of the impact flash light source are determined from temporally and spatially resolved data. The interface between the projectile and the target controls the early-time impact flash signal.

Anderson J. L. B. Cintala M. J. Siebenaler S. A. Barnouin-Jha O. S.

Ejecta- and Size-Scaling Considerations from Impacts of Glass Projectiles into Sand [#2266]

Ejection-velocity and crater-diameter scaling are performed for impacts of glass spheres into medium-grained sand. Target material effects and comparison to impacts with aluminum projectiles are discussed.

Hessen K. K. Herrick R. R. Yamamoto S. Barnouin-Jha O. S. Sugita S. Matsui T.

Low-Velocity Oblique Impact Experiments in a Vacuum [#2141]

Experiments were conducted to explore details of crater excavation and ejecta emplacement for oblique impacts in a vacuum.

Schade S. Wünnemann K.

Numerical Modeling of Pore Space Collapse Due to Shock Wave Compression [#2029]

Effects of impact induced pore space closure on shock wave propagation are investigated simulating planar shock waves on several simple pore geometries. The results will be used for further researches on modelling impacts on porous target rocks.

Kenkmann T. Patzschke M. Thoma K. Schäfer F. Deutsch A. Hecht L. MEMIN Team

Melting and Vaporization of a Steel Projectile in Meso-Scale Hypervelocity Cratering Experiments [#1831]

A steel projectile used in cratering experiments shows abundant signs of melting and vaporization. Residues of the projectile were found in ejected clasts and in the crater floor and consists of spherules, delicate apophyses, and metallic fragments.

Fritz J. Tagle R. Artemieva N.

Raining Moon and the Late Eocene Asteroid Shower [#1069]

We propose that during the late Eocene asteroid shower on the Earth-Moon system, impact ejected lunar material produced the 2 Ma lasting ^3He anomaly in marine sediments on Earth.

Artemieva N. Shuvalov V.

3D Effects of Tunguska Event on the Ground and in Atmosphere [#1537]

We apply 3-D numerical modeling for a cosmic body entry into the Earth's atmosphere to reproduce the most famous Tunguska effects: tree fall near the impact site, seismic signal, as well as plume evolution and material dispersion in the upper atmosphere.

Hofmann K. Wünnemann K. Weiss R.

Oceanic Impacts — Types and Characteristics of Induced Water Waves [#1586]

Marine impact release large water waves that are assumed to cause havoc to coastal areas. This study shows that impact induced tsunami-like waves decay much more rapid than previously assumed. Thus, the impact induced tsunami-hazard may be an overrated threat.

Korycansky D. G. Lynett P. J. Ward S. N.

Runup from Impact Tsunami — Further Results [#1227]

Results from additional calculations of impact tsunami suggest that on-shore runup of waves scales roughly with a well-known empirical parameter, the so-called Irribaren number. The scaling breaks down for small values, however.

Korycansky D. G. Souchay F.

Asteroid/Comet Hazard Mitigation Via a Dispersed or Low-Density Impactor [#1229]

We investigate the effectiveness of a kinetic hazard-mitigation strategy using low-density or dispersed impactors.

Fujii Y. Nakamura A. M.

Compaction and Fragmentation of Porous Targets at Low Velocity Collisions [#1525]

We performed low-velocity collision experiments of gypsum spheres. Compaction near the impact point was observed. The restitution coefficient decreases rapidly to a small value when the impact velocity exceeds 1 m/s probably due to the compaction.

Rashev M. V. Ahrens T. J.

Hypervelocity Impact and Shock Wave Attenuation in Porous Medium [#2058]

Here we want to investigate the impact of an iron meteorite on a porous target and deduce how initial kinetic energy of the projectile is distributed over colliding bodies and how different attenuation in porous material is.

Svetsov V. V. Wasson J. T.

Melting of Soil Rich in Quartz by Radiation from Aerial Bursts — A Possible Cause of Formation of Libyan Desert Glass and Layered Tektites [#1499]

Impact scenarios with breakup and atmospheric deceleration of meteoroids, in which Libyan Desert Glass and layered tektites could be produced, are considered. Amounts of quartz-rich soil melted by radiation from the bursts are estimated.