Tuesday, March 18, 2003
POSTER SESSION I
7:00 p.m. Fitness Center

Digging Deeper: Impact Experiments and Theory

Cintala M. J.  Barnouin-Jha O. S.  Hörz F.
_A Method of Estimating Transient-Cavity Diameters for Impact Craters Formed in Dry Sand_ [#2070]
A technique used to measure the velocities of ejecta from impact crater permits, in principle, extrapolation to the rim of the transient cavity before its modification. Knowledge of the dimensions of the transient cavity could be instrumental in addressing a number of problems.

Wada K.  Senshu H.  Yamamoto S.  Matsui T.
_A Numerical Simulation of Impacts into Granular Materials by Distinct Element Method_ [#1529]
We discuss the application of the Distinct Element Method for numerical simulations of impacts into granular materials by comparing with experimental data.

Anderson J. L. B.  Schultz P. H.  Heineck J. T.
_A Test of Maxwell’s Z Model Using Inverse Modeling_ [#1762]
Experimental ejection angles determined using 3D PIV are used to constrain various modifications of Maxwell’s Z Model in order to test the utility of the point-source approximation for both vertical and oblique impacts.

VanVeghten T. W.  Flynn G. J.  Durda D. D.  Hart S.  Asphaug E.
_Mass and Size Frequency Distribution of the Impact Debris from Disruption of Chondritic Meteorites_ [#1264]
We used the NASA AVGR to disrupt several ~70–200 g samples of chondrite meteorites. The debris from each impact was sieved and the material in each sieve was weighed, along with the individual particles in the largest two sieves. From this, fragment mass and size distributions were determined.

Trubetskaya I. A.  Shuvalov V. V.
_Impacts of 100-km-Diameter Asteroids Against the Earth_ [#1102]
The purpose of this study is to determine ejecta velocity distribution, the distribution of deposits on the Earth’s surface, and the mass of escaped atmosphere.

Korycansky D. G.
_3D Simulations of Comet Impacts into the Atmospheres of Titan and Venus_ [#1196]
We present the results of 3D simulations of the impact of porous icy comets into the atmospheres of Titan and Venus. We analyze and characterize the resulting profiles of ablation and mass deposition into the atmosphere for the purpose of predicting crater populations.

Shuvalov V.  Dypvik H.
_Ejecta Formation and Deposition After the Mjølnir Impact_ [#1056]
In this study the ejecta distribution of the Jurassic/Cretaceous Mjølnir Crater (Barents Sea) is numerically simulated. These simulations show a highly asymmetrical ejecta distribution and underline the importance of the presence of water in ejecta formation and distribution.

Abramov O.  Kring D. A.
_Finite-Difference Modeling of Impact-Induced Hydrothermal Systems_ [#1846]
The computer program HYDROTHERM is applied to terrestrial impact craters to model convective and conductive water and heat transport. The goal is to estimate the lifetimes of impact-induced hydrothermal systems and further understand their mechanics.