Tuesday, March 8, 2011
POSTER SESSION I: ASTEROID DISRUPTION: ARTIFICIAL AND NATURAL
6:00 p.m. Town Center Exhibit Area

Sánchez P. Scheeres D. J.
Rotational Reshaping and Yield Stress of Rubble-Pile Asteroids **[#2120]**
Using a Soft-Sphere DEM code we simulate the rotational reshaping and disruption of a rubble-pile asteroid. We find that yield stress increases with the mass of the aggregate. Reshaping starts when a density dependent spin rate has been reached.

Kimberley J. Ramesh K. T. Barnouin O. S. Ernst C. M.
A Size Dependent Scaling Law Based on the Rate Dependent Strength of Rocky Bodies **[#2166]**
A universal material model describing the rate dependent strength of brittle materials is used to develop a new scaling law for impact disruption in the strength regime. This new scaling is compared with observational data for small bodies.

Hartmann O. Neukum G.
The Mass-Depletion of the Asteroid Belt Estimated by a Lunar-Like Impact Chronology Model **[#2348]**
The mass-depletion of the asteroid belt estimated by a lunar-like impact chronology model.

Leinhardt Z. M. Stewart S. T.
Empirical Scaling Laws for Collisions Between Gravity Dominated Objects **[#1591]**
We present empirical scaling laws for collisions between gravity-dominated objects. The equations predict the mass, size, and velocity dispersions of the remnants and describe the dependence of the outcome on the collision parameters.

Korycansky D. G. Asphaug E.
Disruption Criteria and Post-Impact Void Fractions for Brick-Pile Planetesimals **[#1282]**
We report on critical disruption criteria and void fractions after collisions for so-called “brick-pile” kilometer-scale planetesimals.

Weaver R. P. Plesko C. S. Dearholt W. R.
Los Alamos RAGE Hydrocode Simulations of Effective Mitigation of Porous PHO Objects **[#1145]**
We use the RAGE hydrocode to simulate surface/subsurface explosive mitigation of nonspherical asteroid models. The current simulations incorporate nonuniform composition, porosity of the object, and various depths of burial of the explosive and show effective mitigation.

Plesko C. S. Weaver R. P. Huebner W. F.
Energy Deposition in Hazard Mitigation by Nuclear Burst: Sensitivity to Energy Source Characteristics, Geometry, and Target Composition **[#2588]**
We present hydrocode and particle transport code models of energy deposition from nuclear bursts onto materials relevant to PHO mitigation. We find that momentum transfer is affected by burst geometry and PHO composition.