Thursday, March 17, 2005
SMALL BODIES: BUMPING, SPINNING, AND SHAKING
8:30 a.m. Salon A

Chairs: K. A. Holsapple
D. G. Korycansky

8:30 a.m. Schultz P. H. * Anderson J. L. B.
Alternative Cratering Scenarios for the Deep Impact Collision **[#1926]**
We don't know exactly what to expect during the Deep Impact collision in 2005 but laboratory experiments provide constraints and strategies for interpreting the nature of the upper 20 m of comet 9P/Tempel 1.

8:45 a.m. Wünnemann K. * Collins G. S. Melosh H. J.
Numerical Modelling of the Deep Impact Mission Experiment **[#1837]**
The Deep Impact Mission will provide insights of the comet Tempel 1 by shooting a projectile onto the surface of the comets nucleus. We present hydrocode calculations to estimate the size of the resulting crater.

9:00 a.m. Thomas P. C. * Robinson M. S.
Seismic Shaking Removal of Craters 0.2–0.5 km in Diameter on Asteroid 433 Eros **[#1695]**
Crater density distribution on asteroid Eros indicate removal of 0.2 to 0.5 km diameter craters by seismic effects from formation of the 7.6 km crater Shoemaker.

9:15 a.m. Richardson J. E. * Melosh H. J. Greenberg R. J.
A Stochastic Cratering Model for Asteroid Surfaces **[#2032]**
The observed cratering records on asteroid surfaces provide us with important clues to their past bombardment histories. We present results from a stochastic cratering simulation specifically designed for modeling crater populations on asteroids.

9:30 a.m. Cheng A. F. *
Asteroid Collisional Evolution: Implications for Internal Structure **[#1506]**
A new model of asteroid collisional evolution is constrained by a size distribution inferred from crater size distributions on the Moon, Mercury and Mars. The asteroid size distribution is constrained to evolve over 3.9 Gy to the present day state.

9:45 a.m. Dawe W. Murray M. Burchell M. J. *
Catastrophic Disruption of Porous and Solid Ice Bodies **[#1096]**
We report on a programme of 19 laboratory impacts onto ice targets (porous and solid) at speeds of 1 to 7 km/s. We determine the energy density for catastrophic disruption and show that it differs significantly for porous vs. solid ice bodies. This is contrary to results at lower impact speeds.

10:00 a.m. Korycansky D. G. * Asphaug E.
Polyhedron Modeling of Rubble-Pile Asteroids **[#1400]**
We report on our progress in modeling asteroid rubble pile structure and dynamics using polyhedral models.

10:15 a.m. Holsapple K. A. *
Asteroid Spin Data: No Evidence of Rubble-Pile Structures **[#2329]**
New analyses of spin limits for cohesive ellipsoidal asteroids dispel the idea that the data strongly suggests rubble-pile structures. Instead the data, including some new data from the main belt, is entirely consistent with limits for large cohesive bodies with strength.

10:30 a.m. Scheeres D. J. *
Solar Radiation Pressure and Transient Flows on Asteroid Surfaces **[#1919]**
The effect of solar radiation pressure (SRP) on small regolith particles is discussed. SRP can play a major role in the surface migration of dust particles, whether or not electromagnetic levitation or seismic shaking is present.