

Wednesday, March 15, 2006
SPECIAL SESSION: RESULTS FROM THE DEEP IMPACT MISSION
1:30 p.m. Marina Plaza Ballroom

Chairs: P. H. Schultz
H. J. Melosh

- 1:30 p.m. A'Hearn M. F. * Deep Impact Team
Deep Impact: Excavating Comet Tempel 1 [#1978]
 This talk will provide an overview of the results from Deep Impact, including brief summaries of results presented in subsequent talks and more detailed discussions of results not being presented individually.
- 2:00 p.m. Schultz P. H. * Ernst C. A'Hearn M. F. Eberhardy C. Sunshine J. M. Deep Impact Team
The Deep Impact Collision: A Large-Scale Oblique Impact Experiment [#2294]
 The Deep Impact collision produced a distinctive pattern of evolving ejecta to very late time, indicative of a layered, high porosity surface.
- 2:15 p.m. Belton M. J. S. * Deep Impact Science Team
A Deep Impact Mission Contribution to the Internal Structure of Jupiter Family Cometary Nuclei: The TALPS or "Layered Pile" Model [#1232]
 We propose that the widespread layering now seen on 9P, 19P and 81P is an essential element of the internal structure of JFC nuclei. This leads to a new model for cometary interiors called the TALPS or "layered pile" model. We argue that these layers are primordial.
- 2:30 p.m. Melosh H. J. * Deep Impact Team
Deep Impact: The First Second [#1165]
 During the first second after Deep Impact struck Tempel 1, the flyby spacecraft observed a bright arc-shaped plume that expanded rapidly away from the impact site. This plume was probably composed of about 4000 kg of incandescent silicate melt droplets.
- 2:45 p.m. Richardson J. E. * Melosh H. J.
Modeling the Ballistic Behavior of Solid Ejecta from the Deep Impact Cratering Event [#1836]
 We describe results from a forward model of the first-order, solid ejecta particle behavior from the impact produced by the Deep Impact mission. The expansion rate of the plume places constraints on the gravity field, mass, and density of Tempel 1.
- 3:00 p.m. Veverka J. * Thomas P. Hidy A.
Tempel 1: Surface Processes and the Origin of Smooth Terrains [#1364]
 Deep Impact images reveal the nucleus of comet Tempel 1 to be a geologically complex body with prominent layering and extensive smooth terrains suggestive of flow deposits.
- 3:15 p.m. Groussin O. * A'Hearn M. F. Li J.-Y. Thomas P. C. Sunshine J. M. Lisse C. M. Delamere A.
 Deep Impact Science Team
Temperature of the Nucleus of Comet Tempel 1 [#1297]
 Deep Impact successfully encountered comet 9P on July 4th. From the IR spectra of the nucleus, we derived its temperature map. Here, we present the resulting temperature map and its implications for the surface thermal properties of the nucleus.
- 3:30 p.m. Ernst C. M. * Schultz P. H. A'Hearn M. F. Deep Impact Science Team
Photometric Evolution of the Deep Impact Flash [#2192]
 On July 4, 2005, the Deep Impact mission performed a planetary-scale impact experiment into comet 9P/Tempel 1. We report on the characteristics and photometric evolution of the impact flash in the context of laboratory-scale impact experiments.

- 3:45 p.m. Sugita S. * Kadono T. Ootusbo T. Honda M. Sako S. Miyata T. Sakon I. Yamashita T. Kawakita H. Fujiwara H. Fujiyoshi T. Takato N. Fuse T.
SUBARU/COMICS Deep Impact Observation Team
A High-Resolution Mid-IR Observation of the Collision Between Deep Impact Projectile and Comet 9P/Tempel 1 [#2431]
We present results of our detailed analysis of the mid-infrared observation of the collision between Deep Impact projectile and comet 9/P Tempel 1, which provides crucial information on both the style of the cratering and the origin of the comet.
- 4:00 p.m. Lisse C. M. * Deep Impact Spitzer Science Team
Spitzer Space Telescope Observations of the Nucleus and Dust of Deep Impact Target Comet 9P/Tempel 1 [#1960]
Comet 9P/Tempel 1 was observed before, during, and after the Deep Impact encounter using the Spitzer Space Telescope IR Spectrometer. We report here on the results of the SST observations, the new materials found in the ejecta, and the resulting implications for the proto-solar nebula.
- 4:15 p.m. Sunshine J. M. * A'Hearn M. F. Groussin O. Feaga L. M. Li J.-Y. Schultz P. H. Deep Impact Science Team
Water Ice on Tempel 1: Before, During, and After the Impact Event [#1890]
We present the identification, spatial distribution, and particle size of water ice on the surface of comet 9/P Tempel 1 and trace its path during impact and in relation to the comet's structure.
- 4:30 p.m. Feaga L. M. * A'Hearn M. F. Sunshine J. M. Groussin O. Deep Impact Science Team
Asymmetry of Gaseous CO₂ and H₂O in the Inner Coma of Comet Tempel 1 [#2149]
Gaseous emission bands of CO₂ and H₂O are detected in the spectra of the inner coma of comet 9P/Tempel 1. Asymmetries are found in the distribution of the gas with CO₂ more prevalent in the southern coma and H₂O more prevalent in the sunward direction.
- 4:45 p.m. Holsapple K. A. * Housen K. R.
Gravity or Strength? An Interpretation of the Deep Impact Experiment [#1068]
A study of the deep impact event using current results and scaling laws for cratering ejecta. Within the uncertainties, whether the cratering was dominated by strength or gravity cannot be distinguished. As a consequence, the mechanical nature of the surface of Tempel 1 remains uncertain.