

Thursday, March 18, 2004
POSTER SESSION II: DUST: THEORY AND EXPERIMENTS
7:00 p.m. Fitness Center

Krauß O. Wurm G.

Experimental Study of the Radiation Pressure Forces on Isolated Micron-size Dust Particles [#1526]

We present a new experimental set-up for radiation pressure measurements of individual dust grains. First measurements reveal a high non-radial component of the radiation pressure cross section for irregularly shaped micron-size graphite grains.

Ipatov S. I. Mather J. C. Guillory J. U.

Migration of Dust Particles and Their Collisions with the Terrestrial Planets [#1446]

The collision probabilities of dust particles with the terrestrial planets during lifetimes of particles were considerably greater for larger asteroidal and cometary particles.

Landgraf M. Grün E.

Chemical In-Situ Analysis of Interplanetary and Interstellar Meteoroids [#1051]

We present the benefits of simultaneous in-situ measurement of the kinetic and chemical properties of interstellar and interplanetary dust grains. The proposed measurements will allow us to analyse tens of large dust grains each year.

Willis M. J. Ahrens T. J. Shen A. H. Beauchamp J. L.

Mass Spectrometer Calibration of Cassini Cosmic Dust Analyzer for Methane Ice Via Laser Ablation [#1940]

We present results of experimental work in which laser ablation of a methane-coated mineral target is used to simulate the impact of methane ice particles onto the Cassini Cosmic Dust Analyzer instrument.

Loeffler M. J. Baratta G. A. Palumbo M. E. Strazzulla G. Baragiola R. A.

Comparative Effects of 10.2 eV Photon and 200 keV Proton Irradiation on Condensed CO [#2037]

We present results from experiments that use infrared spectroscopy to compare production rates of carbon dioxide formed by UV photolysis and 200 keV proton irradiation of carbon monoxide ice at 16 K. We find production rates to be similar for both types of irradiation.

Joswiak D. J. Brownlee D. E. Schlutter D. J. Pepin R. O.

Experimental Studies on Heated and Unheated He-Irradiated Olivine Grains at Moderate He-Ion Fluences: Analogues to Radiation Damage in IDPs [#1919]

Observed irradiation effects from moderate He-ion fluences on olivine grains are minor in unheated grains but much more dramatic after the grains are heated and include amorphitization of the rims and production of nanophase metal inclusions and voids.

Carmona-Reyes J. Cook M. Schmoke J. Harper K. Reay J. Matthews L. Hyde T.

Impact Studies Using a One Stage Light Gas Gun [#1019]

A low velocity light gas gun has been developed and tested for use in orbital debris research. The initial results from this system will be presented.

Tatsumi K. Nagahara H. Ozawa K. Tachibana S.

Condensation Kinetics of Metallic Iron: An Experimental Study [#2013]

The experiment of condensation of iron was carried out to examine the kinetics of condensation. Condensation coefficient of iron for particular conditions was determined on the order of 10^{-1} .