

**Thursday, March 10, 2011**  
**POSTER SESSION II: DUSTY HORIZONS I:**  
**INTERPLANETARY DUST PARTICLES AND MICROMETEORITES**  
**6:00 p.m. Town Center Exhibit Area**

Matrajt G. Messenger S. Brownlee D. Joswiak D.

[\*Coordinated TEM, Isotopic and Heating Analyses of Distinctive Carbonaceous Phases in IDPs\*](#) [#1049]

We investigated carbonaceous phases in IDPs that have distinctive morphologies and isotopic compositions.

Flynn G. J. Wirick S.

[\*Organic Analysis of Particles from the Stratospheric Collection Coinciding with the Earth's 2003 Passage Through the Dust Trail of Comet 20P/Grigg-Skjellerup\*](#) [#1856]

Three of the four particles examined thus far from the Grigg-Skjellerup timed collection, exhibit large aliphatic C-H stretching features, similar to those in other IDPs, that are distinctly different from the silicone oil in which these particles were collected.

Starkey N. A. Franchi I. A.

[\*Investigating Raman Variation Across Large Cluster Interplanetary Dust Particles\*](#) [#1938]

Laser Raman microscopy measurements are presented for a suite of cluster IDPs, exploring the variability of the organic material at various scales within and between different clusters.

Hu Z. W. Winarski R.

[\*Unlocking the Nanoscale Fluffy Structure in Interplanetary Dust with Hard X-Ray Phase Contrast Nanotomography\*](#) [#2662]

By using X-ray phase contrast nanotomography, we have been able to obtain the three-dimensional structure of an intact IDP at a resolution of 30 nm or better, revealing an extremely fluffy, nanoporous nanograined aggregate and a core-mantle structure for nanograins.

Matsuno J. Tsuchiyama A. Noguchi R. Miyake A. Shimobayashi N. Ichikawa S. Souma N.

[\*Reduction Experiments of Amorphous Silicates with the Mean Composition of GEMS\*](#) [#1810]

We synthesized amorphous silicates of the mean composition of GEMS and performed reduction experiments for examining the origin of GEMS. We concluded that GEMS is not reduction products as our results were compared with natural GEMS.

Yano H. Tanaka M. Okamoto C. Hirai T. Ogawa N. Hasegawa S. Iwai T. Okudaira K.

[\*Cosmic Dust Detection by the IKAROS-Arrayed Large-Area Dust Detectors in Interplanetary Space \(ALADDIN\) from the Earth to Venus\*](#) [#2647]

IKAROS, a 20-m-wide solar sail spacecraft launched in May 2010, carries the ALADDIN dust detector, which is made of 0.54 m<sup>2</sup> PVDF sensors deployed on its sail membrane. ALADDIN continuously measures dust flux in the vicinity of the Earth compared to that of Venus within its six-month voyage.

Gritsevich M. I. Kohout T. Koschny D. V.

[\*Interplanetary Particle Densities Based on Atmospheric Entry Analysis\*](#) [#1526]

A new technique of meteor atmospheric entry analysis is presented to determine the bulk density of small meteoroids. The derived bulk density estimates are compared to empirically measured physical properties of known extraterrestrial materials.

Taylor S. Herzog G. F. Hornig C. E. Jones K. W.

[\*The Role of Sulfides in Forming Vesicles in Scoriaceous and Porphyritic Micrometeorites\*](#) [#1203]

As micrometeorites are heated and transition between unmelted and scoriaceous textures, their surfaces melt. This melt layer temporarily seals the surface allowing gases from the decomposition of sulfides to form vesicles.

Cordier C. Folco L. van Ginneken M.

[\*Nickel Abundance in Barred-Olivine Cosmic Spherules\*](#) [#1363]

We examine the NiO contents in barred-olivine spherules and their olivines collected in the Transantarctic Mountain and South Pole Water Well micrometeorite traps, Antarctica.

Doi M. Nakamoto T.

[\*Shape, Composition, and Texture of Cosmic Spherules\*](#) [#2761]

Shapes, compositions, and textures of cosmic spherules are measured and some relations among them are found. Also, it is found that those relations can be understood naturally using a theory.