

Thursday, March 20, 2003  
POSTER SESSION II  
7:00 p.m. Fitness Center

Interplanetary Dust and Micrometeorites

Molster F. J. Demyk A. d'Hendecourt L. Bradley J. P.

*The First 2–50  $\mu\text{m}$  Infrared Spectrum of an Interplanetary Dust Particle (IDP) [#1148]*

Comparing the properties of IDPs with dust grains around other (young) stars, requires the infrared characteristics of IDPs. We show the first infrared spectrum of an IDP up to 50 microns, covering the main fingerprint area of minerals.

Lever J. H. Taylor S.

*Potential for a Time-sequenced 100,000-Year Record of Micrometeorites at South Pole [#1644]*

We propose to collect and analyze a high-resolution 100,000-yr record of micrometeorites and terrestrial dust to study the evolution of near-Earth cosmic dust, the link between ET influx and climate change, and biogenic materials in Antarctic ice.

Duprat J. Engrand C. Maurette M. Gounelle M. Hammer C. Kurat G.

*The CONCORDIA-Collection: Pristine Contemporary Micrometeorites from Central Antarctica Surface Snow [#1727]*

Using a new collection technique, we recovered micrometeorites trapped in central Antarctic surface snow. They are characterized by minimal terrestrial weathering compared to the previous collections in the ice at the coast of the continent.

Flynn G. J. Lanzirotti A. Westphal A. J. Dominguez G. Snead C.

*Chemical and Mineralogical Analysis of an Extraterrestrial Particle in Aerogel [#1814]*

Particle 2DO3No.1, captured in aerogel on the MIR Space Station, is chondritic in its Cr/Fe, Mn/Fe, and Ni/Fe contents, indicating that it is extraterrestrial. This particle exhibits an x-ray diffraction pattern consistent with fayalitic olivine.

Joswiak D. J. Brownlee D. E.

*'Normal' Fe-Mg-Al-Cr Spinel Minerals in Chondritic Stratospheric IDPs [#1843]*

'Normal' Fe-Mg-Al-Cr spinel minerals were studied in 15 chondritic stratospheric IDPs. Most were likely to have formed in the interiors of the IDPs by atmospheric entry heating but some may be condensates from the solar nebula.

Feser M. Wirick S. Flynn G. J. Keller L. P.

*Combined Carbon, Nitrogen, and Oxygen XANES Spectroscopy on Hydrated and Anhydrous Interplanetary Dust Particles [#1875]*

We have obtained carbon-, oxygen-, and the first nitrogen-XANES spectra of a hydrated and of an anhydrous IDP, and found percent-level nitrogen in each of the two IDP.

Brownlee D. E. Joswiak D. J.

*Disaggregating IDPs [#1954]*

Some IDPs appear to be primitive aggregates of sub-micron solar nebula grains. In this work we disaggregate particles to isolate the original pre-accretion components.

Dominguez G. D. Westphal A. J. Phillips M. L. F. Jones S. M.

*A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust* [#2001]

Here we present a novel technique for capturing and identifying large numbers of interstellar dust grains as well as some interplanetary dust particles in low earth orbit using a fluorescent aerogel.

Snead C. Westphal A. J. Dominguez G. Zolensky M. E.

*Successful Capture, Extraction and Identification of Hypervelocity CM2 Meteorite Fragments Shot by Light-Gas Gun* [#1827]

Here we report the successful capture, extraction and identification of two fragments of a CM2 meteorite (ALH83100) into low-density aerogel.