Thursday, March 10, 2011
POSTER SESSION II: DUSTY HORIZONS II: STARDUST
6:00 p.m. Town Center Exhibit Area

Westphal A. J. Allen C. Anderson D. Bajt S. Bechtel H. A. Borg J. Brenker F. Bridges J. Brownlee D. E. Burchell M. Burghammer M. Butterworth A. L. Cloetens P. Davis A. M. Floss C. Flynn G. J. Frank D. Gainsforth Z. Grün E. Heck P. R. Hillier J. K. Hoppe P. Howard L. Huss G. R. Huth J. Kearsley A. King A. J. Lai B. Leitner J. Lemelle L. Leroux H. Lettieri R. Lyverse P. Marchant W. Nittler L. R. Ogliore R. C. Postberg F. Price M. C. Sandford S. A. Sans Tresseras J. A. Schmitz S. Schoonjans T. Silversmit G. Simionovici A. Srama R. Stadermann F. J. Stephan T. Stodolna J. Stroud R. M. Sutton S. R. Toucoulou R. Trieloff M. Tsou P. Tsuchiyama A. Tyliczszak T. Vekemans B. Vincze L. Von Korff J. Zevin D. Zolensky M. E. >29,000 Stardust@home Dusters
Constraints on the Interstellar Dust Flux Based on Stardust@Home Search Results **[#2059]**
We present constraints on the interstellar dust flux based on Stardust@home search results, informed by recent high-fidelity laboratory calibrations of track sizes in aerogel in the difficult regime above 10 km/s and submicrometer sizes.

Bechtel H. A. Allen C. Bajt S. Borg J. Brenker F. Bridges J. Brownlee D. E. Burchell M. Burghammer M. Butterworth A. L. Cloetens P. Davis A. M. Floss C. Flynn G. J. Frank D. Gainsforth Z. Grun E. Heck P. R. Hillier J. K. Hoppe P. Howard L. Huss G. R. Huth J. Kearsley A. King A. J. Lai B. Leitner J. Lemelle L. Leroux H. Nittler L. R. Ogliore R. C. Postberg F. Price M. C. Sandford S. A. Sans Tresseras J. A. Schmitz S. Schoonjans T. Silversmit G. Simionovici A. Srama R. Stadermann F. J. Stephan T. Stodolna J. Stroud R. M. Sutton S. R. Toucoulou R. Trieloff M. Tsou P. Tsuchiyama A. Tyliczszak T. Vekemans B. Vincze L. Westphal A. J. Zolensky M. E. >29,000 Stardust@home Dusters
FTIR Analysis of Aerogel Keystones from the Stardust Interstellar Dust Collector: Assessment of Terrestrial Organic Contamination and X-Ray Microprobe Beam Damage **[#1971]**
More than 20 aerogel keystones, many of which contained candidates for interstellar dust, were extracted from the Stardust interstellar dust collector and examined with synchrotron FTIR spectromicroscopy.

Stroud R. M. Allen C. Bajt S. Bechtel H. A. Borg J. Brenker F. Bridges J. Brownlee D. E. Burchell M. Burghammer M. Butterworth A. L. Cloetens P. Davis A. M. Floss C. Flynn G. J. Frank D. Gainsforth Z. Grün E. Heck P. R. Hillier J. K. Hoppe P. Howard L. Huss G. R. Huth J. Kearsley A. King A. J. Lai B. Leitner J. Lemelle L. Leroux H. Nittler L. R. Ogliore R. C. Postberg F. Price M. C. Sandford S. A. Sans Tresseras J. A. Schmitz S. Schoonjans T. Silversmit G. Simionovici A. Srama R. Stadermann F. J. Stephan T. Stodolna J. Sutton S. R. Toucoulou R. Trieloff M. Tsou P. Tsuchiyama A. Tyliczszak T. Vekemans B. Vicenze L. Westphal A. J. Zolensky M. E.
Identification of Impact Craters in Foils from the Stardust Interstellar Dust Collector **[#1753]**
Imaging of foils from the Stardust Interstellar Dust Collector shows abundant sub-μm to μm-sized impact craters. The craters likely result from interstellar dust, solar wind-accelerated nanoparticles and secondary impacts off of the spacecraft.

Floss C. Allen C. Bajt S. Bechtel H. A. Borg J. Brenker F. Bridges J. Brownlee D. E. Burchell M. Burghammer M. Butterworth A. L. Cloetens P. Davis A. M. Doll R. Flynn G. J. Frank D. Gainsforth Z. Grün E. Heck P. R. Hillier J. K. Hoppe P. Howard L. Huss G. R. Huth J. Kearsley A. King A. J. Lai B. Leitner J. Lemelle L. Leonard A. Leroux H. Nittler L. R. Ogliore R. C. Ong W. J. Postberg F. Price M. C. Sandford S. A. Sans Tresseras J. A. Schmitz S. Schoonjans T. Schreiber K. Silversmit G. Siminonovici A. Srama R. Stadermann F. J. Stephan T. Stodolna J. Stroud R. M. Sutton S. R. Toucoulou R. Trieloff M. Tsou P. Tsuchiyama A. Tyliczszak T. Vekemans B. Vincze L. Westphal A. J. Zolensky M. E. >29,000 Stardust@home Dusters
Stardust Interstellar Foils I1061N,1 and I1031N,1: First Results from Automated Crater Searches and Future Analytical Possibilities **[#1576]**
Ten submicrometer (235–700-nm) craters were identified on Stardust interstellar foils 1061N and 1031N. The craters are distributed randomly over the foil areas, indicating that the high abundance observed is not due to clusters of secondary impacts.

Croat T. K. Leonard A. A. Stadermann F. J. Floss C. F. Kearsley A. T. Burchell M. J.
Characterization of Refractory Presolar Grain Analogues Shot into Al Foil Under Stardust-Like Conditions **[#2520]**
We report coordinated TEM/SEM-EDXS/Auger results on test shots of a refractory grain mixture into Al foil under Stardust-like conditions that was undertaken to better calibrate Wild 2 presolar SiC abundances.

Wilkins G. Dominguez G.
Simulating Hypervelocity Particle Impact and Survival Probabilities in Aerogel **[#2775]**
A general model of hypervelocity capture and track formation in aerogel was extended to allow for the calculation of particle surface temperatures and survival probabilities as a function of size and impact velocity.

Rietmeijer F. J. M.
Chemistry and Temperatures at the Entrance of Track #80 **[#1110]**
Hypervelocity induced temperatures are constrained between 1100° and 1800°C at the entrance hole of Stardust track #80 using measured silicate glass and Fe-Ni-S compound compositions.

Wirick S. Flynn G. J. Jacobsen C. Nakamura-Messenger K. Zolensky M. Sandford S.
Soft X-Ray Photoionizing Organic Matter from Comet Wild 2; Evidence for the Production of Organic Matter by Impact Processes **[#1763]**
Organics from Comet Wild 2 decomposed when exposed to 300 eV photons, resulting in mass loss. This material could not have formed by UV photoionization nor by any large body processes. The organic matter may have formed by impact processes.

Snead C. J. McKeegan K. D.
Assessment of Ion Probe Rare-Earth Element Measurement Techniques, in Preparation of a Wild 2 Refractory Grain **[#2617]**
We measured the rare-earth element concentrations of a NIST 610 standard and of a calcium-aluminum rich using several ion probe analysis techniques to assess useful yields, in preparation of the measurement of a Wild 2 refractory inclusion.

Stephan T. Davis A. M. Pellin M. J. Savina M. R. Veryovkin I. V. King A. J. Liu N. Trappitsch R. Yokochi R.
Making CHILI (Chicago Instrument for Laser Ionization) — A New Tool for the Analysis of Stardust **[#1995]**
CHILI, a new RIMS instrument, presently under construction at the University of Chicago, will achieve unprecedented sensitivity and <10 nm lateral resolution. It will be applied to the analysis of samples from the Stardust mission and presolar dust.

Veryovkin I. V. Tripa C. E. Zinovev A. V. Baryshev S. V. Pellin M. J.
Upgrades to SARISA: Aiming at Quantitative Three-Dimensional Mass Spectrometry on Nanometer Scale **[#2790]**
Recent upgrades to the SARISA instrument are described from the perspective of how enhancing its analytical capabilities enabled characterization of a wide range of samples of cosmochemical interest.