Thursday, March 4, 2010
POSTER SESSION II: ORIGINS OF PRESOLAR GRAINS
7:00 p.m. Town Center Exhibit Area

Gilmour J. D. Holland G. Turner G. Verchovsky A. B. Fisenko A. V. Semjonova L. F.
Observation and Implications of Iodine (with Iodine-129) Associated with Presolar Xenon Components in Meteoritic Nanodiamonds **[#1662]**
Iodine with live ^{129}I is shown to be associated with the P3 and P6 (but not HL) xenon components in nanodiamonds at I/Xe ratios >100× higher than expected for average galactic material. This suggests a distinct, chemically selective trapping process.

Garvie L. A. J.
Where are the Nanodiamonds in the Primitive Meteorites? Preliminary TEM Results **[#1388]**
Transmission electron microscopy and electron-energy loss spectroscopy is used to find nanodiamonds in the primitive meteorite matrix materials.

Otsuki K.
Origin of Xe-H Component in Presolar Diamond **[#1652]**
Possible origin of Xe-H component in presorlar diamond is discussed. Theoretical calculations are compared with measured ^{134}Xe/^{136}Xe ratio. Further isotope analysis of diamond can be a strong constraint of this model.

Heck P. R. Pellin M. J. Davis A. M. Martin I. Renaud L. Benbalagh R. Isheim D. Seidmann D. N. Hiller J. Stephan T. Lewis R. S. Savina M. R. Mane A. Elam J. Stadermann F. J. Zhao X. Daulton T. L. Amari S.
Atom-Probe Tomographic Analyses of Presolar Silicon Carbide Grains and Meteoritic Nanodiamonds — First Results on Silicon Carbide **[#2112]**
We present first results of laser-assisted atom-probe tomography of presolar silicon carbide grains and describe our effort to analyze the chemical compositions of individual meteoritic nanodiamonds.

Wopenka B. Jadhav M. Lebsack E. Zinner E.
Raman and Isotopic Studies of Large Presolar SiC Grains **[#1390]**
Raman spectra correlate with grain morphology: euhedral grains are cubic, grains with smooth, blocky morphology are hexagonal. An unusually large (30 μm) polycrystalline cubic X grain has wide Raman peaks, indicative of crystallographic disorder.

King A. Henkel T. Rost D. Lyon I.
Trace Element Depth-Profiles in Presolar SiC **[#1976]**
TOFSIMS has been systematically used to study the distribution of trace elements in seven presolar SiC grains. There is evidence to suggest that some trace elements may have been implanted into the grains.

Croat T. K. Lebsack E. Bernatowicz T. J.
Pristine SiC Candidates: Spectral Imaging and Auger Investigations **[#1891]**
We describe a new spectral imaging method to locate pristine SiCs (those prepared without acid dissolution) from within Murchison matrix material. We present images,X-ray and Auger electron spectra from pristine SiCs, which show carbonaceous surface coatings.

Zinner E. Gyngard F. Nittler L. R.
Automated C and Si Isotopic Analysis of Presolar SiC Grains from the Indarch Enstatite Chondrite **[#1359]**
We report C and Si isotopic ratios of presolar SiC and Si_3N_4 grains from the Indarch enstatite chondrite obtained by automated NanoSIMS analysis. One unusual SiC grain with large ^{29,30}Si, ^{12}C and and ^{15}N excesses originated in a Type II supernova.

Jadhav M. Amari S. Zinner E. Maruoka T.
Presolar Graphite Grains from Orgueil: Some Unresolved Issues **[#1035]**
We highlight some of the problems we encountered while studying presolar graphite grains from Orgueil and trying to constrain the nucleosynthetic processes in their stellar sources.

Vollmer C. Hoppe P.
First Fe Isotopic Measurement of a Highly ^{17}O-enriched Stardust Silicate **[#1200]**
We report on NanoSIMS Fe isotopic measurements of thirteen stardust silicates from the Acfer 094 meteorite. Most of the stardust silicates have solar ^{54}Fe/^{56}Fe ratios, but one highly ^{17}O-enriched silicate is significantly depleted in ^{54}Fe.

Le Guillou C. Brearley A. J. Brunner C. E. Floss C. Stadermann F. J.
FIB Extraction and TEM Analysis of Presolar Grains from the CR3 Chondrite MET 00426 **[#2602]**
The preliminary results of an integrated NanoSIMS/FIB/TEM study of isotopically anomalous C and O grains from the CR chondrite MET 00426 are presented.

Davidson J. Busemann H. Franchi I. A. Grady M. M.
Presolar Grain Inventories of the Ungrouped C3 Adelaide and the CV3 RBT 04133 **[#2230]**
Here we report the presolar grain inventories (silicates, oxides, SiC, and other C-anomalous phases) determined for Adelaide (an ungrouped C3 chondrite) and RBT 04133 (a mildly thermally altered CV3) by NanoSIMS raster ion imaging.

Zhao X. Stadermann F. J. Floss C. Bose M. Lin Y.
Characterization of Presolar Grains from the Carbonaceous Chondrite Ningqiang **[#1431]**
Five Fe-rich presolar silicates (115 ppm) and one possible SiC (1 ppm) were found in the Ningqiang C chondrite. Two of the silicates are unusually large (~1 μm). Secondary alteration (metasomatism) may account for the Fe-enrichment of the silicates.

Meyer B. S. Johnson J. P.
Internal Equilibration Rate of ^{186}Re and Presolar Grains **[#2654]**
We compute the effective internal equilibration rate of ^{186}Re. Calculations Os abundances in s-process calculations do not need modification for branching through the ^{186}Re isomer for comparison with presolar grain data.