

**Thursday, March 26, 2009**  
**POSTER SESSION II: CHONDRITES, THEIR CLASTS, AND ALTERATION**  
**6:30 p.m. Town Center Exhibit Area**

Le Guillou C. Rouzaud J. N. Findling N. Düber S.  
[Experimental Graphitization and Oxidation Kinetic of Nanodiamond: Implication for Nebular Thermal Processing](#) [#2070]

Graphitization/oxidation kinetic of nanodiamonds is investigated to determine which reaction governs diamonds destruction in chondrites. Graphitization prevails and kinetic parameters indicate a high temperature (~1300°C) short time (hours) event.

Dyl K. A. Bischoff A. Ziegler K. Wimmer K. Young E. D.  
[Metamorphic Conditions within the Villalbeto de la Peña L-Chondrite Parent Body Based on Petrologic and UV Laser Fluorination Oxygen Isotopic Studies on an Unique Fragment](#) [#2506]

Oxygen isotope data from a foreign feldspar fragment in Villalbeto de la Peña (L6) record an isotopic profile across the object. This and NaSi-CaAl exchange suggest the presence of a volatile phase responsible for the fragment's alteration.

Lehner S. W. Buseck P. R.  
[The Highly Unequilibrated EH Chondrite, Sahara 97072, May Be a Primitive Breccia](#) [#2154]

We have investigated a breccia lump in the unequilibrated enstatite chondrite Sahara 97072, which we interpret to be a primitive breccia.

Macke R. J. Britt D. T. Consolmagno G. J.  
[Enstatite Chondrite Physical Properties: Density, Porosity and Magnetic Susceptibility](#) [#1598]

We measured density, porosity and magnetic susceptibility for 26 stones from 16 enstatite chondrites. We find no difference between EH and EL in these properties. Despite some outliers, enstatite chondrites grouped tightly in these properties.

Zhang A. Guan Y. Hsu W. Liu Y. Patchen A. D. Taylor L. A.  
[An Unusual Lithic Clast in the Grove Mountains 021536 CM2 Chondrite: Petrography, Mineralogy, and Oxygen Isotopes](#) [#1270]

This abstract reports petrography, mineralogy, and oxygen isotopic compositions of an unusual lithic clast in a new CM2 chondrite GRV 021536.

Lyon I. Spring N. King A. Henkel T. Rost D.  
[The Li and Trace Element Budget of Acfer 094 Matrix](#) [#2335]

Acfer 094 matrix has been studied by TOFSIMS elemental and isotopic analysis. Unusual minerals including a Li and Cr silicate has been found. These unusual minerals may account for a significant fraction of the budget of lithium and chromium in Acfer 094.

Matsuda S. Nakashima D. Iio H. Bajo K. Nagao K.  
[Laser Microprobe Noble Gas Analysis of Chondrules in the NWA 801 CR2 Chondrite](#) [#1628]

Chondrules in NWA 801 show variations in cosmogenic  $^3\text{He}$  and  $^{21}\text{Ne}$  concentrations, suggesting cosmic-ray exposure on the parent body. In addition, we found solar-like noble gases in a chondrule in NWA 801.

Chizmadia L. J. Cabret-Lebrón E.  
[La Paz 031117: A New Primitive CO3 Carbonaceous Chondrite](#) [#2031]

Lap 031117 has AOIs with an average olivine composition of 0.56 mol% Fa with a standard deviation of 0.21. Type II chondrules have an average  $\text{Cr}_2\text{O}_3$  content of 0.39 wt% and the standard deviation is 0.12. These two properties are consistent with Lap 031117 being subtype 3.0.

Ivanova M. A. Moroz L. V. Kononkova N. N.

[Altered Material in CH/CB Chondrite Isheyevo](#) [#1259]

Isheyevo is a metal-rich meteorite with similarities to both CH and CBb chondrites. Here we report results on mineralogical and IR-microspectroscopic studies of several lithic clasts and layered chondrules with rim of altered materials from Isheyevo.

Petit M. Gounelle M. McKeegan K. Mostefaoui S. Marrocchi Y. Meibom A. Zolensky M. E.

[Kaidun Carbonates: Re-Examining the  \$^{53}\text{Mn}\$ - \$^{53}\text{Cr}\$  Systematics](#) [#1666]

In this work, we used a NanoSims to characterize  $^{53}\text{Mn}$ - $^{53}\text{Cr}$  internal isochrons on individual dolomite grains found in two different CI-lithologies of Kaidun.

Blinova A. I. Herd C. D. K. Zega T. De Gregorio B. Stroud R.

[Preliminary SEM and TEM Study of Pristine Samples of Tagish Lake Meteorite](#) [#2039]

We present preliminary SEM and TEM study of the pristine dark-dusty and compact-coherent lithologies from the Tagish Lake meteorite.

Nakashima D. Matsuda S. Iio H. Bajo K. Ebisawa N. Nagao K.

[Noble Gases in the NWA 852/801 CR2 Chondrites](#) [#1661]

NWA 852/801 are solar noble gas rich meteorites and petrologically similar, suggesting they are paired. The constituents had been exposed to solar winds and cosmic-rays for >57 Ma on the parent body surface followed by meteoroid flight of ~9 Ma.

Kuehner S. M. Irving A. J. Rumble D. III Nicklin I. Gregory D. A.

[Exotic, Primitive Micrometeorite Clasts Related to CM Chondrites in Polymict Eucrite Breccia Northwest Africa 5232](#) [#2315]

Dark CM chondritic clasts in a eucrite breccia contain characteristic phosphosulfides.

Gordon S. H. Hammond S. J. Howard L. E. Bland P. A.

[Dark Inclusions: Clasts of CM-type Material Within Allende](#) [#1713]

Dark inclusions of Allende (CV3) are found to be CM in origin. Trace and minor element determinations carried out by solutions ICP-MS show very similar volatile element depletion patterns for the two materials.

Izawa M. R. M. Barker I. Moser D. E. Flemming R. L. McCausland P. J. A.

[Colour SEM-Cathodoluminescence Investigation of the Tagish Lake C2 Chondrite](#) [#1757]

Color + UV SEM-CL imaging reveals variations in at least three constituents of Tagish Lake. Intra- and intergrain differences appear to be uncorrelated with major element chemistry, but may identify trace element records of thermochemical evolution.

Morlok A. Neff D. Libourel G.

[Alteration of Metal in CR2 Chondrites as Analogue for Long Term Corrosion Processes: Raman Studies of Corrosion Rims](#) [#1296]

We use alteration features of metal and glass in CR2 chondrites as analogues for corrosion features of steel and Si-glass in the long term repository of nuclear waste. This presentation focuses on Raman analyses of corrosion rims around metal grains in Al Rais and GRO 95577.

Hiyagon H. Yamakawa Y. Sasaki M. Uchiyama K. Ushikubo T. Lin Y. Kimura M.

[Rare Earth Element Fractionation in Fine-grained Inclusions from the Ningqiang and Other Carbonaceous Chondrites: Origin of Positive Ce-Eu-Yb Anomalies](#) [#1493]

Fine-grained inclusions sometimes show positive anomalies in Ce, (Eu) and Yb often associated with HREE-depletions (Modified Group II). We suggest that they are produced by addition of a Ce-Eu-Yb-rich component onto Group II-like precursors.

Zolensky M. E. Briani G. Gounelle M. Mikouchi T. Ohsumi K. Weisberg M. K. Le L.

Satake W. Kurihara T.

[Searching for Chips of Kuiper Belt Objects in Meteorites](#) [#2162]

We report progress toward locating pieces of Kuiper belt objects in meteorites.