

Tuesday, July 28, 2015

POSTER SESSION: CARBONACEOUS CHONDRITE PARENT BODIES

5:30 p.m. Hearst Memorial Mining Building (HMMB) Floor One

Sanborn M. E. Yin Q.-Z. Zipfel J. Palme H.

[Investigating the Genetic Relationship Between NWA 5492 and GRO 95551 Using High-Precision Chromium Isotopes](#) [#5159]

We present the results of high-precision Cr isotopic measurements (i.e.,  $\epsilon^{53}\text{Cr}$  and  $\epsilon^{54}\text{Cr}$ ) of the ungrouped chondrites NWA 5492 and GRO 95551 to investigate a potential genetic link and their origin on a previously unsampled parent body.

Nakamura T. Park J. Ahn I. S. Shirai N. Sekimoto S. Nakato A. Nakashima D. Turrin B. D. Lindsay F. N. Herzog G. F. Delaney J. S. Swisher C. C. III Nagao K.

[Depletion of Volatiles and Timing of Heating Recorded in Thermally Metamorphosed Hydrous Carbonaceous Chondrites](#) [#5147]

PCA02012, B7904, and Dho735 experienced heating and dehydration. Mineralogical observations, INAA and  $^{40}\text{Ar}/^{39}\text{Ar}$  analyses were performed to understand effects of heating on the abundance of volatiles and on Ar-Ar age dating.

Yamashita S. Nakamura T. Jogo K. Matsuoka M. Okumura S.

[Progressive Changes in Mineralogy, Reflectance Spectra and Water Contents of Experimentally Heated Murchison at 400, 600, and 900°C](#) [#5154]

Murchison was experimentally heated in vacuum to understand changes in mineralogy, reflectance spectra and water contents. Negative correlation is found between water contents and  $3\mu\text{m}$ -band strength when corrected for absorbed and rehydrated water.

Lindgren P. Sparkes R. Quirico E. Lee M. R.

[Exploring Thermal Processing of the Mildly Aqueously Altered CMs EET 96029 Using Sulphide Mineralogy and Carbon Structure](#) [#5223]

The CM2 EET 96029 has undergone very limited aqueous alteration but has also been heated. Thus, aqueous alteration and thermal metamorphism were not necessarily coupled, with important implications for understanding of parent body evolution.

Ma C.

[Discovery of Nuwaite,  \$\text{Ni}\_3\text{GeS}\_2\$ , a New Alteration Mineral in Allende](#) [#5151]

Nuwaite is likely the first solar mineral with high Ge, Sn and Te concentrations. It is a late-stage alteration product, probably derived from a sulfidation process, where Ni-Fe metals react with a low-temperature fluid enriched in S, Ge, Sn and Te.

Fagan T. J. Aoki R.

[Evidence from Chondrule Shapes and Modes for Shock Deformation in Reduced CV3 Chondrites Leoville and Efremovka](#) [#5174]

The reduced CV3 chondrites Efremovka and Leoville are characterized by (1) more elongate chondrules, and (2) lower matrix abundances compared to the oxidized CV3 Allende. Both observations can be explained by shock deformation of reduced CV3s.

Almeida N. V. Smith C. L. Sykes D. Downes H. Ahmed F. Russell S. S.

[Quantifying the Deformation of Leoville Chondrules in 3D: Implications for the Post-Accretional History of the CV3 Parent Body](#) [#5112]

Micro-CT scanning allows for the three-dimensional analysis of both degree of deformation and direction of preferred orientation of chondrules in the Leoville CV3 meteorite, indicating post-accretional impact as the cause for the foliation.

Kuehner S. M. Irving A. J. Ziegler K. Pitt D.

[Abundant Chlorapatite Within Anomalous Reduced CV3 Chondrite Northwest Africa 8418 and Paired Stones](#) [#5244]

Chlorapatite is unusually abundant within a group of CV3 chondrite stones and as rims on large CAI.

Patmore E. B. Strait M. M. Jack S. J. Flynn G. J. Durda D. D.

[Compositional Analysis of Meteorite Disruptions to Find Mineral Makeup](#) [#5298]

Description of detector designing process to analyse the mineral makeup of extraterrestrial objects.

Ivanova M. A. Lorenz C. A. Borisovsky S. E. Burmistrov A. Korost D. V.

Korochantsev A. V. Logunova M. N.

[The Holotype of Al-Cu-Zn Alloys: Related to Meteorite Material?](#) [#5311]

We investigated the holotype sample of khatyrkite and cupalite. Our results confirmed that it is different in chemical composition from all other particles related to the Khatyrka CV3 chondrite and recovered in clay layers of the Khatyrka region.

Kochemasov G. G.

[Structural Bifurcation of Debris and Grids on Surfaces of the Churyumov-Gerasimenko Comet and Dwarf Planet Ceres](#) [#5050]

Orbits make structures. Tectonic granulations of bodies are inversely proportional to orbital frequencies. Bodies have two wave movements: orbiting and rotation. Modulation of them produces two side frequencies and corresponding visible structures.