

Thursday, March 20, 2014

[R712]

**POSTER SESSION: CHONDRITES:
MATRIX, WATER, AND ACCRETING PARENT BODIES
6:00 p.m. Town Center Exhibit Area**

Utas J. A. Rubin A. E. Ziegler K. *POSTER LOCATION #241*
[Willcox Playa 010: A Highly Reduced Lodranite](#) [#2555]

Willcox Playa 010 is compositionally similar to two other lodranites, but is significantly more reduced; oxygen fugacity varied independently from composition.

Ebel D. S. Weisberg M. K. Crapster-Pregont E. J. *POSTER LOCATION #242*
[Element Redistribution in Metamorphism of CO Chondrites: Implications for Emerging Worlds](#) [#1206]

X-ray map analysis quantitatively shows Fe-Mg exchange between inclusions and matrix, both trending to bulk Mg/Si from CO3.0 to 3.7, without disturbance of Si.

McCoy T. J. McKeown D. A. Buechele A. C. *POSTER LOCATION #243*
Tappero R. Gardner-Vandy K. G.
[Do Enstatite Chondrites Record Multiple Oxidation States?](#) [#1983]

Chromium in enstatite chondrites is Cr²⁺ in olivine and sulfides, consistent with reduction. Cr²⁺ in sulfides suggests S-S bonding in Cr-bearing sulfides.

Takenouchi A. Zolensky M. E. Nishiizumi K. *POSTER LOCATION #244*
Caffee M. Velbel M. A. et al.
[On the Relationship Between Cosmic-Ray Exposure Ages and Petrography of CM Chondrites](#) [#1827]

We sought correlations between the cosmic-ray-exposure ages and the petrography of CM chondrites, and tentatively conclude that there are some correlations.

Lindgren P. Lee M. R. Simpson S. L. *POSTER LOCATION #245*
[Impact Fracturing and Aqueous Alteration of the CM Carbonaceous Chondrites](#) [#1040]

Analysis of the petrofabrics of CM carbonaceous chondrites shows that many of them have evidence for both ductile and brittle deformation during impacts.

Hiroi T. Kaiden H. Imae N. Yamaguchi A. Kojima H. et al. *POSTER LOCATION #246*
[Visible and Near-Infrared Spectral Survey of CM Chondrite Samples of National Institute of Polar Research and Possible Discovery of Unusual 3-Micron Absorption Bands](#) [#1106]

We report preliminary results of our VNIR spectral survey of CM chondrite chips of NIPR, especially the discovery of unusual triplet 3- μ m absorption bands.

Johnson C. L. Gaffey M. J. *POSTER LOCATION #247*
[Implications for the Band I Peak Feature Shift of Ordinary Chondrites](#) [#1432]

Survey of H-, L-, and LL-type chondrite peak between charge transfer and Band I feature shows promise for an additional constraint to asteroid characterization.

Berlanga G. Hibbitts C. A. Takir D. *POSTER LOCATION #248*
[Spectral Nature of CO₂ Adsorption onto Carbonaceous Chondrite Meteorites](#) [#2773]

We investigate the adsorption of CO₂ by carbonaceous meteorites using infrared reflectance spectroscopy.

Irving A. J. Kuehner S. M. Tanaka R. Rumble D. Ziegler K. et al. *POSTER LOCATION #249*
[Collisional Disruption of a Layered, Differentiated CR Parent Body Containing Metamorphic and Igneous Lithologies Overlain by a Chondrite Veneer](#) [#2465]

We present new evidence that the CR parent body contained equilibrated chondritic lithologies and igneous plutonic bodies, and describe a unique new achondrite.

Khan R. Shirai N. Ebihara M. **POSTER LOCATION #250**
[REE, Th and U Fractionation in R Chondrites](#) [#1825]

We determined REE, Th, and U and discuss the HREE-LREE and Th-U fractionations in R chondrites.

Edey D. R. McCausland P. J. A. Flemming R. L. Holdsworth D. W. **POSTER LOCATION #251**
[Phase Recognition and Volumetric Analysis of Meteoritic Samples Using Medical Micro-Computed Tomography](#) [#2616]

Laboratory medical CT imaging can provide relatively high resolution 3-D information on the distribution of density within meteorites.

Radoman-Shaw B. G. Humayun M. Harvey R. P. Karner J. **POSTER LOCATION #252**
[Large Metal Grains in Ordinary Chondrites](#) [#2229]

The analyses in this study provide a comparison of siderophile-element concentrations and ratios between normal metal grains and nodules in meteorite samples.

Lobo A. Wallace S. W. Ebel D. S. **POSTER LOCATION #253**
[Modal Abundances, Chemistry and Sizes of Clasts in the Semarkona \(LL3.0\) Chondrite by X-Ray Map Analysis](#) [#1423]

Fully segmented maps (1567124 pixels over $\sim 157 \text{ mm}^2$) reveal 2D sizes, 73% chondrules, and 27% matrix, and complementary Mg-Si and Ti-Al in chondrules and matrix.

Goldman R. T. Crapster-Pregont E. J. Ebel D. S. **POSTER LOCATION #254**
[Comparison of Chondrule and CAI Size Measured by Electron Microprobe \(2D\) and Computed Tomography \(3D\)](#) [#2263]

Combined analysis of 2-D area from EMP maps and 3-D CT-derived volumes shows promise for developing a conversion factor for both chondrules and CAIs independently.

Crapster-Pregont E. J. Ebel D. S. **POSTER LOCATION #255**
[Complementarity of Rare Earth Elements in CO Chondrites](#) [#1379]

Some chondrule mesostasis preserves an ultrarefractory HREE-enriched precursor that complements Group II HREE-depleted CAIs producing flat bulk CO REE patterns.

Yokoyama T. Misawa K. Okano O. Minowa H. Fukuoka T. **POSTER LOCATION #256**
[Photostimulated Luminescence Technique Applicable to Pre-Screening of K-Rich Materials in Chondrites](#) [#1692]

We have developed a photostimulated luminescence technique applicable to prescreening of K-rich rock fragments in chondritic breccias.

Bayron J. M. Erb I. R. Ebel D. S. Wallace S. Connolly H. C. Jr. **POSTER LOCATION #257**
[Modal Abundances and Chemistry of Clasts in the Renazzo \(CR2\) Chondrite by X-Ray Map Analysis](#) [#1225]

Fully segmented maps ($\sim 3.3 \times 10^7$ pixels over $\sim 992 \text{ mm}^2$) reveal 61% chondrules, 0.4% CAIs, 1% AOAs, 38% matrix and complementary Mg-Si in chondrules and matrix.

Tait A. W. Fisher K. R. Simon J. I. **POSTER LOCATION #258**
[Strain Measurements of Chondrules and Refractory Inclusions in Allende](#) [#1309]

Traditional strain measurement techniques, combined with X-ray computerized tomography (CT), to evaluate petrographic evidence in the Allende CV3 chondrite.

Fisher K. R. Tait A. W. Simon J. I. Cuzzi J. N. **POSTER LOCATION #259**
[Contrasting Size Distributions of Chondrules and Inclusions in Allende CV3](#) [#2711]

Macroscale (25-cm-diameter sample) and high-resolution microscale sampling of the Allende CV3 chondrite to compare size frequencies for CAIs and chondrules.