

**Tuesday, March 8, 2011**  
**POSTER SESSION I: IRON METEORITES AND PALLASITES**  
**6:00 p.m. Town Center Exhibit Area**

Powell K. E. Chabot N. L.

[\*Crystallization of the IIIAB Iron Meteorite Group: Multi-Element Modeling Results\*](#) [#1065]

We model fractional crystallization in the IIIAB iron meteorites for 10 elements, some of which are modeled for the first time for this group.

Teplyakova S. N. Lorenz C. A. Ivanova M. A. Korochantsev A. V. Borisovsky S. E.  
 Franchi I. A. Humayun M.

[\*The New Silicate-Bearing Iron Meteorite NWA 6369 Paired to NWA 5549\*](#) [#1260]

NWA 6369 is a recent iron meteorite find with silicate inclusions, most probably paired with NWA 5549. Here we report preliminary results on petrography, mineralogy, and chemistry of NWA 6369.

Kuehner S. M. Irving A. J. Bunch T. E. Rumble D. III Jerman G. A. Sipiera P. P.

[\*Dar al Gani 962: A Libyan Silicated IAB Iron with Similarities to Landes\*](#) [#1625]

Further characterization of a silicated iron meteorite with textural and mineralogical similarities to Landes.

Moskovitz N. A. Walker R. J.

[\*Sizes of Iron Meteorite Parent Bodies: Constraints from the Age and Composition of the IVA Muonionalusta\*](#) [#1072]

We present a new model for the formation of the IVA iron meteorites that addresses a recent U-Pb age for the IVA Muonionalusta, compositional data, and metallographic cooling rates. We find that the IVA parent was smaller than previously estimated.

Wasson J. T. Scott E. R. D.

[\*Group IIE Iron Meteorites: Metal Composition, Formation, Relationship to Ordinary Chondrites\*](#) [#2813]

INAA data for metal in 8 new and 12 known IIE irons show they crystallized from various silicate-rich Fe-Ni melts with diverse S contents after impacts melted an ordinary chondrite asteroid that was probably more reduced than H chondrites.

Horan M. F. Carlson R. W. Alexander C. M. O'D. Blichert-Toft J.

[\*Palladium-Silver Isotopic Systematics in Muonionalusta and Fractionation in the IVA Iron Meteorite Parent Body\*](#) [#1311]

Palladium-silver isotope data for Group IVA iron meteorite Muonionalusta (Pb-Pb age = 4565 Ma) suggest lower initial  $^{107}\text{Pd}$  than chondrites, higher Pd/Ag prior to troilite crystallization, and ~8% S in the bulk meteorite.

Shankar N. Rugel G. Faestermann T. Korschinek G. Swisher C. C. Turrin B. Herzog G. F.  
 Walker R. J.

[\*\$^{10}\text{Be}\$ ,  \$^{26}\text{Al}\$ , and  \$^{36}\text{Cl}\$  in Iron Meteorites: Implications for Osmium Isotope Systematics\*](#) [#1262]

From  $^{10}\text{Be}$ ,  $^{26}\text{Al}$ , and  $^{36}\text{Cl}$  activities for six irons we infer shielding conditions and, assuming thermalization, estimate changes in Os isotope abundances due to neutron capture. Measured values are larger possibly because thermalization is incomplete.

Hu L. Humayun M. Wittig N.

[\*Rhenium Isotopic Compositions of Iron Meteorites: Initial Results\*](#) [#2487]

Isotopic composition of Re is precisely measured by MC-ICP-MS. No natural variations are observed.

McDermott K. H. Greenwood R. C. Franchi I. A. Anand M. Scott E. R. D.

[\*Oxygen Isotopic and Petrological Constraints on the Origin and Relationship of IIE Iron Meteorites and H Chondrites\*](#) [#2763]

New oxygen isotopic measurements of IIEs and H chondrites are indistinguishable — strengthening a possible common origin for these groups. Combining oxygen results with mineralogy, the nature of their parent body or bodies can be explored.

Ziegler K. Young E. D.

[\*Oxygen Isotope Compositions of Main Group Pallasites\*](#) [#2414]

We present a  $\Delta^{17}\text{O}$  study of a single pallasite silicate aggregate. No inhomogeneity is found on such a scale, strengthening the argument for  $\Delta^{17}\text{O}$  differences between aggregates to explain the range and bimodal distribution of pallasite  $\Delta^{17}\text{O}$  values.

Huber L. Cosarinsky M. Cook D. Leya I. Herzog G.

[\*Cosmic-Ray Exposure Ages of Pallasites Derived from Metal and Olivine Separates\*](#) [#1848]

Cosmic-ray exposure ages of pallasites based on cosmogenic noble gas and radionuclide measurements on metal and olivine separates cluster around 100 My, suggesting that they may have been ejected in a single event from the same parent body.

DellaGiustina D. N. Lauretta D. S. Hill D. H. Killgore M. Yang H. Downs R. T.

[\*Implications of the Presence of Tridymite in the Fukang Pallasite\*](#) [#1915]

Olivine grains in Fukang contain silica-rich inclusions. The identification of tridymite as the silica polymorph constrains the size of the pallasite parent body.

Harju E. R. Rubin A. E. Wasson J. T.

[\*A New Evaluation of Pallasite Cooling Rates\*](#) [#2595]

EMP studies of PMG taenite lamellae confirm they have higher central Ni contents at the same halfwidth than IIIAB irons. PMG may have cooled at lower rates, but other factors, such as shock effects, may also be influencing metal compositions.