

**Wednesday, March 15, 2006**  
**IRON METEORITES AND PALLASITES**  
**1:30 p.m. Amphitheater**

**Chairs: R. J. Walker**  
**D. S. Lauretta**

- 1:30 p.m. Wasson J. T. \* Huber H.  
*Compositional Trends Among IID Irons; Their Possible Formation from the P-rich Lower Magma in a Two-Layer Core* [#2119]  
 Magmatic iron-meteorite group IID has a low S content but high contents of other volatiles. We suggest that the S was extracted in an early metallic magma. A second metallic magma formed at much higher-temperatures was parental to the IID irons.
- 1:45 p.m. Gangopadhyay A. \* Humayun M. Goddard R. E.  
*The Partitioning of Siderophile Elements Between Kamacite and Cohenite* [#1456]  
 Determination of partition coefficients for siderophile elements between cohenite and kamacite in IAB iron meteorites.
- 2:00 p.m. Corrigan C. M. \* McCoy T. J. Chabot N. L. McDonough W.  
*Trace Element Partitioning in the Fe-Ni-P System: Applications to P-rich Iron Meteorites* [#2314]  
 Experiments to determine the partitioning behavior of trace elements in the Fe-Ni-P system have been completed. Results will be presented with implications as to their effects on the formation of iron meteorites.
- 2:15 p.m. Vogel I. A. \* Pack A. Spettel B. Palme H.  
*Constraints on Iron Meteorite Formation from Lithophile Element Abundances* [#2150]  
 Activity coefficients of Si and Cr in FeNi were experimentally determined. This and the low Si contents of 15 analysed iron meteorites (<0.3 ppm) and low Cr indicate equilibration of FeNi with silicates at temperatures below 1250°C.
- 2:30 p.m. Ammon K. \* Leya I.  
*Noble Gas Measurements in the Grant IIIAB Iron Meteorite* [#1556]  
 The preatmospheric center of Grant IIIAB has been recalibrated. The goal of this study is to establish a purely physical model to calculate the cosmogenic nuclide production in iron meteorites.
- 2:45 p.m. Schulz T. \* Münker C. Mezger K. Palme H.  
*Age and Origin of IAB Iron Meteorites and Their Silicate Inclusions Inferred from Hf/W Chronometry* [#1401]  
 The Hf/W systematics of metal and silicate inclusions of IAB iron meteorites were studied. Silicates have larger excesses in  $^{182}\text{W}$ . A two point isochron for Copiapo inclusions gives an age of  $4571.0 \pm 2.6$  million years before CAI formation.
- 3:00 p.m. Qin L. \* Dauphas N. Wadhwa M. Janney P. E. Davis A. M. Mazarik J.  
*Evidence of Correlated Cosmogenic Effects in Iron Meteorites: Implications for the Timing of Metal-Silicate Differentiation in Asteroids* [#1771]  
 Iron meteorites with low exposure ages show no GCR effect in  $\epsilon^{184}\text{W}$  and have  $\epsilon^{182}\text{W}$  values similar to initial CAI value. We report the first evidence for correlated cosmogenic effects in W isotopes for the high exposure age iron meteorites.  $\epsilon^{184}\text{W}$  can potentially be used to correct for GCR effects
- 3:15 p.m. Markowski A. \* Leya I. Quitté G. Wieler R. Ammon K. Halliday A. N.  
*Tungsten Isotopic Composition Corrected for Cosmic Ray Effects and the Hf-W Age of Iron Meteorites* [#1984]  
 We report a method to correct W isotopic compositions in iron meteorites for cosmic-ray induced variations. This allows us to deduce that at least some magmatic irons segregated within less than 1 Myr of CAI formation.

- 3:30 p.m. Honesto J. \* McDonough W. F. Walker R. J. Corrigan C. M. McCoy T. J. Chabot N. L. Ash R. D.  
*<sup>187</sup>Re-<sup>187</sup>Os Isotopic and Highly Siderophile Element Systematics of Group IVB Irons, and Ungrouped Irons Chinga, Tishomingo and Willow Grove* [#1374]  
IVB irons and the ungrouped irons Chinga, Tishomingo and Willow Grove were analyzed for HSE abundances and <sup>187</sup>Re-<sup>187</sup>Os systematics. Chinga and Willow Grove cannot be related to the IVBs by igneous fractionation. Tishomingo is more ambiguous.
- 3:45 p.m. Lee S. R. Walker R. J. \* McCoy T. J. McDonough W. F.  
*<sup>187</sup>Re-<sup>187</sup>Os Isotopic and Highly Siderophile Element Systematics of Pallasites* [#1167]  
Abundances of highly siderophile elements (HSE) and the Re-Os isotopic systematics of main group pallasites have been examined. If all main group pallasites are cogenetic, variations in HSE patterns are difficult to explain via single stage crystal-liquid fractionation models.
- 4:00 p.m. Laurretta D. S. \* Hill D. H. Della-Giustina D. N. Killgore M.  
*The Fukang Pallasite: Evidence for Non-Equilibrium Shock Processing* [#2250]  
We report the results of our initial investigation of the Fukang pallasite, an ~1000 kg mass recently recovered from the Gobi desert. Evidence of shock and annealing on a subset of the Fukang olivine grains is exhibited by two texturally distinct populations.
- 4:15 p.m. Yang J. \* Goldstein J. I. Sherman B. Corrigan C. M. McCoy T. J. Walker R. J. Chabot N. L.  
McDonough W. F.  
*How the Fuzzy Creek IVA Iron Got So Fuzzy* [#1308]  
We observed an unique microstructure in Fuzzy Creek among all IVA irons. The microstructure resulted from multiple reheating and impacts.
- 4:30 p.m. Bottke W. F. \* Nesvorny D. Grimm R. E. Morbidelli A. O'Brien D. P.  
*Iron Meteorites as Remnants of Planetesimals Formed in the Terrestrial Planet Region* [#1388]  
Most iron meteorites are core fragments from differentiated planetesimals that formed and fragmented in the terrestrial planet region. Their precursors were then scattered into the main asteroid belt by interactions with planetary embryos.