

Thursday, March 26, 2009
POSTER SESSION II: HEDs AND VESTA
6:30 p.m. Town Center Exhibit Area

Warren P. H. Rubin A. E. Ziegler K.

[Northwest Africa 5415: A Howarditic Impact-Melt Breccia with Zoned Relict Orthopyroxenes and Augites, and Corroded, Complexly Mantled Fo-59 Olivines](#) [#2545]

NWA5415 is unusual among HEDs for its clear manifestation of origin by large-scale impact melting. Our section's five relict olivines display reaction textures (pyroxene coronas) formed by immersion in melt on the Si-rich side of the ol-px liquidus.

Roszar J. Srinivasan G. Bischoff A. Mezger K. Whitehouse M.

[Hf-W Ages of Zircons — New Constraints on the Evolution of the Eucrite Parent Body](#) [#1655]

We determined Hf-W ages from zircons found in four basaltic eucrites using the Cameca 1270 ion microprobe. The consistent crystallization ages suggest that the eucrite zircons formed in between a short time period after core-mantle segregation.

Greenwood R. C. Haack H. Buchanan P. C. Franchi I. A. Smith C. L. Johnson D. Burbine T. H.

[Searching for the Missing Mantles of Disrupted Asteroids: Evidence from an Olivine-rich Clast in the Vaca Muerta Mesosiderite](#) [#2456]

As part of an investigation into the olivine-rich material in mesosiderites we have looked in detail at a clast from Vaca Muerta which may represent preserved mantle material.

Ghosh A. Day R.

[Thermal Simulation of a Magma Ocean on Asteroid 4 Vesta](#) [#1850]

We present a thermal model of a magma ocean scenario on 4 Vesta.

Scott E. R. D. Greenwood R. C. Franchi I. A. Sanders I. S.

[Oxygen Isotopic Constraints on the Origin and Parent Bodies of Eucrites, Howardites, and Diogenites](#) [#2263]

Our oxygen isotopic analyses of 18 eucrites and four diogenites suggest that Vesta was isotopically homogeneous and that five of these eucrites with abnormal O isotopic compositions plus NWA 011 come from five Vesta-like bodies.

Righter K. Sutton S. Danielson L. Pando K. Le L. Newville M.

[Using Vanadium in Spinel as a Sensor of Oxygen Fugacity in Meteorites: Applications to Mars, Vesta, and Other Asteroids](#) [#2213]

Some meteorites do not contain mineral assemblages required to apply traditional oxy-barometers. Here we introduce a technique using vanadium X-ray absorption features in spinels to characterize the oxygen fugacity of meteoritic dunites, pyroxenites, and chondrites.

Irving A. J. Bunch T. E. Kuehner S. M. Wittke J. H. Rumble D. III

[Peridotites Related to 4 Vesta: Deep Crustal Igneous Cumulates and Mantle Samples](#) [#2466]

NWA 5480 may be a sample of Vesta-Related Mantle, but 4Vesta may be just one part of a former, larger body (Opis).

Bogard D. Garrison D.

[Ar-Ar Impact Heating Ages of Eucrites and Timing of the LHB](#) [#1131]

Ar-Ar ages indicate impact resetting ~4.48 Ga ago for unbrecciated eucrites and ~3.4–4.1 Ga for brecciated eucrites. These impacts likely are related to the late heavy bombardment (LHB) of the Moon.