

Thursday, March 20, 2014
POSTER SESSION: ACHONDRITES
6:00 p.m. Town Center Exhibit Area

[R716]

Boesenberg J. S. Weisberg M. K. Greenwood R. C. Gibson J. M. Franchi I. A. **POSTER LOCATION #301**
[*The Anomalous Enstatite Meteorites — Part 2: The Recrystallized EL Meteorites*](#) [#1486]

The petrology, chemistry, and origins of the EL recrystallized meteorites Happy Canyon, MIL 090807, Zaklodzie, NWA 4301, and Ilafegh 009 are discussed.

Garcia S. L. Mayne R. G. Gardner-Vandy K. G. **POSTER LOCATION #302**
[*An Analysis of Anomalous Meteorite Enon: Classification and Thermal History*](#) [#1096]

Enon is currently classified as an anomalous stony-iron meteorite. This study reexamines Enon to better understand its thermal history and classification.

Welten K. C. Nishiizumi K. Caffee M. W. **POSTER LOCATION #303**
[*Cosmic Ray Exposure History and Pairing of the Miller Range Ungrouped Achondrites: MIL 090206, 090340 and 090963*](#) [#2450]

The CRE history of three brachinite-like achondrites from Antarctica is consistent with an origin on one of the A-type asteroids near the 5:2 resonance.

Corder C. A. Day J. M. D. Rumble D. III Assayag N. Cartigny P. et al. **POSTER LOCATION #304**
[*Petrology and Geochemistry of Achondrites LEW 88763, MIL 090206 and MIL 090405: Comparisons with Acapulcoite-Lodranites, Brachinites and Chondrites*](#) [#2752]

New petrology and chemistry of MIL 090405 and MIL 090206, and continued work on LEW 88763 is reported. We consider the two MIL samples as brachinite-like.

Irving A. J. Kuehner S. M. Ziegler K. Conrey R. M. Korotev R. L. et al. **POSTER LOCATION #305**
[*An Enigmatic Sodic Ferrogabbroic Achondrite from Morocco Containing Zirconolite, Baddeleyite, Fluorapatite and Copper Sulfides*](#) [#2418]

An unusual basaltic specimen found at low elevation in Morocco contains measurable levels of cosmogenic nuclides and may be a rare type of lunar meteorite.

Le Corre L. Reddy V. Cloutis E. A. Mann P. Buchanan P. C. et al. **POSTER LOCATION #306**
[*Identifying Parent Asteroid of Ungrouped Achondrite Northwest Africa 6704: Lessons from Dawn at Vesta*](#) [#1311]

The mineralogy of NWA 6704 is retrieved from spectral data. Its band parameters are compared to the S-asteroid subtypes in the search for a possible parent asteroid.

McAdam M. M. Sunshine J. M. Ash R. D. Cheek L. C. Corrigan C. M. et al. **POSTER LOCATION #307**
[*Seeing Past Alteration: Revealing Spectral Signature of the Primary Mineralogy of GRA 06128/9*](#) [#1573]

After reduction of weathering, the spectral signature of the primary mineralogy of GRA 06128/9 is characterized to support searches for possible parent bodies.

Hasegawa H. Mikouchi T. Connelly J. Bizzarro M. **POSTER LOCATION #308**
[*Petrology and Mineralogy of Ungrouped Achondrite NWA7325*](#) [#1865]

Our mineralogical and petrological study on ungrouped achondrite NWA 7325 suggested that it experienced shock melting and subsequent recrystallization.

Goodrich C. A. Kita N. T. Nakashima D. **POSTER LOCATION #309**
[*Petrology of the NWA 7325 Ungrouped Achondrite — Meteorite from Mercury, the Ureilite Parent Body, or a Previously Unsampled Asteroid?*](#) [#1246]

The NWA 7325 ungrouped achondrite resembles a Mg-An-rich feldspathic lithology in polymict ureilites in petrologic and oxygen isotope properties.

Park J. Herzog G. F. Haba M. K. Nagao K. **POSTER LOCATION #310**
[Exposure Ages of Ureilites: Radionuclides and Noble Gases](#) [#1618]
Cosmogenic neon, ^{36}Cl , and ^{26}Al in 15 Antarctic ureilites indicate mostly small meteoroids and exposure ages between 6 and 60 Ma.

Nagao K. Haba M. K. Park J. Herzog G. F. **POSTER LOCATION #311**
[Trapped Noble Gases in Thirteen Ureilites from Antarctica](#) [#2016]
Trapped noble gases in 13 ureilites from Antarctica show isotopic compositions similar to Q-gas, but slightly different isotopic ratios of Xe were observed.

Harrington R. S. Righter K. **POSTER LOCATION #312**
[Ureilite Thin Section Preparation](#) [#1103]
The techniques used at NASA Johnson Space Center for preparing thin/thick sections of ureilite meteorites are explained in this abstract.

Bunch T. E. Irving A. J. Schultz P. H. Wittke J. H. Kuehner S. M. et al. **POSTER LOCATION #313**
[Assessment of the Mesosiderite-Diogenite Connection and an Impact Model for the Genesis of Mesosiderites](#) [#2554]
Petrologic studies of many specimens from a large Northwest African fall suggest a genetic model involving collision of metal impactors with a diogenitic body.

Buchanan P. C. Reddy V. Cloutis E. A. Mann P. Le Corre L. et al. **POSTER LOCATION #314**
[Effects of Varying Proportions of Glass on Reflectance Spectra of HED Polymict Breccias](#) [#1525]
This study examines the reflectance spectra of mixtures of varying proportions of a howardite and glass derived by melting a bulk sample of that howardite.

Macke R. J. Consolmagno G. J. Britt D. T. **POSTER LOCATION #315**
[Heat Capacity Measurements of HED Meteorites from the Vatican Collection](#) [#1929]
Using our new LN₂ immersion technique, we measured the heat capacities of 12 howardites, eucrites, and diogenites from the Vatican collection.

Dhaliwal J. K. Day J. M. D. **POSTER LOCATION #316**
[Insights into the Pristinity of Unbrecciated Eucrites](#) [#2833]
Petrographic analysis of six unbrecciated eucrites to identify “pristine” samples with primary geochemical signatures for insight into magmatic evolution.

Sanborn M. E. Yin Q.-Z. **POSTER LOCATION #317**
[Chromium Isotopic Composition of the Anomalous Eucrites: An Additional Geochemical Parameter for Evaluating Their Origin](#) [#2018]
We present high-precision Cr-isotopic data for five anomalous eucrites and discuss the implications for the origin and evolution of the eucrite group.

Lorenz C. A. Khisina N. R. Habler G. Abart R. Ntaflos Th. et al. **POSTER LOCATION #318**
[Composition of a Pyroxenitic Fragment from the Yurtuk Howardite](#) [#2320]
A fragment of atypical unequilibrated orthopyroxenite from the Yurtuk howardite could be related to ferroan olivine diogenites and magnesian cumulate eucrites.

Prettyman T. H. Yamashita N. Reedy R. C. McSween H. Y. Mittlefehldt D. W. **POSTER LOCATION #319**
[Radioelements on Vesta: An Update](#) [#2565]
Abundances of radioelements K and Th measured by Dawn’s gamma-ray spectrometer are consistent with Vesta’s identification as the HED parent body.

Sedaghatpour F. Teng F.-Z.

POSTER LOCATION #320

[Magnesium Isotopic Composition of Achondrites and Behavior of Mg Isotopes During Magmatic Differentiation of Achondrite Parent Bodies](#) [#2101]

Magnesium-isotope analyses of achondrites are used to estimate the Mg-isotopic composition of achondrites and evaluate the degree of isotopic heterogeneity in the solar system.

Trappitsch R. Leya I.

POSTER LOCATION #321

[Depth-Dependant Solar Cosmic Ray Induced Cosmogenic Production Rates](#) [#1894]

We present a model for calculating depth-dependent solar cosmic-ray production rates in lunar samples and shergottites.

Wieler R. Huber L. Leya I. Trappitsch R.

POSTER LOCATION #322

[The Evidence for Solar Cosmic Ray Produced Neon in Shergottites, Acapulcoites/Iodranites, and Angrites Revisited](#) [#1331]

We revisit the evidence for the ubiquitous presence of SCR-Ne in shergottites and some achondrite classes based on $^{22}\text{Ne}/^{21}\text{Ne}$ and GCR nuclide production models.

Varela M. E. Hwang S. L. Shen P. Chu H. T. Yui T. F. et al.

POSTER LOCATION #323

[The D'Orbigny Angrite: Evidences For and Against a Final Thermal Event at \$-1000^\circ\text{C}\$](#) [#1833]

SEM and TEM observations give evidences for and against a final short-lived high-temperature event affecting the angrite D'Orbigny.

Hwang S. L. Shen P. Chu H. T. Chui T. F. Varela M. E. et al.

POSTER LOCATION #324

[Kuratite \(IMA 2013-109\): The "Unknown" Fe-Al-Ti Silicate from the Angrite D'Orbigny](#) [#1818]

We report a detailed mineralogical study of the Fe-Al-Ti-Si phase from D'Orbigny that has been recently approved as a new mineral (kuratite) by the CNMNC.