

Tuesday, July 25, 2017
POSTER SESSION I: ACHONDRITES, STONY-IRONS, IRONS
 5:30 p.m. Poster Area

Beard S. P. Swindle T. D.

[*Cosmic-Ray Exposure Ages of Brachinites*](#) [#6388]

Argon exposure ages have been measured for NWA 6077, NWA 595, NWA 7297, NWA 1500, NWA 4518, and RaS 309. Future work will include neon and helium exposure ages.

Crossley S. D. Nicklas R. W. Ash R. D. Mayne R. G.

[*A New Angrite Oxybarometer: Olivine-Liquid Vanadium Distribution in D'Orbigny*](#) [#6281]

We have applied a terrestrial komatiite oxybarometer to the angrite D'Orbigny. While Fe-Mg olivines have f_{O_2} values that agree with literature values, Ca-Fe olivines are far more oxidized. We will further assess the accuracy of this method.

Garvie L. A. J. Wittmann A. Ray S. Wadhwa M.

[*Elemental and Structural Diversity in Norton County Metal Nodules*](#) [#6384]

Here, we present structural and elemental data from six Norton County "nodules", with the view of revealing metal structures that correlate with specific formation histories.

Ward D. Bischoff A. Roszjar J. Berndt J. Whitehouse M. J.

[*U and Th Abundances and REE Mass Balance of Extraterrestrial Ca-Phosphates*](#) [#6194]

In apatite, U and Th concentrations increase almost linearly with their host rock's petrologic type and degree of differentiation. Ca-phosphates are important REE hosts, yet more precise modal abundances are needed for accurate REE mass balance.

Hoffmann V. H. Funaki M. Wimmer K. Hochleitner R. Kaliwoda M. Mikouchi T. Zolensky M. E.

[*Almahata Sitta Meteorite — Compilation of Magnetic Susceptibility Database*](#) [#6290]

An overview of the magnetic susceptibility (MS) of all so far by us investigated Almahata Sitta individuals and samples will be provided. Our database allows a reliable identification and classification of the existing Almahata Sitta individuals.

Rosén Å. V. Pape J. Hofmann B. A. Gnos E. Guillong M.

[*Melt Related Textures in a New, Spinel-Bearing, Monomict Ureilite — Ramlat as Sahmah 517*](#) [#6221]

Petrographic description of a new glass- and spinel-bearing ureilite find. Implications.

Goodrich C. A. Gillis-Davis J. Cloutis E. Applin D. Hibbits C. Klima R. Christoffersen R.

Fries M. Decker S.

[*Effects of Space Weathering on Reflectance Spectra of Ureilites: A Proof-of-Concept Study*](#) [#6224]

Space weathering and spectral studies of three ureilitic samples show that space weathering causes significant changes in UV-VIS-IR spectra and Raman spectra. Changes due to amorphization of carbon could disguise ureilitic asteroids as CC-like.

Mahajan R. R. Basu Sarbadhikari A. Sisodia M. S.

[*Piplia Kalan Eucrite: Noble Gases, Nitrogen and Cosmic Ray Exposure History*](#) [#6083]

Noble gases, nitrogen isotopic systematic and exposure history of eucrite Piplia Kalan is discussed. Younger gas retention age indicates an impact resetting event after the formation.

Liao S. Y. Hsu W. B.

[*Genesis of Silica Minerals in Northwest Africa \(NWA\) 6594 and Constraints on the Early Thermal History of Vestan Crust*](#) [#6175]

This work is dealing with the genesis of tridymite and quartz, the two major silica minerals in HEDs. Quartz from NWA 6594 crystallized prior to tridymite. The ambient temperature of Vestan crust at ~4.48 Ga would have cooled down below 870°C.

Lorenz C. A. Anosova M. O. Kononkova N. N.

[*Petrography and Microelements Composition of the Large Labradoritic Inclusion in the Dar Al Gani 1064 Polymict Ureilite*](#) [#6343]

Preliminary results of the mineralogical and geochemical investigations of large labradoritic fragment from the DAG 1064 polymict ureilite indicate a cumulative origin of the fragment.

Bakhtin A. I. Eskin A. A. Sonin G. V. Sungatullin R. Kh. Petrova R. D. Gusev A. V. Kuzina D. M.

[*Pallasite Meteorite Brahini: Composition and Genesis*](#) [#6120]

A polished plate 4 × 5 cm in Brahini was examined. The metallic phase composing the sections of the bent structure of the meteorite signifies strongly reducing environment, which was created by a more active migration of deep-lying fluids H₂, CO, H₂S.

Maksimova A. A. Chukin A. V. Petrova E. V. Oshtrakh M. I.

[*Study of Stony \(Non-Metallic\) Part from Seymchan PMG Meteorite Using X-Ray Diffraction and Mössbauer Spectroscopy*](#) [#6087]

We continue the study of stony (non-metallic) part of new Seymchan fragment by means of optical microscopy, scanning electron microscopy with energy dispersion spectroscopy, XRD and Mössbauer spectroscopy with a high velocity resolution.

Goryunov M. V. Petrova E. V. Grokhovsky V. I. Oshtrakh M. I.

[*Characterization of Fe-Ni-Co Alloy Extracted from Seymchan PMG Meteorite Using Mössbauer Spectroscopy*](#) [#6090]

Fe-Ni-Co alloy in one fragment of Seymchan meteorite has been characterized by using optical microscopy, scanning electron microscopy with energy dispersion spectroscopy as well as by using Mössbauer spectroscopy with a high velocity resolution for the first time.

Goryunov M. V. Oshtrakh M. I.

[*Mössbauer Spectroscopy of Gibeon Iron IVA Meteorite*](#) [#6006]

We present the preliminary results of Gibeon iron IVA meteorite study using optical microscopy, scanning electron microscopy with energy dispersion spectroscopy and Mössbauer spectroscopy with a high velocity resolution.

Goryunov M. V. Oshtrakh M. I.

[*Characterization of Mundrabilla Iron IAB-ung Meteorite Using Scanning Electron Microscopy and Mössbauer Spectroscopy*](#) [#6005]

Characterization of Mundrabilla iron IAB-ung using optical microscopy, scanning electron microscopy with energy dispersion spectroscopy and Mössbauer spectroscopy with a high velocity resolution.

Tsepelev V. S. Grokhovsky V. I. Povodator A. M. Konashkov V. V. Vyukhin V. V.

[*Viscosity, Density and Surface Tension of Iron Meteorites Melts up to 1800 °C*](#) [#6104]

Experimental data on the kinematic viscosity $\nu(t)$, surface tension $\sigma(t)$ and density $d(t)$ of iron meteorites' melts within the temperature range up to 1800 °C has been obtained.

Ivanchenko S. V. Grokhovsky V. I.

[*Magnetoacoustic Emission and Thermomagnetic Analysis of Iron Meteorites and Fe\(Ni\) Alloy*](#) [#6358]

An analysis of iron alloys defectiveness can be successfully carried out on the basis of magnetic behavior investigation using magnetoacoustic emission (MAE). The aim of the work is to determine the nature of the peaks of MAE in meteorites.

Utas J. A. Wasson J. T.

[*The Crystallization and Cooling of Cape York, Revisited*](#) [#6406]

High-precision INAA data, paired with experimental elemental diffusion data, can help to constrain the crystallization history of the IIIAB/Cape York parent body.

Muftakhetdinova R. F. Grokhovsky V. I.

[Comparison of Structural Changes in Sikhote-Alin IIAB Iron Meteorite Under Various Origin Shock Deformation](#) [#6004]

In this work we will consider the processes occurring in meteorites under the impact of shock loads on them both in outer space, and during falling on the Earth's surface and after experimental loading.

Gargano A. M. Sharp Z. D. Taylor L. A.

[Further Constraining the Chlorine Isotope Composition of the Solar Nebula: Main Group Iron Meteorites](#) [#6141]

Preliminary data of the Cl isotope composition of main group iron meteorites range between -6 to -3.1‰. These results support the idea that the solar nebula was light, approximately -6‰, or less.

Lanza N. L. Gasda P. J. Ollila A. M. Wiens R. C. Clegg S. M. Delapp D. Bodine M. Agee C. Meslin P. -Y. Beck P. Newsom H. E. Maurice S.

[Analyzing Natural Meteorite Exterior with Laboratory LIBS for Comparison to Meteorites Encountered by Curiosity in Gale Crater, Mars](#) [#6402]

Gale meteorites / Found by MSL are irons. / Any surface stuff?