

Tuesday, March 8, 2011

**POSTER SESSION I: COSMOCHEMICAL ORIGINS II:
ISOTOPIC CONSTRAINTS ON EARLY SOLAR SYSTEM CHRONOLOGY
6:00 p.m. Town Center Exhibit Area**

Pravdivtseva O. Lewis R. S. Meshik A. Hohenberg C. M.

[*I-Xe System in Chemically Separated Orgueil Magnetites*](#) [#2614]

Pure Orgueil magnetite was separated into fractions for the I-Xe study of different morphologies. Our results confirm the early onset of aqueous alteration in Orgueil at 1.8 ± 0.5 Ma after formation of CAIs, and suggest more than one iodine carrier in Orgueil magnetite.

Strashnov I. Gilmour J. D.

[*RIMSKI \(Resonance Ionization Mass Spectrometer for Krypton Isotopes\) Applied to \$^{81}\text{Kr-Kr}\$ Cosmic Ray Exposure Age Determinations of Eucrites*](#) [#1871]

RIMSKI (Resonance Ionization Mass Spectrometer for Krypton Isotopes) has been developed and used to measure CRE ages on mg-size samples. $^{81}\text{Kr-Kr}$ ages of four eucrites (Stannern, Bereba, Pasamonte and Sioux County) correspond to known literature values.

Boehnke P. Caffee M. W.

[*Terrestrial Xenon in Noble Gas Reservoirs*](#) [#2336]

Using numerical techniques, we have identified primitive meteoritic Xe constituents in terrestrial Xe reservoirs. Our calculations indicate that the dominant fissionogenic Xe contributor to MORB Xe is ^{244}Pu .

Reedy R. C.

[*Depth Profiles Calculated for Radionuclides Made in Meteorites by Energetic Solar Protons*](#) [#2365]

Elemental rates for making ^{10}Be , ^{26}Al , ^{36}Cl , ^{41}Ca , and ^{53}Mn in meteorites by solar protons were calculated as a function of preatmospheric depth and radius for radii 1–25 g/cm² and a slab. Recently evaluated cross sections and SCR fluxes were used.

Desch S. J. Krot A. Alexander C.

[*Evidence for Irradiation of the Sun's Transition Disk*](#) [#2524]

We propose that irradiation of the Sun's protoplanetary disk during the transition disk stage could have produced ^{36}Cl and Li-isotope anomalies at the observed abundances, and possibly ^{53}Mn as well.

Tollstrup D. T. Wimpenny J. B. Yin Q.-Z. Ebel D. S. Jacobsen B. Hutcheon I. D.

[*Renewed Search for FUN \(Fractionated and Unidentified Nuclear Effects\) in Primitive Chondrites*](#) [#2216]

We have developed and are actively applying a method for rapidly searching for FUN CAIs in meteorite slabs of almost any dimension that does not require the removal of CAI inclusions from museum slab specimens.

Nagashima K. Huss G. R. Krot A. N. Yurimoto H.

[*Disturbance of Magnesium Isotopes in Anorthite from an Allende CAI Inferred from Magnesium Isotope Mapping with Isotope Microscope*](#) [#2447]

Distributions of Al/Mg ratio and Mg isotopes visualized by Al-Mg isotope mapping of an anorthite grain in an Allende CAI are consistent with redistribution of Mg isotopes through Mg self-diffusion within the grain during thermal processing of the CAI.

Tissot F. Dauphas N.

[*Development of High Precision \$^{238}\text{U}/^{235}\text{U}\$ Ratio Measurements for Cosmochemical Applications*](#) [#1082]

We developed a method for extraction, purification and high precision isotopic analyses of U, to resolve $^{238}\text{U}/^{235}\text{U}$ variations at the 0.1‰ level. Our results for several geostandards agree with already published values, with an uncertainty of $\pm 0.04\%$.

Amelin Y. Kaltenbach A. Stirling C. H.

[The U-Pb Systematics and Cooling Rate of Plutonic Angrite NWA 4590](#) [#1682]

Pb-Pb isochrons for pyroxene and silico-phosphate from angrite NWA 4590 yield ages of 4557.93 ± 0.28 Ma and 4557.381 ± 0.066 Ma, respectively, calculated using the measured $^{238}\text{U}/^{235}\text{U}$ ratio of 137.789.

Huss G. R. Ogliore R. C. Nagashima K. Telus M. Jilly C. E.

[Dangers of Determining Isotope Ratios Using Means of Individual Ratios.](#) [#2608]

In light of a demonstrated bias in isotopic results calculated by means of a set of ratios, we reanalyze data from a series of previously published studies. We find that some studies are OK, but some results are incorrect due to statistical bias.

Moseley G. E. Schönbächler M. Davies C. Horan M. F. Busefield A. Carlson R. W.

[Manganese-Chromium Isotope Systematics of Ordinary Chondrite Forest Vale \(H4\) and Enstatite Chondrite Indarch \(EH4\)](#) [#1289]

Mn-Cr isochrons were determined on mineral fractions of the ordinary chondrite Forest Vale and the enstatite chondrite Indarch. The initial $^{53}\text{Mn}/^{55}\text{Mn}$ of Forest Vale is in good agreement with existing literature while Indarch displays an older age than reported previously.