

Thursday, March 26, 2009
POSTER SESSION II: EARLY SOLAR SYSTEM CHRONOLOGY
6:30 p.m. Town Center Exhibit Area

Moynier F. Dauphas N. Podosek F.

[A Search for \$^{70}\text{Zn}\$ Anomalies in Meteorites](#) [#1646]

^{70}Zn is homogeneously distributed in the early solar system at a precision of 0.70 ϵ which confirms the homogeneity in planetary bodies of neutron rich isotopes around the iron peak.

Parai R. Jacobsen S. B.

[Precise Determination of Initial Solar System \$^{87}\text{Sr}/^{86}\text{Sr}\$ and Implications for Early Solar System Chronology](#) [#1995]

We measure Sr isotopes in CAIs, angrites, lunar anorthosites and eucrites to determine initial solar system $^{87}\text{Sr}/^{86}\text{Sr}$ with better precision than previous studies, thus providing better resolution of early solar system chronology.

Bowers M. R. Collon P. Kashiv Y. Lamm L. Lu W. Paul M. Robertson D. Schmitt C.

[Proposed Measurements of \$^{36}\text{Cl}\$ Cross Sections for In-Situ Production in the Early Solar System](#) [#2113]

An overabundance of ^{36}S in CAIs was interpreted as evidence for the extinct ^{36}Cl . We are planning to measure the ^{36}Cl production cross sections in the relevant $E < 20$ MeV/A range for irradiation from a young Sun with accelerator mass spectrometry.

Hans U. Kleine T. Bourdon B.

[The Chronology of Accretion and Volatile Depletion of Differentiated Protoplanets Inferred from Rb-Sr Systematics of Angrites](#) [#2440]

We present new high-precision Sr isotope data for plagioclase separates from angrites and use these data to constrain the chronology of volatile depletion and accretion of the angrite parent body.

Chaussidon M. Barrat J.-A.

[\$^{60}\text{Fe}\$ in Eucrite NWA 4523: Evidences for Secondary Redistribution of Ni and for Secondary Apparent High \$^{60}\text{Fe}/^{56}\text{Fe}\$ Ratios in Troilite](#) [#1752]

High apparent $^{60}\text{Fe}/^{56}\text{Fe}$ ratios have been found in troilite from the eucrite NWA 4523. These ratios are likely explained by a redistribution of Ni isotopes after the decay of ^{60}Fe .

Brennecka G. A. Weyer S. Wadhwa M. Janney P. E. Anbar A. D.

[\$^{238}\text{U}/^{235}\text{U}\$ Variations in CAIs: Implications for Pb-Pb Dating](#) [#1061]

Data obtained from CAIs of the Allende meteorite challenges the assumed uniformity of $^{238}\text{U}/^{235}\text{U}$ used in the Pb-Pb age equation for meteoritic material. Such data may require revision of the absolute age of the first solids in the solar system.

Chen J. H. Papanastassiou D. A.

[Nickel Isotopic Compositions in Pallasites and Iron Meteorites](#) [#1844]

Fe-Ni measurements in pallasites do not show preserved evidence of *in situ* ^{60}Fe decay (1.5 Ma half life) but still place pallasite formation within 15 Ma of unequilibrated chondrites.

Quitté G. Cosmidis J. Poitrasson F.

[Nickel Nucleosynthetic Anomalies in Leachates of Carbonaceous Chondrites](#) [#2324]

Ni isotopes were measured in sequentially digested carbonaceous chondrites. Orgueil leachates show deficits in ^{60}Ni and ^{62}Ni , while anomalies in Allende and Murchison can generally not be resolved from the standard isotope composition.

Yin Q.-Z. Amelin Y. Jacobsen B.

[Project Milestones: Testing Consistent Chronologies Between Extinct \$^{53}\text{Mn}\$ - \$^{53}\text{Cr}\$ and Extant U-Pb Systematics in the Early Solar System](#) [#2060]

New ^{53}Mn - ^{53}Cr data are presented for four “milestones” with well-known Pb-Pb ages. We demonstrate consistent chronologies between extinct ^{53}Mn - ^{53}Cr and U-Pb systematics in the early solar system. $^{53}\text{Mn}/^{55}\text{Mn}$ heterogeneity could be tested with future work.

Liu M.-C. Nittler L. R. Alexander C. M. O’D. Lee T.

[A Search for Internal \$^{26}\text{Al}\$ Isochrons in CM Hibonite](#) [#1739]

We conducted a high spatial-resolution investigation of the internal Mg isotopic distribution in a spinel-hibonite spherule from Murchison to seek an internal ^{26}Al isochron.

Ito M. Ganguly J.

[Mg Diffusion in Minerals in CAIs: New Experimental Data for Melilites and Implications for the Al-Mg Chronometer and Thermal History of CAIs](#) [#1753]

We evaluate the relative robustness of CAI minerals for Al-Mg chronometer, and the possible resetting of Mg isotopic composition during the period of residence of the CAIs in the protoplanetary disk and by thermal processes in the parent body.

Spivak-Birndorf L. J. Wadhwa M.

[\$^{26}\text{Al}\$ - \$^{26}\text{Mg}\$ Systematics in Brachina and the Unique Achondrite GRA 06129](#) [#2131]

We report an investigation of the ^{26}Al - ^{26}Mg chronology of the possibly related achondrites, Brachina and GRA 06129. Both meteorites show evidence of very early crystallization (~2–3 Myr after solar system) followed by later thermal metamorphism.