

Thursday, March 16, 2006
POSTER SESSION II: EARLY SOLAR SYSTEM EVOLUTION:
AN ISOTOPIC PERSPECTIVE
7:00 p.m. Fitness Center

Ozima M. Podosek F. A. Higuchi T. Yin Q. Z. Yamada A.

Oxygen Isotopes in the Solar System [#1130]

Bootstrap statistical examination of O isotopes in planetary objects such as meteorites, Mars (SNC), and Earth suggests that they formed by random accretion of planetesimals from the protosolar nebula, and have the same O isotopes as the Sun.

Chakraborty S. Thiemens M. H. Kimura Y. Nuth J. A. III

Non-Mass Dependent Oxygen Isotopic Fractionation of Refractory Oxide Dust Produced by a Chemical Process [#1389]

The results of the observed non-mass dependent oxygen isotopic effect in solid oxides formed in a smoke experiment was discussed and interpreted based on symmetry based chemical reaction scheme.

Yin Q.-Z. Jacobsen B. Hutcheon I. D.

Toward Tracing Redox State Evolution in the Protoplanetary Disk with High Resolution ^{26}Al - ^{26}Mg Chronometry [#1531]

The goal of the study is to apply high-resolution ^{26}Al - ^{26}Mg chronometry to trace the redox state evolution in the protoplanetary disk. We have discovered one chondrule with negative $\epsilon^{26}\text{Mg}$ (-57 ± 14 ppm). Significance of this finding will be discussed together with new data.

Ganguly J. Ito M. Zhang X.

Mn-Cr Thermochronology of Early Solar System Processes [#1339]

Cr diffusion was determined in olivine and enstatite and used to develop thermochronologic formulations of Mn-Cr decay system. The latter was used to estimate high temperature cooling rates and initial burial depth of a pallasite and cumulate eucrites.

Meyer B. S. Adams D. C.

Neutron Burst Production of ^{60}Fe Necessarily Implies Production of ^{182}Hf [#1403]

Supernova neutron burst production of Fe-60 necessarily co-produces Hf-182. Our calculations demonstrate that the yield of Fe-60 is quite sensitive to the peak temperature and density in the burst, but that of Hf-182 is not. Detailed results are available on the Web.

Moynier F. Fujii T. Albarède F.

Nuclear Field Vs Nucleosynthetic Effects as Cause of Isotopic Anomalies in FUN Inclusions [#1629]

Mass-independent isotope effect due to nuclear field can lead to a number of isotope anomalies found in CAIs. A whole class of isotopic heterogeneities therefore reflect evaporation/condensation processes rather than nucleosynthetic effects.