

Thursday, March 20, 2003
POSTER SESSION II
7:00 p.m. Fitness Center

CAIs: Refractory Direct to You

Russell S. S. Krot A. N. Jeffries T. E. Ulyanov A.

Rare Earth Element Systematics of Fine Grained Calcium-Aluminum-rich Inclusions and Amoeboid Olivine Aggregates from Efremovka (CV3) [#1631]

Most Efremovka fine grained CAIs measured have Group II REE patterns, but one, which may contain relict hibonite, has a Group III pattern. AOAs are typically unfractionated. The data suggest these two groups of objects formed in different regions of the accretion disk.

Amelin Y. Stern R. Krot A. N.

Distribution of U, Th, Pb and Nd Between Minerals in Chondrules and CAIs [#1200]

Distribution of U between minerals in chondrules from Richardton chondrite measured on SHRIMP-II in high resolution mode shows that low-Ca pyroxene is a main host of silicate U.

Sugiura N. Mizuno T. Ushikubo T. Hiyagon H.

Si and Mg Isotope Fractionations in Melilite in Type B CAIs Measured by SIMS [#1307]

Si and Mg isotope fractionation in three type B CAIs were measured by SIMS. The Si and Mg fractionations are constant within a CAI. The average Si and Mg isotope fractionations are correlated among the three CAIs.

Huss G. R. Hutcheon I. D. Krot A. N. Tachibana S.

Oxygen Isotopes in Refractory Inclusions from the Adelaide Carbonaceous Chondrite [#1802]

We measured O isotopes for 12 refractory inclusions from the Adelaide anomalous carbonaceous chondrite. CAIs are uniformly ¹⁶O-rich (except when melilite is weathered). Compound objects with refractory components have a range of O compositions.

Fagan T. J. Krot A. N. Yurimoto H.

Petrology and Oxygen Isotope Compositions of Refractory Inclusions from Acfer 094 [#1274]

CAIs and AOAs from Acfer 094 are dominated by a ¹⁶O-rich signal similar to refractory objects from other chondrites. Depletions of ¹⁶O in a diopside rim and in igneous melilite must have been pre-asteroidal due to the primitive nature of Acfer 094.

Nagasawa H.

Kinetics of Partial Melting of Melilite Solid Solution in the Temperature Range Between Solidus and Liquidus [#1164]

Synthesized crystals of melilite solid solution (Ge₅₀Ak₅₀) were heated at about 1415°C, within the temperature range between solidus and liquidus for 5 min to 50 hrs and quenched at room temperature. Kinetics of partial melting is discussed.

Ott U. Merchel S. Knie K. Korschinek G. Faestermann Th. Rugel G. Wallner A.

Platinum in Presolar Nanodiamond Residues — An AMS Approach [#1167]

Pt isotopes have been measured in presolar nanodiamond residues by AMS. An upper limit to the abundance of ¹⁹⁸Pt-H of $\sim 1 \times 10^{14}$ atoms/g is inferred.

Koscheev A. P. Serzhantov A. E. Merchel S. Ott U. Guillois O. Reynaud C.

Surface Chemistry of Chemically Treated Diamond Nanograins [#1287]

The effect of chemical extraction procedure used to isolate presolar diamond grains from meteorites on the chemical features of synthetic nanodiamonds was studied by means of IR spectroscopy and mass spectrometry.