

Tuesday, March 13, 2007
POSTER SESSION I: CARBONACEOUS CHONDRITES
6:30 p.m. Fitness Center

Moriarty G. M. Rumble D. III Friedrich J. M.

Chemical Classification and Examination of Metamorphic Processes in Five Antarctic Carbonaceous Chondrites [#1289]

We used trace element and oxygen isotope analyses to study metamorphic processes in five Antarctic carbonaceous chondrites. Our results suggest the chemical diversity of CM-like material is broader than previously anticipated.

Gordon S. H. Hammond S. J. Rogers N. W. Charlier B. L. A. Bland P. A.

Constraints on Volatile Depletion from Chondrite Matrix [#1819]

Implications for volatile depletion from trace element composition of Allende matrix via micromill and solution ICP-MS.

Norton M. B. McSween H. Y. Jr.

Quantifying the Volumetric Abundances of the Components of the Murray CM Chondrite: A Preliminary Investigation [#1807]

Here we develop and explore the use of microprobe mapping to obtain volumetric abundances of the petrologic components in the CM chondrite, Murray.

Donnelly C. Brearley A. J.

Minor and Trace Elements in Sulfides in Reduced and Oxidized CV3 Carbonaceous Chondrites: Potential Recorders of Nebular and Parent Body Processes [#1959]

We have studied minor and trace element distributions in sulfide minerals in oxidized and reduced CV3 chondrites by EPMA. Cu and Zn are present in troilite in Vigarano, Leoville and Allende at $\sim 1 \times$ CV chondrite levels. Arsenic is highly enriched.

Engrand C. Duprat J. Slodzian G. Reynolds B. C. Dennebouy R. Gounelle M. Russell S. S.

SIMS Analysis of Silicon Isotopes: Instrumental Effects and Application to a Leoville Refractory Inclusion [#1723]

We have measured the silicon isotopic composition (matrix effect) of a variety of minerals encountered in meteoritic material. Using this data we could measure the silicon isotopic composition of several minerals phases in a refractory inclusion of Leoville.

Channon M. Bell D. R. Hervig R. L. Buseck P. R.

Isotopic Composition of Lithium in the Allende Meteorite [#1877]

This is a reconnaissance study of Li isotope variations within olivine of various types in the Allende CV3 chondrite in order to shed further light on the cosmochemical behavior of Li and explore its potential as a geochemical tracer for the origin of meteoritic components and alteration processes.

Komatsu M. Mikouchi T. Krot A. N. Miyamoto M.

Amoeboid Olivine Aggregates in the CV Carbonaceous Chondrite Yamato-86751 [#1987]

We have examined the petrography of AOAs in Y-86751 CV3 chondrite in order to understand the alteration history of CV chondrites. It is shown that Y-86751 is intermediate between CV oxide Bali-type and CV oxide Allende-type.

Kakazu Y. Nakamura T. Ohnishi I. Okazaki R.

Chemical Composition and Formation Process of Silica-rich Chondrule Rims in the Sahara 00182 CR/CV Chondrite [#1508]

Silica-rich chondrule rims in the Sahara 00182 CR/CV chondrite show a large S enrichment compared with those in other CRs, suggesting that the temperature was lower than other CRs during formation of the silica-rich rims.

Hammond S. J. Gordon S. H. Rogers N. W. Charlier B. L. A. Bland P. A.

Compositional Constraints on Formation Models for Fine-grained Rims [#1933]

We present *in situ* trace element data from both matrix and fine grained chondrule rims (FGRs) within a section of Vigarano (CV chondrite). LA-ICP-MS allows selection of specific sites for analysis-matrix and FGRs can be distinguished with ease.

Kurahashi E. Kita N. T. Nagahara H. Morishita Y.

Evaluation of ^{26}Al - ^{26}Mg Systems of Chondrule Formation Ages in a Primitive CO Chondrite [#1677]

We evaluated if the ^{26}Al - ^{26}Mg systems of primitive CO3.0 chondrules were disturbed after the formation of individual chondrules, and concluded that the chronological data should be regarded as the formation age without secondary isotopic disturbance.

Bischoff A. Schmale K.

Ca,Al-rich Inclusions Within the Moss CO3 Chondrite — Indications for Severe Secondary Alteration [#1561]

Fifty-five Ca,Al-rich inclusions were studied from the Moss CO3 chondrite. Single concentric objects and fine-grained inclusions show severe secondary alteration (replacement of melilite and perovskite by nepheline and ilmenite; formation of Fe-rich spinels).

Pearson V. K. Greenwood R. C. Morgan G. H. Turner D. Raade G. Roaldset E. Gilmour I.

Organic Constitution of the CO3 Chondrites and Implications for Asteroidal Processes [#1846]

This paper reports the organic constitution of the CO3 chondrites identified by 4D TOFMS in order to decipher the composition, structure and alteration history of the CO3 parent asteroid.