

**Thursday, March 15, 2007**  
**POSTER SESSION II: CHONDRITES: SECONDARY PROCESSES**  
**6:30 p.m. Fitness Center**

Izawa M. R. Flemming R. L. McCausland P. J. A.

*Investigation of the Tagish Lake Carbonaceous Chondrite by X-Ray Microdiffraction* [#1923]

We present the preliminary results of an investigation of the Tagish Lake carbonaceous chondrite using X-ray microdiffraction and conventional powder X-ray diffraction. An attempt to determine modal abundances by Rietveld refinement shows promise.

Herd R. K. Herd C. D. K.

*Towards Systematic Study of the Tagish Lake Meteorite* [#2347]

The pristine samples of the Tagish Lake carbonaceous chondrite have been acquired by a consortium of Canadian institutions. Long-term curatorial and collaborative, systematic analytical plans are being developed. In spite of much preliminary research, this meteorite is little understood.

Bullock E. S. Grady M. M. Gounelle M. Russell S. S.

*Fe-Ni Sulphides as Indicators of Alteration in CM Chondrites* [#2057]

This study looks at the sulphide abundance and composition of Fe-Ni sulphide grains in 12 CM chondrites to determine an alteration sequence for these chondrites.

Tyra M. A. Farquhar J. Guan Y. Leshin L.

*Using SIMS to Evaluate Oxygen Isotopes in CM Chondritic Carbonate* [#1471]

SIMS carbonate oxygen isotope analysis has been performed on a set of paired CM2 Antarctic chondrites. Results are compared to carbonate type and bulk values and show that different carbonate populations possess distinct isotopic values.

Sakamoto N. Itoh S. Kuramoto K. Nagashima K. Krot A. N. Yurimoto H.

*An Extreme  $^{17}\text{O}$ - $^{18}\text{O}$ -rich Material from Acfer 094* [#1644]

We report a material having extremely large oxygen mass-independent isotope fractionation (MIF) enriched in  $^{17}\text{O}$  and  $^{18}\text{O}$  of +180‰ relative to SMOW. The material is a new end member of solar system MIF of oxygen isotopes.

de Leuw S. Rubin A. E. Wasson J. T.

*Manganese-rich Alteration Phases in CM Chondrites of Different Petrographic Subtypes: Implications for the Timing of Aqueous Alteration* [#1361]

SEM and electron probe studies were performed on several thin sections of CM chondrites of different petrographic subtypes in order to identify manganese-rich alteration phases that are suitable for studying the Mn-Cr systematics.

Yamamoto Y. Nakamura T. Noguchi T. Nagao K.

*Alkalinity Dependence on Mineralogical and Noble Gas Compositional Changes in the Ningqiang Carbonaceous Chondrite During Experimental Aqueous Alteration* [#1746]

Experimental aqueous alteration on Ningqiang with neutral water and alkaline solution suggest that the composition of the liquid during alteration in hydrous asteroids has greatly influenced on the mineralogical and noble gas compositional changes.

Palguta J. Travis B. J. Schubert G.

*Hydrothermal Convection and Aqueous Alteration in Chondritic Parent Bodies* [#1370]

Heterogeneous fluid flow in carbonaceous chondrite parent bodies suggests hydrothermal alteration of minerals could vary with location in the body. We use numerical simulations to explore the resulting hydrothermal-mineral alteration.

La Croix L. M. McCoy T. J.

*Shock Classification of Antarctic Ordinary Chondrites* [#1601]

Shock classification of 91 ordinary chondrites from the ALHA 76-77 meteorites supports a paucity of most- and least-shocked meteorites, an absence of heavily shocked type 3 chondrites, and a possible difference between H and L chondrites.

Kohout T. Kletetschka G. Pesonen L. J.

*Identification of the Shock Effects in the the Avanhandava H4 Chondrules Based on the Coercivity Spectra of the Remanent Magnetization* [#1773]

The new method to identify the shock in the coercivity spectra of the remanent magnetization has been applied on chondrules of Avanhandava H4 chondrite. The past shock events have been identified. The method was also tested experimentally with the same material giving similar results.

Xie Z. Sharp T. G. DeCarli P. S.

*Partially Shock-Transformed Olivine in the S6 Chondrite Tenham: Mechanisms of Solid-State Transformation* [#2302]

Here we document the complexity of ringwoodite lamellae in partially transformed olivine in Tenham, and discuss the likely transformation mechanisms and the role of temperature and deformation.