

**Thursday, March 17, 2005**  
**POSTER SESSION II: ORDINARY CHONDRITES**  
**7:00 p.m. Fitness Center**

Yasuda S. Nakamoto T.

*Inhomogeneous Temperature Distribution in Chondrules in Shock-Wave Heating Model* [#1252]

Temperature in a dust particle was examined using 3-D heat conduction calculations. It was found that all the chondrule forming particles have inhomogeneous distribution, and there were two types of distribution depending on the rotation rate.

Bonal L. Bourot-Denise M. Boronkay A. Montagnac G. Quirico E.

*CO<sub>3</sub> Chondrites: Metamorphic Sequence and Interclassification with Ordinary Chondrites* [#1699]

Metamorphic grade of 7 CO chondrites is determined based on structural order of the Organic Matter. Petrographic types are attempted by interclassification with ordinary chondrites and are confronted with petrographic tracers.

Gattacceca J. Rochette P. Denise M. Consolmagno G. J. Folco L.

*An Impact Origin for the Foliation of Ordinary Chondrites* [#1309]

We present a large dataset of AMS measurements in order to elucidate the origin of chondrite foliation. Deformation resulting from dynamic uniaxial compaction of an originally loose porous material during impacts is the most plausible mechanism for the formation of foliation in chondrites.

Grimm R. E. Bottke W. F. Durda D. D. Enke B. Scott E. R. D. Asphaug E. Richardson D.

*Joint Thermal and Collisional Modeling of the H-Chondrite Parent Body* [#1798]

Disruption and reassembly of parent bodies while still hot may explain both "onion-shell" and random trends in cooling rates.

Welzenbach L. C. McCoy T. J. Grimberg A. Wieler R.

*Petrology and Noble Gases of the Regolith Breccia MAC 87302 and Implications for the Classification of Antarctic Meteorites* [#1425]

The MAC 87302 ordinary chondrite regolith breccia contains diverse clast types, including foreign impact melts, similar to the range of ordinary chondrite meteorites seen at MacAlpine Hills, Antarctica.

Bleacher L. V. Huss G. R. Leshin L. A. Miller M. Garcia R. Clary S. Jr. Gwilliam J. Sloan L.

*Meteorites from the Franconia, Arizona Area: Observations and Summary of Petrographic Characteristics* [#1807]

Meteorites from the Franconia, AZ area are predominantly H chondrites. Although most appear to pair with Franconia, the variability observed for others may be sufficiently distinct to assign some chondrites to separate falls.

Kelley M. S. Asher P. M. Welten K. C. Jull A. J. T. Shultz L. Roden M. Mertzman S. A. Albin E. F.

*Analysis of the Statesboro, Georgia Shock-darkened L5 Chondrite* [#1483]

We summarize results from various analytical techniques used to study the Statesboro L5 chondrite. The specimen is not scientifically unique, but it provides an interesting story and adds to the database of meteorites found in the state of Georgia.

Gildea K. J. Burgess R. Lyon I. C. Sears D. W.

*Iron Isotope Geochemistry of Metal Grains in Ordinary Chondrites* [#1668]

Iron isotopic measurements of metallic iron separated from ordinary chondrites of different petrologic types are presented to understand isotopic fractionation caused by nebula, parent body and terrestrial weathering processes.

Ebisawa N. Nagao K.

*Noble Gases and I-Xe Ages of the Zag Meteorite* [#1718]

Noble gases for clast and matrix materials from Zag meteorite indicate high concentrations of halogens in matrix but in clast. Late closure time for I-Xe system (about 20 Ma later than Bjurböle) indicate complex history for the Zag parent body.

Heck Ph. R. Schmitz B. Baur H. Wieler R.

*Determination of Production Rates of Cosmogenic He and Ne in Meteoritic Chromite Grains* [#1712]

Chromites are used to obtain exposure ages of fossil meteorites. Production rates for cosmogenic He and Ne had to be based on modeling. We present directly determined production rates in chromites by comparing to bulk meteorite data.

Mikouchi T. Makishima J. Koizumi E. Zolensky M. E.

*Porphyritic Olivine-Pyroxene Clast in Kaidun: First Discovery of an Ordinary Chondrite Clast?* [#1956]

We report mineralogy and petrology of an interesting clast in Kaidun, showing close affinities to type II POP chondrules in UOCs. This may be the first ordinary chondrite clast in this enigmatic brecciated meteorite.

Mironenko M. V. Zolotov M. Yu.

*Thermodynamic Models for Aqueous Alteration Coupled with Volume and Pressure Changes in Asteroids* [#2207]

New codes are developed to model pressure, volumes, and compositions as functions of alteration progress, initial rock composition, ice/rock ratio and initial porosity of an asteroid. Case study calculations for Semarkona are presented.

Herd R. K. Hunt P. A. Venance K. E.

*On the Need for an Atlas of Chondrule Textures* [#2241]

Chondritic meteorites are complex groups of extraterrestrial rocks. Detailed textural and mineralogical examination of chondrules can yield important information on their origins. A community effort to produce an atlas of chondrule textures is proposed.

Lukács B. Józsa S. Kovács Zs. Szakmány Gy. Bérczi Sz.

*How We Used the Antarctic Meteorite Thin Section Set of NIPR to a Synthesis of the Thermal Evolution of a Chondritic Body* [#1300]

We interpreted an evolutionary synthesis of regions (belts) in the chondritic parent body by arranging the NIPR set members according to 1) chondritic thermal metamorphism and 2) the differentiated crust, mantle and core regions.