

Friday, March 24, 2017

[F704]

## CHONDRITIC WATER, ORGANICS, AND PARENT BODY PROCESSES

8:30 a.m. Waterway Ballroom 6

**Chairs:** Michael Zolensky  
Michelle Thompson

- 8:30 a.m. Cody G. D. \* Alexander C. M. O'D.  
[The Peculiar Nature of Nitrogen in Organic Solids from Chondritic Meteorites](#) [#2747]  
N speciation in organic solids from chondrites is shown to exist predominantly as substituted amine and oxidized (nitro) species. This differs from expected.
- 8:45 a.m. Piani L. \* Yurimoto H. Remusat L.  
[A Dual Origin for Water in the CM Carbonaceous Chondrites](#) [#1203]  
In situ analyses by SIMS in the least altered parts of the CM chondrite Paris reveal the unexpected signature of D-rich water possibly inherited from the disk.
- 9:00 a.m. McCain K. A. \* Young E. D. Manning C. E.  
[CM Carbonates Should Be Old: Insights from Parent Body Thermal Modeling](#) [#2181]  
Thermal models of CM parent bodies provide an explanation for the early formation ages of CM carbonates.
- 9:15 a.m. Telus M. \* Alexander C. M. O'D. Wang J. Hauri E. H.  
[In Situ Analyses of Carbonate and Magnetite in CM1 Chondrites](#) [#1725]  
C and O isotope variations from in situ analyses of secondary minerals in CM1 chondrites provide evidence for both closed- and open-system aqueous alteration.
- 9:30 a.m. Lewis J. A. \* Jones R. H. Garcea S. C.  
[Chondrule Porosity in the L4 Chondrite Saratov: Mesostasis Dissolution and Chemical Transport](#) [#2108]  
We measured the porosity of individual chondrules from Saratov (L4) using  $\mu$ CT in order to better understand the nature of metasomatic chemical exchange.
- 9:45 a.m. Tsuchiyama A. \* Nakato A. Matsuno J. Sugimoto M. Uesugi K. et al.  
[A New Method of Absorption-Phase Nanotomography for 3D Observation of Mineral-Organics-Water Textures and Its Application to Pristine Carbonaceous Chondrites](#) [#2680]  
We developed a new absorption-phase nanotomography. Pristine carbonaceous chondrites have more complicated textures than expected from 2D observation.
- 10:00 a.m. Kebukawa Y. \* Ito M. Zolensky M. E. Nakato A. Suga H. et al.  
[Highly Pristine Organic Matter in a Xenolith Clast in the Zag H Chondrite](#) [#1381]  
Molecular and isotopic analyses using STXM and NanoSIMS for Zag clast organics indicated that it might be related to cometary organics/primitive chondritic IOM.
- 10:15 a.m. Glavin D. P. \* Friedrich J. M. Aponte J. C. Dworkin J. P. Ebel D. S. et al.  
[Effect of Tube-Based X-Ray Microtomography Imaging on the Amino Acid and Amine Content of the Murchison CM2 Chondrite](#) [#1070]  
We investigated the effect of tube-based X-ray microtomography on the amino acid and amine content of the Murchison CM2 meteorite. Results will be discussed.
- 10:30 a.m. Yin Q.-Z. \* Sanborn M. E. Ziegler K.  
[Testing the Common Source Hypothesis for CV and CK Chondrites Parent Body Using  \$\Delta^{17}\text{O}\$ - \$\epsilon^{54}\text{Cr}\$  Isotope Systematics](#) [#1771]  
We show that in the  $\Delta^{17}\text{O}$  vs.  $\epsilon^{54}\text{Cr}$  space, CK and CV are plotted in different areas, thus it is unlikely to make the case that CK and CV are from the same parent body.

- 10:45 a.m. Park J. \* Herzog G. F. Nagao K. Choi J. Baek J. M. et al.  
[He, Ne, and Ar vs. Pre-Atmospheric Depth in the Murchison Meteoroid](#) [#1358]  
The fractions of solar and primordial He and Ne differ and form clusters in 11 ~ten-mg Murchison samples; no diurnal solar heating effects are seen.
- 11:00 a.m. Zolensky M. E. \* Takenouchi A. Gregory T. Nishiizumi K. Caffee M. et al.  
[The Relationship Between Cosmic-Ray Exposure Ages and Mixing of CM Chondrite Lithologies](#) [#2094]  
CRE ages / And CM lithologies / Have relationships.
- 11:15 a.m. Gillis-Davis J. J. \* Ishii H. A. Adams M. Connolly H. C. Jr  
[Laser Irradiation of Two CV3 Meteorites Yields Desparate Weathering Effects](#) [#1003]  
We reveal prominent differences in TEM and spectral results from pulsed laser irradiation experiments of two CV3 meteorites: NWA 3118 and Allende.
- 11:30 a.m. Thompson M. S. \* Keller L. P. Christoffersen R. Loeffler M. J. Morris R. V. et al.  
[Analyzing the Chemical and Spectral Effects of Pulsed Laser Irradiation to Simulate Space Weathering of a Carbonaceous Chondrite](#) [#2799]  
We expose the CM2 chondrite Murchison to a simulated micrometeorite impact event. Results include spectral data and nanoscale chemical and structural analyses.