Tuesday, March 21, 2017

POSTER SESSION I: PROTOPLANETARY DISK COMPOSITION AND EVOLUTION
6:00 p.m. Town Center Exhibit Area

Butterworth A. L. Gainsforth Z. Jilly-Rehak C. E. POSTER LOCATION #401
Developing V-XANES Oxybarometry for Probing Materials Formed In Reducing Environments in the Early Solar Disk [#2936]
X-ray absorption spectroscopy of low-fugacity standards for the determination of V oxidation state in highly reducing conditions relevant to the solar nebula.

Jilly-Rehak C. E. Butterworth A. L. Gainsforth Z. Westphal A. J. POSTER LOCATION #402
Measuring V-XANES in Aluminum-Rich Chondrules to Probe Oxygen Fugacity Conditions in the Early Solar Disk [#2480]
Using V-XANES, we find that Al-rich chondrules formed under more reducing conditions than ferromagnesian chondrules, closer to the $f_{O_2}$ environment of CAIs.

Haba M. K. Lai Y.-J. Wotzlaw J. F. Yamaguchi A. von Quadt A. et al. POSTER LOCATION #403
Rutiles and Zircons of Mesosiderites: Combined Niobium-Zirconium and Uranium-Lead Chronometry and the Initial Abundance of Niobium-92 in the Solar System [#1739]
Initial abundance of $^{92}$Nb was examined using the Nb-Zr systematics of mesosideritic rutiles and zircons that formed during the metal-silicate mixing event.

Liu M.-C. Keller L. P. POSTER LOCATION #404
The Beryllium-10 Abundance in an Unusual Hibonite-Perovskite Refractory Inclusion from Allende: Implications for The Origin of $^{10}$Be [#1249]
Whence did early solar system derive $^{10}$Be / Irradiation or inheritance / FUN CAIs will shed light.

Meshik A. P. Pravdivtseva O. V. POSTER LOCATION #405
Possible Origin of Low Temperature Xenon Components in Nanodiamond-Rich Separates from Primitive Meteorites [#1014]
We identified physical process revealing the genetic relationships between solar Xe, Q-Xe, and P3-Xe isotopic signatures without involving galactic evolution.

Domínguez G. Christensen E. Boyer C. Park M. Benítez E. POSTER LOCATION #406
Isotopic Studies of Water Formation in Astrophysical Environments: First Results and Implications for Distribution of Oxygen Isotopes in Solar System [#2508]
Experiments simulating the formation of water in astrophysical environments produce water whose oxygen isotopic composition is mass independently fractionated.

Smith R. L. Blake G. A. Boogert A. C. A. Pontoppidan K. M. POSTER LOCATION #407
New Observations of Carbon Monoxide in Complex Solar-Type and Massive Young Stellar Systems: Investigations of Protoplanetary Carbon Reservoirs [#2998]
New observations of CO toward massive and complex YSOs show isotope variations in carbon reservoirs. YSO carbon inheritance could be influenced by many factors.

Krijt S. Schwarz K. Ciesla F. J. Bergin E. A. POSTER LOCATION #408
CO freezes out / Sinking down to the midplane / Where will it go next?

Ciesla F. J. Krijt S. POSTER LOCATION #409
Gas Trapping by Amorphous Ice in the Solar Nebula [#2123]
Ice traps gases / The amount really depends / On disk conditions.
Effects of Heat Transfer in Dust Aggregates on the Photophoretic Force [2994]
The behavior of dust aggregates under the influence of the photophoretic force may play a role in the formation of planetary embryos in protoplanetary disks.

Dust Growth in a Protoplanetary Disk Using Molecular Dynamics [2134]
This study is about dust growth in a turbulent protoplanetary disk, and the collision probabilities as a function of the aggregate’s physical characteristics.

Experimental Studies on the Metamorphism of Interstellar Organic Materials in Meteorites’ Parent Bodies [1383]
This is an experimental study of simulating interstellar organic materials’ metamorphism in meteorites’ parent bodies.

Oxidation State of Fe in the Interstellar Medium [2135]
We combine synchrotron-based X-ray absorption spectra with Chandra X-ray astronomical observations to determine the oxidation state of Fe in the ISM.

Opacities and Turbulence in Cold Planet Forming Accretion Disks [2616]
Protoplanetary disk turbulence and opacities are profoundly linked and together effect planetesimal growth. We show what may have happened when and where.

Outward Transport of High-Temperature Minerals in Protoplanetary Disks: A Critical Examination of Meridional Circulation [1018]
The “meridional circulation” often proposed for outward transport of solids in the disk actually has little net effect and is of uncertain reality.

Angular Momenta of Collided Rarefied Preplanetesimals Needed for Formation of Trans-Neptunian Satellite Systems [1554]
Binaries could form as a result of contraction of rarefied condensations that got the angular momenta needed for such formation at collisions of condensations.