

Tuesday, March 19, 2013

[T608]

**POSTER SESSION: EARLY DIFFERENTIATION
OF PLANETARY BODIES ACROSS THE SOLAR SYSTEM
6:00 p.m. Town Center Exhibit Area**

Elkins-Tanton L. T. Weiss B. P. Asphaug E. Bottke W. F. Binzel R. et al. **POSTER LOCATION #96**
[*Differentiation in Planetesimals with Applications to Asteroid \(16\) Psyche*](#) [#1351]

We explore the likely compositional ranges of silicate planetesimal interiors and consider the ramifications for the asteroid Psyche and in the IVA iron meteorites.

Fu R. R. Elkins-Tanton L. T. **POSTER LOCATION #97**
[*Partially Differentiated Planetesimals may Retain Primitive Crusts*](#) [#1173]

Melts of carbonaceous chondrites are dry and denser than the chondritic crust itself. A primitive surface is therefore expected to survive differentiation.

Komacek T. D. Ciesla F. J. Davison T. M. **POSTER LOCATION #98**
[*A Model for the Three-Dimensional Heating of a Planetesimal*](#) [#1359]

We present a 3-D model exploring the effects of radiogenic and impact heating in a planetesimal, displaying model test results and describing future work.

Righter K. **POSTER LOCATION #99**
[*Late Chondritic Additions and Planet and Planetesimal Growth: Evaluation of Physical and Chemical Mechanisms*](#) [#2196]

The hypothesis of late chondritic addition to planets and differentiated bodies will be evaluated using both chemical and physical constraints.

Hirschmann M. M. **POSTER LOCATION #100**
[*Atmosphere/Magma Ocean Interactions: Consequences for Planetary Differentiation and Volatile Evolution*](#) [#2049]

Magma ocean-atmosphere interactions play a key role in the differentiation of terrestrial planets and formation of geochemical reservoirs.

Zhang H. Withers A. C. Hirschmann M. M. **POSTER LOCATION #101**
[*Experimental Investigation of the Role of Oxygen Fugacity on Degassing of Planetary Magma Oceans*](#) [#2657]

We present experiments on fO_2 variation with pressure in silicate melts to address redox gradients in magma oceans and their influence on planetary evolution.

Mills R. D. **POSTER LOCATION #102**
[*The Effect of Thermal Cycling on Crystal-Liquid Separation During Lunar Magma Ocean Differentiation*](#) [#2317]

Thermal cycling during crystallization of a magma ocean could lead to coarsening of crystals and more efficient fractional crystallization.