Thursday, March 22, 2012
POSTER SESSION II: ORIGIN AND INTERNAL EVOLUTION OF PLANETS
6:00 p.m. Town Center Exhibit Area

Albalat E. Telouk P. Albarede F.
Er and Yb Isotope Fractionation in Planetary Material **[#1129]**
We present an investigation of Er and Yb isotopes in Earth, meteorites, and the Moon by MC-ICP-MS. The main results concern the Yb redox state, condensation of the Moon from the impact vapor, and neutron adsorption by the lunar surface.

Craddock P. R. Warren J. M. Dauphas N.
The Chondritic Iron Isotopic Composition of the Earth **[#1672]**
Iron isotopic fractionation in terrestrial igneous rocks did not result from early core-mantle differentiation, but by partial melting of the mantle, based on the identical composition of abyssal mantle peridotites to undifferentiated meteorites.

Arkani-Hamed J.
Delayed Activation of Martian Core Dynamo **[#1563]**
The embryo-embryo collision at the later stages of accretion could have delayed the core dynamo activation of Mars by 50–120 Myr.

Neumann W. Breuer D. Spohn T.
Differentiation of H-Chondritic Planetesimals **[#1889]**
We have studied the influence of melt migration on the thermochemical evolution of planetesimals taking into account accretion, sintering, and melt heat transport via porous flow. Our work constrains the timing and the duration of the core formation.

Swift D. C. Drummond N. D. Heuze O. Kraus R. G. Ackland G. J.
Analytic Multiphase Equation of State for MgO **[#2545]**
Analytic equations of state (EOS) of Mie-Grueneisen form were constructed for B1, B2, and liquid phases of MgO, calibrated against our previous ab initio B1–B2 EOS. The effect of kinetics on B1–B2 and melting transitions was investigated.

Gu T. Wu X. Qin S. Fei Y.
Magnetic and Structural Transitions of Fe_3P and Implications for Phosphorus in Planetary Cores **[#2301]**
In order to understand the structure type of the high-pressure phase of Fe_3P and its implications for planetary cores, we carried out ab initio calculations to explore the stability of Fe_3P in several structures.

Burkemper L. K. Agee C. B. Garcia K. A.
Molybdenum Metal-Silicate Partitioning Behavior: Constraining the Magma Ocean Hypothesis for Core Formation **[#2155]**
Mo metal-silicate partitioning experiments were performed over a P range of 3–20 GPa and a T range of 2173–2673 K. Parameterization of our new data and literature data indicates Mo is compatible with the deep (42–57 GPa) magma ocean hypothesis.

Nickodem K. Righter K. Danielson L. Pando K. Lee C.
Core-Mantle Partitioning of Volatile Siderophile Elements and the Origin of Volatile Elements in the Earth **[#2295]**
Determine the effect of Si on core-mantle partitioning of volatile siderophile elements. Analyze As, Ge, In, and Sb partitioning between metal melt and silicate liquid using partition coefficients.

Malavergne V. Charon E. Jones J. Agranier A. Campbell A.
Pt, Au, Pd and Ru Partitioning Between Mineral and Silicate Melts: The Role of Metal Nanonuggets **[#1873]**
Pt, Au, Pd, and Ru partition coefficients between olivine (or diopside) and silicate melts have been determined. In parallel, we will explain how metal nanonuggets appeared in our samples and how we will understand their formation.

Frank E. F. Maier W. D. Mojzsis S. J.
The "Late Veneer" on Earth: Evidence from Eoarchean Ultramafic Schists (Metakomatiites) **[#2890]**
Contemporary peridotites show an enhanced concentration of the highly siderophile elements (HSEs). This is believed to be due to a late accretion event called the Late Veneer. Here we show the evolution of the HSE signature using ancient komatiites.