CHEMICAL AND ISOTOPIC FRACTIONATION IN THE EARLY SOLAR SYSTEM

Monday, September 8, 2014

1:30 p.m.   Benguerir Room

Chairs:  Manuela Fehr
         Martin Bizzarro

1:30 p.m. Kato C. *   Foriel J.   Moynier F.
Isotopic Study of Gallium in Terrestrial and Meteorite Samples [#5209]
Gallium isotope composition was measured in Earth crust, chondrites, and iron meteorites. Isotopic fractionation between crustal and chondrites was 0.28 permil, most likely caused during silicate differentiation and/or metal/silicate partitioning.

1:45 p.m. Fehr M. A. *   Hammond S. J.   Parkinson I. J.
Tellurium Stable Isotope Fractionation in Chondritic Meteorites [#5290]
New Te double spike procedures were set up to obtain high-precision accurate Te stable isotope data. Tellurium stable isotope data for 16 chondrite falls are presented, providing evidence for significant Te stable isotope fractionation.

2:00 p.m. Simionovici A. S. *   Lemelle L.   Boyet M.   Gillet Ph.   Rivard C.   El Goresy A.
Nano-XRF Study of Earliest Solar Condensates in EL-3 Fragments from the Almahata Sitta TC3 Asteroid [#5448]
A nano-XRF study of enstatite chondritic fragments of the Almahata Sitta TC3 asteroid was performed at the ID21 beamline of the ESRF synchrotron in Grenoble, France. We report on the identification and composition of idiomorphic sinoite crystals.

2:15 p.m. Valdes M. C. *   Chen H.   Foriel J.   Moreira M.   Moynier F.
Recent Advancements in Calcium Isotope Geochemistry and Cosmochemistry [#5245]
Here we present an overview of recent advancements made with regards to the calcium isotopic system in the terrestrial planets and explore future research directions with regards to lunar material.

2:30 p.m. Pringle E. A. *   Savage P. S.   Badro J.   Barrat J.-A.   Moynier F.
Silicon Isotopes in Angrites and Clues to Planetary Formation [#5326]
The Si isotope compositions of angrites are significantly fractionated with respect to chondrites. Explanations for this offset include (1) partitioning of Si into the parent body core or (2) loss of Si associated with volatility processes.

2:45 p.m. Creech J. B. *   Handler M. R.   Baker J. A.   Bizzarro M.
Platinum Stable Isotope Tracing of Earth’s Accretion and Differentiation [#5124]
Platinum stable isotope data are presented for a range of meteorites and terrestrial samples. These are used to investigate the building blocks and physical processes of accretion and core formation on Earth.

3:00 p.m. Armytage R. M. G. *   Georg R. B.   Williams H. M.   Halliday A. N.
Silicon Isotopic Composition of CV3 Chondrules and Isotopic Fractionation in the Solar Nebula [#5128]
We present high precision Si isotopic data for bulk chondrules from CV3 chondrites. The observed variations are likely the result of evaporation and re-condensation during chondrule formation, though precursor heterogeneities cannot be ruled out.

3:15 p.m. BREAK