

+

#0145

+

### **Occurrence of refractory metal alloys in CAIs**

D. Schwander<sup>1</sup>, T. Berg, U. Ott, G. Schönhense, D. Harries and H. Palme. <sup>1</sup>Max-Planck-Institut für Chemie, Hahn-Meitner-Weg 1, D-55128 Mainz, Germany. [d.schwander@mpic.de](mailto:d.schwander@mpic.de).

Ca, Al-rich inclusions (CAIs) in chondritic meteorites closely resemble predicted condensates from a cooling gas of solar composition [e.g. 1]. In particular CAIs contain refractory metal alloys (RMN) of elements, such as Os, Ir, Mo and Ru, which are predicted to condense prior to CAI-minerals.

In CAIs from Allende, Acfer 094 and Murchison we have identified 216 RMN embedded in perovskite, melilite, spinel and fassaite.

At the conference we will give an overview and a statistical analysis of RMN compositions, host minerals and structures. The observations as well as the occurrence of RMN inside CAI minerals is evidence for formation prior to the host minerals and a possible explanation for condensation of these metals into one single alloy.

The coexistence of 10 elements with different crystal structures in one single alloy and high contents of W and Mo is evidence that the RMN were not subjected to alteration/fractionation processes.

[1] Grossman, L. (1980) *Annu. Rev. Earth Planet. Sci.*, 8,559. [2] Berg T. et al. (2009). *ApJ*, 702, L172–L176.

+

+

Cite abstract as:

Schwander, D., Berg, T., Ott, U., Schönhense, G., et al. (2012) Occurrence of refractory metal alloys in CAIs.

Paneth Kolloquium, Nördlingen (Germany), abstract URL:

<http://www.paneth.eu/PanethKolloquium/2012/0145.pdf> (abstract #0145).