#0023

The occurrence of silicon nitride in chondritic meteorites.

Leitner*, J., Vollmer, C., Ott, U., Hoppe, P., *Max Planck Institute for Chemistry, Hahn-Meitner-Weg 1, 55128 Mainz, Germany, jan.leitner@mpic.de.

Silicon nitride (Si_3N_4) of Solar System origin has been identified as a minor component in several enstatite chondrites (ECs) [1–3], and also in a few ordinary chondrites (OCs) [2]. For carbonaceous chondrites, a rare population of presolar Si_3N_4 has been identified in the matrix. In addition there is the case of Acfer 182 (CH3), where the presence of Si_3N_4 is briefly mentioned [4], but without further conclusions about its origin. The vast majority of Solar System Si_3N_4 in ECs were found in metal-sulfide assemblages [3], and here, we report the occurrence of Si_3N_4 in similar hosts in Mezö-Madaras (L3.7) and Leoville (CV3), identified by BSE imaging and EDS element mapping. C- and N-isotopic analyses by NanoSIMS, as well as structural investigations by transmission electron microscopy are in progress and can help to obtain a more comprehensive picture on the origin of the nitrides and also their hosts.

[1] Alexander, C. M. O'D. et al. (1994) Meteoritics 29, 79–84. [2] Russell, S. S. et al. (1995) Meteoritics 30, 399–404. [3] Leitner, J. et al. (2018) GCA 235, 153–172. [4] Grady, M. M. & Pillinger, C. T (1993) EPSL 116, 165–180.

Cite abstract as:
Leitner, J., Vollmer, C., Ott, U., Hoppe, P. (2019) The occurrence of silicon nitride in chondritic meteorites. Paneth Kolloquium, Nördlingen (Germany), abstract URL:
http://www.paneth.eu/PanethKolloquium/2019/0023.pdf (abstract #0023).