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**Experimental Chondrule Formation at the ISS
(EXCISS).**

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The EXCISS experiment is one of three experiments which were chosen at the Überflieger competition organized by Deutsches Zentrum für Luft und Raumfahrt (DLR) in 2017. The experiments will be performed on board the ISS in a NanoRack cube by the German astronaut Alexander Gerst in 2018.

The experiment deals with the formation of chondrules, one of the oldest material of our solar system. Their origin is still enigmatic and many different theories have been proposed, e. g. the nebular lightning theory [1,2,3].

In the experiment, forsterite dust particles will be levitating between two electrodes in micro-gravity and exposed to 100 electrical discharges over a few days. The experiment will be filmed by a camera and sample return is planned. We expect new insights into the formation of chondrules and the aggregation of partly molten dust particles.

[1] Horányi, M. et al. (1995) *Icarus* 143, 87–105. [2]

Túnyi, I. (2003) *EM&P* 45, 65–74. [3] Güttler, C. et al.

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(2008) *Icarus* 504–510.

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Cite abstract as:

Koch, T.E., Beck, A.A., Christ, O., Genzel, P.-T., et al. (2017) Experimental Chondrule Formation at the ISS (EXCISS). Paneth Kolloquium, Nördlingen (Germany), abstract URL:

<http://www.paneth.eu/PanethKolloquium/2017/0029.pdf> (abstract #0029).