

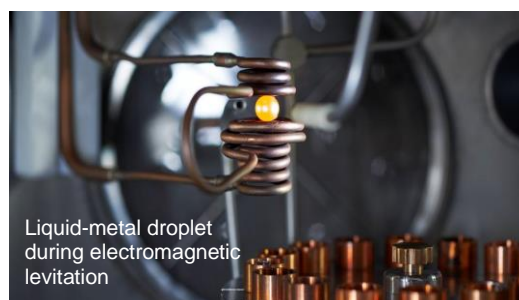
INVITATION TO ATTEND A TALK ON

Containerless Solidification: From the Lab to Space

Angelo F. Andreoli

*Leibniz Institute for Solid State and Materials Research (IFW Dresden), Germany***Date:** November 9, 2021**Time:** 1:00–2:30 pm (13:00–14:30)**Lecture hall:** Auditorium 02 (1.04) CPTO (Centre for Natural Sciences and Technologies)

Solidification processes have always shaped the natural world, from the crystallization of the earth magma to the freezing of water in which gravity and contact with surroundings play an important role during phase transformations. The phenomenon is always present in our daily life experiences. Mankind has managed to understand and try to control the solidification of metals since Roman times by producing wrought-iron products. In the last century, metallurgists have been concerned with the non-equilibrium solidification of metals where the solidification path differs from that in equilibrium conditions and may give rise to new materials with unique properties which cannot be easily predicted from phase diagrams. Among these differences are phase selection, crystal growth velocity, and microstructure formation. More recently scientists have been trying to understand the solidification of metals in microgravity conditions and outer space at ISS station by levitating liquids which is the topic of our talk. We will describe the features associated with containerless solidification both in ground-based experiments, for example, electromagnetic levitation, and in microgravity conditions represented by the Tempus flight experiments or experiments carried out at the Columbus module of ISS station.



Liquid-metal droplet during electromagnetic levitation

Invitation by Ing. Jiří Orava, Ph.D. (jiri.orava@ujep.cz)

Akce je realizována v rámci projektu
U21 - Univerzita reflektující problémy regionu severozápadních Čech
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