

Neutron Activation Analysis (NAA) at FRM II - trace element analysis in samples from high purity silicon to meteorites

Wednesday, 26 June 2019 10:00 (20 minutes)

Neutron activation analysis is a nuclear analytical technique mainly used for the determination of trace elements. NAA is typically applicable to the chemical elements from the 4th period of the Periodic Table, and is highly sensitive for Na, Mn, Sc, Ta, Ir, In as well as the rare-earth elements. Its advantage is simple sample preparation, high sensitivity, non-destructiveness and multi-element analysis in a wide range of concentrations. Detection limits down to fg (femtogram) level can be reached. With its highly thermalized neutron flux, the reactor FRM II offers exceptional opportunities for the instrumental neutron activation analysis (INAA).

In my presentation, I will talk about some recent analytical studies, such as impurities in high-purity silicon, “finger-print” elements in archeological objects (bronze, ceramics) and meteorites incl. the meteorite “Cloppenburg” found in Germany in 2017.

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