

Focus-Session: Advanced TEM spectroscopy

- low energy excitations and chemical composition at high resolution -

Invited talks

Jan Rusz (University of Uppsala, Sweden) (title requested)

Armin Feist (University of Göttingen, Germany)

Ultrafast TEM and its application for time resolved spectroscopy of solids and coherent energy gain spectroscopy at laser-excited nanostructures

The recent progress in transmission electron microscope (TEM) based spectroscopies in terms of spatial, temporal and spectral resolution allows to address new regimes of electronic and vibrational excitations and therefore widened our understanding of condensed matter. This session focuses on recent developments and applications of spectroscopy techniques in the TEM, in particular electron energy loss spectroscopy in the low-loss regime for optical properties and core-loss regime for chemical analysis, at both atomic and medium resolution. We also welcome contributions on ultrafast techniques as well as cathodoluminescence and energy dispersive X-ray spectroscopy. Contributions are invited on hardware and technique developments, theory and simulation, data processing as well as applications covering both physical and biological sciences.