

MSE 2024

24 - 26 Sep 2024 (Darmstadt)

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Topic C: Characterization

C02: Tomographic and radiographic imaging with X-rays, synchrotron radiation and neutrons: experimental techniques, applications and data

Non-destructive imaging methods using penetrating radiation such as hard X-rays and neutrons provide insight into heterogeneous materials and engineering components. In combination with tomography they yield a fully three-dimensional virtual representation of the internal architecture of materials and structures, i.e. for materials characterization and non-destructive method for scientific and industrial applications. In addition, multi-modal imaging techniques, time-resolved imaging and hierarchical multi-scale studies (from material to component) are rapidly gaining importance as the systems under study become increasingly complex. Classic lab-based X-ray sources are well complemented with large-scale synchrotron sources (or even X-ray free-electron lasers) and with Neutron sources.

The aim of the symposium is to provide an exchange information platform between researchers involved in the rapidly developing experimental techniques and users applying these techniques in the field of materials science and engineering. Contributions dealing with tomography and radiography using synchrotron and neutron sources will be presented focusing on advances on time/spatial resolution as well as on the simultaneous combination of tomography/radiography with other contrast methods.

Symposium Organizer



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