

Special Issue

Neutron Dark-Field Imaging and Grating Interferometry

Message from the Guest Editors

The dark-field contrast imaging, which is one of the imaging modalities enabled by the interferometer, has triggered numerous outstanding developments, applications, and studies in many fields of material science, ranging from magnetism and engineering materials research to soft condensed matter. Grating interferometers have been installed at nearly all leading facilities around the world, and various implementations. While differential phase contrast and qualitative dark-field contrast imaging have mainly been exploited in magnetism, revealing magnetic domain structures and transformations in bulk ferromagnets and superconductors, quantitative dark-field imaging has enabled local microstructural studies in applied materials science. This Special Issue aims to cover all aspects of neutron grating interferometry and dark-field contrast imaging, including technical advances, instrumentation, and, in particular, seminal applications in material science.

- neutron grating interferometry
- dark-field contrast
- spatially resolved small-angle neutron scattering
- differential phase contrast
- dark-field retrieval and quantification
- imaging software
- engineering materials
- magnetism

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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