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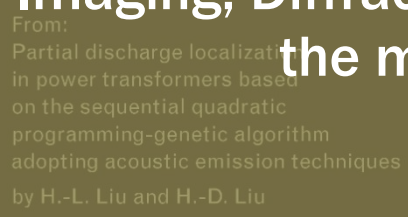
Call for papers

Special Issue on Imaging, Diffraction, and Spectroscopy on the micro/nanoscale



Guest Editors

- ***Prof. Jakob Birkedal Wagner**, DTU Nanolab - National Centre for Nano Fabrication and Characterization, Technical University of Denmark*

- ***Prof. Randi Holmestad**, Department of Physics, Norwegian University of Science and Technology (NTNU)*

edp sciences

Background

Structural and spectroscopic insight on the submicrometer scale is of significant importance in the quest for understanding and exploring materials of tomorrow.

It has become evident in recent years that nanotechnology is capable of producing materials that have properties which are not found in nature (at least on earth). In order to understand and control the macroscopic properties of materials, it is essential to gain an insight into the nature of the smallest building blocks and here nanoscale research comes to the fore.

Aim and Scope of the Themed Issue

The aim of this Special Issue on Imaging, Diffraction, and Spectroscopy on the micro/nanoscale is to assemble high-quality papers that include the recent progress and current research within the development and application of submicrometer scale imaging, diffraction, and spectroscopy of materials. Structural and spectroscopic insight on the small scale is instrumental in the development and fabrication of tailored materials with novel properties.

The Scope of papers that will be considered for publication in this Special Issue covers:

(i) Development and application of imaging, diffraction, and spectroscopic techniques with submicrometer spatial resolution for materials characterization,

(ii) Analysis methods for quantitative treatment of experimental data from micro/nanoscale imaging, diffraction, and spectroscopy.

Specific areas of interest include

- 1D and 2D Materials, Surfaces, and Thin Films;
- Metals and Alloys; Semiconductors, Heterostructures, and Devices;
- Materials for Energy Conversion and Storage;
- Nanoparticles and Catalysts;
- Geological Materials and Bio-mineral systems;
- Polymers, Soft, and Organic Materials;
- Magnetic, Ferroelectric, and Spintronic Materials;
- Ceramics and composites; Quantum Materials;
- Nano-scale Optical Materials; Materials in extreme conditions (nuclear, chemical, planetary..).
- Advances in 3-dimensional image reconstruction;
- Innovative, modular and adaptable hardware: design, application and control;
- Phase-related methods;
- New Instrumentation;
- Spectroscopy and hyperspectral imaging of hard and soft matter;
- Diffraction Techniques and Structural Analysis;
- Dynamic studies using micro-nano labs;
- Fast and Ultrafast Dynamics using Transmission Electron Microscopy;
- Scanning Probe Microscopy: Imaging and Beyond; Machine learning-based processing and analysis of microscopy data.

This themed issue is published in connection with the European Microscopy Congress 2024 (EMC2024), held in Copenhagen August 25-30, 2024.

Submissions

All relevant papers will be carefully considered, reviewed by a distinguished team of international experts, and published in accordance to the Journal's standard policies. Full research papers and comprehensive review articles can be submitted online via the journal's submission and peer review site.

Submission deadline – October 31st 2024

Charges

As EPJAP is a subscription journal, there is no submission and publication charge, besides the case where the authors ask to have their article published in Open Access. Normally, to publish in Open Access, there is an APC of 1600 euros. In the frame of the partnership of the journal with the European Microscopy Congress, we are waiving the APC of the Open Access Option for this themed issue for the authors wishing to have their article in Open Access.

Abstracting/indexing

The European Physical Journal Applied Physics (EPJ AP) is indexed/abstracted in:

- ADS (Nasa)
- Cabells Journalytics
- Cambridge Scientific abstracts (CSA)
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