



European XFEL Joint Theory Seminar

Thursday, 29 February 2024, 16:00

Only on Zoom

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Lattice dynamical properties of nanostructures - ab initio and synchrotron radiation studies

Phonon properties of nanoscopic materials are strongly modified when compared to the lattice dynamics in bulk crystals.

In my talk I will focus on the fundamental question how lattice dynamical properties of nanosystems are modified due to different mechanisms related to reduced dimensionality, presence of surfaces and interfaces, epitaxial strain and other effects. I will describe the experimental technique based on the nuclear inelastic scattering of synchrotron radiation and the ab initio methods used for phonon calculations. A few examples of the studies performed on different types of nanostructures: thin films, interfaces, nanoislands, and nanowires will be presented and discussed.

Hosts: Nils Brouwer and Beata Ziaja-Motyka

Join on Zoom:

<https://xfel.zoom.us/j/91278000993?pwd=bFNtZDc4NzFxWFc4Q040TTBjVlc1QT09>

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