

Nanoscale Imaging of Ferroic Order with Soft X-ray Ptychography

Friday, 17 November 2023 11:10 (25 minutes)

Soft X-ray ptychography is a scanning coherent diffractive imaging technique employed at synchrotron facilities. It relies on collecting diffraction patterns from overlapping illumination spots of the sample. Spatial resolutions in the order of 5 nm are achievable and ferroic order can be visualised by dichroic contrast with circularly or linearly polarised soft X-rays at the 3d transition metal L-edges. An example for the success of the technique is the imaging of the multiferroic domain structure of bismuth ferrite, which will be the focus of the presentation.

Topics

Session A. Physics of condensed matter and spectroscopy

Contact Email address

Primary author: Dr BUTCHER, Tim A. (Paul Scherrer Institute, Switzerland)

Presenter: Dr BUTCHER, Tim A. (Paul Scherrer Institute, Switzerland)

Session Classification: Multiferroics and Magnetoelectric Coupling