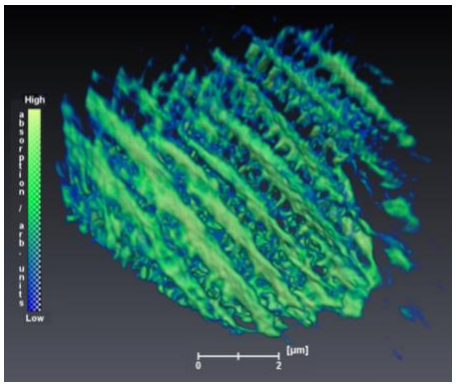
PAUL SCHERRER INSTITUT

PSI facilities newsletter

https://www.psi.ch/science/facility-newsletter

Soft X-ray Laminography: 3D imaging with powerful contrast mechanisms

Katharina Witte, et. al., Nano Letters, 2020, DOI: 10.1021/acs.nanolett.9b04782



3D imaging using synchrotron radiation is a widely used tool that allows access to the inner structure of complex objects. An international and interdisciplinary consortium of scientists from the Swiss Light Source (PolLux and cSAXs), the Friedrich-Alexander-Universität Erlangen-Nürnberg, and the University of Cambridge developed the new 3D imaging technique of Soft X-ray Laminography (SoXL). SoXL allows for the investigation of thin and extended samples while taking advantage of the characteristic absorption contrast mechanisms in the soft X-ray range, providing 3D information with nm spatial resolution.

Read more: https://www.psi.ch/en/microspec/scientific-highlights/soft-x-ray-laminography-a-new-3d-soft-x-ray-imaging-technique

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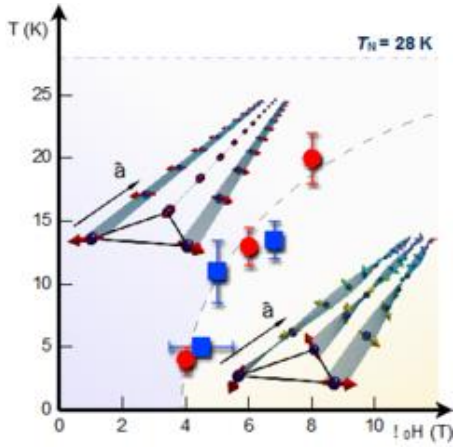
Field-Induced Double Spin Spiral in a Frustrated Chiral Magnet

Mahesh Ramakrishnan, et. al., npj Quantum Materials 4, 60 (2019), DOI: 10.1038/s41535-019-0199-3



X-rays and neutrons has been used to investigate the correlation between structural and magnetic chirality in magnetic fields and its impact on the polarization in multiferroic langasites. A long wavelength modulation of the magnetic structure has been found, and it is shown that the chirality of the crystals structure connects to chirality of the magnetic structure that leads to an additional electric polarization in this field induced phase, which, depending on the christal chirality, can either increase the electric polarization or lead to a reversal of it for increasing magnetic fields. The theoretical description based on allowed Lifshitz invariants intriguingly contain all the essential ingredients for the realization of topologically stable antiferromagnetic skyrmions.

Read more: https://www.psi.ch/en/micmag/scientific-highlights/field-induced-double-spin-spiral

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CALIPSOplus - I3 Access Program for SMEs

The current call is open from January 15 – July 29, 2020

CALIPSOplus, a European Horizon2020 funded research and innovation program, provides access support for SMEs to light sources. The access is based on a specific review system for SMEs in parallel to the established academic access route but following the same principles. The proposal confidentiality is kept during the whole process. If the proposal is accepted, the SME will have access to the requested light sources and the experiments will be financially supported through CALIPSOplus, more information: http://www.wayforlight.eu/en/industries/sme-access-proposal/

For industry use, SLS and SwissFEL offer direct access through the proprietary route, as well.

Read more: https://synchrotron-analysis.ch/