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UNIVERSITÄT BERN

Seminar über Biomedizinische Photonik

Referent/in: Dr. Abraham Levitan, Paul Scherrer Institute (PSI)

Titel: A few unique ways to image samples with coherent X-rays, and why you might want to use them.

X-ray imaging has a unique role in studying the morphology of biological tissue, but it is also used for much more: for example, to image structure and chemistry in a wide variety of systems including batteries, catalysts, and industrial materials. By matching the X-ray wavelength to an atomic resonance, it is even possible to study electronic and magnetic properties down to the nanoscale. Yet, despite how powerful these methods are, their development is never done. The resolution can always be higher, the imaged volume can always be larger, and the data acquisition can always be faster. In this presentation, I will discuss the role of a new generation of coherent X-ray imaging methods in addressing these challenges. Specifically, I will discuss the development of randomized probe imaging as an alternative to traditional methods for full-field X-ray imaging, and I will finish with a short overview of our recent work to capture single-shot X-ray movies of magnetic dynamics occurring on sub-picosecond timescales.

Zeit: Wednesday 15.3.2025, **16:15 Uhr**

Ort: Room **B77**, ExWi, Sidlerstrasse 5, 3012 Bern