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## **【169】 Microspectroscopy of Magnetic Nanostructures with Soft X-Ray Ptychography**

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A technique to unlock spatial resolutions in the order of 10 nm is soft x-ray ptychography. Ptychography consists of moving the sample through a beam of monochromatic x-rays, all the while collecting diffraction patterns from the overlapping illumination spots. Recovery of the complex transmission function is achieved with a reconstruction algorithm. Measurements in the soft x-ray regime benefit from strong x-ray magnetic circular dichroism (XMCD) and x-ray magnetic linear dichroism (XMLD) contrasts. These serve to analyse ferromagnetic and antiferromagnetic materials, respectively. We present the development of the new soft x-ray ptychography endstation at the Swiss Light Source. First results include the imaging of the spin cycloid in multiferroic bismuth ferrite.

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