

X-ray holography, tomography

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The lecture will cover basic of X-ray holography and tomography techniques as well as provide experimental examples.

Lecture topics:

1. X-ray holography
 - a. In-line
 - b. Off-axis
 - c. Fourier transform holography
2. Experimental setups
3. Technique characteristics
 - a. Magnetic sensitivity (XMCD, polarized X-rays)
 - b. Elements sensitivity (resonant scattering)
 - c. Resolution
 - d. Probed volume
 - e. ...
4. Tomography
5. Examples of measurements
 - a. ...
 - b. ...
6. ? X-ray ptychography (+tomography)

Recommended reading:

- [1] Pfau B., Eisebitt S. X-Ray Holography. In: Jaeschke E., Khan S., Schneider J., Hastings J. (eds) Synchrotron Light Sources and Free-Electron Lasers. Springer 2016.