Contribution ID: **5** Type: **not specified**

Wavefront Engineering for Reduction of Vibration Artifacts in Ptychography

X-ray Ptychography is a modern microscopy technique in which the image is not directly measured on the detector, but reconstructed with a phase retrieval algorithm from coherent diffraction images. The performance of ptychography can be enhanced by using taylor-made engineered wavefronts, e.g. vortex beams. Vibrations of the experimental setup are a known limiting factor in ptychographic imaging, the performance of non-gaussian wavefronts in the presence of vibrations is a currently open question. The candidate will use simulation software to simulate ptychography experiments with engineered wavefronts in the presence of vibrations and compare the performance of various designs. Basic knowledge of wave optics and python is required.

Group

FS-PETRA-BOS

Project Category

A4. Development of experimental techniques

Special Qualifications

Python, basic knowledge of wave optics

Primary author: SEYRICH, Martin (FS-PETRA (PETRA III))