

Instrumentation for X-ray Scanning-Diffraction with Sub-micron Resolution

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Highly focused monochromatic x-ray beams well in the sub-micron range can be produced at third generation synchrotron radiation sources [1][2]. Routine diffraction experiments with sub-micron beams are performed at the ID-13 beamline using X-ray optics such as Kirkpatrick-Baez mirrors, compound refractive lenses and linear Fresnel lenses. The availability of devices delivering beams significantly smaller than 100 nm is already in sight.

Our efforts in order to develop methods and instrumentation for nano-beam diffraction experiments will be presented.

[1] Müller M., et al., *J. Appl. Cryst.*, 2000, **33**, 1231-1240. [2] David C., et al., 2001, *PSI annual report*.

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