How to choose the optimum configuration for a laboratory SAXS system

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Different samples require different measurement conditions and system configurations. Optimum measurement results can only be obtained with an optimum combination of X-ray source, X-ray optics, specially adopted sample holders, precise temperature control, best suited detection system, software etc.

In this contribution we present optimum system configurations for selected applications. We show two different multifunctional laboratory SWAXS systems for point and line collimation, enabling the user to perform e.g.

- combined SAXS and WAXS studies from -150°C to 500°C
- GI-SAXS (from ambient to 500°C),
- in-situ tensile SWAXS experiments (-50°C to 300°C)

The SWAXS systems satisfy the advanced user with a wide range of dedicated sample stages, full experimental flexibility and highest resolution. A unique sample-positioning mechanism enables to perform WAXS measurements, without re-aligning any part of the SWAXS system.

The multifunctional systems provide simple operation, short measurement times and an excellent overall angular resolution. This is possible because of the clever beam formation concept which comprises a brilliant X-ray source, specifically designed X-ray optics and an optimized scatterless collimation suppressing unwanted parasitic scattering.