

A NEW HIGH-THROUGHPUT SAXS SCREENING TOOL

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Small Angle X-ray Scattering (SAXS) is an established technique for nano-structure analysis in various application fields. However, the technique has not been widely used for combinatorial or, more generally, automated measurements till now. Technical limitations have prevented maintaining the desired resolution of the measurement while achieving the high through-put requirement.

A combination of several technological concepts has lead to the design of a SWAXS system for high-resolution and high-throughput measurements.

The technical aspects include requirements to simultaneously characterize materials in the small and wide angle range for documentation of nano-structure and phase behavior, a short exposure time to reduce radiation damage and other stability effects, and a control software which can coordinate the system components, acquire data, and convert the two-dimensional scattering image into the desired result.

All these requirements were met in the SAXSess system. The technical aspects and selected results are discussed.

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