

## **TIME-RESOLVED SAXS EXPERIMENTS USING A LABORATORY SOURCE**

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Time-resolved SAXS experiments to study kinetics require high flux and are quite a challenge for SAXS set-ups using a laboratory source.

The compact design of the SAXSess small-angle X-ray scattering system generally provides a high X-ray intensity at the detector and consequently short measurement times. Only recently the SAXSess was equipped with a high-end CCD detector. In combination with this electronic read-out unit, data can be collected continuously in time-resolved measurements. A time resolution of 1 minute or less is possible depending on the scattering power of the sample.

If relatively fast kinetics are to be studied, any SAXS instrumentation should offer the possibility to mix the reaction components directly in the measuring cell. Therefore a Flow Cell was designed and used, where the reaction mixture is injected via a T-junction directly into the capillary and the measurement can be started immediately after the injection.

When observing relatively slow processes, however, sedimenting or floating of particles in the reaction mixture has to be prevented. For such experiments we used a special Rotor Cell, which rotates along the longitudinal axis of the capillary. This cell is also very valuable for other investigations like the formation of micro-crystals in concentrated liquid crystalline samples. By using the Rotor Cell all orientations of the micro-crystals are averaged and relatively smooth scattering patterns are obtained.

We present typical results for the different application modes in this contribution.