



Contribution ID: 106

Type: Poster

## KWS-3 Very Small Angle Neutron Scattering Diffractometer: current status

*Friday 6 December 2024 13:45 (3 hours)*

KWS-3 “VerySANS” is a very-small-angle-neutron-scattering diffractometer using a focusing mirror to achieve a high Q-resolution  $3 \cdot 10^{-5} \text{ \AA}^{-1}$ . In “standard mode” with Q-range between  $10^{-4}$  and  $2.5 \cdot 10^{-3} \text{ \AA}^{-1}$  KWS-3 demonstrates worldwide best performance: intensity much higher than any pinhole SANS instrument and measurement time much shorter than any Bonse-Hart camera. Over the last years, we have finalized a multi-sample-position instrument concept: we have been able to propose to users optimal configurations with high flux and low background covering three decades within Q-range  $3 \cdot 10^{-5}$  and  $3 \cdot 10^{-2} \text{ \AA}^{-1}$ . We can also offer a “SANS” configuration for strongly scattering samples with sample-to-detector distance (D) between 5 and 40 cm covering the Q-range of a classical SANS instrument between  $2.5 \cdot 10^{-3}$  and  $0.35 \text{ \AA}^{-1}$ . Tilt stages/rotation table for the sample environment (SE) up to 500 kg have been commissioned as a mobile device and could be used across the whole instrument Q-range. Polarized neutrons and a supermirror analyser represent a novel option now available. The operation of the instrument without a cold source will also be discussed.

**Primary authors:** Dr PIPICH, Vitaliy (Jülich Centre for Neutron Science JCNS at Heinz Maier-Leibnitz Zentrum MLZ Forschungszentrum Jülich GmbH); Dr WU, Baohu (Jülich Centre for Neutron Science JCNS at Heinz Maier-Leibnitz Zentrum MLZ Forschungszentrum Jülich GmbH)

**Presenter:** Dr PIPICH, Vitaliy (Jülich Centre for Neutron Science JCNS at Heinz Maier-Leibnitz Zentrum MLZ Forschungszentrum Jülich GmbH)

**Session Classification:** Poster Session

**Track Classification:** Neutron Methods