



Contribution ID: 360

Type: Poster

SKADI - Small-Angle Neutrons Scattering at the ESS

Monday, 17 September 2018 17:45 (15 minutes)

The Small-K Advanced Diffractometer (SKADI) is a small-angle neutron scattering (SANS) instrument to be built at the European Spallation Source (ESS). It will enable scientists to perform experiments on questions requiring to investigate the microscopic structure of samples over a wide range of length scales and fast kinetic experiments.

SKADI's design targets scientific areas of smart materials, biological and pharmaceutical research, magnetic materials and materials for energy storage, as well as experiments on nanomaterials and nanocomposites of colloidal systems. The sample area ($3 \times 3 \text{ m}^2$) and sample environment will also increase the applicability of the research performed on SKADI by accommodating in-situ and real-world sample environments. Additionally, by the open design, custom sample environments can be incorporated easily. The generic mounting system will also allow off-instrument preparation of the sample environment, facilitating the change-over procedure between different experiments.

The additional features of SKADI are a wide dynamic Q-range ($10^{-4} \text{ \AA}^{-1} \leq Q \leq 1 \text{ \AA}^{-1}$) for single shot experiments, polarization, a tunable (time-of-flight based) wavelength resolution down to $\Delta\lambda/\lambda = 1\%$ combined with collimation settings for 20, 14 and 8 m and aperture sizes between 0 and 30 mm. The usable wavelength band for standard operation is 5 Å, a pulse-skipping mode allows for a 10 Å wavelength band. The available flux at sample position will be several times 10^8 neutrons/s cm^2 .

Primary authors: JAKSCH, Sebastian (Physicist); FRIELINGHAUS, Henrich (JCNS); Dr HANSLIK, Romuald (FZ Jülich); Dr JESTIN, Jacques (CEA/LLB); Mr DÉSSERT, Sylvain (CEA/LLB)

Presenter: JAKSCH, Sebastian (Physicist)

Session Classification: Poster session 1

Track Classification: P1 Instrumentation and methods