

Academia-Industry Matching Event
 Second Special Workshop on Neutron Detection with MPGDs</br>

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Neutron detectors for the NMX instrument at ESS

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The European Spallation Source (ESS) in Lund/Sweden is foreseen to be operational in 2019. It will become the world's most powerful thermal neutron source, with a significantly higher brightness than existing reactor sources. Currently 22 neutron scattering instruments are planned as the baseline suite for the facility, one of these instruments is the macromolecular crystallography instrument NMX. Whereas macromolecular crystallography instruments at reactor sources typically use neutron image plates with ca 200 um spatial resolution, spallation source instruments require time resolution that the image plates lack altogether. Scintillation based detectors on the other hand are currently limited to ca 1 mm spatial resolution. The solid neutron converter Gd in combination with Micro Pattern Gaseous Detectors (MPGDs) might be a promising option to achieve the spatial resolution of the neutron image plate combined with time resolution, high-rate capabilities and a good neutron detection efficiency. This talk presents the first results of measurements with MPGD based neutron detectors with Gd cathodes, and summarises the detector development strategy and schedule for the NMX instrument.

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