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EMU cold-neutron backscattering spectrometer at ACNS, ANSTO

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EMU is the high-resolution neutron spectrometer installed at the OPAL reactor, ANSTO, which delivers 1 μeV FWHM energy transfer resolution for an accessible $\pm 31 \mu\text{eV}$ energy transfer range. The spectral resolution is achieved by neutron backscattering from Si (111) crystals on the primary and secondary flight paths, allowing up to 1.95 $\text{\AA}^{-1}$ momentum transfer range. The spectrometer is well suited for quasi-elastic and inelastic neutron scattering studies, notably in the field of soft-condensed matter including biophysics and polymer science, chemistry and materials science, and geosciences.

Most experiments are carried out with standard cryo-furnaces (2 to 800 K temperature range). Spectrometer beam-time access is merit-based, thus welcoming experiments as well in other materials research areas, and including experiments that may require e.g., other ancillary equipment such as existing controlled-gas delivery, and potentially pressure, applied field set-ups, etc. We will present examples of the spectrometer capabilities through select case studies.

Presenter Gender

Non-Binary

Do you wish to take part in the Student Poster Slam

Condition of submission

Yes

Students Only - Are you interested in AINSE student funding

Level of Expertise

Experienced Researcher

Pronouns

Which facility did you use for your research

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