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Opportunities for QENS and neutron spectroscopy at ACNS

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The Australian Centre for Neutron Scattering presently operates two neutron inelastic spectrometers well suited to quasi-elastic neutron scattering (QENS) and low-energy neutron spectroscopy studies. In combination, the EMU and PELICAN cold-neutron spectrometers cover an energy transfer range spanning 0.001 to 14 meV. As far as QENS, the accessible time domain is thus from pico- to nano-seconds, with a momentum transfers ranging from 0.1 to beyond $2 \text{ \AA}^{-1}$.

The main features of the two instruments will be presented, including their available sample environments. EMU is a backscattering spectrometer, and PELICAN is a polarised time-of-flight spectrometer. Examples highlighting the capabilities of each spectrometer and their complementarity will be presented, with a focus on application areas such as soft-matter and bio-material relaxations, and aqueous/hydration dynamics.

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