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## **【731】 Characterisation of high-energy neutron fields at the Swiss spallation neutron source (SINQ) using a Bonner sphere spectrometer**

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At the BOA beamline at SINQ, neutron imaging and scattering experiments are conducted using cold polarised neutrons, which are obtained via moderation of spallation neutrons in a cold D<sub>2</sub> moderator. Nevertheless, fast scattered neutrons can penetrate the beamline shielding, resulting in undesired noise for experiments. The presence of fast neutrons in the BOA cave is demonstrated using an experimental technique based on a Bonner sphere spectrometer in combination with a shadow cylinder. Identifying the high-energy neutron flux at key locations while blocking out the beam allows for an estimation of the fast neutron background in the BOA cave and provides key information for future upgrades of the SINQ facility.

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