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WOMBAT – High Intensity powder diffractometer at OPAL

Wombat is a high intensity neutron diffractometer located in the OPAL Neutron Guide Hall. It is primarily used as a high-speed powder diffractometer, but has also expanded into texture characterisation and single-crystal measurement, particularly diffuse scattering. The high performance comes from the combination of the best area detector ever constructed for neutron diffraction with the largest beam guide yet put into any research reactor and a correspondingly large crystal monochromator, all combine to provide an instrument which is unique in its capabilities within the Southern hemisphere.

Wombat has been used to explore a broad range of materials, including: novel hydrogen-storage materials, negative-thermal-expansion materials, methane-ice clathrates, piezoelectrics, high performance battery anodes and cathodes, high strength alloys, multiferroics, superconductors and novel magnetic materials.

Topic

Neutron Instruments & Techniques

Primary author(s) : Dr STUDER, Andrew (ANSTO); Dr VANESSA, Peterson (ANSTO); Dr MAYNARD--CASELY, Helen (ANSTO); Dr HESTER, James (ANSTO); Dr WANG, Chin-wei (ANSTO)

Presenter(s) : Dr MAYNARD-CASELY, Helen (ANSTO)

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