MS44-2-2 Koala, Echidna and Wombat – the neutron crystallography instruments at the Australian Centre for Neutron Scattering
#MS44-2-2

H. Maynard-Casely [1], M. Avdeev [1], A.J. Edwards [1], J.R. Hester [1], V. Peterson [1], R.O. Piltz [1], A. Studer [1], C.W. Wang [1]
[1]ANSTO - Sydney (Australia)

Abstract
The Australian Centre for Neutron Scattering is a neutron scattering facility located 35 km south of Sydney, Australia – using neutrons from the OPAL reactor. OPAL has now run for over 15 years, with exceptional availability – allowing allocation of ~200 days of instrument time to user proposal each year. Within the suite of 15 neutron instruments we have three that are dedicated for crystallographic studies under a wide range of conditions; the single-crystal Laue instrument Koala [1] (soon to be Koala 2.0), the high-resolution powder diffraction instrument Echidna [2] and the high-intensity diffraction instrument Wombat [3]. The poster will detail the capabilities of each of the instrument, recent upgrades [4] as well as some recent scientific highlights.
Our instruments are available for merit-based proposals from all researchers, with the deadlines for proposals on the 15th of March and 15th September. Echidna also runs a mail-in program open for proposals continually. Do please contact one of the team if you would be interested in applying for time.

References
1. Edwards, A.J., Neutron diffraction - recent applications to chemical structure determination. 2011. Website: https://www.ansto.gov.au/our-facilities/australian-centre-for-neutron-scattering/neutron-scattering-instruments/koala-laue (accessed 27/04/2022)
2. Avdeev, M. and Hester J.R., ECHIDNA: a decade of high-resolution neutron powder diffraction at OPAL. Journal of Applied Crystallography, 2018. 51(6): p. 1597-1604. Website https://www.ansto.gov.au/our-facilities/australian-centre-for-neutron-scattering/neutron-scattering-instruments/echidna-high (accessed 27/04/2022)
3. Studer, A.J., Hagen M.E., and Noakes T.J., Wombat: The high-intensity powder diffractometer at the OPAL reactor. Physica B: Condensed Matter, 2006. 385–386, Part 2(0): p. 1013-1015. Website https://www.ansto.gov.au/our-facilities/australian-centre-for-neutron-scattering/neutron-scattering-instruments/wombat-high (accessed 27/04/2022)
4. Edwards, A.J. and Piltz. R.O. Finding the Goldilocks zone for chemical crystallography via Laue single-crystal neutron diffraction–what have we learned from KOALA to improve KOALA 2.0? Acta Crystallographica A – Foundation and advances, 2021.