Taipan – a versatile, thermal neutron scattering instrument for condensed matter and materials research.

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Located on the OPAL reactor face, Taipan is the highest flux, thermal neutron scattering instrument at ANSTO. Originally, Taipan was built as a traditional triple-axis spectrometer (TAS) for inelastic neutron scattering studies with energy transfers up to 70meV [1]. Since its inclusion in the ANSTO user program in 2010, Taipan has undergone a number of upgrades and improvements, including new shielding, new primary optics and the installation of a Cu-monochromator extending energy transfers up to 200meV [2]. An additional secondary spectrometer, the Be-filter analyser, was also developed and integrated in 2015, offering a new way to measure excitations and vibrations in polycrystalline materials [3,4].

This poster will present some recent highlights at Taipan – both as a TAS, and a Be-filter analyser spectrometer.

- [1] S.A. Danilkin, M. Yethiraj, T. Saerbeck, F. Klose, C. Ulrich, J. Fujioka, S. Miyasaka, Y. Tokura and B. Keimer, *J. Phys.: Conf. Ser.*, **340**, 012003 (2012).
- [2] K.C. Rule, F. Darmann, T. Oste, D. Bartlett, F. Franceschini, A. Berry, A. McGregor, A. Ogrin, T. Ersez, A. Kafes, S. Pangelis, S. Danilkin, A.P.J. Stampfl, S.R Olsen, *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 901, 140-149 (2018)
- [3] A.P.J. Stampfl, A. Eltobaji, F. Darmann, and K.C. Rule, *Neutron News* **27**(2), 27-29 (2016)
- [4] G.N. Iles, K.C. Rule, V.K. Peterson, A.P.J. Stampfl, M.M. Elcombe, Rev. Sci. Instrum. 92, 073304 (2021)