

Progress with Hot Commissioning and First User Experiments on the SPATZ Neutron Reflectometer

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The SPATZ neutron reflectometer was originally the V18 BioRef reflectometer at the BER-II Research Reactor (Berlin, Germany) [1, 2], and was transferred from HZB to ANSTO ownership during October 2016 to February 2017. The reflectometer was re-installed at ANSTO's 20 MW OPAL Research Reactor in the Neutron Guide Hall on the end position of the newly installed CG2B cold-neutron guide. The hot commissioning licence was issued in October 2018 with first neutrons in November 2018. Radiation surveys and shielding improvements were completed in May 2019. Since this time, hot commissioning has continued and has involved evaluating the performance of the instrument. SPATZ is a time-of-flight instrument, and the ability to translate chopper 2 makes the instrument highly configurable with the ability to select a time resolution from 1 to 12 %. A number of different sample environments have been tested including: solid-liquid cells with a HPLC pump for solvent contrast exchange, circulating water baths for temperature control, and the infrared spectrometer for simultaneous neutron reflectometry and ATR-FT-IR spectroscopy. The operating license was issued in December 2019, and first experiments are scheduled for the last quarter of 2020. SPATZ is now available for user proposals in the ACNS portal [3]. This presentation will highlight the instrument performance and achievements during hot commissioning and give an overview of the user program to date and first data collected.

[1] M. Strobl et al., Rev. Sci. Instrum. 82, 055101 (2011)

[2] M. Trapp et al., Rev. Sci. Instrum. 87, 105112 (2016)

[3] <https://neutron.ansto.gov.au/>

Level of Expertise

Experienced Research

Speakers Gender

Male

Do you wish to take part in the poster slam

No

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