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KOALA 2: making a good instrument better!

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At the time that the KOALA Laue single-crystal neutron diffractometer came into service at ANSTO, a review of VIVALDI, the progenitor instrument at the ILL led to its deletion from their User program. Against this background, we were seeing a dearth of single-crystal neutron studies published in the literature. To our joy, in usage, we found the instrument to be readily applicable to the problems which our future users had identified in the planning workshops for the first suite of neutron beam instruments at ANSTO. A User base has been built which has resulted in a steady flow of rapidly cited publications across a wide range of journals - focussed on reaching the optimum scientific audience.

KOALA is a copy of the ILL instrument VIVALDI purchased from the same vendor, and outside the standardisation of construction which has underpinned the reliability of the ANSTO neutron beam instrument suite. At ten years use, spare parts became a significant issue, and a review of the control systems revealed that the cost of refitting the existing instrument approached the cost of building a replacement instrument. The decision to build KOALA2 has provided opportunities to optimise the initial design with significant operational enhancements. COVID has meant that we were initially on track to achieve the instrument implementation in mid 2022 (component issues now mean this will be late 2022), and we will continue to operate KOALA 1 until KOALA 2 is ready to install.

As time permits we will outline the range of science available and the enhancements KOALA 2.0 will bring.

Presenter Gender

Woman

Do you wish to take part in the Student Poster Slam

Condition of submission

Yes

Students Only - Are you interested in AINSE student funding

Level of Expertise

Expert

Pronouns

Which facility did you use for your research

Australian Centre for Neutron Scattering

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