

Recent highlights and future opportunities for neutron single crystal diffraction at ISIS

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In recent years, neutron Laue diffraction has undergone a quiet but substantial revolution mainly due to instrument developments, notably LADI, VIVALDI and the upgraded D19 at ILL (Grenoble) as well as at ISIS (Oxfordshire) with the upgraded SXD, with further instrumentation planned at both sources. New opportunities will also open at major new facilities in the US and Japan.

Here, the developments and achievements of the recently upgraded SXD at ISIS will be reviewed. The power of the wavelength-sorted time-of-flight Laue technique coupled with large detector arrays will be demonstrated in a number of areas including chemical crystallography, parametric studies, magnetism, high-pressure single-crystal diffraction, the ability to study small samples and multiple single crystals, diffuse scattering etc.

A brief outlook will be given towards future opportunities on the second target station currently under construction at ISIS.