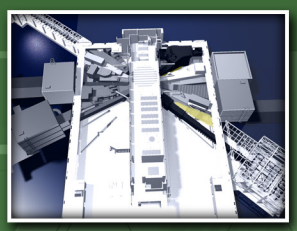
Spallation Neutron Source

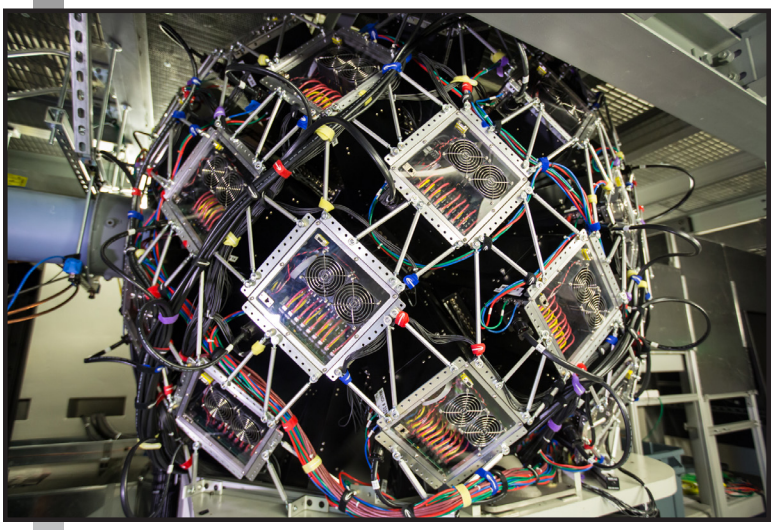
Instrument

Beam Line **11B**



MaNDi – Macromolecular Neutron Diffractometer

MaNDi is a single-crystal diffractometer optimized for high signal-to-noise data collection by exploiting wavelength-resolved Laue diffraction coupled with a 30 m flight path. The wavelength bandwidth is $\Delta\lambda$=2.15 or 4.3 Å, which can be selected anywhere between 1 and 10 Å. The divergence of the neutron beam can be selected between 0.12 and 0.80° FWHM at the sample position.



Anger cameras surround the sample, enabling rapid data collection.

Data can be collected on samples of 0.1 mm^3 or larger with unit cells in the range of 15–300 Å on edge. An experimental temperature range of 80–400 K is provided by an in-built Oxford diffraction cryostream.

Specifications

Source-to-sample distance	30 m
Sample-to-detector distance	39–45 cm
Angular detector coverage	4.1 sr (40 detectors)
Detector angles	20–160°
Wavelength bandwidth	$\Delta\lambda$ = 2.16/4.30 Å
Sample size	>0.1 mm^3
Divergence	0.12 to 0.80°

Status: Available to users

Applications

A range of very different crystalline materials from small compounds to large protein molecules can currently be studied on MaNDi.

- Membrane proteins
- Protein drug complexes
- Enzymes

For more information, contact

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