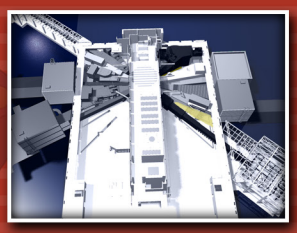
Instrument Fact Sheet

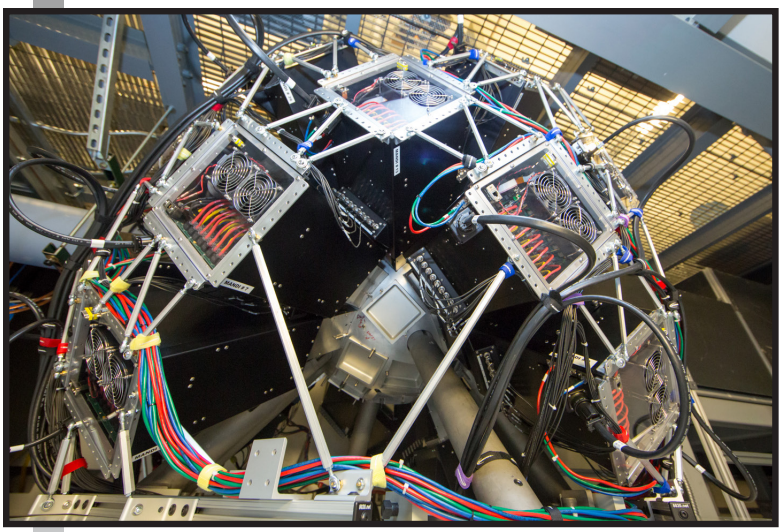
BEAM LINE 11B

Spallation Neutron Source



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 30m flight path. The wavelength bandwidth is $\Delta\lambda$=2.15 or 4.3 Å which can be selected anywhere between 1–10Å. The divergence of the neutron beam can be selected between 0.12 to 0.80° FWHM at the sample position.

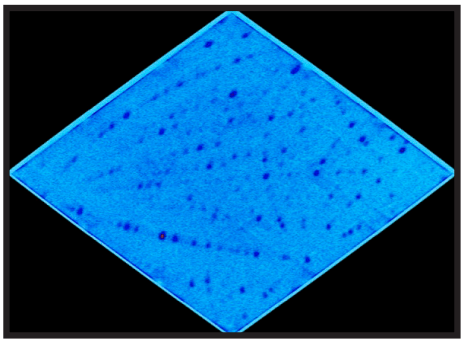


Twenty Anger Cameras surround the sample enabling rapid data collection.

Data can be collected on samples of 0.1 mm^3 or larger with unit cells in the range of 15-250 Å on edge. An experimental temperature range of 80 to 400K is provided by an in built Oxford diffraction cryostream.

Applications

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



First Diffraction from a perdeuterated protein crystal on MaNDi.

Specifications

Source-to-sample distance	30 m
Sample-to-detector distance	39–45 cm
Angular detector coverage	2.1 sr (20 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

For more information, contact

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