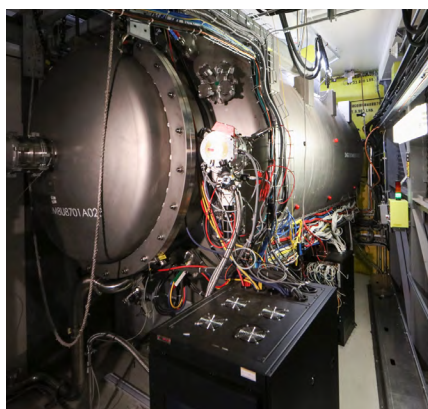
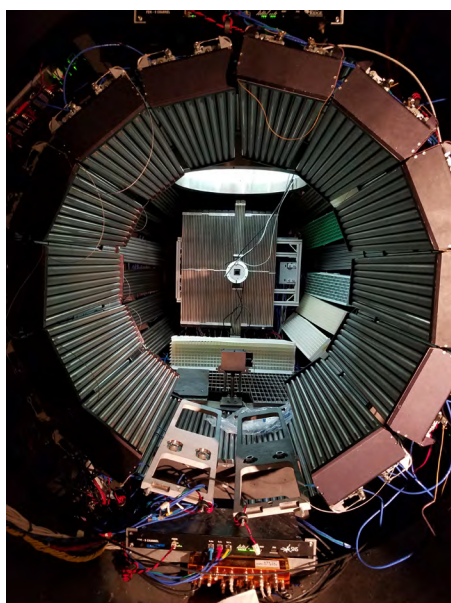


NOMAD

Nanoscale-Ordered Materials Diffractometer

NOMAD is a high-flux, medium-resolution diffractometer that uses a large bandwidth of neutron energies and extensive detector coverage to carry out structural determinations of local order in crystalline and amorphous materials. The instrument enables studies of a large variety of samples, ranging from liquids and solutions, glasses, and nanocrystalline materials to long-range-ordered crystals. The enhanced neutron flux at SNS, coupled with NOMAD's advanced neutron optics and detector features, allows for unprecedented access to high-resolution pair distribution functions, small-contrast isotope substitution experiments, small sample sizes, and parametric studies.



SPECIFICATIONS

Moderator	Decoupled poisoned supercritical hydrogen
Moderator-to-sample distance	19.5 m
Sample-to-detector distance	0.5–3 m
Wavelength range	0.1–3 Å
Detector angular range	3–175° scattering angle
Initial coverage	4.0 sr
Full detector complement	8.2 sr
Flux on sample	$\sim 1 \times 10^8$ neutrons $\text{cm}^{-2} \text{sec}^{-1}$

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APPLICATIONS

- Materials with short-range ordering
- In situ/operando studies of materials synthesis and structure changes of functioning materials under in situ conditions
- Transient structures of materials under extreme conditions (e.g., at high temperature or high pressure, under the influence of transient fields, or in metastable states)

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