The EQ-SANS Diffractometer is designed for the study of materials across length scales ranging from 0.1 to 100 nm. The high intensity provided by the EQ-SANS enables both high-throughput experiments and time-resolved experiments facilitated by the pulsed source of SNS. EQ-SANS enables measurements over a wide Q-range at a single instrument configuration, providing improved throughput. The high maximum Q of the instrument allows both large-scale and local structure to be studied by the instrument. The versatility of SANS makes EQ-SANS broadly applicable to a wide range of materials from science and industry.

**Applications**

**Life science**
- Solution structures of proteins, DNA, and other biological molecules and molecular complexes
- Protein-protein and protein-ligand interactions, kinase regulation
- Protein-membrane interaction
- Materials for drug delivery

**Polymer and colloidal systems**
- Block copolymers and dendrimers
- Micelles and emulsions
- Polyelectrolytes and ion distribution at solid-liquid interfaces

**Materials science**
- Simultaneous study of domain and crystalline structures
- Crystallization and precipitation
- Nanoparticles

**Earth and environmental sciences**
- Pore structure in soils
- Structure of geologic materials

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**Specifications**

<table>
<thead>
<tr>
<th>Source-to-sample distance</th>
<th>14 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth</td>
<td>3–4.3 Å</td>
</tr>
<tr>
<td>Moderator</td>
<td>Coupled supercritical hydrogen</td>
</tr>
<tr>
<td>Integrated flux on sample</td>
<td>Up to ( \sim 10^7 ) n/cm²/s</td>
</tr>
<tr>
<td>Q range</td>
<td>( 0.002 \ \text{Å}^{-1} &lt; Q &lt; 5 \ \text{Å}^{-1} )</td>
</tr>
</tbody>
</table>

**Low-Angle Detector**

| Sample-to-detector distance | 1.3–9 m |
| Detector size              | 1 x 1 m |
| Detector resolution        | 5.5 x 4.3 mm |

Status: Available to users