Beamline 13-BM-D: Sector 13 - Bending Magnet
Beamline End Station
GSECARS
GeoScience, Environmental Science

Description
Beamline 13 BMD is a bending magnet beamline specialized for earth and environmental science research.

Supported Techniques
- Tomography
- High-pressure diamond anvil cell
- High-pressure multi-anvil press
- X-ray absorption fine structure

Beamline Controls and Data Acquisition
Windows and Linux workstations running EPICS with VME, SPEC, IDL, marCCD, mar345, Princeton Instruments WinView and WinSpec.

Detectors
- Canberra 16-element Ge detectors (2)
- MAR-165 CCD and MAR-345 online image plate (2 each)
- Dectris Pilatus 100K pixel array detector (2)
- Vortex single-element and 4-element detectors (2)
- Princeton Instruments visible light CCD cameras (6)
- Canberra single element Ge and Si(Li) detectors (3)

Additional Equipment
- 250-ton multi-anvil press with DIA, deformation DIA, rotational Drickamer, T-cup tooling (13-BM-D)
- Diamond anvil cell with on-line Brillouin spectroscopy
- Laser Raman system in support laboratory

Local Contacts

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK L. RIVERS (Tomography)</td>
<td>630.252.0422</td>
<td><a href="mailto:rivers@cars.uchicago.edu">rivers@cars.uchicago.edu</a></td>
</tr>
<tr>
<td>MATTHEW G. NEWVILLE (XAFS)</td>
<td>630.252.0431</td>
<td><a href="mailto:newville@cars.uchicago.edu">newville@cars.uchicago.edu</a></td>
</tr>
<tr>
<td>ANTONIO LANZIROTTI (XAFS)</td>
<td>630.252.0431</td>
<td><a href="mailto:lanzirotti@uchicago.edu">lanzirotti@uchicago.edu</a></td>
</tr>
<tr>
<td>VITALI B. PRAKAPENKA (Diamond Anvil Cell)</td>
<td>630.252.0439</td>
<td><a href="mailto:prakapenka@cars.uchicago.edu">prakapenka@cars.uchicago.edu</a></td>
</tr>
<tr>
<td>YANBIN WANG (Multi-anvil Press)</td>
<td>630.252.0425</td>
<td><a href="mailto:wang@cars.uchicago.edu">wang@cars.uchicago.edu</a></td>
</tr>
</tbody>
</table>

Beamline Specs

<table>
<thead>
<tr>
<th>Source</th>
<th>Monochromator Type</th>
<th>Energy Range</th>
<th>Resolution (ΔE/E)</th>
<th>Flux (photons/sec)</th>
<th>Beam Size (HxV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending Magnet</td>
<td>Si(111)</td>
<td>4.5-70 keV</td>
<td>1 x 10^-4</td>
<td>1 x 10^9 @10 keV</td>
<td>10µm x 30µm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50mm x 4mm</td>
</tr>
<tr>
<td>DCM Si(311)</td>
<td></td>
<td>6-28 keV</td>
<td>1.1 x 10^-4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For additional information see:
http://www.gsecars.org/bm_beamline_info.htm

Current Status:
Operational/Accepting General Users

Access Mode:
On-site