BL16B2 Industrial Consortium BM

This beamline, together with its sister beamline BL16XU, is designed by an industrial consortium of 13 companies to characterize various materials developed for industrial purpose.
The main experiments on this beamline are XAFS and X-ray topography, and in some cases X-ray diffraction and X-ray fluorescent analysis. The energy range from the titanium K-edge to the thulium K-edge is covered.

Area of research

Characterization of industrial materials, such as metal and oxide films, semiconductor crystals, etc., by XAFS, topography and other methods

Keywords

Scientific field

XAFS, Topography, X-ray reflectivity, X-ray fluorescent analysis

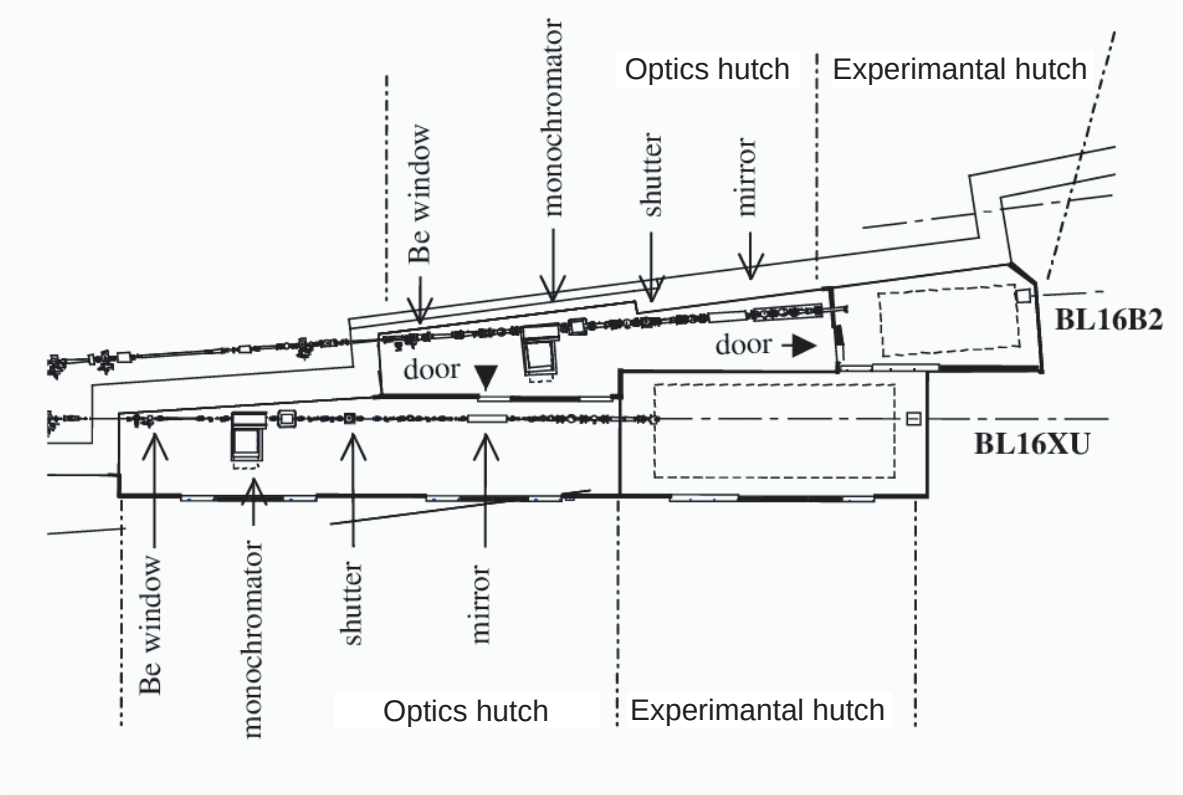
Equipment

Precision goniometers, Mirror, Slits, Cryostat, Solid state detector, Scintillation detector, Ionization chambers, Lytle type detector, Conversion electron yield detector, Imaging plate, NIM system

Source and optics

X-rays at sample

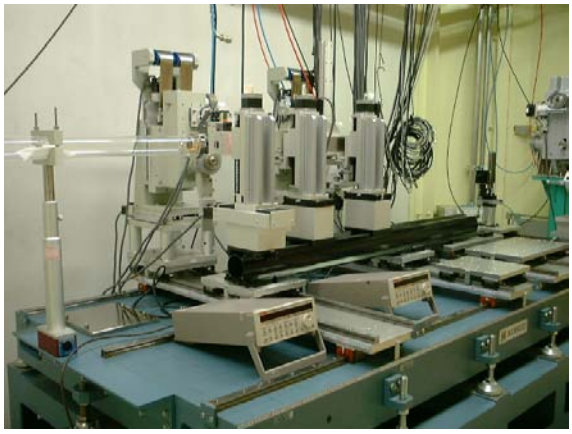
Energy range	4.5 ~ 113 keV
Energy resolution	$\Delta E/E \sim 10^{-4}$
Photon flux	$\sim 10^{10}$ ph/s
Beam size	~ 0.1 mm (V) × 0.1 mm (H) with mirror
	~ 2 mm (V) × 40 mm (H) without mirror



Schematic view of beamline

Experimental stations

- Experimental table
- Precision goniometer
- Two-axis (ω1, ω2) precision goniometer
- Two-axis (ω-2θ) goniometer
- Mirror
- 4-jaw slits
- Vacuum pump
- Cryostat
- Solid state detector, Scintillation detector, Ionization chambers, Lytle type detector, conversion electron yield detector
- Imaging plate
- Stage for XAFS experiment
- NIM bin, Power supply, Counters, MCA, Current AMPs
- Oscilloscope
- Gas(H_2, N_2, Ar, Ar+N_2, Kr)



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