

Extremely Dense State

Beamline: **BL10XU**

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Subgroups: Structural Properties of Extremely Dense Materials
High Brilliance XAFS

Source Characteristics: In-vacuum-type undulator
 $\lambda_u=3.2\text{cm}$, $N=140$
Tunable range: $>5\text{keV}$
Peak brilliance: $2 \times 10^{19}\text{ph/s/mrad}^2/\text{mm}^2/0.1\% \text{ b.w.}(I=100\text{mA})$
Total power : 5kW
Power density: 300kW/mrad²

Optics:

Distance from source	Optical element	Function
36m	rotated-inclined double crystal monochromator	monochromatization of 5-60keV X-rays
43m	double-flat mirror system (fixed exit double mirrors)	cut off energy: 10-20keV
56m	Bragg Fresnel lens	

X-rays at sample: Energy range: 20 ~ 60keV (Extremely Dense Materials)
5 ~ 25keV (High Brilliance XAFS)
Beam size: 2 ~ 3 μm^2

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