

# Bio-Crystallography

Beamline : **BL41XU**

Person in charge: Nobuo Kamiya  
Tel: 07915-8-1841  
Fax: 07915-8-0830  
e-mail : nkamiya@postman.riken.go.jp

Subgroups: Macromolecular crystallography,  
X-ray structural biology

Scientific Applications: Bio-crystallography

Source Characteristics: In-vacuum-type undulator  
 $\lambda_u=3.2\text{cm}$ ,  $N=140$   
Tunable range: >9keV  
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/mrad<sup>2</sup>

## Optics:

Distance from source	Optical element	Function
35.9m	rotated-inclined double crystal monochromator	monochromatization, elimination of heat load
39.5m	vertical focusing mirror	3:1 demagnification
44m	horizontal focusing mirror	5:1 demagnification

X-rays at sample: Energy range: 9~38keV  
Energy resolution:  $\Delta E/E = 2 \times 10^{-4} (< 10^{-3} \text{ over } 20\text{keV})$   
Photon flux:  $10^{14} \text{ ph/s}$   
Beam divergence: 100 $\mu\text{rad}$   
Beam size: 100 $\mu\text{m}$

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