

# Beamline 8-BM / IMMW-CAT

**Scientific focus:** Macromolecular crystallography

**Scientific programs:** Large-unit-cell, high-resolution, and MAD macromolecular crystallography

## Optics & Optical Performance

- 6.5–14.7 keV energy range
- focused beam size 500  $\mu\text{m}$  hor. x 300  $\mu\text{m}$  vert.
- vertically deflecting collimator mirror  
meridional cylinder  
Rh surface
- Oxford double-crystal monochromator  
sagittally focused  
Si(111) cut crystals
- Oxford-Seso vertical focusing mirror

## Experiment Stations

### 8-BM-A

- white beam first optics enclosure

### 8-BM-B

- monochromatic beam station
- macromolecular crystallography

## Detectors

- ADC Q315
- 6k x 6k (nine cell) CCD

## Beamline Controls and Data Acquisition

- beamline controls: Console (Windows based)
- Blue Ice

## Beamline Support Equipment/Facilities

- goniometer detector support: Larry Rock A-frame
- Huber 515 kappa goniometer
- Oxford cryojet cryosystem

## Bending Magnet Source Characteristics (nominal)

source	APS bending magnet
critical energy	19.51 keV
on-axis peak brilliance at 16.3 keV	$2.9 \times 10^{15}$ ph/sec/mrad $^2$ /mm $^2$ /0.1%bw
on-axis peak angular flux at 16.3 keV	$9.6 \times 10^{13}$ ph/sec/mrad $^2$ /0.1%bw
on-axis peak horizontal angular flux at 5.6 keV	$1.6 \times 10^{13}$ ph/sec/mradh/0.1%bw
source size at critical energy $\sum_x$ $\sum_y$	145 $\mu\text{m}$ 36 $\mu\text{m}$
source divergence at critical energy $\sum_x'$ $\sum_y'$	6 mrad 47 $\mu\text{rad}$