

SBRC beamlines in the Photon Factory

updated on

2021/4/23

Beamline	BL-1A	BL-5A	BL-17A	AR-NW12A	AR-NE3A
Starting year	2010	2004	2006	2003	2009
Status	Operational	Operational	Operational	Operational	Operational
Synchrotron Ring	PF 2.5GeV (450mA@Multi-Bunch, Hybrid-Bunch)			PF-AR 6.5GeV/5.0GeV (50mA@Single-Bunch)	
Injection	top-up			top-up	
Light Source	Short-gap undulator	Multipole wiggler	Short-gap undulator	Undulator	Undulator
Wavelength available (Å)	0.96 - 1.07 1.9, 2.7 - 3.25	0.75 - 1.9	0.9 - 2.1	0.75 - 1.9	0.75 - 1.9
Energy resolution ($\Delta E/E$)	-	2.5×10^{-4}	2.5×10^{-4}	2.5×10^{-4}	2.5×10^{-4}
Typical beam size (H x V) (mm)	0.013 x 0.013	0.20 x 0.20	0.040 x 0.016	0.20 x 0.13	ϕ 0.10
Photon flux (photons/sec)	0.4×10^{11} (@ 1.07 Å)	1.5×10^{11} (@ 1.0 Å)	1.5×10^{11} (@ 0.98 Å)	1.3×10^{11} (@ 1.0 Å)	2.5×10^{11} (@ 1.0 Å)
Detector	EIGER X 4M (x2)	PILATUS3 S6M	EIGER X 16M	PILATUS3 S2M	PILATUS 2M-F
Type	PAD	PAD	PAD	PAD	PAD
Active area (mm ²)	155.2 x 162.5	423.6 x 434.6	311.2 x 327.8	253.7 x 288.8	253.7 x 288.8
Pixel size (μm^2)	75 x 75	172 x 172	75 x 75	172 x 172	172 x 172
Pixel number	2070 x 2167	2463 x 2527	4150 x 4371	1475 x 1679	1475 x 1679
Frame data size (MByte)	2	6.2	8	2.5	2.5
Readout time (msec.)	0.003	2.04	0.003	2.04	2.3
Max. frame rate (Hz)	750	25	133	25	60
Detector distance (mm)	60 - 400	90 - 950	65 - 650	75 - 950	60 - 500
Detector vertical offset (mm)	-	0 -150	-	0 - 150	0 - 150
Sample changer	PAM-HC	PAM			
Software for image processing	XDS, iMosflm, DIALS				