

Beam Focusing at BL35

June, 2008 (Rev. Sep., 2017)

Bent Cylindrical Mirror (usual operating conditions)

Beam Size: ~100 μm x 90 μm FWHM (typical)
~50 μm x 80 μm VxH FWHM* (optimized – tell us if needed)
(*This beam size is available only for 21.747 keV incident beam)

Incident Divergence: ~0.15 mrad x 0.35 mrad VxH FWHM
(9 mdeg x 20 mdeg)

Incident Angle: about 3.7 mrad, upward

KB Mirrors (special setup, ~50% throughput, 1 Day Setup Time)

Beam Size: ~20 μm x 20 μm FWHM (typical) – approximately Lorentzian.

Incident Divergence: ~0.4 mrad x 2 mrad VxH Full Width

Incident Angle: about 1.3 mrad, downward

Note:

The KB setup severely limits the range of angular motion of the sample.

Omega will move only to positive values, the chi-range can also be reduced

The setup time is about 1 day. Include this in your requested proposal time.

The KB setup will reduce the flux at the sample by about a factor of 2.

Do note that the increased beam divergence can affect your momentum resolution.

Only vertical or only horizontal focusing is possible. The losses of the setup are primarily from the horizontal focusing.

A deflection mirror is available to vary the angle of the incident beam relative to horizontal.