

DUCC Spectrometer

number of rays: $1\text{e}+06 + 1\text{e}+05$
time: 254 min., 72 r/s

Geometry

d_{SC} : 174.32 mm

d_{CD} : 174.32 mm

θ_{Bragg} : 47.51°

magnification: 1.00

crystal size: 40 X 30 mm

Energy range

central E: 1580 eV

E range max.: 79 eV

i.e. reflecting rays in range: 1541 - 1620 eV

E range fwhm: 75 eV

E range on detector: 77 eV

dispersion: $E[\text{eV}] = 0.01402d^2 + 2.79d + 1582$

Energy resolution

vertical spread from rms: 1.516 mm

- energy resolution: 4.224 eV

vertical spread from fwhm: 0.791 mm

- energy resolution: 2.204 eV

vert. spr. narrow (fwhm) : 0.341 mm

- energy resolution: 0.952 eV

dispersion per px: 0.0 eV/px

Source size broadening

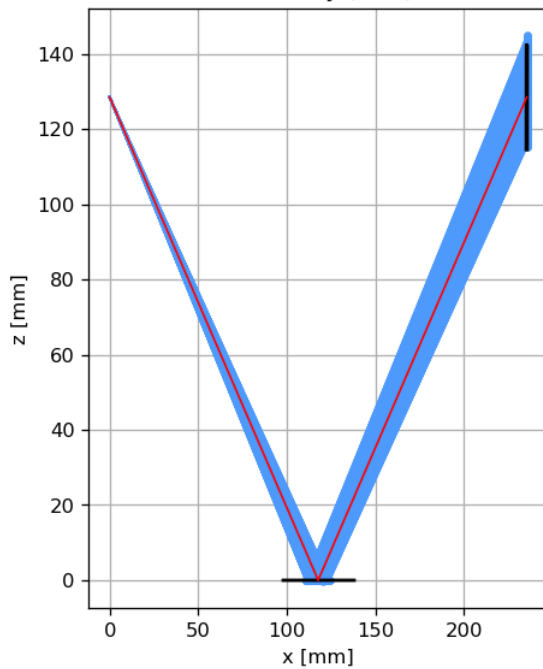
magnification in spectral direction: 1.48

source size broadening: 4.14 eV/mm

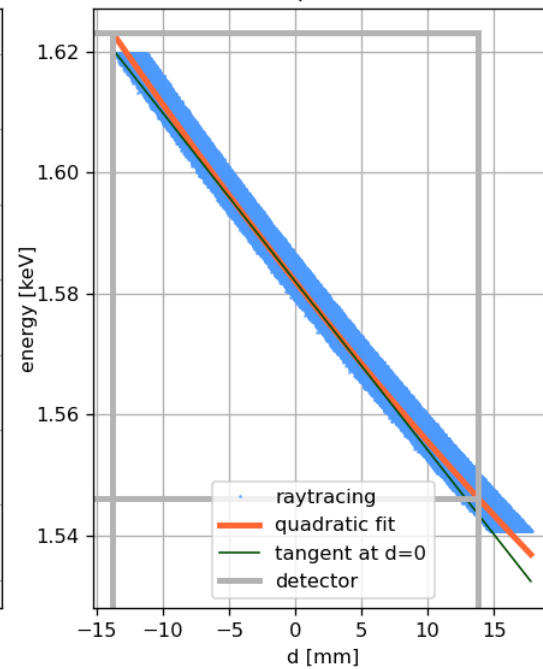
efficiency: $3.15\text{e-}08 = 3.96\text{e-}07$ sr

rays reflected: $3.03\text{e-}01$ %

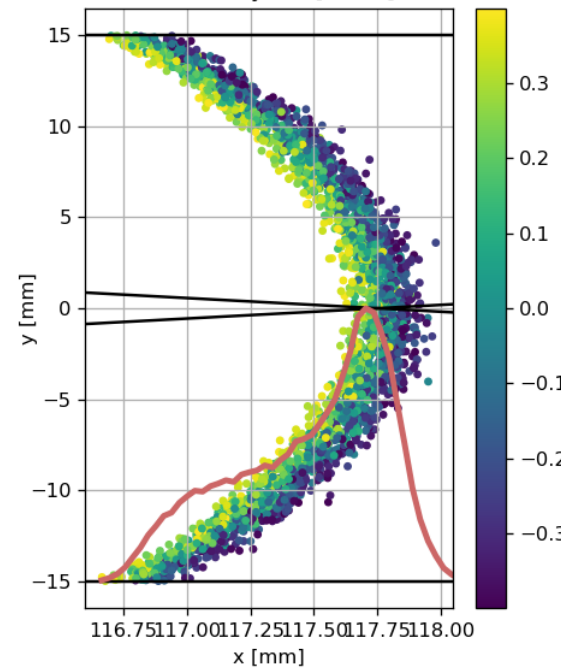
Geomtery (side)



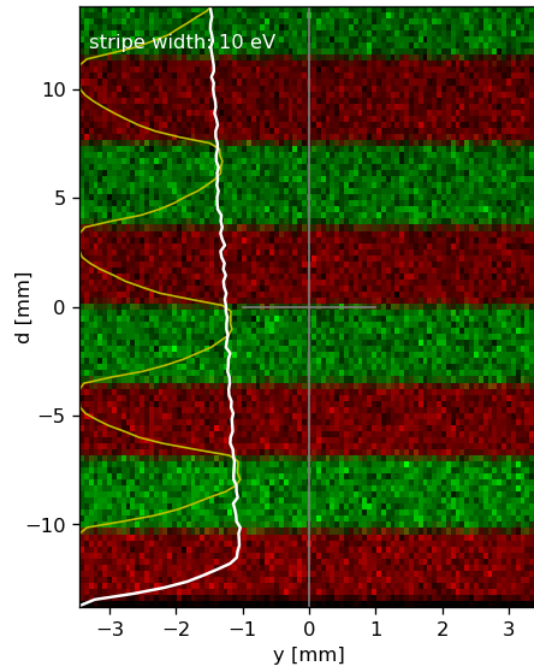
Dispersion



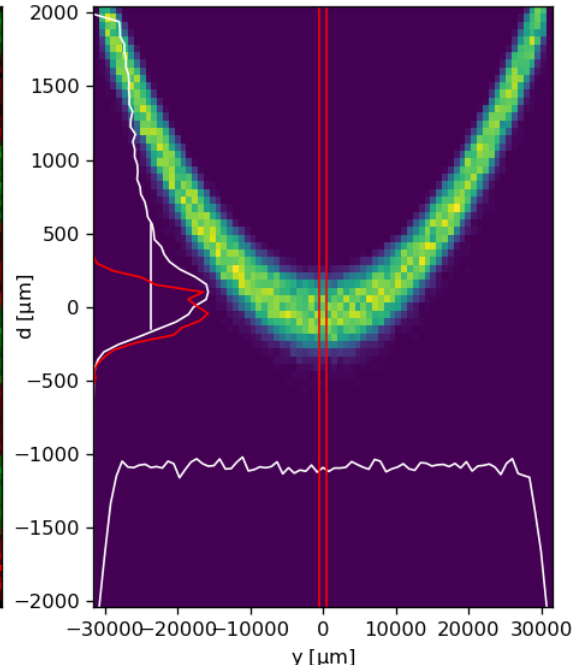
AOI on crystal [mrad]



Detector image



Point spread function



3D view

