Introduction to SSRL diffractometers and scattering geometries

Chad Miller SRXAS 2014
WAXS on BL11-3 and BL1-5 (area detectors)
SAXS on BL1-5 (area detector)

- Small angle scattering
- Transmission and Grazing incidence small angle scattering

2D detector for GISAXS

2D detector for GIWAXS

Sample

$\alpha$

$L_{SAXS}$ 1 – 4 m

$0.1 – 0.4$ m

$L_{WAXS}$
BL 2-1 (point detector)

- Two Circle (1 sample + 1 detector)
- Techniques:
  - Reflectivity
  - Specular Diffraction
  - Powder Diffraction
BL 2-1
BL 10-2
(point + area detector)

• Four Circle (3 sample + 1 detector)
• techniques:
  • same as 2 circle
  • grazing incidence diffraction (in plane)
  • single crystal diffraction

\( \theta \) (th)
\( \chi \) (chi)
\( \phi \) (phi)
\( 2 \theta \) (tth)
BL 7-2
(point + area detector)

- Six Circle (4 sample + 2 detector)
- techniques:
  - same as 4 circle
  - (but with more options)

- (eta)
- \( \chi \) (chi)
- \( \phi \) (phi)
- (mu)
- delta
- nu