

## X-ray small- and wide angle diffusion bank SAXSPoint 5 (Anton Paar)

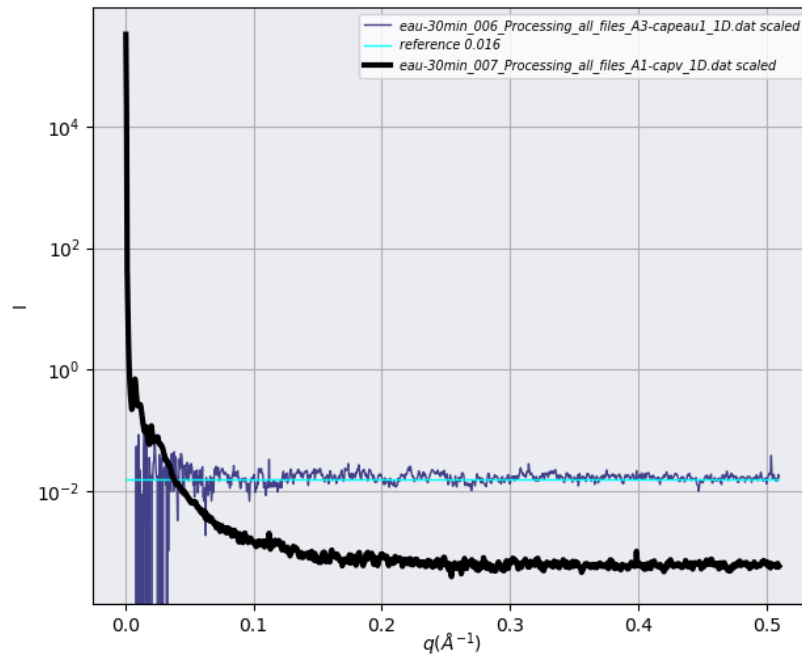


### Small and wide-angle X-ray scattering

- SAXS, GISAXS, Reflectivity, WAXS and modes
- Size, shape, density determination of heterogeneities in solid bulk materials or liquids in the range 1-2500 nm
- Specific surface area determination
- Membranes, xerogels, powders, biological solutions
- Thin films: thickness, roughness, density
- Wide angle Bragg diffraction

# SAXS mode

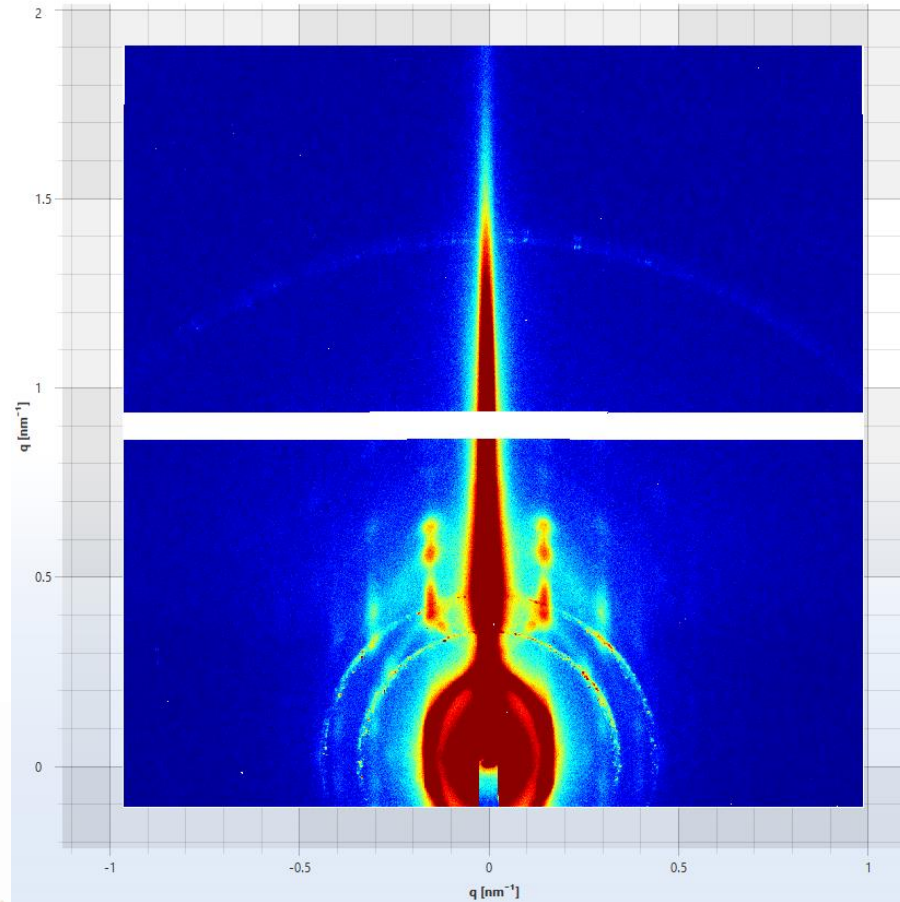
- Sample to detector distance from 51 to 1608 mm
- 1608 mm:  $q_{\min} = 0.003 \text{ \AA}^{-1}$ ;  $q_{\max} = 0.2 \text{ \AA}^{-1}$
- 600 mm:  $q_{\min} = 0.009 \text{ \AA}^{-1}$ ;  $q_{\max} = 0.5 \text{ \AA}^{-1}$



Diffusion of water in absolute units



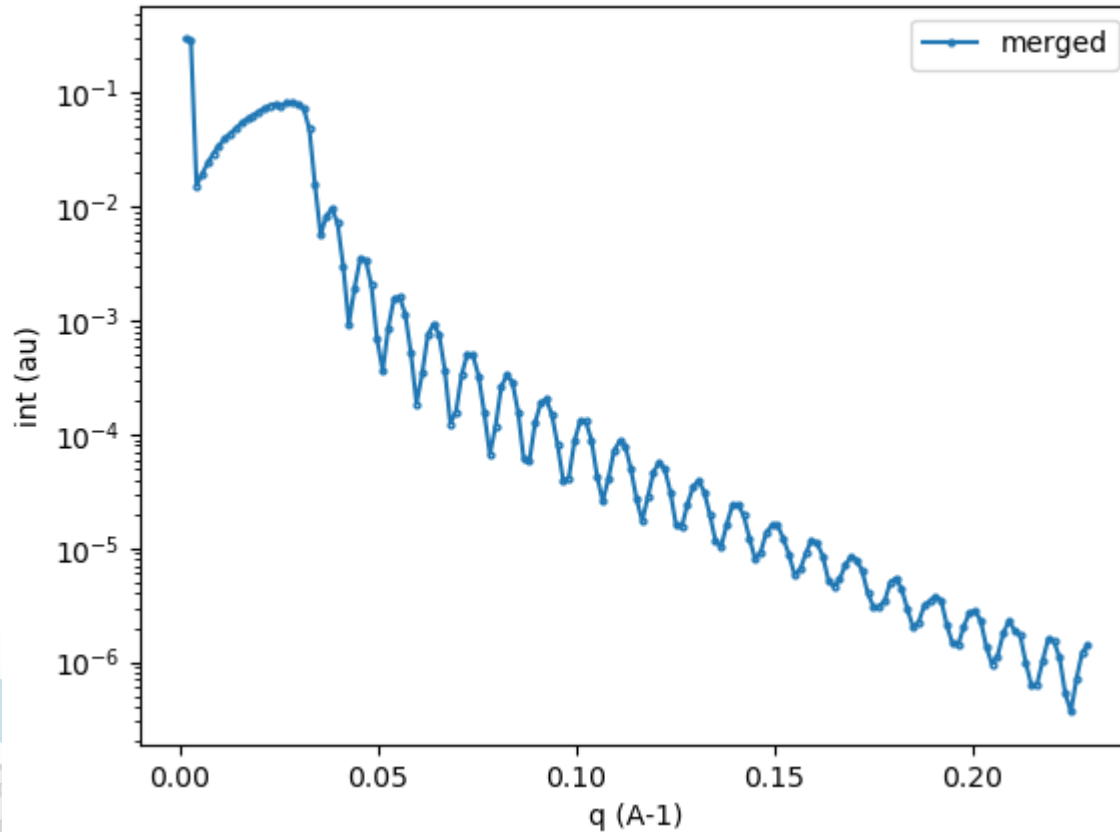
# GISAXS mode



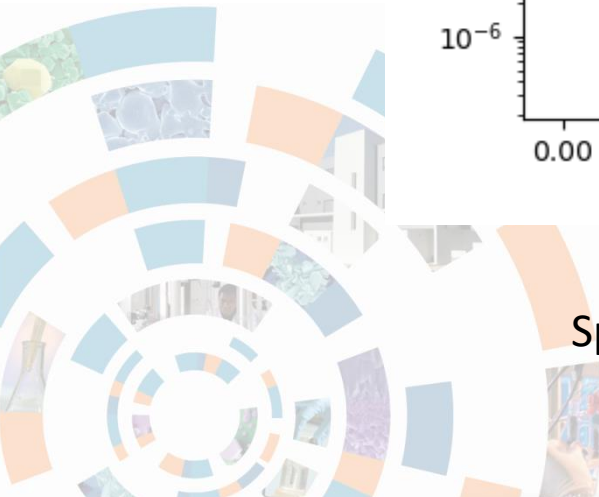
Scattering of double-gyroid triblock polymer films



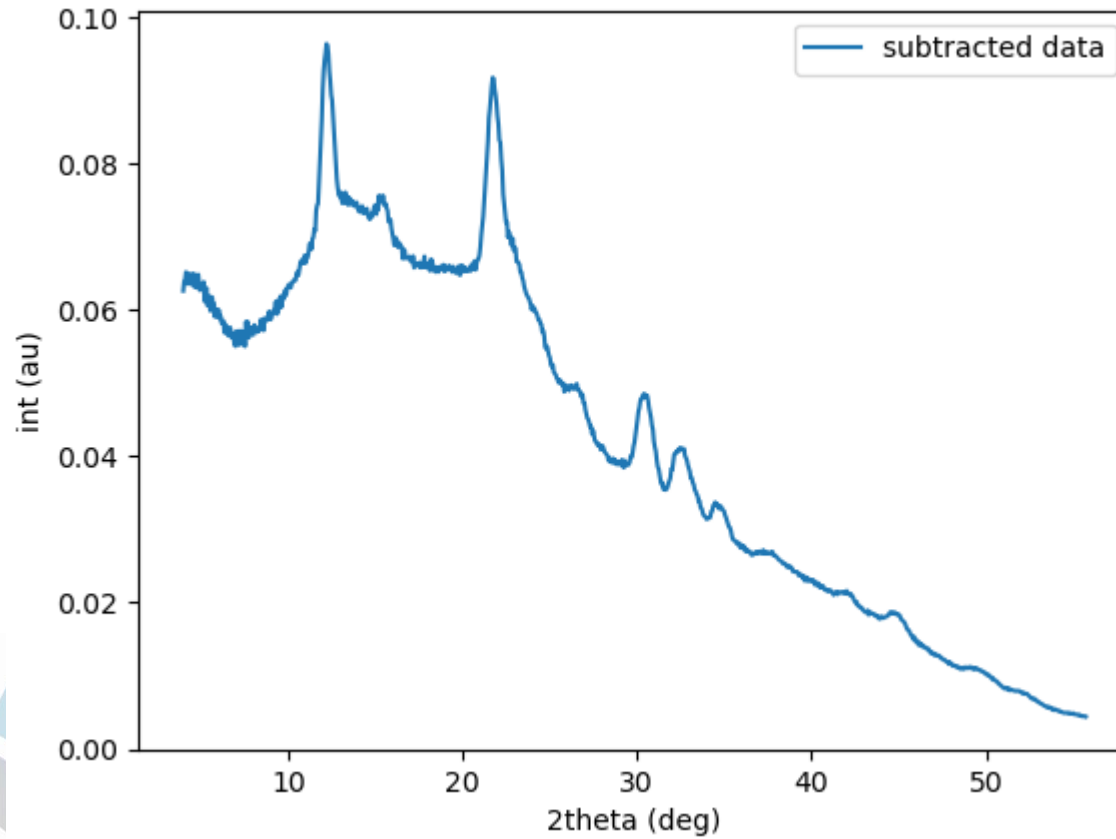
# Reflectivity mode



Specular reflectivity signal of thin C<sub>x</sub>N<sub>y</sub>:H film



# WAXS mode



WAXS signal of weakly scattering polymeric system – background subtracted