

Length and time scales in Neutron Scattering

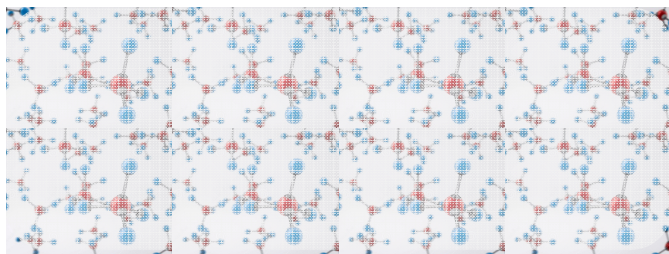
In neutron **spectroscopy** we talk about spatially probing a simple molecular system over



“Large” length scales = “small” Q when $0.01 < Q < 0.1 \text{ \AA}^{-1}$, roughly

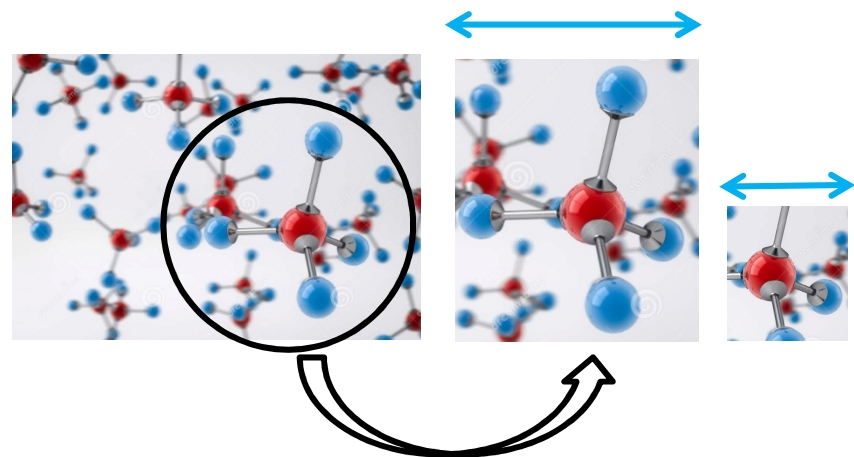
“Small” length scales = “high” Q when $60 < Q < 120 \text{ \AA}^{-1}$, roughly (DINS case)

“small” Q = “long” wavelength probing



“Distant view” of the system

“high” Q = “shorter and shorter” wavelength probing



“Closer view” of the system: a zoom inside the material