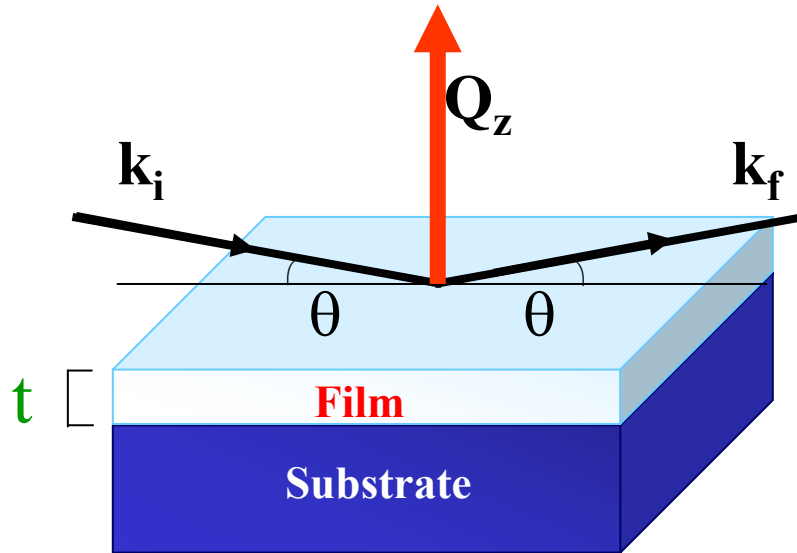


Measurement of Specular Reflectivity



In specular reflectivity measurements, neutrons impinge upon the sample surface at an angle θ_i and are scattered at an angle θ_f . The incident and exit angles are equal ($\theta = \theta_f$) and incremented together. The wave vector Q_z is defined as $4\pi \sin \theta / \lambda$, where λ is neutron wavelength. Above the critical angle θ_c for total internal reflection, the data show finite-size fringes whose separation are inversely related to the film layer thickness. After subtraction of the off-specular background, these data can be fit (or inverted) to obtain a real-space profile of the scattering length density as a function of depth.

