

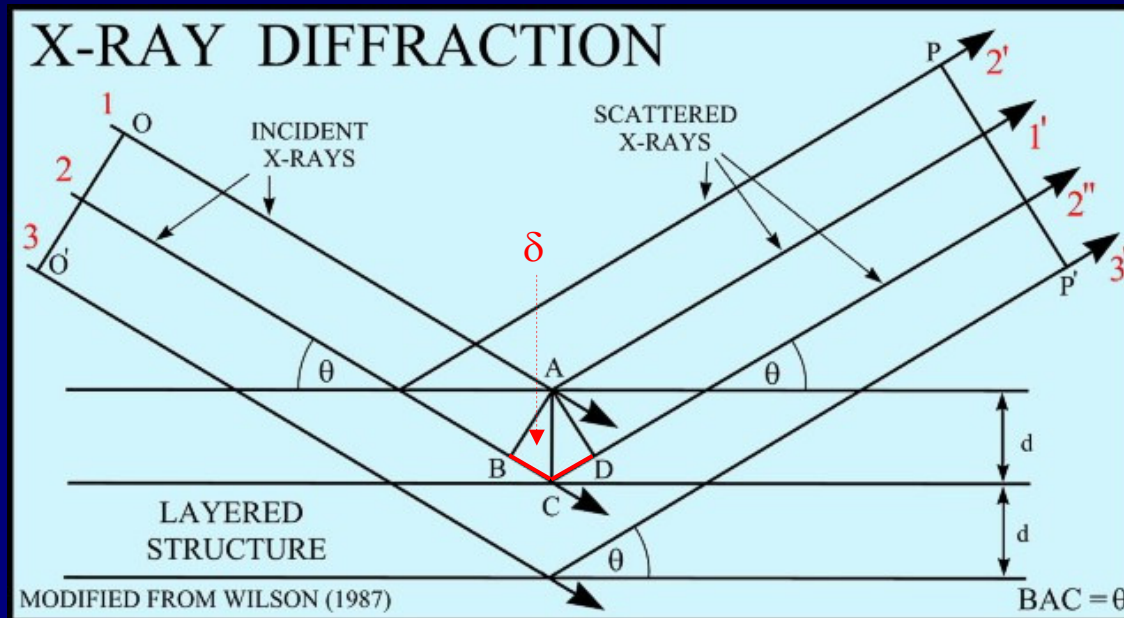
FYI: Crystal diffraction

The structure of the crystal can be found using almost the same law we have for optical gratings!

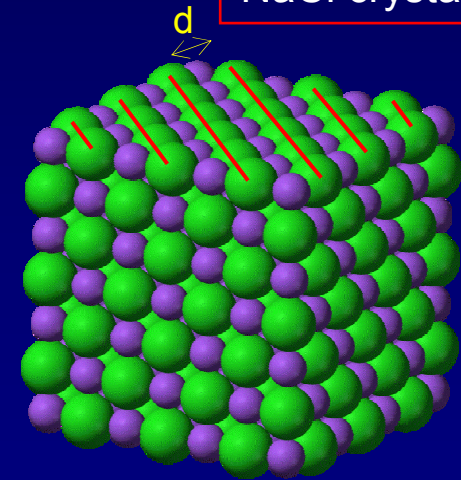
Bragg Law for constructive interference: $\delta = 2d \sin\theta = m\lambda$

d = lattice spacing, λ = x-ray wavelength

θ = x-ray angle (with respect to plane of crystal)



Example of planes in a NaCl crystal



Each crystal has many values of d - the distances between different planes. For a known wavelength λ the observed angles θ can be used to determine the crystal structure.