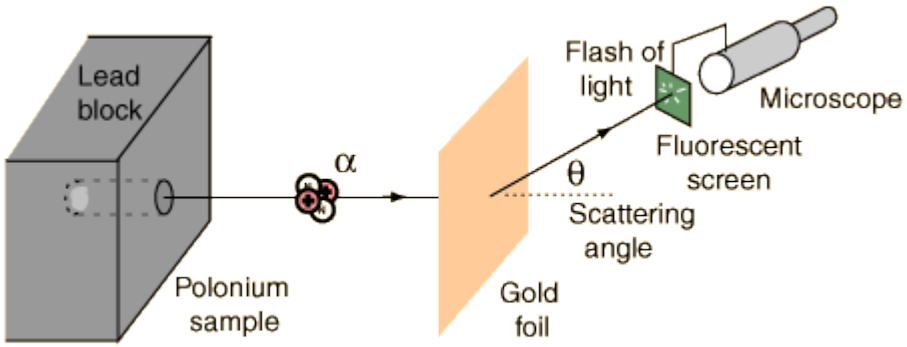
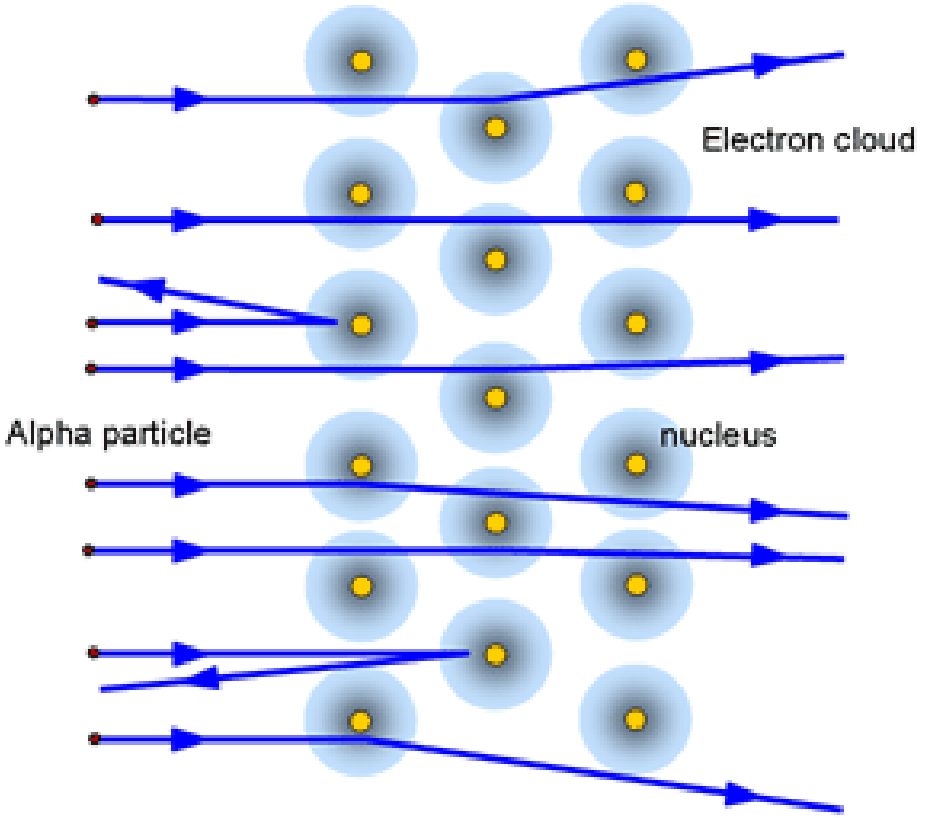
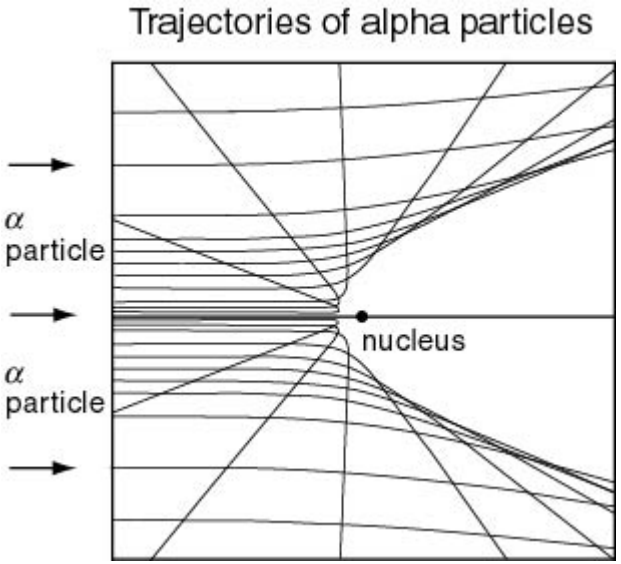
Rutherford Scattering

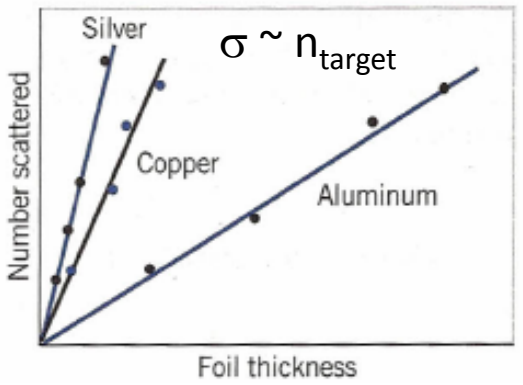


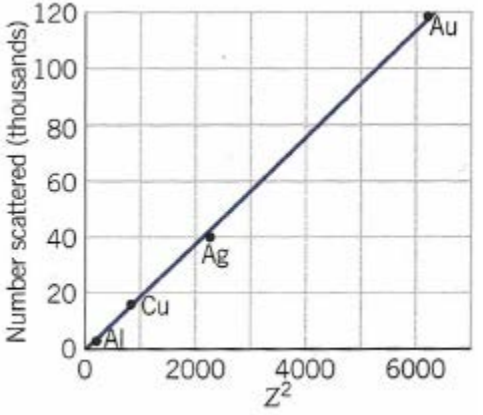


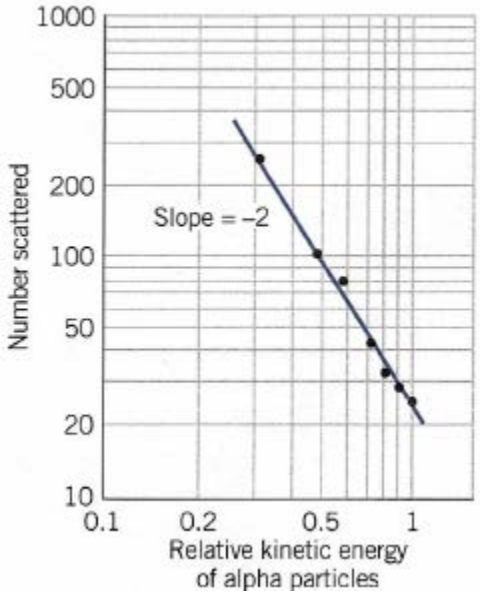
Rutherford Scattering

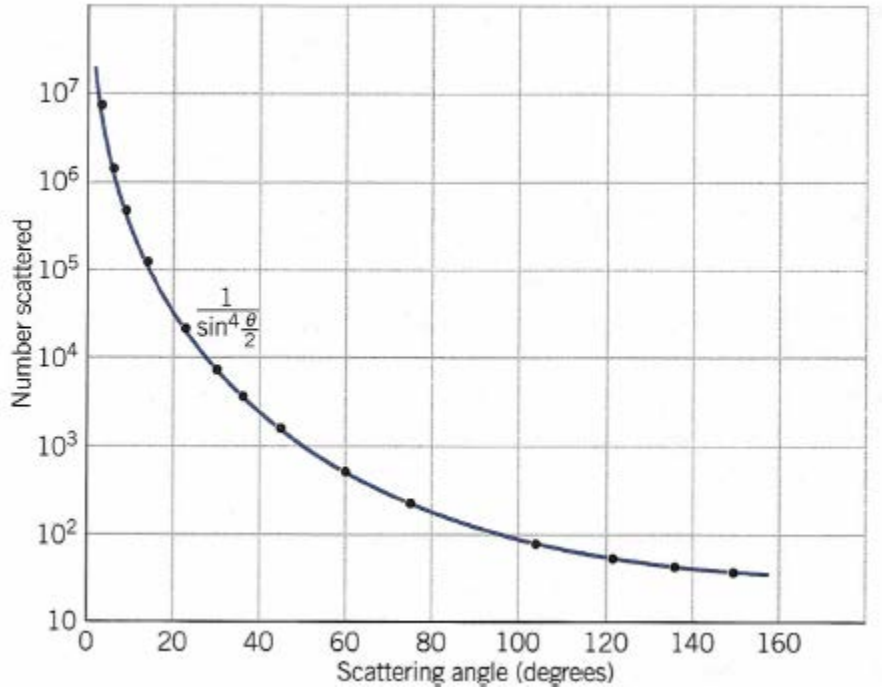
$$\frac{d\sigma}{d\Omega} = \left(\frac{qQ/4\pi\varepsilon_0}{4E\sin(\theta/2)^2}\right)^2$$



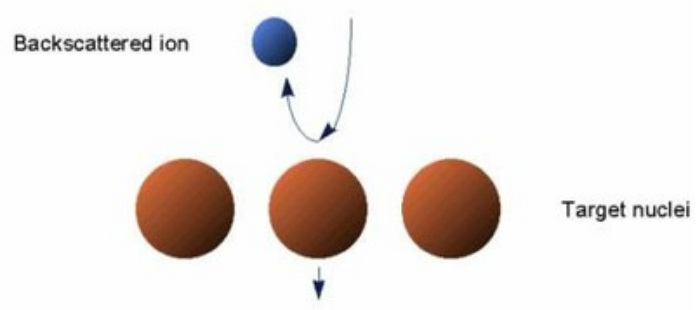


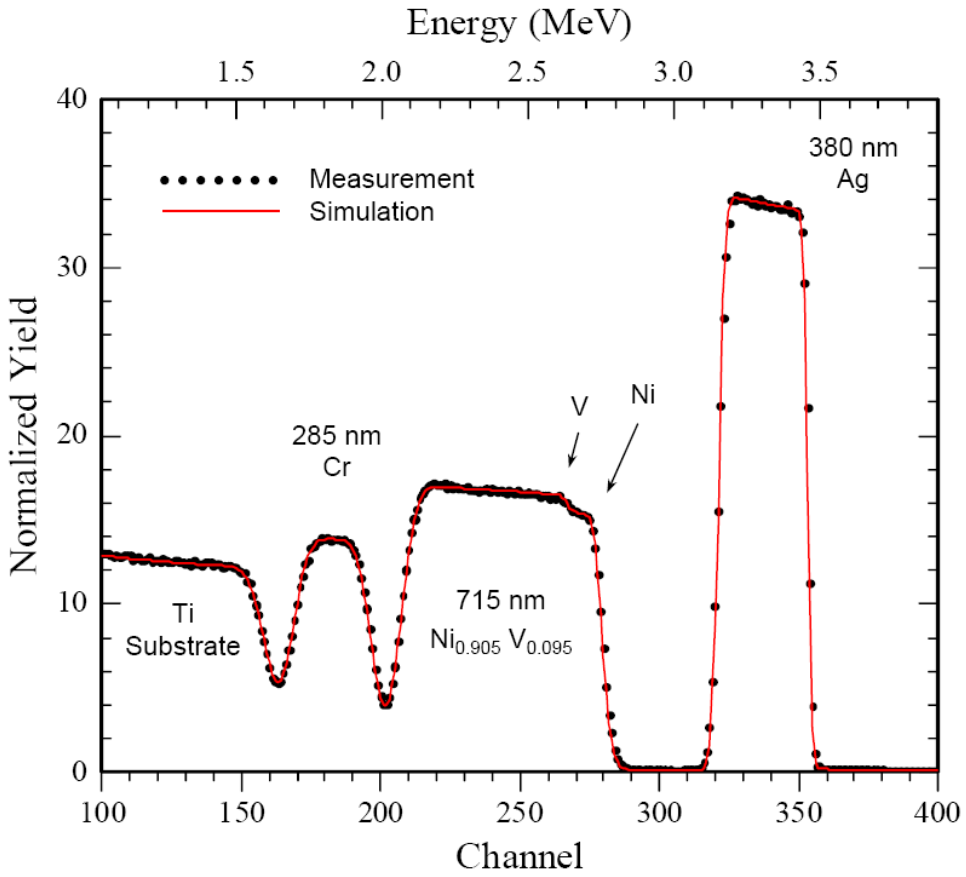


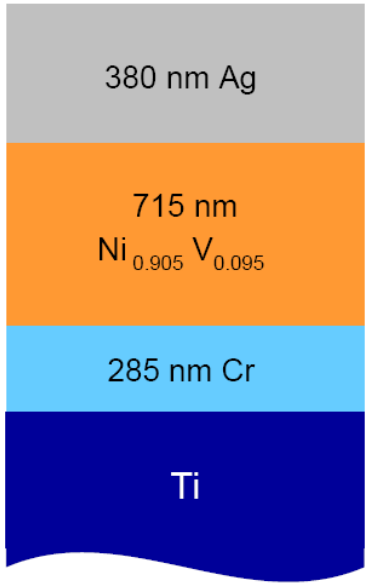




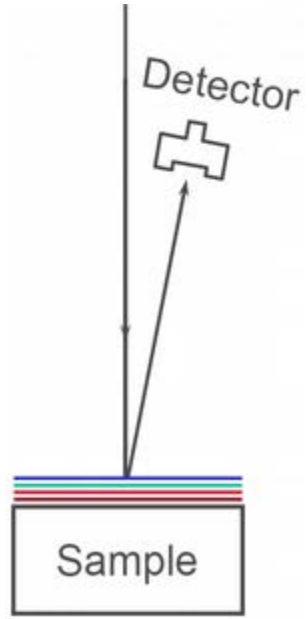
Rutherford BackScattering (RBS)





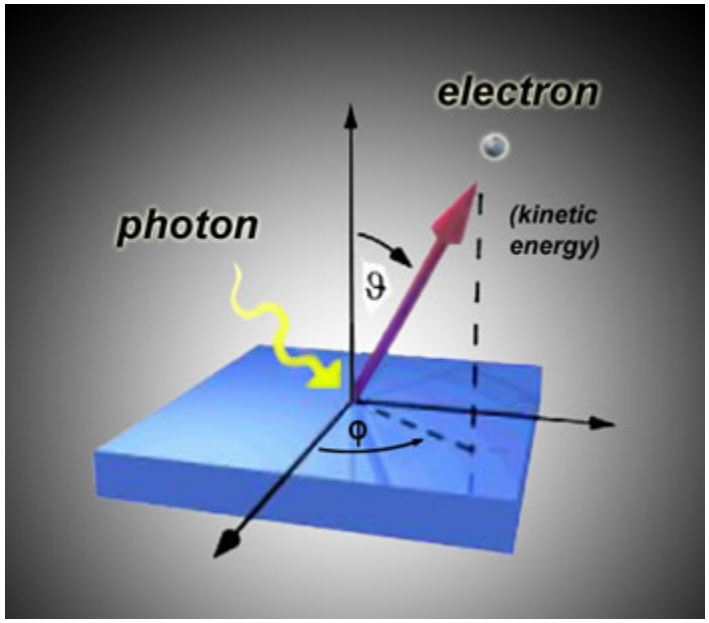


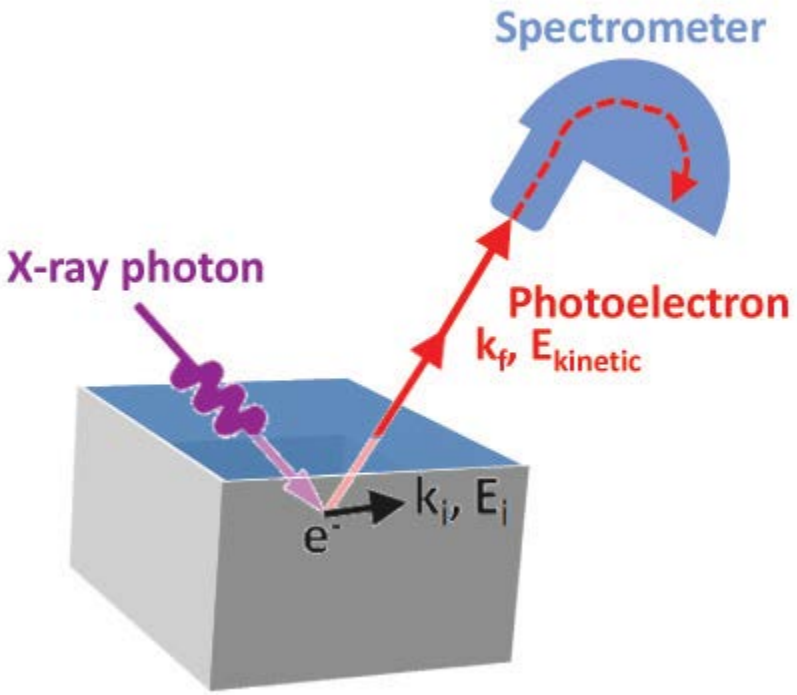
3.5 MeV ^{4}He

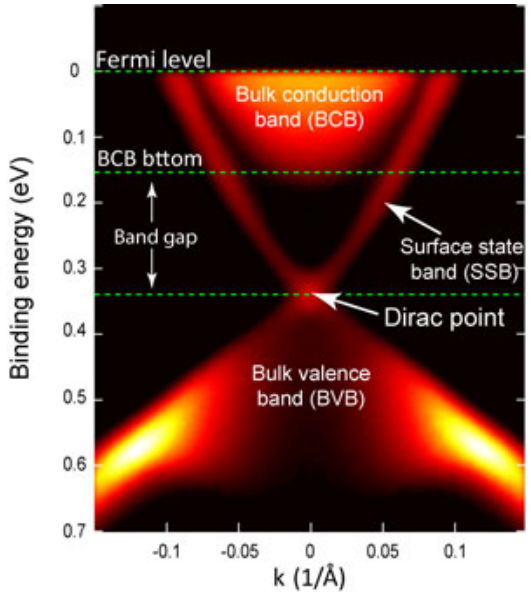


http://www.ams.ethz.ch/research/material/iba/rbs

Angle-Resolved Photoemission Spectroscopy (ARPES)



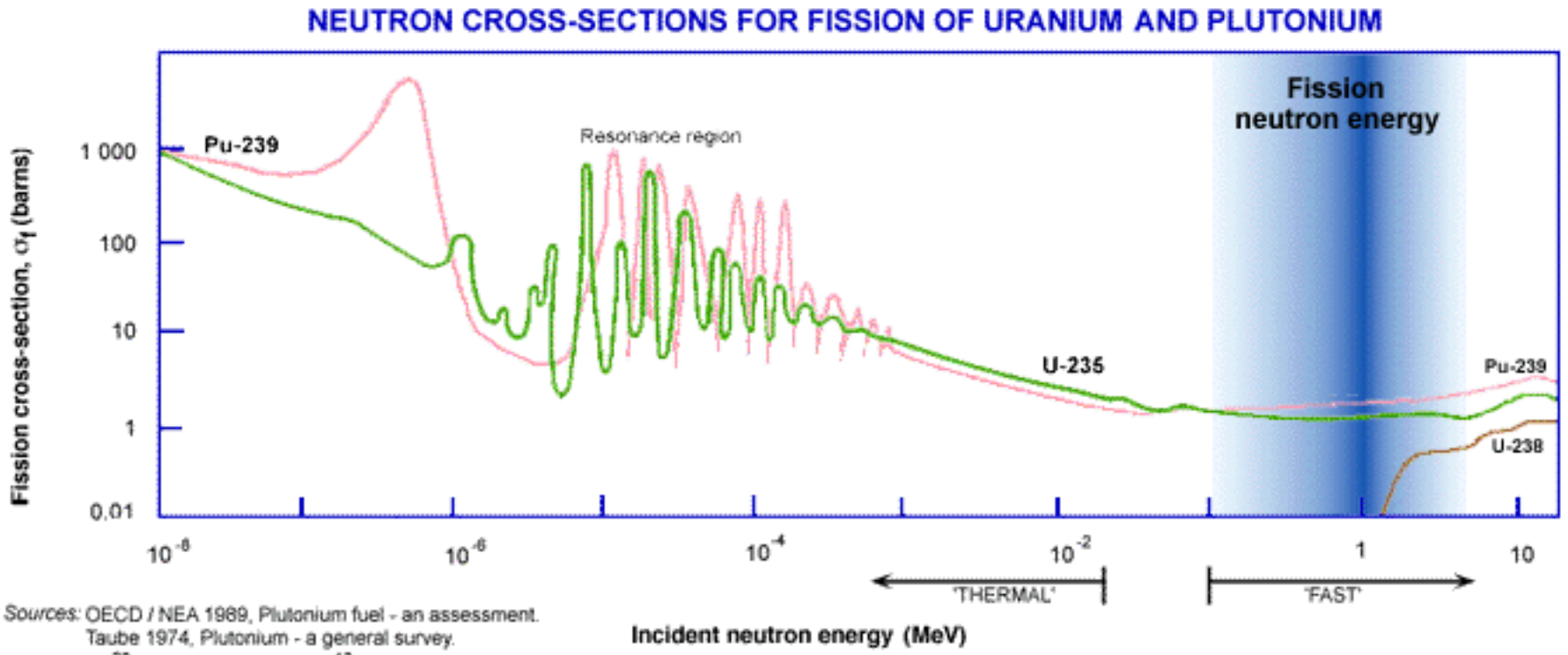




Bi_2Se_3 Topological Insulator

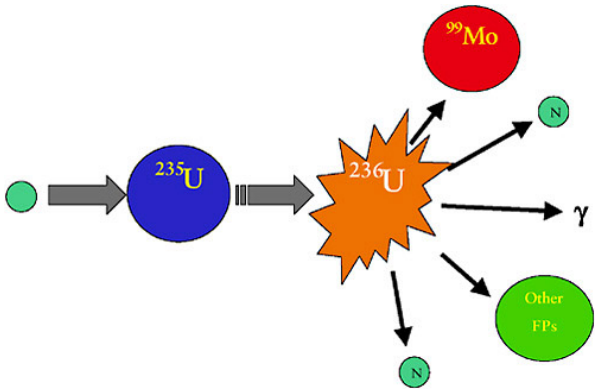
http://www.stanford.edu/group/fisher/research/TI.html

Neutron-^{235}U and ^{239}Pu Fission Cross Section



Sources: OECD / NEA 1989, Plutonium fuel - an assessment.
Taube 1974, Plutonium - a general survey.

1 barn = 10^{-28}m2, 1 MeV = 1.6 x 10^{-13}J



http://www.world-nuclear.org/info/Nuclear-Fuel-Cycle/Introduction/Physics-of-Nuclear-Energy/#.UVRToRyG1uI