NUCL 510 HMWK 2

1. Neutron Beam
   1. Beam Density

(Wolfram Alpha LLC, 2011)

* 1. Atom Density of Li
  2. Tritium Production
  3. Maximum Tritium Activity

max activity when T is maximum

1. Hydrogen Scattering

For angle between scattered neutron and recoil proton is 90o:

1. Differential Elastic Cross Section of Helium
   1. Elastic Cross Section
   2. Fraction of neutrons at angles greater than 90o
   3. Differential Cross Section (COM and LS)

(Ragheb, 2006)

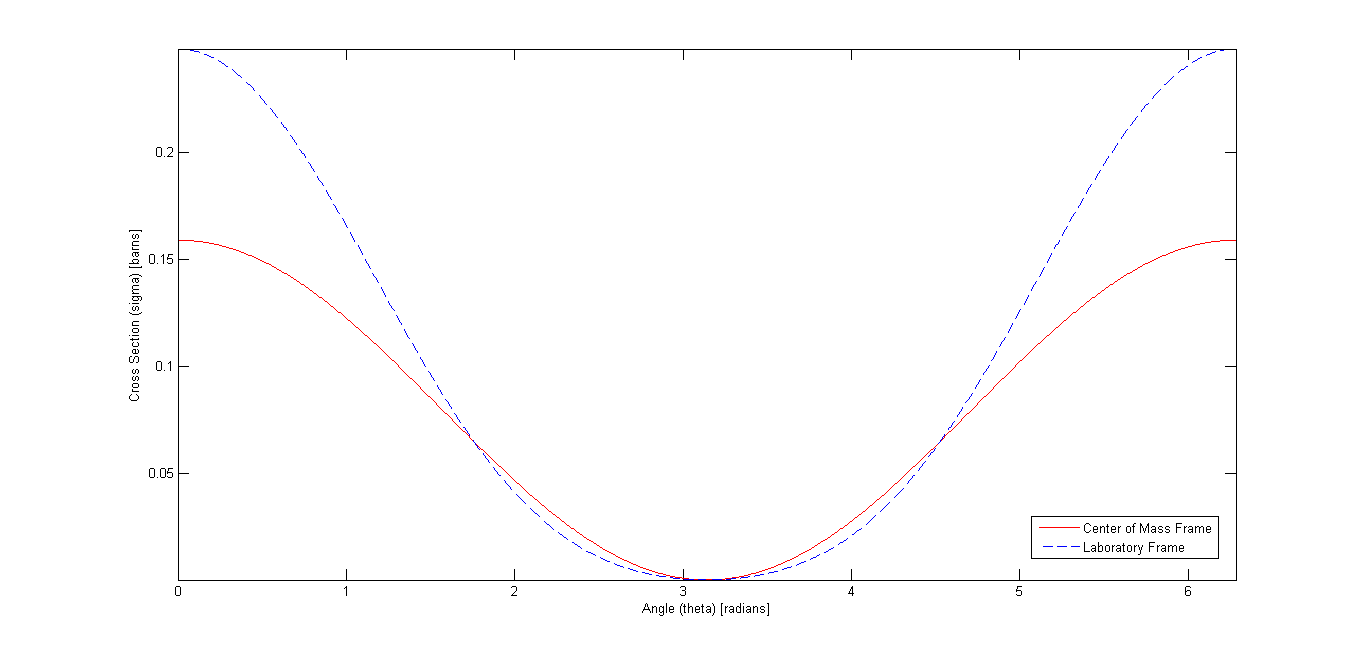


Figure 1 Cross Section in Laboratory and Center of Mass Frame

1. Maxwellian Monatomic Gas Model
   1. Doppler Broadened Cross Section

(Wolfram Alpha LLC, 2011)

* 1. Scattering Cross Section Proportion
  2. Scattering Cross Section at High Neutron Energy