Group Activity 12   **Due:** In class, October 23rd
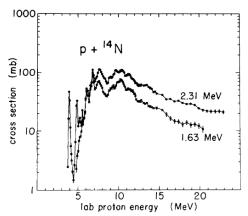
1. Suppose we want to measure $^{14}N(\alpha,n)$ (Q = -4.734MeV).
    What is the minimum α energy we would need to initiate this reaction on a ^{14}N target?
    What is the minimum ^{14}N energy we would need to initiate this reaction on a ^{4}He target?

2. Estimate the proton-capture cross section for ^{14}N at a for a proton lab energy of 6MeV.
    Compare your result to the results of P. Dyer et al. PRC 1981.

3. Consider the cross section for $^{74}Ge(p,\gamma)$ (from S.J. Quinn et al. PRC(R) 2013) shown below.
    How do we explain the sudden reduction for higher energies that starts at 3.5MeV?