Subject: differential cross section
Posted by elder1 on Fri, 19 Dec 2014 21:06:30 GMT
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Greetings,

I am new in Pluto and I have the following problem:
I am trying to simulate differential cross section distributions which are energy dependent. I have deuteron as a beam and a proton target. As a reaction output I get p+p+n and in an experiment we measure the coincident protons and obtaine the (five-fold) differential cross sections for a given theta prot1, theta prot2 and their relative azimuthanl angle in function of energy. Which model should I use to simulate such distributions ?

Thank U very much f or help.

Subject: Re: differential cross section
Posted by Ingo Froehlich on Mon, 12 Jan 2015 15:05:54 GMT
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Do you have a coherent breakup reaction, or a quasi-elastic scattering with a spectator?

For a coherent reaction, one can use PAngularDistribution (see http://web-docs.gsi.de/~hadeshyp/pluto/v5.42/examples/useAngularDistribu tion.C.html for a demo macro) to model the theta angle in the c.m. system relative to the beam momentum. The 2-dimensional version with TF2 gives the energy dependence (y is the total c.m. energy).

For the relative phi distribution, there is no flexible template at the moment existing, but it should be not much work to add one into Pluto