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Subject: Re: New pbarpSystem and pbardSystem implementations

Posted by [Albrecht Gillitzer](#) on Tue, 13 Mar 2012 16:16:10 GMT

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Hi,

Let me add some remarks concerning the pbar+d decay model:

It is based on one on-shell nucleon in the deuteron target not participating in the reaction (= the "spectator") while the other nucleon is off-shell to respect 4-momentum balance. The momentum distribution is parametrized with a Hulthen function.

Usually the struck (off-shell) nucleon is the neutron while the proton is the spectator (otherwise one would prefer a free proton target). However the decay model should also work for the latter case if the decay file is written accordingly.

As Stefano mentioned, there are two parameters in usage of the decay model:

Decay pbardSystem

1.0 p+ pbarnSystem DeuteronSpectator 1.0 1.16;

Enddecay

1st parameter: maximum internal momentum in the deuteron in GeV/c

2nd parameter: minimum mass of the residual pbar+n system for the specified decay (in this case  $M_{\phi} + M_{\pi^-}$ ).

I plan to give a more detailed explanation in the next CM.

Albrecht

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