
Subject: option of polarization for Lambda-LambdaBar model

Posted by [donghee](#) on Wed, 16 Apr 2014 09:48:08 GMT

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Hi,

I am using a model EvtLambdaLambdaBarPol in EvtGen/Private to generate artificial polarization.

Decay pbarpSystem

1.0 anti-Lambda0 Lambda0 LambdaLambdaBarPol 1.64 0.5;

Enddecay

In principle, we can give a polarization value for lambda and lambdabar with last of option, which is set to 0.5 in this example.

This way one can introduce the polarization vector $\mathbf{n}$ perp to scattering plane.

I could not see any changing of angular distribution in $\mathbf{n}$ direction, which is a quantized axis used in the measurement of hyperon polarization. When I set 0.5 and 0.0, angular distributions are same for both. That means that this option value is not correctly working for generating the polarizaiton.

Does anyone know how can I introduce a polarization with this model? or most likely you can assume that the coordinate systems are not properly lorentz-boosted and thus I cannot see any slop due to that reason.

Best wishes,

Donghee

Subject: Re: option of polarization for Lambda-LambdaBar model

Posted by [StefanoSpataro](#) on Wed, 16 Apr 2014 10:26:09 GMT

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This model changes only the spin density, not the angles. If you let Lambdas decay with phase space most probably this information is lost.

I don't know how was used this model, Jan Zhong added the polarization part, maybe Bertram knows better.
