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 artifitial 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 n perp to scattering plane.

I could not see any changing of angular distribution in 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.