Subject: benchmark generation
Posted by Yuri Naryshkin on Tue, 05 Nov 2013 11:32:22 GMT
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Hi,
I would like to generate a benchmark reaction and have parameterization from the experiment. Can I use EvtGen for that purpose?

Subject: Re: benchmark generation
Posted by StefanoSpataro on Tue, 05 Nov 2013 12:00:57 GMT
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Yes, you need to write your own model, like this.

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Wed, 06 Nov 2013 16:14:02 GMT
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Thank you Stefano. Can I produce file for that like:
/input/psi2s_jpsi2pi_1k.evt (the same format) to use as benchmark?

Subject: Re: benchmark generation
Posted by StefanoSpataro on Wed, 06 Nov 2013 16:38:00 GMT
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Just to understand, exactly which channel you would like to simulate?

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Wed, 06 Nov 2013 19:39:43 GMT
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First of all inclusive Lambda or antiLambda and then Lambda_c or antiLambda_c at our energy.

Subject: Re: benchmark generation
Posted by StefanoSpataro on Wed, 06 Nov 2013 20:17:24 GMT
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You need to take the macros in macro/run, and write your own .dec file, no need to write your model since (at least for lambda) the model already exits.
In some presentations at the older collaboration meetings lambda analysis were shown with also the models which could be used (Lia or Simone talks).

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Thu, 07 Nov 2013 11:11:26 GMT
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Thank you again Stefano, may I ask you hoe I can simulate lambda-Lambdabar channel with the code EvtLambdaLambdaBar.cc (you've send me) in the frame of EvtGen, e.g. any example for benchmark as in sim_complete.C example there is only example with dec or evt files are presented? We want to do this kind of simulation (and then some other channels) for our forward TOF wall.

Subject: Re: benchmark generation
Posted by StefanoSpataro on Thu, 07 Nov 2013 11:24:12 GMT
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Your dec file should be like:

noPhotos
Decay pbarpSystem
1.0 anti-Lambda0 Lambda0 LambdaLambdaBar 1.643;
Enddecay

Decay Lambda0
1.0 p+ pi- PHSP;
Enddecay

Decay anti-Lambda0
1.0 anti-p-pi+ PHSP;
Enddecay

End

where 1.643 is the momentum of your antiproton (in this case it is 1.643, but you can oput your value).

Remember to use EvtGenDirect and set the same momentum value in the sim_complete.

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Thu, 07 Nov 2013 12:05:35 GMT
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Thank you! Is the value of anti-proton momentum 1.643 in cms system? Is it for the reaction p + pbar -> Lambda + Lambda-bar?

In sim_complete(Int_t nEvents = 10, TString SimEngine ="TGeant3", Float_t mom = 7.24) mom (momentum) is also defined in cms?

Subject: Re: benchmark generation
Posted by StefanoSpataro on Thu, 07 Nov 2013 12:06:41 GMT
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No, it is in the lab frame.

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Fri, 08 Nov 2013 12:59:15 GMT
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Thank you Stefano, I noticed, that Lambda and lambda-bar are decaying in the interaction point, butn they should have a decay path, is it possible to change it? Is there a simple tool or an example (root macro) how to analyze file with simulated events without reconstruction and digitization (sim_complete.root file)?

Subject: Re: benchmark generation
Posted by StefanoSpataro on Fri, 08 Nov 2013 13:00:28 GMT
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They do not decay at interaction point. Why do you say so?

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Fri, 08 Nov 2013 13:07:21 GMT
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I just check the track number, for p-bar, pi+ ... it starts from 0,1 ..., but no Lambda MCtrack.

Subject: Re: benchmark generation
Posted by Yuri Naryshkin on Fri, 08 Nov 2013 14:15:01 GMT
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Sorry Stefano, I've check again, the origin vertex for secondary part is not an interaction point.

Subject: Re: benchmark generation
Posted by StefanoSpataro on Fri, 08 Nov 2013 16:13:17 GMT
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Ok, good.