
Subject: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Aida Galoyan](#) on Wed, 01 Apr 2009 16:56:51 GMT
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Hi all,

I have calculated 100000 Events of pbar-p elastic scatterings with Coulomb, Interference and hadron scatterings at different energies within new DPM generator. The output-root files are disposed in lxi00X.gsi.de in public directory:
/d/panda02/elastic

Using the files, one can check response of barrel part on recoil protons and forward part on elastic scattered antiprotons.

Aida

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Tobias Stockmanns](#) on Mon, 06 Apr 2009 07:20:42 GMT
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Dear Aida,

this are good news. Can you upload your code to the SVN of pandaRoot so that we can use the generator directly?

Thank you in advance,

Tobias

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Aida Galoyan](#) on Mon, 06 Apr 2009 12:59:44 GMT
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Dear Tobias,

Hadron elastic scattering is presented in the version of DPM installed in Panda-Root. It is the most essential part of elastic scattering for Panda. The Coulomb scattering will give contribution at very forward direction, and recoil very slow protons in the barrel part.

First of all, we are interested in testing of the full elastic scattering (Coulomb, interference, hadron parts) algorithm, and proccesing of the generated files with elastic scattering. We would like to see the results of full simulation with elastic scattering.

An installation of DPM with full elastic scattering is now complicated, because it is required to point out the minimal angle of the Coulomb scattering. However, there is PndDpmDirect class installed by Mohhamad with initial parameters without minimal angle. If I include the new version of the DPM there will be a contraction with PndDpmDirect class. Therefore, without coordination with PndDpmDirect class I can not insert new variant of the DPM.

I hope my generated files will be useful for you.
Aida

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Tobias Stockmanns](#) on Mon, 06 Apr 2009 13:30:18 GMT
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Dear Aida,

thank you for your reply.

The generated files are very useful for us and Tsito will use them extensively once he is back from vacation.

Nevertheless it would be nice if these files could be produced directly and I think we should address this once Mohammad is back.

Cheers,

Tobias

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Miriam Fritsch](#) on Wed, 27 May 2009 13:01:25 GMT
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Hi Tobias,

do you know what the status is ?? Did you ask Mohammed about inserting the minimum angle in the PndDpmDirect class in order to make the coulomb scattering available in svn ??

Cheers,

Miriam

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Tobias Stockmanns](#) on Wed, 27 May 2009 13:04:22 GMT
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Dear Miriam,

I am sorry, but I have not contacted Mohammad about this problem. Hopefully he sees now this thread and is able to respond to it .

Cheers,

Tobias

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings

Posted by [Mathias Michel](#) on Fri, 05 Jun 2009 08:35:57 GMT

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Hi,

my name is Mathias Michel, i'm writing my diploma in Mainz about the luminosity monitor system for Panda and i am new to this forum, so hello everybody

I tested the Dpm-file with the elastic scattering at 6,2GeV and it seems to me that there is an minimum angle at about 5mrad and there are no events for smaller angles.

So am i right with the minimum angle and if yes in which angles does the new Dpm generate elastic Events?

It would be helpful to simulate elastic events down to 2.8mrad, is this possible with the Dpm?

Cheers,

Mathias

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings

Posted by [Aida Galoyan](#) on Fri, 05 Jun 2009 13:21:41 GMT

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Hi Mathias,

I can simulate elastic pbar-p events with DPM at min. angle 2.8 mrad. Please, write me, beam momentum of antiprotons and number of events.

Best regards,
Aida

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings

Posted by [Aida Galoyan](#) on Wed, 10 Jun 2009 16:18:54 GMT

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Hi all,

I have inserted some improvements in elastic (hadron+Coulomb+interference) part of DPM.

With this version of DPM, I have generated elastic pbar-p (100000 Events) at various energies for minimal Theta 3 mrad. Output-root files are disposed in GSI Linux cluster in public directory /d/panda02/elastic .

I have removed earlier generated files there.

Aida

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Mohammad Al-Turany](#) on Thu, 18 Jun 2009 08:19:58 GMT
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Hi,

Aida, can you put your modified version of DPM in the development branch of the repository so that I can modify the DPM direct classes and put all together in SVN trunk?

So as soon as you make it available in the development branch please let me know!

regards

Mohammad

Subject: Re: Elastic pbar-p with Coulomb and hadron scatterings
Posted by [Aida Galoyan](#) on Fri, 19 Jun 2009 13:20:26 GMT
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Dear Mohammad,

I will write you after last check of the new DPM.

Before this, the users can apply root-files generated by new DPM disposed at GSI Linux cluster in public directory: /d/panda02/elastic

There are simulations of 100000 Events of pbar-p elastic scatterings (hadron+interf.+Coulomb) at beam momenta 1.5, 2.0, 6.2, 8.0, 10.1, 15.0, 16.0 GeV/c at teta_min=3 mrad.

Best regards,
Aida