
Subject: Target size in pandaroot

Posted by [Karin Schönning](#) on Mon, 17 Feb 2014 13:58:58 GMT

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Hej, I would like to simulate some reactions with extended targets, reproducing e.g. cluster jet and pellet sizes. Where do I change the size of the interaction region?

/Karin

Subject: Re: Target size in pandaroot

Posted by [Stefan Pflueger](#) on Mon, 17 Feb 2014 14:19:04 GMT

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Hi,

You can change the IP distribution within FairPrimaryGenerator. Additionally beam tilts/gradients can be adjusted here. In principle you have the choice between a gaussian or box distribution and their width/mean position for x,y and z. More general distributions are not supported atm I believe.

Check out:

<https://subversion.gsi.de/trac/fairroot/browser/fairbase/tags/v-13.12/base/sim/FairPrimaryGenerator.h>

Here is some example code:

```
//particle generator
FairPrimaryGenerator* primGen = new FairPrimaryGenerator();
    primGen->SmearTypeVertexXY(1);
    primGen->SetBeam(beam_X0, beam_Y0, beam_width_sigma_X,
beam_width_sigma_Y);
    primGen->SmearTypeVertexZ(2);
    primGen->SetTarget(target_Z0, target_width_Z);
}
if (beam_grad_sigma_X > 0.0 || beam_grad_sigma_Y > 0.0) {
    primGen->SetBeamAngle(beam_grad_X, beam_grad_Y, beam_grad_sigma_X,
        beam_grad_sigma_Y);
}
```

You only have to be careful with the fairbase tag that is linked into pandaroot, which can be something older and then this code is not compatible.

Regards,

Stefan

Subject: Re: Target size in pandaroot

Posted by [Stefano Spataro](#) on Mon, 17 Feb 2014 17:04:52 GMT

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Some documentation here:

<https://panda-wiki.gsi.de/foswiki/bin/view/Computing/VertexSmearing>
