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Subject: Re: Beam Smearing

Posted by [Ingo Froehlich](#) on Thu, 12 Apr 2012 19:14:20 GMT

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Hmm, I did a quick test with the recent version (v5.40.1) using the following macro:

```
{  
  
    double ebeam_min = 1.1725;  
    double ebeam_max = 5.44575;  
    PBeamSmearing *beam_smear = new PBeamSmearing("beam_smear", "Beam smearing");  
  
    TF1* beam_smear_fn = new TF1("beam_smear_fn", "-3.82136e-03 + 7.24636e-02/x",  
ebeam_min, ebeam_max);  
  
    beam_smear->SetReaction("g + p");  
    beam_smear->SetMomentumFunction(beam_smear_fn);  
    makeDistributionManager()->Add(beam_smear);  
  
    TH1F * histo1 = new TH1F ("histo1","c.m.",100,1.,4.);  
  
    PReaction my_reaction("_P1 = 2.2","g","p","p eta [dilepton [e+ e-] g]","eta_dalitz",1,0,0,0);  
    my_reaction.Do(histo1,"_x = [g+p]->M()");  
  
    my_reaction.Print();  
    my_reaction.Loop(10000);  
  
}
```

The output is as follows:

Reaction of 7 Particles interacting via 3 Channels

Reaction Particles:

0. quasi-particle (g beam and p target)
1. p
2. eta
3. dilepton
4. g
5. e+
6. e-

Reaction Channels:

1. g + p --> p + eta  
Interaction model(s):  
[beam\_smear] Beam smearing  
[g + p\_fix\_p\_eta] 2-body fixed mass, partial width {/}  
[g + p\_genbod\_p\_eta] Pluto build-in genbod {/genbod}
2. eta --> dilepton + photon (Dalitz)  
Interaction model(s):  
[eta\_dalitz] Dalitz decay {/}  
[eta\_genbod\_g\_dilepton] Pluto build-in genbod {/genbod}
3. dilepton --> e+ + e-  
Interaction model(s):

[dilepton\_fixed\_e-\_e+] Fixed product masses {}  
[dilepton\_genbod\_e-\_e+] Pluto build-in genbod {/genbod}  
[eta\_dilepton\_helicity] Helicity angle of the dilepton decay of eta

Bulk Classes:

Epilogue: <PProjector>

Output Files:

Root : eta\_dalitz.root, all particles on file.

PRreaction: calculating widths in PData...

Info in <PUtilsREngine::PUtilsREngine>: Random seed set to 60606

20% done in 1.261318 sec

40% done in 1.520687 sec

60% done in 1.780155 sec

80% done in 2.042362 sec

100% done in 1.300976 sec

CPU time 1.300000 sec

Are you using maybe an older version?

## File Attachments

1) [c1.png](#), downloaded 527 times

