Subject: [SOLVED]generate rho0->pi+pi- but found the rho0 has no width
Posted by Xinying Song on Thu, 02 Jun 2016 13:15:20 GMT
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when I simulate the process g + P-->P+ eta', eta'->rho0 +gamma, rho0--> pi+ pi-, but found that the width of rho0 particle is 0. the eta' does not have width either.

I don't know why.

The rho0 mass pic mpipi.eps and the generating script are in the attachment.

File Attachments
1) sim_etap_grho.C, downloaded 453 times
2) mpipi.eps, downloaded 422 times

Subject: Re: generate rho0->pi+pi- but found the rho0 has no width
Posted by Ingo Froehlich on Fri, 03 Jun 2016 13:04:50 GMT
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This is because the decay eta' -> rho0 + gamma has no model included, one can see this in the printout:

2. eta' --> rho0 + photon
   Interaction model(s):
   [eta'_fixed_g_rho0] Fixed product masses {/}
   [eta'_genbod_g_rho0] Pluto build-in genbod {/genbod}

I don't know if this is the correct physics model, but a decay with a simple Breit-Wigner can done by adding these lines:

```
PHadronDecayM1N *newmodel =
   new PHadronDecayM1N("rho_model@eta'_to_rho0_g", "Patched rho model", -1);
makeDistributionManager()->Add(newmodel);
```

Subject: Re: generate rho0->pi+pi- but found the rho0 has no width
Posted by Xinying Song on Fri, 03 Jun 2016 13:51:11 GMT
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Thanks very much! it's solved.