
Subject: Change particles Stable/Unstable in DPM
Posted by [Aida Galoyan](#) on Tue, 08 Apr 2014 15:48:16 GMT
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Hi all,

According to request of Klaus and Stefano, I have implemented the possibility to change a status of particles: stable or unstable in DPM.

Now, when you run DPMGen, after lines

Enter Elastic : 0., 1. or 2.
0. - No elastic scattering, only inelastic
1. - Elastic and inelastic interactions
2. - Only elastic scattering, no inelastic one
0.

there will be lines

If you like to change particle status (stable - 1 / unstable - 0)
Enter: particle PDGcode and status
(for example -- Pi0 unstable: 111 0)
To go to event generation, Enter: 0 0

If you Enter

111 0
0 0

Pi0 will be unstable, other particles save their statuses.

Aida

Subject: Re: Change particles Stable/Unstable in DPM
Posted by [Klaus Götzen](#) on Thu, 10 Apr 2014 06:10:00 GMT
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Hi,

this functionality now also is available for PndDpmDirect via methods SetStable(int pdg) and SetUnstable(int pdg) and can be used e.g. like:

```
PndDpmDirect *Dpm= new PndDpmDirect(Mom,1);  
Dpm->SetUnstable(111); // pi0  
Dpm->SetUnstable(310); // K_S0  
Dpm->SetStable(3122); // Lambda  
Dpm->SetStable(-3122); // anti-Lambda  
primGen->AddGenerator(Dpm);
```

Note that the defaults for pi0, K_S0 and (anti-)Lambda is 'stable'.

Best,
Klaus

Subject: Re: Change particles Stable/Unstable in DPM
Posted by [Aida Galoyan](#) on Wed, 25 Jun 2014 14:39:22 GMT
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Hi all,

When I entered a procedure of changing a particle status -Stable/Unstable, I made a small bug in DpmEvtGen/decay.f .
Now, bug is fixed and committed in trunk.

Aida

Subject: Re: Change particles Stable/Unstable in DPM
Posted by [Stefano Spataro](#) on Wed, 25 Jun 2014 20:25:22 GMT
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Dear Aida,
just to understand, which kind of bug was it? A minor bug or something more critical? I am asking this since I have produced recently many DPM events for my calculations, and I'd like to understand if I should redo my simulation or not.

Subject: Re: Change particles Stable/Unstable in DPM
Posted by [Aida Galoyan](#) on Thu, 26 Jun 2014 09:21:04 GMT
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Dear Stefano,
I try to explain the bug.

When I introduced in DPM changing of particle status(stable / unstable), transformations of K0(PDG code 311) and antiK0(PDG code -311) to K0S and K0L were not implemented. Thus, if you do not consider K0S and K0L in your study on the generating level, all is normal. However, if you consider subsequent simulation by Geant3/Geant4, then (I think) Geant will transform K0S and K0L to K0S and K0L.

Now, these transformations are introduced in DPM.

Aida

Subject: Re: Change particles Stable/Unstable in DPM
Posted by [Stefano Spataro](#) on Thu, 26 Jun 2014 09:45:07 GMT
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Thanks for your explanations.
