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Subject: Re: Turning ON/OFF Models

Posted by [Ingo Fröhlich](#) on Thu, 12 Apr 2012 05:42:00 GMT

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Sorry for the late answer (HADES beam time and easter...)

Michael Kunkel wrote on Tue, 03 April 2012 19:57

So what I would like to do is use the data itself as the initial parameters and have PLUTO decay the eta via dalitz decay, ie event by event use the parameters:

Photon Beam Energy (0, 0, E, E)

Target

Proton "myproton = P3M(px,py,pz,mass);"

Eta "myEta = P3M(etapx,etapy,etapz,etamass);"

then use

```
PReaction my_reaction("Beam_Energy","g","p","myproton myeta [dilepton [e+ e-] g]","eta_data_simulate",1,0,0,0);
```

Yes, this will indeed not work. "myproton" is in this case an object, whereas the decay string in PReaction uses the names of the particles in the data base. The only way to access the beam particle in the event loop is to go via the composite like [p+p] or [g+p].

Btw. for additional information I added the slides of a talk (new features in v5.37) on the main Pluto page, it also contains some examples.

Michael Kunkel wrote on Wed, 11 April 2012 20:04

I However this now leads me to another question. I see how to turn off/on the physics, but how to change the parameters of the physics. For instance, I am concerned with the form factor of the eta dalitz. I see in the PData.cc that I can flag QED = 1, but how do I accomplish this?

In this case one can either switch off all form factors with the following command:

```
((PDalitzDecay * )makeDistributionManager()->GetDistribution("eta_dalitz"))->SetUseQED(1);
```

or even replace the form factor by a self-defined model (see p. 26 of the talk mentioned above), e.g.:

```
PSimpleVMDFF *ff = new PSimpleVMDFF("vmd_ff_dd@w_to_dilepton_pi0/formfactor","VMD form factor",-1);
```

```
ff->AddEquation("_ff2 = 0.17918225/( (0.4225- _q2)*(0.4225- _q2) + 0.000676)");  
makeDistributionManager()->Add(ff);
```

```
PReaction my_reaction("2.2","p","p","p p w [dilepton [e+ e-] pi0]");  
my_reaction.Print();
```

(its for the omega Dalitz, but the syntax applies to all Dalitz decays)