
Subject: Re: the simulation of $e p \rightarrow e \Delta(1910)^+$, $\Delta(1910)^+ \rightarrow \Sigma(1385)^0 K^+$

Posted by [Ingo Fröhlich](#) on Fri, 29 Apr 2016 15:58:10 GMT

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Hi,

I think you are not doing the decay correctly. For each decay Pluto needs a "primary model" which is doing the mass sampling of the parent. So what you need is not distribution (which is changing the shape of a decay), but a model which samples the mass of the dilepton.

These classes are inherited from PChannelModel (instead of PDistribution).

For each decay, Pluto attaches one single channel model to each decay channel. If no custom model is added (as said the object "sigmadecaytoLee" is not registered as a model), Pluto loops over the existing classes and try to do its best. And therefore it chooses PDalitzDecay but not your custom class.

One can see this very nicely in PDalitzDecay, that it is inherited from PChannelModel. Maybe you could use this class as a template for a new decay?

If you now construct your own decay model, the one thing one has to know: either one adds the decay key as a last option by hand in the ctor (not recommended) or one can let Pluto find out which is the correct key by using the following syntax for the id ("sigma13850_to_e+_e-_lambda_matrix" in your case):

id@parent_anything_list_of_daughters

with "id" and "anything" as arbitrary names, and "list_of_daughters" the underscore separated list of daughters

e.g. mysigma13850decay@sigma13850_to_Lambda_dilepton