Subject: Re: Delta from Krivoruchenko
Posted by Ingo Fröhlich on Tue, 11 Oct 2011 16:28:42 GMT
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Dear Adrian,

thank you for this observation. I understand now much clearer what you mean when talking about fluctuations.

I think they source of the fluctuation is as follows: the pure Delta does not have the large tails. When you use the intrinsic calculation of the branching ratio (this is what we do when you want to have the correct b.r. at pole), I have to disable the explicit mass-dependent partial decay width, i.e. the tail at large masses is also disabled.

This means we strongly enhance the remaining tails. You can see this also in my plot, where I have plotted the mass-dependent branching ratio. So it is not a matter of statistics.

The only way to avoid this is to go back to the "classical" method (no flat di-electron generator). But in this case, as you know, the weight is fixed to 1/N_ev * "static branching ratio". This means you have to correct the old histogram such that it overlays with the new one, than you have a correction factor.

If I think more about it, there could be one solution, this is a "box-like" Delta generator together with the weight of the shape. But I never tested this and it is one additional source of complication.