Subject: First test with fast sim: Ds(2536)+
Posted by Elisabetta Prencipe (2) on Thu, 03 Apr 2014 14:40:58 GMT
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Dear all,

I am trying to do again my simulations with the fast sim (trunk-rev-24275), and compare the results obtained with the full simulation.
I am not sure if I am doing the proper comparison, this is why I post plots and numbers which I obtain and ask to the physics convenors.

So, the channel under exam is:

pbar p ----> Ds- Ds1'(2536)+

Ds- --->K+K-pi-
Ds1'--->D*0 K+
D*0 --->D0 gamma
D0 ---->K-pi+

plab = 9.83 GeV/c
N_generated events with EvtGen = 10 000

I show you a comparison between the number of entries obtained in case I plot the mass (full simulation) and "m" (fast simulation). Here attached you can look at some distributions.

	D0	Ds	Ds1'
Fast	9962	15253	2960
Full	5127	2450	349 (ftm)
Full	8842	5307	2331 (best pid)
Full	10506	12204	1140 (true pid)

Looking at the distributions obtained from the fast simulation, their shape look similar to the ones obtained from the "tr_pid" in the full simulation. So, I guess this is what we should compare. Correct?
Here attached are some distributions of interest. Please do not be worry because of the fact that the efficiency of Ds1' looks so low: in the analysis I will use the missing mass of the Ds- to reconstruct it., and it improves a lot actually. Here I am just checking consistency with the full reconstruction of all decay products in this chain.

Best regards, Elisabetta

File Attachments

1) D2535_trpid_full10k.eps, downloaded 651 times
2) D0_trpid_full10k.eps, downloaded 633 times
3) Ds_trpid_full10k.eps, downloaded 652 times
4) Ds_fast.eps, downloaded 649 times
5) D0_fast.eps, downloaded 629 times