

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:

$p\bar{p} \rightarrow Ds^- Ds1'(2536)^+$

$Ds^- \rightarrow K^+ K^- \pi^-$

$Ds1' \rightarrow D^{*0} K^+$

$D^{*0} \rightarrow D^0 \gamma$

$D^0 \rightarrow K^- \pi^+$

$\sqrt{s} = 9.83 \text{ GeV}/c$

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 459 times
 - 2) [D0_trpid_full10k.eps](#), downloaded 444 times
 - 3) [Ds_trpid_full10k.eps](#), downloaded 469 times
 - 4) [Ds_fast.eps](#), downloaded 464 times
 - 5) [D0_fast.eps](#), downloaded 448 times
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