Subject: Ds reconstruction - test with trunk rev-25813
Posted by Elisabetta Prencipe (2) on Mon, 22 Sep 2014 08:54:55 GMT
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Hello Stefano,

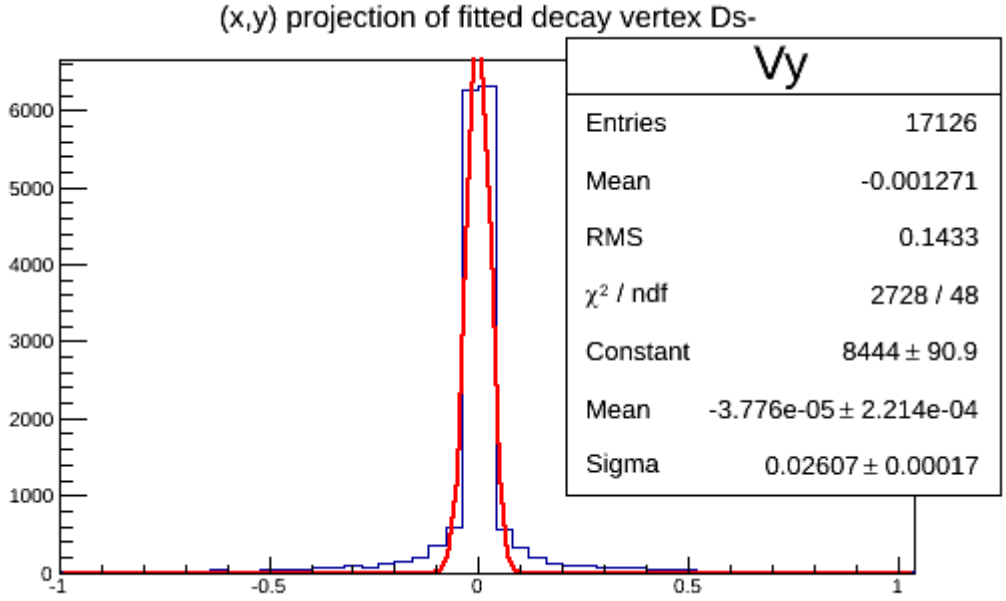
I am checking the pandaroot trunk rev-25813. The goal is to perform the scan of Ds(2317) mass, using the full simulation.
Some months ago I had used the trunk rev-23845: results were presented at the collaboration meeting in March, this year. In those first tests, the Ds mass resolution obtained, using standard tutorial macros as in /tutorial/rho/*, was ~ 16 MeV/c^2. Later on, I even performed comparison between fast- and full simulation tools, in the pandaroot rel-scrut14. Reconstruction efficiency, with p(gamma)>50 MeV/c, was roughly 35% in both cases, if I remember correctly.

I've made use of the same analysis macro and I have repeated the tests in the new trunk rev-25813. Efficiency is slightly different: ~30%, with same basic selection cuts; and the mass resolution becomes worse: ~19 MeV/c^2. Also the vertex resolution is worse in this trunk. Is this something expected, due to the changes in the framework, or is it the signal of something that went wrong, in this new trunk revision? Except the changes in the GEM geometry, and the consequent update of the reco files, I am not warned of other additional changes.
Here attached are some plots. The basic test is performed running on 3000 generated events, EvtGen, p = 8.8 GeV/c, for the process p bar p --->Ds- Ds(2317)+, Ds(2317)+ --->Ds pi0, pi0 --->gg, Ds --->K+ K- pi.

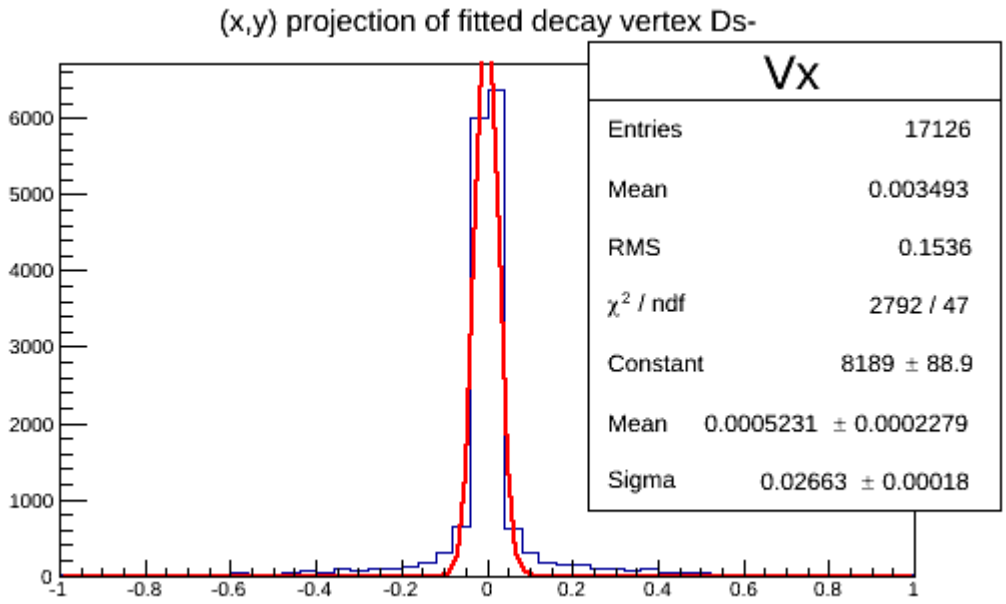
cheers, Elisabetta

File Attachments

1) Vy_checkRev25813.gif, downloaded 1515 times



2) Vx_checkRev25813.gif, downloaded 1486 times



3) Dsmissingmass_checkRev25813.gif, downloaded 1453 times

