
Subject: Unexpected particles in Event Display window.
Posted by [Ajay Kumar](#) on Sun, 13 Sep 2015 11:07:43 GMT
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Dear All,

I have simulated two decay reactions using EvtGenDirect at just production threshold. These are the reactions.

$p\bar{p} \rightarrow J/\psi \pi^+ \pi^- \rightarrow e^+ e^- \pi^+ \pi^-$ (beam momentum = 5.049089 GeV/c and just above at 6.0 GeV/c).

$p\bar{p} \rightarrow D^{*+} D^{*-} \rightarrow D^0 \pi^+ D^0 \pi^- \rightarrow K^- \pi^+ \pi^+ k^+ \pi^- \pi^-$ (beam momentum = 7.618268 GeV/c and just above at 8.0 GeV/c).

After that, I had a look on particle tracks in the eventDisplay window and observed that some unexpected particles like Deuteron, Alpha, Triton, neutron, antineutron, muons, gammas are present there which I did not expect from EvtGenDirect by defining a decay file for particular decay.

To cross check for these additional particles, I created output.evt files using the same decay files then inside the output.evt file everything looks OK as I expected.

Is this behavior of EvtGenDirect is normal?

Will these additional particles harm the reconstruction of these decays?

Kindly help me in this regard.

I have attached simulation macros, decay files and snap shot of eventDisplay window.

File Attachments

- 1) [sim_complete.C](#), downloaded 324 times
 - 2) [digi_complete.C](#), downloaded 293 times
 - 3) [recoideal_complete.C](#), downloaded 322 times
 - 4) [pid_complete.C](#), downloaded 297 times
 - 5) [jpsipi-pi+_e+e-.dec](#), downloaded 324 times
 - 6) [jpsi_pippim_output.evt](#), downloaded 303 times
 - 7) [SnapShot_EventDisplay.png](#), downloaded 340 times
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