
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.

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

$\bar{p} p \rightarrow D^{*+} D^{*-} \rightarrow D^0 \pi^+ D^0 \bar{\pi}^- \rightarrow K^- \pi^+ \pi^+ k^+ \pi^- \pi^-$ (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 475 times
- 2) [digi_complete.C](#), downloaded 463 times
- 3) [recoideal_complete.C](#), downloaded 459 times
- 4) [pid_complete.C](#), downloaded 440 times
- 5) [jpsipi-pi+_e+e-.dec](#), downloaded 486 times
- 6) [jpsi_pippim_output.evt](#), downloaded 492 times
- 7) [SnapShot_EventDisplay.png](#), downloaded 662 times

Eve Main Window

Browser Eve

Eve Files

- ☒ WindowManager
 - ☒ Viewer 1
 - ☐ SI - Geometry scene
 - ☒ SI - Event scene
 - ☒ Viewers
 - ☒ Scenes
 - ☒ FairEventManager
 - ☒ TEveCalo3D
 - ☒ e-
 - ☒ gamma
 - ☒ e+
 - ☒ pi-
 - ☒ mu-
 - ☒ pi+
 - ☒ neutron
 - ☒ proton
 - ☒ pi0
 - ☒ Deuteron
 - ☒ Alpha
 - ☒ Triton
 - ☒ MVDPoint
 - ☒ EmcHit
 - ☒ EmcHit
 - ☒ SciTPoint
 - ☒ MdtPoint
 - ☒ DrcBarPoint
 - ☒ DrcPDPoint
 - ☒ DskParticle

Style Info

FairEventManager [FairEventManager]

Input file : jpsi_sim_complete.root

Run Id : 1442141289

No of events : 100

No. of Nodes : 1992177

Current Event:

Event Time: 0.00 ns

☐ Primary Only

Select PDG :

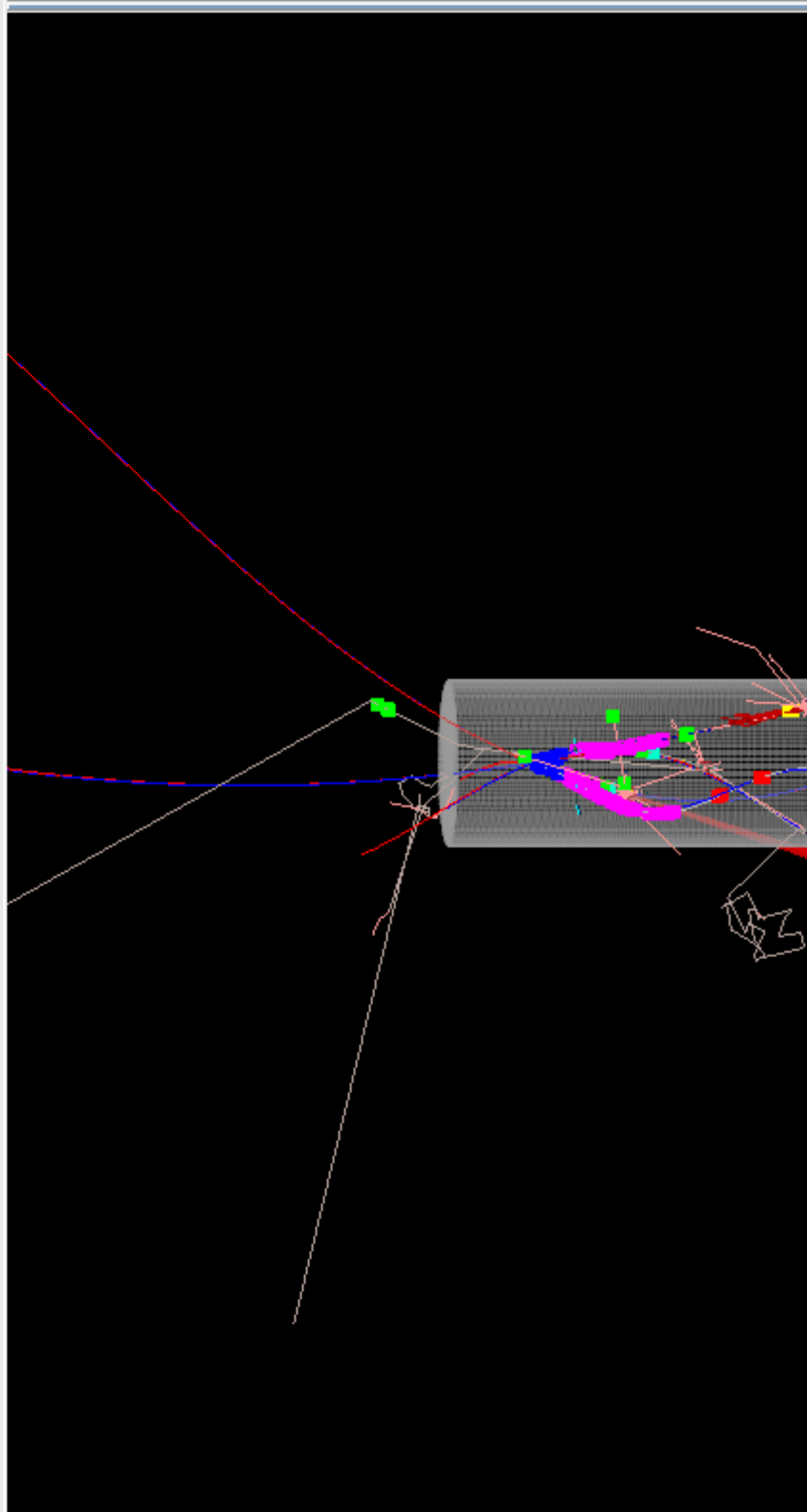
Min Energy:

Max Energy:

Update

Viewer 1

Hide



Command

Command (local):

Subject: Re: Unexpected particles in Event Display window.
Posted by [Stefano Spataro](#) on Sun, 13 Sep 2015 17:17:45 GMT
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Dear Ajay,
those are secondary particles created by the interaction of primaries with materials. Everything under control.

Subject: Re: Unexpected particles in Event Display window.
Posted by [Ajay Kumar](#) on Mon, 14 Sep 2015 05:04:54 GMT
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Dear Stefano,

Thank you for your quick reply.

With Regards

Ajay
