Subject: No back propagation to IP for V_0 reconstruction
Posted by donghee on Tue, 02 Dec 2014 14:29:32 GMT
View Forum Message <> Reply to Message

Hello,

I am looking for K_s reconstruction with two different cases, when back propagation to IP is switched off and on case.
As a first attempt, a K_s sample in the pbarp -> D^{0}D^{0}bar -> K_s pi+ pi- + X reaction are considered at c.m.s = 3.8 GeV.
In reco macro, one can control IP back propagation by

Quote:

```
recoKalman->SetTrackInBranchName("SttMvdGemTrack");
recoKalman->SetPropagateToIP(kFALSE);

recoKalmanFwd->SetTrackInBranchName("FtsIdealTrack");
recoKalmanFwd->SetPropagateToIP(kFALSE);
```

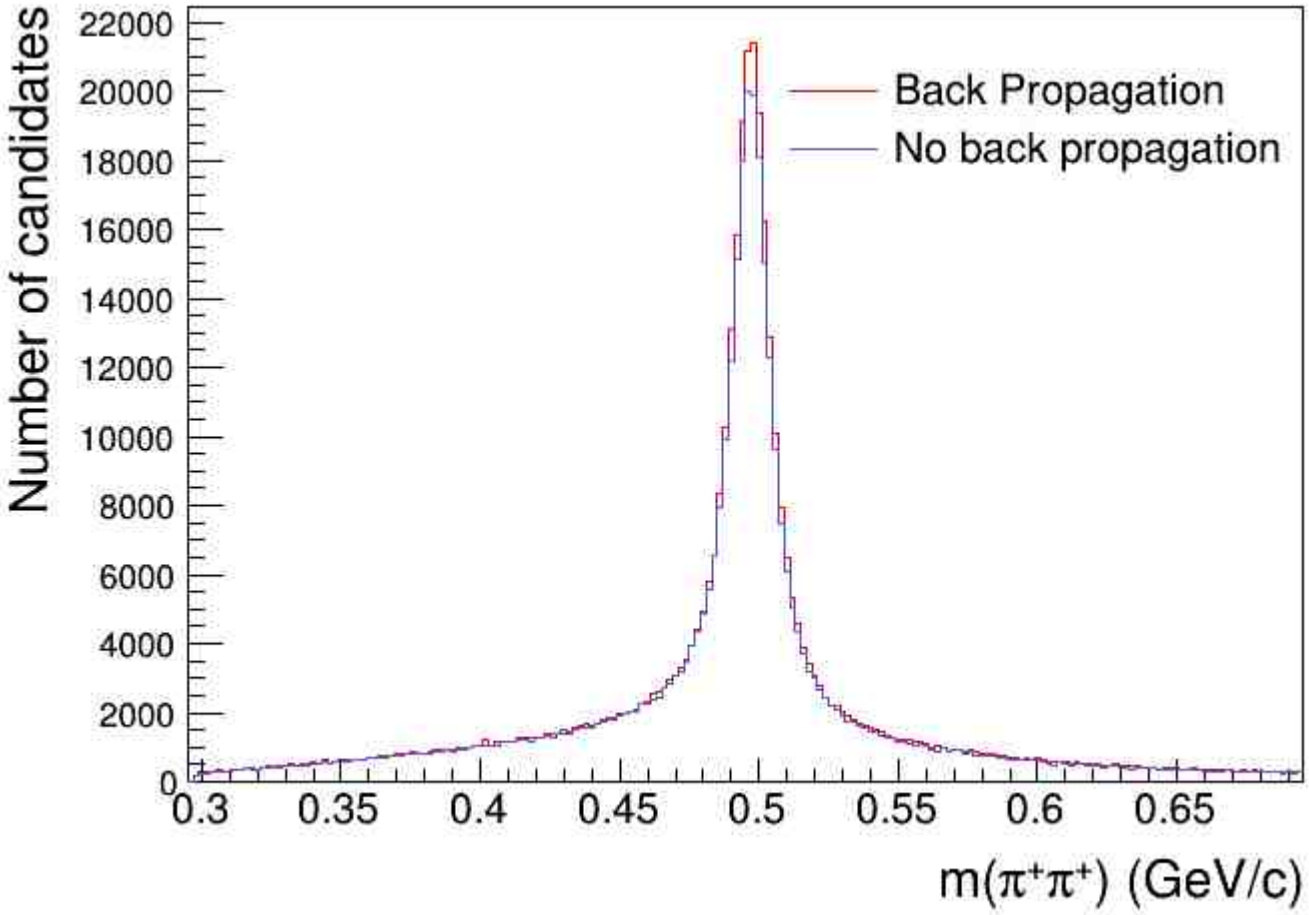
After track reconstruction, K_s mass distributions are compared, no PID has been applied and same statistics are simulated.
MC truth matched mass distributions are plotted to see the size of efficiency.
Red histo is for the propagation turns on, the efficiency is found to be 0.406192
Blue histo is for the propagation turns off, the efficiency is 0.388105

"No back propagation" in track reconstruction doesn't help too much to repair V_0 track.
For lambda case one suggest some improvement of lambda reconstruction, but I cannot see any significant advantage for K_s case.

Best wishes,
Donghee

File Attachments

1) test_mass_d04.jpg, downloaded 2462 times


Number of candidates
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
m(π⁺π⁺) (GeV/c)
Back Propagation
No back propagation