Subject: Charged Hits in Neutral List Posted by Lu Cao on Fri, 08 Aug 2014 11:54:15 GMT View Forum Message <> Reply to Message

Dear PID experts,

I simulated 10 charged kaon in box generator with the momentum (1,4) GeV/c and checked the photon multiplicity in this K+ box like this:

---event loop---

theAnalysis->FillList(neu,"Neutral");

hgeve->Fill(neu.GetLength());

As shown in the attached .png, in the 10 evt K+, we got avg. 5.7 neutrals and 2 of those events got surprising 16 neutrals.

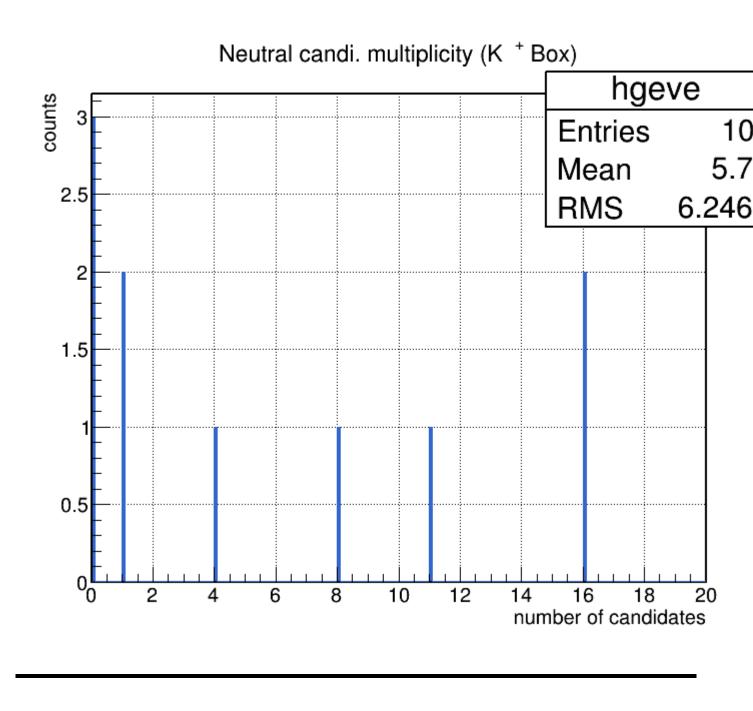
```
To understand this in a deeper level, Tobias helped to check the EMC cluster in MCTrack:
fMCMatch->CreateArtificialStage("MCTrack");
Int_t nCluster = fClusterArray->GetEntriesFast();
Int t nTracks = fMCTrackArray->GetEntriesFast();
//loop to test Cluster
for (Int_t iCluster=0; iCluster<nCluster; iCluster++)
{
 PndEmcCluster* theCluster = (PndEmcCluster*) fClusterArray->At(iCluster);
 std::vector<Int t> mcIndexes = theCluster->GetMcList();
 for (Int t iMcIndex = 0; iMcIndex < mcIndexes.size(); iMcIndex++){
 std::cout << "Tracks in Cluster " << iCluster << " TrackId: " << mcIndexes.at(iMcIndex); // <<
std::endl;
 PndMCTrack* myTrack = (PndMCTrack*)fMCTrackArray->At(mcIndexes.at(iMcIndex));
 std::cout << " PdgCode: " << myTrack->GetPdgCode() << std::endl;
 }
}
Then, we got this info:
Tracks in Cluster 1 TrackId: 0 PdgCode: 321
Tracks in Cluster 2 TrackId: 0 PdgCode: 321
Tracks in Cluster 3 TrackId: 0 PdgCode: 321
Tracks in Cluster 4 TrackId: 0 PdgCode: 321
Tracks in Cluster 5 TrackId: 0 PdgCode: 321
```

...

It looks some charged particles fired the EMC crystals but they are treated as "neutral candidates".

With best regards, Lu

File Attachments
1) Canvas\_1.png, downloaded 1178 times



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