Subject: Cleanup functions
Posted by Gianluigi Boca on Tue, 30 Sep 2014 18:03:48 GMT
View Forum Message <> Reply to Message

dear collaborators,
I put in svn a new version of
tracking/PndTrkTracking2.cxx  end  .h

containing a new feature which is the possibilty of activating the Cleanup code (code necessary to remove ghost tracks produced
in the Pattern Recognition by the 20 MHz pileup events).

BY DEFAULT THIS CLEANUP IS DEACTIVATED.

But if, in his reconstruction Macro, after :

PndTrkTracking2* tracking = new PndTrkTracking2(0,true,true,true);

the user put the following line :

tracking->CleanupMvd();

then it activates the Cleanup procedure based on the Mvd hits present in the tracks;
on the other hand if

tracking->CleanupStt();

then it activates the Cleanup procedure based on the Stt hits present in the tracks;
and finally if

tracking->Cleanup();

it activates both.

FOR THE TIME BEING IN THE ANALYSIS OF IDEAL EVENTS (no pileup due to 20 MHz interaction rate)
I suggest not to use any of this Cleanups.
On the contrary, when analysing the more realistic events with pileup the Cleanups are necessary.

For the time being the Cleanup procedures tend to overkill the problem and the reconstruction efficiency is in general lower than normal.

I AM WORKING RIGHT NOW IN THE REFINEMENT OF THE CLEANUP PROCEDURES and I hope to arrive soon at a good
situation.

Cheers

Gianluigi

Subject: Re: Cleanup functions
Posted by StefanoSpataro on Thu, 02 Oct 2014 13:40:47 GMT
View Forum Message <> Reply to Message

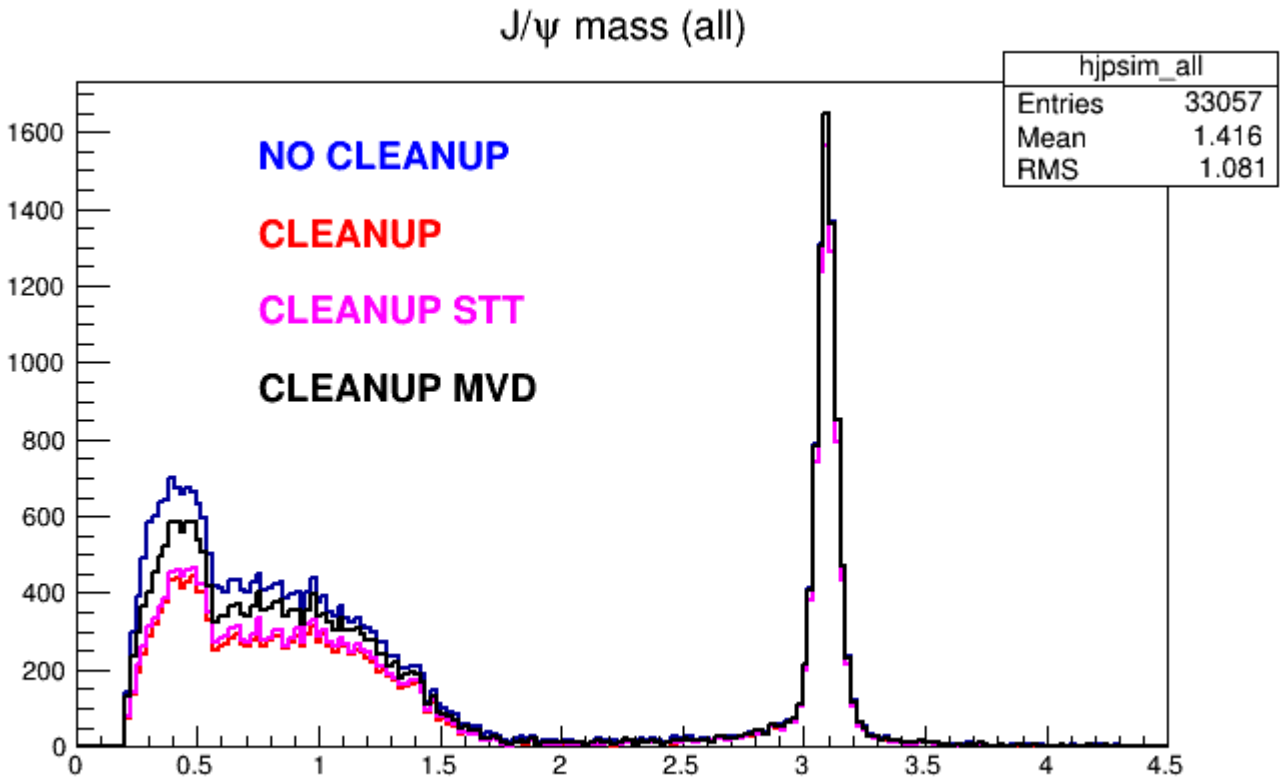
Dear all,
I tried the last tracking code, switch all the possible cleanup options, and verifying the analysis results from the standard nechmark channel (psi(2s) -> J/psi pi+ pi-) without any background mixing.

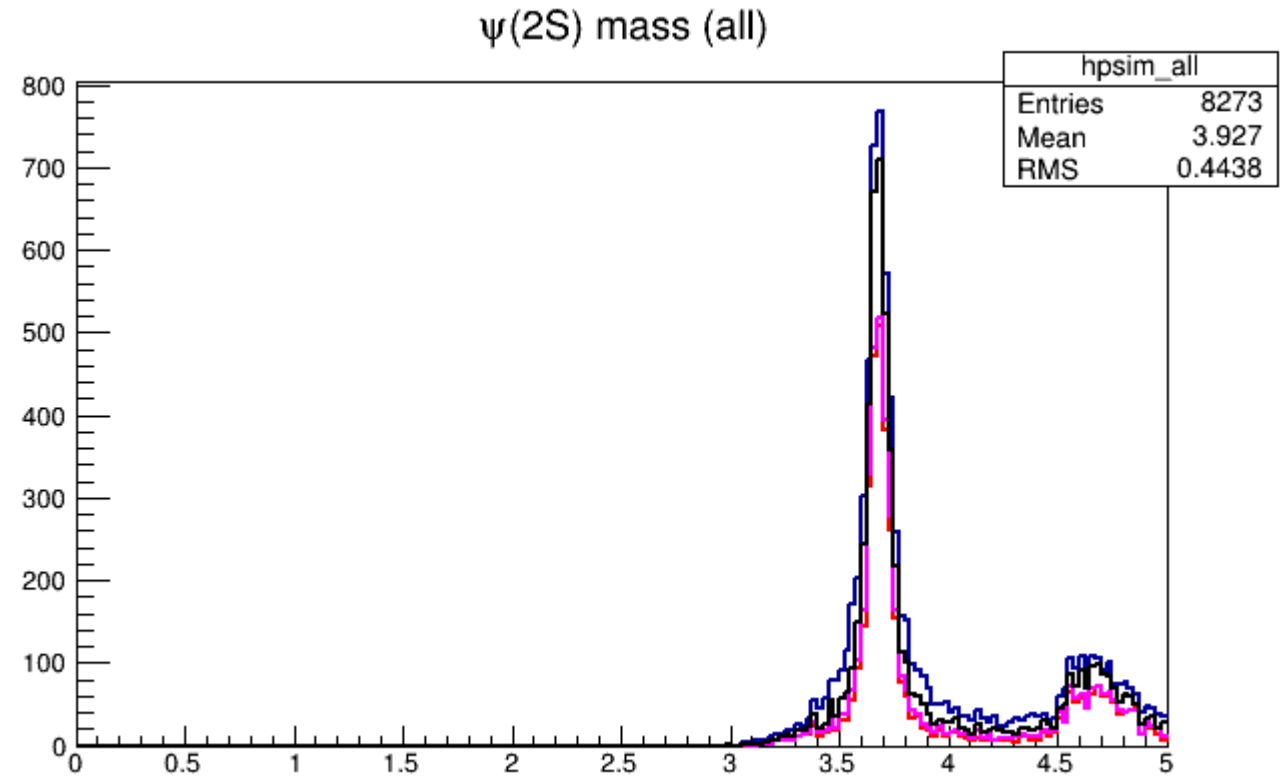
Here you can see the j/psi and the psi(2s) invariant mass distributions:

At a first glance, it seems the cleanup code affects mostly low p tracks (the pions), while the efficiency values for the high p (muons from j/psi) are consistent. Moreover, Mvd cleanup does not reduce the counts so much, the strongest effect comes from the stt cleanup. Of course the code should be verified with the event mixing (thing that I am NOT going to do now).

## File Attachments

1) cucomp.gif, downloaded 958 times




Subject: Re: Cleanup functions
Posted by Gianluigi Boca on Fri, 03 Oct 2014 14:25:56 GMT

hi Stefano,
thank you for showing those results.
I stress again that the Cleanup functions are not the final ones since I am still working on them

Gianluigi

StefanoSpataro wrote on Thu, 02 October 2014 15:40Dear all,
I tried the last tracking code, switch all the possible cleanup options, and verifying the analysis results from the standard nechmark channel (psi(2s) -> J/psi pi+ pi-) without any background mixing.

Here you can see the j/psi and the psi(2s) invariant mass distributions:

At a first glance, it seems the cleanup code affects mostly low p tracks (the pions), while the efficiency values for the high p (muons from j/psi) are consistent. Moreover, Mvd cleanup does not reduce the counts so much, the strongest effect comes from the stt cleanup. Of course the code should be verified with the event mixing (thing that I am NOT going to do now).