Measurement of Non prompt J/Ψ in Pb-Pb collisions at 5.02 TeV

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ALICE-IFJ Meetings

Outline:

- **Details from PAG-meeting**
- **Details for pass-3 analysis**

Details from PAG-Meeting:

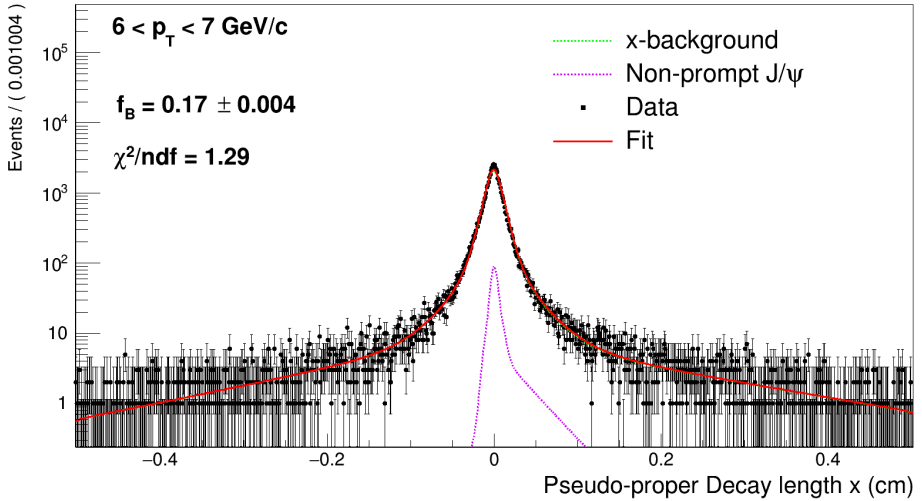
- **Link to the slides https://indico.cern.ch/event/940697/**
- **Suggestions :**
    - **To improve the chi2 of Unbinned fits (x-dimension).**
    - **To Use mixed event technique for proper bkg subtraction in case if we do inclusive-J/psi study.**

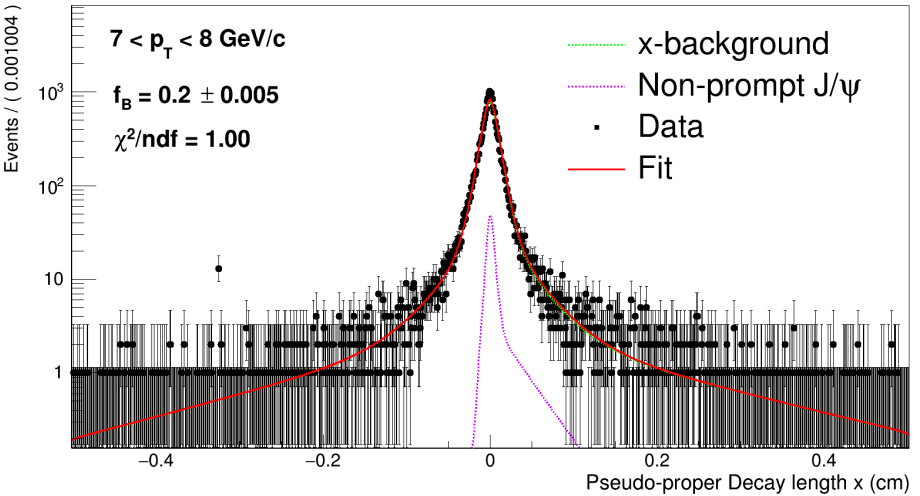
Details from PAG-Meeting:

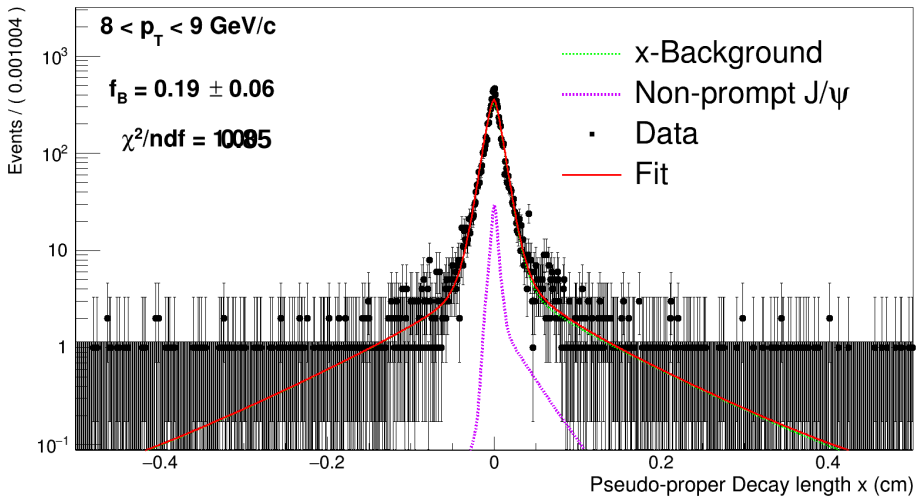
- **Link to the slides https://indico.cern.ch/event/940697/**
- **Suggestions :**
  - **To improve the chi2 of Unbinned fits (x-dimension).**
  - **To Use mixed event technique for proper bkg subtraction in case if we do inclusive-J/psi study.**

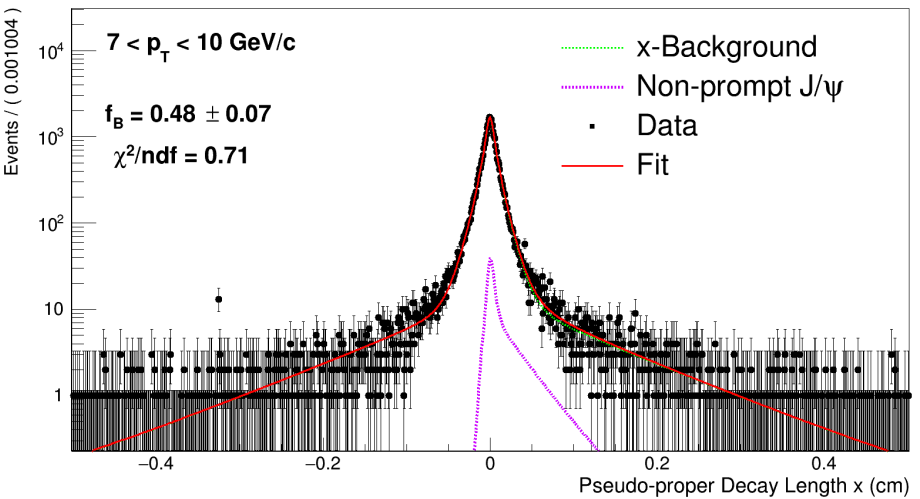
Post meeting implementations:

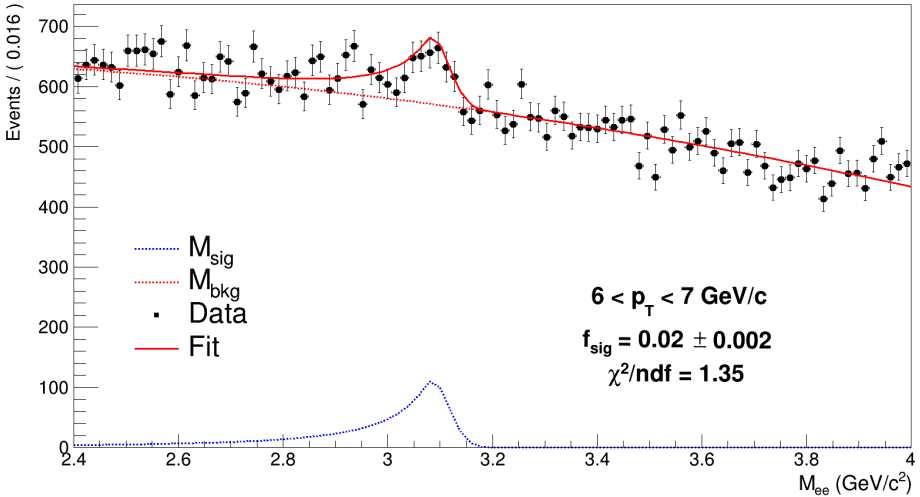
- Improving ML-fits
- Improving Non-prompt Jpsi template
- Using IP-tuned MC for templates

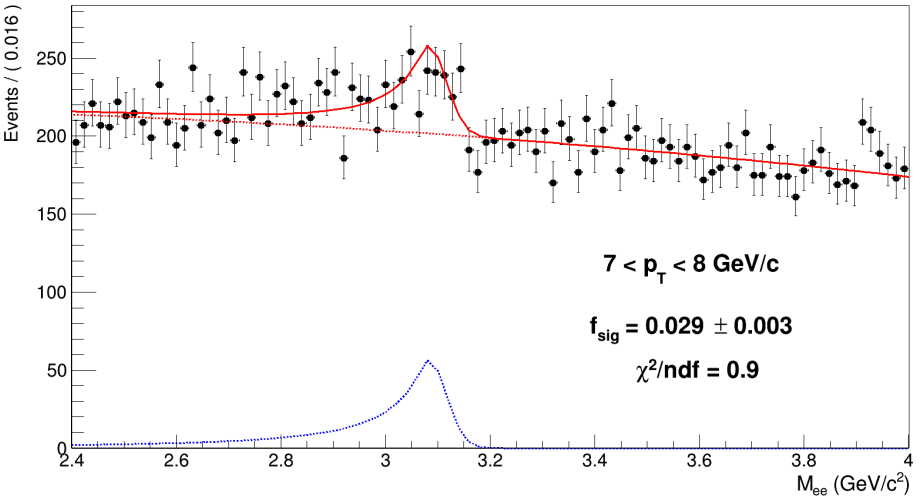

6 < p_T < 7 GeV/c
f_B = 0.17 ± 0.004
χ²/ndf = 1.29
x-background
Non-prompt J/ψ
Data
Fit
Events / (0.001004)
Pseudo-proper Decay length x (cm)

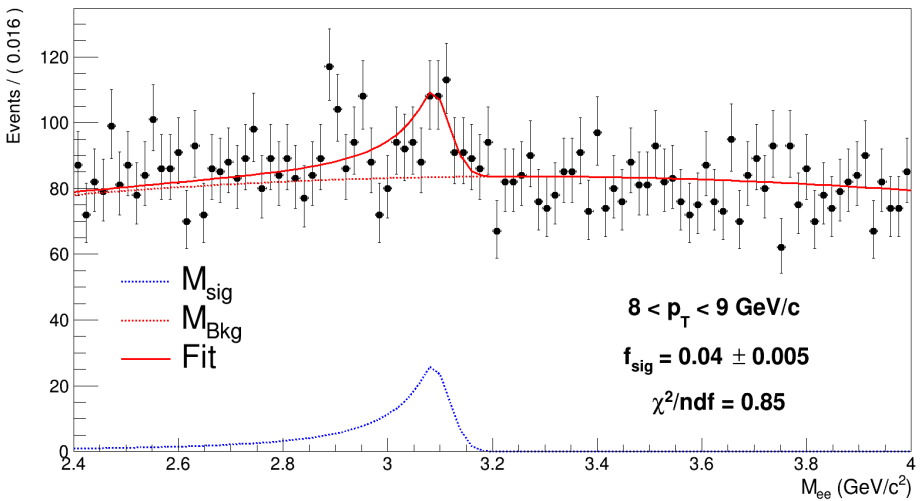

7 < p_T < 8 GeV/c
f_B = 0.2 ± 0.005
χ²/ndf = 1.00
x-background
Non-prompt J/ψ
Data
Fit
Events / (0.001004)
Pseudo-proper Decay length x (cm)


8 < p_T < 9 GeV/c
f_B = 0.19 ± 0.06
χ²/ndf = 1.085
x-Background
Non-prompt J/ψ
Data
Fit
Events / (0.001004)
Pseudo-proper Decay length x (cm)


7 < p_T < 10 GeV/c
f_B = 0.48 ± 0.07
χ²/ndf = 0.71
x-Background
Non-prompt J/ψ
Data
Fit
Events / (0.001004)
Pseudo-proper Decay Length x (cm)

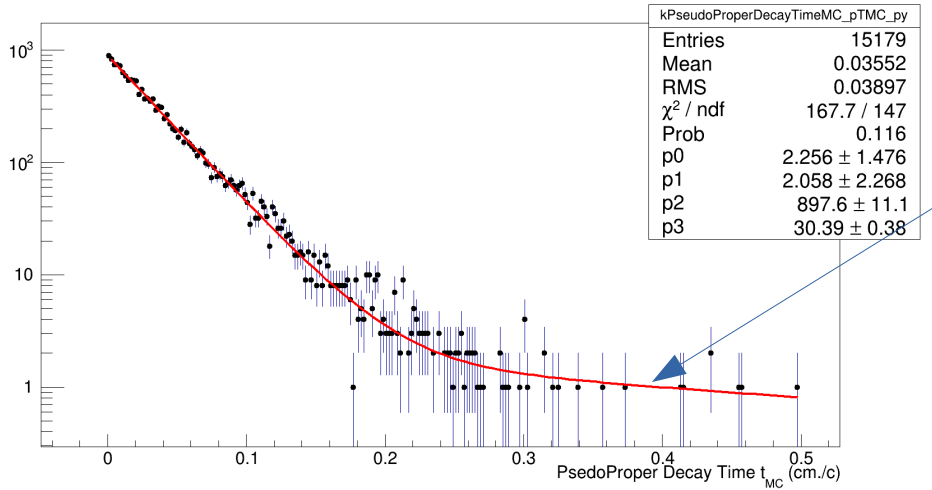






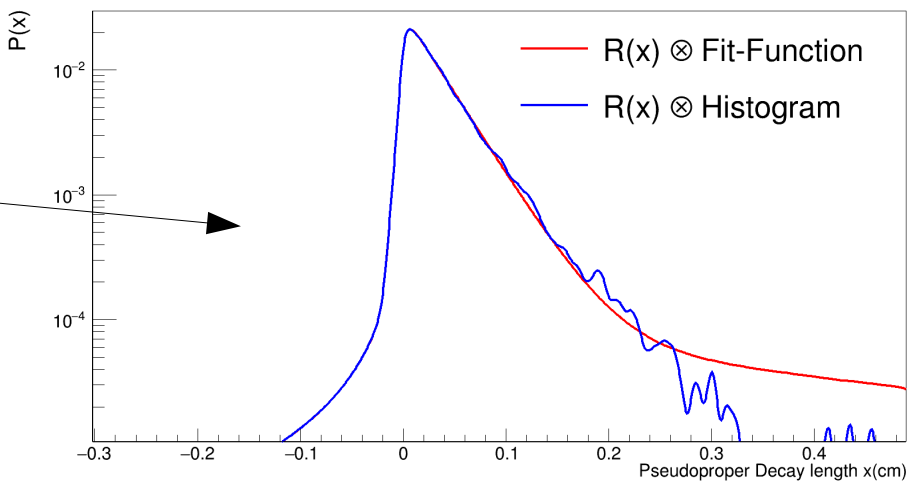
- pT : 5-7 GeV/c is standard bin.
- But the x-bkg template was not good (Not describing the shape well)
- Need some more work to be done in this bin.

Improving Non-prompt Jpsi Template:



- Sum of two-exp function is fitted to describe the shape of histogram.

- Convolute the Fitted-function with Resolution function (Red)
- Convolution of Histogram with Res. Function (Blue)
  - Smoother shape in Red



Analysis on Pass-3:

- **Pass-3 MC production is going on, here is the JIRA-ticket link**
- **Vertex-improver correction maps are not available now for pass-3. They will be produced by the responsible person as soon as pass-3 MC production is finished.**
- **Pass-3 Data :-**
  - **Alena, Xiaozhi (GSI) proposed to use same reduced trees for both analysis (Inclusive and Non-prompt) to reduce the possibilities of bugs and errors.**
  - **Further it will reduce the load on Lego-train resources.**
  - **They are waiting for new-splines for pass-3.**
  - **Agreement for filled branches.**

Other Improvements :

- **Analysis with IP-tuned MC in**
  - **10-30% centrality (fittings yet to be done.)**

  It would be good to cross-check while working with two centrality.

- **Compiling all details in Analysis-note.**

Back Up :