Comparison Pythia and AliFemto CF of pp V0 run without ITS

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Input

- AliRoot v4-14-Rev01 with AliFemto from trunk
- Run 1600XXX (V0 without ITS)
- Pythia cuts:
  - $0.1 < \text{Pt} < 1. \text{ GeV/c}$
  - $|\eta| < 0.88$
  - Take only primary particles (not from interaction with detector materials)
- AliRoot cuts:
  - $0.1 < \text{Pt} < 1. \text{ GeV/c}$
  - Standard cut on splitting-merging
  - $|V_z| < 15.6 \text{ cm}$
  - TPC Chi2 < 2.0
  - Sigma-vertex < 3.0
  - Number of TPC clusters > 95 (120)
  - No ITS refit
Tracks with small pseudorapidity can be reconstructed more than once?
AliFemto: Eta-Pt and CF

**ProjX(\(\eta\)) 95 clusters(red) and 120 clusters(green)**

Entries: 4515238
Mean: -0.0008482
RMS: 0.5865

**eta95**

Entries: 3838030
Mean: -0.0005467
RMS: 0.5637

**Unweighted 95 clusters(red) and 120 clusters(green)**

Entries: 8342700
Mean: 0.4984
RMS: 0.2898

**Numqinvcf**

Entries: 4515238
Mean: 0.4984
RMS: 0.2898
Energy and Momentum Conservation Induced Correlations

\[ \chi^2 / \text{ndf} = 117.7 / 98 \]
\[ c_0 = 0.9978 \pm 0.0008 \]
\[ c_1 = 0.0418 \pm 0.0020 \]
Conclusion

• AliFemto and Pythia correlation functions are different
• Energy and momentum conservation induced correlation are existed for both alifemto and pythia

Plans:
• Check AliFemto with SetMaxITSChiNdof(2.5);
• Check everything with new set of pp production data

Thank you for attention!