Jet production at sPHENIX in pp collisions

C-J. Naïm

Center for Frontiers in Nuclear Science

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sPHENIX experiment

- pp collisions
- Jet production
- $\sqrt{s} = 200$ and 500 GeV

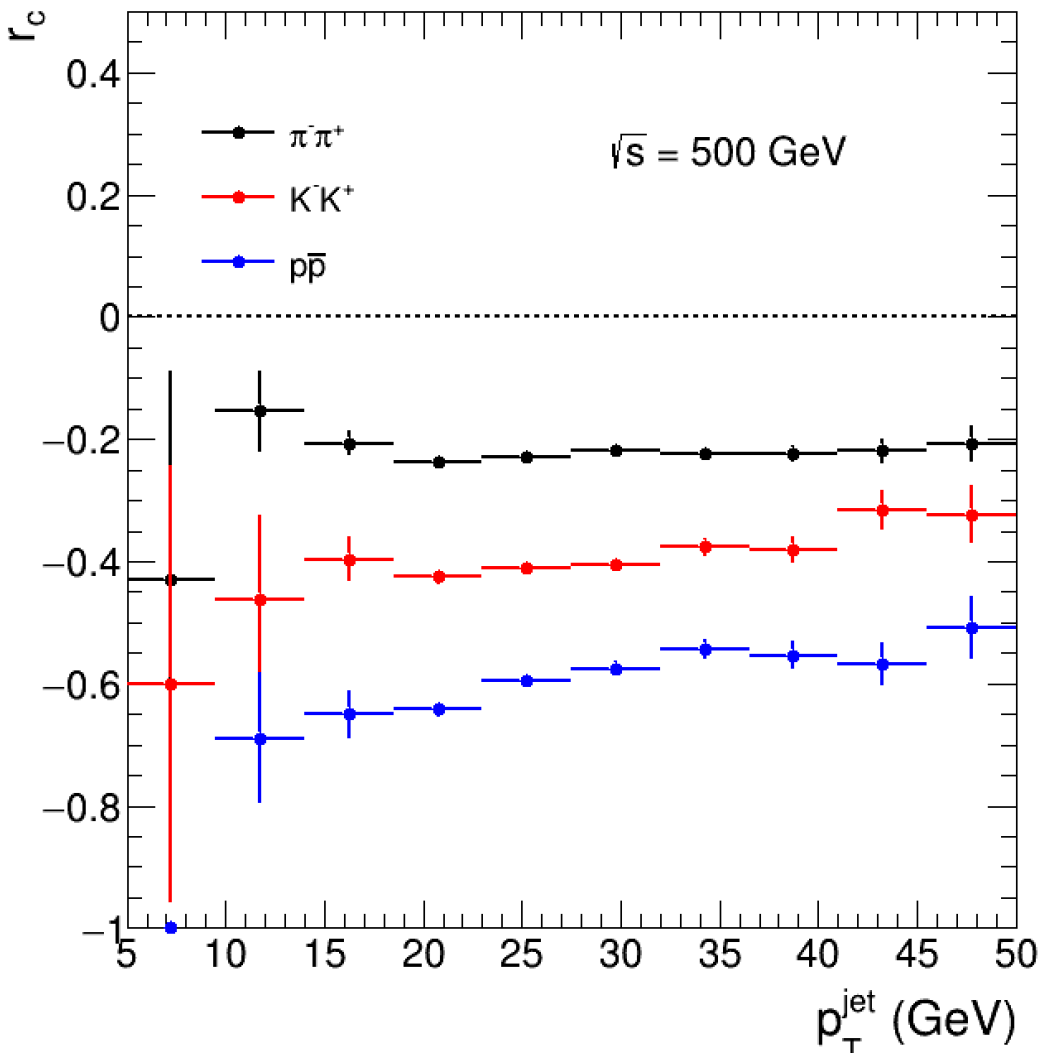
PYTHIA settings

- pp collisions
- $\sqrt{s} = 500$ GeV
- anti-kT, R = 1
- $p_{\perp}^{\text{jet}} > 5$ GeV

Observable: (based on [2109.15318])

$$r_c(X) = \frac{\mathrm{d}\sigma_{h_1 h_2}/\mathrm{d}X - \mathrm{d}\sigma_{h_1 \overline{h_2}}/\mathrm{d}X}{\mathrm{d}\sigma_{h_1 h_2}/\mathrm{d}X + \mathrm{d}\sigma_{h_1 \overline{h_2}}/\mathrm{d}X}$$

Where $(h_1,\ h_2) \in (\pi^{\pm}, K^{\pm}, p/\overline{p})$



- Need to increase the statistics, in particular for $p_\perp \lesssim 15$ GeV
- r_c, in overall, doesn't depend on $p_\perp$ and $r_c^\pi > r_c^K > r_c^p$
- Check the $k_\perp$ and t_{form} dependence