A simple explanation of the ridge based on MPI

- Protons separated by impact vector $\mathbf{b}$
- All parton collisions will tend to lie in the plane defined by incoming proton momenta $\mathbf{p}$ and impact vector $\mathbf{b}$
  → resulting particles have similar $\phi$
- Initial state partons have different $x_{Bj}$
  → resulting particles have different $\eta$
- MPI approach of PYTHIA uses impact parameter model, but does not take into account $\phi$ correlation: the outgoing partons of each parton-parton collision go off in a random direction in $\phi$
  → no long-range near-side angular correlations
- What about centrality dependence of ridge at RHIC?

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