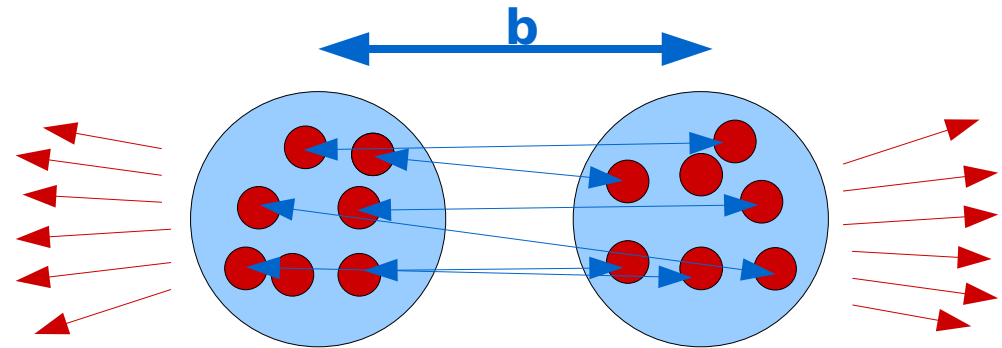




# A simple explanation of the ridge based on MPI

- 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  $\varphi$
- 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  $\varphi$  correlation: the outgoing partons of each parton-parton collision go off in a random direction in  $\varphi$   
→ no long-range near-side angular correlations
- What about centrality dependence of ridge at RHIC?

Long-range near-side angular correlations!