

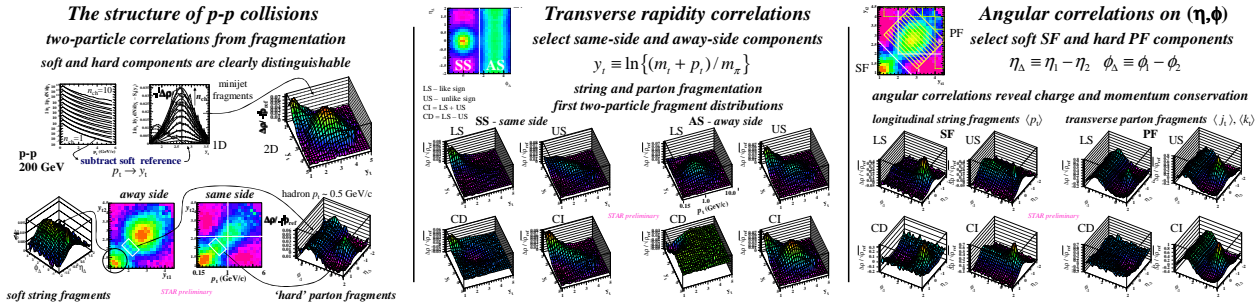
Two-particle Correlations from p-p Collisions at $\sqrt{s}_{NN} = 200$ GeV

Tom Trainor *University of Washington* (STAR Collaboration)

Two-particle correlations from low- Q^2 parton scattering in p-p collisions at RHIC are presented. We observe parton fragmentation down to $p_t = 0.35$ GeV/c for both hadrons of a pair (no leading-particle condition), providing an essential reference for A-A collisions. We present correlations on transverse rapidity y_t , pseudorapidity η and azimuth ϕ . Correlations on (y_{t1}, y_{t2}) separate into a soft (string fragment) component at smaller y_t and a hard (parton fragment) component at larger y_t .

Cuts on (y_{t1}, y_{t2}) isolate jet correlations on $(\eta_1, \eta_2, \phi_1, \phi_2)$. Study of same-side ($|\phi_1 - \phi_2| < \pi/2$) and away-side ($|\phi_1 - \phi_2| > \pi/2$) regions isolates intra- and inter-jet rapidity correlations. A large asymmetry about the jet thrust axis (strong elongation on azimuth) for low- p_t fragments in p-p collisions is compared to the opposite trend (strong elongation on pseudorapidity) observed in central Au-Au collisions [1].

[1] J. Adams et al. (STAR Collaboration) nucl-ex/0411003.



Parton dissipation is studied with low- Q^2 partons to probe non-pQCD medium effects

Above is a survey of all minimum-bias two-particle correlations for p-p collisions at $\sqrt{s}_{NN} = 200$ GeV showing longitudinal and transverse fragmentation

Below is an analysis of two-particle parton fragment rapidity and angular distributions using no jet hypothesis (no trigger particle)

