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Helix string fragmentation and charged particle correlations with ATLAS

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Correlations between charged particles provide important insight about hadronization process. The analysis of the momentum difference between charged hadrons in pp, p-lead, and lead-lead collisions of various energies is performed in order to study the dynamics of hadron formation. The spectra of correlated hadron chains are explored and compared to the predictions based on the quantized fragmentation of a three dimensional QCD helix string. This provides an alternative view of the two-particle correlation phenomenon typically attributed to the Bose-Einstein correlation, which will also be presented.

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Session Classification: Low x, PDFs and hadronic final states

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