

Transverse Momentum Broadening in Nuclear Media at Jefferson Lab's CLAS

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Transverse momentum broadening is one of the observables measured to study the hadronization process. This process is directly related to the space-time development of a deconfined quark in the nuclear medium before it evolves into a hadron [1, 2, 3]. I'll show the preliminary results for the first experimental measurements of the transverse momentum broadening for positive pions, produced by lepton-nucleon deep inelastic scattering, in carbon, iron, and lead targets at Jefferson Lab's CLAS detector with a 5.014 GeV unpolarized electron beam. We used the particle identification scheme developed during the charged pions' multiplicity ratio analysis measurements [4]. In addition, we applied detector acceptance and radiative corrections.

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