

PDF Studies of Hadronization Mechanisms using Pion Electroproduction in Deep Inelastic Scattering from Nuclei

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Summary

Results for data analysis of Jefferson Lab experiment E02-104 will be presented. These data give an opportunity to investigate the modifications of fragmentation functions in the nuclear medium, and the energy loss of quarks in the in-medium hadronization process. The first observable measured is the hadronic multiplicity ratio, which is a measure of the modification of the medium-modified fragmentation functions. The second observable is the broadening of the distributions in hadron transverse momentum, the transverse momentum broadening. It is expected that the hadron production time can be estimated from this variable within certain kinematic regions.

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