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Color propagation in eA from CLAS at Jefferson Lab

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The studies on the propagation of the color charge and hadron formation in nuclear medium allow to explore mechanisms intimately related to confinement and asymptotic freedom. This fundamental topic has been of interest to multiple communities: Drell-Yan, heavy-ion collisions and Semi-Inclusive DIS, all of which contribute different but complimentary information. A unique feature of SIDIS is its ability to investigate time-dependence of color propagation and hadronization processes by embedding it in well understood nuclear medium of increasing size.

In this talk I will present preliminary results on many fold π+, π- and π0 multiplicity ratios measured from SIDIS reaction on C, Fe, Pb normalized to D. The series of measurements were performed at Jefferson Lab with 5.014 GeV electron beam incident on a double-target system in which liquid deuterium and one of the solid targets were exposed simultaneously to the beam. In future, these measurements will continue with approved experiment at CLAS12 with 11 GeV electron beam and with color propagation program accessible with the Electron Ion Collider.

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