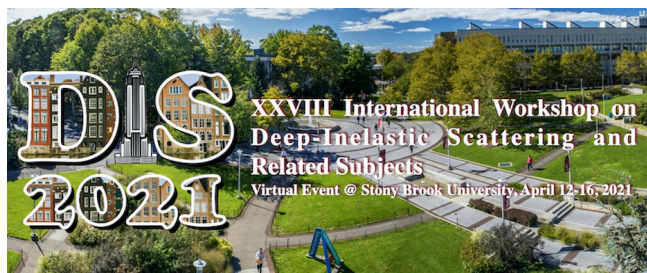


XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 365

Type: **Contributed Talk**

Probing u-channel Physics Observables from JLab Hall C to EIC

Tuesday, 13 April 2021 13:26 (18 minutes)

The recent exclusive backward-angle electroproduction of omega from Jefferson Lab Hall C electron-proton fixed-target scattering experiments above the resonance region, published in the PRL, hints on a new domain of applicability of QCD factorization in a unique u-channel kinematics regime. Thanks this pioneering effort, the interests of studying nucleon structure through u-channel meson production observables have grown significantly.

In the fixed target configuration, the u-channel meson electroproduction observables feature an unique interaction picture: target proton absorbs nearly all momentum induced by virtual photons and recoils forward; while the production mesons (such as omega or pions) are left behind almost at rest near the target station. At Jefferson Lab Hall C, the missing mass reconstruction technique is applied to resolve the produced nucleon; whereas in Hall B and D, the decayed mesons are directly detected. In this presentation, I will provide a summary on the key observations of the existing u-channel meson production results, update-to-date theory insights and a path to further explore u-channel observables from JLab 12 GeV Hall C program to the future Electron Ion Collider.

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Session Classification: Future Experiments

Track Classification: Future Experiments