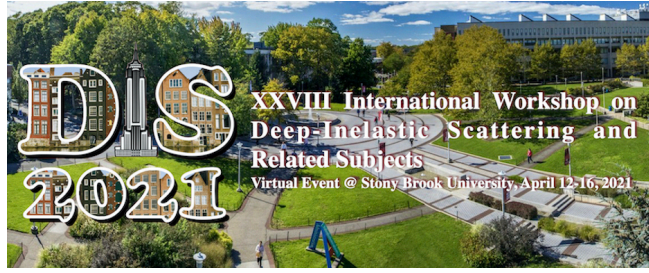


XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 726

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Charged Lepton Flavor Violation at the EIC

Wednesday, 14 April 2021 08:54 (15 minutes)

We present a comprehensive analysis of the potential sensitivity of the Electron-Ion Collider (EIC) to charged lepton flavor violation (CLFV) in the channel $ep \rightarrow \tau X$, within the model-independent framework of the Standard Model Effective Field Theory (SMEFT). We compute the relevant cross sections to leading order and perform simulations of signal and SM background events in various τ decay channels, suggesting simple cuts to enhance the associated estimated efficiencies.

To assess the discovery potential of the EIC in τ - e transitions, we

study the sensitivity of other probes of this physics across a broad range of energy scales, from $pp \rightarrow e\tau X$ at the Large Hadron Collider to decays of B mesons and τ leptons.

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