

Revisiting target mass corrections in lepton-nucleus deeply inelastic scattering

Tuesday, August 22, 2023 3:15 PM (15 minutes)

In this talk we revisit so-called target mass corrections (TMCs) to nuclear structure functions in lepton-nucleus deeply inelastic scattering (DIS), which account for the fact that the masses of nuclei are not guaranteed to be small compared to momentum transfers in DIS. We present several findings, including: (i) that nuclear parton distribution functions can be expressed directly in terms of partonic degrees of freedom in the OPE (the intermediate picture of “bound nucleons” is not necessary); (ii) that nuclear TMCs can be expressed in a way that is universal for all nuclei and readily implemented in numerical codes; (iii) the numerical impact in DIS cross sections.

Author: RUIZ, Richard (Institute of Nuclear Physics (IFJ) PAN)

Presenter: RUIZ, Richard (Institute of Nuclear Physics (IFJ) PAN)

Session Classification: parallel (room#102)

Track Classification: WG2: Neutrino Scattering Physics