Contribution ID: **400** Type: **Talk**

Finite-volume formalism for physical processes with an electroweak loop integral

Friday, 2 August 2024 15:15 (20 minutes)

This study investigates finite-volume effects in physical processes involving the combination of long-range hadronic matrix elements with electroweak loop integrals. We adopt the idea of implementing the electroweak part in the infinite-volume version. A general approach is established for correcting finite-volume effects in cases where the hadronic intermediate states are dominated by either a single particle or two particles. The finite-volume formalism developed in this study has broad applications, including the QED corrections in various processes and the two-photon exchange contribution in $K_L \to \mu^+\mu^-$ decay.

Primary authors: TUO, Xinyu (Brookhaven national laboratory); FENG, Xu (Peking University)

Presenter: TUO, Xinyu (Brookhaven national laboratory)

Session Classification: Quark and lepton flavour physics

Track Classification: Quark and Lepton Flavour Physics