

Investigating the reach of FPF via information geometry using multidifferential neutrino spectra

Monday 18 September 2023 16:25 (15 minutes)

Based on a broad selection of existing predictions to cover the phase space as well as possible, we investigate the highest achievable precision for the neutrino spectra expected at the FPF. The spectra are presented as a function of neutrino energy and the spatial radius of the interaction vertex, separately for each outgoing charged lepton flavor, thus demonstrating the increase in precision due to the use of multidifferential distributions. This allows assessing the ultimate experimental reach of the FPF, and as particular examples we investigate the constraints that can be set on neutrino charged current non-standard interactions and enhanced forward kaon production.

Authors: KLING, Felix (DESY); Dr TROJANOWSKI, Sebastian (NCBJ, Astrocent); MAKELA, Toni (NCBJ)

Presenter: MAKELA, Toni (NCBJ)

Session Classification: SM Physics Parallel Session