

Phenomenology 2022 Symposium: From Virtual to Real



Contribution ID: 117

Type: not specified

The forward-backward asymmetry in inclusive semileptonic B decays

Monday 9 May 2022 15:45 (15 minutes)

The forward-backward asymmetry $\mathcal{A}_{FB}$ in inclusive $B \rightarrow X l \nu$ decays is an observable with great potential to improve inclusive determinations of $|V_{cb}|$ and to test lepton flavor universality in tree-level charged current decays. In this talk we discuss the advantages of measuring $\mathcal{A}_{FB}$ at Belle II employing a cut on the invariant mass of the lepton-neutrino system instead of commonly used cuts on the lepton energies and highlight the impact of particle identification requirements on the interpretation of future determinations of $\mathcal{A}_{FB}$.

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Session Classification: Flavor I