Contribution ID: 42 Type: not specified

Sensitivity study of τ decays with an η meson at the Belle II experiment.

Abstract

In this work the sensitivity study of the decay channels $\tau \to \eta \pi \nu$ and $\tau \to \eta \pi \pi^0 \nu$ at the Belle II experiment are presented. Measurements of the branching ratio and $\eta \pi$ invariant mass for each channel would disentangle models. Furthermore, the decay $\tau \to \eta \pi \nu$ is relevant because its observation could be a signal of Second Class Currents and, due to the suppression, is sensitive to contributions from new physics.

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