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Rare Decays with Missing Energy at the Belle II Detector (student talk)

Sunday, 18 February 2018 09:30 (15 minutes)

The Belle II detector is a competitive, perhaps unique, environment in which to study rare B decays with missing energy to a sensitivity that would exhibit indirect New Physics effects. From a B-$\bar{B}$ meson pair that has been produced in the SuperKEKB B-factory, one B meson can be can be fully reconstructed through powerful B-tagging, which in turn provides strong constraints for the other B meson. This is an ideal environment in which rare decays with missing energy can be measured. The possible missing energy decays will be examined with a focus on the decay $B \to \tau\nu$, which - with the full Belle II data set ($50\,\mathrm{ab}^{-1}$) - can be probed at unprecedented precision.

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