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Measurements of electroweak penguin and lepton-flavour violating B decays to final states with missing energy at Belle and Belle II

The Belle and Belle II experiments have collected a 1.2 ab^{-1} sample of $e^+e^- \rightarrow B\bar{B}$ collisions at a centre-of-mass energy corresponding to the $\Upsilon(4S)$ resonance. These data, with low particle multiplicity and constrained initial state kinematics, are an ideal environment to search for rare electroweak penguin B decays and lepton-flavour-violating B decays to final states with missing energy from neutrinos. Results from $b \rightarrow s\nu\bar{\nu}$ processes and their interpretation are presented. In addition, we present searches for the processes $B \rightarrow K^{(*)}\tau^+\tau^-$. Finally, we present our search for the lepton-flavour violating decay $B^0 \rightarrow K^{*0}\tau^\pm\ell^\mp$, where ℓ is an electron or muon.

Secondary track

T09 - Beyond the Standard Model

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