

Invisible decay of baryons post Belle-II results

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The Belle-II has recently presented the evidence for $B^+ \rightarrow K^+ \bar{\nu} \nu$ decay for the first time. The result is in excess of the Standard Model prediction and could be a hint for physics beyond the Standard Model. In this work, we explore the implications of the Belle-II results on the $\Lambda_b \rightarrow \Lambda^{(*)} \nu \bar{\nu}$ decays. We make Standard Model predictions of the $\Lambda_b \rightarrow \Lambda^{(*)} \nu \bar{\nu}$ decay observables, as well as obtain limits under different new physics scenarios. We further study the possibility that the discrepancy is due to a dark sector and discuss the sensitivity of $\Lambda_b \rightarrow \Lambda^{(*)} \nu \bar{\nu}$ decays to dark matter.

Track type

Flavour Physics

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