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Lepton Flavour Universality tests using semileptonic b-hadron decays

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According to SM, the electroweak bosons couple to the three lepton families with the same strength, the only difference in their behaviour being due to the difference in mass. In recent years, some deviations from the SM predictions have been observed in b⟶cℓνℓ transitions. These measurements have been made by calculating R-values, which represent the ratio of branching fractions for b decays into different lepton flavours. These semileptonic measurements are ideally suited to study the weak interaction and the effects of the strong interaction in B-meson decays. In particular, decays involving a τ- lepton are sensitive to new physics and provide insight into third-generation physics. In this talk, we present results from lepton universality tests in b⟶cℓνℓ decays at LHCb.

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