

Violation of lepton universality: impact of new physics for R_K and R_{π}

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In view of the expected experimental precision, light meson leptonic decays have a unique potential to probe deviations from the Standard Model estimates on lepton flavour universality, and thus signal the presence of New Physics.

We briefly review supersymmetric contributions to the ratio R_K , which are in general unable to saturate the current experimental bounds due to a strong tension with different flavour observables. We then focus on the SM minimally extended by sterile neutrinos, where a tree-level enhancement of lepton flavour universality violation in light meson decays arises from modified W - l - ν couplings. We illustrate these effects in the context of the inverse seesaw, showing that one can saturate the current experimental bound on Δr_K (and Δr_{π}), in agreement with the different experimental and observational constraints.

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