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Lepton-flavour violation in hadronic tau decays and $\mu - \tau$ conversion in nuclei

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Within the Standard Model Effective Field Theory framework, with operators up to dimension 6, we perform a model-independent analysis of the lepton-flavour-violating processes involving tau leptons. Namely, we study hadronic tau decays and ℓ-τ conversion in nuclei, with $\ell = e, \mu$. Based on available experimental limits, we establish constraints on the Wilson coefficients of the operators contributing to these processes. The translation of these constraints into the most general leptoquark framework is also considered. Our work paves the way to extract the related information from Belle II and foreseen future experiments.

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