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Lepton Flavor Violation in b⟶sℓ1ℓ2 processes

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Some New Physics scenarios that can explain the hints of Lepton Flavor Universality Violation (LFUV) observed in the B-meson decays also predict Lepton Flavor Violating (LFV) decay modes. We explore minimalistic scenarios involving leptoquark states at the $\mathcal{O}(\mathrm{TeV})$ scale which are consistent with low energy flavor physics observables. We show that the upper bound on LFV decay modes is already close to the experimental limit. Additionally the direct searches at LHC translate into a lower bound on $B \to K^{(*)}\mu\tau$ or $\Lambda_b \to \Lambda\mu\tau$ channels, a prediction that can be probed experimentally to test the validity of the proposed scenarios.

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