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An EFT look at LFUV in $b \to s\ell^+\ell^-$

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We present a state-of-the-art picture of the imprints of New Physics in $b \to s\ell^+\ell^-$ transitions in light of the most recent experimental updates on lepton-universality tests of the Standard Model in this channel from the LHCb and Belle collaborations. We make use of the language of effective field theories in order to characterize a model-independent study of New Physics effects in this class of semileptonic B decays. In particular, we explore New Physics solutions to current $b \to s$ anomalies both from the bottom-up point of view of the standard Weak Effective Hamiltonian, and from the perspective of the Standard Model Effective Field Theory, where correlations in the short-distance physics driven by Standard Model gauge invariance arise. In both theoretical frameworks, we single out New Physics scenarios preferred by current data within a careful treatment of hadronic uncertainties. We finally comment on possible future improvements for a conservative assessment of such New Physics effects in $b \to s\ell^+\ell^-$ transitions.

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