

Towards establishing NP in amplitude analysis of $\bar{B}^0 \rightarrow \bar{K}^* \ell \ell$

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Rare semileptonic $b \rightarrow s \ell^+ \ell^-$ transitions provide some of the most promising framework to search for new physics effects. Recent analyses of these decays have indicated an anomalous behaviour in measurements of angular distributions of the decay $B^0 \rightarrow K^* \mu^+ \mu^-$ and lepton-flavour-universality observables. Unambiguously establishing if these deviations have a common nature is of paramount importance in order to understand the observed pattern. In this talk I will present the prospects to disentangle true New Physics effects from non-local hadronic contributions in the $B^0 \rightarrow K^* \mu^+ \mu^-$ decay and how such approach could be extended to include $B^0 \rightarrow K^* e^+ e^-$ decays. If current hints of new physics are confirmed, this analyses could allow an early discovery of physics beyond the Standard Model with full LHCb Run-II datasets.