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Search for the lepton flavour violating decay $B_{s,d} \rightarrow e+\mu^-$ at the LHCb experiment

Rare leptonic $b \rightarrow s\ell\ell'$ processes are sensitive indirect probes for new effects beyond the Standard Model (SM). Recent deviations from the SM observed in LHCb suggest lepton flavour universality violation effects that could imply the existence of lepton flavour violation processes at an accessible energy scale. In particular it is interesting to search for $b \rightarrow s\ell\ell'$ processes where the effect of a new boson arising from a local gauge symmetry between lepton and quarks could significantly enhance their branching fractions.

LHCb's design is optimal for these searches.

Recent results on $B_{s,d} \rightarrow e^{+-}$ searches at LHCb will be presented.

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