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## Rare leptonic and semileptonic b-hadron decays

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Rare leptonic and semileptonic decays of B, D and K mesons provide sensitive indirect probes of effects beyond the Standard Model (SM). In the SM, these decays are forbidden at tree level and are therefore suppressed. In particular, the  $b \rightarrow s\ell^+\ell^-$  processes give access to many observables where effects of New Physics can be observed. The LHCb experiment is designed for these searches due to its large acceptance and trigger efficiency, as well as its excellent invariant mass resolution and particle identification capabilities. Recent results on these searches will be presented. Moreover the possibility to measure new theoretically clean observables, such as the  $B_s \rightarrow \mu\mu$  effective lifetime, will be also shown.

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