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Studies of the electroweak penguin transitions b⟶smumu and b⟶dmumu at LHCb

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Rare b⟶sμ+μ−transitions that proceed via flavour changing neutral currents are suppressed in the SM and provide a sensitive probe of new physics contributions entering in competing diagrams. The dataset collected with the LHCb experiment has enabled measurements to be made in decays such as B⟶K*0μ+μ−, B+⟶K+μ+μ− and Bs⟶φμ+μ−. Particularly interesting are the angular and isospin asymmetries in the decay B⟶K()0μ+μ−, which are sensitive probes of new physics. The large statistics of reconstructed B mesons allow, for the first time, experimental access to b⟶dμ+μ−transitions, such as B+⟶π+μ+μ−, which are further suppressed in the SM. The latest results on these decay modes will be presented.

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