

LHC preparations for precise measurements of muonic rare B decays

The LHC experiments will perform sensitive tests of physics phenomena beyond the Standard Model (BSM). Investigation of decays of beauty hadrons represents an alternative approach in addition to direct BSM searches. The efforts concentrate especially on the rare B decays sector. In family of semi-muonic rare decays, including B_d , B_s and Λ_b channels, LHC will be able unambiguously to confirm or exclude certain classes of MSSM models in confrontation with SM already after one year.

The strategy is to carry on the di-muon channel programme up to nominal LHC luminosity. In particular, for the $B \rightarrow \mu\mu$ channel, a branching fraction sensitivity up to few times 10^{-10} is expected to be achieved already after one year of LHC operation at a luminosity of $10^{34} \text{ cm}^{-2} \text{ s}^{-1}$. This precision allows excluding or confirming the SM unambiguously.