

Portoroz 2013: Probing the Standard Model and New Physics at Low and High Energies

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b- \rightarrow s transitions and Lattice QCD

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This year, LHC provided a very stringent bound on $\text{Br}(B_s \rightarrow \mu^+ \mu^-)$, bringing it closer to the value predicted by the Standard Model (SM). $B_s \rightarrow \mu^+ \mu^-$ was believed to be the golden mode at LHCb to find SUSY because a large enhancement was expected in the regime of moderate and large values of $\tan\beta$. Other scenarios are still possible and a correlation with other decay channels is needed. We show that a complementary information on New Physics (NP) can be obtained model-independently from the $B \rightarrow K^{(*)} l^+ l^-$ decay mode. To this purpose, information from lattice QCD is needed to calculate the hadronic uncertainties entering $b \rightarrow s$ sector.

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