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Tests of Lepton Flavor Universality at LHCb

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In the Standard Model the three charged leptons are identical copies of each other, apart from mass differences and the electroweak coupling of the gauge bosons to leptons is independent of the lepton flavour. This prediction is called lepton flavour universality (LFU) and is well tested in tree level decays, any violation of LFU would be a clear sign of physics beyond the Standard Model.

Experimental tests of LFU in semileptonic decays of b-hadrons or rare b decays are highly sensitive to New Physics particles which preferentially couple to the 2nd and 3rd generations of leptons. Recent results from LHCb on lepton flavour universality in semileptonic $b \rightarrow clv$ transitions and rare b->sll decays are discussed.

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