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Lepton number and lepton flavour violation searches in B decays at LHCb

Thursday, 16 February 2023 19:00 (1h 30m)

In the Standard Model of particle physics, lepton flavour and lepton number are conserved quantities, although there is no fundamental symmetry associated with their conservation and lepton flavour violation has been already confirmed by the observation of neutrino oscillations.
Many lepton flavour violating (LFV) and lepton number violating (LNV) processes can be searched for in B meson decays and the LHCb experiment plays a very important role in this sector. The observation of charged LFV or LNV decays would be a clear sign of new physics beyond Standard Model.
The most recent results of searches for LFV and LNV B meson decays at LHCb are presented in the talk. In addition, possible perspectives on this topic, such as searches for heavy neutral leptons, will be discussed.

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