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Rare & BSM decays at LHCb, and perspectives

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The Large Hadron Collider beauty (LHCb) experiment has been designed to study the properties of particles containing beauty quarks. The rare and beyond Standard Model (BSM) decays of these particles provide a unique window to search for new physics beyond the Standard Model. In this talk, we review recent results on rare and BSM decays at LHCb. We discuss the observation of several rare decay modes, which have been measured with high precision, allowing for sensitive tests of the Standard Model. We also highlight recent results on searches for lepton flavour violating patterns in B decays. Furthermore, we present the prospects for rare and BSM decays at LHCb in the coming years. The detector has just undergone a major upgrade, which will allow for a wider variety of rare decay measurements to be performed with unprecedented precision. We discuss the potential of LHCb to probe new physics models through rare & BSM decays in the current and the planned future upgrade.

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