

Beautiful ways to new physics

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Due to their relative large mass, mesons containing beauty quarks have a huge number of possible decay modes. Many of those decays are within the Standard Model only possible via quantum corrections in loop diagrams. Due to the Heisenberg Uncertainty Principle particles significantly heavier than the mass of the original beauty meson can give visible impact on properties of these decays. In this way the B-System is a very sensitive tool to search for potential new particles, which have not yet been observed directly due to their heavy mass.

At the LHCb experiment several thousand B mesons are recorded per second. This huge statistics allows for precision measurements to reveal potential deviations from the Standard Model predictions. The talk will discuss some of the highlights of the LHCb flavour physics programme and their constraints on potential new physics models.