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【303】 Tests of Lepton flavour universality in $b \rightarrow s\ell^+\ell^-$ decays at LHCb

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One of the fundamental properties of the Standard Model (SM) is lepton flavour universality (LFU): particles couple equally to the three lepton generations. Rare decays governed by the $b \rightarrow s\ell^+\ell^-$, which are loop- and CKM-suppressed, are extremely sensitive to New Physics scenarios introducing particles preferentially coupling to the second or third generations, and they have been thoroughly studied at LHCb. In particular, measurement of ratios of branching fractions of $B \rightarrow X\ell\ell$ decays, with X being a system containing a strange meson and $\ell\ell$ either a muon or electron pair, indicate significant deviation from theory expectations, hinting at possible LFU violation. This talk will review past and ongoing LHCb analyses aimed at elucidating the nature of this phenomenon.

Primary author: GRAVERINI, Elena (Universitaet Zuerich (CH))

Presenter: GRAVERINI, Elena (Universitaet Zuerich (CH))

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