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【307】 Test of lepton flavour universality in $B^+ \rightarrow K^+ l^+ l^-$ decays in high dilepton invariant mass squared region

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The recently updated value of the ratio of branching fractions $R_K = \mathcal{B}(B^+ \rightarrow K^+ \mu^+ \mu^-) / \mathcal{B}(B^+ \rightarrow K^+ e^+ e^-)$ that has been calculated for a dilepton invariant mass squared range $q^2 \in (1.1 \text{ GeV}^2, 6.0 \text{ GeV}^2)$ is in tension with the Standard Model prediction at the level of 3.1σ . I will discuss a complementary study in the high $q^2 > 14 \text{ GeV}^2$ region using the same 9 fb^{-1} of proton-proton collision data recorded by the LHCb experiment at CERN's Large Hadron Collider. The result is expected to be statistically and systematically independent of the existing central q^2 measurement and will be a vital measurement in clarifying the presence of new physics in this system.

Authors: LANCIERINI, Davide (Universitaet Zuerich (CH)); Mr DENYSENKO, Vadym (Universitaet Zuerich (CH)); ESCHLE, Jonas (University of Zurich); MUELLER, Katharina (Universitaet Zuerich (CH)); SERRA, Nicola (Universitaet Zuerich (CH)); OWEN, Patrick Haworth (Universitaet Zuerich (CH))

Presenter: Mr DENYSENKO, Vadym (Universitaet Zuerich (CH))

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