

Abstract Submitted
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Search for New Physics in Bottom Baryon Decays using Lattice QCD¹ GUMARO RENDON, University of Arizona, STEFAN MEINEL, University of Arizona / RIKEN BNL Research Center — With the discovery of the Higgs boson in 2012, the last missing elementary particle of the Standard Model was found, but certain unexplained phenomena and theoretical arguments suggest that we still do not have a complete theory. It is therefore our task to further test the Standard Model in a wide range of energy scales. Experimental results for decays involving a bottom-to-strange-quark transition show a pattern of deviations from Standard-Model predictions, which could be due to new fundamental physics. Aiming to better understand these deviations, we perform calculations using lattice quantum chromodynamics for the heavy-baryon decay process $\Lambda_b \rightarrow \Lambda(1520)\mu^+\mu^-$. In this talk I present preliminary results from this project.

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