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Planck-safe U(1)' Extensions Explaining RK(*)

Thursday 26 August 2021 17:40 (20 minutes)

We report on a new class of flavorful Z'-extensions of the standard model, which explain the recent hints for lepton universality violation in $R_{K^{(*)}}$-data.
The models feature new vector-like fermions as well as additional scalar fields around the electroweak scale or above.
On top of well-known theoretical and phenomenological constraints, we require stable and Landau-pole free coupling constant evolution up to the Planck scale.
We identify viable "Planck safe" benchmark scenarios and discuss phenomenological implications.

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