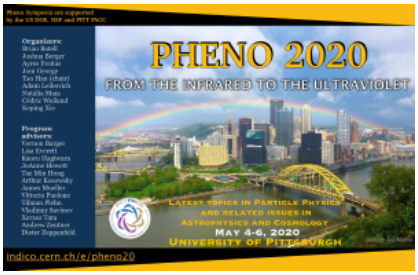

Contribution ID: **1015** Type: **Parallel Talk**

A Tale of Two U(1)s: Kinetic Mixing from Lattice WGC States

Tuesday 5 May 2020 15:00 (15 minutes)

We point out that the states required by the Lattice Weak Gravity Conjecture, along with certain genericity conditions, imply the existence of non-vanishing kinetic mixing between massless Abelian gauge groups in the low-energy effective theory. We begin with an estimate using a lattice of states satisfying the WGC up to some coefficients of order unity. We refine our estimate by considering a KK compactification of a 5D U(1) gauge theory on S^1 and estimate the magnitude of kinetic mixing between the gauge and KK U(1)s. We end with a brief discussion of potential phenomenological implications and possible loopholes to evade the bounds set by our estimates.

Summary

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