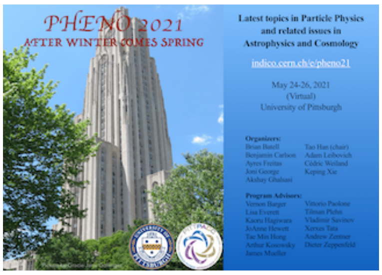

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Hints of Light New Physics at XENON1T and Muon g-2 Experiments

Tuesday, 25 May 2021 17:30 (15 minutes)

The dark matter experiment XENON1T reported recently an excess in electronic recoil events with a significance of 3.5 σ. Also, the Muon g-2 experiment at FERMILAB has confirmed the muon magnetic moment anomaly, raising the significance to 4.2 σ. Motivated by these experimental results, we interpret the signals in terms of a new light Z' gauge boson. We discuss how such a light Z' emerges in a Two Higgs Doublet Model augmented by an abelian gauge symmetry, in agreement with existing bounds.

Summary

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