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Explaining recent anomalies in vector-like fermion extensions

Monday 25 July 2022 15:12 (18 minutes)

In this talk, I will discuss vector-like fermion explanations for the recent anomalies in the precision measurements; muon g-2, semi-leptonic B meson decays, as well as W boson mass. These deviations from the SM predictions can be addressed in models with vector-like fermions together with a new U(1) gauge symmetry or scalar field dark matter. I shall then discuss LHC limits on the vector-like leptons which are predicted to be light to explain the anomalies. This talk is based on arXiv: 2205.10480, 2204.07022, 2104.04461 [PRD104(2021)3,035007],1911.11075 [PRD101(2020)3,035026] and 1906.11297 [PRD100(2019)5,055030].

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