13th Annual Meeting of the Helmholtz Alliance "Physics at the Terascale"

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Anomalous magnetic moments from asymptotic safety

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The measurements of the muon and electron anomalous magnetic moments hint at physics beyond the standard model. We explain why asymptotically safe extensions based on an enlarged scalar sector and Yukawa couplings between leptons and new vector-like fermions explain the data naturally. Models stabilize the Higgs potential, predict the tau anomalous magnetic moment, and feature new particles in the TeV energy range whose signatures at colliders are indicated. With small CP phases, the electron EDM can be as large as the present bound.

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