



KCETA Colloquium

The muon $g-2$ window discrepancy and GeV-scale new physics

Thursday, June 22, 2023

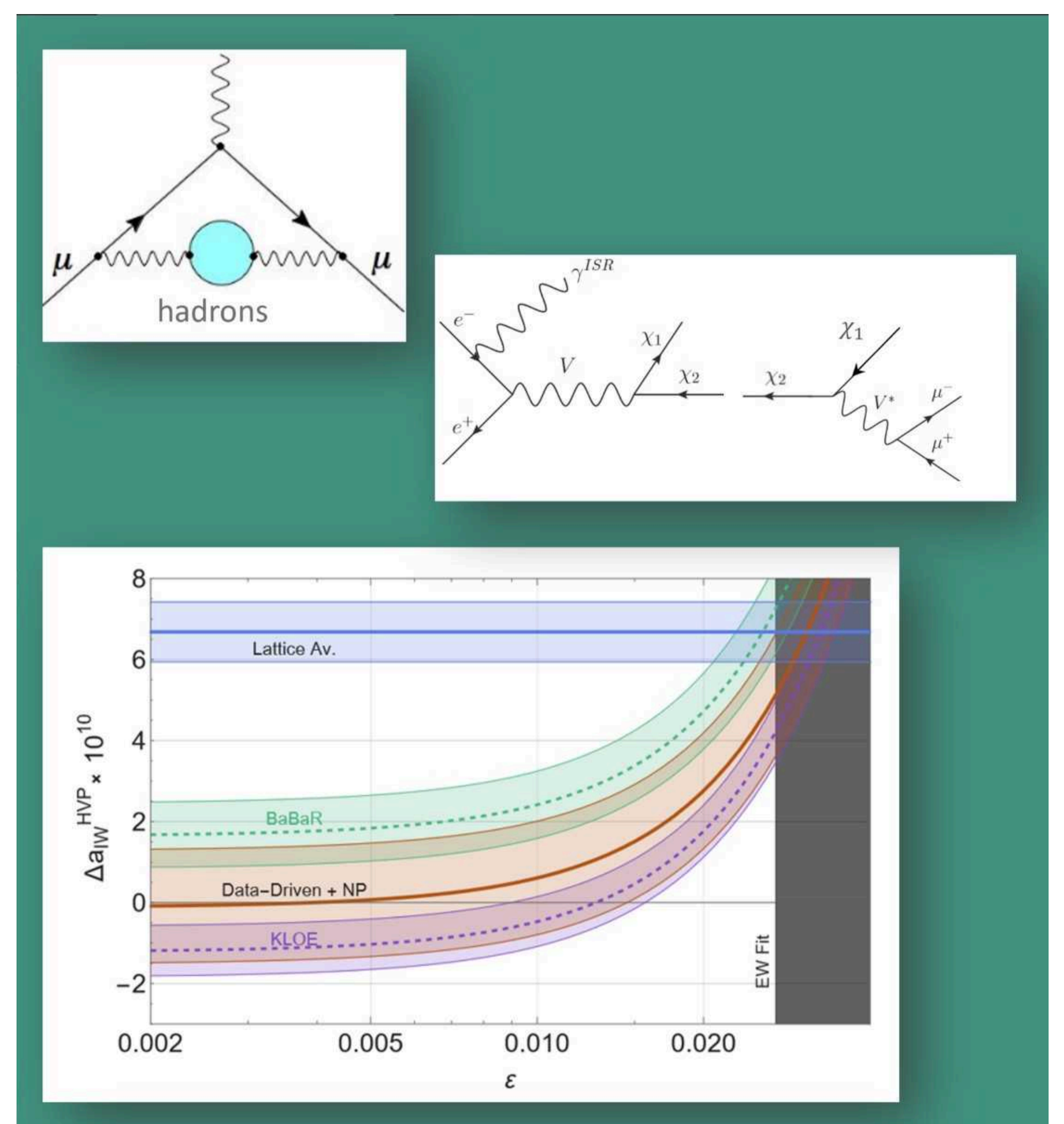
Kleiner Hörsaal A (CS) 15:45 - 17:00

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The decade-old discrepancy between the Standard Model prediction of the muon anomalous magnetic moment and the experimental results has seen striking developments in the past two years. In particular, recent lattice determinations of the hadronic vacuum polarization contribution deviate from the established data-driven ones at almost 5σ . This new anomaly can be also seen as a tension between ab-initio lattice calculations and experimental measurements of $e^+e^- \rightarrow$ hadrons processes at and below the GeV scale.

We will review this puzzling situation and show how new processes beyond the standard model can affect indirectly the hadronic data around this scale, reconciling the lattice and data-driven results while complying with current phenomenological constraints. We will finally present a simple dark matter-motivated model as an explicit example.



Please note:

The colloquium will also be live-streamed to B402 SR 224 (CN).