

HVP contributions to the muon's anomalous magnetic moment from lattice QCD

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With the Fermilab g-2 experiment's first measurement of the muon anomalous magnetic moment (a_μ), announced on 7 April 2021, the difference between the new experimental average and the Muon g-2 Theory Initiative's Standard Model prediction now stands at 4.2σ . Experimental measurements of a_μ are expected to improve drastically in the coming years. In order to maximize the impact of the experimental program, the uncertainties in the Standard Model prediction, which are dominated by hadronic effects and are currently commensurate with experiment, must be reduced concurrently. The largest of these is the hadronic vacuum polarization (HVP), which is also the dominant source of uncertainty. This talk will provide a review of the current status of lattice QCD calculations of this quantity, including future prospects for improvement.

What is your topic?

Anomalous Magnetic Moment of the muon

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