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Nonperturbative QCD corrections to the muon $g-2$

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The value of the anomalous magnetic moment of the muon measured at Brookhaven National Lab disagrees with that predicted by the Standard Model by more than three standard deviations. This raises the prospects of discovering physics beyond the Standard Model if this discrepancy can be substantially verified. The uncertainty on the Standard Model result is dominated by hadronic corrections. The leading correction is currently estimated by a dispersive analysis of experimental measurements, but recent results have demonstrated that a fully theoretical and nonperturbative determination of this contribution can be obtained using the methods of lattice QCD. I will review the latest lattice calculations and discuss the prospects for a precise determination of the leading QCD correction to the muon $g-2$.