



Contribution ID: 206

Type: Poster

The Hadronic Vacuum Polarisation contribution to the anomalous magnetic moment of the muon

Tuesday, July 26, 2016 7:00 PM (1 hour)

We report on the HPQCD calculation of the u/d HVP contribution to a_μ , discussed in arXiv:1601.03071. This allows us to obtain a total HVP contribution from u, d, s and c quarks and including an estimate of disconnected pieces and QED and isospin effects of $666(6)(12) \times 10^{-10}$.

Our result implies a discrepancy between the experimental determination of a_μ and the Standard Model of 3 sigma.

We discuss prospects for improvements to this calculation underway with the MILC and Fermilab Lattice Collaborations.

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Session Classification: Poster

Track Classification: Hadron Spectroscopy and Interactions