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Infinite Volume Reconstruction Method QED Pion Mass Corrections on the Lattice

Wednesday 28 July 2021 21:15 (15 minutes)

We use the Infinite Volume Reconstruction Method to calculate the charged/neutral pion mass difference. The hadronic tensor is calculated on lattice QCD and then combined with an analytic photon propagator, and the mass shift is calculated with exponentially-suppressed finite volume errors. In this talk we discuss the Feynman diagrams relevant to the pion mass difference and we recapitulate the advantages of the Infinite Volume Reconstruction Method. We then discuss finite volume errors and the extrapolation to the continuum limit $a \to 0$.

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