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QED corrections to QCD quantities using massive photons.

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In recent years many QCD observables have reached (sub-)percent level precision. At this level strong ($m_u \neq m_d$) and weak (charges of up, down and strange) isospin breaking effects have to be accounted for. Different methods exist to include QED into lattice QCD simulations. In massive QED (QEDm) the photon is given a mass m_γ , allowing for a local formulation of QED on the lattice. For the example of the meson and baryon spectrum at a pion mass of 310MeV, we present a feasibility study of massive QED, demonstrating that both the extrapolation to infinite volume and to vanishing photon mass limit are under control.

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