The Muon Anomalous Magnetic Moment in the Minimal 341 Model

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Abstract

An extension of the gauge group $SU(3)c\otimes SU(2)L\otimes U(1)Y$ of the standard model to the symmetry group $SU(4)L\otimes U(1)X$ (3-4-1 for short) is presented. With the minimal scalar sector. The mass matrix of neutral gauge bosons is exactly diagonalized, and the photon eigenstate is independent on the symmetry breaking parameters - VEV's of Higgs scalars.

The muon anomalous magnetic moment can be accurately measured but the experimental result does not entirely agree with the theoretical calculation from the standard model so we investigate the muon anomalous magnetic moment in the context of the minimal 341 model.