

Cancellation of one-loop corrections to scalar masses in Yang-Mills theory with flux compactification

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We calculate one-loop corrections to the mass for the zero mode of scalar field in a six-dimensional Yang-Mills theory compactified on a torus with magnetic flux. It is shown that these corrections are exactly cancelled thanks to a shift symmetry under the translation in extra spaces. This result is expected from the fact that the zero mode of scalar field is a Nambu-Goldstone boson of the translational invariance in extra spaces.

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