

Computation of the effective potential in the gauge-Higgs unification models

Wednesday 29 January 2020 14:00 (20 minutes)

Gauge-Higgs unification models give interesting solutions to the hierarchy problem in particle physics. The common study of this type of model is done by using a decomposition of 5-dimensional particles in 4-dimensional Kaluza-Klein modes, which is a handy way to compute the infinite sums appearing in the model. In order to take into account the running of coupling constants in these models, we propose a different decomposition using winding modes around the fifth dimension, which is compactified. This decomposition not only permits us to take running into account, but may also give a faster converging series in all the quantities when summing over these modes.

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Session Classification: Session II