Higgs mechanism in five dimensional gauge theories

Presenter: Magdalena Luz — Bergische Universitaet Wuppertal
Nikos Irges, Francesco Knechtli, Magdalena Luz

Lattice simulations of five-dimensional gauge theories on an orbifold revealed that there is spontaneous symmetry breaking. Some of the extra-dimensional components of the gauge field play the role of a Higgs field and some of the four-dimensional components become massive gauge bosons. The effect is confirmed by computing the Coleman-Weinberg potential with a cut-off. We compare the results of this computation with the lattice data.