

Localization of gauge field on 3-branes and Higgs mechanism

Thursday, 5 December 2019 15:00 (3 hours)

We provide complete and self-contained formulas about localization of massless/massive Abelian gauge fields on topological solitons in generic D dimensions via a field dependent gauge kinetic term. The localization takes place when a stabilizer (a scalar field) is condensed in the topological soliton. We show that the localized gauge bosons are massless when the stabilizer is neutral. On the other hand, they become massive for the charged stabilizer as a consequence of interplay between the localization mechanism and the Higgs mechanism. finally, As these application, we show the relation with D-brane in superstring theory.

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