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Stability of the inert vacuum state beyond tree level

Content :

In this talk I will discuss the issue of the stability of the inert vacuum state. It is the ground state of the inert doublet model (IDM), with one scalar doublet having SM-like vacuum expectation value and the other not participating in spontaneous symmetry breaking. Two approaches to this problem will be presented. First, the influence of heavy inert scalars on the SM-like vacuum will be studied. Secondly, I will discuss coexistence of different minima in the IDM at one-loop level, and compare it with the tree-level picture.

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