XIII Mexican School of Particles and Fields



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Higgs sector of the SM &otimes S₃ flavour symmetry

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Abstract content

Summary

In this work, we are interested in the minimal S_3 extension of the Standard Model. In particular, we deals with the S_3 -invariant Higgs sector, the gauge symmetry breaking and the vacuum stability conditions of the extended Higgs Model. The Higgs potential has three types of minimum: a normal minimum, an electric Charge breaking (CB) minimum and a (CPB) violating minimum according to the vacuum expectation value of the Higgs fields H_1 , H_2 and H_S . We obtain the conditions under which the normal minimum is the deepest and global one. Using the allowed parameter region we found that when the normal minimum exists the CB and CPB are settle points. We also calculate the mass spectrum of the Higgs bosons in the theory.

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