

# Vacuum structure in multi-scalar models

## Content

In this work we study the possibility of spontaneous CP breaking of the Georgi Machacek model by adding complex phases to the original vacuum, as well as electric charge breaking by adding vacuum expectation values to the charged components of the Higgs multiplets. The minimum conditions for these vacua are determined along with their mass matrices, and we examine the possibility of aligning these vacua using the eigenvalues of the mass matrices, considering that they must be greater than or equal to zero.

## Summary

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