

Charged Higgs searches with the CMS experiment at LHC

Abstract

The Two Higgs Doublet Model (2HDM) is one of the simplest extension of the Standard Model, which introduces an additional Higgs doublet. In this model, five physical bosons remain after the Spontaneous Electroweak Symmetry Breaking (EWSB); among them a pair of charged scalar bosons H^\pm . In this talk, an overview of the present status of this study is given for the main decay channels of H^+ assuming $m_{H^+} > m_t$, using data of pp collisions at $\sqrt{s} = 13$ TeV collected with the CMS experiment at LHC. A detailed description of the analysis and model independent limits obtained for the production cross section of the H^+ with a mass ranging from 180 GeV to 3 TeV are presented. So far, there is no evidence of the charged Higgs boson production and upper limits for its cross section are set.

Primary author(s) : Ms. FABELA ENRIQUEZ, Brenda (Autonomous University of Puebla)

Co-author(s) : Prof. PEDRAZA, Isabel (Universidad Autónoma de Puebla)

Presenter(s) : Ms. FABELA ENRIQUEZ, Brenda (Autonomous University of Puebla)