Contribution ID: **38** Type: **not specified**

Search for the Standard Model Higgs at the LHC

Monday, 3 December 2012 12:45 (45 minutes)

Results about the experimental searches for the Standard Model Higgs in the decays to fermions and gauge bosons at a collision energy of 7 and 8 TeV at the LHC are presented. The analysis uses pp collision data recorded by the CMS detector at the LHC, corresponding to integrated luminosities of 5.05 fb-1 at collision energy of 7 TeV and 5.26 fb-1 at 8 TeV. The searches cover overall Higgs boson mass hypotheses in the range 110 < m_H < 600 GeV. A complete description of the analyses for the H->gg and H->ZZ-> 4lepton searches, the most clean and high resolution channels, is provided. The nature of the excess of events observed in those two channels is explained. The general strategy and the final results are shown for the searches of the Higgs boson in the H->WW, H->tautau and H->bb channels. The results for 7 and 8 TeV analyses are combined to derive the best sensitivity of the Higgs searches by the CMS detector at the LHC and the most complete results with 2011 and 2012 data.

Primary author: Prof. VELASCO, Mayda (Northwestern University)

Presenter: Prof. VELASCO, Mayda (Northwestern University)