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Higgs Strahlung at the LHC in the 2-Higgs-Doublet Model

Monday 30 September 2013 16:00 (45 minutes)

In this talk the associated production of a (scalar or pseudoscalar) Higgs boson with a weak gauge boson (W or Z) in the 2-Higgs-Doublet Model (2HDM) at the LHC is considered. For the WH mode, a simple rescaling of the Standard Model cross section provides a reasonable approximation. In the case of ZH however, due to the larger diversity of partonic contributions, the dependence on the 2HDM parameters is much more involved. Therefore we propose the ratio of the WH and ZH cross sections as a probe of New Physics. Using a new version of our program `vh@nnlo`, we study this ratio in exemplary 2HDM scenarios, where large deviations from the SM value show up in certain ranges of the parameter space.

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