

Dilution of a statistical significance of a signal in the Higgs boson searches in the $H \rightarrow ZZ$ channel at LHC

Should an event excess compatible with the $H \rightarrow ZZ \rightarrow 4l$ decay channel be observed at LHC, the statistical significance of the excess must be properly scaled down to account for the systematic errors and the fact that the search is performed in a wide-open range of possible Higgs boson masses. In this talk, we present results of studies addressing both of the two contributions and show that the required corrections in Higgs boson search in this particular channel are by far not negligible.

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