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## Study on the production of a vector boson decaying to leptons in association with a Z or a Higgs boson decaying to a bb pair with the ATLAS experiment

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We present the latest published results on the search for a Standard Model Higgs boson produced in association with a W or a Z boson and decaying to bb with the ATLAS experiment.

No significant excess is

observed in the data collected :  $4.7\text{fb}^{-1}$  at  $\sqrt{s}=7\text{TeV}$  and  $13\text{fb}^{-1}$  in  $\sqrt{s}=8\text{TeV}$ .

The fit procedure will be detailed, with particular emphasis on the validation method employed.

As a proof of validity, WZ and ZZ production have been studied and result in a  $4\sigma$  observation at a rate compatible with the SM prediction.

A Standard Model Higgs boson with  $m_H=110\text{GeV}$  is excluded and the observed (expected) 95% C.L. limit on the cross section times branching ratio at  $m_H=125\text{GeV}$  is evaluated at 1.8 (1.9) times the SM prediction.

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