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Search for the Higgs boson decaying to a pair of muons in pp collisions at 13 TeV with the ATLAS detector

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This talk will describe the search for the dimuon decay of the Higgs boson using the data corresponding to an integrated luminosity of 139 fb^{-1} collected with the ATLAS detector in pp collisions at $\sqrt{s} = 13 \text{ TeV}$ at the Large Hadron Collider. Events are divided into several channels to target either the gluon-gluon fusion (ggF) Higgs production or the vector-boson-fusion (VBF) Higgs production using boosted decision trees (BDT). The measurement is then performed with a simultaneous fit to the dimuon mass in those regions. A signal significance of X sigma is observed, while a signal significance of Y sigma is expected.

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