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Search for H->ee using 140/fb of 13 TeV pp collision data with ATLAS experiment

Monday, 8 April 2019 14:30 (15 minutes)

Since the discovery of the Higgs boson in 2012, the observed production and decay modes have all been related to its coupling to gauge bosons and to third generation fermions. The focus is now shifting towards the Higgs boson couplings to the second generation fermions, in particular to muons, but the first generation is much less explored. This talk will present the ongoing efforts within the ATLAS collaboration to search for the rare Higgs boson decay to an electron and a positron using complete Run 2 integrated luminsoity. The search itself uses a similar method to previous searches at ATLAS for the di-muon decay of the Higgs, as the two decay channels have similar backgrounds and signal efficiencies. This talk will cover, in more detail, the motivations for and methods used in the search, as well as the expected results.

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