

Measurement of Higgs boson production at high momentum in the $VH, H \rightarrow bb$ channel with the ATLAS detector

Wednesday, 29 July 2020 13:33 (3 minutes)

With the rapidly increasing proton-proton collision data-set recorded by the ATLAS experiment at the LHC, one gains access to Higgs bosons produced with ever higher transverse momenta. Measurements in this phase space are well motivated by a vast variety of BSM models which predict effects that scale with the square of the involved energy scale. The associated production of a Higgs boson H with a heavy vector boson V allows to probe the HVV interaction at high momentum scales. Combining this production mode with the most prominent decay into a pair of bottom quarks promises a large enough signal yield in this rare topology. Requiring the vector boson to further decay leptonically ensures a clean detector signature to separate signal from background. A measurement of the production cross section times the decay branching fraction of the Higgs boson into two b-quarks will be presented, based on data collected at a center-of-mass energy of 13 TeV.

I read the instructions

Secondary track (number)

Primary author: MOSER, Brian

Presenters: MOSER, Brian; MOSER, Brian (Nikhef National institute for subatomic physics (NL))

Session Classification: Higgs Physics - Posters

Track Classification: 01. Higgs Physics