

Measurements of Higgs boson production using decays to two c-quarks with the ATLAS detector

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Testing the couplings of the Higgs boson to quarks is important to understand the origin of quark masses. The next most promising candidate is the decay to a pair of charm quark and antiquark.

The presentation will focus on the analysis of the associated production of the Higgs boson with a W or Z boson performed by the ATLAS Collaboration using data collected between 2015 and 2018, and will describe the analysis strategy employed to search for the $H \rightarrow c\bar{c}$ signal. As a result, the best limit set on Higgs to charm quark Yukawa coupling modifier (κ_C) to date will be shown.

Primary author: Mr WANG, Tao (USTC)

Presenter: Mr WANG, Tao (USTC)

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