

Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Off-shell Higgs signal strength measurement in the high-mass ZZ final states with the ATLAS detector HELING ZHU¹, Brookhaven Natl Lab, ATLAS COLLABORATION — Measurements of the ZZ final states in the mass range above the $2m_Z$ thresholds provide a unique opportunity to measure the off-shell coupling strength of the Higgs boson. By correlating the measurement of the off-shell signal strength with the signal strength measurement on peak, the total width of the Higgs boson can be constrained indirectly. The measurements of the off-shell Higgs couplings in Higgs decay channels $ZZ \rightarrow 4l$ and $ZZ \rightarrow 2l2\nu$ will be presented. The results are based on the data collected with the ATLAS experiment in proton-proton collisions at 13 TeV during the 2015 and 2016 data taking period, corresponding to an integrated luminosity of 36.1 fb^{-1} .

¹The author is a joint PhD student of University of Science and Technology of China and Brookhaven National Lab.

Heling Zhu
Brookhaven Natl Lab

Date submitted: 14 Jan 2018

Electronic form version 1.4