



Contribution ID: 285

Type: **Poster presentation**

Constraints on off-shell Higgs boson production and the Higgs boson total width in ZZ final states with the ATLAS detector

Tuesday, 31 August 2021 19:08 (4 minutes)

The off-shell production of SM Higgs boson, at the high-mass off-peak region beyond $2m_Z$, well above the measured resonance mass of $m_H=125$ GeV, has a substantial cross section at the LHC, due to the increased phase space as the Z bosons become on-shell with the increasing energy scale. This presents a novel way of characterizing the properties of the Higgs boson in terms of the off-shell event yields, normalized to the SM prediction (referred to as signal strength μ), and the associated off-shell Higgs boson couplings. Assuming the ratio of the Higgs boson couplings to the SM predictions is independent of the momentum transfer of the Higgs boson production mechanism, a combination with the on-shell signal-strength measurement was used to set indirect limits on the total Higgs boson width with the ATLAS data collected in proton-proton collisions at the centre-of-mass energy of $\sqrt{s} = 13$ TeV (36 fb⁻¹).

Is this abstract from experiment?

Yes

Name of experiment and experimental site

ATLAS

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Maybe

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Session Classification: Poster Session