

## Combination of Higgs boson measurements with data collected during ATLAS Run2

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The combination of the Higgs boson measurements will be introduced.

It is based on the analyses of the Higgs decays to  $\gamma\gamma$ ,  $ZZ$ ,  $WW$ ,  $\tau\tau$ ,  $b\bar{b}$ ,  $\mu\mu$  and searches for invisible decays. Up to 139 fb of pp collision data collected by the ATLAS detector are used. The combined cross section measurement are presented for the main production modes, such as ggF, VBF, VH and ttH. The simplified template cross section measurement are also shown. The results are interpreted in terms of the kappa framework and used to set exclusion limits on the parameters in BSM. No significant deviation from SM are observed.

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