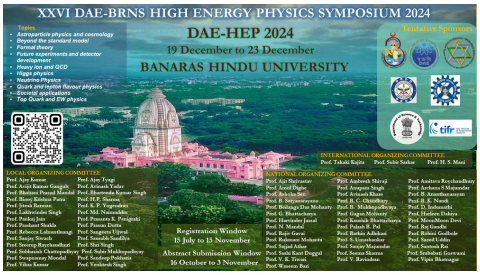

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Measurements of inclusive and differential Higgs boson production cross sections at 13.6 TeV in the H $\rightarrow \gamma\gamma$ decay

A measurement of inclusive and differential fiducial cross-sections for the production of the Higgs boson decaying into two photons is performed using 34.7 fb−1 of proton-proton collision data recorded at √s = 13.6 TeV by the CMS experiment at the Large Hadron Collider in 2022. The inclusive cross-section in a fiducial region closely matching the experimental selection, is measured to be 78 ± 11(stat.)+6−5(syst.) fb in agreement with the standard model prediction of 67.8 ± 3.8 fb. Differential cross sections are measured as a function of the Higgs boson transverse momentum, rapidity, and the number of jets in the event. The differential cross-sections also agree with the standard model predictions within the uncertainties.

Field of contribution

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