

# Measurement of the Higgs boson inclusive and differential fiducial production cross sections in the diphoton decay channel

*Thursday, November 10, 2022 2:35 PM (15 minutes)*

Measurements of the inclusive and differential fiducial cross sections of Higgs boson decaying to a pair of photons are presented. The analysis is performed using proton-proton collisions data recorded with the CMS detector at the LHC at a centre-of-mass energy of 13 TeV and corresponding to an integrated luminosity of 138 fb<sup>-1</sup>. The measurements performed in fiducial regions target different production modes and are performed as function of several observables describing the diphoton system, the number of additional jets present in the events, and event-level observables. Two double differential measurements are also performed.

## Type of talk

Experimental measurements

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**Session Classification:** Thursday Session A

**Track Classification:** Physics Topics: Precision measurements