EPS-HEP2023 conference



Contribution ID: 82 Type: Poster

Evidence of the rare Higgs boson decay to a Z boson and a photon using ATLAS and CMS Run 2 data

The first experimental evidence is presented for the rare Higgs boson decay to a Z boson and a photon, with a statistical significance of 3.4 standard deviations. The result is derived from a joint interpretation of the searches performed by the ATLAS and CMS collaborations with their proton-proton collision data sets collected at the CERN LHC during 2015 and 2018. These correspond to integrated luminosities around 140 fb???1 for each experiment, at a centre-of-mass energy of 13 TeV. The observed signal yield is 2.2+-0.7 times the Standard Model prediction, and agrees with the theoretical expectation within 1.9 standard deviations.

Collaboration / Activity

ATLAS

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Session Classification: Poster session

Track Classification: Higgs Physics