

Search for the scalar diphoton resonances produced in pp collisions with the ATLAS detector at the LHC

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Summary

New scalar diphoton resonances are predicted in many extensions of the Standard Model, e.g. in theories with an extended Higgs sector. A search for such resonances with the ATLAS experiment at the LHC is presented. The analysis searches for narrow peaks in the smooth spectrum of the diphoton invariant mass and computes significance of the excesses, and sets limits on fiducial cross-section of new resonances times branching ratio to two photons. Proton-proton collision data corresponding to the integrated luminosity of 15.4 fb^{-1} at the center-of-mass energy 13 TeV recorded in 2015 and 2016 has been used.

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Classification de Session: Au-delà du modèle standard