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Search for a new heavy boson in $b\bar{b}\gamma\gamma$ channel with ATLAS detector in pp at $\sqrt{s} = 13$ TeV

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We search for a new heavy resonance in $H \rightarrow b\bar{b}\gamma\gamma$ decay channel. The range of the heavy boson mass is between [180-1500] GeV. The analysis uses proton-proton collision data with an integrated luminosity of 140 fb⁻¹ recorded at a centre-of-mass energy of 13 TeV with the ATLAS detector. In this work, we discuss event selections and signal optimisation. In addition, we compare data to state-of-the-art Monte Carlo simulation on the control region.

Apply to be considered for a student award (Yes / No)?

Yes

Level for award (Hons, MSc, PhD, N/A)?

PhD

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