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Measurement of the exclusive $\gamma\gamma\rightarrow\mu+\mu-$ process in proton-proton collisions at $s\sqrt{=13}$ TeV with the ATLAS detector

The production of exclusive $\gamma\gamma\rightarrow\mu+\mu-$ events in proton-proton collisions at a centre-of-mass energy of 13 TeV is measured with the ATLAS detector at the LHC, using data corresponding to an integrated luminosity of 3.2 fb⁻¹. The measurement is performed for a dimuon invariant mass of 12 GeV $<m_{\mu+\mu-}< 70$ GeV. The integrated cross-section is determined within a fiducial acceptance region of the ATLAS detector and differential cross-sections are measured as a function of the dimuon invariant mass. The results are compared to theoretical predictions that include corrections for absorptive effects.

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Track Classification: Diffraction and photon physics in hadron-hadron and heavy-ion collisions