

Direct photon production in inelastic and high-multiplicity proton-proton collisions at $\sqrt{s} = 13$ TeV

Direct photon production at midrapidity in inelastic and high-multiplicity proton-proton (pp) collisions at a center-of-mass energy of $\sqrt{s} = 13$ TeV at the LHC via virtual photon method are reported. The contributions from light-hadron decays are calculated from their measured cross sections in pp collisions at $\sqrt{s} = 13$ TeV in same charged multiplicity class. The contributions from semileptonic decay of heavy-flavor hadrons are estimated by a MC event generator PYTHIA. The measured dielectron spectra as a function of invariant mass in inelastic events and high-charged particle multiplicity events are fitted with a function to extract virtual photon fraction. In this report, virtual direct photon as a function of p_T are shown.

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