

Measurement of the Differential Isolated Prompt Photon Production Cross Section in pp Collisions at $\sqrt{s}=7$ TeV

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A measurement of the differential cross section for the inclusive production of isolated prompt photons in proton-proton collisions at a center-of-mass energy $\sqrt{s}=7$ TeV is presented. The data sample corresponds to an integrated luminosity of 36/pb recorded by the CMS detector at the LHC. Photons are required to have a pseudorapidity $|\eta|<2.5$ and $ET>25$ GeV. Photon candidates are identified by using the ratio of the energy measured in the electromagnetic calorimeter to momentum measured in the tracker for converted photons, and isolation measured in the tracker and calorimeters. The measured cross section is presented as a function of photon transverse energy ET in four pseudorapidity regions. It is compared with next-to-leading-order perturbative QCD calculations.

Auteur principal: Dr KRAMMER, Manfred (HEPHY, Vienna)

Orateur: CHANON, Nicolas Pierre

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