



Contribution ID: 70

Type: Talk

[392] Measurement of the inclusive and differential $t\bar{t}\gamma$ cross sections and EFT interpretation in the single-lepton channel at CMS

Thursday, September 2, 2021 5:15 PM (15 minutes)

The $t\bar{t}\gamma$ cross-section is measured at a center-of-mass energy of 13 TeV, using a data-set corresponding to an integrated luminosity of 137 fb^{-1} , recorded by the CMS experiment. Events with an isolated, highly energetic lepton, at least three jets from the hadronization of quarks, among which at least one is b-tagged, and with one isolated photon are selected. The inclusive cross-section for a photon with $p_T \geq 20 \text{ GeV}$ and $|\eta| < 1.4442$, is measured to be $800 \pm 7 \text{ (stat)} \pm 46 \text{ (syst) fb}$, in good agreement with the standard model prediction. The measurement is carried out differentially in several kinematic observables and interpreted in the framework of the standard model effective field theory, leading to the most stringent direct limits to date.

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Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)