Differential measurement of ttbar in association with a photon

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Precision measurements of top quark production provide a test ground for the Standard Model (SM) predictions and for phenomena beyond the SM.

In this context, the production of $t\bar{t}$ in association with a photon is an important process. It is sensitive to the electroweak top-photon coupling, which can be constrained by cross-section measurements. The results can also be interpreted in the context of Effective Field Theory, where new physics scenarios that predict modifications to the $t-\gamma$ interaction can be constrained.

In this talk, I will present several differential cross-section measurements of this process in the dilepton channel, using lepton, photon and top variables. This measurement is based on data collected by the CMS experiment at the LHC during the full Run 2 (2016-2018).