

# DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 20

Type: **Parallel talk**

## **aNNLO results for $t\bar{t}\gamma$ cross sections**

*Tuesday, 28 March 2023 12:10 (20 minutes)*

We present theoretical calculations of total cross sections and top-quark transverse-momentum and rapidity distributions in the associated production of a top-antitop pair with a photon ( $t\bar{t}\gamma$  production). We include complete QCD and electroweak corrections at NLO as well as soft-gluon corrections at approximate NNLO (aNNLO). The aNNLO corrections are very significant, they decrease theoretical uncertainties, and they are needed for better comparison with data from the LHC.

### **Submitted on behalf of a Collaboration?**

No

### **Participate in poster competition?**

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**Session Classification:** WG4

**Track Classification:** WG4: QCD with Heavy Flavours and Hadronic Final States