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## Measurements of $t\bar{t}$ pairs produced in association with electroweak gauge bosons using the ATLAS detector

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The large centre-of-mass energy available at the proton-proton collider LHC allows for the copious production of top-quark-antiquark pairs in association with electroweak gauge bosons ( $W / Z / \gamma$ ) at high transverse momenta. The  $t\bar{t}Z$  and  $t\bar{t}W$  production cross sections are simultaneously measured using a combined fit in several analysis regions. The measurement of the  $t\bar{t}Z$  cross section is used to set constraints on effective field theory operators which modify the  $t\bar{t}Z$  vertex. The  $t\bar{t}\gamma$  measurements are performed in single-lepton and dilepton final states in a fiducial volume. The differential cross-sections are measured as a function of several photon kinematic variables.

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