

# Power corrections for $q_T$ and $\text{Tau}_N$ subtractions from photon isolation

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Photon isolation cuts are crucial for measuring direct photon production to reduce background from hadron fragmentation. The isolation is commonly implemented by vetoing hadronic radiation around the photons. We discuss how this affects the  $q_T$  and  $caT_N$  subtraction methods for fixed-order calculations, which are based on analytically integrating over soft and collinear radiation. In particular, we show that the isolation can induce much larger power corrections than naively expected, and discuss how these corrections depend on the chosen isolation parameters.

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