



BELLE2-NOTE-PL-2020-009
July 22, 2020

Trigger efficiencies for single photon events

The Belle II Collaboration

The search for invisible decays of the dark photon A' is enabled by dedicated single photon triggers. A radiative muon pair control sample has been used to measure the efficiency of the level 1 and high-level triggers as a function of energy. This document contains the approved plots and captions.

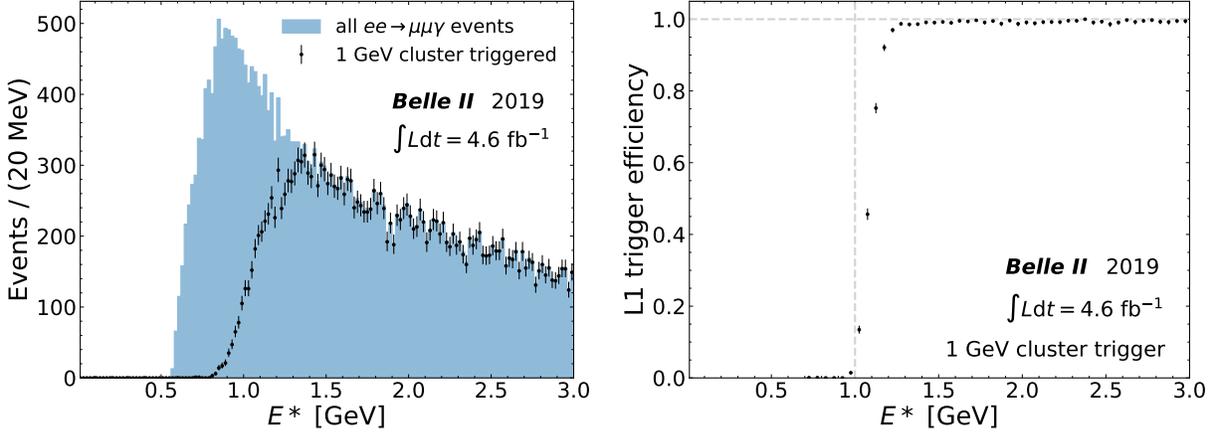


FIG. 1: (a) Center of mass energy of photons in $ee \rightarrow \mu\mu\gamma$ events, overlaid with the subset passing the level 1 1 GeV single-cluster trigger.
 (b) Same events presented as a plot of efficiency versus energy.

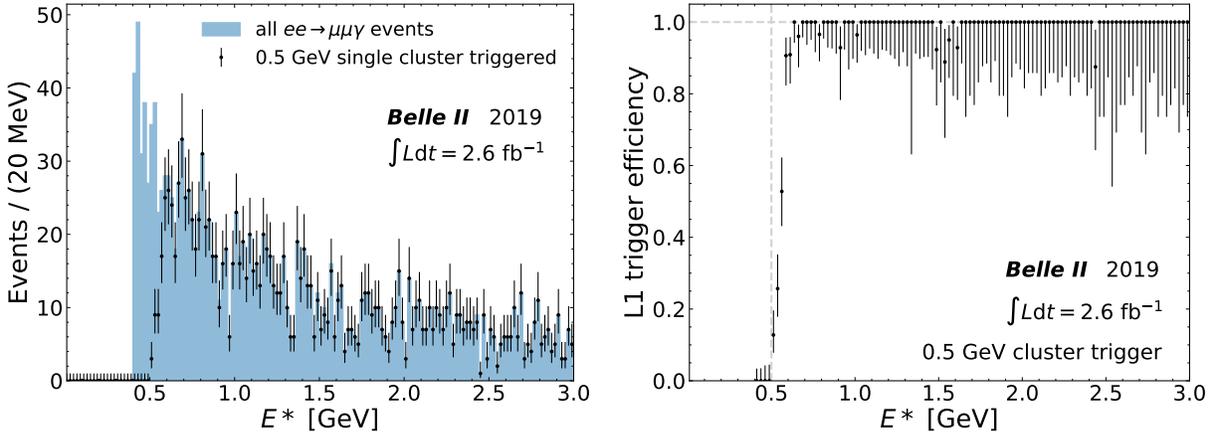


FIG. 2: (a) Center of mass energy of photons in $ee \rightarrow \mu\mu\gamma$ events, overlaid with the subset passing the level 1 0.5 GeV single-cluster trigger.
 (b) Same events presented as a plot of efficiency versus photon energy.

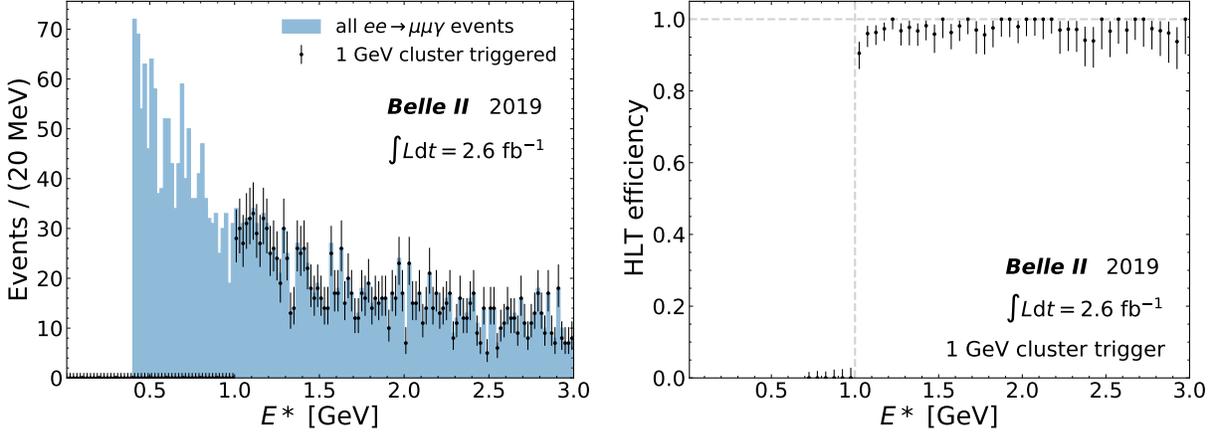


FIG. 3: (a) Center of mass energy of photons in $ee \rightarrow \mu\mu\gamma$ events, overlaid with the subset passing the high-level trigger 1 GeV single-photon trigger.
 (b) Same events presented as a plot of efficiency versus energy.

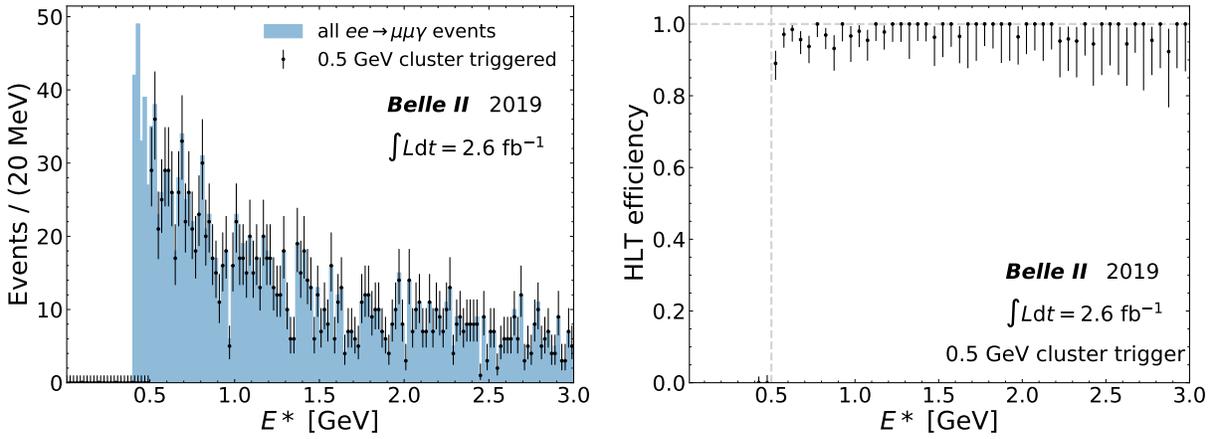


FIG. 4: (a) Center of mass energy of photons in $ee \rightarrow \mu\mu\gamma$ events, overlaid with the subset passing the high-level trigger 0.5 GeV single-photon trigger.
 (b) Same events presented as a plot of efficiency versus energy.