

Abstract Submitted
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Electroweak backgrounds in Di-Photon Analyses at CMS¹

BERNADETTE HEYBURN, University of Colorado, ANDREW ASKEW, YURI GERSHTEIN, Rutgers University, GAIL HANSEN, ROBERT STRINGER, University of California, Riverside, URIEL NAUENBERG, SHILEI ZANG, University of Colorado, DANIELE DEL RE, SHAHRAM RAHATLOU, Universita di Roma “La Sapienza”, MICHAEL BALAZS, BRAD COX, University of Virginia, CMS COLLABORATION — New physics could be revealed in a final state with two high E_T photons and large missing transverse energy, for example in Gauge Mediated SUSY breaking theories. Here we present a strategy for coping with the relevant electroweak backgrounds. Electroweak backgrounds are primarily from $W\gamma$ and Wj events where the W decays into an electron and neutrino. If an electron track is not reconstructed, the electron will pass the photon identification. By determining the photon identification efficiency from $Z \rightarrow ee$ events, we can estimate the missing E_T background by scaling electroweak events with respect to the signal.

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Bernadette Heyburn
University of Colorado

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