Cross Cleaning on Same Sign Lepton Analysis

Friederike Nowak

Institut für Experimentalphysik, Universität Hamburg

28. Jan 2010

GEFÖRDERT VOM

Bundesministerium
für Bildung
und Forschung

Initial Cuts

Initial Cuts on PAT Layer 1

- Jets: $p_T > 15$ GeV and nConstiuents > 0
- Electrons: $p_T > 20$ GeV and $|\eta| < 2.5$
- Muons: $p_T > 20$ GeV and $|\eta| < 2.5$
- Photons: $p_T > 20$ GeV and $|\eta| < 2.5$

Used Sample: `/LM0/Summer09-MC_31X_V3_7TeV-v1/GEN-SIM-RECO`

Cross Cleaning Reminder

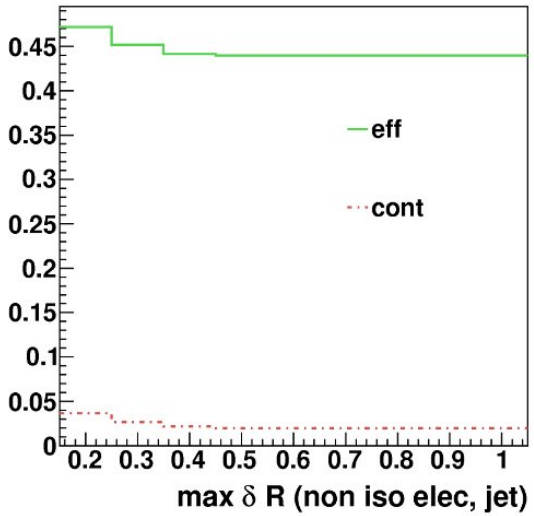
Muon-Jet

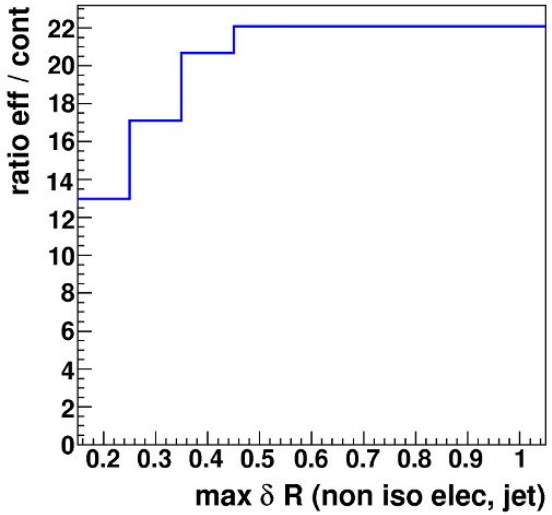
- Non-isolated muons will be removed if a jet is in a certain deltaR range
- Isolated muons will be left alone

Electron-Jet

- Non-isolated Electrons will be removed if a Jet with shared Energy is in a certain deltaR range
- Isolated Electrons will be left alone, but can remove a jet, if the relative shared Energy is over a certain threshold

Electron-Jet: Electrons



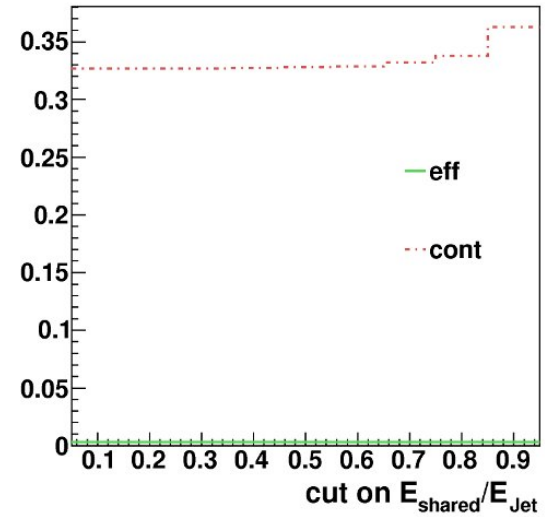


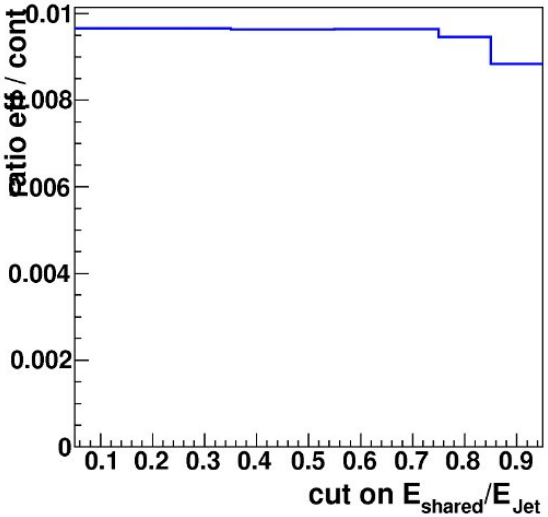
Electron-Jet

- Non-isolated Electrons will be removed if a Jet with shared Energy is in a certain deltaR range
- Isolated Electrons will be left alone, but can remove a jet, if the relative shared Energy is over a certain threshold

eff = n_matched / n_all_gen
cont = n_notmatched / n_all_reco
ratio = eff / cont

Electron-Jet: Jets



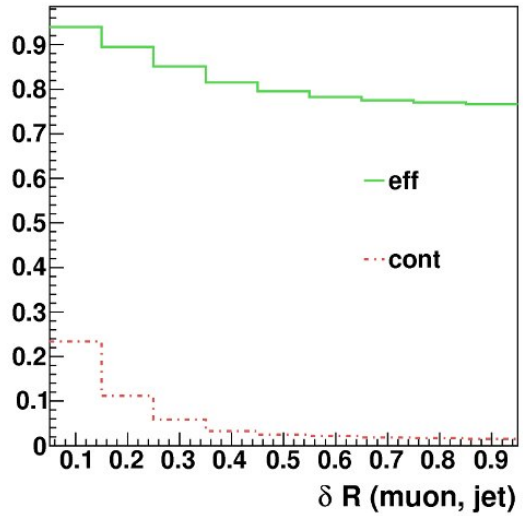


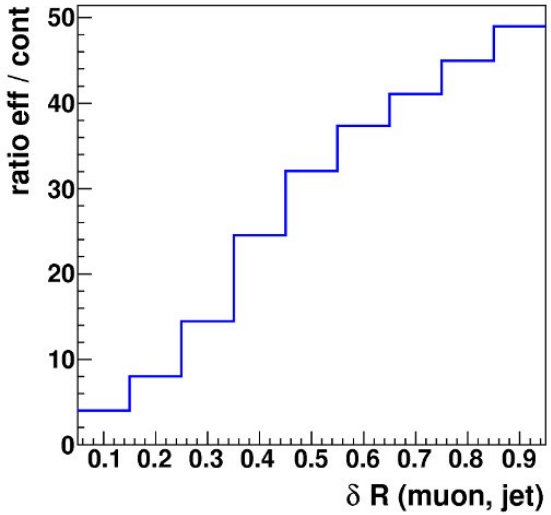
Electron-Jet

- Non-isolated Electrons will be removed if a Jet with shared Energy is in a certain deltaR range
- Isolated Electrons will be left alone, but can remove a jet, if the relative shared Energy is over a certain threshold

eff = n_matched / n_all_gen
cont = n_notmatched / n_all_reco
ratio = eff / cont

Muon-Jet: Muons





Muon-Jet

- Non-isolated muons will be removed if a jet is in a certain deltaR range
- Isolated muons will be left alone

eff = n_matched / n_all_gen
cont = n_notmatched / n_all_reco
ratio = eff / cont