

Cross Cleaning on Same Sign Lepton Analysis

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Selection Cuts

μ

id = GlobalMuonPromptTight

$P_t \geq 20 \text{ GeV}$

$|\eta| < 2.1$

iso < 0.1

$|d0| < 0.2 \text{ cm}$

$\chi^2/ndof < 10$

number of valid Hits > 11

hcal deposit < 6 GeV

ecal deposit < 4 GeV

jet

$P_t \geq 50 \text{ GeV}$

$|\eta| < 2.4$

emf ≥ 0.1

e

$P_t \geq 20 \text{ GeV}$

$|\eta| < 2.5$

id = eidRobustTight

iso < 0.1

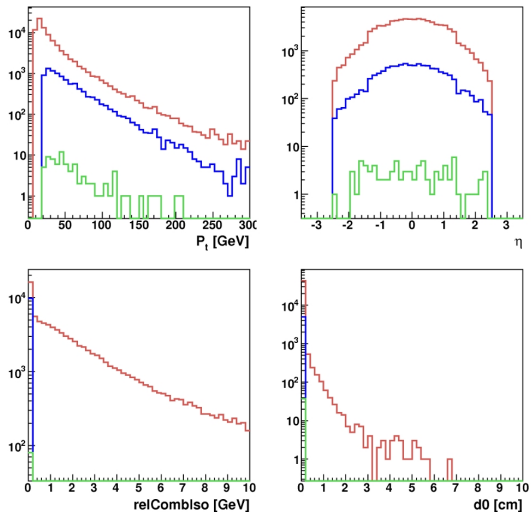
$|d0| < 0.2 \text{ cm}$

Synchronization Efford

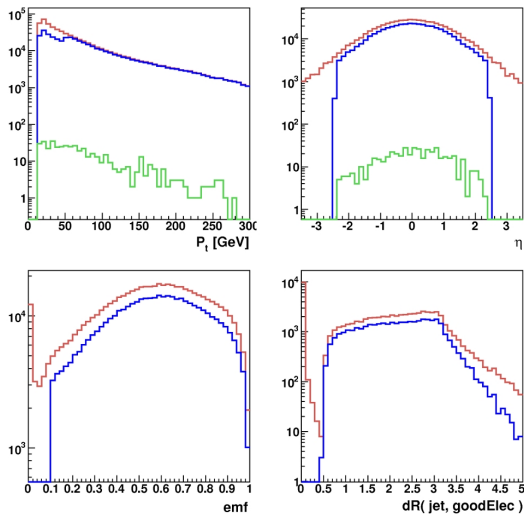
In case of $e\mu$:

- exactly 1 e, 1 μ
- ≥ 3 Jets with $P_t > 50 \text{ GeV}$
- $E_t^{\text{miss}} > 100 \text{ GeV}$

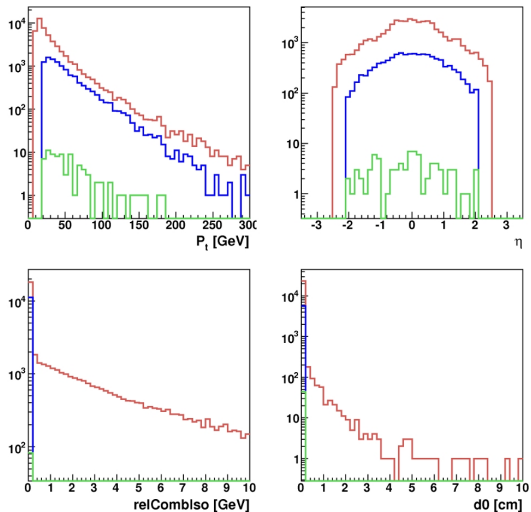
Selection Cuts: Electrons



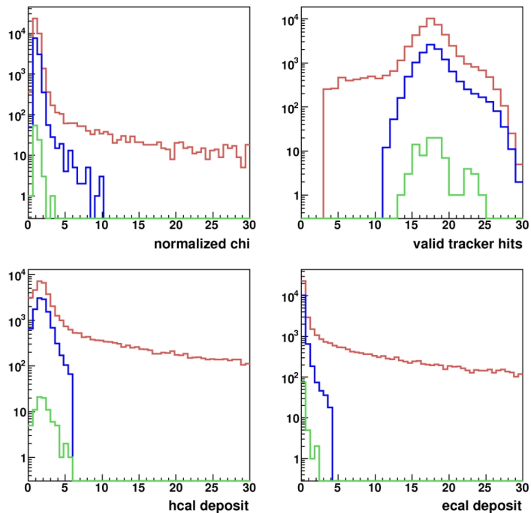
Selection Cuts: Jets



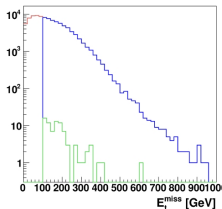
Selection Cuts: Muons i



Selection Cuts: Muons ii



Selection Cuts: Met / Efficiency



Summer09, 7 TeV, EMu

dataset	nb of events at 100 /pb	efficiency [%]
LM0	3.23119	0.083
TTBar	0.18	0.002
W+Jets	0	0
z+Jets	0	0
vv+Jets	0.0144	0.003

Summer08, 10 TeV, EMu

dataset	nb of events at 100 /pb	efficiency [%]
LM0	5.53956	0.0503596
TTBar	0.0402708	9.7721e-05
W+Jets	0	0
z+Jets	0	0

Summer09, 7 TeV, EMu, xcleaned

xclean == All cleanings on;
isolation criteria e, $\mu < 10$.

dataset	nb of events at 100 /pb	efficiency [%]
LM0	3.46477	0.089
TTBar	0.284211	0.003158
W+Jets	0	0
z+Jets	0	0
vv+Jets	0.0064	0.001333

Summer09, 7 TeV, MuMu

dataset	nb of events at 100 /pb	efficiency [%]
LM0	1.01218	0.026
TTBar	0	0

Summer09, 7 TeV, MuMu, xcleaned

xclean == MuonJet cleaning;
isolation criteria $\mu < 10$.

dataset	nb of events at 100 /pb	efficiency [%]
LM0	2.14115	0.055
TTBar	0	0