

Appendix A

Monte Carlo Samples

A number of MC samples are utilized in this analysis and referred to throughout the text. Below is a list of the MC samples used and an explanation of what the sample names mean.

A.0.1 List of Samples

1. Drell-Yan:

/DYJetsToLL_TuneZ2_M-50_7TeV-madgraph-tauola/
Fall111-PU_S6_START42_V14B-v1/AODSIM

2. QCD enriched with B and D meson decays to electrons:

/QCD_Pt-20to30_BCtoE_TuneZ2_7TeV-pythia6/
Fall111-PU_S6_START42_V14B-v1/AODSIM,
/QCD_Pt-30to80_BCtoE_TuneZ2_7TeV-pythia6/
Fall111-PU_S6_START42_V14B-v1/AODSIM,
/QCD_Pt-80to170_BCtoE_TuneZ2_7TeV-pythia6/
Fall111-PU_S6_START42_V14B-v1/AODSIM

3. Photon + jet doubly enriched with jets passing an EM filter:

/GJet_Pt-20_doubleEMEnriched_TuneZ2_7TeV-pythia6/
 Fall111-PU_S6_START42_V14B-v1/AODSIM

4. W leptonic decays:

/WJetsToLNu_TuneZ2_7TeV-madgraph-tauola/
 Fall111-PU_S6_START42_V14B-v1/AODSIM

5. $t\bar{t}$:

/TTJets_TuneZ2_7TeV-madgraph-tauola/
 Fall111-PU_S6_START42_V14B-v2/AODSIM

A.0.2 Explanation of Naming Conventions

- L: charged lepton
- B: B hadron
- C: D , or charmed, hadron
- E: electron or positron
- G: photon
- W: W boson
- Nu: neutrino
- T: top quark
- TuneZ2: Pythia tune incorporating 2010 LHC data with CTEQ6L1 [?] PDFs [?]
- M-50: Generated l^+l^- invariant mass threshold of 50 GeV
- 7TeV: Generated center-of-mass energy 7 TeV

- `pythia6`: Parton showering and hadronization simulated with Pythia v6.424 [?]
- `madgraph`: Hard interaction generated with MadGraph [?]
- `tauola`: τ decays generated with Tauola [?]
- `PU_S6`: Generated with S6 pileup scenario
- `START42_V14B`: Reconstructed with best alignment and calibration constants and magnetic field conditions as of August 3, 2011
- `Pt_XtoY`: $X \leq \text{generated } \hat{p}_T < Y$
- `BCToE`: Enriched in B and D meson decays to electrons
- `doubleEMEnriched`: Enriched in electromagnetic jets