

## Running on Data in Bristol

### Note on PFNs

SE is lcgse01.phy.bris.ac.uk  
/store is /dpm/phy.bris.ac.uk/home/cms/store

## Running on Signal and Background

To run on the signal and background you will need to use a separate PoolSource for each (two jobs needed, one for signal and one for background) as given below. To take into account the varying weighting factors which are stored in the event, follow the instructions in DaveEvansEventWeighting.

To finally combine plots/results from root files produced for signal and background see an example on DaveEvansUsefulScripts.

### 10pb<sup>-1</sup> signal data

Signal data that has been through L1 + HLT 'Proposal A' for 10pb<sup>-1</sup> exercise

```
source = PoolSource {
  untracked int32 maxEvents = -1
  untracked vstring fileNames = {
    '/store/users/10pbsignalL1HLT/skim_L1HLT_0.root',
    '/store/users/10pbsignalL1HLT/skim_L1HLT_1.root',
    '/store/users/10pbsignalL1HLT/skim_L1HLT_2.root',
    '/store/users/10pbsignalL1HLT/skim_L1HLT_3.root',
    '/store/users/10pbsignalL1HLT/skim_L1HLT_4.root'
  }
}
```

### 10pb<sup>-1</sup> Wjets data

The pdf on the onsel  $m_T$  samples webpage is wrong. The correct cross sections for Wjets in the usual bins can be found on the following page:

<https://twiki.cern.ch/twiki/bin/view/CMS/JetMETSamples>

### Weighted QCD background data

This data is the product of the QCD from Wsc (see below) with the following weights applied by the method according to DaveEvansEventWeighting.

```
30-50 weight = 9320.890231 events passing trigger = 25
50-80 weight = 114.5398837 events passing trigger = 518
80-120 weight = 46.19138531 events passing trigger = 181
120-170 weight = 13.82073334 events passing trigger = 101
170-230 weight = 5.054473209 events passing trigger = 55
230-300 weight = 0.819611805 events passing trigger = 90
300-380 weight = 0.148911088 events passing trigger = 138
```

```
source = PoolSource {
  untracked vstring fileNames = {
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_120_170_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_170_230_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_230_300_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_300_380_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_30_50_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_50_80_1.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_50_80_2.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_50_80_3.root",
    "/store/users/10pbbackgroundWiscRereco/reco_weighted_80_120_1.root"
  }
  untracked int32 maxEvents = -1
}
```

To access the weight stored in these events see [DaveEvansEventWeighting](#).

## DY skimmed with $M(ee) > 40$ GeV

/DY\_ee/CMSSW\_1\_3\_1-Spring07-1350/GEN-SIM-DIGI-RECO

With the following skim for  $M(ee) > 40$  GeV

```
module zeeFilter = MCZ11
{
  untracked double zMassMin = 40.
  untracked double zMassMax = 999999.
  untracked double leptonPtMin = 0.
  untracked double leptonPtMax = 999999.
  untracked double leptonEtaMin = 0.
  untracked double leptonEtaMax = 999999.
  untracked string moduleLabel = "VtxSmeared"
}

path filterpath = {zeeFilter}
```

Skimmed 150,000 events with filter efficiency  $\sim 0.23 \pm 0.04$

- dy\_skim.cfi: PoolSource dy\_skim.cfi
- pfn.txt: Physical file names for use with srmcp pfn.txt

## QCD Skimmed with trigger proposal 'A'

Contents:

- CRAB Config
- Pool Source 30-50
- Pool Source 50-80
- Pool Source 80-120
- Pool Source 120-170
- Running trigger proposal 'A'

pdf file with QCD cross sections...

[https://twiki.cern.ch/twiki/pub/CMS/HighLevelTrigger06ExerciseMCSamples/qcd\\_samples](https://twiki.cern.ch/twiki/pub/CMS/HighLevelTrigger06ExerciseMCSamples/qcd_samples)

**30-50**

- mc-onse1-120\_QCD\_pt\_30-50-OSFDefault-v5.cfi:  
mc-onse1-120\_QCD\_pt\_30-50-OSFDefault-v5.cfi

```
edm_mc-onse1-120_QCD_pt_30_50-OSFDefault-v5_0.root RUN: 12496 PASS: 10
edm_mc-onse1-120_QCD_pt_30_50-OSFDefault-v5_1.root RUN: 12091 PASS: 6
edm_mc-onse1-120_QCD_pt_30_50-OSFDefault-v5_2.root RUN: 12137 PASS: 9
```

```
mc-onse1-120_QCD_pt_30-50-OSFDefault-v5
WasRun 36724
Pass 25
WasRun (before L1 Skim) 174876
sigma = 0.163 mb
```

**50-80**

- mc-onse1-120\_QCD\_pt\_50-80-OSFDefault-v5.cfi:  
mc-onse1-120\_QCD\_pt\_50-80-OSFDefault-v5.cfi

```
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_0.root RUN: 33456 PASS: 18
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_1.root RUN: 32794 PASS: 15
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_2.root RUN: 32706 PASS: 17
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_3.root RUN: 32539 PASS: 11
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_4.root RUN: 32720 PASS: 17
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_5.root RUN: 32469 PASS: 13
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_6.root RUN: 32482 PASS: 21
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_7.root RUN: 32846 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_8.root RUN: 32543 PASS: 16
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_9.root RUN: 32612 PASS: 15
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_10.root RUN: 32584 PASS: 21
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_11.root RUN: 32733 PASS: 17
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_12.root RUN: 32441 PASS: 5
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_13.root RUN: 32611 PASS: 19
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_14.root RUN: 32773 PASS: 13
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_15.root RUN: 32806 PASS: 16
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_16.root RUN: 32796 PASS: 7
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_17.root RUN: 32596 PASS: 19
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_18.root RUN: 32461 PASS: 11
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_19.root RUN: 32682 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_20.root RUN: 32755 PASS: 20
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_21.root RUN: 32521 PASS: 14
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_22.root RUN: 32730 PASS: 18
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_23.root RUN: 32932 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_24.root RUN: 32770 PASS: 14
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_25.root RUN: 32651 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_26.root RUN: 33029 PASS: 15
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_27.root RUN: 32134 PASS: 14
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_28.root RUN: 32328 PASS: 14
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_29.root RUN: 32198 PASS: 15
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_30.root RUN: 32191 PASS: 6
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_31.root RUN: 32554 PASS: 11
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_32.root RUN: 32491 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_33.root RUN: 32655 PASS: 14
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_34.root RUN: 32525 PASS: 10
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_35.root RUN: 32459 PASS: 16
edm_mc-onse1-120_QCD_pt_50-80-OSFDefault-v5_36.root RUN: 32343 PASS: 16
```

```
mc-onse1-120_QCD_pt_50-80-OSFDefault-v5
WasRun 1206916
Pass 518
WasRun (before L1 Skim) 1885806
sigma = 0.0216 mb
```

**80-120**

- mc-onse1-120\_QCD\_pt\_80-120-OSFDefault-v5.cfi:  
mc-onse1-120\_QCD\_pt\_80-120-OSFDefault-v5.cfi

```
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_0.root RUN: 46185 PASS: 15
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_1.root RUN: 45648 PASS: 15
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_2.root RUN: 44947 PASS: 9
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_3.root RUN: 45461 PASS: 19
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_4.root RUN: 45537 PASS: 9
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_5.root RUN: 45588 PASS: 12
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_6.root RUN: 44877 PASS: 15
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_7.root RUN: 44953 PASS: 8
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_8.root RUN: 45074 PASS: 15
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_9.root RUN: 44784 PASS: 10
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_10.root RUN: 45365 PASS: 18
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_11.root RUN: 45503 PASS: 12
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_12.root RUN: 44544 PASS: 9
edm_mc-onse1-120_QCD_pt_80-120-OSFDefault-v5_13.root RUN: 44986 PASS: 15
```

```
mc-onse1-120_QCD_pt_80-120-OSFDefault-v5
WasRun 633452
Pass 181
WasRun (before L1 Skim) 666791
sigma = 0.00308 mb
```

**120-170**

- mc-onse1-120\_QCD\_pt\_120-170-OSFDefault-v5.cfi:  
mc-onse1-120\_QCD\_pt\_120-170-OSFDefault-v5.cfi

```
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_0.root RUN: 45442 PASS: 19
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_1.root RUN: 44727 PASS: 9
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_2.root RUN: 44674 PASS: 10
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_3.root RUN: 44508 PASS: 14
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_4.root RUN: 44514 PASS: 11
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_5.root RUN: 44655 PASS: 12
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_6.root RUN: 44262 PASS: 16
edm_mc-onse1-120_QCD_pt_120-170-OSFDefault-v5_7.root RUN: 44652 PASS: 10
```

```
mc-onse1-120_QCD_pt_120-170-OSFDefault-v5
WasRun 357434
Pass 101
WasRun (before L1 Skim) 357434
sigma = 0.000494 mb
```

**170-230**

```
edm_mc-onse1-120_QCD_pt_170-230-OSFDefault-v5_0.root RUN: 40617 PASS: 12
edm_mc-onse1-120_QCD_pt_170-230-OSFDefault-v5_1.root RUN: 39824 PASS: 11
edm_mc-onse1-120_QCD_pt_170-230-OSFDefault-v5_2.root RUN: 39781 PASS: 12
edm_mc-onse1-120_QCD_pt_170-230-OSFDefault-v5_3.root RUN: 39804 PASS: 9
edm_mc-onse1-120_QCD_pt_170-230-OSFDefault-v5_4.root RUN: 39797 PASS: 11
```

```
mc-onse1-120_QCD_pt_170-230-OSFDefault-v5
WasRun 199823
Pass 55
WasRun (before L1 Skim) 199823
sigma = 0.000101 mb
```

## 230- 300

```
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_0.root RUN: 38051 PASS: 14
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_1.root RUN: 37319 PASS: 8
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_2.root RUN: 37287 PASS: 13
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_3.root RUN: 37287 PASS: 7
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_4.root RUN: 37205 PASS: 11
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_5.root RUN: 37227 PASS: 16
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_6.root RUN: 37242 PASS: 7
edm_mc-onsel-120_QCD_pt_230-300-OSFDefault-v5_7.root RUN: 37304 PASS: 14
```

```
mc-onsel-120_QCD_pt_230-300-OSFDefault-v5
WasRun 298922
Pass 90
WasRun (before L1 Skim) 298922
sigma = 0.0000245 mb
```

## 300- 380

```
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_0.root RUN: 35321 PASS: 10
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_1.root RUN: 35196 PASS: 10
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_2.root RUN: 35239 PASS: 5
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_3.root RUN: 34969 PASS: 15
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_4.root RUN: 34756 PASS: 12
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_5.root RUN: 34505 PASS: 10
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_6.root RUN: 34808 PASS: 14
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_7.root RUN: 35083 PASS: 14
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_8.root RUN: 34517 PASS: 14
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_9.root RUN: 34525 PASS: 20
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_10.root RUN: 34960 PASS: 5
edm_mc-onsel-120_QCD_pt_300-380-OSFDefault-v5_11.root RUN: 35163 PASS: 9
```

```
mc-onsel-120_QCD_pt_300-380-OSFDefault-v5
WasRun 419042
Pass 138
WasRun (before L1 Skim) 419042
sigma = 0.00000624 mb
```

## Spr ing07 QCD Ski med wi th t ri gger p ro p o s a l ' A '

See below pool sources and pfns for the events passing L1 + proposal 'A' on Spring07 QCD data. Files are on the Bristol SE.

### 30- 50

```
QCD_Pt_30_50/CMSSW_1_3_4-Spr ing07- 1703
WasRun 218474
Pass 24
```

- 30-50\_pfn.txt: 30-50.cfi
- 30-50\_pfn.txt: 30-50\_pfn.txt

### 50- 80

```
QCD_Pt_50_80/CMSSW_1_3_4-Spr ing07- 1704
WasRun 98645
Pass 26
```

- 50-80.cfi: 50-80.cfi

- 50-80\_pfn.txt: 50-80\_pfn.txt

## 80-120

QCD\_Pt\_80\_120/CMSSW\_1\_3\_4-Spring07-1705  
WasRun 53000  
Pass 14

- 80-120.cfi: 80-120.cfi
- 80-120\_pfn.txt: 80-120\_pfn.txt

## 120-170

running

## Spring07 BBbar Skimmed with trigger proposal 'A'

- Pool Source 50-80
- Pool Source 80-120

## 50-80

/BBbar50to80/CMSSW\_1\_3\_4-Spring07-1791-LowLumi PU/GEN-SIMDIGI-RECO  
WasRun 144997  
Pass 216

- BBbar\_50-80.cfi: BBbar\_50-80.cfi
- BBbar\_50-80\_pfn.txt: BBbar\_50-80\_pfn.txt

## 80-120

/BBbar80to120/CMSSW\_1\_3\_4-Spring07-1794-LowLumi PU/GEN-SIMDIGI-RECO  
WasRun 46607  
Pass 37

- BBbar\_80-120.cfi: BBbar\_80-120.cfi
- BBbar\_80-120\_pfn.txt: BBbar\_80-120\_pfn.txt

## Running trigger proposal 'A'

This is for CMSSW\_1\_3\_1\_HLT5.

First check out the HLT5 tag for HLTrigger/Egamma as you will need to add my modified E/P filter on top of this. Note that it's not the tag association with \_HLT5 but one which contains some extra fixes to enable CRAB to cope with the Egamma configuration.

```
cvs co -r V00-00-53 HLTrigger/Egamma
```

Now you need to put the following files in the following locations

```
/afs/cern.ch/user/d/dlevans/public/HLTElectronEoverpFixedFilterRegional.cc
```

## DaveEvansBristolData < Main < TWiki

-> HLTrigger/Egamma/src

/afs/cern.ch/user/d/dlevans/public/SealModule.cc

-> HLTrigger/Egamma/src

/afs/cern.ch/user/d/dlevans/public/HLElectronEoverpFixedFilterRegional.h

-> HLTrigger/Egamma/interface

And the configuration for the sequence of modules of the trigger

/afs/cern.ch/user/d/dlevans/public/SingleElectronL1NonIsolatedProposalA\_1e32.cff

-> HLTrigger/Egamma/data

And an example config to run the trigger

/afs/cern.ch/user/d/dlevans/public/proposalA.cfg

-- DaveEvans - 15 Jun 2007

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This topic: Main > DaveEvansBristolData

Topic revision: r11 - 2007-07-05 - DaveEvans



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