

# DQM Flags for Susy CAF

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# The DQM Flags

## Detector flags:

- ▶ CSC: Hot/cold chambers, L1 synchronisation, missing data
- ▶ DT: Percentage of chambers with reconstructed segments
- ▶ ECAL: Noise, occupancy of RecHits, occupancy of trigger primitives, cluster energy
- ▶ ES: #Hits per sensor, energy spectrum
- ▶ HCAL: Hot/dead cells
- ▶ HLT: L1T flag, rates
- ▶ L1T: Stability, timing, occupancies
- ▶ Pixel: FED errors, mean digi charge, mean digi occupancy, charge of clusters, #tracks
- ▶ RPC: Efficiency
- ▶ SiStrip: FED error, bad channels, signal to noise ratio
- ▶ Track: #, rate,  $\chi^2$ , #RecHits

# The DQM Flags

Physics flags:

- ▶ EGamma

- ▶ Photons:  $\#$ ,  $E_T$ ,  $\eta$ ,  $\phi$ , R9
- ▶ Electrons not included yet

- ▶ Muon

- ▶ Energy and kinematic quantities
- ▶ Residuals between muon types
- ▶ Track quality
- ▶ Muon specific subdetectors (DT and RPC)
- ▶ For the moment only: “if the residuals bin is green AND the muonID bins are greater than 0.5, the run should be flagged as good, otherwise as bad.”

- ▶ JetMET

- ▶ Jet: no spikes in  $p_T$ ,  $\eta$ ,  $\phi$ ,  $\#Towers$
- ▶ MET:  $p_T$ ,  $\phi$ , Significance,  $x$  and  $y$

## Event Counts

| Flag    | InterestingEvents<br>2157 events |           | AllMinBias<br>16 787 events |               |
|---------|----------------------------------|-----------|-----------------------------|---------------|
|         | GOOD                             | BAD       | GOOD                        | BAD           |
| CSC     | all                              | —         | 16 784                      | 3             |
| DT      | 1390                             | 767       | 9933                        | 6854          |
| ECAL    | 2148                             | (9)       | 16 751                      | (36)          |
| EGamma  | 2139                             | (18)      | 16 326                      | (461)         |
| ES      | 2117                             | (9+31)    | 16 164                      | 80 (+425+118) |
| HCAL    | 1588                             | 569       | 12 668                      | 4119          |
| HLT     | all                              | —         | all                         | —             |
| JetMET  | 1998                             | 159       | 16 243                      | 544           |
| L1T     | all                              | —         | all                         | —             |
| Muon    | 2141                             | 16        | 16 501                      | 286           |
| Pixel   | all                              | —         | all                         | —             |
| RPC     | all                              | —         | all                         | —             |
| SiStrip | 1747                             | 401 (+9)  | 13 209                      | 3542 (+36)    |
| Track   | 1565                             | 576 (+16) | 11 558                      | 4943 (+286)   |

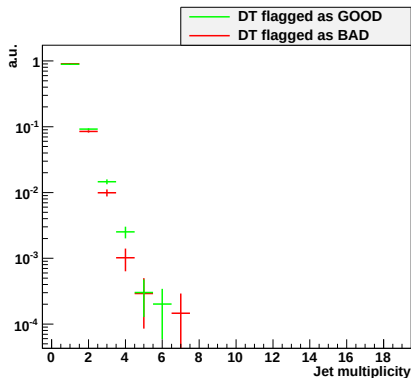
numbers in parenthesis: flag EXCL or NOTSET

# Selection

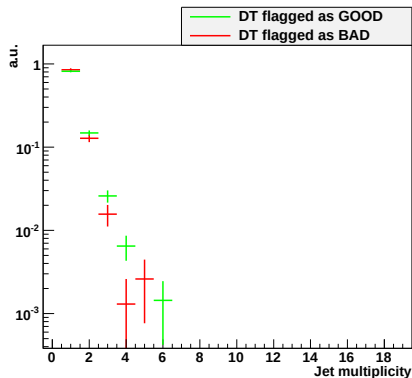
```
JetPrefix = cms.string(" ak5"),  
RequiredJetID = cms.string(" JetJetIDloose" ),  
CorrectedJets = cms.bool(True),  
MinJetPt = cms.double(8),  
MaxJetEMF = cms.double(0.98),  
StrictVetoJets = cms.bool(False),  
DeclarePhysics = cms.bool(True),  
CleanVertex = cms.bool(True),  
BPTXTrigger = cms.bool(True), → FALSE  
HCALNoiseFilterLoose = cms.bool(False),  
HCALNoiseFilterTight = cms.bool(False),  
HCALNoiseFilterHighLevel = cms.bool(False),  
HCALNoiseFilterZero = cms.bool(False),  
MinHighPurityTrackFrac = cms.double(0.2),  
MinNumTracksForCleanup = cms.uint32(10),
```

# DT Flag: Jet Multiplicity

allMinBias Events

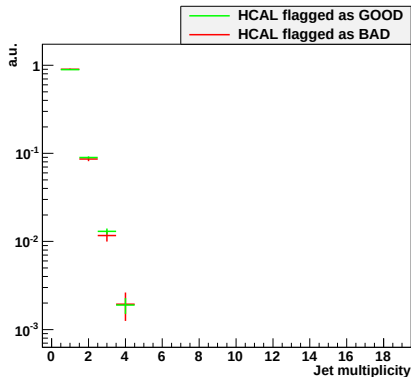


Interesting Events

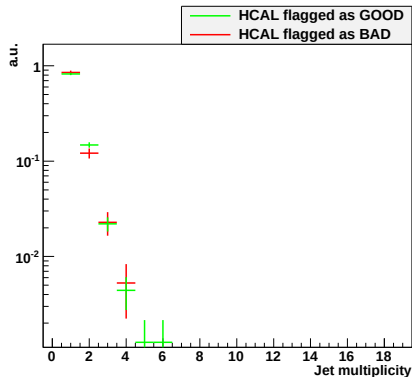


# HCAL Flag: Jet Multiplicity

allMinBias Events

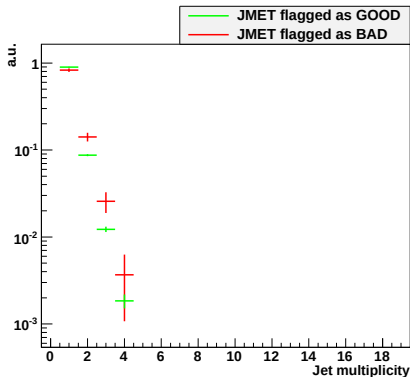


Interesting Events

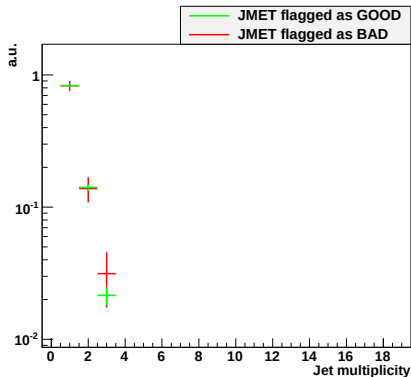


# JetMET Flag: Jet Multiplicity

allMinBias Events



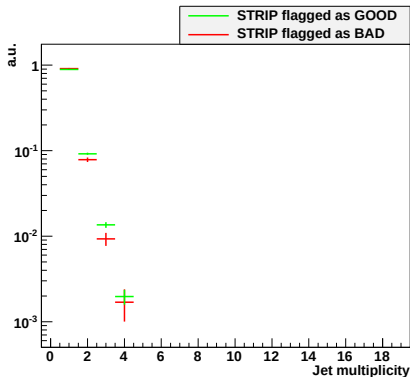
Interesting Events



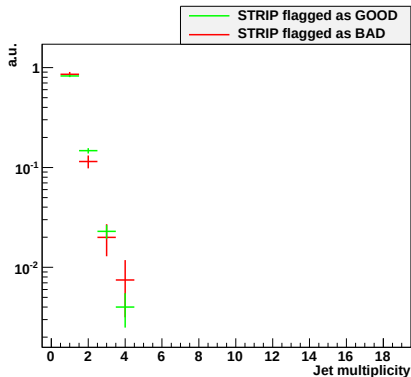


# SiStrip Flag: Jet Multiplicity

allMinBias Events

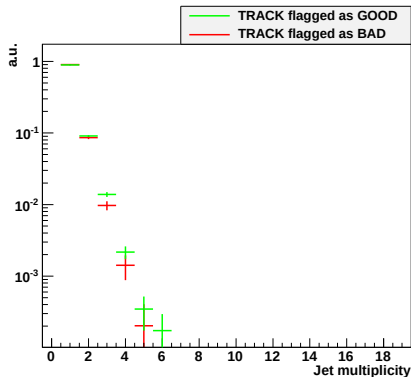


Interesting Events

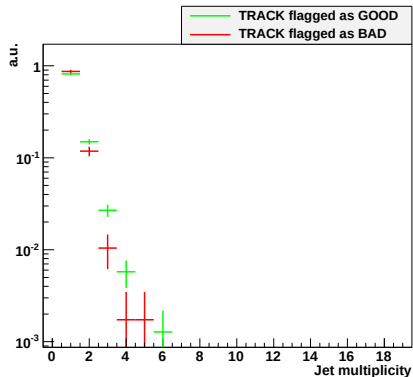


# Track Flag: Jet Multiplicity

allMinBias Events

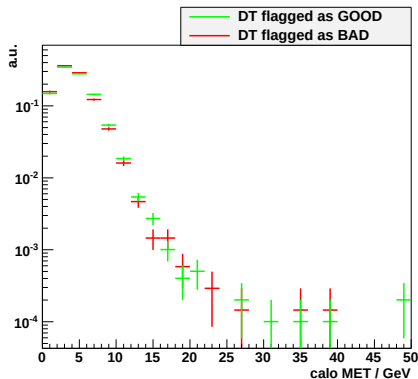


Interesting Events

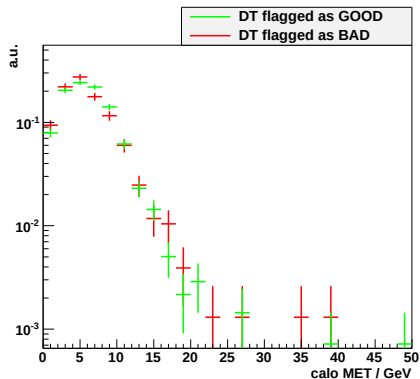


## DT Flag: MET

allMinBias Events

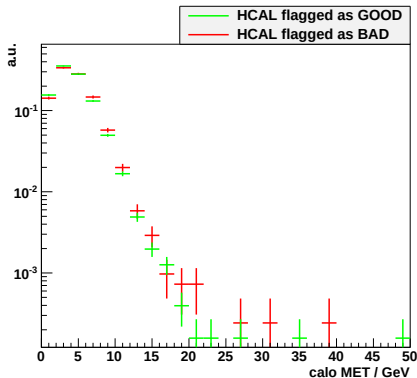


Interesting Events

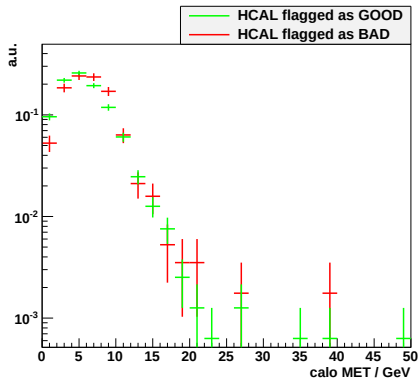


# HCAL Flag: MET

allMinBias Events

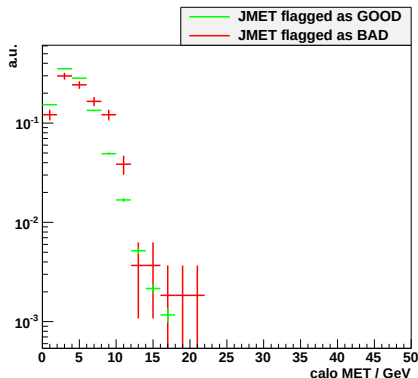


Interesting Events

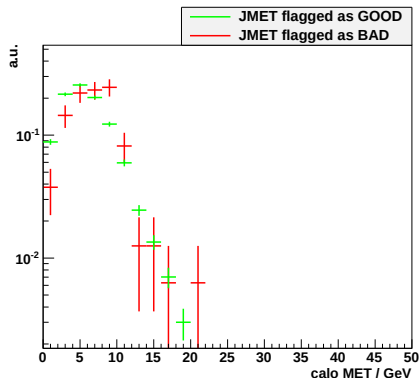


## JetMET Flag: MET

allMinBias Events

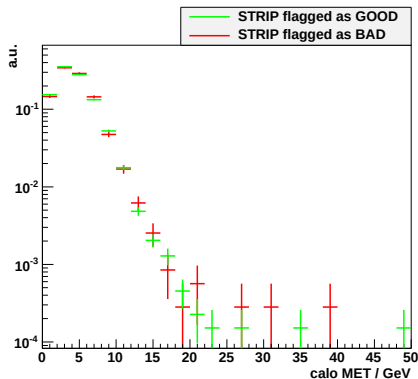


Interesting Events

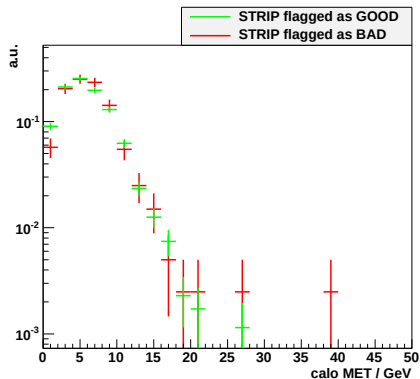


## SiStrip Flag: MET

allMinBias Events

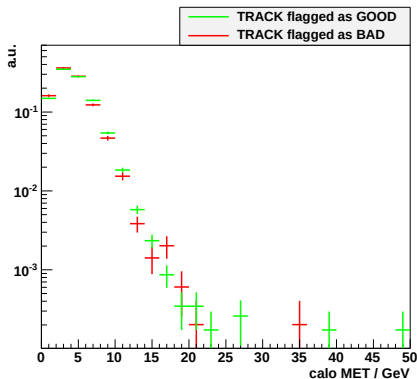


Interesting Events



# Track Flag: MET

allMinBias Events



Interesting Events

