New Data Sets

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CSA08 Production

- Two simulated scenarios
  - **S43:** 6 days of $\mathcal{L} = 2 \cdot 10^{30}\ \mathrm{cm}^{-2}\mathrm{s}^{-1}$

    integrated Luminosity $\mathcal{L}_{\mathrm{int}} = 1\ \mathrm{pb}^{-1}$
  - **S156:** 6 days of $\mathcal{L} = 2 \cdot 10^{31}\ \mathrm{cm}^{-2}\mathrm{s}^{-1}$

    integrated Luminosity $\mathcal{L}_{\mathrm{int}} = 10\ \mathrm{pb}^{-1}$
- Reduced center of mass energy $\sqrt{s} = 10\ \mathrm{TeV}$
- Full magnetic field $B = 3.8\ \mathrm{T}$
- Efficient production $\rightarrow$ generator cuts near trigger threshold
- Different triggers for S43 and S156 to reach full available bandwidth; generally prescale is changed, not threshold
- Total request for CMSSW_2_0_0 samples:
  - S43: HLT rate: 180 Hz; HLT bandwidth: 135 MB/s; #events: 120 M
  - S156: HLT rate: +40 Hz; HLT bandwidth: +52 MB/s; #events: +21 M

CSA08 Samples

- Five (six for S156) different samples with different p_T threshold; no upper limit $\rightarrow$ calculation of weights a bit tricky; Producer for CSA08Weights for S43 available; not needed if spectra are flattend
  - CSA08JetEt20: Generator threshold $p_T^{\min} = 30$ GeV
  - CSA08JetEt30: Generator threshold $p_T^{\min} = 45$ GeV
  - CSA08JetEt50: Generator threshold $p_T^{\min} = 75$ GeV
  - CSA08JetEt80: Generator threshold $p_T^{\min} = 120$ GeV
  - CSA08JetEt110: Generator threshold $p_T^{\min} = 160$ GeV
  - CSA08JetEt150: Generator threshold $p_T^{\min} = 220$ GeV
- Each QCD sample ~ 4 M events
- One GammaJet sample (~ 2 M events)
  - CSA08GammaJet: Generator threshold $p_T^{\min} = 30$ GeV

Triggers tag events but keep them: trigger information not used so far

DiJet Sample

- Configuration file:
  Bromo/Calibration/CalibTreeMaker/test/makeNJets.cfg

```
replace calibTreeMaker.WriteDiJetTree    = true
replace calibTreeMaker.WriteTriJetTree   = true
replace calibTreeMaker.NJet_Jets         = sisCone5CaloJets
replace calibTreeMaker.NJet_MET          = met

replace diJetFilter.MaxNJets      = 2
replace diJetFilter.MaxRefEta     = 1.4
replace diJetFilter.MaxEta        = 5.0
replace diJetFilter.MinJetEMF     = 0.05
replace diJetFilter.MaxJetEMF     = 0.95
replace diJetFilter.MinJetPhiSum  = 0.15
replace diJetFilter.MaxLastJetPt  = 15.
replace diJetFilter.MinJetPt      = 10.

replace triJetFilter.MaxNJets      = 3
replace triJetFilter.MaxRefEta     = 1.4
replace triJetFilter.MaxEta        = 5.0
replace triJetFilter.MinJetEMF     = 0.05
replace triJetFilter.MaxJetEMF     = 0.95
replace triJetFilter.MinJetPhiSum  = 0.25
replace triJetFilter.MaxLastJetPt  = 15.
replace triJetFilter.MinJetPt      = 10.
```

Collect samples for calibration at
/rdata/cms-data01/proof/calibration

	Events
Njet_ET20_S156_v1_SISCone5.root	(25k)
Njet_ET30_S156_v1_SISCone5.root	(70k)
Njet_ET50_S156_v1_SISCone5.root	(160k)
Njet_ET80_S156_v1_SISCone5.root	(150k)
Njet_ET110_S156_v1_SISCone5.root	(230k)
NJet_ET150_S156_v1_SISCone5.root	(260k)

GammaJet Sample

- Configuration file:
  Bromo/Calibration/CalibTreeMaker/test/testCalibTreeMaker.cfg

```
replace photonCalIsolation.src                = photons
replace photonCalIsolation.dRMin              =  0.20
replace photonCalIsolation.dRMax              =  0.50
replace photonJetSample.Photons               = photons
replace photonJetSample.GenPhotons            = genParticles
replace photonJetSample.Jets                  = sisCone5CaloJets
replace photonJetSample.GenJets               = sisCone5GenJets
replace photonJetFilter.MinPhotonPt           =  0.
replace photonJetFilter.MaxPhotonEta          =  2.5
replace photonJetFilter.MinJetPt              =  0.
replace photonJetFilter.MaxJetEta             =  5.
replace photonJetFilter.MaxIsolation          =  2.
replace photonJetFilter.MaxNonleadingJetsPt =  5.
replace photonJetFilter.MaxSecondJetPt        =  5.
replace photonJetFilter.MaxDeltaPhi           =  0.10
replace photonJetFilter.Debug                 = false
```

In particular at low pT:
statistics will be smaller if trigger selection is used (larger prescales)

Collect samples for calibration at
/rdata/cms-data01/proof/calibration

	Events
GammaJet_S156_v1_SISCone5.root	**(70k)**