Update On Jets In The Trigger Version 5 Data
Jetrad interface to LHAPDF, CTEQ6 errors
QCD CVS packages

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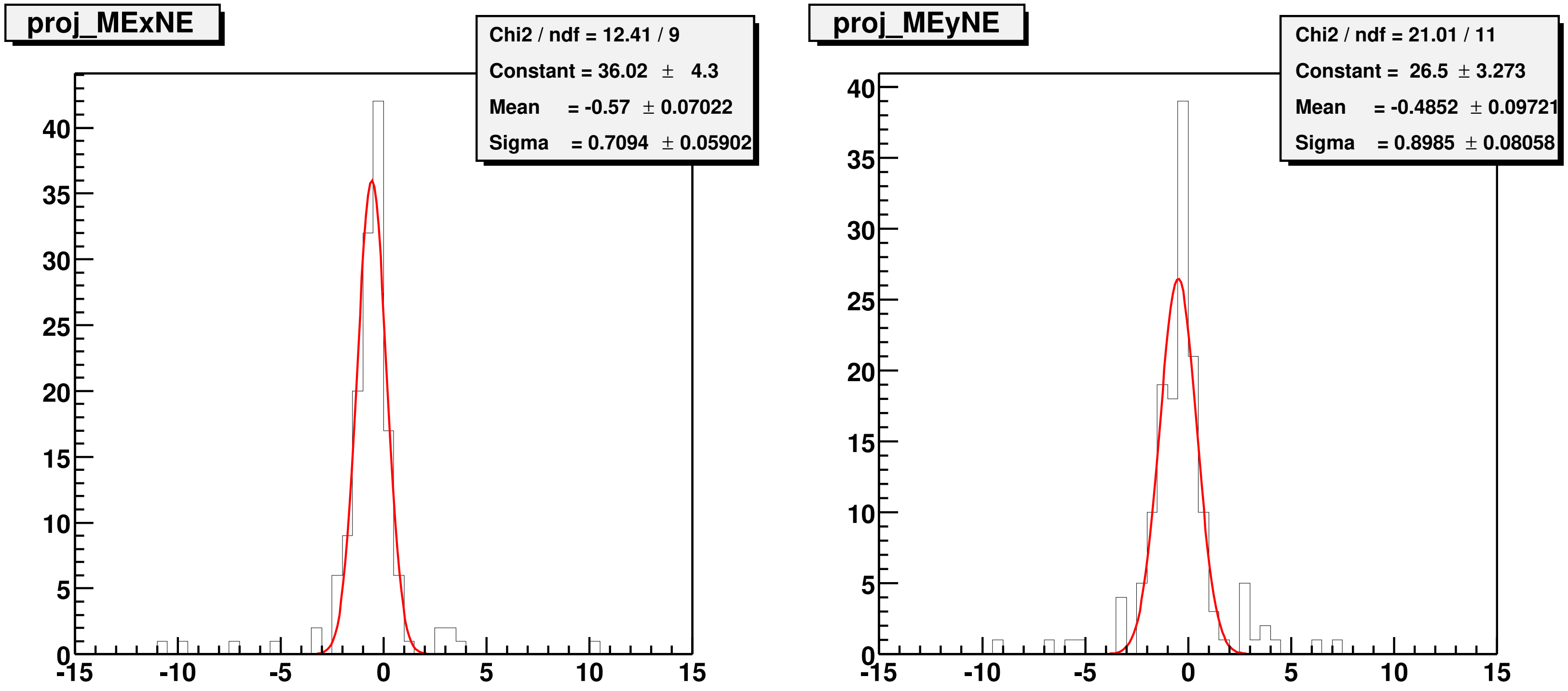
Trigger v5 files

Small ROOT tuples

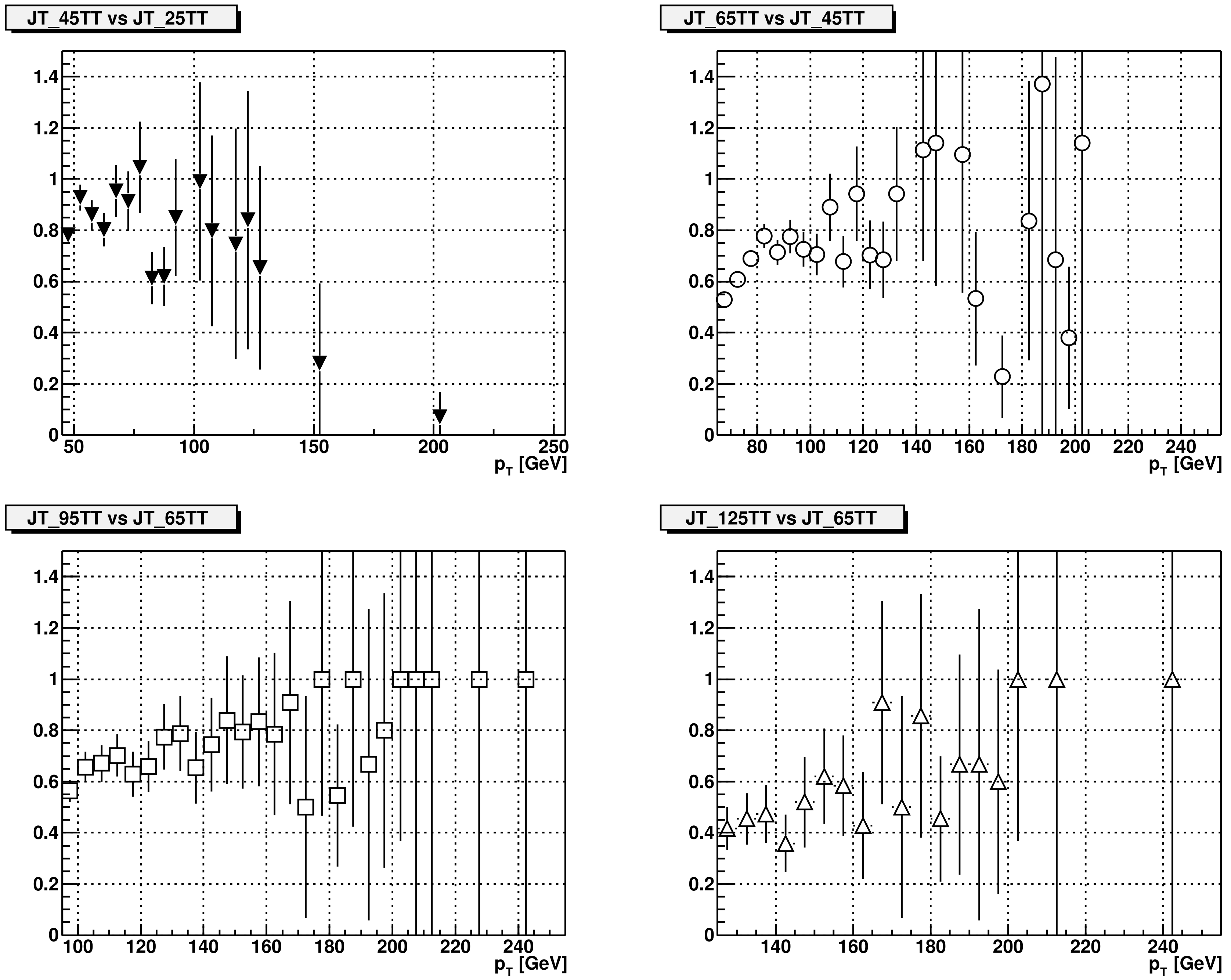
- almost all trigger v5 data I have found on SAM a week ago (1473 files out of 1502)
- 150 runs, from 149269 (Mar 22) to 153368 (May 4)

Run selection

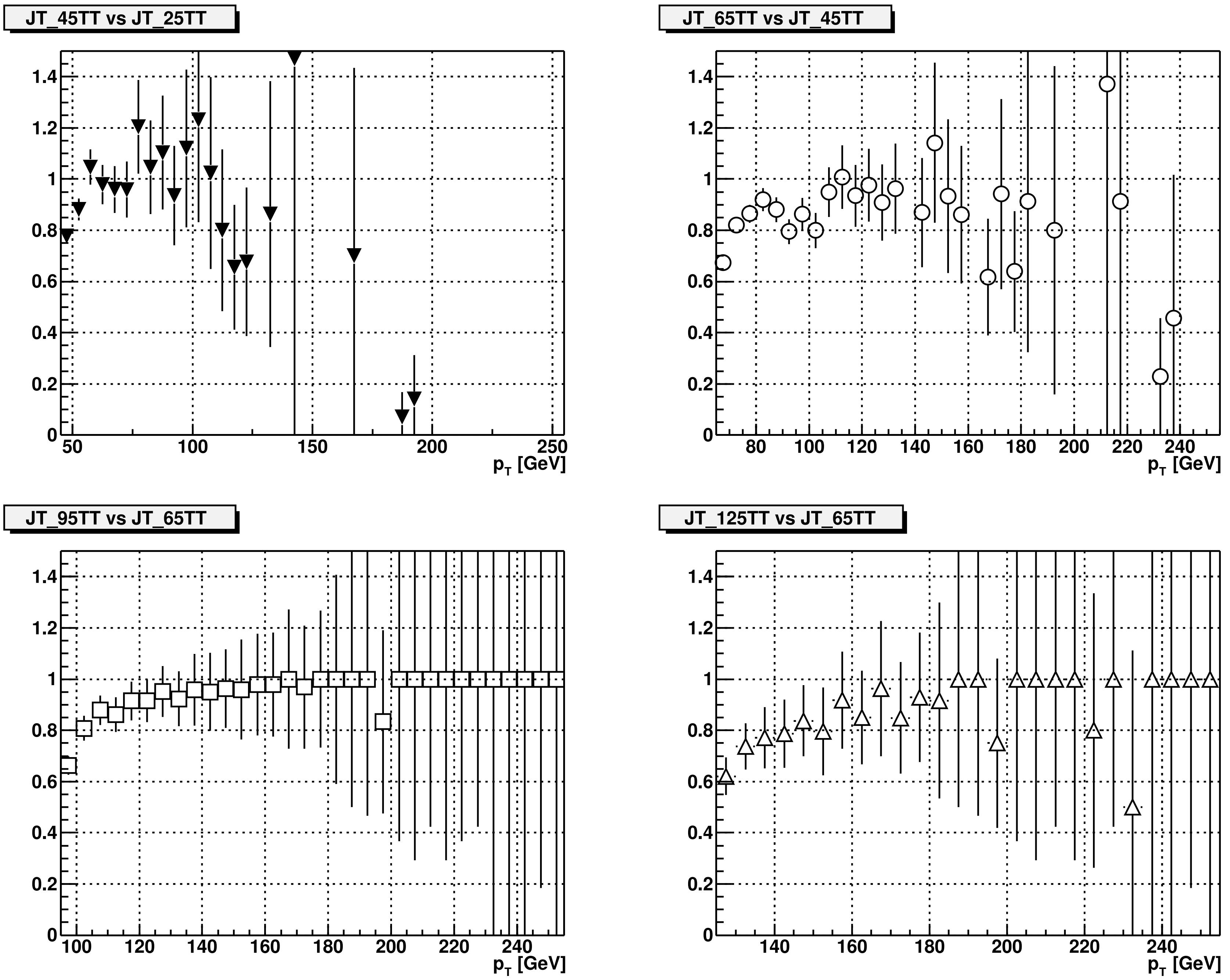


- 134 runs, 1389 files, and 3260113 events (in stipped files)
- 3006041 events in good LBNs
- $\mathcal{L}_{L1} = 3.26\,\mathrm{pb}^{-1}$, $\sigma_{mbias} = 36.8\,\mathrm{mb}$

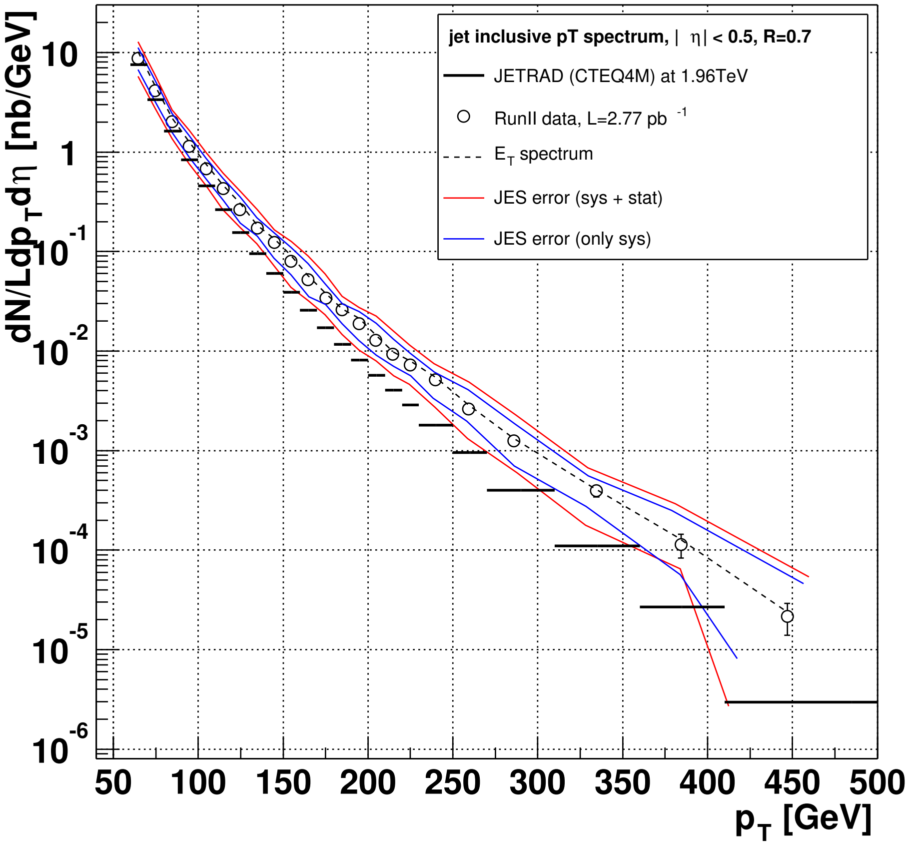
trigger turn-ons – 1 jet case

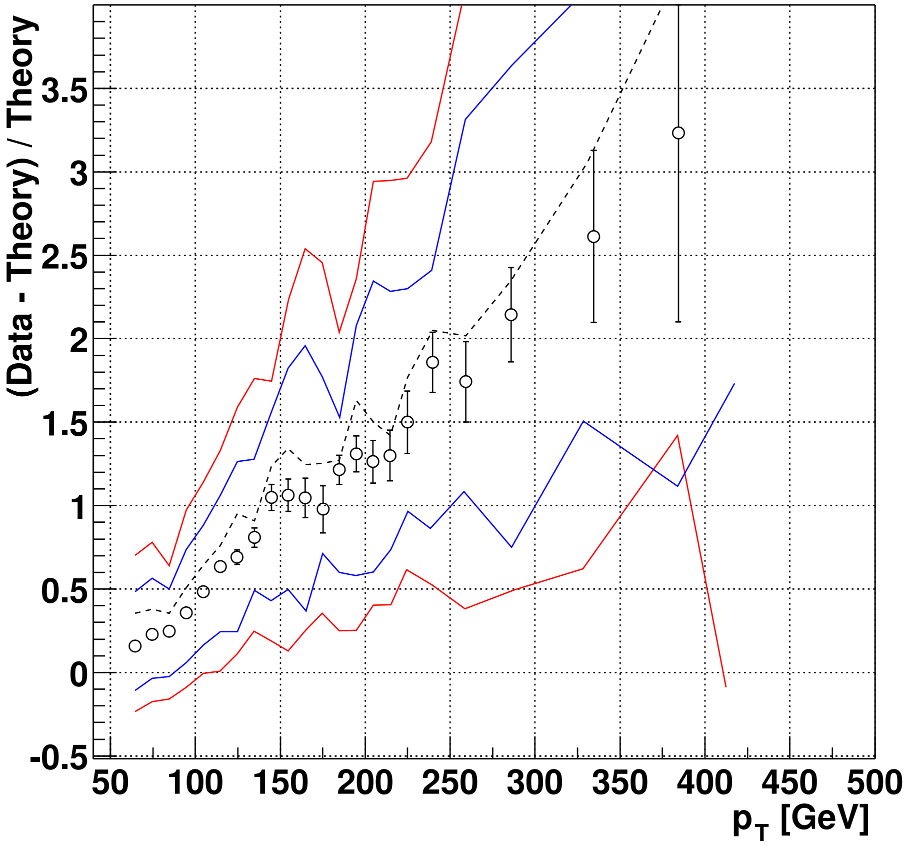


trigger turn-ons – 2 jet case



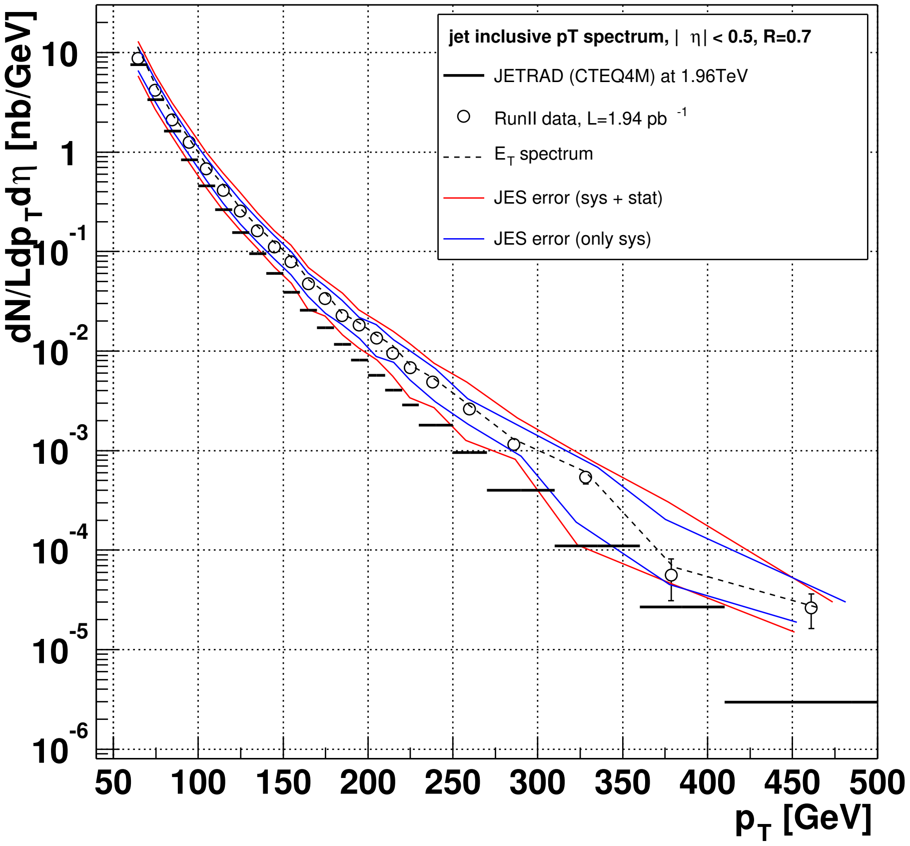
Inclusive Jet PT spectrum - trigger v5

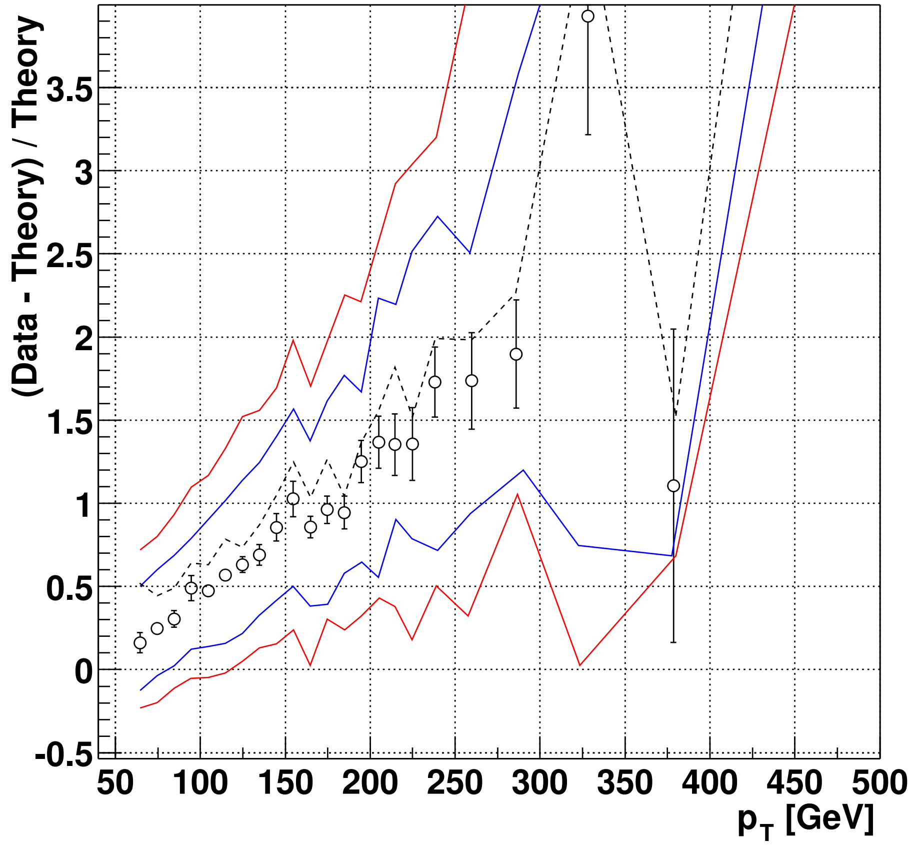




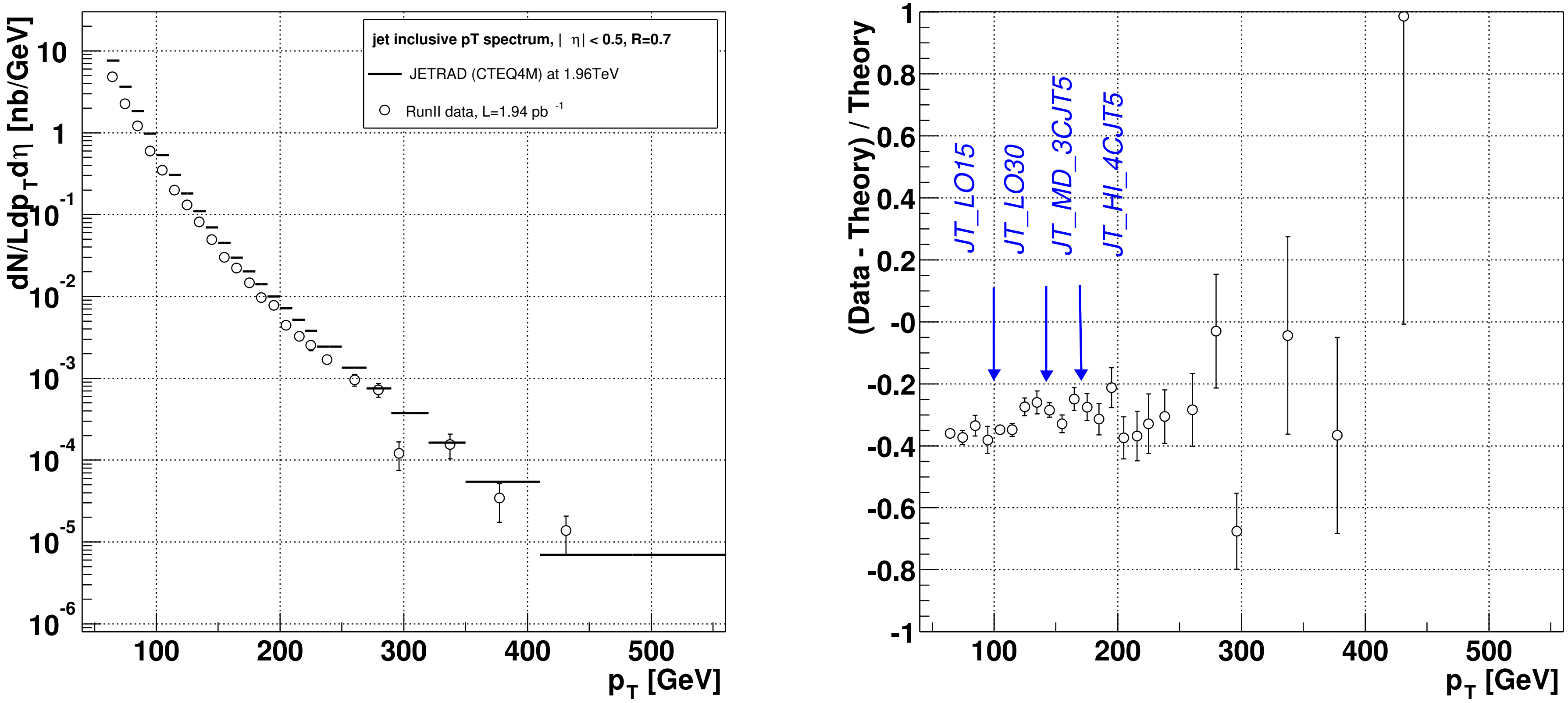
- new JES v2.0 is much larger than v1.1
  - for $E = 100\,\text{GeV}$ the corrections are $R_{v2.0} = 1.57$ and $R_{v1.1} = 1.37$ in the central calorimeter region

Inclusive Jet PT spectrum - trigger v4



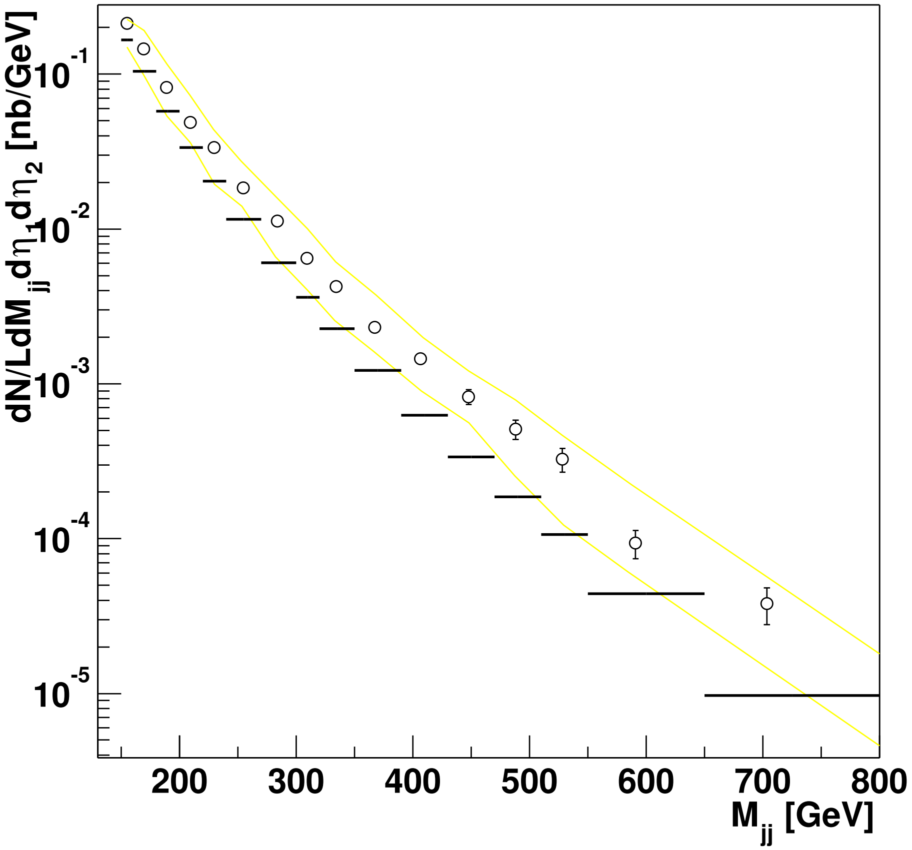


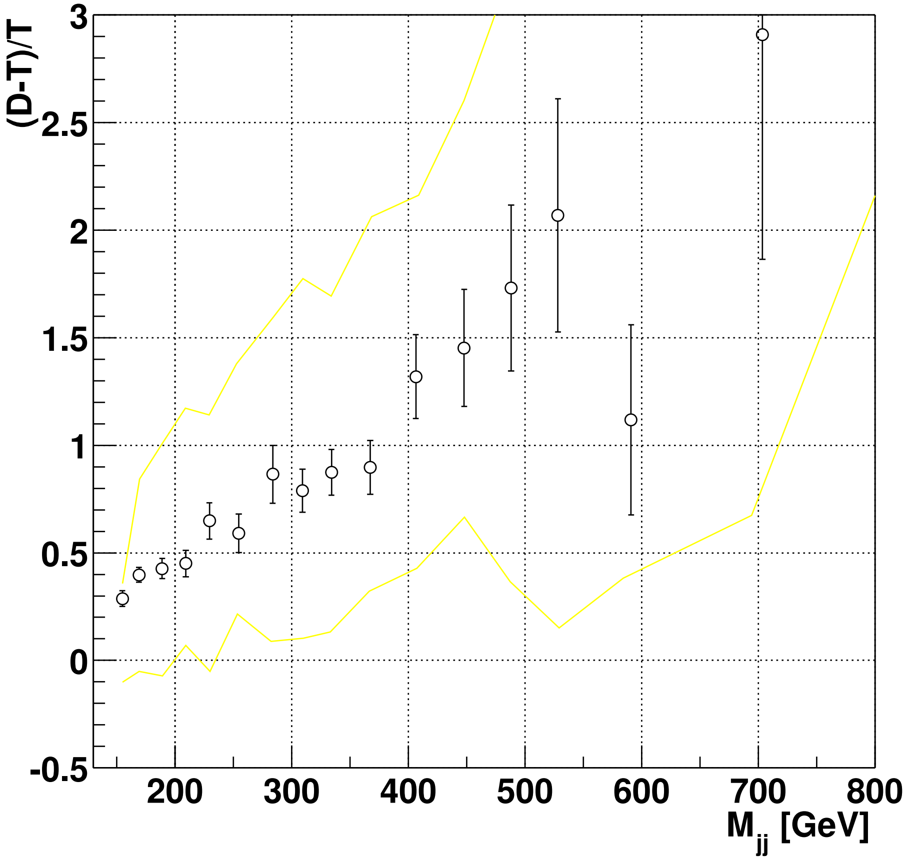
jet pT spectrum, trigger v4, JESv1.1



▷ JES correction applied (v1.1) + correction for vertex cut

Dijet mass spectrum - trigger v5



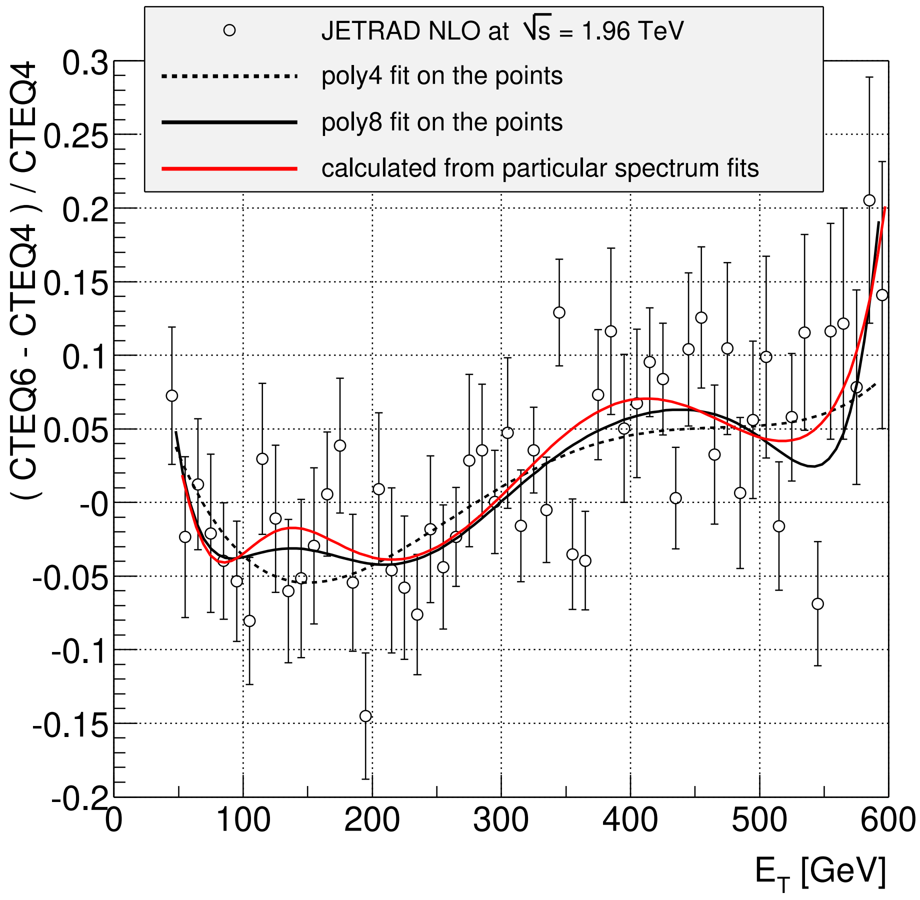


LHAPDF and CTEQ6

CTEQ4 versus CTEQ6

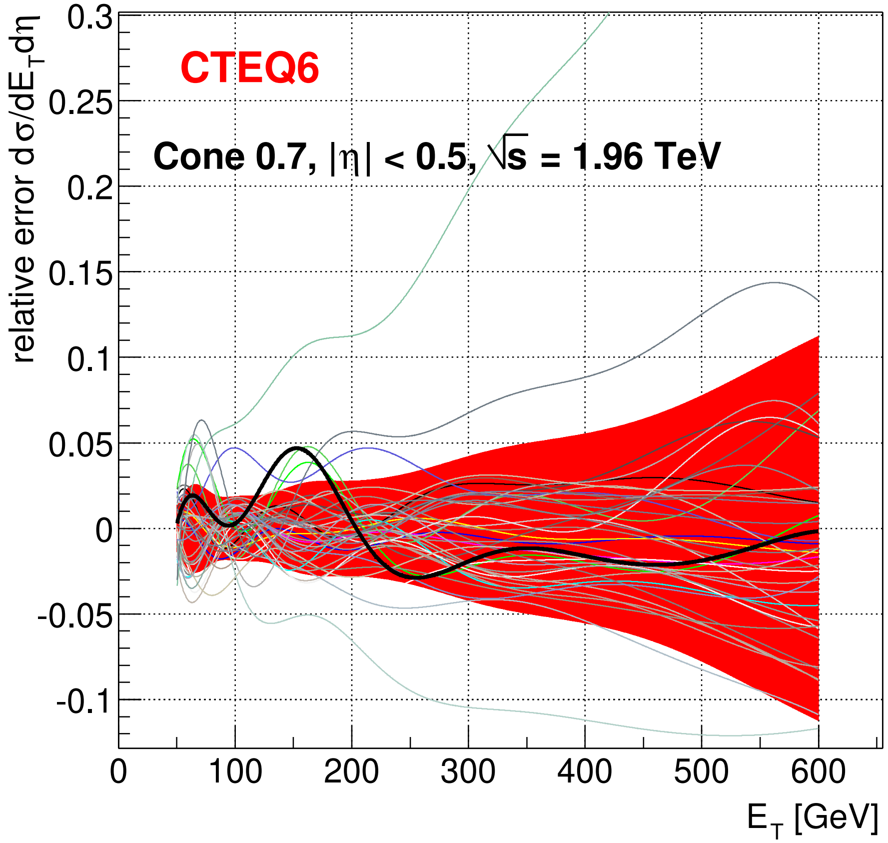
- jet inclusive p_T spectrum

$$fit \sim \frac{\exp(-\alpha E_T)}{E_T^3} \mathrm{Poly}_8(E_T)$$



CTEQ6 errors

- propagation of CTEQ6 errors on jet inclusive p_T spectrum
- probably still affected by fitting procedure



QCD CVS packages

qcd_framework

- interface to `reco_analyze` ROOT tuples
- math, string, and I/O tools

qcd_tools

- some ROOT tools
- `run_summary` – luminosity summary per run

qcd_analysis

- two examples (inclusive jet p_T and dijet mass spectra)

▷ everything is under `qcd` namespace

▷ compiles in the standard DØ software environment

- at least on ClueD0 in `p11.06.00`
- having troubles under d0mino (linker cannot find some objects)

▷ no documentation, although hopefully the code is easy to understand

▷ try to use it