Trigger efficiency issues

Pavel Demine

CEA Saclay, France

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Data sample

- Sample properties:
  - Moriond data
  - reconstructed with p13.05.00 and p13.06.01
  - all muon triggers (w/o calorimeter)
- Trigger list versions:

Trig. list ver.	Comments
8.20 — 8.41	`JT_25TT_NG` is added, $-0.2 < \mathrm{EMF} < 1.2$
9.20	
9.30	`JT_65TT` and `JT_95TT` get L2 (3×3)
9.31 — 9.50	L2 jet $3 \times 3 \rightarrow 5 \times 5$
10.00	
10.01	L1 eta $2.4 \rightarrow 3.2$
10.02	L1 eta $3.2 \rightarrow 2.4$
10.03 — 10.36	L1 eta $3.2 \rightarrow 2.4$ properly
11.00 — 11.04	L1 eta $2.4 \rightarrow 3.2$

Event selection

- Selection creteria:
  - at least 1 primary vertex (PV):

    at least 5 tracks pointing to the primary vertex

    $|Z_{\mathrm{PVtx}}| < 50$ cm
  - $ME_T < 0.7 \cdot p_T(\text{leading jet}) \cdot JES$
  - at least 1 jet (RunII cone R = 0.7)
  - the leading jet passes p13 JetID cuts:

    $0.05 < \mathrm{EMF} < 0.95$

    $\mathrm{CHF} < 0.4$

    $\mathrm{HotF} < 10$

    $\mathrm{n90} > 1$

    $\mathrm{CHF} < 0.15$ OR $\mathrm{f90} = \mathrm{n90}/\mathrm{nItem} < 0.5$

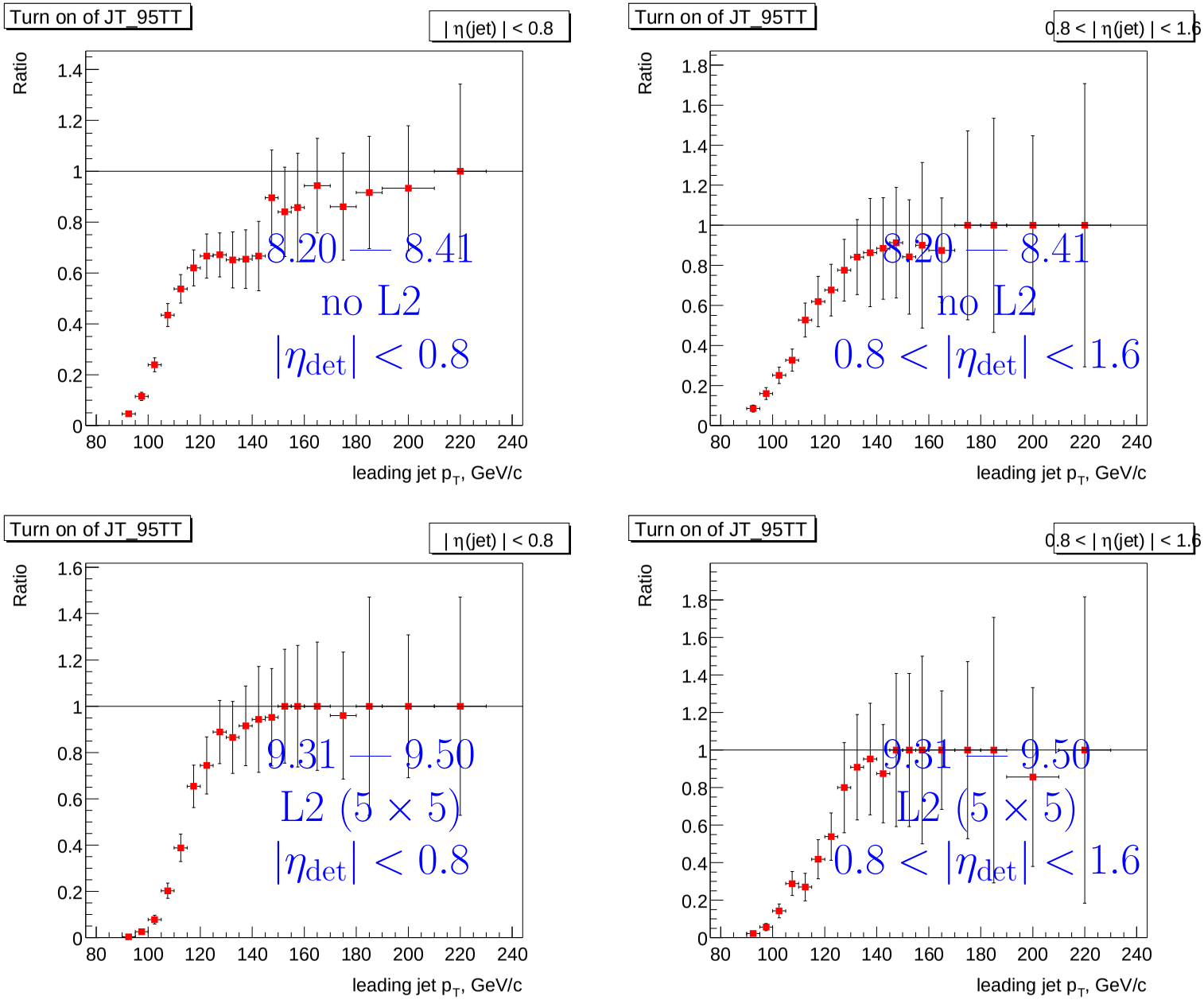
Trigger efficiency definition

- Trigger efficiency for leading jet p_T bins:

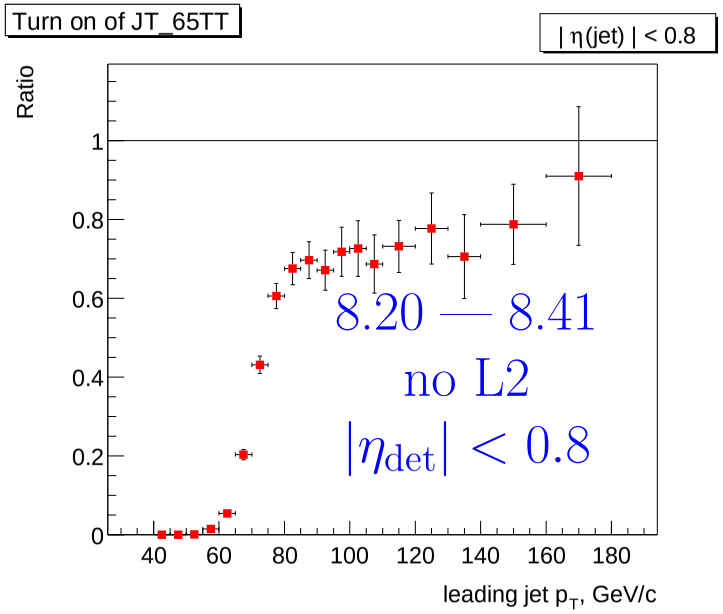
$$\varepsilon(\texttt{JT_95TT}) = \frac{\#(\texttt{mu_trig} + \texttt{JT_95TT})}{\#(\texttt{mu_trig})}$$

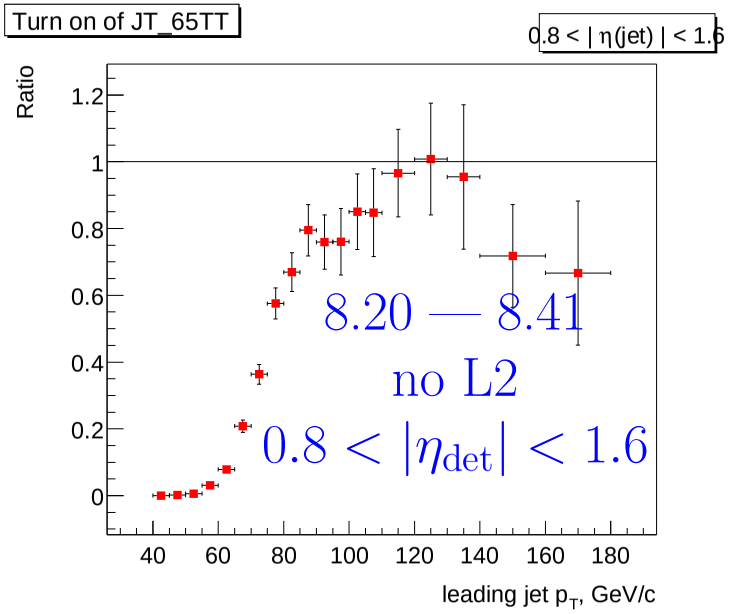
- Use prescale information from DØ offline database

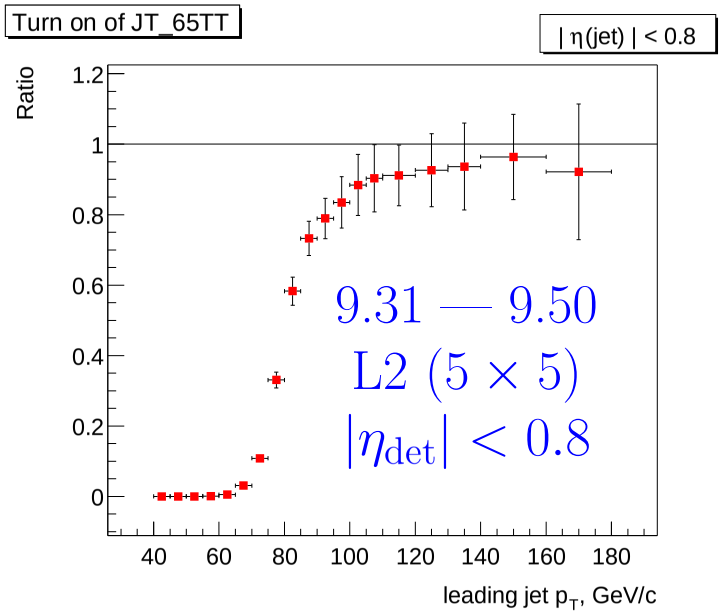
JT_95TT / mu_trig

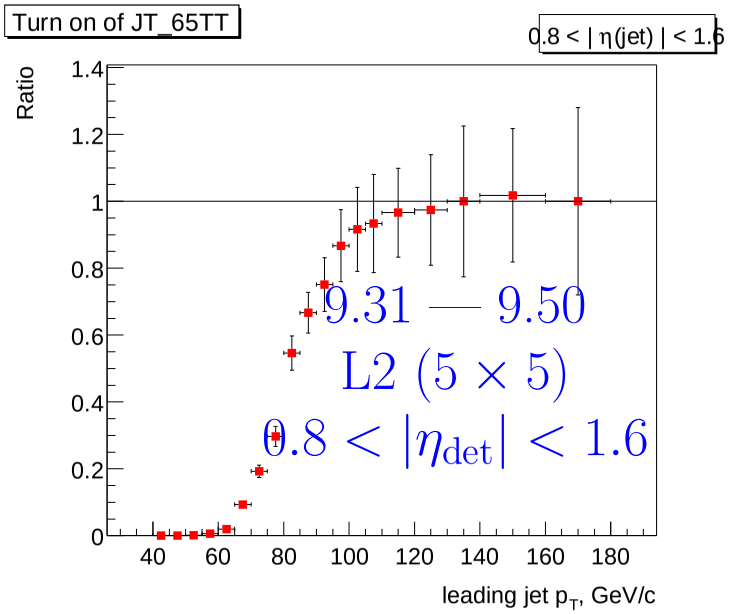


JT_65TT / mu_trig

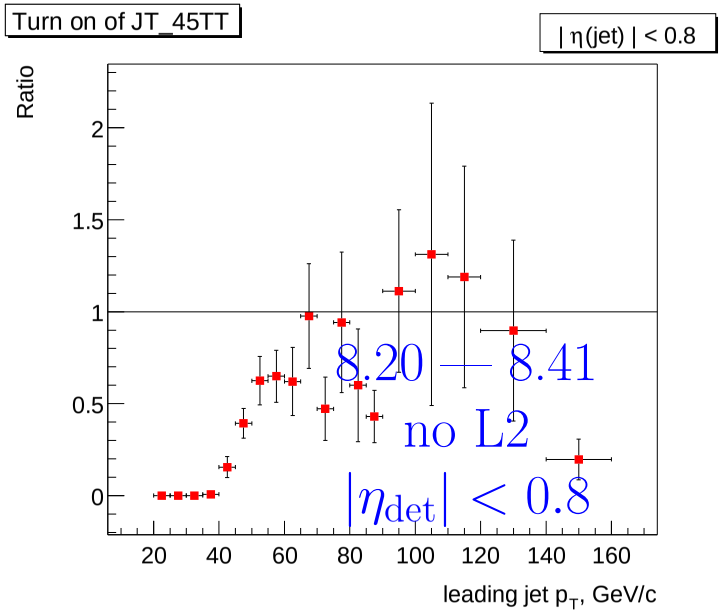


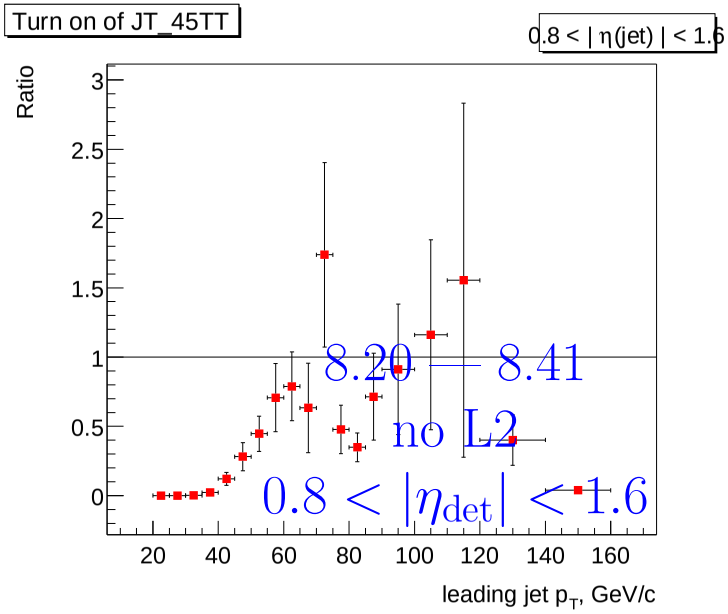


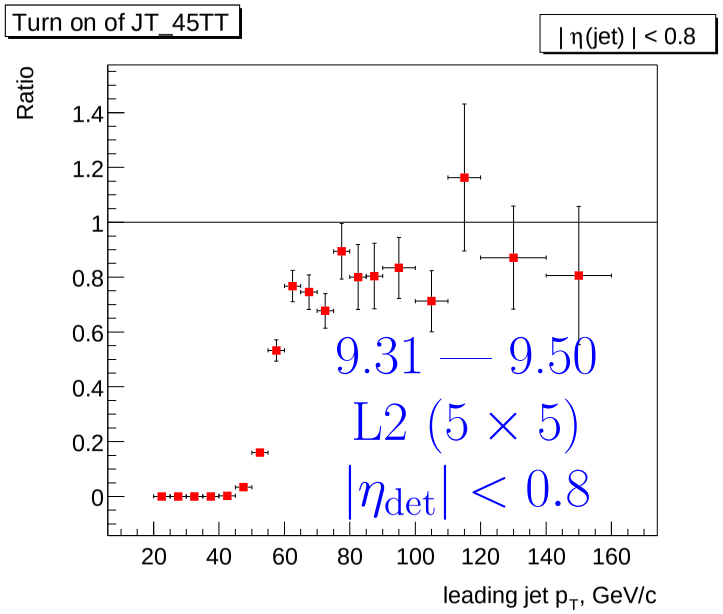


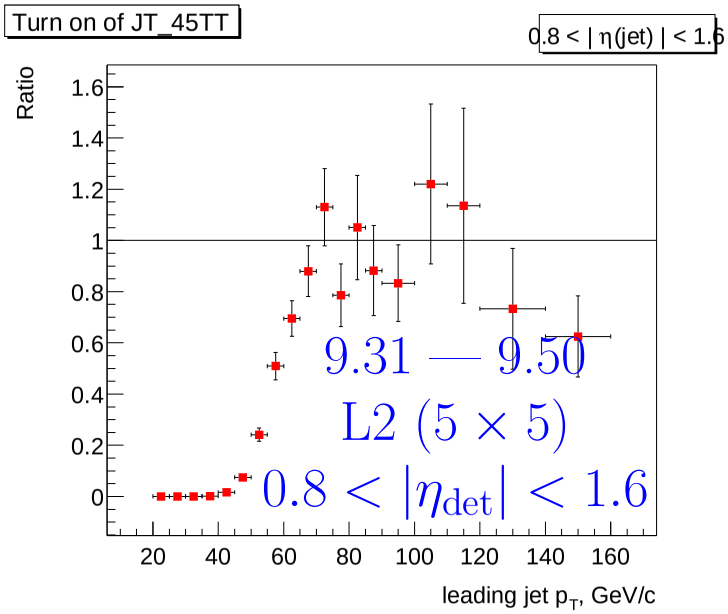


JT_45TT / mu_trig

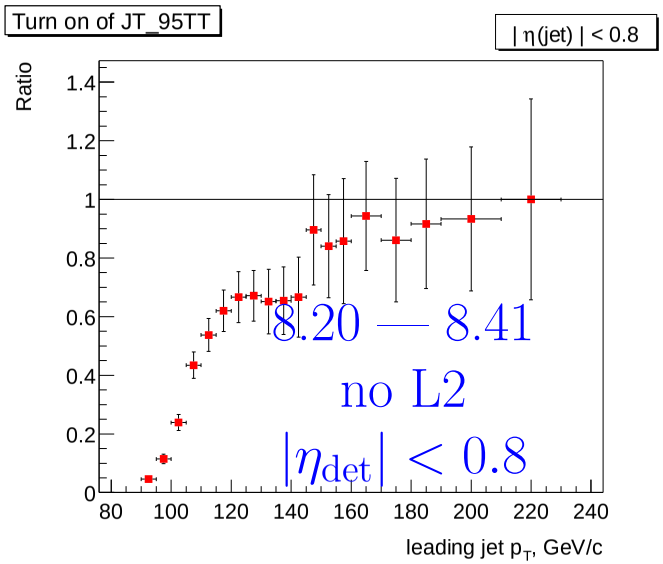


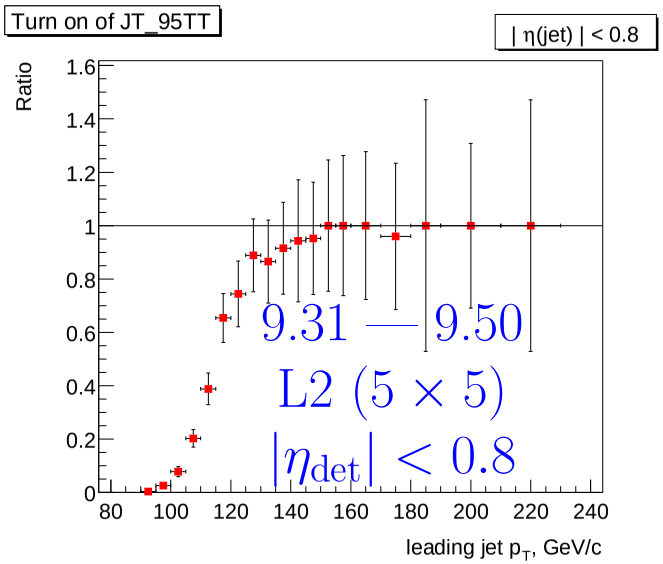


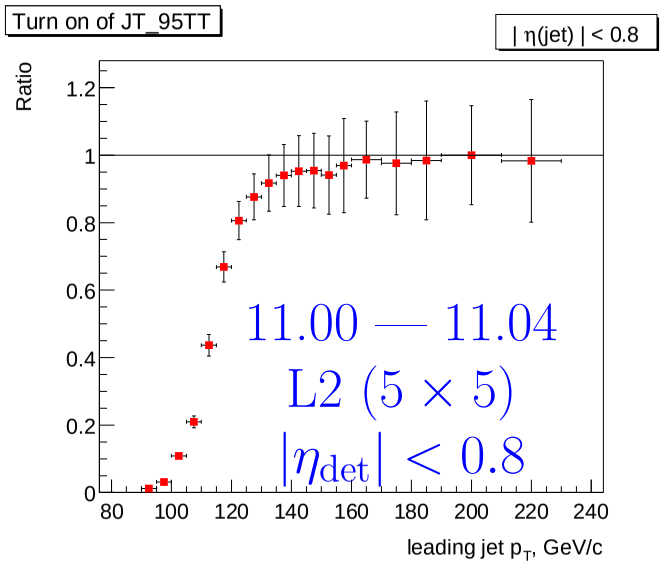


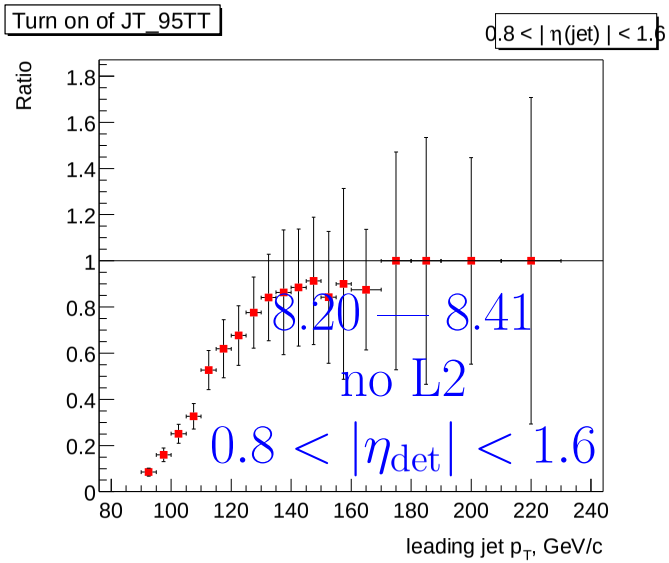


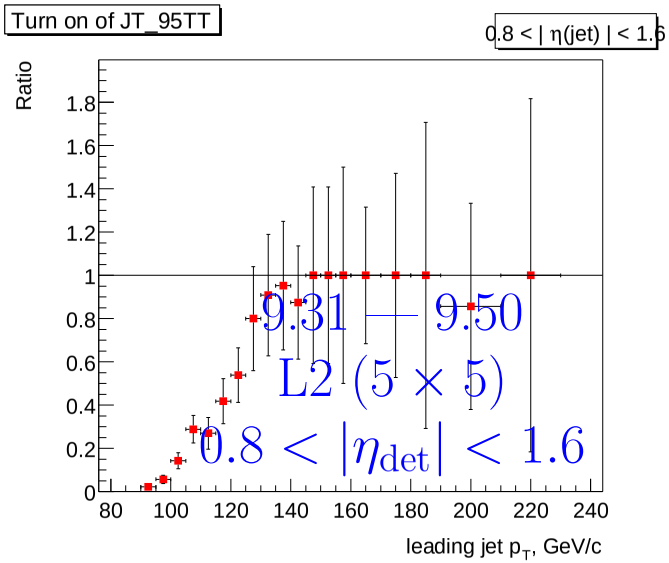
JT_95TT / mu_trig

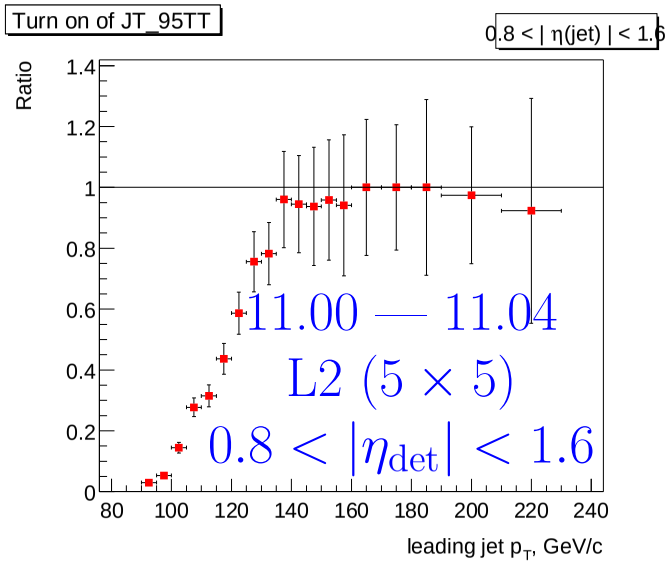
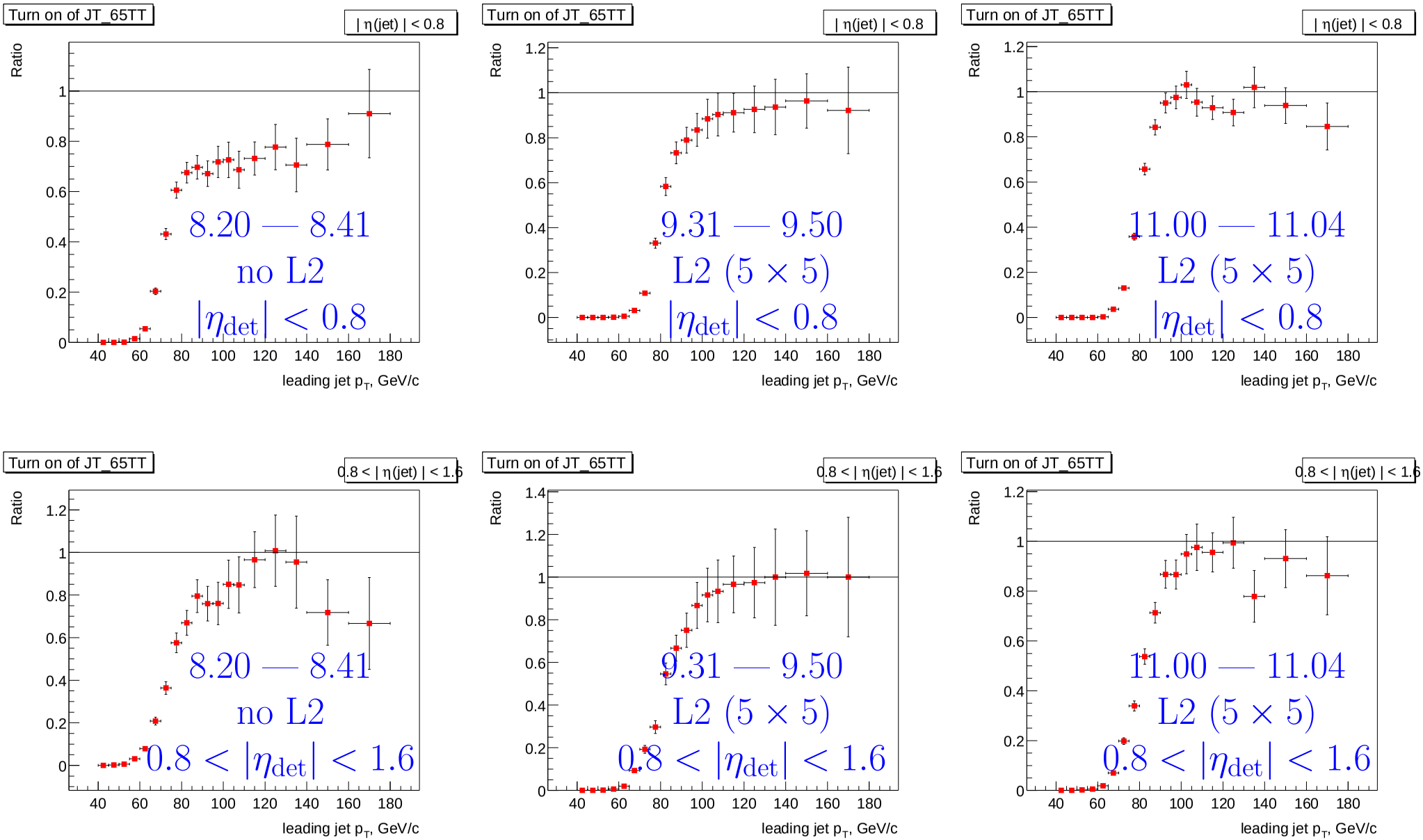












JT_65TT / mu_trig