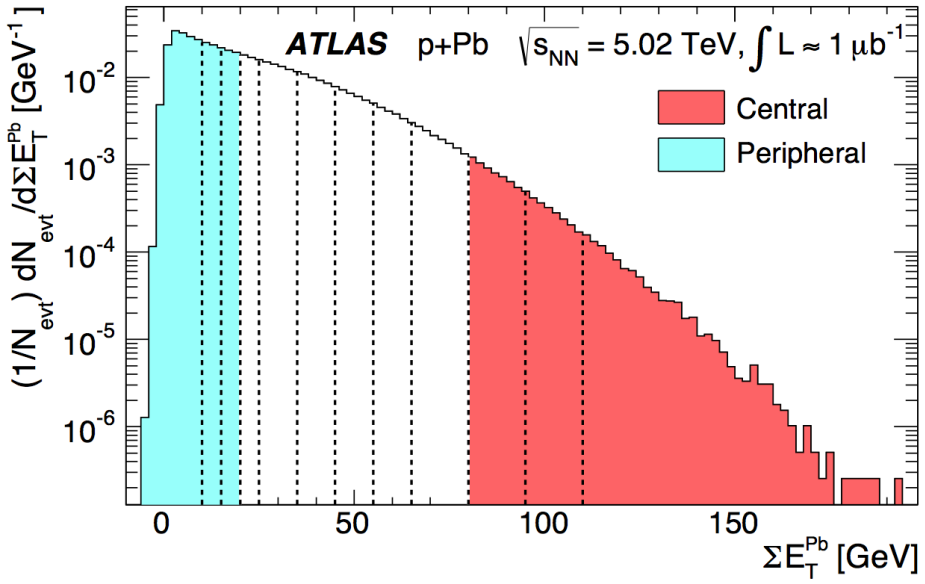
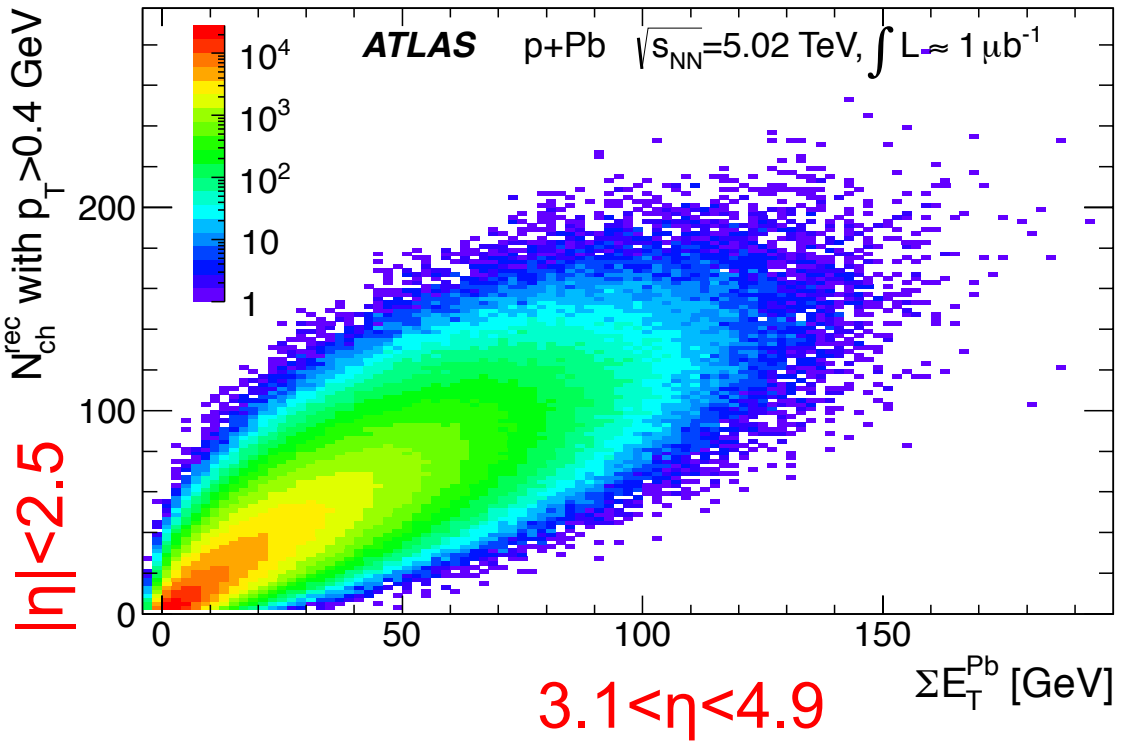
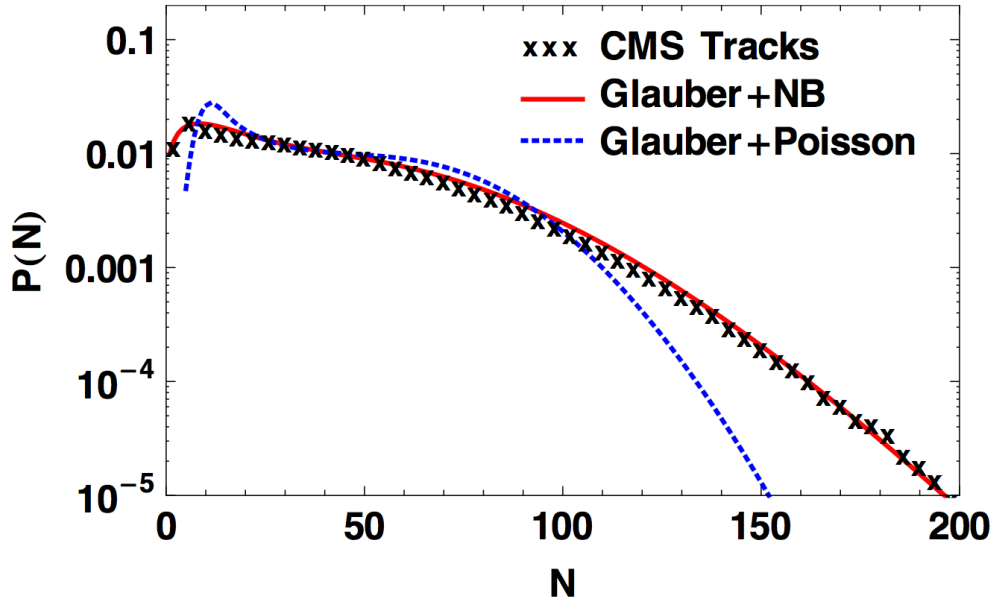
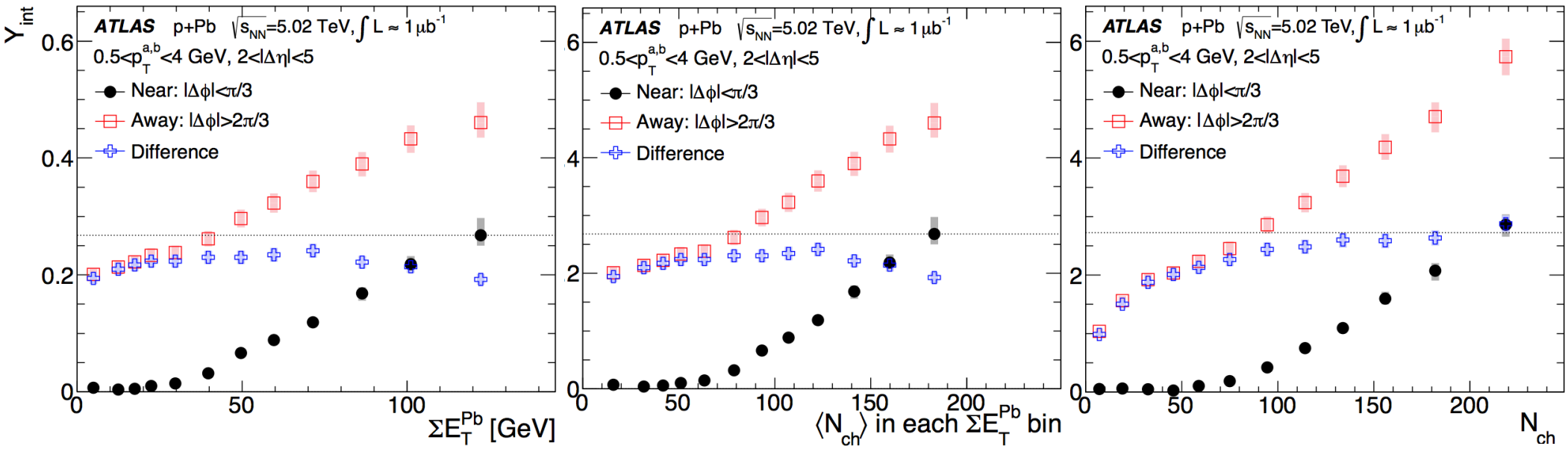
Event activity







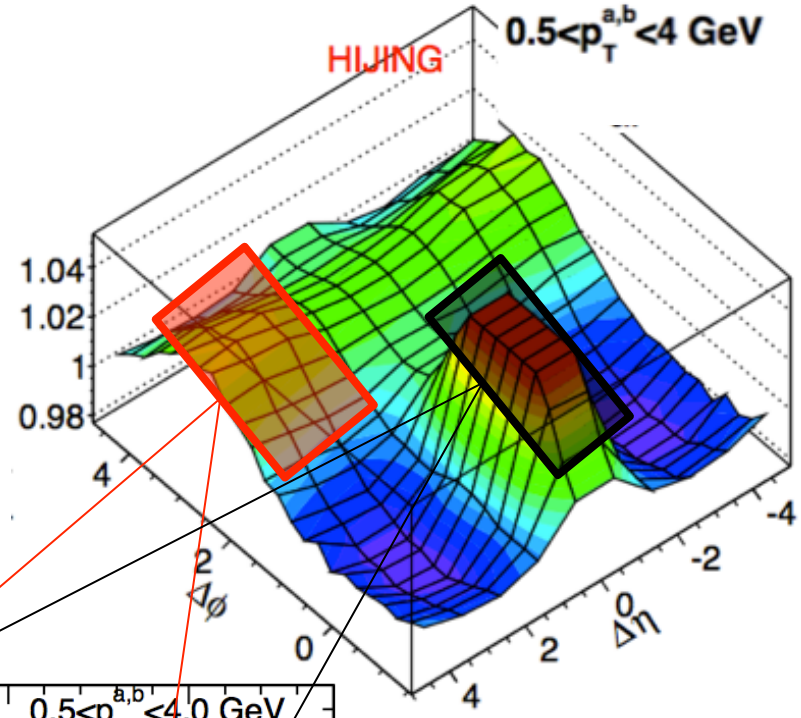
Auto-correlation bias



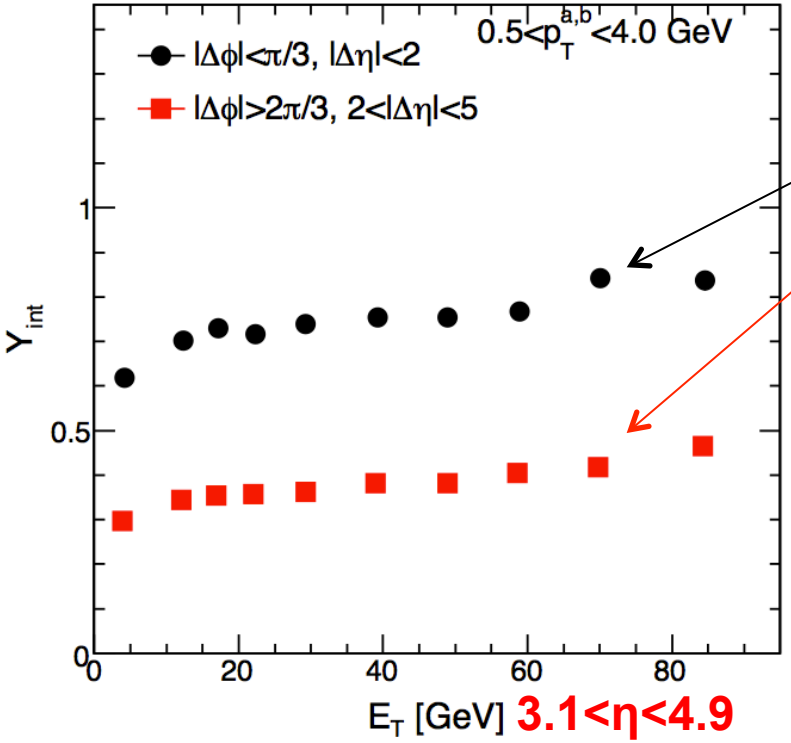
- No bias for long-range global correlations: i.e. the near-side ridge yield.
- Strong auto-correlations between Nch and short range correlation signal.

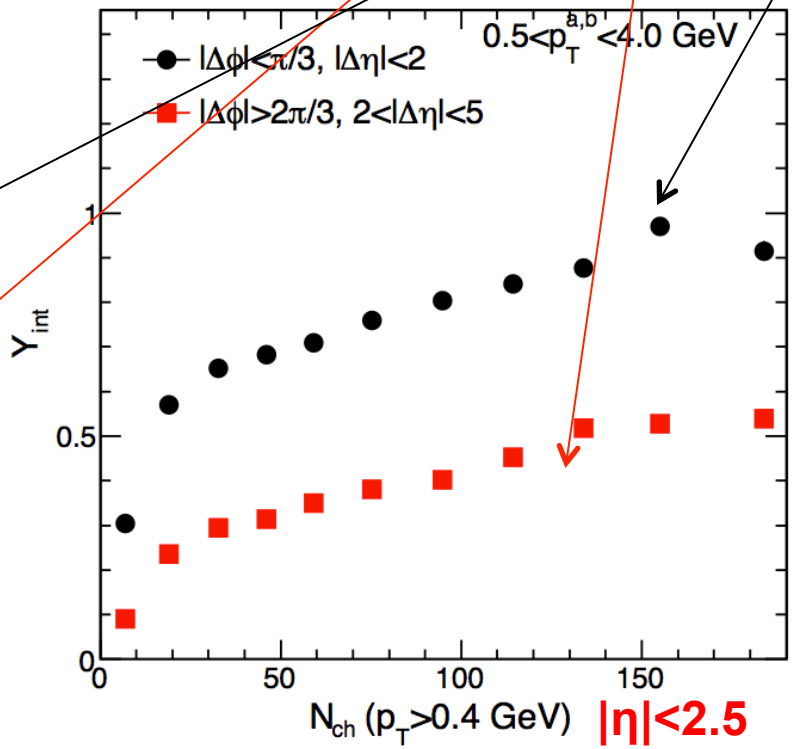
Illustrate bias with HIJING simulation

- Hijing has no ridge, mostly short range correlations.



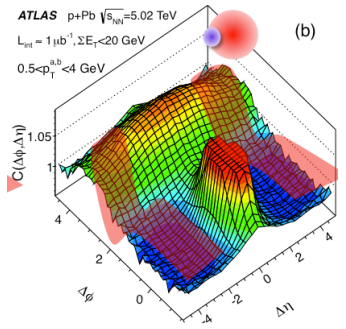
Clear bias effects in N_{ch} based selections

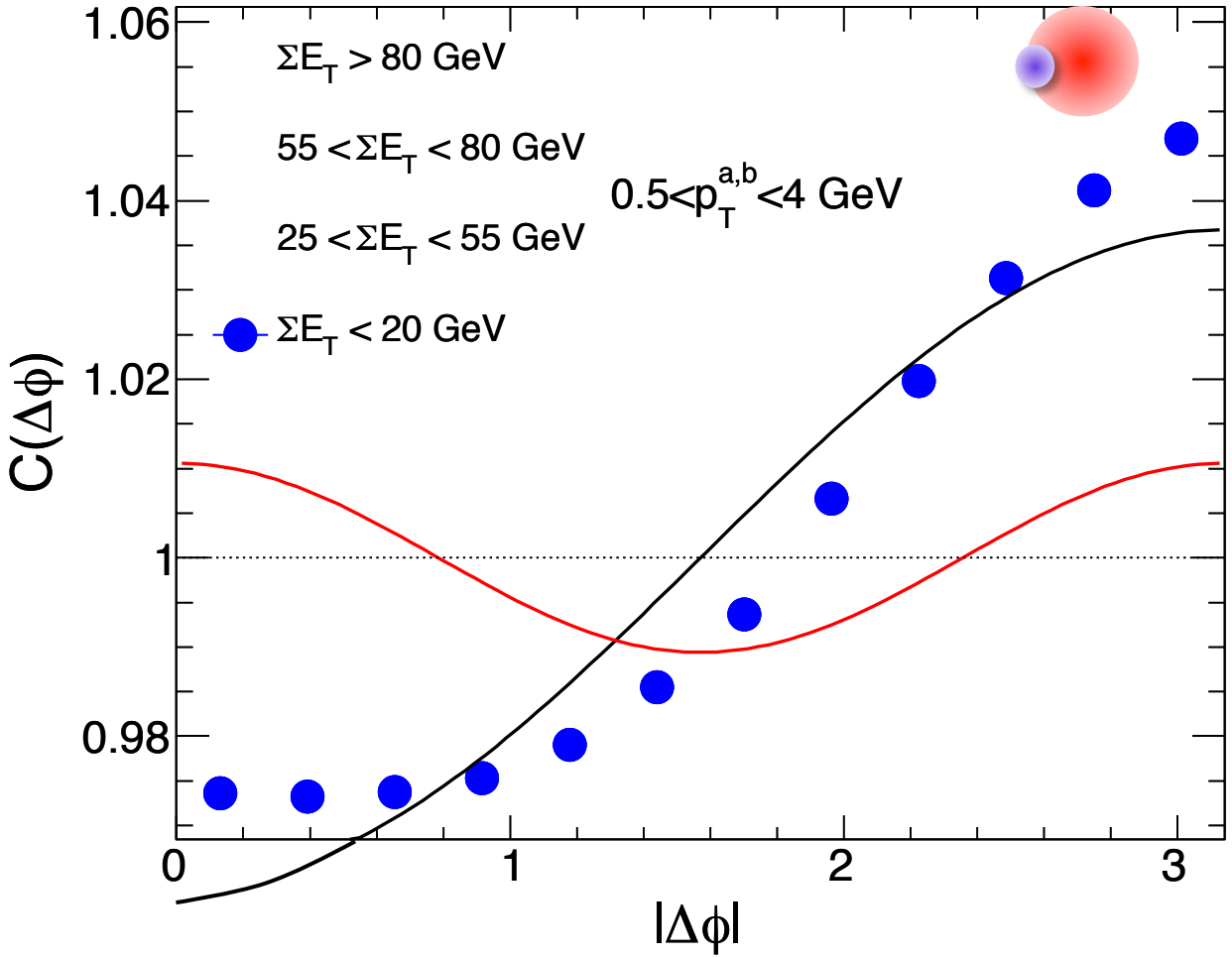




2PC in Δϕ: peripheral

- Define 1-D correlation function over the region 2<|Δη|<5
  - normalized to have mean value of 1



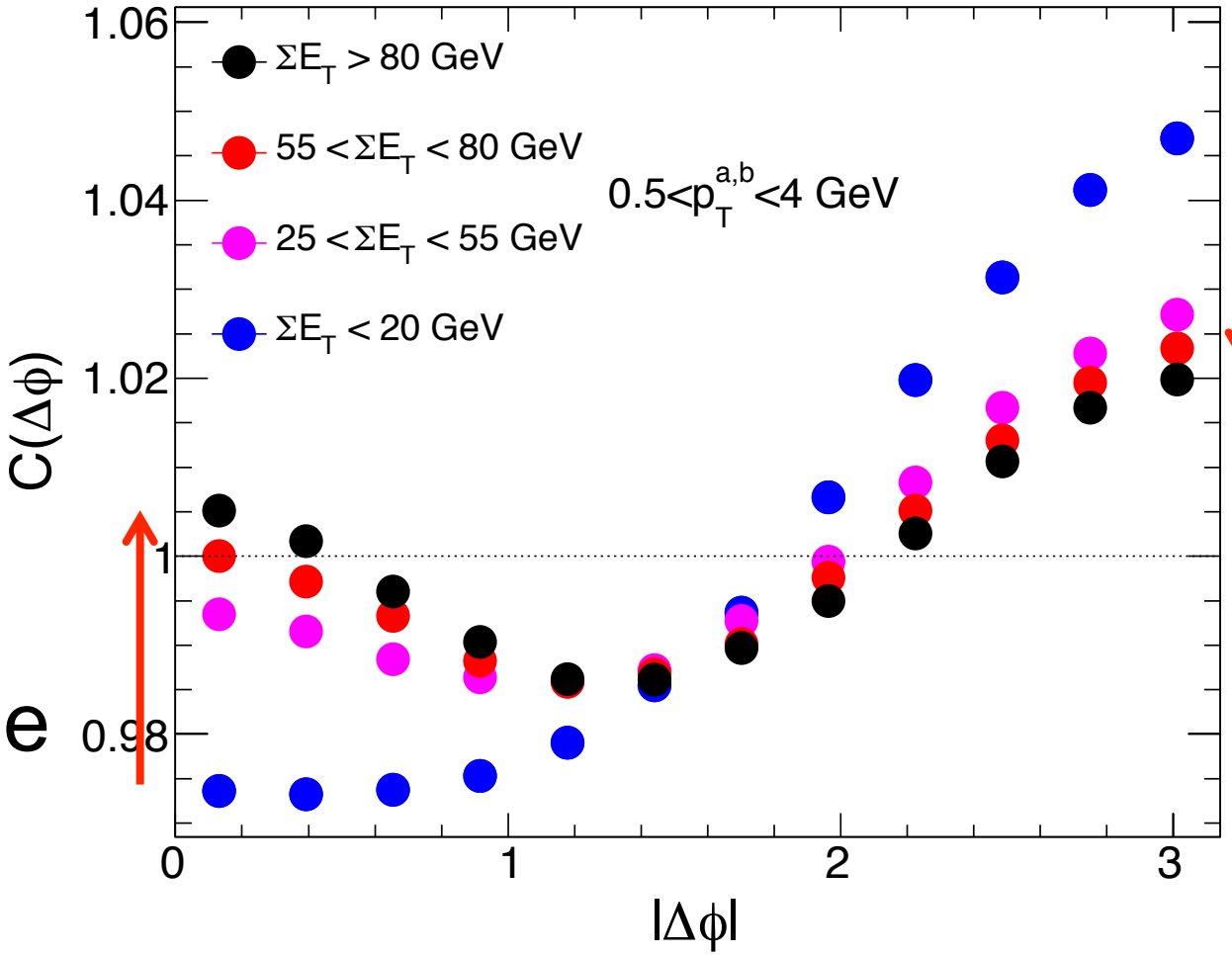


Dominated by a recoil contribution: $\propto -\frac{p_T^a p_T^b \cos\Delta\phi}{N_b}$ N. Borghini 2000

Recoil can also has a small fake v_2 component (about 20% of the yield)

2PC in Δϕ: central

- Define 1-D correlation function over the region $2<|\Delta\eta|<5$
  - normalized to have mean value of 1



Ridge

Recoil+Ridge?

$$\text{recoil} \propto -\frac{p_T^a p_T^b \cos\Delta\phi}{N_b}$$

N. Borghini 2000

Need to quantify the recoil to the trigger→ per-trigger yield

$$\text{Corr.} \times N_b = \frac{N_{pairs}}{N_a N_b} \times N_b = \frac{N_{pairs}}{N_a}$$

→recoil is ~ constant