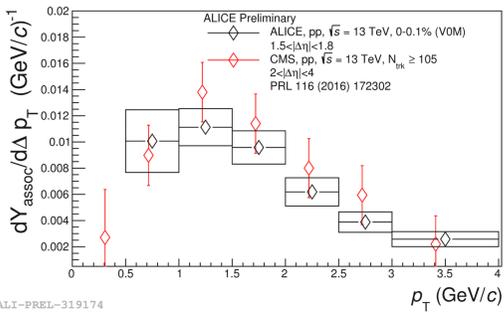
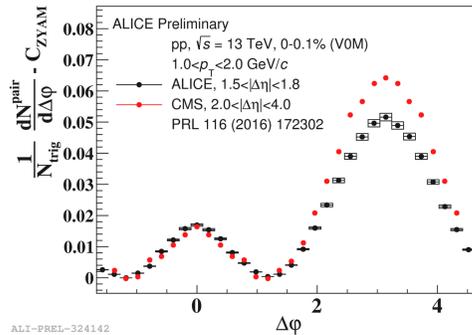
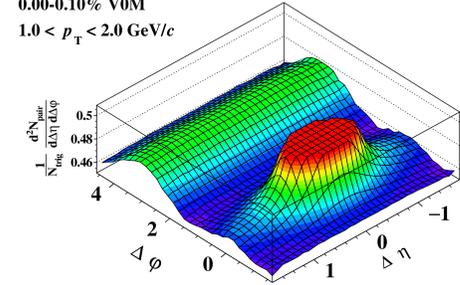


# 1. Ridge in hard events in pp collisions

# 2. Jet parton shower in high multiplicity pPb collisions

## Ridge in high multiplicity pp events

ALICE Preliminary, pp  $\sqrt{s} = 13$  TeV  
0.00-0.10% V0M  
 $1.0 < p_T < 2.0$  GeV/c

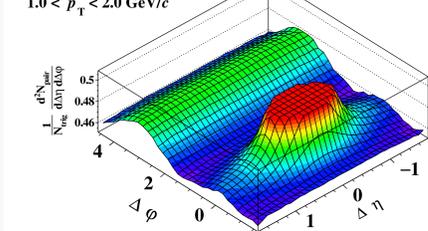


	ALICE	CMS
Acceptance	$1.5 <  \Delta\eta  < 1.8$	$2.0 <  \Delta\eta  < 4.0$
Multiplicity	$\approx 86$	$\approx 113$

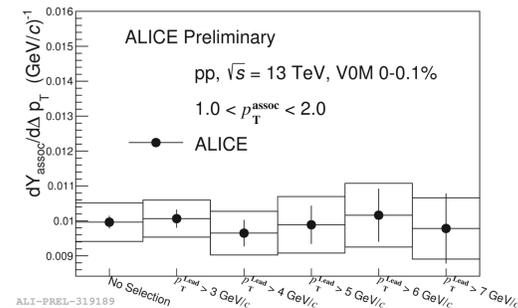
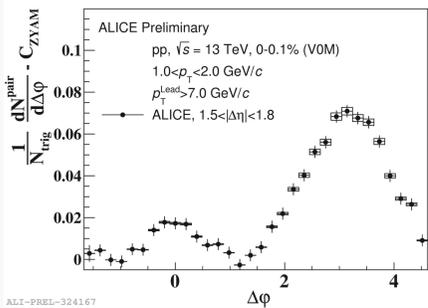
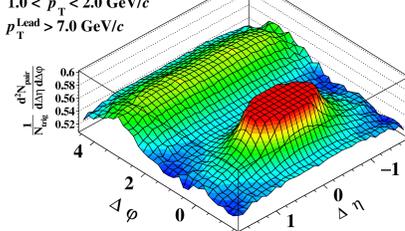
- ALICE results are consistent with CMS and Ridge yields are similar even though events and acceptance are different.

## Ridge in hard events in pp?

ALICE Preliminary, pp  $\sqrt{s} = 13$  TeV  
0.00-0.10% V0M  
 $1.0 < p_T < 2.0$  GeV/c

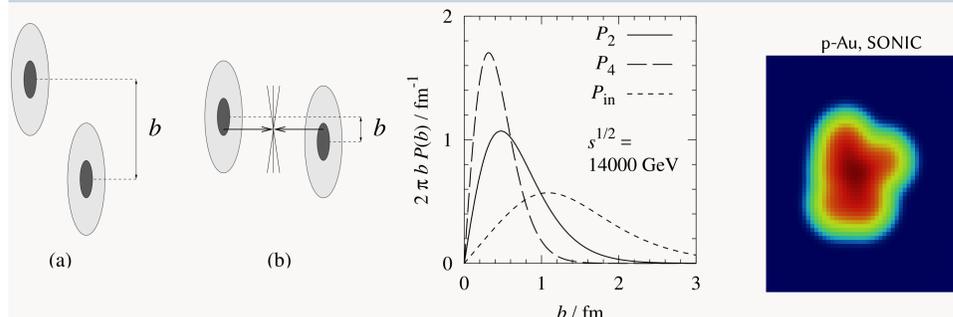


ALICE Preliminary, pp  $\sqrt{s} = 13$  TeV  
0.00-0.10% V0M  
 $1.0 < p_T < 2.0$  GeV/c  
 $p_{T,lead} > 7.0$  GeV/c



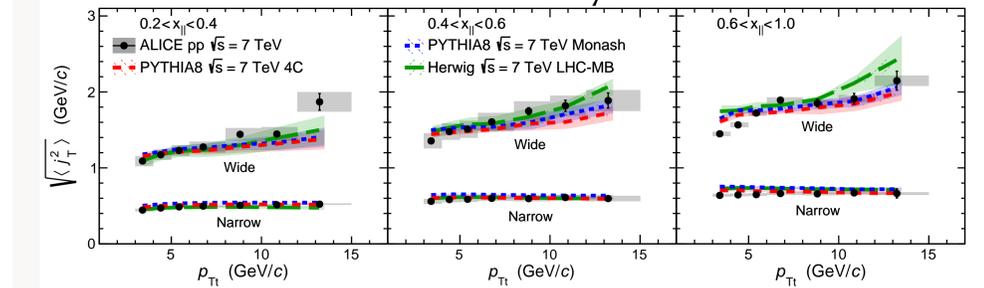
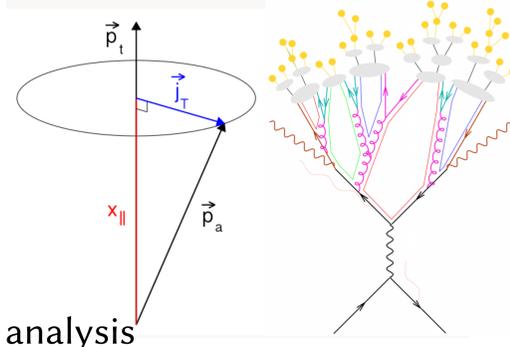
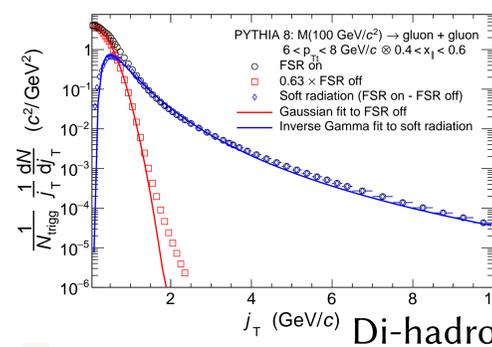
- Ridge is observed clearly for hard events.
- Ridge yield is independent for various hard event selections,  $p_{T,leading} > 7$  GeV/c within the uncertainties.
- Should we go much higher  $Q^2$  with dijets?

## Hard dijets vs impact parameter b in pp?



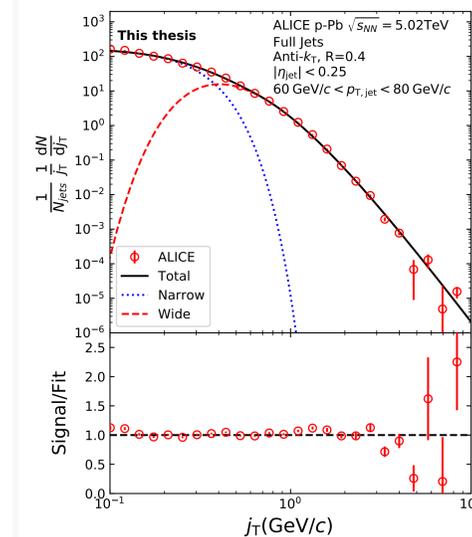
- Phys. Rev. D 69, 114010, M. Strikman et. al.

## Parton shower vs Hadronization

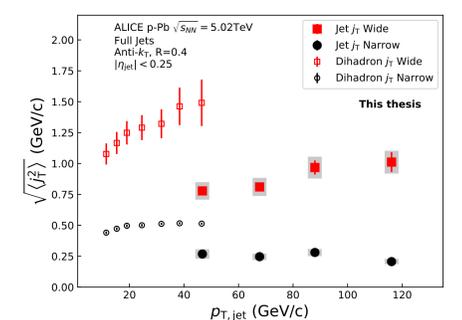
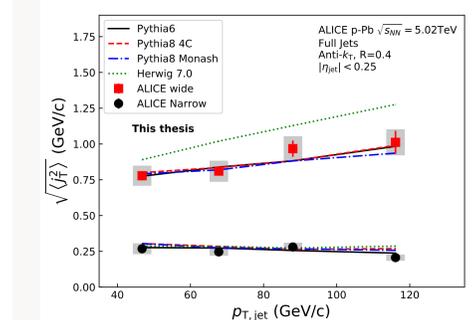


- ALICE(JHEP 1903 (2019) 169)- two distinct components.

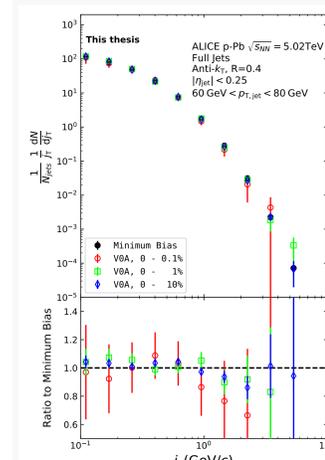
## Jet parton shower in p-Pb events from jets



- Also observed for jets.
- Well described with Pythia model.
- Wide component RMS in Herwig is larger than Data and Pythia.
- Different RMS because of kinematics(main axis, cone size and  $p_T$ ...)
- Tomas Snellman's PhD Thesis(ALICE)



## $j_T$ in high multiplicity events?



- Inclusive hadron and jet nuclear modification - bias on event selections.
- $j_T$  is not sensitive to event centrality selection bias.
- no modification observed in 0-0.1% events within the uncertainties.