



Measurement of the jet-particle v_2 in p-Pb and Pb-Pb collisions at 5.02 TeV with ALICE at the LHC

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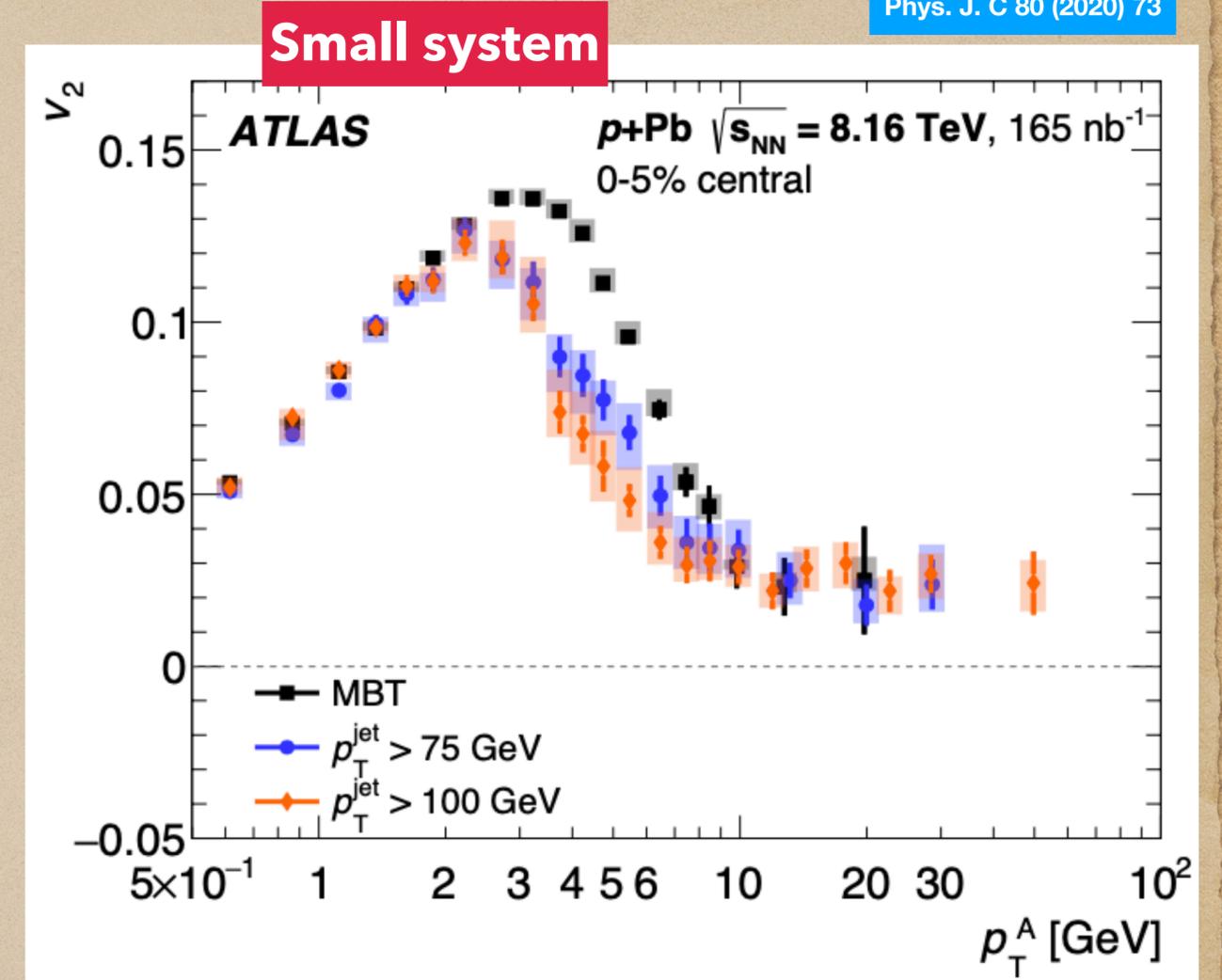
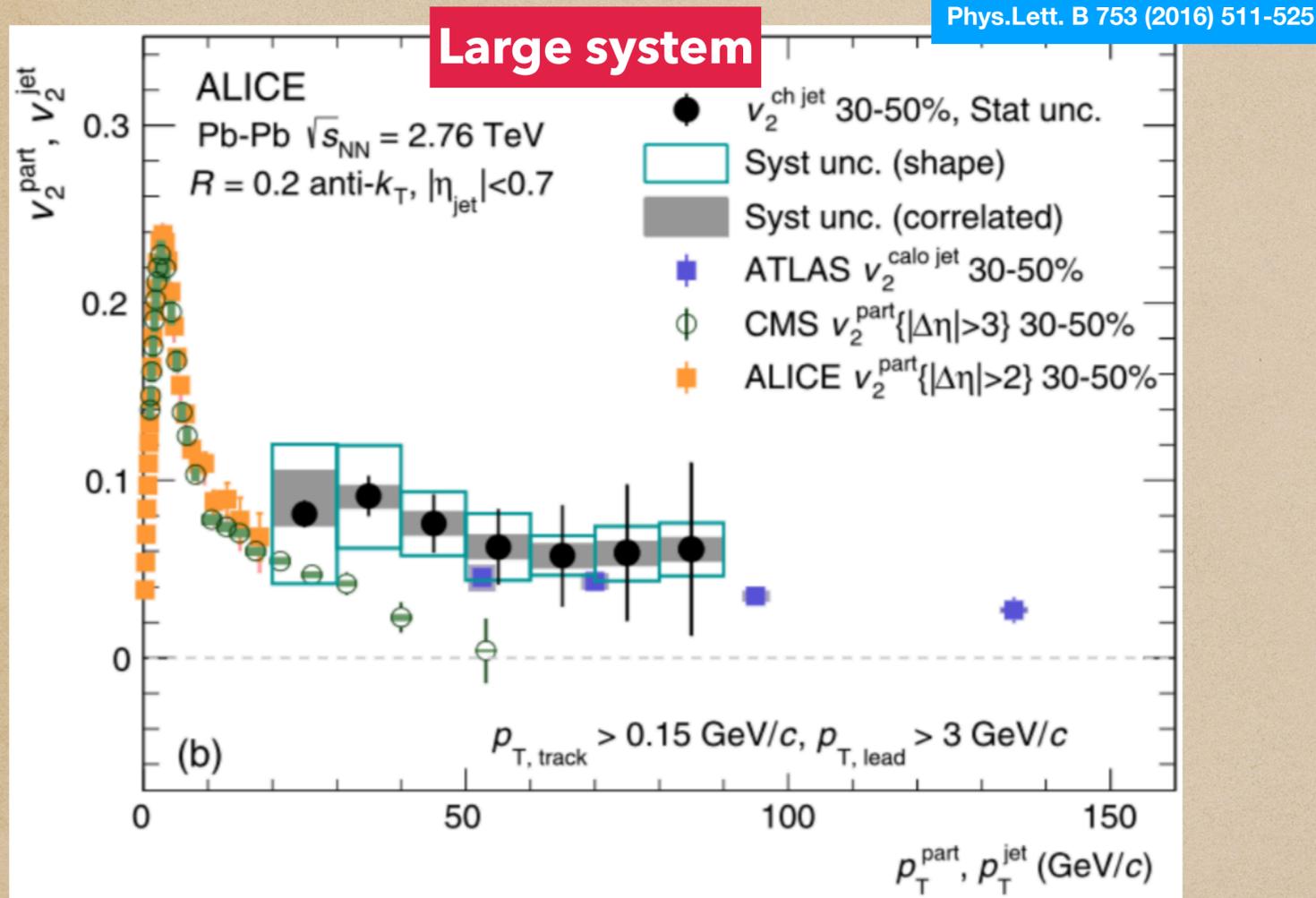
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Motivation

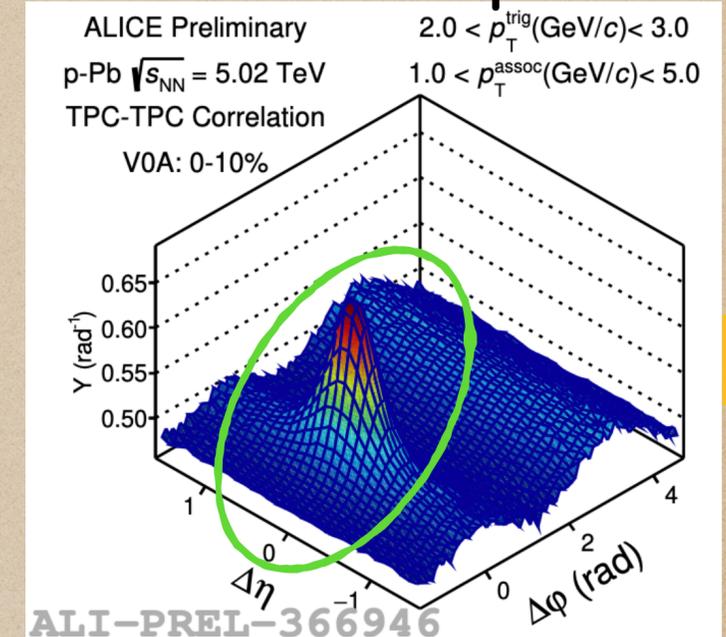
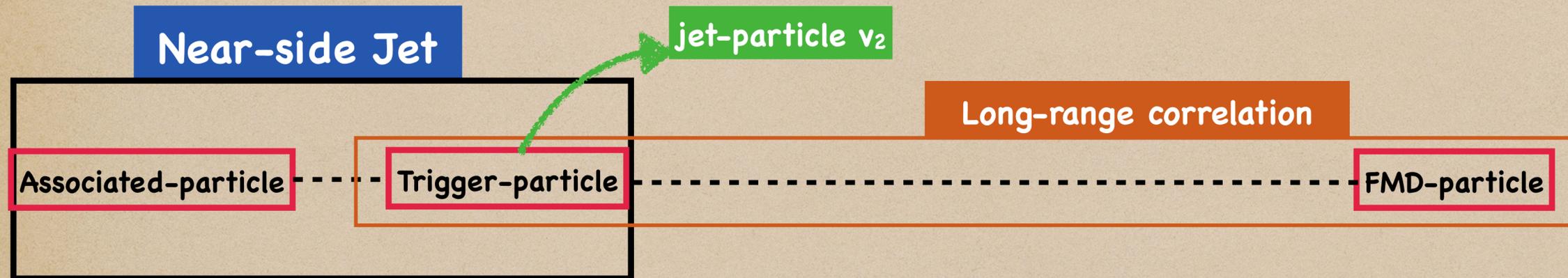


- Consistent jet v_2 and high- p_T charged-particle v_2 in Pb-Pb collisions interpreted by jet-quenching effect
- However, in small systems, a non-zero v_2 is observed at high p_T , for both minimum bias and jet-triggered events
 - no jet-quenching effect is observed from the measurement of R_{pPb} [1] in small systems

The v_2 of particles produced in jets at lower p_T can shed light on the origin of such collectivity

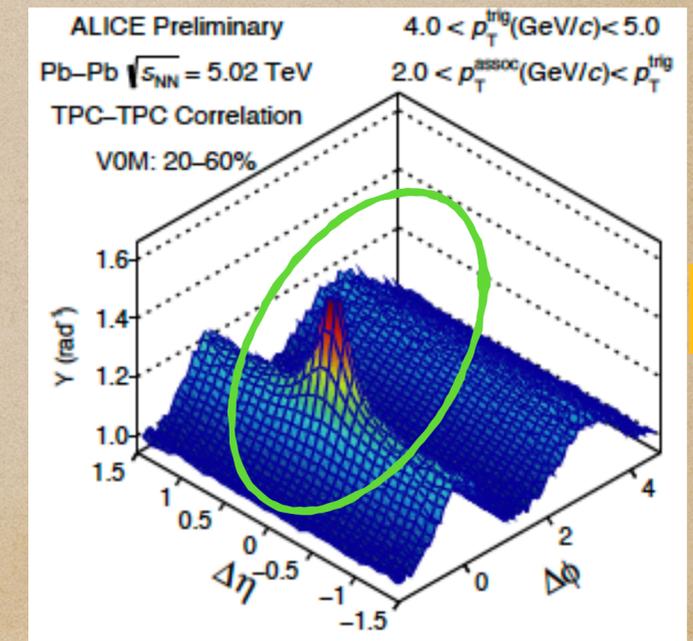
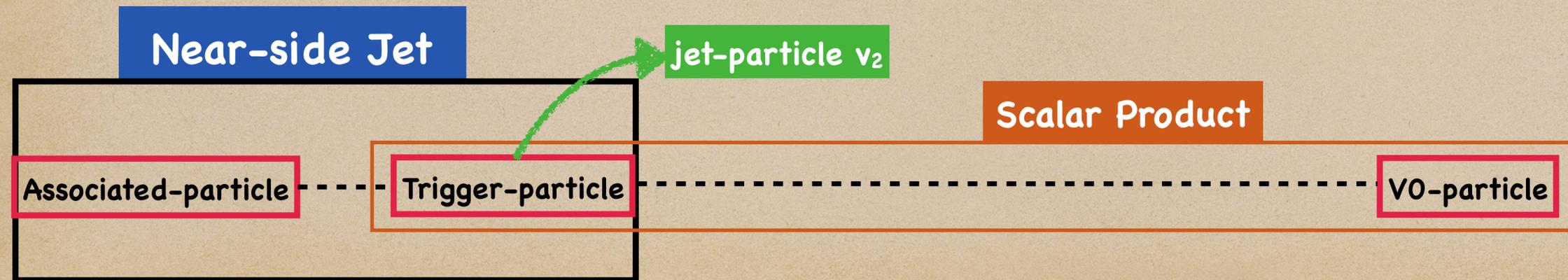
Strategy

- Two-particle correlations to isolate the particles from near-side jet peak
- Selection of same-sign charged particles at midrapidity ($|\eta| < 0.8$) as trigger and associated particles
- Calculation of jet-particle v_2
- p-Pb: three-particle correlations



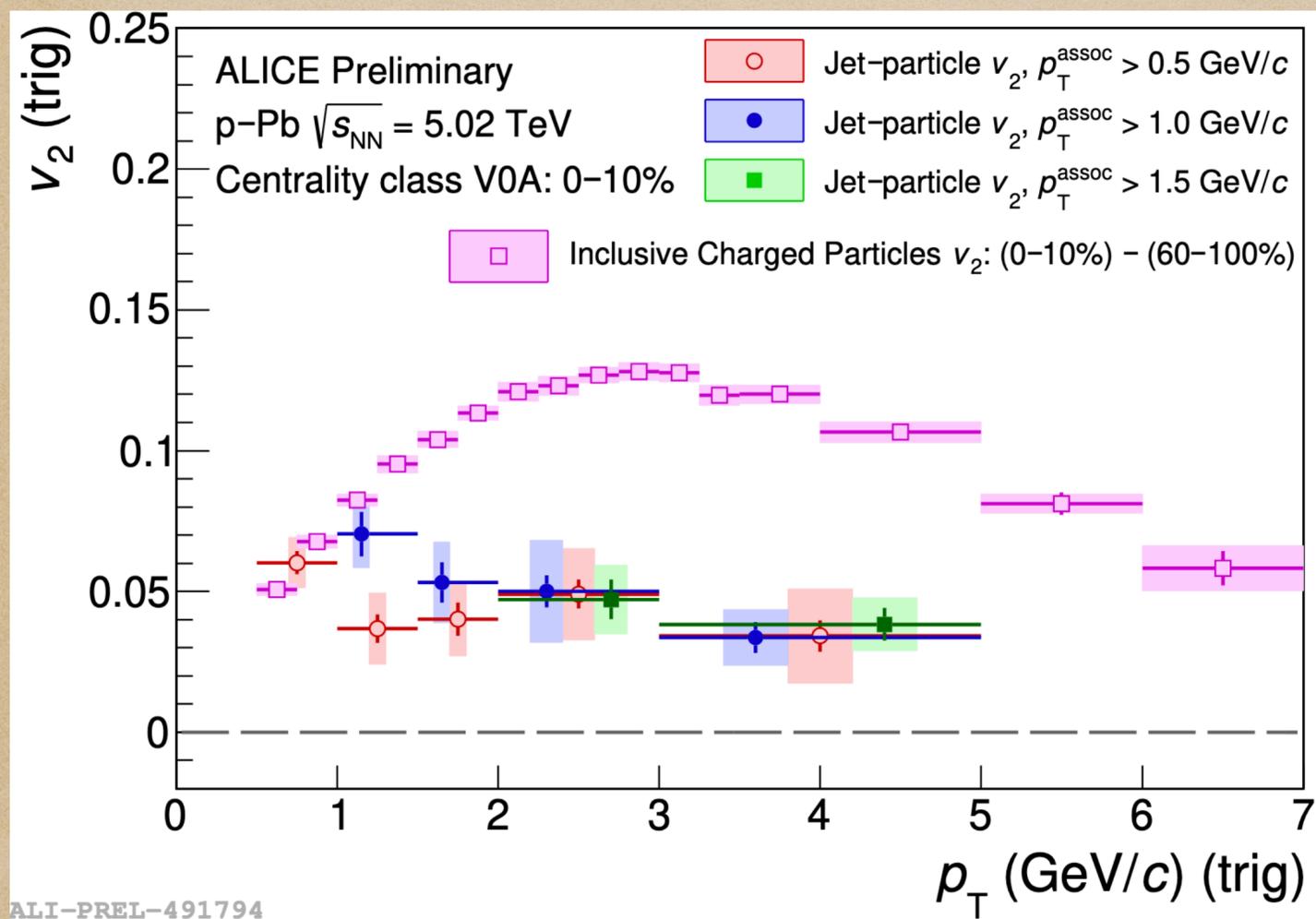
p-Pb

- Pb-Pb: two-particle correlations + Scalar product method



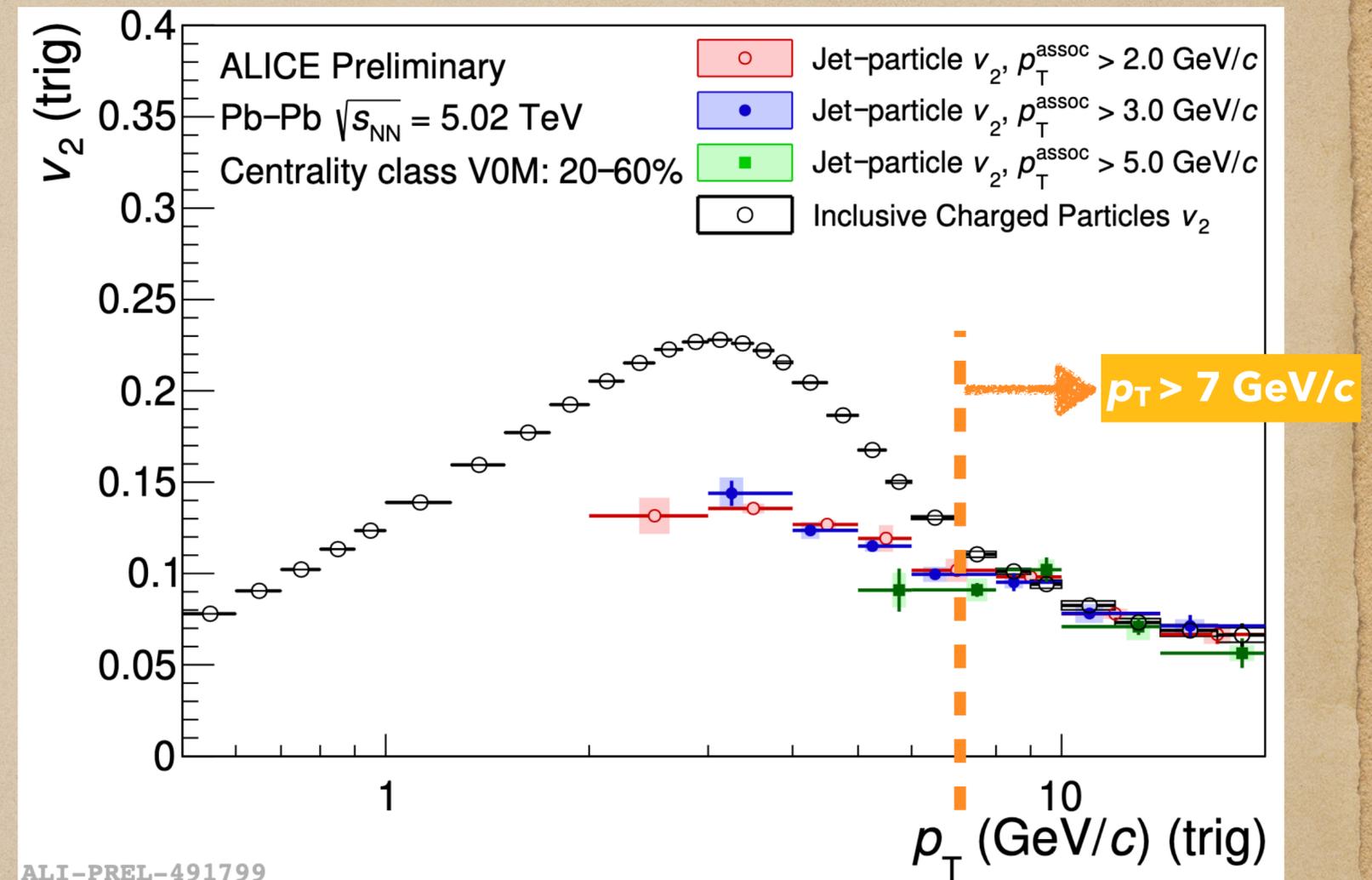
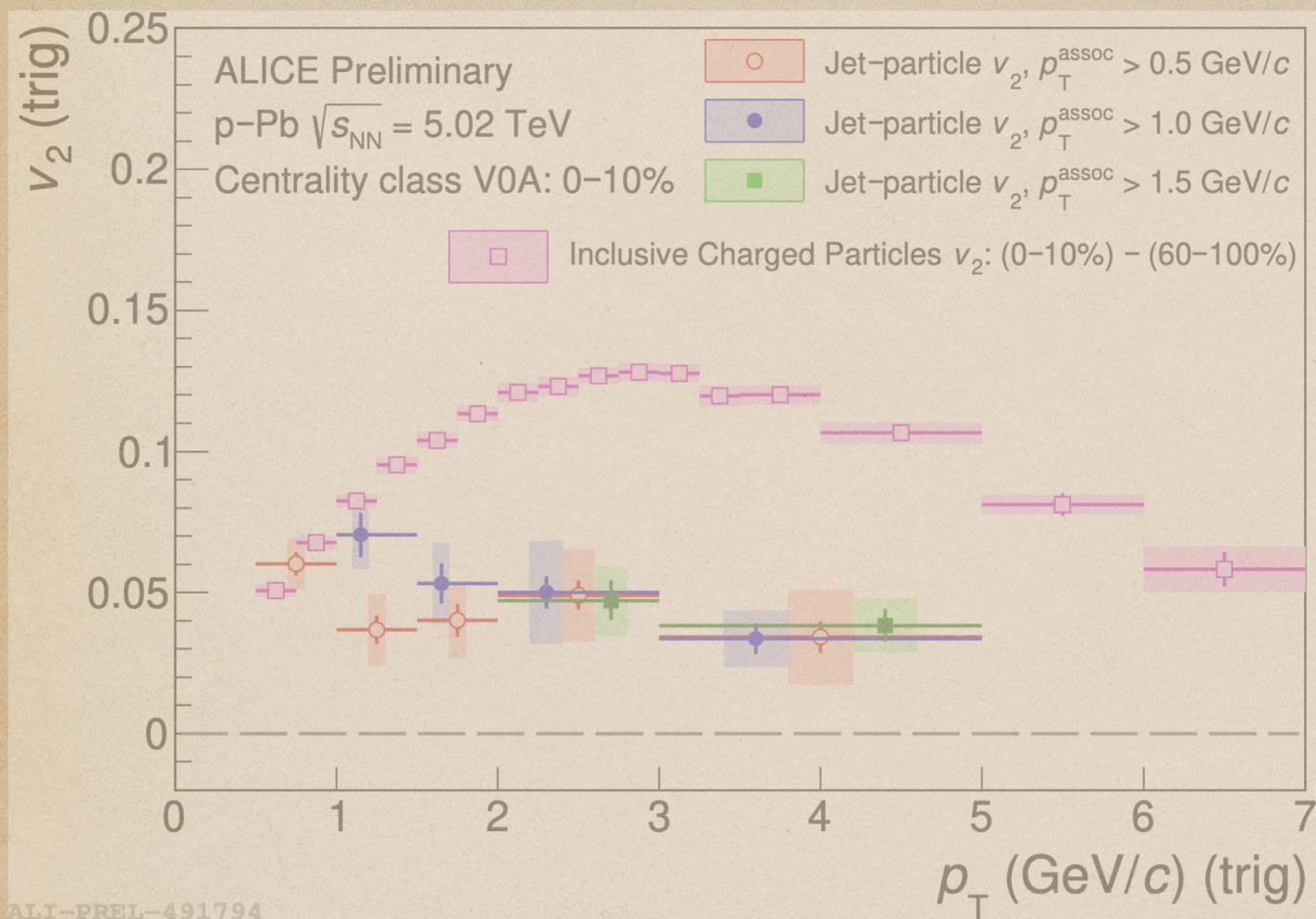
Pb-Pb

Jet-particle v_2 in p-Pb/Pb-Pb collisions



- The first measurement of jet-particle v_2 in p-Pb collisions at the LHC
- Positive v_2 of particles in jets significantly lower than the inclusive v_2 of charged particles
- Consistent v_2 is observed with different associated-particle p_T selection

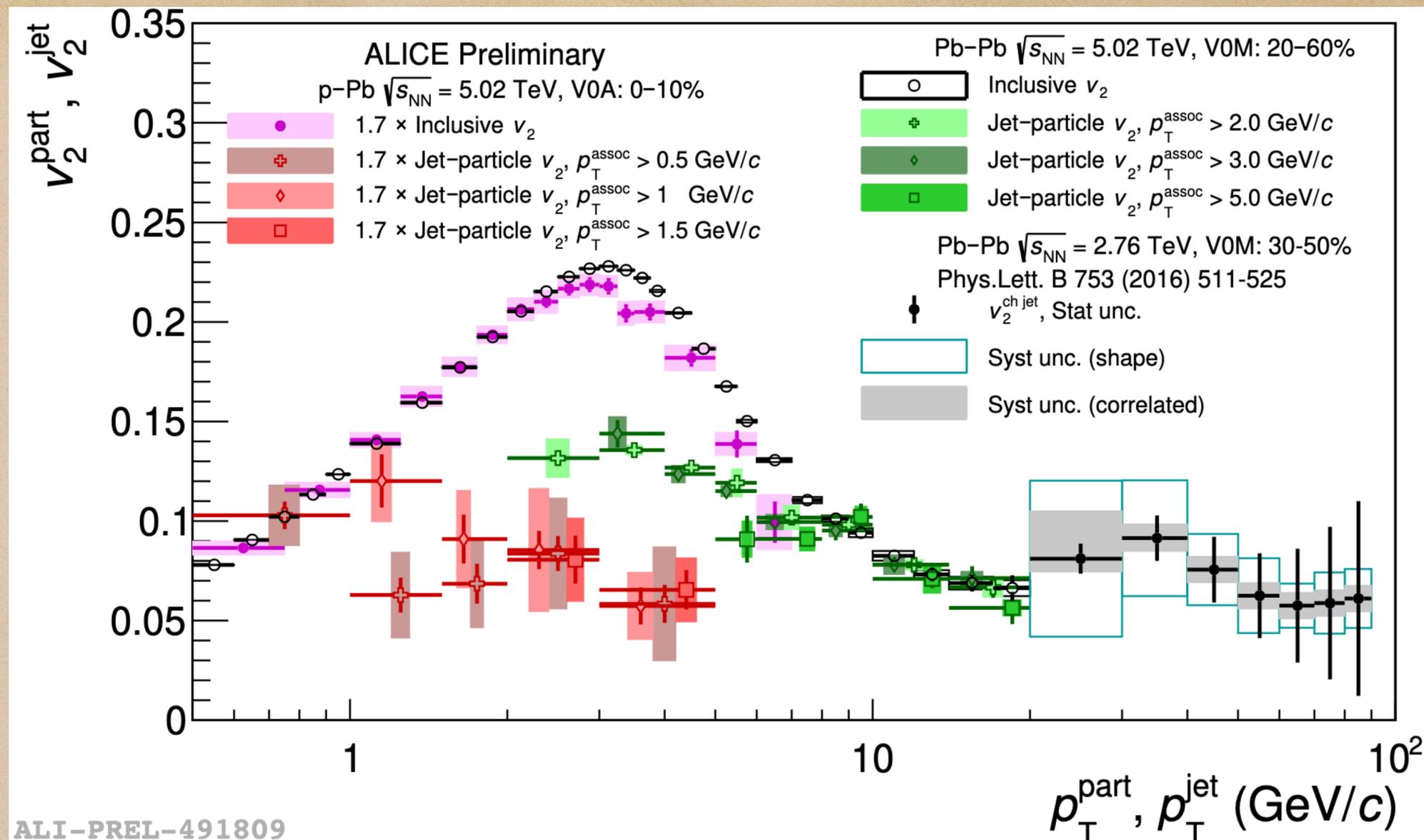
Jet-particle v_2 in p-Pb/Pb-Pb collisions



- Positive jet-particle v_2 is obtained in 20-60% Pb-Pb collisions, and no dependence on associated p_T selection
- The jet-particle v_2 is consistent with inclusive v_2 at $p_T > 7$ GeV/c, where parton energy loss is dominant (also seen in R_{PbPb} [1])

Comparison

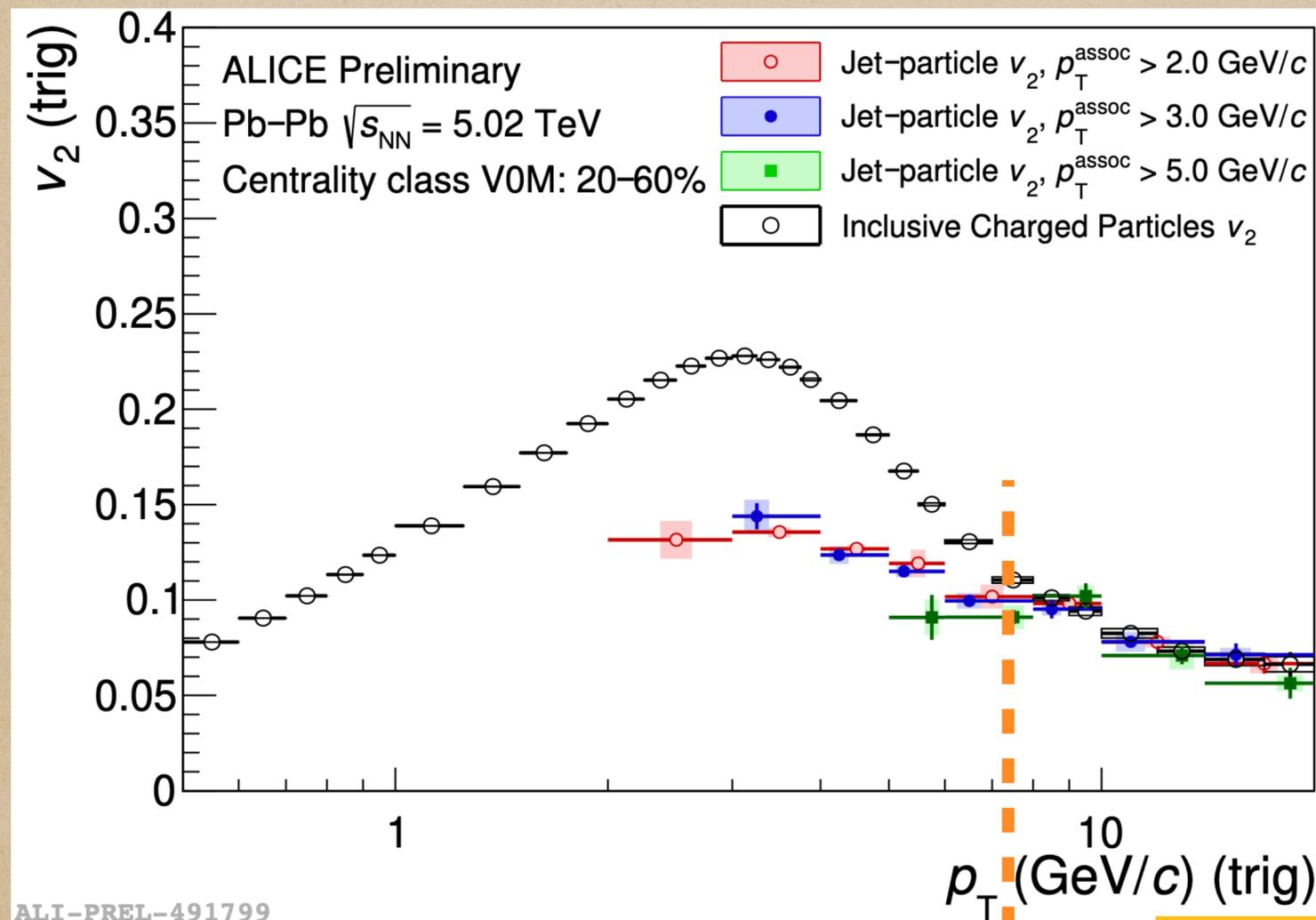
- Factor 1.7 is applied in p-Pb v_2 to compare with Pb-Pb results



- In Pb-Pb collisions, jet-particle v_2 at high p_T is consistent with the reconstructed-jet v_2
 - both interpreted by path-length dependent jet-quenching effect
- v_2 of jet particles in p-Pb is consistent with jet-particle v_2 and inclusive v_2 in Pb-Pb at high p_T
 - “Jet-quenching like effects”? Initial-state effects (CGC)? or final-state scatterings (AMPT)?

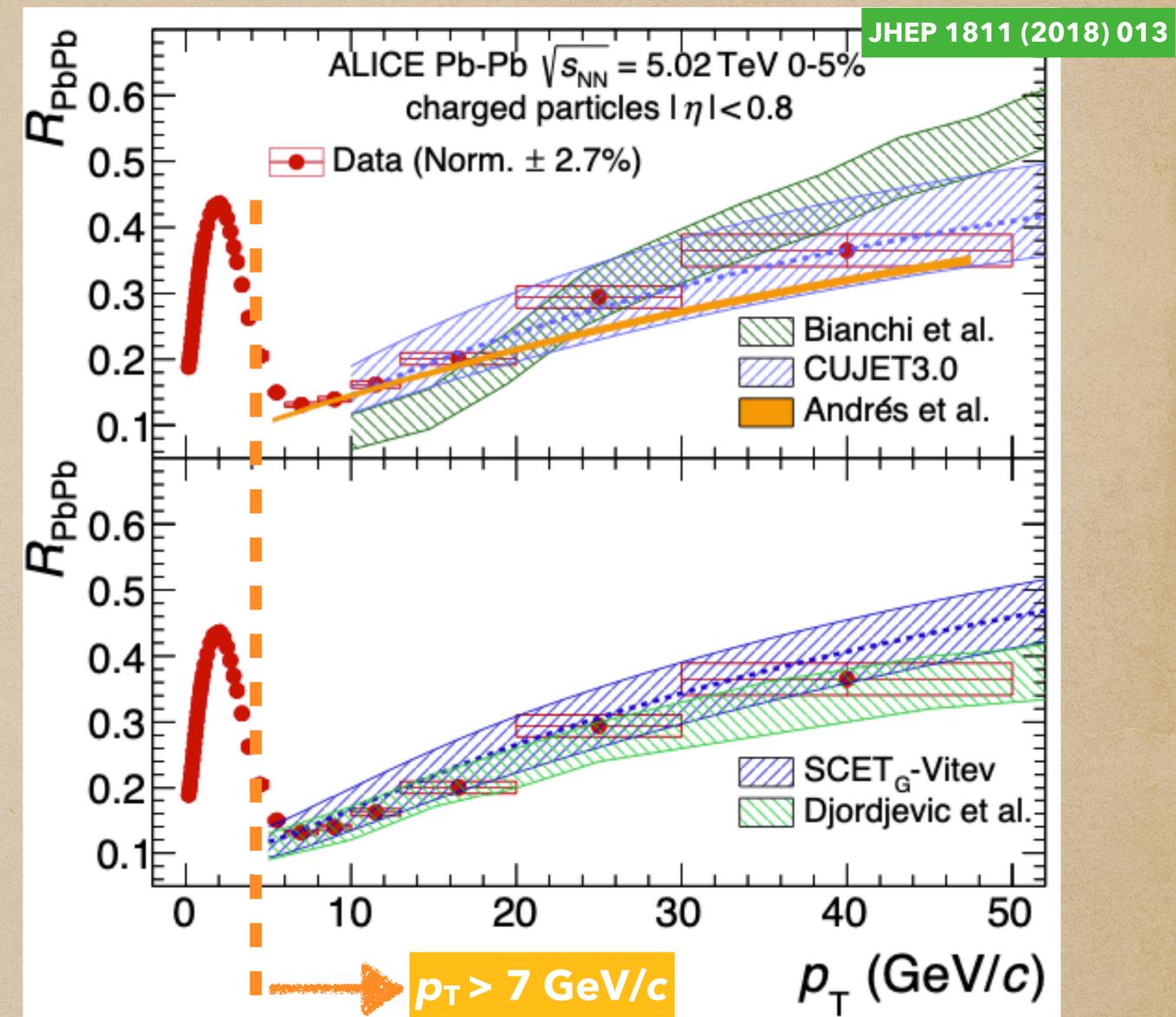
BACK UP

Jet-particle v_2 in p-Pb/Pb-Pb collisions



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$p_T > 7$ GeV/c



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(also seen in R_{PbPb})