



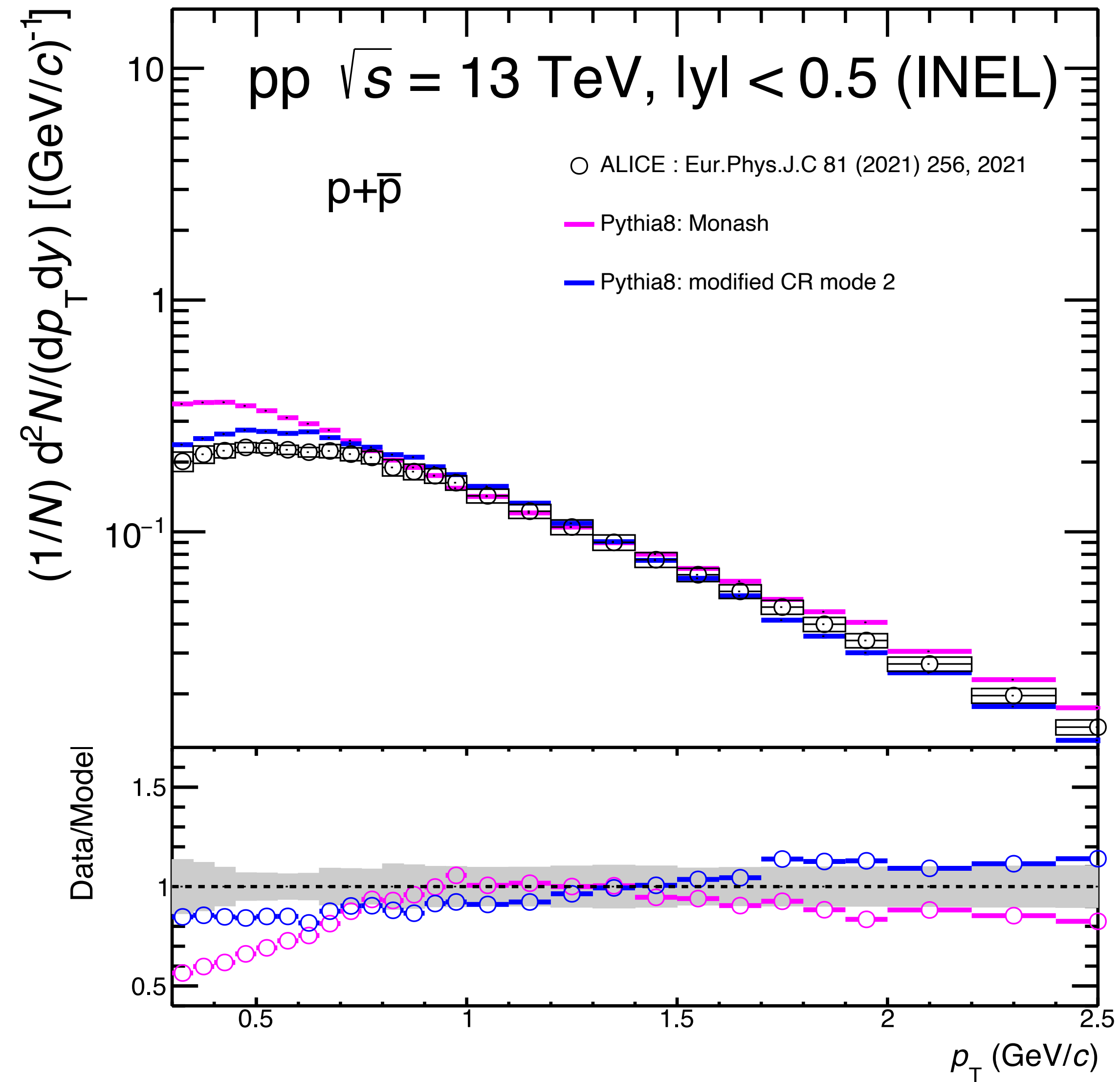
To do...

Pythia 8 simulations :

- implement HM trigger selection
- run equivalent of 300 M events HM
- check charged particle multiplicity distributions for HM pp + protons spectra
- add deuterons to anti d
- produce B2 as done for data
- check resonance cocktail and extract angular distribution
- run `r_eff pythia source && r_core pythia`



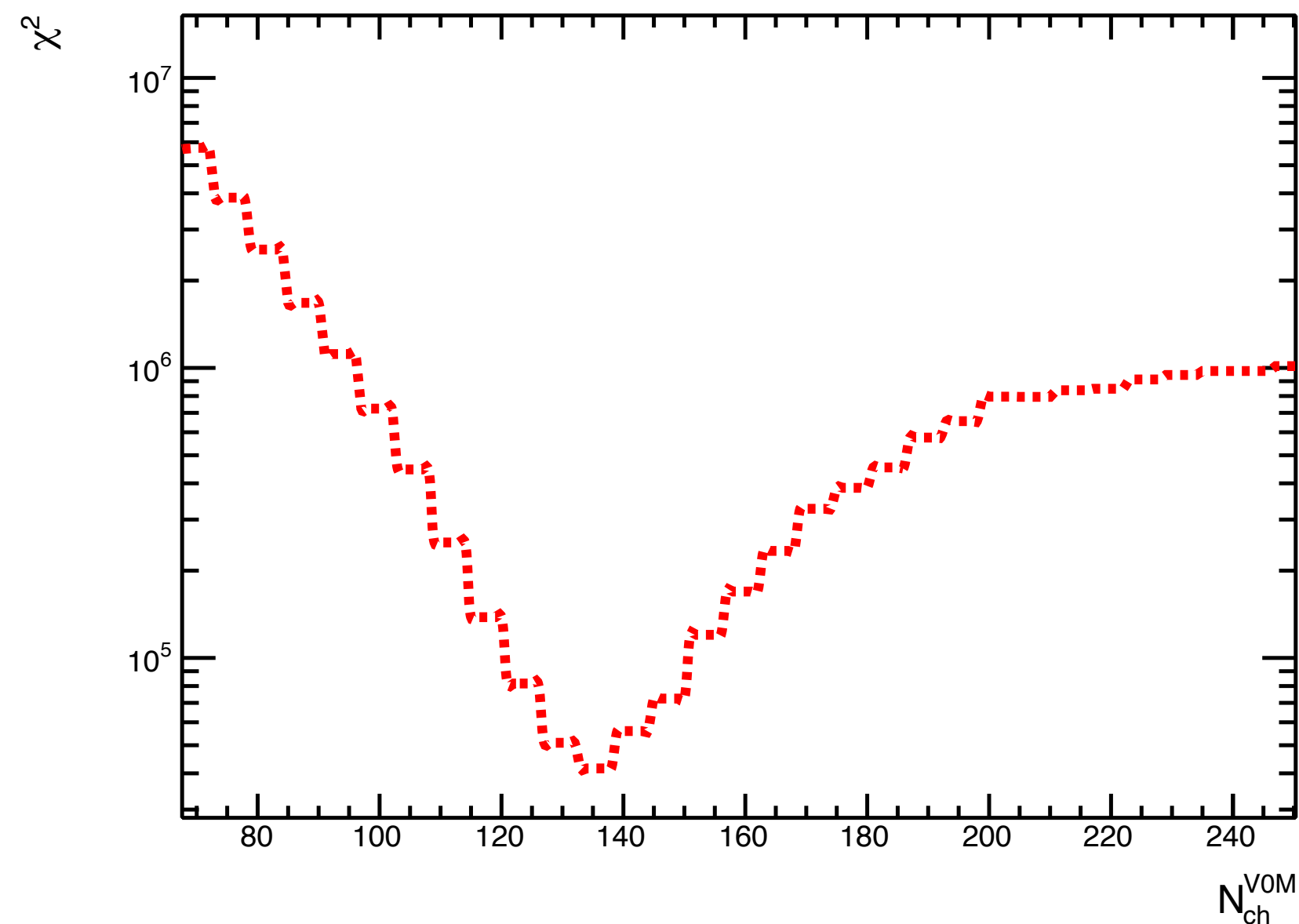
PYTHIA8 custom tune vs Monash (Proton spectrum - INEL)



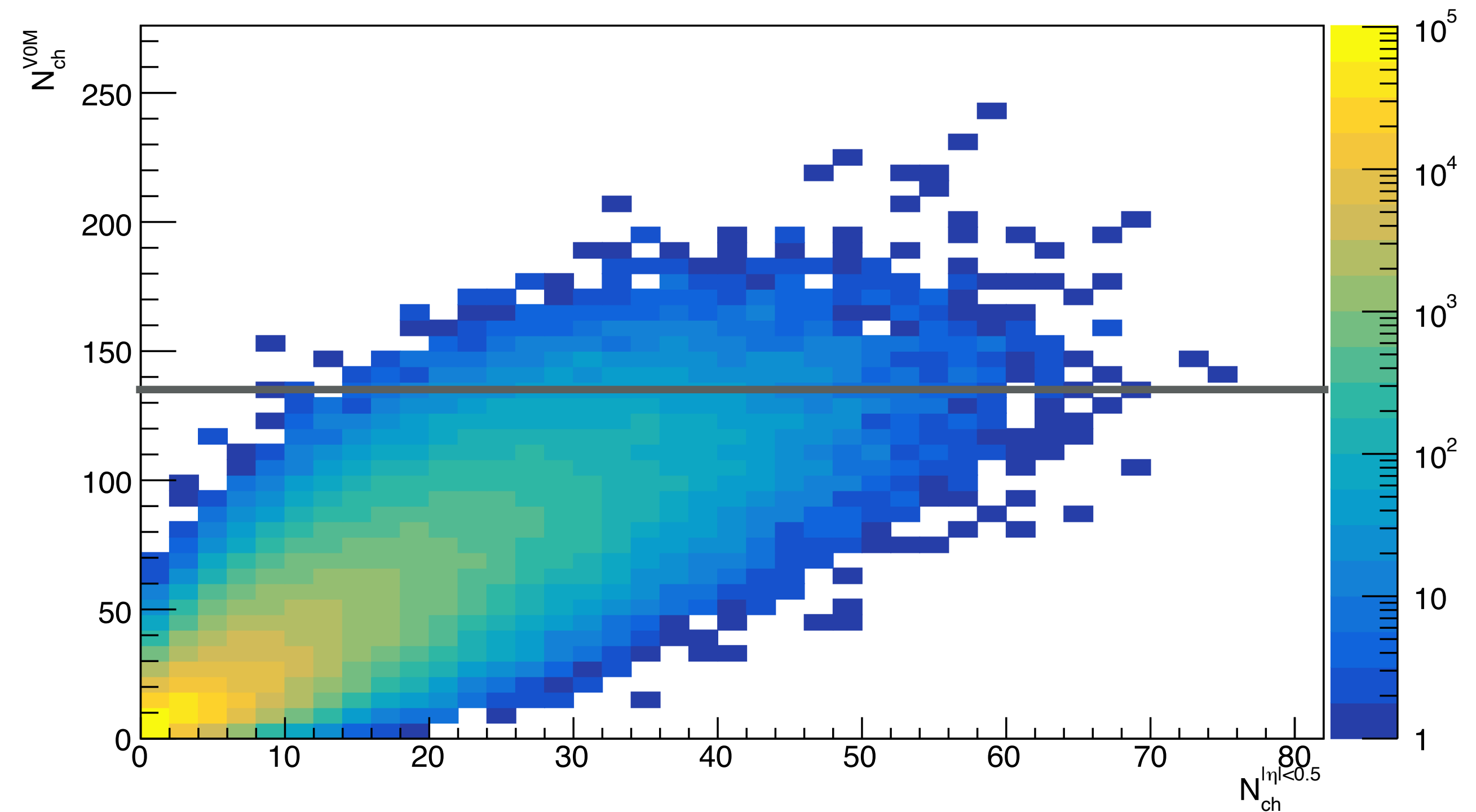


Correlation of V0M and mid-rapidity multiplicity (CR mode 2)

- Followed similar approach taken by Maxi ([slides](#))
- Correlate charged particle multiplicities in V0M region with mid-rapidity
- Trigger for different V0M multiplicities and compare mid-rapidity to ALICE measurement
- χ^2 obtained from the each bins of the mid-rapidity N_{ch} distribution



Min. Value of χ^2 at $N_{ch}^{V0M} > 135$ (0.4% of MB)

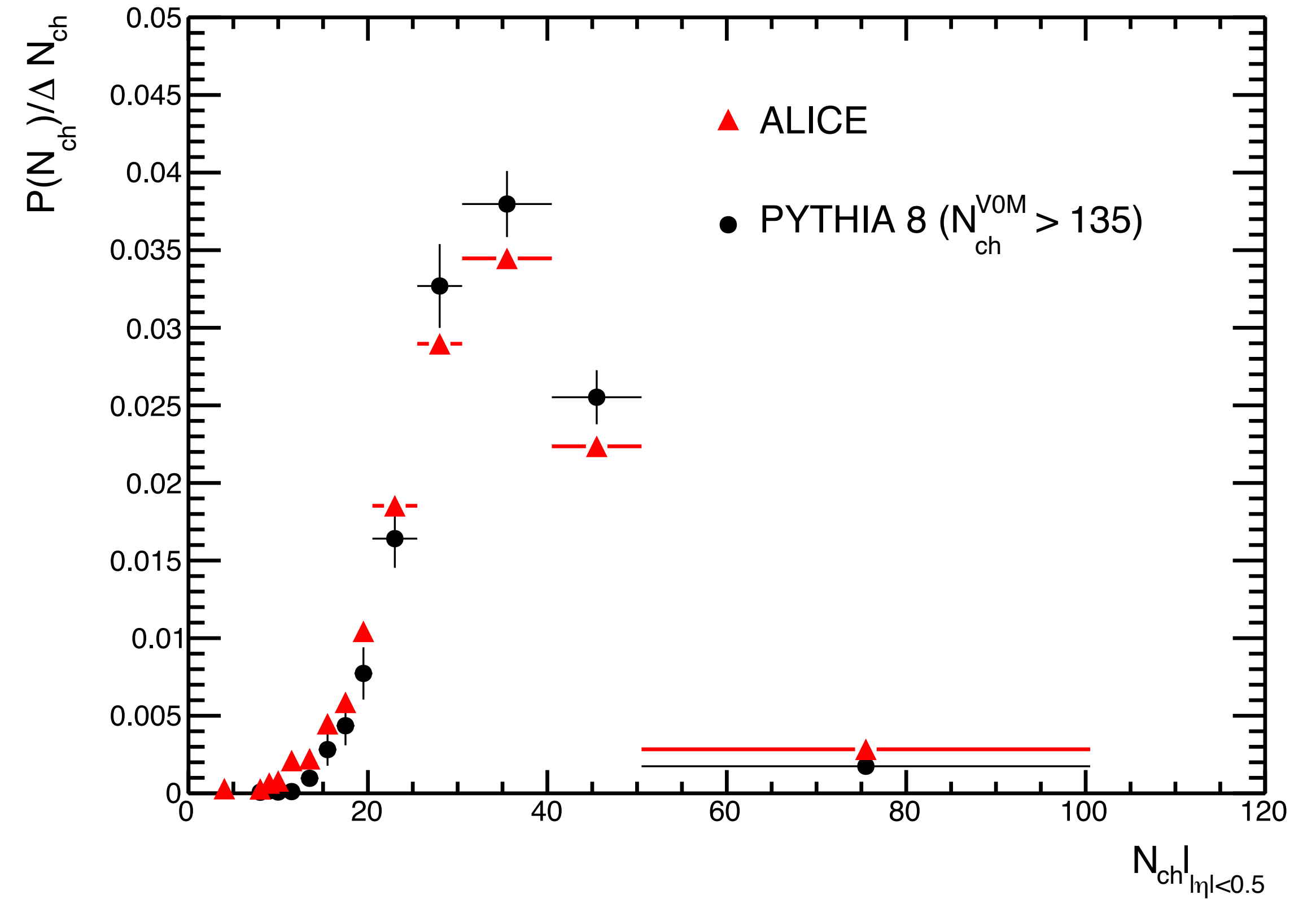
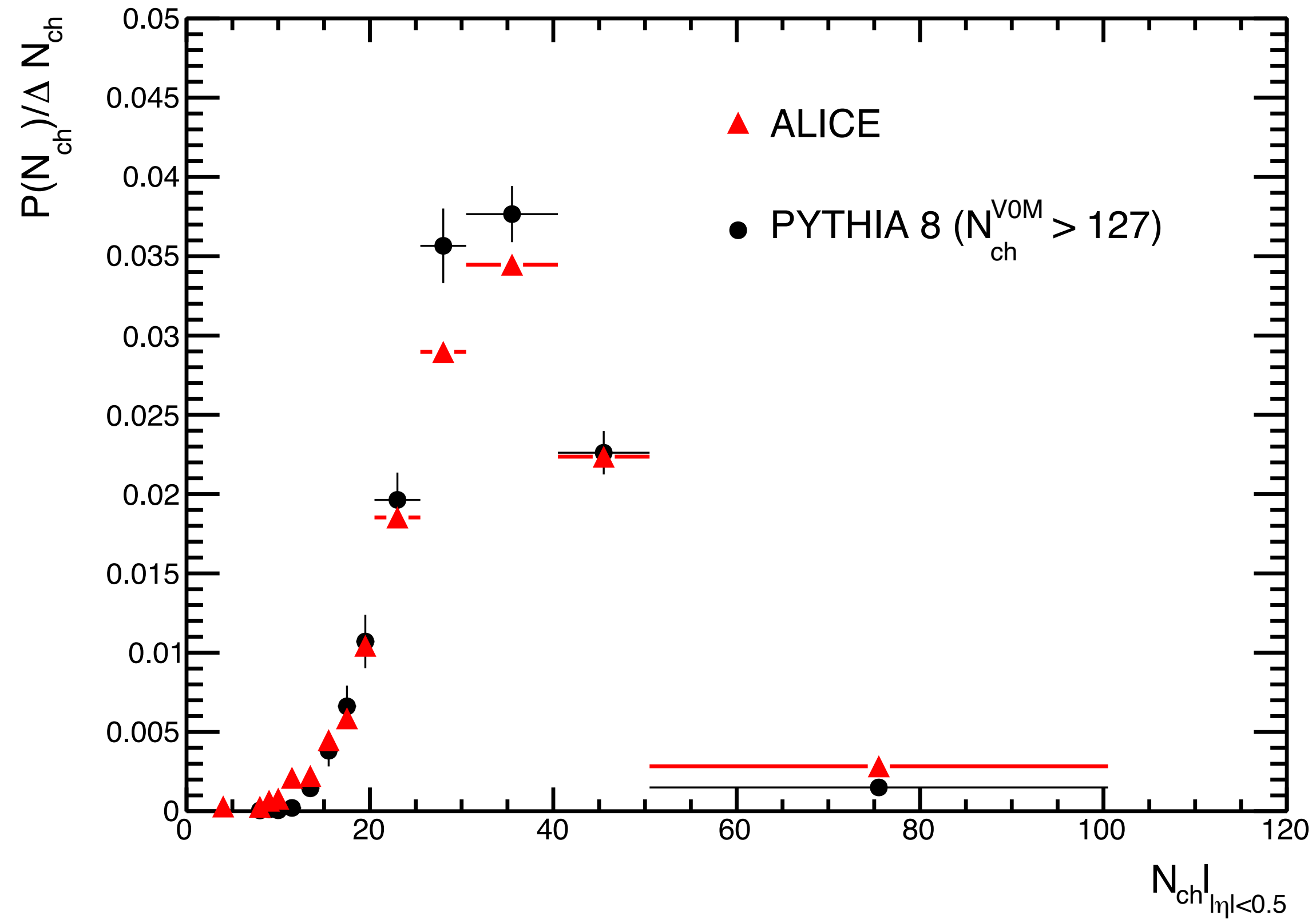


V0M: $2.8 < \eta < 5.1$ and $-3.7 < \eta < -1.7$

Mid-rapidity: $-0.5 < \eta < 0.5$

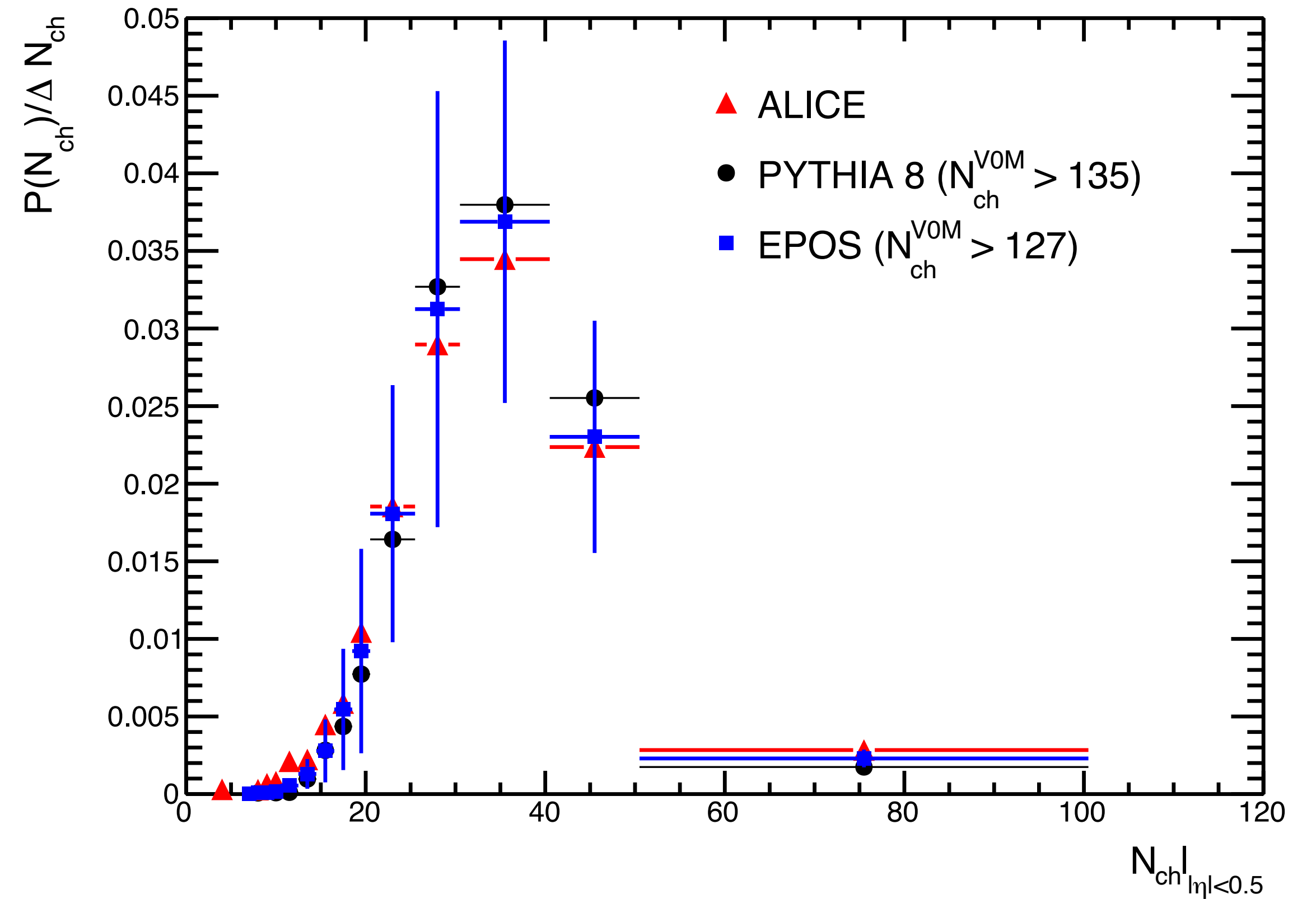
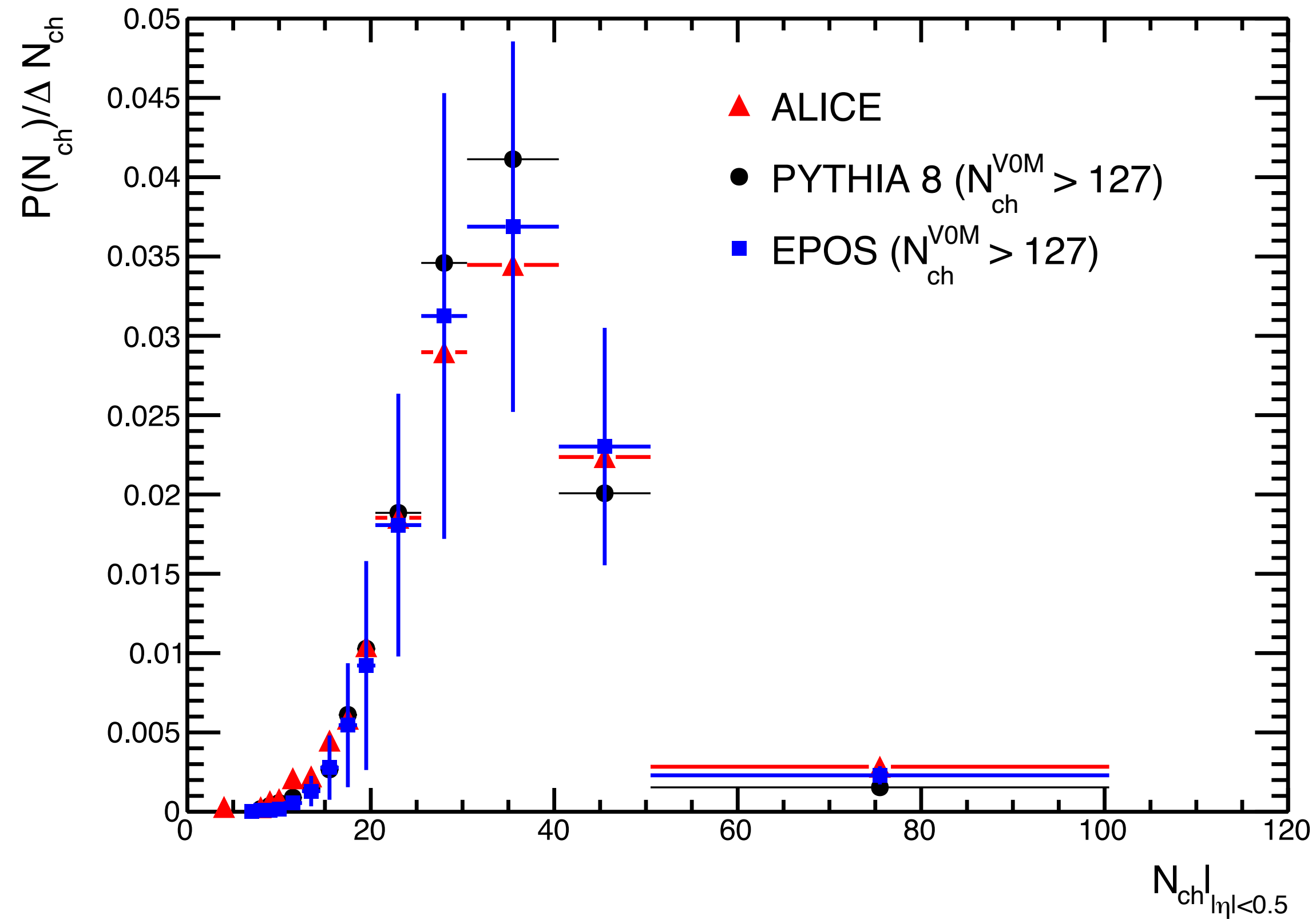


PYTHIA 8 (CR mode 2) vs ALICE data



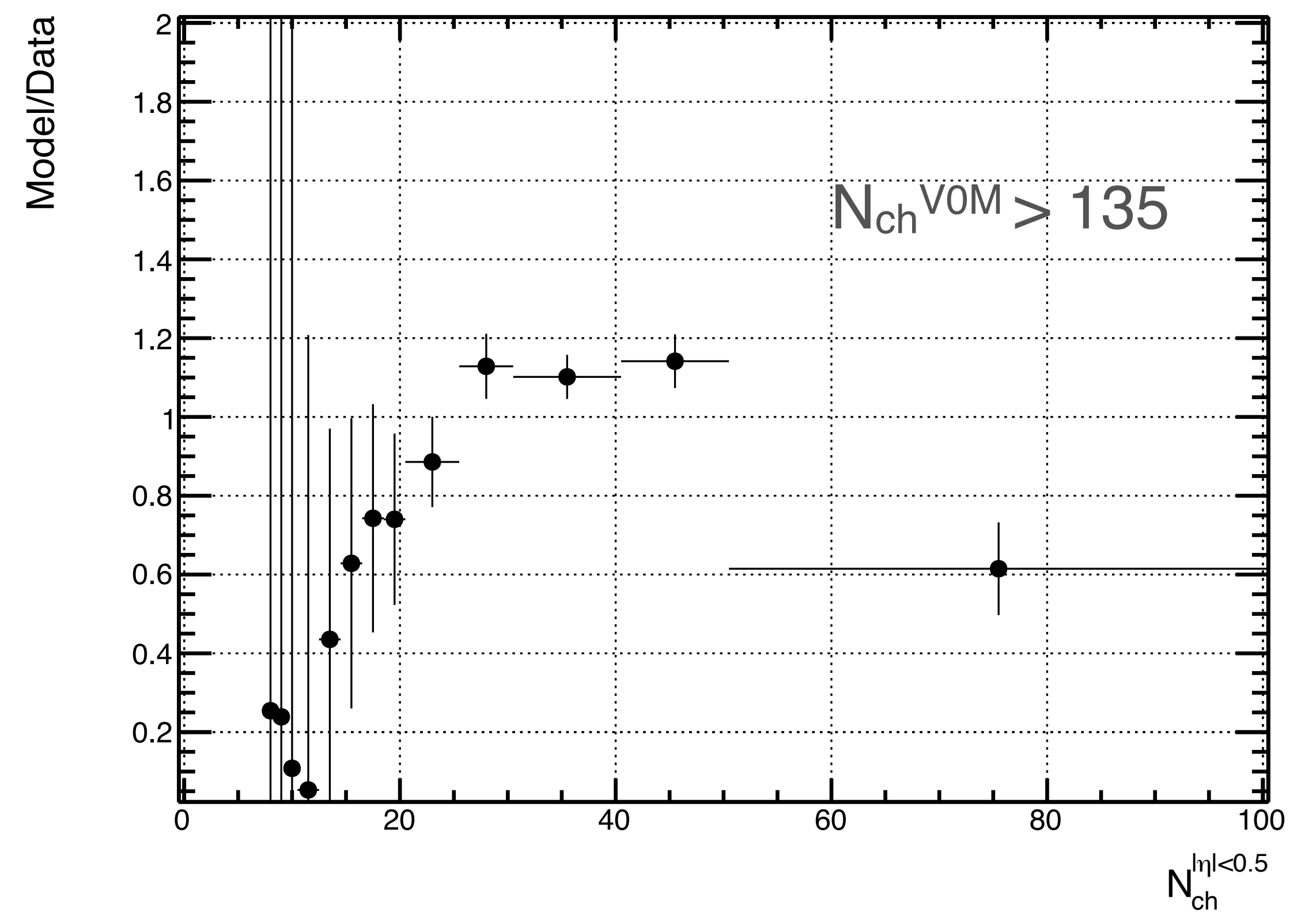
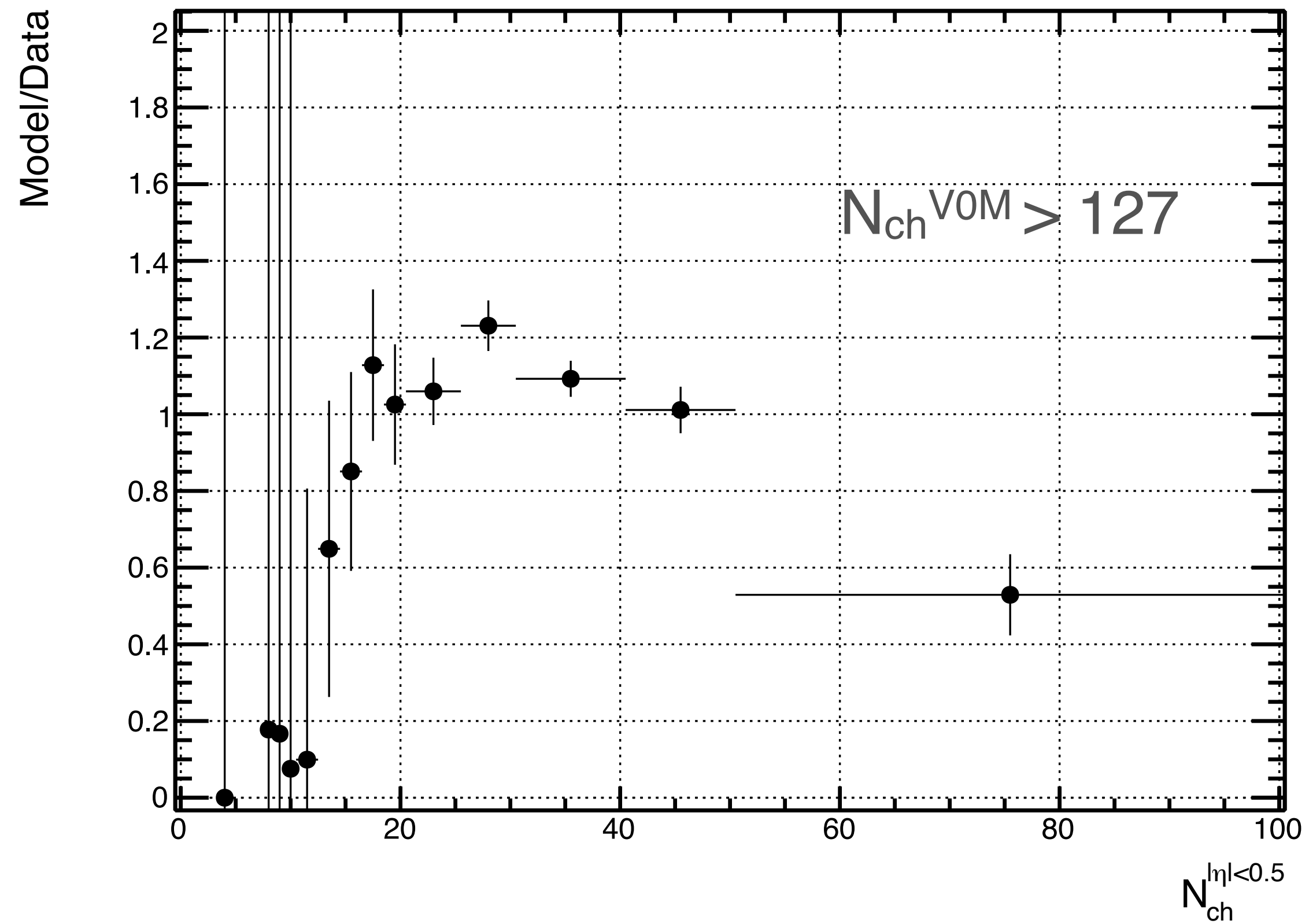


PYTHIA 8 (CR mode 2) vs EPOS and ALICE



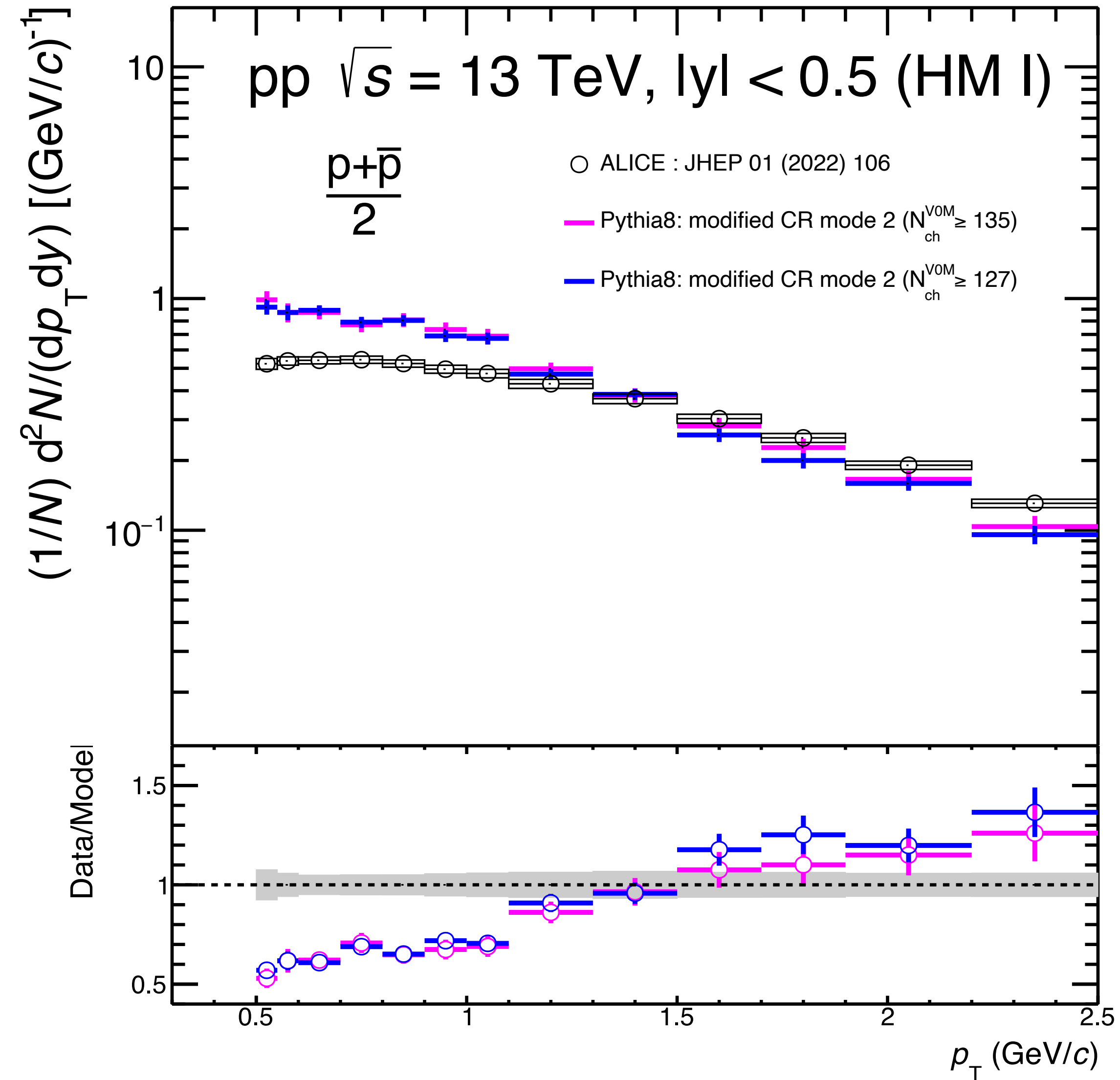


PYTHIA 8 (CR mode 2) vs ALICE data





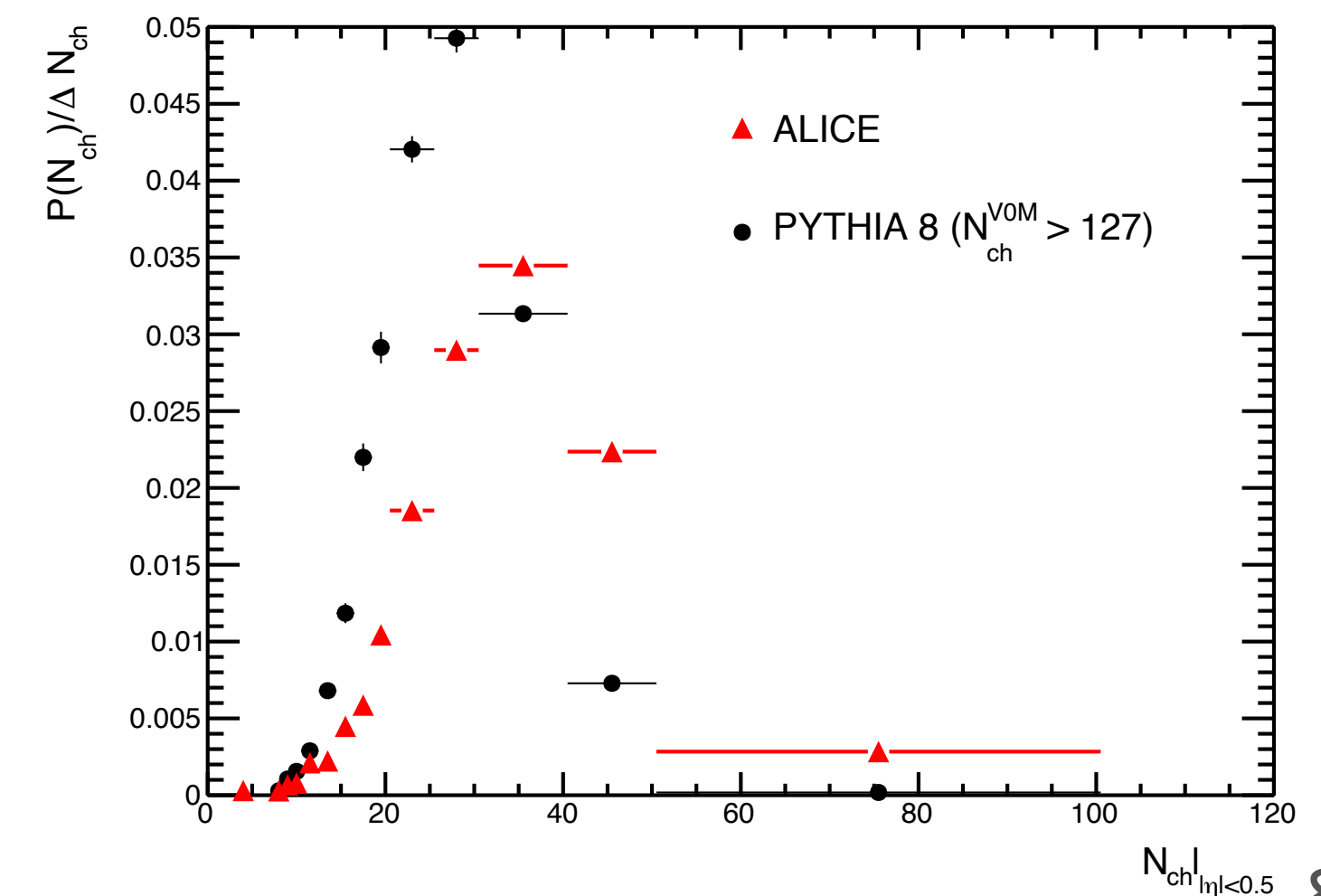
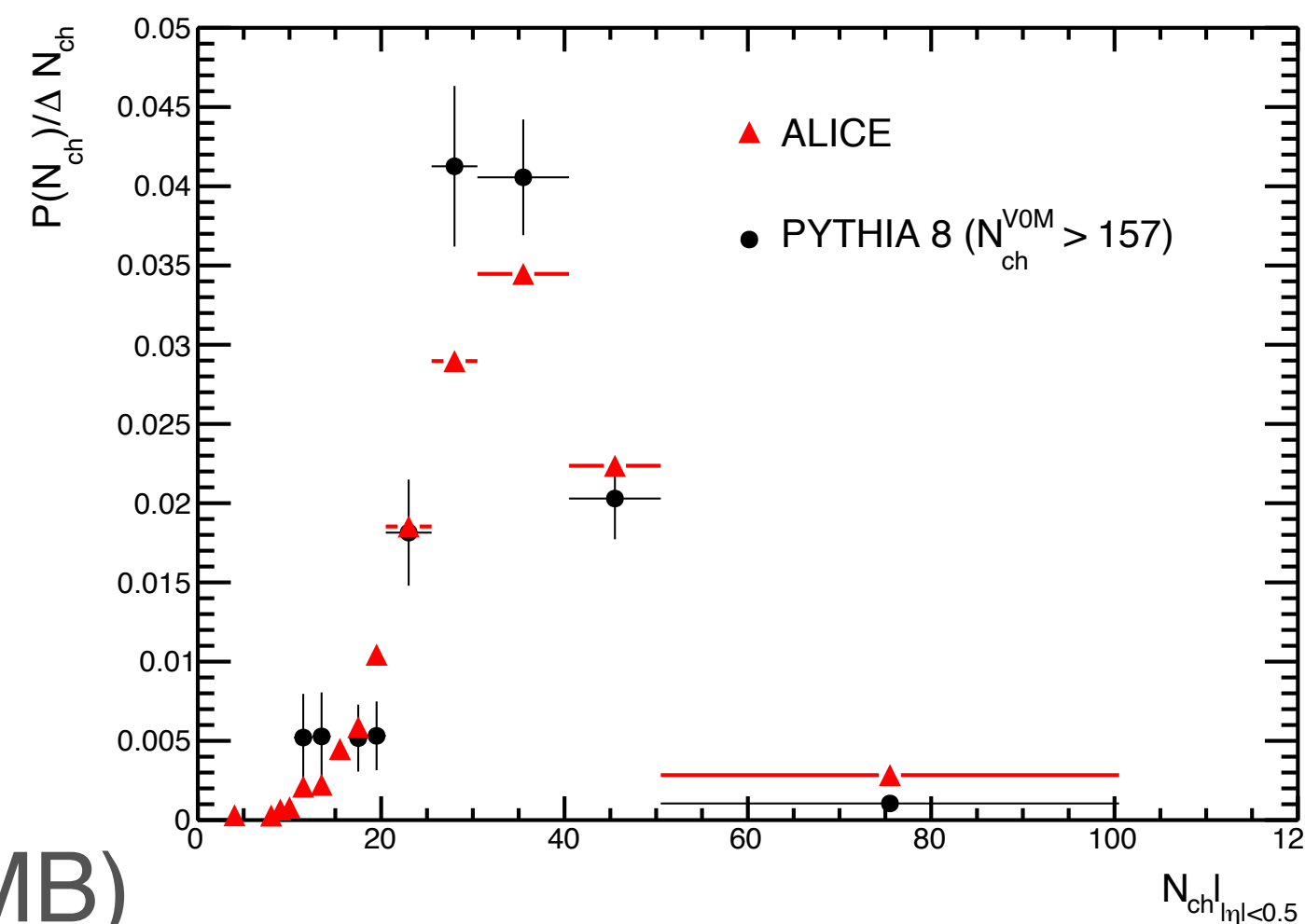
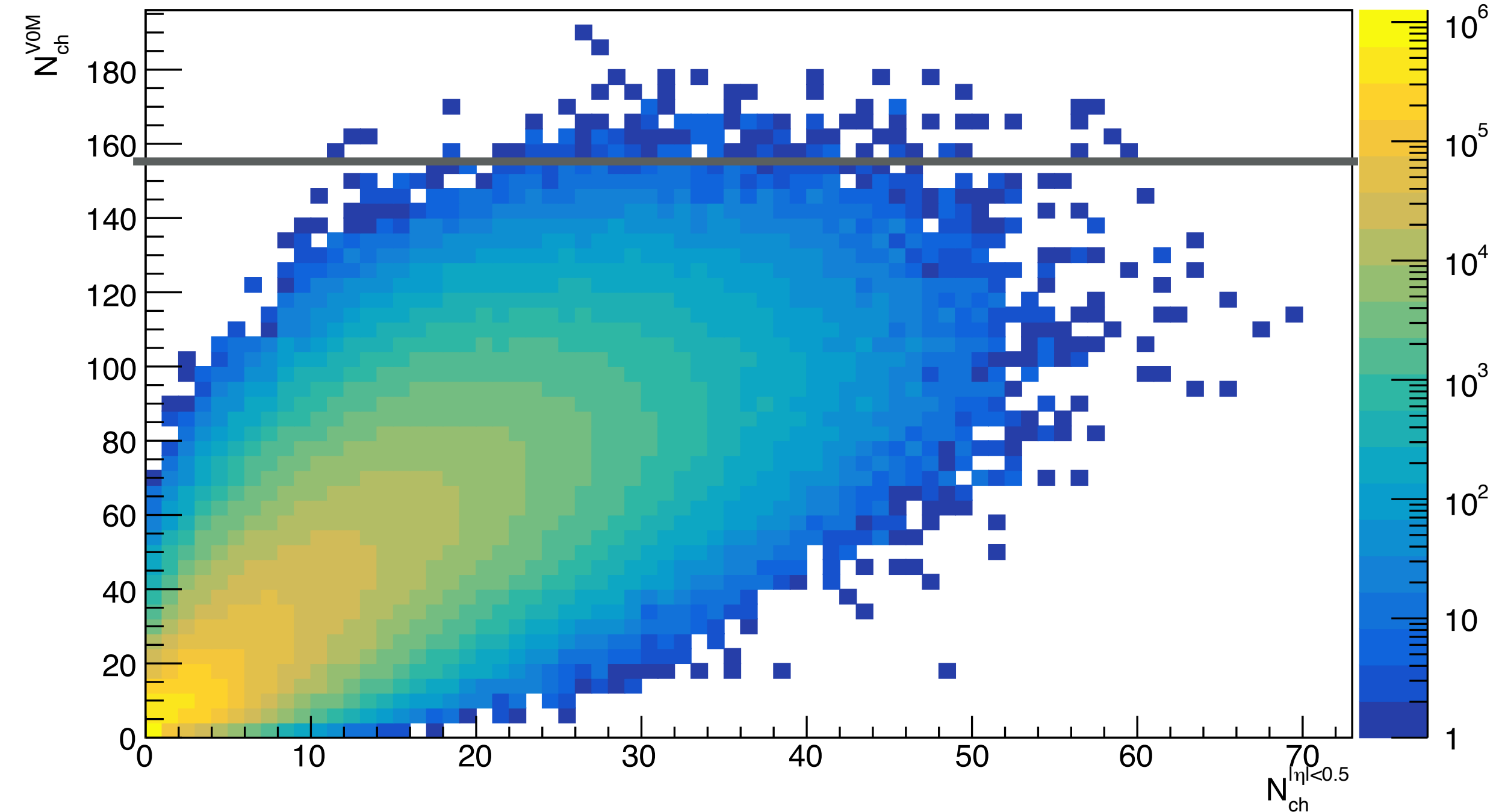
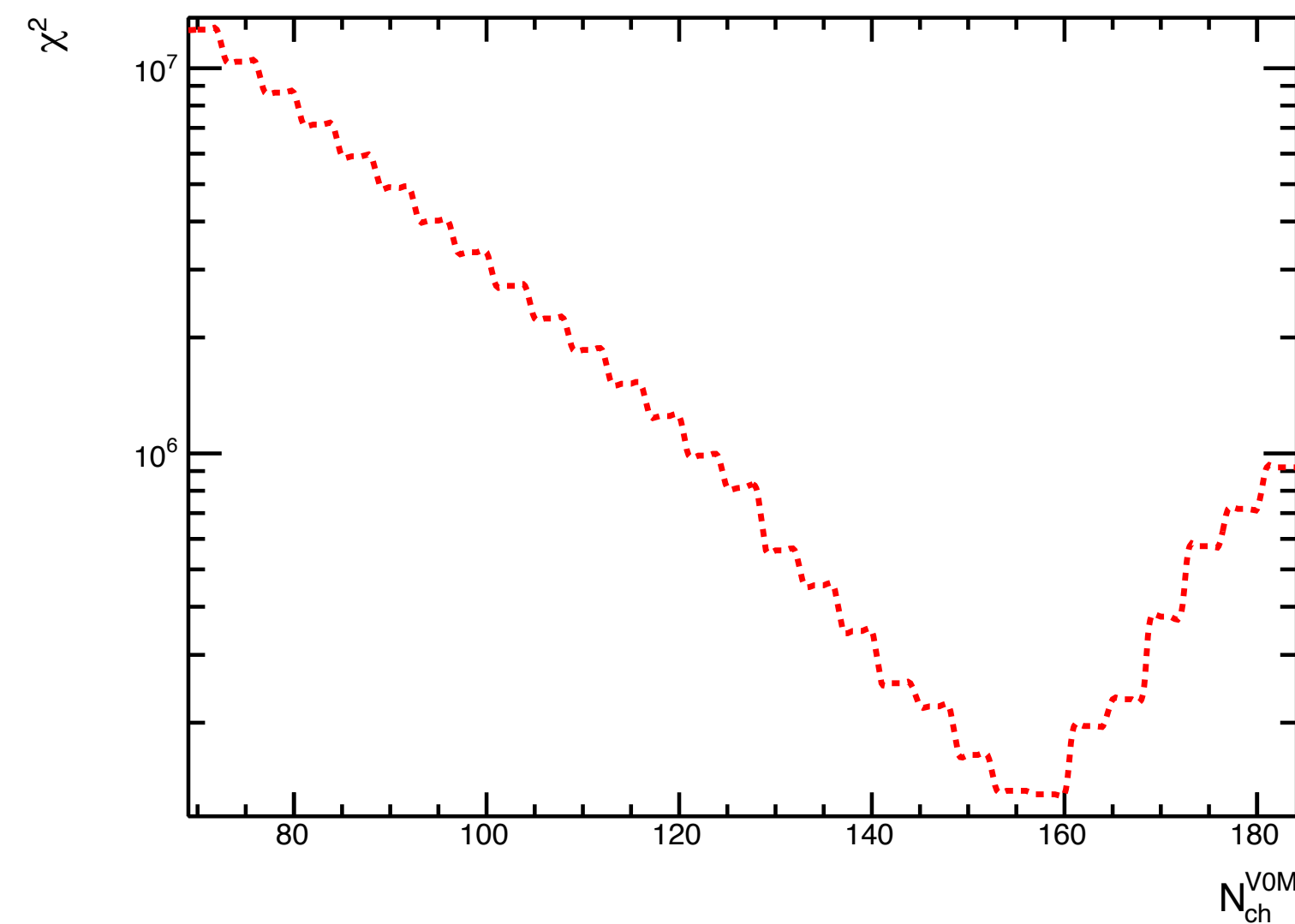
Comparison with ALICE data (Proton spectrum - HM I)





Correlation of V0M and mid-rapidity multiplicity (Monash)

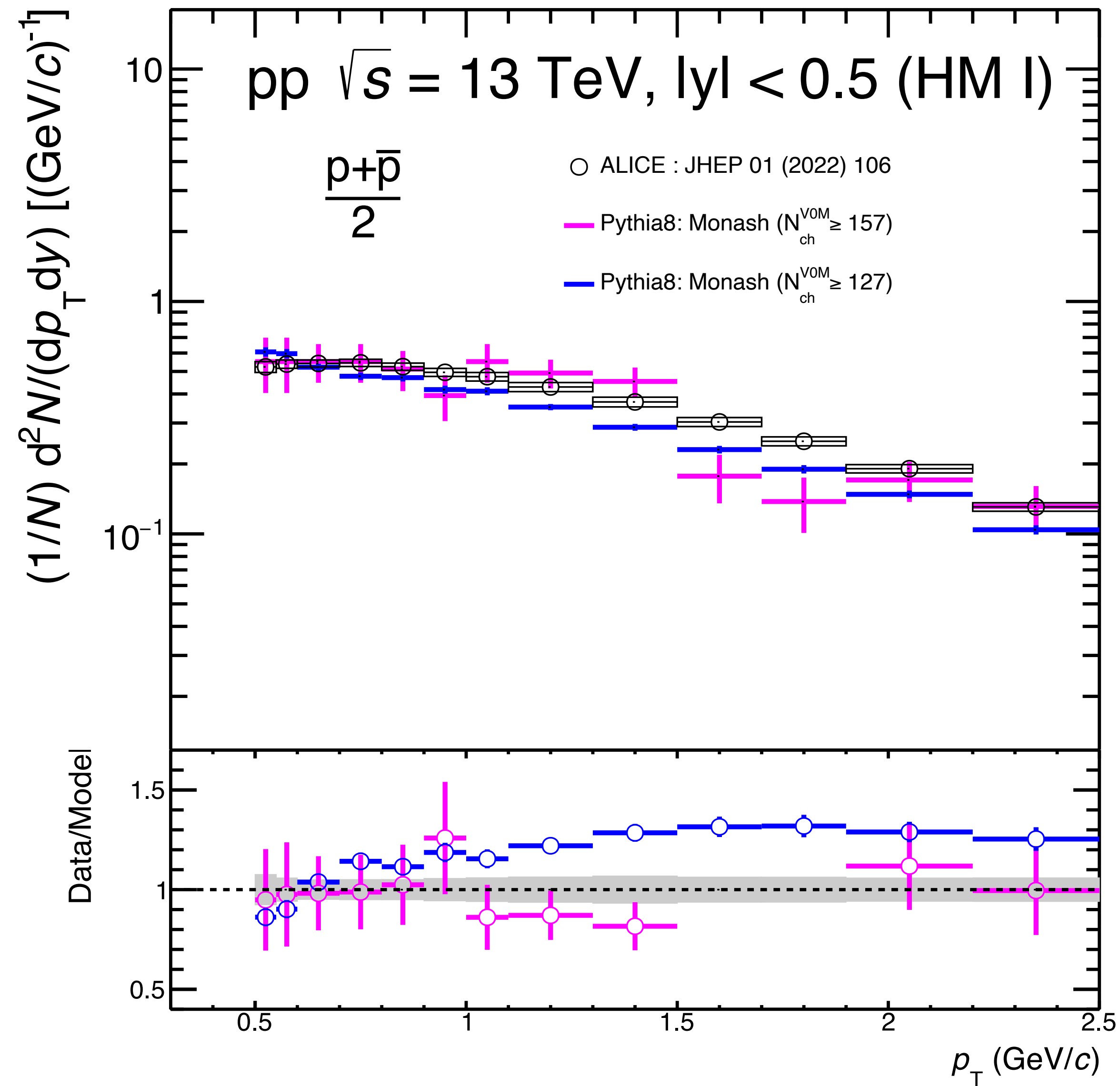
- Followed similar approach taken by Maxi ([slides](#))
- Correlate charged particle multiplicities in V0M region with mid-rapidity
- Trigger for different V0M multiplicities and compare mid-rapidity to ALICE measurement
- χ^2 obtained from the each bins of the mid-rapidity N_{ch} distribution



Min. Value of χ^2 at $N_{ch}^{V0M} > 157$ (0.005% of MB)



Comparison with ALICE data (Proton spectrum - HM I)



Backup



Comparison with ALICE data (Proton spectrum - INEL)

