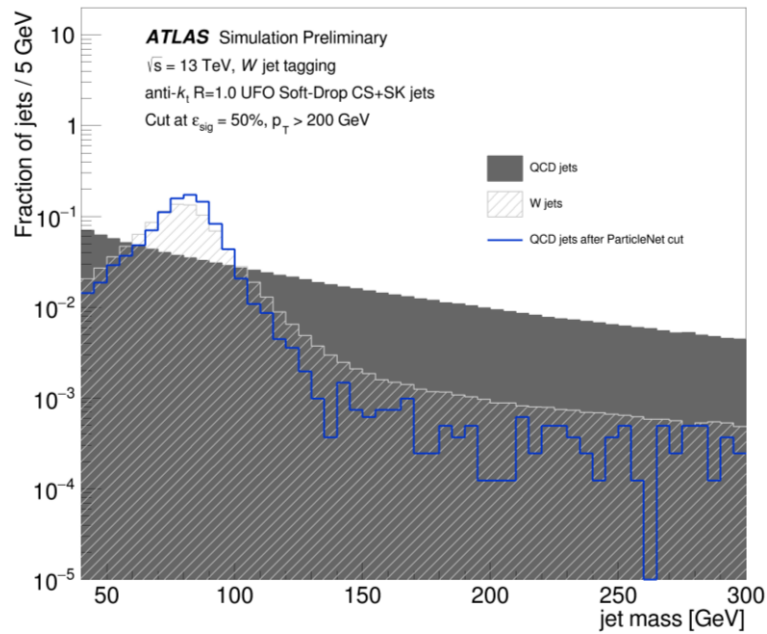


Weekly Report

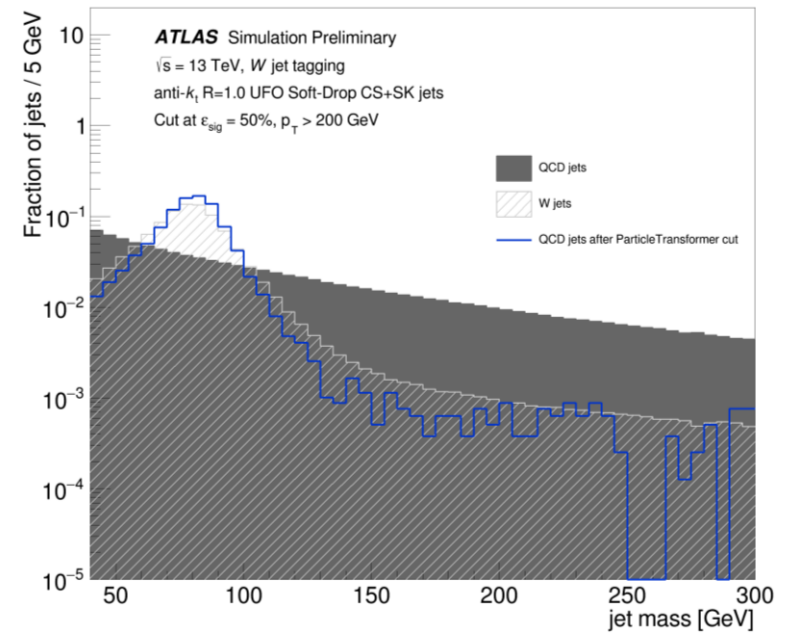
Shudong WANG

Constituent based W/Z boson tagging

- Mass sculpting



ParticleNet



ParticleTransformer

- Should do mass decorrelation.
- Method: Adversarial networks (ANN), Distance Correlation (DisCo) ...

Constituent based W/Z boson tagging

- **Comments**

Shudong:

Q: How is the performance of the taggers for Z-jets when they are trained using W jets?

A: I didn't try that, will do it.

Comment: try to find number of tracks matched to a particular cluster to include this feature in the training (mimic charged, neutral and combined UFO flavors since this info is missing in the current ntuples).

Comment: it would be good to also include performance for EFN/PFN taggers.

Comment: could you give a try to PELICAN, this is a lorentz invariant and permutation equivariant network which has similar performance than ParticleNet for top tagging using much less number of parameters.

Comment: try DisCo mass decorrelation approach.