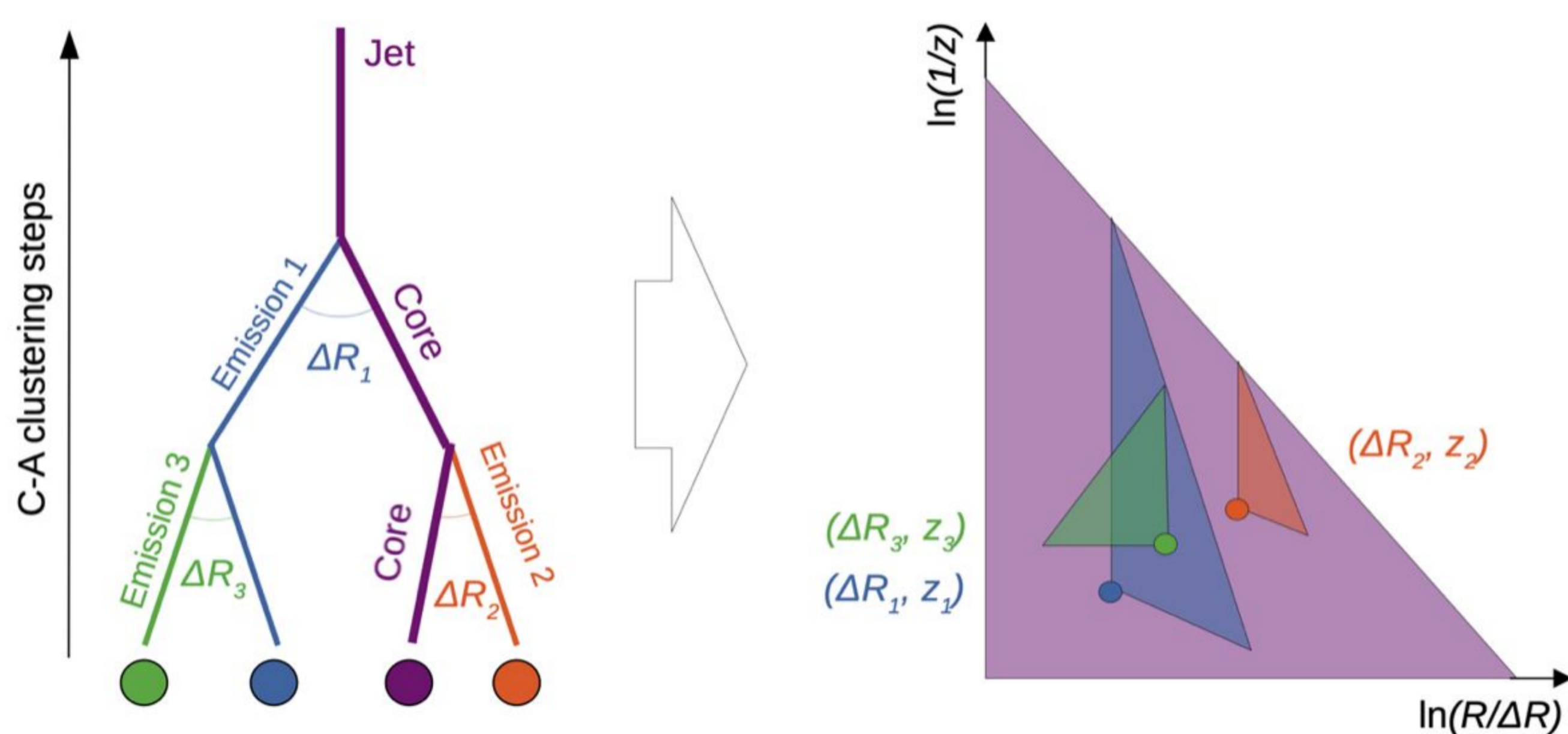


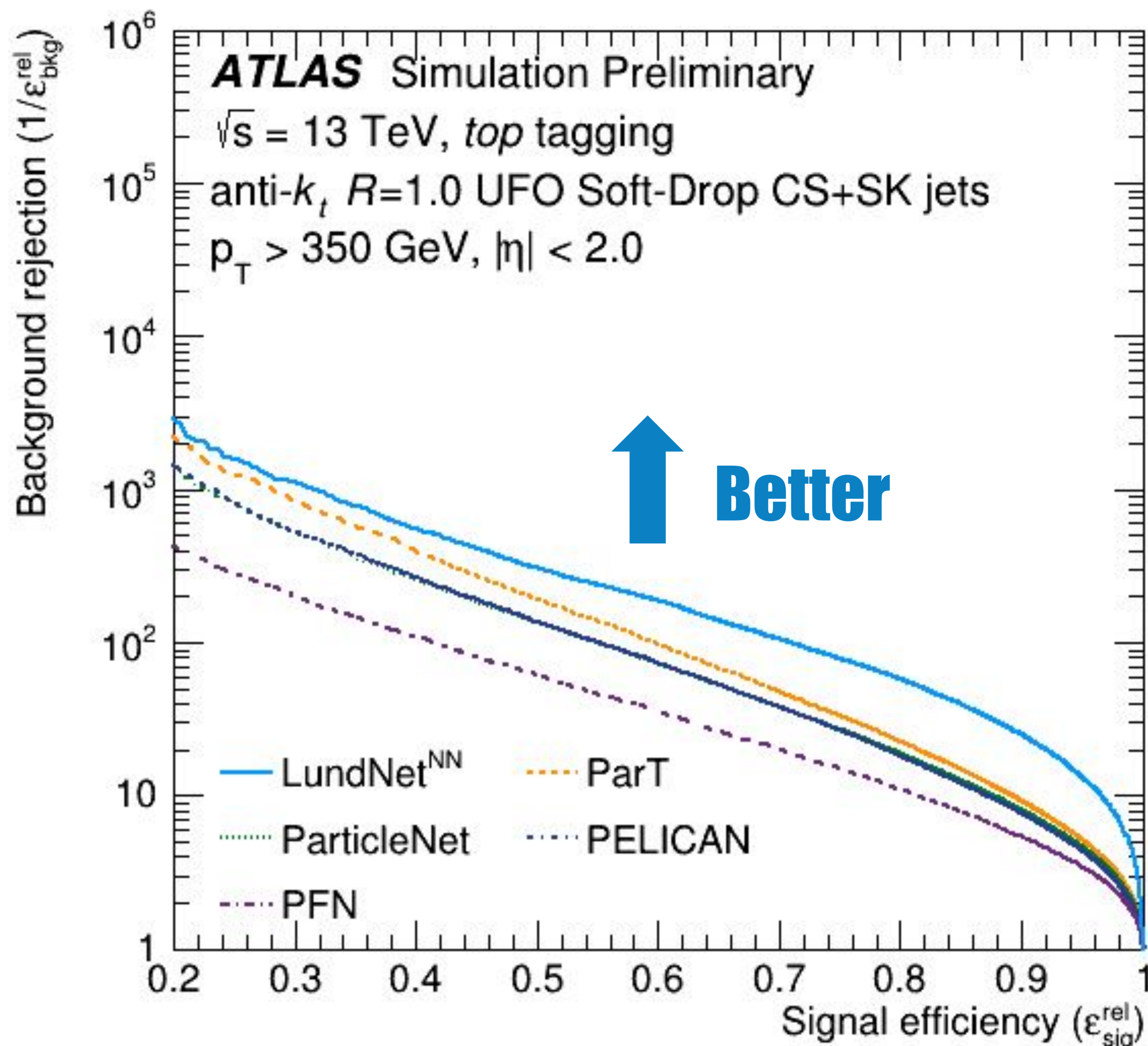
Performance

- What is the most effective machine learning model for tagging boosted top quarks?
- Transformers work great, but the right physics prior [1-2] works even better!



LundNet - Graph neural network, with node connections determined by splittings in Lund jet plane and node features:

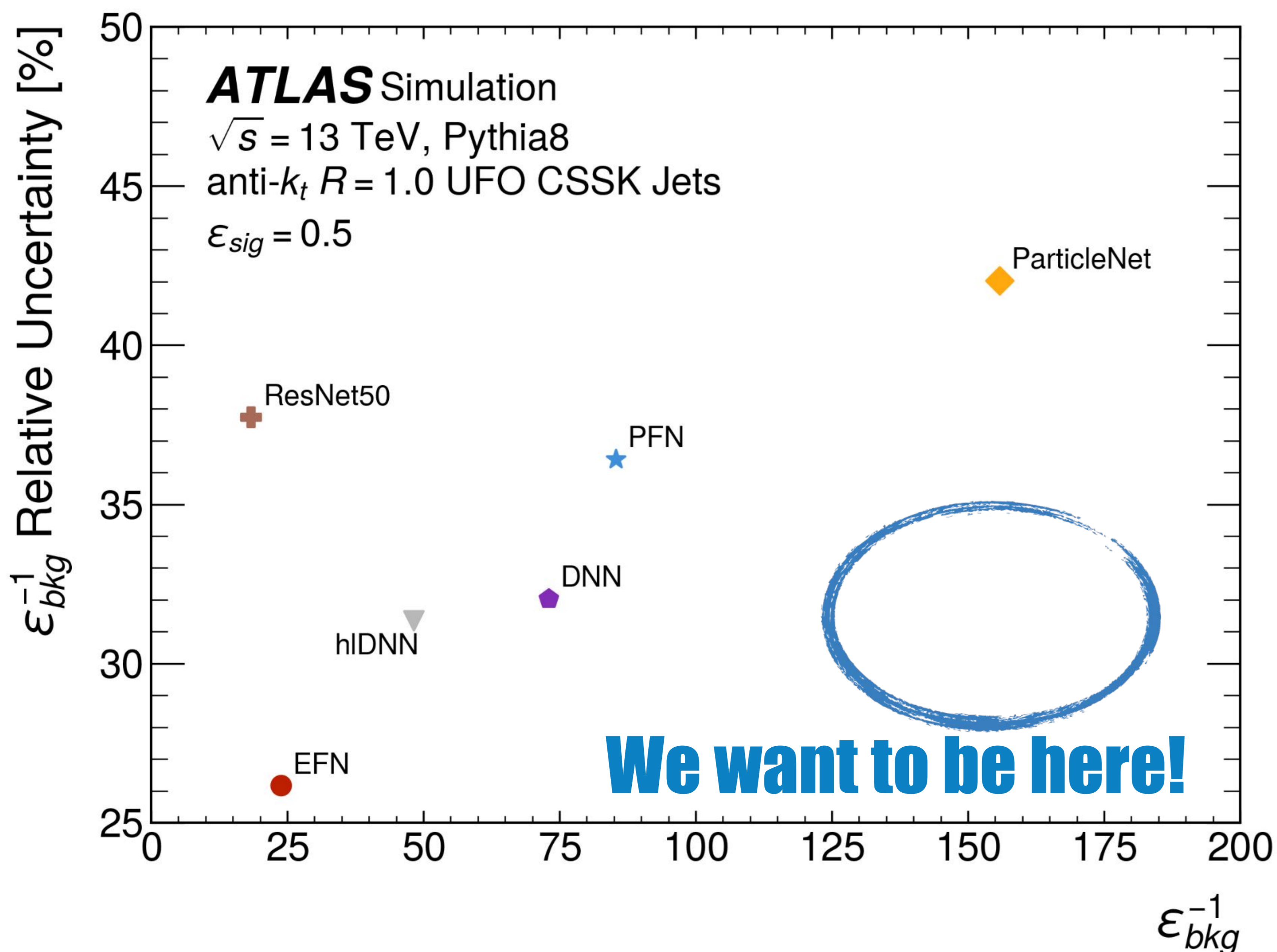
$$\tau^{(i)} = k_t, \Delta, z, m, \psi$$



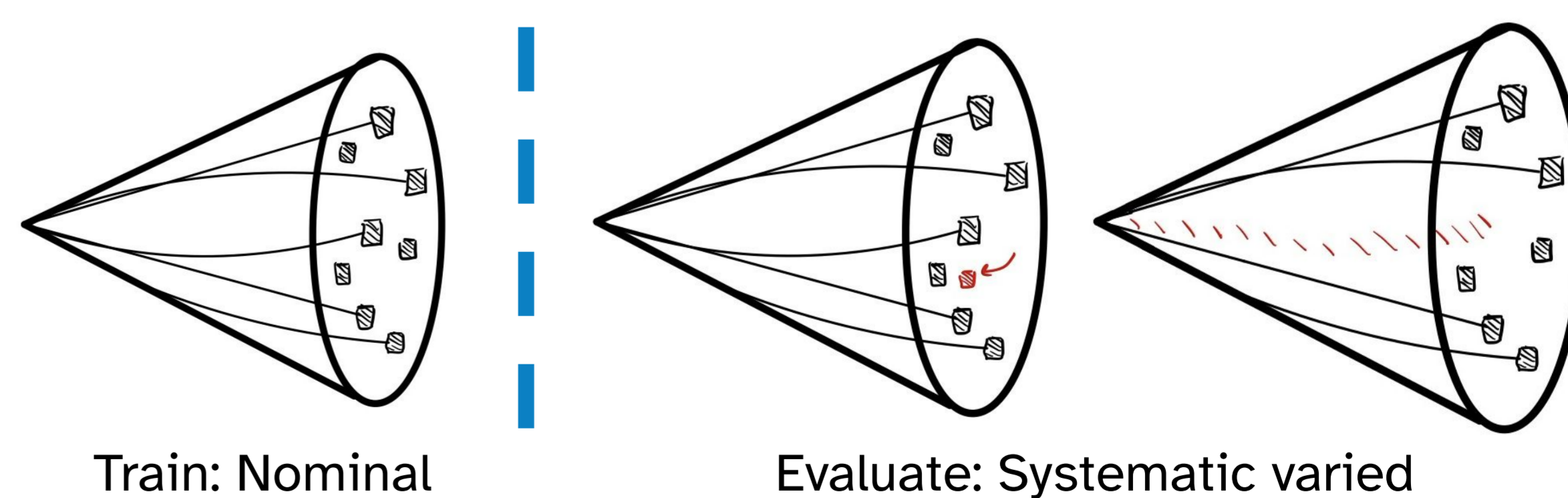
versus

**Have an idea for controlling uncertainties?
These datasets are public!**

Public data:



- Treatment of systematic uncertainties is crucial for interpreting physics results
- Can **approximate** the size of systematic uncertainties associated with each tagger using “bottom-up” approach [3]:



- The most performant taggers produce the largest uncertainties

uncertainty