

# Jet physics: Single Inclusive Cross-section

- test of pQCD in an energy regime never probed!
- validate our understanding of pQCD at high momentum transfers

Large momentum transfers and small-x !

Rather general  
String theory  
toy-model  
(hep-ph/0111298)

$$\sigma_{jet} = \sigma_{jet}^{SM} \cdot |A(\hat{s}, \hat{t})|^2$$

where

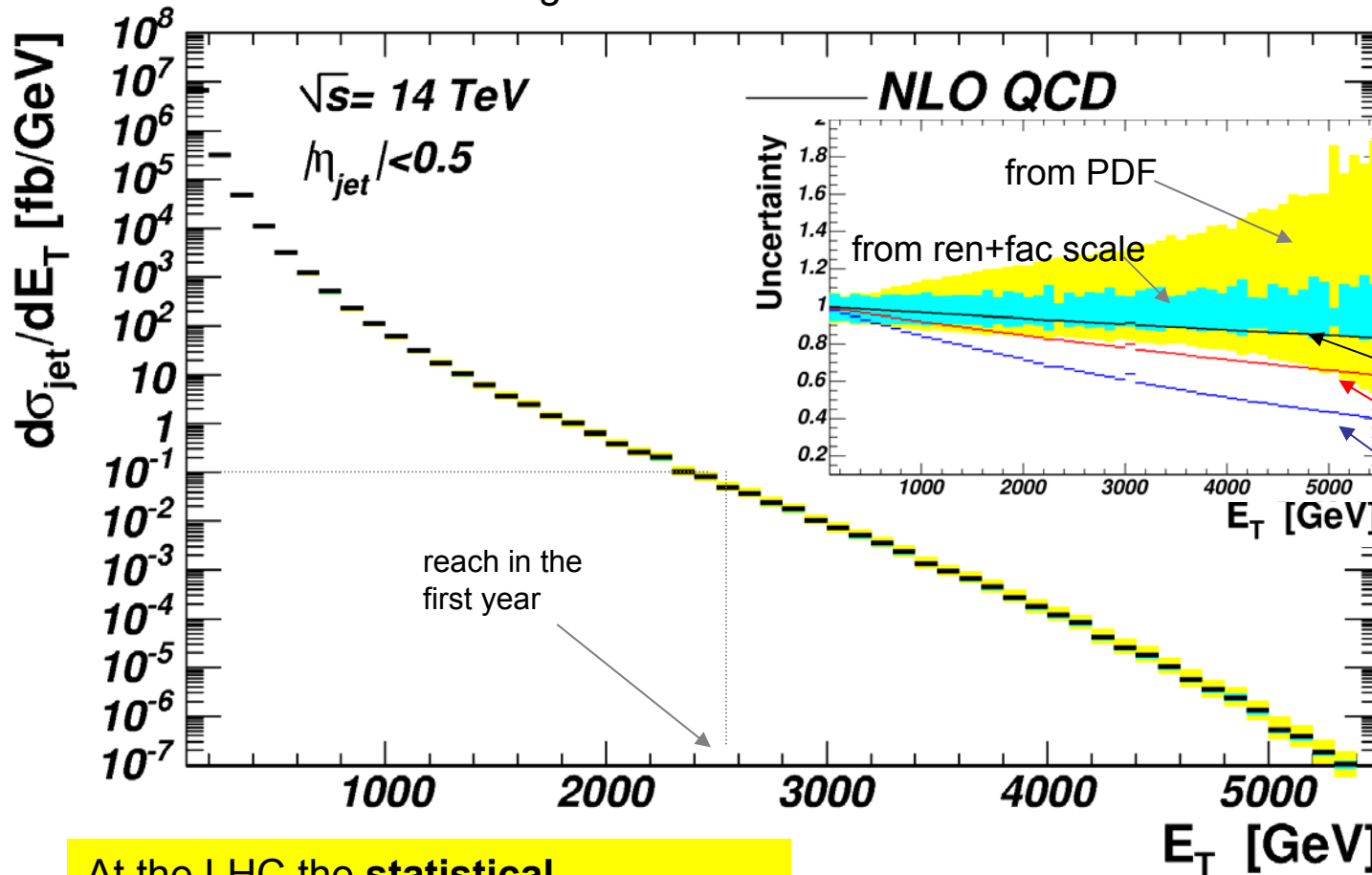
$$A(\hat{s}, \hat{t}) = e^{-\sqrt{f(\theta)\hat{s}/M_s^2}}$$

$$M_s = 100 \text{ TeV}$$

$$M_s = 40 \text{ TeV}$$

$$M_s = 20 \text{ TeV}$$

At very small  
distances,  
particles disappear  
into curled  
extra-dimensions



At the LHC the **statistical** uncertainties on the jet cross-section will be **small**.

Main systematic errors ?

Theory uncertainty ?