



Single-Top + Higgs (Chapter 1)

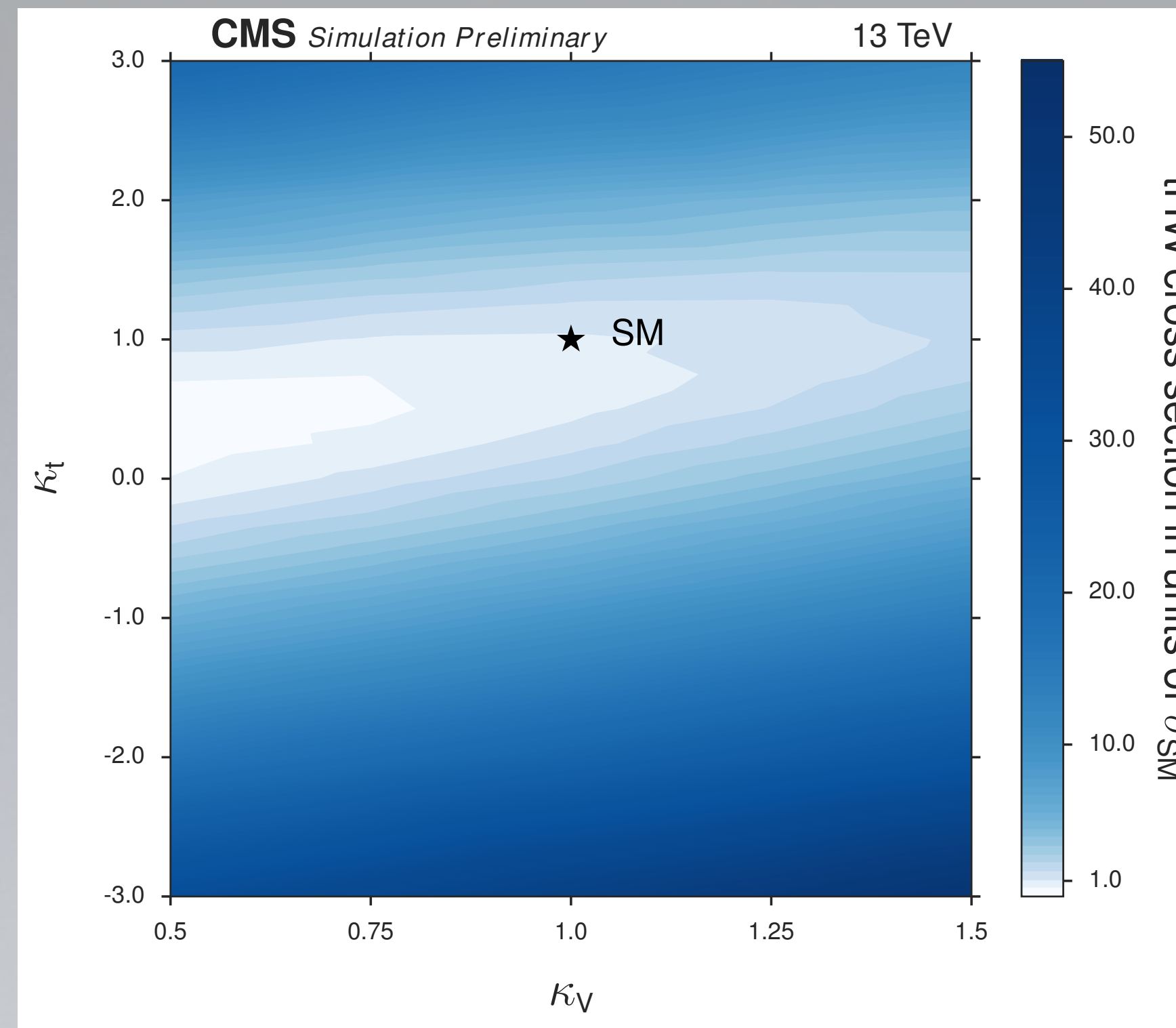
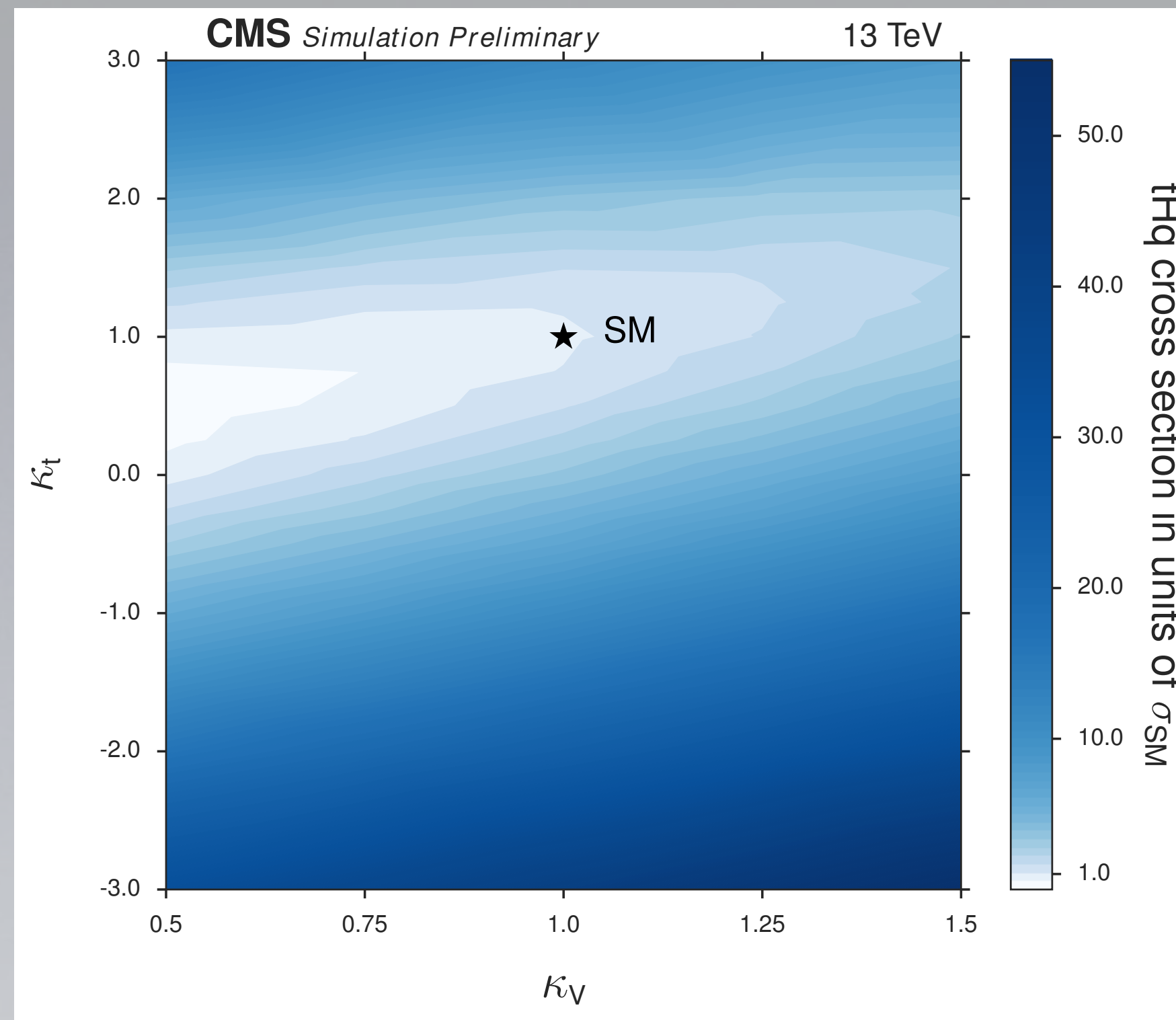
Davide Napoletano, Torino meeting

Outline

- The idea behind Chapter 1
- Status of Chapter 1
- Plans for Chapter 1

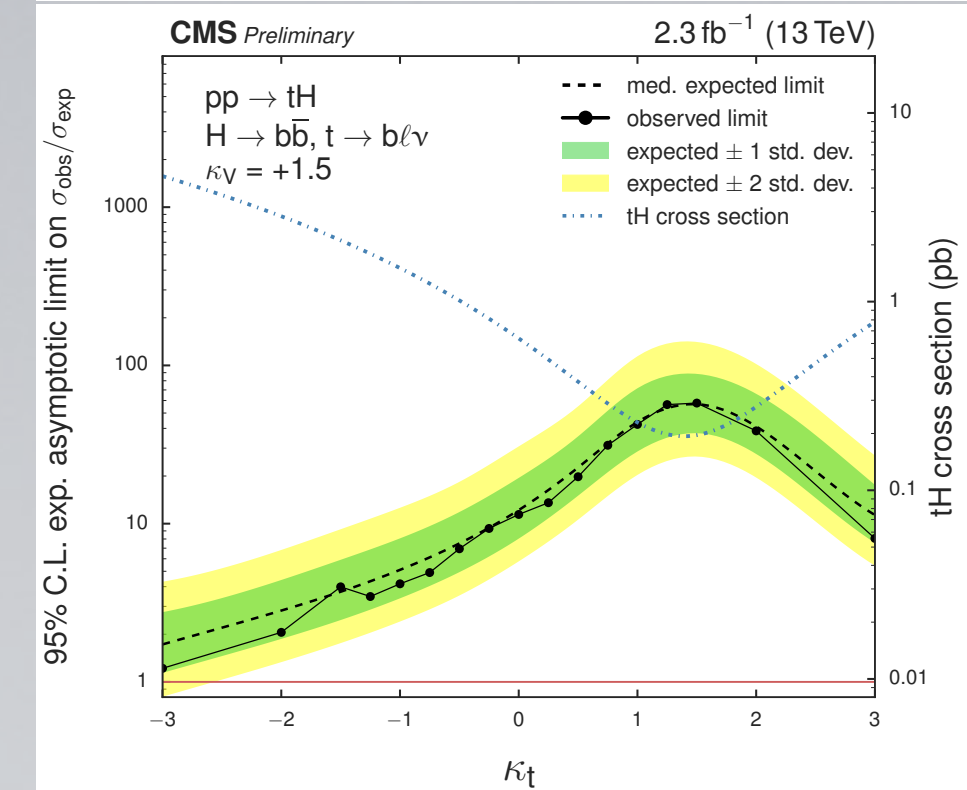
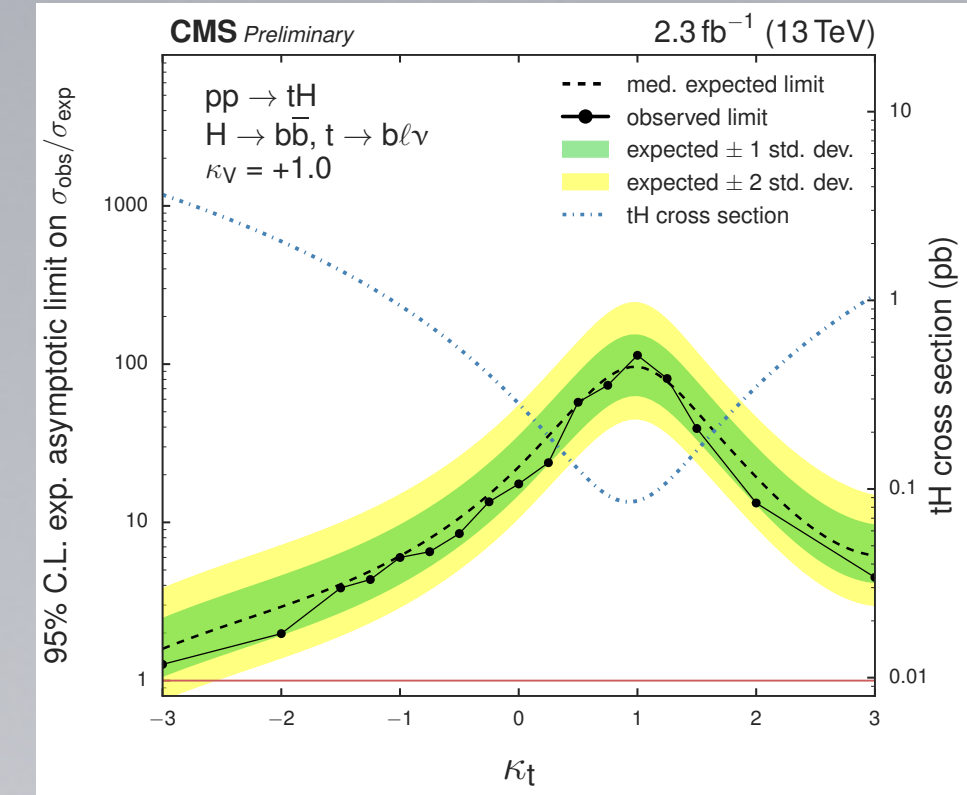
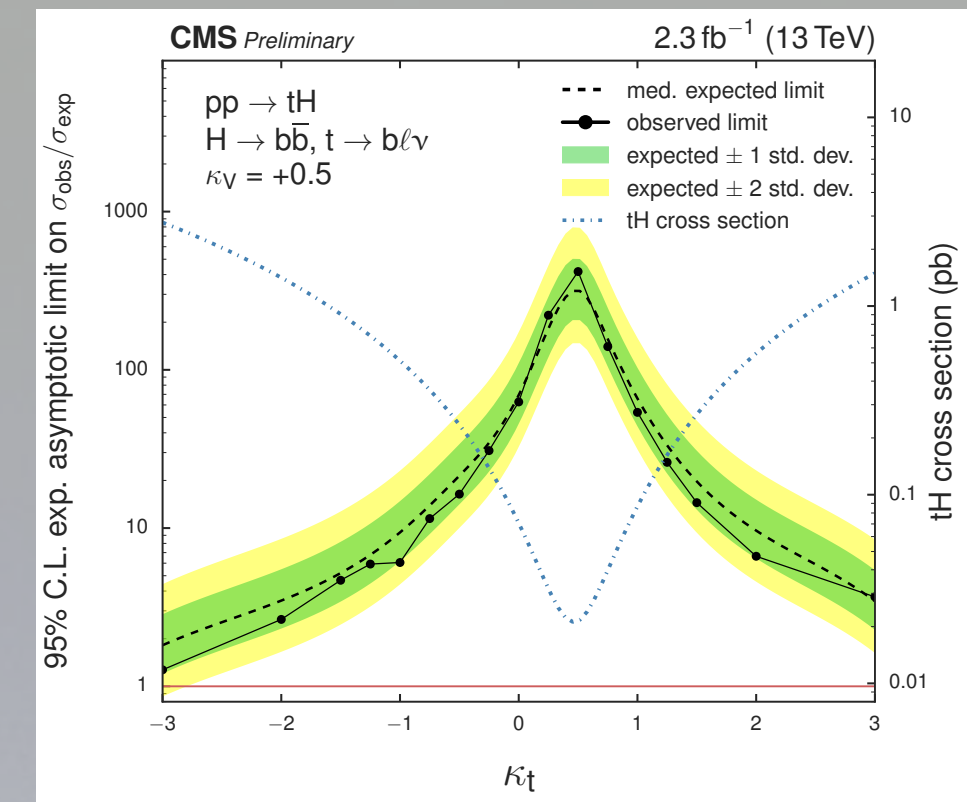
The idea behind Chapter 1

- Using an interesting example... y_t



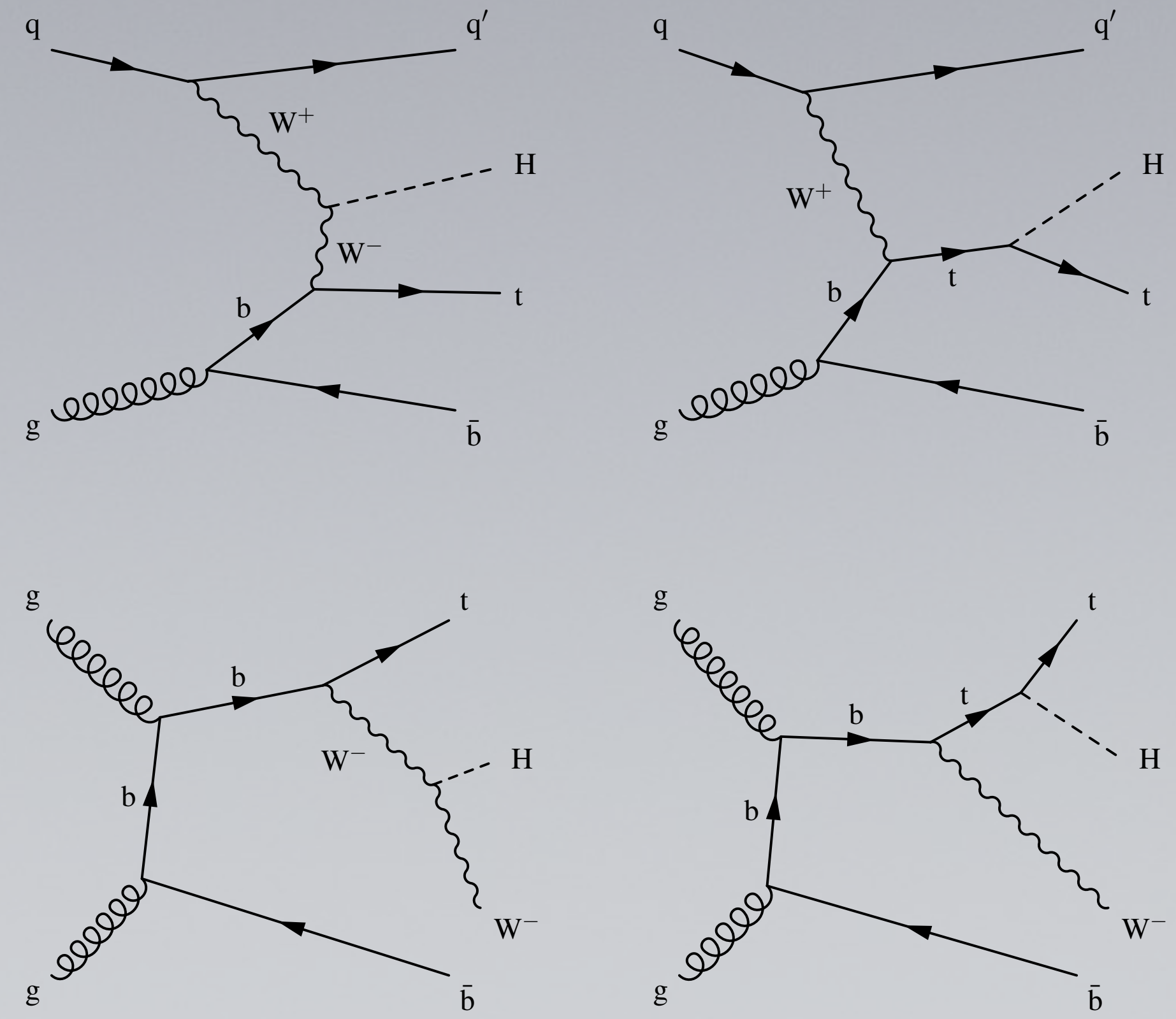
The idea behind Chapter 1

- Exp usually rely on ML to separate Sig/Bk...
- However, in this case can only put limits...



The idea behind Chapter 1

- Could we use some physics to help ML?
- Need to simulate S and B and look at some plots...



Status of Chapter 1

Signal :

- $pp \rightarrow H(\rightarrow b\bar{b})t(\rightarrow Wb) + 3j$
- On-shell decays
- only massless bs

Background :

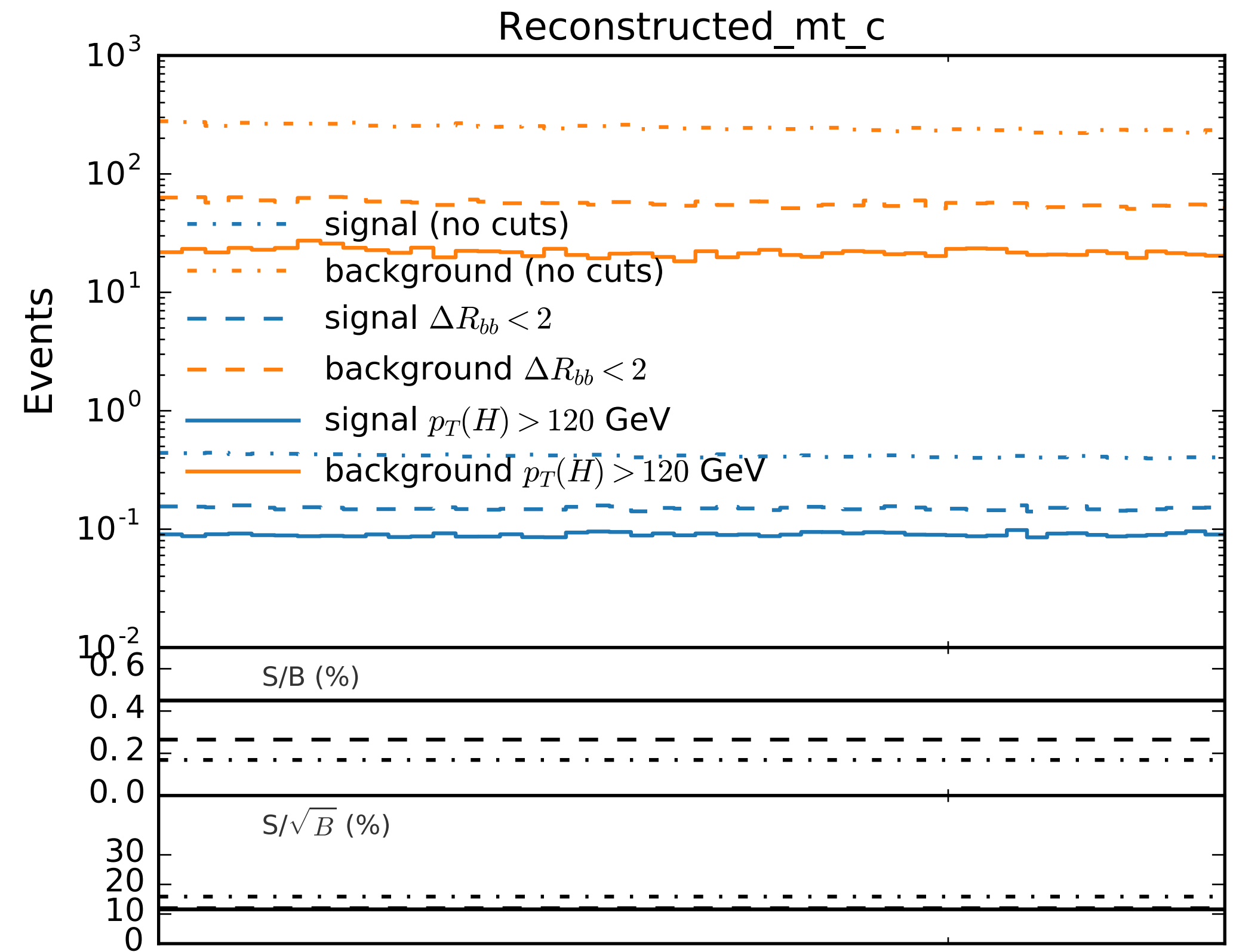
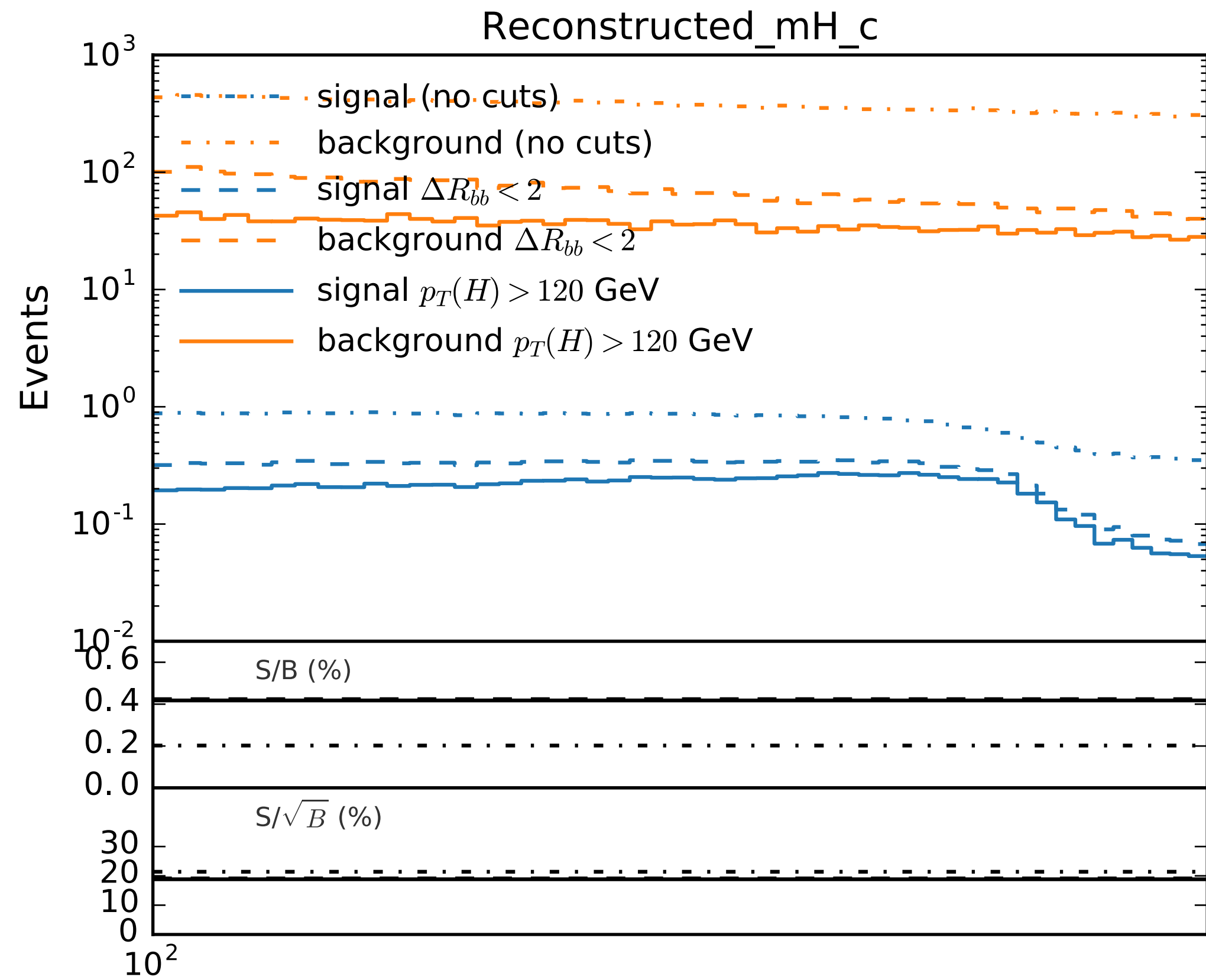
- $pp \rightarrow t\bar{t} + 3j$
- No other bkg considered...
- No fancy scale var or anything

Status of Chapter 1

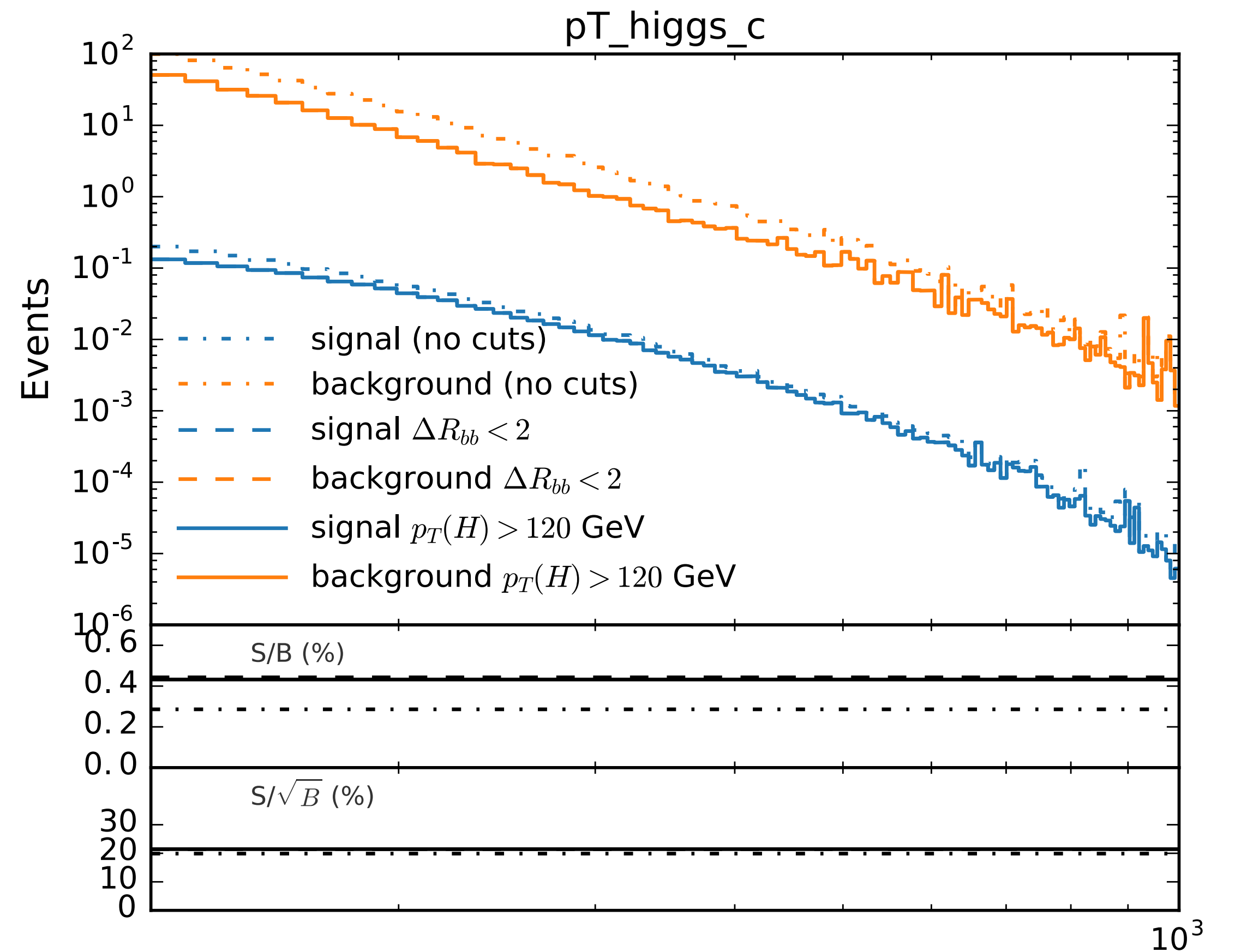
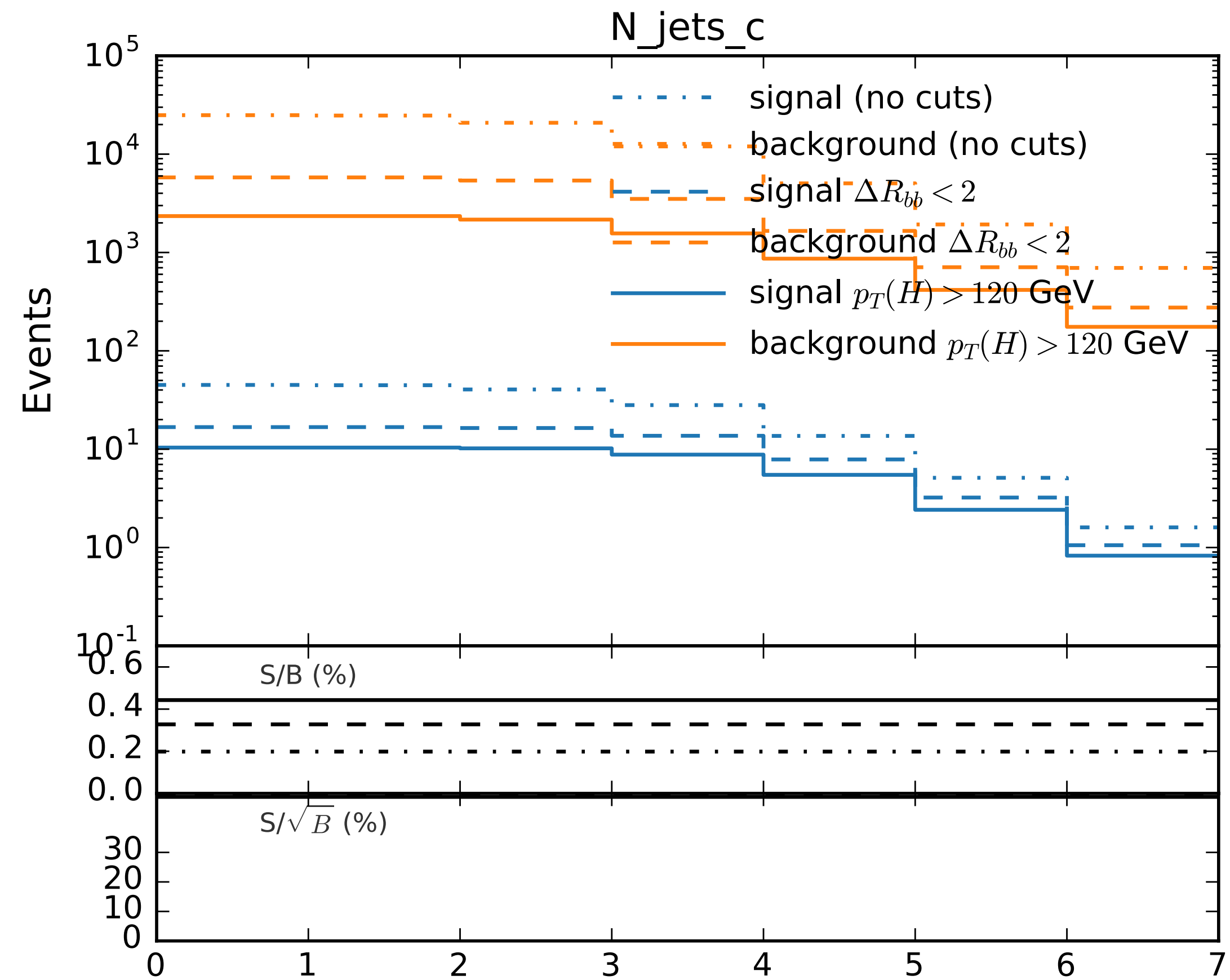
Look at plots with “no cuts” and look for sensible observables...

Status of Chapter 1

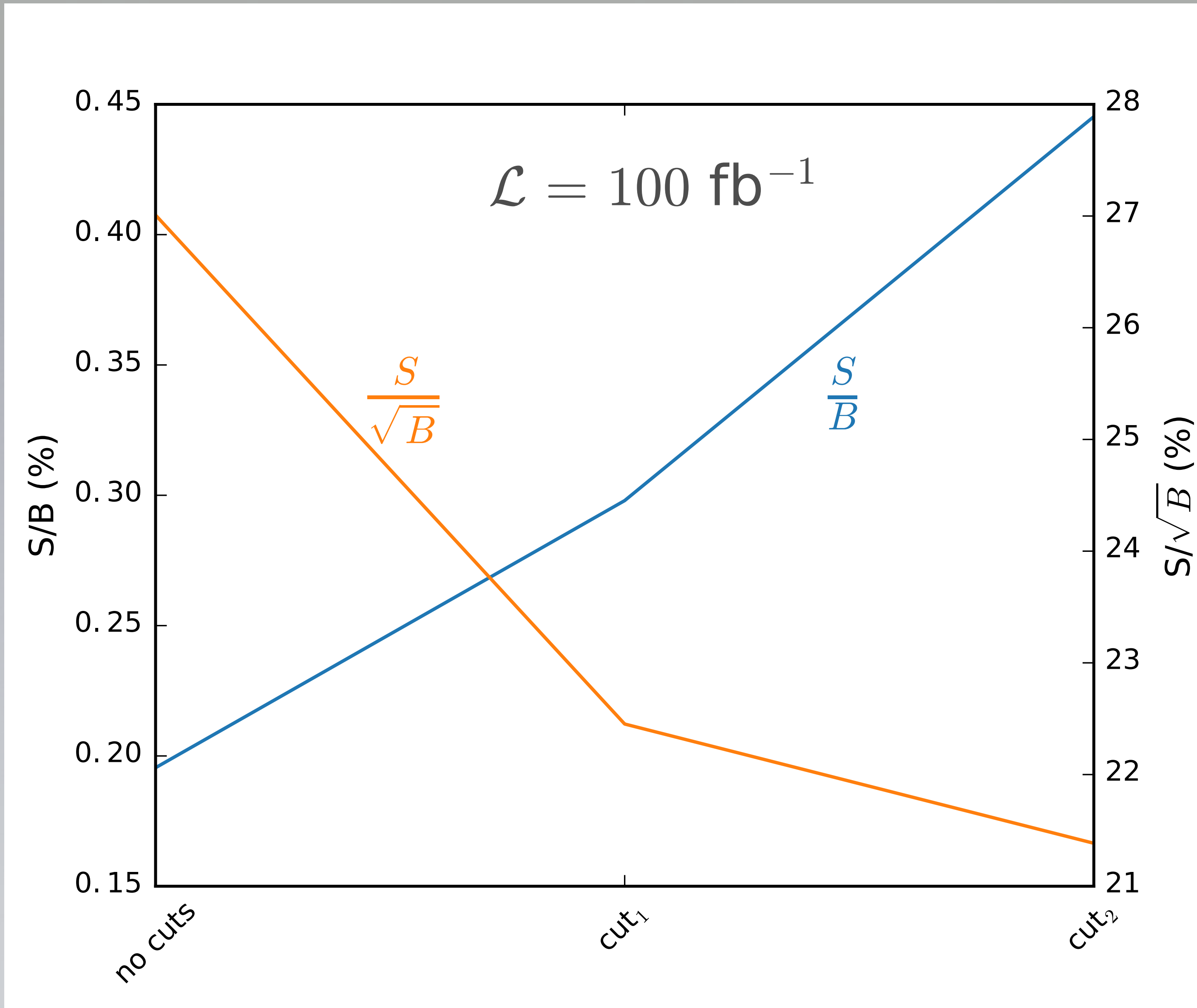
- Then apply some cuts and hope for best...



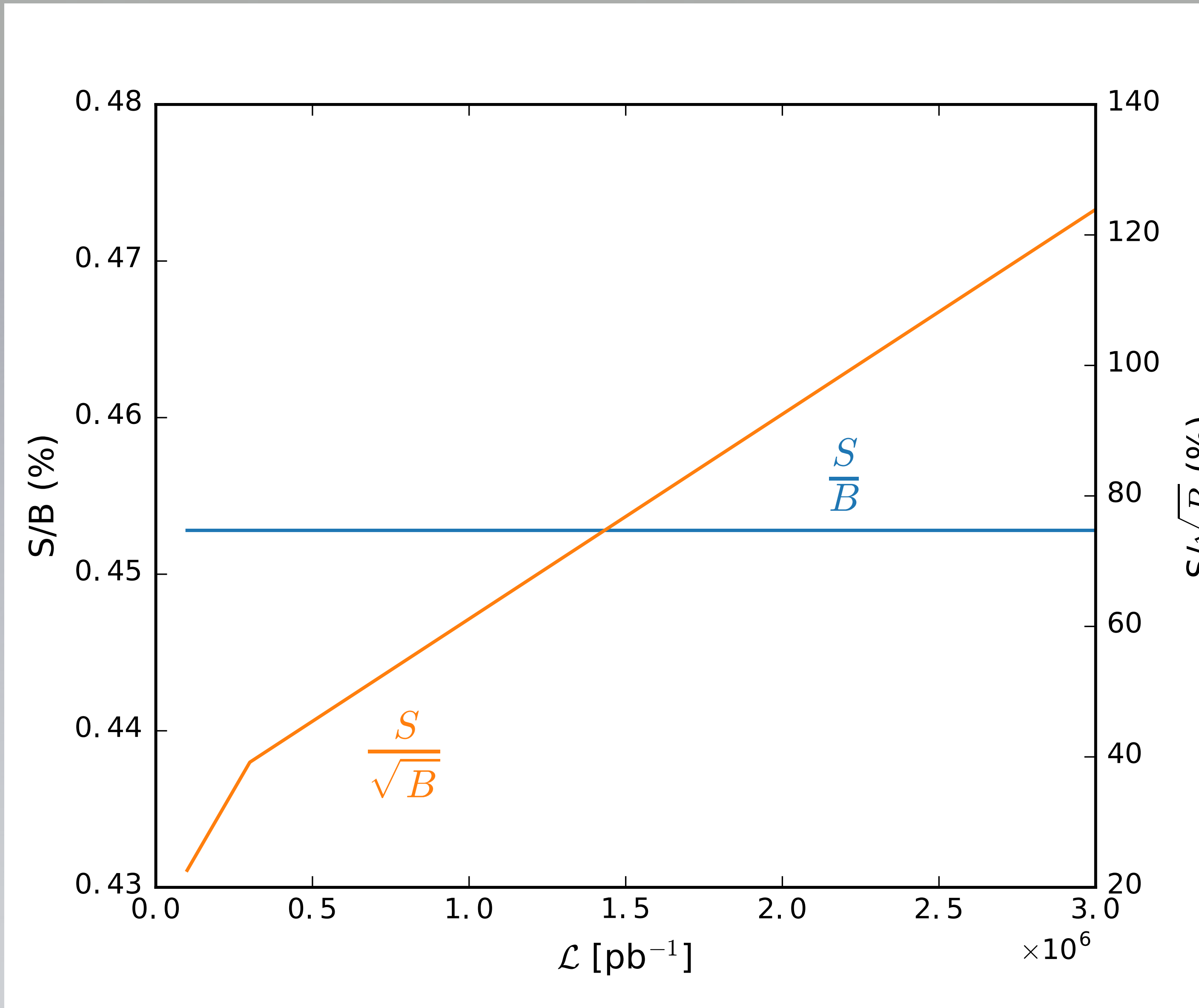
Status of Chapter 1



Status of Chapter 1



Status of Chapter 1



Plans for Chapter 1

- What is a cut and count exercise (from the exp pov)
- Basics of MC-simulations (matching and merging...)
- Application to Ht, why did we fail?