

“Search for high-mass resonances  
decaying to heavy flavor jets.”

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Group Meeting – 25/07/2019

# What's new?

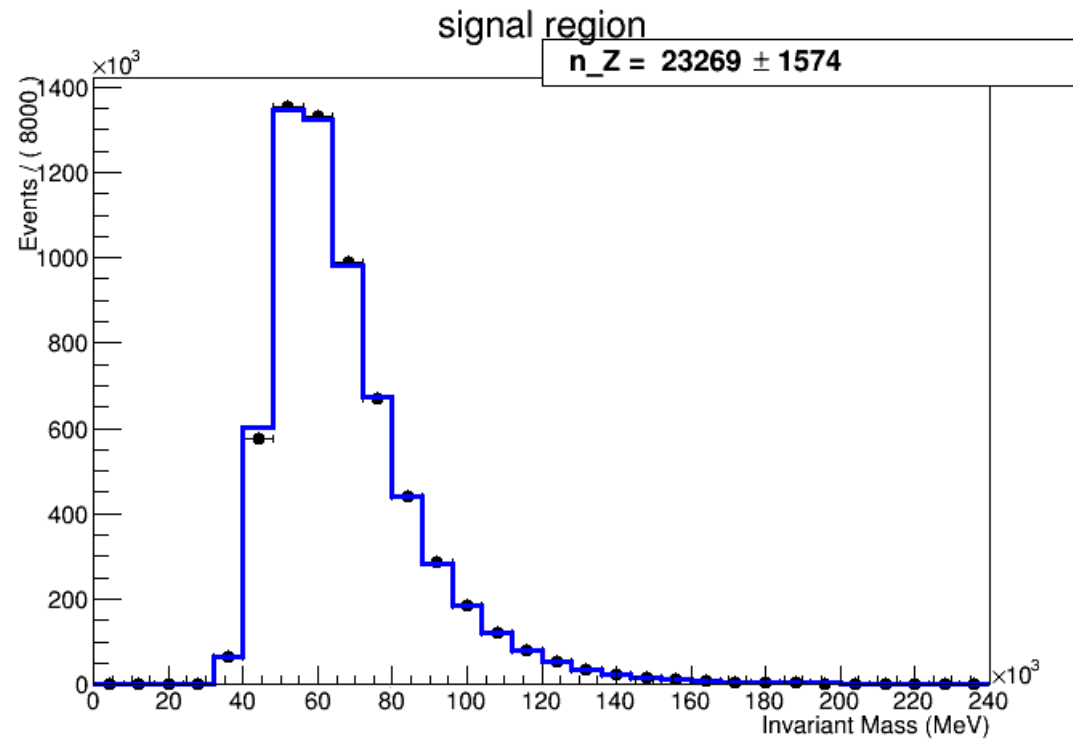
- Binned fits are preferred
- Some systematics already computed and inserted in *CLs*
- Analysis for *bb* decays is almost complete

# Binned fits

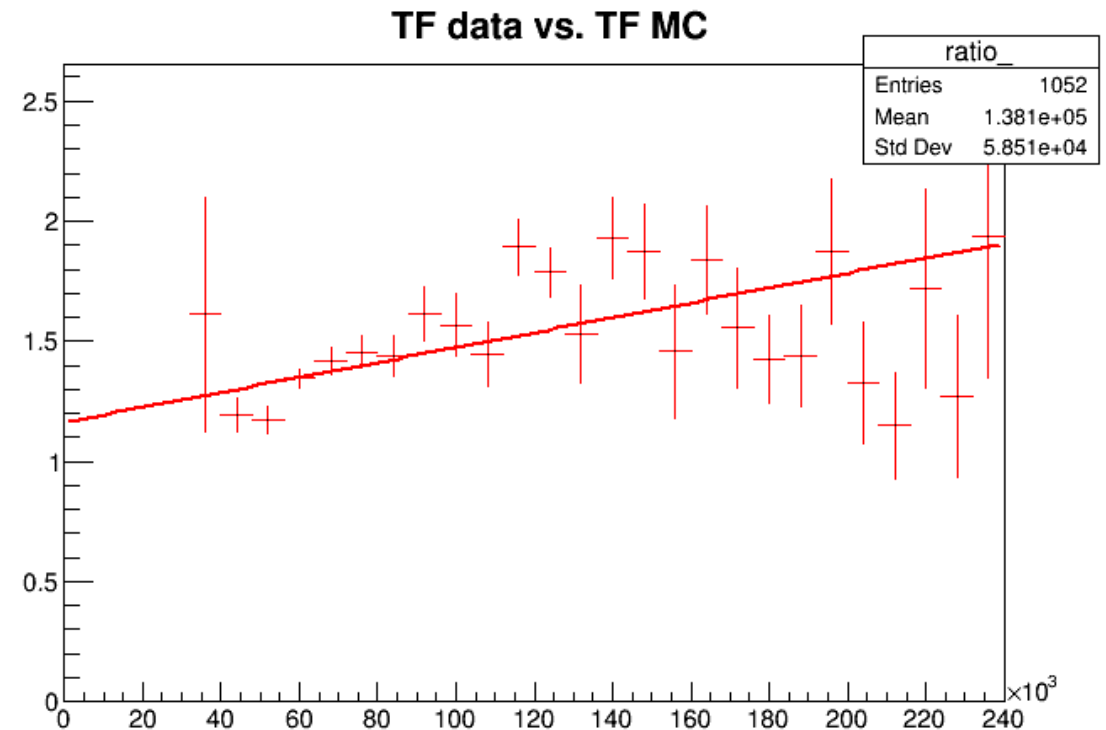
- Almost impossible to model CR with Pearson IV
  - binned fits (following LHCb resolution)
- Take CR as it is
- Transfer function obtain with a fit from data
  - validation with MC to avoid resonances
- Number of Z boson compatible
  - the model is valid

# Binned fits

Fit for Z, compatible with expectations



Comparison TF data vs. TF MC

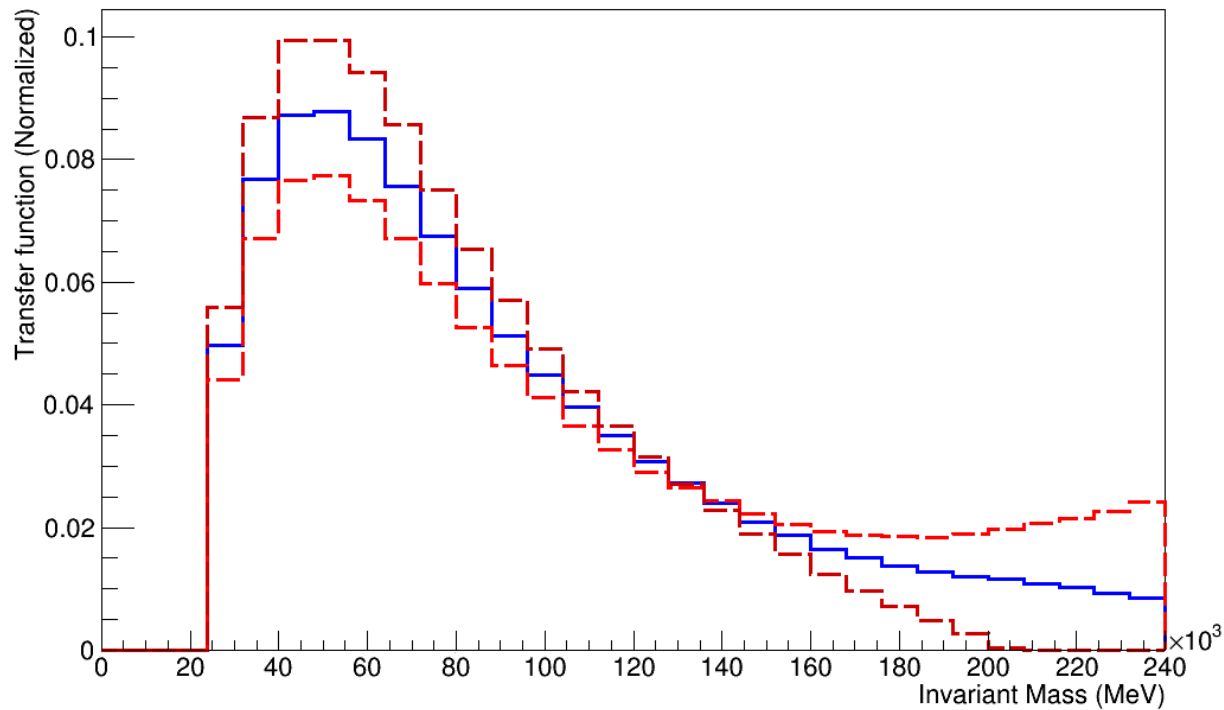


# Systematic uncertainties

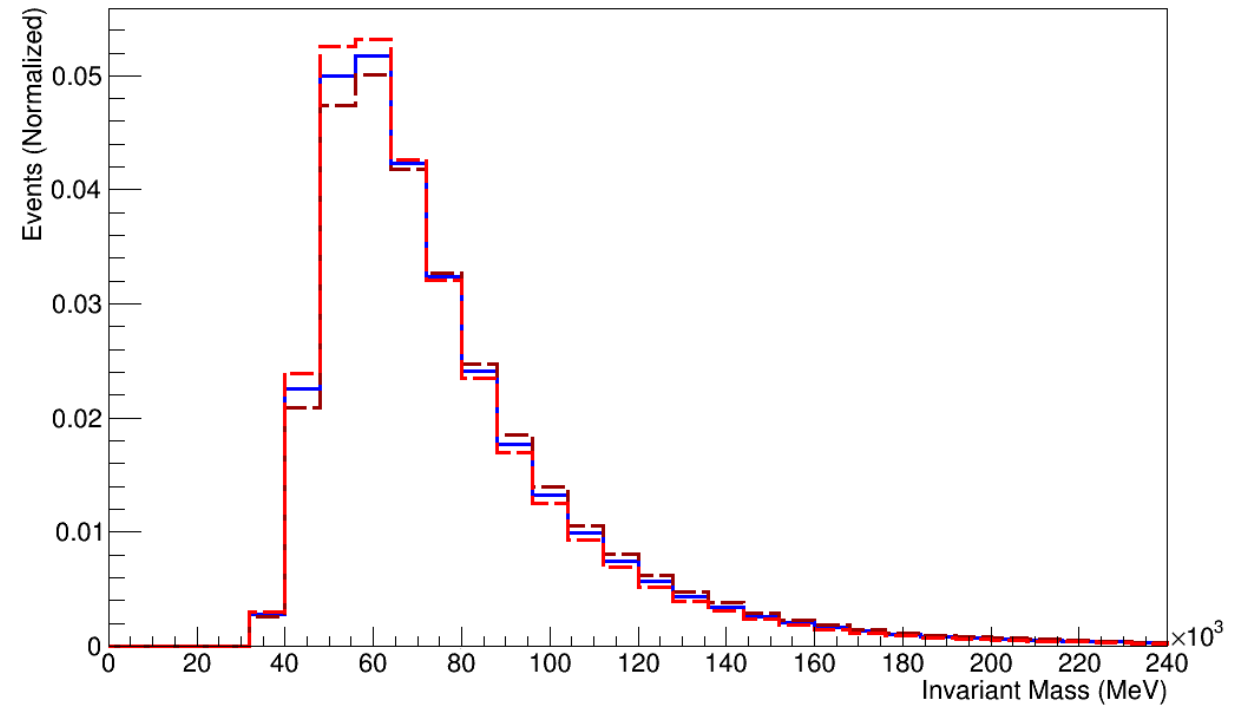
- Computed and expected limits are affected by systematic uncertainties
  - The following systematics have been considered:
    - Tagging efficiency = 20 %
    - Systematic on Z cross sections = 20 %
    - Parameters of the transfer function
    - Definition of CR (varying cuts on BDT)
- } main contribution

# Systematic uncertainties

## Transfer functions varying parameters

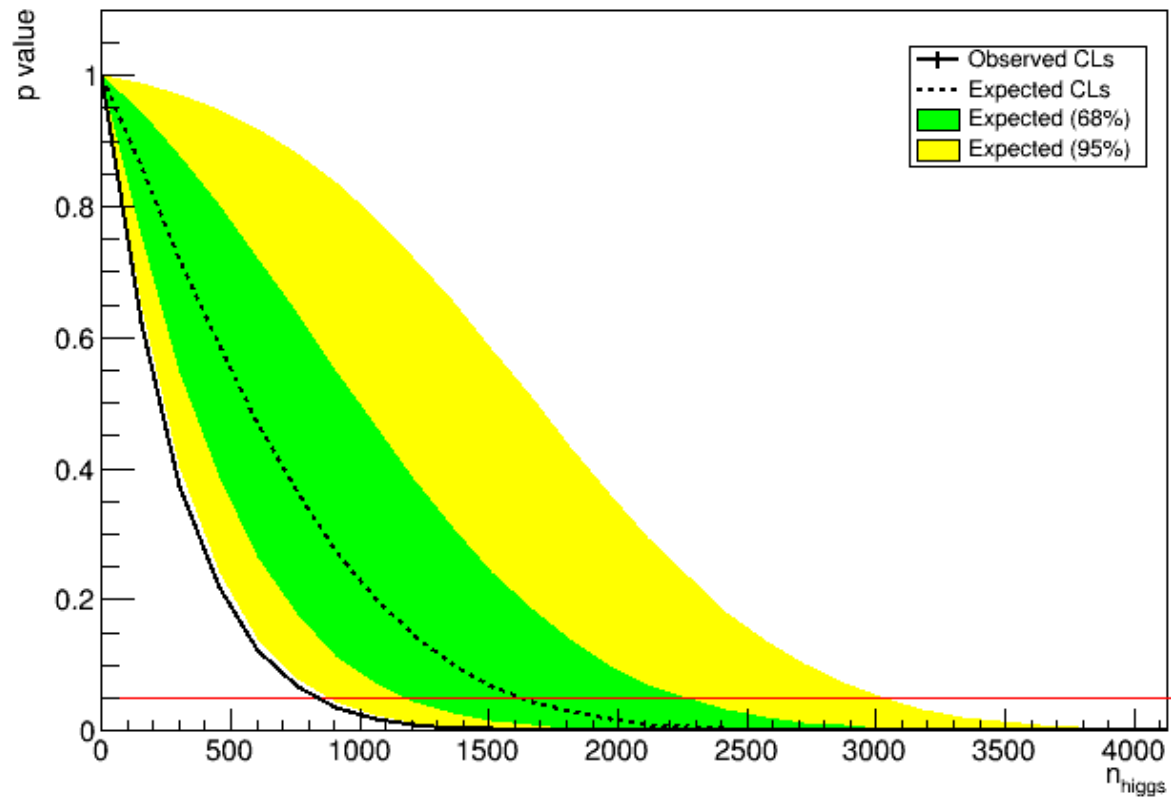


## CRs varying cuts on BDT



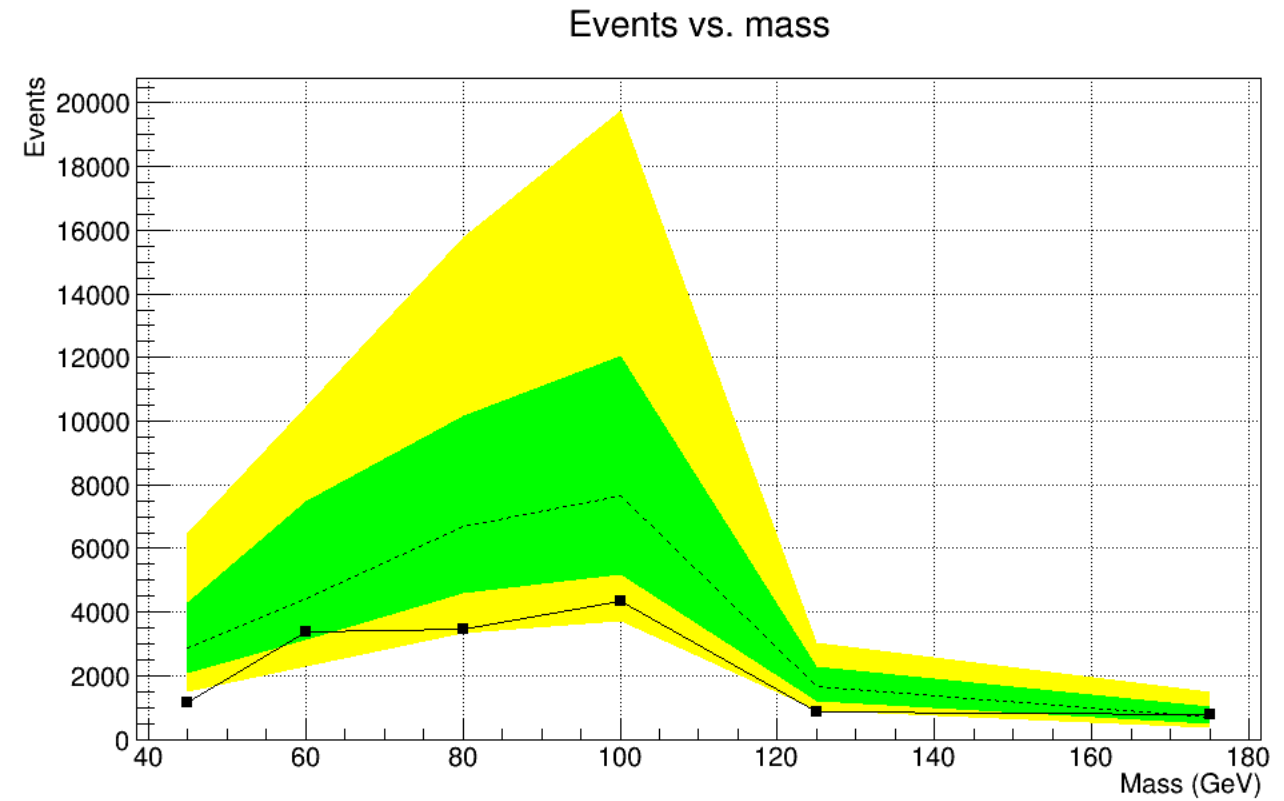
# Some results

## CLs for Higgs



25/07/2019

## CLs for different masses



# What's next?

- Finish the systematics computation
- Get limits on cross sections, and for Higgs compare with SM
- Wait for  $cc$  resonances OR model them