

Summary of September

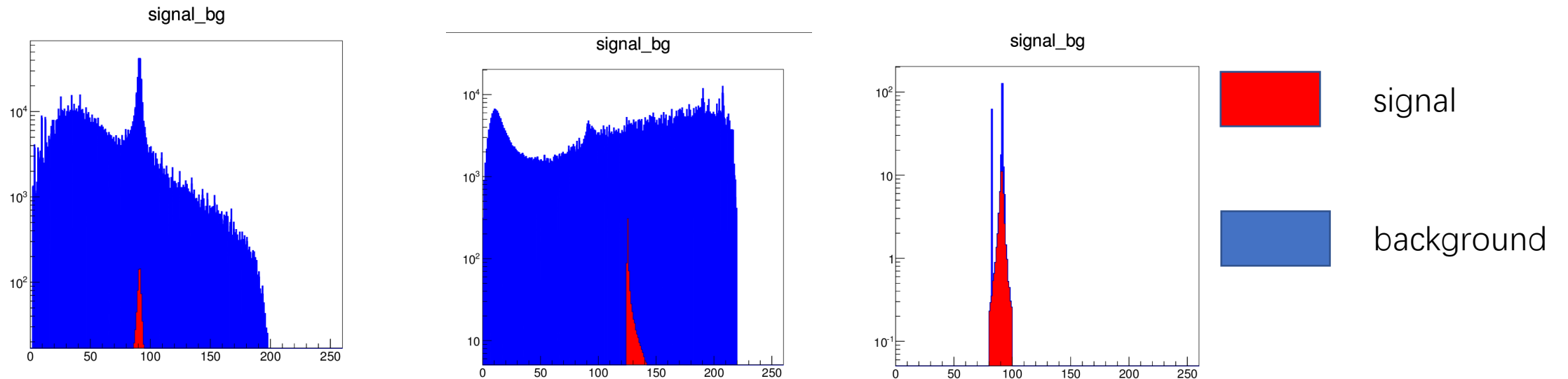
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Summary

- Read the paper written by Wei Yvqian, get the basic knowledge of the analysis of higgs decay to ZZ.
- Learn machine learning
- Run the samples and get the root files and histograms.
- Calculate the scale factor and write a program to apply scale factor and plot pictures from root files.
- Write a program to plot signal – background histogram using THStack
- Understand how the cut works and why we add those cuts.

Signal – bg histogram



In order to show the signal, I divide the scale factor of the background by one hundred. There are also some strange scale factors that are too big, so I set the scale factor < 1000000 . I need to check out why those scale factors are so big.

Plan

- Find out the problems about the scale factor.
- Maybe adjust the cuts.
- Do the analysis of other decay channels.
- Finally, calculate the $\text{Br}(H \rightarrow ZZ^*)$