Higgs BR study status

ILC Physics & Software Meeting

2014. Mar. 07

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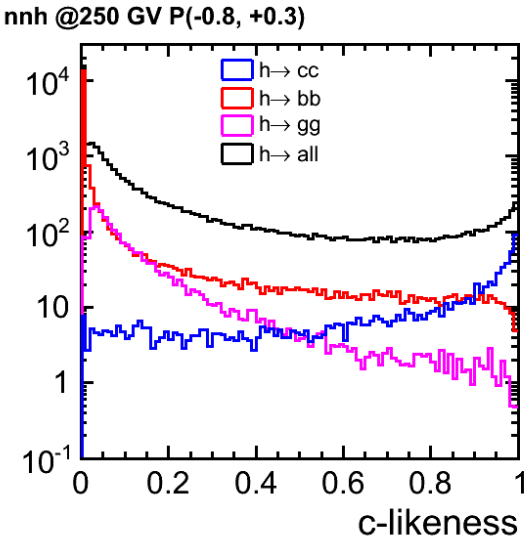
Current status

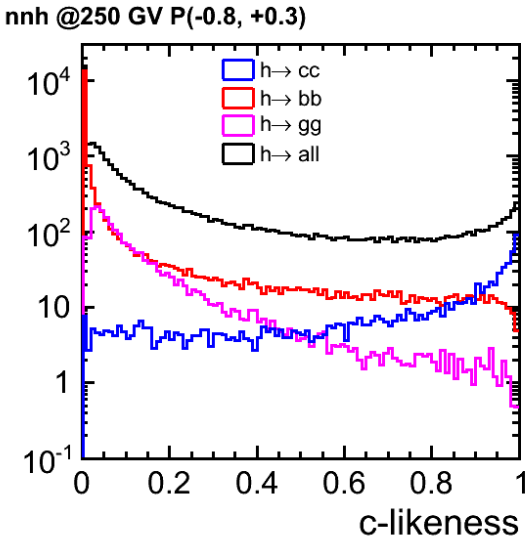
- Check c-likeness performance with qqh @ 250 GeV analysis.
- LCFI flavor tagging performance difference in H→cc sample with different weight samples

C-likeness vs different LCFIPlus weight file

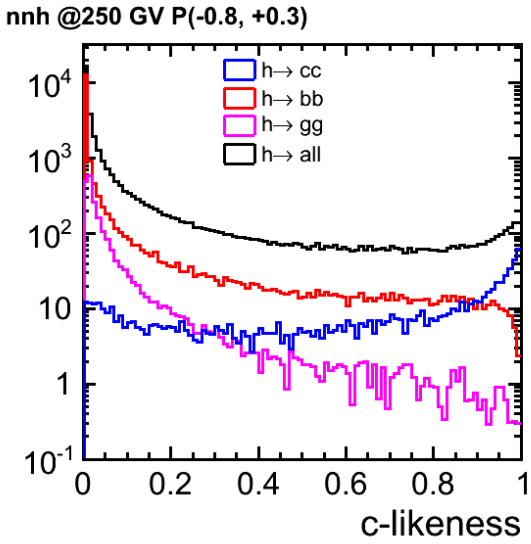
Investigation of qqh @250 GeV worse performance on H→cc tagging



qq91_v02_p01



qq250_v02_p01

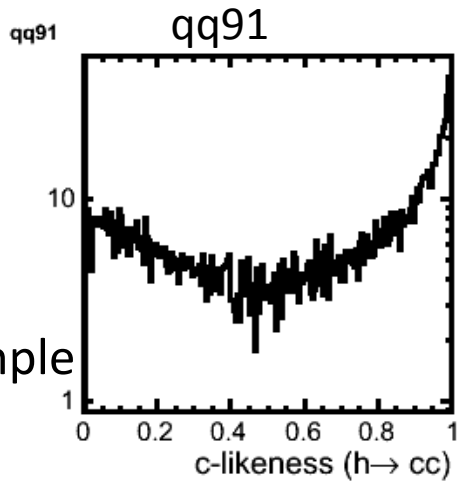


6q500_v02_p01

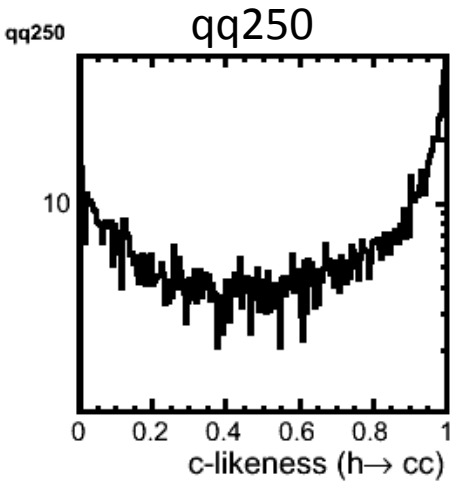
Best tagging performance on H→cc with qq250_v02_p01

Weight file difference

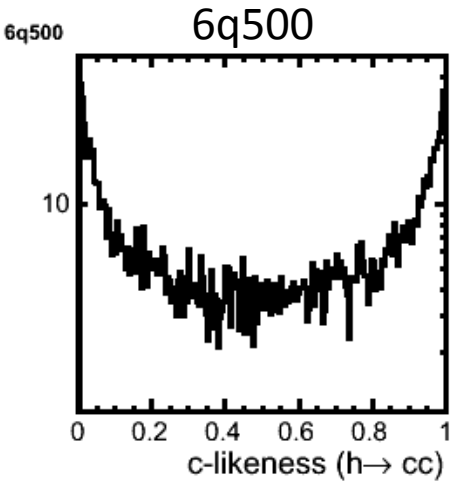
c-likeness
with h→cc sample



qq91

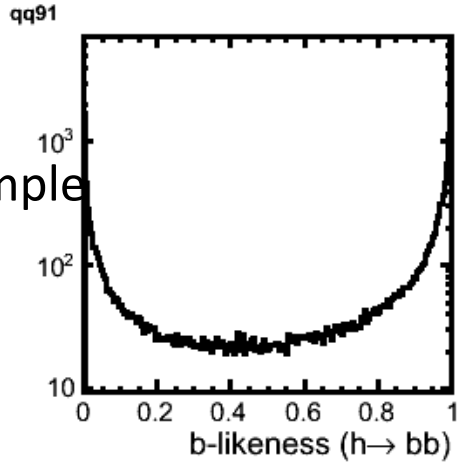


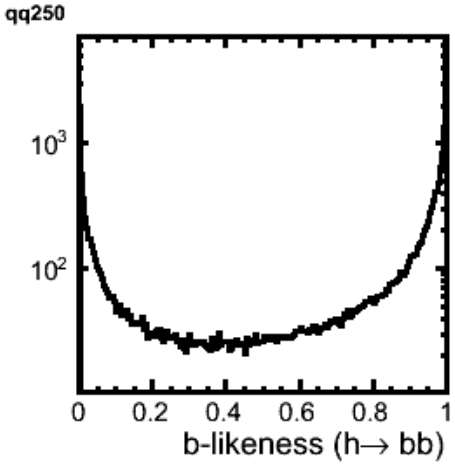
qq250

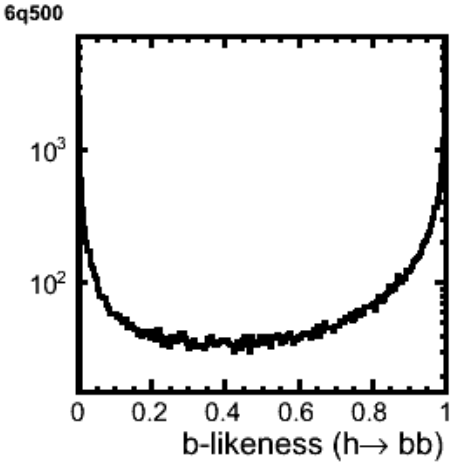


6q500

b-likeness
with h→bb sample



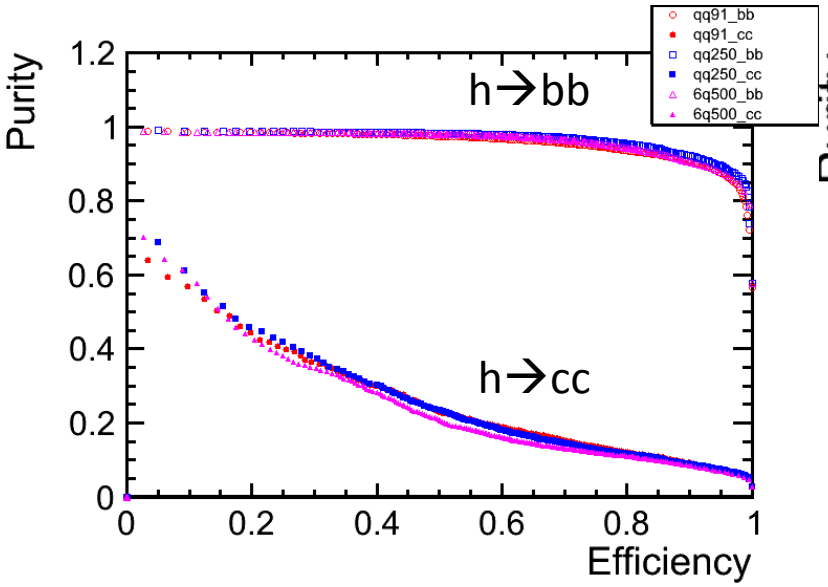




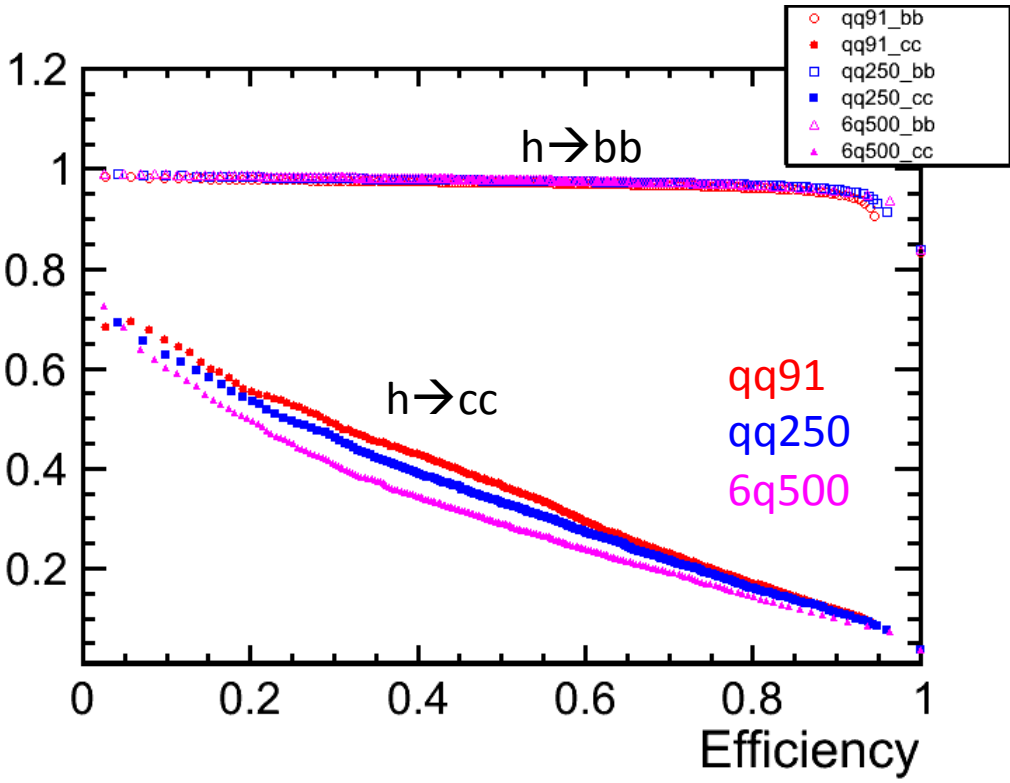
Purity and efficiency on h→bb,cc,gg

qqH sample at Ecm=250 GeV. L=250 fb^{-1}
Before any cuts

Eff. vs.Purity on h→All sample



Eff. vs.Purity only with h→bb, cc, gg samples



Next steps

- Preparation of h→WW channel analysis
  - Preparing ZH→qq/vv+WW→6j, 4j analysis at 250 and 350 GeV (ZH, WW-fusion separately)