

Higgs BR study status

ILC Physics & Software Meeting

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Current status

- Sorry for the several times absence
 - Examinations season...
- Investigating the reason of difference between previous and current results at qqH channel.
 - Use kt jet clustering to check $\gamma\gamma$ overlay effect for Z/H mass peak separation
- Considering detector optimization with Higgs

Detector optimization benchmark

- Following channels are suggested by Junping
- $ee \rightarrow \nu\nu H \rightarrow \nu\nu + 2j$ (HWW coupling) 350 or 500 GeV?
 - Jet energy resolution and flavor tagging
 - More dedicated study at 350 GeV gives material to justify start energy.
 - Shinshu-U. is also interested in associated with CAL optimization.
- $ee \rightarrow \nu\nu H \rightarrow \nu\nu + WW^*/ZZ^*$ (Total width) 500 GeV?
 - 2-4 jet clustering and jet energy resolution (lvqq vs vvqq?)
 - Miss clustering/pairing and jet confusion (4q comparison)
 - Separation/resolution of W/Z/H mass peak
- Detector size? magnetic field? segmentation?
 - Which parameters should be optimized with which mode?
- $ZH \rightarrow qqH \rightarrow qq + 2j$ at 250 GeV (σ_{BR} Considering)
 - Largest cross section channel makes largest impact for physics result.
 - Separation of Z/H mass peak, 4 jet clustering confusion, miss clustering
 - Room to improve tools? Detector segmentation? radius?