

Report form Physics Analysis

- Higgs Physics
 - Higgs decay branch ration measurement
 - Higgs to bb/cc/gg bb/cc/gg estimated via template fit, combined $\nu\nu H, qqH$ and llH channel, the precision for bb/cc/gg Br was estimated as 0.2%, 2% and 3%
 - Higgs to WW(Liao Libo)
 - $ZH \rightarrow \nu\nu qq\bar{q}\bar{q}/\mu\mu\nu qq/\mu\mu\nu\nu/\text{e}\text{e}\nu qq/\text{e}\text{e}\nu\nu$: $\text{Br}(H \rightarrow WW)$ precision 0.47%(stat.), extrapolate to Higgs width 2.48%
 - Higgs to tautau (Yu Dan, Li Ke), tau-tag studied via $\mu\mu H \rightarrow \mu\mu\text{tautau}$ sample.(See Like's talk <http://indico.ihep.ac.cn/event/6772/session/1/contribution/7/material/slides/0.pdf>)
 - Higgs to $\mu\mu/\text{e}\text{e}$ (Cui Zhengwei, Wang Lei) : optimized in $ZH \rightarrow \nu\nu\mu\mu(4.25\sigma)$, $\mu\mu\mu\mu(0.85\sigma, 1.2\sigma)$, $\text{e}\text{e}\mu\mu(0.62\sigma, 1.5\sigma)$, channel, new optimized results at <http://indico.ihep.ac.cn/event/6811/contribution/9/material/slides/0.pdf>
 - t-channel $\nu\nu H \rightarrow \nu\nu qq$:(Liang Hao) in progress, see <http://indico.ihep.ac.cn/event/6609/session/1/material/0/0.pdf>
- Z-pole physics:
 - R_b measurement(Liang Zhijun)
- Relevant performance study:
 - Heavy flavor tagging: deep learning(Zhang Binyang), via PID(An fenfen)
 - Photon : migration efficiency in different photon number category in Z-pole di-tau events
 - Gluon tagging(Yu Bai, Shi jingyuan) via jet image