$h \to \tau^+\tau^-$ BR study
Current status

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Current numbers

$\sqrt{s}$	250 GeV	500 GeV			
$\int L\,dt$	250 fb^{-1}	500 fb^{-1}			
Mode	$q\bar{q}h$ e^+e^-h $\mu^+\mu^-h$	$\nu\bar{\nu}h$	$q\bar{q}h$	e^+e^-h	$\mu^+\mu^-h$
$\dfrac{\Delta(\sigma\cdot\mathrm{Br})}{(\sigma\cdot\mathrm{Br})}$ Cut-based	4.2% Extrapolation from M_h = 120 GeV to M_h = 125 GeV	7.4%	5.1%	20.8%	18.2%
$\dfrac{\Delta(\sigma\cdot\mathrm{Br})}{(\sigma\cdot\mathrm{Br})}$ TMVA	-	6.0%	4.6%	22.7%	17.5%

copied from ILC Tokusui Workshop 2013

Plans

- Include aa_2f (SGV) sample
- Check the statistics in 500 GeV analysis
- Re-do 250 GeV analysis with $M_h = 125$ GeV
- Write a paper & PhD thesis

Progress

- I included aa_2f samples.
  - /hsm/ilc/grid/storm/users/berggren/mc-dbd/sgv-dst_6/500-TDR_ws/aa_2f
  - Now analyzing…
  - Total # of MC events : ~2.5 times larger than before
  - File size : ~3 times larger
  - Analysis time : maybe ~3 times longer ---> time reduction scheme needed??