

Top Yukawa coupling at 1 TeV (ILD)

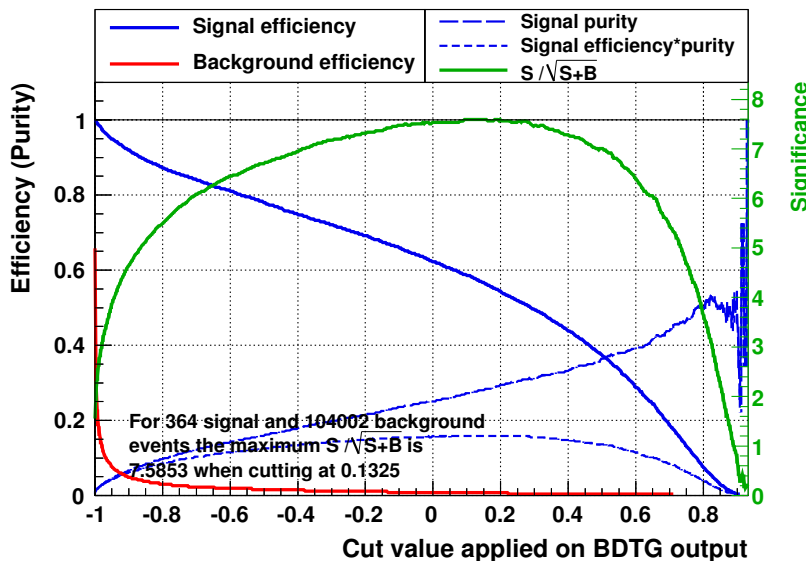
T. Tanabe, T. Price

SiD/ILD Joint Analysis Meeting
January 18, 2013

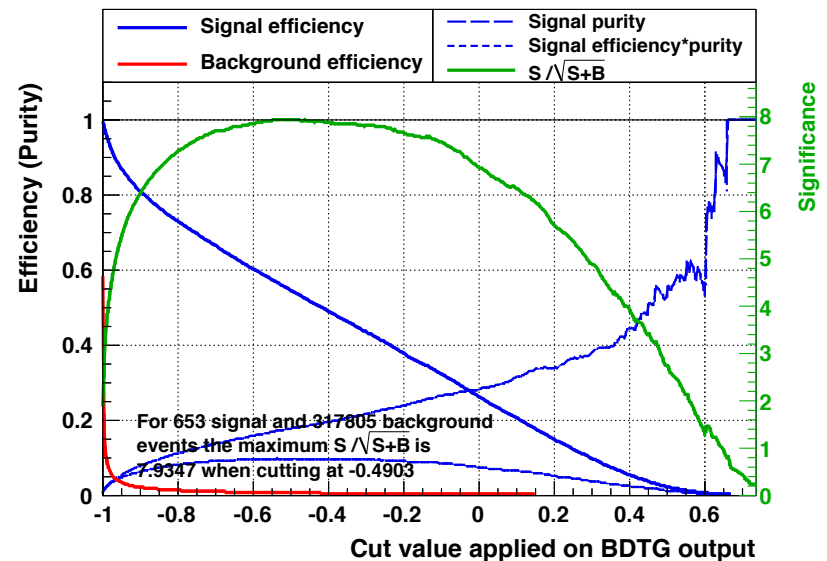
* Results are still preliminary as they are under internal review within ILD.

	Significance	Precision	Efficiency	Purity
Semileptonic	7.6	6.9	0.57	0.27
Hadronic	7.9	6.6	0.54	0.18
Combined	11.0	4.7		

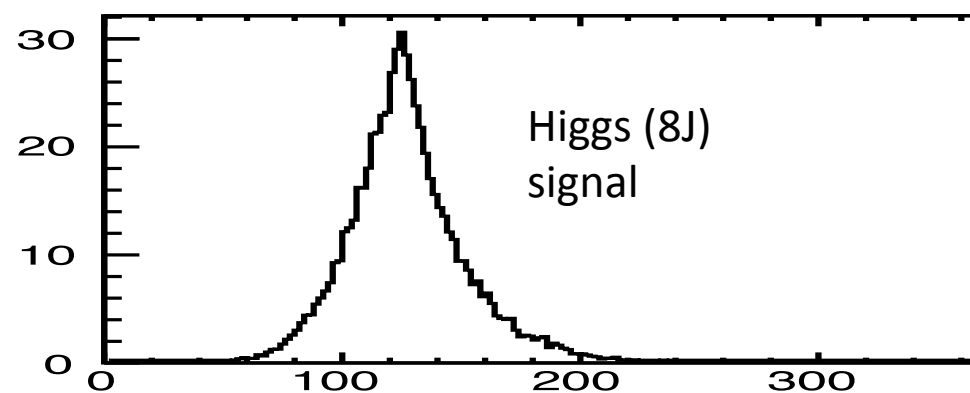
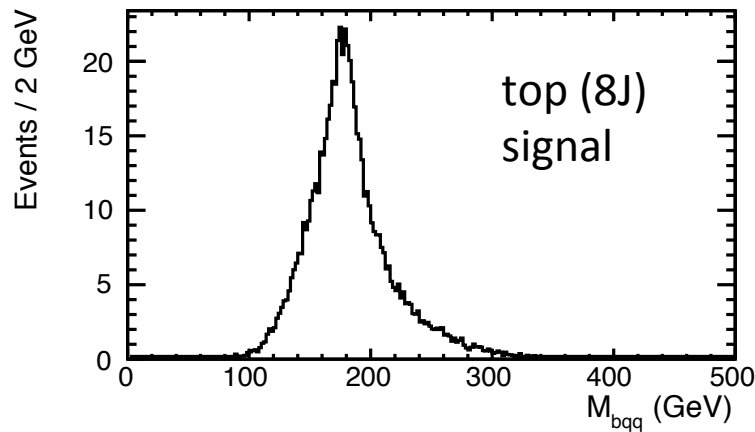
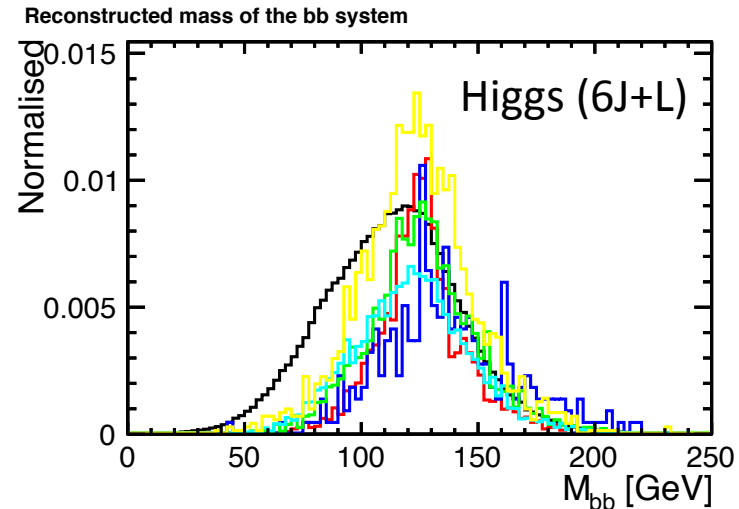
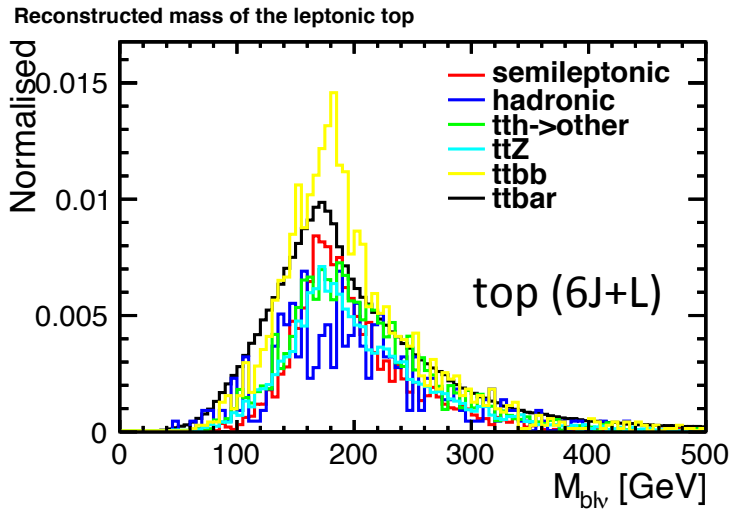
Cut efficiencies and optimal cut value



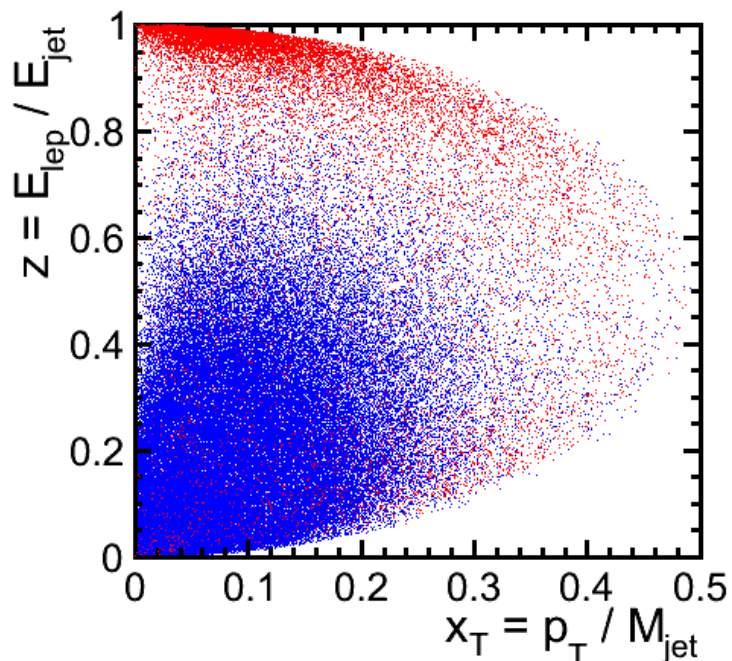
Cut efficiencies and optimal cut value



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- Isolated lepton finding based on:
- Lepton ID (Calorimeter energies)
 - Impact parameter significance
 - Jet-based isolation (LAL Lepton Finder)

Cut	leptonic	semileptonic	hadronic	tth→other	t \bar{t} Z	t \bar{t} b \bar{b}	t \bar{t}
Total Events	151.4	628.7	652.7	1046.1	5332.4	1434.5	308800.9
$N_{isolep=0}$	20.9	261.2	647.9	556.7	3226.1	932.5	188911.4
$N_{isolep=1}$	74.6	363.5	5.0	371.8	1581.5	439.9	101295.2

Lepton	Efficiency	Composition			
		W→e, μ	W→ τ →e, μ	Other e, μ	Fake e, μ
Electrons	84.0%	94.2%	2.9%	1.6%	2.3%
Muons	90.5%	96.3%	2.4%	1.2%	0.7%