H→WW* study

ILC physics and software meeting
Nov. 18. 2011
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Current status

$e^+e^- \rightarrow \nu\nu H \rightarrow \nu\nu WW^*$ for DBD analysis

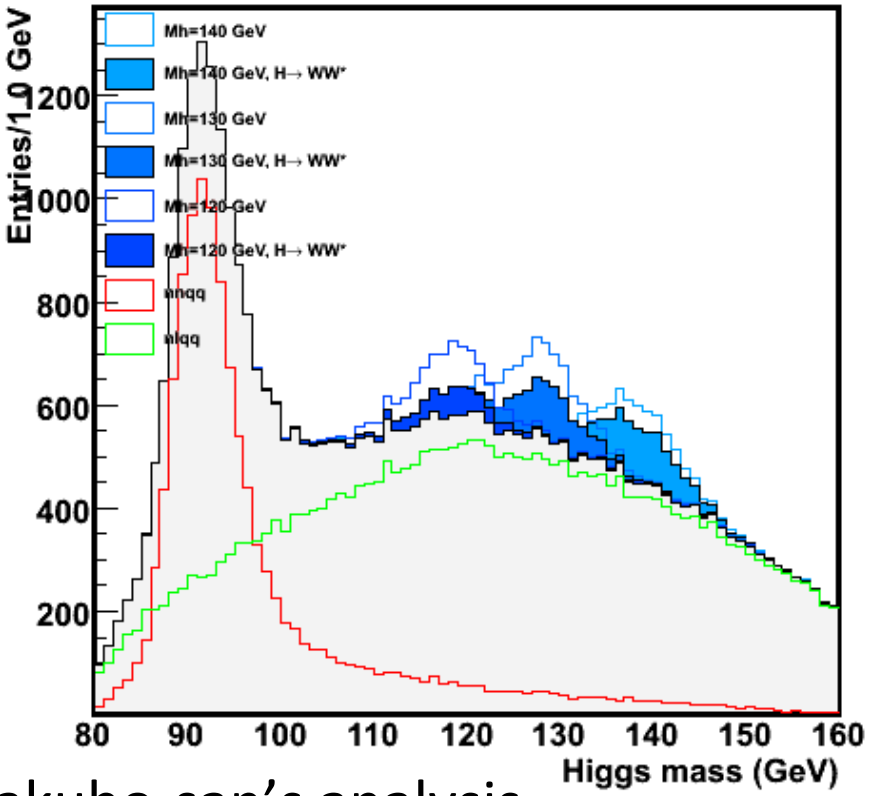
Ecm=250 GeV, L=250 fb-1

P(e+,e-)=(+30%, -80%) → P(e+,e-)=(-30%, +80%)
Previous result does not well treat the beam polarization
→ Correct to use electron right handed polarization

Reconstructed Higgs mass dist.

BG: WW, ZZ (vvqq, vlqq only)

Evis >120 GeV
110<Mh<130 GeV
70<MissingMass<140 GeV
$|\cos\theta_h|$<0.95
Max E_{trk}<30 GeV
W1/2 b-likeness < 0.2
b-likeness (2j) < 0.2



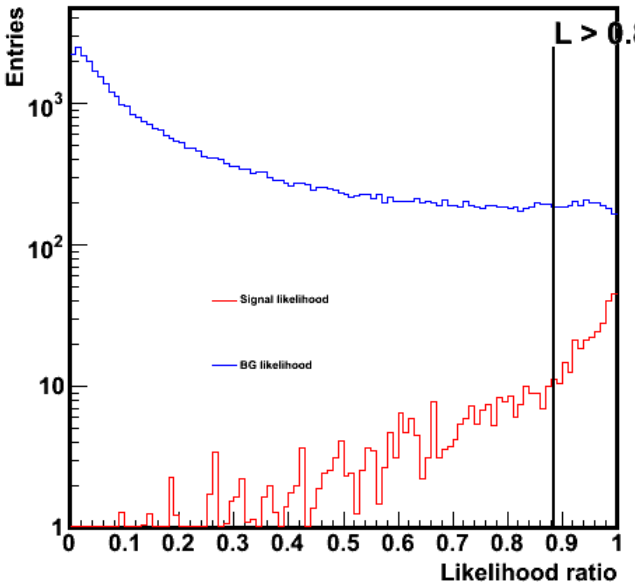
Almost same cut parameters with Takubo-san's analysis

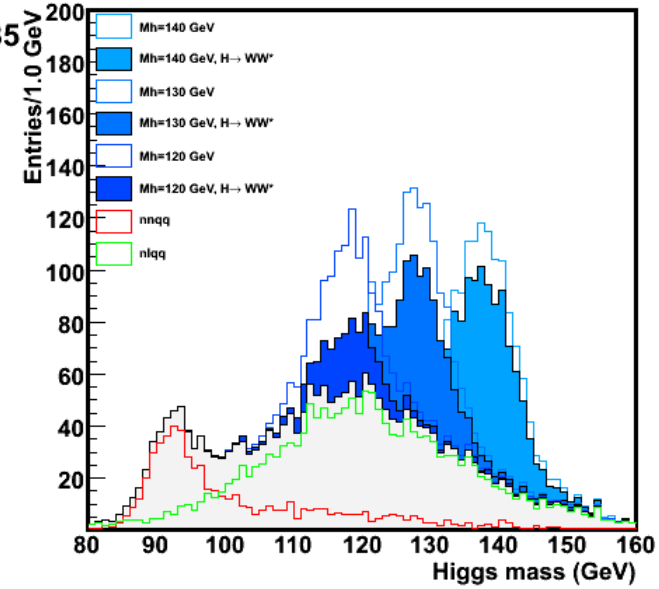
Major background is WW→vlqq

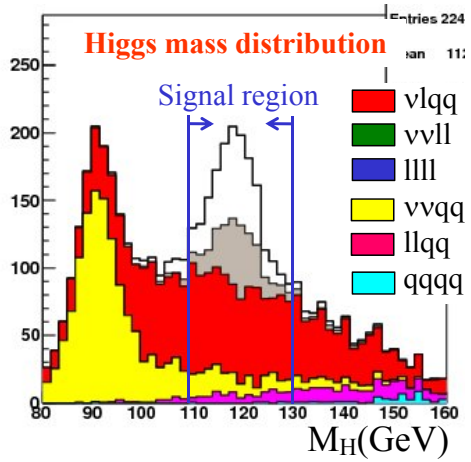
Likelihood cut for BG reduction

Likelihood cut is applied after the all background reduction likelihood input:

MM, $\cos\theta_h$, y34, # of charged tracks, E_{trk}, W1 b-likeness,







Reduction power by likelihood looks different from Takubo-san's case

Background reduction summary

	All	Rec	Mh	MM	Y34	cosθ	wblike	blike(2j)	Etrk	LR
vvww(4j)	678	648	595	588	588	564	550	509	497	249
vvww	1486	717	620	613	611	586	572	530	518	253
vvbb	7101	5373	4478	4435	3865	3688	635	231	225	91
ZH all	10634	7172	6064	6003	5291	5055	1928	1385	1353	607
nlqq	298103	289760	33718	16507	13718	12016	11607	10609	10024	860
nnqq	63649	28961	2312	2264	1832	1657	1361	1224	1165	116
SM all	361751	318721	36030	18771	15551	13673	12968	11833	11189	976

H→WW(4j) Signal significance: 6.4

Takubo-san's results: 7.6