



PRE-SELECTION FOR *llH* AND *ννH*

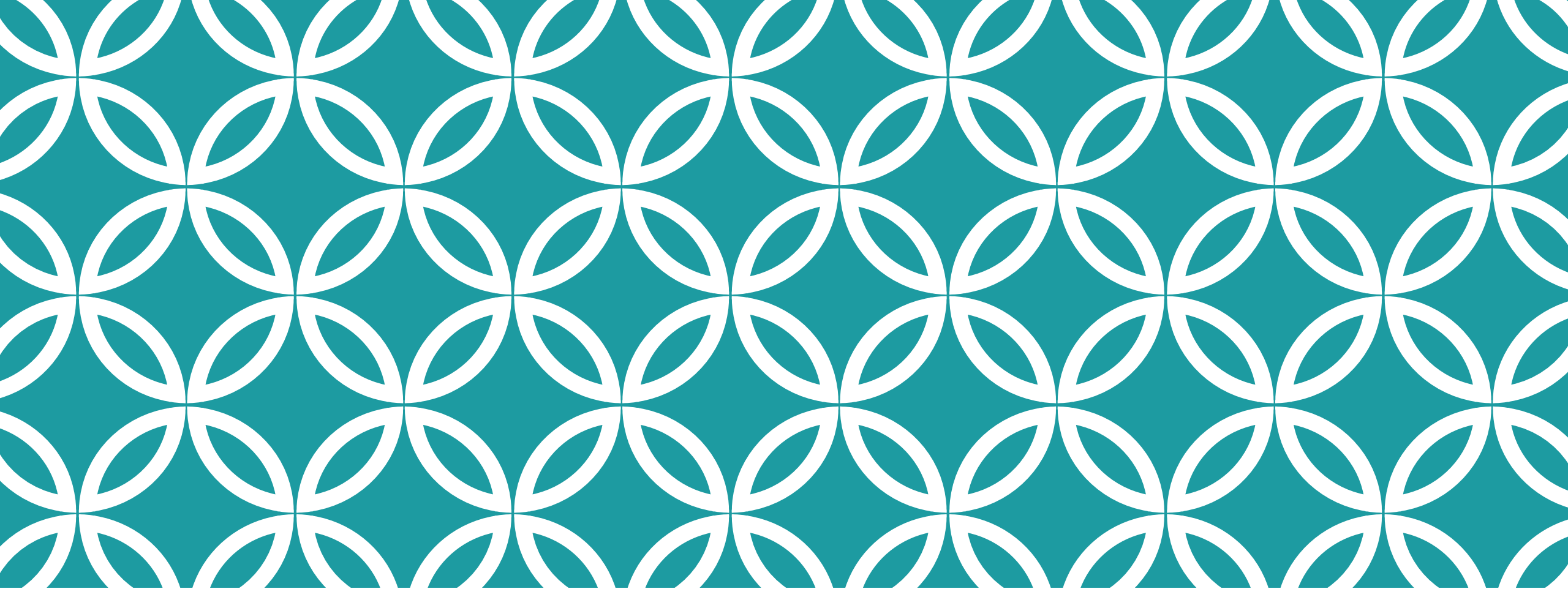
Liao Libo

lialb@ihep.ac.cn

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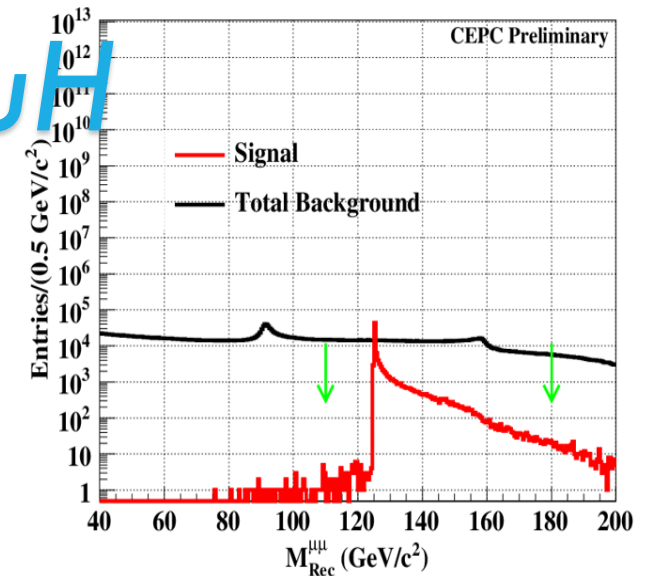
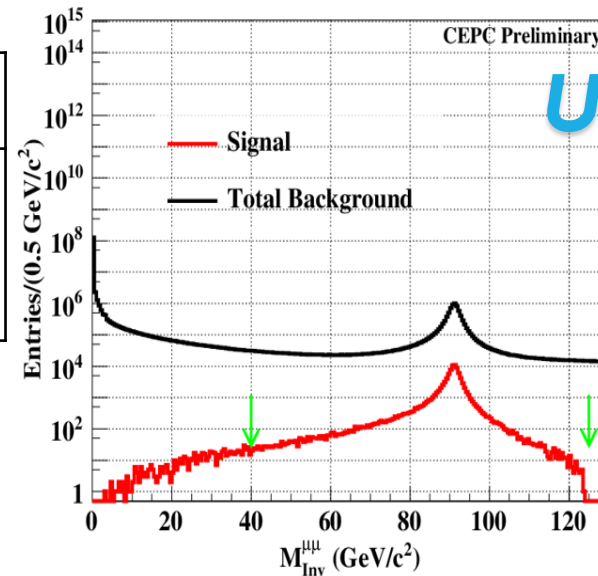
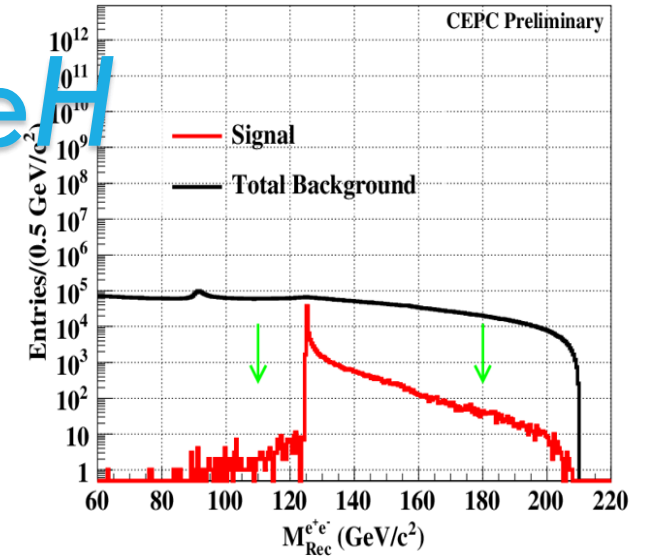
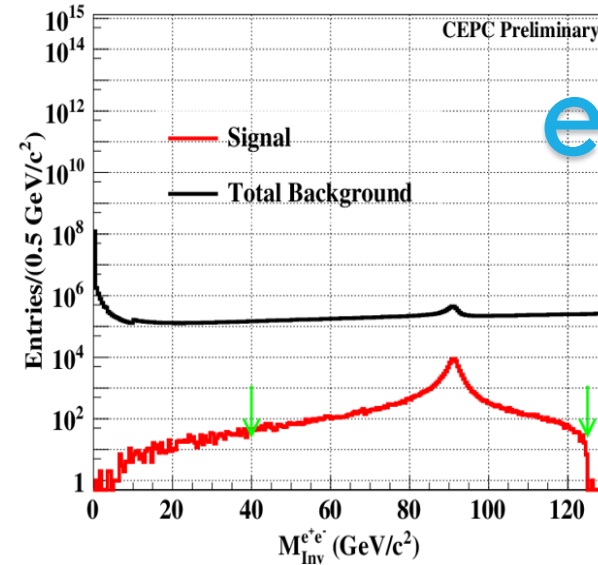
OUTLINE

- Pre-selection for llH process
 - Distribution @ MC
 - Events counting of the Standard Model background
 - Signal bias check
- Pre-selection for $\nu\nu H$ process
 - Distribution @ MC
 - Events counting of the Standard Model background
 - Signal bias check



PRESELECTION FOR *llH* PROCESS

DISTRIBUTION @ MC



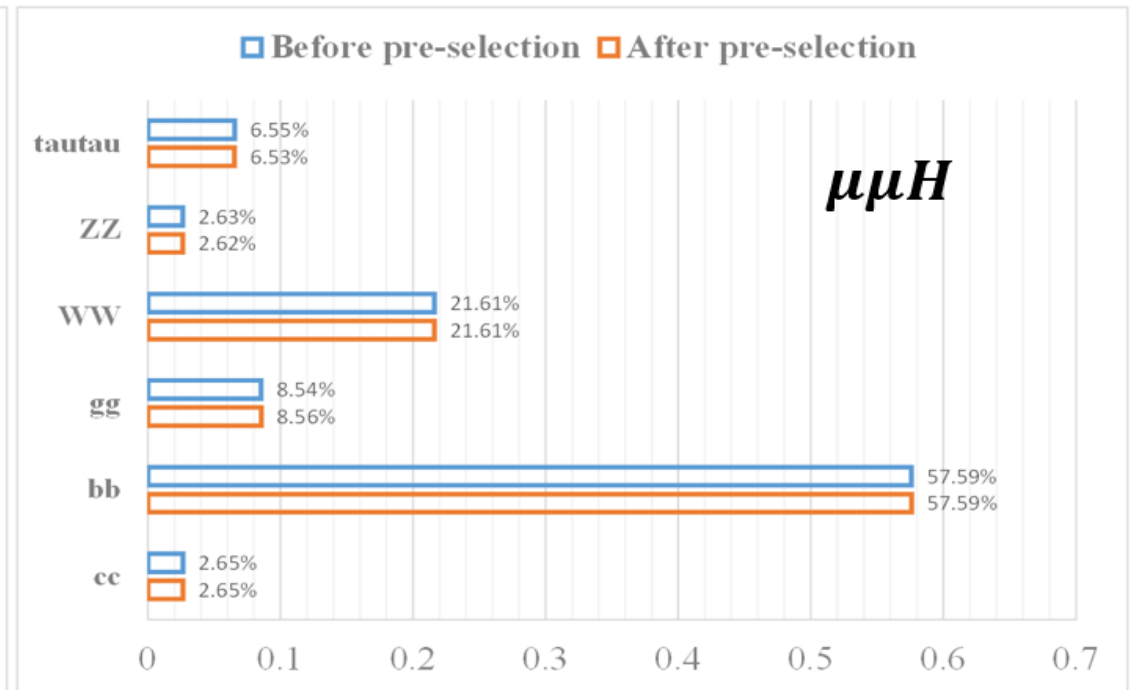
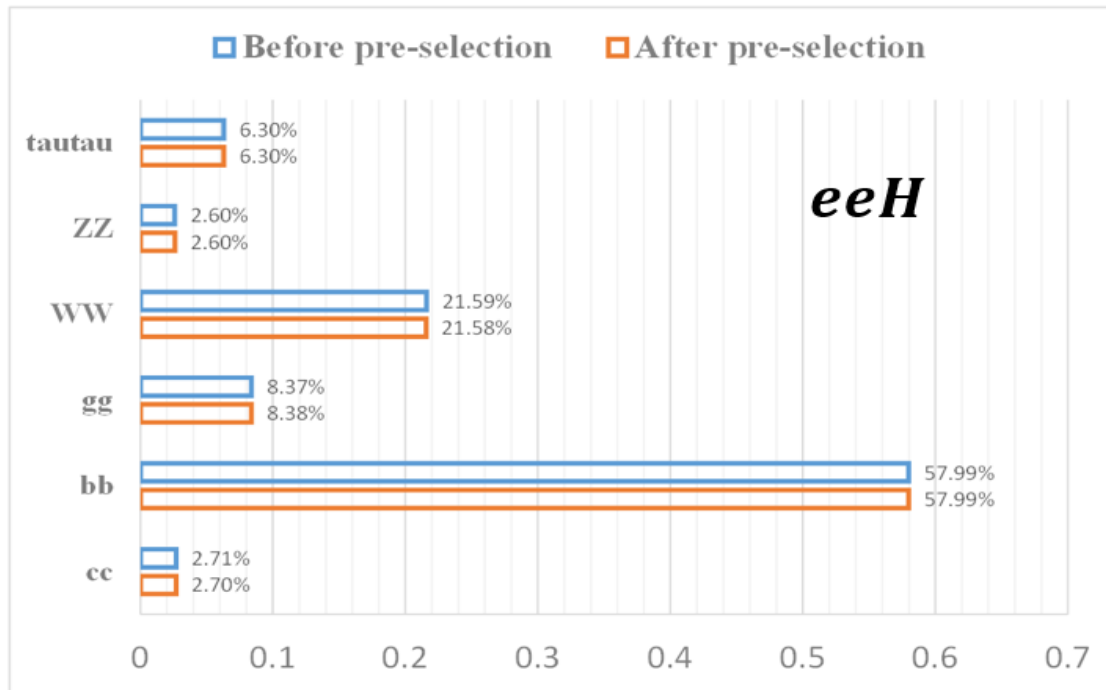
Signal	Conditions
eeH	$40 \text{ GeV} < M_{Inv} < 130 \text{ GeV}$
$\mu\mu H$	$110 \text{ GeV} < M_{rec} < 180 \text{ GeV}$

Events counting of the Standard Model background

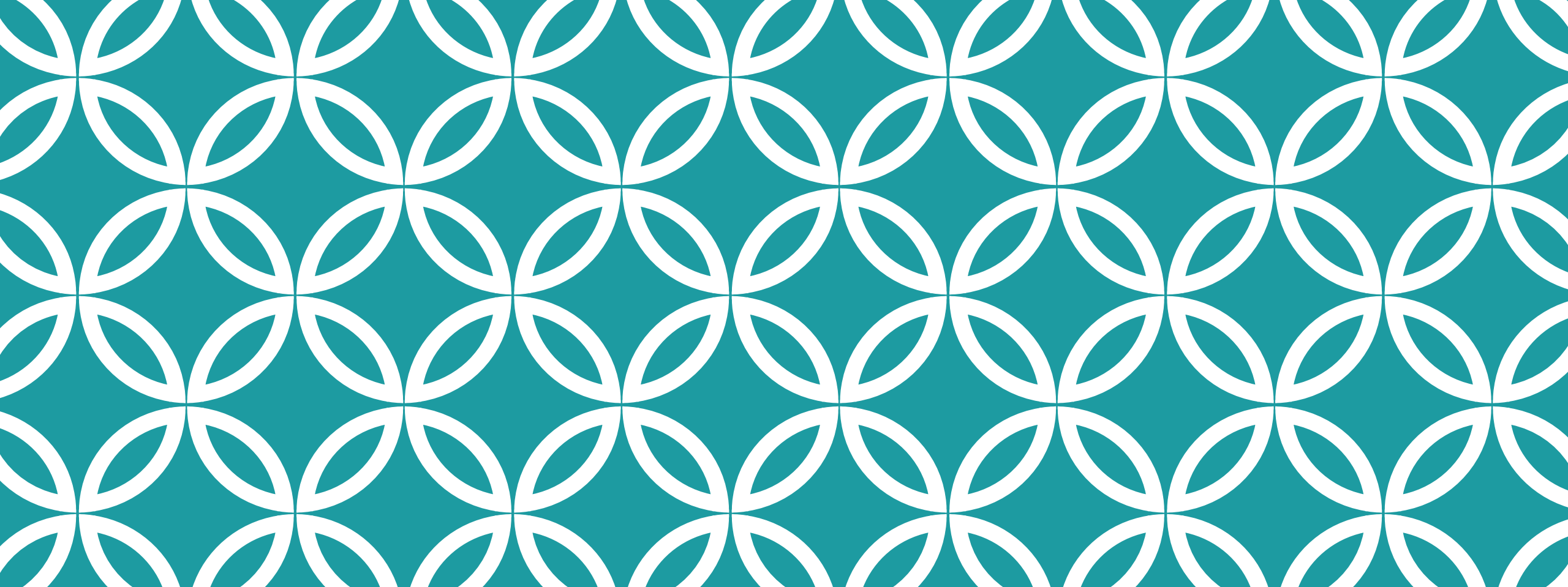
$\mu\mu H$	ZZ	ZZorW W	WW	singleW	single Ze	single Zv	single ZeorW	bhabha	e2e2	e3e3	nn	qq
Bp	571144 5	179779 41	447946 78	153615 38	726764 4	106303 9	125916 5	126210 654	250862 55	220934 45	269751 848	250283 662
Ap	122674	195121	223691	0	73511	13057	0	0	880661	176682	0	18543
remain	2.15%	1.09%	0.5%	0%	1.01%	1.23%	0%	0%	3.51%	0.8%	0%	0.01%

eeH	ZZ	ZZorW W	WW	singleW	single Ze	single Zv	single ZeorW	bhabha	e2e2	e3e3	nn	qq
Bp	571144 5	179779 41	447946 78	153615 38	726764 4	106303 9	125916 5	126210 654	250862 55	220934 45	269751 848	250283 662
Ap	4075	9925	4072	256892	561237	206	279379	507889 3	0	180889	0	18459
remain	0.07%	0.06%	0.01%	1.48%	7.72%	0.02%	22.19%	4.02%	0%	0.82%	0% ⁵	0.01%

Signal bias check

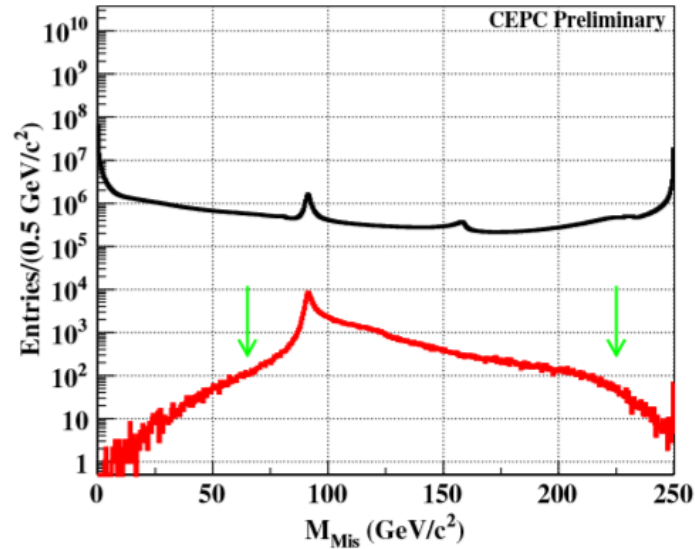


	eeH	$\mu\mu H$
Events of signal	99952 → 98762 (98.81%)	99938 → 97624 (97.68%)

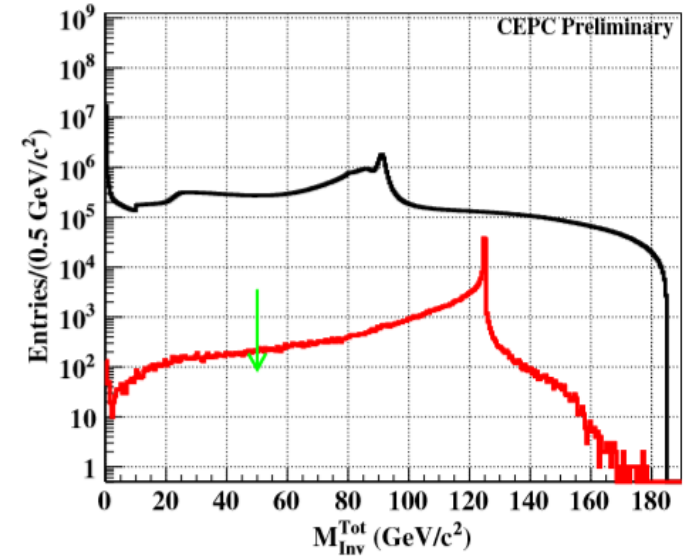


PRESELECTION FOR $\nu\nu H$ PROCESS

Distribution @ MC

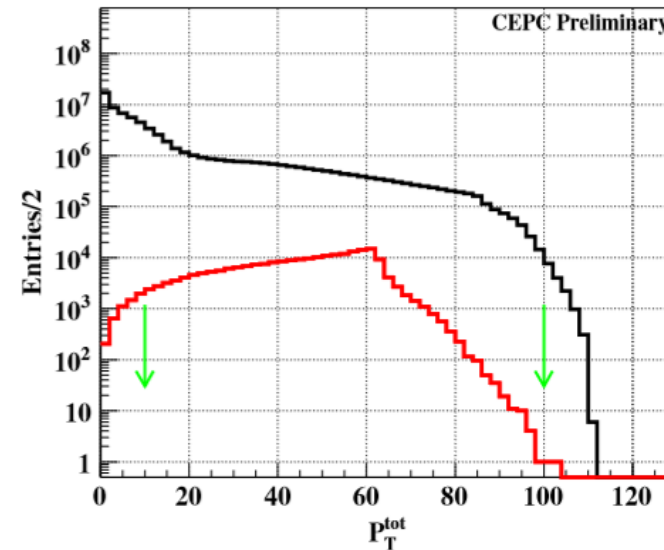


(a)



(b)

Signal	Conditions
$\nu\nu H$	$65 \text{ GeV} < M_{\text{mis}} < 225 \text{ GeV}$ $50 \text{ GeV} < M_{\text{tot}}$ $10 \text{ GeV} < p_T < 100 \text{ GeV}$



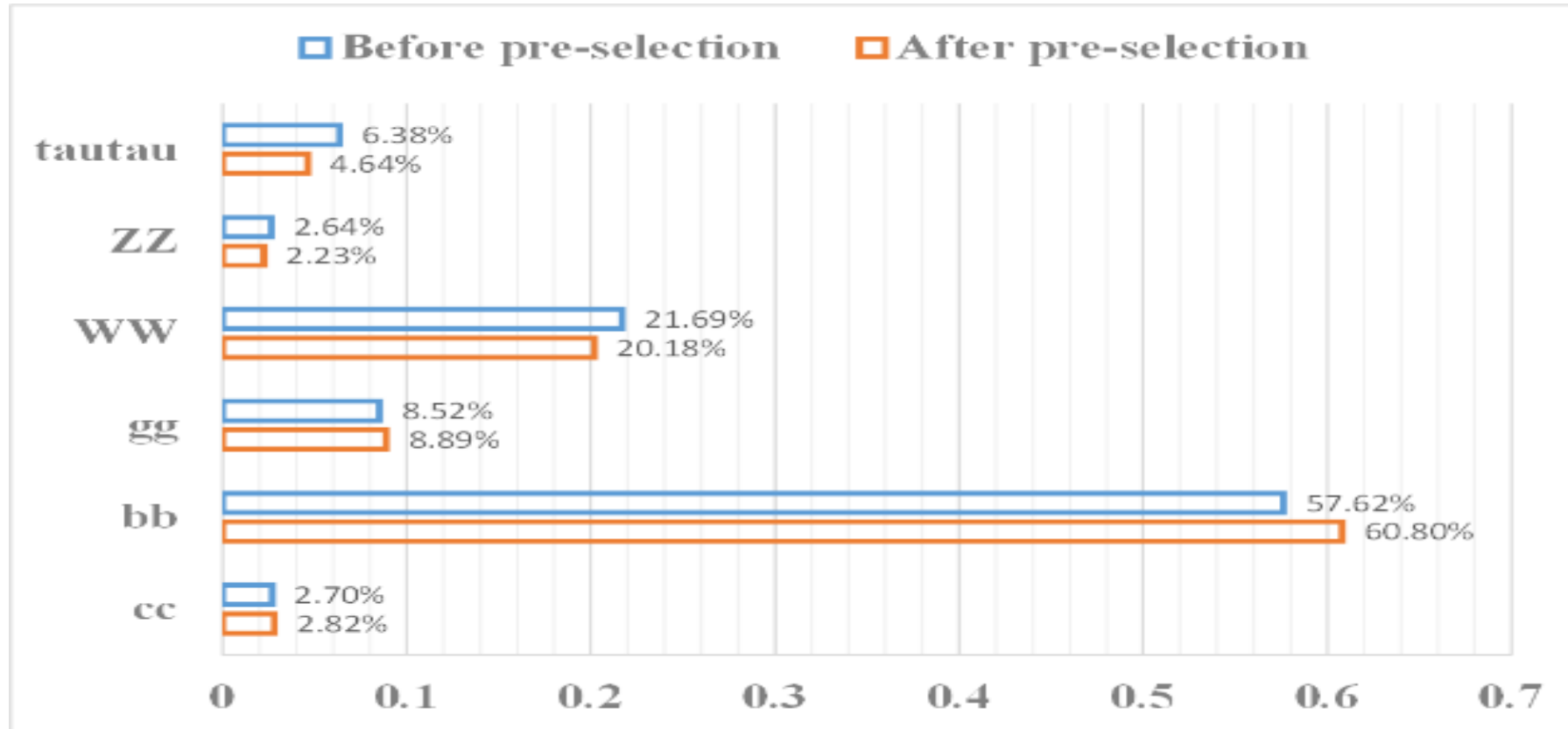
Events counting of the Standard Model background

$\nu\nu H$	ZZ	ZZ or W W	WW	single W	single Z_e	single Z_ν	single Z_e or W	bhabha	e_2e_2	e_3e_3	nn	qq
Bp	571144 5	179779 41	447946 78	153615 38	726764 4	106303 9	125916 5	126210 654	250862 55	220934 45	269751 848	250283 662
Ap	123945 7	979276	746310 5	332780 3	242771	713923	551646	107711 6	30784	600104 1	275770	544156 9
remain	21.7%	5.45%	16.66%	19.17%	3.34%	67.17%	43.81%	0.85%	0.12%	27.16%	0.1%	2.17%

Survived SM: 3.47%

(about 10 times larger than $\mu\mu H$, 5 times larger than eeH)

Signal bias check



	<i>vvH</i>
Events of signal	247167 → 224264 (90.73%)

Thanks for your attention