Weekly report

FANGYI GUO

Working status

VBF HCP: update to 140ifb

- ◦ Ntuples are derived by huirun

- ◦ Cut flow:

	VBF		ggh		SB data	
initial	425.52		1889.92		22631390	
precut	280.3106	65.875%	1218.965	64.498%	289819	1.281%
mjj	154.7866	55.220%	141.0685	11.573%	30086	10.381%
SB	154.7866	100.000%	141.0685	100.000%	23719	78.837%
Deta_jj	153.9011	99.428%	134.5146	95.354%	20243	85.345%
Zepp	153.8282	99.953%	133.9395	99.572%	20063	99.111%
VBF cat.	133.3174	86.666%	98.2744	73.372%	12468	62.144%
		31.330%		5.200%		0.055%

139 fb-1

|	VBF_SM		ggH		sideband	
	421.08		1868.52		21720105	
preselection	278.75	66.20%	1210.55	64.79%	230461	1.06%
m_jj > 400 GeV	153.89	55.21%	140.17	11.58%	23719	10.29%
|dEta_jj| > 2	152.99	99.42%	133.64	95.34%	20243	85.35%
|Zepp| < 5	152.92	99.95%	133.07	99.57%	20063	99.11%
total eff		36.32%		7.12%		0.09%

Huirun's cutflow

Working status

Check1: NLL curve

Huirun used log10 in his NLL calculation in Hgam group meeting.

After corrected to ln:
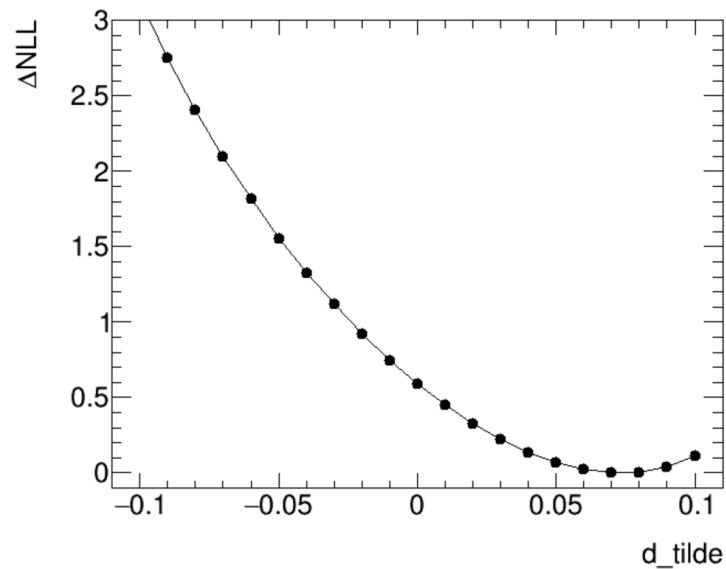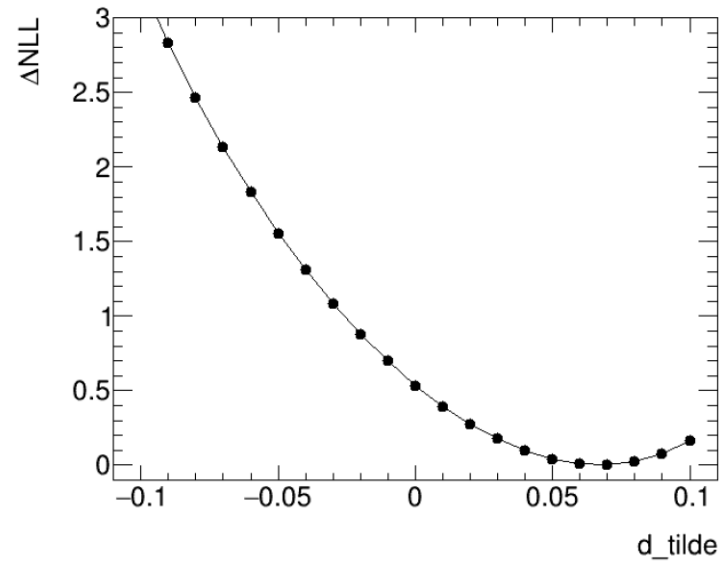
My result
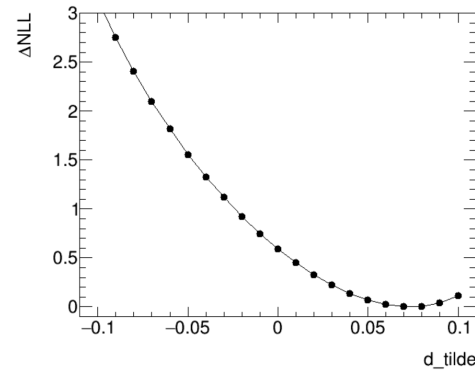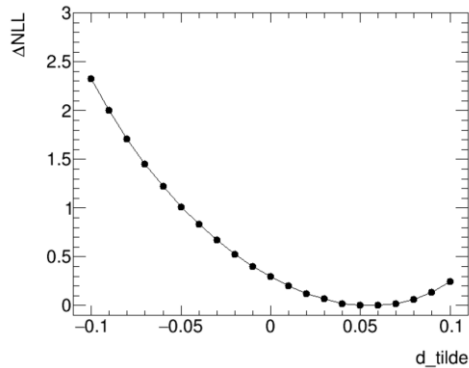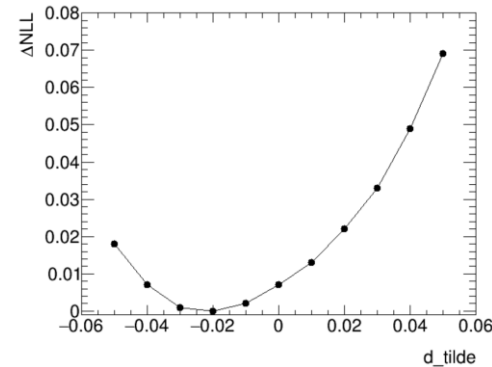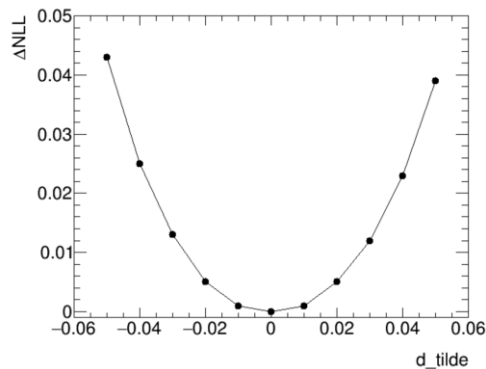
Huirun's result

Working status

Problem 1: minimum value shift in 2D fit

Problem 2: bin fit shows much worse performance.

2D fit with:
Left: SM vbf
Right: d=-0.02 vbf

Bin fit with:
Left: SM vbf
Right: d=-0.02 vbf