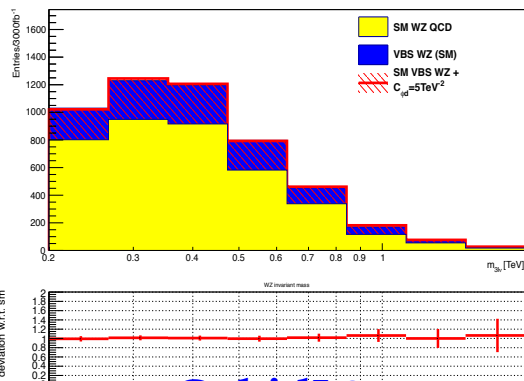


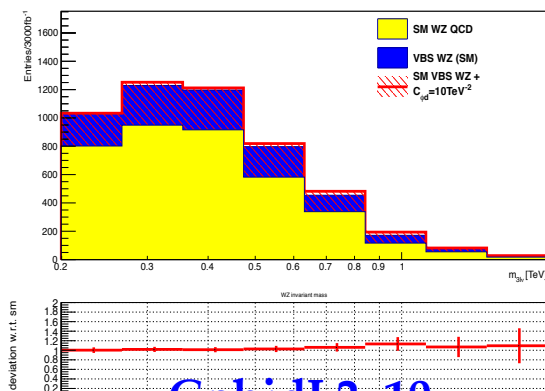
# 14TeV WZjj $3\text{ab}^{-1}$ $m(\text{WZ})$ spectra w/ dim-6 CphidL2 operator

WZ invariant mass



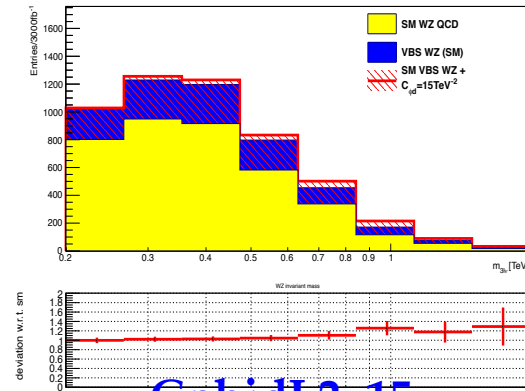
**CphidL2=5**  
**Nsigma: 1.12**

WZ invariant mass



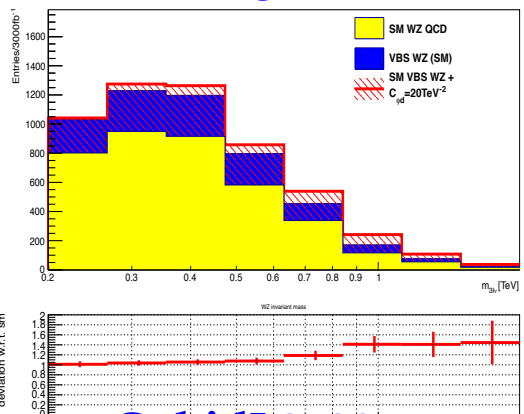
**CphidL2=10**  
**Nsigma: 2.52**

WZ invariant mass



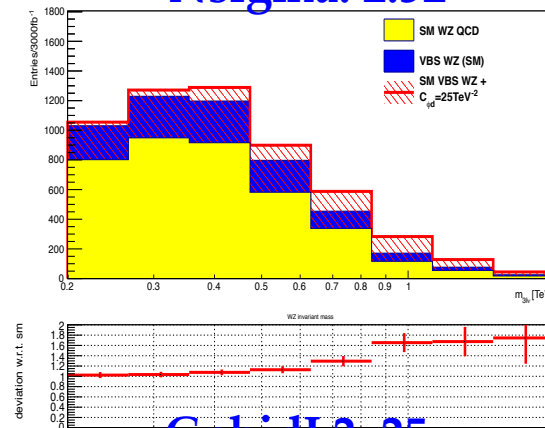
**CphidL2=15**  
**Nsigma: 4.75**

WZ invariant mass



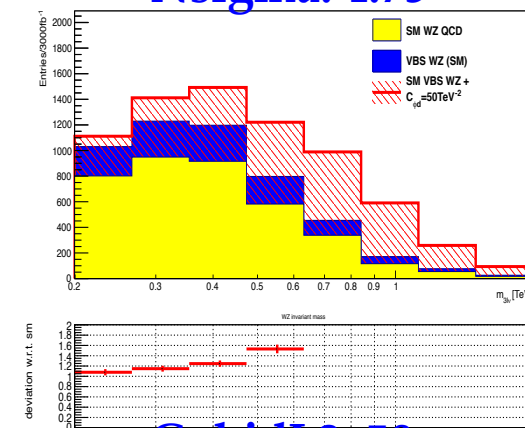
**CphidL2=20**  
**Nsigma: 8.14**

WZ invariant mass



**CphidL2=25**  
**Nsigma: 12.61**

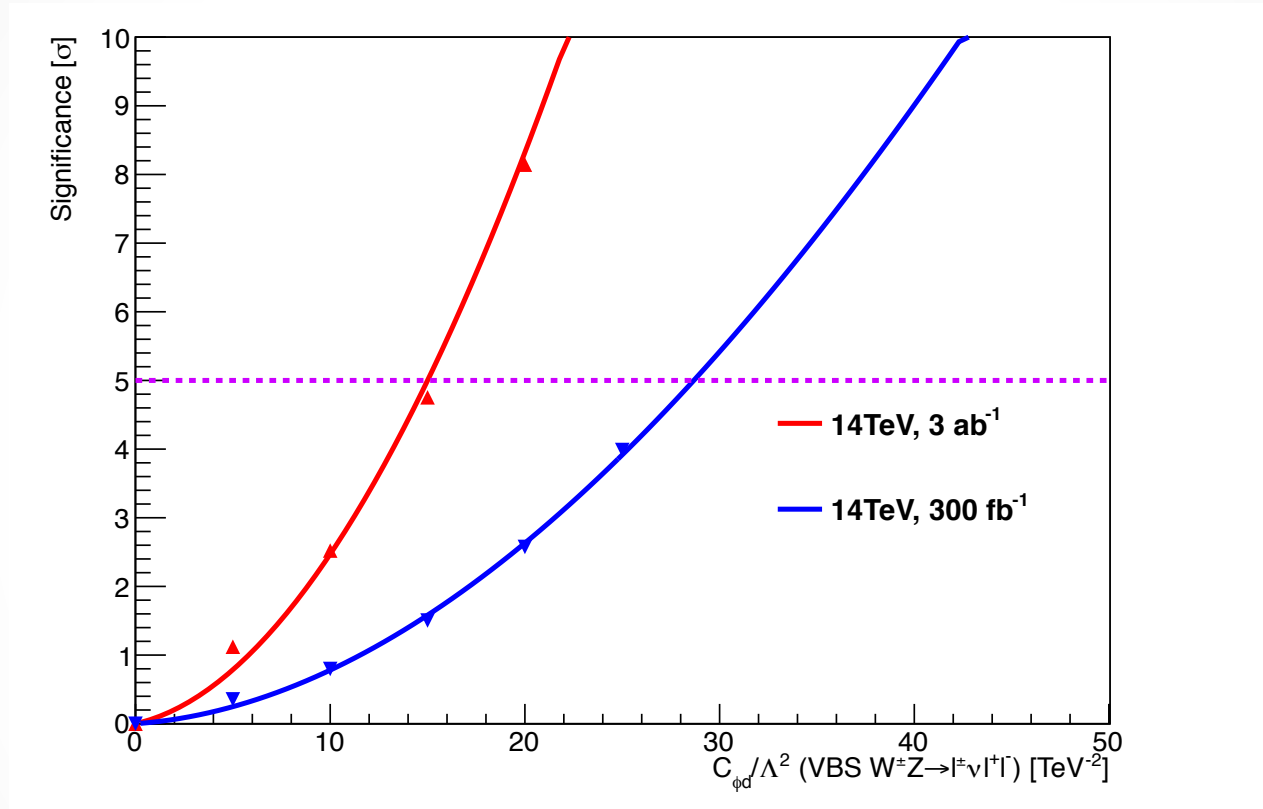
WZ invariant mass



**CphidL2=50**  
**Nsigma: 41.97**

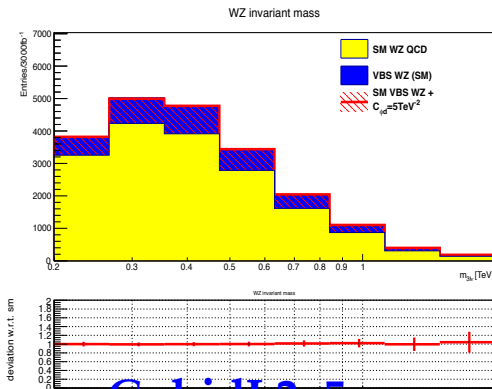
# CphidL2 coupling with 14TeV VBS WZjj:

Phase II 3 ab<sup>-1</sup> and phase I 300 fb<sup>-1</sup> comparison

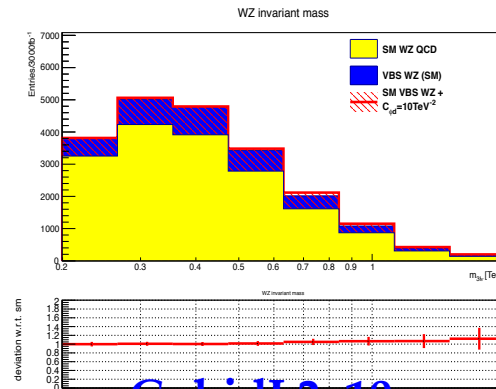


$C_{\phi d}$ Value (VBS WZjj)	5- $\sigma$	2- $\sigma$
300fb <sup>-1</sup>	28.7	17.0
3ab <sup>-1</sup>	15.0	8.7

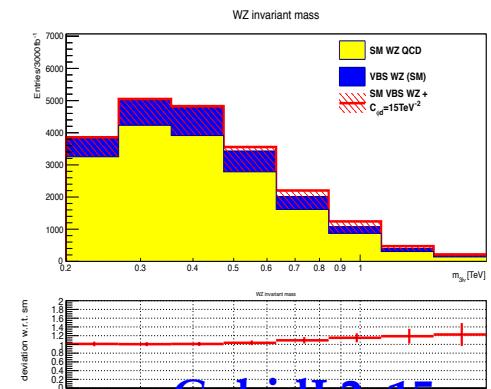
# 33TeV WZjj $3\text{ab}^{-1}$ $m(WZ)$ spectra w/ dim-6 CphidL2 operator



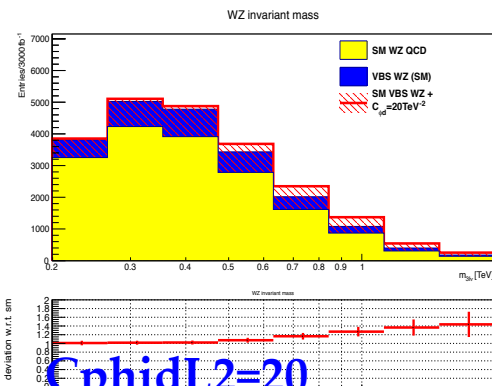
**CphidL2=5**  
**Nsigma: 1.22**



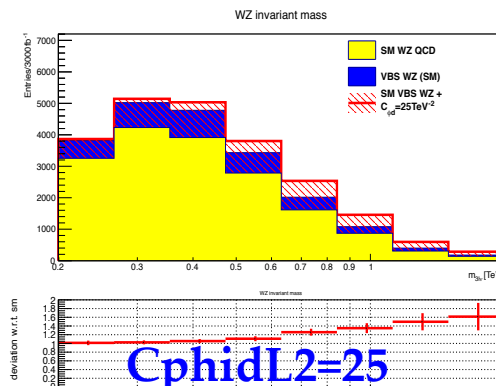
**CphidL2=10**  
**Nsigma: 3.91**



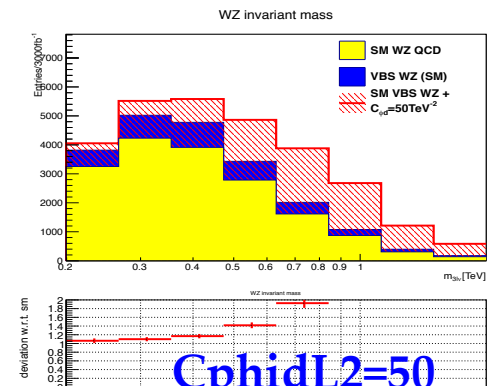
**CphidL2=15**  
**Nsigma: 8.23**



**CphidL2=20**  
**Nsigma: 14.95**



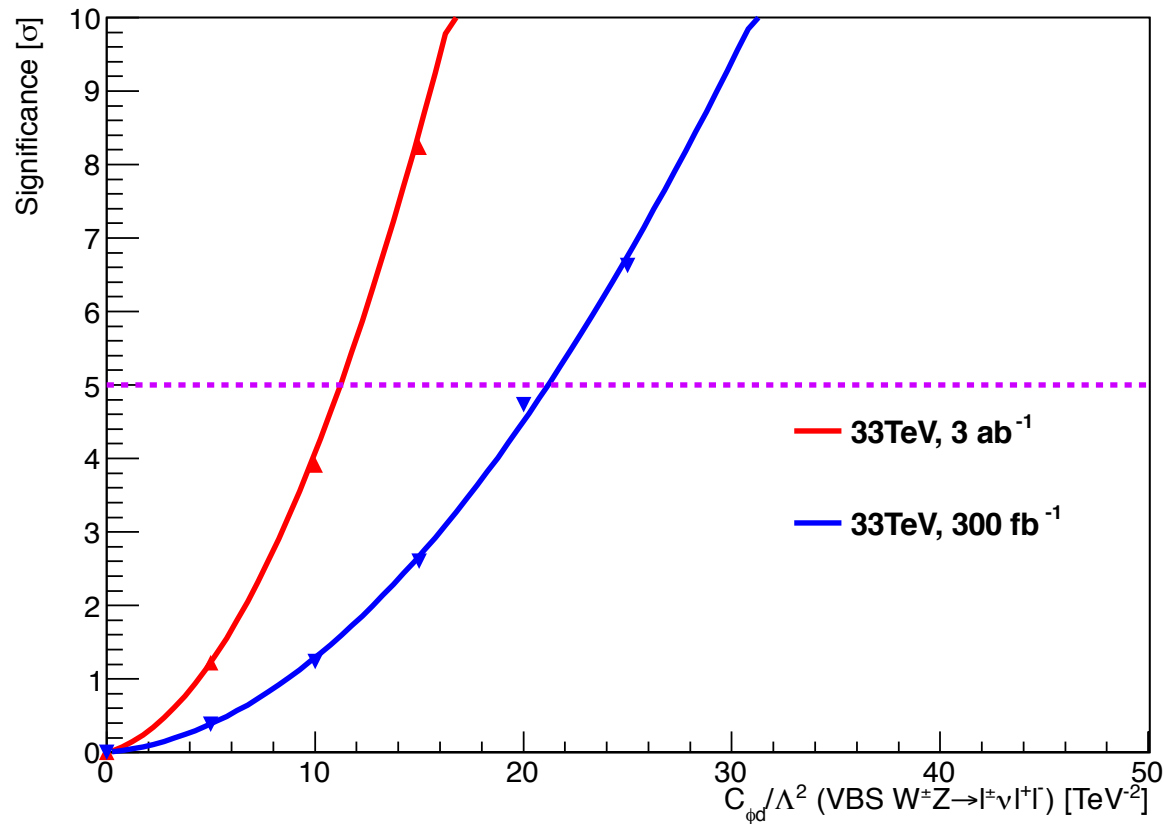
**CphidL2=25**  
**Nsigma: 20.97**



**CphidL2=50**  
**Nsigma: 73.54**

# CphidL2 coupling with 33TeV VBS WZjj:

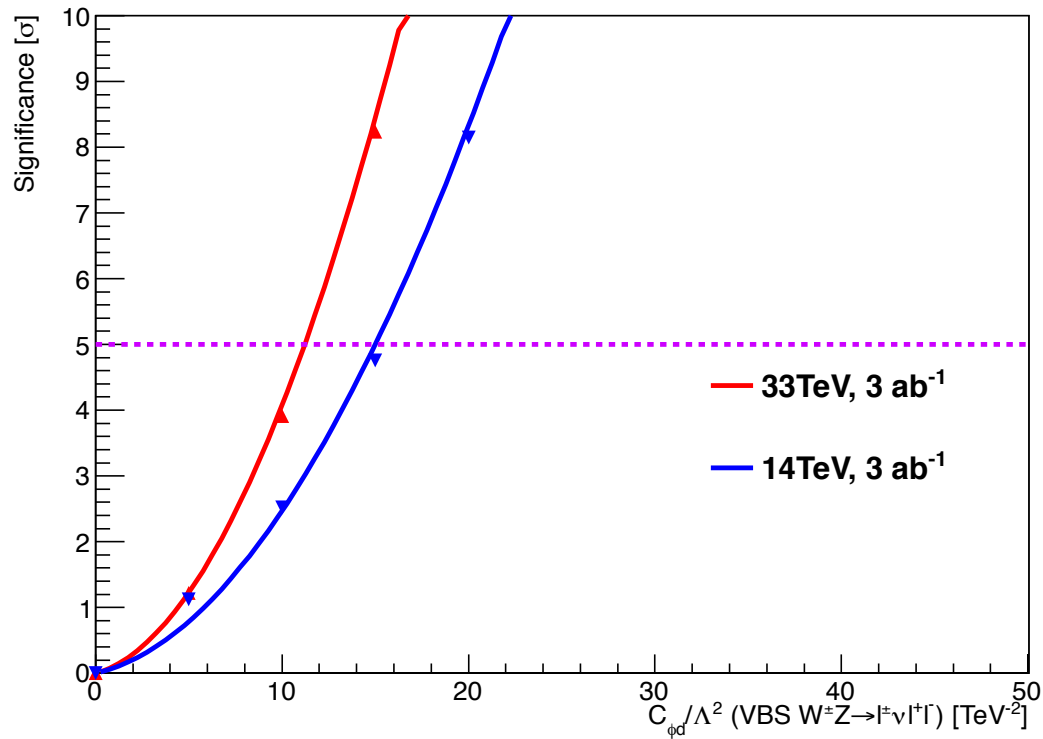
## 3 ab<sup>-1</sup> and 300 fb<sup>-1</sup> comparison



$C_{\phi d}$ Value (VBS WZjj)	5-σ	2-σ
300fb <sup>-1</sup>	21.2	12.6
3ab <sup>-1</sup>	11.2	6.6

# C<sub>φd</sub>L2 coupling with 3ab<sup>-1</sup> VBS WZjj:

## 14TeV and 33TeV comparison



$C_{\phi d}$ Value (VBS WZjj)	5- $\sigma$	2- $\sigma$
14TeV	15.0	8.7
33TeV	11.2	6.6

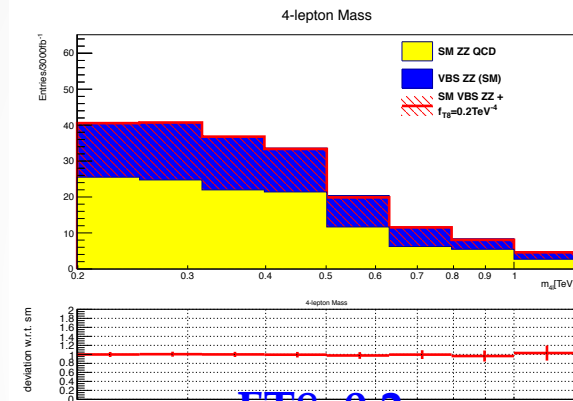
# 300ifb Mjj optimization

Centre-of-Mass Energy	$C_{\phi d}$ Value (VBS WZjj)	5- $\sigma$	2- $\sigma$
14TeV	Mjj>500GeV	31.2	18.6
	Mjj>750GeV	29.6	17.7
	Mjj>1TeV	28.7	17.0
	Mjj>1.25TeV	28.5	16.5
	Mjj>1.5TeV	29.2	17.2
33TeV	Mjj>500GeV	22.7	13.5
	Mjj>750GeV	21.6	12.9
	Mjj>1TeV	21.2	12.6
	Mjj>1.25TeV	21.0	12.5
	Mjj>1.5TeV	21.3	12.9

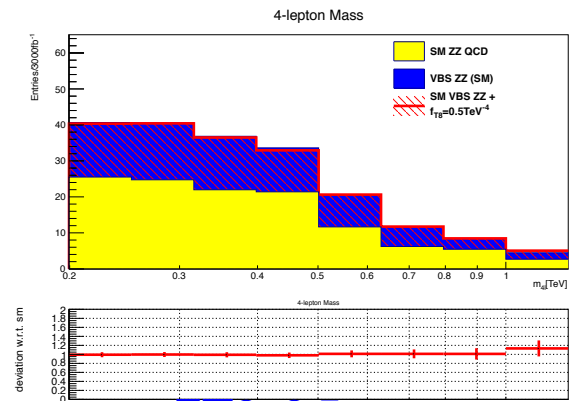
# 3000ifb Mjj optimization

Centre-of-Mass Energy	$C_{\phi d}$ Value (VBS WZjj)	5- $\sigma$	2- $\sigma$
14TeV	Mjj>500GeV	16.5	9.5
	Mjj>750GeV	15.7	9.3
	Mjj>1TeV	15.0	8.7
	<b>Mjj&gt;1.25TeV</b>	<b>14.5</b>	<b>8.2</b>
	Mjj>1.5TeV	15.3	9.0
33TeV	Mjj>500GeV	11.9	6.9
	Mjj>750GeV	11.4	6.6
	Mjj>1TeV	11.2	6.6
	<b>Mjj&gt;1.25TeV</b>	<b>11.1</b>	<b>6.4</b>
	Mjj>1.5TeV	11.5	7.1

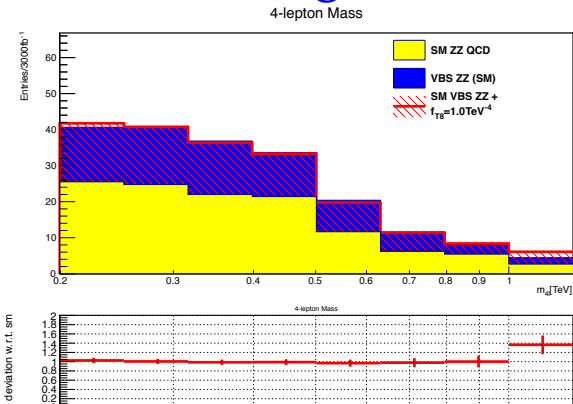
# 14TeV ZZjj 3ab<sup>-1</sup> m(ZZ) spectra w/ dim-8 FT8 operator



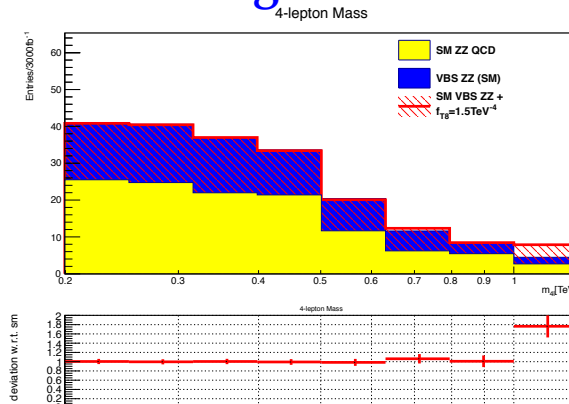
**FT8=0.2**  
**Nsigma: 0.18**



**FT8=0.5**  
**Nsigma: 0.31**



**FT8=1.0**  
**Nsigma: 0.77**

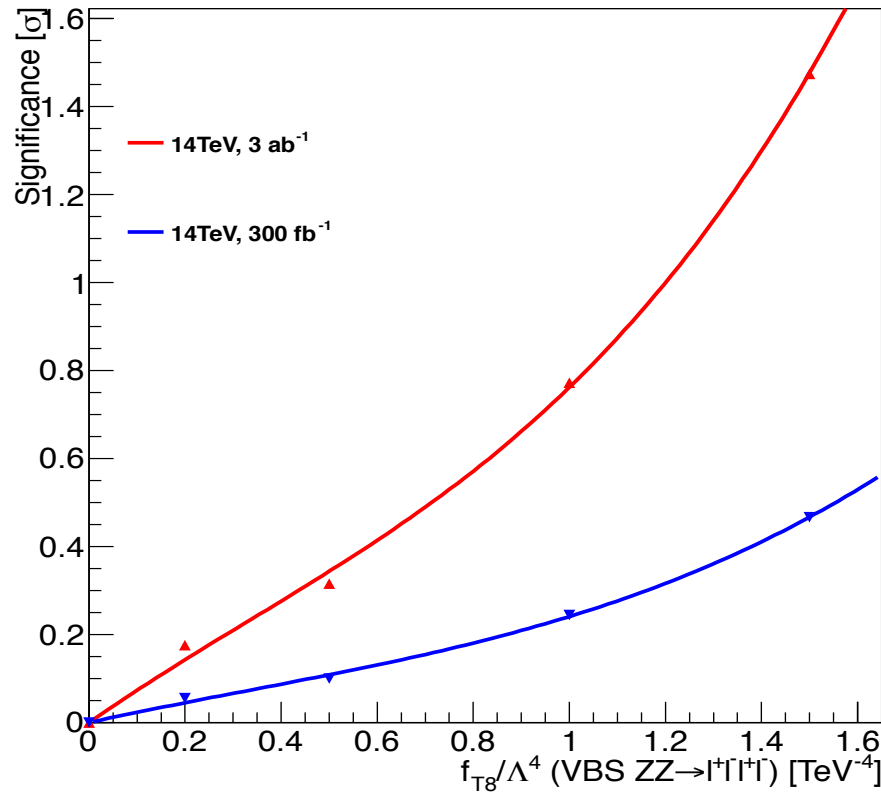


**FT8=1.5**  
**Nsigma: 1.47**



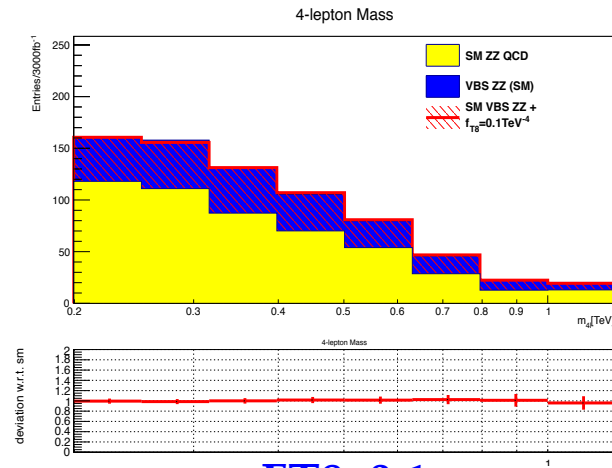
# FT8 coupling with 14TeV VBS ZZjj:

Phase II 3 ab<sup>-1</sup> and phase I 300 fb<sup>-1</sup> comparison

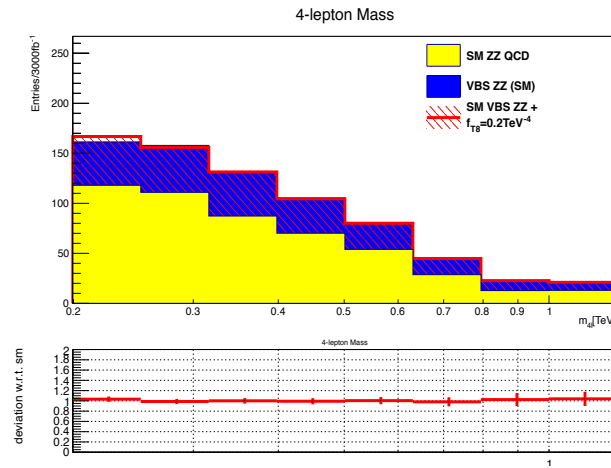


FT8 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
300fb <sup>-1</sup>	3.9	2.8
3ab <sup>-1</sup>	2.6	1.7

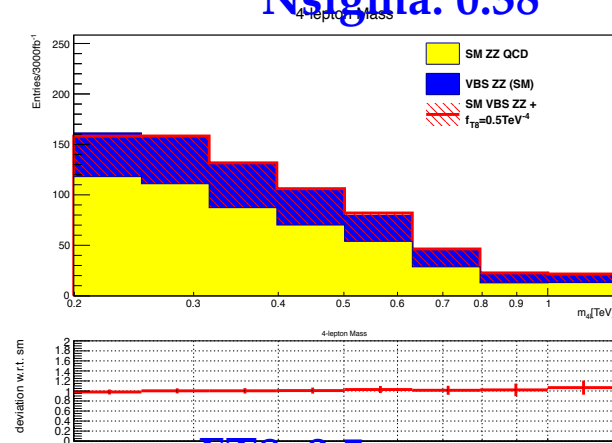
# 33TeV ZZjj 3ab<sup>-1</sup> m(ZZ) spectra w/ dim-8 FT8 operator



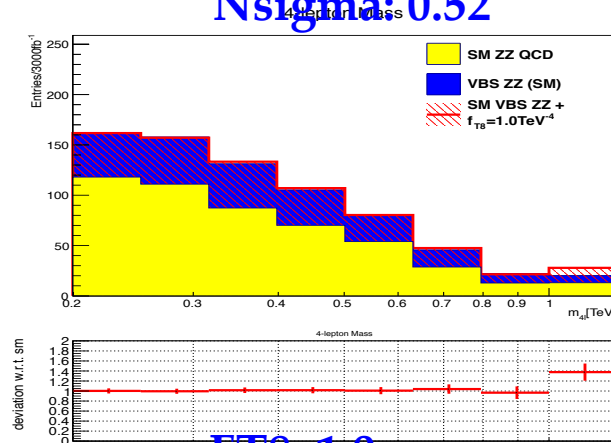
**FT8=0.1**  
**Nsigma: 0.38**



**FT8=0.2**  
**Nsigma: 0.52**



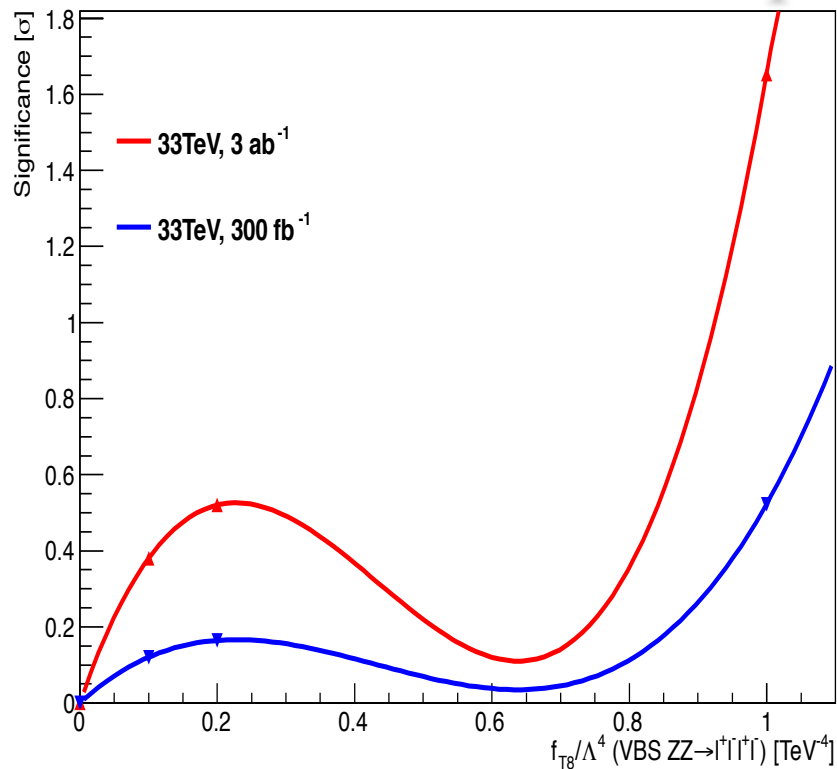
**FT8=0.5**  
**Nsigma: 0.50**



**FT8=1.0**  
**Nsigma: 1.65**

# FT8 coupling with 33TeV VBS ZZjj:

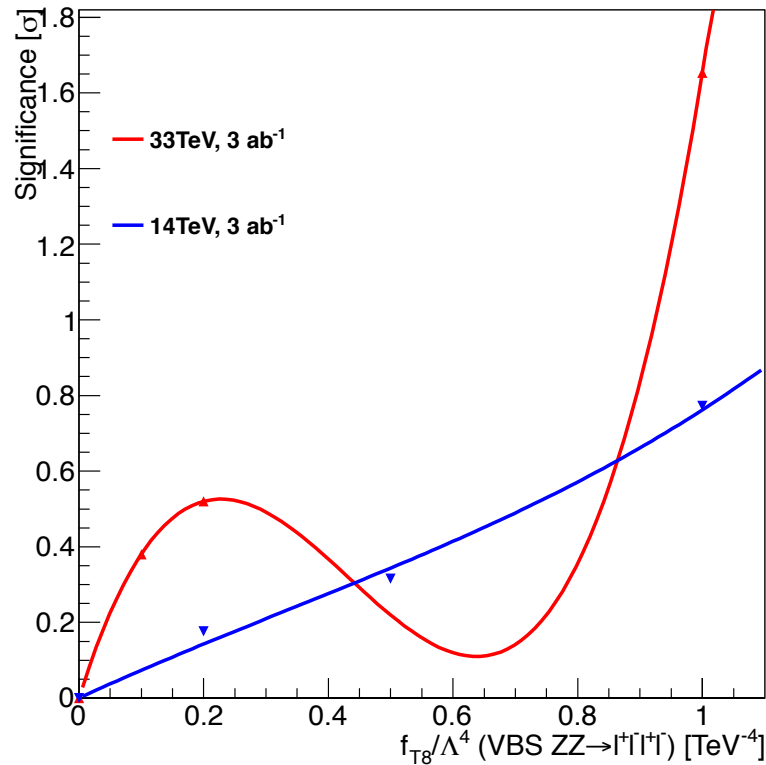
## 3 ab<sup>-1</sup> and 300 fb<sup>-1</sup> comparison



FT8 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
300fb <sup>-1</sup>	1.6	1.3
3ab <sup>-1</sup>	1.2	1.0

# FT8 coupling with $3ab^{-1}$ VBS ZZjj:

## 14TeV and 33TeV comparison



FT8 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
14TeV	2.6	1.7
33TeV	1.2	1.0

# FT9 coupling with 14TeV VBS ZZjj:

Phase II 3 ab<sup>-1</sup> and phase I 300 fb<sup>-1</sup> comparison

FT9 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
300fb <sup>-1</sup>	4.1	3.2
3ab <sup>-1</sup>	3.1	2.5

# FT9 coupling with 33TeV VBS ZZjj:

3 ab<sup>-1</sup> and 300 fb<sup>-1</sup> comparison

FT9 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
300fb <sup>-1</sup>	3.8	3.0
3ab <sup>-1</sup>	2.8	2.2

FT9 coupling with  $3\text{ab}^{-1}$  VBS ZZjj:

14TeV and 33TeV comparison

FT9 Value (VBS ZZjj)	5- $\sigma$	2- $\sigma$
14TeV	3.1	2.5
33TeV	2.8	2.2