

# DRAFT

## CMS Paper

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2023/02/08

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### Additional Material for TOP-22-006

The CMS Collaboration

#### Abstract

This box is only visible in draft mode. Please make sure the values below make sense.

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PDFTitle: Search for new physics in top quark production with additional leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV using effective field theory in Run II

PDFSubject: CMS

PDFKeywords: CMS, physics, top, EFT

Please also verify that the abstract does not use any user defined symbols



## 1 Additional material for TOP-22-006

DRAFT

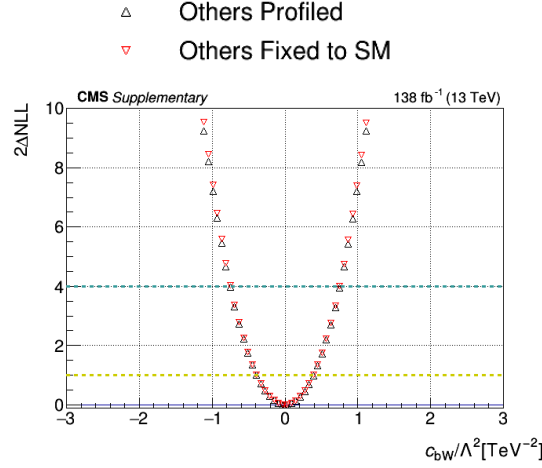


Figure 1: One-dimensional scan over the  $c_{bW}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

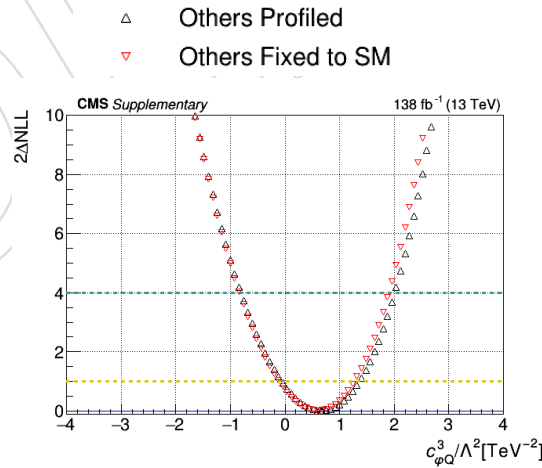


Figure 2: One-dimensional scan over the  $c_{\phi Q}^3$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

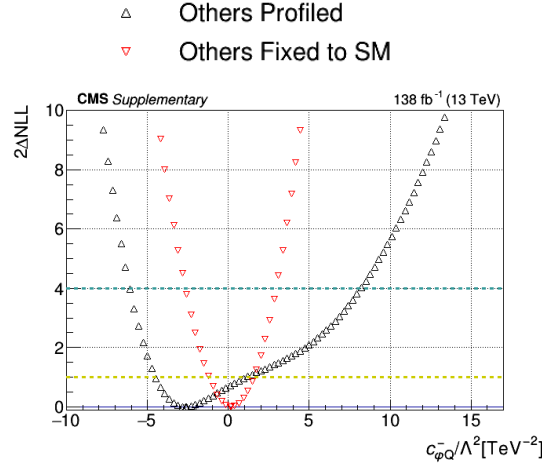


Figure 3: One-dimensional scan over the  $c_{\varphi Q}^-$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

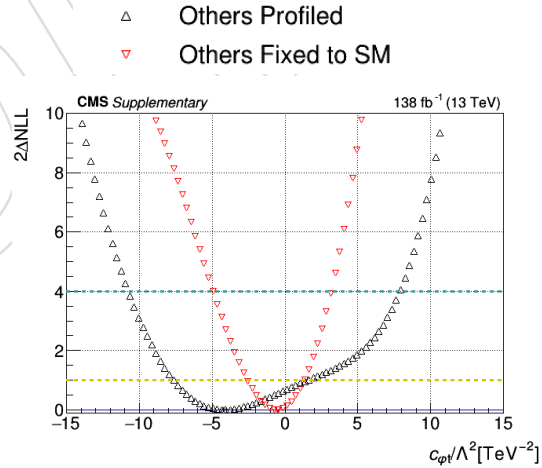


Figure 4: One-dimensional scan over the  $c_{\varphi t}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

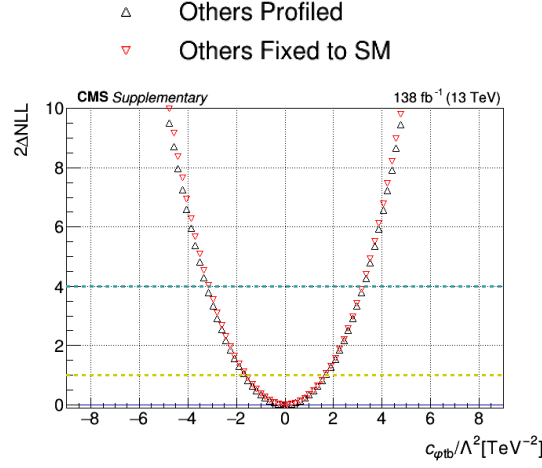


Figure 5: One-dimensional scan over the  $c_{\varphi tb}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

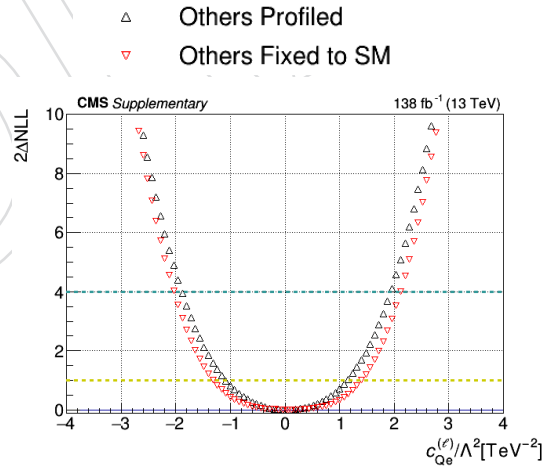


Figure 6: One-dimensional scan over the  $c_{Q_e}^{(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

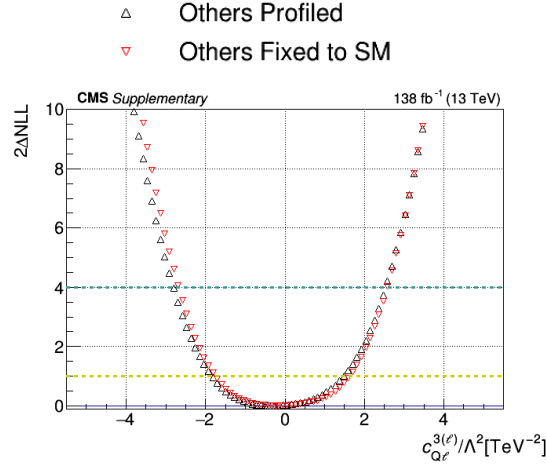


Figure 7: One-dimensional scan over the  $c_{Q\ell}^{3(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

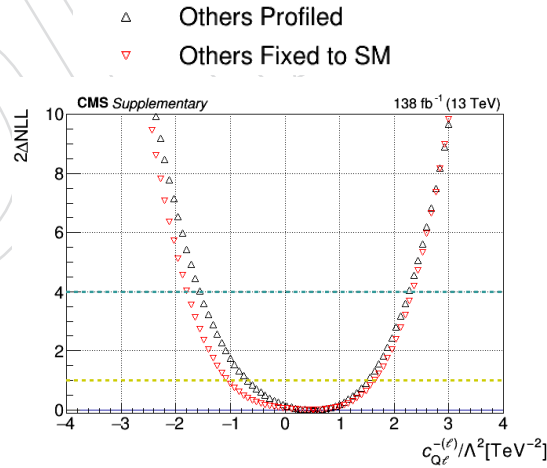


Figure 8: One-dimensional scan over the  $c_{Q\ell}^{-3(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

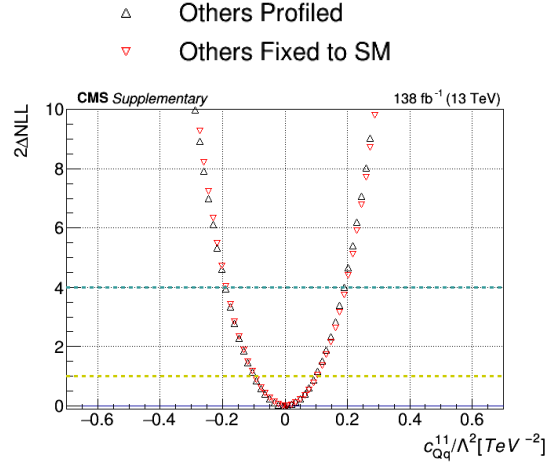


Figure 9: One-dimensional scan over the  $c_{Qq}^{11}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

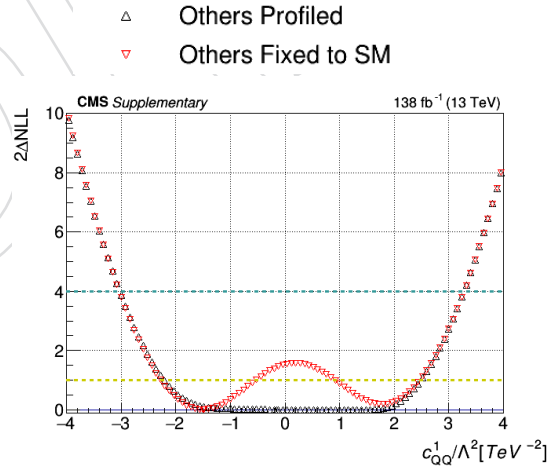


Figure 10: One-dimensional scan over the  $c_{QQ}^1$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

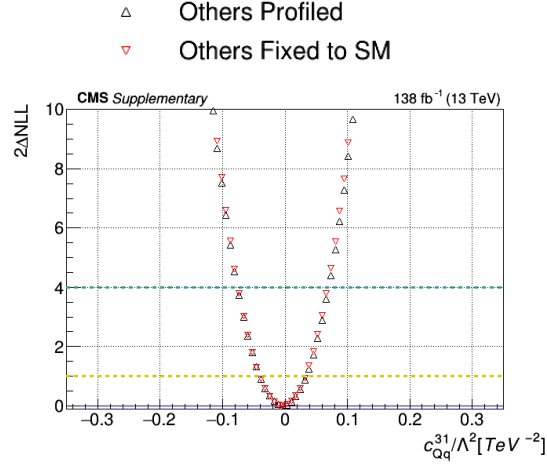


Figure 11: One-dimensional scan over the  $c_{Qq}^{31}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

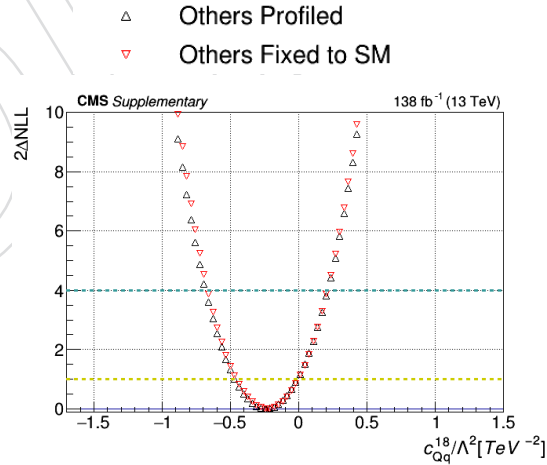


Figure 12: One-dimensional scan over the  $c_{Qq}^{18}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

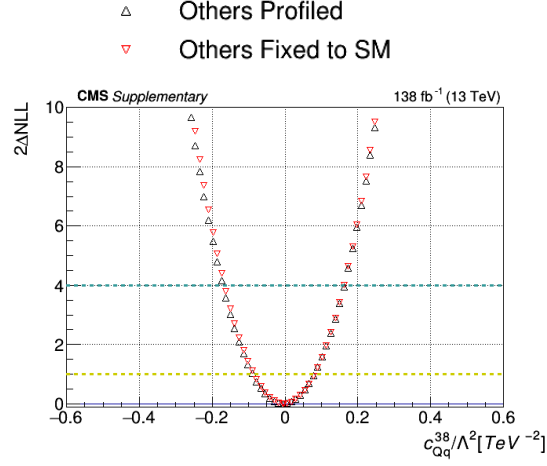


Figure 13: One-dimensional scan over the  $c_{Qq}^{38}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

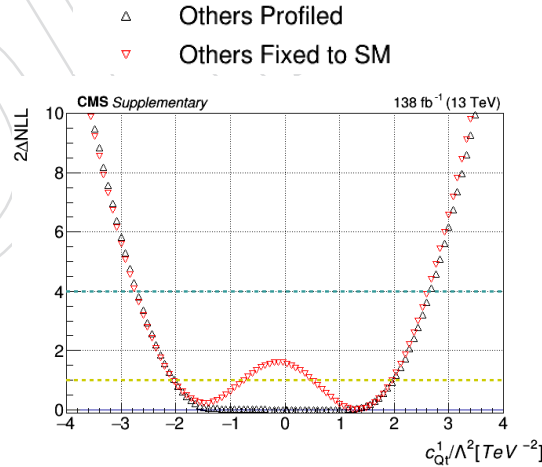


Figure 14: One-dimensional scan over the  $c_{Qt}^1$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

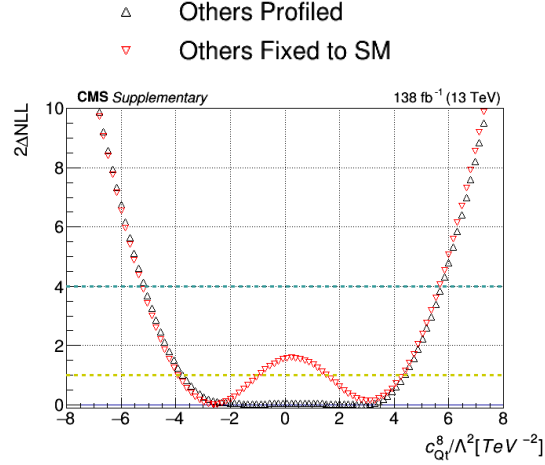


Figure 15: One-dimensional scan over the  $c_{Qt}^8$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

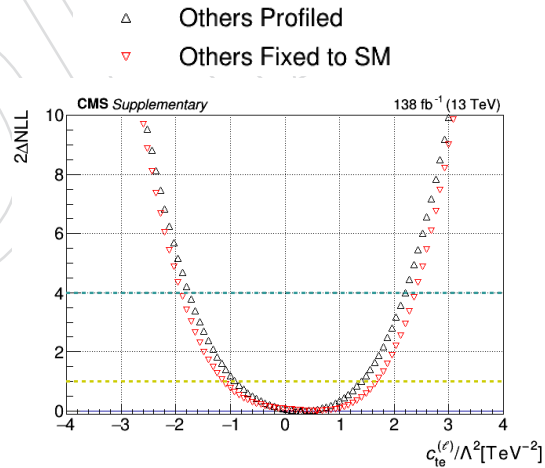


Figure 16: One-dimensional scan over the  $c_{te}^{(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

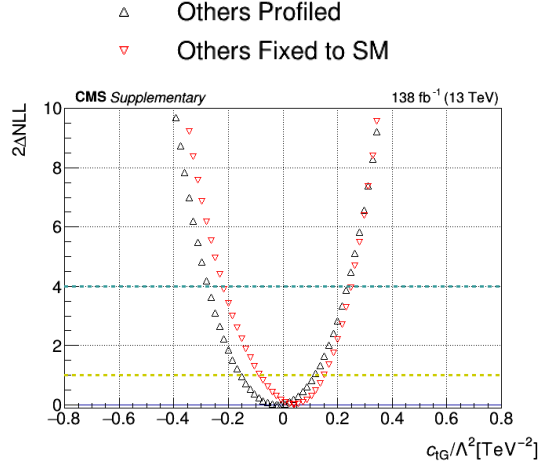


Figure 17: One-dimensional scan over the  $c_{tG}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

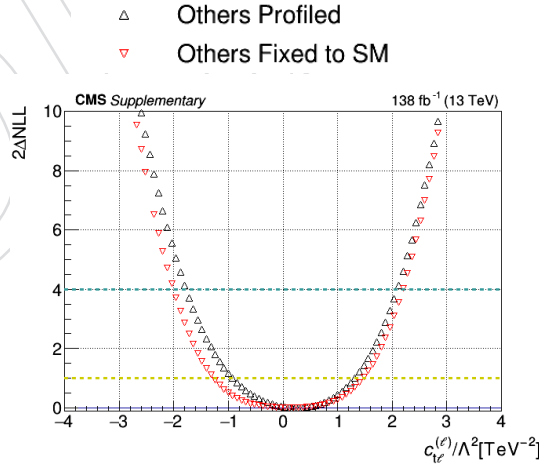


Figure 18: One-dimensional scan over the  $c_{t\ell}^{(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

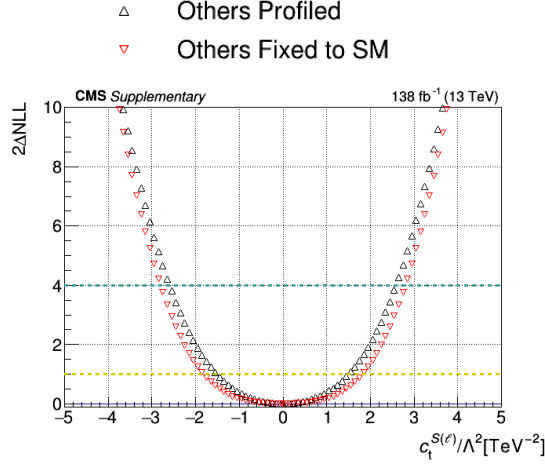


Figure 19: One-dimensional scan over the  $c_t^{S(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

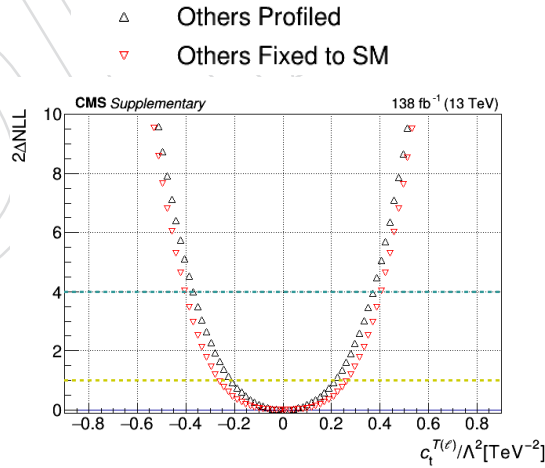


Figure 20: One-dimensional scan over the  $c_t^{T(\ell)}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

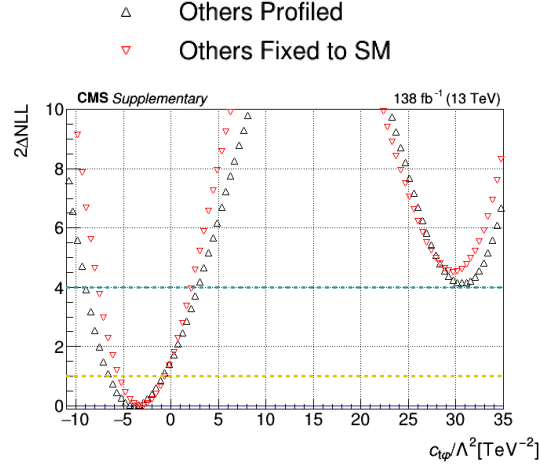


Figure 21: One-dimensional scan over the  $c_{t\varphi}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

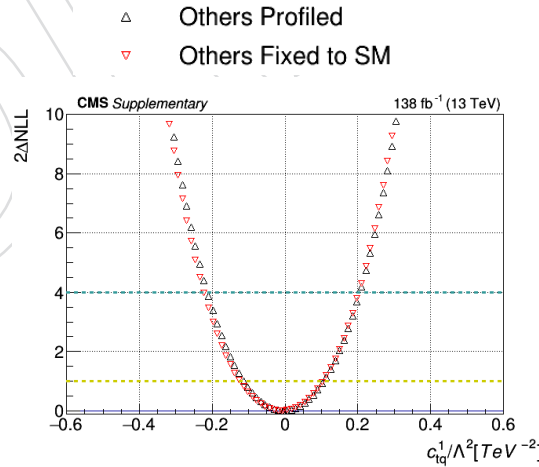


Figure 22: One-dimensional scan over the  $c_{tq}^1$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

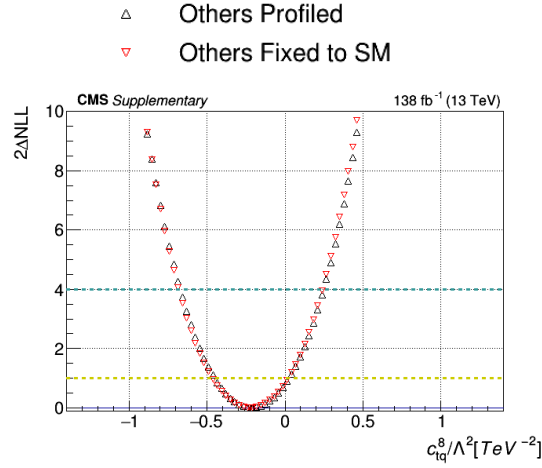


Figure 23: One-dimensional scan over the  $c_{tq}^8$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

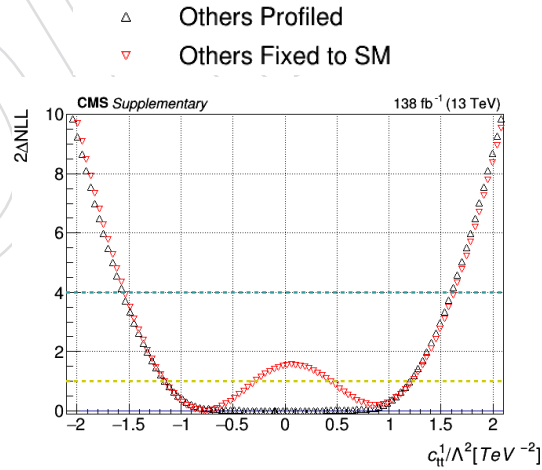


Figure 24: One-dimensional scan over the  $c_{tt}^1$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

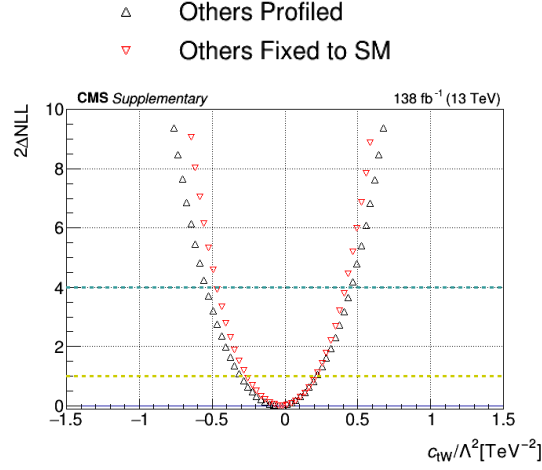


Figure 25: One-dimensional scan over the  $c_{tW}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.

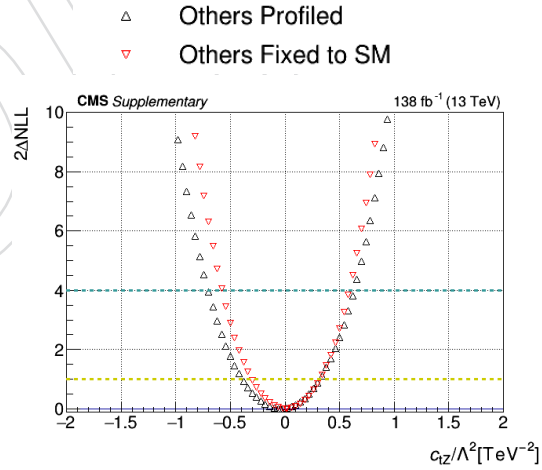


Figure 26: One-dimensional scan over the  $c_{tZ}$  WC. The red points correspond to the case where the other WCs are fixed to their SM values of zero, while the black points correspond to the case where the other WCs are profiled.