

138 fb<sup>-1</sup> (13 TeV)

Events / GeV

**CMS**  
Simulation  
Preliminary

SR<sub>t $\bar{t}$ Z</sub>

$t\bar{t}Z$  (SM)

$\mu_R / \mu_F$  uncertainties

$t\bar{t}Z$  ( $c_{\varphi q}^{(-)(11+22)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi q}^{(3)(11+22)} = 0.1$ )

$t\bar{t}Z$  ( $c_{\varphi u}^{(11+22)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi d}^{(11+22)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi q}^{(-)(33)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi q}^{(3)(33)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi u}^{(33)} = 1$ )

$t\bar{t}Z$  ( $c_{\varphi d}^{(33)} = 1$ )

$t\bar{t}Z$  ( $c_W = 0.1$ )

$t\bar{t}Z$  ( $c_{\tilde{W}} = 0.1$ )

Ratio  
to SMRatio  
to SMRatio  
to SMZ boson candidate  $p_T$  [GeV]