

Inclusive cross-section [pb]

**ATLAS+CMS Preliminary**

LHCtopWG

Single top-quark production  
September 2019

$10^2$

10

t-channel

tW

s-channel

t-channel

- ATLAS PRD 90 (2014) 112006, EPJC 77 (2017) 531, JHEP 04 (2017) 086
- CMS JHEP 12 (2012) 035, JHEP 06 (2014) 090, arXiv:1812.10514
- ◆ **ATLAS+CMS** JHEP 05 (2019) 088

tW

- ATLAS PLB 716 (2012) 142, JHEP 01(2016) 064, JHEP 01(2018) 063
- CMS PRL 110 (2013) 022003, PRL 112 (2014) 231802, JHEP 10 (2018) 117
- ◆ **ATLAS+CMS** JHEP 05 (2019) 088

s-channel

- ATLAS PLB 756 (2016) 228
- CMS JHEP 09 (2016) 027
- ◆ **ATLAS+CMS** JHEP 05 (2019) 088

--- NNLO PLB 736 (2014) 58  
scale uncertainty

--- NLO + NNLL PRD 83 (2011) 091503,  
PRD 82 (2010) 054018, PRD 81 (2010) 054028

tW:  $t\bar{t}$  contribution removed  
scale  $\oplus$  PDF  $\oplus$   $\alpha_s$  uncertainty

— NLO NPPS205 (2010) 10, CPC191 (2015) 74  
 $\mu_R = \mu_F = m_{top}$

CT10nlo, MSTW2008nlo, NNPDF2.3nlo

tW:  $p_T^b$  veto for  $t\bar{t}$  removal = 60 GeV and  $\mu_F = 65$  GeV

■ scale uncertainty

■ scale  $\oplus$  PDF  $\oplus$   $\alpha_s$  uncertainty

stat. total

7

8

13

$\sqrt{s}$  [TeV]