

Inclusive cross-section [pb]

ATLAS+CMS Preliminary

LHCtopWG

Single top-quark production

May 2022

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, PLB 800 (2019) 135042
- ◆ LHC comb. 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, CMS-PAS-TOP-21-010
- ◆ LHC comb. JHEP 05 (2019) 088

s-channel

- ATLAS PLB 756 (2016) 228, ATLAS-CONF-2022-030
- CMS JHEP 09 (2016) 027
- ◆ LHC comb. 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 α_s uncertainty

— NLO NPPS205 (2010) 10, CPC191 (2015) 74

$\mu_R = \mu_F = m_{\text{top}}$

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 α_s uncertainty

stat. total

7

8

13

\sqrt{s} [TeV]