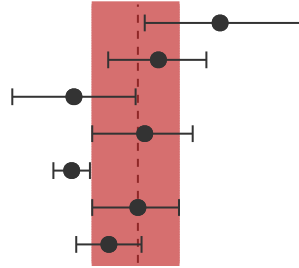


Indirect mass extractions

Pole mass from cross section

- Inclusive $t\bar{t}$ 7 TeV, NNLO \otimes CT10
- Inclusive $t\bar{t}$ 7+8 TeV, NNLO \otimes CT14
- Inclusive $t\bar{t}$ 13 TeV, NNLO \otimes CT14
- Inclusive $t\bar{t}$ 13 TeV, NNLO \otimes CT14
- Differential $t\bar{t}$ 13 TeV, NLO + 3D fit ($m_t^{\text{pole}}, \alpha_s$, PDF)
- Dilepton 7+8 TeV, ATLAS+CMS cross section
- Differential $t\bar{t}$ +jet 13 TeV, NLO \otimes CT18



$m_t^{\text{pole}} = 173.4^{+1.8}_{-2.0}$ GeV [JHEP 07 (2023) 213]		
$m_t^{\text{MC}} = 172.52 \pm 0.42$ GeV [PRL 132 (2024) 261902]		
$m_t^{\text{pole}} = 177.0^{+3.6}_{-3.3}$ (tot) GeV	[PLB 728 (2014) 496]	
$m_t^{\text{pole}} = 174.3^{+2.1}_{-2.2}$ (tot) GeV	[JHEP 08 (2016) 029]	
$m_t^{\text{pole}} = 170.6 \pm 2.7$ (tot) GeV	[JHEP 09 (2017) 051]	
$m_t^{\text{pole}} = 173.7^{+2.1}_{-2.3}$ (tot) GeV	[EPJC 79 (2019) 368]	
$m_t^{\text{pole}} = 170.5 \pm 0.8$ (tot) GeV	[EPJC 80 (2020) 658]	
$m_t^{\text{pole}} = 173.4^{+1.8}_{-2.0}$ (tot) GeV	[JHEP 07 (2023) 213]	
$m_t^{\text{pole}} = 172.13 \pm 1.43$ (tot) GeV	[JHEP 07 (2023) 077]	

\overline{MS} mass from cross section

- Inclusive $t\bar{t}$ 13 TeV, NNLO \otimes CT14

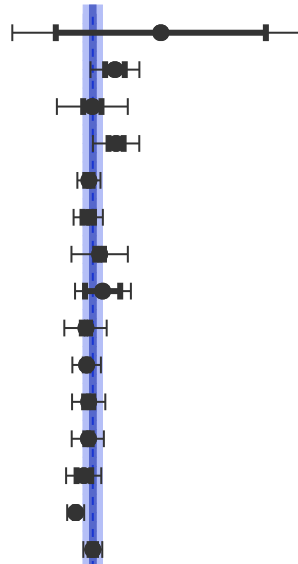


$m_t(m_t) = 165.0^{+1.8}_{-2.0}$ (tot) GeV	[EPJC 79 (2019) 368]
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Direct measurements

Full reconstruction

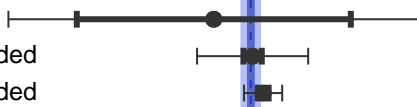
- Dilepton 7 TeV, KINb and AMWT
- Lepton+jets 7 TeV, 2D ideogram
- Dilepton 7 TeV, AMWT
- All-jets 7 TeV, 2D ideogram
- Lepton+jets 8 TeV, Hybrid ideogram
- All-jets 8 TeV, Hybrid ideogram
- Dilepton 8 TeV, AMWT
- Single top quark 8 TeV, Template fit
- Dilepton 8 TeV, $M_{bl} + M_{T2}^{bb}$ Hybrid fit
- Lepton+jets 13 TeV, Hybrid ideogram
- All-jets 13 TeV, Hybrid ideogram
- Dilepton 13 TeV, m_{bl} fit
- Single top quark 13 TeV, $\ln(m_t / 1 \text{ GeV})$ fit
- Lepton+jets 13 TeV, Profile likelihood
- Combination 7+8 TeV



$m_t^{\text{MC}} = 175.5 \pm 4.6$ (stat) ± 4.6 (sys) GeV	[JHEP 07 (2011) 04]
$m_t^{\text{MC}} = 173.49 \pm 0.43$ (stat) ± 0.98 (sys) GeV	[JHEP 12 (2012) 105]
$m_t^{\text{MC}} = 172.5 \pm 0.4$ (stat) ± 1.5 (sys) GeV	[EPJC 72 (2012) 2202]
$m_t^{\text{MC}} = 173.54 \pm 0.33$ (stat) ± 0.96 (sys) GeV	[EPJC 74 (2014) 2758]
$m_t^{\text{MC}} = 172.35 \pm 0.16$ (stat) ± 0.48 (sys) GeV	[PRD 93 (2016) 072004]
$m_t^{\text{MC}} = 172.32 \pm 0.25$ (stat) ± 0.59 (sys) GeV	[PRD 93 (2016) 072004]
$m_t^{\text{MC}} = 172.82 \pm 0.19$ (stat) ± 1.22 (sys) GeV	[PRD 93 (2016) 072004]
$m_t^{\text{MC}} = 172.95 \pm 0.77$ (stat) $^{+0.97}_{-0.93}$ (sys) GeV	[EPJC 77 (2017) 354]
$m_t^{\text{MC}} = 172.22 \pm 0.18$ (stat) $^{+0.89}_{-0.93}$ (sys) GeV	[PRD 96 (2017) 032002]
$m_t^{\text{MC}} = 172.25 \pm 0.08$ (stat) ± 0.62 (sys) GeV	[EPJC 78 (2018) 891]
$m_t^{\text{MC}} = 172.34 \pm 0.20$ (stat) ± 0.70 (sys) GeV	[EPJC 79 (2019) 313]
$m_t^{\text{MC}} = 172.33 \pm 0.14$ (stat) $^{+0.66}_{-0.72}$ (sys) GeV	[EPJC 79 (2019) 368]
$m_t^{\text{MC}} = 172.13 \pm 0.32$ (stat) $^{+0.69}_{-0.71}$ (sys) GeV	[JHEP 12 (2021) 161]
$m_t^{\text{MC}} = 171.77 \pm 0.04$ (stat) ± 0.37 (sys) GeV	[EPJC 83 (2023) 963]
$m_t^{\text{MC}} = 172.52 \pm 0.14$ (stat) ± 0.39 (sys) GeV	[PRL 132 (2024) 261902]

Boosted measurements

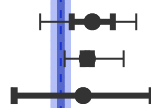
- Boosted 8 TeV, C/A jet mass unfolded
- Boosted 13 TeV, X Cone jet mass unfolded
- Boosted 13 TeV, X Cone jet mass unfolded



$m_t^{\text{MC}} = 170.9 \pm 6.0$ (stat) ± 6.7 (sys) GeV	[EPJC 77 (2017) 467]
$m_t^{\text{MC}} = 172.6 \pm 0.4$ (stat) ± 2.4 (sys) GeV	[PRL 124 (2020) 202001]
$m_t^{\text{MC}} = 173.06 \pm 0.24$ (stat) ± 0.80 (sys) GeV	[EPJC 83 (2023) 560]

Alternative measurements

- Dilepton 7 TeV, Kinematic endpoints
- 1+2 leptons 8 TeV, Lepton + secondary vertex
- 1+2 leptons 8 TeV, Lepton + J/ Ψ



$m_t = 173.9 \pm 0.9$ (stat) $^{+1.7}_{-2.1}$ (sys) GeV	[EPJC 73 (2013) 2494]
$m_t^{\text{MC}} = 173.68 \pm 0.20$ (stat) $^{+1.58}_{-0.97}$ (sys) GeV	[PRD 93 (2016) 092006]
$m_t^{\text{MC}} = 173.5 \pm 3.0$ (stat) ± 0.9 (sys) GeV	[JHEP 12 (2016) 123]

150

160

170

180

190

200

m_t [GeV]