

# Preliminary LHC $\sigma_{t\bar{t}}$ combination, $\sqrt{s} = 7$ TeV - September 2012

$L_{\text{int}} = 0.7 \text{ fb}^{-1} - 1.1 \text{ fb}^{-1}$

HATHOR theory prediction

ATLAS, di-lepton ( $ee, e\mu, \mu\mu$ )

$L_{\text{int}} = 0.7 \text{ fb}^{-1}$

ATLAS,  $l+jets$

$L_{\text{int}} = 0.7 \text{ fb}^{-1}$

ATLAS, all jets

$L_{\text{int}} = 1.0 \text{ fb}^{-1}$

ATLAS combined

CMS, di-lepton ( $ee, e\mu, \mu\mu$ )

$L_{\text{int}} = 1.1 \text{ fb}^{-1}$

CMS,  $\mu+\tau_{\text{had}}$

$L_{\text{int}} = 1.1 \text{ fb}^{-1}$

CMS,  $l+jets$

$L_{\text{int}} = 0.8 - 1.1 \text{ fb}^{-1}$

CMS, all jets

$L_{\text{int}} = 1.1 \text{ fb}^{-1}$

CMS combined

LHC combined

$173 \pm 6 \begin{matrix} +16 \\ -13 \end{matrix}$

$179 \pm 4 \pm 11$

$167 \pm 18 \pm 78$

$177 \pm 3 \begin{matrix} +11 \\ -10 \end{matrix}$

$170 \pm 4 \pm 18$

$149 \pm 24 \pm 28$

$164 \pm 3 \pm 14$

$136 \pm 20 \pm 41$

$165.8 \pm 2.2 \pm 13.2$

$173.3 \pm 2.3 \pm 9.8$   
 $\pm (\text{stat.}) \pm (\text{syst.})$

for  $m_t = 172.5 \text{ GeV}$

50

100

150

200

250

300

350

$\sigma_{t\bar{t}}$  [pb]