

inclusive jet production in hadron-hadron collisions

fastNLO
http://projects.hepforge.org/fastnlo

data / theory

$\sqrt{s} = 200$ GeV

■ STAR $0.2 < |\eta| < 0.8$ ($\times 130$)

pp

$\sqrt{s} = 546$ GeV

○ CDF $0.1 < |\eta| < 0.7$

($\times 40$)

pp-bar

$\sqrt{s} = 630$ GeV

● DØ $|\eta| < 0.5$

($\times 15$)

$\sqrt{s} = 1.8$ TeV

○ CDF cone $0.1 < |\eta| < 0.7$

● DØ cone $0.0 < |\eta| < 0.5$

($\times 7$)

$\sqrt{s} = 1.96$ TeV

▲ CDF k_T $0.1 < |y| < 0.7$

□ CDF cone $0.1 < |y| < 0.7$

● DØ cone $0.0 < |y| < 0.4$

($\times 3$)

pp

$\sqrt{s} = 7$ TeV

all pQCD calculations using NLOJET++ with fastNLO:

$\alpha_s(M_Z) = 0.118$ | CT10 PDFs | $\mu_r = \mu_f = p_{T,jet}$

NLO plus 2-loop threshold corrections and non-perturbative corrections

□ ATLAS anti- k_T $R=0.6$ $|y| < 0.3$
 ▼ ATLAS anti- k_T $R=0.4$ $|y| < 0.3$
 ● CMS anti- k_T $R=0.5$ $|y| < 0.5$

10^{-2}

10^{-1}

1

$x_T = 2p_T / \sqrt{s}$

September 2011
the latest version of this figure can be obtained from <http://projects.hepforge.org/fastnlo>