

inclusive jet production

in hadron-induced processes

pp

$\sqrt{s} = 200 \text{ GeV}$

• STAR cone $0.2 < |\eta| < 0.8$

DIS

pp-bar

pp

data / theory

$\sqrt{s} = 300 \text{ GeV}$ (× 2500)

$\sqrt{s} = 318 \text{ GeV}$ (× 400)

$\sqrt{s} = 546 \text{ GeV}$ (× 50)

$\sqrt{s} = 630 \text{ GeV}$ (× 15)

$\sqrt{s} = 1.8 \text{ TeV}$ (× 7)

$\sqrt{s} = 1.96 \text{ TeV}$ (× 2)

$\sqrt{s} = 7 \text{ TeV}$ (× 1)

- H1 k_T Q^2 : from 150 to 5000 GeV^2
- ZEUS k_T Q^2 : from 125 to 5000 GeV^2
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- ZEUS k_T Q^2 : from 125 to 5000 GeV^2

○ CDF cone $0.1 < |\eta| < 0.7$

• DØ cone $0.0 < |\eta| < 0.5$

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• DØ cone $0.0 < |\eta| < 0.5$

▲ CDF k_T $0.1 < |y| < 0.7$

□ CDF cone $0.1 < |y| < 0.7$

• DØ cone $0.0 < |y| < 0.4$

□ ATLAS anti- k_T $R=0.6$ $|y| < 0.3$

▼ ATLAS anti- k_T $R=0.4$ $|y| < 0.3$

• CMS anti- k_T $R=0.5$ $|y| < 0.5$

all pQCD calculations using NLOJET++ with fastNLO:

$\alpha_s(M_Z)=0.118$ | MSTW2008 PDFs | $\mu_R = \mu_F = p_{T, \text{jet}}$

NLO plus non-perturbative corrections | pp, pp̄: incl. threshold corrections (2-loop)

10⁴
10³
10²
10
1
10⁻¹

10 10² 10³

p_T (GeV/c)