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Measurement and QCD analysis of double-differential inclusive jet cross sections in pp collisions at √s=8 TeV and cross section ratios to 2.76 and 7 TeV (Article)

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Abstract

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A measurement of the double-differential inclusive jet cross section as a function of the jet transverse momentum p_T and the absolute jet rapidity |y| is presented. Data from LHC proton-proton collisions at s=8 TeV, corresponding to an integrated luminosity of 19.7 fb^{-1}, have been collected with the CMS detector. Jets are reconstructed using the anti-k_T clustering algorithm with a size parameter of 0.7 in a phase space region covering jet p_T from 74 GeV up to 2 .5 TeV and jet absolute rapidity up to |y| = 3.0. The low-p_T jet range between 21 and 74 GeV is also studied up to |y| = 4.7, using a dedicated data sample corresponding to an integrated luminosity of 5.6 pb^{-1}. The measured jet cross section is corrected for detector effects and compared with the predictions from perturbative QCD at next-to-leading order (NLO) using various sets of parton distribution functions (PDF). Cross section ratios to the corresponding measurements performed at 2.76 and 7 TeV are presented. From the measured double-differential jet cross section, the value of the strong coupling constant evaluated at the Z mass is $\alpha_S(M_Z) = 0.1164_{-0.0043}^{+0.0060}$, where the errors include the PDF, scale, nonperturbative effects and experimental uncertainties, using the CT10 NLO PDFs. Improved constraints on PDFs based on the inclusive jet cross section measurement are presented.[Figure not available: see fulltext.]

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References (74)

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1 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Khalek, S.A., Abdelalim, A.A., Abdinov, O., (...), Zwalinski, L.

Measurement of the inclusive jet cross-section in pp collisions at √s = 2.76 TeV and comparison to the inclusive jet cross-section at √s = 7 TeV using the ATLAS detector

(2013) *European Physical Journal C*, 73 (8), art. no. 2509. Cited 42 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-013-2509-4

View at Publisher

2 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.

Measurement of the inclusive jet cross section in pp collisions at √s = 2.76 TeV

(2016) *European Physical Journal C*, 76 (5), art. no. 265. Cited 7 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-016-4083-z

View at Publisher

3 Zhong, J., Toth, J., Trivedi, A., Perez, K., Teuscher, R.J., Maio, A., Morais, A., (...), van der Ster, D.

Measurement of inclusive jet and dijet cross sections in proton-proton collisions at 7 TeV centre-of-mass energy with the ATLAS detector

(2011) *European Physical Journal C*, 71 (2). Cited 32 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-010-1512-2

View at Publisher

4 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Weinberg, M.

Measurement of the inclusive jet cross section in pp collisions at √s=7TeV

(2011) *Physical Review Letters*, 107 (13), art. no. 132001. Cited 85 times.
http://oai.aps.org/filefetch?identifier=10.1103/PhysRevLett.107.132001&component=fulltext&description=markup&format=xml
doi: 10.1103/PhysRevLett.107.132001

View at Publisher

5 Aad, G., Abbott, B., Abdallah, J., Abdelalim, A.A., Abdesselam, A., Abdinov, O., Abi, B., (...), Zwalinski, L.

Measurement of inclusive jet and dijet production in pp collisions at √s=7TeV using the ATLAS detector

(2012) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 86 (1), art. no. 014022. Cited 119 times.
http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.86.014022&component=fulltext&description=markup&format=xml
doi: 10.1103/PhysRevD.86.014022

View at Publisher

6 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Aguilo, E., Bergauer, T., (...), Swanson, J.

Measurements of differential jet cross sections in proton-proton collisions at √s=7 TeV with the CMS detector

(2013) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 87 (11), art. no. 112002. Cited 84 times.
http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.87.112002&component=fulltext&description=markup&format=xml
doi: 10.1103/PhysRevD.87.112002

View at Publisher

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Rabbertz, K.
(2017) Springer Tracts in Modern Physics

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Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2017) European Physical Journal C

Jet production and αsmeasurement at CMS

Flouris, G.
(2016) Nuclear and Particle Physics Proceedings

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7 Banner, M., Bloch, Ph., Bonaudi, F., Borer, K., Borghini, M., Chollet, J.-C., Clark, A.G., (...), Zeller, W.

Observation of very large transverse momentum jets at the CERN pp collider

(1982) *Physics Letters B*, 118 (1-3), pp. 203-210. Cited 154 times.
doi: 10.1016/0370-2693(82)90629-3

View at Publisher

8 Arnison, G., Astbury, A., Aubert, B., Bacci, C., Bauer, G., Bézaguet, A., Bock, R.K., (...), Zurfluh, E.

Hadronic jet production at the CERN proton-antiproton collider

(1983) *Physics Letters B*, 132 (1-3), pp. 214-222. Cited 118 times.
doi: 10.1016/0370-2693(83)90254-X

View at Publisher

9 Abulencia, A., Adelman, J., Affolder, T., Akimoto, T., Albrow, M.G., Ambrose, D., Amerio, S., (...), Zucchelli, S.

Measurement of the inclusive jet cross section using the kT algorithm in pp̄ collisions at s=1.96TeV with the CDF II detector

(2007) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 75 (9), art. no. 092006. Cited 126 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.75.092006&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.75.092006

View at Publisher

10 Abulencia, A., Adelman, J., Affolder, T., Akimoto, T., Albrow, M.G., Ambrose, D., Amerio, S., (...), Zucchelli, S.

Erratum: Measurement of the inclusive jet cross section using the kT algorithm in pp̄ collisions at s=1.96TeV with the CDF II detector (Physical Review D - Particles, Fields, Gravitation and Cosmology (2007) 75, (092006))

(2007) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 75 (11), art. no. 119901. Cited 16 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.75.119901&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.75.119901

View at Publisher

11 Abazov, V.M., Abbott, B., Abolins, M., Acharya, B.S., Adams, M., Adams, T., Aguilo, E., (...), Zverev, E.G.

Measurement of the tt̄ production cross section in pp̄ collisions at s=1.96TeV

(2008) *Physical Review Letters*, 100 (19), art. no. 192004. Cited 25 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevLett.100.192004&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevLett.100.192004

View at Publisher

12 Aaltonen, T., Adelman, J., Akimoto, T., Albrow, M.G., Álvarez González, B., Amerio, S., Amidei, D., (...), Zucchelli, S.

Measurement of the inclusive jet cross section at the Fermilab Tevatron pp̄ collider using a cone-based jet algorithm

(2008) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 78 (5), art. no. 052006. Cited 141 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.78.052006&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.78.052006

View at Publisher

13 Aaltonen, T., Adelman, J., Akimoto, T., Albrow, M.G., Álvarez González, B., Amerio, S., Amidei, D., (...), Zucchelli, S.

Erratum: Measurement of the inclusive jet cross section at the Fermilab Tevatron pp̄ collider using a cone-based jet algorithm (Physical Review D (2008) 78 (052006))

(2009) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 79 (11), art. no. 119902. Cited 25 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.79.119902&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.79.119902

View at Publisher

14 Mangano, M.L., Rojo, J.

Cross section ratios between different CM energies at the LHC: Opportunities for precision measurements and BSM sensitivity

(2012) *Journal of High Energy Physics*, 2012 (8), art. no. 010. Cited 32 times.
doi: 10.1007/JHEP08(2012)010

View at Publisher

15 Abramowicz, H., Abt, I., Adamczyk, L., Adamus, M., Andreev, V., Antonelli, S., Antunović, B., (...), Zotkin, D.S.

Combination of measurements of inclusive deep inelastic (Formula presented.) scattering cross sections and QCD analysis of HERA data: H1 and ZEUS Collaborations

(2015) *European Physical Journal C*, 75 (12), art. no. 580, pp. 1-98. Cited 94 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3710-4

View at Publisher

16 (2008) *The CMS experiment at the CERN LHC, JINST 3 S08004*

17 (2014) *Description and performance of track and primary-vertex reconstruction with the CMS tracker*. Cited 4 times.
JINST 9 P10009

18 Particle-flow event reconstruction in CMS and performance for jets, taus and MET
(2009) *CMS-PAS-PFT-09-001*

19 Commissioning of the particle-flow event reconstruction with the first LHC collisions recorded in the CMS detector
(2010) *CMS-PAS-PFT-10-001*

20 Cacciari, M., Salam, G.P., Soyez, G.

The anti-k_t jet clustering algorithm

(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 063. Cited 2310 times.
doi: 10.1088/1126-6708/2008/04/063

View at Publisher

21 Cacciari, M., Salam, G.P., Soyez, G.
FastJet user manual
(2012) *Eur. Phys. J.*, 100, p. 1896. Cited 490 times.
[arXiv:1111.6097] [INSPIRE]

22 Agostinelli, S., Allison, J., Amako, K., Apostolakis, J., Araujo, H., Arce, P., Asai, M., (...), Zschiesche, D.
GEANT4 - A simulation toolkit

(2003) *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 506 (3), pp. 250-303. Cited 9912 times.
doi: 10.1016/S0168-9002(03)01368-8

View at Publisher

23 (2011) *Determination of jet energy calibration and transverse momentum resolution in CMS*. Cited 41 times.
JINST 6 P11002

24 (2017) *Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV*. Cited 3 times.
JINST 12 P02014

25 Sjöstrand, T., Mrenna, S., Skands, P.
PYTHIA 6.4 physics and manual

(2006) *Journal of High Energy Physics*, 2006 (5), art. no. 026. Cited 5018 times.
doi: 10.1088/1126-6708/2006/05/026

View at Publisher

26 Field, R.
(2010) *Early LHC Underlying event data — Findings and surprises, in the proceedings of the 22nd Conference in Hadron collider physics (HCP 2010)*
August 23–27, Toronto, Canada

27 Pumplin, J., Stump, D.R., Huston, J., Lai, H.-L., Nadolsky, P., Tung, W.-K.
New generation of parton distributions with uncertainties from global QCD analysis

(2002) *Journal of High Energy Physics*, 6 (7), pp. 325-371. Cited 2138 times.

28 Buckley, A., Hoeth, H., Lacker, H., Schulz, H., von Seggern, J.E.
Systematic event generator tuning for the LHC

(2010) *European Physical Journal C*, 65 (1), pp. 331-357. Cited 126 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-009-1196-7

View at Publisher

29 D'Agostini, G.
A multidimensional unfolding method based on Bayes' theorem

(1995) *Nuclear Inst. and Methods in Physics Research, A*, 362 (2-3), pp. 487-498. Cited 533 times.
doi: 10.1016/0168-9002(95)00274-X

View at Publisher

30 Adye, T.
Unfolding algorithms and tests using RooUnfold

(2011) *Proceedings of the PHYSTAT 2011 Workshop on Statistical Issues Related to Discovery Claims in Search Experiments and Unfolding*, pp. 313-318. Cited 51 times.
ISBN: 978-929083367-3

31 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), CMS Collaboration

Constraints on parton distribution functions and extraction of the strong coupling constant from the inclusive jet cross section in pp collisions at √s = 7 TeV

(2015) *European Physical Journal C*, 75 (6), art. no. 288. Cited 26 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3499-1

View at Publisher

32 CMS luminosity based on pixel cluster counting — Summer 2013 update
(2013) *CMS-PAS-LUM-13-001*

33 CMS luminosity based on pixel cluster counting — Summer 2012 update
(2012) *CMS-PAS-LUM-12-001*

34 Nagy, Z.

Three-jet cross sections in Hadron-Hadron collisions at next-to-leading order

(2002) *Physical Review Letters*, 88 (12), pp. 1220031-1220034. Cited 208 times.

View at Publisher

35 Nagy, Z.

Next-to-leading order calculation of three-jet observables in hadron-hadron collisions

(2003) *Physical Review D*, 68 (9), art. no. 094002. Cited 347 times.
doi: 10.1103/PhysRevD.68.094002

View at Publisher

36 Dittmaier, S., Huss, A., Speckner, C.

Weak radiative corrections to dijet production at hadron colliders

(2012) *Journal of High Energy Physics*, 2012 (11), art. no. 095. Cited 50 times.
doi: 10.1007/JHEP11(2012)095

View at Publisher

37 Britzger, D.
New features in version 2 of the fastNLO project

38 Lai, H.-L., Guzzi, M., Huston, J., Li, Z., Nadolsky, P.M., Pumplin, J., Yuan, C.-P.

New parton distributions for collider physics

(2010) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 82 (7), art. no. 074024. Cited 1132 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.82.074024&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.82.074024

View at Publisher

39 Martin, A.D., Stirling, W.J., Thorne, R.S., Watt, G.

Parton distributions for the LHC

(2009) *European Physical Journal C*, 63 (2), pp. 189-285. Cited 2416 times.
doi: 10.1140/epjc/s10052-009-1072-5

View at Publisher

40 Ball, R.D., Del Debbio, L., Forte, S., Guffanti, A., Latorre, J.I., Rojo, J., Ubiali, M.
A first unbiased global NLO determination of parton distributions and their uncertainties

(2010) *Nuclear Physics B*, 838 (1-2), pp. 136-206. Cited 257 times.
doi: 10.1016/j.nuclphysb.2010.05.008

View at Publisher

41 Ball, R.D., Bertone, V., Carrazza, S., Deans, C.S., Del Debbio, L., Forte, S., Guffanti, A., (...), Ubiali, M.
Parton distributions for the LHC run II

(2015) *Journal of High Energy Physics*, 2015 (4), art. no. 40, pp. 1-148. Cited 242 times.
http://link.springer.com/journal/13130
doi: 10.1007/JHEP04(2015)040

View at Publisher

42 Aaron, F.D., Abramowicz, H., Abt, I., Adamczyk, L., Adamus, M., Al-Daya Martin, M., Alexa, C., (...), Zotkin, D.S.
Combined measurement and QCD analysis of the inclusive e $^{\pm}$p scattering cross sections at HERA

(2010) *Journal of High Energy Physics*, 2010 (1), art. no. 109. Cited 460 times.
doi: 10.1007/JHEP01(2010)109

View at Publisher

43 Alekhin, S., Blumlein, J., Moch, S.
Parton distribution functions and benchmark cross sections at NNLO
(2012) *Phys. Rev.*, 500, p. 054009. Cited 11 times.
[arXiv:1202.2281] [INSPIRE]

44 Bähr, M., Gieseke, S., Gigg, M.A., Grellscheid, D., Hamilton, K., Latunde-Dada, O., Plätzer, S., (...), Webber, B.R.
Herwig++ physics and manual

(2008) *European Physical Journal C*, 58 (4), pp. 639-707. Cited 830 times.
doi: 10.1140/epjc/s10052-008-0798-9

View at Publisher

45 Seymour, M.H., Siódmok, A.
Constraining MPI models using σ_{eff} and recent Tevatron and LHC underlying event data

(2013) *Journal of High Energy Physics*, 2013 (10), art. no. 113. Cited 40 times.
doi: 10.1007/JHEP10(2013)113

View at Publisher

46 Nason, P.
A new method for combining NLO QCD with shower Monte Carlo algorithms

(2004) *Journal of High Energy Physics*, 8 (11), pp. 1097-1124. Cited 681 times.

47 Frixione, S., Nason, P., Oleari, C.
Matching NLO QCD computations with parton shower simulations: The POWHEG method

(2007) *Journal of High Energy Physics*, 2007 (11), art. no. 070. Cited 980 times.
doi: 10.1088/1126-6708/2007/11/070

View at Publisher

48 Alioli, S., Nason, P., Oleari, C., Re, E.

A general framework for implementing NLO calculations in shower Monte Carlo programs: The POWHEG BOX

(2010) *Journal of High Energy Physics*, 2010 (6), art. no. 043. Cited 834 times.
doi: 10.1007/JHEP06(2010)043

View at Publisher

49 Alioli, S., Hamilton, K., Nason, P., Oleari, C., Re, E.

Jet pair production in POWHEG

(2011) *Journal of High Energy Physics*, 2011 (4), art. no. 081. Cited 104 times.
doi: 10.1007/JHEP04(2011)081

View at Publisher

50 Skands, P.Z.

Tuning Monte Carlo generators: The Perugia tunes

(2010) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 82 (7), art. no. 074018. Cited 495 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.82.074018&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.82.074018

View at Publisher

51 Abazov, V.M., Abbott, B., Abolins, M., Acharya, B.S., Adams, M., Adams, T., Aguilo, E., (...), Zverev, E.G.

Determination of the strong coupling constant from the inclusive jet cross section in $p\bar{p}$ collisions at s=1.96TeV

(2009) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 80 (11), art. no. 111107. Cited 63 times.
http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.80.111107&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.80.111107

View at Publisher

52 Abazov, V.M., Abbott, B., Acharya, B.S., Adams, M., Adams, T., Alexeev, G.D., Alkhazov, G., (...), Zivkovic, L.

Measurement of angular correlations of jets at s=1.96 TeV and determination of the strong coupling at high momentum transfers

(2012) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 718 (1), pp. 56-63. Cited 28 times.
doi: 10.1016/j.physletb.2012.10.003

View at Publisher

53 Affolder, T., Akimoto, H., Akopian, A., Albrow, M.G., Amaral, P., Amidei, D., Anikeev, K., (...), Cranshaw, J.

Measurement of the strong coupling constant from inclusive jet production at the tevatron $p\bar{p}$ collider

(2002) *Physical Review Letters*, 88 (4), art. no. 042001, pp. 420011-420016. Cited 43 times.

View at Publisher

54 Patrignani, C., Agashe, K., Aielli, G., Amsler, C., Antonelli, M., Asner, D.M., Baer, H., (...), Schaffner, P.

Review of particle physics

(2016) *Chinese Physics C*, 40 (10), art. no. 100001.
http://iopscience.iop.org/article/10.1088/1674-1137/40/10/100001/pdf
doi: 10.1088/1674-1137/40/10/100001

View at Publisher

55 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.

Measurement of the ratio of the inclusive 3-jet cross section to the inclusive 2-jet cross section in pp collisions at √s = 7 TeV and first determination of the strong coupling constant in the TeV range

(2013) *European Physical Journal C*, 73 (10), art. no. 2604, pp. 1-21. Cited 13 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-013-2604-6

View at Publisher

56 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.

Determination of the top-quark pole mass and strong coupling constant from the $t\bar{t}$ production cross section in pp collisions at s=7 TeV

(2014) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 728, pp. 496-517. Cited 56 times.
http://www.sciencedirect.com/science/journal/03702693
doi: 10.1016/j.physletb.2013.12.009

View at Publisher

57 Corrigendum to "Determination of the top-quark pole mass and strong coupling constant from the tt production cross section in pp collisions at √s=7 TeV" [Phys. Lett. B 728 (2014) 496-517]

(2014) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 738, pp. 526-528. Cited 6 times.
http://www.sciencedirect.com/science/journal/03702693
doi: 10.1016/j.physletb.2014.08.040

View at Publisher

58 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), Collaboration, [A.]T.C.M.S.

Measurement of the inclusive 3-jet production differential cross section in proton–proton collisions at 7 TeV and determination of the strong coupling constant in the TeV range

(2015) *European Physical Journal C*, 75 (5), pp. 1-24. Cited 6 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3376-y

View at Publisher

59 Andreev, V., Baghdasaryan, A., Begzsuren, K., Belousov, A., Bolz, A., Boudry, V., Brandt, G., (...), Zomer, F.

Measurement of jet production cross sections in deep-inelastic ep scattering at HERA: H1 Collaboration

(2017) *European Physical Journal C*, 77 (4), art. no. 215. Cited 6 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-017-4717-9

View at Publisher

60 Abramowicz, H., Abt, I., Adamczyk, L., Adamus, M., Aggarwal, R., Antonelli, S., Antonioli, P., (...), Zotkin, D.S.

Inclusive-jet photoproduction at HERA and determination of α_s

(2012) *Nuclear Physics B*, 864 (1), pp. 1-37. Cited 22 times.
doi: 10.1016/j.nuclphysb.2012.06.006

View at Publisher

61 Alekhin, S., Behnke, O., Belov, P., Borroni, S., Botje, M., Britzger, D., Camarda, S., (...), Wichmann, K.
HERAFitter: Open source QCD fit project

(2015) *European Physical Journal C*, 75 (7), art. no. 304. Cited 57 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3480-z

View at Publisher

62 http://www.herafitter.org

63 Gribov, V.N., Lipatov, L.N.
Deep inelastic ep scattering in perturbation theory
(1972) *Sov. J. Nucl. Phys.*, 15, p. 438. Cited 2010 times.
[INSPIRE]

64 Altarelli, G., Parisi, G.
Asymptotic freedom in parton language

(1977) *Nuclear Physics, Section B*, 126 (2), pp. 298-318. Cited 3845 times.
doi: 10.1016/0550-3213(77)90384-4

View at Publisher

65 Curci, G., Furmanski, W., Petronzio, R.
Evolution of parton densities beyond leading order: The non-singlet case

(1980) *Nuclear Physics B*, 175 (1), pp. 27-92. Cited 772 times.
doi: 10.1016/0550-3213(80)90003-6

View at Publisher

66 Furmanski, W., Petronzio, R.
Singlet parton densities beyond leading order

(1980) *Physics Letters B*, 97 (3-4), pp. 437-442. Cited 431 times.
doi: 10.1016/0370-2693(80)90636-X

View at Publisher

67 Vogt, A., Moch, S., Vermaseren, J.A.M.
The three-loop splitting functions in QCD: The singlet case

(2004) *Nuclear Physics B*, 691 (1-2), pp. 129-181. Cited 555 times.
doi: 10.1016/j.nuclphysb.2004.04.024

View at Publisher

68 Vogt, A., Moch, S., Vermaseren, J.A.M.
The three-loop splitting functions in QCD: The singlet case

(2004) *Nuclear Physics B*, 691 (1-2), pp. 129-181. Cited 555 times.
doi: 10.1016/j.nuclphysb.2004.04.024

View at Publisher

69 Botje, M.
QCDNUM: Fast QCD evolution and convolution

(2011) *Computer Physics Communications*, 182 (2), pp. 490-532. Cited 117 times.
doi: 10.1016/j.cpc.2010.10.020

View at Publisher

70 Thorne, R.S.
A variable-flavor number scheme for NNLO
(2006) *Phys. Rev. D*
73 () 054019

71 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Smith, W.H.

Measurement of the muon charge asymmetry in inclusive pp →w+X production at s =7TeV and an improved determination of light parton distribution functions

(2014) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 90 (3), art. no. 032004. Cited 44 times.
http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.90.032004/apsxml
doi: 10.1103/PhysRevD.90.032004

View at Publisher

72 Pumplin, J.
Uncertainties of predictions from parton distribution functions. 2. The Hessian method
(2001) *Phys. Rev. D*
65 () 014013

73 Giele, W.T., Keller, S.

Implications of hadron collider observables on parton distribution function uncertainties

(1998) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 58 (9). Cited 91 times.
doi: 10.1103/PhysRevD.58.094023

View at Publisher

74 Giele, W.T., Keller, S.A., Kosower, D.A.
Parton distribution function uncertainties. Cited 26 times.

Back to results | 1 of 1

Top of page