

Personal publications

Dr. Dmitry Bandurin

I am a *principal* author of 29 papers published in physics journals, and 15 papers published in materials of international conferences. Among the published papers, 7 papers have ≥ 50 citations with the highest rate of 140 citations (the inclusive photon cross section measurement at D0 experiment).

Journals:

1. D0 Collaboration, “Evidence for simultaneous production of J/ψ and Y mesons”, Accepted for publication in Phys. Rev. Lett., arXiv:1511.02428.
2. D0 Collaboration, “Study of double parton interactions in diphoton + dijet events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, Submitted to Phys. Rev. D, arXiv:1512.05291.
3. D. Bandurin, G. Bernardi *et al*, “Review of Physics Results from the Tevatron”. Int. J. Mod. Phys. **A30** (2015) 1001.
4. D0 Collaboration, Measurement of the inclusive “ γ +two b -jet differential production cross section and ratio of $\sigma(\gamma + 2b)/\sigma(\gamma + b)$ ”, Phys. Lett. **B737** (2014) 357.
5. D0 Collaboration, “Double Parton Interactions in $\gamma + b/c + 2$ jet events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV in D0”. Phys. Rev. D **89**, 072006 (2014).
6. D0 Collaboration, “Observation and studies of double J/ψ production at the Tevatron”, Phys. Rev. **D90** 111101(R) (2014).
7. D0 Collaboration (*D0 JES group*), “Jet energy scale determination in the D0 experiment”, Nucl. Instrum. Methods in Phys. Res. Sect. **A763** (2014) 290.
8. D0 Collaboration (*D0 EMID group*), “Electron and photon identification in the D0 experiment”, submitted to Nucl. Instrum. Methods in Phys. Res. Sect. **A750** (2014) 78.
9. CMS Collaboration, BPH-11-021, “Double J/ψ Production in pp collisions at $\sqrt{s} = 7$ TeV”, J. High Energy Phys. **03** (2014) 032.
10. D0 Collaboration, “Measurement of the differential cross section for photon plus jet production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, Phys.Rev. **D88** 072008 (2013).
11. D0 Collaboration, “Measurement of prompt photon pair production cross sections with photons in the central rapidity region in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, Phys.Lett. **B 725** (2013) 6, [hep-ex] arXiv:1301.4536.
12. D0 Collaboration, “Measurement of differential $\gamma + c$ -jet cross sections and the ratio of $\gamma + c$ and $\gamma + b$ cross sections in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, Phys.Lett. **B 719** (2013) 354, [hep-ex] arXiv:1210.5033.
13. D0 Collaboration, “Measurement of the Photon+ b -jet production differential cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, Phys.Lett. **B 714** (2012) 32, [hep-ex] arXiv:1203.5865.
14. D0 Collaboration, “Measurement of the inclusive jet cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV at D0”, Phys. Rev. D **85**, 052006 (2012), arXiv:1110.3771.
15. D. Bandurin, G. Golovanov, N. Skachkov, “Double parton interactions as background to HW associated production at the Tevatron”, Fermilab-Pub-10-428-E, JHEP **1104**,(2011) 054, [hep-ph] arXiv:1011.2186.
16. CMS Collaboration, “Measurements of inclusive W and Z cross sections in pp collisions at $\sqrt{s} = 7$ TeV at CMS”, JHEP **1101**, (2011) 080, [hep-ex] arXiv:1012.2466.
17. D0 Collaboration, “Azimuthal angular decorrelations and multiple parton interactions in $\gamma + 2$ jet and $\gamma + 3$ jet events in $p\bar{p}$ collisions”, Phys.Rev. D. **83**, 052008 (2011), [hep-ex] arXiv:1101.1509.

18. D0 Collaboration, "Double parton interactions in $\gamma+3$ jet events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", Phys.Rev. D. **81**, 052012 (2010), [hep-ex] arXiv:0912.5104.
19. D0 Collaboration, "Measurement of Direct Photon Pair Production Cross Sections in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", Phys.Lett. B **690**, 108 (2010), [hep-ex] arXiv:1002.4917.
20. D0 Collaboration, "Measurements of the photon+ b -jet and photon+ c -jet cross sections in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV in DØ", Phys.Rev.Lett. **102** (2009)192002, [hep-ex] arXiv:0901.0739.
21. CMS Collaboration, "The CMS barrel calorimeter response to particle beams from 2-GeV/c to 350-GeV/c", CERN-CMS-NOTE-2008-034, Eur.Phys.J.**C60** (2009)359-373.
22. D0 Collaboration, "Measurement of the differential cross section for the production of an isolated photon with associated jet in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", [hep-ex] arXiv:0804.1107, Phys.Lett. **B666** (2008)435-445.
23. D0 Collaboration, "Measurement of the isolated photon cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", Phys.Lett. **B639** (2006)151-158, hep-ex/0511054.
24. *D.V. Bandurin, N.B. Skachkov*, "On the application of ' $Z^0 + jet$ ' events for determining the gluon distribution in a proton at the LHC". Part.Nucl.Lett. **118** (2004)25-32, hep-ex/0403028.
25. *D.V. Bandurin, N.B. Skachkov*, "Separation of a single photon and products of the π^0, η, K_s^0 meson neutral decay channels in the CMS electromagnetic calorimeter using neural network", JHEP **04** (2004) 007, hep-ex/0108051.
26. *D.V. Bandurin, N.B. Skachkov*, "On the possibility of measuring the gluon distribution in proton with ' $\gamma + jet$ ' events at the LHC", Eur.Phys.J. **C37** (2004)185-195, hep-ex/0210004.
27. *D.V. Bandurin, N.B. Skachkov*, "Estimating the rates of " $\gamma+jet$ " events to determine the gluon distribution at the Tevatron Run II", Physics of Atomic Nuclei (Yad.Fiz.), **v.67**, No. 4 (2004)688-692.
28. *D.V. Bandurin, N.B. Skachkov*, "On the application of " $\gamma+jet$ " process for setting the absolute scale of jet energy and for determining the gluon distribution at the Tevatron in Run II", Physics of Elementary Particles and Atomic Nuclei, **v.35** (2004)113-177, hep-ex/0304010.
29. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, "Photon+jet events rate estimation for gluon distribution determination at the LHC", Part.Nucl.Lett. **103** (2000)34-41, hep-ex/0011015.

I am also a co-author of 270 papers published by DØ Collaboration and 75 papers published by CMS Collaboration in the physics journals.

Conferences:

30. "Jet and QCD physics at hadron colliders", 36 International Conference on high energy physics, Melbourne, Australia, July 4-11, 2012, FERMILAB-CONF-12-657-PPD, PoS(ICHEP2012)003.
31. "W/Z+Jets and W/Z+HF Production at the Tevatron", Moriond QCD and High Energy Interactions, La Thuile, Italy, March 10-17, 2012, FERMILAB-CONF-12-586-PPD, arXiv:1210.7848 [hep-ex], published in the conference proceedings.
32. "QCD measurements at the Tevatron", International Linear Collider Workshop, Granada, Spain, FERMILAB-CONF-11-634-E, September 26-30, 2011, arXiv:1112.0051 [hep-ex], to be published in the SLAC electronic conference proceedings.
33. "Studies of multi-parton interactions in photon+jets events at D0", Meeting of Division of Particles and Fields of the American Physical Society (DPF 2011), Providence, RI, August 9-13, 2011, FERMILAB-CONF-11-476-PPD, arXiv:1109.3233 [hep-ex], to be published in the SLAC Electronic Proceedings.

34. "QCD results from the Tevatron", XIX International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS 2011) Newport News, VA USA, April 11-15, 2011, FERMILAB-CONF-11-820-PPD, to be published in American Institute of Physics.
35. "Diphoton cross section measurement", DIS 2011, FERMILAB-CONF-11-819-PPD, to be published in American Institute of Physics.
36. "Photons and jets measurements at D0", 10th International Conference on the Intersections of Particle and Nuclear Physics, San Diego, California, May 26-31, 2009. Published in AIP Conf.Proc.1182 (2009) 475-478.
37. "Photon+jets measurements at D0", 2009 Meeting of Division of Particles and Fields of the American Physical Society (DPF 2009) Detroit, MI, July 27-31, 2009. Published in proceedings of DPF-2009, arXiv:0909.5467.
38. *D.V. Bandurin*, "Photons and jets at the Tevatron", 9th International Conference on the Intersections of Particle and Nuclear Physics, Puerto Rico, 30 May - 3 June 2006. Published in AIP Conf.Proc.870 (2006) 416-419.
39. Poster to the visit of URA and DoE committee to Fermilab "QCD and Electroweak results from D0 in Run II", May 2006.
40. *D.V. Bandurin, N.B. Skachkov*, Proceedings of XI International Workshop on Deep Inelastic Scattering "DIS 2003", St. Petersburg, April 23-27, 2003. Eds. V.T. Kim and L.N. Lipatov, p.546-551, hep-ex/0403024.
41. *D.V. Bandurin, N.B. Skachkov*, Proceedings of XVI ISHEP International Baldin Seminar on High-Energy Physics "Relativistic Nuclear Physics and Quantum Chromodynamics", Dubna, June 17-22, 2002. Eds. A.N. Sissakian, V.V. Burov, A.I. Malakhov, hep-ex/0206040.
42. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Proceedings of VI International school-seminar "Actual problems of particle physics", Gomel, Belarus, August 7-16 2001. Eds. A. Bogush *et al*, Dubna, 2002, E1-2002-166, v.I, p.167-184.
43. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Proceedings of the XV ISHEP "Relativistic Nuclear Physics and Quantum Chromodynamics", Dubna, 2000. Eds. A.M. Baldin, V.V. Burov, A.I. Malakhov.
44. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Proceedings of the XV International Workshop on QFTHEP, Tver, Russia, September 14-20, 2000. Eds. M.N. Dubinin and V.I. Savrin, p.9-15.

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45. *D.V. Bandurin, N.B. Skachkov*, " γ +jet process application for setting the absolute scale of jet energy and determining the gluon distribution at the Tevatron Run II". D0 Note 3948 (2002), hep-ex/0203003.
46. *M. Alexeev, D. Bandurin, D. Kirillov, N. Skachkov*, "On the suppression of background to direct photon using calorimeter information". D0 Note 4305 (2003).
47. *M. Alexeev, D. Bandurin, G. Golovanov, N. Skachkov*, "Isolated jets in γ +jet Run II D0 data and their application for jet energy scale setting". D0 Note 4313 (2003).
48. *M. Alexeev, D. Bandurin, G. Golovanov, D. Kirillov, N. Skachkov*, " γ +jet Run II D0 data with isolated jets in the End Calorimeter and their application for jet energy scale setting". D0 Note 4372 (2004).
49. *D. Bandurin, D. Denisov, G. Erusalimtshev*, "Forward muon system monitoring using single muon production", D0 Note 4275 (2003).

50. *D. Bandurin*, "The Isolated Photon Cross Section in the Central Rapidity Region at 1.96 TeV", DØ Note 4672 (2005) (detailed technical description of the analysis).
51. *D. Bandurin*, "The Isolated Photon Cross Section in the Central Rapidity Region at 1.96 TeV", *Conference note*, DØ Note 4859-CONF (2005).
52. *D. Bandurin, et al* (Photon ID group), "Photon Identification in P17 Data", DØ Note 4974 (2005).
53. *D. Bandurin, O. Atramentov, Y. Maravin*, "Photon energy scale for jet energy scale setting", DØ Note 4976 (2006).
54. *D. Bandurin*, "Artificial Neural Network for photon identification", DØ Note 5345 (2006).
55. JES group, "Jet Energy scale determination in DØ Run II (final p17 certification)", DØ Note 5682 (2007). A paper for Nucl.Instrum.Methods is in preparation.
56. *D. Bandurin, G. Golovanov, D. Korablev, N. Skachkov*, "Measurement of triple differential photon plus jet cross sections in $p\bar{p}$ collisions at 1.96 TeV in DØ ", DØ Note 5368 (2007).
57. *D. Bandurin, G. Golovanov, D. Korablev, N. Skachkov*, "Measurement of triple differential photon plus jet cross sections in $p\bar{p}$ collisions at 1.96 TeV in DØ ", *Conference note*, DØ Note 5368-CONF (2007).
58. *O. Atramentov, D. Bandurin, Y. Liu, H. Yin*, "Run IIb electron track match parameters study", DØ Note 5365 (2008).
59. *O. Atramentov, D. Bandurin, Y. Liu, X. Bu*, "Artificial neural network using central preshower detector information for electron and photon selection", DØ Note 5650 (2008).
60. *D. Bandurin, M. Biegel, J. Cammin, D. Duggan*, "Measurement of the triple differential photon plus heavy-flavor jet cross section in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV in DØ ", DØ Note 5702 (2008).
61. *D. Bandurin, M. Biegel, J. Cammin, D. Duggan*, "Measurement of the triple differential photon plus heavy-flavor jet cross section in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV in DØ ", *Conference note*, DØ Note 5724-CONF (2008).
62. *D. Bandurin, et al* (EMID group), "Electron and Photon Identification with p20 data", DØ Note 5761 (2008).
63. *D. Bandurin, D. Duggan*, "Luminosity Corrections for Calorimeter Isolation", DØ Note 5772 (2008).
64. *D. Bandurin, A. Verkheev*, "Jet origin vertex", DØ Note 5807 (2008).
65. *D. Bandurin, et al* (EMID group), "Electron and photon efficiencies for the re-processed p17 and p20 data", DØ Note 5798 (2008).
66. *D. Bandurin, M. Hohlfeld, K. Kaadze*, "Electron trigger efficiencies in Common Analysis Framework for Run II Data", DD Note 5911.
67. *D. Bandurin, G. Golovanov, N. Skachkov, A. Verheev*, "Double parton interactions in $\gamma+3$ jet events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", DØ Note 5808.
68. *D. Bandurin, G. Golovanov, N. Skachkov, A. Verheev*, "Double parton interactions in $\gamma + 3$ jet events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV in DØ ". DØ Note 5910-CONF.
69. *D. Bandurin, X. Bu, A. Juste*, "Artificial neural network for forward photon selection", DØ Note 5895.
70. *D. Bandurin, M. Takahashi*, "Electron charge misidentification for p17 and p20 data and Monte Carlo", DØ Note 5927.
71. *D. Bandurin, X. Bu, A. Juste, J. Zhu*, "Direct Diphoton Production cross section measurement at DØ with 4.2 fb⁻¹ data", DØ Note 5959.

72. *D. Bandurin, G. Golovanov, N. Skachkov*, “Double parton interactions and Higgs boson searches”, DØ Note 6002.
73. *D. Bandurin, et al*, ”Photon Identification for Run II data”, DØ Note 6004.
74. *D. Bandurin*, “Underlying events and EM isolation”, DØ Note 6119.
75. *D. Bandurin, G. Golovanov, N. Skachkov*, “Double parton interactions as background to HW production”, DØ Note 6120.
76. *D. Bandurin*, “EM cluster and jet energy saturation”, DØ Note 6121.
77. *D. Bandurin, G. Golovanov, N. Skachkov, A. Verheev*, “Azimuthal angular decorrelations in γ +2 jet and γ +3 jet events produced in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, DØ Note 6124.
78. *D. Bandurin, D. Duggan, Yu. Maravin*, “Search for technicolor with γ +two heavy flavor jet events”, DØ Note 6126.
79. *D. Bandurin, A. Tomalak*, “Optimization of $W + c$ -jet events selection using MVA BC and BL taggers”, DØ Note 6196.
80. *D. Bandurin, Nazar Bartosik, Ashish Kumar*, “Measurement of γ + b -jet production cross sections with photons in central and forward rapidity regions in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV.”, DØ Note 6258.
81. *Ye. Aushev, D. Bandurin, N. Stefanyuk, V. Trusov*, “Jet trigger efficiencies for Run 2b data”, DØ Note 6261.
82. *D. Bandurin, et al (JES group)*, “Jet Energy Scale Determination for DØ Run IIb”, DØ Note 6327.
83. *D. Bandurin, N. Bartosik, A. Dubey, S. Dutt and A. Kumar*, “Measurement of $\gamma + c$ -jet production cross section and ratio of cross sections for $\gamma + c$ -jet to $\gamma + b$ -jet production in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV”, DØ Note 6355.
84. *V. Anikeev, D. Bandurin, M. Strauss, P. Svoisky, and V. Trusov*, “Measurement of di-photon production cross sections with photons in the central rapidity region in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, DØ Note 6367.
85. *D. Bandurin, O. Kononenko, Yu. Yatsunenko, A. Popov, Yu. Scheglov*, “Measurement of Jpsi pair production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, DØ Note 6373.

CMS Notes:

86. CMS AN-2008/023, *D. Bandurin, et al*, “Generator-Level Preselection of QCD Electromagnetic Jets for HEEP Analyses” (Exotica group).
87. CMS AN-2008/028, *D. Bandurin, et al*, “Dielectron Fake-Rate Estimates for HEEP Analyses using the Generator-Level Preselection of QCD Electromagnetic Jets” (Exotica group).
88. CMS AN-2008/044, *D. Bandurin, et al*, “Study of backgrounds to high-mass di-electron final states” (Exotica group).
89. CMS AN-2008/048, *D. Evans, et al*, “Search for high mass resonance production decaying into an electron pair in the CMS experiment” (Exotica group).
90. CMS AN-2009/021, *D. Bandurin, et al*, “Baseline Candidate Single Electron HLT Path for LHC Startup” (EWK group).
91. CMS AN-2009/074, *D. Bandurin, et al*, “Electron Reconstruction at low p_T ” (EWK group).
92. CMS AN-2009/098, *N. Adam, D. Bandurin et al*, “Towards a measurement of $W \rightarrow e\nu$ and $Z \rightarrow ee$ cross sections in pp collisions at $\sqrt{s} = 10$ TeV” (EWK group).

93. CMS AN-2010/007, *R. Covarelli, D. Bandurin et al*, “Low Pt Double Electron Trigger Proposal for CMS” (Trigger group).
94. CMS AN-2010/277, “Data Driven technique to estimate background for the $Z \rightarrow \ell\ell$ ” (EWK WG).
95. CMS AN-2009/264, *N. Adam, D. Bandurin et al*, “Updated measurements of inclusive W and Z cross sections in pp collisions at $\sqrt{s} = 7$ TeV” (EWK group).
96. CMS AN-2011/344, *D. Bandurin, et al*, “Observation of double J/ψ production in proton-proton collisions at a center-of-mass energy of $\sqrt{s} = 7$ TeV with the CMS detector” (BPHY group).
97. CMS AN-2012/222, *D. Bandurin, et al*, “Measurement of the Prompt Double J/ψ Production Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV” (BPHY group).

CMS RDMS Reports:

98. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Second Annual RDMS CMS Collaboration Meeting. CERN, December 16-17, 1996. CMS-Document, 1996–213, p.7-23.
99. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Third Annual RDMS CMS Collaboration Meeting. CERN, December 16-17, 1997. CMS-Document, 1997–168, p.139-153.
100. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, Fifth Annual RDMS CMS Collaboration Meeting. ITEP, Moscow, Russia. November 22-24, 2000. Conference. ”Physics Program with the CMS Detector”. CMS Document, 2000-058, p.422-427.

HERA-B Notes:

101. *D. Bandurin*, HERA-B Note 99-112 (1999), “Proposals on speeding up GEANT simulation for ECAL and TRD.”
102. *D. Bandurin*, HERA-B Note 99-066 (1999), “Global alignment and description of the software.”

JINR Communications and Preprints:

103. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”Jet energy scale setting with “ γ +jet” events at LHC energies. Generalities, selection rules”. JINR Preprint E2-2000-251, JINR, Dubna, hep-ex/0011012.
104. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”Jet energy scale setting with “ γ +jet” events at LHC energies. Event rates, P_t structure of jet”. JINR Preprint E2-2000-252, JINR, Dubna, hep-ex/0011013.
105. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”Jet energy scale setting with “ γ +jet” events at LHC energies. Minijets and cluster suppression and $P_t^\gamma - P_t^{jet}$ disbalance”. JINR Preprint E2-2000-253, JINR, Dubna, hep-ex/0011084.
106. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”Jet energy scale setting with “ γ +jet” events at LHC energies. Selection of events with a clean “ γ +jet” topology and $P_t^\gamma - P_t^{jet}$ disbalance”. JINR Preprint E2-2000-254, JINR, Dubna, hep-ex/0011014.
107. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”Jet energy scale setting with “ γ +jet” events at LHC energies. Detailed study of the background suppression”. JINR Preprint E2-2000-255, JINR, Dubna, hep-ex/0011017.
108. *D.V. Bandurin, V.F. Konoplyanikov, N.B. Skachkov*, ”On the possibility of $\pi^0, \eta, \omega, K_s^0$ mesons and a photon discrimination basing on the calorimeter information in the CMS detector”, JINR Communication E1-2001-261, hep-ex/0108050.

109. *D.V. Bandurin, N.B. Skachkov*, "Separation of quark and gluon jets in the direct photon production processes at the LHC using the neural network approach", JINR Communication E2-2001-260, hep-ex/0109001.
110. *D.V. Bandurin, N.B. Skachkov*, "Setting the absolute scale of jet energy with ' $Z^0 + jet$ ' events at LHC", JINR Communication E1-2003-163, hep-ex/0209039.

Data Science Notes:

111. *D. Bandurin and Data Science group of Centro Media*, "Click Prediction Model".
112. *D. Bandurin (Centro Media)*, "Viewability Study and Prediction Model".
113. *D. Bandurin (Centro Media)*, "Recommendation engine".
114. *D. Bandurin (Strike Social)*, "Optimization engine for video advertising campaigns".
115. *D. Bandurin and Data Science group of Strike Social*, "Recommendation engine for video advertising campaigns".