

# Curriculum Vitae

Name: Dmitri E. Kharzeev  
Date of Birth: 6 September 1963  
Place of Birth: Tomsk, Russia  
Home Address: 131 Cliff Rd., Port Jefferson, New York 11777

## 1 Honors and awards

- Winner, USSR Competition in Physics for students, Novosibirsk, 1986
- CNRS Fellow, 2001
- Emilio Segre Distinguished Scholar, 2005
- Sackler Fellow, 2005
- Fellow of the American Physical Society, 2006

## 2 Education

- 1980-1986:  
Student at the Quantum Statistics and Field Theory Division of the Physics Department of Moscow State University.
- 1986-1990:  
Junior Staff Member at Nuclear Physics Institute of Moscow State University.
- 1990:  
Doctor of Physics Degree from Moscow State University in Theoretical Particle and Nuclear Physics.

### 3 Professional experience

- 1990-1993:

Research Associate at Istituto Nazionale di Fisica Nucleare (INFN), Pavia, Italy and Staff Member at Nuclear Physics Institute and Physics Department of Moscow State University.

- 1992-1993: Invited Professor ("professore a contratto") at Pavia University, Italy.

- 1994-1997:

Scientific Associate at the Theory Division of CERN, Geneva, Switzerland;

- 1997:

Scientific Associate at Fakultät für Physik, Universität Bielefeld, Germany;

- 1997-2000:

Fellow, RIKEN-BNL Research Center, Brookhaven National Laboratory;

- 1999-2000:

Associate Scientist, Physics Department, Brookhaven National Laboratory;

- 2000 – 2005:

Scientist with tenure, Physics Department, Brookhaven National Laboratory;

- 2000 – 2004:

Deputy Group Leader, Nuclear Theory;

- 2004 – present:

Group Leader, Nuclear Theory;

- 2006 – present:

Senior Scientist with tenure, Physics Department, Brookhaven National Laboratory;

- 2007 – present:

Professor of Physics (adjunct), Physics Department, Yale University;

### 4 Visiting positions

- 1994-95:

Visiting Scientist at Fakultät für Physik, Universität Bielefeld, Germany;

- 2001:  
CNRS Fellow, Université de Pierre et Marie Curie (Paris VI), France;
- 2002:  
Guest scientist, Program co-organizer, Kavli Institute for Theoretical Physics, Santa Barbara;

## 5 Other professional activities

- 2001-present:  
Editor, Annals of Physics
- 1999-present:  
Managing Editor, International Journal of Modern Physics E (Nuclear Physics)
- 1999-present:  
Member of review panels for U.S. Department of Energy, Division of Nuclear Physics and National Science Foundation
- 2005-present:  
Elected a member of the Brookhaven Council
- 2006-present  
Member of the NSAC (Nuclear Science Advisory Committee) Working group on the long range plan for nuclear science
- 2005-present:  
Member of the RIKEN-BNL Advisory board
- 2002-present:  
Member, RHIC planning committee at BNL
- 2000-present:  
Member, Physics Department planning committee at BNL
- 2000-present:  
Member, Physics Department tenure committee at BNL
- Conference organization:  
(Co-)organized 42 International conferences and workshops in the US and Europe.
- Conference participation:  
Delivered over 170 of invited plenary talks at international conferences and workshops.

## 6 Teaching experience

- 1990-92:  
Lectures on “Group theory in quantum mechanics” and seminars on “High energy nuclear physics” at the Physics Department of Moscow State University;
- 1992-93:  
Lectures on “Particle and nuclear physics” at the Physics Department of Pavia University, Italy;
- 2000:  
Lectures on “High energy nuclear physics” at the Physics Department of SUNY Stony Brook;
- 2007 - present:  
Graduate course on “Quantum physics at femto- and nano-scales” at the Physics Department of Yale University;
- Delivered 15 courses at International nuclear and particle physics summer schools for graduate students and young researchers, including BNL School on Nuclear Physics, CERN School on High Energy Physics, etc.

# Publication list

## Papers in refereed journals

1. **"Gluon saturation effects on  $J/\psi$  production in heavy ion collisions"**  
D. Kharzeev, E. Levin, M. Nardi, K. Tuchin,  
submitted to Phys. Rev. Lett.
2. **"Universal upper bound on the energy of a parton escaping from the strongly coupled quark-gluon matter"**  
D. E. Kharzeev,  
arXiv:0806.0358 [hep-ph]; submitted to Phys. Lett. B
3. **Spontaneous symmetry breakings in graphene subjected to in-plane magnetic field"**  
I. L. Aleiner, D. E. Kharzeev, A. M. Tsvelik,  
Phys. Rev. **B 76**, 195415 (2007).
4. **"Hadronic dissipative effects on transverse dynamics at RHIC"**  
T. Hirano, U. W. Heinz, D. Kharzeev, R. Lacey and Y. Nara,  
arXiv:0805.0064 [nucl-th]; to appear in Nucl. Phys. A
5. **"Heavy Ion Collisions at the LHC - Last Call for Predictions"**  
N. Armesto *et al.*,  
J. Phys. G **35**, 054001 (2008)  
[arXiv:0711.0974 [hep-ph]].
6. **"The effects of topological charge change in heavy ion collisions: 'Event by event P and CP violation' "**  
D. E. Kharzeev, L. D. McLerran and H. J. Warringa,  
Nucl. Phys. A **803**, 227 (2008)  
[arXiv:0711.0950 [hep-ph]].
7. **"Universal properties of bulk viscosity near the QCD phase transition"**  
F. Karsch, D. Kharzeev and K. Tuchin  
Phys. Lett. B **663**, 217 (2008)  
[arXiv:0711.0914 [hep-ph]].
8. **"Mass ordering of differential elliptic flow and its violation for phi mesons"**  
T. Hirano, U. W. Heinz, D. Kharzeev, R. Lacey and Y. Nara,  
Phys. Rev. C **77**, 044909 (2008)  
[arXiv:0710.5795 [nucl-th]].
9. **"Hadron multiplicities at the LHC"**  
D. Kharzeev, E. Levin and M. Nardi,  
arXiv:0707.0811 [hep-ph]; in  
J. Phys. G **35**, 054001 (2008)

10. **“Charge separation induced by P-odd bubbles in QCD matter”**  
D. Kharzeev and A. Zhitnitsky  
Nucl. Phys. A **797**, 67 (2007)  
[arXiv:0706.1026 [hep-ph]].
11. **“Bulk viscosity of QCD matter near the critical temperature”**  
D. Kharzeev and K. Tuchin,  
arXiv:0705.4280 [hep-ph]; JHEP, in print.
12. **“Thermal Hadronization and Hawking-Unruh Radiation in QCD,”**  
P. Castorina, D. Kharzeev and H. Satz,  
Eur. Phys. J. C **52**, 187 (2007) [arXiv:0704.1426 [hep-ph]].
13. **“Theoretical issues in J/psi suppression,”**  
D. E. Kharzeev,  
J. Phys. G **34**, S445 (2007)  
[arXiv:hep-ph/0703259].
14. **“Elliptic Flow from a Hybrid CGC, Full 3D Hydro and Hadronic Cascade Model,”**  
T. Hirano, U. W. Heinz, D. Kharzeev, R. Lacey and Y. Nara,  
J. Phys. G **34**, S879 (2007)  
[arXiv:nucl-th/0701075].
15. **”Spin density wave formation in graphene facilitated by the in-plane magnetic field”**  
D.E. Kharzeev, S.A. Reyes and A.M. Tsvelik  
arXiv:cond-mat/0611251; submitted to Phys. Rev. Lett.
16. **”The physics of strong color fields”**  
D. Kharzeev  
Acta Physics Polonica B, vol. 37, no.12, p. 29, 2006.
17. **“Hawking-Unruh phenomenon in the parton language,”**  
D. Kharzeev,  
Eur. Phys. J. A **29**, 83 (2006).
18. **“Vacuum self-focussing of very intense laser beams”**  
D. Kharzeev and K. Tuchin  
Phys. Rev. A **75**, 043807 (2007) [arXiv:hep-ph/0611133].
19. **“Multi-particle production and thermalization in high-energy QCD”**  
D. Kharzeev, E. Levin and K. Tuchin  
Phys. Rev. C **75**, 044903 (2007) [arXiv:hep-ph/0602063].
20. **“Quantum black holes and thermalization in relativistic heavy ion collisions”**  
D. Kharzeev  
Nucl. Phys. A **774**, 315 (2006) [arXiv:hep-ph/0511354]

21. **“Sequential charmonium dissociation”**  
F. Karsch, D. Kharzeev and H. Satz  
Phys. Lett. B **637**, 75 (2006) [arXiv:hep-ph/0512239]
22. **“Hadronic dissipative effects on elliptic flow in ultrarelativistic heavy-ion collisions”**  
T. Hirano, U. W. Heinz, D. Kharzeev, R. Lacey and Y. Nara  
Phys. Lett. B **636**, 299 (2006) [arXiv:nucl-th/0511046]
23. **“Signatures of the color glass condensate in J/psi production off nuclear targets”**  
D. Kharzeev and K. Tuchin  
Nucl. Phys. A **770**, 40 (2006) [arXiv:hep-ph/0510358]
24. **“Chaos in the color glass condensate”**  
D. Kharzeev and K. Tuchin  
Phys. Lett. B **626**, 147 (2005) [arXiv:hep-ph/0501271]
25. **“From color glass condensate to quark gluon plasma through the event horizon”**  
D. Kharzeev and K. Tuchin  
Nucl. Phys. A **753**, 316 (2005) [arXiv:hep-ph/0501234]
26. **“Color glass condensate at the LHC: Hadron multiplicities in p p, p A and A A collisions”**  
D. Kharzeev, E. Levin and M. Nardi  
Nucl. Phys. A **747**, 609 (2005) [arXiv:hep-ph/0408050]
27. **“Parity violation in hot QCD: Why it can happen, and how to look for it”**  
D. Kharzeev  
Phys. Lett. B **633**, 260 (2006) [arXiv:hep-ph/0406125]
28. **“Nuclear modification factor in d + Au collisions: Onset of suppression in the color glass condensate”**  
D. Kharzeev, Y. V. Kovchegov and K. Tuchin  
Phys. Lett. B **599**, 23 (2004) [arXiv:hep-ph/0405045]
29. **“The Gribov conception of quantum chromodynamics”**  
Y. L. Dokshitzer and D. E. Kharzeev  
Ann. Rev. Nucl. Part. Sci. **54**, 487 (2004) [arXiv:hep-ph/0404216]
30. **“Jet azimuthal correlations and parton saturation in the color glass condensate”**  
D. Kharzeev, E. Levin and L. McLerran  
Nucl. Phys. A **748**, 627 (2005) [arXiv:hep-ph/0403271]
31. **“QCD in curved space-time: A conformal bag model”**  
D. Kharzeev, E. Levin and K. Tuchin  
Phys. Rev. D **70**, 054005 (2004) [arXiv:hep-ph/0403152]

32. **“Open charm production in heavy ion collisions and the color glass condensate”**  
D. Kharzeev and K. Tuchin  
Nucl. Phys. A **735**, 248 (2004) [arXiv:hep-ph/0310358]
33. **“Cronin effect and high-p(T) suppression in p A collisions”**  
D. Kharzeev, Y. V. Kovchegov and K. Tuchin  
Phys. Rev. D **68**, 094013 (2003) [arXiv:hep-ph/0307037]
34. **“Quarkonium polarization in heavy ion collisions as a possible signature of the quark-gluon plasma”**  
B. L. Ioffe and D. E. Kharzeev  
Phys. Rev. C **68**, 061902 (2003) [arXiv:hep-ph/0306176]
35. **“On recent puzzles in the production of heavy quarkonia”**  
B. L. Ioffe and D. E. Kharzeev  
Phys. Rev. D **69**, 014016 (2004) [arXiv:hep-ph/0306062]
36. **“QCD saturation and deuteron nucleus collisions”**  
D. Kharzeev, E. Levin and M. Nardi  
Nucl. Phys. A **730**, 448 (2004) [Erratum-ibid. A **743**, 329 (2004)] [arXiv:hep-ph/0212316]
37. **“Parton saturation and N(part) scaling of semi-hard processes in QCD”**  
D. Kharzeev, E. Levin and L. McLerran  
Phys. Lett. B **561**, 93 (2003) [arXiv:hep-ph/0210332]
38. **“Color transparency effects in exclusive (e,e' p) reactions”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Prog. Part. Nucl. Phys. **34**, 225 (1995)
39. **“Classical gluodynamics in curved space-time and the soft pomeron”**  
D. Kharzeev, E. Levin and K. Tuchin  
Phys. Lett. B **547**, 21 (2002) [arXiv:hep-ph/0204274]
40. **“Buckyballs and gluon junction networks on the femtometer scale”**  
T. Csorgo, M. Gyulassy and D. Kharzeev  
J. Phys. G **30**, L17 (2004) [arXiv:hep-ph/0112066]
41. **“The onset of classical QCD dynamics in relativistic heavy ion collisions”**  
D. Kharzeev, E. Levin and M. Nardi  
Phys. Rev. C **71**, 054903 (2005) [arXiv:hep-ph/0111315]
42. **“Anomalous chirality fluctuations in the initial stage of heavy ion collisions and parity odd bubbles”**  
D. Kharzeev, A. Krasnitz and R. Venugopalan  
Phys. Lett. B **545**, 298 (2002) [arXiv:hep-ph/0109253]



43. **“Generalized scaling of the transverse mass spectrum at the Relativistic Heavy-Ion Collider”**  
J. Schaffner-Bielich, D. Kharzeev, L. D. McLerran and R. Venugopalan  
Nucl. Phys. A **705**, 494 (2002) [arXiv:nucl-th/0108048]
44. **“Manifestations of high density QCD in the first RHIC data”**  
D. Kharzeev and E. Levin  
Phys. Lett. B **523**, 79 (2001) [arXiv:nucl-th/0108006]
45. **“Instantons in the saturation environment”**  
D. E. Kharzeev, Y. V. Kovchegov and E. Levin  
Nucl. Phys. A **699**, 745 (2002) [arXiv:hep-ph/0106248]
46. **“Heavy quark colorimetry of QCD matter”**  
Y. L. Dokshitzer and D. E. Kharzeev  
Phys. Lett. B **519**, 199 (2001) [arXiv:hep-ph/0106202]
47. **“Diffractive dijet production and nuclear shadowing in p A interactions”**  
S. E. Vance and D. Kharzeev  
Nucl. Phys. A **698**, 623 (2002) [arXiv:nucl-th/0106023]
48. **“Hadron production in nuclear collisions at RHIC and high density QCD”**  
D. Kharzeev and M. Nardi  
Phys. Lett. B **507**, 121 (2001) [arXiv:nucl-th/0012025]
49. **“QCD instantons and the soft pomeron”**  
D. E. Kharzeev, Y. V. Kovchegov and E. Levin  
Nucl. Phys. A **690**, 621 (2001) [arXiv:hep-ph/0007182]
50. **“Soft double-diffractive Higgs production at hadron colliders”**  
D. Kharzeev and E. Levin  
Phys. Rev. D **63**, 073004 (2001) [arXiv:hep-ph/0005311]
51. **“Scale anomaly and ‘soft’ pomeron in QCD”**  
D. Kharzeev and E. Levin  
Nucl. Phys. B **578**, 351 (2000) [arXiv:hep-ph/9912216]
52. **“Hadronic probes of the polarized intrinsic strangeness of the nucleon”**  
J. R. Ellis, M. Karliner, D. E. Kharzeev and M. G. Sapozhnikov  
Nucl. Phys. A **673**, 256 (2000) [arXiv:hep-ph/9909235]
53. **“Quarkonium formation time in a model-independent approach”**  
D. Kharzeev and R. L. Thews  
Phys. Rev. C **60**, 041901 (1999) [arXiv:nucl-th/9907021]
54. **“Pionic measures of parity and CP violation in high energy nuclear collisions”**  
D. Kharzeev and R. D. Pisarski  
Phys. Rev. D **61**, 111901 (2000) [arXiv:hep-ph/9906401]

55. **“Long-range forces of QCD”**  
H. Fujii and D. Kharzeev  
Phys. Rev. D **60**, 114039 (1999) [arXiv:hep-ph/9903495]
56. **“ $\chi_2$  production in polarized p p collisions at RHIC: Measuring  $\Delta G$  and testing the color octet model”**  
R. L. Jaffe and D. Kharzeev  
Phys. Lett. B **455**, 306 (1999) [arXiv:hep-ph/9903280]
57. **“ $J/\psi$  photoproduction and the gluon structure of the nucleon”**  
D. Kharzeev, H. Satz, A. Syamtomov and G. Zinovjev  
Eur. Phys. J. C **9**, 459 (1999) [arXiv:hep-ph/9901375]
58. **“Charmonium suppression in nuclear collisions”**  
D. Kharzeev  
Prog. Theor. Phys. Suppl. **129**, 73 (1997)
59. **“Possibility of spontaneous parity violation in hot QCD”**  
D. Kharzeev, R. D. Pisarski and M. H. G. Tytgat  
Phys. Rev. Lett. **81**, 512 (1998) [arXiv:hep-ph/9804221]
60. **“Partial  $U_A(1)$  restoration from Bose-Einstein correlations”**  
S. E. Vance, T. Csorgo and D. Kharzeev  
Phys. Rev. Lett. **81**, 2205 (1998) [arXiv:nucl-th/9802074]
61. **“The transverse momentum dependence of anomalous  $J/\psi$  suppression”**  
D. Kharzeev, M. Nardi and H. Satz  
Phys. Lett. B **405**, 14 (1997) [arXiv:hep-ph/9702273]
62. **“Quarkonium interactions in dense matter”**  
D. Kharzeev and H. Satz  
Nucl. Phys. A **590**, 515C (1995)
63. **“A quantitative analysis of charmonium suppression in nuclear collisions”**  
D. Kharzeev, C. Lourenco, M. Nardi and H. Satz  
Z. Phys. C **74**, 307 (1997) [arXiv:hep-ph/9612217]
64. **“Quarkonium production and colour deconfinement in nuclear collisions”**  
D. Kharzeev  
Nucl. Phys. A **610**, 418C (1996) [arXiv:hep-ph/9609260]
65. **“On the sum rule approach to quarkonium hadron interactions”**  
D. Kharzeev, H. Satz, A. Syamtomov and G. Zinovev  
Phys. Lett. B **389**, 595 (1996) [arXiv:hep-ph/9605448]
66. **“An Experimental study of anti-proton He-4 annihilation at rest”**  
A. Adamo *et al.*  
Nucl. Phys. A **569**, 761 (1994)

67. **“Can Gluons Trace Baryon Number?”**  
D. Kharzeev  
Phys. Lett. B **378**, 238 (1996) [arXiv:nucl-th/9602027]
68. **“ $J/\Psi$  Suppression in an Equilibrating Parton Plasma”**  
X. M. Xu, D. Kharzeev, H. Satz and X. N. Wang  
Phys. Rev. C **53**, 3051 (1996) [arXiv:hep-ph/9511331]
69. **“Charmonium composition and nuclear suppression”**  
D. Kharzeev and H. Satz  
Phys. Lett. B **366**, 316 (1996) [arXiv:hep-ph/9508276]
70. **“Color transparency”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Phys. Atom. Nucl. **57**, 1661 (1994) [Yad. Fiz. **57**, 1732 (1994)]
71. **“The Return of the prodigal Goldstone boson”**  
J. I. Kapusta, D. Kharzeev and L. D. McLerran  
Phys. Rev. D **53**, 5028 (1996) [arXiv:hep-ph/9507343]
72. **“Anti-nucleon nucleon and anti-nucleon nucleus interaction: A Review of experimental data”**  
G. Bendiscioli and D. Kharzeev  
Riv. Nuovo Cim. **17N6**, 1 (1994)
73. **“CP violating effect of QCD vacuum in quark fragmentation”**  
A. Efremov and D. Kharzeev  
Phys. Lett. B **366**, 311 (1996) [arXiv:hep-ph/9506412]
74. **“Production of charmonium - nucleon bound states in the topological soliton model”**  
C. Gobbi, S. Boffi and D. E. Kharzeev  
Mod. Phys. Lett. A **9**, 3035 (1994)
75. **“The Proton spin puzzle and  $\Lambda$  polarization in deep inelastic scattering”**  
J. R. Ellis, D. Kharzeev and A. Kotzinian  
Z. Phys. C **69**, 467 (1996) [arXiv:hep-ph/9506280]
76. **“Charmonium interaction in nuclear matter”**  
D. Kharzeev and H. Satz  
Phys. Lett. B **356**, 365 (1995) [arXiv:hep-ph/9504397]
77. **“Collective effects in the nuclear interactions of charmonium at low-energy”**  
F. Cannata, D. E. Kharzeev and F. Piccinini  
Phys. Rev. C **49**, 2798 (1994)
78. **“Nonperturbative quarkonium dissociation in hadronic matter”**  
D. Kharzeev, L. D. McLerran and H. Satz  
Phys. Lett. B **356**, 349 (1995) [arXiv:hep-ph/9504338]

79. **“The proton spin puzzle and depolarization in  $\bar{p}p \rightarrow \bar{\Lambda}\Lambda$ ”**  
M. Alberg, J. R. Ellis and D. Kharzeev  
Phys. Lett. B **356**, 113 (1995) [arXiv:hep-ph/9503333]
80. **“Quarkonium production in hadronic collisions”**  
R. Gavai, D. Kharzeev, H. Satz, G. A. Schuler, K. Sridhar and R. Vogt  
Int. J. Mod. Phys. A **10**, 3043 (1995) [arXiv:hep-ph/9502270]
81. **“Abundant  $\phi$  meson production in  $\bar{p}p$  annihilation at rest and strangeness in the nucleon”**  
J. R. Ellis, M. Karliner, D. E. Kharzeev and M. G. Sapozhnikov  
Phys. Lett. B **353**, 319 (1995) [arXiv:hep-ph/9412334]
82. **“Chiral dynamics, deconfinement and thermal dileptons”**  
D. Kharzeev and H. Satz  
Phys. Lett. B **340**, 167 (1994) [arXiv:hep-ph/9408356]
83. **“ $N\bar{N}$  annihilation at the open charm threshold”**  
B. Kerbikov and D. Kharzeev  
Phys. Rev. D **51**, 6103 (1995) [arXiv:hep-ph/9408378]
84. **“G parity tests in  $\bar{n}p$  annihilation”**  
F. Cannata and D. E. Kharzeev  
Nuovo Cim. A **106**, 989 (1993)
85. **“Quarkonium interactions in hadronic matter”**  
D. Kharzeev and H. Satz  
Phys. Lett. B **334**, 155 (1994) [arXiv:hep-ph/9405414]
86. **“Measuring the hadronization length in  $e^+e^- \rightarrow K^0\bar{K}^0\gamma$ ”**  
D. Kharzeev and A. Leonidov  
Phys. Lett. B **329**, 374 (1994) [arXiv:hep-ph/9403321]
87. **“Color transparency in hard nuclear reactions: Quark versus hadronic dynamics”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Phys. Lett. B **305**, 1 (1993)
88. **“Heavy quarks and nuclei”**  
D. E. Kharzeev  
Nucl. Phys. A **558**, 331C (1993)
89. **“The Quantum mechanical origin of nuclear shadowing”**  
D. Kharzeev and H. Satz  
Phys. Lett. B **327**, 361 (1994)
90. **“Color confinement in hadron - nucleus collisions”**  
D. Kharzeev and H. Satz  
Z. Phys. C **60**, 389 (1993)

91. **“Perturbative QCD forbidden charmonium decays and gluonia”**  
M. Anselmino, M. Genovese and D. E. Kharzeev  
Phys. Rev. D **50**, 595 (1994) [arXiv:hep-ph/9310344]
92. **“Asymmetry of the missing momentum distribution in  $(e, e'p)$  reactions and color transparency”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Phys. Lett. B **325**, 294 (1994) [arXiv:hep-ph/9310375]
93. **“Quantum interference effects in  $N^*$  electroproduction and propagation in nuclei”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Phys. Rev. C **49**, 1243 (1994) [arXiv:nucl-th/9305016]
94. **“Hadronic dynamics of color transparency”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
Nucl. Phys. A **565**, 767 (1993)
95. **“Charm physics with low-energy anti-protons”**  
D. Kharzeev  
Sov. J. Nucl. Phys. **55**, 746 (1992)
96. **“Pontecorvo reactions as a general class of anti-proton annihilation on nuclei”**  
D. E. Kharzeev, F. Nichitiu and M. G. Sapozhnikov  
Sov. J. Nucl. Phys. **55**, 748 (1992)
97. **“Charmed-Particle Production In Annihilation Of Antiprotons On Nuclei At Intermediate Energies”**  
D. E. Kharzeev  
Sov. J. Nucl. Phys. **51**, 184 (1990) [Yad. Fiz. **51**, 293 (1990)]
98. **“Strange particle production in anti-proton annihilation on nuclei at low-energies”**  
D. E. Kharzeev and M. G. Sapozhnikov  
Nuovo Cim. A **104**, 1509 (1991)
99. **“Threshold Effect In The Spectra Of Mesons During The Hadronization Of Quark-Gluon Plasma”**  
V. V. Balashov, I. V. Moskalenko and D. E. Kharzeev  
Sov. J. Nucl. Phys. **47**, 1103 (1988) [Yad. Fiz. **47**, 1740 (1988)]
100. **“Equation of state of the quark - gluon plasma in the mean field model”**  
I. V. Moskalenko and D. E. Kharzeev  
Sov. J. Nucl. Phys. **48**, 713 (1988) [Yad. Fiz. **48**, 1122 (1988)]
101. **“The Coulomb break-up of the anti-deuteron atom”**  
D. E. Kharzeev and A. A. Khrapov  
Moscow University Bulletin, ser.3.:Physics, Astronomy **v.27**, 25 (1986).

# Proceedings of Conferences and Schools

1. **“Hard Probes conference focuses on jet quenching,”**  
D. G. d’Enterria, P. Jacobs, X. N. Wang and D. Kharzeev,  
CERN Cour. **46N10**, 27 (2006).
2. **“From quantum black holes to relativistic heavy ions”**  
D. Kharzeev  
*Prepared for Gribov-75: Memorial Workshop on Quarks, Hadrons, and Strong Interactions, Budapest, Hungary, 22-24 May 2005*
3. **“Nuclear physics at small x”**  
D. E. Kharzeev  
*Prepared for Workshop on Continuous Advances in QCD 2004, Minneapolis, Minnesota, 13-16 May 2004*
4. **“Theoretical summary: The first international conference on hard and electromagnetic probes in relativistic nuclear collisions”**  
D. Kharzeev  
Eur. Phys. J. C **43**, 475 (2005) [arXiv:hep-ph/0506108]
5. **“QCD and RHIC”**  
D. Kharzeev  
AIP Conf. Proc. **698**, 44 (2004)
6. **“Relativistic heavy ion physics: A theoretical overview”**  
D. Kharzeev  
arXiv:hep-ph/0408091  
*Invited talk at 39th Rencontres de Moriond on QCD and High-Energy Hadronic Interactions, La Thuile, Italy, 28 Mar - 4 Apr 2004*
7. **“QCD and RHIC”**  
D. Kharzeev  
AIP Conf. Proc. **698**, 44 (2004)
8. **“Theory of  $J/\psi$  production”**  
D. Kharzeev  
*Proc. “QCD phase transitions” Workshop, Hirschegg, Austria 1997, eds. H. Feldmeier, J. Knoll, W. Norenberg, J. Wambach, 1997, p.269*
9. **“Relativistic heavy ion physics: A theoretical overview”**  
D. Kharzeev  
arXiv:hep-ph/0408091  
*Invited talk at 39th Rencontres de Moriond on QCD and High-Energy Hadronic Interactions, La Thuile, Italy, 28 Mar - 4 Apr 2004*
10. **“Important experimental observables at RHIC”**  
D. Kharzeev

Nucl. Phys. A **715**, 35 (2003) [arXiv:nucl-th/0211083]  
*Invited talk at 15th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM2001), Stony Brook, New York, 15-20 Jan 2001*

11. **“What are we learning from RHIC?”**  
D. Kharzeev  
Nucl. Phys. Proc. Suppl. **119**, 13 (2003) [arXiv:hep-ph/0211253]  
*Invited talk at 20th International Symposium on Lattice Field Theory (LATTICE 2002), Boston, Massachusetts, 24-29 Jun 2002*
12. **“Quarkonium production in nuclear collisions”**  
D. Kharzeev  
*Prepared for Workshop on Color Transparency (CT 97), Grenoble, France, 25-27 June 1997*
13. **“High energy nuclear interactions and QCD: An introduction”**  
D. E. Kharzeev and J. Raufeisen  
arXiv:nucl-th/0206073  
*Lectures given at Pan American Advanced Studies Institute on New States of Matter in Hadronic Interactions (PASI 2002), Campos do Jordao, Brazil, 7-18 Jan 2002*
14. **“Classical chromo-dynamics of relativistic heavy ion collisions”**  
D. Kharzeev  
arXiv:hep-ph/0204014  
*Lectures given at Cargese Summer School on QCD Perspectives on Hot and Dense Matter, Cargese, France, 6-18 Aug 2001*
15. **“Scaling properties of the transverse mass spectra”**  
J. Schaffner-Bielich, D. Kharzeev, L. McLerran and R. Venugopalan  
arXiv:nucl-th/0202054  
*Presented at 30th International Workshop on Gross Properties of Nuclei and Nuclear Excitation: Hirschegg 2002: Ultrarelativistic Heavy Ion Collisions, Hirschegg, Germany, 13-19 Jan 2002*
16. **“Heavy quarks and QCD matter”**  
D. Kharzeev  
Nucl. Phys. A **702**, 39 (2002) [arXiv:hep-ph/0111386]  
*Invited talk at International Symposium on Statistical QCD, Bielefeld, Germany, 26-30 Aug 2001*
17. **“Glueballs, pions and the pomeron”**  
D. Kharzeev  
*Prepared for 8th International Workshop on Deep Inelastic Scattering and QCD (DIS 2000), Liverpool, England, 25-30 Apr 2000*
18. **“Scale anomaly and dipole scattering in QCD”**  
D. Kharzeev

*Prepared for 30th International Symposium on Multiparticle Dynamics (ISMD 2000), Tihany, Lake Balaton, Hungary, 9-15 Oct 2000*

19. **“Three lectures on the physics of RHIC”**

D. Kharzeev

*Prepared for 7th Hadron Physics 2000, Caraguatatuba, Sao Paulo, Brazil, 10-15 Apr 2000*

20. **“QCD and heavy ions”**

D. Kharzeev

Nucl. Phys. A **699**, 95 (2002) [arXiv:nucl-th/0107033]

*Invited talk at the ICTP 3rd International Conference on Perspectives in Hadronic Physics, Trieste, Italy, 7-11 May 2001*

21. **“Strangeness and charm at RHIC”**

D. Kharzeev

J. Phys. G **27**, 707 (2001)

*Prepared for 5th International Conference on Strangeness in Quark Matter (Quark matter 2000), Berkeley, California, 20-25 Jul 2000*

22. **“Buckyballs of QCD: Gluon junction networks”**

T. Csorgo, M. Gyulassy and D. Kharzeev

arXiv:hep-ph/0102282

*Talk given at 30th International Symposium on Multiparticle Dynamics (ISMD 2000), Tihany, Lake Balaton, Hungary, 9-15 Oct 2000*

23. **“OZI violation, deep inelastic and polarized strangeness in the nucleon”**

J. R. Ellis, M. Karliner, D. E. Kharzeev and M. G. Sapozhnikov

*Prepared for Workshop on Light-Cone QCD and Nonperturbative Hadron Physics, Adelaide, Australia, 13-22 Dec 1999*

24. **“Color transparency in hadronic basis”**

A. Bianconi, S. Boffi and D. E. Kharzeev

*Prepared for International Workshop on Diquarks, Turin, Italy, 2-4 Nov 1992*

25. **“The E760 (1)P(1) candidate: Can it be a (cq anti-cq) four-quark state?”**

D. E. Kharzeev and L. A. Kondratyuk

*Prepared for International Workshop on Diquarks, Turin, Italy, 2-4 Nov 1992*

26. **“Aspects of parity, CP, and time reversal violation in hot QCD”**

D. E. Kharzeev, R. D. Pisarski and M. H. G. Tytgat

arXiv:hep-ph/0012012

*Talk given at International Workshop on Strong and Electroweak Matter (SEWM 2000), Marseille, France, 14-17 Jun 2000, and at 30th International Symposium on Multiparticle Dynamics (ISMD 2000), Tihany, Lake Balaton, Hungary, 9-15 Oct 2000*

27. **“ $J/\psi$  suppression as an evidence for quark-gluon matter”**

D. Kharzeev



*Prepared for International School of Subnuclear Physics: 36th Course: From the Planck Length to the Hubble Radius, Erice, Italy, 29 Aug - 7 Sep 1998*

28. **“The interactions of heavy quarkonium: Some recent results”**  
D. Kharzeev  
*Prepared for 28th International Workshop on Gross Properties of Nuclei and Nuclear Excitation: Hadrons in Dense Matter (Hirschegg 2000), Hirschegg, Austria, 16-22 Jan 2000*
29. **“Heavy quarkonium as a probe of dense matter”**  
D. Kharzeev and H. Satz  
*Prepared for 30th Rencontres de Moriond: QCD and High-energy Hadronic Interactions, Meribel les Allues, France, 19-25 Mar 1995*
30. **“Signal of partial U(1)A symmetry restoration from two-pion Bose-Einstein correlations”**  
T. Csorgo, D. Kharzeev and S. E. Vance  
arXiv:hep-ph/9910436  
*Talk given at 29th International Symposium on Multiparticle Dynamics (ISMD 99), Providence, RI, 8-13 Aug 1999*
31. **“Scalar glueball-quarkonium mixing and the structure of the QCD vacuum”**  
J. R. Ellis, H. Fujii and D. Kharzeev  
arXiv:hep-ph/9909322
32. **“Last call for RHIC predictions”**  
S. A. Bass *et al.*  
Nucl. Phys. A **661**, 205 (1999) [arXiv:nucl-th/9907090]  
*To be published in the proceedings of 14th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM 99), Torino, Italy, 10-15 May 1999*
33. **“Interactions of quarkonium at low energies”**  
H. Fujii and D. Kharzeev  
Nucl. Phys. A **661**, 542 (1999) [arXiv:nucl-th/9907084]  
*Talk given at 14th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM 99), Torino, Italy, 10-15 May 1999*
34. **“Role of Fermi motion in colour transparency”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
*Prepared for 6th Workshop on Perspectives in Nuclear Physics at Intermediate Energies, Trieste, Italy, 3-7 May 1993*
35. **“Hadron dynamics of colour transparency”**  
A. Bianconi, S. Boffi and D. E. Kharzeev  
*Prepared for International Workshop on Exclusive Reactions at High Momentum Transfer (Precedes the PANIC Conference, Perugia, Italy, 29 Jun - 3 Jul 1993), Elba, Italy, 24-26 Jun 1993*

36. **“Colour confinement in hadron nucleus collisions”**  
 D. Kharzeev and H. Satz  
*Given at Workshop on Pre-Equilibrium Parton Dynamics in Heavy Ion Collisions, Berkeley, CA, 23 Aug - 3 Sep 1993*
37. **“ $J/\psi$  photoproduction and the gluon structure of the nucleon”**  
 D. Kharzeev, H. Satz, A. Syamtomov and G. Zinovev  
 Nucl. Phys. A **661**, 568 (1999)  
*Prepared for 14th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM 99), Torino, Italy, 10-15 May 1999*
38. **“Summary”**  
 D. Kharzeev  
 arXiv:hep-ph/9812214  
*Talk given at Workshop on Quarkonium Production in Relativistic Nuclear Collisions, Seattle, WA, 11-15 May 1998*
39. **“The glueball filter in central production and broken scale invariance”**  
 J. R. Ellis and D. Kharzeev  
 arXiv:hep-ph/9811222
40. **“Parity odd bubbles in hot QCD”**  
 D. Kharzeev, R. D. Pisarski and M. H. G. Tytgat  
 arXiv:hep-ph/9808366  
*Talk given at 3rd Workshop on Continuous Advances in QCD (QCD 98), Minneapolis, MN, 16-19 Apr 1998*
41. **“Charm, nuclear matter and low-energy anti-protons”**  
 D. Kharzeev  
*in: Proc. of the “SuperLEAR” Workshop, Zurich 1991; Inst. of Physics Conference Series No.124, Bristol-Philadelphia-New York IOP Publishing Ltd 1992, p.229;*
42. **“Formation of charmed nuclei with anti-proton beams”**  
 D. E. Kharzeev and N. I. Starkov  
*in: Proc. of the “SuperLEAR” Workshop, Zurich 1991; Inst. of Physics Conference Series No.124, Bristol-Philadelphia-New York IOP Publishing Ltd 1992, p.241;*
43. **“The E760  $^1P_1$  candidate: can it be a  $(cq\bar{q})$  four-quark state?”**  
 D. E. Kharzeev and L. A. Kondratyuk  
*in: Proc. of the “Diquarks” Workshop, Torino 1992, eds. M. Anselmino and E. Predazzi; World Scientific, 1993, p.62;*
44. **“Long-range interactions of small color dipoles”**  
 H. Fujii and D. Kharzeev  
 arXiv:hep-ph/9807383  
*Talk given at 3rd Workshop on Continuous Advances in QCD (QCD 98), Minneapolis, MN, 16-19 Apr 1998*

45. **“Theoretical interpretations of  $J/\psi$  suppression: A summary”**  
 D. Kharzeev  
 Nucl. Phys. A **638**, 279C (1998) [arXiv:nucl-th/9802037]  
*Invited plenary talk given at 13th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 97), Tsukuba, Japan, 1-5 Dec 1997*
46. **“Anomalous  $J/\psi$  suppression and the nature of deconfinement”**  
 D. Kharzeev, M. Nardi and H. Satz  
 arXiv:hep-ph/9707308
47. **“Strangeness Production In Anti-Proton Nucleus Annihilation At Low-Energies”**  
 D. E. Kharzeev and M. G. Sapozhnikov  
*in: Proc. of the First Biennial Conference on Low-Energy Antiproton Physics, Stockholm 1990; World Scientific, 1991, p.59;*
48. **“Charm Production In Anti-Proton Nucleus Annihilation At Low-Energies”**  
 D. E. Kharzeev  
*in: Proc. of the First Biennial Conference on Low-Energy Antiproton Physics, Stockholm 1990; World Scientific, 1991, p.66;*
49. **“Charm Production In Anti-Proton Nucleus Annihilation: Testing Hadronization In QCD”**  
 D. Kharzeev  
*in: Proc. of the TRIUMF Workshop “Science at the KAON factory”, v.2, Vancouver 1990;*
50. **“Quarkonium interactions in QCD”**  
 D. Kharzeev  
 arXiv:nucl-th/9601029  
*Talk given at International School of Physics, ‘Enrico Fermi’, Course 80: Selected Topics in Nonperturbative QCD, Varenna, Italy, 27 Jun - 7 Jul 1995*

## Internal reports

1. **“Phases of QCD: Summary of the Rutgers long range plan town meeting,”**  
 P. Jacobs, D. Kharzeev, B. Muller, J. Nagle, K. Rajagopal and S. Vigdor, arXiv:0705.1930 [nucl-ex].
2. **“ALICE technical design report: Photon multiplicity detector (PMD)”**  
 G. Dellacasa *et al.* [ALICE Collaboration]  
 CERN-LHCC-99-32
3. **“ALICE technical design report: Detector for high momentum PID”**  
 S. Beole *et al.* [ALICE Collaboration]  
 CERN-LHCC-98-19

4. **“The forward muon spectrometer of ALICE”**  
S. Beole *et al.* [ALICE Collaboration]  
CERN-LHCC-96-32
5. **The production of the H particle in antiproton annihilation in nuclei**  
D. Kharzeev  
*INFN (Pavia) Preprint FNT/T - 90/17, 1990;*
6. **“Antiproton scattering by deuterium: Glauber theory analysis”**  
D. Kharzeev and A. Rotondi  
*INFN (Pavia) Preprint FNT/T - 90/20, 1990;*
7. **“Quarkonium properties in nuclear matter”**  
D. Kharzeev  
*INFN (Pavia) Preprint FNT/T - 90/22, 1990;*
8. **“Angular momentum alignment and possible anisotropy of protonium annihilation”**  
D. Kharzeev  
*INFN (Pavia) Preprint FNT/T - 92/18, 1992;*
9. **“Neutral Strange Particle Production In Anti-Proton - Nucleus Annihilation At Low-Energies”**  
D. E. Kharzeev and M. G. Sapozhnikov  
JINR-E4-88-930
10. **“Deconfinement in the soliton bag model”**  
D. Kharzeev  
*INP (Moscow University) Bulletin 88-56/77, 1988*

## Books

1. **“Nuclear dynamics. Proceedings, 20th Winter Workshop, Trelawny Beach, Jamaica, March 15-20, 2004”**  
Edited by W. Bauer, D. Kharzeev, R. A. Lacey, M. A. Lisa and S. Panitkin  
*Prepared for 20th Winter Workshop on Nuclear Dynamics, Trelawny Beach, Jamaica, 15-20 Mar 2004*
2. **“Heavy quarkonium physics”**  
N. Brambilla *et al.*  
arXiv:hep-ph/0412158 *CERN Yellow Report CERN-2005-005.*
3. **“Hard probes in heavy ion collisions at the LHC: Heavy flavour physics”**  
M. Bedjidian *et al.*  
arXiv:hep-ph/0311048 *CERN Yellow Report CERN-2004-009.*

4. **“Quark matter 2001. Proceedings, 15th International Conference on Ultrarelativistic nucleus nucleus collisions, QM 2001, Stony Brook, USA, January 15-20, 2001”**  
Edited by T. J. . Hallman, D. E. . Kharzeev, J. T. . Mitchell and T. S. . Ullrich  
*Prepared for 15th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM2001), Stony Brook, New York, 15-20 Jan 2001*
5. **“Color deconfinement and quarkonium dissociation”**  
D. Kharzeev and H. Satz  
arXiv:hep-ph/9505345 in *“Quark-Gluon Plasma II”*, ed. R.C. Hwa, World Scientific, 1995.
6. **“ $J/\Psi$  suppression as an evidence for quark–gluon matter”**  
D. Kharzeev  
in *“From the Planck length to the Hubble radius”*, ed. G. 't Hooft, G. Veneziano and A. Zichichi, World Scientific, 2000, p.143.
7. **“Strong and electroweak matter. Proceedings, 7th International Conference, SEWM 2006, Brookhaven, Upton, USA, May 10-13, 2006,”**  
F. Karsch, D. Kharzeev and R. Venugopalan (Editors),  
Elsevier Publishers, 2007.