

## Selected Papers (1976-2020)

1. **“The Surface Term in Gauge Theories”**  
J. L. Gervais, B. Sakita and S. Wadia.  
DOI:10.1016/0370-2693(76)90467-6  
Phys. Lett. **63B**, 55 (1976).  
CCNY-HEP-76/6
2. **“The Role of Surface Variables in the Vacuum Structure of Yang-Mills Theory”**  
S. Wadia and T. Yoneya.  
DOI:10.1016/0370-2693(77)90010-7  
Phys. Lett. **66B**, 341 (1977).  
CCNY-HEP-76/13
3. **“A Study of U(N) Lattice Gauge Theory in 2-dimensions”**  
S. R. Wadia.  
arXiv:1212.2906 [hep-th]  
EFI-79/44-CHICAGO, ICTS-2012-13, TIFR-TH-2012-47;
4. **“N = Infinity Phase Transition in a Class of Exactly Soluble Model Lattice Gauge Theories”**  
S. R. Wadia.  
DOI:10.1016/0370-2693(80)90353-6  
Phys. Lett. **93B**, 403 (1980).  
EFI-80/15-CHICAGO
5. **“On the Dyson-schwinger Equations Approach to the Large N Limit: Model Systems and String Representation of Yang-Mills Theory”**  
S. R. Wadia.  
DOI:10.1103/PhysRevD.24.970  
Phys. Rev. D **24**, 970 (1981).  
EFI-80/47-CHICAGO
6. **“The Nambu-Jona-Lasinio Model: An Effective Lagrangian for Quantum Chromodynamics at Intermediate Length Scales”**  
A. Dhar and S. R. Wadia.  
DOI:10.1103/PhysRevLett.52.959  
Phys. Rev. Lett. **52**, 959 (1984).  
TIFR/TH/83-32
7. **“Nambu-Jona-Lasinio Type Effective Lagrangian. 2. Anomalies and Nonlinear Lagrangian of Low-Energy, Large N QCD”**  
A. Dhar, R. Shankar and S. R. Wadia.  
DOI:10.1103/PhysRevD.31.3256  
Phys. Rev. D **31**, 3256 (1985).  
TIFR-TH-84-37
8. **“Conformal Invariance and String Theory in Compact Space: Bosons”**  
S. Jain, R. Shankar and S. R. Wadia.  
DOI:10.1103/PhysRevD.32.2713  
Phys. Rev. D **32**, 2713 (1985).  
TIFR/TH/85-3

9. **“Stochastic Quantization on Two-dimensional Theory Space and Morse Theory”**  
S. R. Das, G. Mandal and S. R. Wadia.  
DOI:10.1142/S0217732389000873  
Mod. Phys. Lett. A **4**, 745 (1989).  
TIFR-TH-88-33
10. **“Quantization of the Liouville Mode and String Theory”**  
S. R. Das, S. Naik and S. R. Wadia.  
DOI:10.1142/S0217732389001209  
Mod. Phys. Lett. A **4**, 1033 (1989).  
TIFR-TH-88/58
11. **“Critical Behavior in Two-dimensional Quantum Gravity and Equations of Motion of the String”**  
S. R. Das, A. Dhar and S. R. Wadia.  
DOI:10.1142/S0217732390000895  
Mod. Phys. Lett. A **5**, 799 (1990).  
TIFR/TH/89-58
12. **“New Critical Behavior in  $d = 0$  Large  $N$  Matrix Models”**  
S. R. Das, A. Dhar, A. M. Sengupta and S. R. Wadia.  
DOI:10.1142/S0217732390001165  
Mod. Phys. Lett. A **5**, 1041 (1990).  
TIFR-TH-89-70
13. **“Excitations and interactions in  $d = 1$  string theory”**  
A. M. Sengupta and S. R. Wadia.  
DOI:10.1142/S0217751X91000988  
Int. J. Mod. Phys. A **6**, 1961 (1991).  
TIFR-TH-90-33
14. **“Classical solutions of two-dimensional string theory”**  
G. Mandal, A. M. Sengupta and S. R. Wadia.  
DOI:10.1142/S0217732391001822  
Mod. Phys. Lett. A **6**, 1685 (1991).  
IASSNS-HEP-91-10
15. **“Nonrelativistic fermions, coadjoint orbits of  $W(\infty)$  and string field theory at  $c = 1$ ”**  
A. Dhar, G. Mandal and S. R. Wadia.  
hep-th/9207011  
DOI:10.1142/S0217732392002512  
Mod. Phys. Lett. A **7**, 3129 (1992)  
TIFR-TH-92-40
16. **“ $W(\infty)$  algebra and geometric formulation of QCD in two-dimensions”**  
S. R. Wadia.  
hep-th/9411213
17. **“ $2+1$  dimensional pure Yang-Mills theory: Quark confinement and dual representation”**  
S. R. Wadia.  
DOI:10.1016/0920-5632(95)00639-7  
Nucl. Phys. Proc. Suppl. **45B**, 217 (1996).
18. **“Universal Cellular Automata and Class 4”**  
A. Dhar, P. Lakdawala, G. Mandal and S. R. Wadia.  
cond-mat/9409080  
DOI:10.1103/PhysRevE.51.3032  
Phys. Rev. E **51**, 3032 (1995)  
TIFR-TH-94-23

19. **“Quark confinement in (2+1)-dimensional pure Yang-Mills theory”**  
S. R. Das and S. R. Wadia.  
hep-th/9503184  
DOI:10.1103/PhysRevD.53.5856  
Phys. Rev. D **53**, 5856 (1996)  
TIFR-TH-94-42
20. **“Absorption versus decay of black holes in string theory and T symmetry”**  
A. Dhar, G. Mandal and S. R. Wadia.  
hep-th/9605234  
DOI:10.1016/0370-2693(96)01127-6  
Phys. Lett. B **388**, 51 (1996)  
TIFR-TH-96-26
21. **“D-brane black holes: Large N limit and the effective string description”**  
S. F. Hassan and S. R. Wadia.  
hep-th/9703163  
DOI:10.1016/S0370-2693(97)00453-X  
Phys. Lett. B **402**, 43 (1997)  
CERN-TH-97-032, CERN-TH-97-32, IC-97-23
22. **“Gauge theory description of D-brane black holes: Emergence of the effective SCFT and Hawking radiation”**  
S. F. Hassan and S. R. Wadia.  
hep-th/9712213  
DOI:10.1016/S0550-3213(98)00372-1  
Nucl. Phys. B **526**, 311 (1998)  
CERN-TH-97-344, IC-98-15
23. **“Absorption and Hawking radiation of minimal and fixed scalars, and AdS / CFT correspondence”**  
J. R. David, G. Mandal and S. R. Wadia.  
hep-th/9808168  
DOI:10.1016/S0550-3213(99)00068-1  
Nucl. Phys. B **544**, 590 (1999)  
TIFR-TH-98-37
24. **“Gauge theory on a quantum phase space”**  
L. Alvarez-Gaume and S. R. Wadia.  
hep-th/0006219  
DOI:10.1016/S0370-2693(01)00125-3  
Phys. Lett. B **501**, 319 (2001)  
CERN-TH-2000-130, TIFR-TH-00-33
25. **“Microscopic formulation of black holes in string theory”**  
J. R. David, G. Mandal and S. R. Wadia.  
hep-th/0203048  
DOI:10.1016/S0370-1573(02)00271-5  
Phys. Rept. **369**, 549 (2002)  
TIFR-TH-02-07
26. **“Aspects of semiclassical strings in AdS(5)”**  
G. Mandal, N. V. Suryanarayana and S. R. Wadia.  
hep-th/0206103  
DOI:10.1016/S0370-2693(02)02424-3  
Phys. Lett. B **543**, 81 (2002)  
TIFR-TH-02-20, DAMTP-2002-71
27. **“Finite temperature effective action, AdS(5) black holes, and 1/N expansion”**  
L. Alvarez-Gaume, C. Gomez, H. Liu and S. Wadia.

- hep-th/0502227  
DOI:10.1103/PhysRevD.71.124023  
Phys. Rev. D **71**, 124023 (2005)  
CERN-PH-TH-2004-251, IFT-05-11, MIT-CTP-3591, TIFR-TH-05-03, CERN-PH-TH-04-251
28. **“Blackhole/String Transition for the Small Schwarzschild Blackhole of AdS(5)x S\*\*5 and Critical Unitary Matrix Models”**  
L. Alvarez-Gaume, P. Basu, M. Marino and S. R. Wadia.  
hep-th/0605041  
DOI:10.1140/epjc/s10052-006-0049-x  
Eur. Phys. J. C **48**, 647 (2006)  
CERN-PH-TH-2006-078, TIFR-TH-06-01
29. **“Forced Fluid Dynamics from Gravity”**  
S. Bhattacharyya, R. Loganayagam, S. Minwalla, S. Nampuri, S. P. Trivedi and S. R. Wadia.  
arXiv:0806.0006 [hep-th]  
DOI:10.1088/1126-6708/2009/02/018  
JHEP **0902**, 018 (2009)
30. **“The Incompressible Non-Relativistic Navier-Stokes Equation from Gravity”**  
S. Bhattacharyya, S. Minwalla and S. R. Wadia.  
arXiv:0810.1545 [hep-th]  
DOI:10.1088/1126-6708/2009/08/059  
JHEP **0908**, 059 (2009)  
TIFR-TH-08-40
31. **“Chern-Simons Theory with Vector Fermion Matter”**  
S. Giombi, S. Minwalla, S. Prakash, S. P. Trivedi, S. R. Wadia and X. Yin.  
arXiv:1110.4386 [hep-th]  
DOI:10.1140/epjc/s10052-012-2112-0  
Eur. Phys. J. C **72**, 2112 (2012)
32. **“Phases of large N vector Chern-Simons theories on  $S^2 \times S^1$ ”**  
S. Jain, S. Minwalla, T. Sharma, T. Takimi, S. R. Wadia and S. Yokoyama.  
arXiv:1301.6169 [hep-th]  
DOI:10.1007/JHEP09(2013)009  
JHEP **1309**, 009 (2013)  
TIFR-TH-13-02, ICTS-2012-14
33. **“Unitarity, Crossing Symmetry and Duality of the S-matrix in large N Chern-Simons theories with fundamental matter”**  
S. Jain, M. Mandlik, S. Minwalla, T. Takimi, S. R. Wadia and S. Yokoyama.  
arXiv:1404.6373 [hep-th]  
DOI:10.1007/JHEP04(2015)129  
JHEP **1504**, 129 (2015)  
TIFR-TH-14-12, HRI-ST-1405, ICTS-2014-04
34. **“Coadjoint orbit action of Virasoro group and two-dimensional quantum gravity dual to SYK/tensor models”**  
G. Mandal, P. Nayak and S. R. Wadia.  
arXiv:1702.04266 [hep-th]  
DOI:10.1007/JHEP11(2017)046  
JHEP **1711**, 046 (2017)  
ICTS-2017-01, TIFR-TH-16-28
35. **“Gravitational collapse in SYK models and Choptuik-like phenomenon”**  
A. Dhar, A. Gaikwad, L. K. Joshi, G. Mandal and S. R. Wadia.  
arXiv:1812.03979 [hep-th]  
DOI:10.1007/JHEP11(2019)067  
JHEP **1911**, 067 (2019)