
Roberto Auzzi

Education

- 2002 – 2004 Graduate studies in Theoretical Physics
at Scuola Normale Superiore Pisa
- November 2004: Ph. D in Physics: *70/70 cum laude*
Title of Thesis:
“Monopoles, Vortices and Confinement in N=2 Theories”
Advisor: [REDACTED]
- 1997 – 2001 Undergraduate studies in Physics at University of Pisa
and at Scuola Normale Superiore
- November 2001: Laurea in Physics: *110/110 cum laude*
Title of Laurea Thesis:
“A correction to the String Tension in the Seiberg-Witten model”
Advisor: [REDACTED]

Research Experience

October 2020 to present	Associate professor Professore associato Dipartimento di Matematica e Fisica, Università Cattolica del Sacro Cuore, Brescia
October 2017 to September 2020	Fixed term researcher [Ricercatore a tempo determinato di cui alla lettera b) comma 3 dell'art. 24 della legge 30 dicembre 2010 n. 240] Dipartimento di Matematica e Fisica, Università Cattolica del Sacro Cuore, Brescia
February 2014 to September 2017	Fixed term researcher [Ricercatore a tempo determinato di cui alla lettera a) comma 3 dell'art. 24 della legge 30 dicembre 2010 n. 240] Dipartimento di Matematica e Fisica, Università Cattolica del Sacro Cuore, Brescia
September 2012 – January 2014	Theory Group Fellow, CERN, Geneva
October 2009 – August 2012	Postdoc Research Associate Racah Institute of Physics, Hebrew University, Jerusalem
October 2007 – September 2009	Research Officer Department of Physics, Swansea University
November 2004 – November 2006	Postdoctoral Research Associate Fine Theoretical Physics Institute, University of Minnesota, Minneapolis
January 2002 – November 2004	Graduate Student Research Assistant Scuola Normale Superiore, Pisa Advisor: Kenichi Konishi

Publications

1. R. Auzzi, S. Baiguera, S. Bonansea, G. Nardelli and K. Toccacelo, “Volume complexity for Janus AdS_3 geometries,” *JHEP* **08** (2021), 045 doi:10.1007/JHEP08(2021)045 [arXiv:2105.08729 [hep-th]].

-
2. R. Auzzi, S. Baiguera, G. B. De Luca, A. Legramandi, G. Nardelli and N. Zenoni, “Geometry of quantum complexity,” *Phys. Rev. D* **103** (2021), 106021 doi:10.1103/PhysRevD.103.106021 [arXiv:2011.07601 [hep-th]].
 3. R. Auzzi, S. Baiguera, A. Legramandi, G. Nardelli, P. Roy and N. Zenoni, “On sub-region action complexity in AdS₃ and in the BTZ black hole,” *JHEP* **01** (2020), 066 doi:10.1007/JHEP01(2020)066 [arXiv:1910.00526 [hep-th]].
 4. G. Tallarita and R. Auzzi, “The holographic vortex lattice using the circular cell method,” *JHEP* **01** (2020), 056 doi:10.1007/JHEP01(2020)056 [arXiv:1909.05932 [hep-th]].
 5. R. Auzzi, G. Nardelli, F. I. Schaposnik Massolo, G. Tallarita and N. Zenoni, “On volume subregion complexity in Vaidya spacetime,” *JHEP* **1911** (2019) 098 doi:10.1007/JHEP11(2019)098 [arXiv:1908.10832 [hep-th]].
 6. R. Auzzi, S. Baiguera, A. Mitra, G. Nardelli and N. Zenoni, “Subsystem complexity in warped AdS,” *JHEP* **1909** (2019) 114 doi:10.1007/JHEP09(2019)114 [arXiv:1906.09345 [hep-th]].
 7. R. Auzzi, S. Baiguera, G. Nardelli and S. Penati, “Renormalization properties of a Galilean Wess-Zumino model,” *JHEP* **1906** (2019) 048 doi:10.1007/JHEP06(2019)048 [arXiv:1904.08404 [hep-th]].
 8. G. Tallarita, R. Auzzi and A. Peterson, “The holographic non-abelian vortex,” *JHEP* **1903** (2019) 114 doi:10.1007/JHEP03(2019)114 [arXiv:1901.05814 [hep-th]].
 9. R. Auzzi, S. Baiguera, M. Grassi, G. Nardelli and N. Zenoni, “Complexity and action for warped AdS black holes,” *JHEP* **1809** (2018) 013 doi:10.1007/JHEP09(2018)013 [arXiv:1806.06216 [hep-th]].
 10. R. Auzzi, S. Baiguera and G. Nardelli, “Volume and complexity for warped AdS black holes,” *JHEP* **1806** (2018) 063 doi:10.1007/JHEP06(2018)063 [arXiv:1804.07521 [hep-th]].
 11. R. Auzzi, S. Baiguera and G. Nardelli, “Nonrelativistic trace and diffeomorphism anomalies in particle number background,” *Phys. Rev. D* **97** (2018) no.8, 085010 doi:10.1103/PhysRevD.97.085010 [arXiv:1711.00910 [hep-th]].
 12. R. Auzzi, S. Baiguera and G. Nardelli, “Trace anomaly for non-relativistic fermions,” *JHEP* **1708** (2017) 042 doi:10.1007/JHEP08(2017)042 [arXiv:1705.02229 [hep-th]].
 13. R. Auzzi, S. Baiguera, F. Filippini and G. Nardelli, “On Newton-Cartan local renormalization group and anomalies,” *JHEP* **1611** (2016) 163 [arXiv:1610.00123 [hep-th]].
 14. R. Auzzi and G. Nardelli, “Heat kernel for Newton-Cartan trace anomalies,” *JHEP* **1607** (2016) 047, [arXiv:1605.08684 [hep-th]].
 15. R. Auzzi, S. Baiguera and G. Nardelli, “On Newton-Cartan trace anomalies,” *JHEP* **1602** (2016) 003 Erratum: [*JHEP* **1602** (2016) 177], [arXiv:1511.08150 [hep-th]].
 16. R. Auzzi and B. Keren-Zur, “Superspace formulation of the local RG equation,” *JHEP* **1505** (2015) 150, arXiv:1502.05962 [hep-th].

-
17. R. Auzzi, S. Elitzur, S. B. Gudnason and E. Rabinovici, “On periodically driven AdS/CFT,” JHEP **1311** (2013) 016, arXiv:1308.2132 [hep-th].
 18. R. Auzzi, A. Giveon, S. B. Gudnason and T. Shacham, “A Light Stop with Flavor in Natural SUSY,” JHEP **1301** (2013) 169, arXiv:1208.6263 [hep-ph].
 19. R. Auzzi, S. Elitzur, S. B. Gudnason and E. Rabinovici, “Time-dependent stabilization in AdS/CFT,” JHEP **1208** (2012) 035 [arXiv:1206.2902 [hep-th]].
 20. R. Auzzi, A. Giveon and S. B. Gudnason, “Flavor of quiver-like realizations of effective supersymmetry,” JHEP **1202** (2012) 069 [arXiv:1112.6261 [hep-ph]].
 21. R. Auzzi, A. Giveon, S. B. Gudnason, “Mediation of Supersymmetry Breaking in Quivers,” JHEP **1112** (2011) 016 [arXiv:1110.1453 [hep-ph]].
 22. R. Auzzi, A. Giveon, S. B. Gudnason, T. Shacham, “On the Spectrum of Direct Gaugino Mediation,” JHEP **1109** (2011) 108. [arXiv:1107.1414 [hep-ph]].
 23. R. Auzzi, A. Giveon, “Superpartner spectrum of minimal gaugino-gauge mediation,” JHEP **1101** (2011) 003 [arXiv:1011.1664 [hep-ph]].
 24. R. Auzzi and A. Giveon, “The sparticle spectrum in Minimal gaugino-Gauge Mediation,” JHEP **1010** (2010) 088. [arXiv:1009.1714 [hep-ph]].
 25. R. Auzzi and E. Rabinovici, “On metastable vacua in perturbed N=2 theories,” JHEP **1008** (2010) 044 [arXiv:1006.0637 [hep-th]].
 26. R. Auzzi, S. Bolognesi and M. Shifman, “Higher Winding Strings and Confined Monopoles in N=2 SQCD,” Phys. Rev. D **81** (2010) 085011 [arXiv:1001.1903 [hep-th]].
 27. R. Auzzi, S. Elitzur and A. Giveon, “On Uplifted SUSY-Breaking Vacua and Direct Mediation in Generalized SQCD,” JHEP **1003** (2010) 094 [arXiv:1001.1234 [hep-th]].
 28. R. Auzzi and S. P. Kumar, “Quantum Phases of a Vortex String,” Phys. Rev. Lett. **103** (2009) 231601 [arXiv:0908.4278 [hep-th]].
 29. R. Auzzi and S. P. Kumar, “Non-Abelian Vortices at Weak and Strong Coupling in Mass Deformed ABJM Theory,” JHEP **0910** (2009) 071 [arXiv:0906.2366 [hep-th]].
 30. R. Auzzi, M. Eto, S. B. Gudnason, K. Konishi and W. Vinci, “On the Stability of Non-Abelian Semi-local Vortices,” Nucl. Phys. B **813** (2009) 484 [arXiv:0810.5679 [hep-th]].
 31. R. Auzzi and S. P. Kumar, “Non-Abelian k -Vortex Dynamics in $\mathcal{N} = 1^*$ theory and its Gravity Dual,” JHEP **0812** (2008) 077 [arXiv:0810.3201 [hep-th]].
 32. R. Auzzi, S. Bolognesi, M. Shifman and A. Yung, “Confinement and Localization on Domain Walls,” Phys. Rev. D **79**, 045016 (2009) arXiv:0807.1908 [hep-th].
 33. R. Auzzi, S. Bolognesi and M. Shifman, “Skyrmions in Yang–Mills Theories with Massless Adjoint Quarks,” Phys. Rev. D **77** (2008) 125029 [arXiv:0804.0229 [hep-th]].
 34. R. Auzzi, M. Eto and W. Vinci, “Static Interactions of non-Abelian Vortices,” JHEP **0802** (2008) 100 [arXiv:0711.0116 [hep-th]].

-
35. R. Auzzi, M. Eto and W. Vinci, “Type I Non-Abelian Superconductors in Supersymmetric Gauge Theories,” *JHEP* **0711** (2007) 090 [arXiv:0709.1910 [hep-th]].
 36. R. Auzzi and M. Shifman, “Low-Energy Limit of Yang-Mills with Massless Adjoint Quarks: Chiral Lagrangian and Skyrmions,” *J. Phys. A* **40** (2007) 6221 [arXiv:hep-th/0612211].
 37. R. Auzzi, M. Shifman and A. Yung, “Domain lines as fractional strings,” *Phys. Rev. D* **74**, 045007 (2006) [arXiv:hep-th/0606060].
 38. R. Auzzi, M. Shifman and A. Yung, “Composite non-Abelian Flux Tubes in $N=2$ SQCD,” *Phys. Rev. D* **73** (2006) 105012 [Erratum-ibid. *D* **76** (2007) 109901] [arXiv:hep-th/0511150].
 39. R. Auzzi and F. Sannino, “Hidden modulus in the extended Veneziano-Yankielowicz theory,” *Phys. Rev. D* **72**, 105003 (2005) [arXiv:hep-th/0509166].
 40. R. Auzzi, M. Shifman and A. Yung, “Studying boojums in $N = 2$ theory with walls and vortices,” *Phys. Rev. D* **72**, 025002 (2005) [arXiv:hep-th/0504148].
 41. R. Auzzi, S. Bolognesi and J. Evslin, “Monopoles can be confined by 0, 1 or 2 vortices,” *JHEP* **0502**, 046 (2005) [arXiv:hep-th/0411074].
 42. R. Auzzi, S. Bolognesi, J. Evslin, K. Konishi and H. Murayama, “NonAbelian monopoles,” *Nucl. Phys. B* **701**, 207 (2004) [arXiv:hep-th/0405070].
 43. R. Auzzi, S. Bolognesi, J. Evslin and K. Konishi, “Nonabelian monopoles and the vortices that confine them,” *Nucl. Phys. B* **686**, 119 (2004) [arXiv:hep-th/0312233].
 44. R. Auzzi, S. Bolognesi, J. Evslin, K. Konishi and A. Yung, “Nonabelian superconductors: Vortices and confinement in $N = 2$ SQCD,” *Nucl. Phys. B* **673**, 187 (2003) [arXiv:hep-th/0307287].
 45. R. Auzzi, R. Grena and K. Konishi, “Almost conformal vacua and confinement,” *Nucl. Phys. B* **653**, 204 (2003) [arXiv:hep-th/0211282].
 46. R. Auzzi and K. Konishi, “Non-universal corrections to the tension ratios in softly broken $N = 2$ $SU(N)$ gauge theory,” *New J. Phys.* **4**, 59 (2002) [arXiv:hep-th/0205172].

Roberto Auzzi