

George Tsitsishvili

Curriculum Vitae

Date of Birth: 24 May 1961
Address: Abashidze str. 22 Tbilisi 0179 Georgia
E-mail: giorgi.tsitsishvili@tsu.ge
Cell Phone: +995 599 913950

Education:

- 1986 - 1989: PhD student, Department of Theoretical Physics, Razmadze Mathematical Institute.
- 1978 - 1983: Faculty of Physics, Tbilisi State University.

Work Experience:

- 2016 - Associate professor, Department of Physics, Tbilisi State University.
- 2010 - 2016: Assistant professor, Department of Physics, Tbilisi State University.
- 2007 - 2008: Tohoku University (Sendai, Japan), Long-term visiting fellow of JSPS.
- 2004 - 2005: Tohoku University (Sendai, Japan), Long-term visiting fellow of JSPS.
- 2004 - 2009: Regular Associate, International Centre for Theoretical Physics (Trieste, Italy),
- 2001: Tohoku University (Sendai, Japan), Fellow of Nishina Memorial Foundation.
- 1997 - Senior staff member, Department of Theoretical Physics, Razmadze Mathematical Institute.
- 1990 - 1997: Junior staff member, Department of Theoretical Physics, Razmadze Mathematical Institute.
- 1987 - 1989: Research associate, Institute for Nuclear Researches (Moscow).
- 1983 - 1986: Junior staff member, Institute of High Energy Physics, Tbilisi State University.

Scientific Degrees:

- 2006: Habilitation from Andronikashvili Institute of Physics.
- 1996: PhD from Tbilisi State University.
- 1983: MSc in Theoretical Physics, Tbilisi State University.

Grant Projects

- 2015 - 2018: "Quantum group and topologically nontrivial states in low-dimensional fermion systems", Rustaveli National Science Foundation, FR/265/6-100/14.
- 2009 - 2011: "Ground state problems in quantum field theories", GNSF/ST-08/4-405, Georgian National Science Foundation.
- 2007 - 2008: "Ground state problem in quantum field theory and quantum statistics", GNSF/ST-06/4-050, Georgian National Science Foundation.
- 2007 - 2008: "Unconventional magnetic and superfluid (superconducting) order in strongly correlated fermion systems in the case of restricted geometry", GNSF/ST-08/4-018, Georgian National Science Foundation.
- 2001 - 2003: "Low-dimensional strongly correlated fermion systems with unconventionally ordered ground states", SCOPES 7GEPJ62379, Swiss National Science Foundation.
- 1999 - 2002: "Low-dimensional strongly correlated electron and spin systems", INTAS-Georgia 97-1340, INTAS.

List of Publications

1. M. Eliashvili, D. Kereselidze, G. Tsitsishvili and M. Tsitsishvili, "Edge States of a Periodic Chain with Four-Band Energy Spectrum", *J. Phys. Soc. Jpn.* **86** (2017) 074712.
2. M. Eliashvili and G. Tsitsishvili, "Boundary conditions and formation of pure spin currents in magnetic field", *Physica* **E93** (2017) 196.
3. Z.F. Ezawa and G. Tsitsishvili, "Noncommutative skyrmions in quantum Hall systems", in *The Multifaceted Skyrmion*, 2'nd. Ed. edited by G.E. Brown & M. Rho (World Scientific, 2016) p. 367.
4. M. Eliashvili, G. Tsitsishvili and G. Japaridze, "The quantum group and Harper equation on a honeycomb lattice", *J. Math. Sci.* **216** (2016) 522.
5. M. Eliashvili, G.I. Japaridze, G. Tsitsishvili and G. Tukhashvili, "Edge states in 2D lattices with hopping anisotropy and Chebyshev polynomials", *J. Phys. Soc. Jpn.* **83** (2014) 044706.
6. M. Eliashvili and G. Tsitsishvili, "Algebraic aspects of the Hofstadter problem in graphene", *J. Math. Sci.* **193** (2013) 418.
7. Y. Hama, Y. Hidaka, G. Tsitsishvili, Z.F. Ezawa, "Goldstone Modes in Bilayer Quantum Hall Systems at $\nu = 2$ ", *J. Phys.* **456** (2013) 012012.
8. Yusuke Hama, George Tsitsishvili and Zyun F. Ezawa, "Nambu-Goldstone modes and the Josephson supercurrent in the bilayer quantum Hall system", *Prog. Theor. Exp. Phys.* **2013** (2013) 053I01.
9. Yusuke Hama, George Tsitsishvili and Zyun F. Ezawa, "Spin supercurrent in the canted antiferromagnetic phase", *Phys. Rev.* **B87** (2013) 104516.
10. Z.F. Ezawa, G. Tsitsishvili and A. Sawada, "Josephson inplane and tunneling currents in bilayer quantum Hall system", *AIP Conf. Proc.* **1566** (2013) 297.
11. M. Eliashvili, G.I. Japaridze and G. Tsitsishvili, "The quantum group, Harper equation and structure of Bloch eigenstates on a honeycomb lattice", *J. Phys. A: Math. Theor.* **45** (2012) 395305.
12. Y. Hama, Y. Hidaka, G. Tsitsishvili, Z.F. Ezawa, "The Study of Goldstone Modes in $\nu = 2$ Bilayer Quantum Hall Systems", *Eur. Phys. J.* **B85** (2012) 368.
13. Z.F. Ezawa, G. Tsitsishvili and A. Sawada, "Josephson tunneling in bilayer quantum Hall system", *Phys. Lett.* **A376** (2012) 2430.
14. Z.F. Ezawa, G. Tsitsishvili and A. Sawada, "Interlayer phase coherence and Josephson effects in bilayer quantum Hall systems", *Eur. Phys. J.* **B85** (2012) 270.
15. Z.F. Ezawa and G. Tsitsishvili, "Skyrmion and bimeron excitations in imbalanced bilayer quantum Hall systems", *AIP Conf. Proc.* **1399** (2011) 605.
16. Z.F. Ezawa and G. Tsitsishvili, "Skyrmion and bimeron excitations in bilayer quantum Hall systems", *Physica* **E42** (2010) 1069.
17. Z.F. Ezawa and G. Tsitsishvili, "Noncommutative skyrmions in quantum Hall systems", in *The Multifaceted Skyrmion*, edited by G.E. Brown & M. Rho (World Scientific, 2010) p. 233.
18. Z.F. Ezawa and G. Tsitsishvili, "Quantum Hall ferromagnets", *Rep. Prog. Phys.* **72** (2009) 086502.
19. Z.F. Ezawa, K. Ishii and G. Tsitsishvili, "Interlayer phase coherence and dissipative soliton-lattice regime in bilayer quantum Hall systems", *Physica* **E40** (2008) 1557.
20. Z.F. Ezawa, K. Ishii and G. Tsitsishvili, "Anomalous diagonal resistivity and soliton lattice in bilayer quantum Hall systems", *Physica* **B403** (2008) 1517.
21. Z.F. Ezawa, S. Suzuki and G. Tsitsishvili, "Anomalous Hall resistance in bilayer quantum Hall systems", *Phys. Rev.* **B76** (2007) 045307.

22. Z.F. Ezawa, S. Suzuki and G. Tsitsishvili, "Anomalous quantum-Hall resistance in bilayer counterflow transport", *Phys. Stat. Sol.* **C4** (2007) 485.
23. M. Eliashvili and G. Tsitsishvili, "On the NCCS model of quantum Hall fluid", *Eur. Phys. J.* **C50** (2007) 1013.
24. Z.F. Ezawa and G. Tsitsishvili, "Topological solitons in the noncommutative plane and quantum Hall skyrmions", *Phys. Rev.* **D72** (2005) 085002.
25. G. Tsitsishvili and Z.F. Ezawa, "Microscopic theory of skyrmions in quantum Hall ferromagnets", *Phys. Rev.* **B72** (2005) 115306.
26. Z.F. Ezawa, M. Eliashvili and G. Tsitsishvili, "Ground-state structure in $\nu = 2$ bilayer quantum Hall systems", *Phys. Rev.* **B71** (2005) 125318.
27. Z.F. Ezawa and G. Tsitsishvili, " $SU(4)$ skyrmions and activation energy anomaly in bilayer quantum Hall systems", *Phys. Rev.* **B70** (2004) 125304.
28. Z.F. Ezawa, G. Tsitsishvili and K. Hasebe, "Noncommutative geometry, extended W_∞ algebra and Grassmannian solitons in multicomponent quantum Hall systems", *Phys. Rev.* **B67** (2003) 125314.
29. M. Eliashvili and G. Tsitsishvili, "Area preserving transformations in non-commutative space and NCCS theory", *Eur. Phys. J.* **C32** (2003) 135.
30. M. Eliashvili and G. Tsitsishvili, "Geometric transformations and NCCS theory in the lowest Landau level", *Int. J. Mod. Phys.* **B16** (2002) 3725.
31. M. Eliashvili and G. Tsitsishvili, "Magnetic instability in a parity invariant two-dimensional fermion system", *Int. J. Mod. Phys.* **B14** (2000) 1441.
32. M. Eliashvili and G. Tsitsishvili, "Chern-Simons theory and quantum fields in the lowest Landau level", *Int. J. Mod. Phys.* **B14** (2000) 1429.
33. M. Eliashvili and G. Tsitsishvili, "Magnetic moment interaction in the anyon superconductor", *Phys. Rev.* **B57** (1998) 2713.
34. M. Eliashvili and G. Tsitsishvili, "On the current correlators for planar fermions in magnetic field", *Mod. Phys. Lett.* **A8** (1993) 3807.
35. A. Bochkarev and G. Tsitsishvili, "Analytical evaluation of the anomalous fermion-number nonconservation at high temperatures in the (1+1)-dimensional Abelian Higgs model", *Phys. Rev.* **D40** (1989) 1378.