

ბოლო 10 წელიწადში გამოქვეყნებული შრომები (* აღბიძნულია იმპაქ-ფაქტორის მქონე ჟურნალები)

List of Selected Publications in the International Peer Reviewed Journals (over the last 10 years)

№	Publication Title	Journal title, series, volume issue (publication date): page(s) or, book / monograph title, edition #, series publisher, city, year published
1	Singular Generalized Analytic Functions	Journal of Mathematical Sciences 237 (1), 30-109,2019
2	Boundary-Value Problems with Shift and Beltrami Systems	Journal of Mathematical Sciences 237 (1), 1-29,2019
3*	On Equilibrium Conccyclic Configurations	Doklady Mathematics, 2018, Vol. 98, No. 1, pp. 1–5.
4	The analysis of vortex equations using methods generalized analytic functions	Bull.TICMI, 2018, vol.22, N2 pp.18-26
5*	Nondegeneracy of certain constrained extrema	Doklady Mathematics. 2015,vol. 95, N 3, pp. 269-273
6*	Cyclic Configuration of spherical polygons	Doklady Mathematics. Volume 87, Number1, pp. 300-305, 2013
7*	On some properties of generalized analytic functions induced from irregular Carleman–Bers–Vekua equations	Complex Variables and Elliptic Equations, vol.59, N 9, pp.1183-1194, 2013
8	Equilibria of Point Charges on Nested Circles	Bull.Georgian Nat. Acad. Sci. vol. 9, no. 3, pp. 43-49,2015
9	Equilibria of Point Charges in Convex Domains	Bull.Georgian Nat. Acad. Sci.vol. 9, no. 2, 2015
10	On some constructive methods for the matrix Riemann–Hilbert boundary value problem.	Journal of Mathematical Sciences(N.Y), Volume 195, Issue 2, pp 146-174, 2013

Other Selected Publications

- 1.(with G Akhalaia, G Makatsaria, N Manjavidze) Deformation of Complex Structures and Boundary Value Problem with Shift. In Springer book series "Trends in Mathematics".Analysis as a Life,2019, pp. 1-17
2. (with G.Akhalaia, V.Jikia) On the Vortex equation on the complex plane, Proc.I.Vekua institute of Applied Math. vol.66, pp.14-18, 2016
3. (with N.Makhaldiani) On the algorithmic and nonalgorithmic solvable problems from quantum computing point of view. *Proc.I.Vekua Institute of Appl.Math.* vol.64, 2014, pp. 24-30
4. (with N.Manjavidze) On some constructive methods for matrix Riemann--Hilbert boundary value problem. *Journal of Math. Sci.(N.Y)*, 2013, vol.194, 2013, pp.46-54.
5. (with B.Bojarski) Some analytical and geometric aspects of the stable partial indices. *Proceedings of I. Vekua Institute of Applied Mathematics, vol. 61-62, 2011-2012, pp.14-32.*
6. Monodromic Quantum Computing. In book “*Networks and Quantum Computing*”, Ed.: Nikos E. Mastorakis, Nova Press, 2011, pp.349-384

7. On one necessary condition of solvability of Riemann-Hilbert monodromy problem in dimension four. *Trans. Inst.Math. Nat.Acad.Sci. Ukraine*, vol.7, N2, 2010, pp. 42-52
8. Solvability condition of the Riemann-Hilbert problem. *In book "Progress in analysis and its applications", Ed. M Ruzhanski, World Scientific, 2010*
9. Density problem of monodromy representation of Fuchsian system. *In book "Further Progress in Analysis" Ed. H.Begehr, A.Celebi, R.Gilbert, Word Scientific, 2009, pp.347-356*
10. Moduli space of complex structures. *Journal of Mathematical Sciences (N.Y)*. 160 (6), pp. 697-716,2009
1. (with G. Khimshiashvili) Cyclic configurations of spherical quadrilaterals. *Bull.Georgian Nat.Acad.Sci.* 3 (2), pp.23-27, 2009
12. Analytic methods in quantum computing. *Journal of Mathematical Sciences (N.Y)*. 153 (2), pp. 70-119,2008
13. (with A. Suzko) Quantum computing in exactly solvable models and geometric phases. *Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 186-196,2008
14. (with R. Tevzadze) Quantum computation with scattering matrices. *Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 197-209,2008
15. (with Z. Melikishvili) Atom-photon interactions with respect to quantum computation: A three-level atom in a two-mode field.*Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 167-185,2008
16. Gates for quantum computing induced from monodromy operators. *Physics of Particles and Nuclei Letters*. vol.4,N2,pp. 173-175, 2007
17. Monodromic Quantum Computing. *International Journal of Computer Research*. Volume 15 Issue 3/4, pp. 259-294, 2007
18. On Monodromy of Generalized Analytic Functions. *Journal of Mathematical Sciences*. Volume 132, Number 6, 2006 , pp. 716-738.
19. Monodromic Quantum Computing. *in book "Trends in Quantum Computing Research" Nova Publishers, New York, pp.1-36,2006*
20. (with Z. Melikishvili) Three-level identical atoms in one and two-mode quantum fields I: internal electric dipole and quadrupole coupling in single atom by single mode. *Proceedings of I. Vekua Institute of Applied Mathematics*, vol. 61-62, 2011-2012, pp.46-54.
21. Some properties of the space of generalized analytic functions. *In "Recent developments in generalized analytic functions and its application", Ed. G.Giorgadze, Tbilisi, 2011, pp.56-62.*
22. (with G.Khimshiashvili) Factorization of Loops in Loop Groups. *Bull.Georgian Nat. Acad. Sci.* Vol.5, N 3, pp.35-38, 2011
23. On the structure of the space of generalized analytic functions. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics*, vol. 25, 2011, pp.53-56
24. (with V. Jikia) Relation between Beltrami and holomorphic disc equations. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics*, vol.25, 2011, pp.57-60
25. Some analytical and Geometrical aspects of the stable partial indices. *In Proc.of the International Conference on Modern Algebra and its Application*. Vol.1, pp.129-146, 2011
26. (with G. Khimshiashvili)Remarks on spherical linkages. *Bull.Georgian Nat.Acad.Sci.* 4 (2), pp.13-18, 2010

Books

Geometry of quantum computation, Nova Publ. (N.Y), 2013

(Coauthor) *Elliptic systems on Riemann surfaces*, Lecture Notes TICMI, TSU Press, 2012