CURRICULUM VITAE OF VAKHID A. GANI

CONTACT INFORMATION

National Research Nuclear University MEPhI
(Moscow Engineering Physics Institute)
Department of Mathematics
Room A-211, Kashirskoe shosse 31,
Moscow 115409, Russia

Work: +7-495-788-56-99 (9378)
E-mail: vagani@mephi.ru

RESEARCH INTERESTS

My current research interests can be broadly formulated as nonlinear phenomena and topological solitons in classical and quantum field theories, such as kinks, vortexes, monopoles, domain walls, etc.; numerical methods of mathematical physics, in particular, numerical solution of partial differential equations.

CURRENT ACADEMIC APPOINTMENTS

Associate Professor,
National Research Nuclear University MEPhI
(Moscow Engineering Physics Institute)
Department of Mathematics
March 2017 to present

Senior Researcher,
Institute for Theoretical and Experimental Physics
National Research Center "Kurchatov Institute"
Theoretical Department
October 2017 to present

PREVIOUS ACADEMIC APPOINTMENTS

Assistant, Lecturer, Senior Lecturer,
National Research Nuclear University MEPhI
(Moscow Engineering Physics Institute)
Department of Mathematics
May 1997 to March 2017

Researcher,
Institute for Theoretical and Experimental Physics
National Research Center "Kurchatov Institute"
Theoretical Department
June 1997 to October 2017

EDUCATION

National Research Nuclear University MEPhI
(Moscow Engineering Physics Institute)

- Ph.D. in Theoretical Physics, May 2009

  Thesis Topic: *Interacting kinks and disoriented chiral condensate bubbles in some field theoretical models*
  Advisor: Prof. Alexander E. Kudryavtsev (ITEP, Moscow)

- Specialist degree in Theoretical Physics, February 1997

  Thesis Topic: *High orders of the perturbation theory for the hydrogen atom in magnetic field*
  Supervisor: Prof. Alexander E. Kudryavtsev (ITEP, Moscow)

IN DATABASES

- ORCID: 0000-0001-5825-5696
- ResearcherID: P-8910-2015
- Scopus Author ID: 6603589339

- arXiv.org: Gani, V A
- Google Scholar: Vakhid Gani

Refereed Journal Publications

[36] P. A. Blinov, T. V. Gani, V. A. Gani, *Deformations of kink tails*, Ann. Phys. (N. Y.) **437** (2022) 168739, doi:10.1016/j.aop.2021.168739; arXiv:2008.13159.

[35] V. A. Gani, A. Moradi Marjaneh, K. Javidan, *Exotic final states in the φ^8 multi-kink collisions*, Eur. Phys. J. C **81** (2021) 1124, doi:10.1140/epjc/s10052-021-09935-7; arXiv:2106.06399.

[34] E. Belendryasova, V. A. Gani, K. G. Zloshchastiev, *Kink solutions in logarithmic scalar field theory: Excitation spectra, scattering, and decay of bions*, Phys. Lett. B **823** (2021) 136776, doi:10.1016/j.physletb.2021.136776; arXiv:2111.09096.

[33] I. C. Christov, R. J. Decker, A. Demirkaya, V. A. Gani, P. G. Kevrekidis, A. Saxena, *Kink-antikink collisions and multi-bounce resonance windows in higher-order field theories*, Commun. Nonlinear Sci. Numer. Simulat. **97** (2021) 105748, doi:10.1016/j.cnsns.2021.105748; arXiv:2005.00154.

[32] M. Singh, A. Y. Morkina, E. A. Korznikova, V. I. Dubinko, D. A. Terentiev, D. Xiong, O. B. Naimark, V. A. Gani, S. V. Dmitriev, *Effect of discrete breathers on the specific heat of a nonlinear chain*, J. Nonlinear Sci. **31** (2021) 12, doi:10.1007/s00332-020-09663-4; arXiv:1907.03280.

[31] E. A. Korznikova, V. A. Kuzkin, A. M. Krivtsov, D. Xiong, V. A. Gani, A. A. Kudreyko, S. V. Dmitriev, *Equilibration of sinusoidal modulation of temperature in linear and nonlinear chains*, Phys. Rev. **E 102** (2020) 062148, doi:10.1103/PhysRevE.102.062148; arXiv:2101.01582.

[30] E. A. Korznikova, A. Y. Morkina, M. Singh, A. M. Krivtsov, V. A. Kuzkin, V. A. Gani, Y. V. Bebikhov, S. V. Dmitriev, *Effect of discrete breathers on macroscopic properties of the Fermi–Pasta–Ulam chain*, Eur. Phys. J. **B 93** (2020) 123, doi:10.1140/epjb/e2020-10173-7; arXiv:1907.10094.

[29] A. Askari, A. Moradi Marjaneh, Z. G. Rakhmatullina, M. Ebrahimi-Loushab, D. Saadatmand, V. A. Gani, P. G. Kevrekidis, S. V. Dmitriev, *Collision of ϕ^4 kinks free of the Peierls–Nabarro barrier in the regime of strong discreteness*, Chaos, Solitons and Fractals **138** (2020) 109854, doi:10.1016/j.chaos.2020.109854; arXiv:1912.07953.

[28] V. A. Gani, A. Moradi Marjaneh, P. A. Blinov, *Explicit kinks in higher-order field theories*, Phys. Rev. **D 101** (2020) 125017, doi:10.1103/PhysRevD.101.125017; arXiv:2002.09981.

[27] V. A. Gani, A. Moradi Marjaneh, D. Saadatmand, *Multi-kink scattering in the double sine-Gordon model*, Eur. Phys. J. **C 79** (2019) 620, doi:10.1140/epjc/s10052-019-7125-5; arXiv:1901.07966.

[26] I. C. Christov, R. J. Decker, A. Demirkaya, V. A. Gani, P. G. Kevrekidis, A. Khare, A. Saxena, *Kink-kink and kink-antikink interactions with long-range tails*, Phys. Rev. Lett. **122** (2019) 171601, doi:10.1103/PhysRevLett.122.171601; arXiv:1811.07872.

[25] E. Belendryasova, V. A. Gani, *Scattering of the φ^8 kinks with power-law asymptotics*, Commun. Nonlinear Sci. Numer. Simulat. **67** (2019) 414, doi:10.1016/j.cnsns.2018.07.030; arXiv:1708.00403.

[24] V. A. Gani, M. Yu. Khlopov, D. N. Voskresensky, *Double charged heavy constituents of dark atoms and superheavy nuclear objects*, Phys. Rev. **D 99** (2019) 015024, doi:10.1103/PhysRevD.99.015024; arXiv:1808.06816.

[23] I. C. Christov, R. J. Decker, A. Demirkaya, V. A. Gani, P. G. Kevrekidis, R. V. Radomskiy, *Long-range interactions of kinks*, Phys. Rev. **D 99** (2019) 016010, doi:10.1103/PhysRevD.99.016010; arXiv:1810.03590.

[22] V. A. Gani, A. Moradi Marjaneh, A. Askari, E. Belendryasova, D. Saadatmand, *Scattering of the double sine-Gordon kinks*, Eur. Phys. J. **C 78** (2018) 345, doi:10.1140/epjc/s10052-018-5813-1; arXiv:1711.01918.

[21] D. Bazeia, E. Belendryasova, V. A. Gani, *Scattering of kinks of the sinh-deformed φ^4 model*, Eur. Phys. J. **C 78** (2018) 340, doi:10.1140/epjc/s10052-018-5815-z; arXiv:1710.04993.

[20] V. A. Gani, A. A. Kirillov, S. G. Rubin, *Classical transitions with the topological number changing in the early Universe*, JCAP **04** (2018) 042, doi:10.1088/1475-7516/2018/04/042; arXiv:1704.03688.

[19] A. Moradi Marjaneh, V. A. Gani, D. Saadatmand, S. V. Dmitriev, K. Javidan, *Multi-kink collisions in the ϕ^6 model*, JHEP **07** (2017) 028, doi:10.1007/JHEP07(2017)028; arXiv:1704.08353.

[18] A. E. Kudryavtsev, V. A. Gani, A. I. Romanov, *Three-body scattering problem in the fixed center approximation: the case of attraction*, Eur. Phys. J. **A 52** (2016) 358, doi:10.1140/epja/i2016-16358-8; arXiv:1606.02259.

[17] V. A. Gani, M. A. Lizunova, R. V. Radomskiy, *Scalar triplet on a domain wall: an exact solution*, JHEP **04** (2016) 043, doi:10.1007/JHEP04(2016)043; arXiv:1601.07954.

[16] V. A. Gani, A. E. Dmitriev, S. G. Rubin, *Deformed compact extra space as dark matter candidate*, *Int. J. Mod. Phys.* **D 24** (2015) 1545001, doi:10.1142/S0218271815450017; arXiv:1411.4828.

[15] V. A. Gani, V. Lensky, M. A. Lizunova, *Kink excitation spectra in the (1+1)-dimensional φ^8 model*, JHEP **08** (2015) 147, doi:10.1007/JHEP08(2015)147; arXiv:1506.02313.

[14] K. M. Belotsky, A. E. Dmitriev, E. A. Esipova, V. A. Gani, A. V. Grobov, M. Yu. Khlopov, A. A. Kirillov, S. G. Rubin, I. V. Svadkovsky, *Signatures of primordial black hole dark matter*, Mod. Phys. Lett. **A 29** (2014) 1440005, doi:10.1142/S0217732314400057; arXiv:1410.0203.

[13] V. A. Gani, A. E. Kudryavtsev, M. A. Lizunova, *Kink interactions in the (1+1)-dimensional φ^6 model*, Phys. Rev. **D 89** (2014) 125009, doi:10.1103/PhysRevD.89.125009; arXiv:1402.5903.

[12] A. E. Kudryavtsev, A. I. Romanov, V. A. Gani, *Does the multiple-scattering series in the pion-deuteron scattering actually converge?*, Phys. Atom. Nucl. **76** (2013) 919 [Yad. Fiz. **76** (2013) 973], doi:10.1134/S1063778813070090; arXiv:1209.2145.

[11] V. A. Gani, V. G. Ksenzov, A. E. Kudryavtsev, *Stable branches of a solution for a fermion on domain wall*, Phys. Atom. Nucl. **74** (2011) 771 [Yad. Fiz. **74** (2011) 797], doi:10.1134/S1063778811050085; arXiv:1009.4370.

[10] V. A. Gani, V. G. Ksenzov, A. E. Kudryavtsev, *Example of a self-consistent solution for a fermion on domain wall*, Phys. Atom. Nucl. **73** (2010) 1889 [Yad. Fiz. **73** (2010) 1940], doi:10.1134/S1063778810110104; arXiv:1001.3305.

[9] V. A. Gani, N. B. Konyukhova, S. V. Kurochkin, V. A. Lensky, *Study of stability of a charged topological soliton in the system of two interacting scalar fields*, Comput. Math. Math. Phys. **44** (2004) 1968 [Zh. Vychisl. Mat. Mat. Fiz. **44** (2004) 2069]; arXiv:0710.2975.

[8] V. A. Gani, A. E. Kudryavtsev, V. A. Lensky, V. M. Weinberg, *Perturbative approach to the hydrogen atom in a strong magnetic field*, J. Exp. Theor. Phys. **96** (2003) 402 [Zh. Eksp. Teor. Fiz. **123** (2003) 457], doi:10.1134/1.1567412; arXiv:physics/0207103.

[7] V. A. Lensky, V. A. Gani, A. E. Kudryavtsev, *Domain walls carrying a $U(1)$ charge*, J. Exp. Theor. Phys. **93** (2001) 677 [Zh. Eksp. Teor. Fiz. **120** (2001) 778], doi:10.1134/1.1420436; arXiv:hep-th/0104266.

[6] V. A. Gani, T. I. Belova, A. E. Kudyavtsev, *Decay of a large-amplitude bubble of a disoriented chiral condensate*, Phys. Atom. Nucl. **64** (2001) 140 [Yad. Fiz. **64** (2001) 143], doi:10.1134/1.1344952; arXiv:hep-ph/0003308.

[5] V. A. Gani, A. E. Kudyavtsev, *Collisions of domain walls in a supersymmetric model*, Phys. Atom. Nucl. **64** (2001) 2043 [Yad. Fiz. **64** (2001) 2130], doi:10.1134/1.1423755; arXiv:hep-th/9912211, arXiv:hep-th/9904209.

[4] V. A. Gani, V. M. Weinberg, *Investigating the hydrogen atom in crossed external fields by the method of moments*, Phys. Atom. Nucl. **63** (2000) 2073 [Yad. Fiz. **63** (2000) 2169], doi:10.1134/1.1333876; arXiv:physics/9808041.

[3] V. A. Gani, A. E. Kudryavtsev, *Kink-antikink interactions in the double sine-Gordon equation and the problem of resonance frequencies*, Phys. Rev. **E 60** (1999) 3305, doi:10.1103/PhysRevE.60.3305; arXiv:cond-mat/9809015.

[2] V. A. Gani, A. E. Kudryavtsev, T. I. Belova, *Decay of a bubble of disoriented chiral condensate*, Phys. Atom. Nucl. **62** (1999) 895 [Yad. Fiz. **62** (1999) 956]; arXiv:hep-ph/9712526.

[1] V. A. Gani, A. E. Kudryavtsev, V. M. Weinberg, *High orders of the perturbation theory for hydrogen atom in magnetic field*, J. Exp. Theor. Phys. **86** (1998) 305 [Zh. Eksp. Teor. Fiz. **113** (1998) 550], doi:10.1134/1.558457; arXiv:physics/9708005.

CONFERENCE PUBLICATIONS

[14] V. A. Gani, A. Moradi Marjaneh, *Asymmetric kink solutions of hyperbolically deformed model*, J. Phys.: Conf. Ser. **1690** (2020) 012096, doi:10.1088/1742-6596/1690/1/012096; arXiv:2012.14284.

[13] V. A. Gani, *Vibrations of thick domain walls: How to avoid no-go theorem*, J. Phys.: Conf. Ser. **1690** (2020) 012095, doi:10.1088/1742-6596/1690/1/012095; arXiv:2012.14298.

[12] P. A. Blinov, T. V. Gani, V. A. Gani, *Domain wall thickness and deformations of the field model*, J. Phys.: Conf. Ser. **1690** (2020) 012085, doi:10.1088/1742-6596/1690/1/012085; arXiv:2012.12709.

[11] P. A. Blinov, V. A. Gani, A. Moradi Marjaneh, *From thin to thick domain walls: An example of the φ^8 model*, J. Phys.: Conf. Ser. **1690** (2020) 012082, doi:10.1088/1742-6596/1690/1/012082; arXiv:2012.12711.

[10] E. Belendryasova, V. A. Gani, K. G. Zloshchastiev, *Kinks in the relativistic model with logarithmic nonlinearity*, J. Phys.: Conf. Ser. **1390** (2019) 012082, doi:10.1088/1742-6596/1390/1/012082; arXiv:2001.02265.

[9] V. A. Gani, M. Yu. Khlopov, D. N. Voskresensky, *Superheavy objects composed of nuclear and dark matter*, J. Phys.: Conf. Ser. **1390** (2019) 012095, doi:10.1088/1742-6596/1390/1/012095; arXiv:1901.05930.

[8] E. Belendryasova, V. A. Gani, A. Moradi Marjaneh, D. Saadatmand, A. Askari, *A new look at the double sine-Gordon kink-antikink scattering*, J. Phys.: Conf. Ser. **1205** (2019) 012007, doi:10.1088/1742-6596/1205/1/012007; arXiv:1810.00667.

[7] E. Belendryasova, V. A. Gani, *Resonance phenomena in the φ^8 kinks scattering*, J. Phys.: Conf. Ser. **934** (2017) 012059, doi:10.1088/1742-6596/934/1/012059; arXiv:1712.02846.

[6] V. A. Gani, A. A. Kirillov, S. G. Rubin, *Transitions between topologically non-trivial configurations*, J. Phys.: Conf. Ser. **934** (2017) 012046, doi:10.1088/1742-6596/934/1/012046; arXiv:1711.07700.

[5] D. Bazeia, E. Belendryasova, V. A. Gani, *Scattering of kinks in a non-polynomial model*, J. Phys.: Conf. Ser. **934** (2017) 012032, doi:10.1088/1742-6596/934/1/012032; arXiv:1711.07788.

[4] R. V. Radomskiy, E. V. Mrozovskaya, V. A. Gani, I. C. Christov, *Topological defects with power-law tails*, J. Phys.: Conf. Ser. **798** (2017) 012087, doi:10.1088/1742-6596/798/1/012087; arXiv:1611.05634.

[3] V. A. Gani, M. A. Lizunova, R. V. Radomskiy, *Scalar triplet on a domain wall*, J. Phys.: Conf. Ser. **675** (2016) 012020, doi:10.1088/1742-6596/675/1/012020; arXiv:1602.04446.

[2] V. A. Gani, V. Lensky, M. A. Lizunova, E. V. Mrozovskaya, *Excitation spectra of solitary waves in scalar field models with polynomial self-interaction*, J. Phys.: Conf. Ser. **675** (2016) 012019, doi:10.1088/1742-6596/675/1/012019; arXiv:1602.02636.

[1] V. A. Gani, A. E. Dmitriev, S. G. Rubin, *Two-dimensional manifold with point-like defects*, Phys. Proc. **74** (2015) 32, doi:10.1016/j.phpro.2015.09.186; arXiv:1511.01869.

RESEARCH PROJECTS (COMPETITIVELY FUNDED)

Active:

- Subproject "Astrophysics and cosmology" of the Project "Relativistic quantum engineering" within the Program "Priority-2030"
  - Role: Project team member; estimated duration: November 2021 to December 2030.
  - Research Grant from the Ministry of Science and Higher Education of the Russian Federation.

Completed:

- "Novel properties of the topologically non-trivial solutions in a wide class of non-linear field-theoretical models"
  - Role: Head of the project (PI); February 2019 to December 2021.
  - Research Grant 19-02-00971 from the Russian Foundation for Basic Research (RFBR).
- "Primordial black holes in the early Universe"
  - Role: Project team member; February 2019 to December 2021.
  - Research Grant 19-02-00930 from the Russian Foundation for Basic Research (RFBR).
- "The role of initial conditions in the formation of the Universe with extra spatial dimensions"
  - Role: Project team member; 2014-2016.
  - Research Grant 3.472.2014/K from Ministry of Education and Science of the Russian Federation.
- "Theoretical studies of the Standard Model of fundamental particles and interactions, and its extensions"
  - Role: Project team member; 2014-2015.
  - Grant NSh-3830.2014.2 of the President of the Russian Federation.
- "Theoretical studies of the Standard Model of fundamental particles and interactions, and its extensions"
  - Role: Project team member; 2012-2013.
  - Grant NSh-3172.2012.2 of the President of the Russian Federation.
- "Theoretical studies of the Standard Model of fundamental particles and interactions, and its extensions"
  - Role: Project team member; 2010-2011.
  - Grant NSh-4172.2010.2 of the President of the Russian Federation.
- "High-precision calculation of pion-deuteron scattering length and verification of isospin conservation in pion-nucleon interaction at low energies"
  - Role: Project team member; 2002-2004.
  - Research Grant 02-02-16465 from the Russian Foundation for Basic Research (RFBR).
- "Further verification of the Standard Model and its extensions by comparing the formulas of the electroweak theory for the observables, taking into account the radiative corrections obtained on the basis of the optimal choice of the Born approximation, with new precision experiments"
  - Role: Project team member; 2000-2001.
  - Research Grant 00-15-96562 from the Russian Foundation for Basic Research (RFBR).
- "Search and study of new non-trivial classical solutions of nonlinear field equations and their application to the problems of bariogenesis, the structure of vacuum states of field theories, and cosmology"
  - Role: Project team member; 1998-1999.
  - Research Grant 98-02-17316 from the Russian Foundation for Basic Research (RFBR).
- "Support program for graduate students and young scientists without a degree"

  - Role: Competition winner and grant recipient; 1998-1999.
  - INTAS Grant 96-0457 within the research program of the International Center for Fundamental Physics in Moscow.

- "Theoretical study of the minimal Standard Model and its generalizations"
  - Role: Project team member; 1996-1997.
  - Research Grant 96-15-96578 from the Russian Foundation for Basic Research (RFBR).

Awards, Honors & Other Recognitions

♢ Awarded "IOP Trusted Reviewer" status, December 2021.
https://accreditations.ioppublishing.org/360d12e9-0646-469a-86cc-d97aae3dfdd8

♢ Recognized as "Outstanding Reviewer" (amongst 19) by the *Journal of Physics A: Mathematical and Theoretical* for 2020.
https://publishingsupport.iopscience.iop.org/questions/journal-of-physics-a-mathematical-theoretical-2020-reviewer-awards

♢ Awarded "IOP Trusted Reviewer" status, December 2020.
http://msgfocus.com/files/amf_iop/project_1118/Batch_3/Sh0n.pdf

♢ Recognized (amongst 78) as "Outstanding Faculty Member of National Research Nuclear University MEPhI", 2015.

♢ Recognized as "Outstanding Young Faculty Member of National Research Nuclear University MEPhI", November 2013.

♢ Certificate of honor from the rector of NRNU MEPhI Prof. M. N. Strikhanov for a significant contribution to the development of the university, 2012.

♢ Grant for young researchers of the Institute for Theoretical and Experimental Physics, for several years around 2010.

♢ Diploma of the prize-winner of the Seventh creative competition for teachers of mathematics, 2010.

Teaching & Mentorship

Students mentored at National Research Nuclear University MEPhI and other universities:

- Alexander Malnev (Moscow Institute of Physics and Technology), 2020–present.
- Petr Blinov (Moscow Institute of Physics and Technology), research leading to refereed journal publication [28] and conference publications [11,12], 2018–present.
- Ekaterina Belendryasova (National Research Nuclear University MEPhI), research leading to refereed journal publications [21,22,25] and conference publications [5,7,8,10], 2016–2019.
- Roman Radomskiy (National Research Nuclear University MEPhI), research leading to refereed journal publications [17,23] and conference publications [3,4], 2015–2016.
- MS: Mariya Lizunova (Department of theoretical nuclear physics, National Research Nuclear University MEPhI); co-advised with Prof. Alexander Kudryavtsev (ITEP); Defended/Graduated: 2016; Thesis "Search and study of the long-lived topological solutions of non-linear field equations".

- BS: Mariya Lizunova (Department of theoretical nuclear physics, National Research Nuclear University MEPhI); co-advised with Prof. Alexander Kudryavtsev (ITEP); Defended/Graduated: 2014; Thesis "Interactions of kinks of the (1+1)-dimensional ϕ^6 model".
- Mariya Lizunova (Department of theoretical nuclear physics, National Research Nuclear University MEPhI), research leading to refereed journal publications [13,15,17] and conference publications [2,3], 2012–2016.

Lecture courses taught at National Research Nuclear University MEPhI:

- ▷ Topological Solitons (as a part of the course on Fundamental Interaction, Fall 2021).
- ▷ Functions of a Complex Variable (Spring 2015, Spring 2018, Spring 2020).
- ▷ Vector and Tensor Analysis (Fall 2014, Fall 2017).
- ▷ Mathematical Analysis: Integral Calculus and Differential Calculus of Functions of Several Variables (for physics students, Spring 2014, Spring 2017).
- ▷ Mathematical Analysis: Integral Calculus and Differential Calculus of Functions of Several Variables (for economics students, Spring 2014, Spring 2015).
- ▷ Mathematical Analysis: Differential Calculus (for physics students, Fall 2013, Fall 2016).
- ▷ Mathematical Analysis: Differential Calculus (for economics students, Fall 2013, Fall 2014).
- ▷ Analytic Geometry; Mathematical Analysis: Differential Calculus; Mathematical Analysis: Integral Calculus and Differential Calculus of Functions of Several Variables; Differential equations; Vector and Tensor Analysis; Functions of a Complex Variable; Equations of Mathematical Physics (2000–2012)

TALKS & PRESENTATIONS

[35] **October 2020**, V. A. Gani, "Vibrations of thick domain walls: How to avoid no-go theorem", The 5th International Conference on Particle Physics and Astrophysics (ICPPA-2020); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/35

[34] **October 2020**, V. A. Gani, A. Moradi Marjaneh, "Asymmetric kink solutions of hyperbolically deformed model", The 5th International Conference on Particle Physics and Astrophysics (ICPPA-2020); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/35

[33] **October 2020**, P. A. Blinov, V. A. Gani, A. Moradi Marjaneh, "From thin to thick domain walls: An example of the φ^8 model", The 5th International Conference on Particle Physics and Astrophysics (ICPPA-2020); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/35

[32] **October 2020**, P. A. Blinov, T. V. Gani, V. A. Gani, "Domain wall thickness and deformations of the field model", The 5th International Conference on Particle Physics and Astrophysics (ICPPA-2020); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/35

[31] **May 2019**, I. C. Christov, R. Decker, A. Demirkaya, V. A. Gani, P. G. Kevrekidis, R. V. Radomskiy, A. Khare, A. Saxena, "Long-range interactions of kinks", SIAM Conference on Applications of Dynamical Systems (DS19), Snowbird, Utah, USA.
https://www.siam.org/conferences/cm/conference/ds19

[30] **January 2019**, I. C. Christov, R. Decker, A. Demirkaya, V. A. Gani, P. G. Kevrekidis, R. V. Radomskiy, "Long-range interactions of kinks", Dynamics Days 2019, Northwestern University, Illinois, USA.
http://ddays2019.northwestern.edu

[29] **December 26, 2018**, V. A. Gani, "Topological defects with power-law asymptotics: Some new results of 2018", Invited talk at ITEP New Year's Eve Seminar; Kurchatov Institute — ITEP, Moscow, Russia.

[28] **October 2018**, E. Belendryasova, V. A. Gani, K. G. Zloshchastiev, "Kinks in the relativistic model with logarithmic nonlinearity", The 4th International Conference on Particle Physics and Astrophysics (ICPPA-2018); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/22

[27] **October 2018**, V. A. Gani, M. Yu. Khlopov, D. N. Voskresensky, "Superheavy objects composed of nuclear and dark matter", The 4th International Conference on Particle Physics and Astrophysics (ICPPA-2018); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/22

[26] **June 2018**, E. Belendryasova, V. A. Gani, A. Moradi Marjaneh, D. Saadatmand, A. Askari, "A new look at the double sine-Gordon kink-antikink scattering", The 7th International Conference Problems of Mathematical Physics and Mathematical Modelling; National Research Nuclear University MEPhI, Moscow, Russia.

[25] **November 22, 2017**, V. A. Gani, "Topological defects with power-law tails in (1+1)-dimensional models", Invited Plenary talk at Lev Okun memorial session within Youth Conference on Theoretical and Experimental Physics, Kurchatov Institute — ITEP, Moscow, Russia.
http://www.itep.ru/activity/youth/ysconf/conf2017.php

[24] **November 2017**, E. Belendryasova, A. Askari, V. A. Gani, D. Saadatmand, A. Moradi Marjaneh, "Novel properties of the double sine-Gordon kinks", Youth Conference on Theoretical and Experimental Physics, Kurchatov Institute — ITEP, Moscow, Russia.
http://www.itep.ru/activity/youth/ysconf/conf2017.php

[23] **October 2017**, D. Bazeia, E. Belendryasova, V. A. Gani, "Scattering of kinks in a non-polynomial model", The 3rd International Conference on Particle Physics and Astrophysics (ICPPA-2017); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/14

[22] **October 2017**, V. A. Gani, A. A. Kirillov, S. G. Rubin, "Transitions between topologically non-trivial configurations", The 3rd International Conference on Particle Physics and Astrophysics (ICPPA-2017); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/14

[21] **May 26, 2017**, E. Belendryasova, V. A. Gani, "Resonance phenomena in the φ^8 kinks scattering", The 6th International Conference Problems of Mathematical Physics and Mathematical Modelling; National Research Nuclear University MEPhI, Moscow, Russia.

[20] **October 11, 2016**, R. V. Radomskiy, E. V. Mrozovskaya, V. A. Gani, I. C. Christov, "Topological defects with power-law tails", The 2nd International Conference on Particle Physics and Astrophysics (ICPPA-2016); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/4

[19] **March 2016**, V. A. Gani, M. A. Lizunova, R. V. Radomskiy, "Scalar triplet on a domain wall", The 50th Winter School of the Petersburg Nuclear Physics Institute; Roshchino, Leningrad Region, Russia.

[18] **February 2016**, V. A. Gani, M. A. Lizunova, R. V. Radomskiy, "Scalar triplet and domain wall", The 19th International Moscow School of Physics (44th ITEP Winter School); Serpukhov, Moscow Region, Russia.

[17] **November 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Excitation spectra of solitary waves in scalar field models with polynomial self-interaction", Conference of young scientists and specialists — 2015; Petersburg Nuclear Physics Institute, Gatchina, Leningrad Region, Russia.

[16] **October 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, E. V. Mrozovskaya, "Excitation spectra of solitary waves in scalar field models with polynomial self-interaction", International Conference on Particle Physics and Astrophysics (ICPPA-2015); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/2

[15] **October 2015**, V. A. Gani, M. A. Lizunova, R. V. Radomskiy, "Scalar triplet on a domain wall", International Conference on Particle Physics and Astrophysics (ICPPA-2015); National Research Nuclear University MEPhI, Moscow, Russia.
https://indico.particle.mephi.ru/event/2

[14] **July 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Interactions of kinks in 1+1 dimensional φ^8 model", International School "Theoretical Problems of Physics of Fundamental Interactions"; Zelenogorsk, Saint Petersburg, Russia.

[13] **April 2015**, M. A. Lizunova, "Interactions of the φ^8 kinks", International Youth Scientific Forum "Lomonosov-2015"; Lomonosov Moscow State University, Moscow, Russia.

[12] **April 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Resonance phenomena in the φ^8 kink collisions at low energies", Conference "Young Scientists of Russia — 2015"; Moscow, Russia.

[11] **February 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Kink scattering and resonance phenomena at low energies in the φ^8 model", 18th International Moscow School of Physics (43rd ITEP Winter School); Moscow Region, Russia.

[10] **February 2015**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Resonance phenomena in low-energy collisions of kinks of the φ^8 model", Conference "Scientific session NRNU MEPhI — 2015"; National Research Nuclear University MEPhI, Moscow, Russia.

[9] **February 2015**, V. A. Gani, A. E. Dmitriev, S. G. Rubin, "Two-dimensional manifold with point-like defects", Conference "Scientific session NRNU MEPhI — 2015"; National Research Nuclear University MEPhI, Moscow, Russia.

[8] **November 21, 2014**, S. G. Rubin, V. A. Gani, A. E. Dmitriev, "Extra spaces with point-like defects", International Conference-Session of the Nuclear Physics Section of the Physical Sciences Division of the Russian Academy of Sciences "Physics of Fundamental Interactions"; National Research Nuclear University MEPhI, Moscow, Russia.
https://icssnp.mephi.ru/en

[7] **November 2014**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Resonance phenomena in collisions of kinks of the φ^8 model", Inter-institutional Youth Conference "Particle Physics and Cosmology"; Institute for Nuclear Research, Moscow, Russia.

[6] **October 2014**, V. A. Gani, V. A. Lensky, M. A. Lizunova, "Excitation spectrum and scattering of kinks of the φ^8 model", XII Kurchatov Youth Scientific School; Kurchatov Institute, Moscow, Russia.

[5] **April 2014**, M. A. Lizunova, V. A. Gani, A. E. Kudryavtsev, "Low-energy interactions of the φ^6 kinks", III International Youth Scientific School-Conference "Modern Problems of Physics and Technology"; National Research Nuclear University MEPhI, Moscow, Russia.

[4] **February 2014**, M. A. Lizunova, V. A. Gani, A. E. Kudryavtsev, "Kink interactions in the (1+1)-dimensional φ^6 model", 17th International Moscow School of Physics (42nd ITEP Winter School); Moscow Region, Russia.

[3] **January 2014**, V. A. Gani, A. E. Kudryavtsev, M. A. Lizunova, "Interactions of kinks of the φ^6 model in 1+1 dimensions within the collective coordinate approximation", Conference "Scientific session NRNU MEPhI — 2014"; National Research Nuclear University MEPhI, Moscow, Russia.

[2] **February 2011**, V. A. Gani, V. G. Ksenzov, A. E. Kudryavtsev, "Example of a self-consistent solution for a fermion on domain wall", Conference "Scientific session NRNU MEPhI — 2011"; National Research Nuclear University MEPhI, Moscow, Russia.

[1] **February 2011**, V. A. Gani, V. G. Ksenzov, A. E. Kudryavtsev, "Stable branches of a solution for a fermion on domain wall", Conference "Scientific session NRNU MEPhI — 2011"; National Research Nuclear University MEPhI, Moscow, Russia.

Professional Development

- ◁ Elsevier training on Scopus and SciVal products; December 2019.
- ◁ Moscow School of Management SKOLKOVO, Educational program "University Management System: Best Practices" led by Prof. Andrey Volkov; 2015–2016.
- ◁ Moscow School of Management SKOLKOVO, Educational program "Innovation Policy: The Meaning of the Concept and the Context" led by Prof. Andrey Volkov; 2015–2016.
- ◁ Moscow School of Management SKOLKOVO, Educational program "Research Policy" led by Prof. Andrey Volkov; 2015–2016.
- ◁ Moscow School of Management SKOLKOVO, Educational program "Educational Policy" led by Prof. Andrey Volkov; 2015–2016.

Service & Outreach

- Service towards National Research Nuclear University MEPhI.
  - ▷ Member of the "Research" working group: development of principles, priorities and models of research activities at NRNU MEPhI; search for key steps to reorganize research activities at NRNU MEPhI, 2015–2016.
  - ▷ Council of the Faculty of Part-time Education, several years around 2010.
- Service towards the scientific community: reviewer of scientific manuscripts, book proposals and grant proposals.
  - ▷ Reviewing manuscripts

▷ Publons profile: 72 verified reviews (N.B. Publons counts re-review of manuscript revisions as separate records).
https://publons.com/researcher/1751153/vakhid-gani/peer-review

journal	number of reviews
European Physical Journal C	8
Journal of Physics A: Mathematical and Theoretical	8
Annals of Physics	6
International Journal of Modern Physics B	7
Journal of High Energy Physics	6
Physics Letters A	5
European Physical Journal Plus	5
Symmetry	4
Chaos, Solitons & Fractals	3
Physics Letters B	3
Communications in Nonlinear Science and Numerical Simulation	2
International Journal of Modern Physics A	2
International Journal of Theoretical Physics	2
Journal of Physics: Condensed Matter	2
Modern Physics Letters A	2
Physica Scripta	2
Classical and Quantum Gravity	2
Gravitation and Cosmology	1
Universe	1
Proceedings of International Conference on Physics, Mathematics and Statistics	1
total	72

▷ Reviewed grant proposals for South Africa's National Research Foundation (NRF);

▷ Member of the pool of experts of the Russian Foundation for Basic Research, since January 2020;

▷ Member of the pool of experts of the Russian Science Foundation, since January 2022.

- Service towards the scientific community: contributed to the transfer of knowledge and its wider dissemination.

  ▷ A Node at "Solitons at Work" network (the nodes are part of the soliton network and contribute with suggestions for seminars/coffee club discussion topic and for training).
  http://solitonsatwork.net

  ▷ Supervisor of the PhysMath Elite Club — a community of high school students and undergraduates, aimed for a scientific career, since 2015.

  ▷ Member of the Organizing Committee of the First All-Russian Student Mathematical Olympiad at the National Research Nuclear University MEPhI (April 17, 2022).
  https://confer.mephi.ru/rus/event/7379

  ▷ Member of the Organizing Committee and Chairman of the Jury of the First Student Mathematical Fights at the National Research Nuclear University MEPhI (December 18, 2021).

PROFESSIONAL MEMBERSHIPS

- European Physical Society, since 2012.
  https://www.eps.org
- American Physical Society, since 2012.
  https://www.aps.org