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Institute of Physics
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Education

Institution	Yerevan State University
Faculty	Faculty of Physics, chair of Theoretical Physics
Date	1998 - 2001
Degree name	PhD student

Institution	Yerevan State University
Faculty	Faculty of Physics, chair of Theoretical Physics
Date	1993 - 1998
Degree name	Qualified specialist

Scientific Rank/degree

Date	2003
Degree name	Candidate
Scientific Supervisor	Nerses Ananikian
Research Topic	Phase transitions and Magnetization Plateaus in some spin systems, recursive lattices, one-dimensional chains and non-linear sigma-model

Language skills

Русский English Deutsch Українська

State awards and honorary titles

2010 RA President Prize,

Publications

Article

Electric-field driven flat bands in the distorted sawtooth chain via the Katsura–Nagaosa–Balatsky mechanism
Vadim Ohanyan, Lusik Amiraghyan, Michael Sekania, Marcus Kollar

Zeitschrift für Naturforschung A 2026 289 - 298

https://doi.org/10.1515/zna-2025-0381

Article

Molecular nanomagnet Cu2+Ni2+Cu2+ as a resource for bipartite and tripartite quantum entanglement and coherence
Azadeh Ghannadan, Hamid Arian Zad, Saeed Haddadi, Jozef Strečka, Zhirayr Adamyan, Vadim Ohanyan

Physical review. A/Physical review, A 2025 022605

Article

Tripartite entanglement in mixed-spin triangle trimmer
V. Ohanyan, Zh. Adamyan

Condensed Matter Physics 2025 33703

Article

Quantum entanglement in a mixed-spin trimer: Effects of a magnetic field and heterogeneous g factors
Vadim Ohanyan, Zhirayr Adamyan

Physical review. E 2024 034131

Article

Magnetization plateaus and enhanced magnetocaloric effect of a spin-1/2 Ising-Heisenberg and Heisenberg double sawtooth ladder with four-spin interaction
Hamid Arian Zad, Vadim Ohanyan, Azam Zoshki, Jozef Strecka

Physical review. E 2023 044132 (1-12)

Article

Electric field driven flat bands: Enhanced magnetoelectric and electrocaloric effects in frustrated quantum magnets
Vadim Ohanyan, Johannes Richter, Joerg Schuleburg, Juergen Schanck

Physical review. B./Physical review. B 2022 054420

Conference

Electric field driven flat bands: Enhanced magnetoelectric and electrocaloric effects in frustrated quantum magnets
Johannes Richter, Vadim Ohanyan, Joerg Schulenburg, Juergen Schnack

2021 9

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Article

Magnetic and magnetoelectric properties of AFeF5 (A = Ca, Sr) spin-chain compounds
N. V. Ter-Oganessian, S. A. Guda, V. P. Sakhnenko, V. Ohanyan

Journal of Magnetism and Magnetic Materials 2020 165720(1-6)

Article

Spin-1/2 XX chain in a transverse field with regularly alternating g factors: Static and dynamic properties

Taras Krokhmalskii, Taras Verkholyak, Ostap Baran, Vadim Ohanyan, Oleg Derzhko

Physical review. B./Physical review. B 2020 144403

Article

Influence of XY anisotropy on a magnetoelectric effect in spin-1/2 XY chain in a transverse magnetic field

V. Ohanyan

Condensed Matter Physics 2020 43704

Article

Quantum Entanglement in Spin Dimers: Effects of a Magnetic Field and Heterogeneous g-Factors

Z. A. Adamyan, S. A. Muradyan, V. R. Ohanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 292–298

Conference

Non-conserved magnetization, negative g-factors and ‘fire-and-ice’ spin configurations

V. Ohanyan, J. Streˇcka, O. Rojas, J. Torrico, S. Bellucci

2019 1

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Article

Non-conserved magnetization operator and ‘fire-and-ice’ ground states in the Ising-Heisenberg diamond chain

Vadim Ohanyan, Jordana Torrico, Onofre Rojas

Journal of Magnetism and Magnetic Materials 2018 85-96

Article

Spin-1/2 XY -chain magnetoelectric: Effect of zigzag geometry

Vadim Ohanyan, Ostap Baran, Taras Verkholyak

Physical review. B./Physical review. B 2018 064415(1-13)

Conference

Interplay of Katsura-Nagaosa-Balatsky mechanism and zigzag geometry of lattice bonds: exactly solvable model of the S = 1/2 XY magnetoelectric

OHANYAN Vadim, BARAN Ostap, VERKHOLYAK Taras

2018 16

http://th.if.uj.edu.pl/indico/event/6/

Conference

Spin-1/2 XY Model of a Magnetoelectric on Zigzag Ladder: Exact Results

V. Ohanyan, O. Baran, T. Verkholyak

2017 17-18

Article

Absence of actual plateaus in zero-temperature magnetization curves of quantum spin clusters and chains

Vadim Ohanyan, Onofre Rojas, Jozef Strecka, Stefano Bellucci

Physical review. B./Physical review. B 2015 214423-12

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Article

Magnetism-driven ferroelectricity in spin-1/2 XY chains
Vadim Ohanyan, Oleg Menchyshyn, Taras Verkholyak, Taras Krokhmalskii, Oleg Derzhko

Physical review. B./Physical review. B 2015 184427 - 7

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Article

Magnetization non-rational quasi-plateau and spatially modulated spin order in the model of the single-chain magnet, $[\{(\mbox{CuL})_2\mbox{Dy}\}\{\mbox{Mo}(\mbox{CN})_8\}]\cdot\mbox{2H}_3\mbox{CN}\cdot\mbo
Vadim Ohanyan, Stefano Bellucci, Onofre Rojas

Europhysics Letters (EPL) 2014 47012

http://www.epletters.net/

Article

Landau problem on the ellipsoid, hyperboloid and paraboloid of revolution
Vadim Ohanyan, Armen Nersessian, Eva Gevorgyan, Evgeniy Tolkachev

Modern Physics Letters A 2014 1450148(1-15)

http://www.worldscientific.com/worldscinet/mpla

Article

Correlation functions in one-dimensional spin lattices with Ising and Heisenberg bonds
Vadim Ohanyan, Stefano Bellucci

EUROPEAN PHYSICAL JOURNAL B 2013 446

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Article

Exact description of the magnetoelectric effect in the spin-1/2 XXZ-chain with Dzyaloshinskii-Moriya interaction
Michael Brockmann, Andreas Klumper, Vadim Ohanyan

Physical review. B./Physical review. B 2013 054407

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Article

Magnetocaloric effect in spin-1/2 XX chains with three-spin interactions
M. Topilko, T. Krohkmalskii, O. Derzhko, V. Ohanyan

EUROPEAN PHYSICAL JOURNAL B 2012 278

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Article

Magneto-thermal properties of the Heisenberg-Ising orthogonal-dimer chain with triangular XXZ-clusters
Vadim Ohanyan, Andreas Honecker

Physical review. B./Physical review. B 2012 054412(1-17)

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Article

Exactly solvable mixed-spin Ising-Heisenberg diamond chain with biquadratic interactions and single-ion anisotropy
Onofre Rojas, S. M. de Souza, Vadim Ohanyan, Martiros Khurshudyan

Physical review. B./Physical review. B 2011 094430

http://journals.aps.org/prb/

Article

Lattice distortions in sawtooth chain with Heisenberg and Ising bonds
S. Bellucci, V. Ohanyan

EUROPEAN PHYSICAL JOURNAL B 2010 531-541

http://epjb.epj.org/

Article

Phase diagrams of the Ising-Heisenberg chain with S=1/2 triangular XXZ clusters
Vadim Ohanyan
Physics of Atomic Nuclei 2010 494-498

http://link.springer.com/journal/11450

Article

Exact calculation of the magnetocaloric effect in the spin-1/2 XXZ chain
Christian Trippe, Andreas Honekcer, Andreas Klumper, Vadim Ohanyan

Physical review. B./Physical review. B 2010 054402

http://journals.aps.org/prb/

Article

Antiferromagnetic sawtooth chain with Heisenberg and Ising bonds
Vadim Ohanyan
Condensed Matter Physics 2009 343-351

http://www.icmp.lviv.ua/journal/

Article

Exactly solvable Ising--Heisenberg chain with triangular XXZ-Heisenberg plaquettes
Diana Antonosyan, Stefano Bellucci, Vadim Ohanyan

Physical review. B./Physical review. B 2009 014432

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Article

Two--center quantum MICZ--Kepler system and Zeeman effect in the charge-dyon system
Stefano Bellucci, Vadim Ohanyan

Physics Letters A 2008 5765-5772

http://www.journals.elsevier.com/physics-letters-a

Article

Multi-center MICZ-Kepler systems
Armen Nersessian, Vadim Ohanyan

Theoretical and Mathematical Physics 2008 618

http://link.springer.com/journal/11232

Article

N=4 Supersymmetric MICZ-Kepler systems on S^3
Stefano Bellucci, Sergey Krivonos, Vadim Ohanyan

Physical Review D 2007 105023

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Article

Multi-center MICZ-Kepler system, supersymmetry and integrability,
Sergey Krivonos, Armen Nersessian, Vadim Ohanyan

Physical Review D 2007 085002

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Article

An exact solution on the ferromagnetic Face-Cubic spin model on a Bethe lattice
Vadim Ohanyan, Nerses Ananikian, L.N. Ananikian

Physica A: Statistical Mechanics and its Applications 2007 501-513

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Magnetization plateaus in the ferromagnetic--ferromagnetic--antiferromagnetic Ising chain,
Vadim Ohanyan, Nerses Ananikian

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The multisite interaction Ising model approach to Solid ^3He system on the triangulyar lattice,
Tigran Arakelyan, Vadinm Ohanyan, Lev Ananikyan, Nerses Ananikian, Michael roger

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Article

Local WZW-theory on a Manifold with Boundary
Samvel Apikyan, Vadim Ohanyan

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