

Ruggero Vaia

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93
papers

1,242
citations

20
h-index

31
g-index

96
ext. papers

1,328
ext. citations

2.9
avg, IF

3.88
L-index

| # | Paper | IF | Citations |
|----|--|-----|-----------|
| 93 | Quantum Monte Carlo study of $S=12$ weakly anisotropic antiferromagnets on the square lattice. <i>Physical Review B</i> , 2003 , 67, | 3.3 | 96 |
| 92 | The effective potential and effective Hamiltonian in quantum statistical mechanics. <i>Journal of Physics Condensed Matter</i> , 1995 , 7, 7891-7938 | 1.8 | 70 |
| 91 | Long quantum channels for high-quality entanglement transfer. <i>New Journal of Physics</i> , 2011 , 13, 123006. | 6.9 | 67 |
| 90 | Two-dimensional XXZ model on a square lattice: A Monte Carlo simulation. <i>Physical Review B</i> , 1995 , 52, 10221-10231 | 3.3 | 67 |
| 89 | Temperature and Spin Dependent Correlation Length of the Quantum Heisenberg Antiferromagnet on the Square Lattice. <i>Physical Review Letters</i> , 1996 , 77, 3439-3442 | 7.4 | 46 |
| 88 | Phase transitions induced by easy-plane anisotropy in the classical Heisenberg antiferromagnet on a triangular lattice: A Monte Carlo simulation. <i>Physical Review B</i> , 1998 , 58, 273-281 | 3.3 | 44 |
| 87 | Quantum thermodynamics of solids by means of an effective potential. <i>Physical Review B</i> , 1992 , 45, 2088-2096. | 3.3 | 44 |
| 86 | Quantum thermodynamics in classical phase space. <i>Physical Review A</i> , 1992 , 45, 8418-8429 | 2.6 | 43 |
| 85 | Detection of XY behavior in weakly anisotropic quantum antiferromagnets on the square lattice. <i>Physical Review Letters</i> , 2003 , 90, 167205 | 7.4 | 40 |
| 84 | Field-induced XY behavior in the $S=12$ antiferromagnet on the square lattice. <i>Physical Review B</i> , 2003 , 68, | 3.3 | 36 |
| 83 | Thermodynamic properties of a quantum chain with nearest-neighbor anharmonic interactions. <i>Physical Review B</i> , 1990 , 41, 9588-9591 | 3.3 | 34 |
| 82 | Monte Carlo computations of the quantum kinetic energy of rare-gas solids. <i>Physical Review B</i> , 1993 , 47, 14923-14931 | 3.3 | 32 |
| 81 | Frequency moments and spectral shape of quantum chains. <i>Physical Review B</i> , 1992 , 46, 8839-8857 | 3.3 | 31 |
| 80 | Quantum thermodynamics of the easy-plane ferromagnetic chain. <i>Physical Review B</i> , 1992 , 46, 11601-11616. | 3.3 | 29 |
| 79 | Two-dimensional quantum Heisenberg antiferromagnet: Effective-Hamiltonian approach to the thermodynamics. <i>Physical Review B</i> , 1997 , 56, 14456-14468 | 3.3 | 27 |
| 78 | Finite-temperature renormalization of sine-Gordon field by variational method. <i>Physical Review A</i> , 1988 , 37, 2165-2172 | 2.6 | 27 |
| 77 | Effective potential and finite-temperature renormalization of the ϕ^4 chain. <i>Physical Review A</i> , 1988 , 38, 1521-1526 | 2.6 | 26 |

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|----|--|-----|----|
| 76 | Quantum thermodynamics of systems with anomalous dissipative coupling. <i>Physical Review E</i> , 2001 , 64, 066124 | 2.4 | 22 |
| 75 | Spectral problem for quasi-uniform nearest-neighbor chains. <i>Journal of Mathematical Physics</i> , 2013 , 54, 043501 | 1.2 | 21 |
| 74 | Spectral shapes of Lennard-Jones chains. <i>Physical Review B</i> , 1993 , 48, 7015-7019 | 3.3 | 21 |
| 73 | Thermodynamics of the quantum easy-plane antiferromagnet on the triangular lattice. <i>Physical Review B</i> , 1999 , 60, 7299-7303 | 3.3 | 18 |
| 72 | Continuum limit of sine-Gordon and phi4 chains by use of an effective potential. <i>Physical Review A</i> , 1988 , 38, 1638-1640 | 2.6 | 18 |
| 71 | Kinetic energy of solid neon by Monte Carlo with improved Trotter and finite-size extrapolation. <i>Physical Review B</i> , 1997 , 56, 51-54 | 3.3 | 16 |
| 70 | Quantum effects on the Berezinskii-Kosterlitz-Thouless transition in the ferromagnetic two-dimensional XXZ model. <i>Physical Review B</i> , 1995 , 51, 12840-12843 | 3.3 | 16 |
| 69 | Effective potential for quantum correlation functions. <i>Physical Review A</i> , 1991 , 44, 2734-2737 | 2.6 | 16 |
| 68 | Reentrant behavior of the phase stiffness in Josephson junction arrays. <i>Physical Review Letters</i> , 2003 , 91, 247004 | 7.4 | 15 |
| 67 | Dynamic correlations of the classical and quantum Toda lattices. <i>Physical Review B</i> , 1993 , 47, 7859-7868 | 3.3 | 15 |
| 66 | Dissipation-driven phase transition in two-dimensional Josephson arrays. <i>Physical Review Letters</i> , 2005 , 94, 157001 | 7.4 | 14 |
| 65 | Quantum renormalization of the XY model. <i>Journal of Applied Physics</i> , 1994 , 75, 5814-5816 | 2.5 | 14 |
| 64 | Cuccoli, Tognetti, Vaia, and Verrucchi Reply:. <i>Physical Review Letters</i> , 1997 , 79, 1584-1584 | 7.4 | 13 |
| 63 | Thermodynamics of dissipative quantum systems by effective potential. <i>Physical Review E</i> , 1997 , 55, R4849-R4852 | 2.4 | 13 |
| 62 | Quantum effects on the BKT phase transition of two-dimensional Josephson arrays. <i>Physical Review B</i> , 2000 , 61, 11289-11292 | 3.3 | 13 |
| 61 | EFFECTIVE POTENTIAL FOR TWO-BODY INTERACTIONS. <i>International Journal of Modern Physics B</i> , 1990 , 04, 2005-2023 | 1.1 | 13 |
| 60 | Extracting signatures of quantum criticality in the finite-temperature behavior of many-body systems. <i>Physical Review B</i> , 2007 , 76, | 3.3 | 11 |
| 59 | Extrapolation to infinite Trotter number in path-integral Monte Carlo simulations of solid-state systems. <i>Physical Review B</i> , 1995 , 51, 12369-12379 | 3.3 | 11 |

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|----|---|-----|----|
| 58 | Static correlations of a classical one-dimensional system. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991 , 160, 184-188 | 2.3 | 11 |
| 57 | Finite-temperature ordering in two-dimensional magnets. <i>Physical Review B</i> , 2000 , 62, 3771-3777 | 3.3 | 10 |
| 56 | Simulating quantum dissipation in many-body systems. <i>Europhysics Letters</i> , 2002 , 58, 155-161 | 1.6 | 9 |
| 55 | Quantum thermodynamics of easy-plane ferromagnetic chains. <i>Physical Review B</i> , 1991 , 44, 903-905 | 3.3 | 9 |
| 54 | Reentrant enhancement of quantum fluctuations for symmetric environmental coupling. <i>Physical Review E</i> , 2010 , 81, 041110 | 2.4 | 8 |
| 53 | Semiclassical approach to the thermodynamics of spin chains. <i>Physical Review B</i> , 2000 , 62, 57-60 | 3.3 | 8 |
| 52 | Heisenberg antiferromagnet on the square lattice for $S \gg 1$. <i>Physical Review B</i> , 1998 , 58, 14151-14154 | 3.3 | 8 |
| 51 | Thermodynamics of quantum dissipative many-body systems. <i>Physical Review E</i> , 1999 , 60, 231-41 | 2.4 | 8 |
| 50 | Quantum correction to the BKT transition for 2D easy-plane antiferromagnets. <i>Journal of Applied Physics</i> , 1996 , 79, 4638 | 2.5 | 8 |
| 49 | Quantum Berezinskii-Kosterlitz-Thouless transition in square-lattice magnets with easy-plane anisotropy. <i>Physica D: Nonlinear Phenomena</i> , 1998 , 119, 68-72 | 3.3 | 7 |
| 48 | Phase diagram of the two-dimensional quantum antiferromagnet in a magnetic field. <i>Journal of Applied Physics</i> , 2006 , 99, 08H503 | 2.5 | 7 |
| 47 | Classical thermodynamics of the Heisenberg chain in a field by generalized Bethe ansatz method. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1990 , 145, 154-158 | 2.3 | 7 |
| 46 | Getting through to a qubit by magnetic solitons. <i>New Journal of Physics</i> , 2015 , 17, 083053 | 2.9 | 6 |
| 45 | Quantum gates controlled by spin chain soliton excitations. <i>Journal of Applied Physics</i> , 2014 , 115, 17B302.5 | 3.3 | 6 |
| 44 | Critical behavior of the two-dimensional easy-plane ferromagnet. <i>Journal of Applied Physics</i> , 1994 , 76, 6362-6364 | 2.5 | 6 |
| 43 | Thermodynamics and correlations of the quantum Toda lattice. <i>Physical Review B</i> , 1992 , 45, 10127-10130 | 3.3 | 6 |
| 42 | Using solitons for manipulating qubits. <i>International Journal of Quantum Information</i> , 2014 , 12, 1461013 | 0.8 | 5 |
| 41 | The quantum 2-D XXZ ferromagnet. <i>Journal of Magnetism and Magnetic Materials</i> , 1995 , 140-144, 1703-1704 | 1.7 | 5 |

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|----|---|-----|---|
| 40 | Newton's cradle analogue with Bose-Einstein condensates. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 095303 | 1.3 | 4 |
| 39 | Monte Carlo study of the classical Heisenberg antiferromagnet with easy-plane anisotropy on a triangular lattice. <i>Journal of Applied Physics</i> , 1999 , 85, 6073-6075 | 2.5 | 4 |
| 38 | Validity of the mode-coupling theory for critical spin fluctuations in europium oxide. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1988 , 131, 57-60 | 2.3 | 4 |
| 37 | Almost-dispersionless pulse transport in long quasiuniform spring-mass chains: A different kind of Newton's cradle. <i>Physical Review E</i> , 2018 , 97, 043001 | 2.4 | 4 |
| 36 | Thermodynamics of two-dimensional XXZ easy-plane quantum Heisenberg magnets. <i>Journal of Applied Physics</i> , 1997 , 81, 4137-4139 | 2.5 | 3 |
| 35 | Path integral Monte Carlo for dissipative many-body systems. <i>Physica Status Solidi (B): Basic Research</i> , 2003 , 237, 23-38 | 1.3 | 3 |
| 34 | Quantum two-dimensional Heisenberg antiferromagnet: Bridging the gap between field-theoretical and semiclassical approaches. <i>Physical Review B</i> , 2003 , 68, | 3.3 | 3 |
| 33 | Quantum Monte Carlo simulation of two-dimensional $S=1/2$ antiferromagnets with very weak easy-plane anisotropy. <i>Journal of Applied Physics</i> , 2003 , 93, 7640-7642 | 2.5 | 3 |
| 32 | Quantum fluctuations in one-dimensional arrays of condensates. <i>Physical Review A</i> , 2001 , 64, | 2.6 | 3 |
| 31 | Quantum effects on double-Morse hydrogen-bonded chains. <i>Journal of Physics Condensed Matter</i> , 1995 , 7, L625-L630 | 1.8 | 3 |
| 30 | The spectral shape of nonlinear chains: validity of perturbative and moment approaches. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994 , 196, 285-289 | 2.3 | 3 |
| 29 | Persymmetric Jacobi matrices with square-integer eigenvalues and dispersionless mass-spring chains. <i>Linear Algebra and Its Applications</i> , 2020 , 585, 164-177 | 0.9 | 3 |
| 28 | Berezinskii-Kosterlitz-Thouless Transition in Josephson Junction Arrays 2004 , 203-216 | | 3 |
| 27 | Efficient Quantum Information Transfer through a Uniform Channel. <i>Nanomaterials and Nanotechnology</i> , 2011 , 1, 2 | 2.9 | 2 |
| 26 | Quantum effects on the localization of a particle in a double-well potential. <i>Physica D: Nonlinear Phenomena</i> , 1998 , 113, 374-378 | 3.3 | 2 |
| 25 | Anisotropy and Ising-type transition of the $S=5/2$ two-dimensional Heisenberg antiferromagnet Mn-formate di-Urea. <i>Journal of Applied Physics</i> , 2003 , 93, 7637-7639 | 2.5 | 2 |
| 24 | Effective Hamiltonian with holomorphic variables. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999 , 271, 387-404 | 3.3 | 2 |
| 23 | The quantum Heisenberg antiferromagnet on the square lattice. <i>Journal of Applied Physics</i> , 1999 , 85, 6079-6081 | 2.5 | 2 |

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|----|--|-----|---|
| 22 | Effective potential for the quantum thermodynamics of integrable and non integrable one-dimensional systems. <i>Physica Scripta</i> , 1989 , 40, 451-453 | 2.6 | 2 |
| 21 | Dispersionless pulse transport in mass-spring chains: All possible perfect Newton's cradles. <i>Physical Review E</i> , 2020 , 102, 023005 | 2.4 | 2 |
| 20 | Comment on Magnetic structure and magnetization of z-axis helical Heisenberg antiferromagnets with XY anisotropy in high magnetic fields transverse to the helix axis at zero temperature. <i>Physical Review B</i> , 2020 , 101, | 3.3 | 1 |
| 19 | Quantum correlations between distant qubits conveyed by large-S spin chains. <i>Physical Review B</i> , 2017 , 96, | 3.3 | 1 |
| 18 | Reentrant spin-flop transition in nanomagnets. <i>Physical Review B</i> , 2014 , 90, | 3.3 | 1 |
| 17 | Commentary on "Force-field functor theory: classical force-fields which reproduce equilibrium quantum distributions". <i>Frontiers in Chemistry</i> , 2013 , 1, 34 | 5 | 1 |
| 16 | Exotic vortex effect on the alternating order around impurities in two-dimensional antiferromagnets. <i>Journal of Applied Physics</i> , 2009 , 105, 07E104 | 2.5 | 1 |
| 15 | Signatures of XY behavior in 2D weakly anisotropic antiferromagnets. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, E651-E652 | 2.8 | 1 |
| 14 | Transition temperature of three-dimensional quantum Heisenberg ferro- and antiferromagnets. <i>Journal of Magnetism and Magnetic Materials</i> , 2001 , 226-230, 566-568 | 2.8 | 1 |
| 13 | Phase transitions in the quantum easy-plane antiferromagnet on the triangular lattice. <i>Journal of Applied Physics</i> , 2000 , 87, 7037-7039 | 2.5 | 1 |
| 12 | Thermodynamics and correlations of the easy-plane ferromagnet CsNiF ₃ . <i>Journal of Applied Physics</i> , 1993 , 73, 6998-7000 | 2.5 | 1 |
| 11 | The spectral shape of nonlinear chains: validity of perturbative and moment approaches. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994 , 196, 285-289 | 2.3 | 1 |
| 10 | Quantum thermodynamics of easy-plane ferromagnetic chains. <i>Journal of Magnetism and Magnetic Materials</i> , 1992 , 104-107, 785-787 | 2.8 | 1 |
| 9 | Single-qubit remote manipulation by magnetic solitons. <i>Journal of Magnetism and Magnetic Materials</i> , 2016 , 400, 149-153 | 2.8 | 0 |
| 8 | Classical Ising chain in transverse field. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 310, e477-e479 | 2.8 | 0 |
| 7 | Vortex contribution to the defect-induced alternating magnetization in 2D antiferromagnets. <i>Journal of Physics: Conference Series</i> , 2010 , 200, 022003 | 0.3 | |
| 6 | Spin-lattice coupling as environmental effect. <i>Journal of Physics: Conference Series</i> , 2010 , 200, 022069 | 0.3 | |
| 5 | Correlation length of the isotropic quantum Heisenberg antiferromagnet. <i>Journal of Applied Physics</i> , 1997 , 81, 4224-4226 | 2.5 | |

- 4 Reconciling field-theoretical and semiclassical approaches to quantum 2D antiferromagnets. *Journal of Magnetism and Magnetic Materials*, **2004**, 272-276, 892-893 2.8
- 3 Phase diagram of dissipative two-dimensional Josephson junction arrays **2006**, 254-262
- 2 Thermodynamics of quantum spin chains **1991**, 36-43
- 1 Quantum Thermodynamics of a Anharmonic N-N Chain. *NATO ASI Series Series B: Physics*, **1991**, 333-337