

Andreas Honecker

List of Publications by Year in descending order

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116
papers

5,560
citations

81900

39
h-index

82547

72
g-index

120
all docs

120
docs citations

120
times ranked

3353
citing authors

#	ARTICLE	IF	CITATIONS
1	The ALPS project release 1.3: Open-source software for strongly correlated systems. Journal of Magnetism and Magnetic Materials, 2007, 310, 1187-1193.	2.3	623
2	Macroscopic Magnetization Jumps due to Independent Magnons in Frustrated Quantum Spin Lattices. Physical Review Letters, 2002, 88, 167207.	7.8	265
3	Magnetization plateaux in N-leg spin ladders. Physical Review B, 1998, 58, 6241-6257.	3.2	209
4	Zero-frequency transport properties of one-dimensional spin-1/2 systems. Physical Review B, 2003, 68, .	3.2	175
5	Breakdown of magnons in a strongly spin-orbital coupled magnet. Nature Communications, 2017, 8, 1152.	12.8	173
6	Magnetization Curves of Antiferromagnetic Heisenberg Spin-1/2 Ladders. Physical Review Letters, 1997, 79, 5126-5129.	7.8	153
7	Magnetization plateaux in frustrated antiferromagnetic quantum spin models. Journal of Physics Condensed Matter, 2004, 16, S749-S758.	1.8	139
8	Magnetic exchange interactions in BaMn_2As_2 : A case study of the J_1 frustrated ferromagnetic spin-1/2 chain in a magnetic field: The phase diagram and thermodynamic properties. Physical Review B, 2006, 74, .	3.2	131
9	Magnetization of SrCu_2BO_3 fields up to 118ÅT . Physical Review Letters, 2013, 111, 137204.	3.2	123
10	Quantum magnetism in two dimensions: From semi-classical Néel order to magnetic disorder. Lecture Notes in Physics, 2004, , 85-153.	0.7	115
11	Dynamical Signatures of Edge-State Magnetism on Graphene Nanoribbons. Physical Review Letters, 2011, 106, 226401.	7.8	115
12	Magnetism of finite graphene samples: Mean-field theory compared with exact diagonalization and quantum Monte Carlo simulations. Physical Review B, 2010, 81, .	3.2	114
13	Multistep Approach to Microscopic Models for Frustrated Quantum Magnets: The Case of the Natural Mineral Azurite. Physical Review Letters, 2011, 106, 217201.	7.8	109
14	The ALPS Project: Open Source Software for Strongly Correlated Systems. Journal of the Physical Society of Japan, 2005, 74, 30-35.	1.6	103
15	Magnetocaloric effect in one-dimensional antiferromagnets. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P07012.	2.3	101
16	Correlation functions and excitation spectrum of the frustrated ferromagnetic spin-1/2 chain in an external magnetic field. Physical Review B, 2007, 76, .	3.2	101
17	Field Induced Ordering in Highly Frustrated Antiferromagnets. Physical Review Letters, 2000, 85, 3269-3272.	7.8	93
18			

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19	Numerical study of magnetization plateaus in the spin- $\frac{1}{2}$ kagome Heisenberg antiferromagnet. Physical Review B, 2013, 88, .	3.2	93
20	Exact eigenstates and macroscopic magnetization jumps in strongly frustrated spin lattices. Journal of Physics Condensed Matter, 2004, 16, S779-S784.	1.8	87
21	Thermal conductivity of anisotropic and frustrated spin-1 chains. Physical Review B, 2002, 66, .	3.2	85
22	Magnetocaloric effect and magnetic cooling near a field-induced quantum-critical point. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 6862-6866.	7.1	83
23	Low-temperature properties of the Hubbard model on highly frustrated one-dimensional lattices. Physical Review B, 2010, 81, .	3.2	70
24	Universality Class of the Nishimori Point in the 2D $\pm J$ Random-Bond Ising Model. Physical Review Letters, 2001, 87, 047201.	7.8	68
25	A comparative study of the magnetization process of two-dimensional antiferromagnets. Journal of Physics Condensed Matter, 1999, 11, 4697-4713.	1.8	66
26	Absence of magnetic order for the spin-half Heisenberg antiferromagnet on the star lattice. Physical Review B, 2004, 70, .	3.2	65
27	Thermal transport of the XXZ chain in a magnetic field. Physical Review B, 2005, 71, .	3.2	64
28	Quantum kagome antiferromagnet in a magnetic field: Low-lying nonmagnetic excitations versus valence-bond crystal order. Physical Review B, 2005, 71, .	3.2	63
29	Exchange interactions and high-energy spin states in Mn ₁₂ -acetate. Physical Review B, 2004, 70, .	3.2	62
30	Flat-Band Ferromagnetism as a Pauli-Correlated Percolation Problem. Physical Review Letters, 2012, 109, 096404.	7.8	62
31	Planar pyrochlore: a strong-coupling analysis. Physical Review B, 2002, 65, .	3.2	52
32	Matrix-product states for a one-dimensional lattice gas with parallel dynamics. Journal of Statistical Physics, 1997, 88, 319-345.	1.2	51
33	Phase diagram of the Ising square lattice with competing interactions. European Physical Journal B, 2008, 65, 533-537.	1.5	51
34	Universal properties of highly frustrated quantum magnets in strong magnetic fields. Low Temperature Physics, 2007, 33, 745-756.	0.6	50
35	Exact calculation of the magnetocaloric effect in the spin- $\frac{1}{2}$ kagome Heisenberg antiferromagnet. Physical Review B, 2013, 88, .	3.2	50
36	A quantum magnetic analogue to the critical point of water. Nature, 2021, 592, 370-375.	27.8	49

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37	Quantum dimer phases in a frustrated spin ladder: Effective field theory approach and exact diagonalization. <i>Physical Review B</i> , 2006, 73, .	3.2	46
38	Dynamic and thermodynamic properties of the generalized diamond chain model for azurite. <i>Journal of Physics Condensed Matter</i> , 2011, 23, 164211.	1.8	42
39	Lanczos algorithm with matrix product states for dynamical correlation functions. <i>Physical Review B</i> , 2012, 85, .	3.2	42
40	Location of the Potts-critical end point in the frustrated Ising model on the square lattice. <i>Physical Review B</i> , 2012, 86, .	3.2	40
41	Thermodynamic properties of the Shastry-Sutherland model throughout the dimer-product phase. <i>Physical Review Research</i> , 2019, 1, .	3.6	39
42	Analysis of the phase transition for the Ising model on the frustrated square lattice. <i>Physical Review B</i> , 2011, 84, .	3.2	37
43	High field magnetization of the frustrated one-dimensional quantum antiferromagnet LiCuVO ₄ . <i>Journal of Physics Condensed Matter</i> , 2007, 19, 145227.	1.8	36
44	Thermodynamic properties of ferromagnetic mixed-spin chain systems. <i>Physical Review B</i> , 2004, 69, .	3.2	35
45	Magneto-thermal properties of the Heisenberg-Ising orthogonal-dimer chain with triangular clusters. <i>Physical Review B</i> , 2012, 86, .	3.2	35
46	Spin dynamics and coherent tunnelling in the molecular magnetic rings Fe ₆ and Fe ₈ . <i>European Physical Journal B</i> , 2002, 27, 487-495.	1.5	34
47	Magnetocaloric effect in two-dimensional spin-1/2 antiferromagnets. <i>Physica B: Condensed Matter</i> , 2006, 378-380, 1098-1099.	2.7	34
48	Matrix product state formulation of frequency-space dynamics at finite temperatures. <i>Physical Review B</i> , 2014, 90, .	3.2	33
49	Thermodynamic properties of highly frustrated quantum spin ladders: Influence of many-particle bound states. <i>Physical Review B</i> , 2016, 93, .	3.2	33
50	Comment on "Anomalous Thermal Conductivity of Frustrated Heisenberg Spin Chains and Ladders". <i>Physical Review Letters</i> , 2004, 92, 069703; author reply 069704.	7.8	32
51	Hubbard model on the honeycomb lattice: From static and dynamical mean-field theories to lattice quantum Monte Carlo simulations. <i>Physical Review B</i> , 2020, 101, .	3.2	32
52	Strong disorder fixed points in the two-dimensional random-bond Ising model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2006, 2006, P09006-P09006.	2.3	30
53	Low-temperature thermodynamics for a flat-band ferromagnet: Rigorous versus numerical results. <i>Physical Review B</i> , 2007, 76, .	3.2	30
54	Magnetocaloric effect in quantum spin-s chains. <i>Condensed Matter Physics</i> , 2009, 12, 399-410.	0.7	30

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55	Giant Spin Canting in the $S=1/2$ Antiferromagnetic Chain $[\text{CuPM}(\text{NO}_3)_2(\text{H}_2\text{O})_2]_n$ Observed by C^{13} -NMR. Physical Review Letters, 2005, 94, 057204.	7.8	29
56	Single-crystal growth, crystallography, magnetic susceptibility, heat capacity, and thermal expansion of the antiferromagnetic $S=1$ chain compound CaV_2S_8 . Physical Review B, 2009, 79, .	3.2	28
57	Atomic Fermi Gas in the Trimerized Kagomé Lattice at $2/3$ Filling. Physical Review Letters, 2005, 95, 060403.	7.8	27
58	Electronic localization in twisted bilayer MoS_2 with small rotation angle. Physical Review B, 2020, 102, .	3.2	27
59	Strong-coupling approach to the magnetization process of polymerized quantum spin chains. Physical Review B, 1999, 59, 6790-6794.	3.2	26
60	High-field magnetization study of the $S=1/2$ antiferromagnetic Heisenberg chain $[\text{PMCu}(\text{NO}_3)_2(\text{H}_2\text{O})_2]_n$ with a field-induced gap. Physical Review B, 2003, 68, .	3.2	26
61	Magnetization process in the classical Heisenberg model on the Shastry-Sutherland lattice. Physical Review B, 2009, 79, .	3.2	26
62	Adaptive Lanczos-vector method for dynamic properties within the density matrix renormalization group. Physical Review B, 2011, 83, .	3.2	26
63	Efficient Quantum Monte Carlo simulations of highly frustrated magnets: the frustrated spin-1/2 ladder. SciPost Physics, 2017, 3, .	4.9	24
64	Magnetic structure and interactions in the quasi-one-dimensional antiferromagnet CaV_2S_8 . Physical Review B, 2009, 79, .	3.2	23
65	Thermal Critical Points and Quantum Critical End Point in the Frustrated Bilayer Heisenberg Antiferromagnet. Physical Review Letters, 2018, 121, 127201.	7.8	23
66	Length scales and power laws in the two-dimensional forest-fire model. Physica A: Statistical Mechanics and Its Applications, 1997, 239, 509-530.	2.6	22
67	Exact low-temperature properties of a class of highly frustrated Hubbard models. Physical Review B, 2009, 79, .	3.2	22
68	Cooling through quantum criticality and many-body effects in condensed matter and cold gases. International Journal of Modern Physics B, 2014, 28, 1430017.	2.0	21
69	Thermodynamic properties of the Shastry-Sutherland model from quantum Monte Carlo simulations. Physical Review B, 2018, 98, .	3.2	21
70	Magneto-thermal properties of the spin- $1/2$ Heisenberg antiferromagnet on the cuboctahedron. Journal of Physics: Conference Series, 2009, 145, 012082.	0.4	20
71	Multiferroic $\text{FeTe}_2\text{O}_5\text{Br}$: Alternating spin chains with frustrated interchain interactions. Physical Review B, 2012, 86, .	3.2	20
72	Magnon Crystallization in the Kagome Lattice Antiferromagnet. Physical Review Letters, 2020, 125, 117207.	7.8	20

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73	Resonances in a dilute gas of magnons and metamagnetism of isotropic frustrated ferromagnetic spin chains. <i>Physical Review B</i> , 2011, 84, .	3.2	19
74	Electron spin resonance modes in a strong-leg ladder in the Tomonaga-Luttinger liquid phase. <i>Physical Review B</i> , 2015, 92, .	3.2	19
75	Doping-dependent magnetization plateaux in p-merized Hubbard chains. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 268, 418-423.	2.1	17
76	Monte Carlo studies of the Ising square lattice with competing interactions. <i>Journal of Physics: Conference Series</i> , 2009, 145, 012051.	0.4	17
77	Large Magnetocaloric Effect at the Saturation Field of an $S=1/2$ Antiferromagnetic Heisenberg Chain. <i>Journal of Low Temperature Physics</i> , 2010, 159, 88-91.	1.4	16
78	Entropy of fermionic models on highly frustrated lattices. <i>Condensed Matter Physics</i> , 2005, 8, 813.	0.7	15
79	Magnetism of magic-angle twisted bilayer graphene. <i>SciPost Physics</i> , 2021, 11, .	4.9	13
80	Solitary excitations in one-dimensional spin chains. <i>Physical Review B</i> , 2012, 85, .	3.2	12
81	Field-induced quantum criticality application to magnetic cooling. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 457-463.	1.5	12
82	Dynamical properties of the sine-Gordon quantum spin magnet Cu-PM at zero and finite temperature. <i>Physical Review B</i> , 2016, 93, .	3.2	12
83	Spin-caloritronic transport in hexagonal graphene nanoflakes. <i>Physical Review B</i> , 2020, 102, .	3.2	12
84	Quantum Monte Carlo simulations in the trimer basis: first-order transitions and thermal critical points in frustrated trilayer magnets. <i>SciPost Physics</i> , 2022, 12, .	4.9	12
85	Transport in dimerized and frustrated spin systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2004, 272-276, 890-891.	2.3	11
86	Thermal conductivity of one-dimensional spin- systems. <i>Physica B: Condensed Matter</i> , 2005, 359-361, 1394-1396.	2.7	11
87	Magnetostructural Studies on Tetranuclear Manganese $[\text{Mn}^{\text{III}}]_2\text{Mn}^{\text{II}}]_2$ Complexes of 9-Hydroxyphenalenone with Weak $\pi\text{-}\pi$ Interactions. <i>European Journal of Inorganic Chemistry</i> , 2012, 2012, 5814-5824.	2.0	11
88	Bulky Pyrazolate-Based Compartmental Ligand Scaffolds: Encapsulation of an Edge-Sharing Cu_6O_2 Tetrahedral Core. <i>European Journal of Inorganic Chemistry</i> , 2008, 2008, 5390-5396.	2.0	10
89	Quantum disordered ground state for hard-core bosons on the frustrated square lattice. <i>Physical Review B</i> , 2011, 83, .	3.2	10
90	Anisotropic frustrated Heisenberg model on the honeycomb lattice. <i>Physical Review B</i> , 2012, 85, .	3.2	10

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91	Multi-triplet bound states and finite-temperature dynamics in highly frustrated quantum spin ladders. <i>Physical Review B</i> , 2016, 94, .	3.2	10
92	Order by disorder and phase transitions in a highly frustrated spin model on the triangular lattice. <i>Physical Review B</i> , 2011, 84, .	3.2	9
93	Critical properties of the one-dimensional forest-fire model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1996, 229, 478-500.	2.6	8
94	Optical conductivity of the Hubbard chain away from half filling. <i>Physical Review B</i> , 2016, 93, .	3.2	8
95	Exchange constants and spin dynamics in Mn-acetate. <i>Journal of Magnetism and Magnetic Materials</i> , 2005, 290-291, 966-969.	2.3	6
96	Specific heat and magnetic susceptibility of ferromagnetic mixed-spin chain systems. <i>Physica B: Condensed Matter</i> , 2005, 359-361, 1409-1411.	2.7	6
97	Ground state and low-lying excitations of the spin-XXZ model on the kagom� lattice at magnetization. <i>Physica B: Condensed Matter</i> , 2005, 359-361, 1391-1393.	2.7	6
98	Jordan-Wigner approach to the frustrated spin one-half XXZ chain. <i>European Physical Journal B</i> , 2006, 49, 283-287.	1.5	6
99	Enhanced low-temperature entropy and flat-band ferromagnetism in the model on the sawtooth lattice. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 310, 1331-1333.	2.3	6
100	Accuracy of the typicality approach using Chebyshev polynomials. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 2021, 76, 823-834.	1.5	6
101	Magnetic properties of a spin-12 quadrumer chain. <i>Physical Review B</i> , 2001, 63, .	3.2	5
102	Bond-impurity-induced bound states in disordered spin-12 ladders. <i>Physical Review B</i> , 2004, 70, .	3.2	5
103	Finite-temperature ordering in a two-dimensional highly frustrated spin model. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 145249.	1.8	5
104	A perturbative approach to spectrum and correlation functions of the chiral Potts model. <i>Journal of Statistical Physics</i> , 1996, 82, 687-741.	1.2	4
105	Publisher's Note: Zero-frequency transport properties of one-dimensional spin-12 systems [Phys. Rev. B 68, 134436 (2003)]. <i>Physical Review B</i> , 2003, 68, .	3.2	4
106	Ground-state degeneracy and low-temperature thermodynamics of correlated electrons on highly frustrated lattices. <i>Physica B: Condensed Matter</i> , 2009, 404, 3316-3319.	2.7	3
107	Low-temperature thermodynamics of one class of flat-band models. <i>Journal of Physics: Conference Series</i> , 2009, 145, 012059.	0.4	3
108	Magnetic cooling through quantum criticality. <i>Journal of Physics: Conference Series</i> , 2012, 400, 032043.	0.4	3

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109	Triplet excitations in the frustrated spin ladder $\text{Li}_2\text{Cu}_2\text{O}(\text{SO}_4)_2$. <i>Physical Review B</i> , 2019, 99, .	3.2	3
110	Quantum Monte Carlo simulations of highly frustrated magnets in a cluster basis: The two-dimensional Shastry-Sutherland model. <i>Journal of Physics: Conference Series</i> , 2022, 2207, 012032.	0.4	1
111	Bound states in weakly disordered spin ladders. <i>Physica B: Condensed Matter</i> , 2005, 359-361, 1424-1426.	2.7	0
112	Magnetization of staggered $S=1/2$ antiferromagnetic Heisenberg chain systems. <i>Journal of Physics: Conference Series</i> , 2006, 51, 183-186.	0.4	0
113	High-field magnetization study of the antiferromagnetic Heisenberg chain. <i>Physica B: Condensed Matter</i> , 2006, 378-380, 1136-1137.	2.7	0
114	Magnetization plateaux in the classical Shastry-Sutherland lattice. <i>Journal of Physics: Conference Series</i> , 2009, 145, 012053.	0.4	0
115	Quantum disordered ground state for the frustrated square lattice. <i>Journal of Physics: Conference Series</i> , 2012, 391, 012156.	0.4	0
116	Magnetic Properties of the Hubbard Model on Kagome Stripes. <i>Acta Physica Polonica A</i> , 2010, 118, 736-737.	0.5	0