

# Andreas Honecker

## List of Publications by Year in descending order

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116  
papers

5,560  
citations

81900

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82547

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120  
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120  
docs citations

120  
times ranked

3353  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	A quantum magnetic analogue to the critical point of water. <i>Nature</i> , 2021, 592, 370-375.	27.8	49
4	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
5	Magnetism of magic-angle twisted bilayer graphene. <i>SciPost Physics</i> , 2021, 11, .	4.9	13
6	Spin-caloritronic transport in hexagonal graphene nanoflakes. <i>Physical Review B</i> , 2020, 102, .	3.2	12
7	Electronic localization in twisted bilayer $\text{MoS}_2$ with small rotation angle. <i>Physical Review B</i> , 2020, 102, .	3.2	12
8	Magnon Crystallization in the Kagome Lattice Antiferromagnet. <i>Physical Review Letters</i> , 2020, 125, 117207.	7.8	20
9	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
10	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
11	Thermodynamic properties of the Shastry-Sutherland model throughout the dimer-product phase. <i>Physical Review Research</i> , 2019, 1, .	3.6	39
12	Thermodynamic properties of the Shastry-Sutherland model from quantum Monte Carlo simulations. <i>Physical Review B</i> , 2018, 98, .	3.2	21
13	Thermal Critical Points and Quantum Critical End Point in the Frustrated Bilayer Heisenberg Antiferromagnet. <i>Physical Review Letters</i> , 2018, 121, 127201.	7.8	23
14	Breakdown of magnons in a strongly spin-orbital coupled magnet. <i>Nature Communications</i> , 2017, 8, 1152.	12.8	173
15	Efficient Quantum Monte Carlo simulations of highly frustrated magnets: the frustrated spin-1/2 ladder. <i>SciPost Physics</i> , 2017, 3, .	4.9	24
16	Multi-triplet bound states and finite-temperature dynamics in highly frustrated quantum spin ladders. <i>Physical Review B</i> , 2016, 94, .	3.2	10
17	Thermodynamic properties of highly frustrated quantum spin ladders: Influence of many-particle bound states. <i>Physical Review B</i> , 2016, 93, .	3.2	33
18	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

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19	Optical conductivity of the Hubbard chain away from half filling. Physical Review B, 2016, 93, .	3.2	8
20	Electron spin resonance modes in a strong-leg ladder in the Tomonaga-Luttinger liquid phase. Physical Review B, 2015, 92, .	3.2	19
21	Matrix product state formulation of frequency-space dynamics at finite temperatures. Physical Review B, 2014, 90, .	3.2	33
22	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
23	Magnetization of $\text{SrCu}_2\text{BO}_3$ and $\text{SrCu}_2\text{BO}_3$ JT ETQg	3.2	19
24	Numerical study of magnetization plateaus in the spin- $\frac{1}{2}$ kagome Heisenberg antiferromagnet. Physical Review B, 2013, 88, .	3.2	93
25	Field-induced quantum criticality application to magnetic cooling. Physica Status Solidi (B): Basic Research, 2013, 250, 457-463.	1.5	12
26	Lanczos algorithm with matrix product states for dynamical correlation functions. Physical Review B, 2012, 85, .	3.2	42
27	Location of the Potts-critical end point in the frustrated Ising model on the square lattice. Physical Review B, 2012, 86, .	3.2	40
28	Anisotropic frustrated Heisenberg model on the honeycomb lattice. Physical Review B, 2012, 85, .	3.2	10
29	Magnetic cooling through quantum criticality. Journal of Physics: Conference Series, 2012, 400, 032043.	0.4	3
30	Magnetostructural Studies on Tetranuclear Manganese $[\text{Mn}^{\text{III}}_2\text{Mn}^{\text{II}}_2]$ Complexes of 9-Hydroxyphenalenone with Weak $\text{H}^{\text{A}}\text{-}\text{H}^{\text{B}}$ Interactions. European Journal of Inorganic Chemistry, 2012, 2012, 5814-5824.	2.0	11
31	Quantum disordered ground state for the frustrated square lattice. Journal of Physics: Conference Series, 2012, 391, 012156.	0.4	0
32	Multiferroic $\text{FeTe}_2\text{O}_5\text{Br}$ : Alternating spin chains with frustrated interchain interactions. Physical Review B, 2012, 86, .	3.2	20
33	Flat-Band Ferromagnetism as a Pauli-Correlated Percolation Problem. Physical Review Letters, 2012, 109, 096404.	7.8	62
34	Magnetothermal properties of the Heisenberg-Ising orthogonal-dimer chain with triangular $X \times X \times Z$ clusters. Physical Review B, 2012, 86, .	3.2	35
35	Solitary excitations in one-dimensional spin chains. Physical Review B, 2012, 85, .	3.2	12
36	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

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37	Dynamical Signatures of Edge-State Magnetism on Graphene Nanoribbons. Physical Review Letters, 2011, 106, 226401.	7.8	115
38	Resonances in a dilute gas of magnons and metamagnetism of isotropic frustrated ferromagnetic spin chains. Physical Review B, 2011, 84, .	3.2	19
39	Analysis of the phase transition for the Ising model on the frustrated square lattice. Physical Review B, 2011, 84, .	3.2	37
40	Dynamic and thermodynamic properties of the generalized diamond chain model for azurite. Journal of Physics Condensed Matter, 2011, 23, 164211.	1.8	42
41	Magnetic exchange interactions in $\text{BaMn}_2\text{As}_2$ : A case study of the $\text{J}_1\text{J}_2$ spin model on the triangular lattice. Physical Review B, 2011, 84, .	3.2	131
42	Order by disorder and phase transitions in a highly frustrated spin model on the triangular lattice. Physical Review B, 2011, 84, .	3.2	9
43	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
44	Adaptive Lanczos-vector method for dynamic properties within the density matrix renormalization group. Physical Review B, 2011, 83, .	3.2	26
45	Quantum disordered ground state for hard-core bosons on the frustrated square lattice. Physical Review B, 2011, 83, .	3.2	10
46	Large Magnetocaloric Effect at the Saturation Field of an $S=1/2$ Antiferromagnetic Heisenberg Chain. Journal of Low Temperature Physics, 2010, 159, 88-91.	1.4	16
47	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
48	Exact calculation of the magnetocaloric effect in the spin- $1$ $\text{CaV}_2\text{O}_7$ chain. Physical Review B, 2010, 81, .	3.2	50
49	Low-temperature properties of the Hubbard model on highly frustrated one-dimensional lattices. Physical Review B, 2010, 81, .	3.2	70
50	Magnetic Properties of the Hubbard Model on Kagome Stripes. Acta Physica Polonica A, 2010, 118, 736-737.	0.5	0
51	Magnetization process in the classical Heisenberg model on the Shastry-Sutherland lattice. Physical Review B, 2009, 79, .	3.2	26
52	Single-crystal growth, crystallography, magnetic susceptibility, heat capacity, and thermal expansion of the antiferromagnetic $\text{CaV}_2\text{O}_7$ chain compound. Physical Review B, 2009, 79, .	3.2	28
53	Magnetic structure and interactions in the quasi-one-dimensional antiferromagnet $\text{CaV}_2\text{O}_7$ . Physical Review B, 2009, 79, .	3.2	23
54	Exact low-temperature properties of a class of highly frustrated Hubbard models. Physical Review B, 2009, 79, .	3.2	22

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55	Monte Carlo studies of the Ising square lattice with competing interactions. Journal of Physics: Conference Series, 2009, 145, 012051.	0.4	17
56	Ground-state degeneracy and low-temperature thermodynamics of correlated electrons on highly frustrated lattices. Physica B: Condensed Matter, 2009, 404, 3316-3319.	2.7	3
57	Magnetization plateaux in the classical Shastry-Sutherland lattice. Journal of Physics: Conference Series, 2009, 145, 012053.	0.4	0
58	Magneto-thermal properties of the spin- $s$ Heisenberg antiferromagnet on the cuboctahedron. Journal of Physics: Conference Series, 2009, 145, 012082.	0.4	20
59	Low-temperature thermodynamics of one class of flat-band models. Journal of Physics: Conference Series, 2009, 145, 012059.	0.4	3
60	Magnetocaloric effect in quantum spin- $s$ chains. Condensed Matter Physics, 2009, 12, 399-410.	0.7	30
61	Bulky Pyrazolate-Based Compartmental Ligand Scaffolds: Encapsulation of an Edge-Sharing Cu <sub>6</sub> O <sub>2</sub> Bitetrahedral Core. European Journal of Inorganic Chemistry, 2008, 2008, 5390-5396.	2.0	10
62	Phase diagram of the Ising square lattice with competing interactions. European Physical Journal B, 2008, 65, 533-537.	1.5	51
63	Finite-temperature ordering in a two-dimensional highly frustrated spin model. Journal of Physics Condensed Matter, 2007, 19, 145249.	1.8	5
64	High field magnetization of the frustrated one-dimensional quantum antiferromagnet LiCuVO <sub>4</sub> . Journal of Physics Condensed Matter, 2007, 19, 145227.	1.8	36
65	Correlation functions and excitation spectrum of the frustrated ferromagnetic spin- $\frac{1}{2}$ chain in an external magnetic field. Physical Review B, 2007, 76, .	3.2	101
66	Universal properties of highly frustrated quantum magnets in strong magnetic fields. Low Temperature Physics, 2007, 33, 745-756.	0.6	50
67	Low-temperature thermodynamics for a flat-band ferromagnet: Rigorous versus numerical results. Physical Review B, 2007, 76, .	3.2	30
68	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
69	Enhanced low-temperature entropy and flat-band ferromagnetism in the model on the sawtooth lattice. Journal of Magnetism and Magnetic Materials, 2007, 310, 1331-1333.	2.3	6
70	Frustrated ferromagnetic spin- $\frac{1}{2}$ chain in a magnetic field: The phase diagram and thermodynamic properties. Physical Review B, 2006, 74, .	3.2	123
71	Magnetization of staggered $S = \frac{1}{2}$ antiferromagnetic Heisenberg chain systems. Journal of Physics: Conference Series, 2006, 51, 183-186.	0.4	0
72	High-field magnetization study of the antiferromagnetic Heisenberg chain. Physica B: Condensed Matter, 2006, 378-380, 1136-1137.	2.7	0

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73	Jordan-Wigner approach to the frustrated spin one-half XXZ chain. European Physical Journal B, 2006, 49, 283-287.	1.5	6
74	Magnetocaloric effect in two-dimensional spin-1/2 antiferromagnets. Physica B: Condensed Matter, 2006, 378-380, 1098-1099.	2.7	34
75	Strong disorder fixed points in the two-dimensional random-bond Ising model. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P09006-P09006.	2.3	30
76	Quantum dimer phases in a frustrated spin ladder: Effective field theory approach and exact diagonalization. Physical Review B, 2006, 73, .	3.2	46
77	Exchange constants and spin dynamics in Mn-acetate. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 966-969.	2.3	6
78	Specific heat and magnetic susceptibility of ferromagnetic mixed-spin chain systems. Physica B: Condensed Matter, 2005, 359-361, 1409-1411.	2.7	6
79	Ground state and low-lying excitations of the spin-XXZ model on the kagom� lattice at magnetization. Physica B: Condensed Matter, 2005, 359-361, 1391-1393.	2.7	6
80	Thermal conductivity of one-dimensional spin- systems. Physica B: Condensed Matter, 2005, 359-361, 1394-1396.	2.7	11
81	Bound states in weakly disordered spin ladders. Physica B: Condensed Matter, 2005, 359-361, 1424-1426.	2.7	0
82	The ALPS Project: Open Source Software for Strongly Correlated Systems. Journal of the Physical Society of Japan, 2005, 74, 30-35.	1.6	103
83	Giant Spin Canting in the S=1/2 Antiferromagnetic Chain [CuPM(NO3)2(H2O)2]n Observed by C13-NMR. Physical Review Letters, 2005, 94, 057204.	7.8	29
84	Quantum kagom� antiferromagnet in a magnetic field: Low-lying nonmagnetic excitations versus valence-bond crystal order. Physical Review B, 2005, 71, .	3.2	63
85	Atomic Fermi Gas in the Trimerized Kagom� Lattice at 2/3 Filling. Physical Review Letters, 2005, 95, 060403.	7.8	27
86	Thermal transport of the XXZ chain in a magnetic field. Physical Review B, 2005, 71, .	3.2	64
87	Entropy of fermionic models on highly frustrated lattices. Condensed Matter Physics, 2005, 8, 813.	0.7	15
88	Absence of magnetic order for the spin-half Heisenberg antiferromagnet on the star lattice. Physical Review B, 2004, 70, .	3.2	65
89	Comment on "Anomalous Thermal Conductivity of Frustrated Heisenberg Spin Chains and Ladders". Physical Review Letters, 2004, 92, 069703; author reply 069704.	7.8	32
90	Exchange interactions and high-energy spin states in Mn12-acetate. Physical Review B, 2004, 70, .	3.2	62

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91	Magnetocaloric effect in one-dimensional antiferromagnets. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P07012.	2.3	101
92	Exact eigenstates and macroscopic magnetization jumps in strongly frustrated spin lattices. Journal of Physics Condensed Matter, 2004, 16, S779-S784.	1.8	87
93	Magnetization plateaus in frustrated antiferromagnetic quantum spin models. Journal of Physics Condensed Matter, 2004, 16, S749-S758.	1.8	139
94	Quantum magnetism in two dimensions: From semi-classical Néel order to magnetic disorder. Lecture Notes in Physics, 2004, , 85-153.	0.7	115
95	Transport in dimerized and frustrated spin systems. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 890-891.	2.3	11
96	Thermodynamic properties of ferromagnetic mixed-spin chain systems. Physical Review B, 2004, 69, .	3.2	35
97	Bond-impurity-induced bound states in disordered spin-1/2 ladders. Physical Review B, 2004, 70, .	3.2	5
98	Zero-frequency transport properties of one-dimensional spin-1/2 systems. Physical Review B, 2003, 68, .	3.2	175
99	Publisher's Note: Zero-frequency transport properties of one-dimensional spin-1/2 systems [Phys. Rev. B 68, 134436 (2003)]. Physical Review B, 2003, 68, .	3.2	4
100	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
101	Planar pyrochlore: a strong-coupling analysis. Physical Review B, 2002, 65, .	3.2	52
102	Thermal conductivity of anisotropic and frustrated spin-1/2 chains. Physical Review B, 2002, 66, .	3.2	85
103	Macroscopic Magnetization Jumps due to Independent Magnons in Frustrated Quantum Spin Lattices. Physical Review Letters, 2002, 88, 167207.	7.8	265
104	Spin dynamics and coherent tunnelling in the molecular magnetic rings $\text{Fe}_6$ and $\text{Fe}_8$ . European Physical Journal B, 2002, 27, 487-495.	1.5	34
105	Magnetic properties of a spin-1/2 quadrumer chain. Physical Review B, 2001, 63, .	3.2	5
106	Universality Class of the Nishimori Point in the 2D $\pm$ Random-Bond Ising Model. Physical Review Letters, 2001, 87, 047201.	7.8	68
107	Doping-dependent magnetization plateaux in p-merized Hubbard chains. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 268, 418-423.	2.1	17
108	Field Induced Ordering in Highly Frustrated Antiferromagnets. Physical Review Letters, 2000, 85, 3269-3272.	7.8	93

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109	Strong-coupling approach to the magnetization process of polymerized quantum spin chains. Physical Review B, 1999, 59, 6790-6794.	3.2	26
110	A comparative study of the magnetization process of two-dimensional antiferromagnets. Journal of Physics Condensed Matter, 1999, 11, 4697-4713.	1.8	66
111	Magnetization plateaux in N-leg spin ladders. Physical Review B, 1998, 58, 6241-6257.	3.2	209
112	Magnetization Curves of Antiferromagnetic Heisenberg Spin-1 Ladders. Physical Review Letters, 1997, 79, 5126-5129.	7.8	153
113	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
114	Matrix-product states for a one-dimensional lattice gas with parallel dynamics. Journal of Statistical Physics, 1997, 88, 319-345.	1.2	51
115	A perturbative approach to spectrum and correlation functions of the chiral Potts model. Journal of Statistical Physics, 1996, 82, 687-741.	1.2	4
116	Critical properties of the one-dimensional forest-fire model. Physica A: Statistical Mechanics and Its Applications, 1996, 229, 478-500.	2.6	8