JÃ¼rgen Schnack

List of Publications by Year
in descending order

136	3,897	136885	138417
papers	citations	32 h-index	58 g-index

138	138	138	3009
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Polyoxometalates: Fascinating structures, unique magnetic properties. Coordination Chemistry Reviews, 2009, 253, 2315-2327.	9.5	508
2	Molecular dynamics for fermions. Reviews of Modern Physics, 2000, 72, 655-688.	16.4	189
3	Classical and Quantum Magnetism in Giant Keplerate Magnetic Molecules. ChemPhysChem, 2001, 2, 517-521.	1.0	180
4	The Importance of Being Exchanged: [Gd^{III}₄M^{II}₈(OH)₈(L)₈(O₂CR)₈] Clusters for Magnetic Refrigeration. Angewandte Chemie - International Edition, 2012, 51, 4633-4636.	12.2	178
5	Effects of frustration on magnetic molecules: a survey from Olivier Kahn until today. Dalton Transactions, 2010, 39, 4677.	1.6	156
6	Quantum signatures of a molecular nanomagnet in direct magnetocaloric measurements. Nature Communications, 2014, 5, 5321.	5.8	115
7	Enhanced magnetocaloric effect in frustrated magnetic molecules with icosahedral symmetry. Physical Review B, 2007, 76, .	1.1	88
8	Magnetic characterization of the frustrated three-leg ladder compound [(CuCl2tachH)3Cl]Cl2. Physical Review B, 2004, 70, .	1.1	86
9	High spin cycles: topping the spin record for a single molecule verging on quantum criticality. Npj Quantum Materials, 2018, 3, .	1.8	86
10	Competing Spin Phases in Geometrically Frustrated Magnetic Molecules. Physical Review Letters, 2005, 94, 017205.	2.9	85
11	Exchange Interactions and Zero-Field Splittings in C₃-Symmetric Mn^{III}₆Fe^{III}: Using Molecular Recognition for the Construction of a Series of High Spin Complexes Based on the Triplesalen Ligand. Inorganic Chemistry, 2009, 48, 607-620.	1.9	75
12	Molybdate templated assembly of Ln12Mo4-type clusters (Ln = Sm, Eu, Gd) containing a truncated tetrahedron core. Chemical Communications, 2013, 49, 36-38.	2.2	72
13	Magnetism of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>N</mml:mi><mml:mo>=</mml:mo><mml:mn>42</mml:mn> lattice antiferromagnet. Physical Review B, 2018, 98, .	1.1	72
14	Properties of highly frustrated magnetic molecules studied by the finite-temperature Lanczos method. European Physical Journal B, 2010, 78, 535-541.	0.6	70
15	Metamagnetic Phase Transition of the Antiferromagnetic Heisenberg Icosahedron. Physical Review Letters, 2005, 94, 207203.	2.9	59
16	Calculating the energy spectra of magnetic molecules: application of real- and spin-space symmetries. International Reviews in Physical Chemistry, 2010, 29, 403-452.	0.9	56
17	Iron Lanthanide Phosphonate Clusters: {Fe₆Ln₆P₆} Wellsâ€"Dawson-like Structures with D_{3d} Symmetry. Inorganic Chemistry, 2014, 53, 3032-3038.	1.9	52
18	Numerically exact and approximate determination of energy eigenvalues for antiferromagnetic molecules using irreducible tensor operators and general point-group symmetries. Physical Review B, 2009, 79, .	1.1	49

#	Article	IF	Citations
19	Quantum numbers for relative ground states of antiferromagnetic Heisenberg spin rings. Physical Review B, 2003, 68, .	1.1	48
20	Heat Capacity Reveals the Physics of a Frustrated Spin Tube. Physical Review Letters, 2010, 105, 037206.	2.9	45
21	Evaluation of the low-lying energy spectrum of magnetic Keplerate molecules using the density-matrix renormalization group technique. Physical Review B, 2003, 67, .	1.1	42
22	Observation of the influence of dipolar and spin frustration effects on the magnetocaloric properties of a trigonal prismatic {Gd₇} molecular nanomagnet. Chemical Science, 2016, 7, 4891-4895.	3.7	42
23	Octametallic 4f-phosphonate horseshoes. Dalton Transactions, 2013, 42, 14045.	1.6	39
24	Centred nine-metal rings of lanthanides. Chemical Communications, 2014, 50, 1438-1440.	2.2	39
25	Discrete antiferromagnetic spin-wave excitations in the giant ferric wheel Fe18. Physical Review B, 2012, 86, .	1.1	38
26	Strong and Anisotropic Superexchange in the Single-Molecule Magnet (SMM) [Mn^{III}₆Os^{III}]³⁺: Promoting SMM Behavior through 3dâ€“5d Transition Metal Substitution. Inorganic Chemistry, 2014, 53, 257-268.	1.9	38
27	Accuracy of the finite-temperature Lanczos method compared to simple typicality-based estimates. Physical Review Research, 2020, 2, .	1.3	38
28	Hysteresis in the ground and excited spin state up to 10 T of a [MnIII6MnIII]3+ triplesalen single-molecule magnet. Chemical Science, 2012, 3, 2868.	3.7	37
29	Observation of field-dependent magnetic parameters in the magnetic molecule{Ni4Mo12}. Physical Review B, 2006, 73, .	1.1	35
30	A Star-Shaped Heteronuclear Cr^{III}Mn^{II}₃ Species and Its Precise Electronic and Magnetic Structure: Spin Frustration Studied by X-Ray Spectroscopic, Magnetic, and Theoretical Methods. Inorganic Chemistry, 2010, 49, 2093-2102.	1.9	35
31	Structural influences on the exchange coupling and zero-field splitting in the single-molecule magnet [MnIII6MnIII]3+. Dalton Transactions, 2012, 41, 12942.	1.6	34
32	Environmental Influence on the Single-Molecule Magnet Behavior of [Mn^{III}₆Cr^{III}]³⁺: Molecular Symmetry versus Solid-State Effects. Inorganic Chemistry, 2012, 51, 10929-10954.	1.9	33
33	Quantum tunneling of the magnetization in [MnIII6M]3+ (M=CrIII, MnIII) SMMs: Impact of molecular and crystal symmetry. Coordination Chemistry Reviews, 2015, 289-290, 261-278.	9.5	33
34	Large magnetic molecules and what we learn from them. Contemporary Physics, 2019, 60, 127-144.	0.8	32
35	Inorganic Approach to Stabilizing Nanoscale Toroidicity in a Tetraicosanuclear Fe₁₈Dy₆ Single Molecule Magnet. Journal of the American Chemical Society, 2020, 142, 14838-14842.	6.6	32
36	Synthesis and Characterization of the Heptanuclear [Mn^{III} ₆Co^{III}]³⁺ Triplesalen Complex: Evidence for Exchange Pathways Involving Low-spin Co^{III}. Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences, 2010, 65, 295-303.	0.3	31

#	Article	IF	Citations
37	A MnIII triplesalen-based 1D pearl necklace: exchange interactions and zero-field splittings in a C₃-symmetric Mn^{III}₆complex. Dalton Transactions, 2010, 39, 192-199.	1.6	30
38	Advanced finite-temperature Lanczos method for anisotropic spin systems. European Physical Journal B, 2014, 87, 1.	0.6	26
39	Structurally Flexible and Solution Stable [Ln₄TM₈(OH)₈(L)₈(O₂CR)₈(MeOH)_y A Playground for Magnetic Refrigeration. Inorganic Chemistry, 2016, 55, 10535-10546.	1.9	26
40	Efficient implementation of the Lanczos method for magnetic systems. Journal of Computational Physics, 2008, 227, 4512-4517.	1.9	25
41	Suppression of Magnetic Quantum Tunneling in a Chiral Single-Molecule Magnet by Ferromagnetic Interactions. Inorganic Chemistry, 2017, 56, 15119-15129.	1.9	25
42	Heisenberg exchange parameters of molecular magnets from the high-temperature susceptibility expansion. Physical Review B, 2001, 64, .	1.1	24
43	Molecular magnetism. Lecture Notes in Physics, 2004, , 155-194.	0.3	24
44	Theoretical design of molecular nanomagnets for magnetic refrigeration. Applied Physics Letters, 2013, 103, .	1.5	24
45	An [Fe^{III}₃₄] Molecular Metal Oxide. Angewandte Chemie - International Edition, 2019, 58, 16903-16906.	7.2	24
46	Tri-, tetra- and octa-metallic vanadium(III) clusters from new, simple starting materials: interplay of exchange and anisotropy effects. Dalton Transactions, 2009, , 9402.	1.6	23
47	Large-scale numerical investigations of the antiferromagnetic Heisenberg icosidodecahedron. Journal of Magnetism and Magnetic Materials, 2013, 327, 103-109.	1.0	22
48	Partition functions and symmetric polynomials. American Journal of Physics, 2002, 70, 53-57.	0.3	21
49	Frustration effects in antiferromagnetic molecules: The cuboctahedron. Polyhedron, 2009, 28, 1620-1623.	1.0	21
50	Thermodynamics of the one-dimensional frustrated Heisenberg ferromagnet with arbitrary spin. Physical Review B, 2011, 84, .	1.1	21
51	Combining Complementary Ligands into one Framework for the Construction of a Ferromagnetically Coupled [Mn^{III}₁₂] Wheel. Chemistry - A European Journal, 2014, 20, 3010-3013.	1.7	20
52	Copper Lanthanide Phosphonate Cages: Highly Symmetric {Cu₃Ln₉P₆} and {Cu₆Ln₆P₆} Clusters with C_{3v} and D_{3h} Symmetry. Inorganic Chemistry, 2015, 54, 6331-6337.	1.9	20
53	Magnon Crystallization in the Kagome Lattice Antiferromagnet. Physical Review Letters, 2020, 125, 117207.	2.9	20
54	Numerical renormalization group calculations of the magnetization of Kondo impurities with and without uniaxial anisotropy. Physical Review B, 2013, 87, .	1.1	19

#	Article	IF	Citations
55	Copper Keplerates: Highâ€Symmetry Magnetic Molecules. ChemPhysChem, 2016, 17, 55-60.	1.0	19
56	Sampling the two-dimensional density of statesg(E,M)of a giant magnetic molecule using the Wang-Landau method. Physical Review B, 2007, 75, .	1.1	18
57	Application of the finite-temperature Lanczos method for the evaluation of magnetocaloric properties of large magnetic molecules. European Physical Journal B, 2013, 86, 1.	0.6	18
58	Thermodynamics of the spin-half square kagome lattice antiferromagnet. Physical Review B, 2022, 105, .	1.1	18
59	A Comprehensive Study on Triplesalenâ€Based [Mn^{III}₆Fe^{III}]³⁺ and [Mn^{III}₆Fe^{II}]²⁺ Complexes: Redoxâ€Induced Variation of Molecular Magnetic Properties. European Journal of Inorganic Chemistry, 2013, 2013, 4398-4409.	1.0	17
60	A truncated [MnIII12] tetrahedron from oxime-based [MnIII3O] building blocks. Dalton Transactions, 2014, 43, 10690-10694.	1.6	17
61	Spin-phonon interaction induces tunnel splitting in single-molecule magnets. Physical Review B, 2020, 102, .	1.1	17
62	Frustration effects in magnetic molecules. Journal of Low Temperature Physics, 2006, 142, 279-284.	0.6	16
63	Influence of intermolecular interactions on magnetic observables. Physical Review B, 2016, 93, .	1.1	16
64	Adapting Planck's route to investigate the thermodynamics of the spin-half pyrochlore Heisenberg antiferromagnet. Physical Review B, 2020, 101, .	1.1	15
65	Thermodynamic observables of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Mn</mml:mi><mml:mn>12</mml:mn></mml:msub></mm calculated for the full spin Hamiltonian. Physical Review B, 2015, 92, .	1.1	14
66	Rotational magnetocaloric effect of anisotropic giant-spin molecular magnets. Journal of Magnetism and Magnetic Materials, 2019, 482, 113-119.	1.0	14
67	[Fe₁₅]: a frustrated, centred tetrakis hexahedron. Chemical Communications, 2021, 57, 8925-8928.	2.2	14
68	Cubic assembly of a geometrically frustrated {Fe12} spin cluster. Dalton Transactions, 2011, 40, 12271.	1.6	13
69	Advanced quantum methods for the largest magnetic molecules. Polyhedron, 2013, 66, 28-33.	1.0	13
70	Carboxylate free Î¼-oxo bridged ferric wheel with a record exchange coupling. Dalton Transactions, 2015, 44, 18743-18747.	1.6	13
71	Combined use of translational and spin-rotational invariance for spin systems. Physical Review B, 2019, 99, .	1.1	13
72	Gd₃ Triangles in a Polyoxometalate Matrix: Tuning Molecular Magnetocaloric Effects in {Gd₃₀M₈} Polyoxometalate/Cluster Hybrids Through Variation of M²⁺. Small Structures, 2021, 2, 2100052.	6.9	13

#	Article	IF	Citations
73	Fermionic molecular dynamics: Ensembles and fluctuations therein. Nuclear Physics A, 1995, 583, 347-352.	0.6	12
74	Inelastic neutron scattering study and Hubbard model description of the antiferromagnetic tetrahedral molecule Ni4Mo12. European Physical Journal B, 2010, 73, 515-526.	0.6	12
75	Hydrophobicityâ€Driven Selfâ€Assembly of an Eighteenâ€Membered Honeycomb Lattice with Almost Classical Spins. Chemistry - A European Journal, 2016, 22, 14846-14850.	1.7	12
76	Young's moduli of carbon materials investigated by various classical molecular dynamics schemes. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 99, 215-219.	1.3	12
77	Order in disorder: solution and solid-state studies of [MIII2MII5] wheels (M^{III} = Cr, Al;) Tj ETQq1 1 0.784314 rgBT /Overlo	1.6	12
78	Ni^{II}₃₆â€Containing 54â€Tungstoâ€6â€Silicate: Synthesis, Structure, Magnetic and Electrochemical Studies. Chemistry - A European Journal, 2021, 27, 15081-15085.	1.7	12
79	Linking [FeIII3] triangles with â€œdouble-headedâ€phenolic oximes. Chemical Communications, 2011, 47, 6018.	2.2	11
80	Phase diagram of the alternating-spin Heisenberg chain with extra isotropic three-body exchange interactions. European Physical Journal B, 2014, 87, 1.	0.6	11
81	Switching from antiferromagnetic to ferromagnetic coupling in heptanuclear [M^t₆M^c]ⁿ⁺ complexes by going from an achiral to a chiral triplesalen ligand. Dalton Transactions, 2014, 43, 9690-9703.	1.6	11
82	Classical molecular dynamics investigations of biphenyl-based carbon nanomembranes. Beilstein Journal of Nanotechnology, 2014, 5, 865-871.	1.5	10
83	Magneto-Structural Analysis of Iron(III) Keggin Polyoxometalates. Journal of Physical Chemistry A, 2017, 121, 1310-1318.	1.1	10
84	Periodic thermodynamics of the Rabi model with circular polarization for arbitrary spin quantum numbers. Physical Review E, 2019, 100, 042141.	0.8	10
85	Flat-band physics in the spin-1/2 sawtooth chain. European Physical Journal B, 2020, 93, 1.	0.6	10
86	Exchange interactions and magnetic anisotropy in the â€˜Ni4â€™ magnetic molecule. Phase Transitions, 2005, 78, 47-59.	0.6	9
87	Theoretical estimates for proton-NMR spinâ€“lattice relaxation rates of heterometallic spin rings. Journal of Magnetism and Magnetic Materials, 2006, 302, 206-210.	1.0	9
88	An [FeIII30] molecular metal oxide. Chemical Communications, 2021, 58, 52-55.	2.2	9
89	Systematic Study of the Interaction Between VIV Centres and LnIII Ions in Well Defined {V 2 IV LnIII}{AsIIIW9O33}2 Sandwich-Type Clusters: Part 2. Journal of Cluster Science, 2013, 24, 979-988.	1.7	8
90	Rational Improvement of Singleâ€Molecule Magnets by Enforcing Ferromagnetic Interactions. Chemistry - A European Journal, 2019, 25, 4992-5004.	1.7	8

#	Article	IF	Citations
91	Magnetic and electronic properties of the iron-containing polyoxotungstate [Fe4(H2O)10(Î²-SbW9O33)2]6â". Journal of Applied Physics, 2006, 99, 08J505.	1.1	7
92	Alternating-spin S = 3/2 and Ïƒ = 1/2 Heisenberg chain with isotropic three-body exchange interactions. European Physical Journal B, 2016, 89, 1.	0.6	7
93	Floquet theory of the analytical solution of a periodically driven two-level system. Applicable Analysis, 2021, 100, 992-1009.	0.6	7
94	Frustration Effects in Magnetic Molecules. Journal of Low Temperature Physics, 2007, 142, 283-288.	0.6	6
95	Local entanglement and string order parameter in dimerized models. Journal of Physics Condensed Matter, 2019, 31, 505602.	0.7	6
96	Decoherence of a singlet-triplet superposition state under dipolar interactions of an uncorrelated environment. Physical Review B, 2020, 101, .	1.1	6
97	Accuracy of the typicality approach using Chebyshev polynomials. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2021, 76, 823-834.	0.7	6
98	Finite-Size Scaling of Typicality-Based Estimates. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2020, 75, 465-473.	0.7	6
99	Frustration-induced exotic properties of magnetic molecules. Comptes Rendus Chimie, 2007, 10, 15-20.	0.2	5
100	Optimization of Singleâ€Molecule Magnets by Suppression of Quantum Tunneling of the Magnetization. European Journal of Inorganic Chemistry, 2020, 2020, 3222-3235.	1.0	5
101	Hendecanuclear [Cu6Gd5] magnetic cooler with high molecular symmetry of D3h. Chinese Chemical Letters, 2021, 32, 838-841.	4.8	5
102	Observation of phase synchronization and alignment during free induction decay of quantum spins with Heisenberg interactions. New Journal of Physics, 2021, 23, 083038.	1.2	5
103	Frustrated magnetism of spin- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mfrac><mml:mn>1</mml:mn><mml:mn>2</mml:mn></mml:mfrac></mml Heisenberg diamond and octahedral chains as a statistical mechanical monomer-dimer problem. Physical Review B, 2022, 105, .	1.1	5
104	Exact diagonalization studies of doped Heisenberg spin rings. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 341-344.	1.0	4
105	Solitary waves on finite-size antiferromagnetic quantum Heisenberg spin rings. Journal of Magnetism and Magnetic Materials, 2006, 306, 79-84.	1.0	4
106	An [Fe III 34] Molecular Metal Oxide. Angewandte Chemie, 2019, 131, 17059-17062.	1.6	4
107	Supersymmetric spinâ€"phonon coupling prevents odd integer spins from quantum tunneling. European Physical Journal B, 2021, 94, 1.	0.6	4
108	Theoretical formation of carbon nanomembranes under realistic conditions using classical molecular dynamics. Physical Review B, 2021, 103, .	1.1	4

#	Article	IF	Citations
109	Classical and Quantum Magnetism in Giant Keplerate Magnetic Molecules. ChemPhysChem, 2001, 2, 517-521.	1.0	4
110	ROTATIONAL BAND STRUCTURE OF LOW-LYING EXCITATIONS IN SMALL HEISENBERG SYSTEMS. International Journal of Modern Physics B, 2003, 17, 5053-5057.	1.0	3
111	Critical slowing-down in classical and quantum Heisenberg magnetic molecules. Journal of Magnetism and Magnetic Materials, 2004, 272-276, E721-E723.	1.0	3
112	Determination of exchange energies in the sawtooth spin ring {Mo75V20} by ESR. Physical Review B, 2012, 85, .	1.1	3
113	An {Fe16} barrel: Synthesis, structural and magnetic characterisation of an {Fe8} ring and its dimer. Polyhedron, 2013, 64, 59-62.	1.0	3
114	Response to â€œComment on â€˜Theoretical design of molecular nanomagnets for magnetic refrigerationâ€™â€•â€• [Appl. Phys. Lett. 105, 046101 (2014)]. Applied Physics Letters, 2014, 105, 046102.	1.5	3
115	Classical and Quantum Magnetism in Giant Keplerate Magnetic Molecules. , 2001, 2, 517.		3
116	Environment-controlled Floquet-state paramagnetism. Physical Review Research, 2020, 2, .	1.3	3
117	Electric field driven flat bands: Enhanced magnetoelectric and electrocaloric effects in frustrated quantum magnets. Physical Review B, 2022, 105, .	1.1	3
118	van der Waals revisited. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 4581-4588.	1.2	2
119	Unconventional phases of the alternating-spin Heisenberg chain with extra three-body exchange terms. Journal of Physics: Conference Series, 2014, 558, 012015.	0.3	2
120	Investigation of thermalization in giant-spin models by different Lindblad schemes. Journal of Magnetism and Magnetic Materials, 2017, 437, 7-11.	1.0	2
121	Magnetization curves of deposited finite spin chains. European Physical Journal B, 2019, 92, 1.	0.6	2
122	The Synthesis and Characterisation of a Molecular Seaâ€Serpent: Studies of a {Cr 24 Cu 7 } Chain. Angewandte Chemie - International Edition, 2021, 60, 9489-9492.	7.2	2
123	Rational Design of a Confacial Pentaoctahedron Anisotropic Exchange in a Linear ZnIIFeIIIFeIIIFeIIIZnII Complex. Chemistry - A European Journal, 2021, 27, 15239-15250.	1.7	2
124	Gd₃ Triangles in a Polyoxometalate Matrix: Tuning Molecular Magnetocaloric Effects in {Gd₃₀M₈} Polyoxometalate/Cluster Hybrids Through Variation of M²⁺. Small Structures, 2021, 2, 2170029.	6.9	2
125	An [Fe^{III}₈] molecular oxyhydroxide. Dalton Transactions, 0, , .	1.6	2
126	Exact diagonalization of a one-dimensional Hubbard model at density<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Ï</mml:mi><mml:mo>=</mml:mo><mml:mn>0.4</mml:mn></mml:mrow></mml:math>: Effects of Coulomb repulsions and distant transfer. Physical Review B, 2007, 76, .	1.1	1

#	Article	IF	Citations
127	Thermal density matrix renormalization group for highly frustrated quantum spin chains: A user perspective. Journal of Magnetism and Magnetic Materials, 2019, 487, 165327.	1.0	1
128	Stochastic thermodynamics of a finite quantum system coupled to a heat bath. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2021, 76, 731-745.	0.7	1
129	Investigation of electron-induced cross-linking of self-assembled monolayers by scanning tunneling microscopy. Beilstein Journal of Nanotechnology, 0, 13, 462-471.	1.5	1
130	Revisiting and modeling the magnetism of hole-doped spin chains in. Journal of Magnetism and Magnetic Materials, 2007, 310, e397-e399.	1.0	0
131	Phase diagrams of Heisenberg chains with different cell spins: role of the tree-site exchange interactions. Journal of Physics: Conference Series, 2019, 1186, 012014.	0.3	0
132	ROTATIONAL BAND STRUCTURE OF LOW-LYING EXCITATIONS IN SMALL HEISENBERG SYSTEMS. , 2002, , .		0
133	Isothermal Molecular Dynamics in Classical and Quantum Mechanics. , 2004, , 111-124.		0
134	Evaluation of Magnetic Spectra Using theÂIrreducible Tensor Operator Approach. , 2010, , 575-588.		0
135	Fermionic Molecular Dynamics: Multifragmentation in Heavy-Ion Collisions and in Excited Nuclei. , 1997, , 83-90.		0
136	Liquid-Gas Phase Transition in Finite Nuclei within Fermionic Molecular Dynamics. , 1999, , 411-420.		0