Olle G Heinonen

List of Publications by Year
in descending order

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165 papers	6,901 citations	87888 38 h-index	66911 78 g-index
168 all docs	168 docs citations	168 times ranked	6971 citing authors

#	Article	IF	Citations
1	A combined first principles study of the structural, magnetic, and phonon properties of monolayer CrI3. Journal of Chemical Physics, 2022, 156, 014707.	3.0	18
2	Magnetism and magnetotransport in the kagome antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Mn</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi mathvariant="normal">Ge</mml:mi></mml:math>. Physical Review B, 2022, 105, .	3.2	6
3	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>M</mml:mi><mml:msub><mml:mi>Nb</mml:mi><mml:mi mathvariant="normal">S</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:mrow></mml:math>		

#	Article	IF	Citations
19	Topological surface states in strained Dirac semimetal thin films. Physical Review B, 2020, 102, .	3.2	10
20	Metalâ€“insulator transition tuned by oxygen vacancy migration across TiO2/VO2 interface. Scientific Reports, 2020, 10, 18554.	3.3	24
21	Doped NiO: The mottness of a charge transfer insulator. Physical Review B, 2020, 101, .	3.2	16
22	Controllable skyrmion chirality in ferroelectrics. Scientific Reports, 2020, 10, 8657.	3.3	26
23	Structure and dynamics of hydrodynamically interacting finite-size Brownian particles in a spherical cavity: Spheres and cylinders. Journal of Chemical Physics, 2020, 152, 204109.	3.0	8
24	Doping a bad metal: Origin of suppression of the metal-insulator transition in nonstoichiometric <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>VO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml Physical Review B, 2020, 101, .	3.2	21
25	Tailoring Spin-Wave Channels in a Reconfigurable Artificial Spin Ice. Physical Review Applied, 2020, 13, .	3.8	34
26	Dynamics of reconfigurable artificial spin ice: Toward magnonic functional materials. APL Materials, 2020, 8, .	5.1	52
27	Sequential Infiltration Synthesis of Electronic Materials: Group 13 Oxides via Metal Alkyl Precursors. Chemistry of Materials, 2019, 31, 5274-5285.	6.7	48
28	Nonlinear Planar Hall Effect. Physical Review Letters, 2019, 123, 016801.	7.8	67
29	Spin-to-Charge Conversion in Magnetic Weyl Semimetals. Physical Review Letters, 2019, 123, 187201.	7.8	22
30	Magnetization switching using topological surface states. Science Advances, 2019, 5, eaaw3415.	10.3	65
31	Giant Anisotropy of Gilbert Damping in Epitaxial CoFe Films. Physical Review Letters, 2019, 122, 117203.	7.8	70
32	Compton profile of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>VO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml across the metal-insulator transition: Evidence of a non-Fermi liquid metal. Physical Review B, 2019, 99, .	3.2	7
33	Phase Segmentation in Atom-Probe Tomography Using Deep Learning-Based Edge Detection. Scientific Reports, 2019, 9, 20140.	3.3	19
34	Defect energetics of cubic hafnia from quantum Monte Carlo simulations. Physical Review Materials, 2019, 3, .	2.4	5
35	Local structure of potassium doped nickel oxide: A combined experimental-theoretical study. Physical Review Materials, 2019, 3, .	2.4	6
36	Benchmarks and Reliable DFT Results for Spin Gaps of Small Ligand Fe(II) Complexes. Journal of Chemical Theory and Computation, 2018, 14, 2304-2311.	5.3	71

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37	Domain alignment within ferroelectric/dielectric PbTiO₃/SrTiO₃ superlattice nanostructures. Nanoscale, 2018, 10, 3262-3271.	5.6	16
38	Influence of MgO barrier quality on spin-transfer torque in magnetic tunnel junctions. Applied Physics Letters, 2018, 112, .	3.3	8
39	Phase field benchmark problems for dendritic growth and linear elasticity. Computational Materials Science, 2018, 149, 336-347.	3.0	25
40	Topological Hall effect in diffusive ferromagnetic thin films with spin-flip scattering. Physical Review B, 2018, 97, .	3.2	11
41	Electromechanical control of polarization vortex ordering in an interacting ferroelectric-dielectric composite dimer. Applied Physics Letters, 2018, 113, .	3.3	19
42	<tt>QMCPACK</tt>: an open sourceab initioquantum Monte Carlo package for the electronic structure of atoms, molecules and solids. Journal of Physics Condensed Matter, 2018, 30, 195901.	1.8	187
43	Observation of Out-of-Plane Spin Texture in a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>SrTiO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> Review Letters, 2018, 120, 266802.	7.8	53
44	Evolutionary strategy for inverse charge measurements of dielectric particles. Journal of Chemical Physics, 2018, 148, 234302.	3.0	4
45	Quantum Monte Carlo Calculations of Catalytic Energy Barriers in a Metallorganic Framework with Transition-Metal-Functionalized Nodes. Journal of Physical Chemistry C, 2018, 122, 16683-16691.	3.1	6
46	Imaging Magnetic Domains in Functional Nanoscale Heterostructures using Lorentz microscopy. Microscopy and Microanalysis, 2018, 24, 910-911.	0.4	0
47	Nanoscale Control of Oxygen Defects and Metalâ€“Insulator Transition in Epitaxial Vanadium Dioxides. ACS Nano, 2018, 12, 7159-7166.	14.6	41
48	Zirconia and hafnia polymorphs: Ground-state structural properties from diffusion Monte Carlo. Physical Review Materials, 2018, 2, .	2.4	16
49	Topological phase transformations and intrinsic size effects in ferroelectric nanoparticles. Nanoscale, 2017, 9, 1616-1624.	5.6	49
50	Nature of Interlayer Binding and Stacking of spâ€“sp² Hybridized Carbon Layers: A Quantum Monte Carlo Study. Journal of Chemical Theory and Computation, 2017, 13, 5639-5646.	5.3	27
51	Topologically Nontrivial Magnon Bands in Artificial Square Spin Ices with Dzyaloshinskii-Moriya Interaction. Physical Review Applied, 2017, 8, .	3.8	24
52	Bragg Coherent Diffractive Imaging of Zinc Oxide Acoustic Phonons at Picosecond Timescales. Scientific Reports, 2017, 7, 9823.	3.3	12
53	Predicting the morphologies of Î³Ê¹ precipitates in cobalt-based superalloys. Acta Materialia, 2017, 141, 273-284.	7.9	70
54	Tunable Mode Coupling in Nanocontact Spin-Torque Oscillators. Physical Review Applied, 2017, 8, .	3.8	7

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55	Parallel O(N) Stokesâ€™ solver towards scalable Brownian dynamics of hydrodynamically interacting objects in general geometries. Journal of Chemical Physics, 2017, 146, 244114.	3.0	14
56	Benchmark problems for numerical implementations of phase field models. Computational Materials Science, 2017, 126, 139-151.	3.0	57
57	Direct observation of the skyrmion Hall effect. Nature Physics, 2017, 13, 162-169.	16.7	858
58	Tailoring magnetic skyrmions by geometric confinement of magnetic structures. Applied Physics Letters, 2017, 111, 242405.	3.3	8
59	Ab initio modeling of transport and thermodynamic stability for hafnia memristive devices. Journal of Computational Electronics, 2017, 16, 1066-1076.	2.5	1
60	Accuracy of ab initio electron correlation and electron densities in vanadium dioxide. Physical Review Materials, 2017, 1, .	2.4	41
61	Electronic properties of doped and defective NiO: A quantum Monte Carlo study. Physical Review Materials, 2017, 1, .	2.4	36
62	Mobile NÃ©el skyrmions at room temperature: status and future. AIP Advances, 2016, 6, .	1.3	38
63	Oscillatory Noncollinear Magnetism Induced by Interfacial Charge Transfer in Superlattices Composed of Metallic Oxides. Physical Review X, 2016, 6, .	8.9	30
64	An O(N) and parallel approach to integral problems by a kernel-independent fast multipole method: Application to polarization and magnetization of interacting particles. Journal of Chemical Physics, 2016, 145, .	3.0	13
65	Phase stability of TiO₂polymorphs from diffusion Quantum Monte Carlo. New Journal of Physics, 2016, 18, 113049.	2.9	59
66	A review of high magnetic moment thin films for microscale and nanotechnology applications. Applied Physics Reviews, 2016, 3, 011301.	11.3	121
67	Nanoscale Skyrmions in a Nonchiral Metallic Multiferroic: Ni₂MnGa. Nano Letters, 2016, 16, 4141-4148.	9.1	79
68	Mode coupling in spin torque oscillators. Journal of Magnetism and Magnetic Materials, 2016, 414, 227-242.	2.3	5
69	Pressure induced elastic softening in framework aluminosilicate- albite (NaAlSi3O8). Scientific Reports, 2016, 6, 34815.	3.3	19
70	Dynamic response of an artificial square spin ice. Physical Review B, 2016, 93, .	3.2	71
71	Generation of magnetic skyrmion bubbles by inhomogeneous spin Hall currents. Physical Review B, 2016, 93, .	3.2	45
72	Reconfigurable wave band structure of an artificial square ice. Physical Review B, 2016, 93, .	3.2	64

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73	Oxygen-modulated quantum conductance for ultrathin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">HfO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> -based memristive switching devices. Physical Review B, 2016, 94, .	3.2	11
74	Quantum Monte Carlo analysis of a charge ordered insulating antiferromagnet: the Ti₄O₇ MagnÃ©li phase. Physical Chemistry Chemical Physics, 2016, 18, 18323-18335.	2.8	27
75	The effect of a Ta oxygen scavenger layer on HfO₂-based resistive switching behavior: thermodynamic stability, electronic structure, and low-bias transport. Physical Chemistry Chemical Physics, 2016, 18, 7502-7510.	2.8	31
76	Influence of Elastic and Surface Strains on the Optical Properties of Semiconducting Core-Shell Nanoparticles. Physical Review Applied, 2015, 4, .	3.8	6
77	Magnetization dynamics of coupled ferromagnetic disks. Physical Review B, 2015, 92, .	3.2	3
78	Broken vertex symmetry and finite zero-point entropy in the artificial square ice ground state. Physical Review B, 2015, 92, .	3.2	38
79	Electric manipulation of skyrmions in metals and insulators. , 2015, , .		0
80	Mode-coupling mechanisms in nanocontact spin-torque oscillators. Physical Review B, 2015, 91, .	3.2	21
81	Ferromagnetic resonance in a topographically modulated permalloy film. Physical Review B, 2015, 91, .	3.2	6
82	Blowing magnetic skyrmion bubbles. Science, 2015, 349, 283-286.	12.6	1,177
83	Porting Ordinary Applications to Blue Gene/Q Supercomputers. , 2015, , .		0
84	Miscibility Gap Closure, Interface Morphology, and Phase Microstructure of 3D Li_xFePO₄ Nanoparticles from Surface Wetting and Coherency Strain. ACS Nano, 2015, 9, 9757-9771.	14.6	52
85	Electronic and magnetic properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">T</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mn>4</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>7</mml:mn></mml:msub></mml:mrow></mml:math> predicted by self-interaction-corrected density functional theory. Physical Review B, 2015, 91, .	3.2	16
86	Mode-hopping mechanism generating colored noise in a magnetic tunnel junction based spin torque oscillator. Applied Physics Letters, 2014, 105, 132404.	3.3	20
87	Vortex jump behavior in coupled nanomagnetic heterostructures. Applied Physics Letters, 2014, 105, 212409.	3.3	4
88	Polymer piezoelectric energy harvesters for low wind speed. Applied Physics Letters, 2014, 104, .	3.3	33
89	(Invited) Materials and Physics Challenges for Spin Transfer Torque Magnetic Random Access Memories. ECS Transactions, 2014, 64, 135-143.	0.5	0
90	Generation linewidth of mode-hopping spin torque oscillators. Physical Review B, 2014, 89, .	3.2	28

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91	Strain induced vortex-to-uniform polarization transitions in soft-ferroelectric nanoparticles. Applied Physics Letters, 2014, 104, 262906.	3.3	20
92	Strongly localized magnetization modes in permalloy antidot lattices. Applied Physics Letters, 2013, 102, .	3.3	22
93	Decoherence, Mode Hopping, and Mode Coupling in Spin Torque Oscillators. IEEE Transactions on Magnetics, 2013, 49, 4398-4404.	2.1	17
94	First-principles electronic structure study of rhizoferrin and its Fe(III) complexes. BioMetals, 2013, 26, 1003-1012.	4.1	2
95	Spectral Analysis of Topological Defects in an Artificial Spin-Ice Lattice. Physical Review Letters, 2013, 110, 117205.	7.8	127
96	Spin-Wave-Mode Coexistence on the Nanoscale: A Consequence of the Oersted-Field-Induced Asymmetric Energy Landscape. Physical Review Letters, 2013, 110, 257202.	7.8	98
97	Publisherâ€™s Note: Direct Observation of Unconventional Topological Spin Structure in Coupled Magnetic Discs [Phys. Rev. Lett.108, 067205 (2012)]. Physical Review Letters, 2012, 108, .	7.8	6
98	Temperature dependence of linewidth in nanocontact based spin torque oscillators: Effect of multiple oscillatory modes. Physical Review B, 2012, 86, .	3.2	24
99	Direct Observation of Unconventional Topological Spin Structure in Coupled Magnetic Discs. Physical Review Letters, 2012, 108, 067205.	7.8	65
100	Coupled vortex oscillations in mesoscale ferromagnetic double-disk structures. Physical Review B, 2012, 86, .	3.2	19
101	Broad-band FMR study of ferromagnetic thin films patterned with antidot lattices. Physica C: Superconductivity and Its Applications, 2012, 479, 83-87.	1.2	10
102	Decoherence and Mode Hopping in a Magnetic Tunnel Junction Based Spin Torque Oscillator. Physical Review Letters, 2012, 108, 207203.	7.8	51
103	Low-field FMR studies of magnetic confinement effects in patterned ferromagnetic thin films. , 2011, , .		0
104	Effect of annealing and applied bias on barrier shape in CoFe/MgO/CoFe tunnel junctions. Physical Review B, 2011, 83, .	3.2	16
105	Bias dependence of perpendicular spin torque and of free- and fixed-layer eigenmodes in MgO-based nanopillars. Physical Review B, 2011, 83, .	3.2	43
106	Nanoscale structure of the magnetic induction at monopole defects in artificial spin-ice lattices. Physical Review B, 2011, 83, .	3.2	96
107	Intrinsic frequency doubling in a magnetic tunnel junctionâ€“based spin torque oscillator. Journal of Applied Physics, 2011, 110, .	2.5	28
108	Perpendicular spin torque in circularly exchange-biased trilayer structures. Physical Review B, 2010, 81, .	3.2	3

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109	Perpendicular Spin Torque in Magnetic Tunnel Junctions. Physical Review Letters, 2010, 105, 066602.	7.8	33
110	Correlating structural and resistive changes in Ti:NiO resistive memory elements. Applied Physics Letters, 2010, 96, .	3.3	17
111	Switching-current reduction in perpendicular-anisotropy spin torque magnetic tunnel junctions. Journal of Applied Physics, 2010, 108, 014305.	2.5	21
112	Micromagnetic modeling of the magnetization dynamics in a circularly exchange-biased and exchange-coupled ferromagnetic multilayer. Physical Review B, 2009, 80, .	3.2	10
113	A model of the exchange bias setting process in magnetic read sensors. Applied Physics Letters, 2009, 95, 022504.	3.3	10
114	Transport properties of MgO magnetic tunnel junctions. Journal of Applied Physics, 2009, 105, 113905.	2.5	6
115	Read and write processes, and head technology for perpendicular recording. Journal of Magnetism and Magnetic Materials, 2009, 321, 495-507.	2.3	34
116	Magnetization reversal in circularly exchange-biased ferromagnetic disks. Physical Review B, 2009, 79, .	3.2	32
117	Dielectric breakdown of MgO magnetic tunnel junctions. Applied Physics Letters, 2009, 94, .	3.3	38
118	Extensions of perpendicular recording. Journal of Magnetism and Magnetic Materials, 2008, 320, 2885-2888.	2.3	15
119	High Magnetic Saturation Poles for Advanced Perpendicular Writers. IEEE Transactions on Magnetics, 2008, 44, 113-118.	2.1	18
120	Effect of Interlayer on Read Write Processes in Perpendicular Recording. IEEE Transactions on Magnetics, 2008, 44, 3400-3403.	2.1	8
121	Review of the Physics of Magnetoresistive Readers. IEEE Transactions on Magnetics, 2008, 44, 2465-2471.	2.1	15
122	Micromagnetic modeling of spin-wave dynamics in exchange-biased permalloy disks. Physical Review B, 2007, 76, .	3.2	21
123	Electronic transport through Fe/MgO/Fe(100) tunnel junctions. Journal of Magnetism and Magnetic Materials, 2007, 316, 481-483.	2.3	14
124	Remanent magnetic states and interactions in nano-pillars. Nanotechnology, 2006, 17, 4367-4373.	2.6	22
125	Atomic and electronic structure of the CoFeBâˆ•MgO interface from first principles. Applied Physics Letters, 2006, 89, 142507.	3.3	68
126	Finite-element modeling and micromagnetic modeling of perpendicular writers. Journal of Applied Physics, 2006, 99, 08S301.	2.5	11

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127	Dynamics of laminated write elements. Journal of Applied Physics, 2006, 99, 08S302.	2.5	5
128	Recording on Bit-Patterned Media at Densities of 1 Tb/in^{2}and Beyond. IEEE Transactions on Magnetics, 2006, 42, 2255-2260.	2.1	255
129	Spin currents in the Rashba model in the presence of nonuniform fields. Physical Review B, 2006, 73, .	3.2	17
130	Recording potential of bit-patterned media. Applied Physics Letters, 2006, 88, 222512.	3.3	137
131	Recording on bit-patterned media at densities of 1Tb/in2 and beyond. , 2006, , .		73
132	Micromagnetic calculation of erasure fields in perpendicular recording. , 2006, , .		2
133	Moving toward an atomistic reader model. IEEE Transactions on Magnetics, 2005, 41, 936-940.	2.1	12
134	Dynamics of magnetization coupled to a thermal bath of elastic modes. Physical Review B, 2005, 72, .	3.2	40
135	Tunneling Magnetoresistive Heads Beyond 150>tex<$hboxGb/in^2$>/tex<. IEEE Transactions on Magnetics, 2004, 40, 307-312.	2.1	30
136	Giant Magnetic Anisotropy in Tetragonal FeCo Alloys. Physical Review Letters, 2004, 93, 027203.	7.8	331
137	Thermal Magnetic Noise in Tunneling Readers. IEEE Transactions on Magnetics, 2004, 40, 2227-2232.	2.1	32
138	Ensemble Density Functional Approach to Inhomogeneous Quantum Hall Systems. , 2002, , 277-280.		0
139	Monte Carlo simulations of ferromagneticâ€“antiferromagnetic grains. Journal of Applied Physics, 2001, 89, 7552-7554.	2.5	5
140	Ensemble density-functional approach to charge-spin textures in inhomogeneous quantum Hall systems. Physical Review B, 1999, 59, 8073-8083.	3.2	14
141	Ensemble Density Functional Theory for Inhomogeneous Fractional Quantum Hall Systems. , 1998, , 311-325.		0
142	Spin-ensemble density-functional theory for inhomogeneous quantum Hall systems. Physical Review B, 1997, 56, 10373-10382.	3.2	22
143	Ensemble density functional theory for inhomogeneous fractional quantum hall systems. International Journal of Quantum Chemistry, 1996, 60, 1443-1455.	2.0	1
144	Electron-Phonon Interactions on a Single-Branch Quantum Hall Edge. Physical Review Letters, 1996, 77, 358-361.	7.8	18

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145	Ensemble Density Functional Theory of the Fractional Quantum Hall Effect. Physical Review Letters, 1995, 75, 4110-4113.	7.8	35
146	Nonlinear steady-state mesoscopic transport: Formalism. Physical Review B, 1995, 51, 14421-14436.	3.2	6
147	Failure of the integer quantum Hall effect without dissipation. Physical Review B, 1994, 49, 11230-11237.	3.2	4
148	Density matrix for an ideal driven current cylinder. Physical Review B, 1994, 49, 13740-13743.	3.2	0
149	Ordering in random Ising magnets. Journal of Physics Condensed Matter, 1993, 5, 3333-3338.	1.8	1
150	Surface effects on bulk plasmons. Physical Review B, 1993, 48, 12240-12244.	3.2	7
151	Crystal-field symmetry and ordered phases in arrays of helicalXYspin chains. Physical Review B, 1993, 47, 2661-2670.	3.2	4
152	Mesoscopic transport beyond linear response. Physical Review Letters, 1993, 71, 1447-1450.	7.8	20
153	Relative chirality of octupolar columns in a triangular array. Physical Review B, 1993, 47, 8479-8485.	3.2	14
154	Deviations from perfect integer quantum Hall effect. Physical Review B, 1992, 46, 1901-1904.	3.2	4
155	Commensurate and incommensurate conformations in a simple model of crystalline helical polymers. Polymer, 1991, 32, 2155-2160.	3.8	8
156	Conducting piezoelectricsâ€"oxymoron or reality?. Ferroelectrics, Letters Section, 1990, 11, 21-29.	1.0	1
157	Stress-induced switching of nonlinear optical properties of linear polymers. Physical Review B, 1990, 42, 3187-3189.	3.2	0
158	Critical behavior of a frustrated Ising system. Physical Review B, 1989, 40, 9052-9055.	3.2	41
159	Separation of spin and charge in a Landau quasiparticle wave packet. Physical Review B, 1989, 40, 7298-7300.	3.2	3
160	Dynamic helicity-reversal defects in polytetrafluoroethylene chains. Polymer, 1989, 30, 585-589.	3.8	7
161	Internal structure of a Landau quasiparticle wave packet. Physical Review B, 1987, 36, 3565-3576.	3.2	10
162	Electron-phonon interactions and charge-density-wave formations in strong magnetic fields. Physical Review B, 1986, 33, 5461-5464.	3.2	9

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163	Current distributions in the quantum Hall effect. Physical Review B, 1985, 32, 633-639.	3.2	60
164	Electron-phonon interactions and the breakdown of the dissipationless quantum Hall effect. Physical Review B, 1984, 30, 3016-3019.	3.2	120
165	Conductance plateaus in the quantized Hall effect. Physical Review B, 1983, 28, 6119-6122.	3.2	26