Andrii Chumak

List of Publications by Year
in descending order

110 papers	10,428 citations	44066 48 h-index	31843 101 g-index
114 all docs	114 docs citations	114 times ranked	5232 citing authors

#	Article	IF	Citations
1	Nonreciprocal magnon fluxonics upon ferromagnet/superconductor hybrids. Journal of Magnetism and Magnetic Materials, 2022, 543, 168633.	2.3	9
2	Merging of spin-wave modes in obliquely magnetized circular nanodots. Physical Review B, 2022, 105, .	3.2	2
3	Advances in Magnetics Roadmap on Spin-Wave Computing. IEEE Transactions on Magnetics, 2022, 58, 1-72.	2.1	179
4	Rising Speed Limits for Fluxons via Edge-Quality Improvement in Wide MoSi Thin Films. Physical Review Applied, 2022, 17, .	3.8	14
5	Fast long-wavelength exchange spin waves in partially compensated Ga:YIG. Applied Physics Letters, 2022, 120, .	3.3	11
6	Parametric generation of spin waves in nanoscaled magnonic conduits. Physical Review B, 2022, 105, .	3.2	9
7	Long-range spin-wave propagation in transversely magnetized nano-scaled conduits. Applied Physics Letters, 2021, 118, .	3.3	14
8	Controlling the Nonlinear Relaxation of Quantized Propagating Magnons in Nanodevices. Physical Review Letters, 2021, 126, 097202.	7.8	13
9	Spin-wave eigenmodes in direct-write 3D nanovolcanoes. Applied Physics Letters, 2021, 118, .	3.3	25
10	Inverse-design magnonic devices. Nature Communications, 2021, 12, 2636.	12.8	53
11	The 2021 Magnonics Roadmap. Journal of Physics Condensed Matter, 2021, 33, 413001.	1.8	287
12	Tension-free Dirac strings and steered magnetic charges in 3D artificial spin ice. Npj Computational Materials, 2021, 7, .	8.7	7
13	Engineered magnetization and exchange stiffness in direct-write Coâ€“Fe nanoelements. Applied Physics Letters, 2021, 118, .	3.3	13
14	Stabilization of a nonlinear magnonic bullet coexisting with a Bose-Einstein condensate in a rapidly cooled magnonic system driven by spin-orbit torque. Physical Review B, 2021, 104, .	3.2	6
15	Spin-Wave Dispersion Measurement by Variable-Gap Propagating Spin-Wave Spectroscopy. Physical Review Applied, 2021, 16, .	3.8	13
16	Control of the Bose-Einstein Condensation of Magnons by the Spin Hall Effect. Physical Review Letters, 2021, 127, 237203.	7.8	11
17	Spin-wave spectroscopy of individual ferromagnetic nanodisks. Nanoscale, 2020, 12, 21207-21217.	5.6	24
18	A magnonic directional coupler for integrated magnonic half-adders. Nature Electronics, 2020, 3, 765-774.	26.0	139

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19	Introduction to spin wave computing. Journal of Applied Physics, 2020, 128, .	2.5	179
20	Opportunities and challenges for spintronics in the microelectronics industry. Nature Electronics, 2020, 3, 446-459.	26.0	471
21	Ultra-fast vortex motion in a direct-write Nb-C superconductor. Nature Communications, 2020, 11, 3291.	12.8	70
22	Reflection-less width-modulated magnonic crystal. Communications Physics, 2020, 3, .	5.3	32
23	Parametric Generation of Propagating Spin Waves in Ultrathin Yttrium Iron Garnet Waveguides. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000011.	2.4	7
24	Parametric Generation of Propagating Spin Waves in Ultrathin Yttrium Iron Garnet Waveguides. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2070022.	2.4	4
25	Propagation of Spin-Wave Packets in Individual Nanosized Yttrium Iron Garnet Magnonic Conduits. Nano Letters, 2020, 20, 4220-4227.	9.1	75
26	Magnon-phonon interactions in magnon spintronics (Review article). Low Temperature Physics, 2020, 46, 383-399.	0.6	62
27	Boseâ€“Einstein condensation of quasiparticles by rapid cooling. Nature Nanotechnology, 2020, 15, 457-461.	31.5	52
28	A nonlinear magnonic nano-ring resonator. Npj Computational Materials, 2020, 6, .	8.7	29
29	Temperature Dependence of Spin Pinning and Spin-Wave Dispersion in Nanoscopic Ferromagnetic Waveguides. Ukrainian Journal of Physics, 2020, 65, 1094.	0.2	1
30	Nanoscale spin-wave wake-up receiver. Applied Physics Letters, 2019, 115, .	3.3	9
31	Spin Pinning and Spin-Wave Dispersion in Nanoscopic Ferromagnetic Waveguides. Physical Review Letters, 2019, 122, 247202.	7.8	93
32	Magnonâ€“fluxon interaction in a ferromagnet/superconductor heterostructure. Nature Physics, 2019, 15, 477-482.	16.7	83
33	Magnon Spintronics. , 2019, , 247-302.		12
34	Recent Trends in Microwave Magnetism and Superconductivity. Ukrainian Journal of Physics, 2019, 64, 888.	0.2	19
35	Reconfigurable nanoscale spin-wave directional coupler. Science Advances, 2018, 4, e1701517.	10.3	150
36	Direct observation of spin diffusion enhanced nonadiabatic spin torque effects in rare-earth-doped permalloy. Physical Review B, 2018, 98, .	3.2	3

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37	Spin-wave propagation through a magnonic crystal in a thermal gradient. Journal Physics D: Applied Physics, 2018, 51, 344002.	2.8	15
38	Control of Spin-Wave Propagation using Magnetisation Gradients. Scientific Reports, 2018, 8, 11099.	3.3	51
39	Experimental prototype of a spin-wave majority gate. Applied Physics Letters, 2017, 110, .	3.3	158
40	Temporal Evolution of Auto-Oscillations in an Yttrium-Iron-Garnet/Platinum Microdisk Driven by Pulsed Spin Hall Effect-Induced Spin-Transfer Torque. IEEE Magnetics Letters, 2017, 8, 1-4.	1.1	10
41	Magnonic crystals for data processing. Journal Physics D: Applied Physics, 2017, 50, 244001.	2.8	309
42	Magnonics: spin waves connecting charges, spins and photons. Journal Physics D: Applied Physics, 2017, 50, 300201.	2.8	35
43	Bottleneck Accumulation of Hybrid Magnetoelastic Bosons. Physical Review Letters, 2017, 118, 237201.	7.8	60
44	Voltage-controlled nanoscale reconfigurable magnonic crystal. Physical Review B, 2017, 95, .	3.2	62
45	Spin-transfer torque based damping control of parametrically excited spin waves in a magnetic insulator. Applied Physics Letters, 2016, 108, .	3.3	36
46	Splitting of standing spin-wave modes in circular submicron ferromagnetic dot under axial symmetry violation. Scientific Reports, 2016, 5, 18480.	3.3	10
47	Magnon Spintronics. , 2016, , 1505-1549.		5
48	Formation of Boseâ€“Einstein magnon condensate via dipolar and exchange thermalization channels. Low Temperature Physics, 2015, 41, 801-805.	0.6	15
49	Width-modulated magnonic crystal and its application for spin-wave logic. , 2015, , .		0
50	Magnetische Materialien nach MaÃŸ fÃ¼r die Spintronik. Physik in Unserer Zeit, 2015, 46, 217-218.	0.0	0
51	Magnonen fÃ¼r den Computer von Ãœbermorgen. Physik in Unserer Zeit, 2015, 46, 34-38.	0.0	1
52	Optically reconfigurable magnetic materials. Nature Physics, 2015, 11, 487-491.	16.7	149
53	Magnon spintronics. Nature Physics, 2015, 11, 453-461.	16.7	1,804
54	Thickness and power dependence of the spin-pumping effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Y</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi>Fe</mml:mi><mml:mn>5</mml:mn></m mathvariant="normal">O</mml:mi><mml:mn>12</mml:mn></mml:msub></mml:mrow></mml:math>/Pt heterostructures measured by the inverse spin Hall effect. Physical Review B, 2015, 91, .	3.2	114

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55	A spin-wave logic gate based on a width-modulated dynamic magnonic crystal. Applied Physics Letters, 2015, 106, .	3.3	104
56	Width-modulated magnonic crystal and its application for spin-wave logic. , 2015, , .		0
57	Magnon Spintronics. , 2015, , 1-38.		1
58	Spin-wave logic devices based on isotropic forward volume magnetostatic waves. Applied Physics Letters, 2015, 106, .	3.3	95
59	The role of the non-magnetic material in spin pumping and magnetization dynamics in NiFe and CoFeB multilayer systems. Journal of Applied Physics, 2015, 117, 163901.	2.5	65
60	Measurements of the exchange stiffness of YIG films using broadband ferromagnetic resonance techniques. Journal Physics D: Applied Physics, 2015, 48, 015001.	2.8	123
61	Sign of inverse spin Hall voltages generated by ferromagnetic resonance and temperature gradients in yttrium iron garnet platinum bilayers. Journal Physics D: Applied Physics, 2015, 48, 025001.	2.8	52
62	Pulsed laser deposition of epitaxial yttrium iron garnet films with low Gilbert damping and bulk-like magnetization. APL Materials, 2014, 2, .	5.1	183
63	Boseâ€“Einstein condensation in an ultra-hot gas of pumped magnons. Nature Communications, 2014, 5, 3452.	12.8	101
64	Spin-wave excitation and propagation in microstructured waveguides of yttrium iron garnet/Pt bilayers. Applied Physics Letters, 2014, 104, .	3.3	147
65	Magnon transistor for all-magnon data processing. Nature Communications, 2014, 5, 4700.	12.8	632
66	Design of a spin-wave majority gate employing mode selection. Applied Physics Letters, 2014, 105, .	3.3	143
67	Role of bulk-magnon transport in the temporal evolution of the longitudinal spin-Seebeck effect. Physical Review B, 2014, 89, .	3.2	62
68	The 2014 Magnetism Roadmap. Journal Physics D: Applied Physics, 2014, 47, 333001.	2.8	329
69	Improvement of the yttrium iron garnet/platinum interface for spin pumping-based applications. Applied Physics Letters, 2013, 103, .	3.3	109
70	Magnonic band gaps in waveguides with a periodic variation of the saturation magnetization. Physical Review B, 2013, 88, .	3.2	35
71	Heat-induced damping modification in yttrium iron garnet/platinum hetero-structures. Applied Physics Letters, 2013, 102, .	3.3	46
72	The Dynamic Magnonic Crystal: New Horizons in Artificial Crystal Based Signal Processing. Topics in Applied Physics, 2013, , 243-257.	0.8	5

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73	Unidirectional spin-wave heat conveyer. Nature Materials, 2013, 12, 549-553.	27.5	125
74	A micro-structured ion-implanted magnonic crystal. Applied Physics Letters, 2013, 102, .	3.3	75
75	Spin-wave propagation and transformation in a thermal gradient. Applied Physics Letters, 2012, 101, 192406.	3.3	37
76	Magnonic band gap design by the edge modulation of micro-sized waveguides. Journal Physics D: Applied Physics, 2012, 45, 255002.	2.8	39
77	Direct detection of magnon spin transport by the inverse spin Hall effect. Applied Physics Letters, 2012, 100, .	3.3	121
78	Oscillatory Energy Exchange between Waves Coupled by a Dynamic Artificial Crystal. Physical Review Letters, 2012, 108, 015505.	7.8	48
79	Probing dynamical magnetization pinning in circular dots as a function of the external magnetic field orientation. Physical Review B, 2012, 86, .	3.2	18
80	Storage-Recovery Phenomenon in Magnonic Crystal. Physical Review Letters, 2012, 108, 257207.	7.8	74
81	Spin Pumping by Parametrically Excited Exchange Magnons. Physical Review Letters, 2011, 106, 216601.	7.8	256
82	Spin information transfer and transport in hybrid spinmechatronic structures. Journal of Physics: Conference Series, 2011, 303, 012018.	0.4	2
83	Slow magnetization dynamics and energy barriers near vortex state nucleation in circular permalloy dots. Applied Physics Letters, 2011, 99, .	3.3	13
84	Temporal evolution of inverse spin Hall effect voltage in a magnetic insulator-nonmagnetic metal structure. Applied Physics Letters, 2011, 99, .	3.3	47
85	Employing magnonic crystals to dictate the characteristics of auto-oscillatory spin-wave systems. Journal of Physics: Conference Series, 2011, 303, 012007.	0.4	6
86	Spin-wave tunnelling through a mechanical gap. Europhysics Letters, 2010, 90, 27003.	2.0	28
87	Magnonic crystal based forced dominant wavenumber selection in a spin-wave active ring. Applied Physics Letters, 2010, 96, .	3.3	36
88	Reverse Doppler effect of magnons with negative group velocity scattered from a moving Bragg grating. Physical Review B, 2010, 81, .	3.2	49
89	Non-resonant wave front reversal of spin waves used for microwave signal processing. Journal Physics D: Applied Physics, 2010, 43, 325001.	2.8	9
90	YIG magnonics. Journal Physics D: Applied Physics, 2010, 43, 264002.	2.8	1,024

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91	Nondiffractive Subwavelength Wave Beams in a Medium with Externally Controlled Anisotropy. Physical Review Letters, 2010, 104, 197203.	7.8	102
92	All-linear time reversal by a dynamic artificial crystal. Nature Communications, 2010, 1, 141.	12.8	159
93	Bose-Einstein Condensation of Magnons under Incoherent Pumping. Physical Review Letters, 2009, 102, 187205.	7.8	38
94	Design and optimization of one-dimensional ferrite-film based magnonic crystals. Journal of Applied Physics, 2009, 105, .	2.5	70
95	Parametrically stimulated recovery of a microwave signal using standing spin-wave modes of a magnetic film. Physical Review B, 2009, 79, .	3.2	19
96	Generation of spin-wave pulse trains by current-controlled magnetic mirrors. Applied Physics Letters, 2009, 94, .	3.3	19
97	A current-controlled, dynamic magnonic crystal. Journal Physics D: Applied Physics, 2009, 42, 205005.	2.8	158
98	Scattering of surface and volume spin waves in a magnonic crystal. Applied Physics Letters, 2009, 94, .	3.3	117
99	Spin-wave propagation in a microstructured magnonic crystal. Applied Physics Letters, 2009, 95, .	3.3	168
100	Scattering of backward spin waves in a one-dimensional magnonic crystal. Applied Physics Letters, 2008, 93, .	3.3	182
101	Microwave spectral analysis by means of nonresonant parametric recovery of spin-wave signals in a thin magnetic film. Applied Physics Letters, 2008, 92, 162514.	3.3	16
102	Correlation of Magnetistatic Pulses using Active Delay Line. , 2007, , .		0
103	Parametrically Stimulated Recovery of a Microwave Signal Stored in Standing Spin-Wave Modes of a Magnetic Film. Physical Review Letters, 2007, 99, 227202.	7.8	48
104	Wave front reversal of nonreciprocal surface dipolar spin waves. Journal of Applied Physics, 2006, 99, 08P513.	2.5	17
105	Wave front reversal of surface magnetostatic waves. Journal of Magnetism and Magnetic Materials, 2006, 300, e41-e44.	2.3	4
106	Double-wave-front reversal of dipole-exchange spin waves in yttrium-iron garnet films. Journal of Applied Physics, 2005, 98, 074908.	2.5	6
107	Parametric Generation of Forward and Phase-Conjugated Spin-Wave Bullets in Magnetic Films. Physical Review Letters, 2005, 94, 167202.	7.8	38
108	Microwave Signal Processing in Ferrite Films Using Dipole-Exchange Spin Waves Scattered on Inhomogeneities. IEEE Transactions on Magnetics, 2004, 40, 2814-2816.	2.1	4

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109	Two-magnon relaxation reversal in ferrite spheres. Journal of Experimental and Theoretical Physics, 2004, 99, 1193-1200.	0.9	4
110	Methods of relaxation reversal for spin waves and oscillations. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 991-992.	2.3	5