

# Ilya Krivorotov

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

133  
papers

8,015  
citations

45  
h-index

88  
g-index

143  
ext. papers

8,882  
ext. citations

5.6  
avg, IF

5.55  
L-index

#	Paper	IF	Citations
133	Controlling Magnon Interaction by a Nanoscale Switch. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 20288-20295	9.5	2
132	Self-stabilizing exchange-mediated spin transport. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	1
131	Measurement of Microwave Signal Frequency by a Pair of Spin-Torque Microwave Diodes. <i>IEEE Magnetism Letters</i> , <b>2021</b> , 12, 1-5	1.6	1
130	Optoelectronic Readout of STT-RAM Based on Plasmon Drag Effect. <i>IEEE Journal of Quantum Electronics</i> , <b>2021</b> , 57, 1-7	2	
129	Immunity of nanoscale magnetic tunnel junctions with perpendicular magnetic anisotropy to ionizing radiation. <i>Scientific Reports</i> , <b>2020</b> , 10, 10220	4.9	7
128	Synthetic antiferromagnet-based spin Josephson oscillator. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 132409	3.4	2
127	Effect of magnesium oxide adhesion layer on resonance behavior of plasmonic nanostructures. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 241601	3.4	3
126	Dimensional crossover in spin Hall oscillators. <i>Physical Review B</i> , <b>2020</b> , 102,	3.3	2
125	Spin-orbit torque nano-oscillator with giant magnetoresistance readout. <i>Communications Physics</i> , <b>2020</b> , 3,	5.4	2
124	Spin-momentum locking induced non-local voltage in topological insulator nanowire. <i>Nanoscale</i> , <b>2020</b> , 12, 22958-22962	7.7	2
123	Experimental Demonstration of Spintronic Broadband Microwave Detectors and Their Capability for Powering Nanodevices. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	32
122	Giant nonlinear damping in nanoscale ferromagnets. <i>Science Advances</i> , <b>2019</b> , 5, eaav6943	14.3	14
121	Magnetization reversal driven by low dimensional chaos in a nanoscale ferromagnet. <i>Nature Communications</i> , <b>2019</b> , 10, 543	17.4	14
120	Activation of Microwave Signals in Nanoscale Magnetic Tunnel Junctions by Neuronal Action Potentials. <i>IEEE Magnetism Letters</i> , <b>2019</b> , 10, 1-5	1.6	1
119	Correction of Phase Errors in a Spin-Wave Transmission Line by Nonadiabatic Parametric Pumping. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	2
118	Control of Spin-Wave Damping in YIG Using Spin Currents from Topological Insulators. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	17
117	High rectification sensitivity of radiofrequency signal through adiabatic stochastic resonance in nanoscale magnetic tunnel junctions. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 192402	3.4	3

116	Array of symmetric nanohole dimers with high sensitivity for detection of changes in an STT-RAM ultrathin dielectric layer. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2019</b> , 36, 3090	1.7	1
115	Array of Symmetric Nanohole Dimers for STT-RAM Ultrathin Layer Sensing <b>2019</b> ,		2
114	Frequency conversion of microwave signal without direct bias current using nanoscale magnetic tunnel junctions. <i>Scientific Reports</i> , <b>2019</b> , 9, 828	4.9	3
113	Bias current dependence of superconducting transition temperature in superconducting spin-valve nanowires. <i>Physical Review B</i> , <b>2019</b> , 100,	3.3	1
112	Spin-orbit torque driven by a planar Hall current. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 27-30	28.7	62
111	Oscillatory interlayer coupling in spin Hall systems. <i>Scientific Reports</i> , <b>2018</b> , 8, 2318	4.9	10
110	Spin Hall-induced auto-oscillations in ultrathin YIG grown on Pt. <i>Scientific Reports</i> , <b>2018</b> , 8, 1269	4.9	24
109	Nonreciprocal Surface Acoustic Waves in Multilayers with Magnetoelastic and Interfacial Dzyaloshinskii-Moriya Interactions. <i>Physical Review Applied</i> , <b>2018</b> , 9,	4.3	44
108	Injection locking of multiple auto-oscillation modes in a tapered nanowire spin Hall oscillator. <i>Scientific Reports</i> , <b>2018</b> , 8, 16040	4.9	8
107	Ultra-fast wide band spectrum analyzer based on a rapidly tuned spin-torque nano-oscillator. <i>Applied Physics Letters</i> , <b>2018</b> , 113, 112401	3.4	14
106	Low Power Microwave Signal Detection With a Spin-Torque Nano-Oscillator in the Active Self-Oscillating Regime. <i>IEEE Transactions on Magnetics</i> , <b>2017</b> , 53, 1-4	2	6
105	Parametric Resonance of Magnetization Excited by Electric Field. <i>Nano Letters</i> , <b>2017</b> , 17, 572-577	11.5	45
104	Spin caloritronic nano-oscillator. <i>Nature Communications</i> , <b>2017</b> , 8, 117	17.4	68
103	Quantifying angular dependence of spin-orbit torques in Ta/CoFeB/MgO trilayers with perpendicular magnetic anisotropy. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	15
102	Interface-Induced Phenomena in Magnetism. <i>Reviews of Modern Physics</i> , <b>2017</b> , 89,	40.5	475
101	Plasmonic detection of possible defects in multilayer nanohole array consisting of essential materials in simplified STT-RAM cell <b>2017</b> ,		1
100	Experimental Demonstration of xor Operation in Graphene Magnetologic Gates at Room Temperature. <i>Physical Review Applied</i> , <b>2016</b> , 5,	4.3	51
99	Highly Textured IrMn <sub>3</sub> (111) Thin Films Grown by Magnetron Sputtering. <i>IEEE Magnetics Letters</i> , <b>2016</b> , 7, 1-5	1.6	7

98	Material parameters of perpendicularly magnetized tunnel junctions from spin torque ferromagnetic resonance techniques. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 132408	3.4	20
97	Optical Investigation of Radiation Induced Conductivity Changes in STT-RAM Cells <b>2016</b> ,		2
96	Giant spin-torque diode sensitivity in the absence of bias magnetic field. <i>Nature Communications</i> , <b>2016</b> , 7, 11259	17.4	89
95	Wireless current sensing by near field induction from a spin transfer torque nano-oscillator. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 242403	3.4	5
94	Temperature dependence of perpendicular magnetic anisotropy in CoFeB thin films. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 142403	3.4	26
93	Magnetic anisotropy, damping, and interfacial spin transport in Pt/LSMO bilayers. <i>AIP Advances</i> , <b>2016</b> , 6, 055212	1.5	24
92	A Material Framework for Beyond-CMOS Devices. <i>IEEE Journal on Exploratory Solid-State Computational Devices and Circuits</i> , <b>2015</b> , 1, 19-27	2.4	3
91	Magnetic phase transitions in Ta/CoFeB/MgO multilayers. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 192407	3.4	12
90	Spin wave eigenmodes in transversely magnetized thin film ferromagnetic wires. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	13
89	Reduction of phase noise in nanowire spin orbit torque oscillators. <i>Scientific Reports</i> , <b>2015</b> , 5, 16942	4.9	27
88	Parametric Excitation of Spin Waves by Voltage-Controlled Magnetic Anisotropy. <i>Physical Review Applied</i> , <b>2014</b> , 1,	4.3	38
87	Spin-wave modes in permalloy/platinum wires and tuning of the mode damping by spin Hall current. <i>Physical Review B</i> , <b>2014</b> , 90,	3.3	25
86	Temperature dependence of the voltage-controlled perpendicular anisotropy in nanoscale MgO CoFeB Ta magnetic tunnel junctions. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 112410	3.4	92
85	Field-dependent perpendicular magnetic anisotropy in CoFeB thin films. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 152403	3.4	20
84	Nanowire spin torque oscillator driven by spin orbit torques. <i>Nature Communications</i> , <b>2014</b> , 5, 5616	17.4	138
83	Angular dependence of superconductivity in superconductor/spin-valve heterostructures. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	49
82	Excitation of spin waves by a current-driven magnetic nanocontact in a perpendicularly magnetized waveguide. <i>Physical Review B</i> , <b>2013</b> , 88,	3.3	11
81	Nonlinear ferromagnetic resonance induced by spin torque in nanoscale magnetic tunnel junctions. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 082402	3.4	38

80	Time domain mapping of spin torque oscillator effective energy. <i>Physical Review Letters</i> , <b>2013</b> , 111, 087206	11
79	Spin-Torque Microwave Detectors. <i>Topics in Applied Physics</i> , <b>2013</b> , 143-161	0.5 7
78	Ultralow-current-density and bias-field-free spin-transfer nano-oscillator. <i>Scientific Reports</i> , <b>2013</b> , 3, 1426	130
77	Diode-MTJ Crossbar Memory Cell Using Voltage-Induced Unipolar Switching for High-Density MRAM. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 753-755	4.4 26
76	Spin torque ferromagnetic resonance with magnetic field modulation. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 172406	3.4 37
75	Hysteresis regime in the operation of a dual-free-layer spin-torque nano-oscillator with out-of-plane counter-precessing magnetic moments. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 173904	2.5 9
74	Spin-Torque Driven Switching Probability Density Function Asymmetry. <i>IEEE Transactions on Magnetics</i> , <b>2012</b> , 48, 3818-3820	2 22
73	Reduction of switching current density in perpendicular magnetic tunnel junctions by tuning the anisotropy of the CoFeB free layer. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 07C907	2.5 26
72	Magnetization dynamics in a dual free-layer spin-torque nano-oscillator. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3 46
71	Voltage-induced ferromagnetic resonance in magnetic tunnel junctions. <i>Physical Review Letters</i> , <b>2012</b> , 108, 197203	7.4 199
70	Nanospintronics Based on Magnetologic Gates. <i>IEEE Transactions on Electron Devices</i> , <b>2012</b> , 59, 259-262	2.9 118
69	. <i>IEEE Magnetics Letters</i> , <b>2012</b> , 3, 3000304-3000304	1.6 4
68	High-power coherent microwave emission from magnetic tunnel junction nano-oscillators with perpendicular anisotropy. <i>ACS Nano</i> , <b>2012</b> , 6, 6115-21	16.7 114
67	Spin-torque microwave detector with out-of-plane precessing magnetic moment. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 123904	2.5 32
66	Sub-200 ps spin transfer torque switching in in-plane magnetic tunnel junctions with interface perpendicular anisotropy. <i>Journal Physics D: Applied Physics</i> , <b>2012</b> , 45, 025001	3 38
65	Spin wave nanofabric update <b>2012</b> ,	13
64	Quantitative analysis of electric field induced change in anisotropy field in Co <sub>60</sub> Fe <sub>20</sub> B <sub>20</sub> /(011) xPb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -(1-x)PbTiO <sub>3</sub> (x ~ 0.68) heterostructures. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 202404	3.4 6
63	Signal propagation in dipole coupled nanomagnets for logic applications <b>2012</b> ,	2

62	Low writing energy and sub nanosecond spin torque transfer switching of in-plane magnetic tunnel junction for spin torque transfer random access memory. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 07C720	2.5	87
61	Switching current reduction using perpendicular anisotropy in CoFeB/MgO magnetic tunnel junctions. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 112507	3.4	151
60	Effect of resistance-area product on spin-transfer switching in MgO-based magnetic tunnel junction memory cells. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 072512	3.4	41
59	Micromagnetic simulations of magnetization dynamics in a nanowire induced by a spin-polarized current injected via a point contact. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	24
58	. <i>IEEE Electron Device Letters</i> , <b>2011</b> , 32, 57-59	4.4	45
57	Deep subnanosecond spin torque switching in magnetic tunnel junctions with combined in-plane and perpendicular polarizers. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 102509	3.4	76
56	Micromagnetic understanding of stochastic resonance driven by spin-transfer-torque. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	35
55	Thermal stability characterization of magnetic tunnel junctions using hard-axis magnetoresistance measurements. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 07C708	2.5	7
54	Reconfigurable nanoelectronics using graphene based spintronic logic gates <b>2011</b> ,		6
53	Nonadiabatic stochastic resonance of a nanomagnet excited by spin torque. <i>Physical Review Letters</i> , <b>2010</b> , 105, 047202	7.4	62
52	Magnetic domain wall pumping by spin transfer torque. <i>Physical Review Letters</i> , <b>2010</b> , 104, 167205	7.4	18
51	Time-domain study of frequency-power correlation in spin-torque oscillators. <i>Physical Review B</i> , <b>2010</b> , 81,	3.3	21
50	Angular dependence of the superconducting transition temperature in ferromagnet-superconductor-ferromagnet trilayers. <i>Physical Review Letters</i> , <b>2010</b> , 105, 207002	7.4	64
49	Evolution of spin-wave modes in magnetic tunnel junction nanopillars. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	33
48	Rapid domain wall motion in permalloy nanowires excited by a spin-polarized current applied perpendicular to the nanowire. <i>Physical Review Letters</i> , <b>2010</b> , 104, 097203	7.4	57
47	Strategies and tolerances of spin transfer torque switching. <i>Journal of Applied Physics</i> , <b>2010</b> , 107, 113910.5	2.5	45
46	Experimental test of an analytical theory of spin-torque-oscillator dynamics. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	45
45	Origin of the inverse spin switch effect in superconducting spin valves. <i>Physical Review Letters</i> , <b>2009</b> , 103, 027004	7.4	63

44	Compensation of nonlinear phase noise in an in-plane-magnetized anisotropic spin-torque oscillator. <i>Journal of Magnetism and Magnetic Materials</i> , <b>2009</b> , 321, L53-L55	2.8	15
43	Resonant nonlinear damping of quantized spin waves in ferromagnetic nanowires: a spin torque ferromagnetic resonance study. <i>Physical Review Letters</i> , <b>2009</b> , 103, 167601	7.4	59
42	Micromagnetic simulations of persistent oscillatory modes excited by spin-polarized current in nanoscale exchange-biased spin valves. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 07D107	2.5	13
41	Strong linewidth variation for spin-torque nano-oscillators as a function of in-plane magnetic field angle. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	58
40	Time-domain studies of very-large-angle magnetization dynamics excited by spin transfer torques. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	44
39	Magnetization reversal driven by spin-polarized current in exchange-biased nanoscale spin valves. <i>Physical Review B</i> , <b>2007</b> , 76,	3.3	35
38	Large-amplitude coherent spin waves excited by spin-polarized current in nanoscale spin valves. <i>Physical Review B</i> , <b>2007</b> , 76,	3.3	89
37	Magnetic vortex oscillator driven by d.c. spin-polarized current. <i>Nature Physics</i> , <b>2007</b> , 3, 498-503	16.2	493
36	Time-resolved spin-torque switching and enhanced damping in permalloy/Cu/permalloy spin-valve nanopillars. <i>Physical Review Letters</i> , <b>2006</b> , 96, 247204	7.4	47
35	Temperature dependence of magnetization reversal and angular torque in Co <sub>90</sub> O. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	59
34	Spin transfer by nonuniform current injection into a nanomagnet. <i>Applied Physics Letters</i> , <b>2006</b> , 88, 202502	9.4	31
33	Spin-transfer-driven ferromagnetic resonance of individual nanomagnets. <i>Physical Review Letters</i> , <b>2006</b> , 96, 227601	7.4	317
32	Time-domain measurements of nanomagnet dynamics driven by spin-transfer torques. <i>Science</i> , <b>2005</b> , 307, 228-31	33.3	448
31	Adjustable spin torque in magnetic tunnel junctions with two fixed layers. <i>Applied Physics Letters</i> , <b>2005</b> , 86, 152509	3.4	113
30	Spin-transfer excitations of permalloy nanopillars for large applied currents. <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	59
29	Mechanisms limiting the coherence time of spontaneous magnetic oscillations driven by dc spin-polarized currents. <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	90
28	Reducing the critical current for short-pulse spin-transfer switching of nanomagnets. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 112507	3.4	66
27	Reduction of spin transfer by synthetic antiferromagnets. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 4257-4259	3.4	28

26	Temperature dependence of spin-transfer-induced switching of nanomagnets. <i>Physical Review Letters</i> , <b>2004</b> , 93, 166603	7.4	113
25	Magnetoresistance and magnetostriction effects in ballistic ferromagnetic nanoconstrictions. <i>Journal of Applied Physics</i> , <b>2004</b> , 95, 7315-7317	2.5	21
24	Spin-transfer effects in nanoscale magnetic tunnel junctions. <i>Applied Physics Letters</i> , <b>2004</b> , 85, 1205-1207	3.4	230
23	Current-induced nanomagnet dynamics for magnetic fields perpendicular to the sample plane. <i>Physical Review Letters</i> , <b>2004</b> , 93, 036601	7.4	121
22	Magnetic relaxation in exchange-coupled Co/CoO bilayers measured with anisotropic magnetoresistance. <i>Journal of Applied Physics</i> , <b>2003</b> , 93, 8609-8611	2.5	7
21	Microwave oscillations of a nanomagnet driven by a spin-polarized current. <i>Nature</i> , <b>2003</b> , 425, 380-3	50.4	1611
20	Structural and magnetic properties of triode-sputtered epitaxial $\sqrt{2}\times\sqrt{2}$ -Fe <sub>4</sub> N films deposited on SrTiO <sub>3</sub> (001) substrates. <i>Applied Physics Letters</i> , <b>2003</b> , 82, 4534-4536	3.4	33
19	Electronic and crystal structure of fully strained LaNiO <sub>3</sub> films. <i>Physical Review B</i> , <b>2003</b> , 68,	3.3	59
18	Origin of complex exchange anisotropy in Fe/MnF <sub>2</sub> bilayers. <i>Physical Review B</i> , <b>2003</b> , 68,	3.3	36
17	Unidirectional coercivity enhancement in exchange-biased Co/CoO. <i>Applied Physics Letters</i> , <b>2002</b> , 81, 1270-1272	3.4	75
16	Relation between exchange anisotropy and magnetization reversal asymmetry in Fe/MnF <sub>2</sub> bilayers. <i>Physical Review B</i> , <b>2002</b> , 65,	3.3	65
15	Magnetization reversal in exchange biased Co/CoO probed with anisotropic magnetoresistance. <i>Journal of Applied Physics</i> , <b>2002</b> , 91, 7760	2.5	62
14	Role of magnetic aftereffect in coercivity enhancement of Co/CoO bilayers. <i>Physical Review B</i> , <b>2002</b> , 65,	3.3	13
13	Exchange bias in macroporous Co/CoO. <i>Journal of Magnetism and Magnetic Materials</i> , <b>2001</b> , 226-230, 1800-1802	2.8	17
12	Exchange field induced magnetoresistance in colossal magnetoresistance manganites. <i>Physical Review Letters</i> , <b>2001</b> , 86, 5779-82	7.4	23
11	Temperature dependence of interlayer exchange coupling in manganite-based superlattices. <i>Journal of Applied Physics</i> , <b>2001</b> , 89, 6820-6821	2.5	5
10	Temperature dependence of exchange bias in La <sub>1/3</sub> Ca <sub>2/3</sub> MnO <sub>3</sub> /La <sub>2/3</sub> Ca <sub>1/3</sub> MnO <sub>3</sub> epitaxial multilayers. <i>Journal of Applied Physics</i> , <b>2001</b> , 89, 6964-6966	2.5	6
9	Rotation of exchange anisotropy in biased Co/CoO bilayers. <i>Journal of Applied Physics</i> , <b>2000</b> , 87, 6418-6420	2.5	27



8	Polaronic excitons in Zn <sub>x</sub> Cd <sub>1-x</sub> Se/ZnSe quantum wells. <i>Physical Review B</i> , <b>2000</b> , 61, 1700-1703	3.3	18
7	Exchange-biased La <sub>2/3</sub> Ca <sub>1/3</sub> (Sr <sub>1/3</sub> )MnO <sub>3</sub> ultrathin films. <i>Applied Physics Letters</i> , <b>2000</b> , 76, 478-480	3.4	17
6	Magnetoluminescence studies in InGaP alloys. <i>Applied Physics Letters</i> , <b>2000</b> , 77, 4335-4337	3.4	10
5	Oscillatory exchange coupling and positive magnetoresistance in epitaxial oxide heterostructures. <i>Physical Review Letters</i> , <b>2000</b> , 85, 3728-31	7.4	66
4	Magneto-excitons in (411)A and (100)-oriented GaAs/AlGaAs multiple quantum well structures <b>1999</b> , 3625, 515		
3	Exciton transport and nonradiative decay in semiconductor nanostructures. <i>Physical Review B</i> , <b>1998</b> , 58, 10687-10691	3.3	18
2	New envelope function for describing the electronic properties of semiconductor heterostructures. <i>Russian Physics Journal</i> , <b>1996</b> , 39, 719-728	0.7	1
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