

# Denis D Sheka

## List of Publications by Year in descending order

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82  
papers

2,731  
citations

147726

31  
h-index

189801

50  
g-index

85  
all docs

85  
docs citations

85  
times ranked

1592  
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetism in curved geometries. Journal Physics D: Applied Physics, 2016, 49, 363001.	1.3	263
2	The 2020 magnetism roadmap. Journal Physics D: Applied Physics, 2020, 53, 453001.	1.3	162
3	Curvature Effects in Thin Magnetic Shells. Physical Review Letters, 2014, 112, 257203.	2.9	160
4	Curvature effects in statics and dynamics of low dimensional magnets. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 125202.	0.7	94
5	Topologically stable magnetization states on a spherical shell: Curvature-stabilized skyrmions. Physical Review B, 2016, 94, .	1.1	81
6	Vortex Polarity Switching by a Spin-Polarized Current. Physical Review Letters, 2007, 98, 056604.	2.9	77
7	Coupling of Chiralities in Spin and Physical Spaces: The Möbius Ring as a Case Study. Physical Review Letters, 2015, 114, 197204.	2.9	73
8	Equilibrium magnetic states in individual hemispherical permalloy caps. Applied Physics Letters, 2012, 101, .	1.5	72
9	Spin eigenmodes of magnetic skyrmions and the problem of the effective skyrmion mass. Physical Review B, 2018, 97, .	1.1	67
10	Curvature-induced domain wall pinning. Physical Review B, 2015, 92, .	1.1	64
11	Multiplet of Skyrmion States on a Curvilinear Defect: Reconfigurable Skyrmion Lattices. Physical Review Letters, 2018, 120, 067201.	2.9	64
12	Controlled vortex core switching in a magnetic nanodisk by a rotating field. Journal of Applied Physics, 2007, 102, .	1.1	62
13	Magnetic vortex dynamics induced by an electrical current. International Journal of Quantum Chemistry, 2010, 110, 83-97.	1.0	62
14	Out-of-surface vortices in spherical shells. Physical Review B, 2012, 85, .	1.1	59
15	Current induced switching of vortex polarity in magnetic nanodisks. Applied Physics Letters, 2007, 91, 082509.	1.5	57
16	Controllable switching of vortex chirality in magnetic nanodisks by a field pulse. Applied Physics Letters, 2008, 92, 012503.	1.5	53
17	Magnetically Capped Rolled-up Nanomembranes. Nano Letters, 2012, 12, 3961-3966.	4.5	50
18	Curvature and torsion effects in spin-current driven domain wall motion. Physical Review B, 2016, 93, .	1.1	49

#	ARTICLE	IF	CITATIONS
19	Nonlocal chiral symmetry breaking in curvilinear magnetic shells. <i>Communications Physics</i> , 2020, 3, .	2.0	49
20	Nanoscale mechanics of antiferromagnetic domain walls. <i>Nature Physics</i> , 2021, 17, 574-577.	6.5	49
21	Dynamics of vortices and their contribution to the response functions of classical quasi-two-dimensional easy-plane antiferromagnet. <i>Physical Review Letters</i> , 1994, 72, 404-407.	2.9	47
22	A perspective on curvilinear magnetism. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	46
23	Internal modes and magnon scattering on topological solitons in two-dimensional easy-axis ferromagnets. <i>Physical Review B</i> , 2001, 64, .	1.1	45
24	Mesoscale Dzyaloshinskii-Moriya interaction: geometrical tailoring of the magnetochirality. <i>Scientific Reports</i> , 2018, 8, 866.	1.6	43
25	Geometry-induced motion of magnetic domain walls in curved nanostripes. <i>Physical Review B</i> , 2018, 98, .	1.1	41
26	Equilibrium magnetisation structures in ferromagnetic nanorings. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 310, 116-125.	1.0	40
27	Magnetization in narrow ribbons: curvature effects. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 385401.	0.7	40
28	Rashba Torque Driven Domain Wall Motion in Magnetic Helices. <i>Scientific Reports</i> , 2016, 6, 23316.	1.6	39
29	Torsion-induced effects in magnetic nanowires. <i>Physical Review B</i> , 2015, 92, .	1.1	37
30	Amplitudes for magnon scattering by vortices in two-dimensional weakly easy-plane ferromagnets. <i>Physical Review B</i> , 2004, 69, .	1.1	35
31	Curvilinear One-Dimensional Antiferromagnets. <i>Nano Letters</i> , 2020, 20, 8157-8162.	4.5	33
32	Nucleation of a vortex-antivortex pair in the presence of an immobile magnetic vortex. <i>Physical Review B</i> , 2009, 80, .	1.1	29
33	Bloch point structure in a magnetic nanosphere. <i>Physical Review B</i> , 2012, 85, .	1.1	29
34	Spin eigenexcitations of an antiferromagnetic skyrmion. <i>Physical Review B</i> , 2019, 99, .	1.1	28
35	Geometry induced phase transitions in magnetic spherical shell. <i>Journal of Magnetism and Magnetic Materials</i> , 2017, 443, 404-412.	1.0	26
36	Chiral Skyrmion and Skyrmionium States Engineered by the Gradient of Curvature. <i>Physical Review Applied</i> , 2018, 10, .	1.5	26

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37	Curvature induced chirality symmetry breaking in vortex core switching phenomena. Applied Physics Letters, 2014, 104, .	1.5	25
38	Effect of curvature on the eigenstates of magnetic skyrmions. Physical Review B, 2020, 102, .	1.1	22
39	Local magnon modes and the dynamics of a small-radius two-dimensional magnetic soliton in an easy-axis ferromagnet. JETP Letters, 2005, 82, 436-440.	0.4	19
40	Thin ferromagnetic nanodisk in transverse magnetic field. Physics of the Solid State, 2007, 49, 1923-1931.	0.2	19
41	Regular and chaotic vortex core reversal by a resonant perpendicular magnetic field. Physical Review B, 2013, 88, .	1.1	19
42	Fundamentals of Curvilinear Ferromagnetism: Statics and Dynamics of Geometrically Curved Wires and Narrow Ribbons. Small, 2022, 18, e2105219.	5.2	19
43	Multiple vortex-antivortex pair generation in magnetic nanodots. Physical Review B, 2010, 81, .	1.1	18
44	Resonantly excited precession motion of three-dimensional vortex core in magnetic nanospheres. Scientific Reports, 2015, 5, 11370.	1.6	18
45	Soliton-magnon scattering in a two-dimensional isotropic magnetic material. Journal of Experimental and Theoretical Physics, 1999, 89, 583-595.	0.2	17
46	Localization of magnon modes in a curved magnetic nanowire. Low Temperature Physics, 2018, 44, 634-643.	0.2	17
47	Curvature effects on phase transitions in chiral magnets. SciPost Physics, 2020, 9, .	1.5	17
48	Effective anisotropy of thin nanomagnets: Beyond the surface-anisotropy approach. Physical Review B, 2007, 76, .	1.1	15
49	Switching phenomena in magnetic vortex dynamics. Low Temperature Physics, 2008, 34, 528-534.	0.2	15
50	Curvature-driven homogeneous Dzyaloshinskii-Moriya interaction and emergent weak ferromagnetism in anisotropic antiferromagnetic spin chains. Applied Physics Letters, 2021, 118, .	1.5	15
51	EQUILIBRIUM STATES OF SOFT MAGNETIC HEMISPHERICAL SHELL. Spin, 2013, 03, 1340003.	0.6	14
52	Controllable vortex chirality switching on spherical shells. Journal of Applied Physics, 2015, 117, 083908.	1.1	14
53	Spontaneous deformation of flexible ferromagnetic ribbons induced by Dzyaloshinskii-Moriya interaction. Physical Review B, 2019, 100, .	1.1	14
54	Magnetization-induced shape transformations in flexible ferromagnetic rings. Physical Review B, 2019, 99, .	1.1	14

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55	Importance of the Internal Shape Mode in Magnetic Vortex Dynamics. <i>Physical Review Letters</i> , 2004, 93, 167201.	2.9	13
56	Quantum effects for the two-dimensional soliton in isotropic ferromagnets. <i>Physical Review B</i> , 2007, 75, .	1.1	13
57	Magnetic vortex-antivortex crystals generated by spin-polarized current. <i>Physical Review B</i> , 2012, 86, .	1.1	13
58	Vortex motion in a finite-size easy-plane ferromagnet and application to a nanodot. <i>Physical Review B</i> , 2005, 71, .	1.1	12
59	Curvature induced magnonic crystal in nanowires. <i>SciPost Physics</i> , 2019, 7, .	1.5	12
60	Spin-transfer torque and current-induced vortex superlattices in nanomagnets. <i>Physical Review B</i> , 2011, 84, .	1.1	11
61	Effects of surface anisotropy on magnetic vortex core. <i>Journal of Magnetism and Magnetic Materials</i> , 2014, 361, 201-205.	1.0	10
62	Dynamics of topological solitons in two-dimensional ferromagnets. <i>European Physical Journal B</i> , 2006, 50, 393-402.	0.6	9
63	Periodic magnetization structures generated by transverse spin current in magnetic nanowires. <i>Physical Review B</i> , 2013, 87, .	1.1	9
64	Periodic magnetic structures generated by spin-polarized currents in nanostripes. <i>Applied Physics Letters</i> , 2013, 103, 222401.	1.5	8
65	Nematic shells: new insights in topology- and curvature-induced effects. <i>Soft Matter</i> , 2021, 17, 10322-10333.	1.2	7
66	Generalized Levinson theorem for singular potentials in two dimensions. <i>Physical Review A</i> , 2003, 68, .	1.0	6
67	Field momentum and gyroscopic dynamics of classical systems with topological defects. <i>Journal of Physics A</i> , 2006, 39, 15477-15489.	1.6	6
68	Off-centred immobile magnetic vortex under influence of spin-transfer torque. <i>Journal Physics D: Applied Physics</i> , 2011, 44, 285001.	1.3	6
69	Unidirectional tilt of domain walls in equilibrium in biaxial stripes with Dzyaloshinskii-Moriya interaction. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 395003.	1.3	5
70	Domain wall diode based on functionally graded Dzyaloshinskii-Moriya interaction. <i>Applied Physics Letters</i> , 2020, 116, 222406.	1.5	5
71	Domain-Wall Damping in Ultrathin Nanostripes with Dzyaloshinskii-Moriya Interaction. <i>Physical Review Applied</i> , 2021, 15, .	1.5	5
72	Boundary conditions for the Néel order parameter in a chiral antiferromagnetic slab. <i>Physical Review B</i> , 2021, 103, .	1.1	4

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73	Two-dimensional magnetic solitons and thermodynamics of quasi-two-dimensional magnets. Chaos, Solitons and Fractals, 1995, 5, 2605-2622.	2.5	3
74	Levinson theorem for Aharonov-Bohm scattering in two dimensions. Physical Review A, 2006, 74, .	1.0	3
75	Vortex polarity switching in magnets with surface anisotropy. Low Temperature Physics, 2015, 41, 361-374.	0.2	3
76	Comment on "Magnon wave forms in the presence of a soliton in two-dimensional antiferromagnets with a staggered field". Physical Review B, 2007, 75, .	1.1	2
77	Fine structure of the spectra of magnetic particles in the vortex state and their ordered arrays. Bulletin of the Russian Academy of Sciences: Physics, 2007, 71, 1494-1496.	0.1	1
78	Ground states of magnetic spherical shells. , 2015, , .		0
79	Effects of a spin-polarized current assisted Årsted field in magnetization patterning. Journal of Applied Physics, 2015, 117, 213910.	1.1	0
80	Domain wall dynamics at the local wire bend. , 2015, , .		0
81	Torsion effects in a helix nanowire with easy-tangential anisotropy. , 2015, , .		0
82	Dynamics of Vortex Ensemble in 2D Easy-Plane Antiferromagnet. NATO ASI Series Series B: Physics, 1994, , 187-190.	0.2	0