

# Eugene Chudnovsky

## List of Publications by Year in descending order

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71  
papers

1,939  
citations

279701

23  
h-index

254106

43  
g-index

74  
all docs

74  
docs citations

74  
times ranked

1593  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ordering in ferromagnets with random anisotropy. Physical Review B, 1986, 33, 251-261.	1.1	434
2	Universal mechanism of spin relaxation in solids. Physical Review B, 2005, 72, .	1.1	90
3	Angular momentum in spin-phonon processes. Physical Review B, 2015, 92, .	1.1	84
4	Superradiance from Crystals of Molecular Nanomagnets. Physical Review Letters, 2002, 89, 157201.	2.9	75
5	Phonon Superradiance and Phonon Laser Effect in Nanomagnets. Physical Review Letters, 2004, 93, 257205.	2.9	72
6	Direct writing of room temperature and zero field skyrmion lattices by a scanning local magnetic field. Applied Physics Letters, 2018, 112, .	1.5	68
7	Theory of Spin Hall Effect: Extension of the Drude Model. Physical Review Letters, 2007, 99, 206601.	2.9	64
8	Hexatic vortex glass in disordered superconductors. Physical Review B, 1989, 40, 11355-11357.	1.1	60
9	Macroscopic quantum tunneling of the magnetic moment (invited). Journal of Applied Physics, 1993, 73, 6697-6702.	1.1	60
10	A theory of two-dimensional amorphous ferromagnet. Journal of Magnetism and Magnetic Materials, 1983, 40, 21-26.	1.0	51
11	Determination of chirality and density control of Néel-type skyrmions with in-plane magnetic field. Communications Physics, 2018, 1, .	2.0	48
12	Dynamics of the Einstein–de Haas effect: Application to a magnetic cantilever. Physical Review B, 2009, 79, .	1.1	46
13	Ferromagnetic film on a superconducting substrate. Physical Review B, 2000, 63, .	1.1	43
14	Universal Decoherence in Solids. Physical Review Letters, 2004, 92, 120405.	2.9	38
15	Creation of a thermally assisted skyrmion lattice in Pt/Co/Ta multilayer films. Applied Physics Letters, 2018, 113, .	1.5	38
16	Quantum collapse of a magnetic skyrmion. Physical Review B, 2018, 98, .	1.1	35
17	Reversal of magnetization of a single-domain magnetic particle by the ac field of time-dependent frequency. Physical Review B, 2013, 87, .	1.1	33
18	Skyrmion–skyrmion interaction in a magnetic film. Journal of Physics Condensed Matter, 2020, 32, 415803.	0.7	33

#	ARTICLE	IF	CITATIONS
19	Inertial Mass of the Abrikosov Vortex. Physical Review Letters, 2003, 91, 067004.	2.9	30
20	Random field $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \langle \text{mml:mi} \rangle x \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle y \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle z \langle \text{mml:mi} \rangle$ in three dimensions. Physical Review B, 2013, 88, .	2.9	29
21	Random Fields, Topology, and the Imry-Ma Argument. Physical Review Letters, 2014, 112, 097201.	2.9	29
22	Collapse of skyrmions in two-dimensional ferromagnets and antiferromagnets. Physical Review B, 2012, 86, .	1.1	27
23	XYchain with random anisotropy: Magnetization law, susceptibility, and correlation functions at $T=0$ . Physical Review B, 1991, 44, 4397-4405.	1.1	24
24	Quantum Entanglement of a Tunneling Spin with Mechanical Modes of a Torsional Resonator. Physical Review X, 2011, 1, .	2.8	24
25	Quantum dynamics of a nanomagnet in a rotating field. Physical Review B, 2005, 72, .	1.1	23
26	Manipulating the Magnetization of a Nanomagnet with Surface Acoustic Waves: Spin-Rotation Mechanism. Physical Review Applied, 2016, 5, .	1.5	22
27	Stability of biskyrmions in centrosymmetric magnetic films. Physical Review B, 2019, 100, .	1.1	22
28	Magnetic Molecule on a Microcantilever: Quantum Magnetomechanical Oscillations. Physical Review Letters, 2009, 102, 227202.	2.9	20
29	Writing skyrmions with a magnetic dipole. Journal of Applied Physics, 2018, 124, .	1.1	20
30	Switching of magnetic moments of nanoparticles by surface acoustic waves. Europhysics Letters, 2017, 118, 37005.	0.7	17
31	Reply to "Comment on "Ferromagnetic film on a superconducting substrate"™". Physical Review B, 2002, 66, .	1.1	16
32	Skyrmion glass in a 2D Heisenberg ferromagnet with quenched disorder. New Journal of Physics, 2018, 20, 033006.	1.2	16
33	Biskyrmion lattices in centrosymmetric magnetic films. Physical Review Research, 2019, 1, .	1.3	16
34	Topological Order Generated by a Random Field in a 2D Exchange Model. Physical Review Letters, 2018, 121, 017201.	2.9	14
35	Skyrmion clusters from Bloch lines in ferromagnetic films. Europhysics Letters, 2017, 120, 17005.	0.7	13
36	Macroscopic Quantum Coherence in a Magnetic Nanoparticle Above the Surface of a Superconductor. Physical Review Letters, 2000, 85, 5206-5209.	2.9	12

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37	Macroscopic quantum effects generated by acoustic waves in a molecular magnet. <i>Physical Review B</i> , 2009, 79, .	1.1	12
38	Thermal collapse of a skyrmion. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	12
39	Decoherence of a superposition of macroscopic current states in a SQUID. <i>Physical Review B</i> , 2003, 67, .	1.1	11
40	Magneto-mechanical investigation of spin dynamics in magnetic multilayers. <i>Europhysics Letters</i> , 2014, 105, 37009.	0.7	11
41	Thermal creation of skyrmions in ferromagnetic films with perpendicular anisotropy and Dzyaloshinskii-Moriya interaction. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 493, 165724.	1.0	10
42	Excitation modes of vortices in submicron magnetic disks. <i>Physical Review B</i> , 2013, 87, .	1.1	9
43	Quantum tunneling of the interfaces between normal-metal and superconducting regions of a type-I Pb superconductor. <i>Physical Review B</i> , 2011, 83, .	1.1	8
44	Mechanically Assisted Current-Induced Switching of the Magnetic Moment in a Torsional Oscillator. <i>Physical Review Applied</i> , 2014, 1, .	1.5	8
45	Breathing mode of a skyrmion on a lattice. <i>Physical Review B</i> , 2020, 101, .	1.1	8
46	Instanton Glass Generated by Noise in a Josephson-Junction Array. <i>Physical Review Letters</i> , 2009, 103, 137001.	2.9	7
47	Quantum dynamics of vortices in mesoscopic magnetic disks. <i>Physical Review B</i> , 2013, 87, .	1.1	7
48	Damping of a nanocantilever by paramagnetic spins. <i>Physical Review B</i> , 2014, 89, .	1.1	7
49	Ordered vs. disordered states of the random-field model in three dimensions. <i>European Physical Journal B</i> , 2015, 88, 1.	0.6	7
50	Absorption of microwaves by random-anisotropy magnets. <i>Physical Review B</i> , 2021, 103, .	1.1	6
51	Quantum states of a skyrmion in a two-dimensional antiferromagnet. <i>Physical Review B</i> , 2021, 103, .	1.1	6
52	Spin Tunneling in Magnetic Molecules That Have Full or Partial Mechanical Freedom. <i>Nanoscience and Technology</i> , 2014, , 61-75.	1.5	6
53	RANDOM ANISOTROPY IN AMORPHOUS ALLOYS. , 1995, , 143-174.		5
54	Electromechanical magnetization switching. <i>Journal of Applied Physics</i> , 2015, 117, 103910.	1.1	5

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55	Narrowing the Zero-Field Tunneling Resonance by Decreasing the Crystal Symmetry of Mn <sub>12</sub> Acetate. Journal of the American Chemical Society, 2016, 138, 9065-9068.	6.6	5
56	Experimental evidence of macroscopic resonant tunneling of magnetization in antiferromagnetic ferritin. Journal of Applied Physics, 1998, 83, 6934-6936.	1.1	4
57	Stability of suspended graphene under Casimir force. Physical Review B, 2016, 94, .	1.1	4
58	Skyrmion mass from spin-phonon interaction. Physical Review B, 2020, 102, .	1.1	4
59	Enhancement of critical current density in a superconducting NbSe <sub>2</sub> step junction. Nanoscale, 2020, 12, 12076-12082.	2.8	4
60	Random anisotropy magnet at finite temperature. Journal of Physics Condensed Matter, 2022, 34, 285801.	0.7	4
61	Pumping spin states of molecular magnets by strong rotating magnetic field. Applied Physics Letters, 2007, 91, 202502.	1.5	3
62	Conservation of Angular Momentum in a Flux Qubit. Journal of Superconductivity and Novel Magnetism, 2012, 25, 1007-1016.	0.8	3
63	Conservation of angular momentum in an elastic medium with spins. Physical Review B, 2021, 103, .	1.1	3
64	Skyrmions near defects. Journal of Physics Condensed Matter, 2021, 33, 195802.	0.7	3
65	Nonlinear and thermal effects in the absorption of microwaves by random magnets. Physical Review B, 2022, 105, .	1.1	3
66	Voltage from mechanical stress in type-II superconductors: Depinning of the magnetic flux by moving dislocations. Applied Physics Letters, 2008, 93, .	1.5	2
67	Acoustic Waves Generated by the Spin Precession. Journal of Superconductivity and Novel Magnetism, 2015, 28, 3411-3418.	0.8	2
68	Enhanced Spin Tunneling in a Molecular Magnet Mixed with a Superconductor. Journal of Superconductivity and Novel Magnetism, 2016, 29, 1133-1137.	0.8	2
69	Skyrmions in an oblique field. Journal of Magnetism and Magnetic Materials, 2021, 537, 168215.	1.0	1
70	Dynamics of the collapse of a ferromagnetic skyrmion in a centrosymmetric lattice. Physical Review B, 2022, 105, .	1.1	1
71	Josephson Junction with a Magnetic Vortex. Journal of Superconductivity and Novel Magnetism, 2015, 28, 1959-1965.	0.8	0