Rajesh Chopdekar

List of Publications by Year
in descending order

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127 papers	4,641 citations	117625 34 h-index	106344 65 g-index
127 all docs	127 docs citations	127 times ranked	5871 citing authors

#	Article	IF	Citations
1	Enhanced ferroelectricity in ultrathin films grown directly on silicon. Nature, 2020, 580, 478-482.	27.8	486
2	Electric Field-Induced Magnetization Switching in Epitaxial Columnar Nanostructures. Nano Letters, 2005, 5, 1793-1796.	9.1	426
3	Single Domain Spin Manipulation by Electric Fields in Strain Coupled Artificial Multiferroic Nanostructures. Physical Review Letters, 2013, 111, 027204.	7.8	189
4	Patterning-Induced Ferromagnetism of Fe₃GeTe₂ van der Waals Materials beyond Room Temperature. Nano Letters, 2018, 18, 5974-5980.	9.1	177
5	Direct Observation of Thermal Relaxation in Artificial Spin Ice. Physical Review Letters, 2013, 111, 057204.	7.8	154
6	Exploring hyper-cubic energy landscapes in thermally active finite artificial spin-ice systems. Nature Physics, 2013, 9, 375-382.	16.7	147
7	Thermal fluctuations in artificial spin ice. Nature Nanotechnology, 2014, 9, 514-519.	31.5	136
8	Emergent magnetic monopole dynamics in macroscopically degenerate artificial spin ice. Science Advances, 2019, 5, eaav6380.	10.3	108
9	Magnetoelectric coupling in epitaxial CoFe2O4 on BaTiO3. Applied Physics Letters, 2006, 89, 182506.	3.3	103
10	Controlling spin current polarization through non-collinear antiferromagnetism. Nature Communications, 2020, 11, 4671.	12.8	103
11	Angle-DependentNi2+X-Ray Magnetic Linear Dichroism: Interfacial Coupling Revisited. Physical Review Letters, 2007, 98, 197201.	7.8	97
12	Anisotropic x-ray magnetic linear dichroism at the FeL2,3edges inFe3O4. Physical Review B, 2006, 74, .	3.2	95
13	Influence of crystal field on anisotropic x-ray magnetic linear dichroism at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mi mathvariant="normal">Co</mml:mi><mml:mrow><mml:mn>2</mml:mn><mml:mo>+</mml:mo></mml:mrow></mml:msup></mml:ma xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>L</mml:mi><mml:mrow><mml:mn>2</mml:mn><mml:mo>,</mml:mo><mml:mn>3</mml:mn></mml:mr Physical Review B, 2008, 77, .	3.2	92
14	Creation of skyrmions in van der Waals ferromagnet Fe ₃ GeTe ₂ on (Co/Pd) _n superlattice. Science Advances, 2020, 6, .	10.3	89
15	Tuning Magnetic Domain Structure in Nanoscale La0.7Sr0.3MnO3Islands. Nano Letters, 2006, 6, 1287-1291.	9.1	81
16	Deterministic optical control of room temperature multiferroicity in BiFeO3 thin films. Nature Materials, 2019, 18, 580-587.	27.5	76
17	Itinerant ferromagnetism in van der Waals <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Fe</mml:mi><mml:mrow><mml:mn>5</mml:mn><mml:mo>â^'</mml:mo><mml:mi>x</mml:mi></mml:mrow< crystals above room temperature. Physical Review B, 2020, 102, .	3.2	74
18	Control of the magnetic and magnetotransport properties of La0.67Sr0.33MnO3 thin films through epitaxial strain. Applied Physics Letters, 2008, 92, .	3.3	73

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19	Spatially resolved strain-imprinted magnetic states in an artificial multiferroic. Physical Review B, 2012, 86, .	3.2	68
20	Emergent dynamic chirality in a thermally driven artificial spin ratchet. Nature Materials, 2017, 16, 1106-1111.	27.5	61
21	Thermalized ground state of artificial kagome spin ice building blocks. Applied Physics Letters, 2012, 101, .	3.3	57
22	Orientation and thickness dependence of magnetization at the interfaces of highly spin-polarized manganite thin films. Physical Review B, 2009, 79, .	3.2	56
23	Metallicity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LaTiO</mml:mtext></mml:mrow><mml:mn>3.2</mml:mn></mml:msub></mml:mrow></mml:math> films induced by lattice deformation. Physical Review B, 2010, 81, .	3.2	54
24	Demonstration of laser induced magnetization reversal in GdFeCo nanostructures. Applied Physics Letters, 2012, 101, .	3.3	54
25	Evidence of a magnetic transition in atomically thin Cr₂TiC₂T_x MXene. Nanoscale Horizons, 2020, 5, 1557-1565.	8.0	51
26	From particle attachment to space-filling coral skeletons. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30159-30170.	7.1	50
27	Interfacial tuning of chiral magnetic interactions for large topological Hall effects in LaMnO ₃ /SrIrO ₃ heterostructures. Science Advances, 2020, 6, eaaz3902.	10.3	50
28	Manipulating magnetism in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>La</mml:mi><mml:mrow>1-x</mml:mrow></mml:msub><mml:mn>0.7</mml:mn></mml:mrow></mml:math> piezostrain. Physical Review B, 2015, 91, .	3.2	47
29	Ferromagnetism in tetragonally distorted LaCoO3 thin films. Journal of Applied Physics, 2009, 105, .	2.5	46
30	Thermodynamics of emergent magnetic charge screening in artificial spin ice. Nature Communications, 2016, 7, 12635.	12.8	43
31	Manipulating magnetoelectric energy landscape in multiferroics. Nature Communications, 2020, 11, 2836.	12.8	42
32	Spin-polarized conduction in oxide magnetic tunnel junctions with magnetic and nonmagnetic insulating barrier layers. Applied Physics Letters, 2006, 89, 182504.	3.3	38
33	Probing the role of the barrier layer in magnetic tunnel junction transport. Physical Review B, 2007, 76, .	3.2	37
34	Disorder and localization at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>LaAlO</mml:mtext></mml:mrow><mml:mn>3.2</mml:mn></mml:msub></mml:mrow></mml:math> Physical Review B, 2010, 82, .	3.2	34
35	Thermally induced magnetic relaxation in building blocks of artificial kagome spin ice. Physical Review B, 2014, 89, .	3.2	34
36	Highly Enhanced Curie Temperature in Gaâ€Implanted Fe₃GeTe₂ van der Waals Material. Advanced Quantum Technologies, 2020, 3, 2000017.	3.9	34

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37	Nanoscale switch for vortex polarization mediated by Bloch core formation in magnetic hybrid systems. Nature Communications, 2015, 6, 7836.	12.8	32
38	Ionic tuning of cobaltites at the nanoscale. Physical Review Materials, 2018, 2, .	2.4	32
39	Magnetism and transport of CuCr2Se4 thin films. Journal of Magnetism and Magnetic Materials, 2007, 318, 65-73.	2.3	30
40	Reversible hydrogen control of antiferromagnetic anisotropy in Î±-Fe2O3. Nature Communications, 2021, 12, 1668.	12.8	30
41	Observation of inverse magnetoresistance in epitaxial magnetite/manganite junctions. Journal of Applied Physics, 2003, 93, 7516-7518.	2.5	29
42	Electrical transport and ferromagnetism in Ga1â^'xMnxAs synthesized by ion implantation and pulsed-laser melting. Journal of Applied Physics, 2008, 103, 073913.	2.5	29
43	Towards artificial Ising spin glasses: Thermal ordering in randomized arrays of Ising-type nanomagnets. Physical Review B, 2019, 99, .	3.2	28
44	Electrochemical Synthesis of Functionalized Nickel Oxide Nanowires. Electrochemical and Solid-State Letters, 2005, 8, D26.	2.2	27
45	Strain-Induced Changes in the Electronic Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>MnCr</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn mathvariant="bold">4</mml:mn></mml:msub></mml:math>Thin Films Probed by X-Ray Magnetic Circular Dichroism. Physical Review Letters, 2010, 105, 067405.	7.8	27
46	Unconventional switching behavior in La0.7Sr0.3MnO3/La0.7Sr0.3CoO3 exchange-spring bilayers. Applied Physics Letters, 2014, 105, .	3.3	26
47	Modified magnetic ground state in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>NiMn</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>films. Physical Review B, 2010, 82, .	3.2	25
48	An Investigation of Electrical and Dielectric Parameters of Solâ€"Gel Process Enabled $eta $ -Ga2O3 as a Gate Dielectric Material. IEEE Transactions on Electron Devices, 2017, 64, 2047-2053.	3.0	24
49	Meteorite evidence for partial differentiation and protracted accretion of planetesimals. Science Advances, 2020, 6, eaba1303.	10.3	24
50	Direct imaging of electrical switching of antiferromagnetic NÃ©el order in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mtext>â^'</mml:mtext><mml:msub><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> epitaxial films. Physical Review B, 2021, 103, .	3.2	23
51	Room temperature magnetic barrier layers in magnetic tunnel junctions. Physical Review B, 2010, 81, .	3.2	21
52	Crystal nucleation and growth of spherulites demonstrated by coral skeletons and phase-field simulations. Acta Biomaterialia, 2021, 120, 277-292.	8.3	21
53	Spontaneous Magnetic Superdomain Wall Fluctuations in an Artificial Antiferromagnet. Physical Review Letters, 2019, 123, 197202.	7.8	20
54	Singleâ€Domain Multiferroic Arrayâ€Addressable Terfenolâ€D (SMArT) Micromagnets for Programmable Singleâ€Cell Capture and Release. Advanced Materials, 2021, 33, e2006651.	21.0	20

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55	Growth and characterization of superconducting spinel oxide thin films. Physica C: Superconductivity and Its Applications, 2009, 469, 1885-1891.	1.2	19
56	Tuning interfacial exchange interactions via electronic reconstruction in transition-metal oxide heterostructures. Applied Physics Letters, 2016, 109, .	3.3	19
57	Topologically confined vortex oscillations in hybrid [Co/Pd]8-Permalloy structures. Applied Physics Letters, 2014, 104, .	3.3	18
58	Strain-dependent magnetic configurations in manganite-titanate heterostructures probed with soft X-ray techniques. European Physical Journal B, 2013, 86, 1.	1.5	17
59	Magnetoelectroelastic control of magnetism in an artificial multiferroic. Physical Review B, 2016, 94, .	3.2	17
60	Controlling vortex chirality in hexagonal building blocks of artificial spin ice. New Journal of Physics, 2013, 15, 125033.	2.9	16
61	Thickness dependence of exchange coupling in (111)-oriented perovskite oxide superlattices. Physical Review B, 2016, 93, .	3.2	16
62	Sum rule distortions in fluorescence-yield x-ray magnetic circular dichroism. Physical Review B, 2017, 96, .	3.2	16
63	Controlling Magnetization Vector Depth Profiles of La_{0.7}Sr_{0.3}CoO₃/La_{0.7}Sr_{0.3}MnO₃ Exchange Spring Bilayers via Interface Reconstruction. ACS Applied Materials & Interfaces, 2020, 12, 45437-45443.	8.0	16
64	Switchable X-Ray Orbital Angular Momentum from an Artificial Spin Ice. Physical Review Letters, 2021, 126, 117201.	7.8	16
65	Dipolar Cairo lattice: Geometrical frustration and short-range correlations. Physical Review Materials, 2019, 3, .	2.4	16
66	Disorder-induced carrier localization in ultrathin strained SrRuO3 epitaxial films. Journal of Applied Physics, 2006, 99, 08F503.	2.5	15
67	Room temperature photoinduced magnetization of manganese zinc ferrite. Applied Physics Letters, 2009, 94, .	3.3	15
68	Enhanced magnetization of CuCr2O4 thin films by substrate-induced strain. Journal of Applied Physics, 2009, 105, .	2.5	15
69	Crystalline symmetry controlled magnetic switching in epitaxial (111) La_{0.7}Sr_{0.3}MnO₃ thin films. APL Materials, 2015, 3, 062501.	5.1	15
70	Giant reversible anisotropy changes at room temperature in a (La,Sr)MnO3/Pb(Mg,Nb,Ti)O3 magneto-electric heterostructure. Scientific Reports, 2016, 6, 27501.	3.3	15
71	Thermally superactive artificial kagome spin ice structures obtained with the interfacial Dzyaloshinskii-Moriya interaction. Physical Review B, 2020, 102, .	3.2	15
72	Epitaxial growth and characterization of CaVO3 thin films. Journal of Magnetism and Magnetic Materials, 2009, 321, 2852-2854.	2.3	14

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73	exchange coupling in (111)-oriented <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mrow><mml:mn>0.7</mml:mn></mml:mrow></mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mrow><mml:mn>0.3</mml:mn></mml:mrow></mml:msub><mml:mi>Mn</mml:mi><mml:msub	3.2	13
74	2D-patterned ferromagnetic III-Mn-V semiconductors for planar spintronics. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1755-1758.	0.8	12
75	Magnetism at spinel thin film interfaces probed through soft X-ray spectroscopy techniques. Journal of Magnetism and Magnetic Materials, 2010, 322, 2915-2921.	2.3	12
76	Role of magnetic anisotropy in spin-filter junctions. Physical Review B, 2011, 83, .	3.2	12
77	Tunable Magnetoelastic Effects in Voltage-Controlled Exchange-Coupled Composite Multiferroic Microstructures. ACS Applied Materials & Interfaces, 2020, 12, 6752-6760.	8.0	12
78	Room-temperature photomagnetism in the spinel ferrite <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mtext>Mn</mml:mtext> seen via soft x-ray magnetic circular. Physical Review B, 2009, 80, .	3.2	11
79	Tailoring Spin Textures in Complex Oxide Micromagnets. ACS Nano, 2016, 10, 8545-8551.	14.6	11
80	Interfacial-Redox-Induced Tuning of Superconductivity in YBa₂Cu₃O_{7-Î´}. ACS Applied Materials & Interfaces, 2020, 12, 4741-4748.	8.0	11
81	Hydrogen patterning of Ga1â^'xMnxAs for planar spintronics. Physica B: Condensed Matter, 2007, 401-402, 447-450.	2.7	9
82	Magnetism of NiMn2O4â€“Fe3O4 spinel interfaces. Journal of Applied Physics, 2008, 103, 07B524.	2.5	9
83	Surface and grain boundary carbon heterogeneity in CH3NH3PbI3 perovskites and its impact on optoelectronic properties. Applied Physics Reviews, 2020, 7, .	11.3	9
84	Nanostructured complex oxides as a route towards thermal behavior in artificial spin ice systems. Physical Review Materials, 2017, 1, .	2.4	9
85	String Phase in an Artificial Spin Ice. Nature Communications, 2021, 12, 6514.	12.8	9
86	Complex oxide-based magnetic tunnel junctions with nonmagnetic insulating barrier layers. Journal of Applied Physics, 2006, 99, 08K303.	2.5	8
87	Thickness-dependent magnetic and electrical transport properties of epitaxial La0.7Sr0.3CoO3 films. AIP Advances, 2017, 7, 045003.	1.3	8
88	Controlling antiferromagnetic domains in patterned La0.7Sr0.3FeO3 thin films. Journal of Applied Physics, 2020, 127, 203901.	2.5	8
89	Geometrical Frustration and Planar Triangular Antiferromagnetism in Quasi-Three-Dimensional Artificial Spin Architecture. Physical Review Letters, 2020, 125, 267203.	7.8	8
90	X-ray nanodiffraction studies of ionically controlled nanoscale phase separation in cobaltites. Physical Review Materials, 2019, 3, .	2.4	8

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91	Magnetics and magnetoresistance in epitaxial magnetite heterostructures. Journal of Electronic Materials, 2004, 33, 1254-1258.	2.2	7
92	Interplay between magnetism and chemical structure at spinel-spinel interfaces. Journal of Applied Physics, 2012, 111, 093903.	2.5	7
93	Magnetotransport in La0.7Sr0.3MnO3/CuCr2O4/Fe3O4 magnetic junctions. Applied Physics Letters, 2015, 106, .	3.3	7
94	Magnetic domain configuration of (111)-oriented LaFeO3 epitaxial thin films. APL Materials, 2017, 5, .	5.1	7
95	Modification of magnetocrystalline anisotropy via ion-implantation. AIP Advances, 2020, 10, .	1.3	7
96	Single magnetic domain Terfenol-D microstructures with passivating oxide layer. Journal of Magnetism and Magnetic Materials, 2021, 528, 167798.	2.3	7
97	Decoupling exchange bias and coercivity enhancement in a perovskite oxide exchange spring bilayer. Physical Review Materials, 2019, 3, .	2.4	7
98	Direct imaging of long-range ferromagnetic and antiferromagnetic order in a dipolar metamaterial. Physical Review Research, 2020, 2, .	3.6	7
99	Structural, magnetic, and electronic properties of (110)-oriented epitaxial thin films of the bilayer manganite La1.2Sr1.8Mn2O7. Applied Physics Letters, 2005, 87, 142508.	3.3	6
100	Cytocompatible magnetostrictive microstructures for nano- and microparticle manipulation on linear strain response piezoelectrics. Multifunctional Materials, 2018, 1, 014004.	3.7	6
101	A Longâ€Lived Planetesimal Dynamo Powered by Core Crystallization. Geophysical Research Letters, 2021, 48, e2020GL091917.	4.0	6
102	Thickness-dependent properties of (110)-oriented La1.2Sr1.8Mn2O7 thin films. Journal of Applied Physics, 2006, 99, 08S902.	2.5	5
103	A study of temperature dependent currentâ€“voltage (Iâ€“Vâ€“T) characteristics in Ni/solâ€“gel Î²-Ga2O3/n-GaN structure. Journal of Materials Science: Materials in Electronics, 2018, 29, 11265-11270.	2.2	5
104	Shape-imposed anisotropy in antiferromagnetic complex oxide nanostructures. Applied Physics Letters, 2019, 115, 112403.	3.3	5
105	Temperature dependence of ferromagnet-antiferromagnet spin alignment and coercivity in epitaxial micromagnet bilayers. Physical Review Materials, 2017, 1, .	2.4	5
106	Magnetic state switching in FeGa microstructures. Smart Materials and Structures, 2022, 31, 035005.	3.5	5
107	Entropy-driven order in an array of nanomagnets. Nature Physics, 2022, 18, 706-712.	16.7	5
108	Dynamic stabilization of nonequilibrium domain configurations in magnetic squares with high amplitude excitations. Physical Review B, 2013, 87, .	3.2	4

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109	Interplay between bulk and edge-bound topological defects in a square micromagnet. Applied Physics Letters, 2018, 112, .	3.3	4
110	Electronic structure of halogen doped CuCr2Se4. Journal of Applied Physics, 2008, 103, 07D711.	2.5	3
111	Interface structure and transport of complex oxide junctions. Journal of Vacuum Science & Technology B, 2008, 26, 1521.	1.3	3
112	Engineered superlattices with crossover from decoupled to synthetic ferromagnetic behavior. Journal of Physics Condensed Matter, 2018, 30, 015805.	1.8	3
113	Correlation between epitaxial strain and magnetic properties in La0.7Sr0.3CoO3/La0.7Sr0.3MnO3 bilayers. Journal of Applied Physics, 2019, 125, 082518.	2.5	3
114	Intermolecular Interaction and Cooperativity in an Fe(II) Spin Crossover Molecular Thin Film System. Journal of Physics Condensed Matter, 2022, 34, .	1.8	3
115	Magnetotransport in Exchange-Coupled Magnetite Junctions. IEEE Transactions on Magnetics, 2004, 40, 2302-2304.	2.1	2
116	Tuning the Magnetic Domain Structure of Spin-polarized Complex Oxide Nanostructures. Materials Research Society Symposia Proceedings, 2010, 1256, 1.	0.1	2
117	Antiferromagnetic structure of exchange-coupled La0.7Sr0.3FeO3 thin films studied using angle-dependent x-ray absorption spectroscopy. Physical Review B, 2017, 96, .	3.2	2
118	Effects of array shape and disk ellipticity in dipolar-coupled magnetic metamaterials. Physical Review B, 2021, 104, .	3.2	2
119	Formation of Complex Spin Textures in Thermally Demagnetized <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mi>La</mml:mi><mml:mrow><mml:mn>0.7</mml:mn></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math> Artificial Spin-Ice Structures. Physical Review Applied, 2022, 17, .	3.8	2
120	Ultrafast pulsed-laser dissociation of Mnâ€“H complexes in GaAs. Journal of Applied Physics, 2009, 106, 103918.	2.5	1
121	Characterization of Î²-Ga<inf>2</inf>O<inf>3</inf> interface and conduction band offset with GaN using a Sol-gel process of deposition. , 2017, , .		1
122	Electric-field controlled magnetic reorientation in exchange coupled CoFeB/Ni bilayer microstructures. Journal of Physics: Conference Series, 2019, 1407, 012024.	0.4	1
123	Phase transitions and magnetic domain coexistence in Nd0.5Sr0.5MnO3 thin films. Journal of Magnetism and Magnetic Materials, 2020, 498, 166116.	2.3	1
124	Uniaxial NÃ©el vector control in perovskite oxide thin films by anisotropic strain engineering. Physical Review B, 2021, 103, .	3.2	1
125	Transport properties of Cr-patterned Yba2Cu3O7 thin films. Materials Research Society Symposia Proceedings, 2001, 689, 1.	0.1	0
126	Hybrid magnetic tunnel junction/ spin filter device. , 2008, , .		0

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127	Characterisation of size distribution and positional misalignment of nanoscale islands by small-angle X-ray scattering. Journal of Applied Physics, 2019, 125, 014301.	2.5	0