

David Lederman

List of Publications by Year in descending order

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132
papers

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135
all docs

135
docs citations

135
times ranked

4358
citing authors

#	ARTICLE	IF	CITATIONS
1	Positive Exchange Bias in FeF ₂ -Fe Bilayers. Physical Review Letters, 1996, 76, 4624-4627.	7.8	499
2	Antiferromagnetic Spin Seebeck Effect. Physical Review Letters, 2016, 116, 097204.	7.8	248
3	Protein bioelectronics: a review of what we do and do not know. Reports on Progress in Physics, 2018, 81, 026601.	20.1	180
4	Subterahertz spin pumping from an insulating antiferromagnet. Science, 2020, 368, 160-165.	12.6	175
5	Perpendicular coupling at Fe/FeF ₂ interfaces. Applied Physics Letters, 1998, 72, 617-619.	3.3	154
6	Role of interfacial structure on exchange-biased FeF ₂ /Fe. Physical Review B, 1999, 59, 6984-6993.	3.2	149
7	Large exchange bias and its connection to interface structure in FeF ₂ /Fe bilayers. Applied Physics Letters, 1996, 68, 3186-3188.	3.3	139
8	New antiferromagnetic insulator superlattices: Structural and magnetic characterization of (FeF ₂) _m (CoF ₂) _n . Physical Review Letters, 1990, 65, 2913-2915.	7.8	109
9	Photoexcitation and oxygen ordering in YBa ₂ Cu ₃ O _x films. Physical Review B, 1994, 49, 3675-3678.	3.2	101
10	Ultrafast carrier dynamics in thin-films of the topological insulator Bi ₂ Se ₃ . Applied Physics Letters, 2013, 103, .	3.3	99
11	Parallel versus Antiparallel Interfacial Coupling in Exchange Biased Co/FeF ₂ . Physical Review Letters, 2006, 96, 027203.	7.8	96
12	Exchange-Induced Anisotropies at Ferromagnetic-Antiferromagnetic Interfaces above and below the Néel Temperature. Physical Review Letters, 2003, 90, 257201.	7.8	82
13	Enhancement of persistent photoconductivity in insulating high-T _c thin films. Physical Review B, 1995, 51, 1342-1345.	3.2	67
14	A general approach to the epitaxial growth of rare-earth transition-metal films. Applied Physics Letters, 1996, 69, 2438-2440.	3.3	65
15	Evolution of strain-dependent transport properties in ultrathin La _{0.67} Sr _{0.33} MnO ₃ films. Journal of Applied Physics, 1998, 83, 7073-7075.	2.5	60
16	Optical properties of Pd thin films exposed to hydrogen studied by transmittance and reflectance spectroscopy. Journal of Applied Physics, 2010, 107, .	2.5	59
17	Exchange anisotropy and the antiferromagnetic surface order parameter. Physical Review B, 1997, 56, 2332-2335.	3.2	58
18	Effects of hydrogen/deuterium absorption on the magnetic properties of Co/Pd multilayers. Physical Review B, 2011, 83, .	3.2	54

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19	Raman and x-ray photoelectron spectroscopy study of ferroelectric switching in Pb(Nb,Zr,Ti)O ₃ thin films. Journal of Applied Physics, 2012, 111, .	2.5	50
20	Molecular beam epitaxy and characterization of thin Bi ₂ Se ₃ films on Al ₂ O ₃ (110). Applied Physics Letters, 2011, 99, .	3.3	48
21	Electrocatalytic Drug Metabolism by CYP2C9 Bonded to A Self-Assembled Monolayer-Modified Electrode. Drug Metabolism and Disposition, 2009, 37, 892-899.	3.3	47
22	Oscillatory Behavior of the Transport Properties in Ni/Co Multilayers: A Superlattice Effect. Physical Review Letters, 1995, 74, 4515-4518.	7.8	46
23	Magnetoelectric properties of 500-nm CrO_2 thin films. Physical Review B, 2016, 93, .	3.2	46
24	Photoinduced superconductivity and structural changes in high temperature superconducting films. Applied Physics Letters, 1994, 64, 652-654.	3.3	45
25	Finite-size scaling in Fe ₂ /Zn ₂ superlattices. Physical Review B, 1993, 48, 8365-8375.	3.2	42
26	Effect of carrier recombination on ultrafast carrier dynamics in thin films of the topological insulator Bi ₂ Se ₃ . Applied Physics Letters, 2014, 105, .	3.3	42
27	Molecular beam epitaxy of YMnO ₃ on c-plane GaN. Applied Physics Letters, 2006, 88, 132903.	3.3	40
28	Monte Carlo simulations of exchange bias of ferromagnetic thin films on FeF ₂ (110). Physical Review B, 2004, 70, .	3.2	38
29	Thickness tunable quantum interference between surface phonon and Dirac plasmon states in thin films of the topological insulator Bi ₂ Se ₃ . Journal of Physics Condensed Matter, 2015, 27, 052203.	1.8	38
30	Preparation, characterization, and electrical properties of epitaxial NbO ₂ thin film lateral devices. Journal Physics D: Applied Physics, 2015, 48, 335308.	2.8	38
31	Structural and magnetic properties of epitaxial delafossite CuFeO ₂ thin films grown by pulsed laser deposition. Journal of Applied Physics, 2015, 117, .	2.5	37
32	Changes in magnetic properties of Co/Pd multilayers induced by hydrogen absorption. Journal of Applied Physics, 2012, 111, .	2.5	35
33	Electrically induced insulator to metal transition in epitaxial SmNiO ₃ thin films. Applied Physics Letters, 2014, 105, .	3.3	35
34	Order Parameter Criticality of the 3D Random-Field Ising Antiferromagnet Fe _{0.85} Zn _{0.15} F ₂ . Physical Review Letters, 2002, 89, 157202.	7.8	34
35	Exchange bias flop in Fe _x Zn _{1-x} F ₂ /Co bilayers. Physical Review B, 2002, 66, .	3.2	33
36	Exchange bias and enhancement of the Néel temperature in thin NiF ₂ films. Physical Review B, 2004, 69, .	3.2	32

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37	Acoustic phonon dynamics in thin-films of the topological insulator Bi_2Se_3 . Journal of Applied Physics, 2015, 117, 165703.	2.5	32
38	Large magnetoresistance with low saturation fields in magnetic/magnetic superlattices. Applied Physics Letters, 1994, 64, 2590-2592.	3.3	31
39	Exchange bias in $\text{Fe}_x\text{Zn}_{1-x}\text{F}_2/\text{Co}$ bilayers. Journal of Applied Physics, 2002, 91, 7763.	2.5	31
40	Engineered spatial inversion symmetry breaking in an oxide heterostructure built from isosymmetric room-temperature magnetically ordered components. Chemical Science, 2014, 5, 1599-1610.	7.4	30
41	Nonlinear optical observation of coherent acoustic Dirac plasmons in thin-film topological insulators. Nature Communications, 2016, 7, 13054.	12.8	30
42	Resonance-type thickness dependence of optical second-harmonic generation in thin films of the topological insulator Bi_2Se_3 . Applied Physics Letters, 2015, 106, 103101.	3.2	29
43	Fe/Rh (100) multilayer magnetism probed by x-ray magnetic circular dichroism. Physical Review B, 1997, 56, 5474-5483.	3.2	28
44	Coherent control of injection currents in high-quality films of Bi_2Se_3 . Applied Physics Letters, 2015, 106, .	3.3	26
45	Temperature-induced sign change of the exchange bias in $\text{Fe}_{0.82}\text{Zn}_{0.18}\text{F}_2/\text{Co}$ bilayers. Journal of Applied Physics, 2003, 93, 8600-8602.	2.5	24
46	Magneto-optic properties of Fe/Pd and Co/Pd bilayers under hydrogen absorption. Applied Physics Letters, 2004, 85, 615-617.	3.3	23
47	Preparation, Characterization, and Substrate Metabolism of Gold-Immobilized Cytochrome P450 2C9. Journal of the American Chemical Society, 2006, 128, 8374-8375.	13.7	23
48	Antiferromagnetic domain size and exchange bias. Physical Review B, 2008, 77, .	3.2	23
49	Plasmon-enhanced electron-phonon coupling in Dirac surface states of the thin-film topological insulator Bi_2Se_3 . Journal of Applied Physics, 2015, 118, 135713.	2.5	22
50	Interdiffusion and exchange bias in the $\text{Mn}_x\text{Pt}_{1-x}/\text{Co}$ system. Journal of Applied Physics, 2003, 93, 4729-4733.	2.5	21
51	Identification of photocurrents in topological insulators. Optics Express, 2016, 24, 23583.	3.4	21
52	Growth and structural characterization of Ni/Co superlattices. Physical Review B, 1995, 51, 2550-2555.	3.2	20
53	Annealed Co thin films: Pit formation and magnetic anisotropy. Journal of Applied Physics, 2000, 87, 6095-6097.	2.5	19
54	Exchange bias of polycrystalline Co on single-crystalline $\text{Fe}_x\text{Zn}_{1-x}\text{F}_2$ thin films. Physical Review B, 2005, 72, .	3.2	19

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55	Substrate structure of (mm^2) SiO_2/Si heterostructure. <i>Surface Science</i> , 2009, 603, 232-236.	1.9	19
56	Room temperature ferroelectricity in fluoroperovskite thin films. <i>Scientific Reports</i> , 2017, 7, 7182.	3.3	19
57	Structural and electrical characterization of polycrystalline NbO_2 thin film vertical devices grown on TiN-coated SiO_2/Si substrates. <i>Journal of Applied Physics</i> , 2018, 124, .	2.5	19
58	Upconversion luminescence of Er-doped ZnF_2 channel waveguides grown by MBE. <i>Electronics Letters</i> , 1993, 29, 172.	1.0	18
59	Comparative study of the structural and optical properties of epitaxial CuFeO_2 and $\text{CuFe}_{1-x}\text{Ga}_x\text{O}_2$ delafossite thin films grown by pulsed laser deposition methods. <i>Thin Solid Films</i> , 2017, 626, 110-116.	1.8	18
60	Composition of terrestrial exoplanet atmospheres from meteorite outgassing experiments. <i>Nature Astronomy</i> , 2021, 5, 575-585.	10.1	18
61	Magnetic properties of Co/Rh (001) multilayers studied by x-ray magnetic-circular dichroism. <i>Physical Review B</i> , 1998, 58, 11493-11500.	3.2	17
62	Occasional Fe -nonequilibrium body-centered-cubic structures in NiFe/Cu spin valves. <i>Journal of Applied Physics</i> , 1999, 86, 4166-4175.	2.5	17
63	Substrate effect on the optical response of thin palladium films exposed to hydrogen gas. <i>Thin Solid Films</i> , 2008, 516, 7797-7801.	1.8	17
64	Effect of Mn doping on ultrafast carrier dynamics in thin films of the topological insulator Bi_2Se_3 . <i>Journal of Physics Condensed Matter</i> , 2016, 28, 165601.	1.8	17
65	Surface smoothing and crystalline reorientation in thin cobalt films. <i>Physical Review B</i> , 1998, 58, R1778-R1781.	3.2	16
66	Reversible exchange bias and uncompensated magnetization in $\text{Fe}_x\text{Ni}_{1-x}\text{F}_2/\text{Co}$ bilayers. <i>Applied Physics Letters</i> , 2007, 90, 012511.	3.3	16
67	Multiferroic BaCoF_4 in Thin Film Form: Ferroelectricity, Magnetic Ordering, and Strain. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 2694-2703.	8.0	16
68	Magnetic properties of Co/Rehcp(101 $\bar{1}$ 0)superlattices. <i>Physical Review B</i> , 1999, 59, 11897-11908.	3.2	15
69	Measurement of Electron Transfer through Cytochrome P450 Protein on Nanopillars and the Effect of Bound Substrates. <i>Journal of the American Chemical Society</i> , 2013, 135, 3834-3840.	13.7	14
70	An investigation into the feasibility of myoglobin-based single-electron transistors. <i>Nanotechnology</i> , 2012, 23, 395705.	2.6	13
71	Neutron scattering study of the random field Ising film $\text{Fe}_{0.5}\text{Zn}_{0.5}\text{F}_2$. <i>Journal of Magnetism and Magnetic Materials</i> , 1995, 140-144, 1549-1550.	2.3	12
72	Electron localization in Co/Ni superlattices. <i>Physical Review B</i> , 1996, 54, R5291-R5294.	3.2	11

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73	Growth and characterization of BLZT/CFO composite thin films. <i>Materials Chemistry and Physics</i> , 2009, 113, 702-706.	4.0	11
74	Comment on "Reflection high-energy diffraction oscillations during epitaxial growth of high-temperature superconducting oxides". <i>Physical Review Letters</i> , 1993, 70, 1731-1731.	7.8	10
75	Surface morphology of GaN films determined from quantitative x-ray reflectivity. <i>Applied Physics Letters</i> , 1997, 71, 368-370.	3.3	10
76	Giant uncompensated magnetization and exchange bias in $\text{Fe}_x\text{Ni}_{1-x}\text{F}_2/\text{Co}$ bilayers. <i>Journal of Applied Physics</i> , 2007, 101, 09E503.	2.5	10
77	Scaling of critical currents in high-temperature superconducting superlattices and thin films. <i>Applied Physics Letters</i> , 1992, 61, 3181-3183.	3.3	9
78	Temperature dependence of the magnetoresistance in Co/Re superlattices on $\text{Al}_2\text{O}_3(112\bar{0})$. <i>Physical Review B</i> , 2001, 63, .	3.2	9
79	Hydrogen absorption by metallic thin films detected by optical transmittance measurements. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 10613-10619.	7.1	9
80	X-ray scattering in disordered superlattices: Theory and application to $\text{FeF}_2/\text{ZnF}_2$ superlattices. <i>Physical Review B</i> , 1996, 53, 7890-7898.	3.2	8
81	Surface Roughness of Metallic Films Probed by Resistivity Measurements. <i>Langmuir</i> , 1998, 14, 3249-3254.	3.5	8
82	Hysteretic ferromagnetic resonance as a probe for coercivity, exchange bias, and loop asymmetry. <i>Journal of Applied Physics</i> , 2003, 93, 771-773.	2.5	8
83	The effect of structural order on solar cell parameters, as illustrated in a SiC-organic junction model. <i>Energy and Environmental Science</i> , 2013, 6, 3272.	30.8	8
84	Optical detection of carbon dioxide adsorption on epitaxial $\text{CuFe}_{1-x}\text{Ga}_x\text{O}_2$ Delafossite film grown by pulse laser deposition. <i>Surface Science</i> , 2016, 648, 23-28.	1.9	8
85	Photoexcitation effects in $\text{YBa}_2\text{Cu}_3\text{O}_x$. <i>Journal of Alloys and Compounds</i> , 1993, 195, 667-670.	5.5	7
86	Thermodynamic properties of $(\text{FeF}_2)_n(\text{CoF}_2)_n$ superlattices. <i>Journal of Physics Condensed Matter</i> , 1993, 5, A373-A374.	1.8	7
87	Persistent photoinduced superconductivity. <i>Journal of Alloys and Compounds</i> , 1997, 251, 87-93.	5.5	7
88	Superlattice effect in the transport properties of Ni/Co multilayers. <i>Journal of Magnetism and Magnetic Materials</i> , 1998, 183, 261-271.	2.3	7
89	Competition between direct exchange and indirect RKKY coupling in $\text{Fe}/\text{V}[001]$ superlattices. <i>IEEE Transactions on Magnetics</i> , 1998, 34, 864-866.	2.1	7
90	Therapeutic Potential of Implantable Replacement Hearts. <i>American Journal of Cardiovascular Drugs</i> , 2002, 2, 297-301.	2.2	7

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91	Modification of ferroelectric hysteresis in Pb(Nb,Zr,Ti)O ₃ thin films induced by CO ₂ adsorption. Applied Surface Science, 2011, 258, 1181-1183.	6.1	7
92	Search for new superconductors in the Y-Ni-B-C system. Journal of Applied Physics, 1997, 81, 2291-2295.	2.5	6
93	Growth study of epitaxial Fe _x Zn _{1-x} F ₂ thin films. Journal of Materials Research, 2001, 16, 1769-1775.	2.6	6
94	In situ measurements of cobalt thin-film surface roughening upon annealing. Journal of Applied Physics, 2006, 99, 023516.	2.5	6
95	Structural properties of Bi ₂ MnSe ₃ thin films grown via molecular beam epitaxy. Journal of Applied Physics, 2015, 118, .	2.5	6
96	Nanoscale electron transport measurements of immobilized cytochrome P450 proteins. Nanotechnology, 2015, 26, 155102.	2.6	6
97	Phase Diagram of a Three-Dimensional Antiferromagnet with Random Magnetic Anisotropy. Physical Review Letters, 2015, 114, 097201.	7.8	6
98	Thermally induced metal-to-insulator transition in NbO ₂ thin films: Modulation of the transition temperature by epitaxial strain. Physical Review Materials, 2019, 3, .	2.4	6
99	New high-temperature superconducting phase spread alloy thin films. Applied Physics Letters, 1993, 63, 1276-1278.	3.3	5
100	Electrical and magnetic properties of La ₂ Ca ₁ 3MnO ₇ YBa ₂ Cu ₃ O ₇ La ₂ Ca ₁ 3MnO ₃ trilayers. Journal of Applied Physics, 2005, 97, 10B115.	2.5	5
101	Superparamagnetic behavior of cobalt nanodots on Al ₂ O ₃ (0001). Journal of Applied Physics, 2005, 97, 10B310.	2.5	5
102	Properties of YMnO ₃ self-assembled nanocrystalline prisms on GaN. Applied Physics Letters, 2008, 92, 013119.	3.3	5
103	In situ thin film and multilayer structural characterization using x-ray fluorescence induced by reflection high energy electron diffraction. Journal of Applied Physics, 2009, 106, 024308.	2.5	5
104	Weak ferromagnetism and short range polar order in NaMnF ₃ thin films. Applied Physics Letters, 2017, 110, 092901.	3.3	5
105	Optical phonon studies of FeF ₂ epitaxial thin films. Journal of Magnetism and Magnetic Materials, 1992, 104-107, 1741-1742.	2.3	4
106	Photoinduced enhancement of superconductivity. Journal of Superconductivity and Novel Magnetism, 1994, 7, 127-130.	0.5	4
107	Structural and magnetic properties of Fe/Rh(001) sputter deposited multilayers. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1998, 16, 1336-1341.	2.1	4
108	The role of defects in the electrical properties of NbO ₂ thin film vertical devices. AIP Advances, 2016, 6, 125006.	1.3	4

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109	Oscillations of the transport properties in Ni/Co superlattices. Journal of Magnetism and Magnetic Materials, 1996, 156, 397-398.	2.3	3
110	<i>In-situ</i> stoichiometry determination using x-ray fluorescence generated by reflection-high-energy-electron-diffraction. Journal of Applied Physics, 2011, 109, .	2.5	3
111	Photoinduced changes in high temperature superconducting films. Physica Scripta, 1993, T49A, 119-123.	2.5	2
112	Large in-plane anisotropies in Co/Re superlattices: What's happening at the interface?. Journal of Applied Physics, 2002, 91, 7529.	2.5	2
113	In-Situ Investigation of Surface Stoichiometry During InGaN and GaN Growth by Plasma-Assisted Molecular Beam Epitaxy Using RHEED-TRAXS. Materials Research Society Symposia Proceedings, 2005, 892, 46.	0.1	2
114	Interfacial coupling between ferromagnets and random and dilute antiferromagnets. Physical Review B, 2011, 84, .	3.2	2
115	Interface biquadratic coupling and magnon scattering in exchange-biased ferromagnetic thin films grown on epitaxial FeF ₂ . Journal of Physics Condensed Matter, 2012, 24, 186001.	1.8	2
116	STEM Video of Electronically-Driven Metal-Insulator Transitions in Nanoscale NbO ₂ Devices. Microscopy and Microanalysis, 2016, 22, 1254-1255.	0.4	2
117	Epitaxial strain and the magnetic properties of canted antiferromagnetic perovskite NaNiF ₃ thin films. APL Materials, 2020, 8, .	5.1	2
118	Surface spin-flop transition in epitaxial Co/Re superlattices. Journal of Applied Physics, 2003, 93, 7705-7707.	2.5	1
119	Atomic-scale structural analyses of epitaxial Co ²⁺ /Re superlattices. Applied Physics Letters, 2004, 85, 4082-4084.	3.3	1
120	Comment on "Photoemission Study of YBa ₂ Cu ₃ O _y Thin Films under Light Illumination". Physical Review Letters, 2006, 97, 119701; author reply 119702.	7.8	1
121	Structural and compositional characterization of a Co ²⁺ /Re multilayer and superlattice. Journal of Applied Physics, 2007, 101, 103920.	2.5	1
122	Field cooling dependence of the anisotropy in exchange biased FeF ₂ /Co films. Journal of Applied Physics, 2008, 103, 07C114.	2.5	1
123	Correlation Between Ferromagnetism and Superconductivity at Interfaces of La _{2/3} Ca _{1/3} MnO ₃ /YBa ₂ Cu ₃ O _{7-δ} /La _{2/3} Ca _{1/3} MnO ₃ Trilayers Grown by dc Sputtering. Journal of Superconductivity and Novel Magnetism, 2013, 26, 2289-2293.	1.8	1
124	STEM EBIC Mapping of the Metal-Insulator Transition in Thin-film NbO ₂ . Microscopy and Microanalysis, 2017, 23, 1428-1429.	0.4	1
125	Modification of the Chemisorption Properties of Epitaxial Delafossite CuFeO ₂ Thin Films by Substituting Fe for Ga in the Crystal Structure. Topics in Catalysis, 2018, 61, 1193-1200.	2.8	1
126	Temperature Dependence of the Magnetoresistance of Co/Re Superlattices. Materials Research Society Symposia Proceedings, 2001, 674, 1.	0.1	0

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127	Computational Modeling For Magnetic-Sensor-Based Three-Dimensional Visualization Of Microcracks. Materials Research Society Symposia Proceedings, 2001, 674, 1.	0.1	0
128	Interdiffusion, Crystallinity and Exchange Bias in MnxPt1-x/Co Bilayers. Materials Research Society Symposia Proceedings, 2002, 746, 1.	0.1	0
129	Structure Analysis of Co/Re Superlattice Grown on an Al2O3 (110) Substrate. Materials Research Society Symposia Proceedings, 2003, 788, 11311.	0.1	0
130	First principles calculations of magnetoresistance as a function of external field in layered Co/Re hexagonal-close-packed superlattices. Journal of Applied Physics, 2004, 95, 6765-6767.	2.5	0
131	Quantum Interference Control of Photocurrents in Topological Insulator Films. , 2015, , .		0
132	Mapping Electronic State Changes with STEM EBIC. Microscopy and Microanalysis, 2019, 25, 1396-1397.	0.4	0