

John Heron

List of Publications by Year in descending order

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50
papers

3,190
citations

304368

22
h-index

197535

49
g-index

51
all docs

51
docs citations

51
times ranked

4542
citing authors

#	ARTICLE	IF	CITATIONS
1	Deterministic switching of ferromagnetism at room temperature using an electric field. Nature, 2014, 516, 370-373.	13.7	570
2	Electric-Field-Induced Magnetization Reversal in a Ferromagnet-Multiferroic Heterostructure. Physical Review Letters, 2011, 107, 217202.	2.9	405
3	High Dynamic Range Pixel Array Detector for Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2016, 22, 237-249.	0.2	334
4	Atomically engineered ferroic layers yield a room-temperature magnetoelectric multiferroic. Nature, 2016, 537, 523-527.	13.7	275
5	Electric field control of magnetism using BiFeO ₃ -based heterostructures. Applied Physics Reviews, 2014, 1, 021303.	5.5	234
6	Large resistivity modulation in mixed-phase metallic systems. Nature Communications, 2015, 6, 5959.	5.8	154
7	Superconductivity in a quintuple-layer square-planar nickelate. Nature Materials, 2022, 21, 160-164.	13.3	117
8	Giant Enhancement of Exchange Coupling in Entropy-Stabilized Oxide Heterostructures. Scientific Reports, 2017, 7, 13344.	1.6	115
9	Magnetic Structure and Ordering of Multiferroic Hexagonal LuFeO ₃ Physical Review Letters, 2015, 114, 217602.	2.9	92
10	Fully epitaxial ferroelectric ScAlN grown by molecular beam epitaxy. Applied Physics Letters, 2021, 118, .	1.5	71
11	Epitaxy-distorted spin-orbit Mott insulator in Sr ₂ IrO ₄ thin films. Physical Review B, 2013, 87, .	1.1	70
12	Interfacial coupling in multiferroic/ferromagnet heterostructures. Physical Review B, 2013, 87, .	1.1	69
13	Intrinsic magnetic properties of hexagonal LuFeO ₃ and the effects of nonstoichiometry. APL Materials, 2014, 2, 012106.	2.2	63
14	Spin Seebeck Imaging of Spin-Torque Switching in Antiferromagnetic Pt/NiO Heterostructures. Physical Review X, 2019, 9, .	2.8	58
15	Perspective: Magnetoelectric switching in thin film multiferroic heterostructures. Journal of Applied Physics, 2018, 123, .	1.1	48
16	Spin Hall torques generated by rare-earth thin films. Physical Review B, 2017, 95, .	1.1	39
17	Rutile GeO ₂ : An ultrawide-band-gap semiconductor with ambipolar doping. Applied Physics Letters, 2019, 114, .	1.5	37
18	Point defects and dopants of boron arsenide from first-principles calculations: Donor compensation and doping asymmetry. Applied Physics Letters, 2018, 113, .	1.5	33

#	ARTICLE	IF	CITATIONS
19	Magnetic frustration control through tunable stereochemically driven disorder in entropy-stabilized oxides. <i>Physical Review Materials</i> , 2019, 3, .	0.9	29
20	Boron arsenide heterostructures: lattice-matched heterointerfaces and strain effects on band alignments and mobility. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	28
21	Hidden Magnetic States Emergent Under Electric Field, In A Room Temperature Composite Magnetolectric Multiferroic. <i>Scientific Reports</i> , 2017, 7, 15460.	1.6	25
22	Toward the predictive discovery of ambipolarly dopable ultra-wide-band-gap semiconductors: The case of rutile GeO ₂ . <i>Applied Physics Letters</i> , 2021, 118, .	1.5	23
23	Memristors Based on (Zr, Hf, Nb, Ta, Mo, W) High-Entropy Oxides. <i>Advanced Electronic Materials</i> , 2021, 7, 2001258.	2.6	22
24	Scalable Synthesis of Monolayer Hexagonal Boron Nitride on Graphene with Giant Bandgap Renormalization. <i>Advanced Materials</i> , 2022, 34, e2201387.	11.1	22
25	Sustainable p-type copper selenide solar material with ultra-large absorption coefficient. <i>Chemical Science</i> , 2018, 9, 5405-5414.	3.7	20
26	Property and cation valence engineering in entropy-stabilized oxide thin films. <i>Physical Review Materials</i> , 2020, 4, .	0.9	20
27	Thermal conductivity of rutile germanium dioxide. <i>Applied Physics Letters</i> , 2020, 117, 102106.	1.5	19
28	Epitaxial stabilization of rutile germanium oxide thin film by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	19
29	Interface Transparency and Rashba Spin Torque Enhancement in WSe ₂ Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 13744-13750.	4.0	18
30	Engineering Carrier Effective Masses in Ultrathin Quantum Wells of IrO_2 . <i>Physical Review Letters</i> , 2018, 121, 176802.	2.9	17
31	Oxides and the high entropy regime: A new mix for engineering physical properties. <i>MRS Advances</i> , 2020, 5, 3419-3436.	0.5	17
32	Engineering new limits to magnetostriction through metastability in iron-gallium alloys. <i>Nature Communications</i> , 2021, 12, 2757.	5.8	14
33	Imaging uncompensated moments and exchange-biased emergent ferromagnetism in FeRh thin films. <i>Physical Review Materials</i> , 2019, 3, .	0.9	14
34	Two-dimensional charge order stabilized in clean polytype heterostructures. <i>Nature Communications</i> , 2022, 13, 413.	5.8	14
35	Unexpected termination switching and polarity compensation in LaAlO_3 heterostructures. <i>Physical Review Materials</i> , 2018, 2, .	0.9	11
36	Strain-Mediated Magnetization Reversal Through Spin-Transfer Torque. <i>IEEE Transactions on Magnetics</i> , 2017, 53, 1-8.	1.2	10

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37	Exploring the intrinsic limit of the charge-carrier-induced increase of the Curie temperature of Lu- and La-doped EuO thin films. <i>Physical Review Materials</i> , 2020, 4, .	0.9	9
38	Magnetolectrics and multiferroics: Materials and opportunities for energy-efficient spin-based memory and logic. <i>MRS Bulletin</i> , 2021, 46, 938-945.	1.7	8
39	Multiferroic heterostructures for spintronics. <i>ChemistrySelect</i> , 2021, 6, .	0.7	8
40	Clocked Magnetostriction-Assisted Spintronic Device Design and Simulation. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 2040-2046.	1.6	7
41	Tunable magnetoelastic anisotropy in epitaxial (111) Tm ₃ Fe ₅ O ₁₂ thin films. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	7
42	Effects of local compositional and structural disorder on vacancy formation in entropy-stabilized oxides from first-principles. <i>Npj Computational Materials</i> , 2022, 8, .	3.5	7
43	A Narrowband Spintronic Terahertz Emitter Based on Magnetoelastic Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 48997-49006.	4.0	6
44	Bulk-like dielectric and magnetic properties of sub 100Ånm thick single crystal Cr ₂ O ₃ films on an epitaxial oxide electrode. <i>Scientific Reports</i> , 2020, 10, 14721.	1.6	5
45	Bulk and Thin Film Synthesis of Compositionally Variant Entropy-stabilized Oxides. <i>Journal of Visualized Experiments</i> , 2018, , .	0.2	2
46	Morphological design of complex oxides during pulsed-laser deposition: The role of plasma-plume expansion. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	2
47	Lorentz-STEM imaging of Fields and Domains using a High-Speed, High-Dynamic Range Pixel Array Detector at Atomic Resolution. <i>Microscopy and Microanalysis</i> , 2015, 21, 2309-2310.	0.2	1
48	Electric and magnetic domains inverted by a magnetic field. <i>Nature</i> , 2018, 560, 435-436.	13.7	1
49	Two-dimensional charge order stabilized in clean polytype heterostructures. <i>Microscopy and Microanalysis</i> , 2021, 27, 896-898.	0.2	1
50	Switching with ions. <i>Nature Nanotechnology</i> , 2021, 16, 953-954.	15.6	0