

Patrick Irvin

List of Publications by Year in descending order

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48
papers

3,228
citations

394421

19
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47
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48
all docs

48
docs citations

48
times ranked

4435
citing authors

#	ARTICLE	IF	CITATIONS
1	Room-temperature ferroelectricity in strained SrTiO ₃ . Nature, 2004, 430, 758-761.	27.8	1,857
2	Physics of SrTiO ₃ -based heterostructures and nanostructures: a review. Reports on Progress in Physics, 2018, 81, 036503.	20.1	202
3	Electron pairing without superconductivity. Nature, 2015, 521, 196-199.	27.8	141
4	Rewritable nanoscale oxide photodetector. Nature Photonics, 2010, 4, 849-852.	31.4	126
5	Nanoscale Phenomena in Oxide Heterostructures. Annual Review of Materials Research, 2014, 44, 117-149.	9.3	121
6	Room-temperature electronically-controlled ferromagnetism at the LaAlO ₃ /SrTiO ₃ interface. Nature Communications, 2014, 5, 5019.	12.8	115
7	Giant conductivity switching of LaAlO ₃ /SrTiO ₃ heterointerfaces governed by surface protonation. Nature Communications, 2016, 7, 10681.	12.8	68
8	Quantized Ballistic Transport of Electrons and Electron Pairs in LaAlO ₃ /SrTiO ₃ Nanowires. Nano Letters, 2018, 18, 4473-4481.	9.1	50
9	Pascal conductance series in ballistic one-dimensional LaAlO ₃ /SrTiO ₃ channels. Science, 2020, 367, 769-772.	12.6	43
10	Anomalous High Mobility in LaAlO ₃ /SrTiO ₃ Nanowires. Nano Letters, 2013, 13, 364-368.	9.1	39
11	One-Dimensional Nature of Superconductivity at the $\text{LaAlO}_3/\text{SrTiO}_3$ Interface. Physical Review Letters, 2018, 120, 147001.	7.8	34
12	Micrometer-Scale Ballistic Transport of Electron Pairs in $\text{LaAlO}_3/\text{SrTiO}_3$ Nanowires. Physical Review Letters, 2016, 117, 096801.	7.8	32
13	Tunable Electron-Electron Interactions in LaAlO ₃ /SrTiO ₃ Nanostructures. Physical Review X, 2016, 6, .	8.9	29
14	Three-dimensional polarization imaging of (Ba,Sr)TiO ₃ :MgO composites. Applied Physics Letters, 2005, 86, 042903.	3.3	27
15	Broadband Terahertz Generation and Detection at 10 nm Scale. Nano Letters, 2013, 13, 2884-2888.	9.1	26
16	Oxide-based platform for reconfigurable superconducting nanoelectronics. Nanotechnology, 2013, 24, 375201.	2.6	26
17	Anomalous Transport in Sketched Nanostructures at the LaAlO ₃ /SrTiO ₃ Interface. Physical Review X, 2013, 3, .	8.9	23
18	Direct imaging of LaAlO ₃ /SrTiO ₃ nanostructures using piezoresponse force microscopy. APL Materials, 2013, 1, 052110.	5.1	20

#	ARTICLE	IF	CITATIONS
19	Shubnikov-de Haas-like Quantum Oscillations in Artificial One-Dimensional $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \text{LaAlO} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \text{SrTiO} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \text{Electron Channels. Physical Review Letters, 2018, 120, 076801.$	7.8	19
20	Correlated oxide Dirac semimetal in the extreme quantum limit. Science Advances, 2021, 7, eabf9631.	10.3	19
21	Electric field effects in graphene/LaAlO ₃ /SrTiO ₃ heterostructures and nanostructures. APL Materials, 2015, 3, 062502.	5.1	17
22	Gigahertz-frequency operation of a LaAlO ₃ /SrTiO ₃ -based nanotransistor. Applied Physics Letters, 2013, 102, .	3.3	16
23	Extreme Reconfigurable Nanoelectronics at the CaZrO ₃ /SrTiO ₃ Interface. Advanced Materials, 2018, 30, 1801794.	21.0	16
24	Electronically reconfigurable complex oxide heterostructure freestanding membranes. Science Advances, 2021, 7, .	10.3	15
25	Localized microwave resonances in strained SrTiO ₃ thin films. Applied Physics Letters, 2006, 88, 042902.	3.3	14
26	LaAlO ₃ thickness window for electronically controlled magnetism at LaAlO ₃ /SrTiO ₃ heterointerfaces. Applied Physics Letters, 2015, 107, .	3.3	14
27	Room-Temperature Quantum Transport Signatures in Graphene/LaAlO ₃ /SrTiO ₃ Heterostructures. Advanced Materials, 2017, 29, 1603488.	21.0	12
28	Electro-mechanical response of top-gated LaAlO ₃ /SrTiO ₃ . Journal of Applied Physics, 2016, 119, .	2.5	11
29	Engineered spin-orbit interactions in LaAlO ₃ /SrTiO ₃ -based 1D serpentine electron waveguides. Science Advances, 2020, 6, .	10.3	10
30	One-dimensional Kronig-Penney superlattices at the LaAlO ₃ /SrTiO ₃ interface. Nature Physics, 2021, 17, 782-787.	16.7	9
31	Nonlocal current-voltage characteristics of gated superconducting sketched oxide nanostructures. Europhysics Letters, 2013, 103, 57001.	2.0	8
32	Photoconductive response of a single Au nanorod coupled to LaAlO ₃ /SrTiO ₃ nanowires. Applied Physics Letters, 2015, 106, .	3.3	6
33	Electrostatically tuned dimensional crossover in LaAlO ₃ /SrTiO ₃ heterostructures. APL Materials, 2017, 5, 106107.	5.1	6
34	Graphene-Complex-Oxide Nanoscale Device Concepts. ACS Nano, 2018, 12, 6128-6136.	14.6	6
35	Over 100-THz bandwidth selective difference frequency generation at LaAlO ₃ /SrTiO ₃ nanojunctions. Light: Science and Applications, 2019, 8, 24.	16.6	6
36	Gate-Tunable Optical Nonlinearities and Extinction in Graphene/LaAlO ₃ /SrTiO ₃ Nanostructures. Nano Letters, 2020, 20, 6966-6973.	9.1	6

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37	Parallel Conductive-AFM Lithography on LaAlO ₃ /SrTiO ₃ Interfaces. IEEE Nanotechnology Magazine, 2013, 12, 518-520.	2.0	5
38	Inhomogeneous energy landscape in LaAlO ₃ /SrTiO ₃ nanostructures. Nanoscale Horizons, 2019, 4, 1194-1201.	8.0	5
39	Reconfigurable edge-state engineering in graphene using LaAlO ₃ /SrTiO ₃ nanostructures. Applied Physics Letters, 2019, 114, .	3.3	5
40	Long-Range Non-Coulombic Electron-Electron Interactions between LaAlO ₃ /SrTiO ₃ Nanowires. Advanced Materials Interfaces, 2019, 6, 1900301.	3.7	5
41	Nanoscale control of LaAlO ₃ /SrTiO ₃ metal-insulator transition using ultra-low-voltage electron-beam lithography. Applied Physics Letters, 2020, 117, .	3.3	5
42	Writing and Low-Temperature Characterization of Oxide Nanostructures. Journal of Visualized Experiments, 2014, , .	0.3	4
43	Spin-orbit-assisted electron pairing in one-dimensional waveguides. Physical Review B, 2021, 104, .	3.2	3
44	Frictional drag between superconducting LaAlO ₃ /SrTiO ₃ nanowires. Semiconductor Science and Technology, 2020, 35, 09LT01.	2.0	3
45	Gigahertz optical spin transceiver. Optics Express, 2007, 15, 11756.	3.4	2
46	Strong Aharonov-Bohm quantum interference in simply connected $\text{LaAlO}_3/\text{SrTiO}_3$ structures. Physical Review B, 2019, 100, .	3.2	1
47	Gate-tunable optical extinction of graphene nanoribbon nanoclusters. APL Materials, 2021, 9, 071101.	5.1	1
48	Coupled Nanowires: Long-Range Non-Coulombic Electron-Electron Interactions between LaAlO ₃ /SrTiO ₃ Nanowires (Adv. Mater. Interfaces 15/2019). Advanced Materials Interfaces, 2019, 6, 1970098.	3.7	0