Hyungwoo Lee

List of Publications by Year
in descending order

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58 papers	1,668 citations	331259 21 h-index	288905 40 g-index
59 all docs	59 docs citations	59 times ranked	2663 citing authors

#	Article	IF	Citations
1	Heterogeneous integration of single-crystalline complex-oxide membranes. Nature, 2020, 578, 75-81.	13.7	218
2	Electron pairing without superconductivity. Nature, 2015, 521, 196-199.	13.7	141
3	Optical control of polarization in ferroelectric heterostructures. Nature Communications, 2018, 9, 3344.	5.8	119
4	Room-temperature electronically-controlled ferromagnetism at the LaAlO3/SrTiO3 interface. Nature Communications, 2014, 5, 5019.	5.8	115
5	Aligned networks of cadmium sulfidenanowires for highly flexible photodetectors with improved photoconductive responses. Journal of Materials Chemistry, 2012, 22, 2173-2179.	6.7	84
6	Polarization-Mediated Modulation of Electronic and Transport Properties of Hybrid MoS₂â€“BaTiO₃â€“SrRuO₃ Tunnel Junctions. Nano Letters, 2017, 17, 922-927.	4.5	75
7	Giant conductivity switching of LaAlO3/SrTiO3 heterointerfaces governed by surface protonation. Nature Communications, 2016, 7, 10681.	5.8	68
8	Imprint Control of BaTiO₃ Thin Films via Chemically Induced Surface Polarization Pinning. Nano Letters, 2016, 16, 2400-2406.	4.5	56
9	Quantized Ballistic Transport of Electrons and Electron Pairs in LaAlO₃/SrTiO₃ Nanowires. Nano Letters, 2018, 18, 4473-4481.	4.5	50
10	Grapheneâ€“nanowire hybrid structures for high-performance photoconductive devices. Journal of Materials Chemistry, 2012, 22, 8372.	6.7	47
11	Pascal conductance series in ballistic one-dimensional LaAlO ₃ /SrTiO ₃ channels. Science, 2020, 367, 769-772.	6.0	43
12	Electromechanics of Ferroelectricâ€Like Behavior of LaAlO₃ Thin Films. Advanced Functional Materials, 2015, 25, 6538-6544.	7.8	42
13	Nanodomain Engineering in Ferroelectric Capacitors with Graphene Electrodes. Nano Letters, 2016, 16, 6460-6466.	4.5	41
14	Direct imaging of the electron liquid at oxide interfaces. Nature Nanotechnology, 2018, 13, 198-203.	15.6	40
15	One-Dimensional Nature of Superconductivity at the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>LaAlO</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub Interface. Physical Review Letters, 2018, 120, 147001.	2.9	34
16	Micrometer-Scale Ballistic Transport of Electron Pairs in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>LaAlO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn><mml:mn> Physical Review Letters, 2016, 117, 096801.	2.9	32
17	Tunneling Hot Spots in Ferroelectric SrTiO₃. Nano Letters, 2018, 18, 491-497.	4.5	30
18	Tunable Electron-Electron Interactions in LaAlO3/SrTiO3 Nanostructures. Physical Review X, 2016, 6, .	2.8	29

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19	Electronic and Structural Transitions of LaAlO₃/SrTiO₃ Heterostructure Driven by Polar Fieldâ€Assisted Oxygen Vacancy Formation at the Surface. Advanced Science, 2021, 8, e2002073.	5.6	23
20	Oxygen Stoichiometry Effect on Polar Properties of LaAlO₃/SrTiO₃. Advanced Functional Materials, 2018, 28, 1707159.	7.8	22
21	Probing vacancy behavior across complex oxide heterointerfaces. Science Advances, 2019, 5, eaau8467.	4.7	21
22	The application of orthogonal photolithography to micro-scale organic field effect transistors and complementary inverters on flexible substrate. Applied Physics Letters, 2014, 104, 053301.	1.5	20
23	Cooperative evolution of polar distortion and nonpolar rotation of oxygen octahedra in oxide heterostructures. Science Advances, 2021, 7, .	4.7	20
24	Charge Transfer to LaAlO₃/SrTiO₃ Interfaces Controlled by Surface Water Adsorption and Proton Hopping. Advanced Functional Materials, 2016, 26, 5453-5459.	7.8	19
25	Shubnikovâ€“de Haasâ€“like Quantum Oscillations in Artificial One-Dimensional <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>LaAlO</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub> Electron Channels. Physical Review Letters, 2018, 120, 076801.	2.9	19
26	Integrated devices based on networks of nanotubes and nanowires. NPG Asia Materials, 2010, 2, 103-111.	3.8	18
27	Electric field effects in graphene/LaAlO₃/SrTiO₃ heterostructures and nanostructures. APL Materials, 2015, 3, 062502.	2.2	17
28	Nanoscale direct mapping of localized and induced noise sources on conducting polymer films. Nanoscale, 2016, 8, 835-842.	2.8	16
29	Control of Epitaxial BaFe₂As₂ Atomic Configurations with Substrate Surface Terminations. Nano Letters, 2018, 18, 6347-6352.	4.5	16
30	Electronically reconfigurable complex oxide heterostructure freestanding membranes. Science Advances, 2021, 7, .	4.7	15
31	Highâ€Performance Photoconductive Channels Based on (Carbon Nanotube)â€“(CdS Nanowire) Hybrid Nanostructures. Small, 2012, 8, 1650-1656.	5.2	13
32	Plasmonâ€“Exciton Interactions in Hybrid Structures of Au Nanohemispheres and CdS Nanowires for Improved Photoconductive Devices. Journal of Physical Chemistry C, 2013, 117, 24543-24548.	1.5	13
33	Wide Contact Structures for Low-Noise Nanochannel Devices Based on a Carbon Nanotube Network. ACS Nano, 2010, 4, 7612-7618.	7.3	12
34	Direct mapping of electrical noise sources in molecular wire-based devices. Scientific Reports, 2017, 7, 43411.	1.6	12
35	Roomâ€Temperature Quantum Transport Signatures in Graphene/LaAlO₃/SrTiO₃ Heterostructures. Advanced Materials, 2017, 29, 1603488.	11.1	12
36	Engineered spin-orbit interactions in LaAlO ₃ /SrTiO ₃ -based 1D serpentine electron waveguides. Science Advances, 2020, 6, .	4.7	10

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37	Real-time detection of chlorine gas using Ni/Si shell/core nanowires. Nanoscale Research Letters, 2015, 10, 18.	3.1	9
38	One-dimensional Kronigâ€“Penney superlattices at the LaAlO3/SrTiO3 interface. Nature Physics, 2021, 17, 782-787.	6.5	9
39	Nanoscale Mapping of Molecular Vibrational Modes via Vibrational Noise Spectroscopy. Nano Letters, 2018, 18, 1001-1009.	4.5	8
40	Hot Electron Tunneling in Pt/LaAlO₃/SrTiO₃ Heterostructures for Enhanced Photodetection. ACS Applied Materials & Interfaces, 2021, 13, 47208-47217.	4.0	8
41	Electrostatically tuned dimensional crossover in LaAlO₃/SrTiO₃ heterostructures. APL Materials, 2017, 5, 106107.	2.2	6
42	Graphene-Complex-Oxide Nanoscale Device Concepts. ACS Nano, 2018, 12, 6128-6136.	7.3	6
43	Over 100-THz bandwidth selective difference frequency generation at LaAlO3/SrTiO3 nanojunctions. Light: Science and Applications, 2019, 8, 24.	7.7	6
44	Largeâ€Scale Assembly of Peptideâ€Based Hierarchical Nanostructures and Their Antiferroelectric Properties. Small, 2020, 16, e2003986.	5.2	6
45	Gate-Tunable Optical Nonlinearities and Extinction in Graphene/LaAlO3/SrTiO3 Nanostructures. Nano Letters, 2020, 20, 6966-6973.	4.5	6
46	Variance-aware weight quantization of multi-level resistive switching devices based on Pt/LaAlO3/SrTiO3 heterostructures. Scientific Reports, 2022, 12, .	1.6	6
47	Inhomogeneous energy landscape in LaAlO₃/SrTiO₃ nanostructures. Nanoscale Horizons, 2019, 4, 1194-1201.	4.1	5
48	Reconfigurable edge-state engineering in graphene using LaAlO3/SrTiO3 nanostructures. Applied Physics Letters, 2019, 114, .	1.5	5
49	Longâ€Range Nonâ€Coulombic Electronâ€“Electron Interactions between LaAlO 3 /SrTiO 3 Nanowires. Advanced Materials Interfaces, 2019, 6, 1900301.	1.9	5
50	CMOS compatible integrated ferroelectric tunnel junctions (FTJ). , 2015, , .		4
51	Direct imaging of sketched conductive nanostructures at the LaAlO3/SrTiO3 interface. Applied Physics Letters, 2017, 111, 233104.	1.5	4
52	Characterization and Modeling of Co/BaTiO₃/SrRuO₃ Ferroelectric Tunnel Junction Memory by Capacitanceâ€“Voltage (${C}$ â€“${V}$), Currentâ€“Voltage (${I}$ â€“${V}$), and High-Frequency Measurements. IEEE Transactions on Electron Devices, 2019, 66, 2186-2191.	1.6	4
53	Strong Interfacial Charge Trapping in Ultrathin SrRuO₃ on SrTiO₃ Probed by Noise Spectroscopy. Journal of Physical Chemistry Letters, 2022, 13, 5618-5625.	2.1	4
54	Scanning tunneling microscopy of an interfacial two-dimensional electron gas in oxide heterostructures. Physical Review B, 2016, 93, .	1.1	3

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55	Strong Aharonov-Bohm quantum interference in simply connected <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">LaAlO</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi mathvariant="normal">SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> structures. Physical Review B, 2019, 100, .	1	1
56	Anisotropic Diffusion of Charges on Au Nanoclusters Embedded in Al 2 O 3 Dielectrics. Physica Status Solidi - Rapid Research Letters, 2020, 14, 1900596.	1.2	1
57	Coupled Nanowires: Longâ€Range Nonâ€Coulombic Electronâ€“Electron Interactions between LaAlO₃/SrTiO₃ Nanowires (Adv. Mater. Interfaces 15/2019). Advanced Materials Interfaces, 2019, 6, 1970098.	1.9	0
58	Direct Observation of Field-induced Modulation of Two-dimensional Electron Gas at Oxide Interfaces. Microscopy and Microanalysis, 2019, 25, 1848-1849.	0.2	0