

Chul-Ho Lee

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93
papers

7,728
citations

38
h-index

87
g-index

99
ext. papers

8,835
ext. citations

13.1
avg, IF

5.82
L-index

#	Paper	IF	Citations
93	Atomically thin p-n junctions with van der Waals heterointerfaces. <i>Nature Nanotechnology</i> , 2014 , 9, 676-81	28.7	1598
92	Multi-terminal transport measurements of MoS2 using a van der Waals heterostructure device platform. <i>Nature Nanotechnology</i> , 2015 , 10, 534-40	28.7	868
91	Flexible and transparent MoS2 field-effect transistors on hexagonal boron nitride-graphene heterostructures. <i>ACS Nano</i> , 2013 , 7, 7931-6	16.7	800
90	Transferable GaN layers grown on ZnO-coated graphene layers for optoelectronic devices. <i>Science</i> , 2010 , 330, 655-7	33.3	494
89	Low-temperature solution-processed Li-doped SnO2 as an effective electron transporting layer for high-performance flexible and wearable perovskite solar cells. <i>Nano Energy</i> , 2016 , 26, 208-215	17.1	331
88	Highly Stable, Dual-Gated MoS2 Transistors Encapsulated by Hexagonal Boron Nitride with Gate-Controllable Contact, Resistance, and Threshold Voltage. <i>ACS Nano</i> , 2015 , 9, 7019-26	16.7	256
87	Visible-color-tunable light-emitting diodes. <i>Advanced Materials</i> , 2011 , 23, 3284-8	24	243
86	Flexible inorganic nanostructure light-emitting diodes fabricated on graphene films. <i>Advanced Materials</i> , 2011 , 23, 4614-9	24	186
85	Nanoscale atoms in solid-state chemistry. <i>Science</i> , 2013 , 341, 157-60	33.3	162
84	Wafer-scale transferable molybdenum disulfide thin-film catalysts for photoelectrochemical hydrogen production. <i>Energy and Environmental Science</i> , 2016 , 9, 2240-2248	35.4	150
83	Highly Efficient Copper-Indium-Selenide Quantum Dot Solar Cells: Suppression of Carrier Recombination by Controlled ZnS Overlayers. <i>ACS Nano</i> , 2015 , 9, 11286-95	16.7	149
82	Inorganic Rubidium Cation as an Enhancer for Photovoltaic Performance and Moisture Stability of HC(NH2)2PbI3 Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2017 , 27, 1605988	15.6	148
81	Vertical pillar-superlattice array and graphene hybrid light emitting diodes. <i>Nano Letters</i> , 2010 , 10, 2783-8	11.5	126
80	Controlled selective growth of ZnO nanorod and microrod arrays on Si substrates by a wet chemical method. <i>Applied Physics Letters</i> , 2006 , 89, 163128	3.4	107
79	Epitaxial growth of molecular crystals on van der waals substrates for high-performance organic electronics. <i>Advanced Materials</i> , 2014 , 26, 2812-7	24	103
78	Synaptic Barristor Based on Phase-Engineered 2D Heterostructures. <i>Advanced Materials</i> , 2018 , 30, e1801447	24	99
77	Thickness-dependent Schottky barrier height of MoS field-effect transistors. <i>Nanoscale</i> , 2017 , 9, 6151-6157	15.7	88

76	Memristors Based on 2D Materials as an Artificial Synapse for Neuromorphic Electronics. <i>Advanced Materials</i> , 2020 , 32, e2002092	24	81
75	Two-Dimensional Semiconductor Optoelectronics Based on van der Waals Heterostructures. <i>Nanomaterials</i> , 2016 , 6,	5.4	79
74	Thermoelectric power measurements of wide band gap semiconducting nanowires. <i>Applied Physics Letters</i> , 2009 , 94, 022106	3.4	75
73	2D semiconducting materials for electronic and optoelectronic applications: potential and challenge. <i>2D Materials</i> , 2020 , 7, 022003	5.9	73
72	Inorganic nanostructures grown on graphene layers. <i>Nanoscale</i> , 2011 , 3, 3522-33	7.7	72
71	Epitaxial GaN microdisk lasers grown on graphene microdots. <i>Nano Letters</i> , 2013 , 13, 2782-5	11.5	68
70	Gallium nitride nanostructures for light-emitting diode applications. <i>Nano Energy</i> , 2012 , 1, 391-400	17.1	60
69	GaN/In _{1-x} Ga _x N/GaN/ZnO nanoarchitecture light emitting diode microarrays. <i>Applied Physics Letters</i> , 2009 , 94, 213101	3.4	58
68	Fabrication and electrical characteristics of dual-gate ZnO nanorod metaloxide semiconductor field-effect transistors. <i>Nanotechnology</i> , 2006 , 17, S327-S331	3.4	58
67	Position- and morphology-controlled ZnO nanostructures grown on graphene layers. <i>Advanced Materials</i> , 2012 , 24, 5565-9, 5564	24	57
66	Shape-Controlled Nanoarchitectures Using Nanowalls. <i>Advanced Materials</i> , 2009 , 21, 222-226	24	57
65	Position-controlled ZnO nanoflower arrays grown on glass substrates for electron emitter application. <i>Nanotechnology</i> , 2008 , 19, 315202	3.4	57
64	Skin-Like, Dynamically Stretchable, Planar Supercapacitors with Buckled Carbon Nanotube/Mn-Mo Mixed Oxide Electrodes and Air-Stable Organic Electrolyte. <i>ACS Nano</i> , 2019 , 13, 855-866	16.7	55
63	Heterostructures based on inorganic and organic van der Waals systems. <i>APL Materials</i> , 2014 , 2, 092511	5.7	52
62	Area-Selective Atomic Layer Deposition Using Si Precursors as Inhibitors. <i>Chemistry of Materials</i> , 2018 , 30, 7603-7610	9.6	52
61	van der Waals Solids from Self-Assembled Nanoscale Building Blocks. <i>Nano Letters</i> , 2016 , 16, 1445-9	11.5	47
60	Ferromagnetic ordering in superatomic solids. <i>Journal of the American Chemical Society</i> , 2014 , 136, 16926-16934	16.4	47
59	Pd-nanodot decorated MoS ₂ nanosheets as a highly efficient photocatalyst for the visible-light-induced Suzuki-Miyaura coupling reaction. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 24965-24971	13.7	47

58	Position-Controlled Selective Growth of ZnO Nanorods on Si Substrates Using Facet-Controlled GaN Micropatterns. <i>Advanced Materials</i> , 2007 , 19, 4416-4419	24	44
57	Patterning Superatom Dopants on Transition Metal Dichalcogenides. <i>Nano Letters</i> , 2016 , 16, 3385-9	11.5	44
56	Remote heteroepitaxy of GaN microrod heterostructures for deformable light-emitting diodes and wafer recycle. <i>Science Advances</i> , 2020 , 6, eaaz5180	14.3	40
55	Ultrafine ZnO nanowire electronic device arrays fabricated by selective metal-organic chemical vapor deposition. <i>Small</i> , 2009 , 5, 181-4	11	32
54	Photovoltaic Field-Effect Transistors Using a MoS and Organic Rubrene van der Waals Hybrid. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 29848-29856	9.5	29
53	Fabrication and Optical Characteristics of Position-Controlled ZnO Nanotubes and ZnO/Zn _{0.8} Mg _{0.2} O Coaxial Nanotube Quantum Structure Arrays. <i>Advanced Functional Materials</i> , 2009 , 19, 1601-1608	15.6	26
52	Modulation doping in ZnO nanorods for electrical nanodevice applications. <i>Applied Physics Letters</i> , 2009 , 94, 223117	3.4	25
51	Scalable network electrical devices using ZnO nanowalls. <i>Nanotechnology</i> , 2011 , 22, 055205	3.4	23
50	ZnO/Mg _{0.2} Zn _{0.8} O coaxial nanorod heterostructures for high-performance electronic nanodevice applications. <i>Applied Physics Letters</i> , 2009 , 94, 043504	3.4	23
49	Epitaxially Self-Assembled Alkane Layers for Graphene Electronics. <i>Advanced Materials</i> , 2017 , 29, 1603925	4	21
48	Monolithic Interface Contact Engineering to Boost Optoelectronic Performances of 2D Semiconductor Photovoltaic Heterojunctions. <i>Nano Letters</i> , 2020 , 20, 2443-2451	11.5	21
47	GaN nanowire/thin film vertical structure p <i>n</i> junction light-emitting diodes. <i>Applied Physics Letters</i> , 2013 , 103, 261116	3.4	18
46	Highly crumpled graphene nano-networks as electrocatalytic counter electrode in photovoltaics. <i>Applied Catalysis B: Environmental</i> , 2016 , 192, 342-349	21.8	18
45	Generation, transport and detection of valley-locked spin photocurrent in WSe-graphene-BiSe heterostructures. <i>Nature Nanotechnology</i> , 2018 , 13, 910-914	28.7	17
44	Direct observation of grain boundaries in chemical vapor deposited graphene. <i>Carbon</i> , 2017 , 115, 147-153	30.4	16
43	Nonvolatile and Neuromorphic Memory Devices Using Interfacial Traps in Two-Dimensional WSe/MoTe Stack Channel. <i>ACS Nano</i> , 2020 , 14, 12064-12071	16.7	15
42	Maximized performance of dye solar cells on plastic: a combined theoretical and experimental optimization approach. <i>Energy and Environmental Science</i> , 2016 , 9, 2061-2071	35.4	15
41	Emission color-tuned light-emitting diode microarrays of nonpolar In(x)Ga(1-x)N/GaN multishell nanotube heterostructures. <i>Scientific Reports</i> , 2015 , 5, 18020	4.9	14

40	Optoelectronics of Multijunction Heterostructures of Transition Metal Dichalcogenides. <i>Nano Letters</i> , 2020 , 20, 1934-1943	11.5	13
39	Low temperature synthesis of garnet type solid electrolyte by modified polymer complex process and its characterization. <i>Materials Research Bulletin</i> , 2016 , 83, 309-315	5.1	13
38	All-2D ReS transistors with split gates for logic circuitry. <i>Scientific Reports</i> , 2019 , 9, 10354	4.9	13
37	Structurally Engineered Nanoporous TaO Selector-Less Memristor for High Uniformity and Low Power Consumption. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 34015-34023	9.5	13
36	Microtube Light-Emitting Diode Arrays with Metal Cores. <i>ACS Nano</i> , 2016 , 10, 3114-20	16.7	12
35	Polarization Control of Deterministic Single-Photon Emitters in Monolayer WSe. <i>Nano Letters</i> , 2021 , 21, 1546-1554	11.5	12
34	Boosting the photocatalytic hydrogen evolution performance via an atomically thin 2D heterojunction visualized by scanning photoelectrochemical microscopy. <i>Nano Energy</i> , 2019 , 65, 104053	17.1	11
33	Temperature dependence of optical properties of monolayer WS ₂ by spectroscopic ellipsometry. <i>Applied Surface Science</i> , 2020 , 511, 145503	6.7	11
32	Enhanced Chemical Reactivity of Graphene by Fermi Level Modulation. <i>Chemistry of Materials</i> , 2018 , 30, 5602-5609	9.6	11
31	Seamless MoTe ₂ Homo Junction PIN Diode toward 1300 nm Short-Wave Infrared Detection. <i>Advanced Optical Materials</i> , 2019 , 7, 1900768	8.1	11
30	Self-Powered Chemical Sensing Driven by Graphene-Based Photovoltaic Heterojunctions with Chemically Tunable Built-In Potentials. <i>Small</i> , 2019 , 15, e1804303	11	11
29	Remote modulation doping in van der Waals heterostructure transistors. <i>Nature Electronics</i> , 2021 , 4, 664-670	28.4	11
28	Tunable rectification in a molecular heterojunction with two-dimensional semiconductors. <i>Nature Communications</i> , 2020 , 11, 1412	17.4	10
27	Recovery of the Pristine Surface of Black Phosphorus by Water Rinsing and Its Device Application. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 21382-21389	9.5	9
26	Enhanced nucleation of germanium on graphene via dipole engineering. <i>Nanoscale</i> , 2018 , 10, 5689-5694	7.7	9
25	An in-plane WSe ₂ p-n homo junction two-dimensional diode by laser-induced doping. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 8393-8398	7.1	8
24	Single crystalline ZnO radial homo junction light-emitting diodes fabricated by metalorganic chemical vapour deposition. <i>Nanotechnology</i> , 2017 , 28, 394001	3.4	8
23	Enhanced Photoluminescence of Multiple Two-Dimensional van der Waals Heterostructures Fabricated by Layer-by-Layer Oxidation of MoS. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 1245-1252	9.52	8

22	Vertically aligned MoS2 thin film catalysts with Fe-Ni sulfide nanoparticles by one-step sulfurization for efficient solar water reduction. <i>Chemical Engineering Journal</i> , 2021 , 418, 129369	14.7	8
21	Low-frequency noise characterization of ZnO nanorod back-gate field-effect transistor structure. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2008 , 40, 2147-2149	3	7
20	Grain Boundaries Boost Oxygen Evolution Reaction in NiFe Electrocatalysts.. <i>Small Methods</i> , 2021 , 5, e2000755	12.8	7
19	Synergistic strategies for the preparation of highly efficient dye-sensitized solar cells on plastic substrates: combination of chemical and physical sintering. <i>RSC Advances</i> , 2015 , 5, 76795-76803	3.7	6
18	Correlational Effects of the Molecular-Tilt Configuration and the Intermolecular van der Waals Interaction on the Charge Transport in the Molecular Junction. <i>Nano Letters</i> , 2018 , 18, 4322-4330	11.5	6
17	Precise temperature sensing with nanoscale thermal sensors based on diamond NV centers. <i>Current Applied Physics</i> , 2018 , 18, 1066-1070	2.6	6
16	GaN/ZnO Nanotube Heterostructure Light-Emitting Diodes Fabricated on Si. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011 , 17, 966-970	3.8	6
15	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector. <i>Advanced Science</i> , 2021 , 8, e2101390	13.6	6
14	van der Waals Heteroepitaxy of Semiconductor Nanowires. <i>Semiconductors and Semimetals</i> , 2015 , 125-1726	26	5
13	Inorganic Optoelectronics: Visible-Color-Tunable Light-Emitting Diodes (Adv. Mater. 29/2011). <i>Advanced Materials</i> , 2011 , 23, 3224-3224	24	5
12	Highly efficient computer algorithm for identifying layer thickness of atomically thin 2D materials. <i>Journal Physics D: Applied Physics</i> , 2018 , 51, 11LT03	3	4
11	Multioperation-Mode Light-Emitting Field-Effect Transistors Based on van der Waals Heterostructure. <i>Advanced Materials</i> , 2020 , 32, e2003567	24	4
10	Design of 2D Layered Catalyst by Coherent Heteroepitaxial Conversion for Robust Hydrogen Generation. <i>Advanced Functional Materials</i> , 2021 , 31, 2005449	15.6	4
9	Hetero-Integration of Silicon Nanomembranes with 2D Materials for Bioresorbable, Wireless Neurochemical System.. <i>Advanced Materials</i> , 2022 , e2108203	24	3
8	Electrically driven strain-induced deterministic single-photon emitters in a van der Waals heterostructure. <i>Science Advances</i> , 2021 , 7, eabj3176	14.3	3
7	Hydrothermal growth of ZnO microstructures on Ar plasma treated graphite. <i>Current Applied Physics</i> , 2014 , 14, 269-274	2.6	2
6	Atomic-layer-confined multiple quantum wells enabled by monolithic bandgap engineering of transition metal dichalcogenides. <i>Science Advances</i> , 2021 , 7,	14.3	2
5	The Schottky-Mott Rule Expanded for Two-Dimensional Semiconductors: Influence of Substrate Dielectric Screening. <i>ACS Nano</i> , 2021 , 15, 14794-14803	16.7	2

4	Catalyst-Free Metal-Organic Vapor-Phase Epitaxy of ZnO and GaN Nanostructures for Visible Light-Emitting Devices. <i>Nanoscience and Technology</i> , 2012 , 37-66	0.6	1
3	Band Structure Engineering of WSe ₂ Homo-Junction Interfaces via Thickness Control. <i>Advanced Materials Interfaces</i> , 2022 , 9, 2101763	4.6	1
2	Electrical Modulation of Exciton Complexes in Light-Emitting Tunnel Transistors of a van der Waals Heterostructure. <i>ACS Photonics</i> ,	6.3	0
1	Graphene: Position- and Morphology-Controlled ZnO Nanostructures Grown on Graphene Layers (Adv. Mater. 41/2012). <i>Advanced Materials</i> , 2012 , 24, 5564-5564	24	