

Cheng Li

List of Publications by Year in descending order

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99
papers

4,647
citations

159358

30
h-index

98622

67
g-index

101
all docs

101
docs citations

101
times ranked

7164
citing authors

#	ARTICLE	IF	CITATIONS
1	Planar perovskite solar cells with long-term stability using ionic liquid additives. <i>Nature</i> , 2019, 571, 245-250.	13.7	1,103
2	Iodine Migration and its Effect on Hysteresis in Perovskite Solar Cells. <i>Advanced Materials</i> , 2016, 28, 2446-2454.	11.1	449
3	Capturing the Sun: A Review of the Challenges and Perspectives of Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1700264.	10.2	295
4	Investigation of nanoscale morphological changes in organic photovoltaics during solvent vapor annealing. <i>Journal of Materials Chemistry</i> , 2008, 18, 306-312.	6.7	288
5	Unravelling the role of vacancies in lead halide perovskite through electrical switching of photoluminescence. <i>Nature Communications</i> , 2018, 9, 5113.	5.8	196
6	A fullerene- π -single wall carbon nanotube complex for polymer bulk heterojunction photovoltaic cells. <i>Journal of Materials Chemistry</i> , 2007, 17, 2406-2411.	6.7	190
7	Interfacial Passivation for Perovskite Solar Cells: The Effects of the Functional Group in Phenethylammonium Iodide. <i>ACS Energy Letters</i> , 2019, 4, 2913-2921.	8.8	176
8	Effect of Thermal and Structural Disorder on the Electronic Structure of Hybrid Perovskite Semiconductor $\text{CH}_3\text{NH}_3\text{PbI}_3$. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 3014-3021.	2.1	148
9	Real-Time Observation of Iodide Ion Migration in Methylammonium Lead Halide Perovskites. <i>Small</i> , 2017, 13, 1701711.	5.2	148
10	Role of PCBM in the Suppression of Hysteresis in Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2020, 30, 1908920.	7.8	110
11	Enhanced power conversion efficiency in iridium complex-based terpolymers for polymer solar cells. <i>Npj Flexible Electronics</i> , 2018, 2, .	5.1	84
12	Improved Performance and Stability of Inverted Organic Solar Cells with Sol-Gel Processed, Amorphous Mixed Metal Oxide Electron Extraction Layers Comprising Alkaline Earth Metals. <i>Advanced Energy Materials</i> , 2013, 3, 1428-1436.	10.2	67
13	High-Performance Planar Perovskite Solar Cells with Negligible Hysteresis Using 2,2,2-Trifluoroethanol-Incorporated SnO_2 . <i>iScience</i> , 2019, 16, 433-441.	1.9	63
14	Formation criteria of high efficiency perovskite solar cells under ambient conditions. <i>Sustainable Energy and Fuels</i> , 2017, 1, 540-547.	2.5	57
15	Origins and mechanisms of hysteresis in organometal halide perovskites. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 193001.	0.7	55
16	Potassium ions as a kinetic controller in ionic double layers for hysteresis-free perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2019, 7, 18807-18815.	5.2	54
17	Impact of Structural Dynamics on the Optical Properties of Methylammonium Lead Iodide Perovskites. <i>Advanced Energy Materials</i> , 2017, 7, 1700286.	10.2	52
18	Incorporating CsF into the PbI_2 Film for Stable Mixed Cation-Halide Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2019, 9, 1901726.	10.2	46

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19	Room temperature photoluminescence of tensile-strained Ge/Si _{0.13} Ge _{0.87} quantum wells grown on silicon-based germanium virtual substrate. Applied Physics Letters, 2009, 94, 141902.	1.5	43
20	Understanding the Improvement in the Stability of a Self-Assembled Multiple-Quantum Well Perovskite Light-Emitting Diode. Journal of Physical Chemistry Letters, 2019, 10, 6857-6864.	2.1	42
21	Localized surface plasmon enhanced Ga ₂ O ₃ solar blind photodetectors. Optics Express, 2020, 28, 5731.	1.7	42
22	TiO ₂ Nanocrystal/Perovskite Bilayer for High-Performance Photodetectors. Advanced Electronic Materials, 2017, 3, 1700251.	2.6	39
23	Processing of fullerene-single wall carbon nanotube complex for bulk heterojunction photovoltaic cells. Applied Physics Letters, 2007, 91, 253112.	1.5	38
24	Interfacial nitrogen stabilizes carbon-coated mesoporous silicon particle anodes. Journal of Materials Chemistry A, 2016, 4, 434-442.	5.2	37
25	The Stability of Metal Halide Perovskite Nanocrystals—A Key Issue for the Application on Quantum-Dot-Based Micro Light-Emitting Diodes Display. Nanomaterials, 2020, 10, 1375.	1.9	36
26	An Efficient Trap Passivator for Perovskite Solar Cells: Poly(propylene glycol) bis(2-aminopropyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	14.4	35
27	Integration of Colloidal Quantum Dots with Photonic Structures for Optoelectronic and Optical Devices. Advanced Science, 2021, 8, e2101560.	5.6	35
28	In-situ Switching from Barrier-Limited to Ohmic Anodes for Efficient Organic Optoelectronics. Advanced Functional Materials, 2014, 24, 3051-3058.	7.8	33
29	Emission Enhancement and Intermittency in Polycrystalline Organolead Halide Perovskite Films. Molecules, 2016, 21, 1081.	1.7	33
30	Does Electron Delocalization Influence Charge Separation at Donor-Acceptor Interfaces in Organic Photovoltaic Cells?. Journal of Physical Chemistry C, 2018, 122, 21792-21802.	1.5	33
31	Self-Powered High-Detectivity Lateral MoS ₂ Schottky Photodetectors for Near-Infrared Operation. Advanced Electronic Materials, 2021, 7, 2001138.	2.6	31
32	Fullerene-multiwalled carbon nanotube complexes for bulk heterojunction photovoltaic cells. Applied Physics Letters, 2010, 96, 143303.	1.5	30
33	Carbon-coated Si micrometer particles binding to reduced graphene oxide for a stable high-capacity lithium-ion battery anode. Journal of Materials Chemistry A, 2016, 4, 17757-17763.	5.2	25
34	Probing the switching mechanism in ZnO nanoparticle memristors. Journal of Applied Physics, 2014, 116, 114501.	1.1	23
35	<i>In situ</i> investigation of light soaking in organolead halide perovskite films. APL Materials, 2019, 7, .	2.2	23
36	Cyclometalated Pt complex-based random terpolymers for efficient polymer solar cells. Polymer Chemistry, 2017, 8, 4729-4737.	1.9	21

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37	Microwave-assisted solid-state grafting of multi-walled carbon nanotubes on polyurethane for the synthesis of a composite with optical limiting properties. <i>Journal of Materials Chemistry</i> , 2009, 19, 6568.	6.7	20
38	Observation of oxygen vacancy migration in memory devices based on ZnO nanoparticles. <i>Journal of Applied Physics</i> , 2017, 121, .	1.1	20
39	Manipulating Ion Migration and Interfacial Carrier Dynamics via Amino Acid Treatment in Planar Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 15840-15848.	4.0	20
40	Modulation of Schottky Barrier Height of Metal/TaN/n-Ge Junctions by Varying TaN Thickness. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 1328-1331.	1.6	19
41	A broad-spectral-response perovskite photodetector with a high on/off ratio and high detectivity. <i>Materials Chemistry Frontiers</i> , 2018, 2, 1847-1852.	3.2	19
42	Ga ₂ O ₃ /GaN Heterostructural Ultraviolet Photodetectors with Exciton-Dominated Ultranarrow Response. <i>ACS Applied Electronic Materials</i> , 2022, 4, 188-196.	2.0	19
43	Enhanced photoluminescence of strained Ge with a δ -doping SiGe layer on silicon and silicon-on-insulator. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	18
44	Poly-GeSn Junctionless Thin-Film Transistors on Insulators Fabricated at Low Temperatures via Pulsed Laser Annealing. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900420.	1.2	18
45	Development of structure and tuning ability of the luminescence of lead-free halide perovskite nanocrystals (NCs). <i>Chemical Engineering Journal</i> , 2021, 420, 127603.	6.6	18
46	Ohmic contact formation of metal/amorphous-Ge/n-Ge junctions with an anomalous modulation of Schottky barrier height. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	17
47	Thermal Stability of Nickel Germanide Formed on Tensile-Strained Ge Epilayer on Si Substrate. <i>IEEE Electron Device Letters</i> , 2010, 31, 863-865.	2.2	15
48	Capitalization of interfacial ALON interactions to achieve stable binder-free porous silicon/carbon anodes. <i>Journal of Materials Chemistry A</i> , 2018, 6, 7449-7456.	5.2	15
49	Reducing Open-Circuit Voltage Deficit in Perovskite Solar Cells via Surface Passivation with Phenylhydroxylammonium Halide Salts. <i>Small Methods</i> , 2021, 5, e2000441.	4.6	15
50	Enhancing the interface stability of Li _{1.3} Al _{0.3} Ti _{1.7} (PO ₄) ₃ and lithium metal by amorphous Li _{1.5} Al _{0.5} Ge _{1.5} (PO ₄) ₃ modification. <i>Ionics</i> , 2020, 26, 3815-3821.	1.2	15
51	Cyclometalated Pt complex based random terpolymers as electron acceptors for all polymer solar cells. <i>Journal of Polymer Science Part A</i> , 2018, 56, 105-115.	2.5	14
52	An environmental friendly cross-linked polysaccharide binder for silicon anode in lithium-ion batteries. <i>Ionics</i> , 2019, 25, 4109-4118.	1.2	14
53	Low-temperature oxide-free silicon and germanium wafer bonding based on a sputtered amorphous Ge. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	13
54	The Impact of Solvent Vapor on the Film Morphology and Crystallization Kinetics of Lead Halide Perovskites during Annealing. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 45365-45374.	4.0	12

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55	Built-in potential shift and Schottky-barrier narrowing in organic solar cells with UV-sensitive electron transport layers. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 12131-12136.	1.3	11
56	NiSi _x /a-Si Nanowires with Interfacial a-Ge as Anodes for High-Rate Lithium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 673-679.	4.0	11
57	Enhanced circular photogalvanic effect in HgTe quantum wells in the heavily inverted regime. <i>Physical Review B</i> , 2017, 95, .	1.1	11
58	Room Temperature Electroluminescence from Tensile-Strained Si _{0.13} Ge _{0.87} /Ge Multiple Quantum Wells on a Ge Virtual Substrate. <i>Materials</i> , 2016, 9, 803.	1.3	10
59	Tuning crystal orientation and charge transport of quasi-2D perovskites via halogen-substituted benzylammonium for efficient solar cells. <i>Journal of Energy Chemistry</i> , 2022, 66, 205-209.	7.1	10
60	Real-time observation of ion migration in halide perovskite by photoluminescence imaging microscopy. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 044002.	1.3	10
61	<i>In situ</i> doped phosphorus diffusion behavior in germanium epilayer on silicon substrate by ultra-high vacuum chemical vapor deposition. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	9
62	Effect of excimer laser annealing on the silicon nanocrystals embedded in silicon-rich silicon nitride film. <i>Applied Physics A: Materials Science and Processing</i> , 2012, 106, 251-255.	1.1	8
63	Influence of Electron Extracting Interface Layers in Organic Bulk Heterojunction Solar Cells. <i>Advanced Materials Interfaces</i> , 2016, 3, 1500422.	1.9	8
64	Influence of Implantation Damages and Intrinsic Dislocations on Phosphorus Diffusion in Ge. <i>IEEE Transactions on Electron Devices</i> , 2013, 60, 3741-3745.	1.6	7
65	Role of Molecular and Interchain Ordering in the Formation of a π -Hole-Transporting Layer in Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 3806-3814.	4.0	6
66	Multiple-quantum-well perovskite for hole-transport-layer-free light-emitting diodes. <i>Chinese Chemical Letters</i> , 2022, 33, 1017-1020.	4.8	6
67	Mn-doped SiGe thin films grown by UHV/CVD with room-temperature ferromagnetism and high hole mobility. <i>Science China Materials</i> , 2022, 65, 2826-2832.	3.5	6
68	The study of temperature dependent strain in Ge epilayer with SiGe/Ge buffer layer on Si substrate with different thickness. <i>Applied Physics Letters</i> , 2014, 104, 241605.	1.5	5
69	Interface characteristics of different bonded structures fabricated by low-temperature a-Ge wafer bonding and the application of wafer-bonded Ge/Si photoelectric device. <i>Journal of Materials Science</i> , 2019, 54, 2406-2416.	1.7	5
70	Evolution of Laser-Induced Specific Nanostructures on SiGe Compounds via Laser Irradiation Intensity Tuning. <i>IEEE Photonics Journal</i> , 2014, 6, 1-5.	1.0	4
71	A Study of the Schottky-Barrier Height of Nickel Germanosilicide Contacts Formed on $\text{Si}_{1-x}\text{Ge}_x$ Epilayer on Si Substrates. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 2438-2443.	1.6	3
72	Self-mask fabrication of uniformly orientated SiGe island/SiGe/Si hetero-nanowire arrays with controllable sizes. <i>Journal of Materials Chemistry C</i> , 2013, 1, 6878.	2.7	3

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73	Resonant cavity enhanced photoluminescence of tensile strained Ge/SiGe quantum wells on silicon-on-insulator substrate. Optoelectronics Letters, 2014, 10, 213-215.	0.4	3
74	High-performance Ge p-i-n photodetector on Si substrate. Optoelectronics Letters, 2015, 11, 195-198.	0.4	3
75	Innovative Ge/SiO ₂ bonding based on an intermediate ultra-thin silicon layer. Journal of Materials Science: Materials in Electronics, 2017, 28, 10262-10269.	1.1	3
76	Perovskite Solar Cells: Capturing the Sun: A Review of the Challenges and Perspectives of Perovskite Solar Cells (Adv. Energy Mater. 16/2017). Advanced Energy Materials, 2017, 7, .	10.2	3
77	Optical gain from vertical Ge-on-Si resonant-cavity light emitting diodes with dual active regions. Applied Physics Letters, 2017, 111, 111106.	1.5	3
78	Thermal stability investigation of SiGe virtual substrate with a thin Ge buffer layer grown on Si substrate. Journal of Crystal Growth, 2013, 375, 115-118.	0.7	2
79	Influence of the hydrogen implantation power density on ion cutting of Ge. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2013, 31, .	0.6	2
80	Energy band design for p-type tensile strained Si/SiGe multi-quantum well infrared photodetector. Optoelectronics Letters, 2011, 7, 175-177.	0.4	1
81	Impacts of excimer laser annealing on Ge epilayer on Si. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	1.1	1
82	Simulation of the effects of defects in low temperature Ge buffer layer on dark current of Si-based Ge photodiodes. Journal of Semiconductors, 2017, 38, 042001.	2.0	1
83	High Performance Germanium n+/p Shallow Junction for nano-Scaled n-MOSFET. , 2019, , .		1
84	Growth mechanism identification of sputtered single crystalline bismuth nanowire. Applied Nanoscience (Switzerland), 2019, 9, 2091-2102.	1.6	1
85	Study on crystallization mechanism of GeSn interlayer for low temperature Ge/Si bonding. Journal of Materials Science: Materials in Electronics, 2021, 32, 10835-10842.	1.1	1
86	Electrode-Dependent Electrical Properties of Detection-Band Tunable Ultraviolet Photodetectors Based on Ga ₂ O ₃ /GaN Heterostructures. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100166.	0.8	1
87	Deducing localized surface plasmon properties through analysis of the far-field optical spectra. Journal Physics D: Applied Physics, 0, , .	1.3	1
88	Epitaxial Growth and Luminescence Characterization of Si-based Double Heterostructures Light-emitting Diodes with Iron Disilicide Active Region. Materials Research Society Symposia Proceedings, 2006, 958, 1.	0.1	0
89	Metal-semiconductor-metal Ge photodetectors on SOI substrates for near infrared wavelength operation. , 2008, , .		0
90	Preparation for SiGe/Si heterogeneous nanostructures via a two-step approach strategy. , 2008, , .		0

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91	Comment on "Use of Si ⁺ pre-ion-implantation on Si substrate to enhance the strain relaxation of the GeSi ^x metamorphic buffer layer for the growth of Ge layer on Si substrate" [Appl. Phys. Lett. 90, 083507 (2007)]. Applied Physics Letters, 2008, 93, 156102.	1.5	0
92	Preparation for Si/Se/Si sandwich structure on Si (001). , 2010, , .		0
93	Microcavity effects in SiGe/Si heterogeneous nanostructures prepared by electrochemical anodization of SiGe/Si multiple quantum wells. Journal of Applied Physics, 2011, 110, 103101.	1.1	0
94	Novel Photoluminescence from Porous SiGe/Si Multilayer Structure. , 2012, , .		0
95	Properties of ultra-thin SiGe/Insulator materials prepared by Ge condensation method. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 2027-2030.	0.8	0
96	Ge n ⁺ /p shallow junctions for light emission and detection applications. , 2017, , .		0
97	Encapsulation Techniques of Perovskite Solar Cells. , 2021, , .		0
98	Efficient Electroabsorption Modulation of Mid- and Far-Infrared Radiation by Driving the Band-Inversion Transition of InAs	1.5	0
99	Dipole-like and quadrupole-like reflection modes for Ag nanocube arrays on dielectric substrates. Journal Physics D: Applied Physics, 0, , .	1.3	0