

Moon-Ho Ham

List of Publications by Year in descending order

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117
papers

5,467
citations

101543

36
h-index

82547

72
g-index

120
all docs

120
docs citations

120
times ranked

9860
citing authors

#	ARTICLE	IF	CITATIONS
1	Understanding and controlling the substrate effect on graphene electron-transfer chemistry via reactivity imprint lithography. <i>Nature Chemistry</i> , 2012, 4, 724-732.	13.6	463
2	Virus-templated self-assembled single-walled carbon nanotubes for highly efficient electron collection in photovoltaic devices. <i>Nature Nanotechnology</i> , 2011, 6, 377-384.	31.5	368
3	Bi- and trilayer graphene solutions. <i>Nature Nanotechnology</i> , 2011, 6, 439-445.	31.5	337
4	M13 Phage-Functionalized Single-Walled Carbon Nanotubes As Nanoprobes for Second Near-Infrared Window Fluorescence Imaging of Targeted Tumors. <i>Nano Letters</i> , 2012, 12, 1176-1183.	9.1	256
5	Synthesis of Atomically Thin WO ₃ Sheets from Hydrated Tungsten Trioxide. <i>Chemistry of Materials</i> , 2010, 22, 5660-5666.	6.7	215
6	Electroluminescence from ZnO nanowires in n-ZnO film/ZnO nanowire array/p-GaN film heterojunction light-emitting diodes. <i>Applied Physics Letters</i> , 2006, 88, 202105.	3.3	182
7	Elevated Temperature Anodized Nb ₂ O ₅ : A Photoanode Material with Exceptionally Large Photoconversion Efficiencies. <i>ACS Nano</i> , 2012, 6, 4045-4053.	14.6	174
8	Lowering the Schottky Barrier Height by Graphene/Ag Electrodes for High-Mobility MoS ₂ Field-Effect Transistors. <i>Advanced Materials</i> , 2019, 31, e1804422.	21.0	165
9	ZnO-Nanowire-Inserted GaN/ZnO Heterojunction Light-Emitting Diodes. <i>Small</i> , 2007, 3, 568-572.	10.0	153
10	Sub-10 nm Graphene Nanoribbon Array Field-Effect Transistors Fabricated by Block Copolymer Lithography. <i>Advanced Materials</i> , 2013, 25, 4723-4728.	21.0	150
11	Tunable semi-permeability of graphene-based membranes by adjusting reduction degree of laminar graphene oxide layer. <i>Journal of Membrane Science</i> , 2018, 547, 73-79.	8.2	128
12	Photoelectrochemical complexes for solar energy conversion that chemically and autonomously regenerate. <i>Nature Chemistry</i> , 2010, 2, 929-936.	13.6	126
13	Enhanced desalination performance of forward osmosis membranes based on reduced graphene oxide laminates coated with hydrophilic polydopamine. <i>Carbon</i> , 2017, 117, 293-300.	10.3	125
14	Novel sulfonated graphene oxide incorporated polysulfone nanocomposite membranes for enhanced-performance in ultrafiltration process. <i>Chemosphere</i> , 2018, 207, 581-589.	8.2	109
15	Low-temperature-grown continuous graphene films from benzene by chemical vapor deposition at ambient pressure. <i>Scientific Reports</i> , 2015, 5, 17955.	3.3	108
16	Mechanical and electrical properties of NbMoTaW refractory high-entropy alloy thin films. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019, 80, 286-291.	3.8	96
17	Solid-state synthesis of Ti ₂ Nb ₁₀ O ₂₉ /reduced graphene oxide composites with enhanced lithium storage capability. <i>Journal of Power Sources</i> , 2015, 300, 272-278.	7.8	90
18	Evidence for High-Efficiency Exciton Dissociation at Polymer/Single-Walled Carbon Nanotube Interfaces in Planar Nano-heterojunction Photovoltaics. <i>ACS Nano</i> , 2010, 4, 6251-6259.	14.6	82

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19	Effects of the channel thickness on the structural and electrical characteristics of room-temperature fabricated ZnO thin-film transistors. <i>Semiconductor Science and Technology</i> , 2007, 22, 608-612.	2.0	78
20	Exciton antennas and concentrators from core-shell and corrugated carbon nanotube filaments of homogeneous composition. <i>Nature Materials</i> , 2010, 9, 833-839.	27.5	75
21	Hole-Mediated Ferromagnetic Properties in Zn _{1-x} Mn _x O Thin Films. <i>Japanese Journal of Applied Physics</i> , 2004, 43, L280-L283.	1.5	72
22	Highly Sensitive, Gate-Tunable, Room-Temperature Mid-Infrared Photodetection Based on Graphene-Bi ₂ Se ₃ Heterostructure. <i>ACS Photonics</i> , 2017, 4, 482-488.	6.6	70
23	Biomimetic strategies for solar energy conversion: a technical perspective. <i>Energy and Environmental Science</i> , 2011, 4, 3834.	30.8	69
24	Effects of multi-layer graphene capping on Cu interconnects. <i>Nanotechnology</i> , 2013, 24, 115707.	2.6	66
25	Sulfur vacancy-induced reversible doping of transition metal disulfides via hydrazine treatment. <i>Nanoscale</i> , 2017, 9, 9333-9339.	5.6	66
26	Self-Selective Characteristics of Nanoscale VO_x Devices for High-Density ReRAM Applications. <i>IEEE Electron Device Letters</i> , 2012, 33, 718-720.	3.9	57
27	Low-temperature synthesis of graphene by chemical vapor deposition and its applications. <i>FlatChem</i> , 2017, 5, 40-49.	5.6	55
28	Tunable Ion Sieving of Graphene Membranes through the Control of Nitrogen-Bonding Configuration. <i>Nano Letters</i> , 2018, 18, 5506-5513.	9.1	52
29	Dielectrophoretic assembly of GaN nanowires for UV sensor applications. <i>Solid State Communications</i> , 2008, 148, 194-198.	1.9	50
30	Palladium Nanoribbon Array for Fast Hydrogen Gas Sensing with Ultrahigh Sensitivity. <i>Advanced Materials</i> , 2015, 27, 6945-6952.	21.0	50
31	Atomic Vacancy Control and Elemental Substitution in a Monolayer Molybdenum Disulfide for High Performance Optoelectronic Device Arrays. <i>Advanced Functional Materials</i> , 2020, 30, 1908147.	14.9	50
32	Graphene oxide nanocomposite membrane cooperatively cross-linked by monomer and polymer overcoming the trade-off between flux and rejection in forward osmosis. <i>Journal of Membrane Science</i> , 2020, 598, 117684.	8.2	48
33	Dynamics of Simultaneous, Single Ion Transport through Two Single-Walled Carbon Nanotubes: Observation of a Three-State System. <i>Journal of the American Chemical Society</i> , 2011, 133, 203-205.	13.7	43
34	Contact characteristics in GaN nanowire devices. <i>Nanotechnology</i> , 2006, 17, 2203-2206.	2.6	41
35	High-quality nitrogen-doped graphene films synthesized from pyridine via two-step chemical vapor deposition. <i>Carbon</i> , 2020, 159, 579-585.	10.3	40
36	Isoidigo-Based Donor-Acceptor Conjugated Polymers for Air-Stable Nonvolatile Memory Devices. <i>ACS Macro Letters</i> , 2015, 4, 322-326.	4.8	39

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37	Control over Electron-Phonon Interaction by Dirac Plasmon Engineering in the Bi_2Se_3 Topological Insulator. <i>Nano Letters</i> , 2018, 18, 734-739.	9.1	39
38	Modeling and optimization of the growth rate for ZnO thin films using neural networks and genetic algorithms. <i>Expert Systems With Applications</i> , 2009, 36, 4061-4066.	7.6	36
39	Graphene Quantum Dot Oxidation Governs Noncovalent Biopolymer Adsorption. <i>Scientific Reports</i> , 2020, 10, 7074.	3.3	36
40	Chemical surface passivation of HfO_2 films in a ZnO nanowire transistor. <i>Nanotechnology</i> , 2006, 17, 2116-2121.	2.6	35
41	Single-Crystalline Ferromagnetic Mn_4Si_7 Nanowires. <i>Journal of Physical Chemistry C</i> , 2009, 113, 8143-8146.	3.1	35
42	Charge transfer in graphene/polymer interfaces for CO_2 detection. <i>Nano Research</i> , 2018, 11, 3529-3536.	10.4	34
43	Honeycomb-Like Nitrogen-Doped Carbon 3D Nanoweb@ Li_2S Cathode Material for Use in Lithium Sulfur Batteries. <i>ChemSusChem</i> , 2019, 12, 824-829.	6.8	34
44	Sub-10-nm Co_3O_4 nanoparticles/graphene composites as high-performance anodes for lithium storage. <i>Chemical Engineering Journal</i> , 2017, 309, 15-21.	12.7	33
45	Au@TiO_2 /reduced graphene oxide nanocomposites for lithium-ion capacitors. <i>Chemical Engineering Journal</i> , 2019, 362, 136-143.	12.7	32
46	Growth and characterization of MOMBE grown HfO_2 . <i>Applied Surface Science</i> , 2005, 240, 105-111.	6.1	31
47	All-solution-processed, transparent thin-film transistors based on metal oxides and single-walled carbon nanotubes. <i>Journal of Materials Chemistry C</i> , 2013, 1, 1840.	5.5	29
48	In_2O_3 -Based Thermoelectric Materials: The State of the Art and the Role of Surface State in the Improvement of the Efficiency of Thermoelectric Conversion. <i>Crystals</i> , 2018, 8, 14.	2.2	28
49	Cerium vanadate and reduced graphene oxide composites for lithium-ion batteries. <i>Journal of Alloys and Compounds</i> , 2017, 724, 1075-1082.	5.5	27
50	Ga-doped ZnO films deposited with varying sputtering powers and substrate temperatures by pulsed DC magnetron sputtering and their property improvement potentials. <i>Applied Surface Science</i> , 2012, 258, 6537-6544.	6.1	26
51	Effects of oxygen concentration on the properties of Al-doped ZnO transparent conductive films deposited by pulsed DC magnetron sputtering. <i>Materials Science in Semiconductor Processing</i> , 2013, 16, 997-1001.	4.0	25
52	Substitutional Fluorine Doping of Large-Area Molybdenum Disulfide Monolayer Films for Flexible Inverter Device Arrays. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 31804-31809.	8.0	25
53	Fabrication and characterization of $\text{GaN/amorphous Ga}_2\text{O}_3$ nanocables through thermal oxidation. <i>Solid State Communications</i> , 2007, 142, 437-440.	1.9	23
54	Size-Controlled Hollow Spheres of $\text{C}_6\text{Fe}_2\text{O}_3$ Prepared through the Quasiemulsion-Templated Method and Their Electrochemical Properties for Lithium-Ion Storage. <i>ChemElectroChem</i> , 2017, 4, 2045-2051.	3.4	23

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55	Effects of Li doping on the structural and electrical properties of solution-processed ZnO films for high-performance thin-film transistors. <i>Journal of Alloys and Compounds</i> , 2018, 739, 41-46.	5.5	23
56	Solution-processed highly adhesive graphene coatings for corrosion inhibition of metals. <i>Nano Research</i> , 2019, 12, 19-23.	10.4	23
57	Electrical spin injection from room-temperature ferromagnetic (Ga, Mn)N in nitride-based spin-polarized light-emitting diodes. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 7703-7708.	1.8	21
58	Effect of N-doped carbon layer on Co ₃ O ₄ nanowire-graphene composites as anode materials for lithium ion batteries. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 124, 266-273.	4.0	20
59	Micropatterning of block copolymer micelle thin films using solvent capillary contact printing. <i>Nanotechnology</i> , 2005, 16, 2897-2902.	2.6	19
60	The effect of doping temperature on the nitrogen-bonding configuration of nitrogen-doped graphene by hydrothermal treatment. <i>RSC Advances</i> , 2017, 7, 20738-20741.	3.6	18
61	Room Temperature Electron-Mediated Ferromagnetism in a Diluted Magnetic Semiconductor: (Ga,Mn)N. <i>Japanese Journal of Applied Physics</i> , 2002, 41, L1069-L1071.	1.5	17
62	Correlation of nanochemistry and electrical properties in HfO ₂ films grown by metalorganic molecular-beam epitaxy. <i>Applied Physics Letters</i> , 2005, 86, 102903.	3.3	17
63	Threshold Voltage Modulation of a Graphene/ZnO Barristor Using a Polymer Doping Process. <i>Advanced Electronic Materials</i> , 2019, 5, 1800805.	5.1	17
64	Transport Properties in (Ga,Mn)N Nanowire Field-Effect Transistors. <i>Journal of Physical Chemistry C</i> , 2007, 111, 11480-11483.	3.1	16
65	Electrical transport properties in electroless-etched Si nanowire field-effect transistors. <i>Microelectronic Engineering</i> , 2010, 87, 2407-2410.	2.4	16
66	Effect of deposition temperature on the properties of Al-doped ZnO films prepared by pulsed DC magnetron sputtering for transparent electrodes in thin-film solar cells. <i>Applied Surface Science</i> , 2012, 259, 596-599.	6.1	16
67	Quantitatively estimating defects in graphene devices using discharge current analysis method. <i>Scientific Reports</i> , 2015, 4, 4886.	3.3	15
68	Defect-Assisted Contact Property Enhancement in a Molybdenum Disulfide Monolayer. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 4129-4134.	8.0	15
69	Doping concentration dependence of ferromagnetic ordering in (Ga,Mn)N nanowires. <i>Applied Physics Letters</i> , 2006, 89, 173117.	3.3	14
70	Chemically Driven, Water-Soluble Composites of Carbon Nanotubes and Silver Nanoparticles as Stretchable Conductors. <i>ACS Macro Letters</i> , 2015, 4, 769-773.	4.8	14
71	Effect of ribbon width on electrical transport properties of graphene nanoribbons. <i>Nano Convergence</i> , 2018, 5, 7.	12.1	14
72	Chemically Prethiated Graphene for Anodes of Li-Ion Batteries. <i>Energy & Fuels</i> , 2020, 34, 13048-13055.	5.1	14

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73	Aspect Ratio Control of Copper Nanowire via Solution Process and Its Flexible Transparent Conductive Electrode Applications. <i>Electronic Materials Letters</i> , 2020, 16, 404-410.	2.2	14
74	Dynamic and Reversible Self-Assembly of Photoelectrochemical Complexes Based on Lipid Bilayer Disks, Photosynthetic Reaction Centers, and Single-Walled Carbon Nanotubes. <i>Langmuir</i> , 2011, 27, 1599-1609.	3.5	13
75	Copper-graphene heterostructure for back-end-of-line compatible high-performance interconnects. <i>Npj 2D Materials and Applications</i> , 2021, 5, .	7.9	13
76	Molecular interactions of polyimides with single-walled carbon nanotubes. <i>Polymer Chemistry</i> , 2013, 4, 290-295.	3.9	12
77	Bendable thin-film transistors based on sol-gel derived amorphous Ga-doped In ₂ O ₃ semiconductors. <i>Superlattices and Microstructures</i> , 2013, 59, 21-28.	3.1	12
78	Transfer of preheat-treated SnO ₂ via a sacrificial bridge-type ZnO layer for ethanol gas sensor. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 70-77.	7.8	12
79	Annealing effects on the properties of HfO ₂ films grown by metalorganic molecular beam epitaxy. <i>Microelectronic Engineering</i> , 2006, 83, 2452-2457.	2.4	11
80	Contact resistance improvement by the modulation of peripheral length to area ratio of graphene contact pattern. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	11
81	Selective alignment of a ZnO nanowire in a magnetic field for the fabrication of an air-gap field-effect transistor. <i>Microelectronic Engineering</i> , 2010, 87, 10-14.	2.4	10
82	Epitaxial synthesis of GaN/Ga ₂ O ₃ core/shell nanocable heterostructures by atmosphere control. <i>Acta Materialia</i> , 2010, 58, 4714-4722.	7.9	10
83	Direct Transfer Printing with Metal Oxide Layers for Fabricating Flexible Nanowire Devices. <i>Advanced Functional Materials</i> , 2015, 25, 6921-6926.	14.9	10
84	Flexible Transparent Nanogenerators Utilizing Shape-Modulated ZnO Nanorod Arrays on Graphene Electrodes. <i>Advanced Materials Technologies</i> , 2018, 3, 1700355.	5.8	10
85	Magnetotransport in (Ga,Mn)N Ferromagnetic Semiconductors Grown by Plasma-Enhanced Molecular Beam Epitaxy. <i>Japanese Journal of Applied Physics</i> , 2003, 42, L1372-L1374.	1.5	9
86	Observation of room-temperature ferromagnetism in (Al,Mn)N thin films. <i>Journal of Crystal Growth</i> , 2004, 271, 420-424.	1.5	8
87	Gate-controlled transport in GaN nanowire devices with high- κ Si ₃ N ₄ gate dielectrics. <i>Solid State Communications</i> , 2008, 145, 327-331.	1.9	8
88	Pulsed KrF laser-assisted direct deposition of graphitic capping layer for Cu interconnect. <i>Carbon</i> , 2017, 123, 307-310.	10.3	8
89	Low-Power Complementary Logic Circuit Using Polymer-Electrolyte-Gated Graphene Switching Devices. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 47247-47252.	8.0	8
90	MFM and Raman studies in PEMBE-grown (Ga,Mn)N thin films showing room-temperature ferromagnetism. <i>Applied Surface Science</i> , 2006, 252, 6289-6293.	6.1	7

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91	Dependence of electrical properties on interfacial layer of Ta ₂ O ₅ films. <i>Microelectronic Engineering</i> , 2007, 84, 2865-2868.	2.4	7
92	Controlled formation of oxide shells from GaN nanowires: Poly- to single-crystal. <i>Electronic Materials Letters</i> , 2011, 7, 243-247.	2.2	7
93	Resistive switching in an amorphous ZnO dielectric film prepared on a Ga-doped ZnO transparent electrode. <i>RSC Advances</i> , 2016, 6, 103864-103871.	3.6	7
94	Room-temperature ferromagnetism of Mg and Mn co-doped GaN films grown by PEMBE. <i>Applied Surface Science</i> , 2004, 222, 322-326.	6.1	6
95	Role of manganese in ferromagnetic (Al,Mn)N films. <i>Solid State Communications</i> , 2006, 137, 11-15.	1.9	5
96	High-k Ti _x Si _{1-x} O ₂ thin films prepared by co-sputtering method. <i>Microelectronic Engineering</i> , 2008, 85, 100-103.	2.4	5
97	Low-Damaged Layer-by-Layer Etching of Large-Area Molybdenum Disulfide Films via Mild Plasma Treatment. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000762.	3.7	5
98	Gate capacitance model for the design of graphene nanoribbon array field-effect transistors. <i>RSC Advances</i> , 2015, 5, 54861-54866.	3.6	4
99	Chemically Functionalized, Well-Dispersed Carbon Nanotubes in Lithium-Doped Zinc Oxide for Low-Cost, High-Performance Thin-Film Transistors. <i>Small</i> , 2016, 12, 1859-1865.	10.0	4
100	Large-Area Bernal-Stacked Bilayer Graphene Film on a Uniformly Rough Cu Surface via Chemical Vapor Deposition. <i>ACS Applied Electronic Materials</i> , 2021, 3, 2497-2503.	4.3	4
101	Properties of high-k Ti _{1-x} Si _x O ₂ gate dielectric layers prepared at room temperature. <i>Applied Surface Science</i> , 2008, 254, 3943-3948.	6.1	3
102	Predictive modeling and analysis of HfO ₂ thin film process based on Bayesian information criterion using PCA-based neural networks. <i>Surface and Interface Analysis</i> , 2013, 45, 1334-1339.	1.8	3
103	Effects of Mn flux on ferromagnetic properties of (Ga,Mn)N films grown by PEMBE. <i>Solid State Communications</i> , 2003, 128, 119-123.	1.9	2
104	A comparative study on magnetic and magnetotransport properties in (Ga, Mn)N epitaxial films grown on undoped and n-type GaN by PEMBE. <i>Journal of Physics Condensed Matter</i> , 2004, 16, 6139-6145.	1.8	2
105	EO Characteristics of Fringe-field Switching LCD on a-C:H Thin Films Using the UV Alignment Method. <i>Ferroelectrics</i> , 2006, 344, 191-196.	0.6	2
106	Mode tunable p-type Si nanowire transistor based zero drive load logic inverter. <i>Chemical Communications</i> , 2012, 48, 7307.	4.1	2
107	Transition Metal Dichalcogenides: Atomic Vacancy Control and Elemental Substitution in a Monolayer Molybdenum Disulfide for High Performance Optoelectronic Device Arrays (<i>Adv. Funct. Tj ETQq1 1 0.784314 rgBI /Overlock</i>)	1.4	1
108	Field-Effect Transistors: Sub-10 nm Graphene Nanoribbon Array Field-Effect Transistors Fabricated by Block Copolymer Lithography (<i>Adv. Mater.</i> 34/2013). <i>Advanced Materials</i> , 2013, 25, 4682-4682.	21.0	1

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109	Fabrication of Large-Area Molybdenum Disulfide Device Arrays Using Graphene/Ti Contacts. <i>Molecules</i> , 2021, 26, 4394.	3.8	1
110	Room-temperature ferromagnetism of (Ga,Mn)N films: effects of Ga flux and growth temperature. <i>Journal of Crystal Growth</i> , 2004, 260, 85-90.	1.5	0
111	Magnetic and magnetotransport properties in the n-type (Ga,Mn)N thin films. <i>Journal of Electronic Materials</i> , 2004, 33, 114-117.	2.2	0
112	Transistors: Chemically Functionalized, Well-Dispersed Carbon Nanotubes in Lithium-Doped Zinc Oxide for Low-Cost, High-Performance Thin-Film Transistors (Small 14/2016). <i>Small</i> , 2016, 12, 1960-1960.	10.0	0
113	Flexible Nanogenerators: Flexible Transparent Nanogenerators Utilizing Shape-Modulated ZnO Nanorod Arrays on Graphene Electrodes (<i>Adv. Mater. Technol.</i> 4/2018). <i>Advanced Materials Technologies</i> , 2018, 3, 1870014.	5.8	0
114	Ferromagnetic Properties in Diluted Magnetic Semiconductors (Al,Mn)N grown by PEMBE. <i>Transactions on Electrical and Electronic Materials</i> , 2006, 7, 12-15.	1.9	0
115	Process Effect on the RMS Roughness of CuInSe ₂ Thin Films Grown by MOMBE. <i>Transactions on Electrical and Electronic Materials</i> , 2007, 8, 58-66.	1.9	0
116	Binder-Free Pastes Fabricated from Sol-Gel-Derived TiO ₂ by Ammonia Addition for Low-Temperature Photoelectrodes. <i>Science of Advanced Materials</i> , 2014, 6, 2496-2500.	0.7	0
117	Electric Control over 2D Dirac Plasmon Resonances in Topological Insulator Bi ₂ Se ₃ in Proximity Contact with Graphene. , 2019, , .		0