Changgu Lee

List of Publications by Year
in descending order

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84 papers	42,069 citations	81900 39 h-index	54911 84 g-index
87 all docs	87 docs citations	87 times ranked	42307 citing authors

#	Article	IF	Citations
1	Measurement of the Elastic Properties and Intrinsic Strength of Monolayer Graphene. Science, 2008, 321, 385-388.	12.6	17,513
2	Atomically Thin<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>: A New Direct-Gap Semiconductor. Physical Review Letters, 2010, 105, 136805.	7.8	12,565
3	Anomalous Lattice Vibrations of Single- and Few-Layer MoS₂. ACS Nano, 2010, 4, 2695-2700.	14.6	4,028
4	Frictional Characteristics of Atomically Thin Sheets. Science, 2010, 328, 76-80.	12.6	1,504
5	Flexible and Transparent MoS₂ Field-Effect Transistors on Hexagonal Boron Nitride-Graphene Heterostructures. ACS Nano, 2013, 7, 7931-7936.	14.6	947
6	Chemical Vapor Deposition-Grown Graphene: The Thinnest Solid Lubricant. ACS Nano, 2011, 5, 5107-5114.	14.6	462
7	Synthesis of large-area multilayer hexagonal boron nitride for high material performance. Nature Communications, 2015, 6, 8662.	12.8	403
8	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. Physical Review B, 2013, 87, .	3.2	400
9	Friction Anisotropyâ€“Driven Domain Imaging on Exfoliated Monolayer Graphene. Science, 2011, 333, 607-610.	12.6	284
10	Direct exfoliation and dispersion of two-dimensional materials in pure water via temperature control. Nature Communications, 2015, 6, 8294.	12.8	277
11	Hard magnetic properties in nanoflake van der Waals Fe3GeTe2. Nature Communications, 2018, 9, 1554.	12.8	272
12	Substrate effect on thicknessâ€dependent friction on graphene. Physica Status Solidi (B): Basic Research, 2010, 247, 2909-2914.	1.5	206
13	Lowâ€Temperature Synthesis of Largeâ€Scale Molybdenum Disulfide Thin Films Directly on a Plastic Substrate Using Plasmaâ€Enhanced Chemical Vapor Deposition. Advanced Materials, 2015, 27, 5223-5229.	21.0	180
14	Work function variation of MoS2 atomic layers grown with chemical vapor deposition: The effects of thickness and the adsorption of water/oxygen molecules. Applied Physics Letters, 2015, 106, .	3.3	167
15	Synthesis of wafer-scale uniform molybdenum disulfide films with control over the layer number using a gas phase sulfur precursor. Nanoscale, 2014, 6, 2821.	5.6	166
16	Effect of surface morphology on friction of graphene on various substrates. Nanoscale, 2013, 5, 3063.	5.6	148
17	Evaluation of hexagonal boron nitride nano-sheets as a lubricant additive in water. Wear, 2013, 302, 981-986.	3.1	146
18	Antisymmetric magnetoresistance in van der Waals Fe ₃ GeTe ₂ /graphite/Fe ₃ GeTe ₂ trilayer heterostructures. Science Advances, 2019, 5, eaaw0409.	10.3	119

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19	Field-effect transistor with a chemically synthesized MoS2 sensing channel for label-free and highly sensitive electrical detection of DNA hybridization. Nano Research, 2015, 8, 2340-2350.	10.4	116
20	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. ACS Nano, 2016, 10, 1820-1828.	14.6	112
21	Enhanced Raman Scattering of Rhodamine 6G Films on Two-Dimensional Transition Metal Dichalcogenides Correlated to Photoinduced Charge Transfer. Chemistry of Materials, 2016, 28, 180-187.	6.7	112
22	Graphene oxide membrane for liquid phase organic molecular separation. Carbon, 2014, 77, 933-938.	10.3	93
23	Characteristics and effects of diffused water between graphene and a SiO2 substrate. Nano Research, 2012, 5, 710-717.	10.4	91
24	Structural and Optical Properties of Single- and Few-Layer Magnetic Semiconductor CrPS₄. ACS Nano, 2017, 11, 10935-10944.	14.6	85
25	Thickness Dependence of the Mechanical Properties of Freeâ€Standing Graphene Oxide Papers. Advanced Functional Materials, 2015, 25, 3756-3763.	14.9	75
26	Ultrahigh Photoresponsive Device Based on ReS₂/Graphene Heterostructure. Small, 2018, 14, e1802593.	10.0	75
27	Visualization and manipulation of magnetic domains in the quasi-two-dimensional material <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">F</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi>GeT</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2018, 97, .	3.2	74
28	Multifunctional van der Waals Brokenâ€Gap Heterojunction. Small, 2019, 15, e1804885.	10.0	71
29	Gateâ€Tunable Hole and Electron Carrier Transport in Atomically Thin Dualâ€Channel WSe₂/MoS₂ Heterostructure for Ambipolar Fieldâ€Effect Transistors. Advanced Materials, 2016, 28, 9519-9525.	21.0	70
30	Large-Area CVD-Grown Sub-2 V ReS₂ Transistors and Logic Gates. Nano Letters, 2017, 17, 2999-3005.	9.1	68
31	Optical properties of large-area ultrathin MoS2 films: Evolution from a single layer to multilayers. Journal of Applied Physics, 2014, 116, .	2.5	66
32	Graphene oxide papers with high water adsorption capacity for air dehumidification. Scientific Reports, 2017, 7, 9761.	3.3	63
33	Van der Waals Broken-Gap pâ€“n Heterojunction Tunnel Diode Based on Black Phosphorus and Rhenium Disulfide. ACS Applied Materials & Interfaces, 2019, 11, 8266-8275.	8.0	58
34	Antiferromagnetic coupling of van der Waals ferromagnetic Fe₃GeTe₂. Nanotechnology, 2019, 30, 245701.	2.6	53
35	On-stack two-dimensional conversion of MoS ₂ into MoO ₃. 2D Materials, 2017, 4, 014003.	4.4	51
36	Large-area niobium disulfide thin films as transparent electrodes for devices based on two-dimensional materials. Nanoscale, 2018, 10, 1056-1062.	5.6	44

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37	A robust and conductive metal-impregnated graphene oxide membrane selectively separating organic vapors. Chemical Communications, 2015, 51, 2671-2674.	4.1	42
38	Ultraclean and Direct Transfer of a Waferâ€Scale MoS₂ Thin Film onto a Plastic Substrate. Advanced Materials, 2017, 29, 1603928.	21.0	42
39	A conductive copolymer of graphene oxide/poly(1-(3-aminopropyl)pyrrole) and the adsorption of metal ions. Polymer Chemistry, 2014, 5, 4466.	3.9	41
40	Resonant tunnelling diodes based on twisted black phosphorus homostructures. Nature Electronics, 2021, 4, 269-276.	26.0	41
41	Wafer-scale monolayer MoS₂grown by chemical vapor deposition using a reaction of MoO₃and H₂S. Journal of Physics Condensed Matter, 2016, 28, 184002.	1.8	39
42	Wafer-Scale Substitutional Doping of Monolayer MoS₂ Films for High-Performance Optoelectronic Devices. ACS Applied Materials & Interfaces, 2019, 11, 12613-12621.	8.0	39
43	Direct Observation of Feâ€Ge Ordering in Fe_{5â^'}_xGeTe₂ Crystals and Resultant Helimagnetism. Advanced Functional Materials, 2021, 31, 2009758.	14.9	33
44	Ambipolar transport based on CVD-synthesized ReSe ₂. 2D Materials, 2017, 4, 025014.	4.4	31
45	Growth of serpentine carbon nanotubes on quartz substrates and their electrical properties. Nano Research, 2008, 1, 427-433.	10.4	28
46	A comprehensive study of piezomagnetic response in CrPS₄monolayer: mechanical, electronic properties and magnetic ordering under strains. Journal of Physics Condensed Matter, 2017, 29, 405801.	1.8	28
47	Vertically Stacked CVD-Grown 2D Heterostructure for Wafer-Scale Electronics. ACS Applied Materials & Interfaces, 2019, 11, 35444-35450.	8.0	27
48	Phase-Engineered Molybdenum Telluride/Black Phosphorus Van der Waals Heterojunctions for Tunable Multivalued Logic. ACS Applied Materials & Interfaces, 2020, 12, 14119-14124.	8.0	27
49	A Silicon Microturbopump for a Rankine-Cycle Power Generation Microsystemâ€”Part I: Component and System Design. Journal of Microelectromechanical Systems, 2011, 20, 312-325.	2.5	26
50	Nanopatched Graphene with Molecular Selfâ€Assembly Toward Grapheneâ€“Organic Hybrid Soft Electronics. Advanced Materials, 2018, 30, e1706480.	21.0	26
51	First-principles study of ferromagnetic metal Fe5GeTe2. Nano Materials Science, 2019, 1, 299-303.	8.8	26
52	Crossover between Photochemical and Photothermal Oxidations of Atomically Thin Magnetic Semiconductor CrPS₄. Nano Letters, 2019, 19, 4043-4051.	9.1	26
53	Topological Insulator-Based van der Waals Heterostructures for Effective Control of Massless and Massive Dirac Fermions. Nano Letters, 2018, 18, 8047-8053.	9.1	25
54	A Silicon Microturbopump for a Rankine-Cycle Power-Generation Microsystemâ€”Part II: Fabrication and Characterization. Journal of Microelectromechanical Systems, 2011, 20, 326-338.	2.5	23

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55	Large-area single-crystal graphene grown on a recrystallized Cu(111) surface by using a hole-pocket method. Nanoscale, 2016, 8, 13781-13789.	5.6	23
56	Measurements of the Electrical Conductivity of Monolayer Graphene Flakes Using Conductive Atomic Force Microscopy. Nanomaterials, 2021, 11, 2575.	4.1	23
57	Line-defect mediated formation of hole and Mo clusters in monolayer molybdenum disulfide. 2D Materials, 2016, 3, 014002.	4.4	21
58	Spin Dynamics Slowdown near the Antiferromagnetic Critical Point in Atomically Thin FePS₃. Nano Letters, 2021, 21, 5045-5052.	9.1	21
59	Terahertz, optical, and Raman signatures of monolayer graphene behavior in thermally reduced graphene oxide films. Journal of Applied Physics, 2013, 113, .	2.5	20
60	Adhesion and Self-Healing between Monolayer Molybdenum Disulfide and Silicon Oxide. Scientific Reports, 2017, 7, 14740.	3.3	18
61	Designing Carbon/Oxygen Ratios of Graphene Oxide Membranes for Proton Exchange Membrane Fuel Cells. Journal of Nanomaterials, 2019, 2019, 1-9.	2.7	18
62	Selectively Metallized 2D Materials for Simple Logic Devices. ACS Applied Materials & Interfaces, 2019, 11, 18571-18579.	8.0	17
63	Comparison of Frictional Properties of CVD-Grown MoS2 and Graphene Films under Dry Sliding Conditions. Nanomaterials, 2019, 9, 293.	4.1	17
64	Mechanical characterization of phase-changed single-layer MoS ₂ sheets. 2D Materials, 2019, 6, 025024.	4.4	14
65	Energy Dissipation in Black Phosphorus Heterostructured Devices. Advanced Materials Interfaces, 2019, 6, 1801528.	3.7	14
66	Exchange Bias Effect in Ferro-/Antiferromagnetic van der Waals Heterostructures. Nano Letters, 2020, 20, 3978-3985.	9.1	13
67	Polarized Raman Spectra and Complex Raman Tensors of Antiferromagnetic Semiconductor CrPS₄. Journal of Physical Chemistry C, 2021, 125, 2691-2698.	3.1	12
68	Interlayer magnetism in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub><mml:msub><mml:mi>Ge</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> Physical Review Materials, 2020, 4, .	2.4	12
69	Raman Scattering Measurement of Suspended Graphene under Extreme Strain Induced by Nanoindentation. Advanced Materials, 2022, 34, .	21.0	12
70	Bias-assisted atomic force microscope nanolithography on NbS₂thin films grown by chemical vapor deposition. Journal Physics D: Applied Physics, 2016, 49, 484001.	2.8	11
71	Bionanoelectronic platform with a lipid bilayer/CVD-grown MoS2 hybrid. Biosensors and Bioelectronics, 2019, 142, 111512.	10.1	11
72	Ultrafast and low-temperature synthesis of patternable MoS₂ using laser irradiation. Journal Physics D: Applied Physics, 2019, 52, 18LT01.	2.8	8

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73	Interface Engineering of Magnetic Anisotropy in van der Waals Ferromagnet-based Heterostructures. ACS Nano, 2021, 15, 16395-16403.	14.6	7
74	Design Principles and Measured Performance of Multistage Radial Flow Microturbomachinery at Low Reynolds Numbers. Journal of Fluids Engineering, Transactions of the ASME, 2008, 130, .	1.5	6
75	Self-Assembly of Silver Nanowire Ring Structures Driven by the Compressive Force of a Liquid Droplet. Langmuir, 2017, 33, 3367-3372.	3.5	6
76	Wafer-scale and patternable synthesis of NbS₂ for electrodes of organic transistors and logic gates. Journal of Materials Chemistry C, 2019, 7, 8599-8606.	5.5	6
77	Dominant in-plane cleavage direction of CrPS4. Computational Materials Science, 2019, 162, 277-280.	3.0	6
78	Iron-based ferromagnetic van der Waals materials. Journal Physics D: Applied Physics, 2021, 54, 473002.	2.8	5
79	Asymmetric carrier transport and weak localization in few layer graphene grown directly on a dielectric substrate. Physical Chemistry Chemical Physics, 2021, 23, 25284-25290.	2.8	5
80	Synthesis of 2D semiconducting single crystalline Bi₂S₃ for high performance electronics. Physical Chemistry Chemical Physics, 2021, 23, 26806-26812.	2.8	4
81	Preface for a special issue on 2D materials: growth, characterisation, properties and devices. Journal Physics D: Applied Physics, 2017, 50, 440401.	2.8	1
82	Photoresponsive Devices: Ultrahigh Photoresponsive Device Based on ReS2 /Graphene Heterostructure (Small 45/2018). Small, 2018, 14, 1870211.	10.0	1
83	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Cr</mml:mi><mml:mn>2</mml:mn></mml:mrow><mml:mrow mathvariant="normal">S</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> a bipolar semiconducting fully compensated ferrimagnet. Physical Review Materials, 2022, 6, .	2.4	1
84	Terahertz study of reduced graphene oxide. , 2012, , .		0