Xiaobo Lu

List of Publications by Year
in descending order

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70 papers	9,252 citations	109137 35 h-index	88477 70 g-index
71 all docs	71 docs citations	71 times ranked	12947 citing authors

#	Article	IF	Citations
1	Highly conducting graphene sheets and Langmuirâ€“Blodgett films. Nature Nanotechnology, 2008, 3, 538-542.	15.6	1,901
2	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. Nature, 2019, 574, 653-657.	13.7	987
3	Epitaxial growth of single-domain graphene on hexagonal boron nitride. Nature Materials, 2013, 12, 792-797.	13.3	882
4	Argon Plasma Induced Phase Transition in Monolayer MoS₂. Journal of the American Chemical Society, 2017, 139, 10216-10219.	6.6	332
5	Untying the insulating and superconducting orders in magic-angle graphene. Nature, 2020, 583, 375-378.	13.7	323
6	Oxygen-Assisted Chemical Vapor Deposition Growth of Large Single-Crystal and High-Quality Monolayer MoS₂. Journal of the American Chemical Society, 2015, 137, 15632-15635.	6.6	301
7	Scalable Growth of High-Quality Polycrystalline MoS₂ Monolayers on SiO₂ with Tunable Grain Sizes. ACS Nano, 2014, 8, 6024-6030.	7.3	263
8	Large-scale flexible and transparent electronics based on monolayer molybdenum disulfide field-effect transistors. Nature Electronics, 2020, 3, 711-717.	13.1	255
9	Tunable Piezoresistivity of Nanographene Films for Strain Sensing. ACS Nano, 2015, 9, 1622-1629.	7.3	246
10	An Anisotropic Etching Effect in the Graphene Basal Plane. Advanced Materials, 2010, 22, 4014-4019.	11.1	242
11	Current-driven magnetization switching in a van der Waals ferromagnet Fe ₃ GeTe ₂. Science Advances, 2019, 5, eaaw8904.	4.7	239
12	Observation of Strong Interlayer Coupling in MoS₂/WS₂ Heterostructures. Advanced Materials, 2016, 28, 1950-1956.	11.1	225
13	Catalyst-free growth of nanographene films on various substrates. Nano Research, 2011, 4, 315-321.	5.8	220
14	Grapheneâ€Contacted Ultrashort Channel Monolayer MoS₂ Transistors. Advanced Materials, 2017, 29, 1702522.	11.1	218
15	Gaps induced by inversion symmetry breaking andÂsecond-generation Dirac cones in graphene/hexagonal boron nitride. Nature Physics, 2016, 12, 1111-1115.	6.5	179
16	Patterning Graphene with Zigzag Edges by Selfâ€Aligned Anisotropic Etching. Advanced Materials, 2011, 23, 3061-3065.	11.1	167
17	Observation of an intrinsic bandgap and Landau level renormalization in graphene/boron-nitride heterostructures. Nature Communications, 2014, 5, 4461.	5.8	148
18	Observation of flat bands in twisted bilayer graphene. Nature Physics, 2021, 17, 189-193.	6.5	144

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19	Thermally Induced Graphene Rotation on Hexagonal Boron Nitride. Physical Review Letters, 2016, 116, 126101.	2.9	142
20	Precise control of the interlayer twist angle in large scale MoS2 homostructures. Nature Communications, 2020, 11, 2153.	5.8	142
21	Symmetry-broken Chern insulators and Rashba-like Landau-level crossings in magic-angle bilayer graphene. Nature Physics, 2021, 17, 710-714.	6.5	114
22	Signatures of Wigner crystal of electrons in a monolayer semiconductor. Nature, 2021, 595, 53-57.	13.7	102
23	Twist angle-dependent conductivities across MoS2/graphene heterojunctions. Nature Communications, 2018, 9, 4068.	5.8	90
24	Competing Zero-Field Chern Insulators in Superconducting Twisted Bilayer Graphene. Physical Review Letters, 2021, 127, 197701.	2.9	80
25	Quantum critical behaviour in magic-angle twisted bilayer graphene. Nature Physics, 2022, 18, 633-638.	6.5	66
26	Gate-dependent pseudospin mixing in graphene/boron nitride moirÃ© superlattices. Nature Physics, 2014, 10, 743-747.	6.5	64
27	A graphene Zenerâ€“Klein transistor cooled by a hyperbolic substrate. Nature Nanotechnology, 2018, 13, 47-52.	15.6	64
28	Gate tunable MoS ₂ â€“black phosphorus heterojunction devices. 2D Materials, 2015, 2, 034009.	2.0	61
29	Rolling Up a Monolayer MoS₂Sheet. Small, 2016, 12, 3770-3774.	5.2	60
30	Switchable friction enabled by nanoscale self-assembly on graphene. Nature Communications, 2016, 7, 10745.	5.8	59
31	Graphene Edge Lithography. Nano Letters, 2012, 12, 4642-4646.	4.5	49
32	New Floating Gate Memory with Excellent Retention Characteristics. Advanced Electronic Materials, 2019, 5, 1800726.	2.6	48
33	Two-step growth of graphene with separate controlling nucleation and edge growth directly on SiO2 substrates. Carbon, 2014, 72, 387-392.	5.4	45
34	Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply. Nature Communications, 2022, 13, 1007.	5.8	42
35	Modulating PL and electronic structures of MoS2/graphene heterostructures via interlayer twisting angle. Applied Physics Letters, 2017, 111, .	1.5	41
36	Identification of structural defects in graphitic materials by gas-phase anisotropic etching. Nanoscale, 2012, 4, 2005.	2.8	37

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37	Enhancement of carrier mobility in MoS2 field effect transistors by a SiO2 protective layer. Applied Physics Letters, 2016, 108, .	1.5	36
38	Hofstadter Butterfly and Many-Body Effects in Epitaxial Graphene Superlattice. Nano Letters, 2016, 16, 2387-2392.	4.5	36
39	Vapour-phase graphene epitaxy at low temperatures. Nano Research, 2012, 5, 258-264.	5.8	35
40	A Route toward Digital Manipulation of Water Nanodroplets on Surfaces. ACS Nano, 2014, 8, 3955-3960.	7.3	35
41	Multiple flat bands and topological Hofstadter butterfly in twisted bilayer graphene close to the second magic angle. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	35
42	Twist-Angle-Dependent Ultrafast Charge Transfer in MoS₂-Graphene van der Waals Heterostructures. Nano Letters, 2021, 21, 8051-8057.	4.5	30
43	Magnetotransport Properties of Graphene Nanoribbons with Zigzag Edges. Physical Review Letters, 2018, 120, 216601.	2.9	28
44	Magic-Angle Bilayer Graphene Nanocalorimeters: Toward Broadband, Energy-Resolving Single Photon Detection. Nano Letters, 2020, 20, 3459-3464.	4.5	28
45	Robust spin-valley polarization in commensurate <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> /graphene heterostructures. Physical Review B, 2018, 97, .	1.1	27
46	Graphene: Nanostructure engineering and applications. Frontiers of Physics, 2017, 12, 1.	2.4	26
47	Terahertz Photogalvanics in Twisted Bilayer Graphene Close to the Second Magic Angle. Nano Letters, 2020, 20, 7152-7158.	4.5	25
48	Electrically tunable quantum confinement of neutral excitons. Nature, 2022, 606, 298-304.	13.7	25
49	Temperature-driven evolution of critical points, interlayer coupling, and layer polarization in bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2018, 97, .	1.1	23
50	Nanoscale Imaging and Control of Hexagonal Boron Nitride Single Photon Emitters by a Resonant Nanoantenna. Nano Letters, 2020, 20, 1992-1999.	4.5	23
51	Graphene nanoribbons epitaxy on boron nitride. Applied Physics Letters, 2016, 108, .	1.5	21
52	Competitive Growth and Etching of Epitaxial Graphene. Journal of Physical Chemistry C, 2012, 116, 26929-26931.	1.5	20
53	Fabrication of high-quality all-graphene devices with low contact resistances. Nano Research, 2014, 7, 1449-1456.	5.8	20
54	Patterning monolayer graphene with zigzag edges on hexagonal boron nitride by anisotropic etching. Applied Physics Letters, 2016, 109, .	1.5	20

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55	Vertical Integration of 2D Building Blocks for Allâ€2D Electronics. Advanced Electronic Materials, 2020, 6, 2000550.	2.6	20
56	The Effect of Twin Grain Boundary Tuned by Temperature on the Electrical Transport Properties of Monolayer MoS2. Crystals, 2016, 6, 115.	1.0	18
57	Strong and tunable interlayer coupling of infrared-active phonons to excitons in van der Waals heterostructures. Physical Review B, 2019, 99, .	1.1	17
58	Comparative characterization of high-density plasma reactors using emission spectroscopy from VUV to NIR. Pure and Applied Chemistry, 2002, 74, 459-464.	0.9	16
59	Measuring local moirÃ© lattice heterogeneity of twisted bilayer graphene. Physical Review Research, 2021, 3, .	1.3	16
60	Noise in Graphene Superlattices Grown on Hexagonal Boron Nitride. ACS Nano, 2015, 9, 11382-11388.	7.3	15
61	Electronic structure of transferred graphene/h-BN van der Waals heterostructures with nonzero stacking angles by nano-ARPES. Journal of Physics Condensed Matter, 2016, 28, 444002.	0.7	14
62	Spatially indirect intervalley excitons in bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">W</mml:mi><mml:msub><mml:mi>Se</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math Physical Review B, 2022, 105, .	1.1	11
63	Ultrasensitive Calorimetric Measurements of the Electronic Heat Capacity of Graphene. Nano Letters, 2021, 21, 5330-5337.	4.5	10
64	Band evolution of two-dimensional transition metal dichalcogenides under electric fields. Applied Physics Letters, 2019, 115, 083104.	1.5	9
65	Nonvolatile Memory: New Floating Gate Memory with Excellent Retention Characteristics (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlock	2.6	8
66	A facile and efficient dry transfer technique for two-dimensional Van derWaals heterostructure. Chinese Physics B, 2017, 26, 087306.	0.7	7
67	High-order minibands and interband Landau level reconstruction in graphene moirÃ© superlattices. Physical Review B, 2020, 102, .	1.1	7
68	The interface of epitaxial nanographene on GaN by PECVD. AIP Advances, 2019, 9, 095060.	0.6	5
69	Pressure-mediated contact quality improvement between monolayer MoS ₂ and graphite. Chinese Physics B, 2019, 28, 017301.	0.7	5
70	Experimental evidence of plasmarons and effective fine structure constant in electron-doped graphene/h-BN heterostructure. Npj Quantum Materials, 2021, 6, .	1.8	3