Xiaobo Lu

List of Publications by Year in Descending Order

68 papers	6,490 citations	31 h-index	71 g-index
71 ext. papers	7,936 ext. citations	13.2 avg, IF	5.55 L-index

#	Paper	IF	Citations
68	Spatially indirect intervalley excitons in bilayer WSe2. *Physical Review B*, **2022**, 105,	3.3	2
67	Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply.. *Nature Communications*, **2022**, 13, 1007	17.4	3
66	Competing Zero-Field Chern Insulators in Superconducting Twisted Bilayer Graphene. *Physical Review Letters*, **2021**, 127, 197701	7.4	11
65	Symmetry-broken Chern insulators and Rashba-like Landau-level crossings in magic-angle bilayer graphene. *Nature Physics*, **2021**, 17, 710-714	16.2	34
64	Ultrasensitive Calorimetric Measurements of the Electronic Heat Capacity of Graphene. *Nano Letters*, **2021**, 21, 5330-5337	11.5	1
63	Signatures of Wigner crystal of electrons in a monolayer semiconductor. *Nature*, **2021**, 595, 53-57	50.4	20
62	Observation of flat bands in twisted bilayer graphene. *Nature Physics*, **2021**, 17, 189-193	16.2	45
61	Measuring local moir□lattice heterogeneity of twisted bilayer graphene. *Physical Review Research*, **2021**, 3,	3.9	6
60	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,	11.5	4
59	Twist-Angle-Dependent Ultrafast Charge Transfer in MoS-Graphene van der Waals Heterostructures. *Nano Letters*, **2021**, 21, 8051-8057	11.5	8
58	High-order minibands and interband Landau level reconstruction in graphene moir□superlattices. *Physical Review B*, **2020**, 102,	3.3	1
57	Untying the insulating and superconducting orders in magic-angle graphene. *Nature*, **2020**, 583, 375-378	50.4	136
56	Nanoscale Imaging and Control of Hexagonal Boron Nitride Single Photon Emitters by a Resonant Nanoantenna. *Nano Letters*, **2020**, 20, 1992-1999	11.5	13
55	Precise control of the interlayer twist angle in large scale MoS homostructures. *Nature Communications*, **2020**, 11, 2153	17.4	55
54	Vertical Integration of 2D Building Blocks for All-2D Electronics. *Advanced Electronic Materials*, **2020**, 6, 2000550	6.4	10
53	Large-scale flexible and transparent electronics based on monolayer molybdenum disulfide field-effect transistors. *Nature Electronics*, **2020**, 3, 711-717	28.4	90
52	Terahertz Photogalvanics in Twisted Bilayer Graphene Close to the Second Magic Angle. *Nano Letters*, **2020**, 20, 7152-7158	11.5	7

51	Magic-Angle Bilayer Graphene Nanocalorimeters: Toward Broadband, Energy-Resolving Single Photon Detection. *Nano Letters*, **2020**, 20, 3459-3464	11.5	13
50	Current-driven magnetization switching in a van der Waals ferromagnet FeGeTe. *Science Advances*, **2019**, 5, eaaw8904	14.3	119
49	Strong and tunable interlayer coupling of infrared-active phonons to excitons in van der Waals heterostructures. *Physical Review B*, **2019**, 99,	3.3	6
48	Nonvolatile Memory: New Floating Gate Memory with Excellent Retention Characteristics (Adv. Electron. Mater. 4/2019). *Advanced Electronic Materials*, **2019**, 5, 1970018	6.4	3
47	Pressure-mediated contact quality improvement between monolayer MoS 2 and graphite. *Chinese Physics B*, **2019**, 28, 017301	1.2	2
46	Band evolution of two-dimensional transition metal dichalcogenides under electric fields. *Applied Physics Letters*, **2019**, 115, 083104	3.4	4
45	The interface of epitaxial nanographene on GaN by PECVD. *AIP Advances*, **2019**, 9, 095060	1.5	3
44	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. *Nature*, **2019**, 574, 653-657	50.4	490
43	New Floating Gate Memory with Excellent Retention Characteristics. *Advanced Electronic Materials*, **2019**, 5, 1800726	6.4	25
42	Temperature-driven evolution of critical points, interlayer coupling, and layer polarization in bilayer MoS2. *Physical Review B*, **2018**, 97,	3.3	18
41	Robust spin-valley polarization in commensurate MoS2/graphene heterostructures. *Physical Review B*, **2018**, 97,	3.3	20
40	A graphene Zener-Klein transistor cooled by a hyperbolic substrate. *Nature Nanotechnology*, **2018**, 13, 47-52	28.7	43
39	Twist angle-dependent conductivities across MoS/graphene heterojunctions. *Nature Communications*, **2018**, 9, 4068	17.4	59
38	Magnetotransport Properties of Graphene Nanoribbons with Zigzag Edges. *Physical Review Letters*, **2018**, 120, 216601	7.4	19
37	Graphene: Nanostructure engineering and applications. *Frontiers of Physics*, **2017**, 12, 1	3.7	18
36	Argon Plasma Induced Phase Transition in Monolayer MoS. *Journal of the American Chemical Society* , **2017**, 139, 10216-10219	16.4	234
35	Graphene-Contacted Ultrashort Channel Monolayer MoS Transistors. *Advanced Materials*, **2017**, 29, 1702522	24	144
34	A facile and efficient dry transfer technique for two-dimensional Van derWaals heterostructure. *Chinese Physics B*, **2017**, 26, 087306	1.2	7

33	Modulating PL and electronic structures of MoS2/graphene heterostructures via interlayer twisting angle. *Applied Physics Letters*, **2017**, 111, 263106	3.4	31
32	Gaps induced by inversion symmetry breaking and second-generation Dirac cones in graphene/hexagonal boron nitride. *Nature Physics*, **2016**, 12, 1111-1115	16.2	136
31	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	1.8	9
30	Thermally Induced Graphene Rotation on Hexagonal Boron Nitride. *Physical Review Letters*, **2016**, 116, 126101	7.4	103
29	Observation of Strong Interlayer Coupling in MoS2/WS2 Heterostructures. *Advanced Materials*, **2016**, 28, 1950-6	24	172
28	Hofstadter Butterfly and Many-Body Effects in Epitaxial Graphene Superlattice. *Nano Letters*, **2016**, 16, 2387-92	11.5	25
27	The Effect of Twin Grain Boundary Tuned by Temperature on the Electrical Transport Properties of Monolayer MoS2. *Crystals*, **2016**, 6, 115	2.3	15
26	Rolling Up a Monolayer MoS2 Sheet. *Small*, **2016**, 12, 3770-4	11	39
25	Switchable friction enabled by nanoscale self-assembly on graphene. *Nature Communications*, **2016**, 7, 10745	17.4	40
24	Enhancement of carrier mobility in MoS2 field effect transistors by a SiO2 protective layer. *Applied Physics Letters*, **2016**, 108, 203105	3.4	25
23	Graphene nanoribbons epitaxy on boron nitride. *Applied Physics Letters*, **2016**, 108, 113103	3.4	17
22	Patterning monolayer graphene with zigzag edges on hexagonal boron nitride by anisotropic etching. *Applied Physics Letters*, **2016**, 109, 053101	3.4	17
21	Gate tunable MoS 2 Black phosphorus heterojunction devices. *2D Materials*, **2015**, 2, 034009	5.9	55
20	Noise in Graphene Superlattices Grown on Hexagonal Boron Nitride. *ACS Nano*, **2015**, 9, 11382-8	16.7	13
19	Oxygen-Assisted Chemical Vapor Deposition Growth of Large Single-Crystal and High-Quality Monolayer MoS2. *Journal of the American Chemical Society*, **2015**, 137, 15632-5	16.4	243
18	Tunable piezoresistivity of nanographene films for strain sensing. *ACS Nano*, **2015**, 9, 1622-9	16.7	194
17	Two-step growth of graphene with separate controlling nucleation and edge growth directly on SiO2 substrates. *Carbon*, **2014**, 72, 387-392	10.4	38
16	Scalable growth of high-quality polycrystalline MoS(2) monolayers on SiO(2) with tunable grain sizes. *ACS Nano*, **2014**, 8, 6024-30	16.7	233

15	Observation of an intrinsic bandgap and Landau level renormalization in graphene/boron-nitride heterostructures. *Nature Communications*, **2014**, 5, 4461	17.4	122
14	Gate-dependent pseudospin mixing in graphene/boron nitride moiré superlattices. *Nature Physics*, **2014**, 10, 743-747	16.2	53
13	Fabrication of high-quality all-graphene devices with low contact resistances. *Nano Research*, **2014**, 7, 1449-1456	10	14
12	A route toward digital manipulation of water nanodroplets on surfaces. *ACS Nano*, **2014**, 8, 3955-60	16.7	28
11	Epitaxial growth of single-domain graphene on hexagonal boron nitride. *Nature Materials*, **2013**, 12, 792-7	27	745
10	Identification of structural defects in graphitic materials by gas-phase anisotropic etching. *Nanoscale*, **2012**, 4, 2005-9	7.7	33
9	Competitive Growth and Etching of Epitaxial Graphene. *Journal of Physical Chemistry C*, **2012**, 116, 26929-26931	5.2	18
8	Graphene edge lithography. *Nano Letters*, **2012**, 12, 4642-6	11.5	39
7	Vapour-phase graphene epitaxy at low temperatures. *Nano Research*, **2012**, 5, 258-264	10	30
6	Catalyst-free growth of nanographene films on various substrates. *Nano Research*, **2011**, 4, 315-321	10	192
5	Patterning graphene with zigzag edges by self-aligned anisotropic etching. *Advanced Materials*, **2011**, 23, 3061-5	24	150
4	An anisotropic etching effect in the graphene basal plane. *Advanced Materials*, **2010**, 22, 4014-9	24	220
3	Highly conducting graphene sheets and Langmuir-Blodgett films. *Nature Nanotechnology*, **2008**, 3, 538-42	28.7	1750
2	Comparative characterization of high-density plasma reactors using emission spectroscopy from VUV to NIR. *Pure and Applied Chemistry*, **2002**, 74, 459-464	2.1	16
1	Quantum critical behaviour in magic-angle twisted bilayer graphene. *Nature Physics*,	16.2	2