Boris I Yakobson

List of Publications by Year
in descending order

396 papers	50,815 citations	1238 110 h-index	1634 215 g-index
415 all docs	415 docs citations	415 times ranked	38099 citing authors

#	Article	IF	Citations
1	Nanomechanics of Carbon Tubes: Instabilities beyond Linear Response. Physical Review Letters, 1996, 76, 2511-2514.	7.8	2,450
2	Large Scale Growth and Characterization of Atomic Hexagonal Boron Nitride Layers. Nano Letters, 2010, 10, 3209-3215.	9.1	2,317
3	Vertical and in-plane heterostructures from WS2/MoS2 monolayers. Nature Materials, 2014, 13, 1135-1142.	27.5	1,918
4	Intrinsic Structural Defects in Monolayer Molybdenum Disulfide. Nano Letters, 2013, 13, 2615-2622.	9.1	1,766
5	Laser-induced porous graphene films from commercial polymers. Nature Communications, 2014, 5, 5714.	12.8	1,645
6	Vapour phase growth and grain boundary structure of molybdenum disulphide atomic layers. Nature Materials, 2013, 12, 754-759.	27.5	1,590
7	A library of atomically thin metal chalcogenides. Nature, 2018, 556, 355-359.	27.8	1,225
8	The Role of Surface Oxygen in the Growth of Large Single-Crystal Graphene on Copper. Science, 2013, 342, 720-723.	12.6	977
9	C2F,BN, and C nanoshell elasticity fromab initiocomputations. Physical Review B, 2001, 64, .	3.2	948
10	A review on mechanics and mechanical properties of 2D materialsâ€"Graphene and beyond. Extreme Mechanics Letters, 2017, 13, 42-77.	4.1	920
11	Quasiparticle band structures and optical properties of strained monolayer MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>and WS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 87, .	3.2	764
12	Achieving Highly Efficient, Selective, and Stable CO₂ Reduction on Nitrogen-Doped Carbon Nanotubes. ACS Nano, 2015, 9, 5364-5371.	14.6	546
13	Polymorphism of Two-Dimensional Boron. Nano Letters, 2012, 12, 2441-2445.	9.1	545
14	High strain rate fracture and C-chain unraveling in carbon nanotubes. Computational Materials Science, 1997, 8, 341-348.	3.0	475
15	Brittle and Ductile Behavior in Carbon Nanotubes. Physical Review Letters, 1998, 81, 4656-4659.	7.8	475
16	Controlled nanocutting of graphene. Nano Research, 2008, 1, 116-122.	10.4	472
17	Strain and structure heterogeneity in MoS2 atomic layers grown by chemical vapour deposition. Nature Communications, 2014, 5, 5246.	12.8	453
18	Mechanism of strain release in carbon nanotubes. Physical Review B, 1998, 57, R4277-R4280.	3.2	441

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19	Gram-scale bottom-up flash graphene synthesis. Nature, 2020, 577, 647-651.	27.8	438
20	Incorporation of Nitrogen Defects for Efficient Reduction of CO₂ via Two-Electron Pathway on Three-Dimensional Graphene Foam. Nano Letters, 2016, 16, 466-470.	9.1	435
21	Single-Atomic Ruthenium Catalytic Sites on Nitrogen-Doped Graphene for Oxygen Reduction Reaction in Acidic Medium. ACS Nano, 2017, 11, 6930-6941.	14.6	435
22	B80Fullerene: AnAbÂInitioPrediction of Geometry, Stability, and Electronic Structure. Physical Review Letters, 2007, 98, 166804.	7.8	416
23	Wafer-scale single-crystal hexagonal boron nitride monolayers on CuÂ(111). Nature, 2020, 579, 219-223.	27.8	409
24	Borophene as a prototype for synthetic 2D materials development. Nature Nanotechnology, 2018, 13, 444-450.	31.5	392
25	Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. ACS Nano, 2018, 12, 11756-11784.	14.6	388
26	Nitrogenâ€Doped Carbon Nanotube Arrays for Highâ€Efficiency Electrochemical Reduction of CO₂: On the Understanding of Defects, Defect Density, and Selectivity. Angewandte Chemie - International Edition, 2015, 54, 13701-13705.	13.8	382
27	Carbon nanotubeâ€enhanced thermal destruction of cancer cells in a noninvasive radiofrequency field. Cancer, 2007, 110, 2654-2665.	4.1	381
28	Can Two-Dimensional Boron Superconduct?. Nano Letters, 2016, 16, 2522-2526.	9.1	380
29	Carbyne from First Principles: Chain of C Atoms, a Nanorod or a Nanorope. ACS Nano, 2013, 7, 10075-10082.	14.6	375
30	Nonlocal shell model for elastic wave propagation in single- and double-walled carbon nanotubes. Journal of the Mechanics and Physics of Solids, 2008, 56, 3475-3485.	4.8	369
31	Electrochemical CO₂ Reduction with Atomic Ironâ€Dispersed on Nitrogenâ€Doped Graphene. Advanced Energy Materials, 2018, 8, 1703487.	19.5	369
32	Controlled Sliding and Pullout of Nested Shells in Individual Multiwalled Carbon Nanotubes. Journal of Physical Chemistry B, 2000, 104, 8764-8767.	2.6	363
33	Mechanical Properties of Carbon Nanotubes. , 2001, , 287-327.		357
34	Self-optimizing, highly surface-active layeredÂmetal dichalcogenide catalysts for hydrogen evolution. Nature Energy, 2017, 2, .	39.5	336
35	Mechanical relaxation and â€œintramolecular plasticityâ€• in carbon nanotubes. Applied Physics Letters, 1998, 72, 918-920.	3.3	326
36	Graphene Nucleation on Transition Metal Surface: Structure Transformation and Role of the Metal Step Edge. Journal of the American Chemical Society, 2011, 133, 5009-5015.	13.7	315

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37	Cones, Pringles, and Grain Boundary Landscapes in Graphene Topology. Nano Letters, 2010, 10, 2178-2183.	9.1	314
38	Predicting Dislocations and Grain Boundaries in Two-Dimensional Metal-Disulfides from the First Principles. Nano Letters, 2013, 13, 253-258.	9.1	310
39	Highâ€Performance Hydrogen Evolution from MoS_{2(1â€“x)}P_x Solid Solution. Advanced Materials, 2016, 28, 1427-1432.	21.0	309
40	BN White Graphene with â€œColorfulâ€•Edges: The Energies and Morphology. Nano Letters, 2011, 11, 3113-3116.	9.1	301
41	Dislocation theory of chirality-controlled nanotube growth. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2506-2509.	7.1	297
42	Feasibility of Lithium Storage on Graphene and Its Derivatives. Journal of Physical Chemistry Letters, 2013, 4, 1737-1742.	4.6	297
43	Two-dimensional boron: structures, properties and applications. Chemical Society Reviews, 2017, 46, 6746-6763.	38.1	296
44	Twoâ€Dimensional Boron Monolayers Mediated by Metal Substrates. Angewandte Chemie - International Edition, 2015, 54, 13022-13026.	13.8	288
45	Oxygen-activated growth and bandgap tunability of large single-crystal bilayer graphene. Nature Nanotechnology, 2016, 11, 426-431.	31.5	287
46	Probing the Synthesis of Twoâ€Dimensional Boron by Firstâ€Principles Computations. Angewandte Chemie - International Edition, 2013, 52, 3156-3159.	13.8	274
47	Borophene Synthesis on Au(111). ACS Nano, 2019, 13, 3816-3822.	14.6	261
48	Fullerene Nanocage Capacity for Hydrogen Storage. Nano Letters, 2008, 8, 767-774.	9.1	246
49	Elasticity, Flexibility, and Ideal Strength of Borophenes. Advanced Functional Materials, 2017, 27, 1605059.	14.9	237
50	Equilibrium at the edge and atomistic mechanisms of graphene growth. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15136-15140.	7.1	236
51	Electronics and Magnetism of Patterned Graphene Nanoroads. Nano Letters, 2009, 9, 1540-1543.	9.1	235
52	Role of Hydrogen in Graphene Chemical Vapor Deposition Growth on a Copper Surface. Journal of the American Chemical Society, 2014, 136, 3040-3047.	13.7	234
53	In situ observation of graphene sublimation and multi-layer edge reconstructions. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10103-10108.	7.1	232
54	Intrinsic Magnetism of Grain Boundaries in Two-Dimensional Metal Dichalcogenides. ACS Nano, 2013, 7, 10475-10481.	14.6	232

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55	Symmetry-, time-, and temperature-dependent strength of carbon nanotubes. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 6105-6109.	7.1	229
56	Electro-mechanical anisotropy of phosphorene. Nanoscale, 2015, 7, 9746-9751.	5.6	223
57	Boron- and Nitrogen-Substituted Graphene Nanoribbons as Efficient Catalysts for Oxygen Reduction Reaction. Chemistry of Materials, 2015, 27, 1181-1186.	6.7	219
58	Dislocations and Grain Boundaries in Two-Dimensional Boron Nitride. ACS Nano, 2012, 6, 7053-7058.	14.6	216
59	Evolutionary selection growth of two-dimensional materials on polycrystalline substrates. Nature Materials, 2018, 17, 318-322.	27.5	204
60	Curvature-induced polarization in carbon nanoshells. Chemical Physics Letters, 2002, 360, 182-188.	2.6	200
61	Ripping Graphene: Preferred Directions. Nano Letters, 2012, 12, 293-297.	9.1	200
62	Direct chemical conversion of graphene to boron- and nitrogen- and carbon-containing atomic layers. Nature Communications, 2014, 5, 3193.	12.8	198
63	In situ evidence for chirality-dependent growth rates of individual carbon nanotubes. Nature Materials, 2012, 11, 213-216.	27.5	195
64	Dislocation motion and grain boundary migration in two-dimensional tungsten disulphide. Nature Communications, 2014, 5, 4867.	12.8	192
65	Ballistic Thermal Conductance of Graphene Ribbons. Nano Letters, 2010, 10, 1652-1656.	9.1	190
66	Two-Dimensional Tetragonal TiC Monolayer Sheet and Nanoribbons. Journal of the American Chemical Society, 2012, 134, 19326-19329.	13.7	186
67	Two-Dimensional Mono-Elemental Semiconductor with Electronically Inactive Defects: The Case of Phosphorus. Nano Letters, 2014, 14, 6782-6786.	9.1	186
68	Quaternary 2D Transition Metal Dichalcogenides (TMDs) with Tunable Bandgap. Advanced Materials, 2017, 29, 1702457.	21.0	186
69	Photoluminescence Quenching and Charge Transfer in Artificial Heterostacks of Monolayer Transition Metal Dichalcogenides and Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 555-563.	14.6	183
70	Type-II Multiferroic Hf₂VC₂F₂ MXene Monolayer with High Transition Temperature. Journal of the American Chemical Society, 2018, 140, 9768-9773.	13.7	179
71	Predicting Two-Dimensional Silicon Carbide Monolayers. ACS Nano, 2015, 9, 9802-9809.	14.6	177
72	Graphene Edge from Armchair to Zigzag: The Origins of Nanotube Chirality?. Physical Review Letters, 2010, 105, 235502.	7.8	174

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73	Pseudo Hallâ€"Petch Strength Reduction in Polycrystalline Graphene. Nano Letters, 2013, 13, 1829-1833.	9.1	172
74	Self-gating in semiconductor electrocatalysis. Nature Materials, 2019, 18, 1098-1104.	27.5	167
75	The future of the fullerenes. Solid State Communications, 1998, 107, 597-606.	1.9	164
76	Consistent methodology for calculating surface and interface energies. Physical Review B, 1998, 57, 7281-7291.	3.2	161
77	Clustering of Sc on SWNT and Reduction of Hydrogen Uptake:â€‰ Ab-Initio All-Electron Calculations. Journal of Physical Chemistry C, 2007, 111, 17977-17980.	3.1	159
78	Why nanotubes grow chiral. Nature Communications, 2014, 5, 4892.	12.8	158
79	Spontaneous twist and intrinsic instabilities of pristine graphene nanoribbons. Nano Research, 2009, 2, 161-166.	10.4	157
80	Hydrogen storage by spillover on graphene as a phase nucleation process. Physical Review B, 2008, 78, .	3.2	155
81	Substrate-Induced Nanoscale Undulations of Borophene on Silver. Nano Letters, 2016, 16, 6622-6627.	9.1	155
82	Phase Diagram of Quasi-Two-Dimensional Carbon, From Graphene to Diamond. Nano Letters, 2014, 14, 676-681.	9.1	154
83	Engineering grain boundaries at theÂ2D limit for theÂhydrogen evolution reaction. Nature Communications, 2020, 11, 57.	12.8	153
84	Two-Dimensional SiS Layers with Promising Electronic and Optoelectronic Properties: Theoretical Prediction. Nano Letters, 2016, 16, 1110-1117.	9.1	149
85	Atomic H-Induced Mo₂C Hybrid as an Active and Stable Bifunctional Electrocatalyst. ACS Nano, 2017, 11, 384-394.	14.6	149
86	Polyphony in B flat. Nature Chemistry, 2016, 8, 525-527.	13.6	148
87	Nanomechanical cleavage of molybdenum disulphide atomic layers. Nature Communications, 2014, 5, 3631.	12.8	144
88	Probing Properties of Boron Î±-Tubes by Ab Initio Calculations. Nano Letters, 2008, 8, 1314-1317.	9.1	140
89	Borophene synthesis beyond the single-atomic-layer limit. Nature Materials, 2022, 21, 35-40.	27.5	137
90	Quantum Dots and Nanoroads of Graphene Embedded in Hexagonal Boron Nitride. Journal of Physical Chemistry C, 2011, 115, 9889-9893.	3.1	135

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91	Two-Dimensional Boron Polymorphs for Visible Range Plasmonics: A First-Principles Exploration. Journal of the American Chemical Society, 2017, 139, 17181-17185.	13.7	135
92	Highly Itinerant Atomic Vacancies in Phosphorene. Journal of the American Chemical Society, 2016, 138, 10199-10206.	13.7	134
93	Mechanically induced defects and strength of BN nanotubes. Physical Review B, 2002, 65, .	3.2	132
94	Strong ferromagnetism in hydrogenated monolayer MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>tuned by strain. Physical Review B, 2013, 88, .	3.2	130
95	Mechanically Induced Metalâ€"Insulator Transition in Carbyne. Nano Letters, 2014, 14, 4224-4229.	9.1	130
96	Oral vaccination of wildlife using a vacciniaâ€"rabies-glycoprotein recombinant virus vaccine (RABORAL V-RGÂ®): a global review. Veterinary Research, 2017, 48, 57.	3.0	130
97	Tailoring the Physical Properties of Molybdenum Disulfide Monolayers by Control of Interfacial Chemistry. Nano Letters, 2014, 14, 1354-1361.	9.1	129
98	How Nitrogen-Doped Graphene Quantum Dots Catalyze Electroreduction of CO₂ to Hydrocarbons and Oxygenates. ACS Catalysis, 2017, 7, 6245-6250.	11.2	129
99	Intermixing and periodic self-assembly of borophene line defects. Nature Materials, 2018, 17, 783-788.	27.5	129
100	H-Spillover through the Catalyst Saturation: An Ab Initio Thermodynamics Study. ACS Nano, 2009, 3, 1657-1662.	14.6	127
101	Oxygen breaks into carbon world. Nature, 2006, 441, 818-819.	27.8	126
102	Growth Mechanism and Morphology of Hexagonal Boron Nitride. Nano Letters, 2016, 16, 1398-1403.	9.1	123
103	Scratching the Surface of Buckminsterfullerene:Â The Barriers for Stoneâ˜Wales Transformation through Symmetric and Asymmetric Transition States. Journal of the American Chemical Society, 2003, 125, 5572-5580.	13.7	122
104	Engineering electronic properties of layered transition-metal dichalcogenide compounds through alloying. Nanoscale, 2014, 6, 5820-5825.	5.6	122
105	Strain-Induced Electronic Structure Changes in Stacked van der Waals Heterostructures. Nano Letters, 2016, 16, 3314-3320.	9.1	122
106	Patterning nanoroads and quantum dots on fluorinated graphene. Nano Research, 2011, 4, 143-152.	10.4	120
107	Pseudoclimb and Dislocation Dynamics in Superplastic Nanotubes. Physical Review Letters, 2007, 98, 075503.	7.8	119
108	Vacancy Clusters in Graphane as Quantum Dots. ACS Nano, 2010, 4, 3510-3514.	14.6	119

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109	An Open Canvasâ€"2D Materials with Defects, Disorder, and Functionality. Accounts of Chemical Research, 2015, 48, 73-80.	15.6	119
110	Thickness-dependent patterning of MoS2 sheets with well-oriented triangular pits by heating in air. Nano Research, 2013, 6, 703-711.	10.4	118
111	Grain Boundary Structures and Electronic Properties of Hexagonal Boron Nitride on Cu(111). Nano Letters, 2015, 15, 5804-5810.	9.1	117
112	Electronic transport through bent carbon nanotubes: Nanoelectromechanical sensors and switches. Physical Review B, 2003, 67, .	3.2	114
113	Kinetic Theory of Symmetry-Dependent Strength in Carbon Nanotubes. Physical Review Letters, 2002, 88, 065501.	7.8	110
114	Bond-breaking bifurcation states in carbon nanotube fracture. Journal of Chemical Physics, 2003, 118, 9485-9488.	3.0	110
115	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Lightâ€"Matter Interactions. Advanced Materials, 2015, 27, 7800-7808.	21.0	109
116	What is the Ground-State Structure of the Thinnest Si Nanowires?. Physical Review Letters, 2003, 91, 035501.	7.8	108
117	Observational Geology of Graphene, at the Nanoscale. ACS Nano, 2011, 5, 1569-1574.	14.6	108
118	High Performance Electrocatalytic Reaction of Hydrogen and Oxygen on Ruthenium Nanoclusters. ACS Applied Materials & Interfaces, 2017, 9, 3785-3791.	8.0	108
119	Atomistic theory of mechanical relaxation in fullerene nanotubes. Carbon, 2000, 38, 1675-1680.	10.3	107
120	Building a stable cationic molecule/electrode interface for highly efficient and durable CO₂ reduction at an industrially relevant current. Energy and Environmental Science, 2021, 14, 483-492.	30.8	101
121	Efficient Defect Healing in Catalytic Carbon Nanotube Growth. Physical Review Letters, 2012, 108, 245505.	7.8	100
122	How Evaporating Carbon Nanotubes Retain Their Perfection?. Nano Letters, 2007, 7, 681-684.	9.1	99
123	Calcium-Decorated Carbyne Networks as Hydrogen Storage Media. Nano Letters, 2011, 11, 2660-2665.	9.1	98
124	Hydrogen Peroxide Generation with 100% Faradaic Efficiency on Metal-Free Carbon Black. ACS Catalysis, 2021, 11, 2454-2459.	11.2	98
125	Strong interfacial coupling of MoS2/g-C3N4 van de Waals solids for highly active water reduction. Nano Energy, 2016, 27, 44-50.	16.0	96
126	Direct and Indirect Interlayer Excitons in a van der Waals Heterostructure of hBN/WS₂/MoS₂/hBN. ACS Nano, 2018, 12, 2498-2505.	14.6	96

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127	Oxidized Laserâ€induced Graphene for Efficient Oxygen Electrocatalysis. Advanced Materials, 2018, 30, e1707319.	21.0	94
128	Assessing Carbon-Based Anodes for Lithium-Ion Batteries: A Universal Description of Charge-Transfer Binding. Physical Review Letters, 2014, 113, 028304.	7.8	93
129	Atomic Ru Immobilized on Porous h-BN through Simple Vacuum Filtration for Highly Active and Selective CO₂ Methanation. ACS Catalysis, 2019, 9, 10077-10086.	11.2	93
130	How Graphene Islands Are Unidirectionally Aligned on the Ge(110) Surface. Nano Letters, 2016, 16, 3160-3165.	9.1	92
131	Interface Toughness of Carbon Nanotube Reinforced Epoxy Composites. ACS Applied Materials & Interfaces, 2011, 3, 129-134.	8.0	91
132	An Anomalous Formation Pathway for Dislocation-Sulfur Vacancy Complexes in Polycrystalline Monolayer MoS₂. Nano Letters, 2015, 15, 6855-6861.	9.1	90
133	Riemann Surfaces of Carbon as Graphene Nanosolenoids. Nano Letters, 2016, 16, 34-39.	9.1	88
134	Predicting stable phase monolayer Mo₂C (MXene), a superconductor with chemically-tunable critical temperature. Journal of Materials Chemistry C, 2017, 5, 3438-3444.	5.5	88
135	Endohedral silicon nanotubes as thinnest silicide wires. Physical Review B, 2004, 70, .	3.2	87
136	Real Time Microscopy, Kinetics, and Mechanism of Giant Fullerene Evaporation. Physical Review Letters, 2007, 99, 175503.	7.8	87
137	Manyâ€body and spinâ€orbit effects on directâ€indirect band gap transition of strained monolayer MoS₂ and WS₂. Annalen Der Physik, 2014, 526, L7.	2.4	87
138	Dynamic Topology of Fullerene Coalescence. Physical Review Letters, 2002, 88, 185501.	7.8	86
139	Influence of Size Effect on the Electronic and Elastic Properties of Diamond Films with Nanometer Thickness. Journal of Physical Chemistry C, 2011, 115, 132-136.	3.1	82
140	First-Principles Studies of Li Nucleation on Graphene. Journal of Physical Chemistry Letters, 2014, 5, 1225-1229.	4.6	82
141	Large Hexagonal Biâ€and Trilayer Graphene Single Crystals with Varied Interlayer Rotations. Angewandte Chemie - International Edition, 2014, 53, 1565-1569.	13.8	82
142	Mechanisms of the oxygen reduction reaction on B- and/or N-doped carbon nanomaterials with curvature and edge effects. Nanoscale, 2018, 10, 1129-1134.	5.6	81
143	Origins and effects of thermal processes on nearâ€field optical probes. Applied Physics Letters, 1995, 67, 2597-2599.	3.3	80
144	Flash Graphene Morphologies. ACS Nano, 2020, 14, 13691-13699.	14.6	78

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145	Carrier Delocalization in Two-Dimensional Coplanar pâ€“n Junctions of Graphene and Metal Dichalcogenides. Nano Letters, 2016, 16, 5032-5036.	9.1	77
146	Two-dimensional boronâ€“nitrogenâ€“carbon monolayers with tunable direct band gaps. Nanoscale, 2015, 7, 12023-12029.	5.6	74
147	An atomistic and non-classical continuum field theoretic perspective of elastic interactions between defects (force dipoles) of various symmetries and application to graphene. Journal of the Mechanics and Physics of Solids, 2006, 54, 2304-2329.	4.8	73
148	Energetics of Stoneâ€“Wales defects in deformations of monoatomic hexagonal layers. Computational Materials Science, 2002, 23, 62-72.	3.0	72
149	The ultimate diamond slab: GraphAne versus graphEne. Diamond and Related Materials, 2010, 19, 368-373.	3.9	71
150	Low Contact Barrier in 2H/1Tâ€² MoTe₂ In-Plane Heterostructure Synthesized by Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2019, 11, 12777-12785.	8.0	70
151	Metal-assisted hydrogen storage on Pt-decorated single-walled carbon nanohorns. Carbon, 2012, 50, 4953-4964.	10.3	69
152	Thermodynamics of yield in boron nitride nanotubes. Physical Review B, 2003, 68, .	3.2	68
153	Breaking of Symmetry in Graphene Growth on Metal Substrates. Physical Review Letters, 2015, 114, 115502.	7.8	68
154	Flexoelectricity in Carbon Nanostructures: Nanotubes, Fullerenes, and Nanocones. Journal of Physical Chemistry Letters, 2015, 6, 2740-2744.	4.6	68
155	Defect-Detriment to Graphene Strength Is Concealed by Local Probe: The Topological and Geometrical Effects. ACS Nano, 2015, 9, 401-408.	14.6	66
156	Strain-rate and temperature dependent plastic yield in carbon nanotubes from ab initio calculations. Applied Physics Letters, 2004, 84, 2775-2777.	3.3	65
157	Closed-Edged Graphene Nanoribbons from Large-Diameter Collapsed Nanotubes. ACS Nano, 2012, 6, 6023-6032.	14.6	65
158	Geometric imaging of borophene polymorphs with functionalized probes. Nature Communications, 2019, 10, 1642.	12.8	65
159	Nanotube-derived carbon foam for hydrogen sorption. Journal of Chemical Physics, 2007, 127, 164703.	3.0	64
160	Nanomechanics of carbon honeycomb cellular structures. Carbon, 2017, 113, 26-32.	10.3	64
161	Two-Dimensional Diamondâ€”Diamane: Current State and Further Prospects. Nano Letters, 2021, 21, 5475-5484.	9.1	64
162	Edge-Catalyst Wetting and Orientation Control of Graphene Growth by Chemical Vapor Deposition Growth. Journal of Physical Chemistry Letters, 2014, 5, 3093-3099.	4.6	63

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163	Layer Engineering of 2D Semiconductor Junctions. Advanced Materials, 2016, 28, 5126-5132.	21.0	63
164	How Much N-Doping Can Graphene Sustain?. Journal of Physical Chemistry Letters, 2015, 6, 106-112.	4.6	62
165	Nanotubes. Current Opinion in Solid State and Materials Science, 1997, 2, 706-715.	11.5	61
166	Coalescence of fullerene cages:â€ƒTopology, energetics, and molecular dynamics simulation. Physical Review B, 2002, 66, .	3.2	61
167	Challenges in hydrogen adsorptions: from physisorption to chemisorption. Frontiers of Physics, 2011, 6, 142-150.	5.0	61
168	Persistence Length and Nanomechanics of Random Bundles of Nanotubes. Journal of Nanoparticle Research, 2006, 8, 105-110.	1.9	60
169	Growing a Carbon Nanotube Atom by Atom: â€œAnd Yet It Does Turnâ€• Nano Letters, 2009, 9, 2961-2966.	9.1	59
170	Nanotube nucleation versus carbon-catalyst adhesionâ€“Probed by molecular dynamics simulations. Journal of Chemical Physics, 2009, 131, 224501.	3.0	59
171	Two-Level Quantum Systems in Two-Dimensional Materials for Single Photon Emission. Nano Letters, 2019, 19, 408-414.	9.1	59
172	New insights into the properties and interactions of carbon chains as revealed by HRTEM and DFT analysis. Carbon, 2014, 66, 436-441.	10.3	58
173	The Boron Buckyball and Its Precursors: An Electronic Structure Study. Journal of Physical Chemistry A, 2008, 112, 13679-13683.	2.5	57
174	Carbon Nanotube Nucleation Driven by Catalyst Morphology Dynamics. ACS Nano, 2011, 5, 10096-10101.	14.6	57
175	Dirac Cones and Nodal Line in Borophene. Journal of Physical Chemistry Letters, 2018, 9, 2757-2762.	4.6	56
176	Hexagonal Boron Nitride for Sulfur Corrosion Inhibition. ACS Nano, 2020, 14, 14809-14819.	14.6	56
177	Metallacarboranes: Toward Promising Hydrogen Storage Metal Organic Frameworks. Journal of the American Chemical Society, 2010, 132, 14126-14129.	13.7	55
178	Spiral Growth of SnSe₂ Crystals by Chemical Vapor Deposition. Advanced Materials Interfaces, 2016, 3, 1600383.	3.7	55
179	How the Complementarity at Vicinal Steps Enables Growth of 2D Monocrystals. Nano Letters, 2019, 19, 2027-2031.	9.1	55
180	Selective Cap Opening in Carbon Nanotubes Driven by Laser-Induced Coherent Phonons. Physical Review Letters, 2004, 92, 117401.	7.8	54

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181	Pushing the boundaries. Nature Materials, 2011, 10, 415-417.	27.5	54
182	Manganese deception on graphene and implications in catalysis. Carbon, 2018, 132, 623-631.	10.3	54
183	Interaction between graphene layers and the mechanisms of graphite's superlubricity and self-retraction. Nanoscale, 2013, 5, 6736.	5.6	53
184	Self-modulated band gap in boron nitride nanoribbons and hydrogenated sheets. Nanoscale, 2013, 5, 6381.	5.6	53
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