Michael F Crommie

List of Publications by Year
in descending order

106 papers	17,952 citations	31976 53 h-index	27406 106 g-index
112 all docs	112 docs citations	112 times ranked	19604 citing authors

#	Article	IF	Citations
1	Direct observation of a widely tunable bandgap in bilayer graphene. Nature, 2009, 459, 820-823.	27.8	3,148
2	Giant bandgap renormalization and excitonic effects in a monolayer transition metal dichalcogenide semiconductor. Nature Materials, 2014, 13, 1091-1095.	27.5	1,470
3	High-Resolution EM of Colloidal Nanocrystal Growth Using Graphene Liquid Cells. Science, 2012, 336, 61-64.	12.6	989
4	Origin of spatial charge inhomogeneity in graphene. Nature Physics, 2009, 5, 722-726.	16.7	630
5	Spatially resolving edge states of chiral grapheneÂnanoribbons. Nature Physics, 2011, 7, 616-620.	16.7	628
6	Quantum spin Hall state in monolayer 1T'-WTe2. Nature Physics, 2017, 13, 683-687.	16.7	596
7	Local Electronic Properties of Graphene on a BN Substrate via Scanning Tunneling Microscopy. Nano Letters, 2011, 11, 2291-2295.	9.1	539
8	Characterization of collective ground states in single-layer NbSe2. Nature Physics, 2016, 12, 92-97.	16.7	536
9	Mott and generalized Wigner crystal states in WSe2/WS2 moirÃ© superlattices. Nature, 2020, 579, 359-363.	27.8	536
10	Tuning the Band Gap of Graphene Nanoribbons Synthesized from Molecular Precursors. ACS Nano, 2013, 7, 6123-6128.	14.6	510
11	Topological band engineering of graphene nanoribbons. Nature, 2018, 560, 204-208.	27.8	452
12	Drude conductivity of Dirac fermions in graphene. Physical Review B, 2011, 83, .	3.2	447
13	Molecular bandgap engineering of bottom-up synthesized graphene nanoribbon heterojunctions. Nature Nanotechnology, 2015, 10, 156-160.	31.5	414
14	Giant phonon-induced conductance in scanning tunnelling spectroscopy of gate-tunable graphene. Nature Physics, 2008, 4, 627-630.	16.7	404
15	A direct transfer of layer-area graphene. Applied Physics Letters, 2010, 96, .	3.3	335
16	Short-channel field-effect transistors with 9-atom and 13-atom wide graphene nanoribbons. Nature Communications, 2017, 8, 633.	12.8	312
17	Scanning tunneling spectroscopy of inhomogeneous electronic structure in monolayer and bilayer graphene on SiC. Applied Physics Letters, 2007, 91, .	3.3	238
18	Gate-controlled ionization and screening of cobalt adatoms on a graphene surface. Nature Physics, 2011, 7, 43-47.	16.7	233

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19	Observation of ultralong valley lifetime in WSe ₂ /MoS ₂ heterostructures. Science Advances, 2017, 3, e1700518.	10.3	226
20	Observing Atomic Collapse Resonances in Artificial Nuclei on Graphene. Science, 2013, 340, 734-737.	12.6	223
21	Bottom-up graphene nanoribbon field-effect transistors. Applied Physics Letters, 2013, 103, .	3.3	218
22	Site-Specific Substitutional Boron Doping of Semiconducting Armchair Graphene Nanoribbons. Journal of the American Chemical Society, 2015, 137, 8872-8875.	13.7	213
23	Charge density wave order in 1D mirror twin boundaries of single-layer MoSe2. Nature Physics, 2016, 12, 751-756.	16.7	209
24	Identifying substitutional oxygen as a prolific point defect in monolayer transition metal dichalcogenides. Nature Communications, 2019, 10, 3382.	12.8	196
25	Characterization and manipulation of individual defects in insulating hexagonal boron nitride using scanning tunnelling microscopy. Nature Nanotechnology, 2015, 10, 949-953.	31.5	192
26	Imaging electrostatically confined Dirac fermions in graphene quantum dots. Nature Physics, 2016, 12, 1032-1036.	16.7	176
27	Direct Growth of Single- and Few-Layer MoS₂ on h-BN with Preferred Relative Rotation Angles. Nano Letters, 2015, 15, 6324-6331.	9.1	172
28	Atomically precise graphene nanoribbon heterojunctions from a single molecular precursor. Nature Nanotechnology, 2017, 12, 1077-1082.	31.5	162
29	Electronic Structure, Surface Doping, and Optical Response in Epitaxial WSe₂ Thin Films. Nano Letters, 2016, 16, 2485-2491.	9.1	147
30	Imaging two-dimensional generalized Wigner crystals. Nature, 2021, 597, 650-654.	27.8	147
31	Probing the Role of Interlayer Coupling and Coulomb Interactions on Electronic Structure in Few-Layer MoSe₂ Nanostructures. Nano Letters, 2015, 15, 2594-2599.	9.1	136
32	Imaging single-molecule reaction intermediates stabilized by surface dissipation and entropy. Nature Chemistry, 2016, 8, 678-683.	13.6	130
33	Inducing metallicity in graphene nanoribbons via zero-mode superlattices. Science, 2020, 369, 1597-1603.	12.6	127
34	Strong correlations and orbital texture in single-layer 1T-TaSe2. Nature Physics, 2020, 16, 218-224.	16.7	126
35	Closing the Nanographene Gap: Surfaceâ€Assisted Synthesis of Peripentacene from 6,6â€²â€Bipentacene Precursors. Angewandte Chemie - International Edition, 2015, 54, 15143-15146.	13.8	124
36	Soliton-dependent plasmon reflection at bilayer graphene domainÂwalls. Nature Materials, 2016, 15, 840-844.	27.5	124

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37	Bottom-Up Synthesis of N = 13 Sulfur-Doped Graphene Nanoribbons. Journal of Physical Chemistry C, 2016, 120, 2684-2687.	3.1	119
38	Imaging moirÃ© flat bands in three-dimensional reconstructed WSe2/WS2 superlattices. Nature Materials, 2021, 20, 945-950.	27.5	118
39	Local spectroscopy of moirÃ©-induced electronic structure in gate-tunable twisted bilayer graphene. Physical Review B, 2015, 92, .	3.2	114
40	Mapping Dirac quasiparticles near a single Coulomb impurity on graphene. Nature Physics, 2012, 8, 653-657.	16.7	111
41	Persistent Charge-Density-Wave Order in Single-Layer TaSe₂. Nano Letters, 2018, 18, 689-694.	9.1	108
42	Observation of topologically protected states at crystalline phase boundaries in single-layer WSe2. Nature Communications, 2018, 9, 3401.	12.8	107
43	Observation of Carrier-Density-Dependent Many-Body Effects in Graphene via Tunneling Spectroscopy. Physical Review Letters, 2010, 104, 036805.	7.8	106
44	Tuning charge and correlation effects for a single molecule on a graphene device. Nature Communications, 2016, 7, 13553.	12.8	82
45	Bottom-up Assembly of Nanoporous Graphene with Emergent Electronic States. Journal of the American Chemical Society, 2020, 142, 13507-13514.	13.7	77
46	Hierarchical On-Surface Synthesis of Graphene Nanoribbon Heterojunctions. ACS Nano, 2018, 12, 2193-2200.	14.6	75
47	Local Electronic Structure of Molecular Heterojunctions in a Singleâ€Layer 2D Covalent Organic Framework. Advanced Materials, 2019, 31, e1805941.	21.0	74
48	Evidence for quantum spin liquid behaviour in single-layer 1T-TaSe2 from scanning tunnelling microscopy. Nature Physics, 2021, 17, 1154-1161.	16.7	74
49	Local Electronic Structure of a Single-Layer Porphyrin-Containing Covalent Organic Framework. ACS Nano, 2018, 12, 385-391.	14.6	68
50	Reversible writing of high-mobility and high-carrier-density doping patterns in two-dimensional van der Waals heterostructures. Nature Electronics, 2020, 3, 99-105.	26.0	64
51	Nanoscale Control of Rewriteable Doping Patterns in Pristine Graphene/Boron Nitride Heterostructures. Nano Letters, 2016, 16, 1620-1625.	9.1	60
52	Molecular Arrangement and Charge Transfer in C₆₀/Graphene Heterostructures. ACS Nano, 2017, 11, 4686-4693.	14.6	60
53	Measuring reversible photomechanical switching rates for a molecule at a surface. Applied Physics Letters, 2008, 92, .	3.3	55
54	Molecular Self-Assembly in a Poorly Screened Environment: F₄TCNQ on Graphene/BN. ACS Nano, 2015, 9, 12168-12173.	14.6	45

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55	Visualization and Control of Single-Electron Charging in Bilayer Graphene Quantum Dots. Nano Letters, 2018, 18, 5104-5110.	9.1	41
56	Length-Dependent Evolution of Type II Heterojunctions in Bottom-Up-Synthesized Graphene Nanoribbons. Nano Letters, 2019, 19, 3221-3228.	9.1	41
57	Sequence-defined oligo(ortho-arylene) foldamers derived from the benzannulation of ortho(arylene ethynylene)s. Chemical Science, 2016, 7, 6357-6364.	7.4	40
58	Imaging and Tuning Molecular Levels at the Surface of a Gated Graphene Device. ACS Nano, 2014, 8, 5395-5401.	14.6	39
59	Structural and electronic switching of a single crystal 2D metal-organic framework prepared by chemical vapor deposition. Nature Communications, 2020, 11, 5524.	12.8	37
60	Imaging local discharge cascades for correlated electrons in WS2/WSe2 moirÃ© superlattices. Nature Physics, 2021, 17, 1114-1119.	16.7	36
61	Catalystâ€Free and Morphologyâ€Controlled Growth of 2D Perovskite Nanowires for Polarized Light Detection. Advanced Optical Materials, 2019, 7, 1900039.	7.3	35
62	Iodine versus Bromine Functionalization for Bottom-Up Graphene Nanoribbon Growth: Role of Diffusion. Journal of Physical Chemistry C, 2017, 121, 18490-18495.	3.1	31
63	Concentration Dependence of Dopant Electronic Structure in Bottom-up Graphene Nanoribbons. Nano Letters, 2018, 18, 3550-3556.	9.1	31
64	Tuning colour centres at a twisted hexagonal boron nitride interface. Nature Materials, 2022, 21, 896-902.	27.5	31
65	Manipulating Topological Domain Boundaries in the Single-Layer Quantum Spin Hall Insulator 1Tâ€²â€“WSe2. Nano Letters, 2019, 19, 5634-5639.	9.1	30
66	Visualizing delocalized correlated electronic states in twisted double bilayer graphene. Nature Communications, 2021, 12, 2516.	12.8	30
67	Graphene-Sealed Flow Cells for In Situ Transmission Electron Microscopy of Liquid Samples. ACS Nano, 2020, 14, 9637-9643.	14.6	29
68	Revealing the Local Electronic Structure of a Single-Layer Covalent Organic Framework through Electronic Decoupling. Nano Letters, 2020, 20, 963-970.	9.1	28
69	Transfer-Free Synthesis of Atomically Precise Graphene Nanoribbons on Insulating Substrates. ACS Nano, 2021, 15, 2635-2642.	14.6	27
70	PHYSICS: Manipulating Magnetism in a Single Molecule. Science, 2005, 309, 1501-1502.	12.6	25
71	Preventing Thin Film Dewetting via Graphene Capping. Advanced Materials, 2017, 29, 1701536.	21.0	23
72	Frustrated supercritical collapse in tunable charge arrays on graphene. Nature Communications, 2019, 10, 477.	12.8	23

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73	Ultrahigh-resolution scanning microwave impedance microscopy of moirÃ© lattices and superstructures. Science Advances, 2020, 6, .	10.3	23
74	Synergetic Bottom-Up Synthesis of Graphene Nanoribbons by Matrix-Assisted Direct Transfer. Journal of the American Chemical Society, 2021, 143, 4174-4178.	13.7	23
75	Rationally Designed Topological Quantum Dots in Bottom-Up Graphene Nanoribbons. ACS Nano, 2021, 15, 20633-20642.	14.6	22
76	Selenium capped monolayer NbSe₂ for twoâ€dimensional superconductivity studies. Physica Status Solidi (B): Basic Research, 2016, 253, 2396-2399.	1.5	17
77	Local Electronic Properties of Coherent Single-Layer WS₂/WSe₂ Lateral Heterostructures. Nano Letters, 2021, 21, 2363-2369.	9.1	17
78	Tunable Orbital Ferromagnetism at Noninteger Filling of a MoirÃ© Superlattice. Nano Letters, 2022, 22, 238-245.	9.1	17
79	Imaging gate-tunable Tomonagaâ€“Luttinger liquids in 1H-MoSe2 mirror twin boundaries. Nature Materials, 2022, 21, 748-753.	27.5	17
80	Spatially resolving density-dependent screening around a single charged atom in graphene. Physical Review B, 2017, 95, .	3.2	16
81	Noncovalent Dimerization after Enediyne Cyclization on Au(111). Journal of the American Chemical Society, 2016, 138, 10963-10967.	13.7	15
82	Coupled One-Dimensional Plasmons and Two-Dimensional Phonon Polaritons in Hybrid Silver Nanowire/Silicon Carbide Structures. Nano Letters, 2017, 17, 3662-3667.	9.1	15
83	Bottomâ€Up Synthesized Nanoporous Graphene Transistors. Advanced Functional Materials, 2021, 31, 2103798.	14.9	15
84	Imaging electric field dynamics with graphene optoelectronics. Nature Communications, 2016, 7, 13704.	12.8	14
85	Geometry and electronic structure of iridium adsorbed on graphene. Physical Review B, 2019, 99, .	3.2	14
86	A molecular shift register made using tunable charge patterns in one-dimensional molecular arrays on graphene. Nature Electronics, 2020, 3, 598-603.	26.0	12
87	Large-gap insulating dimer ground state in monolayer IrTe2. Nature Communications, 2022, 13, 906.	12.8	11
88	Pseudo-atomic orbital behavior in graphene nanoribbons with four-membered rings. Science Advances, 2021, 7, eabl5892.	10.3	11
89	Charge transport in topological graphene nanoribbons and nanoribbon heterostructures. Physical Review B, 2022, 105, .	3.2	10
90	Polymerâ€free, low tension graphene mechanical resonators. Physica Status Solidi - Rapid Research Letters, 2013, 7, 1064-1066.	2.4	7

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91	Fabrication of Gate-tunable Graphene Devices for Scanning Tunneling Microscopy Studies with Coulomb Impurities. Journal of Visualized Experiments, 2015, , e52711.	0.3	7
92	Imaging Quantum Interference in Stadium-Shaped Monolayer and Bilayer Graphene Quantum Dots. Nano Letters, 2021, 21, 8993-8998.	9.1	7
93	Intermolecular interactions and substrate effects for an adamantane monolayer on a Au(111) surface. Physical Review B, 2013, 88, .	3.2	6
94	Simulating the Nanomechanical Response of Cyclooctatetraene Molecules on a Graphene Device. ACS Nano, 2019, 13, 1713-1718.	14.6	6
95	Tunneling Spectroscopy in Carbon Nanotube-Hexagonal Boron Nitride-Carbon Nanotube Heterojunctions. Nano Letters, 2020, 20, 6712-6718.	9.1	6
96	Mechanism of Formation of Benzotrithiophene-Based Covalent Organic Framework Monolayers on Coinage-Metal Surfaces: Câ€“C Coupling Selectivity and Monomerâ€“Metal Interactions. Chemistry of Materials, 2020, 32, 10688-10696.	6.7	6
97	Soliton-Dependent Electronic Transport across Bilayer Graphene Domain Wall. Nano Letters, 2020, 20, 5936-5942.	9.1	6
98	Graphene Electric Field Sensor Enables Single Shot Label-Free Imaging of Bioelectric Potentials. Nano Letters, 2021, 21, 4944-4949.	9.1	6
99	Imaging Reconfigurable Molecular Concentration on a Graphene Field-Effect Transistor. Nano Letters, 2021, 21, 8770-8776.	9.1	6
100	Microscopy of hydrogen and hydrogen-vacancy defect structures on graphene devices. Physical Review B, 2018, 98, .	3.2	5
101	Kirigami Engineering of Suspended Graphene Transducers. Nano Letters, 2022, 22, 5301-5306.	9.1	5
102	Optical spectroscopy of bilayer graphene. Physica Status Solidi (B): Basic Research, 2010, 247, 2931-2934.	1.5	3
103	Bottomâ€Up Synthesized Nanoporous Graphene Transistors (Adv. Funct. Mater. 47/2021). Advanced Functional Materials, 2021, 31, 2170348.	14.9	2
104	Imaging structural transitions in organometallic molecules on Ag(100) for solar thermal energy storage. Journal of the Korean Physical Society, 2017, 70, 586-590.	0.7	1
105	Statistical Characterization of High Angle Graphene Grain Boundaries at Atomic Resolution. Microscopy and Microanalysis, 2014, 20, 1056-1057.	0.4	0
106	Graphene: Preventing Thin Film Dewetting via Graphene Capping (Adv. Mater. 36/2017). Advanced Materials, 2017, 29, .	21.0	0