Artem Mishchenko

List of Publications by Year in descending order

90 papers	24,780 citations	38660 50 h-index	42291 92 g-index
94 all docs	94 docs citations	94 times ranked	26704 citing authors

#	Article	IF	Citations
1	2D materials and van der Waals heterostructures. Science, 2016, 353, aac9439.	6.0	4,958
2	Field-Effect Tunneling Transistor Based on Vertical Graphene Heterostructures. Science, 2012, 335, 947-950.	6.0	2,268
3	Strong Light-Matter Interactions in Heterostructures of Atomically Thin Films. Science, 2013, 340, 1311-1314.	6.0	2,179
4	Probing the Nature of Defects in Graphene by Raman Spectroscopy. Nano Letters, 2012, 12, 3925-3930.	4.5	1,696
5	Vertical field-effect transistor based on grapheneâ€“WS2 heterostructures for flexible and transparent electronics. Nature Nanotechnology, 2013, 8, 100-103.	15.6	1,543
6	Light-emitting diodes by band-structure engineering in van der Waals heterostructures. Nature Materials, 2015, 14, 301-306.	13.3	1,397
7	Cloning of Dirac fermions in graphene superlattices. Nature, 2013, 497, 594-597.	13.7	1,107
8	High electron mobility, quantum Hall effect and anomalous optical response in atomically thin InSe. Nature Nanotechnology, 2017, 12, 223-227.	15.6	996
9	Proton transport through one-atom-thick crystals. Nature, 2014, 516, 227-230.	13.7	668
10	Detecting topological currents in graphene superlattices. Science, 2014, 346, 448-451.	6.0	619
11	Resonant tunnelling and negative differential conductance in graphene transistors. Nature Communications, 2013, 4, 1794.	5.8	542
12	Molecular transport through capillaries made with atomic-scale precision. Nature, 2016, 538, 222-225.	13.7	483
13	Twist-controlled resonant tunnelling in graphene/boron nitride/graphene heterostructures. Nature Nanotechnology, 2014, 9, 808-813.	15.6	435
14	Electronic Properties of Graphene Encapsulated with Different Two-Dimensional Atomic Crystals. Nano Letters, 2014, 14, 3270-3276.	4.5	433
15	Single Molecular Conductance of Tolanes: Experimental and Theoretical Study on the Junction Evolution Dependent on the Anchoring Group. Journal of the American Chemical Society, 2012, 134, 2292-2304.	6.6	381
16	Quality Heterostructures from Two-Dimensional Crystals Unstable in Air by Their Assembly in Inert Atmosphere. Nano Letters, 2015, 15, 4914-4921.	4.5	358
17	Influence of Conformation on Conductance of Biphenyl-Dithiol Single-Molecule Contacts. Nano Letters, 2010, 10, 156-163.	4.5	284
18	Sieving hydrogen isotopes through two-dimensional crystals. Science, 2016, 351, 68-70.	6.0	247

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19	Magnon-assisted tunnelling in van der Waals heterostructures based on CrBr3. Nature Electronics, 2018, 1, 344-349.	13.1	239
20	Single-Molecule Junctions Based on Nitrile-Terminated Biphenyls: A Promising New Anchoring Group. Journal of the American Chemical Society, 2011, 133, 184-187.	6.6	212
21	Quantum oscillations of the critical current and high-field superconducting proximity in ballisticÂgraphene. Nature Physics, 2016, 12, 318-322.	6.5	179
22	Wafer-Scale and Wrinkle-Free Epitaxial Growth of Single-Orientated Multilayer Hexagonal Boron Nitride on Sapphire. Nano Letters, 2016, 16, 3360-3366.	4.5	167
23	Hierarchy of Hofstadter states and replica quantum Hall ferromagnetism in graphene superlattices. Nature Physics, 2014, 10, 525-529.	6.5	161
24	Electron Transfer Kinetics on Mono- and Multilayer Graphene. ACS Nano, 2014, 8, 10089-10100.	7.3	160
25	An MCBJ case study: The influence of Ï€-conjugation on the single-molecule conductance at a solid/liquid interface. Beilstein Journal of Nanotechnology, 2011, 2, 699-713.	1.5	157
26	The Magnetic Genome of Two-Dimensional van der Waals Materials. ACS Nano, 2022, 16, 6960-7079.	7.3	149
27	Chemically Controlled Conductivity: Torsionâ€Angle Dependence in a Singleâ€Molecule Biphenyldithiol Junction. Angewandte Chemie - International Edition, 2009, 48, 8886-8890.	7.2	142
28	Indirect excitons in van der Waals heterostructures at room temperature. Nature Communications, 2018, 9, 1895.	5.8	130
29	High-temperature quantum oscillations caused by recurring Bloch states in graphene superlattices. Science, 2017, 357, 181-184.	6.0	117
30	Macroscopic self-reorientation of interacting two-dimensional crystals. Nature Communications, 2016, 7, 10800.	5.8	108
31	Tunable van Hove singularities and correlated states in twisted monolayerâ€“bilayer graphene. Nature Physics, 2021, 17, 619-626.	6.5	103
32	Exfoliation of natural van der Waals heterostructures to a single unit cell thickness. Nature Communications, 2017, 8, 14410.	5.8	93
33	Quantum capacitance measurements of electron-hole asymmetry and next-nearest-neighbor hopping in graphene. Physical Review B, 2013, 88, .	1.1	88
34	Tuning the valley and chiral quantum state of Dirac electrons in van der Waals heterostructures. Science, 2016, 353, 575-579.	6.0	88
35	Conduction mechanisms in biphenyl dithiol single-molecule junctions. Physical Review B, 2012, 85, .	1.1	82
36	Electronic phase separation in multilayer rhombohedral graphite. Nature, 2020, 584, 210-214.	13.7	81

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37	Phonon-Assisted Resonant Tunneling of Electrons in Grapheneâ€“Boron Nitride Transistors. Physical Review Letters, 2016, 116, 186603.	2.9	78
38	Edge currents shunt the insulating bulk in gapped graphene. Nature Communications, 2017, 8, 14552.	5.8	77
39	Composite super-moirÃ© lattices in double-aligned graphene heterostructures. Science Advances, 2019, 5, eaay8897.	4.7	74
40	Magnetoresistance of vertical Co-graphene-NiFe junctions controlled by charge transfer and proximity-induced spin splitting in graphene. 2D Materials, 2017, 4, 031004.	2.0	73
41	Unusual Suppression of the Superconducting Energy Gap and Critical Temperature in Atomically Thin NbSe₂. Nano Letters, 2018, 18, 2623-2629.	4.5	70
42	In situ manipulation of van der Waals heterostructures for twistronics. Science Advances, 2020, 6, .	4.7	69
43	Resonant tunnelling between the chiral Landau states of twisted graphene lattices. Nature Physics, 2015, 11, 1057-1062.	6.5	64
44	High-order fractal states in graphene superlattices. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5135-5139.	3.3	63
45	Indirect Excitons and Trions in MoSe₂/WSe₂ van der Waals Heterostructures. Nano Letters, 2020, 20, 1869-1875.	4.5	63
46	Graphene-hexagonal boron nitride resonant tunneling diodes as high-frequency oscillators. Applied Physics Letters, 2015, 107, .	1.5	58
47	Control of excitons in multi-layer van der Waals heterostructures. Applied Physics Letters, 2016, 108, .	1.5	56
48	Stacking Order in Graphite Films Controlled by van der Waals Technology. Nano Letters, 2019, 19, 8526-8532.	4.5	54
49	Graphene Thermal Emitter with Enhanced Joule Heating and Localized Light Emission in Air. ACS Photonics, 2019, 6, 2117-2125.	3.2	53
50	Electrical and optical characterization of atomically thin WS2. Dalton Transactions, 2014, 43, 10388.	1.6	52
51	Excess resistivity in graphene superlattices caused by umklapp electronâ€“electron scattering. Nature Physics, 2019, 15, 32-36.	6.5	46
52	Giant Quantum Hall Plateau in Graphene Coupled to an InSe van der Waals Crystal. Physical Review Letters, 2017, 119, 157701.	2.9	44
53	Ab initiostudy of the thermopower of biphenyl-based single-molecule junctions. Physical Review B, 2012, 86, .	1.1	43
54	Graphene hot-electron light bulb: incandescence from hBN-encapsulated graphene in air. 2D Materials, 2018, 5, 011006.	2.0	43

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55	Planar and van der Waals heterostructures for vertical tunnelling single electron transistors. Nature Communications, 2019, 10, 230.	5.8	43
56	Nonlocal Response and Anamorphosis: The Case of Few-Layer Black Phosphorus. Nano Letters, 2015, 15, 6991-6995.	4.5	42
57	Electrochemical gate-controlled electron transport of redox-active single perylene bisimide molecular junctions. Journal of Physics Condensed Matter, 2008, 20, 374122.	0.7	39
58	Dimensional reduction, quantum Hall effect and layer parity in graphite films. Nature Physics, 2019, 15, 437-442.	6.5	39
59	Catecholâ€Based Macrocyclic Rods: En Route to Redoxâ€Active Molecular Switches. European Journal of Organic Chemistry, 2009, 2009, 6140-6150.	1.2	38
60	Tunnel spectroscopy of localised electronic states in hexagonal boron nitride. Communications Physics, 2018, 1, .	2.0	33
61	High-temperature electronic devices enabled by hBN-encapsulated graphene. Applied Physics Letters, 2019, 114, .	1.5	32
62	Stacking transition in rhombohedral graphite. Frontiers of Physics, 2019, 14, 1.	2.4	28
63	Long-range ballistic transport of Brown-Zak fermions in graphene superlattices. Nature Communications, 2020, 11, 5756.	5.8	25
64	Conformationally Controlled Electron Delocalization in nâ€Type Rods: Synthesis, Structure, and Optical, Electrochemical, and Spectroelectrochemical Properties of Dicyanocyclophanes. Chemistry - A European Journal, 2011, 17, 7236-7250.	1.7	24
65	Electrochemical scanning tunnelling spectroscopy of a ferrocene-modified n-Si(111)-surface: electrolyte gating and ambipolar FET behaviour. Chemical Communications, 2011, 47, 9807.	2.2	20
66	Stacking transition in bilayer graphene caused by thermally activated rotation. 2D Materials, 2017, 4, 011013.	2.0	20
67	Photoquantum Hall Effect and Lightâ€Induced Charge Transfer at the Interface of Graphene/InSe Heterostructures. Advanced Functional Materials, 2019, 29, 1805491.	7.8	20
68	Charge Transport in Single Molecular Junctions at the Solid/Liquid Interface. Topics in Current Chemistry, 2011, 313, 121-188.	4.0	19
69	Cooperative and Noncooperative Assembly of Oligopyrenotides Resolved by Atomic Force Microscopy. Macromolecules, 2012, 45, 5986-5992.	2.2	19
70	An approach to measure electromechanical properties of atomic and molecular junctions. Journal of Physics Condensed Matter, 2012, 24, 164210.	0.7	18
71	Charge Transport with Single Molecules â€“ An Electrochemical Approach. Chimia, 2010, 64, 383.	0.3	17
72	Lifting of the Landau level degeneracy in graphene devices in a tilted magnetic field. Physical Review B, 2015, 92, .	1.1	16

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73	Edge photocurrent driven by terahertz electric field in bilayer graphene. Physical Review B, 2020, 102, .	1.1	16
74	Gas permeation through graphdiyne-based nanoporous membranes. Nature Communications, 2022, 13, .	5.8	15
75	Propagating Plasmons in a Charge-Neutral Quantum Tunneling Transistor. ACS Photonics, 2017, 4, 3012-3017.	3.2	14
76	The promoting effect of water on the electrodeposition of Eu in a dicyanamide ionic liquid. Electrochimica Acta, 2021, 379, 138169.	2.6	12
77	Magnetotransport in single-layer graphene in a large parallel magnetic field. Physical Review B, 2016, 94, .	1.1	11
78	Edge photocurrent in bilayer graphene due to inter-Landau-level transitions. Physical Review B, 2021, 103, .	1.1	11
79	A Facile Route for Patterned Growth of Metalâ€“Insulator Carbon Lateral Junction through One-Pot Synthesis. ACS Nano, 2015, 9, 8352-8360.	7.3	8
80	Selective spectroscopy of tunneling transitions between the Landau levels in vertical double-gate grapheneâ€“boron nitrideâ€“graphene heterostructures. JETP Letters, 2016, 104, 334-340.	0.4	7
81	Tunneling in Graphene/h-BN/Graphene Heterostructures through Zero-Dimensional Levels of Defects in h-BN and Their Use as Probes to Measure the Density of States of Graphene. JETP Letters, 2019, 109, 482-489.	0.4	7
82	Twisted monolayer and bilayer graphene for vertical tunneling transistors. Applied Physics Letters, 2021, 118, .	1.5	7
83	Growth of graphene on tantalum and its protective properties. Carbon, 2018, 139, 29-34.	5.4	5
84	Machine learning enhanced electrical impedance tomography for 2D materials. Inverse Problems, 2022, 38, 085007.	1.0	5
85	Observation of Spin and Valley Splitting of Landau Levels under Magnetic Tunneling in Graphene/Boron Nitride/Graphene Structures. JETP Letters, 2018, 107, 238-242.	0.4	4
86	Observation of Regions of Negative Differential Conductivity and Current Generation during Tunneling through Zero-Dimensional Defect Levels of the h-BN Barrier in Graphene/h-BN/Graphene Heterostructures. Semiconductors, 2019, 53, 1038-1041.	0.2	2
87	Field-induced insulating states in a graphene superlattice. Physical Review B, 2019, 99, .	1.1	2
88	Cross sectional STEM imaging and analysis of multilayered two dimensional crystal heterostructure devices. Microscopy and Microanalysis, 2015, 21, 107-108.	0.2	1
89	Novel phenomena in two-dimensional semiconductors. , 2020, , 25-79.		0
90	Localized Bright Luminescence of Indirect Excitons and Trions in a Type II Van der Waals Heterostructure. , 2019, , .		0