Irina Grigorieva

List of Publications by Year in descending order

67 papers	100,617 citations	53794 45 h-index	95266 68 g-index
69 all docs	69 docs citations	69 times ranked	69464 citing authors

#	Article	IF	Citations
1	Out-of-equilibrium criticalities in graphene superlattices. Science, 2022, 375, 430-433.	12.6	34
2	Tunable Spin Injection in High-Quality Graphene with One-Dimensional Contacts. Nano Letters, 2022, 22, 935-941.	9.1	7
3	Reply to: Random interstratification in hydrated graphene oxide membranes and implications for seawater desalination. Nature Nanotechnology, 2022, 17, 134-135.	31.5	5
4	Quantum Rescaling, Domain Metastability, and Hybrid Domainâ€Walls in 2D CrI₃ Magnets. Advanced Materials, 2021, 33, e2004138.	21.0	34
5	Nanomagnets: Quantum Rescaling, Domain Metastability, and Hybrid Domainâ€Walls in 2D CrI₃ Magnets (Adv. Mater. 5/2021). Advanced Materials, 2021, 33, 2170036.	21.0	0
6	Enhanced Spin Injection in Molecularly Functionalized Graphene via Ultrathin Oxide Barriers. Physical Review Applied, 2021, 15, .	3.8	2
7	Magnetization Signature of Topological Surface States in a Nonâ€Symmorphic Superconductor. Advanced Materials, 2021, 33, e2103257.	21.0	3
8	Tunable spin-orbit coupling in two-dimensional InSe. Physical Review B, 2021, 104, .	3.2	9
9	Exponentially selective molecular sieving through angstrom pores. Nature Communications, 2021, 12, 7170.	12.8	29
10	Long-range ballistic transport of Brown-Zak fermions in graphene superlattices. Nature Communications, 2020, 11, 5756.	12.8	25
11	Giant magneto-birefringence effect and tuneable colouration of 2D crystal suspensions. Nature Communications, 2020, 11, 3725.	12.8	28
12	Strongly Absorbing Nanoscale Infrared Domains within Strained Bubbles at hBNâ€“Graphene Interfaces. ACS Applied Materials & Interfaces, 2020, 12, 57638-57648.	8.0	7
13	Capillary condensation under atomic-scale confinement. Nature, 2020, 588, 250-253.	27.8	168
14	Control of electron-electron interaction in graphene by proximity screening. Nature Communications, 2020, 11, 2339.	12.8	46
15	Limits on gas impermeability of graphene. Nature, 2020, 579, 229-232.	27.8	220
16	Enhanced Superconductivity in Few-Layer TaS₂ due to Healing by Oxygenation. Nano Letters, 2020, 20, 3808-3818.	9.1	23
17	Minibands in twisted bilayer graphene probed by magnetic focusing. Science Advances, 2020, 6, eaay7838.	10.3	21
18	Giant oscillations in a triangular network of one-dimensional states in marginally twisted graphene. Nature Communications, 2019, 10, 4008.	12.8	67

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19	Strained Bubbles in van der Waals Heterostructures as Local Emitters of Photoluminescence with Adjustable Wavelength. ACS Photonics, 2019, 6, 516-524.	6.6	110
20	Measuring Hall viscosity of grapheneâ€™s electron fluid. Science, 2019, 364, 162-165.	12.6	197
21	Micromagnetometry of two-dimensional ferromagnets. Nature Electronics, 2019, 2, 457-463.	26.0	93
22	Dual origin of room temperature sub-terahertz photoresponse in graphene field effect transistors. Applied Physics Letters, 2018, 112, .	3.3	60
23	Unusual Suppression of the Superconducting Energy Gap and Critical Temperature in Atomically Thin NbSe₂. Nano Letters, 2018, 18, 2623-2629.	9.1	70
24	Resonant terahertz detection using graphene plasmons. Nature Communications, 2018, 9, 5392.	12.8	198
25	Magnetoresistance in Co-hBN-NiFe Tunnel Junctions Enhanced by Resonant Tunneling through Single Defects in Ultrathin hBN Barriers. Nano Letters, 2018, 18, 6954-6960.	9.1	15
26	Fluidity onset in graphene. Nature Communications, 2018, 9, 4533.	12.8	136
27	Ballistic molecular transport through two-dimensional channels. Nature, 2018, 558, 420-424.	27.8	139
28	Atomic Defects and Doping of Monolayer NbSe₂. ACS Nano, 2017, 11, 2894-2904.	14.6	63
29	Intercalant-independent transition temperature in superconducting black phosphorus. Nature Communications, 2017, 8, 15036.	12.8	82
30	Scalable and efficient separation of hydrogen isotopes using graphene-based electrochemical pumping. Nature Communications, 2017, 8, 15215.	12.8	119
31	Magnetoresistance of vertical Co-graphene-NiFe junctions controlled by charge transfer and proximity-induced spin splitting in graphene. 2D Materials, 2017, 4, 031004.	4.4	73
32	Tunable sieving of ions using graphene oxide membranes. Nature Nanotechnology, 2017, 12, 546-550.	31.5	1,364
33	Superballistic flow of viscous electron fluid through graphene constrictions. Nature Physics, 2017, 13, 1182-1185.	16.7	288
34	High-temperature quantum oscillations caused by recurring Bloch states in graphene superlattices. Science, 2017, 357, 181-184.	12.6	117
35	High electron mobility, quantum Hall effect and anomalous optical response in atomically thin InSe. Nature Nanotechnology, 2017, 12, 223-227.	31.5	996
36	Molecular transport through capillaries made with atomic-scale precision. Nature, 2016, 538, 222-225.	27.8	483

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37	Universal shape and pressure inside bubbles appearing in van der Waals heterostructures. Nature Communications, 2016, 7, 12587.	12.8	260
38	Superconductivity in Ca-doped graphene laminates. Scientific Reports, 2016, 6, 23254.	3.3	109
39	Commensurability Effects in Viscosity of Nanoconfined Water. ACS Nano, 2016, 10, 3685-3692.	14.6	198
40	Negative local resistance caused by viscous electron backflow in graphene. Science, 2016, 351, 1055-1058.	12.6	516
41	Sieving hydrogen isotopes through two-dimensional crystals. Science, 2016, 351, 68-70.	12.6	247
42	Superconductivity in Potassium-Doped Metallic Polymorphs of MoS₂. Nano Letters, 2016, 16, 629-636.	9.1	129
43	Quality Heterostructures from Two-Dimensional Crystals Unstable in Air by Their Assembly in Inert Atmosphere. Nano Letters, 2015, 15, 4914-4921.	9.1	358
44	Graphene spintronics: the European Flagship perspective. 2D Materials, 2015, 2, 030202.	4.4	243
45	Square ice in graphene nanocapillaries. Nature, 2015, 519, 443-445.	27.8	602
46	Precise and Ultrafast Molecular Sieving Through Graphene Oxide Membranes. Science, 2014, 343, 752-754.	12.6	2,060
47	Detecting topological currents in graphene superlattices. Science, 2014, 346, 448-451.	12.6	619
48	Hierarchy of Hofstadter states and replica quantum Hall ferromagnetism in graphene superlattices. Nature Physics, 2014, 10, 525-529.	16.7	161
49	Van der Waals heterostructures. Nature, 2013, 499, 419-425.	27.8	8,378
50	Dual origin of defect magnetism in graphene and its reversible switching by molecular doping. Nature Communications, 2013, 4, 2010.	12.8	230
51	Cloning of Dirac fermions in graphene superlattices. Nature, 2013, 497, 594-597.	27.8	1,107
52	Unimpeded Permeation of Water Through Helium-Leakâ€“Tight Graphene-Based Membranes. Science, 2012, 335, 442-444.	12.6	2,552
53	Spin-half paramagnetism in graphene induced by point defects. Nature Physics, 2012, 8, 199-202.	16.7	743
54	Dirac cones reshaped by interaction effects in suspended graphene. Nature Physics, 2011, 7, 701-704.	16.7	703

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55	Tunable metalâ€“insulator transition in double-layer graphene heterostructures. Nature Physics, 2011, 7, 958-961.	16.7	486
56	Bitter decoration of vortex patterns in superconducting Nb films with random, triangular, and Penrose arrays of antidots. Physical Review B, 2011, 84, .	3.2	16
57	Pillars as antipinning centers in superconducting films. Physical Review B, 2008, 77, .	3.2	33
58	Pinning-Induced Formation of Vortex Clusters and Giant Vortices in Mesoscopic Superconducting Disks. Physical Review Letters, 2007, 99, 147003.	7.8	81
59	Submicron sensors of local electric field with single-electron resolution at room temperature. Applied Physics Letters, 2006, 88, 013901.	3.3	75
60	Direct Observation of Vortex Shells and Magic Numbers in Mesoscopic Superconducting Disks. Physical Review Letters, 2006, 96, 077005.	7.8	117
61	Two-dimensional gas of massless Dirac fermions in graphene. Nature, 2005, 438, 197-200.	27.8	18,948
62	Intrinsic pinning of a ferromagnetic domain wall in yttrium iron garnet films with strong uniaxial anisotropy. Journal of Low Temperature Physics, 2005, 139, 65-72.	1.4	2
63	Intrinsic Pinning of a Ferromagnetic Domain Wall in Yttrium Iron Garnet Films with Strong Uniaxial Anisotropy. Journal of Low Temperature Physics, 2005, 139, 65-72.	1.4	4
64	Long-Range Nonlocal Flow of Vortices in Narrow Superconducting Channels. Physical Review Letters, 2004, 92, 237001.	7.8	30
65	Electric Field Effect in Atomically Thin Carbon Films. Science, 2004, 306, 666-669.	12.6	56,177
66	Spontaneous magnetization changes and nonlocal effects in mesoscopic ferromagnet-superconductor structures. Physical Review B, 2002, 65, .	3.2	32
67	Magnetic flux decoration of type-II superconductors. Superconductor Science and Technology, 1994, 7, 161-176.	3.5	46