Pablo Jarillo-Herrero

List of Publications by Year
in descending order

153 papers	43,528 citations	86 h-index	152 g-index
		5126	8433
159 all docs	159 docs citations	159 times ranked	34144 citing authors

#	Article	IF	Citations
1	Unconventional Hysteretic Transition in a Charge Density Wave. Physical Review Letters, 2022, 128, 036401.	2.9	14
2	Interfacial ferroelectricity in rhombohedral-stacked bilayer transition metal dichalcogenides. Nature Nanotechnology, 2022, 17, 367-371.	15.6	167
3	Active and Passive Tuning of Ultranarrow Resonances in Polaritonic Nanoantennas. Advanced Materials, 2022, 34, e2104954.	11.1	13
4	Hexagonal boron nitride as a low-loss dielectric for superconducting quantum circuits and qubits. Nature Materials, 2022, 21, 398-403.	13.3	34
5	Cyclotron resonance overtones and near-field magnetoabsorption via terahertz Bernstein modes in graphene. Nature Physics, 2022, 18, 462-467.	6.5	16
6	Hyperbolic phonon polaritons with positive and negative phase velocities in suspended Î± -MoO3. Applied Physics Letters, 2022, 120, .	1.5	15
7	Cascade of isospin phase transitions in Bernal-stacked bilayer graphene at zero magnetic field. Nature Physics, 2022, 18, 771-775.	6.5	48
8	Robust superconductivity in magic-angle multilayer graphene family. Nature Materials, 2022, 21, 877-883.	13.3	100
9	Tunable strongly coupled superconductivity in magic-angle twisted trilayer graphene. Nature, 2021, 590, 249-255.	13.7	449
10	The marvels of moirÃ© materials. Nature Reviews Materials, 2021, 6, 201-206.	23.3	262
11	Flavour Hundâ€™s coupling, Chern gaps and charge diffusivity in moirÃ© graphene. Nature, 2021, 592, 43-48.	13.7	127
12	Entropic evidence for a Pomeranchuk effect in magic-angle graphene. Nature, 2021, 592, 214-219.	13.7	118
13	Nematicity and competing orders in superconducting magic-angle graphene. Science, 2021, 372, 264-271.	6.0	223
14	Highly tunable junctions and non-local Josephson effect in magic-angle graphene tunnelling devices. Nature Nanotechnology, 2021, 16, 769-775.	15.6	58
15	Stacking-engineered ferroelectricity in bilayer boron nitride. Science, 2021, 372, 1458-1462.	6.0	344
16	Fizeau drag in graphene plasmonics. Nature, 2021, 594, 513-516.	13.7	57
17	Strong Interminivalley Scattering in Twisted Bilayer Graphene Revealed by High-Temperature Magneto-Oscillations. Physical Review Letters, 2021, 127, 056802.	2.9	11
18	Pauli-limit violation and re-entrant superconductivity in moirÃ© graphene. Nature, 2021, 595, 526-531.	13.7	165

#	Article	IF	Citations
19	Observation of interband collective excitations in twisted bilayer graphene. Nature Physics, 2021, 17, 1162-1168.	6.5	47
20	Unconventional sequence of correlated Chern insulators in magic-angle twisted bilayer graphene. Nature Physics, 2021, 17, 1210-1215.	6.5	78
21	A versatile sample fabrication method for ultrafast electron diffraction. Ultramicroscopy, 2021, 230, 113389.	0.8	10
22	Role of Equilibrium Fluctuations in Light-Induced Order. Physical Review Letters, 2021, 127, 227401.	2.9	16
23	Fractional Chern insulators in magic-angle twisted bilayer graphene. Nature, 2021, 600, 439-443.	13.7	158
24	Light-induced charge density wave in LaTe3. Nature Physics, 2020, 16, 159-163.	6.5	157
25	Configurable phonon polaritons in twisted Î±-MoO3. Nature Materials, 2020, 19, 1307-1311.	13.3	180
26	Unconventional ferroelectricity in moirÃ© heterostructures. Nature, 2020, 588, 71-76.	13.7	165
27	Observation of Terahertz-Induced Magnetooscillations in Graphene. Nano Letters, 2020, 20, 5943-5950.	4.5	12
28	Emergent phenomena and proximity effects in two-dimensional magnets and heterostructures. Nature Materials, 2020, 19, 1276-1289.	13.3	213
29	Mapping the twist-angle disorder and Landau levels in magic-angle graphene. Nature, 2020, 581, 47-52.	13.7	241
30	Tunable correlated states and spin-polarized phases in twisted bilayerâ€“bilayer graphene. Nature, 2020, 583, 215-220.	13.7	433
31	Cascade of phase transitions and Dirac revivals in magic-angle graphene. Nature, 2020, 582, 203-208.	13.7	297
32	Deepâ€Learningâ€Enabled Fast Optical Identification and Characterization of 2D Materials. Advanced Materials, 2020, 32, e2000953.	11.1	54
33	Spontaneous gyrotropic electronic order in a transition-metal dichalcogenide. Nature, 2020, 578, 545-549.	13.7	80
34	Reply to: Dirac-point photocurrents due to photothermoelectric effect in non-uniform graphene devices. Nature Nanotechnology, 2020, 15, 244-246.	15.6	1
35	Strange Metal in Magic-Angle Graphene with near Planckian Dissipation. Physical Review Letters, 2020, 124, 076801.	2.9	293
36	Electronic Compressibility of Magic-Angle Graphene Superlattices. Physical Review Letters, 2019, 123, 046601.	2.9	106

#	Article	IF	Citations
37	Gigahertz Frequency Antiferromagnetic Resonance and Strong Magnon-Magnon Coupling in the Layered Crystal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>CrCl</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></ Physical Review Letters, 2019, 123, 047204.	2.9	118
38	Phonon Polaritons in Monolayers of Hexagonal Boron Nitride. Advanced Materials, 2019, 31, e1806603.	11.1	73
39	Dynamical Slowing-Down in an Ultrafast Photoinduced Phase Transition. Physical Review Letters, 2019, 123, 097601.	2.9	50
40	Combining time-resolved optical (TOS), electronic (trARPES) and structural (UED) probes on the class of rare earth tritellurides RTe3. EPJ Web of Conferences, 2019, 205, 04009.	0.1	0
41	Enhancement of interlayer exchange in an ultrathin two-dimensional magnet. Nature Physics, 2019, 15, 1255-1260.	6.5	165
42	van der Waals heterostructures combining graphene and hexagonal boron nitride. Nature Reviews Physics, 2019, 1, 112-125.	11.9	320
43	Asymmetric hot-carrier thermalization and broadband photoresponse in graphene-2D semiconductor lateral heterojunctions. Science Advances, 2019, 5, eaav1493.	4.7	43
44	Phaseâ€Change Hyperbolic Heterostructures for Nanopolaritonics: A Case Study of hBN/VO₂. Advanced Materials, 2019, 31, e1900251.	11.1	43
45	Nearly flat Chern bands in moirÃ© superlattices. Physical Review B, 2019, 99, .	1.1	295
46	Giant intrinsic photoresponse in pristine graphene. Nature Nanotechnology, 2019, 14, 145-150.	15.6	61
47	Observation of the nonlinear Hall effect under time-reversal-symmetric conditions. Nature, 2019, 565, 337-342.	13.7	372
48	Coherent control of a hybrid superconducting circuit made with graphene-based van der Waals heterostructures. Nature Nanotechnology, 2019, 14, 120-125.	15.6	118
49	Evidence for topological defects in a photoinduced phase transition. Nature Physics, 2019, 15, 27-31.	6.5	128
50	Correlated insulator behaviour at half-filling in magic-angle graphene superlattices. Nature, 2018, 556, 80-84.	13.7	3,086
51	Unconventional superconductivity in magic-angle graphene superlattices. Nature, 2018, 556, 43-50.	13.7	5,221
52	Electrical control of 2D magnetism in bilayer CrI3. Nature Nanotechnology, 2018, 13, 544-548.	15.6	975
53	Observation of the quantum spin Hall effect up to 100 kelvin in a monolayer crystal. Science, 2018, 359, 76-79.	6.0	613
54	Probing magnetism in 2D van der Waals crystalline insulators via electron tunneling. Science, 2018, 360, 1218-1222.	6.0	668

#	Article	IF	Citations
55	Large Photothermal Effect in Subâ€40 nm hâ€BN Nanostructures Patterned Via Highâ€Resolution Ion Beam. Small, 2018, 14, 1800072.	5.2	12
56	Manipulation and Steering of Hyperbolic Surface Polaritons in Hexagonal Boron Nitride. Advanced Materials, 2018, 30, e1706358.	11.1	63
57	Ligand-field helical luminescence in a 2D ferromagnetic insulator. Nature Physics, 2018, 14, 277-281.	6.5	275
58	Recent progress in the assembly of nanodevices and van der Waals heterostructures by deterministic placement of 2D materials. Chemical Society Reviews, 2018, 47, 53-68.	18.7	473
59	Topological crystalline insulator states in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ca</mml:mi><mml:mn>2</mml:mn></mml:msub></mml family. Physical Review B, 2018, 98, .	3.7	28
60	Tunneling spectroscopy of graphene nanodevices coupled to large-gap superconductors. Physical Review B, 2018, 98, .	1.1	10
61	Electrically tunable low-density superconductivity in a monolayer topological insulator. Science, 2018, 362, 926-929.	6.0	271
62	Compact mid-infrared graphene thermopile enabled by a nanopatterning technique of electrolyte gates. New Journal of Physics, 2018, 20, 083050.	1.2	5
63	Pressure dependence of the magic twist angle in graphene superlattices. Physical Review B, 2018, 98, .	1.1	146
64	Electrically switchable Berry curvature dipole in the monolayer topological insulator WTe2. Nature Physics, 2018, 14, 900-906.	6.5	249
65	Photothermal Effect: Large Photothermal Effect in Subâ€40 nm hâ€BN Nanostructures Patterned Via Highâ€Resolution Ion Beam (Small 22/2018). Small, 2018, 14, 1870101.	5.2	1
66	Internal Nanostructure Diagnosis with Hyperbolic Phonon Polaritons in Hexagonal Boron Nitride. Nano Letters, 2018, 18, 5205-5210.	4.5	29
67	Enhanced superconductivity upon weakening of charge density wave transport in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>2</mml:mn><mml:mi>H</mml:mi><mml:msub><mml in the two-dimensional limit. Physical Review B, 2018, 98, .	3.7	81
68	Valleytronics: Opportunities, Challenges, and Paths Forward. Small, 2018, 14, e1801483.	5.2	221
69	Magnetoresistance and quantum oscillations of an electrostatically tuned semimetal-to-metal transition in ultrathin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>WTe</mml:mi><mml:mn>2</mml:mn></mml:msub></ Physical Review B, 2017, 95, .	1.1	49
70	High temperature ferromagnetism in Ï€-conjugated two-dimensional metalâ€“organic frameworks. Chemical Science, 2017, 8, 2859-2867.	3.7	86
71	Tunnelling spectroscopy of Andreev states inÂgraphene. Nature Physics, 2017, 13, 756-760.	6.5	81
72	Observation of Exciton Redshiftâ€“Blueshift Crossover in Monolayer WS₂. Nano Letters, 2017, 17, 4210-4216.	4.5	107

#	Article	IF	Citations
73	Layer-dependent ferromagnetism in a van der Waals crystal down to the monolayer limit. Nature, 2017, 546, 270-273.	13.7	3,824
74	Direct optical detection of Weyl fermion chirality in a topological semimetal. Nature Physics, 2017, 13, 842-847.	6.5	291
75	Tunable and high-purity room temperature single-photon emission from atomic defects in hexagonal boron nitride. Nature Communications, 2017, 8, 705.	5.8	351
76	Observation of Electron Coherence and Fabryâ€“Perot Standing Waves at a Graphene Edge. Nano Letters, 2017, 17, 7380-7386.	4.5	26
77	A MoTe2-based light-emitting diode and photodetector for silicon photonic integrated circuits. Nature Nanotechnology, 2017, 12, 1124-1129.	15.6	344
78	Mach-Zehnder interferometry using spin- and valley-polarized quantum Hall edge states in graphene. Science Advances, 2017, 3, e1700600.	4.7	64
79	Efficiency of Launching Highly Confined Polaritons by Infrared Light Incident on a Hyperbolic Material. Nano Letters, 2017, 17, 5285-5290.	4.5	79
80	Helical edge states and fractional quantum Hall effect in a graphene electronâ€“hole bilayer. Nature Nanotechnology, 2017, 12, 118-122.	15.6	72
81	Tunable Quantum Emission from Atomic Defects in Hexagonal Boron Nitride. , 2017, , .		0
82	Self-Aligned Local Electrolyte Gating of 2D Materials for Mid-Infrared Photodetection. , 2017, , .		0
83	Parallel Stitching of 2D Materials. Advanced Materials, 2016, 28, 2322-2329.	11.1	195
84	A high-temperature ferromagnetic topological insulating phase by proximity coupling. Nature, 2016, 533, 513-516.	13.7	359
85	Superlattice-Induced Insulating States and Valley-Protected Orbits in Twisted Bilayer Graphene. Physical Review Letters, 2016, 117, 116804.	2.9	312
86	Landau Level Splittings, Phase Transitions, and Nonuniform Charge Distribution in Trilayer Graphene. Physical Review Letters, 2016, 117, 066601.	2.9	28
87	Hyperbolic phonon polaritons in hexagonal boron nitride (Conference Presentation). , 2016, , .		0
88	Near-field photocurrent nanoscopy on bare and encapsulated graphene. Nature Communications, 2016, 7, 10783.	5.8	80
89	Direct measurement of proximity-induced magnetism at the interface between a topological insulator and a ferromagnet. Nature Communications, 2016, 7, 12014.	5.8	83
90	Tuning ultrafast electron thermalization pathways in a van der Waals heterostructure. Nature Physics, 2016, 12, 455-459.	6.5	127

#	Article	IF	Citations
91	The Ising on the monolayer. Nature Physics, 2016, 12, 112-113.	6.5	14
92	Spatially resolved edge currents and guided-wave electronic states in graphene. Nature Physics, 2016, 12, 128-133.	6.5	105
93	Tunneling in grapheneâ€“topological insulator hybrid devices. Physical Review B, 2015, 92, .	1.1	21
94	Hot-carrier photocurrent effects at grapheneâ€“metal interfaces. Journal of Physics Condensed Matter, 2015, 27, 164207.	0.7	71
95	Electronic Transport of Encapsulated Graphene and WSe₂ Devices Fabricated by Pick-up of Prepatterned hBN. Nano Letters, 2015, 15, 1898-1903.	4.5	115
96	Electrical control of optical emitter relaxation pathways enabled by graphene. Nature Physics, 2015, 11, 281-287.	6.5	99
97	Graphene on hexagonal boron nitride as a tunable hyperbolic metamaterial. Nature Nanotechnology, 2015, 10, 682-686.	15.6	526
98	Subdiffractional focusing and guiding of polaritonic rays in a natural hyperbolic material. Nature Communications, 2015, 6, 6963.	5.8	340
99	Generation of photovoltage in graphene on a femtosecond timescale through efficient carrier heating. Nature Nanotechnology, 2015, 10, 437-443.	15.6	210
100	Observation of chiral currents at the magnetic domain boundary of a topological insulator. Science, 2015, 349, 948-952.	6.0	15
101	Graphene-Based Thermopile for Thermal Imaging Applications. Nano Letters, 2015, 15, 7211-7216.	4.5	81
102	Competing Channels for Hot-Electron Cooling in Graphene. Physical Review Letters, 2014, 112, 247401.	2.9	69
103	Band structure mapping of bilayer graphene via quasiparticle scattering. APL Materials, 2014, 2, .	2.2	22
104	Optoelectronic devices based on electrically tunable pâ€“n diodes in a monolayer dichalcogenide. Nature Nanotechnology, 2014, 9, 262-267.	15.6	1,270
105	Phosphorus joins the family. Nature Nanotechnology, 2014, 9, 330-331.	15.6	528
106	Tunable symmetry breaking and helical edge transport in a graphene quantum spin Hall state. Nature, 2014, 505, 528-532.	13.7	229
107	Electrostatic Coupling between Two Surfaces of a Topological Insulator Nanodevice. Physical Review Letters, 2014, 113, 206801.	2.9	33
108	Photoresponse of an Electrically Tunable Ambipolar Graphene Infrared Thermocouple. Nano Letters, 2014, 14, 901-907.	4.5	44

#	Article	IF	Citations
109	Electric field control of soliton motion and stacking in trilayer graphene. Nature Materials, 2014, 13, 786-789.	13.3	90
110	Tunable Phonon Polaritons in Atomically Thin van der Waals Crystals of Boron Nitride. Science, 2014, 343, 1125-1129.	6.0	957
111	Observation of Floquet-Bloch states on the surface of a topological insulator. , 2014, , .		0
112	Observation of Floquet-Bloch States on the Surface of a Topological Insulator. , 2014, , .		0
113	Intrinsic Electronic Transport Properties of High-Quality Monolayer and Bilayer MoS₂. Nano Letters, 2013, 13, 4212-4216.	4.5	558
114	Observation of Floquet-Bloch States on the Surface of a Topological Insulator. Science, 2013, 342, 453-457.	6.0	902
115	Electrically tunable transverse magnetic focusing in graphene. Nature Physics, 2013, 9, 225-229.	6.5	151
116	Observation of suppressed terahertz absorption in photoexcited graphene. Applied Physics Letters, 2013, 102, .	1.5	73
117	Exchange-Coupling-Induced Symmetry Breaking in Topological Insulators. Physical Review Letters, 2013, 110, 186807.	2.9	284
118	Massive Dirac Fermions and Hofstadter Butterfly in a van der Waals Heterostructure. Science, 2013, 340, 1427-1430.	6.0	1,392
119	Disorder Imposed Limits of Mono- and Bilayer Graphene Electronic Modification Using Covalent Chemistry. Nano Letters, 2013, 13, 809-817.	4.5	62
120	Quantum and classical confinement of resonant states in a trilayer graphene Fabry-PÃ©rot interferometer. Nature Communications, 2012, 3, 1239.	5.8	48
121	Ferromagnetism in thin-film Cr-doped topological insulator Bi2Se3. Applied Physics Letters, 2012, 100, .	1.5	151
122	Long-Wavelength Local Density of States Oscillations Near Graphene Step Edges. Physical Review Letters, 2012, 108, 016801.	2.9	37
123	Understanding and controlling the substrate effect on graphene electron-transfer chemistry via reactivity imprint lithography. Nature Chemistry, 2012, 4, 724-732.	6.6	463
124	Measurement of Intrinsic Dirac Fermion Cooling on the Surface of the Topological Insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Se</mml:mi><mml:mn> Time-Resolved and Angle-Resolved Photoemission Spectroscopy. Physical Review Letters, 2012, 109, 127401.	2.9	221
125	Quantum Hall Effect, Screening, and Layer-Polarized Insulating States in Twisted Bilayer Graphene. Physical Review Letters, 2012, 108, 076601.	2.9	127
126	Control over topological insulator photocurrents with light polarization. Nature Nanotechnology, 2012, 7, 96-100.	15.6	483

#	Article	IF	Citations
127	Emergence of superlattice Dirac points in graphene on hexagonal boron nitride. Nature Physics, 2012, 8, 382-386.	6.5	956
128	Large Variations of the Raman Signal in the Spectra of Twisted Bilayer Graphene on a BN Substrate. Journal of Physical Chemistry Letters, 2012, 3, 796-799.	2.1	30
129	BN/Graphene/BN Transistors for RF Applications. IEEE Electron Device Letters, 2011, 32, 1209-1211.	2.2	179
130	Quantum Hall effect and Landau-level crossing of Dirac fermions in trilayer graphene. Nature Physics, 2011, 7, 621-625.	6.5	211
131	Scanning tunnelling microscopy and spectroscopy of ultra-flat graphene on hexagonal boron nitride. Nature Materials, 2011, 10, 282-285.	13.3	1,157
132	Hot Carrierâ€“Assisted Intrinsic Photoresponse in Graphene. Science, 2011, 334, 648-652.	6.0	876
133	Electrically tunable surface-to-bulk coherent coupling in topological insulator thin films. Physical Review B, 2011, 84, .	1.1	291
134	Surface State Transport and Ambipolar Electric Field Effect in Bi₂Se₃ Nanodevices. Nano Letters, 2010, 10, 5032-5036.	4.5	272
135	Pulling Apart Molecular Magnetism. Science, 2010, 328, 1362-1363.	6.0	10
136	Electronic Transport in Dual-Gated Bilayer Graphene at Large Displacement Fields. Physical Review Letters, 2010, 105, 166601.	2.9	184
137	Etching of Graphene Devices with a Helium Ion Beam. ACS Nano, 2009, 3, 2674-2676.	7.3	283
138	Anisotropic Etching and Nanoribbon Formation in Single-Layer Graphene. Nano Letters, 2009, 9, 2600-2604.	4.5	483
139	Electronic transport in locally gated graphene nanoconstrictions. Applied Physics Letters, 2007, 91, .	1.5	171
140	Electronic Transport and Quantum Hall Effect in Bipolar Graphene<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi><mml:mtext mathvariant="normal">â^'</mml:mtext><mml:mi>n</mml:mi><mml:mtext mathvariant="normal">â^'</mml:mtext><mml:mi>p</mml:mi></mml:math>Junctions. Physical Review Letters, 2007, 99, 166804.	2.9	434
141	Induced superconductivity in graphene. Solid State Communications, 2007, 143, 72-76.	0.9	58
142	Bipolar supercurrent in graphene. Nature, 2007, 446, 56-59.	13.7	1,095
143	Manifestations of phase-coherent transport in graphene. European Physical Journal: Special Topics, 2007, 148, 27-37.	1.2	11
144	Tunneling in Suspended Carbon Nanotubes Assisted by Longitudinal Phonons. Physical Review Letters, 2006, 96, 026801.	2.9	229

#	Article	IF	Citations
145	Quantum dots in carbon nanotubes. Semiconductor Science and Technology, 2006, 21, S52-S63.	1.0	41
146	Excited State Spectroscopy in Carbon Nanotube Double Quantum Dots. Nano Letters, 2006, 6, 1350-1355.	4.5	70
147	Quantum supercurrent transistors in carbon nanotubes. Nature, 2006, 439, 953-956.	13.7	342
148	Coupling between electronic transport and longitudinal phonons in suspended nanotubes. New Journal of Physics, 2005, 7, 243-243.	1.2	28
149	Orbital Kondo effect in carbon nanotubes. Nature, 2005, 434, 484-488.	13.7	341
150	Electronic Transport Spectroscopy of Carbon Nanotubes in a Magnetic Field. Physical Review Letters, 2005, 94, 156802.	2.9	90
151	Electronic excitation spectrum of metallic carbon nanotubes. Physical Review B, 2005, 71, .	1.1	88
152	Electron-hole symmetry in a semiconducting carbon nanotube quantum dot. Nature, 2004, 429, 389-392.	13.7	213
153	Production of very neutron-deficient isotopes near Sn via reactions involving light-particle and cluster emission. Nuclear Physics A, 2000, 669, 43-50.	0.6	40