

Alberto F Morpurgo

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113
papers

17,092
citations

57
h-index

119
g-index

119
ext. papers

19,059
ext. citations

12.8
avg, IF

6.75
L-index

#	Paper	IF	Citations
113	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. <i>Nanoscale</i> , 2015 , 7, 4598-810	7.7	2015
112	Gate-induced insulating state in bilayer graphene devices. <i>Nature Materials</i> , 2008 , 7, 151-7	27	1347
111	Bipolar supercurrent in graphene. <i>Nature</i> , 2007 , 446, 56-9	50.4	1001
110	Magnetic 2D materials and heterostructures. <i>Nature Nanotechnology</i> , 2019 , 14, 408-419	28.7	571
109	Tunable Fröhlich polarons in organic single-crystal transistors. <i>Nature Materials</i> , 2006 , 5, 982-6	27	488
108	Organic single-crystal field-effect transistors. <i>Physica Status Solidi A</i> , 2004 , 201, 1302-1331		485
107	Colloquium: Electronic transport in single-crystal organic transistors. <i>Reviews of Modern Physics</i> , 2006 , 78, 973-989	40.5	460
106	Electrostatic modification of novel materials. <i>Reviews of Modern Physics</i> , 2006 , 78, 1185-1212	40.5	421
105	Quantitative determination of the band gap of WS ₂ with ambipolar ionic liquid-gated transistors. <i>Nano Letters</i> , 2012 , 12, 5218-23	11.5	406
104	Trilayer graphene is a semimetal with a gate-tunable band overlap. <i>Nature Nanotechnology</i> , 2009 , 4, 383-8	28.7	376
103	Intervalley scattering, long-range disorder, and effective time-reversal symmetry breaking in graphene. <i>Physical Review Letters</i> , 2006 , 97, 196804	7.4	355
102	Mono- and bilayer WS ₂ light-emitting transistors. <i>Nano Letters</i> , 2014 , 14, 2019-25	11.5	351
101	Metallic conduction at organic charge-transfer interfaces. <i>Nature Materials</i> , 2008 , 7, 574-80	27	319
100	Very large tunneling magnetoresistance in layered magnetic semiconductor CrI ₃ . <i>Nature Communications</i> , 2018 , 9, 2516	17.4	317
99	Controlled fabrication of metallic electrodes with atomic separation. <i>Applied Physics Letters</i> , 1999 , 74, 2084-2086	3.4	274
98	Indirect-to-direct band gap crossover in few-layer MoTe ₂ . <i>Nano Letters</i> , 2015 , 15, 2336-42	11.5	265
97	Influence of the gate dielectric on the mobility of rubrene single-crystal field-effect transistors. <i>Applied Physics Letters</i> , 2004 , 85, 3899-3901	3.4	257

96	Field-effect transistors on tetracene single crystals. <i>Applied Physics Letters</i> , 2003 , 83, 4345-4347	3.4	250
95	Accessing the transport properties of graphene and its multilayers at high carrier density. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 13002-6	11.5	247
94	Reversing the direction of the supercurrent in a controllable Josephson junction. <i>Nature</i> , 1999 , 397, 43-45	50.4	240
93	High electron mobility in vacuum and ambient for PDIF-CN2 single-crystal transistors. <i>Journal of the American Chemical Society</i> , 2009 , 131, 2462-3	16.4	239
92	Integrated nanotube circuits: Controlled growth and ohmic contacting of single-walled carbon nanotubes. <i>Applied Physics Letters</i> , 1999 , 75, 627-629	3.4	239
91	Strong interface-induced spin-orbit interaction in graphene on WS ₂ . <i>Nature Communications</i> , 2015 , 6, 8339	17.4	233
90	Band-like electron transport in organic transistors and implication of the molecular structure for performance optimization. <i>Advanced Materials</i> , 2012 , 24, 503-8	24	233
89	Gate-tuned normal and superconducting transport at the surface of a topological insulator. <i>Nature Communications</i> , 2011 , 2, 575	17.4	230
88	Electric-field control of the metal-insulator transition in ultrathin NdNiO ₃ films. <i>Advanced Materials</i> , 2010 , 22, 5517-20	24	227
87	Gate-induced superconductivity in atomically thin MoS ₂ crystals. <i>Nature Nanotechnology</i> , 2016 , 11, 339-44	48.7	216
86	Two-dimensional quantum oscillations of the conductance at LaAlO ₃ /SrTiO ₃ interfaces. <i>Physical Review Letters</i> , 2010 , 105, 236802	7.4	208
85	Gate-Controlled Superconducting Proximity Effect in Carbon Nanotubes. <i>Science</i> , 1999 , 286, 263-265	33.3	203
84	Observation of Aharonov-Bohm conductance oscillations in a graphene ring. <i>Physical Review B</i> , 2008 , 77,	3.3	191
83	Probing magnetism in 2D materials at the nanoscale with single-spin microscopy. <i>Science</i> , 2019 , 364, 973-976	33.3	189
82	Shot noise in ballistic graphene. <i>Physical Review Letters</i> , 2008 , 100, 196802	7.4	188
81	Tunneling Spin Valves Based on FeGeTe/hBN/FeGeTe van der Waals Heterostructures. <i>Nano Letters</i> , 2018 , 18, 4303-4308	11.5	167
80	Ensemble-Average Spectrum of Aharonov-Bohm Conductance Oscillations: Evidence for Spin-Orbit-Induced Berry's Phase. <i>Physical Review Letters</i> , 1998 , 80, 1050-1053	7.4	147
79	Surface transport and band gap structure of exfoliated 2H-MoTe ₂ crystals. <i>2D Materials</i> , 2014 , 1, 021003	3.9	124

78	Space charge limited transport and time of flight measurements in tetracene single crystals: A comparative study. <i>Journal of Applied Physics</i> , 2004 , 95, 1196-1202	2.5	120
77	Electrostatic confinement of electrons in graphene nanoribbons. <i>Physical Review B</i> , 2009 , 80,	3.3	119
76	Electrostatically induced superconductivity at the surface of WS ₂ . <i>Nano Letters</i> , 2015 , 15, 1197-202	11.5	116
75	Ambipolar Cu- and Fe-phthalocyanine single-crystal field-effect transistors. <i>Applied Physics Letters</i> , 2005 , 86, 262109	3.4	111
74	Tuning magnetotransport in a compensated semimetal at the atomic scale. <i>Nature Communications</i> , 2015 , 6, 8892	17.4	109
73	Hot electron tunable supercurrent. <i>Applied Physics Letters</i> , 1998 , 72, 966-968	3.4	108
72	Band-like electron transport with record-high mobility in the TCNQ family. <i>Advanced Materials</i> , 2015 , 27, 2453-8	24	97
71	Origin and Magnitude of Designer Spin-Orbit Interaction in Graphene on Semiconducting Transition Metal Dichalcogenides. <i>Physical Review X</i> , 2016 , 6,	9.1	97
70	Topological origin of subgap conductance in insulating bilayer graphene. <i>Nature Physics</i> , 2011 , 7, 38-42	16.2	94
69	Charge noise in graphene transistors. <i>Nano Letters</i> , 2010 , 10, 1563-7	11.5	94
68	Nanospintronics with carbon nanotubes. <i>Semiconductor Science and Technology</i> , 2006 , 21, S78-S95	1.8	93
67	Nanometer-spaced electrodes with calibrated separation. <i>Applied Physics Letters</i> , 2002 , 80, 321-323	3.4	90
66	Mobile ionic impurities in organic semiconductors. <i>Journal of Applied Physics</i> , 2003 , 93, 2082-2090	2.5	86
65	Observation of even denominator fractional quantum Hall effect in suspended bilayer graphene. <i>Nano Letters</i> , 2014 , 14, 2135-9	11.5	81
64	Magnetotransport through graphene nanoribbons. <i>Physical Review B</i> , 2010 , 81,	3.3	79
63	Random Strain Fluctuations as Dominant Disorder Source for High-Quality On-Substrate Graphene Devices. <i>Physical Review X</i> , 2014 , 4,	9.1	77
62	Transport through graphene on SrTiO ₃ . <i>Physical Review Letters</i> , 2011 , 107, 225501	7.4	73
61	A ballistic pn junction in suspended graphene with split bottom gates. <i>Applied Physics Letters</i> , 2013 , 102, 223102	3.4	72

60	Electronic correlations in oligo-acene and -thiophene organic molecular crystals. <i>Physical Review Letters</i> , 2004 , 93, 146405	7.4	69
59	Single-crystal organic charge-transfer interfaces probed using Schottky-gated heterostructures. <i>Nature Materials</i> , 2012 , 11, 788-94	27	67
58	Correlation between molecular orbitals and doping dependence of the electrical conductivity in electron-doped metal-phthalocyanine compounds. <i>Journal of the American Chemical Society</i> , 2005 , 127, 12210-1	16.4	65
57	Design of van der Waals interfaces for broad-spectrum optoelectronics. <i>Nature Materials</i> , 2020 , 19, 299-304	30.4	64
56	Persistence of Magnetism in Atomically Thin MnPS Crystals. <i>Nano Letters</i> , 2020 , 20, 2452-2459	11.5	57
55	Electroluminescence from indirect band gap semiconductor ReS ₂ . <i>2D Materials</i> , 2016 , 3, 045016	5.9	56
54	Quantitative analysis of density-dependent transport in tetramethyltetraselenafulvalene single-crystal transistors: Intrinsic properties and trapping. <i>Physical Review B</i> , 2009 , 80,	3.3	56
53	Influence of surface traps on space-charge limited current. <i>Physical Review B</i> , 2005 , 72,	3.3	56
52	Ambipolar Light-Emitting Transistors on Chemical Vapor Deposited Monolayer MoS ₂ . <i>Nano Letters</i> , 2015 , 15, 8289-94	11.5	53
51	In-plane electronic confinement in superconducting LaAlO ₃ /SrTiO ₃ nanostructures. <i>Applied Physics Letters</i> , 2012 , 101, 222601	3.4	52
50	Reproducible low contact resistance in rubrene single-crystal field-effect transistors with nickel electrodes. <i>Applied Physics Letters</i> , 2006 , 88, 113512	3.4	52
49	High-performance n-type organic field-effect transistors with ionic liquid gates. <i>Applied Physics Letters</i> , 2010 , 97, 143307	3.4	51
48	Induced superconductivity in graphene. <i>Solid State Communications</i> , 2007 , 143, 72-76	1.6	51
47	Phase Conjugated Andreev Backscattering in Two-Dimensional Ballistic Cavities. <i>Physical Review Letters</i> , 1997 , 78, 2636-2639	7.4	46
46	Current saturation and Coulomb interactions in organic single-crystal transistors. <i>New Journal of Physics</i> , 2008 , 10, 033031	2.9	46
45	Determining the phase diagram of atomically thin layered antiferromagnet CrCl ₃ . <i>Nature Nanotechnology</i> , 2019 , 14, 1116-1122	28.7	43
44	Tailoring the molecular structure to suppress extrinsic disorder in organic transistors. <i>Advanced Materials</i> , 2014 , 26, 1254-60	24	43
43	Evanescent Wave Transport and Shot Noise in Graphene: Ballistic Regime and Effect of Disorder. <i>Journal of Low Temperature Physics</i> , 2008 , 153, 374-392	1.3	43

42	Universal spin-induced time reversal symmetry breaking in two-dimensional electron gases with Rashba spin-orbit interaction. <i>Physical Review Letters</i> , 2005 , 94, 186805	7.4	42
41	Low-temperature monoclinic layer stacking in atomically thin CrI ₃ crystals. <i>2D Materials</i> , 2020 , 7, 015007	5.9	41
40	Tunnelling spectroscopy of gate-induced superconductivity in MoS ₂ . <i>Nature Nanotechnology</i> , 2018 , 13, 483-488	28.7	40
39	Microscopic Origin of the Valley Hall Effect in Transition Metal Dichalcogenides Revealed by Wavelength-Dependent Mapping. <i>Nano Letters</i> , 2017 , 17, 5719-5725	11.5	40
38	Influence of the gate leakage current on the stability of organic single-crystal field-effect transistors. <i>Applied Physics Letters</i> , 2005 , 86, 032103	3.4	40
37	Insulating state in tetralayers reveals an even-odd interaction effect in multilayer graphene. <i>Nature Communications</i> , 2015 , 6, 6419	17.4	38
36	Controlling the Topological Sector of Magnetic Solitons in Exfoliated Cr _{1/3} NbS ₂ Crystals. <i>Physical Review Letters</i> , 2017 , 118, 257203	7.4	37
35	Organic Single-Crystal Schottky Gate Transistors. <i>Advanced Materials</i> , 2009 , 21, 3689-3693	24	36
34	Energy Spectroscopy of Andreev Levels between Two Superconductors. <i>Physical Review Letters</i> , 1997 , 79, 4010-4013	7.4	35
33	Scanning photocurrent microscopy reveals electron-hole asymmetry in ionic liquid-gated WS ₂ transistors. <i>Applied Physics Letters</i> , 2014 , 104, 171112	3.4	33
32	Very low bias stress in n-type organic single-crystal transistors. <i>Applied Physics Letters</i> , 2012 , 100, 133301	3.4	32
31	Hole Transport in Exfoliated Monolayer MoS ₂ . <i>ACS Nano</i> , 2018 , 12, 2669-2676	16.7	29
30	Bias-dependent contact resistance in rubrene single-crystal field-effect transistors. <i>Applied Physics Letters</i> , 2007 , 90, 212103	3.4	29
29	Progress in organic single-crystal field-effect transistors. <i>MRS Bulletin</i> , 2013 , 38, 51-56	3.2	28
28	Electron-hole collision limited transport in charge-neutral bilayer graphene. <i>Nature Physics</i> , 2017 , 13, 1207-1214	16.2	28
27	On-Demand Spin-Orbit Interaction from Which-Layer Tunability in Bilayer Graphene. <i>Nano Letters</i> , 2017 , 17, 7003-7008	11.5	26
26	Small gap semiconducting organic charge-transfer interfaces. <i>Applied Physics Letters</i> , 2010 , 96, 232102	3.4	26
25	Enhanced Electron-Phonon Interaction in Multivalley Materials. <i>Physical Review X</i> , 2019 , 9,	9.1	25

24	Crossover from Coulomb blockade to quantum Hall effect in suspended graphene nanoribbons. <i>Physical Review Letters</i> , 2012 , 108, 266601	7.4	25
23	Microfocus Laser-Angle-Resolved Photoemission on Encapsulated Mono-, Bi-, and Few-Layer 1T'-WTe. <i>Nano Letters</i> , 2019 , 19, 554-560	11.5	25
22	High-quality multiterminal suspended graphene devices. <i>Nano Letters</i> , 2013 , 13, 5165-70	11.5	23
21	A family of finite-temperature electronic phase transitions in graphene multilayers. <i>Science</i> , 2018 , 362, 324-328	33.3	19
20	Direct Observation of a Long-Range Field Effect from Gate Tuning of Nonlocal Conductivity. <i>Physical Review Letters</i> , 2016 , 117, 176601	7.4	16
19	Tuning the Charge Transfer in Fx-TCNQ/Rubrene Single-Crystal Interfaces. <i>Advanced Functional Materials</i> , 2016 , 26, 2334-2340	15.6	16
18	Interaction-induced insulating state in thick multilayer graphene. <i>2D Materials</i> , 2016 , 3, 045014	5.9	15
17	Semiconducting van der Waals Interfaces as Artificial Semiconductors. <i>Nano Letters</i> , 2018 , 18, 5146-5152	11.5	15
16	Threshold voltage and space charge in organic transistors. <i>Physical Review Letters</i> , 2009 , 103, 066803	7.4	14
15	Band Filling and Cross Quantum Capacitance in Ion-Gated Semiconducting Transition Metal Dichalcogenide Monolayers. <i>Nano Letters</i> , 2019 , 19, 8836-8845	11.5	13
14	Quantitative analysis of electronic transport through weakly coupled metal/organic interfaces. <i>Applied Physics Letters</i> , 2008 , 92, 133303	3.4	12
13	Flipping exciton angular momentum with chiral phonons in MoSe ₂ /WSe ₂ heterobilayers. <i>2D Materials</i> , 2020 , 7, 041002	5.9	12
12	Giant anomalous Hall effect in quasi-two-dimensional layered antiferromagnet Co _{1/3} NbS ₂ . <i>Physical Review Research</i> , 2020 , 2,	3.9	11
11	Charge Transfer, Band-Like Transport, and Magnetic Ions at F16CoPc/Rubrene Interfaces. <i>Advanced Materials Interfaces</i> , 2016 , 3, 1500863	4.6	11
10	Lithium-ion conducting glass ceramics for electrostatic gating. <i>Applied Physics Letters</i> , 2018 , 113, 033502	3.4	10
9	Tuning the influence of microscopic decoherence on the superconducting proximity effect in a graphene Andreev interferometer. <i>Physical Review Letters</i> , 2014 , 112, 126803	7.4	10
8	Multi-frequency Shubnikov-de Haas oscillations in topological semimetal Pt ₂ HgSe ₃ . <i>2D Materials</i> , 2020 , 7, 025042	5.9	6
7	Scanning Tunneling Microscopy of an Air Sensitive Dichalcogenide Through an Encapsulating Layer. <i>Nano Letters</i> , 2018 , 18, 6696-6702	11.5	6

6	Synthetic Semimetals with van der Waals Interfaces. <i>Nano Letters</i> , 2020 , 20, 1322-1328	11.5	5
5	Quasi 1D Electronic Transport in a 2D Magnetic Semiconductor.. <i>Advanced Materials</i> , 2022 , e2109759	24	5
4	Ionic gate spectroscopy of 2D semiconductors. <i>Nature Reviews Physics</i> , 2021 , 3, 508-519	23.6	3
3	Transport Experiments on Three-Dimensional Topological Insulators. <i>Contemporary Concepts of Condensed Matter Science</i> , 2013 , 6, 199-233		1
2	Magnetization dependent tunneling conductance of ferromagnetic barriers. <i>Nature Communications</i> , 2021 , 12, 6659	17.4	0
1	Identifying atomically thin crystals with diffusively reflected light. <i>2D Materials</i> , 2021 , 8, 045016	5.9	0