Sergey E Kubatkin

List of Publications by Year
in descending order

117 papers	4,373 citations	136950 32 h-index	110387 64 g-index
119 all docs	119 docs citations	119 times ranked	4602 citing authors

#	Article	IF	Citations
1	Single-electron transistor of a single organic molecule with access to several redox states. Nature, 2003, 425, 698-701.	27.8	798
2	Towards a quantum resistance standard based on epitaxial graphene. Nature Nanotechnology, 2010, 5, 186-189.	31.5	405
3	Electronic Transport in Single Molecule Junctions:â€‰ Control of the Molecule-Electrode Coupling through Intramolecular Tunneling Barriers. Nano Letters, 2008, 8, 1-5.	9.1	163
4	Dynamic Hall Effect Driven by Circularly Polarized Light in a Graphene Layer. Physical Review Letters, 2010, 105, 227402.	7.8	150
5	Charge transfer between epitaxial graphene and silicon carbide. Applied Physics Letters, 2010, 97, .	3.3	145
6	Nonâ€Volatile Photochemical Gating of an Epitaxial Graphene/Polymer Heterostructure. Advanced Materials, 2011, 23, 878-882.	21.0	130
7	Terahertz Radiation Driven Chiral Edge Currents in Graphene. Physical Review Letters, 2011, 107, 276601.	7.8	118
8	Magnetic quantum ratchet effect in graphene. Nature Nanotechnology, 2013, 8, 104-107.	31.5	116
9	Anomalously strong pinning of the filling factor<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î½</mml:mi><mml:mo>=</mml:mo><mml:mn>2</mml:mn></mml:mrow></mml:math>in epitaxial graphene. Physical Review B, 2011, 83, .	3.2	110
10	Helicity-dependent photocurrents in graphene layers excited by midinfrared radiation of a CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>laser. Physical Review B, 2011, 84, .	3.2	84
11	Quantum resistance metrology using graphene. Reports on Progress in Physics, 2013, 76, 104501.	20.1	79
12	Disordered Fermi Liquid in Epitaxial Graphene from Quantum Transport Measurements. Physical Review Letters, 2011, 107, 166602.	7.8	74
13	Graphene, universality of the quantum Hall effect and redefinition of the SI system. New Journal of Physics, 2011, 13, 093026.	2.9	65
14	Precision comparison of the quantum Hall effect in graphene and gallium arsenide. Metrologia, 2012, 49, 294-306.	1.2	64
15	An ultrasensitive radio-frequency single-electron transistor working up to 4.2â€‰K. Journal of Applied Physics, 2006, 100, 114321.	2.5	63
16	Operation of graphene quantum Hall resistance standard in a cryogen-free table-top system. 2D Materials, 2015, 2, 035015.	4.4	63
17	Uniform doping of graphene close to the Dirac point by polymer-assisted assembly of molecular dopants. Nature Communications, 2018, 9, 3956.	12.8	61
18	Direct Identification of Dilute Surface Spins on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>Al</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:mrow></mml:math>: Origin of Flux Noise in Quantum Circuits. Physical Review Letters, 2017, 118, 057703.	7.8	58

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19	Light-Triggered Conductance Switching in Single-Molecule Dihydroazulene/Vinylheptafulvene Junctions. Journal of Physical Chemistry C, 2011, 115, 18372-18377.	3.1	57
20	Suppression of low-frequency charge noise in superconducting resonators by surface spin desorption. Nature Communications, 2018, 9, 1143.	12.8	57
21	Weak localization scattering lengths in epitaxial, and CVD graphene. Physical Review B, 2012, 86, .	3.2	53
22	Fully gapped superconductivity in a nanometre-size YBa2Cu3O7â€“Î´ island enhanced by a magnetic field. Nature Nanotechnology, 2013, 8, 25-30.	31.5	53
23	Dihydroazulene Photoswitch Operating in Sequential Tunneling Regime: Synthesis and Singleâ€Molecule Junction Studies. Advanced Functional Materials, 2012, 22, 4249-4258.	14.9	52
24	Express Optical Analysis of Epitaxial Graphene on SiC: Impact of Morphology on Quantum Transport. Nano Letters, 2013, 13, 4217-4223.	9.1	51
25	Mixed valence radical cations and intermolecular complexes derived from indenofluorene-extended tetrathiafulvalenes. Journal of Materials Chemistry C, 2014, 2, 10428-10438.	5.5	47
26	Small epitaxial graphene devices for magnetosensing applications. Journal of Applied Physics, 2012, 111, 07E509.	2.5	46
27	Magnetic field resilient superconducting fractal resonators for coupling to free spins. Journal of Applied Physics, 2012, 112, .	2.5	44
28	Energy loss rates of hot Dirac fermions in epitaxial, exfoliated, and CVD graphene. Physical Review B, 2013, 87, .	3.2	44
29	Two-level systems in superconducting quantum devices due to trapped quasiparticles. Science Advances, 2020, 6, .	10.3	44
30	Electron Transfer Dynamics of Bistable Single-Molecule Junctions. Nano Letters, 2006, 6, 2184-2190.	9.1	38
31	Phase Space for the Breakdown of the Quantum Hall Effect in Epitaxial Graphene. Physical Review Letters, 2013, 111, 096601.	7.8	37
32	Tuning carrier density across Dirac point in epitaxial graphene on SiC by corona discharge. Applied Physics Letters, 2014, 105, 063106.	3.3	34
33	Tunneling through a multigrain system: Deducing sample topology from nonlinear conductance. Physical Review B, 2002, 65, .	3.2	32
34	Giant quantum Hall plateaus generated by charge transfer in epitaxial graphene. Scientific Reports, 2016, 6, 30296.	3.3	32
35	Nanoelectromechanical Switch Operating by Tunneling of an Entire C60 Molecule. Nano Letters, 2008, 8, 2393-2398.	9.1	31
36	Superconducting microwave parametric amplifier based on a quasi-fractal slow propagation line. Journal of Applied Physics, 2016, 119, .	2.5	30

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37	Quantum Hall Effect and Quantum Point Contact in Bilayer-Patched Epitaxial Graphene. Nano Letters, 2014, 14, 3369-3373.	9.1	29
38	Wafer-scale homogeneity of transport properties in epitaxial graphene on SiC. Carbon, 2015, 87, 409-414.	10.3	29
39	Fast Tunable High- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Q</mml:mi></mml:math> -Factor Superconducting Microwave Resonators. Physical Review Applied, 2020, 14, .	3.8	29
40	Coulombâ€‰blockadeâ€‰effectsâ€‰atâ€‰roomâ€‰temperatureâ€‰inâ€‰thin-film nanoconstrictions fabricated by a novel technique. Applied Physics Letters, 1998, 73, 3604-3606.	3.3	26
41	A near-field scanning microwave microscope based on a superconducting resonator for low power measurements. Review of Scientific Instruments, 2013, 84, 023706.	1.3	26
42	Near-Field Scanning Microwave Microscopy in the Single Photon Regime. Scientific Reports, 2019, 9, 12539.	3.3	26
43	Graphene nanogap for gate-tunable quantum-coherent single-molecule electronics. Physical Review B, 2011, 84, .	3.2	25
44	A prototype of RK/200 quantum Hall array resistance standard on epitaxial graphene. Journal of Applied Physics, 2015, 118, 044506.	2.5	25
45	Towards quantum-limited coherent detection of terahertz waves in charge-neutral graphene. Nature Astronomy, 2019, 3, 983-988.	10.1	25
46	Charge Qubit Coupled to an Intense Microwave Electromagnetic Field in a Superconducting Nb Device: Evidence for Photon-Assisted Quasiparticle Tunneling. Physical Review Letters, 2013, 111, 137002.	7.8	24
47	Engineering and metrology of epitaxial graphene. Solid State Communications, 2011, 151, 1094-1099.	1.9	23
48	Tunable superconducting microstrip resonators. Applied Physics Letters, 2016, 108, .	3.3	23
49	Single electron transistor with a single conjugated molecule. Current Applied Physics, 2004, 4, 554-558.	2.4	22
50	Strong electronic coupling between single C60molecules and gold electrodes prepared by quench condensation at 4 K. A single molecule three terminal device study. Faraday Discussions, 2006, 131, 337-345.	3.2	22
51	A Single Electron Transistor on an Atomic Force Microscope Probe. Nano Letters, 2006, 6, 937-941.	9.1	22
52	Tunneling Through a Single Quench-condensed Cluster. Journal of Low Temperature Physics, 2000, 118, 307-316.	1.4	20
53	Bianthrone in a Single-Molecule Junction: Conductance Switching with a Bistable Molecule Facilitated by Image Charge Effects. Journal of Physical Chemistry C, 2010, 114, 20686-20695.	3.1	19
54	Aligned Growth of Gold Nanorods in PMMA Channels: Parallel Preparation of Nanogaps. ACS Nano, 2012, 6, 3861-3867.	14.6	19

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55	Low contact resistance in epitaxial graphene devices for quantum metrology. AIP Advances, 2015, 5, .	1.3	19
56	Hot carrier relaxation of Dirac fermions in bilayer epitaxial graphene. Journal of Physics Condensed Matter, 2015, 27, 164202.	1.8	19
57	Galvanically split superconducting microwave resonators for introducing internal voltage bias. Applied Physics Letters, 2014, 104, 052601.	3.3	18
58	Polymer-encapsulated molecular doped epigraphene for quantum resistance metrology. Metrologia, 2019, 56, 045004.	1.2	17
59	Point contact readout for a quantum dot terahertz sensor. Applied Physics Letters, 2008, 93, 073501.	3.3	16
60	Influence of Impurity Spin Dynamics on Quantum Transport in Epitaxial Graphene. Physical Review Letters, 2015, 115, 106602.	7.8	16
61	Effect of graphene substrate type on formation of Bi2Se3 nanoplates. Scientific Reports, 2019, 9, 4791.	3.3	16
62	Insulating phase of mercury in thin quench-condensed films. Physical Review B, 1995, 51, 5514-5517.	3.2	15
63	Reststrahl band-assisted photocurrents in epitaxial graphene layers. Physical Review B, 2013, 88, .	3.2	15
64	High mobility epitaxial graphene devices via aqueous-ozone processing. Applied Physics Letters, 2015, 106, 063503.	3.3	15
65	Verification of electron doping in single-layer graphene due to H2 exposure with thermoelectric power. Applied Physics Letters, 2015, 106, 142110.	3.3	12
66	Dual electrical properties of quench-condensed mercury films. Dependence on the substrate material. Journal of Low Temperature Physics, 1996, 103, 35-47.	1.4	11
67	Phase coherence and energy relaxation in epitaxial graphene under microwave radiation. Applied Physics Letters, 2013, 103, .	3.3	11
68	Analytical solution for the Klein-Gordon equation and action function of the solution for the Dirac equation in counterpropagating laser waves. Physical Review A, 2015, 92, .	2.5	11
69	Physics of a disordered Dirac point in epitaxial graphene from temperature-dependent magnetotransport measurements. Physical Review B, 2015, 92, .	3.2	11
70	Coupling of a locally implanted rare-earth ion ensemble to a superconducting micro-resonator. Applied Physics Letters, 2014, 105, .	3.3	10
71	Clustering and Morphology Evolution of Gold on Nanostructured Surfaces of Silicon Carbide: Implications for Catalysis and Sensing. ACS Applied Nano Materials, 2021, 4, 1282-1293.	5.0	10
72	Coherent interaction with two-level fluctuators using near field scanning microwave microscopy. Scientific Reports, 2015, 5, 17176.	3.3	9

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73	Nanopatterning of Mobile Lipid Monolayers on Electron-Beam-Sculpted Teflon AF Surfaces. ACS Nano, 2015, 9, 1271-1279.	14.6	9
74	Ambipolar charge transport in quasi-free-standing monolayer graphene on SiC obtained by gold intercalation. Physical Review B, 2020, 102, .	3.2	9
75	Apparent Power Law Scaling of Variable Range Hopping Conduction in Carbonized Polymer Nanofibers. Scientific Reports, 2016, 6, 37783.	3.3	8
76	Angle-Dependent Microresonator ESR Characterization of Locally Doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msup><mml:mrow><mml:mi>Gd</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn>3</mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mm. Physical Review Applied, 2016, 6, .	3.8	8
77	Detection of Coherent Terahertz Radiation from a High-Temperature Superconductor Josephson Junction by a Semiconductor Quantum-Dot Detector. Physical Review Applied, 2016, 5, .	3.8	8
78	Non-linear Iâ€“V characteristics of polypyrrole micro-line synthesized using scanning probe microscope. Current Applied Physics, 2002, 2, 23-25.	2.4	7
79	Fabrication of aluminum single-electron transistors with low resistance-capacitance product. Journal of Applied Physics, 2004, 96, 6822-6826.	2.5	7
80	Site-selective immobilization of functionalized DNA origami on nanopatterned Teflon AF. Journal of Materials Chemistry C, 2017, 5, 7637-7643.	5.5	7
81	Probing variable range hopping lengths by magneto conductance in carbonized polymer nanofibers. Scientific Reports, 2018, 8, 4948.	3.3	7
82	Anab initiostudy of the field-induced position change of a C60molecule adsorbed on a gold tip. Nanotechnology, 2007, 18, 165501.	2.6	6
83	Fabrication of Clean Nanogaps Using a Combined Electrochemicalâ€“Chemical Method. Small, 2009, 5, 2541-2544.	10.0	6
84	Quantifying dynamics and interactions of individual spurious low-energy fluctuators in superconducting circuits. Physical Review B, 2021, 103, .	3.2	6
85	Highly efficient UV detection in a metalâ€“semiconductorâ€“metal detector with epigraphene. Applied Physics Letters, 2022, 120, .	3.3	6
86	Coulomb blockade electrometer with a high-T c island. JETP Letters, 1996, 63, 126-132.	1.4	5
87	Electrostatic effects in coupled quantum dot-point contact-single electron transistor devices. Journal of Applied Physics, 2012, 112, .	2.5	5
88	Accurate Real-Time Monitoring of Quality Factor and Center Frequency of Superconducting Resonators. IEEE Transactions on Applied Superconductivity, 2014, 24, 1-5.	1.7	5
89	Kinetic inductance as a microwave circuit design variable by multilayer fabrication. Superconductor Science and Technology, 2015, 28, 085007.	3.5	5
90	Enhancing optoelectronic properties of SiC-grown graphene by a surface layer of colloidal quantum dots. 2D Materials, 2017, 4, 031001.	4.4	5

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91	Chemical Sensing with Atomically Thin Platinum Templated by a 2D Insulator. Advanced Materials Interfaces, 2020, 7, 1902104.	3.7	5
92	The performance limits of epigraphene Hall sensors doped across the Dirac point. Applied Physics Letters, 2020, 116, .	3.3	5
93	On the nature of decoherence in quantum circuits: Revealing the structural motif of the surface radicals in Î±-Al ₂ O ₃. Science Advances, 2022, 8, eabm6169.	10.3	5
94	Giant field effect in self-assembled metallo-organic nanoscale networks. Physical Review B, 2005, 72, .	3.2	4
95	Effects of quasiparticle tunnelling in a circuit-QED realization of a strongly driven two-level system. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 224019.	1.5	4
96	Pulsed electron spin resonance of an organic microcrystal by dispersive readout. Journal of Magnetic Resonance, 2020, 321, 106853.	2.1	4
97	Spontaneous Shape Distortion in Quench-Condensed Bismuth Clusters below 8 K. Physical Review Letters, 2000, 84, 5836-5839.	7.8	3
98	Observation of Coulomb blockade in nanostructured epitaxial bilayer graphene on SiC. Carbon, 2017, 119, 426-430.	10.3	3
99	Thermal Stability of Epitaxial Graphene Electrodes for Conductive Polymer Nanofiber Devices. Crystals, 2017, 7, 378.	2.2	2
100	Defect switching in a mesoscopic sample induced by a scanning tunnelling microscope. Journal of Physics Condensed Matter, 1994, 6, L473-L478.	1.8	1
101	A single electron tunncling (SET) approach to high-Tc superconductors. European Physical Journal D, 1996, 46, 2305-2306.	0.4	1
102	Tunnel barriers for an all-high-Tc single electron tunneling transistor. Physica C: Superconductivity and Its Applications, 2002, 368, 337-342.	1.2	1
103	PC2: Identifying noise processes in superconducting resonators. , 2013, , .		1
104	Electron-phonon coupling of epigraphene at millikelvin temperatures measured by quantum transport thermometry. Applied Physics Letters, 2021, 118, 103102.	3.3	1
105	Application of Tuning Fork Sensors for In-situ Studies of Dynamic Force Interactions Inside Scanning and Transmission Electron Microscopes. Medziagotyra, 2012, 18, .	0.2	1
106	Movement of scattering centers in a point contact induced by a scanning tunneling microscope. Physica B: Condensed Matter, 1994, 194-196, 991-992.	2.7	0
107	Insulating modifications of metal in cold deposited films. European Physical Journal D, 1996, 46, 2477-2478.	0.4	0
108	Anomalous Coulomb blockade in nanoconstricted quench-condensed Bi films. Physica B: Condensed Matter, 2000, 280, 401-402.	2.7	0

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109	Terahertz radiation induced edge currents in graphene. , 2011, , .		0
110	Terahertz radiation induced photocurrents in graphene subjected to an in-plane magnetic field. , 2012, , .		0
111	Direct Electron-Beam Nanopatterning of Teflon AF Surfaces for Site-Selective Formation of Molecular Phospholipid Films. Biophysical Journal, 2012, 102, 728a.	0.5	0
112	THz Spectroscopy Using Low Temperature Mesoscopic Devices. Journal of Low Temperature Physics, 2012, 167, 467-472.	1.4	0
113	Practical and Fundamental Impact of Epitaxial Graphene on Quantum Metrology. Mapan - Journal of Metrology Society of India, 2013, 28, 239-250.	1.5	0
114	Bianthrone at a metal surface: Conductance switching with a bistable molecule made feasible by image charge effects. , 2015, , .		0
115	Towards a cryogen-free table-top primary resistance standard. , 2016, , .		0
116	Stable and Tunable Charge Carrier Control of Graphene for Quantum Resistance Metrology. , 2018, , .		0
117	Conductance Quantization in Gold Nanowires at Low Temperature. , 1997, , 237-242.		0