Juan Carlos Cuevas

List of Publications by Year
in descending order

153 papers	10,817 citations	26630 56 h-index	31849 101 g-index
161 all docs	161 docs citations	161 times ranked	7061 citing authors

#	Article	IF	Citations
1	Extracting transport channel transmissions in scanning tunneling microscopy using superconducting excess current. Physical Review B, 2022, 105, .	3.2	4
2	Theory of drift-enabled control in nonlocal magnon transport. Journal of Physics Condensed Matter, 2022, 34, 295801.	1.8	3
3	Superconducting quantum interference at the atomic scale. Nature Physics, 2022, 18, 893-898.	16.7	10
4	Ground-state quantum geometry in superconductorâ€“quantum dot chains. Physical Review B, 2021, 103, .	3.2	18
5	Near-field radiative heat transfer between one-dimensional magnetophotonic crystals. Physical Review B, 2021, 103, .	3.2	17
6	Normal-Metalâ€“Superconductor Near-Field Thermal Diodes and Transistors. Physical Review Applied, 2021, 15, .	3.8	24
7	Tunneling processes between Yu-Shiba-Rusinov bound states. Physical Review B, 2021, 103, .	3.2	9
8	Observation of Yuâ€“Shibaâ€“Rusinov States in Superconducting Graphene. Advanced Materials, 2021, 33, e2008113.	21.0	10
9	The Role of Metal Ions in the Electron Transport through Azurin-Based Junctions. Applied Sciences (Switzerland), 2021, 11, 3732.	2.5	6
10	Near-field radiative heat transfer in many-body systems. Reviews of Modern Physics, 2021, 93, .	45.6	143
11	Spin-dependent tunneling between individual superconducting bound states. Physical Review Research, 2021, 3, .	3.6	16
12	Can Electron Transport through a Blue-Copper Azurin Be Coherent? An Ab Initio Study. Journal of Physical Chemistry C, 2021, 125, 1693-1702.	3.1	25
13	Deep Learning for the Modeling and Inverse Design of Radiative Heat Transfer. Physical Review Applied, 2021, 16, .	3.8	20
14	Quantum phase transitions and the role of impurity-substrate hybridization in Yu-Shiba-Rusinov states. Communications Physics, 2020, 3, .	5.3	27
15	Mechanical relations between conductive and radiative heat transfer. Physical Review B, 2020, 102, .	3.2	2
16	Tunnelling dynamics between superconducting bound states at the atomic limit. Nature Physics, 2020, 16, 1227-1231.	16.7	42
17	Single channel Josephson effect in a high transmission atomic contact. Communications Physics, 2020, 3, .	5.3	7
18	Backbone charge transport in double-stranded DNA. Nature Nanotechnology, 2020, 15, 836-840.	31.5	46

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19	Channel-based algebraic limits to conductive heat transfer. Physical Review B, 2020, 102, .	3.2	2
20	Microwave Spectroscopy Reveals the Quantum Geometric Tensor of Topological Josephson Matter. Physical Review Letters, 2020, 124, 197002.	7.8	51
21	Interplay between Yu-Shiba-Rusinov states and multiple Andreev reflections. Physical Review B, 2020, 101, .	3.2	14
22	Magnetic field effects in the near-field radiative heat transfer between planar structures. Physical Review B, 2020, 101, .	3.2	28
23	Microwave-assisted tunneling and interference effects in superconducting junctions under fast driving signals. Physical Review B, 2020, 101, .	3.2	27
24	Dynamical Coulomb Blockade as a Local Probe for Quantum Transport. Physical Review Letters, 2020, 124, 156803.	7.8	11
25	InnenrÃ¼cktitelbild: A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch (Angew.) Tj ETQq1 1 0.784314 rgBT /Ov	2.0	0
26	Thermal radiation from subwavelength objects and the violation of Planckâ€™s law. Nature Communications, 2019, 10, 3342.	12.8	15
27	A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch. Angewandte Chemie, 2019, 131, 11978-11985.	2.0	1
28	Tuning Structure and Dynamics of Blue Copper Azurin Junctions via Single Amino-Acid Mutations. Biomolecules, 2019, 9, 611.	4.0	16
29	Mechanical Deformation and Electronic Structure of a Blue Copper Azurin in a Solid-State Junction. Biomolecules, 2019, 9, 506.	4.0	16
30	A Solidâ€State Protein Junction Serves as a Biasâ€Induced Current Switch. Angewandte Chemie - International Edition, 2019, 58, 11852-11859.	13.8	26
31	Doping hepta-alanine with tryptophan: A theoretical study of its effect on the electrical conductance of peptide-based single-molecule junctions. Journal of Chemical Physics, 2019, 150, 174705.	3.0	10
32	Charge-Transport Mechanisms in Azurin-Based Monolayer Junctions. Journal of Physical Chemistry C, 2019, 123, 5907-5922.	3.1	33
33	Local density of states in clean two-dimensional superconductorâ€“normal metalâ€“superconductor heterostructures. Physical Review Research, 2019, 1, .	3.6	2
34	Magnetic-field controlled anomalous refraction in doped semiconductors. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 935.	2.1	6
35	Transmission eigenchannels for coherent phonon transport. Physical Review B, 2018, 97, .	3.2	16
36	Electron Transport Through Homopeptides: Are They Really Good Conductors?. ACS Omega, 2018, 3, 3778-3785.	3.5	26

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37	Peltier cooling in molecular junctions. Nature Nanotechnology, 2018, 13, 122-127.	31.5	120
38	Anisotropic Thermal Magnetoresistance for an Active Control of Radiative Heat Transfer. ACS Photonics, 2018, 5, 705-710.	6.6	80
39	Super-Planckian far-field radiative heat transfer. Physical Review B, 2018, 97, .	3.2	36
40	Tunneling explains efficient electron transport via protein junctions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E4577-E4583.	7.1	81
41	Ab initio electronic structure calculations of entire blue copper azurins. Physical Chemistry Chemical Physics, 2018, 20, 30392-30402.	2.8	19
42	Radiative Heat Transfer. ACS Photonics, 2018, 5, 3896-3915.	6.6	163
43	Exploring the Limits of Super-Planckian Far-Field Radiative Heat Transfer Using 2D Materials. ACS Photonics, 2018, 5, 3082-3088.	6.6	18
44	Quantized thermal transport in single-atom junctions. Science, 2017, 355, 1192-1195.	12.6	165
45	Study of radiative heat transfer in Ã…ngstrÃ¶m- and nanometre-sized gaps. Nature Communications, 2017, 8, .	12.8	117
46	Bioengineering a Single-Protein Junction. Journal of the American Chemical Society, 2017, 139, 15337-15346.	13.7	84
47	Thermal discrete dipole approximation for the description of thermal emission and radiative heat transfer of magneto-optical systems. Physical Review B, 2017, 95, .	3.2	57
48	Thermal conductance of metallic atomic-size contacts: Phonon transport and Wiedemann-Franz law. Physical Review B, 2017, 96, .	3.2	23
49	Thermal conductance and thermoelectric figure of merit of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>60</mml:mn></mml:msub></mml:math> -based single-molecule junctions: Electrons, phonons, and photons. Physical Review B, 2017, 95, .	3.2	36
50	Enhancing Near-Field Radiative Heat Transfer with Si-based Metasurfaces. Physical Review Letters, 2017, 118, 203901.	7.8	107
51	Tuning the thermal conductance of molecular junctions with interference effects. Physical Review B, 2017, 96, .	3.2	31
52	Proximity Effect A New Insight from In Situ Fabricated Hybrid Nanostructures. , 2017, , .		0
53	Length dependence of the thermal conductance of alkane-based single-molecule junctions: Anab initiostudy. Physical Review B, 2016, 94, .	3.2	40
54	Orbital origin of the electrical conduction in ferromagnetic atomic-size contacts: Insights from shot noise measurements and theoretical simulations. Physical Review B, 2016, 93, .	3.2	28

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55	Radiative heat transfer across nanometer-size gaps. , 2016, , .		0
56	Hybrid Magnetoplasmonic Crystals Boost the Performance of Nanohole Arrays as Plasmonic Sensors. ACS Photonics, 2016, 3, 203-208.	6.6	127
57	Theoretical study of carbon-based tips for scanning tunnelling microscopy. Nanotechnology, 2016, 27, 105201.	2.6	19
58	Magnetic field control of near-field radiative heat transfer and the realization of highly tunable hyperbolic thermal emitters. Physical Review B, 2015, 92, .	3.2	123
59	Single-molecule conductance of a chemically modified, Ï€-extended tetrathiafulvalene and its charge-transfer complex with F₄TCNQ. Beilstein Journal of Organic Chemistry, 2015, 11, 1068-1078.	2.2	29
60	The environment does the trick. Nature Nanotechnology, 2015, 10, 486-487.	31.5	0
61	Radiative heat transfer in the extreme near field. Nature, 2015, 528, 387-391.	27.8	332
62	Quantum Thermopower of Metallic Atomic-Size Contacts at Room Temperature. Nano Letters, 2015, 15, 1006-1011.	9.1	39
63	Enhancement of near-field radiative heat transfer using polar dielectric thin films. Nature Nanotechnology, 2015, 10, 253-258.	31.5	237
64	Direct observation of Josephson vortex cores. Nature Physics, 2015, 11, 332-337.	16.7	119
65	Current rectification in a single molecule diode: the role of electrode coupling. Nanotechnology, 2015, 26, 291001.	2.6	51
66	Faraday effect in hybrid magneto-plasmonic photonic crystals. Optics Express, 2015, 23, 22238.	3.4	38
67	Resonant Enhancement of Magneto-Optical Activity Induced by Surface Plasmon Polariton Modes Coupling in 2D Magnetoplasmonic Crystals. ACS Photonics, 2015, 2, 1769-1779.	6.6	69
68	Observation of a hole-size-dependent energy shift of the surface-plasmon resonance in Ni antidot thin films. Applied Physics Letters, 2015, 106, .	3.3	14
69	Proximity Effect between Two Superconductors Spatially Resolved by Scanning Tunneling Spectroscopy. Physical Review X, 2014, 4, .	8.9	45
70	Shot noise variation within ensembles of gold atomic break junctions at room temperature. Journal of Physics Condensed Matter, 2014, 26, 474204.	1.8	12
71	Heat dissipation and its relation to thermopower in single-molecule junctions. New Journal of Physics, 2014, 16, 015004.	2.9	88
72	Carbon tips for all-carbon single-molecule electronics. Nanoscale, 2014, 6, 6953-6958.	5.6	10

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73	Long-range charge transport in single G-quadruplex DNA molecules. Nature Nanotechnology, 2014, 9, 1040-1046.	31.5	218
74	Extraordinary transverse magneto-optical Kerr effect in a superlens. Physical Review B, 2014, 90, .	3.2	9
75	A Molecular Platinum Cluster Junction: A Single-Molecule Switch. Journal of the American Chemical Society, 2013, 135, 2052-2055.	13.7	29
76	Plasmon-Induced Conductance Enhancement in Single-Molecule Junctions. Journal of Physical Chemistry Letters, 2013, 4, 2811-2816.	4.6	58
77	A current-driven single-atom memory. Nature Nanotechnology, 2013, 8, 645-648.	31.5	119
78	Scanning Tunneling Spectroscopy Study of the Proximity Effect in a Disordered Two-Dimensional Metal. Physical Review Letters, 2013, 110, 157003.	7.8	64
79	Heat dissipation in atomic-scale junctions. Nature, 2013, 498, 209-212.	27.8	219
80	Influence of the magnetic field on the plasmonic properties of transparent Ni anti-dot arrays. Applied Physics Letters, 2012, 101, 063107.	3.3	22
81	Geometry-related magnetic interference patterns in long<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>S</mml:mi><mml:mi>N</mml:mi><mml:mi>S</mml:mi></mml:mrow></mml:math>Josephson junctions. Physical Review B, 2012, 86, .	3.2	34
82	Carbon-fiber tips for scanning probe microscopes and molecular electronics experiments. Nanoscale Research Letters, 2012, 7, 254.	5.7	4
83	Theoretical study of the charge transport through C<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>60</mml:mn></mml:msub></mml:math>-based single-molecule junctions. Physical Review B, 2012, 85, .	3.2	51
84	Generalized scattering-matrix approach for magneto-optics in periodically patterned multilayer systems. Physical Review B, 2012, 85, .	3.2	59
85	Supercurrent and Andreev bound state dynamics in superconducting quantum point contacts under microwave irradiation. Physical Review B, 2011, 84, .	3.2	24
86	Single-Molecule Junctions Based on Nitrile-Terminated Biphenyls: A Promising New Anchoring Group. Journal of the American Chemical Society, 2011, 133, 184-187.	13.7	212
87	Field enhancement in subnanometer metallic gaps. Physical Review B, 2011, 83, .	3.2	48
88	Molecular dynamics study of the thermopower of Ag, Au, and Pt nanocontacts. Physical Review B, 2011, 84, .	3.2	41
89	Carbon tips as electrodes for single-molecule junctions. Applied Physics Letters, 2011, 99, 123105.	3.3	8
90	Electronic transport through single noble gas atoms. Physical Review B, 2011, 84, .	3.2	2

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91	Linear ac response of diffusive SNS junctions. Physical Review B, 2011, 83, .	3.2	22
92	Plasmons in nanoscale metal junctions: optical rectification and thermometry. , 2011, , .		2
93	Revealing the Role of Anchoring Groups in the Electrical Conduction Through Singleâ€Molecule Junctions. Small, 2010, 6, 1529-1535.	10.0	200
94	Optical rectification and field enhancement in a plasmonic nanogap. Nature Nanotechnology, 2010, 5, 732-736.	31.5	348
95	Theory of Microwave-Assisted Supercurrent in Quantum Point Contacts. Physical Review Letters, 2010, 105, 117001.	7.8	37
96	Theory of Microwave-Assisted Supercurrent in Diffusive SNS Junctions. Physical Review Letters, 2010, 104, 247003.	7.8	28
97	Theory of anisotropic magnetoresistance in atomic-sized ferromagnetic metal contacts. Physical Review B, 2009, 79, .	3.2	21
98	Metallic properties of magnesium point contacts. New Journal of Physics, 2009, 11, 073043.	2.9	7
99	The Vortex State and Josephson Critical Current ofÂaÂDiffusive SNS Junction. Journal of Low Temperature Physics, 2008, 153, 304-324.	1.4	47
100	Density-functional study of tilt-angle and temperature-dependent conductance in biphenyl dithiol single-molecule junctions. Physical Review B, 2008, 77, .	3.2	91
101	Modeling elastic and photoassisted transport in organic molecular wires: Length dependence and current-voltage characteristics. Physical Review B, 2008, 77, .	3.2	58
102	Cluster-based density-functional approach to quantum transport through molecular and atomic contacts. New Journal of Physics, 2008, 10, 125019.	2.9	82
103	Proximity dc squids in the long-junction limit. Physical Review B, 2008, 77, .	3.2	87
104	Length-dependent conductance and thermopower in single-molecule junctions of dithiolated oligophenylene derivatives: A density functional study. Physical Review B, 2008, 78, .	3.2	112
105	Highly Conductive Molecular Junctions Based on Direct Binding of Benzene to Platinum Electrodes. Physical Review Letters, 2008, 101, 046801.	7.8	287
106	Theoretical study of the conductance of ferromagnetic atomic-sized contacts. Physical Review B, 2008, 77, .	3.2	42
107	Role of electronic structure in photoassisted transport through atomic-sized contacts. Physical Review B, 2007, 75, .	3.2	38
108	Voltage-induced Shapiro steps in a superconducting multiterminal structure. Physical Review B, 2007, 75, .	3.2	31

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109	Even-Odd Effect in Andreev Transport through a Carbon Nanotube Quantum Dot. Physical Review Letters, 2007, 99, 126602.	7.8	127
110	Magnetic Interference Patterns and Vortices in Diffusive SNS Junctions. Physical Review Letters, 2007, 99, 217002.	7.8	81
111	Crossover from Josephson to Multiple Andreev Reflection Currents in Atomic Contacts. Physical Review Letters, 2007, 99, 067008.	7.8	20
112	Ab initiostudy of charge transport through single oxygen molecules in atomic aluminum contacts. Physical Review B, 2007, 76, .	3.2	15
113	Photoconductance of organic single-molecule contacts. Physical Review B, 2007, 76, .	3.2	37
114	Density of states and supercurrent in diffusive SNS junctions: Roles of nonideal interfaces and spin-flip scattering. Physical Review B, 2007, 76, .	3.2	77
115	Symmetries of Pairing Correlations in Superconductorâ€“Ferromagnet Nanostructures. Journal of Low Temperature Physics, 2007, 147, 457-476.	1.4	176
116	Subharmonic gap structure in short ballistic graphene junctions. Physical Review B, 2006, 74, .	3.2	45
117	Theoretical analysis of the conductance histograms and structural properties of Ag, Pt, and Ni nanocontacts. Physical Review B, 2006, 74, .	3.2	95
118	Subgap structure in asymmetric superconducting tunnel junctions. Physical Review B, 2006, 74, .	3.2	42
119	Proximity effect and multiple Andreev reflections in diffusive superconductorâ€“normal-metalâ€“superconductor junctions. Physical Review B, 2006, 73, .	3.2	73
120	Correlation between transport properties and atomic configuration of atomic contacts of zinc by low-temperature measurements. Physical Review B, 2006, 74, .	3.2	14
121	Dynamical Coulomb Blockade of Multiple Andreev Reflections. Physical Review Letters, 2005, 95, 056804.	7.8	11
122	Electron-vibration interaction in transport through atomic gold wires. Physical Review B, 2005, 72, .	3.2	161
123	Structure and conductance histogram of atomic-sized Au contacts. Physical Review B, 2005, 72, .	3.2	134
124	dc transport in superconducting point contacts:â€ƒA full-counting-statistics view. Physical Review B, 2004, 70, .	3.2	28
125	Conduction channels of one-atom zinc contacts. Physical Review B, 2004, 70, .	3.2	9
126	Towards a theory of electrical transport through atomic and molecular junctions. Phase Transitions, 2004, 77, 175-189.	1.3	5

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127	Determining the current polarization in Al/Co nanostructured point contacts. Physical Review B, 2004, 69, .	3.2	61
128	Transfer-matrix description of heterostructures involving superconductors and ferromagnets. Physical Review B, 2004, 69, .	3.2	57
129	Theory of Half-Metal/Superconductor Heterostructures. Physical Review Letters, 2003, 90, 137003.	7.8	331
130	Full Counting Statistics of Multiple Andreev Reflections. Physical Review Letters, 2003, 91, 187001.	7.8	61
131	Theoretical description of the electrical conduction in atomic and molecular junctions. Nanotechnology, 2003, 14, R29-R38.	2.6	85
132	Quantum Noise and Mutiple Andreev Reflections in Superconducting Contacts. , 2003, , 51-71.		0
133	Molecular Transport Through Single Molecules. , 2003, , 403-418.		0
134	Subharmonic Shapiro Steps and Assisted Tunneling in Superconducting Point Contacts. Physical Review Letters, 2002, 88, 157001.	7.8	45
135	Subharmonic gap structure ind-wave superconductors. Physical Review B, 2002, 65, .	3.2	15
136	Electrical Transport through Single-Molecule Junctions: From Molecular Orbitals to Conduction Channels. Physical Review Letters, 2002, 88, 256803.	7.8	229
137	Shot Noise and Multiple Andreev Reflections ind-Wave Superconductors. Physical Review Letters, 2002, 89, 227003.	7.8	10
138	Transport through superconductor/magnetic dot/superconductor structures. Physica C: Superconductivity and Its Applications, 2002, 367, 117-122.	1.2	21
139	Transport properties of normal and ferromagnetic atomic-size constrictions with superconducting electrodes. Physica C: Superconductivity and Its Applications, 2001, 352, 67-72.	1.2	18
140	Quasiclassical description of transport through superconducting contacts. Physical Review B, 2001, 64, .	3.2	70
141	Kondo effect in normal-superconductor quantum dots. Physical Review B, 2001, 63, .	3.2	106
142	Conduction channels of superconducting quantum point contacts. Physica B: Condensed Matter, 2000, 280, 425-431.	2.7	13
143	Shot Noise and Coherent Multiple Charge Transfer in Superconducting Quantum Point Contacts. Physical Review Letters, 1999, 82, 4086-4089.	7.8	91
144	General transport properties of superconducting quantum point contacts: a Green functions approach. Superlattices and Microstructures, 1999, 25, 925-936.	3.1	14

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145	The signature of chemical valence in the electrical conduction through a single-atom contact. Nature, 1998, 394, 154-157.	27.8	597
146	Evolution of Conducting Channels in Metallic Atomic Contacts under Elastic Deformation. Physical Review Letters, 1998, 81, 2990-2993.	7.8	154
147	Microscopic Origin of Conducting Channels in Metallic Atomic-Size Contacts. Physical Review Letters, 1998, 80, 1066-1069.	7.8	245
148	Resonant tunneling through a small quantum dot coupled to superconducting leads. Physical Review B, 1997, 55, R6137-R6140.	3.2	147
149	Hamiltonian approach to the transport properties of superconducting quantum point contacts. Physical Review B, 1996, 54, 7366-7379.	3.2	438
150	Microscopic theory of the phase-dependent linear conductance in highly transmissive superconducting quantum point contacts. Physica B: Condensed Matter, 1996, 218, 126-129.	2.7	8
151	The phase-dependent linear conductance of a superconducting quantum point contact. Journal of Physics Condensed Matter, 1996, 8, 449-456.	1.8	5
152	Photoinduced Currents in Normal and Superconducting Micro-Junctions. , 1995, , 281-294.		0
153	Recent Advances in Understanding the Electron Transport Through Metal-Azurin-Metal Junctions. Frontiers in Physics, 0, 10, .	2.1	3