Juan Jose J Palacios

List of Publications by Year
in descending order

151 papers	8,369 citations	61984 43 h-index	46799 89 g-index
153 all docs	153 docs citations	153 times ranked	9559 citing authors

#	Article	IF	Citations
1	Isolation and characterization of few-layer black phosphorus. 2D Materials, 2014, 1, 025001.	4.4	1,411
2	Magnetism in Graphene Nanoislands. Physical Review Letters, 2007, 99, 177204.	7.8	696
3	Atomic-scale control of graphene magnetism by using hydrogen atoms. Science, 2016, 352, 437-441.	12.6	545
4	Vacancy-induced magnetism in graphene and graphene ribbons. Physical Review B, 2008, 77, .	3.2	390
5	Giant Magnetoresistance in Ultrasmall Graphene Based Devices. Physical Review Letters, 2009, 102, 136810.	7.8	274
6	Recent Progress on Antimonene: A New Bidimensional Material. Advanced Materials, 2018, 30, 1703771.	21.0	245
7	First-principles approach to electrical transport in atomic-scale nanostructures. Physical Review B, 2002, 66, .	3.2	186
8	Coherent transport in graphene nanoconstrictions. Physical Review B, 2006, 74, .	3.2	162
9	First-Principles Phase-Coherent Transport in Metallic Nanotubes with Realistic Contacts. Physical Review Letters, 2003, 90, 106801.	7.8	159
10	Capacitance spectroscopy in quantum dots: Addition spectra and decrease of tunneling rates. Physical Review B, 1994, 50, 5760-5763.	3.2	147
11	Fullerene-based molecular nanobridges:â€ƒA first-principles study. Physical Review B, 2001, 64, .	3.2	138
12	The Kondo effect in ferromagnetic atomic contacts. Nature, 2009, 458, 1150-1153.	27.8	132
13	Magnetoresistance and Magnetic Ordering Fingerprints in Hydrogenated Graphene. Physical Review Letters, 2011, 107, 016602.	7.8	132
14	Correlated few-electron states in vertical double-quantum-dot systems. Physical Review B, 1995, 51, 1769-1777.	3.2	121
15	Hydrogenated graphene nanoribbons for spintronics. Physical Review B, 2010, 81, .	3.2	119
16	Long-lived charged multiple-exciton complexes in strong magnetic fields. Physical Review B, 1996, 54, R2296-R2299.	3.2	112
17	Vortex matter in superconducting mesoscopic disks: Structure, magnetization, and phase transitions. Physical Review B, 1998, 58, R5948-R5951.	3.2	111
18	Metastability and Paramagnetism in Superconducting Mesoscopic Disks. Physical Review Letters, 2000, 84, 1796-1799.	7.8	111

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19	Reversible Change of the Spin State in a Manganese Phthalocyanine by Coordination of CO Molecule. Physical Review Letters, 2012, 109, 147202.	7.8	106
20	Critical analysis of vacancy-induced magnetism in monolayer and bilayer graphene. Physical Review B, 2012, 85, .	3.2	105
21	Franckeite as a naturally occurring van der Waals heterostructure. Nature Communications, 2017, 8, 14409.	12.8	103
22	Topologically Protected Quantum Transport in Locally Exfoliated Bismuth at Room Temperature. Physical Review Letters, 2013, 110, 176802.	7.8	101
23	Electronic structure of gated graphene and graphene ribbons. Physical Review B, 2007, 75, .	3.2	93
24	Spin-Transfer Torque on a Single Magnetic Adatom. Physical Review Letters, 2010, 104, 026601.	7.8	90
25	Magnetic field-induced dissipation-free state in superconducting nanostructures. Nature Communications, 2013, 4, 1437.	12.8	90
26	Fine Structure in Magnetization of Individual Fluxoid States. Physical Review Letters, 2000, 85, 1528-1531.	7.8	84
27	Implementing the Keldysh formalism intoab initiomethods for the calculation of quantum transport: Application to metallic nanocontacts. Physical Review B, 2003, 67, .	3.2	76
28	Formation of a Metallic Contact: Jump to Contact Revisited. Physical Review Letters, 2007, 98, 206801.	7.8	73
29	Electronic and magnetic structure of graphene nanoribbons. Semiconductor Science and Technology, 2010, 25, 033003.	2.0	68
30	Magnetic and orbital blocking in Ni nanocontacts. Physical Review B, 2005, 71, .	3.2	63
31	Performance limits of graphene-ribbon field-effect transistors. Physical Review B, 2008, 77, .	3.2	57
32	Strain engineering of Schottky barriers in single- and few-layer MoS ₂ vertical devices. 2D Materials, 2017, 4, 021006.	4.4	54
33	Liquid phase exfoliation of antimonene: systematic optimization, characterization and electrocatalytic properties. Journal of Materials Chemistry A, 2019, 7, 22475-22486.	10.3	54
34	Critical comparison of classical field theory and microscopic wave functions for skyrmions in quantum Hall ferromagnets. Physical Review B, 1997, 56, 6795-6804.	3.2	53
35	Coulomb blockade in electron transport through aC60molecule from first principles. Physical Review B, 2005, 72, .	3.2	52
36	High Current Density Electrical Breakdown of TiS₃ Nanoribbonâ€Based Fieldâ€Effect Transistors. Advanced Functional Materials, 2017, 27, 1605647.	14.9	52

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37	Electronic transport and vibrational modes in a small molecular bridge:H2in Pt nanocontacts. Physical Review B, 2004, 69, .	3.2	48
38	Magnetism-Dependent Transport Phenomena in Hydrogenated Graphene: From Spin-Splitting to Localization Effects. ACS Nano, 2011, 5, 3987-3992.	14.6	47
39	Effective-mass theory for the anisotropic exciton in two-dimensional crystals: Application to phosphorene. Physical Review B, 2015, 91, .	3.2	47
40	Exchange-induced charge inhomogeneities in rippled neutral graphene. Physical Review B, 2008, 77, .	3.2	46
41	Low-Lying Excitations of Quantum Hall Droplets. Physical Review Letters, 1995, 74, 5120-5123.	7.8	45
42	Critical comparison of electrode models in density functional theory based quantum transport calculations. Journal of Chemical Physics, 2011, 134, 044118.	3.0	44
43	Kondo effect and spin quenching in high-spin molecules on metal substrates. Physical Review B, 2013, 88, .	3.2	44
44	Numerical Tests of the Chiral Luttinger Liquid Theory for Fractional Hall Edges. Physical Review Letters, 1996, 76, 118-121.	7.8	43
45	Remarkably enhanced Curie temperature in monolayer CrI3 by hydrogen and oxygen adsorption: A first-principles calculations. Computational Materials Science, 2020, 183, 109820.	3.0	41
46	Electrically Switchable Magnetic Molecules: Inducing a Magnetic Coupling by Means of an External Electric Field in a Mixedâ€Valence Polyoxovanadate Cluster. Chemistry - A European Journal, 2015, 21, 763-769.	3.3	39
47	Mechanical Annealing of Metallic Electrodes at the Atomic Scale. Physical Review Letters, 2012, 108, 205502.	7.8	37
48	Hydrogenation-induced ferromagnetism on graphite surfaces. Physical Review B, 2014, 90, .	3.2	36
49	Dynamically tuned non-classical light emission from atomic defects in hexagonal boron nitride. Communications Physics, 2019, 2, .	5.3	35
50	Transport in magnetically ordered Pt nanocontacts. Physical Review B, 2005, 72, .	3.2	34
51	Phase separation of edge states in the integer quantum Hall regime. Physical Review B, 1993, 47, 13884-13886.	3.2	32
52	Metal contacts in carbon nanotube field-effect transistors: Beyond the Schottky barrier paradigm. Physical Review B, 2008, 77, .	3.2	32
53	Electronic transport through C60molecules. Nanotechnology, 2001, 12, 160-163.	2.6	31
54	Analysis of Scanning Tunneling Spectroscopy Experiments from First Principles: The Test Case of C60 Adsorbed on Au(111). ChemPhysChem, 2003, 4, 388-392.	2.1	31

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55	Magnetotunnelling through Quantum Boxes in a Strong-Correlation Regime. Europhysics Letters, 1993, 23, 495-501.	2.0	30
56	Magnons and Skyrmions in fractional Hall ferromagnets. Physical Review B, 1998, 58, R10171-R10174.	3.2	29
57	Spin-orbit interaction in curved graphene ribbons. Physical Review B, 2011, 83, .	3.2	29
58	A Molecular Platinum Cluster Junction: A Single-Molecule Switch. Journal of the American Chemical Society, 2013, 135, 2052-2055.	13.7	29
59	Orbital eigenchannel analysis forab initioquantum transport calculations. Physical Review B, 2006, 73, .	3.2	28
60	Anisotropic magnetoresistance in nanocontacts. Physical Review B, 2008, 77, .	3.2	28
61	Theory of projections with nonorthogonal basis sets: Partitioning techniques and effective Hamiltonians. Physical Review B, 2014, 90, .	3.2	28
62	Resonant transport and electrostatic effects in single-molecule electrical junctions. Physical Review B, 2015, 91, .	3.2	28
63	Mode-matching technique for transmission calculations in electron waveguides at high magnetic fields. Physical Review B, 1993, 48, 5386-5394.	3.2	27
64	Fractional-quantum-Hall edge electrons and Fermi statistics. Physical Review B, 2003, 67, .	3.2	27
65	Exfoliation of Alphaâ€Germanium: A Covalent Diamondâ€Like Structure. Advanced Materials, 2021, 33, e2006826.	21.0	27
66	Functionalization of a Few-Layer Antimonene with Oligonucleotides for DNA Sensing. ACS Applied Nano Materials, 2020, 3, 3625-3633.	5.0	26
67	Vortex lattices in strong type-II superconducting two-dimensional strips. Physical Review B, 1998, 57, 10873-10876.	3.2	25
68	Ballistic resistivity in aluminum nanocontacts. Physical Review B, 2005, 72, .	3.2	25
69	Emergence of half-metallicity in suspended NiO chains:Ab initioelectronic structure and quantum transport calculations. Physical Review B, 2006, 74, .	3.2	25
70	Vortex matter in mesoscopic superconductors. Physica B: Condensed Matter, 1998, 256-258, 610-617.	2.7	23
71	Theoretical study of the dynamics of atomic hydrogen adsorbed on graphene multilayers. Physical Review B, 2015, 91, .	3.2	23
72	Laser-Beam-Patterned Topological Insulating States on Thin Semiconducting <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MoS</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></r Physical Review Letters, 2019, 123, 146803.	7.8	23

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73	Vortices in a rotating Bose-Einstein condensate under extreme elongation. Physical Review A, 2005, 72, .	2.5	21
74	A theoretical study of the electrical contact between metallic and semiconducting phases in monolayer MoS ₂. 2D Materials, 2017, 4, 015014.	4.4	21
75	Strong modulation of optical properties in rippled 2D GaSe <i>via </i>strain engineering. Nanotechnology, 2019, 30, 24LT01.	2.6	21
76	Observation of a well-defined hybridization gap and in-gap states on the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SmB</mml:mi><mml:mn>6</mml:mn></mml:msub></mm (001) surface. Physical Review B, 2018, 97, .	3.2	20
77	Long-range vortex transfer in superconducting nanowires. Scientific Reports, 2019, 9, 12386.	3.3	18
78	Effects of geometry on edge states in magnetic fields: Adiabatic and nonadiabatic behavior. Physical Review B, 1992, 45, 9059-9064.	3.2	17
79	Dynamic bonding of metallic nanocontacts: Insights from experiments and atomistic simulations. Physical Review B, 2016, 93, .	3.2	17
80	Optical emission and Raman scattering in modulation-doped gaAs-AlGaAs quantum wires and dots. Superlattices and Microstructures, 1994, 15, 23.	3.1	16
81	Electron transport properties of the porphyrin molecule located between gold electrodes. Chemical Physics Letters, 2007, 445, 238-242.	2.6	16
82	Consistency between ARPES and STM measurements on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SmB</mml:mi><mml:mn>6</mml:mn></mml:msub></mm Physical Review B, 2020, 101, .	3.2	16
83	Signature of Quantum Hall Effect Skyrmions in Tunneling: A Theoretical Study. Physical Review Letters, 1997, 79, 471-474.	7.8	15
84	Understanding the structure of the first atomic contact in gold. Nanoscale Research Letters, 2013, 8, 257.	5.7	15
85	Substrate-Induced Stabilization and Reconstruction of Zigzag Edges in Graphene Nanoislands on Ni(111). Journal of Physical Chemistry C, 2015, 119, 4072-4078.	3.1	15
86	Plasticity of single-atom Pb junctions. Physical Review B, 2016, 93, .	3.2	15
87	Quenching of scattering in mesoscopic systems in the quantum Hall regime. Physical Review B, 1991, 44, 8157-8164.	3.2	13
88	Self-consistent Hartree description ofNelectrons in a quantum dot with a magnetic field. Physical Review B, 1994, 49, 5718-5721.	3.2	13
89	Fine structure in the off-resonance conductance of small Coulomb-blockade systems. Physical Review B, 1997, 55, 15735-15739.	3.2	13
90	Skyrme crystal versus Skyrme liquid. Physical Review B, 1999, 60, 15570-15573.	3.2	13

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91	An ab initio approach to electrical transport in molecular devices. Nanotechnology, 2002, 13, 378-381.	2.6	13
92	Modulation of Molecular Conductance Induced by Electrode Atomic Species and Interface Geometry. Journal of Physical Chemistry B, 2006, 110, 7456-7462.	2.6	13
93	Origin of the quasiuniversality of the minimal conductivity of graphene. Physical Review B, 2010, 82, .	3.2	13
94	Spin-filtered edge states in graphene. Solid State Communications, 2012, 152, 1469-1476.	1.9	13
95	High Electrical Conductivity of Single Metalâ€“Organic Chains. Advanced Materials, 2018, 30, e1705645.	21.0	13
96	Hydrogen physisorption channel on graphene: a highway for atomic H diffusion. 2D Materials, 2019, 6, 021004.	4.4	13
97	Electronic structure of artificial atoms in intense AC terahertz and strong magnetic fields. Solid State Communications, 1995, 93, 909-914.	1.9	12
98	Mechanical, Electrical, and Magnetic Properties of Ni Nanocontacts. IEEE Nanotechnology Magazine, 2008, 7, 165-168.	2.0	12
99	Electrodeâ€“Molecule Interface Effects on Molecular Conductance. IEEE Nanotechnology Magazine, 2009, 8, 16-21.	2.0	12
100	Graphene flakes obtained by local electro-exfoliation of graphite with a STM tip. Physical Chemistry Chemical Physics, 2017, 19, 8061-8068.	2.8	11
101	Modeling contact formation between atomic-sized gold tips via molecular dynamics. Journal of Physics: Conference Series, 2015, 574, 012045.	0.4	10
102	Quasiparticle properties of quantum Hall ferromagnets. Physical Review B, 2000, 62, 2640-2658.	3.2	9
103	Critical fields for vortex expulsion from narrow superconducting strips. Physical Review B, 2007, 75, .	3.2	9
104	Electrons go ballistic. Nature Physics, 2014, 10, 182-183.	16.7	9
105	An implementation of spinâ€“orbit coupling for band structure calculations with Gaussian basis sets: Two-dimensional topological crystals of Sb and Bi. Beilstein Journal of Nanotechnology, 2018, 9, 1015-1023.	2.8	9
106	Magnetic-field effects on the transport coefficients of a quantum point contact. Physical Review B, 1992, 45, 13725-13728.	3.2	7
107	Spin effects in a confined two-dimensional electron gas: Enhancement of thegfactor, spin-inversion states, and their far-infrared absorption. Physical Review B, 1995, 52, 11266-11272.	3.2	7
108	Molecular Electronics with Gaussian98/03. Computational Chemistry - Reviews of Current Trends, 2005, , 1-46.	0.4	7

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109	Emergence of Topological Edge States in Oxidized Î±-In₂Se₃ Nanosheets: Implications for Field-Effect Transistors. ACS Applied Nano Materials, 2021, 4, 8154-8161.	5.0	7
110	Effective lowest Landau level treatment of demagnetization in superconducting mesoscopic disks. Physical Review B, 2001, 64, .	3.2	6
111	Interface Study of Metal Electrode and Semiconducting Carbon Nanotubes: Effects of Electrode Atomic Species. IEEE Nanotechnology Magazine, 2008, 7, 124-127.	2.0	6
112	Simple STM Tip Functionalization for Rapid DNA Sequencing:â€‰ An Ab Initio Green's Function Study. Journal of Physical Chemistry A, 2008, 112, 2069-2073.	2.5	6
113	Anomalous Transport and Possible Phase Transition in Palladium Nanojunctions. ACS Nano, 2010, 4, 2831-2837.	14.6	6
114	Anomalous exchange interaction between intrinsic spins in conducting graphene systems. Physical Review B, 2014, 89, .	3.2	6
115	Room-temperature quantum spin Hall phase in laser-patterned few-layer 1Tâ€²- MoS2. Communications Materials, 2020, 1, .	6.9	6
116	Franckeite as an Exfoliable Naturally Occurring Topological Insulator. Nano Letters, 2021, 21, 7781-7788.	9.1	6
117	Few-layer antimonene electrical properties. Applied Materials Today, 2021, 24, 101132.	4.3	6
118	The interplay between magnetic field and electron-electron interaction on transport through quantum dots. Superlattices and Microstructures, 1994, 15, 91.	3.1	5
119	Correlation effects on transport through few-electrons systems. Surface Science, 1994, 305, 541-546.	1.9	4
120	Correlation effects in quantum dots in magnetic fields. Physica B: Condensed Matter, 1995, 212, 224-230.	2.7	4
121	Bulk charge distributions on integer and fractional quantum Hall plateaus. Physical Review B, 1998, 57, 7119-7123.	3.2	4
122	Electronic transport in gadolinium atomic-size contacts. Physical Review B, 2017, 95, .	3.2	4
123	Refined electron-spin transport model for single-element ferromagnetic systems: Application to nickel nanocontacts. Physical Review B, 2020, 102, .	3.2	4
124	Directional bonding explains the high conductance of atomic contacts in bcc metals. Physical Review B, 2020, 101, .	3.2	4
125	Edge states in quantum wells with magnetic fields. Physica Scripta, 1991, T35, 121-124.	2.5	3
126	Ground state properties of interacting electrons in semiconductor quantum dots: Exact and unrestricted hartree-fock results. Solid-State Electronics, 1994, 37, 1179-1182.	1.4	3

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127	Localized basis sets for unbound electrons in nanoelectronics. Journal of Chemical Physics, 2008, 128, 074108.	3.0	3
128	Quenching of Exciton Recombination in Strained Two-Dimensional Monochalcogenides. Physical Review Letters, 2019, 123, 077402.	7.8	3
129	Revealing the Geometry and Conductance of Double-Stranded Atomic Chains of Gold. Journal of Physical Chemistry C, 2020, 124, 26596-26602.	3.1	3
130	Quantum transport in oxidized Ni nanocontacts under mechanical strain. Physical Review B, 2020, 101, .	3.2	3
131	Multi-scale modeling of 2D GaSe FETs with strained channels. Nanotechnology, 2022, 33, 105201.	2.6	3
132	Charge-spin interconversion in graphene-based systems from density functional theory. Physical Review B, 2021, 104, .	3.2	3
133	Coulomb blockade in resonant magnetotunneling through rectangular quantum dots. Physica B: Condensed Matter, 1993, 189, 27-33.	2.7	2
134	Many-body effects in quantum dots under magnetic fields. Physica Scripta, 1994, T55, 20-24.	2.5	2
135	Paramagnetic response and vortex escape and entrance barriers in superconducting mesoscopic disks. Physica C: Superconductivity and Its Applications, 2000, 332, 263-265.	1.2	2
136	Electronic structure and transport properties of atomic NiO spinvalves. Journal of Magnetism and Magnetic Materials, 2007, 310, e675-e677.	2.3	2
137	Charge excitations of quantum dots in magnetic fields. Solid-State Electronics, 1996, 40, 21-24.	1.4	1
138	Conductance fluctuations in metallic nanocontacts. Physical Review B, 2004, 70, .	3.2	1
139	Solutions of the Ginzburgâ€"Landau functional with a current constraint. Physica C: Superconductivity and Its Applications, 2004, 404, 326-329.	1.2	1
140	Mechanical and electrical properties of Ni nanocontacts. , 2006, , .		1
141	Surface-dominated conductivity of few-layered antimonene. 2D Materials, 2020, 7, 021001.	4.4	1
142	Paramagnetic Meissner Effect in Mesoscopic Superconductors. , 1999, , 273-280.		1
143	Constrained DFT for Molecular Junctions. Nanomaterials, 2022, 12, 1234.	4.1	1
144	Deep learning for disordered topological insulators through their entanglement spectrum. Physical Review B, 2022, 105, .	3.2	1

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145	Magnetotunneling in a doubly connected system. Physica B: Condensed Matter, 1991, 175, 315-319.	2.7	0
146	Scattering and Coulomb blockade in magnetotunneling across singly and multiply connected barriers in quasi-two-dimensional systems. Surface Science, 1992, 263, 424-427.	1.9	0
147	Skyrme liquid versus Skyrme solid. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 79-82.	2.7	0
148	Electrode-molecule interface effects on molecular conductance. , 2006, , .		0
149	Interface study of metal electrode and semiconducting carbon nanotubes: effects of electrode atomic species. , 2006, , .		0
150	Spin filter behaviour of atomic NiO chains in Ni nanocontacts. , 2006, , .		0
151	Electron-Phonon Scattering in Semiconductor Nanostructures under High Magnetic Fields. , 1993, , 253-259.		0