Jose M Pitarke

List of Publications by Year
in descending order

122 papers	5,187 citations	101384 36 h-index	88477 70 g-index
126 all docs	126 docs citations	126 times ranked	3869 citing authors

#	Article	IF	Citations
1	Theory of surface plasmons and surface-plasmon polaritons. Reports on Progress in Physics, 2007, 70, 1-87.	8.1	1,228
2	Theory of inelastic lifetimes of low-energy electrons in metals. Chemical Physics, 2000, 251, 1-35.	0.9	311
3	Effective Medium Theory of the Optical Properties of Aligned Carbon Nanotubes. Physical Review Letters, 1997, 78, 4289-4292.	2.9	262
4	Low-energy acoustic plasmons at metal surfaces. Nature, 2007, 448, 57-59.	13.7	189
5	Lifetimes of Image-Potential States on Copper Surfaces. Physical Review Letters, 1998, 80, 4947-4950.	2.9	156
6	Inelastic Lifetimes of Hot Electrons in Real Metals. Physical Review Letters, 1999, 83, 2230-2233.	2.9	116
7	Acoustic surface plasmons in the noble metals Cu, Ag, and Au. Physical Review B, 2005, 72, .	1.1	102
8	Novel low-energy collective excitation at metal surfaces. Europhysics Letters, 2004, 66, 260-264.	0.7	85
9	First-principles calculations of hot-electron lifetimes in metals. Physical Review B, 2000, 61, 13484-13492.	1.1	81
10	Quadratic response theory of the energy loss of charged particles in an electron gas. Physical Review B, 1995, 52, 13883-13902.	1.1	76
11	Tunneling spectroscopy: surface geometry and interface potential effects. Surface Science, 1990, 234, 1-16.	0.8	71
12	Role of the intrinsic surface state in the decay of image states at a metal surface. Physical Review B, 1999, 59, 10591-10598.	1.1	69
13	Self-energy of image states on copper surfaces. Physical Review B, 1999, 60, 11795-11803.	1.1	68
14	High-Level Correlated Approach to the Jellium Surface Energy, without Uniform-Gas Input. Physical Review Letters, 2008, 100, 036401.	2.9	68
15	Jellium surface energy beyond the local-density approximation: Self-consistent-field calculations. Physical Review B, 2001, 63, .	1.1	66
16	Van der Waals Coefficients for Nanostructures: Fullerenes Defy Conventional Wisdom. Physical Review Letters, 2012, 109, 233203.	2.9	66
17	Surface energy of a bounded electron gas: Analysis of the accuracy of the local-density approximation viaab initioself-consistent-field calculations. Physical Review B, 1998, 57, 6329-6332.	1.1	65
18	Theory of acoustic surface plasmons. Physical Review B, 2004, 70, .	1.1	65

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19	The Z ₁ ³ Correction to the Bethe-Bloch Energy Loss Formula. Europhysics Letters, 1993, 24, 613-619.	0.7	63
20	Hole Dynamics in Noble Metals. Physical Review Letters, 2000, 85, 3241-3244.	2.9	63
21	Including nonlocality in the exchange-correlation kernel from time-dependent current density functional theory: Application to the stopping power of electron liquids. Physical Review B, 2007, 76, .	1.1	56
22	Exchange-correlation hole of a generalized gradient approximation for solids and surfaces. Physical Review B, 2009, 79, .	1.1	54
23	Acoustic plasmons in extrinsic free-standing graphene. New Journal of Physics, 2014, 16, 083003.	1.2	53
24	Plasmon Modes of Graphene Nanoribbons with Periodic Planar Arrangements. Physical Review Letters, 2016, 117, 116801.	2.9	52
25	Simple dynamic exchange-correlation kernel of a uniform electron gas. Physical Review B, 2007, 75, .	1.1	50
26	Electron-hole and plasmon excitations in3dtransition metals:Ab initiocalculations and inelastic x-ray scattering measurements. Physical Review B, 2005, 72, .	1.1	45
27	Silver-filled carbon nanotubes used as spectroscopic enhancers. Physical Review B, 1998, 58, 6783-6786.	1.1	44
28	Electronic stopping power of aluminum crystal. Physical Review B, 1998, 58, 10307-10314.	1.1	43
29	Collapse of the Electron Gas to Two Dimensions in Density Functional Theory. Physical Review Letters, 2008, 101, 016406.	2.9	42
30	Surface-state electron dynamics in noble metals. Progress in Surface Science, 2001, 67, 271-283.	3.8	41
31	Metal surface energy: Persistent cancellation of short-range correlation effects beyond the random phase approximation. Physical Review B, 2003, 67, .	1.1	41
32	Semilocal density functional theory with correct surface asymptotics. Physical Review B, 2016, 93, .	1.1	41
33	Time-dependent density-functional theory for the stopping power of an interacting electron gas for slow ions. Physical Review B, 2005, 71, .	1.1	40
34	Dispersion-corrected PBEsol exchange-correlation functional. Physical Review B, 2018, 98, .	1.1	40
35	Energy loss of charged particles interacting with simple metal surfaces. Physical Review B, 2001, 64, .	1.1	36
36	Role of occupieddbands in the dynamics of excited electrons and holes in Ag. Physical Review B, 2003, 68, .	1.1	36

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37	Z31 correction to the stopping power of an electron gas for ions. Nuclear Instruments & Methods in Physics Research B, 1993, 79, 209-212.	0.6	35
38	Role of Surface Plasmons in the Decay of Image-Potential States on Silver Surfaces. Physical Review Letters, 2002, 89, 096401.	2.9	35
39	Image-potential-induced states at metal surfaces. Journal of Electron Spectroscopy and Related Phenomena, 2002, 126, 163-175.	0.8	34
40	Apparent barrier height for tunneling electrons in STM. Surface Science, 1989, 217, 267-275.	0.8	33
41	Effective electronic response of a system of metallic cylinders. Physical Review B, 1998, 57, 15261-15266.	1.1	33
42	Band structure effects on the interaction of charged particles with solids. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 147-160.	0.6	33
43	Role of the electric field in surface electron dynamics above the vacuum level. Physical Review B, 2007, 75, .	1.1	33
44	Surface plasmons in metallic structures. Journal of Optics, 2005, 7, S73-S84.	1.5	32
45	Ab initiocalculations of the dynamical response of copper. Physical Review B, 1999, 59, 12188-12191.	1.1	31
46	Role of occupieddstates in the relaxation of hot electrons in Au. Physical Review B, 2000, 62, 1500-1503.	1.1	31
47	Lifetime ofdholes at Cu surfaces: Theory and experiment. Physical Review B, 2001, 64, .	1.1	31
48	Position-dependent exact-exchange energy for slabs and semi-infinite jellium. Physical Review B, 2009, 80, .	1.1	30
49	Adiabatic-connection-fluctuation-dissipation approach to long-range behavior of exchange-correlation energy at metal surfaces: A numerical study for jellium slabs. Physical Review B, 2011, 83, .	1.1	30
50	Recent progress in the computational many-body theory of metal surfaces. Computer Physics Communications, 2001, 137, 123-142.	3.0	29
51	Dielectric screening and plasmon resonances in bilayer graphene. Physical Review B, 2016, 93, .	1.1	27
52	Gradient-dependent exchange-correlation kernel for materials optical properties. Physical Review B, 2018, 98, .	1.1	27
53	Exact-exchange Kohn-Sham potential, surface energy, and work function of jellium slabs. Physical Review B, 2008, 78, .	1.1	26
54	Quadratic electronic response of a two-dimensional electron gas. Physical Review B, 1999, 59, 10145-10151.	1.1	25

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55	Radiative electron capture by channeled ions. Physical Review B, 1991, 43, 62-70.	1.1	24
56	Wave-vector analysis of the jellium exchange-correlation surface energy in the random-phase approximation: Support for nonempirical density functionals. Physical Review B, 2006, 74, .	1.1	24
57	Hellman-Feynman Operator Sampling in Diffusion MonteÂCarlo Calculations. Physical Review Letters, 2007, 99, 126406.	2.9	24
58	Quadratic induced polarization by an external heavy charge in an electron gas. Physical Review B, 1997, 56, 15654-15664.	1.1	22
59	Exchange and correlation effects in the relaxation of hot electrons in noble metals. Physical Review B, 2004, 69, .	1.1	21
60	Slabs of stabilized jellium: Quantum-size and self-compression effects. Physical Review B, 2000, 62, 1699-1705.	1.1	20
61	Localized versus extended systems in density functional theory: Some lessons from the Kohn-Sham exact exchange potential. Physical Review B, 2010, 81, .	1.1	20
62	Electronic stopping power of periodic crystals. Nuclear Instruments & Methods in Physics Research B, 1998, 135, 103-106.	0.6	19
63	Band structure effects on the Be(0001) acoustic surface plasmon energy dispersion. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1307-1311.	0.8	19
64	Self-energy and inelastic lifetimes of surface-state electrons and holes in metals. Applied Physics A: Materials Science and Processing, 2000, 71, 503-510.	1.1	18
65	Electron energy loss in composite systems. Physical Review B, 1997, 55, 9550-9557.	1.1	17
66	Optical absorption and energy-loss spectra of aligned carbon nanotubes. European Physical Journal B, 2001, 22, 257-265.	0.6	17
67	Large crystal local-field effects in the dynamical structure factor of rutileTiO2. Physical Review B, 2004, 70, .	1.1	17
68	Solid-State Testing of a Van-Der-Waals-Corrected Exchange-Correlation Functional Based on the Semiclassical Atom Theory. Computation, 2018, 6, 7.	1.0	17
69	Constraint-based wave vector and frequency dependent exchange-correlation kernel of the uniform electron gas. Physical Review B, 2020, 101, .	1.1	17
70	Kernel-corrected random-phase approximation for the uniform electron gas and jellium surface energy. Physical Review B, 2016, 94, .	1.1	16
71	Electronic response of aligned multishell carbon nanotubes. Physical Review B, 2001, 63, .	1.1	15
72	Plasmon excitation by charged particles interacting with metal surfaces. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 256, 405-410.	0.9	14

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73	Double plasmon excitation in an electron gas. Nuclear Instruments & Methods in Physics Research B, 1994, 90, 358-362.	0.6	13
74	Surface screening and lifetime of image states on Li(110). Surface Science, 1999, 433-435, 882-885.	0.8	13
75	Dynamic structure factor of gold. Computational Materials Science, 2001, 22, 123-128.	1.4	13
76	Lifetimes of Shockley electrons and holes at Cu(111). Physical Review B, 2005, 72, .	1.1	13
77	Ultrafast Electron Dynamics in Metals. ChemPhysChem, 2004, 5, 1284-1300.	1.0	12
78	TIME-DEPENDENT CURRENT-DENSITY FUNCTIONAL THEORY FOR THE FRICTION OF IONS IN AN INTERACTING ELECTRON GAS. International Journal of Modern Physics B, 2008, 22, 3813-3839.	1.0	12
79	Spherical-shell model for the van der Waals coefficients between fullerenes and/or nearly spherical nanoclusters. Journal of Physics Condensed Matter, 2012, 24, 424207.	0.7	12
80	Nonlinear effects on charged particle interactions in matter. Nuclear Instruments & Methods in Physics Research B, 1995, 99, 187-191.	0.6	11
81	Electron energy loss for isolated cylinders. Surface Science, 1997, 377-379, 294-300.	0.8	11
82	Comment on â€œDiffusion Monte Carlo study of jellium surfaces: Electronic densities and pair correlation functionsâ€• Physical Review B, 2004, 70, .	1.1	11
83	Plasmon bands in metallic nanostructures. Physical Review B, 2004, 69, .	1.1	11
84	Surface-plasmon polaritons in a lattice of metal cylinders. Physical Review B, 2007, 75, .	1.1	11
85	Benchmark quantum Monte Carlo calculations of the ground-state kinetic, interaction and total energy of the three-dimensional electron gas. Journal of Physics Condensed Matter, 2010, 22, 065501.	0.7	9
86	Nonlinear wake in the random-phase-approximation. Nuclear Instruments & Methods in Physics Research B, 1995, 96, 604-609.	0.6	8
87	Self-energy and lifetime of Shockley and image states on Cu(100) and Cu(111): Beyond the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>G</mml:mi><mml:mi>W</mml:mi></mml:mrow></mml:math>approximation of many-body theory. Physical Review B, 2007, 76, .	1.1	8
88	The Many-Body Exchange-Correlation Hole at Metal Surfaces. Journal of Chemical Theory and Computation, 2009, 5, 895-901.	2.3	8
89	Nonlinear quantum hydrodynamical model of the electron gas. Nuclear Instruments & Methods in Physics Research B, 1996, 115, 70-74.	0.6	7
90	Hydrodynamic approximation for the nonlinear response of a metal surface. Physical Review B, 1999, 60, 16176-16185.	1.1	6

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91	Interface modes of two-dimensional composite structures. Surface Science, 1999, 433-435, 605-611.	0.8	6
92	Nonlinear interaction of charged particles with a free electron gas beyond the random-phase approximation. Physical Review B, 2000, 62, 6862-6865.	1.1	6
93	Many-body approach to the nonlinear interaction of charged particles with an interacting free electron gas. Journal of Physics A, 2001, 34, 7607-7620.	1.6	6
94	Dependence of knock-on collision electron emission on the orientation of fast diclusters in solids. Nuclear Instruments & Methods in Physics Research B, 1991, 56-57, 369-374.	0.6	5
95	Resonant coherent ionization in grazing ion/atom-surface collisions at high velocities. Nuclear Instruments & Methods in Physics Research B, 1994, 90, 222-226.	0.6	5
96	Order-N effective response of two-dimensional metallic structures. Surface Science, 2000, 454-456, 1090-1093.	0.8	5
97	Effects of the crystal structure in the dynamical electron density-response of hcp transition metals. Computational Materials Science, 2004, 30, 104-109.	1.4	5
98	Quantum Monte Carlo modeling of the spherically averaged structure factor of a many-electron system. Physical Review B, 2007, 75, .	1.1	5
99	Efficient method for the quantum Monte Carlo evaluation of the static density response function of a many-electron system. Physical Review B, 2010, 81, .	1.1	5
100	Comparison of dispersion-corrected exchange-correlation functionals using atomic orbitals. Physical Review B, 2019, 100, .	1.1	5
101	Asymptotics of the metal-surface Kohn-Sham exact exchange potential revisited. Physical Review B, 2021, 104, .	1.1	5
102	Nonlinear corrections to the image potential of charged particles moving parallel to a metal surface. Nuclear Instruments & Methods in Physics Research B, 1998, 135, 97-102.	0.6	4
103	Nonlinear energy-loss straggling of protons and antiprotons in an electron gas. Physical Review A, 1998, 57, 4053-4056.	1.0	4
104	Metallic slabs: perturbative treatments based on jellium. Progress in Surface Science, 2001, 67, 285-298.	3.8	4
105	Thin-film effects on the surface stopping power of a free electron gas. Nuclear Instruments & Methods in Physics Research B, 2001, 182, 56-61.	0.6	4
106	Time-dependent density-functional theory approach to nonlinear particleâ€“solid interactions in comparison with scattering theory. Journal of Physics Condensed Matter, 2004, 16, 8621-8631.	0.7	4
107	Energy loss of charged particles moving parallel to a magnesium surface:Ab initiocalculations. Physical Review B, 2008, 78, .	1.1	4
108	Multiple scattering effects on electron emission by fast diclusters in solids. Nuclear Instruments & Methods in Physics Research B, 1991, 56-57, 365-368.	0.6	3

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109	Coherent double-plasmon excitation in solids. Nuclear Instruments & Methods in Physics Research B, 1996, 115, 75-78.	0.6	3
110	Induced polarization by charged particles in real solids. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 161-167.	0.6	3
111	Surface effects on the electronic energy loss of charged particles entering a metal surface. Journal of Electron Spectroscopy and Related Phenomena, 2003, 129, 223-227.	0.8	3
112	Semilocal approximations to the Kohn-Sham exchange potential as applied to a metal surface. Physical Review B, 2022, 105, .	1.1	3
113	Quadratic energy-loss straggling and energy widths of the states of slow ions in an electron gas. Physical Review A, 1997, 56, 2913-2917.	1.0	2
114	Variational approach to the scattering of charged particles by a many-electron system. Physical Review B, 2005, 71, .	1.1	2
115	Theory of inelastic lifetimes of surface-state electrons and holes at metal surfaces. Journal of Physics Condensed Matter, 2008, 20, 304207.	0.7	2
116	San Sebastian, a City of (Nano)Science and Technology. ACS Nano, 2019, 13, 12254-12256.	7.3	2
117	Electron density fluctuations induced by ion clusters in condensed matter. Nuclear Instruments & Methods in Physics Research B, 1989, 40-41, 333-339.	0.6	1
118	Z13 corrections to the energy widths of the states of protons and antiprotons in an electron gas. Nuclear Instruments & Methods in Physics Research B, 1998, 135, 92-96.	0.6	1
119	An inhomogeneous and anisotropic Jastrow function for non-uniform many-electron systems. Computational Materials Science, 2001, 22, 129-136.	1.4	1
120	Momentum-space finite-size corrections for quantum Monte Carlo calculations. Physical Review B, 2012, 85, .	1.1	1
121	First Principles Calculation of the Hot Electron Lifetime in Simple and Noble Metals. Materials Research Society Symposia Proceedings, 1999, 579, 33.	0.1	0
122	Nonlinear, Band-Structure, and Surface Effects in the Interaction of Charged Particles with Solids. Advances in Quantum Chemistry, 2004, , 247-275.	0.4	0