Irene D'Amico

List of Publications by Year
in descending order

124 papers	2,334 citations	218381 26 h-index	233125 45 g-index
127 all docs	127 docs citations	127 times ranked	1478 citing authors

#	Article	IF	Citations
1	Attraction between Like-Charged Macroions by Coulomb Depletion. Physical Review Letters, 1998, 81, 1334-1337.	2.9	207
2	Theory of spin Coulomb drag in spin-polarized transport. Physical Review B, 2000, 62, 4853-4857.	1.1	135
3	Mesoscopic Stern-Gerlach device to polarize spin currents. Physical Review B, 2003, 67, .	1.1	123
4	Electro-optical properties of semiconductor quantum dots: Application to quantum information processing. Physical Review B, 2002, 65, .	1.1	111
5	Spin-based optical quantum computation via Pauli blocking in semiconductor quantum dots. Europhysics Letters, 2003, 62, 175-181.	0.7	103
6	Pure dephasing and phonon dynamics in GaAs- and GaN-based quantum dot structures: Interplay between material parameters and geometry. Physical Review B, 2005, 71, .	1.1	101
7	Intrinsic exciton-exciton coupling in GaN-based quantum dots: Application to solid-state quantum computing. Physical Review B, 2002, 65, .	1.1	91
8	Entanglement and density-functional theory: Testing approximations on Hookeâ€™s atom. Physical Review B, 2008, 77, .	1.1	82
9	Spin diffusion in doped semiconductors: The role of Coulomb interactions. Europhysics Letters, 2001, 55, 566-572.	0.7	66
10	Coulomb interaction effects in spin-polarized transport. Physical Review B, 2002, 65, .	1.1	66
11	Effect of geometrical confinement on the interaction between charged colloidal suspensions. Physical Review E, 1999, 60, 3199-3210.	0.8	56
12	Spin Coulomb drag in the two-dimensional electron liquid. Physical Review B, 2003, 68, .	1.1	55
13	Storage qubits and their potential implementation through a semiconductor double quantum dot. Physical Review B, 2001, 64, .	1.1	54
14	Spin-based quantum-information processing with semiconductor quantum dots and cavity QED. Physical Review A, 2003, 67, .	1.0	47
15	Intrinsic electric field effects on few-particle interactions in coupled GaN quantum dots. Physical Review B, 2004, 69, .	1.1	41
16	Robust quantum entanglement generation and generation-plus-storage protocols with spin chains. Physical Review A, 2017, 95, .	1.0	40
17	Effective forces between macroions: a Monte Carlo study. Physica A: Statistical Mechanics and Its Applications, 1997, 237, 25-30.	1.2	38
18	Entanglement distribution for a practical quantum-dot-based quantum processor architecture. New Journal of Physics, 2007, 9, 20-20.	1.2	36

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19	Quantum dot-based quantum buses for quantum computer hardware architecture. Microelectronics Journal, 2006, 37, 1440-1441.	1.1	34
20	Exact exchange-correlation potential for a time-dependent two-electron system. Physical Review B, 1999, 59, 7876-7887.	1.1	32
21	Towards optimized suppression of dephasing in systems subject to pulse timing constraints. Physical Review A, 2010, 81, .	1.0	32
22	Topologically protected localised states in spin chains. Scientific Reports, 2017, 7, 42904.	1.6	32
23	Field-induced Coulomb coupling in semiconductor macroatoms: Application to single-electron quantum devices. Applied Physics Letters, 2001, 79, 1676-1678.	1.5	29
24	Decoherence-protected storage of exciton qubits through ultrafast multipulse control. Physical Review B, 2008, 78, .	1.1	28
25	Effect of confinement potential geometry on entanglement in quantum dot-based nanostructures. Physical Review B, 2009, 80, .	1.1	28
26	All-optical single-electron read-out devices based on GaN quantum dots. Applied Physics Letters, 2002, 81, 5213-5215.	1.5	27
27	Freezing distributed entanglement in spin chains. Physical Review A, 2007, 76, .	1.0	25
28	Role of Coulomb correlations for femtosecond pump-probe signals obtained from a single quantum dot. Physical Review B, 2011, 84, .	1.1	25
29	Quantum Mechanics in Metric Space: Wave Functions and Their Densities. Physical Review Letters, 2011, 106, 050401.	2.9	25
30	Effect of perturbations on information transfer in spin chains. Physical Review A, 2011, 83, .	1.0	24
31	Excitonâ€“exciton interaction engineering in coupled GaN quantum dots. Applied Physics Letters, 2002, 81, 4236-4238.	1.5	23
32	Hubbard model as an approximation to the entanglement in nanostructures. Physical Review A, 2010, 81, .	1.0	23
33	Spin-based quantum gating with semiconductor quantum dots by bichromatic radiation method. Europhysics Letters, 2004, 66, 14-20.	0.7	20
34	Coulomb-driven organization and enhancement of spin-orbit fields in collective spin excitations. Physical Review B, 2013, 87, .	1.1	20
35	Dissipation through spin Coulomb drag in electronic spin transport and optical excitations. Physical Review B, 2006, 74, .	1.1	17
36	Reverse engineering in many-body quantum physics: Correspondence between many-body systems and effective single-particle equations. Physical Review A, 2009, 79, .	1.0	17

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37	Entanglement from density measurements: Analytical density functional for the entanglement of strongly correlated fermions. Physical Review A, 2011, 83, .	1.0	17
38	Spin-Orbit Twisted Spin Waves: Group Velocity Control. Physical Review Letters, 2016, 117, 137204.	2.9	16
39	Spin injection and electric-field effect in degenerate semiconductors. Physical Review B, 2004, 69, .	1.1	15
40	Uniqueness of density-to-potential mapping for fermionic lattice systems. Europhysics Letters, 2015, 110, 63001.	0.7	15
41	DFT-inspired methods for quantum thermodynamics. Scientific Reports, 2017, 7, 4655.	1.6	15
42	The entanglement of few-particle systems when using the local-density approximation. Journal of Physics: Conference Series, 2010, 254, 012010.	0.3	14
43	Feasibility of approximating spatial and local entanglement in long-range interacting systems using the extended Hubbard model. Europhysics Letters, 2011, 93, 10001.	0.7	14
44	Giant Collective Spin-Orbit Field in a Quantum Well: Fine Structure of Spin Plasmons. Physical Review Letters, 2012, 109, 166401.	2.9	13
45	Model of spin accumulation and spin torque in spatially varying magnetisation structures: limitations of the micromagnetic approach. Journal of Physics Condensed Matter, 2015, 27, 146004.	0.7	13
46	Metric space formulation of quantum mechanical conservation laws. Physical Review B, 2014, 89, .	1.1	11
47	Work-distribution quantumness and irreversibility when crossing a quantum phase transition in finite time. Physical Review Research, 2020, 2, .	1.3	11
48	Modeling spin injection across diffuse interfaces. Physical Review B, 2013, 87, .	1.1	10
49	Spin Relaxation in GaAs: Importance of Electron-Electron Interactions. Materials, 2014, 7, 2795-2814.	1.3	10
50	Many-body effects on the thermodynamics of closed quantum systems. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 485304.	0.7	10
51	GaN quantum dot based quantum information/computation processing. Superlattices and Microstructures, 2002, 31, 117-125.	1.4	9
52	Knitting distributed cluster-state ladders with spin chains. Physical Review A, 2011, 84, .	1.0	9
53	Influence of uniaxial anisotropy on domain wall motion driven by spin torque. Physical Review B, 2015, 92, .	1.1	9
54	Mesoporous matrices for quantum computation with improved response through redundance. Journal of Applied Physics, 2007, 101, 114319.	1.1	8

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55	Coulomb interactions and spin transport in semiconductors: The spin Coulomb drag effect. Physica Status Solidi (B): Basic Research, 2010, 247, 235-247.	0.7	8
56	Metric-space analysis of systems immersed in a magnetic field. Physical Review A, 2015, 92, .	1.0	8
57	Anderson localisation in spin chains for perfect state transfer. European Physical Journal D, 2016, 70, 1.	0.6	8
58	Symmetries and Boundary Conditions with a Twist. Brazilian Journal of Physics, 2017, 47, 488-511.	0.7	8
59	Metric-Space Approach for Distinguishing Quantum Phase Transitions in Spin-Imbalanced Systems. Brazilian Journal of Physics, 2018, 48, 472-476.	0.7	8
60	Testing of pseudopotentials used in classical Car - Parrinello simulations. Journal of Physics Condensed Matter, 1997, 9, 8879-8892.	0.7	7
61	Intrinsic dipoleâ€“dipole excitonic coupling in GaN quantum dots: application to quantum information processing. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 624-629.	1.3	7
62	Testing density-functional approximations on a lattice and the applicability of the related Hohenberg-Kohn-like theorem. Scientific Reports, 2018, 8, 664.	1.6	7
63	Melting a Hubbard dimer: benchmarks of â€˜ALDAâ€™ for quantum thermodynamics. European Physical Journal B, 2018, 91, 1.	0.6	7
64	Continuum elasticity theory of edge waves in a two-dimensional electron liquid with finite-range interactions. Physical Review B, 1999, 60, 2084-2092.	1.1	6
65	All Optical Spin-Based Quantum Information Processing. Journal of Superconductivity and Novel Magnetism, 2003, 16, 383-385.	0.5	6
66	Coulomb drag, magnetoresistance, and spin-current injection in magnetic multilayers. Solid State Communications, 2003, 127, 829-834.	0.9	6
67	Implementation of an all-optical spin-based quantum computer. Physica Status Solidi (B): Basic Research, 2003, 238, 411-418.	0.7	6
68	Metric-space approach to potentials and its relevance to density-functional theory. Physical Review A, 2016, 94, .	1.0	6
69	Chirality and intrinsic dissipation of spin modes in two-dimensional electron liquids. Journal Physics D: Applied Physics, 2019, 52, 203001.	1.3	6
70	Easy Access to Energy Fluctuations in Nonequilibrium Quantum Many-Body Systems. Physical Review Letters, 2021, 127, 030602.	2.9	6
71	All-optical quantum dot implementation for quantum computing. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 620-623.	1.3	5
72	Intrinsic Decay of Spin Currents: The Spin Coulomb Drag Effect. Journal of Superconductivity and Novel Magnetism, 2003, 16, 253-256.	0.5	5

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73	Intrinsic power loss and damping of optical excitations in spintronic devices. Journal of Magnetism and Magnetic Materials, 2007, 316, 484-487.	1.0	5
74	Long-range interactions and information transfer in spin chains. Journal of Physics: Conference Series, 2011, 286, 012020.	0.3	5
75	Measuring adiabaticity in nonequilibrium quantum systems. Physical Review A, 2018, 98, .	1.0	5
76	The Excitonic Quantum Computer. Physica Status Solidi (B): Basic Research, 2002, 234, 58-69.	0.7	4
77	Ultrafast carrier and phonon dynamics in GaAs and GaN quantum dots. Semiconductor Science and Technology, 2004, 19, S31-S33.	1.0	4
78	Dâ€™AmicoetÂal.Reply:. Physical Review Letters, 2011, 107, .	2.9	4
79	Evolutionary Computation for Adaptive Quantum Device Design. Advanced Quantum Technologies, 2021, 4, 2100013.	1.8	4
80	Geometry induced entanglement transitions in nanostructures. Journal of Applied Physics, 2010, 107, 09E110.	1.1	3
81	Approximation of the entanglement in quantum dot chains using Hubbard models. Journal of Physics: Conference Series, 2011, 286, 012048.	0.3	3
82	Nonlocal formulation of spin Coulomb drag. Physical Review B, 2013, 88, .	1.1	3
83	Metrics for Two Electron Random Potential Systems. Brazilian Journal of Physics, 2018, 48, 467-471.	0.7	3
84	Characterizing Adiabaticity in Quantum Manyâ€Body Systems at Finite Temperature. Advanced Quantum Technologies, 2020, 3, 1900139.	1.8	3
85	Fermionic correlations as metric distances: A useful tool for materials science. Physical Review Materials, 2017, 1, .	0.9	3
86	Generation and robustness of quantum entanglement in spin graphs. Quantum Information Processing, 2021, 20, 1.	1.0	3
87	Quantum Information/Computation Processing with Self-Assembled Macroatoms. Physica Status Solidi (B): Basic Research, 2002, 233, 377-384.	0.7	2
88	Quantum information processing using semiconductor nanostructures. Physica B: Condensed Matter, 2002, 314, 1-9.	1.3	2
89	Spin Coulomb drag: an intrinsic dissipation mechanism in spintronics. Physica Status Solidi (B): Basic Research, 2006, 243, 2285-2289.	0.7	2
90	Creating and preserving multiâ€partite entanglement with spin chains. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 2481-2485.	0.8	2

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91	Intrinsic normal Zeeman effect for spin plasmons in semiconductor quantum wells. Proceedings of SPIE, 2013, , .	0.8	2
92	Spin decoherence in n-type GaAs: The effectiveness of the third-body rejection method for electron-electron scattering. Journal of Applied Physics, 2014, 116, 163702.	1.1	2
93	Effect of ionized impurity screening on spin decoherence at low and intermediate temperatures in GaAs. Physica Status Solidi (B): Basic Research, 2017, 254, 1600806.	0.7	2
94	Quantum measurement of excitonic states using stimulated Raman adiabatic passage. Physica B: Condensed Matter, 2002, 314, 20-24.	1.3	1
95	High field and Coulomb interaction effects on spin injection in degenerate semiconductors. Semiconductor Science and Technology, 2004, 19, S383-S385.	1.0	1
96	Entanglement in and quantum dots: Exact calculations and DFT approximations. Microelectronics Journal, 2009, 40, 499-501.	1.1	1
97	Intersubband spinâ€“orbit coupling and spin splitting in symmetric quantum wells. Journal of Magnetism and Magnetic Materials, 2009, 321, 944-948.	1.0	1
98	Monte Carlo Study of Temperature and Bias dependence of Spin Transport in GaAs. Journal of Physics: Conference Series, 2011, 303, 012095.	0.3	1
99	Entanglement and position-space information entropy: Hubbard model as an approximation to nanostructure systems. Journal of Physics: Conference Series, 2011, 303, 012110.	0.3	1
100	Spin-helix Larmor mode. Scientific Reports, 2018, 8, 3470.	1.6	1
101	Efficiency of free auxiliary models in describing interacting fermions: From the Kohn-Sham model to the optimal entanglement model. Physical Review B, 2019, 100, .	1.1	1
102	Comparison of entangling protocols in ABC-type spin chains. Journal of Physics: Conference Series, 2020, 1638, 012013.	0.3	1
103	Unitary Design of Quantum Spin Networks for Robust Routing, Entanglement Generation, and Phase Sensing. Advanced Quantum Technologies, 2022, 5, .	1.8	1
104	Field-Induced Exciton-Exciton Coupling in Semiconductor Quantum Dots. Physica Status Solidi A, 2002, 190, 511-515.	1.7	0
105	Entanglement of Excitonic States and Quantum Information Processing in Semiconductors. Physica Status Solidi A, 2002, 190, 817-825.	1.7	0
106	Ultrafast quantum information processing in nanostructured semiconductors. Superlattices and Microstructures, 2002, 31, 107-116.	1.4	0
107	Spin Coulomb drag and spin diffusion in doped semiconductors. Physica B: Condensed Matter, 2002, 314, 239-243.	1.3	0
108	Tailoring excitonâ€“exciton Coulomb coupling in semiconductor macroatoms using an external electric field. Physica B: Condensed Matter, 2002, 314, 469-473.	1.3	0

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109	An interferometric spin-polarizing device. Semiconductor Science and Technology, 2004, 19, S418-S420.	1.0	0
110	Optical read-out devices based on quantum dots with intrinsic bias. Semiconductor Science and Technology, 2004, 19, S483-S485.	1.0	0
111	Effect of the Coulomb interaction on spin injection in semiconductor structures. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 1928-1929.	1.0	0
112	Effect of matrix parameters on mesoporous matrix based quantum computation. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 2511-2515.	0.8	0
113	Effect of quantum dot shape on dynamical dephasing suppression in exciton qubits under applied electric field. Microelectronics Journal, 2009, 40, 502-504.	1.1	0
114	Branching spin chain dynamics. Journal of Magnetism and Magnetic Materials, 2009, 321, 949-956.	1.0	0
115	Effect of inter-dot distance on excitonic dephasing in quantum dot chains. Journal of Physics: Conference Series, 2010, 210, 012003.	0.3	0
116	Exact and LDA entanglement of tailored densities in an interacting one-dimensional electron system. Journal of Physics: Conference Series, 2010, 200, 062003.	0.3	0
117	A Theoretical Analysis of Instantaneous Coulomb Renormalizations in a Single Quantum Dot Pump-Probe Experiment. Journal of Physics: Conference Series, 2010, 245, 012025.	0.3	0
118	Entanglement variations in model core-shell quantum dots. Journal of Physics: Conference Series, 2010, 245, 012051.	0.3	0
119	Coulomb correlations in quantum dots and their signatures in single dot femtosecond pumpâ€probe signals. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1117-1120.	0.8	0
120	Women in physics in the UK: Update 2008-2011. , 2013, , .		0
121	Anisotropic spin-orbit induced splitting of intersubband spin plasmons. EPJ Web of Conferences, 2013, 40, 18002.	0.1	0
122	Influence of variations in the electronâ€“electron interaction on the ground state metric space â€œband structureâ€•of a two-electron magnetic system. Journal of Magnetism and Magnetic Materials, 2016, 400, 99-102.	1.0	0
123	Entanglement in Finite Quantum Systems Under Twisted Boundary Conditions. Brazilian Journal of Physics, 2018, 48, 451-466.	0.7	0
124	Approximating quantum thermodynamic properties using DFT. Journal of Physics Condensed Matter, 2022, , .	0.7	0