Davide E Galli

List of Publications by Year
in descending order

88 papers	1,379 citations	331670 21 h-index	395702 33 g-index
89 all docs	89 docs citations	89 times ranked	725 citing authors

#	Article	IF	Citations
1	Quantitative low-energy dynamics of superfluid and solid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mtext>H</mml:mtext><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts><mml:mtext>e</mml:mtext></mml:mrow></mml:math>. Physical Review B, 2010, 82, .	3.2	81
2	Exact ground state Monte Carlo method for Bosons without importance sampling. Journal of Chemical Physics, 2009, 131, 154108.	3.0	54
3	Variational theory of bulk4Hewith shadow wave functions: Ground state and the phonon-maxon-roton spectrum. Physical Review B, 1998, 58, 909-924.	3.2	53
4	Alkali and alkali-earth ions inHe4systems. Physical Review B, 2004, 69, .	3.2	51
5	Solid ⁴He and the Supersolid Phase: from Theoretical Speculation to the Discovery of a New State of Matter? â€“A Review of the Past and Present Status of Researchâ€“. Journal of the Physical Society of Japan, 2008, 77, 111010.	1.6	50
6	Alkali ions in superfluid4Heand structure of the snowball. Physical Review B, 2001, 64, .	3.2	46
7	Recent progress in simulation of the ground state of many Boson systems. Molecular Physics, 2003, 101, 1697-1703.	1.7	45
8	Path Integral Monte Carlo Study of ⁴He Clusters Doped with Alkali and Alkali-Earth Ions. Journal of Physical Chemistry A, 2011, 115, 7300-7309.	2.5	44
9	Bose-Einstein Condensation of Incommensurate SolidHe4. Physical Review Letters, 2006, 96, 165301.	7.8	43
10	Bose-Einstein condensation in solidHe4. Physical Review B, 2005, 71, .	3.2	40
11	Pure and alkaliâ€“ion-doped droplets of [sup 4]He. Journal of Chemical Physics, 2001, 115, 10239.	3.0	37
12	One-Dimensional Liquid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>4</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>: Dynamical Properties beyond Luttinger-Liquid Theory. Physical Review Letters, 2016, 116, 135302.	7.8	37
13	Rotons and Roton Wave Packets in Superfluid4He. Physical Review Letters, 1996, 77, 5401-5404.	7.8	31
14	Layer by layer solidification ofHe4in narrow porous media. Physical Review B, 2005, 72, .	3.2	28
15	Microscopic characterization of overpressurized superfluid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>4</mml:mn></mml:msup></mml:math>He. Physical Review B, 2012, 85, .	3.2	27
16	Statistical and computational intelligence approach to analytic continuation in Quantum Monte Carlo. Advances in Physics: X, 2017, 2, 302-323.	4.1	26
17	Vacancies in Solid 4He and Bose Einstein Condensation. Journal of Low Temperature Physics, 2001, 124, 197-207.	1.4	25
18	Disorder Phenomena in Quantum Solids with Vacancies. Journal of Low Temperature Physics, 2004, 134, 121-131.	1.4	25

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19	Path-integral ground-state Monte Carlo study of two-dimensional solid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts></mml:math>. Physical Review B, 2008, 77, .	3.2	25
20	Imaginary time density-density correlations for two-dimensional electron gases at high density. Journal of Chemical Physics, 2015, 143, 164108.	3.0	23
21	Dynamic structure factor for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>3</mml:mn></mml:msup></mml:math>He in two dimensions. Physical Review B, 2013, 87, .	3.2	22
22	WHAT IS A ROTON?. International Journal of Modern Physics B, 1999, 13, 607-616.	2.0	20
23	Facing the phase problem in Coherent Diffractive Imaging via Memetic Algorithms. Scientific Reports, 2017, 7, 42236.	3.3	20
24	Adsorption of He isotopes on fluorographene and graphane: Fluid and superfluid phases from quantum Monte Carlo calculations. Physical Review B, 2012, 86, .	3.2	19
25	Imaginary time correlations and the phaseless auxiliary field quantum Monte Carlo. Journal of Chemical Physics, 2014, 140, 024107.	3.0	19
26	Multi-class quantum classifiers with tensor network circuits for quantum phase recognition. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 434, 128056.	2.1	19
27	Variational theory of rotons in superfluid4He. Journal of Low Temperature Physics, 1995, 101, 755-760.	1.4	18
28	Dynamical structure factor of one-dimensional hard rods. Physical Review A, 2016, 94, .	2.5	18
29	Vacancy Excitation Spectrum in SolidHe4and Longitudinal Phonons. Physical Review Letters, 2003, 90, 175301.	7.8	17
30	The Shadow Path Integral Ground State Method: Study of Confined Solid4He. Journal of Low Temperature Physics, 2004, 136, 343-359.	1.4	17
31	Pressurized 4He in Cylindrical and in Hexagonal Pores. Journal of Low Temperature Physics, 2007, 146, 95-114.	1.4	17
32	Equation of state of two-dimensional<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>3</mml:mn></mml:msup></mml:math>He at zero temperature. Physical Review B, 2012, 85, .	3.2	17
33	Excitation spectrum in two-dimensional superfluid 4He. Low Temperature Physics, 2013, 39, 793-800.	0.6	17
34	Superfluid State of 4He on Graphane and Grapheneâ€“Fluoride: Anisotropic Roton States. Journal of Low Temperature Physics, 2013, 171, 699-710.	1.4	16
35	Quantum Critical Behavior of One-Dimensional Soft Bosons in the Continuum. Physical Review Letters, 2017, 119, 215301.	7.8	16
36	Crystal growth rates in supercooled atomic liquid mixtures. Nature Materials, 2020, 19, 512-516.	27.5	16

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37	Novel behavior of monolayer quantum gases on graphene, graphane and fluorographene. Journal of Physics Condensed Matter, 2013, 25, 443001.	1.8	15
38	Quantum Monte Carlo study of the dynamic structure factor in the gas and crystal phase of hard-sphere bosons. Physical Review B, 2013, 88, .	3.2	15
39	Quantum Monte Carlo study of a vortex in superfluid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts></mml:math>and search for a vortex state in the solid. Physical Review B, 2014, 89, .	3.2	15
40	Condensed phase of Bose-Fermi mixtures with a pairing interaction. Physical Review A, 2015, 91, .	2.5	15
41	Zero-Point Vacancies in Quantum Solids. Journal of Low Temperature Physics, 2008, 153, 250-265.	1.4	14
42	Ultrafast Structural Dynamics of Nanoparticles in Intense Laser Fields. Physical Review Letters, 2019, 123, 123201.	7.8	14
43	Variational calculation of excited-state properties of a3Heimpurity in superfluid4He. Physical Review B, 1999, 60, 3476-3484.	3.2	13
44	Observation of crystallization slowdown in supercooled parahydrogen and orthodeuterium quantum liquid mixtures. Physical Review B, 2014, 89, .	3.2	12
45	Path Integral Monte Carlo Study Confirms a Highly Ordered Snowball in 4He Nanodroplets Doped with an Ar+ Ion. Journal of Low Temperature Physics, 2015, 180, 29-36.	1.4	12
46	Fluctuation effects at the free surface of superfluid4He. Journal of Physics Condensed Matter, 2000, 12, 6009-6022.	1.8	11
47	Quantum dislocations: the fate of multiple vacancies in two-dimensional solid⁴He. Journal of Physics Condensed Matter, 2010, 22, 145401.	1.8	11
48	Bounds for the superfluid fraction from exact quantum Monte Carlo local densities. Physical Review B, 2007, 76, .	3.2	10
49	Novel substrates for Helium adsorption: Graphane and Grapheneâ€"Fluoride. Journal of Physics: Conference Series, 2012, 400, 012010.	0.4	10
50	Probing Quantum Turbulence in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>4</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math> by Quantum Evaporation Measurements. Physical Review Letters, 2018, 121, 015302.	7.8	9
51	Low-density phases ofHe3monolayers adsorbed on graphite. Physical Review B, 2016, 93, .	3.2	8
52	Implementation of the linear method for the optimization of Jastrowâ€"Feenberg and backflow correlations. Computer Physics Communications, 2015, 190, 62-71.	7.5	7
53	Microscopic Study of Static and Dynamical Properties of Dilute One-Dimensional Soft Bosons. Journal of Low Temperature Physics, 2017, 187, 719-726.	1.4	7
54	Crystallization kinetics of atomic crystals revealed by a single-shot and single-particle X-ray diffraction experiment. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	7

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55	Zero-temperature study of vacancies in solid4He. Journal of Physics: Conference Series, 2009, 150, 032090.	0.4	6
56	Accurate Density Response Function of Superfluid 4He at Freezing Pressure: Is DFT Successful for Superfluid Freezing?. Journal of Low Temperature Physics, 2011, 162, 160-166.	1.4	6
57	Off-diagonal long-range order studied in a soft-core solid: Two-dimensional screened Coulomb bosons. Physical Review B, 2011, 84, .	3.2	6
58	Roton Excitations and the Fluidâ€“Solid Phase Transition in Superfluid 2D Yukawa Bosons. Journal of Low Temperature Physics, 2016, 185, 39-58.	1.4	6
59	Density Functional Theory and Bose Statistics for the Freezing of Superfluid 4He. Journal of Low Temperature Physics, 2013, 171, 259-265.	1.4	5
60	Coherent Diffraction Imaging in Transmission Electron Microscopy for Atomic Resolution Quantitative Studies of the Matter. Materials, 2018, 11, 2323.	2.9	5
61	Emergence of an Ising critical regime in the clustering of one-dimensional soft matter revealed through string variables. Physical Review E, 2020, 102, 042134.	2.1	5
62	Two-Body Correlations and the Superfluid Fraction forÂNonuniform Systems. Journal of Low Temperature Physics, 2007, 149, 53-63.	1.4	4
63	Long-range correlations in quantum solids. Molecular Physics, 2011, 109, 2855-2862.	1.7	4
64	Characterizing crystalline defects in single nanoparticles from angular correlations of single-shot diffracted X-rays. IUCrJ, 2020, 7, 276-286.	2.2	4
65	Low-temperature ordering of the dimer phase of a two-dimensional model of core-softened particles. Physical Review E, 2021, 104, 044602.	2.1	4
66	Quantum Circuits for the Preparation of Spin Eigenfunctions on Quantum Computers. Symmetry, 2022, 14, 624.	2.2	4
67	Excitation spectrum of a3He impurity in superfluid4He. European Physical Journal D, 1996, 46, 295-296.	0.4	3
68	Study of Solid 4He in Two Dimensions. Journal of Low Temperature Physics, 2012, 168, 235-250.	1.4	3
69	Many-body Bose systems and the hard-sphere model: dynamic properties from the weak to the strong interaction regime. Journal of Physics: Conference Series, 2014, 529, 012022.	0.4	3
70	Mixing effects in the crystallization of supercooled quantum binary liquids. Journal of Chemical Physics, 2015, 143, 064504.	3.0	3
71	Static density response of one-dimensional soft bosons across the clustering transition. Journal of Physics: Conference Series, 2018, 1041, 012009.	0.4	3
72	Solving Rubikâ€™s cube via quantum mechanics and deep reinforcement learning. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 425302.	2.1	3

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73	Dynamical structure factor of a fermionic supersolid on an optical lattice. Physical Review A, 2020, 102, .	2.5	3
74	Variational Monte Carlo Calculations of 4He Adsorbed on Graphite. Journal of Low Temperature Physics, 2002, 126, 205-210.	1.4	2
75	Real time dynamics from quantum Monte Carlo data: A genetic algorithm approach. Journal of Physics: Conference Series, 2009, 150, 032116.	0.4	2
76	Quantized vortices in two dimensional solid⁴He. Journal of Physics: Conference Series, 2012, 400, 012063.	0.4	2
77	Linear Response of One-Dimensional Liquid $$^4hbox {He}$$ to External Perturbations. Journal of Low Temperature Physics, 2017, 187, 419-426.	1.4	2
78	Dynamical stochastic simulation of complex electrical behavior in neuromorphic networks of metallic nanojunctions. Scientific Reports, 2022, 12, .	3.3	2
79	Accurate description of excitations in superfluid4He. European Physical Journal D, 1996, 46, 297-298.	0.4	1
80	BOSEâ€“EINSTEIN CONDENSATION AND EXCITATIONS IN SOLID 4He WITH VACANCIES. International Journal of Modern Physics B, 2003, 17, 5243-5253.	2.0	1
81	Transverse Phonon Frequencies in bcc Solid 4He. AIP Conference Proceedings, 2006, , .	0.4	1
82	BOSEâ€“EINSTEIN CONDENSATION IN BULK AND CONFINED SOLID HELIUM. International Journal of Modern Physics B, 2006, 20, 5081-5092.	2.0	1
83	Evolution of static and dynamical density correlations of one-dimensional soft-core bosons from the Tonks-Girardeau limit to a clustering fluid. Physical Review A, 2021, 104, .	2.5	1
84	Solid 4He in Narrow Porous Media. AIP Conference Proceedings, 2006, , .	0.4	0
85	Off-Diagonal Long-Range Order in Solid 4He. AIP Conference Proceedings, 2006, , .	0.4	0
86	Quasi-One-Dimensional Electronic States Inside and Outside Helium-Plated Carbon Nanotubes. Journal of Low Temperature Physics, 2016, 185, 161-173.	1.4	0
87	Dynamics of charge migration in poly(para-phenylene vinylene) films and nanocomposites with single walled carbon nanotubes. Journal of Physics Condensed Matter, 2016, 28, 045304.	1.8	0
88	Characterizing crystalline defects in single Xe nanoparticles from angular correlations of single-shot diffracted X-rays. Journal of Physics: Conference Series, 2020, 1412, 202028.	0.4	0