John F Dobson

List of Publications by Year
in descending order

88 papers	4,074 citations	172457 29 h-index	114465 63 g-index
93 all docs	93 docs citations	93 times ranked	3554 citing authors

#	Article	IF	Citations
1	Cohesive Properties and Asymptotics of the Dispersion Interaction in Graphite by the Random Phase Approximation. Physical Review Letters, 2010, 105, 196401.	7.8	330
2	Asymptotics of the Dispersion Interaction: Analytic Benchmarks for van der Waals Energy Functionals. Physical Review Letters, 2006, 96, 073201.	7.8	314
3	Density functional theory analysis of structural and electronic properties of orthorhombic perovskite CH₃NH₃PbI₃. Physical Chemistry Chemical Physics, 2014, 16, 1424-1429.	2.8	306
4	Harmonic-Potential Theorem: Implications for Approximate Many-Body Theories. Physical Review Letters, 1994, 73, 2244-2247.	7.8	290
5	Vortex fluidic exfoliation of graphite and boron nitride. Chemical Communications, 2012, 48, 3703.	4.1	245
6	Successful Test of a Seamless van der Waals Density Functional. Physical Review Letters, 1999, 82, 2123-2126.	7.8	188
7	Calculation of dispersion energies. Journal of Physics Condensed Matter, 2012, 24, 073201.	1.8	187
8	Constraint Satisfaction in Local and Gradient Susceptibility Approximations: Application to a van der Waals Density Functional. Physical Review Letters, 1996, 76, 1780-1783.	7.8	177
9	Interpretation of the Fermi hole curvature. Journal of Chemical Physics, 1991, 94, 4328-4333.	3.0	165
10	Prediction of Dispersion Forces: Is There a Problem?. Australian Journal of Chemistry, 2001, 54, 513.	0.9	148
11	Toward the description of van der Waals interactions within density functional theory. Journal of Computational Chemistry, 1999, 20, 12-22.	3.3	106
12	Beyond pairwise additivity in London dispersion interactions. International Journal of Quantum Chemistry, 2014, 114, 1157-1161.	2.0	103
13	The stereochemistry of Bis(1±,1± -diimine)copper(I) complexes: the crystal and molecular structures of Bis(2,9-dimethyl-1,10-phenanthroline)copper(I) bromide hydrate, Bis(4,4',6,6'-tetramethyl-2,2'-bipyridine)copper(I) chloride dihydrate, and Bis(2,9-dimethyl-1,10-phenanthroline)copper(I) nitrate dihydrate (a redetermination). Australian Journal of Chemistry, 1984, 37, 649.	0.9	102
14	Time-Dependent Density Functional Theory beyond Linear Response: An Exchange-Correlation Potential with Memory. Physical Review Letters, 1997, 79, 1905-1908.	7.8	99
15	Energy-optimized local exchange-correlation kernel for the electron gas: Application to van der Waals forces. Physical Review B, 2000, 62, 10038-10045.	3.2	86
16	Alternative expressions for the Fermi hole curvature. Journal of Chemical Physics, 1993, 98, 8870-8872.	3.0	82
17	Soft cohesive forces. International Journal of Quantum Chemistry, 2005, 101, 579-598.	2.0	82
18	Shear induced formation of carbon and boron nitride nano-scrolls. Nanoscale, 2013, 5, 498-502.	5.6	68

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19	Correlation energies of inhomogeneous many-electron systems. Physical Review B, 2002, 66, .	3.2	55
20	Face dependent surface energies of simple metals. Solid State Communications, 1981, 37, 91-96.	1.9	48
21	Manyâ€Neighbored Ising Chain. Journal of Mathematical Physics, 1969, 10, 40-45.	1.1	41
22	An additional surface plasmon mode of a bare jellium aluminium surface from self-consistent microscopic calculations. Journal of Physics C: Solid State Physics, 1988, 21, L729-L734.	1.5	40
23	Excitation modes of neutral jellium slabs. Physical Review B, 1994, 49, 14700-14707.	3.2	37
24	The flexible nature of exchange, correlation, and Hartree physics: Resolving â€œdelocalizationâ€•errors in a â€œcorrelation freeâ€•density functional. Journal of Chemical Physics, 2013, 138, 014103.	3.0	37
25	How Many-Body Effects Modify the van der Waals Interaction between Graphene Sheets. Physical Review X, 2014, 4, .	8.9	35
26	Electron-gas boundary properties in non-neutral jellium (wide-parabolic-quantum-well) systems. Physical Review B, 1992, 46, 10163-10172.	3.2	33
27	Theoretical and semiempirical correction to the long-range dispersion power law of stretched graphite. Physical Review B, 2008, 77, .	3.2	33
28	Surface collective modes of non-neutral jellium. Physical Review B, 1992, 46, 7284-7287.	3.2	31
29	Dispersion corrections in graphenic systems: a simple and effective model of binding. Journal of Physics Condensed Matter, 2013, 25, 445010.	1.8	31
30	Surface properties of simple metals via inhomogeneous linear electronic response. I. Theory. Journal of Physics C: Solid State Physics, 1982, 15, 7429-7456.	1.5	29
31	Spin-density functionals for the electron correlation energy with automatic freedom from orbital self-interaction. Journal of Physics Condensed Matter, 1992, 4, 7877-7890.	1.8	28
32	Dispersion interaction in hydrogen-chain models. Journal of Chemical Physics, 2011, 134, 114106.	3.0	26
33	Static electronic susceptibility,Ï‡(qâˆ¥,z,zâ€²), of the Lang-Kohn jellium surface. Physical Review B, 1983, 27, 6542-6544.	3.2	25
34	van der Waals dispersion power laws for cleavage, exfoliation, and stretching in multiscale, layered systems. Physical Review B, 2009, 79, .	3.2	25
35	Binding and interlayer force in the near-contact region of two graphite slabs: Experiment and theory. Journal of Chemical Physics, 2013, 139, 224704.	3.0	21
36	Correlation energies beyond the random-phase approximation: Inhomogeneous Singwi-Tosi-Land-Sjolander functional applied to spherical atoms and ions. Physical Review A, 2012, 85, .	2.5	20

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37	Assessment of range-separated time-dependent density-functional theory for calculating C6 dispersion coefficients. Journal of Chemical Physics, 2013, 138, 194106.	3.0	20
38	Plasmons on Wide Epitaxially-grown Quantum Wells. Australian Journal of Physics, 1993, 46, 391.	0.6	18
39	Prospects for a van der Waals density functional. International Journal of Quantum Chemistry, 1998, 69, 615-618.	2.0	18
40	Dynamic real-space electronic response of the Lang-Kohn jellium half-space: adsorbate damping including exchange and correlation. Journal of Physics C: Solid State Physics, 1986, 19, 3971-3981.	1.5	17
41	Enhanced dispersion interaction between quasi-one-dimensional conducting collinear structures. Physical Review B, 2008, 77, .	3.2	17
42	Dispersion and induction interactions of graphene with nanostructures. Surface Science, 2011, 605, 1621-1632.	1.9	16
43	X-ray photoelectron spectra of perovskite-type cobalt oxides La1â^'xSrxCoO3â^'y (x=0.4, 0.6). Physica C: Superconductivity and Its Applications, 1989, 160, 252-258.	1.2	15
44	Xâ€ray photoelectron spectra of high T_c bismuth compounds. General trends for layer structures. Physica Status Solidi (B): Basic Research, 1989, 152, 519-532.	1.5	15
45	Dispersion interaction between crossed conducting wires. Physical Review A, 2009, 80, .	2.5	15
46	Effects of a finite Dirac cone on the dispersion properties of graphite. Physical Review B, 2013, 87, .	3.2	15
47	The effect of a frequency-dependent exchange and correlation kernel on the multipole surface plasmon frequency of a bare jellium aluminium surface. Journal of Physics Condensed Matter, 1990, 2, 6461-6464.	1.8	13
48	Artefacts in non-contact mode force microscopy: the role of adsorbed moisture. Ultramicroscopy, 1996, 63, 115-124.	1.9	13
49	Testing the local density approximation with energy-versus-separation curves of jellium slab pairs. Physical Review B, 2004, 69, .	3.2	13
50	Microscopic electronic susceptibility, Ï‡(Ï‰,q11,z,z'), of the jellium half-space: a successful average-density ansatz for complex frequency. Journal of Physics C: Solid State Physics, 1987, 20, 6127-6136.	1.5	12
51	Electron affinities and ionisation potentials for atoms via â€œbenchmarkâ€•tdDFT calculations with and without exchange kernels. Journal of Chemical Physics, 2013, 138, 014109.	3.0	12
52	Faraday cage screening reveals intrinsic aspects of the van der Waals attraction. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10295-E10302.	7.1	12
53	Layer response theory: Energetics of layered materials from semianalytic high-level theory. Physical Review B, 2016, 93, .	3.2	11
54	Inhomogeneous STLS theory and TDCDFT. Physical Chemistry Chemical Physics, 2009, 11, 4528.	2.8	10

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55	Dispersion (van der Waals) Forces and TDDFT. Lecture Notes in Physics, 2012, , 417-441.	0.7	10
56	Einstein-Kanzaki model of static and dynamic lattice relaxation: Application to vacancies in metallic hydrogen. Physical Review B, 1977, 16, 5326-5340.	3.2	9
57	Orbital self-interaction in Hartree-Fock and density functional theories. Journal of Physics C: Solid State Physics, 1982, 15, L1183-L1186.	1.5	9
58	Validity Comparison Between Asymptotic Dispersion Energy Formalisms for Nanomaterials. Journal of Computational and Theoretical Nanoscience, 2009, 6, 960-971.	0.4	9
59	Efficient, long-range correlation from occupied wave functions only. Physical Review B, 2011, 84, .	3.2	8
60	2D Structures Beyond Graphene. Semiconductors and Semimetals, 2016, 95, 1-33.	0.7	8
61	Casimirâ€“Polder Size Consistency: A Constraint Violated by Some Dispersion Theories. Journal of Chemical Theory and Computation, 2017, 13, 5829-5833.	5.3	8
62	Cavity size effects on CESR in simple metals. I. theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 1973, 44, 171-172.	2.1	6
63	Collisionless hydrodynamics for one-dimensional motion of inhomogeneous degenerate electron gases:â€ƒEquivalence of two recent descriptions. Physical Review B, 2002, 66, .	3.2	6
64	A Novel Constraint for the Simplified Description of Dispersion Forces. Australian Journal of Physics, 2000, 53, 575.	0.6	6
65	Unusual features of the dispersion force in layered and striated nanostructures. Surface Science, 2007, 601, 5667-5672.	1.9	5
66	Spooky correlations and unusual van der Waals forces between gapless and near-gapless molecules. Journal of Chemical Physics, 2016, 145, 204107.	3.0	5
67	Towards efficient description of type-C London dispersion forces between low-dimensional metallic nanostructures. Electronic Structure, 2021, 3, 044001.	2.8	5
68	Theoretical temperature dependence of relaxation rate between widely spaced levels, due to gas or liquid fluctuations. Chemical Physics Letters, 1979, 61, 157-161.	2.6	4
69	Vibronic-coupling and spin relaxation in discrete spin-12 transition-metal complexes. Chemical Physics Letters, 1979, 68, 115-120.	2.6	4
70	ELECTRON DENSITY FUNCTIONAL THEORY. International Journal of Modern Physics B, 1999, 13, 511-523.	2.0	4
71	Spin-resolved correlation kinetic energy of the spin-polarized electron gas. Physical Review B, 2004, 70, .	3.2	4
72	Quantum continuum mechanics made simple. Journal of Chemical Physics, 2012, 136, 204115.	3.0	4

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73	Theory of surface spin waves in alkali metals. Journal of Low Temperature Physics, 1975, 18, 13-30.	1.4	3
74	Metallic Surfaces and Density Functional Theory. NATO ASI Series Series B: Physics, 1995, , 393-430.	0.2	3
75	Van der Waals Functionals via Local Approximations for Susceptibilities. , 1998, , 261-284.		3
76	Time-Dependent Density-Functional Theory. , 1998, , 43-53.		3
77	On the theory of electron and nuclear spin relaxation in paramagnetic transition metal complexes. Molecular Physics, 1980, 40, 1379-1387.	1.7	2
78	Estimating electron spectrial densities for NMR relaxation calculations. Chemical Physics Letters, 1980, 70, 382-386.	2.6	2
79	Some Experimental Prospects involving Parabolic Quantum Wells. Australian Journal of Physics, 2000, 53, 119.	0.6	2
80	Groundstate defectons in soft-core fermion quantum crystals. Physics Letters, Section A: General, Atomic and Solid State Physics, 1976, 57, 73-74.	2.1	1
81	Efficient calculation of bulk jellium electronic susceptibilities for use in the theory of metal surfaces. Journal of Physics C: Solid State Physics, 1988, 21, 107-117.	1.5	1
82	X-ray Photoelectron Studies of High-temperature Superconductors: Evidence for the Importance of Alkaline Earth Metals. Australian Journal of Physics, 1989, 42, 409.	0.6	1
83	Beyond-pair interactions in the Pd-H2system. Journal of Physics Condensed Matter, 1995, 7, 5815-5833.	1.8	1
84	Does the exchangeâ€“correlation kernel fxc have a very long-ranged dependence on the groundstate electron density?. Theoretical Chemistry Accounts, 2018, 137, 1.	1.4	1
85	Friedel Oscillations in Condensed Matter Calculations. , 1995, , 139-162.		1
86	Exact results for secondâ€neighbor surface magnons in an fcc lattice. Journal of Mathematical Physics, 1977, 18, 116-117.	1.1	0
87	Theory of the Long-Ranged Interaction between a Graphene Plane and Various Substrates. , 2006, , .		0
88	Theory of Cohesive Forces in Layered and Striated Nanostructures: Some Surprises. , 2006, , .		0