William J Meath

List of Publications by Year
in descending order

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92	3,901	116194	139680
papers	citations	36 h-index	61 g-index

93	93	93	1214
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bloch-Siegert effects in two-photon excitations: Fixed laser-molecule configurations versus orientational averaging. Journal of Chemical Physics, 2018, 149, 204114.	1.2	3
2	On the optimization, and the intensity dependence, of the excitation rate for the absorption of two-photons due to the direct permanent dipole moment excitation mechanism. AIP Advances, 2016, 6, .	0.6	5
3	On the effects of permanent molecular dipoles in the simultaneous absorption of two photons: Full generalized rotating wave approximation versus analytical results. Journal of Chemical Physics, 2013, 139, 144104.	1.2	6
4	On the effects of permanent molecular dipole moments in two-photon molecular excitations: an analytic generalized rotating wave approximation treatment including both the direct permanent dipole and the virtual state excitation mechanisms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 205401.	0.6	8
5	Enhancement of the simultaneous absorption of two photons for pulsed laser-molecule interactions. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 865.	0.9	5
6	Applications of the Riemann Product Integral Method to Spectroscopic Problems. Advances in Chemical Physics, 2007, , 307-349.	0.3	17
7	The mechanisms for, and the enhancement of, the simultaneous absorption of two photons by molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S605-S620.	0.6	11
8	Reliable results for the Isotropic Dipole â€“ Dipole and Triple â€“ Dipole Dispersion Energy Coefficients for Interactions involving Formaldehyde, Acetaldehyde, Acetone, and Mono - , Di - , and Tri - Methylamine. Journal of Computational Methods in Sciences and Engineering, 2004, 4, 307-320.	0.1	3
9	Dipole oscillator strengths, dipole properties and dispersion energies for SiF4. Molecular Physics, 2003, 101, 1535-1543.	0.8	13
10	Dipole oscillator strength properties and dispersion energies for Cl2. Molecular Physics, 2002, 100, 3271-3279.	0.8	25
11	Contributions of permanent dipole moments to molecular multiphoton excitation cross sections. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 2673.	0.9	34
12	Exchange-Coulomb potential energy surfaces and related physical properties for Ne-N2. Molecular Physics, 2001, 99, 991-1004.	0.8	21
13	On the control of the production of hydrogen atom 2sâ€“2p resonance hybrids through the use of competitive one- and two-photon transitions from the ground state. Journal of Chemical Physics, 2000, 113, 1501-1507.	1.2	4
14	Rotating-wave approximation for the interaction of a pulsed laser with a two-level system possessing permanent dipole moments. Physical Review A, 2000, 63, .	1.0	61
15	On the non-additive second-order Coulomb energy for H₃ in C_{2v} geometries. Molecular Physics, 1999, 96, 53-60.	0.8	1
16	On the effects of absolute laser phase on the interaction of a pulsed laser with polar versus nonpolar molecules. Journal of Chemical Physics, 1998, 109, 9351-9365.	1.2	36
17	On the spectral and dynamic effects of near-nodal molecule-EMF coupling arising from permanent dipole moments. Molecular Physics, 1997, 92, 805-812.	0.8	7
18	Twoâ€color multiphoton transitions in molecular beam electric resonance studies: Rotating wave versus Floquet, and onâ€versus offâ€resonance, calculations. Journal of Chemical Physics, 1996, 104, 8312-8320.	1.2	10

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19	On the anisotropy of the triple-dipole dispersion energy for interactions involving linear molecules. Molecular Physics, 1996, 87, 845-858.	0.8	18
20	On the competition between permanent dipole and virtual state two-photon excitation mechanisms, and two-photon optical excitation pathways, in molecular excitation. Chemical Physics Letters, 1996, 258, 293-300.	1.2	30
21	A reliable new potential energy surface for H2â€“Ar. Journal of Chemical Physics, 1996, 105, 2639-2653.	1.2	71
22	The absorption coefficient spectrum and radiation degradation of poly(butene-1 sulfone) in the soft x-ray region. Journal of Polymer Science, Part B: Polymer Physics, 1993, 31, 1837-1844.	2.4	3
23	Dispersion energy damping functions, and their relative scale with interatomic separation, for (H, He,) Tj ETQq1 1 0.784314 rgBT /Ove	0.8	37
24	On the relationship between first-order exchange and Coulomb interaction energies for closed shell atoms and molecules. Molecular Physics, 1993, 79, 253-275.	0.8	25
25	Effect of threeâ€body forces on the statics and dynamics of SF6â€“(Rg)n and (Rg)13 clusters. Journal of Chemical Physics, 1993, 98, 5668-5678.	1.2	21
26	The use of coherent phase control of multiphoton ionization to measure the refractive indices of H2 and Ar between 1100 and 1150 Ã…. Journal of Chemical Physics, 1993, 98, 9481-9486.	1.2	27
27	The rotating wave approximation, including the incorporation and importance of diagonal dipole moment matrix elements, for infrared multiphoton excitations. Journal of Chemical Physics, 1992, 96, 4991-5008.	1.2	38
28	Dipole oscillator strength properties and dispersion energies for acetylene and benzene. Molecular Physics, 1992, 75, 311-324.	0.8	76
29	Permanent dipole moments and twoâ€color multiphoton resonances in the twoâ€level molecule: The rotating wave approximation versus exact results. Journal of Chemical Physics, 1992, 96, 2544-2555.	1.2	29
30	Exchange-coulomb potential energy curves for He-He, and related physical properties. Molecular Physics, 1992, 77, 321-337.	0.8	107
31	The absorption coefficient spectrum of poly(methyl methacrylate) in the soft X-ray region. Journal of Polymer Science, Part B: Polymer Physics, 1992, 30, 185-195.	2.4	7
32	On the dynamics of pulsed and continuous wave laser-molecule interactions and the effects of permanent dipoles. Molecular Physics, 1991, 74, 113-129.	0.8	19
33	Reliable isotropic and anisotropic dipolar dispersion energies, evaluated using constrained dipole oscillator strength techniques, with application to interactions involving H2, N2, and the rare gases. International Journal of Quantum Chemistry, 1990, 38, 501-520.	1.0	71
34	Perturbative corrections to the rotating-wave approximation for two-level molecules and the effects of permanent dipoles on single-photon and multiphoton spectra. Physical Review A, 1990, 41, 1556-1568.	1.0	47
35	On neighbouring-level effects, and the validity of the rotating-wave approximation, for a quasi-continuum five-level model doorway system. Molecular Physics, 1990, 71, 1333-1353.	0.8	5
36	The Kr-Kr potential energy curve and related physical properties; the XC and HFD-B potential models. Molecular Physics, 1989, 67, 1291-1307.	0.8	114

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37	On the Interaction of Elliptically Polarized Light with Molecules; the Effects of Both Permanent and Transition Multipole Moments on Multiphoton Absorption and Chiroptical Effects. Journal of Modern Optics, 1989, 36, 977-1002.	0.6	23
38	Orientationally averaged single- and multi-photon spectra. An application to molecules interacting with a static electric field. Chemical Physics, 1988, 125, 129-143.	0.9	11
39	Temporal and Steady State Transition Probabilities for Molecules Interacting with Oscillating and Static Electric Fields and Surfaces. , 1988, , 453-460.		2
40	A separable method for the calculation of dispersion and induction energy damping functions with applications to the dimers arising from He, Ne and HF. Molecular Physics, 1987, 60, 1143-1158.	0.8	63
41	Two-level rotating-wave approximations for molecules in a static electric field with an application to rotationally averaged spectra. Physical Review A, 1986, 33, 1688-1696.	1.0	51
42	Non-expanded dispersion and induction energies, and damping functions, for molecular interactions with application to HF-He. Molecular Physics, 1986, 59, 965-984.	0.8	52
43	Charge overlap effects for first-order molecule-molecule interactions, through high partial wave order, using the N2-N2interaction as a model. Molecular Physics, 1986, 57, 491-507.	0.8	10
44	Permanent dipole moments and multi-photon resonances. Physics Letters, Section A: General, Atomic and Solid State Physics, 1985, 108, 340-343.	0.9	90
45	Phase and rotational averaged transition probabilities for molecules in a sinusoidal field using the Floquet formalism. Molecular Physics, 1985, 56, 193-207.	0.8	34
46	Dipole properties, dispersion energy coefficients, and integrated oscillator strengths for SF6. Journal of Chemical Physics, 1985, 83, 70-77.	1.2	64
47	Pseudo-spectral dipole oscillator strengths and dipole-dipole and triple-dipole dispersion energy coefficients for HF, HCl, HBr, He, Ne, Ar, Kr and Xe. Molecular Physics, 1985, 54, 823-833.	0.8	298
48	Second virial coefficients, including quantum corrections, for nitrogen using model potentials. Molecular Physics, 1984, 53, 225-232.	0.8	21
49	On the effects of diagonal dipole matrix elements in multi-photon resonance profiles using two-level systems as models. Molecular Physics, 1984, 51, 585-600.	0.8	64
50	On the importance and problems in the construction of many-body potentials. Molecular Physics, 1984, 52, 225-243.	0.8	143
51	Multi-photon vibrational resonances, with modulation effects, using HeXe, NeAr and NeXe as models. Molecular Physics, 1982, 46, 743-755.	0.8	36
52	Multipole sum rules. Molecular Physics, 1981, 42, 629-653.	0.8	16
53	On the validity and properties of the atom-atom potential as a function of intermolecular separation, configuration, and partial wave order. Molecular Physics, 1981, 42, 165-191.	0.8	4
54	A reliable single parameter interatomic potential for argon. Molecular Physics, 1980, 39, 895-911.	0.8	71

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55	Pseudo-spectral dipole oscillator strength distributions for the normal alkanes through octane and the evaluation of some related dipole-dipole and triple-dipole dispersion interaction energy coefficients. Molecular Physics, 1980, 41, 1061-1070.	0.8	49
56	On the additivity of atomic and molecular dipole properties and dispersion energies using H, N, O, H2, N2, O2, NO, N2O, NH3and H2O as models. Molecular Physics, 1980, 39, 1055-1072.	0.8	39
57	Evaluation of the dipole polarizability for hydrogen-like atoms in arbitrary bound states. Molecular Physics, 1980, 40, 713-721.	0.8	18
58	A critical study of some methods for evaluating theC6,C8andC10isotropic dispersion energy coefficients using the first row hydrides, CO, CO2and N2O as models. Molecular Physics, 1980, 41, 249-269.	0.8	65
59	Charge overlap effects and the validity of the multipole results for first-order molecule-molecule intermolecular forces using pair interactions involving the ground state H2, N2, CO2, HF and LiH molecules as models. Molecular Physics, 1979, 38, 449-463.	0.8	22
60	A reliable semi-empirical approach for evaluating the isotropic intermolecular forces between closed-shell systems.. Molecular Physics, 1979, 37, 237-253.	0.8	103
61	Van der Waals constants for hydrogen and light alkane pair interactions. AIChE Journal, 1979, 25, 352-354.	1.8	7
62	Triple-dipole energies for H, He, Li, N, O, H2, N2, O2, NO, N2O, H2O, NH3and CH4evaluated using pseudo-spectral dipole oscillator strength distributions. Molecular Physics, 1978, 35, 747-757.	0.8	82
63	Multi-photon spectra in the presence of strongly saturating oscillating and static fields. Molecular Physics, 1978, 35, 1163-1175.	0.8	23
64	Validity of the multipole results for first-order molecule-molecule interaction energies.. Molecular Physics, 1977, 33, 699-715.	0.8	49
65	Dipole spectrum, sums and properties of ground-state methane and their relation to the molar refractivity and dispersion energy constant. Molecular Physics, 1977, 34, 113-125.	0.8	99
66	Re-evaluation of some lithium dipole properties and dipole-dipole and dipole-quadrupole van der Waals constants. Molecular Physics, 1977, 34, 1351-1355.	0.8	23
67	Dispersion energy constantsC6(A, B), dipole oscillator strength sums and refractivities for Li, N, O, H2, N2, O2, NH3, H2O, NO and N2O. Molecular Physics, 1977, 33, 1155-1176.	0.8	312
68	On the convergence of one centre partial wave treatments for diatomic molecules. H2+ (1s?g) and coulomb versus electron exchange intermolecular forces. International Journal of Quantum Chemistry, 1977, 12, 35-59.	1.0	6
69	Charge overlap effects and the validity of the multipole results for first-order molecule-molecule interaction energies. Formalism and an application to H2-H2. Molecular Physics, 1976, 32, 177-194.	0.8	47
70	Phase and temporal average transition probabilities for a multi-level system in a sinusoidal field. Molecular Physics, 1976, 31, 1537-1548.	0.8	49
71	On the validity of the triple-dipole interaction as a representation of non-additive intermolecular forces. Molecular Physics, 1976, 31, 515-528.	0.8	34
72	The interaction between first excited state hydrogen atoms and a different non-degenerate atom: an example of second-order resonance forces. Molecular Physics, 1975, 29, 1409-1419.	0.8	2

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73	The H2O-H2O dispersion energy constant and the dispersion of the specific refractivity of dilute water vapour. Molecular Physics, 1975, 30, 161-169.	0.8	62
74	Time dependence of a two-level system for arbitrary sinusoidal field strengths and times. Molecular Physics, 1975, 30, 171-178.	0.8	22
75	Lithium quadrupole properties and Van der Waals constants using pseudo-state techniques. Molecular Physics, 1974, 28, 829-838.	0.8	17
76	Floating one-center perturbation treatments for H2+-like molecules based on screened hydrogen atom or molecular puff unperturbed problems. International Journal of Quantum Chemistry, 1974, 8, 119-136.	1.0	5
77	Charge-overlap effects in the non-additive triple-dipole interaction. Molecular Physics, 1974, 28, 1431-1439.	0.8	47
78	Nondiagonal second order intermolecular forces for interactions involving molecules. International Journal of Quantum Chemistry, 1973, 7, 959-970.	1.0	11
79	Long range interaction energies between ground and first excited state hydrogen atoms using a one centre method. Molecular Physics, 1973, 25, 1203-1215.	0.8	39
80	Lithium dipole properties and van der Waals constants using a pseudo spectral one-centre method. Molecular Physics, 1973, 26, 1397-1403.	0.8	24
81	Convergence of the multipole results for first order orientation dependent intermolecular forces using NH3-H+as a model interaction. Molecular Physics, 1972, 24, 1407-1419.	0.8	17
82	The Structure of the Multipole Treatment of Intermolecular Forces. American Journal of Physics, 1972, 40, 21-27.	0.3	10
83	Discussion of the He-He interaction energy in the average energy approximation. Molecular Physics, 1971, 22, 915-930.	0.8	14
84	Longâ€Range Intermolecular Forces using Gaussian Basis Functions. A Model Calculation. Journal of Chemical Physics, 1971, 54, 1137-1141.	1.2	15
85	Angular dependence of the retarded dispersion energy. International Journal of Quantum Chemistry, 1971, 5, 549-556.	1.0	3
86	PadÃ© approximation methods applied to the intermolecular force series. Molecular Physics, 1971, 20, 873-880.	0.8	28
87	Charge overlap effects dependence on the nature of the interaction. Molecular Physics, 1970, 19, 513-520.	0.8	57
88	Induction Forces. An Exact Treatment of Charge Overlap Effects through Third Order. Journal of Chemical Physics, 1970, 52, 5565-5571.	1.2	39
89	Chargeâ€Overlap Effects. Dispersion and Induction Forces. Journal of Chemical Physics, 1969, 50, 2289-2302.	1.2	194
90	Retarded Interaction Energies between Like Atoms in Different Energy States. Journal of Chemical Physics, 1968, 48, 227-235.	1.2	72

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91	Evaluation of Longâ€Range Retarded Interaction Energies. Journal of Chemical Physics, 1967, 47, 1271-1274.	1.2	115
92	Relativistic Interaction Energies between Atoms in Degenerate States. Journal of Chemical Physics, 1966, 45, 4519-4527.	1.2	13