Jeremy M Hutson

List of Publications by Citations

231 papers	10,353 citations	55 h-index	89 g-index
241 ext. papers	11,245 ext. citations	4.4 avg, IF	6.43 L-index

#	Paper	IF	Citations
231	Theoretical studies of van der Waals molecules and intermolecular forces. *Chemical Reviews*, **1988**, 88, 963-988	68.1	511
230	Ultracold dense samples of dipolar RbCs molecules in the rovibrational and hyperfine ground state. *Physical Review Letters*, **2014**, 113, 205301	7.4	331
229	Creation of ultracold ^{87}Rb^{133}Cs molecules in the rovibrational ground state. *Physical Review Letters*, **2014**, 113, 255301	7.4	283
228	An ultracold high-density sample of rovibronic ground-state molecules in an optical lattice. *Nature Physics*, **2010**, 6, 265-270	16.2	271
227	Vibrational dependence of the anisotropic intermolecular potential of Ar–F. *Journal of Chemical Physics*, **1992**, 96, 6752-6767	3.9	265
226	The intermolecular potential of Ar–Cl: Determination from high-resolution spectroscopy. *Journal of Chemical Physics*, **1988**, 89, 4550-4557	3.9	215
225	Improved potential energy surfaces for the interaction of H2 with Ar, Kr, and Xe. *Journal of Chemical Physics*, **1987**, 86, 837-853	3.9	195
224	Reactions of ultracold alkali-metal dimers. *Physical Review A*, **2010**, 81,	2.6	172
223	Anisotropic intermolecular forces. *Molecular Physics*, **1982**, 45, 769-790	1.7	170
222	Vibrational dependence of the anisotropic intermolecular potential of argon-hydrogen chloride. *The Journal of Physical Chemistry*, **1992**, 96, 4237-4247		163
221	Universality of the three-body parameter for Efimov states in ultracold cesium. *Physical Review Letters*, **2011**, 107, 120401	7.4	153
220	The dynamics of open-shell Van der Waals complexes. *Journal of Chemical Physics*, **1991**, 94, 7602-7618	3.9	150
219	Precise characterization of 6Li Feshbach resonances using trap-sideband-resolved RF spectroscopy of weakly bound molecules. *Physical Review Letters*, **2013**, 110, 135301	7.4	149
218	Centrifugal distortion constants for diatomic molecules: an improved computational method. *Journal of Physics B: Atomic and Molecular Physics*, **1981**, 14, 851-857		129
217	Coupled channel methods for solving the bound-state Schrödinger equation. *Computer Physics Communications*, **1994**, 84, 1-18	4.2	123
216	Quantum dynamics of ultracold Na+ Na2 collisions. *Physical Review Letters*, **2002**, 89, 153201	7.4	120
215	Morphing ab initio potentials: A systematic study of Ne–F. *Journal of Chemical Physics*, **1999**, 110, 8338-8347	3.9	120

214	Towards the production of ultracold ground-state RbCs molecules: Feshbach resonances, weakly bound states, and the coupled-channel model. *Physical Review A*, **2012**, 85,	2.6	115
213	Rotational predissociation of the Ar?HCl van der Waals complex: Close-coupled scattering calculations. *Journal of Chemical Physics*, **1983**, 78, 4025-4039	3.9	115
212	The intermolecular potential energy surface of Ar HC1. *Molecular Physics*, **1981**, 43, 493-516	1.7	108
211	Molecule formation in ultracold atomic gases. *International Reviews in Physical Chemistry*, **2006**, 25, 497-526	7	107
210	Anisotropic intermolecular forces. *Molecular Physics*, **1982**, 45, 791-805	1.7	104
209	Atom symmetric top van der Waals complexes: Angular momentum coupling in Ar H2O. *Journal of Chemical Physics*, **1990**, 92, 157-168	3.9	102
208	Observation of the second triatomic resonance in Efimov's scenario. *Physical Review Letters*, **2014**, 112, 190401	7.4	100
207	Ultracold RbSr molecules can be formed by magnetoassociation. *Physical Review Letters*, **2010**, 105, 153201	7.4	91
206	Ultracold Rb-OH collisions and prospects for sympathetic cooling. *Physical Review Letters*, **2006**, 97, 183201	7.4	90
205	Ultracold Li + Li2 collisions: bosonic and fermionic cases. *Physical Review Letters*, **2005**, 94, 033201	7.4	90
204	Nonadditive intermolecular forces from the spectroscopy of van der Waals trimers: Calculations on Ar2 HCl. *Journal of Chemical Physics*, **1993**, 98, 5337-5351	3.9	90
203	Hyperfine energy levels of alkali-metal dimers: Ground-state polar molecules in electric and magnetic fields. *Physical Review A*, **2008**, 78,	2.6	85
202	Signatures of large amplitude motion in a weakly bound complex: High-resolution IR spectroscopy and quantum calculations for HeCO2. *Journal of Chemical Physics*, **1994**, 101, 8351-8363	3.9	85
201	Atom molecule van der Waals complexes containing open-shell atoms. I. General theory and bending levels. *Journal of Chemical Physics*, **1994**, 101, 1939-1958	3.9	85
200	Feshbach resonances in ultracold atomic and molecular collisions: threshold behaviour and suppression of poles in scattering lengths. *New Journal of Physics*, **2007**, 9, 152-152	2.9	77
199	Ultracold atom-molecule collisions and bound states in magnetic fields: Tuning zero-energy Feshbach resonances in He NH (3). *Physical Review A*, **2007**, 75,	2.6	74
198	The intermolecular potential energy surface for CO2 Ar: Fitting to high-resolution spectroscopy of Van der Waals complexes and second virial coefficients. *Journal of Chemical Physics*, **1996**, 105, 9130-9140	3.9	72
197	Feshbach resonances, weakly bound molecular states, and coupled-channel potentials for cesium at high magnetic fields. *Physical Review A*, **2013**, 87,	2.6	69

196	Ultracold collisions involving heteronuclear alkali metal dimers. *Physical Review Letters*, **2005**, 94, 200402	7.4	69
195	Anisotropic intermolecular forces from Hartree-Fock plus damped dispersion (HFD) calculations. *Molecular Physics*, **1984**, 52, 763-781	1.7	68
194	Vibrational predissociation and infrared spectrum of the Ar–HCl van der Waals molecule. *Journal of Chemical Physics*, **1984**, 81, 2357-2362	3.9	68
193	Ultracold quantum dynamics: Spin-polarized K+K2 collisions with three identical bosons or fermions. *Physical Review A*, **2005**, 71,	2.6	67
192	The Ar–HF intermolecular potential: Overtone spectroscopy and ab initio calculations. *Journal of Chemical Physics*, **1993**, 99, 9337-9349	3.9	67
191	Selective adsorption resonances in the scattering of helium atoms from xenon coated graphite: Close-coupling calculations and potential dependence. *Journal of Chemical Physics*, **1983**, 79, 5179-5187	3.9	67
190	Production of ultracold NH molecules by sympathetic cooling with Mg. *Physical Review Letters*, **2009**, 103, 183201	7.4	64
189	Molecular collisions in ultracold atomic gases. *International Reviews in Physical Chemistry*, **2007**, 26, 1-28	7	64
188	Nonadditive intermolecular forces from the spectroscopy of van der Waals trimers: A theoretical study of Ar2-HF. *Physical Review A*, **1995**, 51, 239-250	2.6	64
187	Atom-Molecule van der Waals Complexes Containing Open-Shell Atoms. 2. The Bound States of Cl-HCl. *The Journal of Physical Chemistry*, **1994**, 98, 5844-5854		64
186	On the long-range and short-range behavior of potentials from reproducing kernel Hilbert space interpolation. *Journal of Chemical Physics*, **2000**, 112, 4415-4416	3.9	63
185	Microwave spectroscopy and interaction potential of the long-range He...Ar+ ion. *Journal of Chemical Physics*, **1995**, 102, 2379-2403	3.9	62
184	Magnetically tunable Feshbach resonances in ultracold Li-Yb mixtures. *Physical Review Letters*, **2012** , 108, 043201	7.4	61
183	Three-body nonadditive forces between spin-polarized alkali-metal atoms. *Physical Review A*, **2003**, 67,	2.6	61
182	The intermolecular potential of Ne–HCl: Determination from high-resolution spectroscopy. *Journal of Chemical Physics*, **1989**, 91, 4448-4454	3.9	60
181	Spectroscopic properties and potential surfaces for atom-diatom van der Waals molecules. *Molecular Physics*, **1980**, 41, 1123-1141	1.7	59
180	A new approach to perturbation theory for breakdown of the Born-Oppenheimer approximation. *Molecular Physics*, **1980**, 41, 1113-1122	1.7	58
179	Predissociation of weak-anisotropy Van der Waals molecules. Theory, approximations and practical predictions. *Faraday Discussions of the Chemical Society*, **1982**, 73, 339		57

178	Large effects of electric fields on atom-molecule collisions at millikelvin temperatures. *Physical Review Letters*, **2011**, 106, 193201	7.4	56
177	Interactions and dynamics in Li+Li2 ultracold collisions. *Journal of Chemical Physics*, **2007**, 127, 074302	3.9	56
176	Prospects of forming ultracold molecules in 2Σ states by magnetoassociation of alkali-metal atoms with Yb. *Physical Review A*, **2013**, 87,	2.6	55
175	I-NoLLS: A program for interactive nonlinear least-squares fitting of the parameters of physical models. *Computer Physics Communications*, **1997**, 102, 252-268	4.2	55
174	Anisotropic intermolecular potentials. III. Rare-gas–hydrogen bromide systems. *Journal of Chemical Physics*, **1989**, 91, 4455-4461	3.9	54
173	A theoretical study of the Ar2HCl van der Waals cluster. *Journal of Chemical Physics*, **1989**, 90, 1337-1344	3.9	54
172	Sticky collisions of ultracold RbCs molecules. *Nature Communications*, **2019**, 10, 3104	17.4	53
171	Interaction of NH(X3Sigma-) molecules with rubidium atoms: implications for sympathetic cooling and the formation of extremely polar molecules. *Physical Review Letters*, **2004**, 92, 163202	7.4	53
170	An evaluation of existing potential energy surfaces for CO2–Ar: Pressure broadening and high-resolution spectroscopy of van der Waals complexes. *Journal of Chemical Physics*, **1996**, 104, 2156-2166	3.9	53
169	Methods for calculating the bound state energies of van der Waals trimers: Applications to Ar3. *Journal of Chemical Physics*, **1993**, 98, 2160-2169	3.9	53
168	Ultracold molecules for quantum simulation: rotational coherences in CaF and RbCs. *Quantum Science and Technology*, **2019**, 4, 014010	5.5	53
167	Low-energy collisions of NH3 and ND3 with ultracold Rb atoms. *Physical Review A*, **2009**, 79,	2.6	51
166	Non-additive intermolecular forces from the spectroscopy of Van der Waals trimers: A comparison of Ar2–HF and Ar2–HCl, including H/D isotope effects. *Journal of Chemical Physics*, **1997**, 106, 6288-6301	3.9	51
165	Spectral line shape parameters for HF in a bath of Ar are accurately predicted by a potential inferred from spectra of the van der Waals dimer. *Journal of Chemical Physics*, **1994**, 100, 891-898	3.9	51
164	Close-coupling calculations of transport and relaxation cross sections for H2 in Ar. *Journal of Chemical Physics*, **1984**, 80, 1135-1149	3.9	51
163	Morphing the He–OCS intermolecular potential. *Journal of Chemical Physics*, **2001**, 115, 5059-5065	3.9	50
162	Pairwise-additive models for atom-surface interaction potentials: An ab initio study of He-LiF. *Physical Review B*, **1986**, 33, 3724-3735	3.3	49
161	New vibration–rotation code for tetraatomic molecules exhibiting wide-amplitude motion: WAVR4. *Computer Physics Communications*, **2004**, 163, 117-131	4.2	47

160	Potential energy surfaces for ArOH (X 2) obtained by fitting to high-resolution spectroscopy. *Journal of Chemical Physics*, **1993**, 99, 7477-7486	3.9	46
159	A spectroscopic puzzle in ArHF solved: The test of a new potential. *Journal of Chemical Physics*, **1992**, 97, 8009-8018	3.9	46
158	Parity doubling in open-shell van der Waals complexes. *Chemical Physics Letters*, **1992**, 193, 355-363	2.5	46
157	Calculating energy levels of isomerizing tetra-atomic molecules. II. The vibrational states of acetylene and vinylidene. *Journal of Chemical Physics*, **2005**, 122, 064309	3.9	45
156	Cold collisions between OH and Rb: The field-free case. *Physical Review A*, **2007**, 75,	2.6	44
155	On the rotational constants of floppy molecules. *Chemical Physics Letters*, **1994**, 222, 257-262	2.5	44
154	Vibrational predissociation of hydrogen, deuterium, and hydrogen deuteride-argon van der Waals molecules. *The Journal of Physical Chemistry*, **1983**, 87, 2713-2720		44
153	Vibrational predissociation of the Ne C2H4 and Ar C2H4 van der Waals complexes. *Journal of Chemical Physics*, **1984**, 81, 4474-4480	3.9	44
152	Production of optically trapped RbCs87 Feshbach molecules. *Physical Review A*, **2014**, 89,	2.6	43
151	The atom-surface interaction potential for He-NaCl: A model based on pairwise additivity. *Surface Science*, **1986**, 173, 337-350	1.8	43
150	High resolution radiofrequency spectroscopy of Ar???HCl. *Journal of Chemical Physics*, **1981**, 74, 6520-6521	3.9	43
149	Observation of Feshbach resonances between alkali and closed-shell atoms. *Nature Physics*, **2018**, 14, 881-884	16.2	42
148	Modeling sympathetic cooling of molecules by ultracold atoms. *Physical Review A*, **2015**, 92,	2.6	41
147	Non-additive intermolecular forces from the spectroscopy of van der Waals trimers: far-infrared spectra and calculations on Ar2-DCl. *Molecular Physics*, **1994**, 81, 579-598	1.7	41
146	Predissociation of HD Ar van der Waals molecules by internal rotation. *Journal of Chemical Physics*, **1983**, 78, 4040-4043	3.9	41
145	The potential energy surface of He HCN determined by fitting to high-resolution spectroscopic data. *Journal of Chemical Physics*, **1996**, 105, 440-450	3.9	40
144	Ultracold polar molecules as qudits. *New Journal of Physics*, **2020**, 22, 013027	2.9	40
143	Rotationally inelastic scattering in CH4+He, Ne, and Ar: State-to-state cross sections via direct infrared laser absorption in crossed supersonic jets. *Journal of Chemical Physics*, **1996**, 105, 3497-3516	3.9	39

142	Atom-spherical top van der Waals complexes: A theoretical study. *Journal of Chemical Physics*, **1994**, 100, 2505-2521	3.9	39
141	Prospects for sympathetic cooling of polar molecules: NH with alkali-metal and alkaline-earth atoms--a new hope. *Faraday Discussions*, **2009**, 142, 191-201; discussion 221-55	3.6	38
140	Manipulating ultracold polar molecules with microwave radiation: The influence of hyperfine structure. *Physical Review A*, **2009**, 80,	2.6	37
139	The potential energy surface and near-dissociation states of He-H2+. *Journal of Chemical Physics*, **1999**, 110, 3418-3427	3.9	37
138	Cold and ultracold NH-NH collisions in magnetic fields. *Physical Review A*, **2011**, 83,	2.6	36
137	The prospects of sympathetic cooling of NH molecules with Li atoms. *European Physical Journal D*, **2011**, 65, 151-160	1.3	36
136	Stimulating the production of deeply bound RbCs molecules with laser pulses: the role of spin□rbit coupling in forming ultracold molecules. *New Journal of Physics*, **2009**, 11, 055011	2.9	35
135	Interaction between LiH molecule and Li atom from state-of-the-art electronic structure calculations. *Journal of Chemical Physics*, **2011**, 134, 114109	3.9	35
134	Prospects for producing ultracold NH3 molecules by sympathetic cooling: A survey of interaction potentials. *Physical Review A*, **2008**, 78,	2.6	34
133	molscat: A program for non-reactive quantum scattering calculations on atomic and molecular collisions. *Computer Physics Communications*, **2019**, 241, 9-18	4.2	33
132	Cold collisions of N (4S) atoms and NH (3)□molecules in magnetic fields. *Physical Chemistry Chemical Physics*, **2011**, 13, 3669-80	3.6	33
131	Avoided crossings between bound states of ultracold cesium dimers. *Physical Review A*, **2008**, 78,	2.6	33
130	Multichannel quantum defect theory for cold molecular collisions. *Physical Review A*, **2011**, 84,	2.6	32
129	Calculating nuclear quadrupole coupling constants for van der Waals complexes. *Molecular Physics*, **1995**, 84, 185-199	1.7	32
128	Controlling the rotational and hyperfine state of ultracold Rb87Cs133 molecules. *Physical Review A*, **2016**, 94,	2.6	31
127	Observation of a microwave spectrum of the long-range He □H2+ complex. *Chemical Physics Letters*, **1996**, 260, 395-405	2.5	31
126	Hyperfine energy levels of alkali-metal dimers: Ground-state homonuclear molecules in magnetic fields. *Physical Review A*, **2009**, 79,	2.6	30
125	Long range intermolecular forces in triatomic systems: connecting the atom□diatom and atom□tom□tom representations. *Molecular Physics*, **2006**, 104, 23-31	1.7	30

124	Vibrational relaxation of CO (v=1) by inelastic collisions with 3He and 4He. *Journal of Chemical Physics*, **1995**, 103, 2528-2537	3.9	29
123	Prospects for sympathetic cooling of molecules in electrostatic, ac and microwave traps. *European Physical Journal D*, **2011**, 65, 141-149	1.3	28
122	Regular and irregular vibrational states: Localized anharmonic modes in Ar3. *Journal of Chemical Physics*, **1999**, 110, 902-911	3.9	28
121	The intermolecular potential of Ar-acetylene. Information from infrared and microwave spectroscopy. *Chemical Physics Letters*, **1992**, 198, 1-8	2.5	28
120	Microwave Shielding of Ultracold Polar Molecules. *Physical Review Letters*, **2018**, 121, 163401	7.4	28
119	Nonadditive intermolecular forces in ArnHF van der Waals clusters: Effects on the HF vibrational frequency shift. *Journal of Chemical Physics*, **1999**, 111, 8378-8383	3.9	27
118	Calculations of the spectra of rare gas dimers and trimers: Implications for additive and nonadditive intermolecular forces in Ne2Ar, Ne2Kr, Ne2Xe, Ar2Ne, Ar3, Ar2Kr and Ar2Xe. *Journal of Chemical Physics*, **1995**, 103, 3386-3391	3.9	27
117	Microwave spectroscopy and interaction potential of the long-range He?Kr+ ion: An example of Hund's case (e). *Journal of Chemical Physics*, **1996**, 105, 8602-8614	3.9	27
116	Dramatic reductions in inelastic cross sections for ultracold collisions near Feshbach resonances. *Physical Review Letters*, **2009**, 103, 163201	7.4	26
115	Line shape, transport and relaxation properties from intermolecular potential energy surfaces: The test case of CO2Ar. *Journal of Chemical Physics*, **1997**, 107, 1824-1834	3.9	26
114	Microwave electronic spectrum of the Ne?Ne+ long-range complex: The interaction potential. *Journal of Chemical Physics*, **2002**, 116, 3662-3669	3.9	26
113	Coupled channel bound state calculations: Calculating expectation values without wavefunctions. *Chemical Physics Letters*, **1988**, 151, 565-569	2.5	26
112	Use of calculated centrifugal distortion constants (D, H, L and M) in the analysis of the B <- X system of I2. *Journal of Molecular Spectroscopy*, **1982**, 96, 266-278	1.3	26
111	Feshbach resonances in ultracold 85Rb. *Physical Review A*, **2013**, 87,	2.6	25
110	Chemistry. Ultracold chemistry. *Science*, **2010**, 327, 788-9	33.3	25
109	Intermolecular potential energy surfaces and bound states in FHF. *Journal of Chemical Physics*, **2000**, 112, 592-600	3.9	25
108	Bound-state wave functions from coupled channel calculations using log-derivative propagators: Application to spectroscopic intensities in ArHF. *Journal of Chemical Physics*, **1994**, 101, 5578-5584	3.9	25
107	The secular equation/perturbation theory method for calculating spectra of van der Waals complexes. *Journal of Chemical Physics*, **1985**, 83, 1197-1203	3.9	25

106	Hyperfine structure of alkali-metal diatomic molecules. *Physical Review A*, **2017**, 96,	2.6	24
105	Calculating energy levels of isomerizing tetra-atomic molecules. I. The rovibrational bound states of Ar2HF. *Journal of Chemical Physics*, **2003**, 118, 4896-4904	3.9	24
104	Physical origin of oscillations in the three-dimensional collision amplitudes of heavy□ight□eavy systems. Semiclassical quantization of chaotic scattering. *Journal of Chemical Physics*, **1993**, 98, 3929-3944	3.9	24
103	The augmented secular equation method for calculating spectra of van der Waals complexes. Application to the infrared spectrum of Ar□HCl. *Journal of the Chemical Society, Faraday Transactions 2*, **1986**, 82, 1163-1171		24
102	Robust entangling gate for polar molecules using magnetic and microwave fields. *Physical Review A* , **2020**, 101,	2.6	23
101	ac Stark effect in ultracold polar Rb87Cs133 molecules. *Physical Review A*, **2017**, 96,	2.6	23
100	Contrasting the wide Feshbach resonances in Li6 and Li7. *Physical Review A*, **2014**, 89,	2.6	23
99	On the choice of inertial axes for interpreting spectroscopic properties of van der Waals complexes. *Journal of Chemical Physics*, **1994**, 101, 5438-5440	3.9	23
98	Non-additive intermolecular forces from the spectroscopy of Van der Waals trimers: the effect of monomer vibrational excitation in Ar2□HF and Ar2□HCl. *Faraday Discussions*, **1994**, 97, 119-129	3.6	23
97	Effective-range approximations for resonant scattering of cold atoms. *Physical Review A*, **2014**, 89,	2.6	22
96	Large-amplitude quantum mechanics in polyatomic hydrides. II. A particle-on-a-sphere model for XH(n) (n=4,5). *Journal of Chemical Physics*, **2008**, 128, 094306	3.9	22
95	Potential energy surfaces and bound states for the open-shell van der Waals cluster Br□HF. *Journal of Chemical Physics*, **2003**, 119, 8873-8881	3.9	22
94	A semiempirical model for atom-surface dispersion coefficients. *Surface Science*, **1986**, 165, 289-302	1.8	22
93	Feshbach spectroscopy of an ultracold mixture of 85Rb and 133Cs. *Physical Review A*, **2013**, 87,	2.6	21
92	Quadrupolar contributions to the atom-surface Van Der Waals interaction. *Surface Science*, **1986**, 175, L775-L781	1.8	21
91	Cold atomic and molecular collisions: approaching the universal loss regime. *New Journal of Physics*, **2015**, 17, 045019	2.9	20
90	Three-body parameter for Efimov states in Li6. *Physical Review A*, **2014**, 90,	2.6	20
89	Magnetically tunable Feshbach resonances in Li+Yb(3PJ). *Physical Review A*, **2013**, 88,	2.6	20

88	Effect of hyperfine interactions on ultracold molecular collisions: NH(3Σ−) with Mg(1S) in magnetic fields. *Physical Review A*, **2011**, 84,	2.6	20
87	On the coupled-channel calculation of bound states for trimeric systems using hyperspherical coordinates. *Journal of Chemical Physics*, **1989**, 91, 4197-4203	3.9	20
86	Coupled channel calculations on the vibrational predissociation of the ethylene dimer. *Chemical Physics Letters*, **1986**, 125, 477-480	2.5	20
85	Close-coupling calculations of transport and relaxation cross sections for H2 in Ar. *Journal of Chemical Physics*, **1987**, 86, 854-857	3.9	20
84	Potential energy surfaces and properties of the BrHBr complex. *Physical Chemistry Chemical Physics*, **2000**, 2, 441-446	3.6	19
83	Observation of interspecies Feshbach resonances in an ultracold K39Cs133 mixture and refinement of interaction potentials. *Physical Review A*, **2017**, 95,	2.6	18
82	Approach to chaos in ultracold atomic and molecular physics: Statistics of near-threshold bound states for Li+CaH and Li+CaF. *Physical Review A*, **2016**, 93,	2.6	18
81	Feshbach resonances, molecular bound states, and prospects of ultracold-molecule formation in mixtures of ultracold K and Cs. *Physical Review A*, **2014**, 90,	2.6	18
80	Cold and ultracold NH-NH collisions: the field-free case. *Journal of Chemical Physics*, **2011**, 134, 124309	3.9	18
79	A comparison of the vibrational predissociation rates in the rare-gas–ethylene clusters. *Journal of the Chemical Society, Faraday Transactions 2*, **1987**, 83, 1719-1731		18
78	Very low-energy scattering of helium atoms from crystal surfaces. A quantitative comparison between experiment and theory. *Faraday Discussions of the Chemical Society*, **1985**, 80, 47		18
77	Dynamics of physisorption for the H2,D2?Cu(100) and H2?Ag(111) systems. *Surface Science*, **1986**, 169, 451-469	1.8	18
76	Accidental predissociation in lithium dimer: A theoretical investigation. *Chemical Physics Letters*, **1982**, 86, 472-476	2.5	18
75	Production of Ultracold Rb Cs in the Absolute Ground State: Complete Characterisation of the Stimulated Raman Adiabatic Passage Transfer. *ChemPhysChem*, **2016**, 17, 3811-3817	3.2	18
74	Forming a Single Molecule by Magnetoassociation in an Optical Tweezer. *Physical Review Letters*, **2020**, 124, 253401	7.4	17
73	Deviations from Born-Oppenheimer mass scaling in spectroscopy and ultracold molecular physics. *Journal of Molecular Spectroscopy*, **2016**, 330, 43-56	1.3	17
72	Hyperfine structure in the microwave spectra of ultracold polar molecules. *New Journal of Physics*, **2010**, 12, 043015	2.9	17
71	Ar(n)HF van der Waals clusters revisited: II. Energetics and HF vibrational frequency shifts from diffusion Monte Carlo calculations on additive and nonadditive potential-energy surfaces for n=1-12. *Journal of Chemical Physics*, **2005**, 123, 054305	3.9	17

70	Two-photon photoassociation spectroscopy of CsYb: Ground-state interaction potential and interspecies scattering lengths. *Physical Review A*, **2018**, 98,	2.6	17
69	Production of ultracold Cs*Yb molecules by photoassociation. *Physical Review A*, **2018**, 97,	2.6	17
68	Long Rotational Coherence Times of Molecules in a Magnetic Trap. *Physical Review Letters*, **2020**, 124, 063001	7.4	15
67	A new direct infrared laser absorption method for state-to-state rotational energy transfer in crossed supersonic jets: Experimental results and quantum scattering analysis for Ar+CH4. *Journal of Chemical Physics*, **1993**, 98, 9513-9521	3.9	15
66	Wavepacket calculations of femtosecond pump-probe experiments on the sodium trimer. *The Journal of Physical Chemistry*, **1994**, 98, 11428-11438		15
65	bound and field: Programs for calculating bound states of interacting pairs of atoms and molecules. *Computer Physics Communications*, **2019**, 241, 1-8	4.2	14
64	Interspecies thermalization in an ultracold mixture of Cs and Yb in an optical trap. *Physical Review A* , **2017**, 96,	2.6	14
63	Conical intersections in laboratory coordinates with ultracold molecules. *Physical Review Letters*, **2009**, 103, 083201	7.4	14
62	A failing of coupled-states calculations for inelastic and pressure-broadening cross sections: Calculations on CO2Ar. *Journal of Chemical Physics*, **1999**, 111, 5824-5828	3.9	14
61	Vibrational predissociation of the ethylene dimer. *Faraday Discussions of the Chemical Society*, **1986**, 82, 327		14
60	Quantum chaos in ultracold collisions between Yb(1S0) and Yb(3P2). *Physical Review A*, **2016**, 93,	2.6	13
59	Energy corrected sudden calculations of linewidths and line shapes based on coupled states cross sections: The test case of CO2Argon. *Journal of Chemical Physics*, **1998**, 109, 6338-6345	3.9	13
58	Single-step methods for calculating activation parameters from raw kinetic data. *Journal of the Chemical Society Perkin Transactions II*, **1988**, 363		13
57	Collisions between Ultracold Molecules and Atoms in a Magnetic Trap. *Physical Review Letters*, **2021**, 126, 153401	7.4	13
56	Ultracold hydrogen atoms: a versatile coolant to produce ultracold molecules. *Physical Review Letters*, **2013**, 111, 203004	7.4	12
55	Calculations of line width and shift cross sections for HC1 in Ar. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **1995**, 53, 153-164	2.1	12
54	Clusters containing open-shell molecules. II. Equilibrium structures of ArnOH Van der Waals clusters (X2n=1 to 15). *Journal of Chemical Physics*, **2002**, 117, 4777-4786	3.9	11
53	Clusters containing open-shell molecules: minimum-energy structures and low-lying isomers of ArnCH (X 2 pi), n = 1 to 15. *Faraday Discussions*, **2001**, 405-17; discussion 419-31	3.6	11

52	A systematic model potential for Li+-H2O. *Molecular Physics*, **1995**, 84, 879-898	1.7	11
51	Intermolecular potential energy surfaces for Kr–HCl and Ar–HBr. *Chemical Physics Letters*, **1980**, 73, 218-223	2.3	11
50	Direct summation over vibrational levels: -doubling in HF+. *Journal of Chemical Physics*, **1981**, 75, 4502-4506	3.9	11
49	Total differential cross sections for Ar–H4 from an ab initio potential. *Journal of Chemical Physics*, **1998**, 108, 4849-4853	3.9	10
48	Exact and approximate calculations for the effect of potential anisotropy on integral and differential cross-sections: Ar–2 rotationally inelastic scattering. *Journal of the Chemical Society, Faraday Transactions*, **1990**, 86, 1649-1657		10
47	Hyperfine structure of 2-molecules containing alkaline-earth-metal atoms. *Physical Review A*, **2018**, 97,	2.6	9
46	Measurement of the binding energy of ultracold Rb87Cs133 molecules using an offset-free optical frequency comb. *Physical Review A*, **2016**, 94,	2.6	9
45	Collision cross sections for the thermalization of cold gases. *Physical Review A*, **2014**, 89,	2.6	9
44	Optimized multichannel quantum defect theory for cold molecular collisions. *Physical Review A*, **2012**, 86,	2.6	9
43	Ab initio potential energy surfaces, bound states, and electronic spectrum of the Ar-SH complex. *Journal of Chemical Physics*, **2006**, 125, 184312	3.9	9
42	Creating Feshbach resonances for ultracold molecule formation with radio-frequency fields. *Physical Review A*, **2016**, 94,	2.6	9
41	Predictions of microwave and far-infrared transitions in He-H+2. *Monthly Notices of the Royal Astronomical Society*, **1999**, 302, 790-792	4.3	8
40	A classical trajectory study of Ar+Ar2 collisions: Phase space structures in three degrees of freedom. *Journal of Chemical Physics*, **1995**, 103, 9218-9227	3.9	8
39	Characterizing Feshbach resonances in ultracold scattering calculations. *Physical Review A*, **2017**, 96,	2.6	7
38	Magnetic Feshbach resonances in ultracold collisions between Cs and Yb atoms. *Physical Review A*, **2019**, 100,	2.6	7
37	Sympathetic cooling of fluorine atoms with ultracold atomic hydrogen. *Physical Review A*, **2013**, 88,	2.6	6
36	Clusters containing open-shell molecules. III. Quantum five-dimensional/two-surface bound-state calculations on ArnOH van der Waals clusters (X2-n=4 to 12). *Journal of Chemical Physics*, **2002**, 117, 4787-4799	3.9	6
35	Preparation of one 87Rb and one 133Cs atom in a single optical tweezer. *New Journal of Physics*, **2021**, 23, 065002	2.9	6

34	Cold collisions of an open-shell S-state atom with a 2Π molecule: N(4S) colliding with OH in a magnetic field. *Physical Chemistry Chemical Physics*, **2011**, 13, 19077-88	3.6	5
33	Regular and irregular vibrational states: Localized anharmonic modes and transition-state spectroscopy of Na3. *Journal of Chemical Physics*, **2000**, 112, 3214-3219	3.9	5
32	Magnetic Feshbach resonances in collisions of ^{23}Na^{40}K with ^{40}K. *New Journal of Physics*,	2.9	5
31	Controlling the ac Stark effect of RbCs with dc electric and magnetic fields. *Physical Review A*, **2020**, 102,	2.6	5
30	Optically induced conical intersections in traps for ultracold atoms and molecules. *Physical Review A*, **2011**, 84,	2.6	4
29	Near-dissociation states and coupled potential curves for the HeN+ complex. *Journal of Chemical Physics*, **2002**, 117, 3109-3119	3.9	4
28	Time delays in ultracold atomic and molecular collisions. *Physical Review Research*, **2019**, 1,	3.9	4
27	Observation of Efimov Universality across a Nonuniversal Feshbach Resonance in ^{39}K. *Physical Review Letters*, **2020**, 125, 243401	7.4	4
26	Microwave shielding of ultracold polar molecules with imperfectly circular polarization. *Physical Review A*, **2019**, 100,	2.6	4
25	Robust storage qubits in ultracold polar molecules. *Nature Physics*,	16.2	4
24	Lee-Huang-Yang effects in the ultracold mixture of Na23 and Rb87 with attractive interspecies interactions. *Physical Review Research*, **2021**, 3,	3.9	4
23	Inelastic losses in radio-frequency-dressed traps for ultracold atoms. *Physical Review A*, **2017**, 96,	2.6	3
22	Ultracold collisions of Cs atoms in excited Zeeman and hyperfine states. *Physical Review A*, **2019**, 100,	2.6	3
21	Multichannel quantum defect theory for cold molecular collisions with a strongly anisotropic potential energy surface. *Physical Review A*, **2013**, 87,	2.6	3
20	Atomic Clock Measurements of Quantum Scattering Phase Shifts Spanning Feshbach Resonances at Ultralow Fields. *Physical Review Letters*, **2017**, 119, 113401	7.4	3
19	Reactions between cold methyl halide molecules and alkali-metal atoms. *Journal of Chemical Physics*, **2014**, 140, 014303	3.9	3
18	The influence of the ionisation potential on the simulated ion signal from femtosecond pump-probe experiments. *Chemical Physics Letters*, **1995**, 236, 547-552	2.5	3
17	Properties of H+2 relevant to the He-H2 intermolecular potential: asymptotically increasing multipole moments, polarizabilities and dispersion coefficients. *Molecular Physics*, **1999**, 96, 457-462	1.7	3

16	Prospects of Forming High-Spin Polar Molecules from Ultracold Atoms. *Physical Review X*, **2020**, 10,	9.1	3
15	Microwave coherent control of ultracold ground-state molecules formed by short-range photoassociation. *Physical Chemistry Chemical Physics*, **2020**, 22, 13002-13007	3.6	2
14	A quadrature scheme for matrix elements between numerical wavefunctions. *Journal of Computational Physics*, **1984**, 56, 165-172	4.1	2
13	Characterizing quasibound states and scattering resonances. *Physical Review Research*, **2020**, 2,	3.9	2
12	Molecule-molecule and atom-molecule collisions with ultracold RbCs molecules. *New Journal of Physics*,	2.9	2
11	Near-threshold bound states of the dipole-dipole interaction. *Physical Review A*, **2018**, 98,	2.6	2
10	Collisions in a dual-species magneto-optical trap of molecules and atoms. *New Journal of Physics*, **2021**, 23, 075004	2.9	2
9	Complexes formed in collisions between ultracold alkali-metal diatomic molecules and atoms. *New Journal of Physics*, **2021**, 23, 125008	2.9	2
8	Properties of H+ 2 relevant to the HeH+ 2 intermolecular potential: asymptotically increasing multipole moments, polarizabilities and dispersion coefficients. *Molecular Physics*, **1999**, 96, 457-462	1.7	1
7	Quadrupolar contributions to the atom-surface Van der Waals interaction. *Surface Science Letters*, **1986**, 175, L775-L781		1
6	Phase Space Structures in 3 and 4 Degrees of Freedom: Application to Chemical Reactions **1999**, 295-299		1
5	Anisotropic intermolecular forces. I. Rare gas–hydrogen chloride systems. *Molecular Physics*, **2002**, 100, 151-164	1.7	
4	Ultracold collisions in the Yb-Li mixture system. *Journal of Physics: Conference Series*, **2020**, 1412, 062005	0.3	
3	Dynamics of Van der Waals Complexes: Beyond Atom-Diatom Systems. *NATO ASI Series Series B: Physics*, **1990**, 67-79		
2	Classical Path Methods for Lineshape Cross Sections **1992**, 57-72		
1	Toward a coherent ultracold chemistry.. *Science*, **2022**, 375, 975-976	33.3	