

Brian K Kendrick

List of Publications by Year in descending order

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69
papers

2,319
citations

201674

27
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223800

46
g-index

74
all docs

74
docs citations

74
times ranked

960
citing authors

#	ARTICLE	IF	CITATIONS
1	Metastable states of ozone calculated on an accurate potential energy surface. <i>Journal of Chemical Physics</i> , 2003, 118, 6298-6308.	3.0	125
2	Geometric Phase Effects in Chemical Reaction Dynamics and Molecular Spectra. <i>Journal of Physical Chemistry A</i> , 2003, 107, 6739-6756.	2.5	112
3	Formation of ozone: Metastable states and anomalous isotope effect. <i>Journal of Chemical Physics</i> , 2003, 119, 2577-2589.	3.0	99
4	Geometric phase effects in the H+D ₂ ⁺ HD+D reaction. <i>Journal of Chemical Physics</i> , 2000, 112, 5679-5704.	3.0	96
5	Hyperspherical surface functions for nonzero total angular momentum. I. Eckart singularities. <i>Journal of Chemical Physics</i> , 1999, 110, 6673-6693.	3.0	94
6	A new method for solving the quantum hydrodynamic equations of motion. <i>Journal of Chemical Physics</i> , 2003, 119, 5805-5817.	3.0	93
7	Properties of nonadiabatic couplings and the generalized Born-Oppenheimer approximation. <i>Chemical Physics</i> , 2002, 277, 31-41.	1.9	92
8	How Reactants Polarization Can Be Used to Change and Unravel Chemical Reactivity. <i>Journal of Physical Chemistry A</i> , 2005, 109, 6200-6217.	2.5	90
9	Quantum reactive scattering calculations for the D+H ₂ ⁺ HD+H reaction. <i>Journal of Chemical Physics</i> , 2003, 118, 10502-10522.	3.0	74
10	Cyclic-N3. II. Significant geometric phase effects in the vibrational spectra. <i>Journal of Chemical Physics</i> , 2005, 122, 044315.	3.0	74
11	Three-body collision contributions to recombination and collision-induced dissociation. I. Cross sections. <i>Journal of Chemical Physics</i> , 1998, 109, 6701-6713.	3.0	73
12	The geometric phase controls ultracold chemistry. <i>Nature Communications</i> , 2015, 6, 7918.	12.8	70
13	Quantum reactive scattering calculations for the H+D ₂ ⁺ HD+D reaction. <i>Journal of Chemical Physics</i> , 2001, 114, 8796-8819.	3.0	65
14	Accurate quantum calculations on three-body collisions in recombination and collision-induced dissociation. I. Converged probabilities for the H+Ne ₂ system. <i>Journal of Chemical Physics</i> , 2002, 117, 6083-6102.	3.0	58
15	Universality and chaoticity in ultracold K+KRb chemical reactions. <i>Nature Communications</i> , 2017, 8, 15897.	12.8	56
16	Geometric Phase Appears in the Ultracold Hydrogen Exchange Reaction. <i>Physical Review Letters</i> , 2015, 115, 153201.	7.8	52
17	Three-body collision contributions to recombination and collision-induced dissociation. II. Kinetics. <i>Journal of Chemical Physics</i> , 1998, 109, 6714-6724.	3.0	49
18	A new method for solving the quantum hydrodynamic equations of motion: Application to two-dimensional reactive scattering. <i>Journal of Chemical Physics</i> , 2004, 120, 603-611.	3.0	48

#	ARTICLE	IF	CITATIONS
19	NON-BORN-OPPENHEIMER CHEMISTRY: POTENTIAL SURFACES, COUPLINGS, AND DYNAMICS. Advanced Series in Physical Chemistry, 2004, , 329-391.	1.5	47
20	Quantum hydrodynamics: Application to N-dimensional reactive scattering. Journal of Chemical Physics, 2004, 121, 2471.	3.0	37
21	Quantum dynamics of the O+OH $\hat{\dagger}$ H+O ₂ reaction at low temperatures. Journal of Chemical Physics, 2008, 129, 224309.	3.0	36
22	Constructive and Destructive Interference in Nonadiabatic Tunneling via Conical Intersections. Journal of Chemical Theory and Computation, 2017, 13, 1902-1910.	5.3	34
23	Non-adiabatic quantum reactive scattering in hyperspherical coordinates. Journal of Chemical Physics, 2018, 148, 044116.	3.0	32
24	Observation of Predicted Resonance Structure in the H+D ₂ $\hat{\dagger}$ HD($\nu=0, j=7$)+D Reaction at a Collision Energy of 0.94 eV. Physical Review Letters, 2000, 84, 4325-4328.	7.8	31
25	Formation of molecular oxygen in ultracold $O + O \rightarrow O_2$ collisions. Physical Review A, 2000, 79, .	2.5	30
26	Ultracold chemistry with alkali-metal-rare-earth molecules. Physical Review A, 2015, 91, .	2.5	29
27	Long-lived complexes and signatures of chaos in ultracold $K + Rb$ collisions. Physical Review A, 2017, 96, .	2.5	28
28	On the nonexistence of strictly diabatic molecular electronic bases. Chemical Physics Letters, 2000, 330, 629-632.	2.6	26
29	Non-adiabatic quantum interference in the ultracold $Li + LiNa \hat{\dagger} Li_2 + Na$ reaction. Physical Chemistry Chemical Physics, 2021, 23, 5096-5112.	2.8	25
30	Quantum dynamics of the H+O ₂ $\hat{\dagger}$ O+OH reaction. Journal of Chemical Physics, 2010, 132, 014302.	3.0	24
31	Calculation of Molecular Vibrational Spectra on a Quantum Annealer. Journal of Chemical Theory and Computation, 2019, 15, 4555-4563.	5.3	24
32	Geometric phase effects in the ultracold H + H ₂ reaction. Journal of Chemical Physics, 2016, 145, 164303.	3.0	23
33	Analysis of the H + D ₂ reaction mechanism through consideration of the intrinsic reactant polarisation. Physical Chemistry Chemical Physics, 2006, 8, 4881-4896.	2.8	21
34	Ultracold collisions and reactions of vibrationally excited OH radicals with oxygen atoms. Physical Chemistry Chemical Physics, 2011, 13, 19067.	2.8	21
35	Transition of $O + O \rightarrow O_2$ collisions. Physical Review A, 2000, 79, .		
36	Quantum hydrodynamics: Capturing a reactive scattering resonance. Journal of Chemical Physics, 2005, 123, 054107.	3.0	19

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37	Geometric phase effects in ultracold hydrogen exchange reaction. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 194004.	1.5	19
38	Importance of Geometric Phase Effects in Ultracold Chemistry. Journal of Physical Chemistry A, 2015, 119, 12291-12303.	2.5	18
39	Electronic structure with direct diagonalization on a D-wave quantum annealer. Scientific Reports, 2020, 10, 20753.	3.3	18
40	Mechanisms of atomic and molecular recombination and collision-induced dissociation. Chemical Physics Letters, 1997, 276, 255-262.	2.6	17
41	Comment on "On the Longuet-Higgins phase and its relation to the electronic adiabatic-diabatic transformation angle". J. Chem. Phys. 107, 2694 (1997). Journal of Chemical Physics, 1999, 110, 7594-7597.	3.0	17
42	Time-dependent wave packet propagation using quantum hydrodynamics. Theoretical Chemistry Accounts, 2012, 131, 1.	1.4	16
43	Chemical reaction versus vibrational quenching in low energy collisions of vibrationally excited OH with O. Journal of Chemical Physics, 2013, 139, 194305.	3.0	16
44	Solving complex eigenvalue problems on a quantum annealer with applications to quantum scattering resonances. Physical Chemistry Chemical Physics, 2020, 22, 26136-26144.	2.8	16
45	Computing molecular excited states on a D-Wave quantum annealer. Scientific Reports, 2021, 11, 18796.	3.3	16
46	Geometric phase effects in the ultracold $D + HD \rightarrow D + HD$ and $D + HD \rightarrow H + D_2$ reactions. New Journal of Physics, 2016, 18, 123020.	2.9	15
47	The infrared spectrum of cyclic-N3: Theoretical prediction. Journal of Chemical Physics, 2010, 133, 174310.	3.0	13
48	Proof-of-principle of high-fidelity coupled CRUD deposition and cycle depletion simulation. Annals of Nuclear Energy, 2015, 85, 1152-1166.	1.8	13
49	Symmetry and the geometric phase in ultracold hydrogen-exchange reactions. Journal of Chemical Physics, 2017, 147, 074302.	3.0	13
50	Non-adiabatic quantum reactive scattering calculations for the ultracold hydrogen exchange reaction: $H + H_2$ ($\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si71.gif" \rangle$)	1.9	13
51	Nonadiabatic Ultracold Quantum Reactive Scattering of Hydrogen with Vibrationally Excited HD ($\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si7.gif" \rangle$) = 5×10^{-9}). Journal of Physical Chemistry A, 2019, 123, 9919-9933.	2.5	13
52	An iterative finite difference method for solving the quantum hydrodynamic equations of motion. Computational and Theoretical Chemistry, 2010, 943, 158-167.	1.5	12
53	Ultracold collisions of O(1D) and H2: The effects of H2 vibrational excitation on the production of vibrationally and rotationally excited OH. Journal of Chemical Physics, 2013, 138, 164310.	3.0	12
54	Prediction of CRUD deposition on PWR fuel using a state-of-the-art CFD-based multi-physics computational tool. Nuclear Engineering and Design, 2016, 299, 95-104.	1.7	11

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55	The canonical and other mechanisms of elementary chemical reactions. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 5794.	2.8	10
56	The role of rotation-vibration coupling in symmetric and asymmetric isotopomers of ozone. <i>Journal of Chemical Physics</i> , 2020, 152, 144104.	3.0	10
57	Prediction of a Feshbach Resonance in the Below-the-Barrier Reactive Scattering of Vibrationally Excited HD with H. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4970-4975.	4.6	9
58	Theoretical Treatment of the Coriolis Effect Using Hyperspherical Coordinates, with Application to the Ro-Vibrational Spectrum of Ozone. <i>Journal of Physical Chemistry A</i> , 2020, 124, 2808-2819.	2.5	7
59	Quantum reactive scattering calculations for the cold and ultracold $\text{Li} + \text{LiNa} \rightarrow \text{Li}_2 + \text{Na}$ reaction. <i>Journal of Chemical Physics</i> , 2021, 154, 124303.	3.0	7
60	Quantum dynamics of $\text{O}(^1\text{D}) + \text{D}_2$ reaction: isotope and vibrational excitation effects. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 135202.	1.5	6
61	Mechanistic Insights into Ultracold Chemical Reactions under the Control of the Geometric Phase. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 2160-2165.	4.6	6
62	Sampling electronic structure quadratic unconstrained binary optimization problems (QUBOs) with Ocean and Mukai solvers. <i>PLoS ONE</i> , 2022, 17, e0263849.	2.5	5
63	Inelastic, exchange, and reactive processes in rovibrationally excited collisions of HD with H. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 507, 6012-6019.	4.4	4
64	Single-Parameter Quantification of the Sensitivity of a Molecular Collision to Molecular Polarization. <i>Journal of Physical Chemistry A</i> , 2009, 113, 14943-14951.	2.5	3
65	Geometric Phase Effects in Ultracold Chemical Reactions. <i>Atoms</i> , 2019, 7, 65.	1.6	3
66	On the use of stereodynamical effects to control cold chemical reactions: The $\text{H} + \text{D}_2 \rightarrow \text{D} + \text{HD}$ case study. <i>Journal of Chemical Physics</i> , 2022, 156, 044305.	3.0	3
67	Non-adiabatic quantum dynamics of the ultracold $\text{Li} + \text{LiNa} \rightarrow \text{Li}_2 + \text{Na}$ chemical reaction. <i>Journal of Physics: Conference Series</i> , 2020, 1412, 122016.	0.4	2
68	Three-dimensional potential energy surfaces of ArNO ($X^1\Sigma^+$). <i>Journal of Chemical Physics</i> , 2020, 152, 114302.	3.0	1
69	Geometric Phase and Interference Effects in Ultracold Chemical Reactions. <i>Progress in Theoretical Chemistry and Physics</i> , 2018, , 265-277.	0.2	0