Michael Baer

List of Publications by Citations

70 papers	3,865 citations	29 h-index	62 g-index
86 ext. papers	3,999 ext. citations	2.8 avg, IF	5.37 L-index

#	Paper	IF	Citations
70	The time-dependent Schrödinger equation: Application of absorbing boundary conditions. *Journal of Chemical Physics*, **1989**, 90, 4351-4355	3.9	470
69	Adiabatic and diabatic representations for atom-molecule collisions: Treatment of the collinear arrangement. *Chemical Physics Letters*, **1975**, 35, 112-118	2.5	385
68	**2006**,		362
67	Inhomogeneous RF Fields: A Versatile Tool for the Study of Processes with Slow Ions. *Advances in Chemical Physics*, **2007**, 1-176		314
66	The application of wave packets to reactive atom–diatom systems: A new approach. *Journal of Chemical Physics*, **1989**, 91, 4651-4657	3.9	226
65	Incorporation of electronically nonadiabatic effects into bimolecular reactive systems. I. Theory. *Journal of Chemical Physics*, **1977**, 66, 1363-1371	3.9	141
64	Electronic non-adiabatic transitions derivation of the general adiabatic-diabatic transformation matrix. *Molecular Physics*, **1980**, 40, 1011-1013	1.7	140
63	A study of conical intersection effects on scattering processes: The validity of adiabatic single-surface approximations within a quasi-Jahn–Teller model. *Journal of Chemical Physics*, **1996**, 105, 9141-9152	3.9	121
62	A study of the diabatic electronic representation within the Born-Oppenheimer approximation. *Molecular Physics*, **1992**, 75, 293-303	1.7	114
61	A three-dimensional quantum mechanical study of vibrationally resolved charge transfer processes in H++H2 at Ecm=20 eV. *Journal of Chemical Physics*, **1989**, 91, 4169-4182	3.9	104
60	Incorporation of electronically nonadiabatic effects into bimolecular reactive systems. II. The collinear (H2 + H+, H2+ + H) system. *Chemical Physics*, **1977**, 25, 1-18	2.3	87
59	Isotopic reactive systems H+Cl2 and D+Cl2. A quantum mechanical treatment of the collinear arrangement. *Journal of Chemical Physics*, **1974**, 60, 1057-1063	3.9	79
58	The Electronic Adiabatic-Diabatic Transformation Matrix: A Theoretical and Numerical Study of a Three-State System. *Journal of Physical Chemistry A*, **2000**, 104, 389-396	2.8	78
57	Nonadiabatic Interactions Between Potential Energy Surfaces: Theory and Applications. *Advances in Chemical Physics*,1-71		70
56	A Review of Quantum-Mechanical Approximate Treatments of Three-Body Reactive Systems. *Advances in Chemical Physics*, **2007**, 191-309		67
55	A modified Born-Oppenheimer equation: application to conical intersections and other types of singularities. *Chemical Physics Letters*, **1997**, 265, 105-108	2.5	62
54	Diabatic Potential Energy Surfaces for Charge-Transfer Processes. *Advances in Chemical Physics*, **2007**, 73-134		58

53	A three-dimensional quantum mechanical study of the H+H2+-H2+H+ system: Competition between chemical exchange and inelastic processes. *Journal of Chemical Physics*, **1997**, 107, 1451-1459	3.9	54
52	Applying Direct Molecular Dynamics to Non-Adiabatic Systems. *Advances in Chemical Physics*, **2003**, 355-431		50
51	The Classical Trajectory-Surface-Hopping Approach to Charge-Transfer Processes. *Advances in Chemical Physics*,423-483		47
50	A survey of ab initio conical intersections for the H+H2 system. *Journal of Chemical Physics*, **2003**, 118, 3052-3064	3.9	45
49	On phase factors and geometric phases in isotopes of H3: A line integral study. *Journal of Chemical Physics*, **2000**, 112, 2746-2751	3.9	45
48	Multiphoton Ionization State Selection: Vibrational-Mode and Rotational-State Control. *Advances in Chemical Physics*, **2007**, 177-212		43
47	Semiempirical three-dimensional potential energy surfaces suitable for both reaction channels of the XH2 system (X = F, Cl). *Journal of Chemical Physics*, **1981**, 75, 288-299	3.9	42
46	An exact quantum mechanical study of the isotopic collinear reactive systems H2 + Cl and D2 + Cl. *Molecular Physics*, **1974**, 27, 1429-1435	1.7	37
45	The application of negative imaginary arrangement decoupling potentials to reactive scattering: Conversion of a reactive scattering problem into a bound-type problem. *Journal of Chemical Physics* , **1992**, 96, 2017-2024	3.9	36
44	A quasiclassical trajectory study of the F+HH?FH+H reaction. *Journal of Chemical Physics*, **1983**, 78, 4414-4422	3.9	36
43	Exact quantum mechanical study of kinetic isotope effects in the collinear reaction Cl + H2 -HCl + H. The H2/D2 and the H2/T2 isotope effects. *Journal of Chemical Physics*, **1974**, 60, 133-136	3.9	30
42	Conical intersections induced by the Renner effect in polyatomic molecules. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F267-F272	2	29
41	Electronic non-adiabatic transitions in the reaction Ar++H2(vi =0)-ArH++H. *Molecular Physics*, **1978**, 35, 1637-1648	1.7	29
40	Ab initio non-adiabatic coupling elements: the conical intersection between the 22A? and the 32A? of the H+H2 system. *Chemical Physics Letters*, **2002**, 358, 163-169	2.5	28
39	Proton Energy Loss Spectroscopy as a State-to-State Probe of Molecular Dynamics. *Advances in Chemical Physics*, **2007**, 553-647		27
38	Infinite order sudden approximation for reactive scattering within classical mechanics. I. Theory. *Journal of Chemical Physics*, **1982**, 76, 4883-4892	3.9	27
37	A study of degenerate vibronic coupling effects on scattering processes: are resonances affected by degenerate vibronic coupling?. *Chemical Physics Letters*, **1997**, 265, 629-637	2.5	25
36	Non-Adiabatic Effects in Chemical Reactions: Extended Born-Oppenheimer Equations and its Applications. *Advances in Chemical Physics*, **2003**, 143-196		25

35	Arrangement channel approach to atom□diatom reactive systems: Theory and accurate three-dimensional probabilities for the H+H2 system. *Journal of Chemical Physics*, **1989**, 90, 3043-3054	3.9	23
34	BKLT equations for reactive scattering. I. Theory and application to three finite mass atom systems. *Journal of Chemical Physics*, **1983**, 78, 6666-6679	3.9	22
33	The Semiclassical Time-Dependent Approach to Charge-Transfer Processes. *Advances in Chemical Physics*,321-421		22
32	State-Selected and State-to-State Ion-Molecular Reaction Dynamics by Photoionization and Differential Reactivity Methods. *Advances in Chemical Physics*, **2007**, 401-500		21
31	Some properties of electronic non-adiabatic coupling terms. *Molecular Physics*, **2002**, 100, 1011-1015	1.7	20
30	Control of Transition-Metal Cation Reactivity by Electronic State Selection. *Advances in Chemical Physics*, **2007**, 213-262		18
29	State Selected Charge Transfer and Chemical Reactions by the Tesico Technique. *Advances in Chemical Physics*, **2007**, 263-307		16
28	Semiclassical Approach to Charge-Transfer Processes in Ion-Molecule Collisions. *Advances in Chemical Physics*,243-319		16
27	Statistical Aspects of Ion-Molecule Reactions. *Advances in Chemical Physics*,485-529		16
26	On the Conical Intersection and the Possibility of a New Assignment for Molecular Systems□ *Journal of Physical Chemistry A*, **2001**, 105, 2198-2208	2.8	14
25	The adiabatic-to-diabatic transformation angle and the berry phase for coupled jahn□eller/renner□eller systems: The F + H2 as a case study. *International Journal of Quantum Chemistry*, **2012**, 112, 2561-2570	2.1	13
24	Quantum-Mechanical Treatment for Charge-Transfer Processes in Ion-Molecule Collisions. *Advances in Chemical Physics*,187-241		13
23	Curl equations as substratum for the derivation of the electronic nonadiabatic coupling terms. *International Journal of Quantum Chemistry*, **2002**, 90, 1577-1585	2.1	12
22	Complex States of Simple Molecular Systems. *Advances in Chemical Physics*, **2003**, 197-282		11
21	Trajectory studies within the framework of the infinite order sudden approximation for the F+H2-HF+H reaction. *Journal of Chemical Physics*, **1983**, 78, 4494-4501	3.9	11
20	Model Potential Energy Surfaces for Inelastic and Charge-Transfer Processes in Ion-Molecule Collisions. *Advances in Chemical Physics*,135-186		10
19	Study of Topological Effects Concerning the Lowest A? and the Three AR States for the CO2(+) Ion. *Journal of Physical Chemistry A*, **2016**, 120, 2999-3008	2.8	8
18	Space-time contours to treat the interaction between an intense electric field and a molecular system. *Journal of Physical Chemistry A*, **2006**, 110, 6571-8	2.8	8

17	Topological study of the H3++ molecular system: H3++ as a cornerstone for building molecules during the Big Bang. *Molecular Physics*, **2018**, 116, 2435-2448	1.7	7
16	Topological studies related to molecular systems formed during the Big Bang: H3+ as an example. *International Journal of Quantum Chemistry*, **2019**, 119, e25949	2.1	6
15	H2 + photodissociation by an intense pulsed photonic Fock state. *Physical Review A*, **2010**, 81,	2.6	6
14	Multicoincidence Detection in Beam Studies of Ion-Molecule Reactions: Technique and Application to X- + h2 Reactions. *Advances in Chemical Physics*, **2007**, 309-399		6
13	Time-dependent molecular fields created by the interaction of an external electromagnetic field with a molecular system. *International Journal of Quantum Chemistry*, **2014**, 114, 1645-1659	2.1	5
12	Charge Transfer Processes for H + H Reaction Employing Coupled 3D Wavepacket Approach on Beyond Born-Oppenheimer Based Ab Initio Constructed Diabatic Potential Energy Surfaces. *Journal of Physical Chemistry A*, **2021**, 125, 731-745	2.8	5
11	Time-dependent molecular fields created by the interaction of an external electro-magnetic field with a molecular system: the derivation of the wave equations. *Molecular Physics*, **2016**, 114, 227-244	1.7	3
10	Crossed-Molecular Beam Studies of State-to-State Reaction Dynamics. *Advances in Chemical Physics* , **2007**, 501-552		3
9	Quantum Effects in Three-Dimensional H + D2 Reaction at High Energies. *Israel Journal of Chemistry* , **1989**, 29, 451-460	3.4	3
8	Kinetic modeling of rotational nonequilibrium in chemical lasers. A comparison of three models applied to the Cl2/HI/He system. *Journal of Applied Physics*, **1980**, 51, 130-141	2.5	3
7	Non-adiabatic coupling and conical intersection(s) between potential energy surfaces for HeH2+. *Molecular Physics*, **2020**, 118, e1683243	1.7	3
6	Non-adiabatic coupling as a frictional force in (He, H, H)+ dynamics and the formation of HeH2+. *Molecular Physics*, **2021**, 119, e1811907	1.7	3
5	Born-Oppenheimer Approach: Diabatization and Topological Matrix **2006**, 26-57		2
4	The special theory of relativity as applied to the Born□Oppenheimer□Huang approach. *Molecular Physics*, **2017**, 115, 1534-1543	1.7	1
3	Non-adiabatic coupling as a frictional force in the formation of H3+: a model dynamical study. *European Physical Journal D*, **2020**, 74, 1	1.3	0
2	Introducing time-dependent molecular fields: a new derivation of the wave equations. *European Physical Journal D*, **2018**, 72, 1	1.3	
1	HeH2+: structure and dynamics. *International Reviews in Physical Chemistry*, **2022**, 41, 49-93	7	