

# Horia Metiu

## List of Publications by Year in descending order

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343  
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docs citations

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times ranked

11575  
citing authors

#	ARTICLE	IF	CITATIONS
1	Catalysis by Doped Oxides. Chemical Reviews, 2013, 113, 4391-4427.	23.0	687
2	CO <sub>2</sub> methanation on Ru-doped ceria. Journal of Catalysis, 2011, 278, 297-309.	3.1	328
3	Catalysis by doped oxides: CO oxidation by Au/CeO <sub>2</sub> . Journal of Catalysis, 2007, 245, 205-214.	3.1	325
4	An efficient procedure for calculating the evolution of the wave function by fast Fourier transform methods for systems with spatially extended wave function and localized potential. Journal of Chemical Physics, 1987, 86, 5009-5017.	1.2	312
5	Catalytic molten metals for the direct conversion of methane to hydrogen and separable carbon. Science, 2017, 358, 917-921.	6.0	306
6	The interaction between electromagnetic resonances and its role in spectroscopic studies of molecules adsorbed on colloidal particles or metal spheres. Surface Science, 1981, 110, 189-204.	0.8	303
7	Chemistry of Lewis Acid-Base Pairs on Oxide Surfaces. Journal of Physical Chemistry C, 2012, 116, 10439-10450.	1.5	293
8	Choice of $\kappa$ for DFT+ $\kappa$ Calculations for Titanium Oxides. Journal of Physical Chemistry C, 2011, 115, 5841-5845.	1.5	264
9	The effects of the interaction between resonances in the electromagnetic response of a sphere-plane structure; applications to surface enhanced spectroscopy. Surface Science, 1983, 124, 506-528.	0.8	263
10	Oxygen adsorption on Au clusters and a rough Au(111) surface: The role of surface flatness, electron confinement, excess electrons, and band gap. Journal of Chemical Physics, 2003, 118, 4198-4205.	1.2	257
11	Where Does the Planar-to-Nonplanar Turnover Occur in Small Gold Clusters?. Journal of the American Chemical Society, 2005, 127, 1049-1052.	6.6	207
12	The adsorption of molecular oxygen on neutral and negative Au <sub>n</sub> clusters (n=2-5). Chemical Physics Letters, 2002, 359, 493-499.	1.2	202
13	Adsorption of gold on stoichiometric and reduced rutile TiO <sub>2</sub> (110) surfaces. Journal of Chemical Physics, 2003, 118, 6536-6551.	1.2	202
14	Methane complete and partial oxidation catalyzed by Pt-doped CeO <sub>2</sub> . Journal of Catalysis, 2010, 273, 125-137.	3.1	186
15	A strategy for time dependent quantum mechanical calculations using a Gaussian wave packet representation of the wave function. Journal of Chemical Physics, 1985, 83, 3009-3027.	1.2	174
16	Tailoring the Activity for Oxygen Evolution Electrocatalysis on Rutile TiO <sub>2</sub> (110) by Transition-Metal Substitution. ChemCatChem, 2011, 3, 1607-1611.	1.8	169
17	Laser-induced localization of an electron in a double-well quantum structure. Physical Review Letters, 1992, 69, 1986-1988.	2.9	161
18	Electronic Structure of Partially Reduced Rutile TiO <sub>2</sub> (110) Surface: Where Are the Unpaired Electrons Located?. Journal of Physical Chemistry C, 2011, 115, 4696-4705.	1.5	153

#	ARTICLE	IF	CITATIONS
19	Dry reforming of methane catalysed by molten metal alloys. <i>Nature Catalysis</i> , 2020, 3, 83-89.	16.1	153
20	A quantum mechanical study of predissociation dynamics of NaI excited by a femtosecond laser pulse. <i>Journal of Chemical Physics</i> , 1989, 90, 6116-6128.	1.2	145
21	The evolution of the wave function in a curve crossing problem computed by a fast Fourier transform method. <i>Journal of Chemical Physics</i> , 1988, 88, 4957-4966.	1.2	140
22	A surface Penning ionization study of the CO/Ni(111) system. <i>Journal of Chemical Physics</i> , 1983, 78, 4256-4269.	1.2	139
23	How the folding rate constant of simple, single-domain proteins depends on the number of native contacts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 3535-3539.	3.3	137
24	Classical theory of light scattering by an adsorbed molecule. I. Theory. <i>Journal of Chemical Physics</i> , 1979, 70, 1602-1613.	1.2	136
25	Structure and stability of the clathrates Ba <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> , Sr <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> , Ba <sub>8</sub> Ga <sub>16</sub> Si <sub>30</sub> , and Ba <sub>8</sub> In <sub>16</sub> Sn <sub>30</sub> . <i>Journal of Chemical Physics</i> , 2001, 114, 10063-10074.	1.2	136
26	Intact Size-Selected AunClusters on a TiO <sub>2</sub> (110)-(1 Å <sup>-1</sup> ) Surface at Room Temperature. <i>Journal of the American Chemical Society</i> , 2005, 127, 13516-13518.	6.6	136
27	Band structures and thermoelectric properties of the clathrates Ba <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> , Sr <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> , Ba <sub>8</sub> Ga <sub>16</sub> Si <sub>30</sub> , and Ba <sub>8</sub> In <sub>16</sub> Sn <sub>30</sub> . <i>Journal of Chemical Physics</i> , 2001, 115, 8060-8073.	1.2	134
28	Hydrodynamic theory for vibrational relaxation in liquids. <i>Physical Review A</i> , 1977, 15, 361-371.	1.0	132
29	Nonadiabatic effects on the charge transfer rate constant: A numerical study of a simple model system. <i>Journal of Chemical Physics</i> , 1995, 102, 9285-9295.	1.2	129
30	Why are Clathrates Good Candidates for Thermoelectric Materials?. <i>Journal of Solid State Chemistry</i> , 2000, 149, 455-458.	1.4	129
31	Molecular state evolution after excitation with an ultra-short laser pulse: A quantum analysis of NaI and NaBr dissociation. <i>Chemical Physics Letters</i> , 1988, 152, 1-7.	1.2	125
32	Room-temperature fluorescence characteristics of single dye molecules adsorbed on a glass surface. <i>Journal of Chemical Physics</i> , 1998, 109, 7474-7485.	1.2	125
33	Vacancy formation and CO adsorption on gold-doped ceria surfaces. <i>Surface Science</i> , 2008, 602, 2734-2742.	0.8	125
34	Why clathrates are good thermoelectrics: A theoretical study of Sr <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> . <i>Journal of Chemical Physics</i> , 1999, 111, 3133-3144.	1.2	123
35	Excess Proton Solvation and Delocalization in a Hydrophilic Pocket of the Proton Conducting Polymer Membrane Nafion. <i>Journal of Physical Chemistry B</i> , 2005, 109, 3727-3730.	1.2	122
36	Does phenomenological kinetics provide an adequate description of heterogeneous catalytic reactions?. <i>Journal of Chemical Physics</i> , 2007, 126, 204711.	1.2	120

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37	The interaction of oxygen with small gold clusters. Journal of Chemical Physics, 2003, 119, 2531-2537.	1.2	118
38	Effect of Dopants on the Energy of Oxygen-Vacancy Formation at the Surface of Ceria: Local or Global?. Journal of Physical Chemistry C, 2011, 115, 17898-17909.	1.5	118
39	CO Oxidation by Rutile TiO <sub>2</sub> (110) Doped with V, W, Cr, Mo, and Mn. Journal of Physical Chemistry C, 2008, 112, 12398-12408.	1.5	115
40	Catalysis by very small Au clusters. Current Opinion in Solid State and Materials Science, 2007, 11, 62-75.	5.6	113
41	O <sub>2</sub> evolution on a clean partially reduced rutile TiO <sub>2</sub> (110) surface and on the same surface precovered with Au <sub>1</sub> and Au <sub>2</sub> : The importance of spin conservation. Journal of Chemical Physics, 2008, 129, 074705.	1.2	113
42	Methane Pyrolysis with a Molten Cu-Bi Alloy Catalyst. ACS Catalysis, 2019, 9, 8337-8345.	5.5	112
43	The dynamics of H <sub>2</sub> dissociation on Ni(100): A quantum mechanical study of a restricted two-dimensional model. Journal of Chemical Physics, 1987, 86, 1026-1035.	1.2	109
44	Dynamics of phase separation of crystal surfaces. Physical Review B, 1993, 48, 5808-5817.	1.1	109
45	Stochastic theory of the kinetics of phase transitions. Journal of Chemical Physics, 1976, 64, 292-299.	1.2	107
46	Density Functional Study of the CO Oxidation on a Doped Rutile TiO <sub>2</sub> (110): Effect of Ionic Au in Catalysis. Catalysis Letters, 2006, 107, 143-147.	1.4	107
47	Properties of an electron in a quantum double well driven by a strong laser: Localization, low-frequency, and even-harmonic generation. Physical Review A, 1993, 47, 3299-3310.	1.0	104
48	Catalytic methane pyrolysis in molten MnCl <sub>2</sub> -KCl. Applied Catalysis B: Environmental, 2019, 254, 659-666.	10.8	104
49	Chemistry of Doped Oxides: The Activation of Surface Oxygen and the Chemical Compensation Effect. Journal of Physical Chemistry C, 2011, 115, 3065-3074.	1.5	102
50	DFT Studies of Oxygen Vacancies on Undoped and Doped La <sub>2</sub> O <sub>3</sub> Surfaces. Journal of Physical Chemistry C, 2010, 114, 12234-12244.	1.5	101
51	Stability and kinetics of step motion on crystal surfaces. Physical Review E, 1994, 49, 2601-2616.	0.8	100
52	Examination of the concept of degree of rate control by first-principles kinetic Monte Carlo simulations. Surface Science, 2009, 603, 1724-1730.	0.8	99
53	Theory of rate processes at metal surfaces. II. The role of substrate electronic excitations. Journal of Chemical Physics, 1981, 74, 2641-2653.	1.2	97
54	CO <sub>2</sub> methanation by Ru-doped ceria: the role of the oxidation state of the surface. Catalysis Science and Technology, 2015, 5, 1783-1791.	2.1	96

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55	A study of the reactions of molecular hydrogen with small gold clusters. Journal of Chemical Physics, 2004, 120, 5169-5175.	1.2	95
56	Solid carbon production and recovery from high temperature methane pyrolysis in bubble columns containing molten metals and molten salts. Carbon, 2019, 151, 181-191.	5.4	95
57	Binding of propene on small gold clusters and on Au(111): Simple rules for binding sites and relative binding energies. Journal of Chemical Physics, 2004, 121, 3756-3766.	1.2	94
58	Kinetic mechanism for island shape variations caused by changes in the growth temperature. Physical Review Letters, 1993, 71, 2967-2970.	2.9	93
59	Detection by Metastable Quenching Spectroscopy of Enhanced Back-Donation from a Ni(111) Surface to the $2\pi^*$ Orbital of Chemisorbed CO, Caused by Coadsorption of Potassium. Physical Review Letters, 1983, 51, 1803-1806.	2.9	89
60	Time dependent calculations of the absorption spectrum of a photodissociating system with two interacting excited electronic states. Journal of Chemical Physics, 1989, 90, 2555-2569.	1.2	89
61	A one-dimensional microscopic quantum mechanical theory of light enhanced desorption. Surface Science, 1981, 109, 191-206.	0.8	85
62	Mean-trajectory approximation for charge- and energy-transfer processes at surfaces. Physical Review B, 1985, 32, 851-867.	1.1	84
63	Nanoscale Current Imaging of the Conducting Channels in Proton Exchange Membrane Fuel Cells. Nano Letters, 2007, 7, 227-232.	4.5	84
64	Segregation at the surface of an Au/Pd alloy exposed to CO. Surface Science, 2007, 601, 5332-5339.	0.8	84
65	Light scattering by a molecule near a solid surface. II. Model calculations. Journal of Chemical Physics, 1979, 70, 2297-2309.	1.2	81
66	Transition Metal Sulfide Hydrogen Evolution Catalysts for Hydrobromic Acid Electrolysis. Langmuir, 2013, 29, 480-492.	1.6	81
67	Unusual Metastable-Quenching Spectrum of K/Ni(111) and its Explanation by a New Quenching Mechanism. Physical Review Letters, 1985, 54, 1440-1443.	2.9	79
68	On symmetry properties of reaction coordinates. Journal of Chemical Physics, 1974, 61, 3200-3209.	1.2	78
69	A time-dependent interpretation of the absorption spectrum of CH <sub>3</sub> ONO. Journal of Chemical Physics, 1990, 92, 1-13.	1.2	78
70	Density functional study of the charge on Aun clusters (n=1-7) supported on a partially reduced rutile TiO <sub>2</sub> (110): Are all clusters negatively charged?. Journal of Chemical Physics, 2007, 126, 104701.	1.2	72
71	Island migration caused by the motion of the atoms at the border: Size and temperature dependence of the diffusion coefficient. Physical Review B, 1998, 57, R9459-R9462.	1.1	70
72	Classical theory of light scattering by a molecule located near a solid surface. Chemical Physics Letters, 1978, 60, 59-64.	1.2	69

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73	Two-photon excitation of NaI with femtosecond laser pulses. Journal of Chemical Physics, 1989, 91, 1596-1602.	1.2	68
74	Structure of $V_2O_5 \cdot nH_2O$ Xerogels. Journal of Physical Chemistry C, 2016, 120, 3986-3992.	1.5	68
75	The properties of CO and K adsorbed on Ni(111), studied by thermal desorption and metastable quenching spectroscopy. Journal of Chemical Physics, 1985, 82, 485-495.	1.2	66
76	Rotational mechanism for vibrational relaxation in rigid media. Chemical Physics Letters, 1977, 48, 262-266.	1.2	65
77	A Gaussian wave packet method for studying time dependent quantum mechanics in a curve crossing system: Low energy motion, tunneling, and thermal dissipation. Journal of Chemical Physics, 1986, 84, 6293-6311.	1.2	65
78	The calculation of the thermal rate coefficient by a method combining classical and quantum mechanics. Journal of Chemical Physics, 1988, 88, 2478-2491.	1.2	65
79	Structure of Hydrated Na <sup>+</sup> Nafion Polymer Membranes. Journal of Physical Chemistry B, 2005, 109, 24244-24253.	1.2	65
80	Electrodynamics at metal surfaces. IV. The electric fields caused by the polarization of a metal surface by an oscillating dipole. Journal of Chemical Physics, 1982, 76, 1564-1573.	1.2	64
81	The enhancement of raman and fluorescent intensity by small surface roughness. changes in dipole emission. Chemical Physics Letters, 1980, 74, 301-305.	1.2	63
82	Molecular dynamics simulations of energy flow at a solid surface. New methods using a small number of atoms. Journal of Chemical Physics, 1989, 90, 1229-1236.	1.2	62
83	Surface roughness in thin-film growth: The effect of mass transport between layers. Physical Review B, 1993, 48, 4972-4975.	1.1	62
84	Kinetic Monte Carlo simulation of titin unfolding. Journal of Chemical Physics, 2001, 114, 9663-9673.	1.2	61
85	Modification of the Oxidative Power of ZnO(101̄,0) Surface by Substituting Some Surface Zn Atoms with Other Metals. Journal of Physical Chemistry C, 2007, 111, 8617-8622.	1.5	61
86	A derivation and comparison of two equations (Landau-Ginzburg and Cahn) for the kinetics of phase transitions. Journal of Chemical Physics, 1976, 65, 393-396.	1.2	60
87	Nonstoichiometry and chemical purity effects in thermoelectric Ba <sub>8</sub> Ga <sub>16</sub> Ge <sub>30</sub> clathrate. Journal of Applied Physics, 2002, 92, 7281-7290.	1.1	60
88	Landing of size-selected Ag <sup>+</sup> clusters on single crystal TiO <sub>2</sub> (110)-(1̄1̄1) surfaces at room temperature. Journal of Chemical Physics, 2005, 122, 081102.	1.2	59
89	Catalytic Methane Pyrolysis in Molten Alkali Chloride Salts Containing Iron. ACS Catalysis, 2020, 10, 7032-7042.	5.5	59
90	A new geometry for field enhancement in surface-enhanced spectroscopy. Chemical Physics Letters, 1982, 85, 396-403.	1.2	58

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91	Multiphoton dissociation of a diatomic molecule: Laser intensity, frequency, and pulse shape dependence of the fragment momentum distribution. Journal of Chemical Physics, 1988, 88, 5496-5505.	1.2	58
92	Multiple Time Scale Quantum Wavepacket Propagation: Electron-Nuclear Dynamics. The Journal of Physical Chemistry, 1996, 100, 7867-7872.	2.9	58
93	Density functional study of the adsorption of propene on mixed gold-silver clusters, AuAg <sub>m</sub> : Propensity rules for binding. Journal of Chemical Physics, 2004, 121, 9931-9937.	1.2	58
94	CO oxidation by Ti- and Al-doped ZnO: Oxygen activation by adsorption on the dopant. Journal of Catalysis, 2009, 266, 50-58.	3.1	58
95	Vibrational frequencies of a chemisorbed molecule: The role of the electrodynamic interactions. Surface Science, 1980, 92, 433-452.	0.8	57
96	Time-dependent theory of Raman scattering for systems with several excited electronic states: Application to a H <sub>2</sub> +3 model system. Journal of Chemical Physics, 1989, 90, 6903-6915.	1.2	57
97	Electrodynamics at a metal surface with applications to the spectroscopy of adsorbed molecules. I. General theory. Physical Review B, 1980, 22, 4731-4738.	1.1	56
98	Surface Induced Resonant Raman Scattering (SIRRS). Surface Science, 1980, 92, 417-432.	0.8	54
99	Exact classical simulation of hydrogen migration on Ni(100): The role of fluctuations, recrossing, and multiple jumps. Journal of Chemical Physics, 1990, 93, 3614-3634.	1.2	54
100	Enhanced adsorption energy of Au <sub>1</sub> and O <sub>2</sub> on the stoichiometric TiO <sub>2</sub> (110) surface by coadsorption with other molecules. Journal of Chemical Physics, 2008, 128, 044714.	1.2	54
101	Acid-Base Interaction and Its Role in Alkane Dissociative Chemisorption on Oxide Surfaces. Journal of Physical Chemistry C, 2014, 118, 27336-27342.	1.5	54
102	Mean trajectory Gaussian wave packet approach to rotationally inelastic molecule-surface diffraction. Journal of Chemical Physics, 1986, 84, 3535-3544.	1.2	53
103	A numerical study of the multiple Gaussian representation of time dependent wave functions of a Morse oscillator. Journal of Chemical Physics, 1986, 84, 3250-3259.	1.2	53
104	Dynamics of H <sub>2</sub> O and Na <sup>+</sup> in Nafion Membranes. Journal of Physical Chemistry B, 2007, 111, 2490-2494.	1.2	53
105	Effect of small-cluster mobility and dissociation on the island density in epitaxial growth. Physical Review B, 1995, 52, 2907-2913.	1.1	52
106	Density functional study of the interaction between small Au clusters, Au <sub>n</sub> (n=1-7) and the rutile TiO <sub>2</sub> surface. II. Adsorption on a partially reduced surface. Journal of Chemical Physics, 2007, 127, 244708.	1.2	52
107	Atomic Exchange between CO Molecules Coadsorbed with Potassium on Ni(111). Physical Review Letters, 1983, 51, 1991-1994.	2.9	50
108	The mobility of Pt atoms and small Pt clusters on Pt(111) and its implications for the early stages of epitaxial growth. Surface Science, 1994, 321, 161-171.	0.8	50

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109	Fitting potential-energy surfaces: A search in the function space by directed genetic programming. Journal of Chemical Physics, 1998, 108, 590-598.	1.2	50
110	Electron gas effects in the spectroscopy of molecules chemisorbed at a metal surface. I. Theory. Journal of Chemical Physics, 1980, 72, 1996-2006.	1.2	49
111	A theoretical study of I <sub>2</sub> vibrational motion after excitation with an ultrashort pulse. Journal of Chemical Physics, 1990, 93, 5693-5699.	1.2	49
112	Dynamical theory of migration of an adsorbed atom on solid surfaces. Journal of Chemical Physics, 1976, 65, 2871-2882.	1.2	48
113	Luminescence and nonradiative energy transfer to surfaces. Physical Review B, 1980, 21, 5565-5571.	1.1	48
114	The detection of the 2 $\pi^*$ orbital of CO and NO chemisorbed on Ni(111) by surface penning ionization electron spectroscopy. Chemical Physics Letters, 1983, 94, 243-246.	1.2	48
115	Halogen Adsorption on CeO <sub>2</sub> : The Role of Lewis Acid-Base Pairing. Journal of Physical Chemistry C, 2012, 116, 6664-6671.	1.5	48
116	A test of the possibility of calculating absorption spectra by mixed quantum-classical methods. Journal of Chemical Physics, 1992, 97, 4781-4791.	1.2	47
117	Submonolayer Growth with Repulsive Impurities: Island Density Scaling with Anomalous Diffusion. Physical Review Letters, 1995, 74, 4495-4498.	2.9	47
118	VO <sub>x</sub> ( $x = 1\frac{1}{4}$ ) Submonolayers Supported on Rutile TiO <sub>2</sub> (110) and CeO <sub>2</sub> (111) Surfaces: The Structure, the Charge of the Atoms, the XPS Spectrum, and the Equilibrium Composition in the Presence of Oxygen. Journal of Physical Chemistry C, 2007, 111, 14179-14188.	1.5	47
119	Numerical solution of the time-dependent Schrödinger equation in spherical coordinates by Fourier-transform methods. Journal of Chemical Physics, 1991, 95, 7392-7400.	1.2	45
120	The infrared spectroscopy of chemisorbed molecules; a dynamical theory of the line shape. Journal of Chemical Physics, 1978, 69, 2574.	1.2	44
121	A one-dimensional microscopic model for thermal desorption of an atom. Applications to the case of weak binding. Chemical Physics Letters, 1980, 74, 43-48.	1.2	44
122	Electrodynamics at a metal surface. II. Fresnel formulas for the electromagnetic field at the interface for a jellium model within the random phase approximation. Journal of Chemical Physics, 1982, 76, 2697-2713.	1.2	44
123	Oxygen Vacancy Formation on $\pm$ -MoO <sub>3</sub> Slabs and Ribbons. Journal of Physical Chemistry C, 2016, 120, 19252-19264.	1.5	44
124	The fluorescence lifetime of a molecule emitting near a surface with small, random roughness. Chemical Physics Letters, 1982, 85, 404-408.	1.2	43
125	Some remarks concerning the propagation of a Gaussian wave packet trapped in a Morse potential. Chemical Physics Letters, 1985, 118, 558-563.	1.2	43
126	Hydrogen motion on a rigid Cu surface: The calculation of the site to site hopping rate by using flux-flux correlation functions. Journal of Chemical Physics, 1990, 92, 2083-2098.	1.2	43

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127	Adsorption and diffusion sites of a Si atom on a reconstructed Si(100)-(2 Å <sup>-1</sup> ) surface. Surface Science, 1991, 248, L250-L254.	0.8	43
128	Study of adsorption and decomposition of NO on clean and oxygen-covered Ni(111) by metastable quenching spectroscopy. Surface Science, 1984, 141, 591-603.	0.8	42
129	The study of NaI predissociation with pump-probe femtosecond laser pulses: The use of an ionizing probe pulse to obtain more detailed dynamic information. Chemical Physics Letters, 1989, 155, 77-82.	1.2	42
130	Absolute negative resistance in double-barrier heterostructures in a strong laser field. Physical Review B, 1995, 51, 4193-4199.	1.1	42
131	Catalytic Methane Pyrolysis with Liquid and Vapor Phase Tellurium. ACS Catalysis, 2020, 10, 8223-8230.	5.5	42
132	Rotational coherence effects in the femtosecond photodissociation of ICN. Chemical Physics Letters, 1989, 157, 505-511.	1.2	41
133	Conditions leading to intense low-frequency generation and strong localization in two-level systems. Physical Review A, 1993, 48, 2342-2345.	1.0	41
134	Density functional study of the adsorption of propene on silver clusters, Ag <sub>m</sub> q (m=1-5; q=0, +1). Journal of Chemical Physics, 2004, 121, 9925-9930.	1.2	41
135	Absorption spectrum calculations using mixed quantum-Gaussian wave packet dynamics. Journal of Chemical Physics, 1993, 99, 6253-6263.	1.2	40
136	Gallium Antimonide-Doped Germanium Clathrate—A p-Type Thermoelectric Cage Structure. Journal of Solid State Chemistry, 2000, 151, 61-64.	1.4	40
137	Direct Visualization of Water-Induced Relocation of Au Atoms from Oxygen Vacancies on a TiO <sub>2</sub> (110) Surface. Journal of Physical Chemistry C, 2010, 114, 3987-3990.	1.5	40
138	CO <sub>2</sub> -Free Hydrogen Production by Catalytic Pyrolysis of Hydrocarbon Feedstocks in Molten Ni-Bi. Energy & Fuels, 2020, 34, 16073-16080.	2.5	40
139	The temperature dependence of diffracted beam intensities in atom-surface scattering. Journal of Chemical Physics, 1985, 83, 1952-1958.	1.2	39
140	Growth kinetics simulation of the Al-Ga self-organization on GaAs(100) stepped surfaces. Surface Science, 1991, 245, 150-172.	0.8	39
141	The diffusion of an atom on a solid surface. Journal of Chemical Physics, 1978, 69, 2286.	1.2	38
142	Evidence, by metastable quenching spectroscopy, that CO adsorbs on K/Ni(111) near potassium and lies flat or tilts when heated. Surface Science, 1985, 159, L433-L438.	0.8	38
143	Selective promotion of different modes of methanol adsorption via the cation substitutional doping of a ZnO(101̄0) surface. Journal of Catalysis, 2008, 254, 325-331.	3.1	38
144	Oxidative Dehydrogenation of Methanol to Formaldehyde by Isolated Vanadium, Molybdenum, and Chromium Oxide Clusters Supported on Rutile TiO <sub>2</sub> (110). Journal of Physical Chemistry C, 2009, 113, 16083-16093.	1.5	38

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145	Catalytic Dry Reforming of Methane on Ruthenium-Doped Ceria and Ruthenium Supported on Ceria. Topics in Catalysis, 2014, 57, 118-124.	1.3	38
146	Rotational mechanism for vibrational relaxation in rigid media. Interaction potentials. Chemical Physics Letters, 1977, 49, 19-23.	1.2	37
147	CH <sub>3</sub> ONO predissociation by ultrashort laser pulses: Population transients and product state distribution. Journal of Chemical Physics, 1990, 92, 2317-2327.	1.2	37
148	Methane Oxidation by Lanthanum Oxide Doped with Cu, Zn, Mg, Fe, Nb, Ti, Zr, or Ta: The Connection Between the Activation Energy and the Energy of Oxygen-Vacancy Formation. Catalysis Letters, 2013, 143, 406-410.	1.4	37
149	Derivation of stochastic equations for nonequilibrium Ising mean field model. Journal of Chemical Physics, 1975, 63, 5116-5125.	1.2	36
150	A one-dimensional microscopic model for the rate of thermal desorption of an atom. The role of multiphonon processes. Chemical Physics Letters, 1981, 79, 227-232.	1.2	36
151	A one-dimensional model for phonon-induced desorption. II. Numerical analysis of the desorption of noble gas atoms (argon, krypton, and xenon) from tungsten and carbon monoxide from copper. Journal of Chemical Physics, 1984, 81, 3277-3293.	1.2	36
152	Quantum simulation of hydrogen migration on Ni(100): The role of fluctuations, recrossing, and multiple jumps. Journal of Chemical Physics, 1991, 94, 3251-3267.	1.2	36
153	On the theory of time resolved near-resonance light scattering. Journal of Chemical Physics, 1975, 63, 1289-1294.	1.2	35
154	Hydrogen motion on a Cu surface: A model study of the rate of single and double site-to-site jumps and the role of the motion perpendicular to the surface. Journal of Chemical Physics, 1989, 90, 540-547.	1.2	35
155	Quantum dynamics with dissipation: A treatment of dephasing in the stochastic Schrödinger equation. Journal of Chemical Physics, 1999, 111, 10126-10136.	1.2	35
156	C-H Bond Activation by Pd-substituted CeO <sub>2</sub> : Substituted Ions versus Reduced Species. Chemistry of Materials, 2011, 23, 5432-5439.	3.2	35
157	Droplet Model for the Viscosity of Fluids near the Critical Point. Physical Review Letters, 1976, 36, 1092-1095.	2.9	34
158	The absorption spectrum of an electron solvated in sodalite. Journal of Chemical Physics, 1992, 96, 3495-3502.	1.2	34
159	Effects of morphology on the electronic and transport properties of Sn-based clathrates. Journal of Chemical Physics, 2002, 117, 1302-1312.	1.2	34
160	Angular resonances in the emission from a dipole located near a grating. Surface Science, 1981, 109, 95-108.	0.8	33
161	The role of the electrostatic interaction in shifting the vibrational frequencies for two adsorbed molecules. Surface Science, 1981, 109, 109-126.	0.8	33
162	Electrolithographic Investigations of the Hydrophilic Channels in Nafion Membranes. Journal of Physical Chemistry B, 2005, 109, 3252-3256.	1.2	33

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