Richard M Stratt

List of Publications by Year
in descending order

70 papers	3,338 citations	186265 28 h-index	138484 58 g-index
71 all docs	71 docs citations	71 times ranked	1505 citing authors

#	Article	IF	Citations
1	Nonreactive Dynamics in Solution:Â The Emerging Molecular View of Solvation Dynamics and Vibrational Relaxation. The Journal of Physical Chemistry, 1996, 100, 12981-12996.	2.9	625
2	Instantaneous normal mode analysis of liquid water. Journal of Chemical Physics, 1994, 100, 6672-6683.	3.0	350
3	The shortâ€time dynamics of molecular liquids. Instantaneousâ€normalâ€mode theory. Journal of Chemical Physics, 1992, 97, 8522-8535.	3.0	228
4	Short-Time Dynamics of Solvation:Â Relationship between Polar and Nonpolar Solvation. The Journal of Physical Chemistry, 1996, 100, 1266-1282.	2.9	162
5	A Case Study in the Molecular Interpretation of Optical Kerr Effect Spectra:â€‰ Instantaneous-Normal-Mode Analysis of the OKE Spectrum of Liquid Benzene. Journal of Physical Chemistry B, 2004, 108, 6782-6795.	2.6	105
6	A theory of percolation in liquids. Journal of Chemical Physics, 1986, 85, 391-400.	3.0	102
7	Instantaneous normal mode analysis as a probe of cluster dynamics. Journal of Chemical Physics, 1990, 93, 1332-1346.	3.0	92
8	Liquid theory for band structure in a liquid. II.porbitals and phonons. Journal of Chemical Physics, 1990, 92, 1923-1935.	3.0	91
9	Liquid theory for the instantaneous normal modes of a liquid. Journal of Chemical Physics, 1994, 100, 5123-5138.	3.0	78
10	Short-Time Dynamics of Vibrational Relaxation in Molecular Fluids. Journal of Physical Chemistry A, 1998, 102, 1068-1082.	2.5	74
11	New insight into experimental probes of cluster melting. Journal of Chemical Physics, 1990, 93, 1358-1368.	3.0	69
12	The equation of state of hard spheres and the approach to random closest packing. Journal of Chemical Physics, 1988, 88, 1126-1133.	3.0	64
13	Instantaneous pair theory for high-frequency vibrational energy relaxation in fluids. Journal of Chemical Physics, 1999, 110, 1036-1052.	3.0	63
14	The shortâ€time intramolecular dynamics of solutes in liquids. I. An instantaneousâ€normalâ€mode theory for friction. Journal of Chemical Physics, 1996, 105, 10050-10071.	3.0	60
15	Instantaneous perspectives on solute relaxation in fluids: The common origins of nonpolar solvation dynamics and vibrational population relaxation. Journal of Chemical Physics, 1997, 107, 524-543.	3.0	53
16	Extensions to the instantaneous normal mode analysis of cluster dynamics: Diffusion constants and the role of rotations in clusters. Journal of Chemical Physics, 1990, 93, 1632-1640.	3.0	51
17	The local field distribution in a fluid. Journal of Chemical Physics, 1990, 93, 2640-2657.	3.0	48
18	The spectrum of polarization fluctuations in an atomic liquid. Journal of Chemical Physics, 1991, 95, 2669-2682.	3.0	47

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19	On the role of dielectric friction in vibrational energy relaxation. Journal of Chemical Physics, 1999, 111, 2008-2018.	3.0	47
20	The short-time intramolecular dynamics of solutes in liquids. II. Vibrational population relaxation. Journal of Chemical Physics, 1997, 107, 3098-3120.	3.0	46
21	Vibrational energy relaxation of polyatomic molecules in liquids: The solventâ€™s perspective. Journal of Chemical Physics, 2002, 117, 1735-1749.	3.0	44
22	Liquid theory for band structure in a liquid. Journal of Chemical Physics, 1989, 91, 5613-5627.	3.0	43
23	High-frequency vibrational energy relaxation in liquids: The foundations of instantaneous-pair theory and some generalizations. Journal of Chemical Physics, 2002, 117, 10752-10767.	3.0	42
24	The statistical mechanics of a liquid of twoâ€state molecules. Journal of Chemical Physics, 1984, 80, 5764-5775.	3.0	41
25	The mobility of electrons in simple insulating fluids as a percolation problem. Journal of Chemical Physics, 1991, 94, 7360-7375.	3.0	33
26	The molecular origins of the two-dimensional Raman spectrum of an atomic liquid. I. Molecular dynamics simulation. Journal of Chemical Physics, 2002, 116, 4962.	3.0	33
27	The anharmonic features of the short-time dynamics of fluids: The time evolution and mixing of instantaneous normal modes. Journal of Chemical Physics, 1998, 109, 1375-1390.	3.0	30
28	The statistical mechanics of a liquid of twoâ€state molecules. II. The competition between quantum mechanics and a condensed phase. Journal of Chemical Physics, 1984, 81, 6232-6243.	3.0	28
29	Monte Carlo evaluation of path integrals: Quantal intramolecular degrees of freedom in solution. Journal of Chemical Physics, 1982, 77, 2108-2112.	3.0	27
30	Rotational energy relaxation of individual rotational states in liquids. Journal of Chemical Physics, 2000, 113, 5901-5916.	3.0	26
31	Optical properties of a chromophore embedded in a rareâ€gas cluster: Cluster size dependence and the approach to bulk properties. Journal of Chemical Physics, 1993, 99, 789-799.	3.0	24
32	The short-time dynamics of molecular reorientation in liquids. I. The instantaneous generalized Langevin equation. Journal of Chemical Physics, 2000, 112, 7524-7537.	3.0	24
33	Preferential solvation dynamics in liquids: How geodesic pathways through the potential energy landscape reveal mechanistic details about solute relaxation in liquids. Journal of Chemical Physics, 2010, 133, 124503.	3.0	24
34	Constrained impulsive molecular dynamics. Molecular Physics, 1981, 42, 1233-1143.	1.7	23
35	Tunnelingâ€induced disorder in solids. Journal of Chemical Physics, 1986, 84, 2315-2324.	3.0	23
36	On the origin of the phase transitions in a class of mixed valence compounds. Journal of Chemical Physics, 1987, 86, 7156-7163.	3.0	21

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37	The short-time dynamics of molecular reorientation in liquids. II. The microscopic mechanism of rotational friction. Journal of Chemical Physics, 2000, 112, 7538-7550.	3.0	20
38	Global perspectives on the energy landscapes of liquids, supercooled liquids, and glassy systems: Geodesic pathways through the potential energy landscape. Journal of Chemical Physics, 2007, 127, 224504.	3.0	20
39	The equilibrium statistical mechanics of cooperative intramolecular behavior in molecules with coupled conformational/electronic transitions. Journal of Chemical Physics, 1983, 79, 3928-3937.	3.0	19
40	Nonlinear aspects of band structure in liquids. I. Neat liquids. Journal of Chemical Physics, 1992, 97, 5687-5695.	3.0	19
41	Diffraction Signals of Aligned Molecules in the Gas Phase:â€‰ Tetrazine in Intense Laser Fields. Journal of Physical Chemistry A, 2003, 107, 6622-6629.	2.5	19
42	Global perspectives on the energy landscapes of liquids, supercooled liquids, and glassy systems: The potential energy landscape ensemble. Journal of Chemical Physics, 2007, 127, 224503.	3.0	19
43	The electronic structure of a liquid of interacting hydrogenic atoms: A prototype for expanded liquid metals. Journal of Chemical Physics, 1988, 89, 7388-7400.	3.0	18
44	Liquid theory for the instantaneous normal modes of a liquid. II. Solutions. Journal of Chemical Physics, 1996, 104, 2987-3002.	3.0	18
45	Liquid theory for band structure in a liquid. III. The mean spherical approximation forpbands and the numerical solution of the mean spherical approximation for bothsandpbands. Journal of Chemical Physics, 1991, 94, 1426-1441.	3.0	17
46	Simulation of the band structure of liquids: A correction and some further developments. Journal of Chemical Physics, 1992, 97, 1980-1982.	3.0	17
47	Simple models for the electronic structure of a molecule dissolved in a hardâ€sphere liquid. Journal of Chemical Physics, 1988, 88, 5781-5789.	3.0	16
48	Simulation of the electronic structure of an atom dissolved in a hardâ€sphere liquid. Journal of Chemical Physics, 1989, 91, 2470-2478.	3.0	16
49	Nonlinear aspects of band structure in liquids. II. Solute spectra. Journal of Chemical Physics, 1992, 97, 5696-5706.	3.0	14
50	Dephasing of individual rotational states in liquids. Journal of Chemical Physics, 2000, 113, 11212-11221.	3.0	14
51	Simulation of the band structure of liquids: Some calculation considerations and a test of the meanâ€spherical approximation. Journal of Chemical Physics, 1991, 95, 4418-4426.	3.0	13
52	Internal Excitations in Liquids. Advances in Chemical Physics, 2007, , 1-60.	0.3	13
53	Collective fluctuations of conserved variables in liquids. Journal of Chemical Physics, 1993, 98, 3224-3239.	3.0	12
54	The diffraction signatures of individual vibrational modes in polyatomic molecules. Journal of Chemical Physics, 2000, 112, 1260-1270.	3.0	12

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55	Zero-point vibrational energy of an adsorbed film. Journal of Low Temperature Physics, 1991, 84, 1-17.	1.4	11
56	Nonlinear Thinking About Molecular Energy Transfer. Science, 2008, 321, 1789-1790.	12.6	11
57	What is special about how roaming chemical reactions traverse their potential surfaces? Differences in geodesic paths between roaming and non-roaming events. Journal of Chemical Physics, 2017, 146, 214303.	3.0	11
58	Selecting the information content of two-dimensional Raman spectra in liquids. Journal of Chemical Physics, 2003, 119, 8500-8510.	3.0	10
59	The effect of an unusual type of quenched disorder on phase transitions: Illustration in a mixedâ€valence system. Journal of Chemical Physics, 1988, 88, 1134-1144.	3.0	9
60	Solvation and melting in large benzeneâ‹…(Ar)nclusters: Electronic spectral shifts and linewidths. Journal of Chemical Physics, 1996, 105, 1743-1753.	3.0	9
61	Effects of Electronic-State-Dependent Solute Polarizability: Application to Solute-Pump/Solvent-Probe Spectra. Journal of Physical Chemistry B, 2015, 119, 9129-9139.	2.6	8
62	Multiphonon vibrational relaxation in liquids: An exploration of the idea and of the problems it causes for molecular dynamics algorithms. Journal of Chemical Physics, 2003, 119, 6709-6718.	3.0	6
63	Potential energy landscape and inherent dynamics of a hard-sphere fluid. Physical Review E, 2014, 90, 042314.	2.1	5
64	The inherent dynamics of a molecular liquid: Geodesic pathways through the potential energy landscape of a liquid of linear molecules. Journal of Chemical Physics, 2014, 140, 174503.	3.0	4
65	Observation of glassâ€like behavior in conjugated polymer molecules. Journal of Chemical Physics, 1984, 81, 2855-2856.	3.0	3
66	The statistical mechanics of a liquid of breathing hard spheres. Journal of Chemical Physics, 1989, 90, 6809-6810.	3.0	3
67	The role of electronâ€“electron interactions in liquids. Journal of Chemical Physics, 1994, 100, 3028-3038.	3.0	3
68	The inherent dynamics of isotropic- and nematic-phase liquid crystals. Journal of Chemical Physics, 2016, 144, 234505.	3.0	3
69	Quantum effects on conformational equilibria. Journal of Chemical Physics, 1982, 76, 5134-5144.	3.0	2
70	Measuring order in disordered systems and disorder in ordered systems: Random matrix theory for isotropic and nematic liquid crystals and its perspective on pseudo-nematic domains. Journal of Chemical Physics, 2018, 148, 204501.	3.0	1