Matthias Schmidt

List of Publications by Year
in descending order

144 papers	4,791 citations	117625 34 h-index	118850 62 g-index
145 all docs	145 docs citations	145 times ranked	2173 citing authors

#	Article	IF	Citations
1	Direct Visual Observation of Thermal Capillary Waves. Science, 2004, 304, 847-850.	12.6	417
2	Fundamental-measure free-energy density functional for hard spheres: Dimensional crossover and freezing. Physical Review E, 1997, 55, 4245-4263.	2.1	349
3	Phase diagram of hard spheres confined between two parallel plates. Physical Review E, 1997, 55, 7228-7241.	2.1	234
4	Freezing between Two and Three Dimensions. Physical Review Letters, 1996, 76, 4552-4555.	7.8	200
5	Density Functional for a Model Colloid-Polymer Mixture. Physical Review Letters, 2000, 85, 1934-1937.	7.8	147
6	Nonequilibrium Sedimentation of Colloids on the Particle Scale. Physical Review Letters, 2007, 98, 188304.	7.8	122
7	Soft Interaction between Dissolved Flexible Dendrimers:â€‰ Theory and Experiment. Macromolecules, 2001, 34, 2914-2920.	4.8	102
8	Dimensional crossover and the freezing transition in density functional theory. Journal of Physics Condensed Matter, 1996, 8, L577-L581.	1.8	98
9	The van Hove distribution function for Brownian hard spheres: Dynamical test particle theory and computer simulations for bulk dynamics. Journal of Chemical Physics, 2010, 133, 224505.	3.0	98
10	Power functional theory for Brownian dynamics. Journal of Chemical Physics, 2013, 138, 214101.	3.0	97
11	Statistical mechanics of inhomogeneous model colloidâ€”polymer mixtures. Molecular Physics, 2003, 101, 3349-3384.	1.7	80
12	Density functional theory for colloidal mixtures of hard platelets, rods, and spheres. Physical Review E, 2006, 73, 011409.	2.1	71
13	Density functional theory for colloidal rod-sphere mixtures. Physical Review E, 2001, 63, 050201.	2.1	69
14	Density functional theory for a model colloidÂpolymer mixture: bulk fluid phases. Journal of Physics Condensed Matter, 2002, 14, 9353-9382.	1.8	68
15	Anab initiodensity functional for penetrable spheres. Journal of Physics Condensed Matter, 1999, 11, 10163-10169.	1.8	63
16	Dynamics in inhomogeneous liquids and glasses via the test particle limit. Physical Review E, 2007, 75, 040501.	2.1	61
17	Topological defects in nematic droplets of hard spherocylinders. Physical Review E, 2000, 62, 5081-5091.	2.1	53
18	Nanoparticle assembly by confinement in wrinkles: experiment and simulations. Soft Matter, 2010, 6, 5860.	2.7	49

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19	Density-functional theory for soft interactions by dimensional crossover. Physical Review E, 1999, 60, R6291-R6294.	2.1	47
20	Confinement of two-dimensional rods in slit pores and square cavities. Journal of Chemical Physics, 2015, 142, 174701.	3.0	47
21	Penetrability in model colloidâ€“polymer mixtures. Journal of Chemical Physics, 2002, 117, 6308-6312.	3.0	46
22	Freezing transition of hard hyperspheres. Physical Review E, 2001, 65, 016108.	2.1	45
23	Colloidal rod-sphere mixtures: Fluid-fluid interfaces and the Onsager limit. Physical Review E, 2002, 66, 031401.	2.1	45
24	Fluid demixing in colloidâ€“polymer mixtures: Influence of polymer interactions. Journal of Chemical Physics, 2003, 118, 1541-1549.	3.0	42
25	Phase behavior and structure of model colloid-polymer mixtures confined between two parallel planar walls. Physical Review E, 2006, 73, 051502.	2.1	41
26	Floating nematic phase in colloidal platelet-sphere mixtures. Scientific Reports, 2012, 2, 789.	3.3	41
27	Density-functional theory for fluids in porous media. Physical Review E, 2002, 66, 041108.	2.1	40
28	Superadiabatic Forces in Brownian Many-Body Dynamics. Physical Review Letters, 2014, 113, 167801.	7.8	40
29	Fluid structure from density-functional theory. Physical Review E, 2000, 62, 4976-4981.	2.1	39
30	Nonequilibrium Ornstein-Zernike relation for Brownian many-body dynamics. Journal of Chemical Physics, 2013, 139, 104108.	3.0	39
31	Wall-fluid and liquid-gas interfaces of model colloid-polymer mixtures by simulation and theory. Physical Review E, 2005, 71, 051403.	2.1	38
32	Phase coexistence of active Brownian particles. Physical Review E, 2019, 100, 052604.	2.1	38
33	Capillary condensation of colloidâ€“polymer mixtures confined between parallel plates. Journal of Physics Condensed Matter, 2003, 15, S3411-S3420.	1.8	37
34	Rosenfeld functional for non-additive hard spheres. Journal of Physics Condensed Matter, 2004, 16, L351-L357.	1.8	35
35	Floating Liquid Phase in Sedimenting Colloid-Polymer Mixtures. Physical Review Letters, 2004, 93, 088303.	7.8	35
36	Better Than Counting: Density Profiles from Force Sampling. Physical Review Letters, 2018, 120, 218001.	7.8	34

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37	Capillary nematization of hard colloidal platelets confined between two parallel hard walls. Journal of Physics Condensed Matter, 2007, 19, 326103.	1.8	33
38	Fluid of penetrable spheres:â€‚â€‚Testing the universality of the bridge functional. Physical Review E, 2000, 62, 5006-5010.	2.1	32
39	Density functional for the Widom-Rowlinson model. Physical Review E, 2000, 63, .	2.1	32
40	Velocity Gradient Power Functional for Brownian Dynamics. Physical Review Letters, 2018, 120, 028001.	7.8	32
41	Non-negative Interfacial Tension in Phase-Separated Active Brownian Particles. Physical Review Letters, 2019, 123, 268002.	7.8	31
42	Power functional theory for many-body dynamics. Reviews of Modern Physics, 2022, 94, .	45.6	31
43	Density functional for additive mixtures. Physical Review E, 2000, 62, 3799-3802.	2.1	30
44	Full Canonical Information from Grand-Potential Density-Functional Theory. Physical Review Letters, 2014, 113, 238304.	7.8	30
45	The phase stacking diagram of colloidal mixtures under gravity. Soft Matter, 2013, 9, 8636.	2.7	29
46	Model colloidÂpolymer mixtures in porous matrices: density functional versus integral equations. Journal of Physics Condensed Matter, 2002, 14, 12099-12117.	1.8	28
47	Replica density functional theory: an overview. Journal of Physics Condensed Matter, 2005, 17, S3481-S3486.	1.8	28
48	Nonequilibrium Phase Behavior from Minimization of Free Power Dissipation. Physical Review Letters, 2016, 117, 208003.	7.8	28
49	Mixtures of charged colloid and neutral polymer: Influence of electrostatic interactions on demixing and interfacial tension. Journal of Chemical Physics, 2005, 122, 244911.	3.0	27
50	Entropic Wetting and the Free Isotropicâ˜Nematic Interface of Hard Colloidal Platelets. Journal of Physical Chemistry B, 2007, 111, 7825-7835.	2.6	27
51	Colloid-induced polymer compression. Journal of Physics Condensed Matter, 2002, 14, 12051-12062.	1.8	26
52	Life at ultralow interfacial tension: wetting, waves and droplets in demixed colloid-polymer mixtures. European Physical Journal B, 2008, 64, 341-347.	1.5	26
53	Entropic wetting of a colloidal rod-sphere mixture. Europhysics Letters, 2003, 63, 549-555.	2.0	25
54	Wall tensions of model colloidâ€“polymer mixtures. Journal of Physics Condensed Matter, 2004, 16, L1-L8.	1.8	25

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55	Dynamic correlations in Brownian many-body systems. Journal of Chemical Physics, 2014, 140, 034104.	3.0	25
56	Colloids, polymers, and needles: Demixing phase behavior. Physical Review E, 2002, 65, 021508.	2.1	24
57	Simulation and theory of fluid demixing and interfacial tension of mixtures of colloids and nonideal polymers. Physical Review E, 2005, 71, 051406.	2.1	24
58	Power functional theory for the dynamic test particle limit. Journal of Physics Condensed Matter, 2015, 27, 194106.	1.8	24
59	Structural Nonequilibrium Forces in Driven Colloidal Systems. Physical Review Letters, 2018, 121, 098002.	7.8	24
60	Flow and Structure in Nonequilibrium Brownian Many-Body Systems. Physical Review Letters, 2020, 125, 018001.	7.8	24
61	Capillary evaporation in colloidâ€“polymer mixtures selectively confined to a planar slit. Journal of Physics Condensed Matter, 2004, 16, S4159-S4168.	1.8	23
62	Replica Density Functional Study of One-Dimensional Hard Core Fluids in Porous Media. Journal of Statistical Physics, 2004, 116, 1683-1702.	1.2	23
63	Binary non-additive hard sphere mixtures: fluid demixing, asymptotic decay of correlations and free fluid interfaces. Journal of Physics Condensed Matter, 2010, 22, 325108.	1.8	23
64	Monte Carlo computer simulations and electron microscopy of colloidal cluster formation via emulsion droplet evaporation. Journal of Chemical Physics, 2011, 135, 244501.	3.0	23
65	Custom flow in overdamped Brownian dynamics. Physical Review E, 2019, 99, 023306.	2.1	23
66	Noetherâ€™s theorem in statistical mechanics. Communications Physics, 2021, 4, .	5.3	23
67	Density-functional theory for structure and freezing of star polymer solutions. Journal of Chemical Physics, 2001, 114, 5450-5456.	3.0	22
68	Competition between sedimentation and phase coexistence of colloidal dispersions under gravity. Journal of Physics Condensed Matter, 2004, 16, S4185-S4194.	1.8	22
69	Structure and stability of isotropic states of hard platelet fluids. Physical Review E, 2008, 78, 041201.	2.1	22
70	Amphiphilic hard body mixtures. Physical Review E, 2001, 64, 051115.	2.1	21
71	Interfaces in Driven Ising Models: Shear Enhances Confinement. Physical Review Letters, 2008, 101, 067203.	7.8	19
72	Bulk phase behavior of binary hard platelet mixtures from density functional theory. Physical Review E, 2010, 81, 041401.	2.1	19

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73	Bulk fluid phase behaviour of colloidal plateletâ€“sphere and plateletâ€“polymer mixtures. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120259.	3.4	19
74	Active ideal sedimentation: exact two-dimensional steady states. Soft Matter, 2018, 14, 1614-1621.	2.7	19
75	Power functional theory for Newtonian many-body dynamics. Journal of Chemical Physics, 2018, 148, 044502.	3.0	19
76	Power functional theory for active Brownian particles: General formulation and power sum rules. Journal of Chemical Physics, 2019, 150, 074112.	3.0	19
77	Laser-induced condensation in colloidâ€”polymer mixtures. Molecular Physics, 2003, 101, 1651-1658.	1.7	18
78	Simulation and theory of fluidâ€“fluid interfaces in binary mixtures of hard spheres and hard rods. Journal of Physics Condensed Matter, 2003, 15, S3421-S3428.	1.8	18
79	Geometry-based density functional theory: an overview. Journal of Physics Condensed Matter, 2003, 15, S101-S106.	1.8	18
80	Fundamental measure density functional theory for nonadditive hard-core mixtures: The one-dimensional case. Physical Review E, 2007, 76, 031202.	2.1	18
81	Density functional theory for sphere-needle mixtures: Toward finite rod thickness. Physical Review E, 2004, 70, 022501.	2.1	17
82	Particle conservation in dynamical density functional theory. Journal of Physics Condensed Matter, 2016, 28, 244024.	1.8	17
83	Adaptive Brownian Dynamics. Journal of Chemical Physics, 2021, 155, 134107.	3.0	17
84	MC-simulation of the 3D,q=3 Potts model. European Physical Journal B, 1994, 95, 327-330.	1.5	16
85	The contact angle of the colloidal liquidâ€“gas interface and a hard wall. Journal of Physics Condensed Matter, 2004, 16, S4169-S4184.	1.8	16
86	Variational principle of classical density functional theory via Levyâ€™s constrained search method. Physical Review E, 2011, 83, 061133.	2.1	16
87	Quantum power functional theory for many-body dynamics. Journal of Chemical Physics, 2015, 143, 174108.	3.0	16
88	Superadiabatic demixing in nonequilibrium colloids. Communications Physics, 2020, 3, .	5.3	16
89	Demixing of colloid-polymer mixtures in poor solvents. Physical Review E, 2002, 65, 061410.	2.1	15
90	Capillary condensation and interface structure of a model colloid-polymer mixture in a porous medium. Physical Review E, 2003, 68, 061404.	2.1	15

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91	Wetting, Drying, and Layering of Colloid-Polymer Mixtures at Porous Interfaces. Physical Review Letters, 2005, 94, 078303.	7.8	15
92	Memory-induced motion reversal in Brownian liquids. Soft Matter, 2020, 16, 1518-1526.	2.7	15
93	Phase separation of active Brownian particles in two dimensions: anything for a quiet life. Molecular Physics, 2021, 119, .	1.7	15
94	Active interface polarization as a state function. Physical Review Research, 2020, 2, .	3.6	15
95	Statics and dynamics of inhomogeneous liquids via the internal-energy functional. Physical Review E, 2011, 84, 051203.	2.1	14
96	Reentrant network formation in patchy colloidal mixtures under gravity. Physical Review E, 2016, 93, 030601.	2.1	14
97	Force density functional theory in- and out-of-equilibrium. Physical Review E, 2022, 106, .	2.1	14
98	Colloidal particles in emulsions. Physical Review E, 2000, 61, 5445-5451.	2.1	13
99	Freezing in the presence of disorder: a lattice study. Journal of Physics Condensed Matter, 2003, 15, 4695-4708.	1.8	13
100	Isotropic-nematic transition of hard rods immersed in random sphere matrices. Journal of Chemical Physics, 2004, 121, 12067-12073.	3.0	12
101	Non-equilibrium sedimentation of colloids: confocal microscopy and Brownian dynamics simulations. Journal of Physics Condensed Matter, 2008, 20, 494222.	1.8	12
102	Sedimentation stacking diagram of binary colloidal mixtures and bulk phases in the plane of chemical potentials. Journal of Physics Condensed Matter, 2015, 27, 194115.	1.8	12
103	Dynamic pair correlations and superadiabatic forces in a dense Brownian liquid. Journal of Chemical Physics, 2016, 145, 064506.	3.0	12
104	Gravity-induced phase phenomena in plate-rod colloidal mixtures. Communications Physics, 2021, 4, .	5.3	12
105	Particle nanosomes with tailored silhouettes. Soft Matter, 2012, 8, 1928-1933.	2.7	11
106	Fluctuation Profiles in Inhomogeneous Fluids. Physical Review Letters, 2020, 125, 268004.	7.8	11
107	Why Noetherâ€™s theorem applies to statistical mechanics. Journal of Physics Condensed Matter, 2022, 34, 213001.	1.8	11
108	Hard sphere fluids in random fiber networks. Journal of Chemical Physics, 2003, 119, 3495-3500.	3.0	10

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109	Assembly of open clusters of colloidal dumbbells via droplet evaporation. Physical Review E, 2016, 93, 052609.	2.1	10
110	Shear-induced deconfinement of hard disks. Colloid and Polymer Science, 2020, 298, 895-906.	2.1	10
111	Colloids confined to a flexible container. Physical Review E, 2001, 63, 051401.	2.1	9
112	Hard sphere fluids at surfaces of porous media. Physical Review E, 2003, 68, 021106.	2.1	9
113	A relationship of mean-field theory for a driven lattice gas to an exact equilibrium density functional. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 13209-13215.	2.1	9
114	Free power dissipation from functional line integration. Molecular Physics, 2015, 113, 2873-2880.	1.7	9
115	Crystal structures in binary hard-sphere colloid-droplet mixtures with patchy cross interactions. Physical Review E, 2020, 101, 012608.	2.1	9
116	Universality in Driven and Equilibrium Hard Sphere Liquid Dynamics. Physical Review Letters, 2021, 126, 058002.	7.8	9
117	Sedimentation equilibrium of colloidal platelets in an aligning magnetic field. Journal of Chemical Physics, 2010, 132, 144509.	3.0	8
118	Superadiabatic forces in the dynamics of the one-dimensional Gaussian core model. Physical Review E, 2016, 94, 022105.	2.1	8
119	Density functional theory for random sequential adsorption. Journal of Physics Condensed Matter, 2002, 14, 12119-12127.	1.8	7
120	Lattice density functional for colloid-polymer mixtures: Comparison of two fundamental measure theories. Physical Review E, 2005, 72, 031405.	2.1	7
121	First-order layering and critical wetting transitions in nonadditive hard-sphere mixtures. Physical Review E, 2011, 83, 050602.	2.1	7
122	Density functional for hard hyperspheres from a tensorial-diagrammatic series. Physical Review E, 2011, 83, 021201.	2.1	7
123	Superadiabatic Forces via the Acceleration Gradient in Quantum Many-Body Dynamics. Molecules, 2019, 24, 3660.	3.8	7
124	Custom flow in molecular dynamics. Physical Review Research, 2021, 3, .	3.6	7
125	Test particle limit for the pair structure of quenched-annealed fluid mixtures. Physical Review E, 2009, 79, 031405.	2.1	6
126	Assembly of One-Patch Colloids into Clusters via Emulsion Droplet Evaporation. Materials, 2017, 10, 361.	2.9	6

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127	Sedimentation of colloidal plate-sphere mixtures and inference of particle characteristics from stacking sequences. Physical Review Research, 2022, 4, .	3.6	6
128	Peel or coat spheres by convolution, repeatedly. Journal of Mathematical Physics, 2007, 48, 123507.	1.1	5
129	Quenched-annealed density functional theory for interfacial behavior of hard rods at a hard rod matrix. Journal of Chemical Physics, 2009, 131, 214705.	3.0	5
130	Density functional for ternary non-additive hard sphere mixtures. Journal of Physics Condensed Matter, 2011, 23, 415101.	1.8	5
131	Shear and Bulk Acceleration Viscosities in Simple Fluids. Physical Review Letters, 2022, 128, 094502.	7.8	5
132	Entropic interfaces in hard-core model amphiphilic mixtures. Journal of Colloid and Interface Science, 2005, 281, 495-502.	9.4	4
133	Laterally driven interfaces in the three-dimensional Ising lattice gas. Physical Review E, 2010, 82, 021126.	2.1	4
134	Radial distribution functions of non-additive hard sphere mixtures via Percusâ€™ test particle route. Journal of Physics Condensed Matter, 2011, 23, 325104.	1.8	4
135	Dynamic decay and superadiabatic forces in the van Hove dynamics of bulk hard sphere fluids. SciPost Physics, 2022, 12, .	4.9	4
136	Do effective interactions depend on the choice of coordinates?. Physical Review E, 2002, 65, 022801.	2.1	3
137	Hard body amphiphiles at a hard wall. Molecular Physics, 2003, 101, 2225-2231.	1.7	3
138	Interfaces in confined Ising models: Kawasaki, Glauber and sheared dynamics. Journal of Physics Condensed Matter, 2008, 20, 494237.	1.8	3
139	Phase behaviour of binary mixtures of diamagnetic colloidal platelets in an external magnetic field. Journal of Physics Condensed Matter, 2011, 23, 194111.	1.8	3
140	Minimal model for dynamic bonding in colloidal transient networks. Physical Review E, 2016, 93, 042601.	2.1	3
141	Lateral transport of thermal capillary waves. Europhysics Letters, 2010, 89, 10006.	2.0	2
142	Isometric and metamorphic operations on the space of local fundamental measures. Molecular Physics, 2011, 109, 1253-1263.	1.7	2
143	Computer simulations of colloidal transport on a patterned magnetic substrate. Physical Review E, 2011, 83, 041411.	2.1	2
144	Effect of controlled corrugation on capillary condensation of colloidâ€“polymer mixtures. Soft Matter, 2013, 9, 3994.	2.7	2