

Armand Ajdari

List of Publications by Year in descending order

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64
papers

14,509
citations

47006

47
h-index

118850

62
g-index

64
all docs

64
docs citations

64
times ranked

10376
citing authors

#	ARTICLE	IF	CITATIONS
1	Chaotic Mixer for Microchannels. <i>Science</i> , 2002, 295, 647-651.	12.6	2,963
2	Modeling molecular motors. <i>Reviews of Modern Physics</i> , 1997, 69, 1269-1282.	45.6	1,654
3	Diffuse-charge dynamics in electrochemical systems. <i>Physical Review E</i> , 2004, 70, 021506.	2.1	822
4	Towards an understanding of induced-charge electrokinetics at large applied voltages in concentrated solutions. <i>Advances in Colloid and Interface Science</i> , 2009, 152, 48-88.	14.7	742
5	Propulsion of a Molecular Machine by Asymmetric Distribution of Reaction Products. <i>Physical Review Letters</i> , 2005, 94, 220801.	7.8	626
6	Steric effects in the dynamics of electrolytes at large applied voltages. I. Double-layer charging. <i>Physical Review E</i> , 2007, 75, 021502.	2.1	598
7	Directional motion of brownian particles induced by a periodic asymmetric potential. <i>Nature</i> , 1994, 370, 446-447.	27.8	593
8	Asymmetric pumping of particles. <i>Physical Review Letters</i> , 1994, 72, 2652-2655.	7.8	408
9	Steric effects in the dynamics of electrolytes at large applied voltages. II. Modified Poisson-Nernst-Planck equations. <i>Physical Review E</i> , 2007, 75, 021503.	2.1	408
10	Pumping liquids using asymmetric electrode arrays. <i>Physical Review E</i> , 2000, 61, R45-R48.	2.1	370
11	Patterning Flows Using Grooved Surfaces. <i>Analytical Chemistry</i> , 2002, 74, 5306-5312.	6.5	366
12	APPLIED PHYSICS: Droplet Control for Microfluidics. <i>Science</i> , 2005, 309, 887-888.	12.6	331
13	Electro-Osmosis on Inhomogeneously Charged Surfaces. <i>Physical Review Letters</i> , 1995, 75, 755-758.	7.8	270
14	An integrated AC electrokinetic pump in a microfluidic loop for fast and tunable flow control. <i>Analyst</i> , 2004, 129, 944-949.	3.5	262
15	Energy transduction of isothermal ratchets: Generic aspects and specific examples close to and far from equilibrium. <i>Physical Review E</i> , 1999, 60, 2127-2140.	2.1	235
16	Stability of a Jet in Confined Pressure-Driven Biphasic Flows at Low Reynolds Numbers. <i>Physical Review Letters</i> , 2007, 99, 104502.	7.8	232
17	Giant Amplification of Interfacially Driven Transport by Hydrodynamic Slip: Diffusio-Osmosis and Beyond. <i>Physical Review Letters</i> , 2006, 96, 186102.	7.8	197
18	Aging and nonlinear rheology in suspensions of polyethylene oxide-protected silica particles. <i>Physical Review E</i> , 2003, 67, 061403.	2.1	171

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19	Generation of transverse fluid currents and forces by an electric field: Electro-osmosis on charge-modulated and undulated surfaces. <i>Physical Review E</i> , 1996, 53, 4996-5005.	2.1	168
20	Analytic results for the three-sphere swimmer at low Reynolds number. <i>Physical Review E</i> , 2008, 77, 036308.	2.1	160
21	Simultaneous Action of Electric Fields and Nonelectric Forces on a Polyelectrolyte: Motion and Deformation. <i>Physical Review Letters</i> , 1996, 76, 3858-3861.	7.8	159
22	ac electrokinetic micropumps: The effect of geometrical confinement, Faradaic current injection, and nonlinear surface capacitance. <i>Physical Review E</i> , 2006, 73, 056313.	2.1	154
23	Stable Modification of PDMS Surface Properties by Plasma Polymerization: Application to the Formation of Double Emulsions in Microfluidic Systems. <i>Langmuir</i> , 2006, 22, 5230-5232.	3.5	148
24	Hydrodynamic Dispersion in Shallow Microchannels: the Effect of Cross-Sectional Shape. <i>Analytical Chemistry</i> , 2006, 78, 387-392.	6.5	139
25	Transverse electrokinetic and microfluidic effects in micropatterned channels: Lubrication analysis for slab geometries. <i>Physical Review E</i> , 2001, 65, 016301.	2.1	118
26	Droplet Traffic at a Simple Junction at Low Capillary Numbers. <i>Physical Review Letters</i> , 2005, 95, 208304.	7.8	115
27	Surface modes and deformation energy of a molten polymer brush. <i>Macromolecules</i> , 1992, 25, 2882-2889.	4.8	114
28	Droplet Traffic in Microfluidic Networks: A Simple Model for Understanding and Designing. <i>Physical Review Letters</i> , 2008, 100, 044501.	7.8	110
29	Static and Dynamic Wetting Properties of Thin Rubber Films. <i>Langmuir</i> , 1996, 12, 5221-5230.	3.5	107
30	Stability of a jet in confined pressure-driven biphasic flows at low Reynolds number in various geometries. <i>Physical Review E</i> , 2008, 78, 016307.	2.1	101
31	Electroosmotic Flows Created by Surface Defects in Capillary Electrophoresis. <i>Journal of Colloid and Interface Science</i> , 1999, 212, 338-349.	9.4	99
32	Electrically induced interactions between colloidal particles in the vicinity of a conducting plane. <i>Physical Review E</i> , 2002, 65, 061409.	2.1	94
33	Dynamic response of adhesion complexes: Beyond the single-path picture. <i>Physical Review E</i> , 2002, 65, 051910.	2.1	89
34	Microfluidic bypass for efficient passive regulation of droplet traffic at a junction. <i>Applied Physics Letters</i> , 2006, 89, 034104.	3.3	89
35	Electrophoresis of polyampholytes. <i>Journal of Chemical Physics</i> , 1998, 108, 1234-1244.	3.0	85
36	Nonlinear electrokinetics at large voltages. <i>New Journal of Physics</i> , 2009, 11, 075016.	2.9	83

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37	Rheology of complex fluids by particle image velocimetry in microchannels. Applied Physics Letters, 2006, 89, 024104.	3.3	78
38	Mechanical Response of a Small Swimmer Driven by Conformational Transitions. Physical Review Letters, 2008, 100, 038101.	7.8	76
39	Steady flows in networks of microfluidic channels: building on the analogy with electrical circuits. Comptes Rendus Physique, 2004, 5, 539-546.	0.9	72
40	Generalized Onsager relations for electrokinetic effects in anisotropic and heterogeneous geometries. Physical Review E, 2004, 69, 016306.	2.1	69
41	Suppression of instabilities in multiphase flow by geometric confinement. Physical Review E, 2009, 79, 056310.	2.1	67
42	Collective transport of particles in a "flashing" periodic potential. Physical Review E, 1996, 54, R5-R8.	2.1	64
43	Electrophoretic mobility of composite objects in free solution: Application to DNA separation. Electrophoresis, 1996, 17, 1161-1166.	2.4	57
44	Experimental study and modeling of polydimethylsiloxane peristaltic micropumps. Journal of Applied Physics, 2005, 98, 044914.	2.5	53
45	How Do Grafted Polymer Layers Alter the Dynamics of Wetting?. Langmuir, 1996, 12, 1675-1680.	3.5	50
46	Effects of Intermediate Bound States in Dynamic Force Spectroscopy. Biophysical Journal, 2004, 86, 1263-1269.	0.5	49
47	Symmetry Properties of the Electrophoretic Motion of Patterned Colloidal Particles. Physical Review Letters, 1998, 81, 1529-1532.	7.8	48
48	Fluctuations of Fluctuation-Induced Casimir-Like Forces. Physical Review Letters, 2002, 89, 230601.	7.8	46
49	Wetting of Grafted Polymer Surfaces by Compatible Chains. , 1994, , 301-311.		43
50	Experimental characterization of hydrodynamic dispersion in shallow microchannels. Lab on A Chip, 2006, 6, 930-935.	6.0	40
51	A Zimm model for polyelectrolytes in an electric field. Journal of Physics Condensed Matter, 1996, 8, 9471-9475.	1.8	38
52	Pumping based on transverse electrokinetic effects. Applied Physics Letters, 2003, 83, 1486-1488.	3.3	38
53	Stochastic low Reynolds number swimmers. Journal of Physics Condensed Matter, 2009, 21, 204104.	1.8	32
54	High shear rheology of shear banding fluids in microchannels. Applied Physics Letters, 2008, 93, .	3.3	29

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55	Reactive spreading and recoil of oil on water. <i>Physics of Fluids</i> , 2006, 18, 038105.	4.0	25
56	Stretching DNA with electric fields revisited. <i>Biopolymers</i> , 1998, 39, 755-759.	2.4	24
57	Thin double layer approximation to describe streaming current fields in complex geometries: Analytical framework and applications to microfluidics. <i>Physical Review E</i> , 2006, 73, 056306.	2.1	24
58	Effective interactions between inclusions in complex fluids driven out of equilibrium. <i>Physical Review E</i> , 2003, 67, 061112.	2.1	23
59	A note on swimming using internally generated traveling waves. <i>Physics of Fluids</i> , 1999, 11, 1275-1277.	4.0	22
60	Building up longitudinal concentration gradients in shallow microchannels. <i>Lab on A Chip</i> , 2007, 7, 1154.	6.0	19
61	Droplets and jets in microfluidic devices. <i>Comptes Rendus Chimie</i> , 2009, 12, 247-257.	0.5	19
62	Mechanics near a jamming transition: a minimalist model. <i>Faraday Discussions</i> , 1999, 112, 195-207.	3.2	12
63	Averaging rheological quantities in descriptions of soft glassy materials. <i>Physical Review E</i> , 2001, 63, 030502.	2.1	11
64	Patterning Flows Using Grooved Surfaces: Application to Microfluidics. , 2002, , 620-622.		1