Ehud Yariv

List of Publications by Year
in descending order

95 papers	1,682 citations	257450 24 h-index	330143 37 g-index
96 all docs	96 docs citations	96 times ranked	875 citing authors

#	Article	IF	Citations
1	The Taylorâ€“Melcher leaky dielectric model as a macroscale electrokinetic description. Journal of Fluid Mechanics, 2015, 773, 1-33.	3.4	89
2	â€œForce-freeâ€•electrophoresis?. Physics of Fluids, 2006, 18, 031702.	4.0	87
3	Force-driven transport through periodic entropy barriers. Europhysics Letters, 2007, 80, 50009.	2.0	81
4	Near-contact electrophoretic motion of a sphere parallel to a planar wall. Journal of Fluid Mechanics, 2003, 484, 85-111.	3.4	69
5	Macroscale description of electrokinetic flows at large zeta potentials: Nonlinear surface conduction. Physical Review E, 2012, 86, 021503.	2.1	68
6	The electrophoretic mobility of an eccentrically positioned spherical particle in a cylindrical pore. Physics of Fluids, 2002, 14, 3354-3357.	4.0	55
7	Weakly nonlinear electrophoresis of a highly charged colloidal particle. Physics of Fluids, 2013, 25, .	4.0	55
8	Nonlinear electrophoresis at arbitrary field strengths: small-Dukhin-number analysis. Physics of Fluids, 2014, 26, .	4.0	50
9	AN ASYMPTOTIC DERIVATION OF THE THIN-DEBYE-LAYER LIMIT FOR ELECTROKINETIC PHENOMENA. Chemical Engineering Communications, 2009, 197, 3-17.	2.6	47
10	Electrokinetic self-propulsion by inhomogeneous surface kinetics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 1645-1664.	2.1	44
11	Osmotic self-propulsion of slender particles. Physics of Fluids, 2015, 27, 031701.	4.0	44
12	Electrokinetic flows about conducting drops. Journal of Fluid Mechanics, 2013, 722, 394-423.	3.4	39
13	Streaming-potential phenomena in the thin-Debye-layer limit. Part 1. General theory. Journal of Fluid Mechanics, 2011, 685, 306-334.	3.4	36
14	Electro-convection about conducting particles. Journal of Fluid Mechanics, 2008, 595, 163-172.	3.4	35
15	Electro-osmotic flow near a surface charge discontinuity. Journal of Fluid Mechanics, 2004, 521, 181-189.	3.4	32
16	Electrophoresis of bubbles. Journal of Fluid Mechanics, 2014, 753, 49-79.	3.4	32
17	Electro-osmotic flows over highly polarizable dielectric surfaces. Physics of Fluids, 2010, 22, .	4.0	31
18	The Electrophoretic Mobility of a Closely Fitting Sphere in a Cylindrical Pore. SIAM Journal on Applied Mathematics, 2004, 64, 423-441.	1.8	30

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19	Strong-field electrophoresis. Journal of Fluid Mechanics, 2012, 701, 333-351.	3.4	30
20	Dielectric-solid polarization at strong fields: Breakdown of Smoluchowski's electrophoresis formula. Physics of Fluids, 2012, 24, .	4.0	28
21	Wall-induced self-diffusiophoresis of active isotropic colloids. Physical Review Fluids, 2016, 1, .	2.5	28
22	Asymptotic current-voltage relations for currents exceeding the diffusion limit. Physical Review E, 2009, 80, 051201.	2.1	27
23	Assessing corrections to the Fickâ€“Jacobs equation. Journal of Chemical Physics, 2014, 141, 044118.	3.0	25
24	Flow animation by unsteady temperature fields. Physics of Fluids, 2004, 16, L95-L98.	4.0	24
25	Polymerase chain reaction in natural convection systems: A convection-diffusion-reaction model. Europhysics Letters, 2005, 71, 1008-1014.	2.0	24
26	Slender-body approximations for electro-phoresis and electro-rotation of polarizable particles. Journal of Fluid Mechanics, 2008, 613, 85-94.	3.4	23
27	Ratcheting of Brownian swimmers in periodically corrugated channels: A reduced Fokker-Planck approach. Physical Review E, 2014, 90, 032115.	2.1	23
28	Nonlinear electrophoresis of ideally polarizable particles. Europhysics Letters, 2008, 82, 54004.	2.0	22
29	Phoretic self-propulsion at large PÃ©cletÂnumbers. Journal of Fluid Mechanics, 2015, 768, .	3.4	22
30	Strong electro-osmotic flows about dielectric surfaces of zero surface charge. Physical Review E, 2014, 89, 043005.	2.1	21
31	Self-propulsion in a viscous fluid: arbitrary surface deformations. Journal of Fluid Mechanics, 2006, 550, 139.	3.4	18
32	Migration of ion-exchange particles driven by a uniform electric field. Journal of Fluid Mechanics, 2010, 655, 105-121.	3.4	17
33	Dielectrophoretic sphereâ€“wall repulsion due to a uniform electric field. Soft Matter, 2016, 12, 6277-6284.	2.7	17
34	The effect of surface-charge convection on the settling velocity of spherical drops in a uniform electric field. Journal of Fluid Mechanics, 2016, 797, 536-548.	3.4	17
35	Nonlinear oscillations in an electrolyte solution under ac voltage. Physical Review E, 2014, 89, 032302.	2.1	16
36	The Diffusion-Control Limit Revisited. Physical Review Letters, 2002, 89, 266107.	7.8	15

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37	Electro-hydrodynamic particle levitation on electrodes. Journal of Fluid Mechanics, 2010, 645, 187-210.	3.4	15
38	Streaming-potential phenomena in the thin-Debye-layer limit. Part 2. Moderate PÃ©clet numbers. Journal of Fluid Mechanics, 2012, 704, 109-136.	3.4	15
39	Electrohydrodynamic rotation of drops at large electric Reynolds numbers. Journal of Fluid Mechanics, 2016, 788, .	3.4	13
40	Isotropically active colloids under uniform force fields: from forced to spontaneous motion. Journal of Fluid Mechanics, 2021, 916, .	3.4	13
41	Curvature-Induced Dispersion in Electro-Osmotic Serpentine Flows. SIAM Journal on Applied Mathematics, 2004, 64, 1099-1124.	1.8	12
42	Longitudinal pressure-driven flows between superhydrophobic grooved surfaces: Large effective slip in the narrow-channel limit. Physical Review Fluids, 2017, 2, .	2.5	11
43	Electric conductance of highly selective nanochannels. Physical Review E, 2013, 87, 054301.	2.1	10
44	Two-dimensional phoretic swimmers: theÂsingular weak-advection limits. Journal of Fluid Mechanics, 2017, 816, .	3.4	10
45	Self-Diffusiophoresis of Slender Catalytic Colloids. Langmuir, 2020, 36, 6903-6915.	3.5	10
46	Induced-charge electrokinetic flows about polarizable nano-particles: the thick-Debye-layer limit. Journal of Fluid Mechanics, 2009, 627, 341-360.	3.4	9
47	Streaming-potential phenomena in the thin-Debye-layer limit. PartÂ3. Shear-induced electroviscous repulsion. Journal of Fluid Mechanics, 2016, 786, 84-109.	3.4	9
48	Inertia-induced electrophoretic interactions. Physics of Fluids, 2004, 16, L24-L27.	4.0	8
49	Ionic Currents in the Presence of Supporting Electrolytes. Physical Review Letters, 2010, 105, 176101.	7.8	8
50	Electrohydrodynamic Drop Deformation by Strong Electric Fields: Slender-Body Analysis. SIAM Journal on Applied Mathematics, 2013, 73, 2143-2161.	1.8	8
51	Boundary-induced autophoresis of isotropic colloids: anomalous repulsion in the lubrication limit. Journal of Fluid Mechanics, 2017, 812, 26-40.	3.4	8
52	Small-solid-fraction approximations for the slip-length tensor of micropillared superhydrophobic surfaces. Journal of Fluid Mechanics, 2018, 843, 637-652.	3.4	8
53	Longitudinal Thermocapillary Flow over a Dense Bubble Mattress. SIAM Journal on Applied Mathematics, 2020, 80, 1-19.	1.8	8
54	Phoretic drag reduction of chemically active homogeneous spheres under force fields and shear flows. Physical Review Fluids, 2017, 2, .	2.5	8

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55	Thermophoresis Due to Strong Temperature Gradients. SIAM Journal on Applied Mathematics, 2008, 69, 453-472.	1.8	7
56	Shear-induced Electrokinetic Lift at Large PÃ©clet Numbers. Mathematical Modelling of Natural Phenomena, 2012, 7, 64-81.	2.4	7
57	The electrophoretic mobility of rod-like particles. Journal of Fluid Mechanics, 2013, 719, .	3.4	7
58	Velocity amplification in pressure-driven flows between superhydrophobic gratings of small solid fraction. Soft Matter, 2017, 13, 6287-6292.	2.7	7
59	Thermocapillary flow between longitudinally grooved superhydrophobic surfaces. Journal of Fluid Mechanics, 2018, 855, 574-594.	3.4	7
60	Thermocapillary flow between grooved superhydrophobic surfaces: transverse temperature gradients. Journal of Fluid Mechanics, 2019, 871, 775-798.	3.4	7
61	Acoustics of bubbles trapped in microgrooves: From isolated subwavelength resonators to superhydrophobic metasurfaces. Physical Review B, 2019, 99, .	3.2	7
62	Stokes resistance of a cylinder near a slippery wall. Physical Review Fluids, 2017, 2, .	2.5	7
63	Boundary-induced electrophoresis of uncharged conducting particles: near-contact approximation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 1939-1948.	2.1	6
64	Boundary effects on electro-magneto-phoresis. Journal of Fluid Mechanics, 2009, 622, 195-207.	3.4	6
65	Electrokinetic particle-electrode interactions at high frequencies. Physical Review E, 2013, 87, 012310.	2.1	6
66	Application of Schwarzâ€“Christoffel mapping to the analysis of conduction through a slot. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150292.	2.1	6
67	Pressure-driven plug flows between superhydrophobic surfaces of closely spaced circular bubbles. Journal of Engineering Mathematics, 2018, 111, 15-22.	1.2	6
68	Rotation of a superhydrophobic cylinder in a viscous liquid. Journal of Fluid Mechanics, 2019, 880, .	3.4	6
69	Stokes resistance of a solid cylinder near a superhydrophobic surface. Part 1. Grooves perpendicular to cylinder axis. Journal of Fluid Mechanics, 2019, 868, 212-243.	3.4	6
70	Edge corrections for parallel-plate capacitors. European Journal of Applied Mathematics, 2021, 32, 226-241.	2.9	6
71	Electro-magneto-phoresis of slender bodies. Journal of Fluid Mechanics, 2007, 577, 331-340.	3.4	5
72	The elongated shape of a dielectric drop deformed by a strong electric field. Journal of Fluid Mechanics, 2010, 664, 286-296.	3.4	5

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73	Irreversible Electrokinetic Repulsion at Zero-Reynolds-Number Sedimentation. Physical Review Letters, 2011, 107, 278301.	7.8	5
74	Rolling of non-wetting droplets down a gently inclined plane. Journal of Fluid Mechanics, 2020, 903, .	3.4	5
75	Longitudinal thermocapillary slip about a dilute periodic mattress of protruding bubbles. IMA Journal of Applied Mathematics, 2021, 86, 490-501.	1.6	5
76	Speed of rolling droplets. Physical Review Fluids, 2019, 4, .	2.5	5
77	Phoretic self-propulsion of Janus disks in the fast-reaction limit. Physical Review Fluids, 2020, 5, .	2.5	5
78	Effects of solute mass transfer on the stability of capillary jets. Journal of Fluid Mechanics, 2003, 474, 95-115.	3.4	4
79	Communication: The phoretic drift of a charged particle animated by a direct ionic current. Journal of Chemical Physics, 2010, 133, 121102.	3.0	4
80	Improved Current-Voltage Approximations for Currents Exceeding the Diffusion Limit. SIAM Journal on Applied Mathematics, 2011, 71, 2131-2150.	1.8	3
81	The electrophoretic mobilities of a circular cylinder in close proximity to a dielectric wall. Journal of Fluid Mechanics, 2016, 804, .	3.4	3
82	Resistive-force theory for mesh-like superhydrophobic surfaces. Physical Review Fluids, 2018, 3, .	2.5	3
83	Self-diffusiophoresis of Janus particles at large DamkÃ¶hler numbers. Journal of Engineering Mathematics, 2022, 133, 1.	1.2	3
84	Phoretic self-propulsion of a slightly inhomogeneous disc. Journal of Fluid Mechanics, 2022, 940, .	3.4	3
85	Slip-driven thermal rectification. Europhysics Letters, 2007, 79, 24001.	2.0	2
86	Comment on â€œOn the flow field about an electrophoretic particleâ€•[Phys. Fluids 24, 102001 (2012)]. Physics of Fluids, 2013, 25, 049102.	4.0	2
87	Deformation of leaky-dielectric fluid globules under strong electric fields: boundary layers and jets at large Reynolds numbers. Journal of Fluid Mechanics, 2013, 734, .	3.4	2
88	Wetting transitions and apparent contact angles on smoothly textured surfaces. Physical Review E, 2018, 98, .	2.1	2
89	Transient diffusion from high-capacity solute beacons. Applied Mathematics Letters, 2020, 103, 106182.	2.7	2
90	Anomalous sedimentation of a small Brownian sphere in a vertical circular cylinder of periodically varying radius. Physics of Fluids, 2003, 15, 1082-1085.	4.0	1

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91	Displacing small particles by unsteady temperature fields. Journal of Fluid Mechanics, 2005, 530, 125-134.	3.4	1
92	HOWARD BRENNER'S LEGACYâ€¦SO FAR. Chemical Engineering Communications, 2009, 197, 1-2.	2.6	1
93	One-dimensional conduction through supporting electrolytes: Two-scale cathodic Debye layer. Physical Review E, 2011, 84, 041204.	2.1	1
94	Small PÃ©clet-number mass transport to a finite strip: An advectionâ€“diffusionâ€“reaction model of surface-based biosensors. European Journal of Applied Mathematics, 2020, 31, 763-781.	2.9	1
95	Conductivity of a medium containing a dense array of perfectly conducting square cylinders. Journal of Engineering Mathematics, 2021, 127, 1.	1.2	0