Antonio Ramos

List of Publications by Year
in descending order

128 papers	6,795 citations	136740 32 h-index	62479 80 g-index
128 all docs	128 docs citations	128 times ranked	3165 citing authors

#	Article	IF	Citations
1	Ac electrokinetics: a review of forces in microelectrode structures. Journal Physics D: Applied Physics, 1998, 31, 2338-2353.	1.3	1,085
2	Electrohydrodynamics and dielectrophoresis in microsystems: scaling laws. Journal Physics D: Applied Physics, 2003, 36, 2584-2597.	1.3	587
3	AC Electric-Field-Induced Fluid Flow in Microelectrodes. Journal of Colloid and Interface Science, 1999, 217, 420-422.	5.0	458
4	Fluid flow induced by nonuniform ac electric fields in electrolytes on microelectrodes. I.â€ƒExperimental measurements. Physical Review E, 2000, 61, 4011-4018.	0.8	434
5	Fluid flow induced by nonuniform ac electric fields in electrolytes on microelectrodes. II.â€ƒA linear double-layer analysis. Physical Review E, 2000, 61, 4019-4028.	0.8	332
6	Fluid flow induced by nonuniform ac electric fields in electrolytes on microelectrodes.â€ƒIII.â€ƒObservation of streamlines and numerical simulation. Physical Review E, 2002, 66, 026305.	0.8	330
7	Electrothermally induced fluid flow on microelectrodes. Journal of Electrostatics, 2001, 53, 71-87.	1.0	251
8	Pumping of liquids with ac voltages applied to asymmetric pairs of microelectrodes. Physical Review E, 2003, 67, 056302.	0.8	205
9	Ac electrokinetics: a survey of sub-micrometre particle dynamics. Journal Physics D: Applied Physics, 2000, 33, 632-641.	1.3	200
10	The dielectrophoretic and travelling wave forces generated by interdigitated electrode arrays: analytical solution using Fourier series. Journal Physics D: Applied Physics, 2001, 34, 1553-1561.	1.3	185
11	Review on the physics of electrospray: From electrokinetics to the operating conditions of single and coaxial Taylor cone-jets, and AC electrospray. Journal of Aerosol Science, 2018, 125, 32-56.	1.8	182
12	Numerical solution of the dielectrophoretic and travelling wave forces for interdigitated electrode arrays using the finite element method. Journal of Electrostatics, 2002, 56, 235-254.	1.0	155
13	Pumping of liquids with traveling-wave electroosmosis. Journal of Applied Physics, 2005, 97, 084906.	1.1	153
14	Electrothermal flows generated by alternating and rotating electric fields in microsystems. Journal of Fluid Mechanics, 2006, 564, 415.	1.4	142
15	Electrokinetics and Electrohydrodynamics in Microsystems. , 2011, , .		142
16	Electric field induced fluid flow on microelectrodes: the effect of illumination. Journal Physics D: Applied Physics, 2000, 33, L13-L17.	1.3	103
17	Flow Regimes in Fine Cohesive Powders. Physical Review Letters, 1999, 82, 1156-1159.	2.9	100
18	The tensile strength of cohesive powders and its relationship to consolidation, free volume and cohesivity. Powder Technology, 1998, 97, 237-245.	2.1	96

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19	Alternating Current Electrokinetic Properties of Gold-Coated Microspheres. Langmuir, 2012, 28, 13861-13870.	1.6	80
20	Conical points in liquid-liquid interfaces subjected to electric fields. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 184, 268-272.	0.9	69
21	Experiments on AC electrokinetic pumping of liquids using arrays of microelectrodes. IEEE Transactions on Dielectrics and Electrical Insulation, 2006, 13, 670-677.	1.8	69
22	The role of electrohydrodynamic forces in the dielectrophoretic manipulation and separation of particles. Journal of Electrostatics, 1999, 47, 71-81.	1.0	64
23	AC electrokinetics of conducting microparticles: A review. Current Opinion in Colloid and Interface Science, 2016, 24, 79-90.	3.4	62
24	Electrothermally driven flows in ac electrowetting. Physical Review E, 2010, 81, 015303.	0.8	61
25	Avalanches in fine, cohesive powders. Physical Review E, 2000, 62, 6851-6860.	0.8	52
26	Electrorotation of Metallic Microspheres. Langmuir, 2011, 27, 2128-2131.	1.6	52
27	An automated apparatus for measuring the tensile strength and compressibility of fine cohesive powders. Review of Scientific Instruments, 2000, 71, 2791-2795.	0.6	49
28	AC electrokinetic biased deterministic lateral displacement for tunable particle separation. Lab on A Chip, 2019, 19, 1386-1396.	3.1	49
29	Traveling-Wave Electrokinetic Micropumps: Velocity, Electrical Current, and Impedance Measurements. Langmuir, 2008, 24, 9361-9369.	1.6	44
30	Flow Reversal in Traveling-Wave Electrokinetics: An Analysis of Forces Due to Ionic Concentration Gradients. Langmuir, 2009, 25, 4988-4997.	1.6	44
31	Electro-orientation and electrorotation of metal nanowires. Physical Review E, 2013, 88, 063018.	0.8	44
32	A linear analysis of the effect of Faradaic currents on traveling-wave electroosmosis. Journal of Colloid and Interface Science, 2007, 309, 323-331.	5.0	42
33	Experiments on dielectric liquid bridges subjected to axial electric fields. Physics of Fluids, 1994, 6, 3206-3208.	1.6	40
34	Novel systems for configurable AC electroosmotic pumping. Microfluidics and Nanofluidics, 2007, 3, 709-714.	1.0	33
35	AC electrokinetic pumping on symmetric electrode arrays. Microfluidics and Nanofluidics, 2009, 7, 767-772.	1.0	33
36	Effect of the combined action of Faradaic currents and mobility differences in ac electro-osmosis. Physical Review E, 2010, 81, 016320.	0.8	33

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37	Breakup length of AC electrified jets in a microfluidic flow-focusing junction. Microfluidics and Nanofluidics, 2015, 19, 787-794.	1.0	29
38	Electric-field-induced rotation of Brownian metal nanowires. Physical Review E, 2013, 88, 033025.	0.8	26
39	Combining DC and AC electric fields with deterministic lateral displacement for micro- and nano-particle separation. Biomicrofluidics, 2019, 13, 054110.	1.2	26
40	Electrorotation of a metal sphere immersed in an electrolyte of finite Debye length. Physical Review E, 2015, 92, 052313.	0.8	25
41	Electrorotation of titanium microspheres. Electrophoresis, 2013, 34, 979-986.	1.3	24
42	Self-assembly of metal nanowires induced by alternating current electric fields. Applied Physics Letters, 2015, 106, .	1.5	21
43	Control of two-phase flow in a microfluidic system using ac electric fields. Applied Physics Letters, 2007, 91, 254107.	1.5	20
44	DC-biased AC-electrokinetics: a conductivity gradient driven fluid flow. Lab on A Chip, 2011, 11, 4241.	3.1	20
45	AC electrified jets in a flow-focusing device: Jet length scaling. Biomicrofluidics, 2016, 10, 043504.	1.2	20
46	Stationary Electro-osmotic Flow Driven by ac Fields around Insulators. Physical Review Applied, 2021, 15, .	1.5	20
47	The effect of electrode height on the performance of travelling-wave electroosmotic micropumps. Microfluidics and Nanofluidics, 2008, 5, 307-312.	1.0	19
48	Electrical manipulation of electrolytes with conductivity gradients in microsystems. Journal of Electrostatics, 2009, 67, 372-376.	1.0	19
49	Actuation of co-flowing electrolytes in a microfluidic system by microelectrode arrays. Microfluidics and Nanofluidics, 2012, 13, 441-449.	1.0	17
50	Electro-orientation of a metal nanowire counterbalanced by thermal torques. Physical Review E, 2014, 89, 062306.	0.8	16
51	Electrorotation and Electroorientation of Semiconductor Nanowires. Langmuir, 2017, 33, 8553-8561.	1.6	16
52	Bifurcation diagrams of axisymmetric liquid bridges of arbitrary volume in electric and gravitational axial fields. Journal of Fluid Mechanics, 1993, 249, 207.	1.4	15
53	On the breakup of slender liquid bridges: Experiments and a 1-D numerical analysis. European Journal of Mechanics, B/Fluids, 1999, 18, 649-658.	1.2	15
54	Parametric instability of conducting, slightly viscous liquid jets under periodic electric fields. Journal of Electrostatics, 1999, 47, 27-38.	1.0	15

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55	Pumping of electrolytes using travelling-wave electro-osmosis: a weakly nonlinear analysis. Microfluidics and Nanofluidics, 2008, 5, 507-515.	1.0	15
56	Electrokinetic biased deterministic lateral displacement: scaling analysis and simulations. Journal of Chromatography A, 2020, 1623, 461151.	1.8	15
57	Equilibrium shapes and bifurcation of captive dielectric drops subjected to electric fields. Journal of Electrostatics, 1994, 33, 61-86.	1.0	14
58	Dielectrophoretic and AC electroosmotic trapping of DNA: Numerical simulation incorporating fluid dynamics and steric particle effects. Journal of Electrostatics, 2011, 69, 111-118.	1.0	14
59	Configurable AC electroosmotic pumping and mixing. Microelectronic Engineering, 2012, 90, 47-50.	1.1	14
60	Electrohydrodynamic and Magnetohydrodynamic Micropumps. , 2007, , 59-116.		14
61	Electrohydromechanical analysis based on conductivity gradient in microchannel. Chinese Physics B, 2008, 17, 4541-4546.	0.7	13
62	Experiments on traveling-wave electroosmosis: effect of electrolyte conductivity. IEEE Transactions on Dielectrics and Electrical Insulation, 2009, 16, 417-423.	1.8	13
63	The role of particle-electrode wall interactions in mobility of active Janus particles driven by electric fields. Journal of Colloid and Interface Science, 2022, 616, 465-475.	5.0	13
64	Simulation of liquid film motor: a charge induction mechanism. Microfluidics and Nanofluidics, 2015, 19, 133-139.	1.0	12
65	Electrorotation of semiconducting microspheres. Physical Review E, 2019, 100, 042616.	0.8	11
66	Modeling the AC Electrokinetic Behavior of Semiconducting Spheres. Micromachines, 2019, 10, 100.	1.4	11
67	Stationary electro-osmotic flow driven by AC fields around charged dielectric spheres. Journal of Fluid Mechanics, 2021, 924, .	1.4	11
68	Wall Repulsion of Charged Colloidal Particles during Electrophoresis in Microfluidic Channels. Physical Review Letters, 2022, 128, 074501.	2.9	11
69	Taylor cones in a leaky dielectric liquid under an ac electric field. Physical Review E, 2011, 84, 035301.	0.8	10
70	Electro-Orientation of Silver Nanowires in Alternating Fields. Langmuir, 2019, 35, 687-694.	1.6	10
71	Effects of Faradaic currents on AC electroosmotic flows with coplanar symmetric electrodes. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 376, 47-52.	2.3	9
72	Induced soap-film flow by non-uniform alternating electric field. Journal of Electrostatics, 2015, 73, 112-116.	1.0	9

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73	The charged bouncing ball: An experimental model for period-doubling bifurcation. Europhysics Letters, 1997, 37, 541-546.	0.7	8
74	Microwave-induced water flows in microsystems. Applied Physics Letters, 2009, 94, 024104.	1.5	8
75	The dielectrophoretic and travelling wave forces generated by interdigitated electrode arrays: analytical solution using Fourier series. Journal Physics D: Applied Physics, 2001, 34, 2708-2708.	1.3	8
76	Shapes and stability of liquid bridges subjected to a.c. electric fields. Journal of Electrostatics, 1991, 26, 143-156.	1.0	7
77	Concentrationâ€“Polarization Electroosmosis near Insulating Constrictions within Microfluidic Channels. Analytical Chemistry, 2021, 93, 14667-14674.	3.2	7
78	Parametric instability of dielectric, slightly viscous liquid jets under ac electric fields. Physics of Fluids, 1997, 9, 1830-1837.	1.6	6
79	AC electrokinetic pumping of liquids using arrays of microelectrodes. , 2005, , .		6
80	Numerical study of dc-biased ac-electrokinetic flow over symmetrical electrodes. Biomicrofluidics, 2012, 6, 12817-1281710.	1.2	6
81	Pumping of electrolytes by electrical forces induced on the diffusion layer: A weakly nonlinear analysis. Physical Review E, 2017, 95, 022802.	0.8	6
82	Trapping and manipulation of nanoparticles by using jointly dielectrophoresis and AC electroosmosis. Journal of Physics: Conference Series, 2008, 100, 052015.	0.3	5
83	Wall effects on the electrical manipulation of metal nanowires. Electrophoresis, 2015, 36, 1414-1422.	1.3	5
84	Effect of viscosity on the stability of an interface subjected to highâ€frequency magnetic fields. Physics of Fluids, 1996, 8, 1907-1916.	1.6	4
85	Stability of insulating viscous jets under axial electric fields. Journal of Electrostatics, 1997, 40-41, 161-166.	1.0	4
86	Comment on â€œTheoretical Model of Electrode Polarization and AC Electroosmotic Fluid Flow in Planar Electrode Arraysâ€. Journal of Colloid and Interface Science, 2001, 243, 265-266.	5.0	4
87	Micro- and nano-particle manipulation by dielectrophoresis: devices for particle trapping and the influence of steric effects. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 3794-3797.	0.8	4
88	Microwave-induced water flow in a microchannel built on a coplanar waveguide. Journal of Applied Physics, 2011, 110, 064912.	1.1	4
89	Droplet group production in an AC electro-flow-focusing microdevice. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	4
90	Electrokinetics of metal cylinders. Physical Review E, 2019, 99, 032603.	0.8	4

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91	Dipolophoresis and Travelling-Wave Dipolophoresis of Metal Microparticles. Micromachines, 2020, 11, 259.	1.4	4
92	Short communication: A simple and accurate method of measuring the zetaâ€potential of microfluidic channels. Electrophoresis, 2021, , .	1.3	4
93	Bifurcation diagrams of axisymmetric liquid bridges subjected to axial electric fields. Physics of Fluids, 1994, 6, 3580-3590.	1.6	3
94	Force criterion of different electrolytes in microchannel. Chinese Physics B, 2009, 18, 4349-4352.	0.7	3
95	Water flows induced by microwave electric fields in microsystems. Journal of Electrostatics, 2009, 67, 377-380.	1.0	3
96	Electrohydrodynamic Pumping in Microsystems. , 2011, , 127-175.		3
97	Ab Initio DFT Simulations of Nanostructures. , 2012, , 11-17.		3
98	Pumping of electrolytes using arrays of asymmetric pairs of microelectrodes subjected to ac voltages. Institute of Physics Conference Series, 2004, , 187-192.	0.3	3
99	Shaping liquid films by dielectrophoresis. Flow, 2021, 1, .	1.0	3
100	Manipulation of Bio-Particles in Microelectrode Structures by Means of Non-Uniform AC Electric Fields. , 2002, , 165.		2
101	Experiments on pumping of liquids using arrays of microelectrodes subjected to travelling wave potentials. Journal of Physics: Conference Series, 2008, 142, 012055.	0.3	2
102	Electrohydrodynamic pumping in microsystems. Journal of Physics: Conference Series, 2011, 301, 012028.	0.3	2
103	AFM, Tapping Mode. , 2012, , 99-99.		2
104	Numerical study of soap-film flow by nonuniform alternating electric fields. Physical Review E, 2017, 95, 022806.	0.8	2
105	Nano-scale AC electrokinetics and electrohydrodynamics. Journal Physics D: Applied Physics, 2017, 50, 011001.	1.3	2
106	AC Electroosmosis: Basics and Lab-on-a-Chip Applications. , 2015, , 1-7.		2
107	AC electric-field-induced fluid flow in microelectrode structures: scaling laws. , 0, , .		1
108	<title>AC electric field microfluidic control in microsystems</title>. , 2005, , .		1

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109	Effect of the difference in ion mobilities on traveling-wave electro-osmosis. , 2008, , .		1
110	Initial concentration and fluidic effects on the dielectrophoretic trapping of DNA. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2755-2758.	0.8	1
111	Electrohydrodynamic actuation of co-flowing liquids by means of microelectrode arrays. Journal of Physics: Conference Series, 2011, 301, 012031.	0.3	1
112	AC Electroosmosis: Basics and Lab-on-a-Chip Applications. , 2012, , 25-30.		1
113	Soap-film flow induced by electric fields in asymmetric frames. Physical Review E, 2018, 97, 043110.	0.8	1
114	Continuous Particle Separation in Microfluidics: Deterministic Lateral Displacement Assisted by Electric Fields. Micromachines, 2021, 12, 66.	1.4	1
115	Electrothermal Liquid Motion in Microsystems Subjected to Alternating and Rotating Electric Fields. , 2003, , .		1
116	Dielectrophoretic Force Equilibrium of Complex Particles. Physical Review Applied, 2020, 14, .	1.5	1
117	Electrical stabilization of dielectric liquid bridges in microgravity. , 0, , .		0
118	Manipulation of bio-particles by means of nonuniform AC electric fields. , 2005, 5839, 138.		0
119	Pumping of liquids using travelling wave electro-osmosis: a nonlinear analysis. , 0, , .		0
120	Experiments on AC electrokinetic pumping of liquids using arrays of microelectrodes. , 0, , .		0
121	Pumping electrolytes with arrays of electrodes subjected to travelling-wave potentials: Electrode design. , 2007, , .		0
122	A symmetry electrode array for AC and traveling wave electroosmosis pumping. , 2008, , .		0
123	Flow of electrolytes induced by AC voltages in a point-plane electrode microsystem. , 2008, , .		0
124	AFM. , 2012, , 83-83.		0
125	Editorial for the Special Issue on AC Electrokinetics in Microfluidic Devices. Micromachines, 2019, 10, 345.	1.4	0
126	Controllable production of Janus ligaments by AC fields in a flow-focusing junction. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	0

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127	Electrohydrodynamics in microelectrode structures. Institute of Physics Conference Series, 2004, , 175-180.	0.3	0
128	Equilibrium Shapes, Stability and Dynamical Behaviour of Liquid Captive Menisci under Gravitational, Centrifugal and Electrical Fields. , 1992, , 271-283.		0