Jan Gimsa

List of Publications by Year
in descending order

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102 papers	2,526 citations	236925 25 h-index	214800 47 g-index
106 all docs	106 docs citations	106 times ranked	2228 citing authors

#	Article	IF	Citations
1	Dielectric spectroscopy of single human erythrocytes at physiological ionic strength: dispersion of the cytoplasm. Biophysical Journal, 1996, 71, 495-506.	0.5	191
2	Dielectrophoresis and electrorotation of neurospora slime and murine myeloma cells. Biophysical Journal, 1991, 60, 749-760.	0.5	165
3	Analytical Description of the Transmembrane Voltage Induced on Arbitrarily Oriented Ellipsoidal and Cylindrical Cells. Biophysical Journal, 2001, 81, 1888-1896.	0.5	116
4	Choosing electrodes for deep brain stimulation experimentsâ€“electrochemical considerations. Journal of Neuroscience Methods, 2005, 142, 251-265.	2.5	116
5	Traveling-wave dielectrophoresis of microparticles. Electrophoresis, 1992, 13, 49-54.	2.4	109
6	A comprehensive approach to electro-orientation, electrodeformation, dielectrophoresis, and electrorotation of ellipsoidal particles and biological cells. Bioelectrochemistry, 2001, 54, 23-31.	4.6	109
7	A Unified Resistor-Capacitor Model for Impedance, Dielectrophoresis, Electrorotation, and Induced Transmembrane Potential. Biophysical Journal, 1998, 75, 1107-1116.	0.5	108
8	Increased osteoblast viability at alkaline pH in vitro provides a new perspective on bone regeneration. Biochemistry and Biophysics Reports, 2017, 10, 17-25.	1.3	94
9	A Polarization Model Overcoming the Geometric Restrictions of the Laplace Solution for Spheroidal Cells: Obtaining New Equations for Field-Induced Forces and Transmembrane Potential. Biophysical Journal, 1999, 77, 1316-1326.	0.5	88
10	Dielectric spectroscopy of human erythrocytes: investigations under the influence of nystatin. Biophysical Journal, 1994, 66, 1244-1253.	0.5	82
11	Do band 3 protein conformational changes mediate shape changes of human erythrocytes?. Molecular Membrane Biology, 1995, 12, 247-254.	2.0	61
12	Differential astroglial activation in 6-hydroxydopamine models of Parkinsonâ€™s disease. Neuroscience Research, 2008, 62, 246-253.	1.9	55
13	Matching geometry and stimulation parameters of electrodes for deep brain stimulation experimentsâ€”Numerical considerations. Journal of Neuroscience Methods, 2006, 150, 212-227.	2.5	47
14	A short tutorial contribution to impedance and AC-electrokinetic characterization and manipulation of cells and media: Are electric methods more versatile than acoustic and laser methods?. Journal of Electrical Bioimpedance, 2014, 5, 74-91.	0.9	47
15	Optimizing a Rodent Model of Parkinson's Disease for Exploring the Effects and Mechanisms of Deep Brain Stimulation. Parkinson's Disease, 2011, 2011, 1-19.	1.1	45
16	Effects of cell orientation and electric field frequency on the transmembrane potential induced in ellipsoidal cells. Bioelectrochemistry, 2008, 74, 130-141.	4.6	39
17	Cellular absorption of electric field energy: influence of molecular properties of the cytoplasm. Bioelectrochemistry, 2002, 56, 215-218.	4.6	38
18	Introducing phase analysis light scattering for dielectric characterization: measurement of traveling-wave pumping. Biophysical Journal, 1997, 73, 3309-3316.	0.5	37

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19	Attachment of Rod-Like (BAR) Proteins and Membrane Shape. Mini-Reviews in Medicinal Chemistry, 2011, 11, 272-282.	2.4	35
20	Maxwellâ€™s Mixing Equation Revisited: Characteristic Impedance Equations for Ellipsoidal Cells. Biophysical Journal, 2015, 109, 194-208.	0.5	33
21	A short review on AC electro-thermal micropumps based on smeared structural polarizations in the presence of a temperature gradient. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 376, 97-101.	4.7	32
22	Design and Characterization of a Sensorized Microfluidic Cell-Culture System with Electro-Thermal Micro-Pumps and Sensors for Cell Adhesion, Oxygen, and pH on a Glass Chip. Biosensors, 2015, 5, 513-536.	4.7	30
23	On the analytical description of transmembrane voltage induced on spheroidal cells with zero membrane conductance. European Biophysics Journal, 2001, 30, 463-466.	2.2	29
24	The influence of the molecular structure of lipid membranes on the electric field distribution and energy absorption. Bioelectromagnetics, 2006, 27, 652-666.	1.6	29
25	The influence of topographic microstructures on the initial adhesion of L929 fibroblasts studied by single-cell force spectroscopy. European Biophysics Journal, 2011, 40, 317-327.	2.2	27
26	A new working principle for ac electro-hydrodynamic on-chip micro-pumps. Journal Physics D: Applied Physics, 2007, 40, 6850-6856.	2.8	26
27	Experimental verification of an equivalent circuit for the characterization of electrothermal micropumps: High pumping velocities induced by the external inductance at driving voltages below 5 V. Electrophoresis, 2013, 34, 562-574.	2.4	26
28	Simplified equations for the transmembrane potential induced in ellipsoidal cells of rotational symmetry. Journal Physics D: Applied Physics, 2007, 40, 914-923.	2.8	25
29	A Compact and Versatile Instrument for Radio Frequency Heating in Nonisothermal Electrochemical Studies. Electroanalysis, 2007, 19, 535-540.	2.9	25
30	On the temperature dependence of the dielectric membrane properties of human red blood cells. Bioelectrochemistry, 2007, 70, 134-140.	4.6	25
31	Actin is not required for nanotubular protrusions of primary astrocytes grown on metal nano-lawn. Molecular Membrane Biology, 2007, 24, 243-255.	2.0	24
32	New Light-Scattering and Field-Trapping Methods Access the Internal Electric Structure of Submicron Particles, like Influenza Virusesa. Annals of the New York Academy of Sciences, 1999, 873, 287-298.	3.8	23
33	Automated and manual patch clamp data of human induced pluripotent stem cell-derived dopaminergic neurons. Scientific Data, 2017, 4, 170056.	5.3	23
34	Measurement of inherent particle properties by dynamic light scattering: introducing electrorotational light scattering. Biophysical Journal, 1997, 72, 1414-1424.	0.5	22
35	A Possible Molecular Mechanism Governing Human Erythrocyte Shape. Biophysical Journal, 1998, 75, 568.	0.5	22
36	Ion channel enzyme in an oscillating electric field. Journal of Membrane Biology, 1992, 126, 137-45.	2.1	21

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37	Electro-Quasistatic Simulations in Bio-Systems Engineering and Medical Engineering. Advances in Radio Science, 0, 3, 39-49.	0.7	21
38	A new exposure system for the in vitro detection of GHz field effects on neuronal networks. Bioelectrochemistry, 2007, 70, 104-114.	4.6	20
39	Electrochemical product detection of an asymmetric convective polymerase chain reaction. Biosensors and Bioelectronics, 2009, 25, 400-405.	10.1	20
40	Recording electric potentials from single adherent cells with 3D microelectrode arrays after local electroporation. Biosensors and Bioelectronics, 2010, 26, 1731-1735.	10.1	20
41	A comparative analysis of detachment forces and energies in initial and mature cell-material interaction. Colloids and Surfaces B: Biointerfaces, 2020, 190, 110894.	5.0	18
42	Particle characterization by AC electrokinetic phenomena. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 149, 443-449.	4.7	17
43	Modular glass chip system measuring the electric activity and adhesion of neuronal cellsâ€"application and drug testing with sodium valproic acid. Lab on A Chip, 2010, 10, 1579.	6.0	17
44	Two evolutionary strategies of influenza viruses to escape host non-specific inhibitors: alteration of hemagglutinin or neuraminidase specificity. Virus Research, 1996, 42, 127-135.	2.2	14
45	Estimating the subcellular absorption of electric field energy: equations for an ellipsoidal single shell model. Bioelectrochemistry, 2002, 56, 211-213.	4.6	14
46	Deep Brain Stimulation of Hemiparkinsonian Rats with Unipolar and Bipolar Electrodes for up to 6 Weeks: Behavioral Testing of Freely Moving Animals. Parkinson's Disease, 2017, 2017, 1-18.	1.1	14
47	Ac-field-induced KCl leakage from human red cells at low ionic strengths. Bioelectrochemistry, 1989, 22, 255-270.	1.0	13
48	Excluded volume driven counterion condensation inside nanotubes in a concave electrical double layer model. Bioelectrochemistry, 2005, 67, 91-99.	4.6	13
49	A decrease of intracellular ATP is compensated by increased respiration and acidification at sub-lethal parathion concentrations in murine embryonic neuronal cells: Measurements in metabolic cell-culture chips. Toxicology Letters, 2011, 207, 182-190.	0.8	13
50	Low fibronectin concentration overcompensates for reduced initial fibroblasts adhesion to a nanoscale topography: Single-cell force spectroscopy. Colloids and Surfaces B: Biointerfaces, 2012, 95, 82-89.	5.0	13
51	The riddle of Spinosaurus aegyptiacusâ€™ dorsal sail. Geological Magazine, 2016, 153, 544-547.	1.5	13
52	Electrorotation of particles measured by dynamic light scattering â€" a new dielectric spectroscopy technique. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1995, 98, 243-249.	4.7	12
53	Dielectric anisotropy, volume potential anomalies and the persistent Maxwellian equivalent body. Journal of Physics Condensed Matter, 2005, 17, 7817-7831.	1.8	12
54	On the field distribution in electrorotation chambersâ€"Influence of electrode shape. Electrochimica Acta, 2006, 51, 5215-5220.	5.2	12

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55	ac-field-induced fluid pumping in microsystems with asymmetric temperature gradients. Physical Review E, 2009, 79, 026309.	2.1	12
56	Spermidine-Induced Attraction of Like-Charged Surfaces Is Correlated with the pH-Dependent Spermidine Charge: Force Spectroscopy Characterization. Langmuir, 2018, 34, 2725-2733.	3.5	12
57	Evaluation of the data of simple cells by electrorotation using square-topped fields. Bioelectrochemistry, 1988, 19, 389-396.	1.0	11
58	Red cell echinocytogenesis is correlated to the recruitment of external band-3 conformations. Bioelectrochemistry, 1995, 38, 99-103.	1.0	11
59	Cell Monitoring and Manipulation Systems (CMMSs) based on Glass Cell-Culture Chips (GC3s). Micromachines, 2016, 7, 106.	2.9	11
60	Electrical Impedance Properties of Deep Brain Stimulation Electrodes during Long-Term In-Vivo Stimulation in the Parkinson Model of the Rat. Communications in Computer and Information Science, 2013, , 287-297.	0.5	11
61	Electroporation in rotating electric fields. Bioelectrochemistry, 1992, 29, 81-89.	1.0	10
62	Subthalamic nucleus deep brain stimulation induces sustained neurorestoration in the mesolimbic dopaminergic system in a Parkinson's disease model. Neurobiology of Disease, 2021, 156, 105404.	4.4	10
63	Analysis of the torque-frequency characteristics of dielectric induction motors. Sensors and Actuators A: Physical, 1992, 33, 237-247.	4.1	9
64	Particle characterization by AC-electrokinetic phenomena 3. New developments in electrorotational light scattering (ERLS). Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1998, 136, 199-207.	4.7	9
65	Fast Prototyping of Sensorized Cell Culture Chips and Microfluidic Systems with Ultrashort Laser Pulses. Micromachines, 2015, 6, 364-374.	2.9	9
66	The influence of insulating and conductive ellipsoidal objects on the impedance and permittivity of media. Journal of Electrostatics, 2017, 90, 131-138.	1.9	9
67	Impedance detection of the electrical resistivity of the wound tissue around deep brain stimulation electrodes permits registration of the encapsulation process in a rat model. Journal of Electrical Bioimpedance, 2019, 8, 11-24.	0.9	9
68	Particle characterization by AC-electrokinetic phenomena: 1. A short introduction to dielectrophoresis (DP) and electrorotation (ER). Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 149, 451-459.	4.7	7
69	MC3T3 osteoblast-like cells cultured at alkaline pH: Microarray data (Affymetrix GeneChip Mouse 2.0) Tj ETQq1 1 0.784314 rgBT /Ove	1.0	7
70	Combined ACâ€electrokinetic effects: Theoretical considerations on a threeâ€axial ellipsoidal model. Electrophoresis, 2018, 39, 1339-1348.	2.4	7
71	Active, Reactive, and Apparent Power in Dielectrophoresis: Force Corrections from the Capacitive Charging Work on Suspensions Described by Maxwell-Wagnerâ€™s Mixing Equation. Micromachines, 2021, 12, 738.	2.9	7
72	Optical high-resolution analysis of rotational movement: testing circular spatial filter velocimetry (CSFV) with rotating biological cells. Journal Physics D: Applied Physics, 2016, 49, 265402.	2.8	6

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73	Furthering the state of knowledge on the electric properties of hemi-ellipsoidal single cells and cell patches on electrodes. Biosensors and Bioelectronics, 2018, 105, 166-172.	10.1	6
74	Templateâ€Free Galvanic Nanostructuring of Gold Electrodes for Sensitive Electrochemical Biosensors. Electroanalysis, 2009, 21, 2153-2159.	2.9	5
75	Combined detection of ACâ€electrokinetic effects: Experiments with threeâ€axial chicken red blood cells. Electrophoresis, 2018, 39, 2253-2261.	2.4	5
76	Dynamic Light Scattering from Oriented, Rotating Particles: A Theoretical Study and Comparison to Electrorotation Data. Journal De Physique III, 1996, 6, 421-432.	0.3	5
77	Ac-field-induced KCl leakage from human red cells at low ionic strengths. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1989, 276, 255-270.	0.1	4
78	Can the law of maximum entropy production describe the field-induced orientation of ellipsoids of rotation?. Journal of Physics Communications, 2020, 4, 085017.	1.2	4
79	Handling and investigation of adherently growing cells and viruses of medical relevance in three-dimensional micro-structures. , 1997, , .		3
80	Surface Coatings Modulate the Differences in the Adhesion Forces of Eukaryotic and Prokaryotic Cells as Detected by Single Cell Force Microscopy. International Journal of Biomaterials, 2019, 2019, 1-12.	2.4	3
81	AC-Electrokinetic Applications in Cell Chips: Basic Understanding and Modeling of Structural Polarization Effects. IFMBE Proceedings, 2011, , 1242-1245.	0.3	3
82	Title is missing!. ScienceAsia, 2007, 33, 061.	0.5	3
83	Dielectrophoresis from the Systemâ€™s Point of View: A Tale of Inhomogeneous Object Polarization, Mirror Charges, High Repelling and Snap-to-Surface Forces and Complex Trajectories Featuring Bifurcation Points and Watersheds. Micromachines, 2022, 13, 1002.	2.9	3
84	Electric and Magnetic Fields in Cells and Tissues. , 2005, , 6-14.		2
85	The effect of hyperbaric air on the electric activity of neuronal in vitro networks. Biosensors and Bioelectronics, 2015, 73, 153-159.	10.1	2
86	Neuronal in vitro activity is more sensitive to valproate than intracellular ATP: Considerations on conversion problems of IC50 in vitro data for animal replacement. BioSystems, 2016, 144, 35-45.	2.0	2
87	Contributions to a Discussion of Spinosaurus aegyptiacus as a Capable Swimmer and Deep-Water Predator. Life, 2021, 11, 889.	2.4	2
88	Assessing immune competence in pigs by immunization with tetanus toxoid. Animal, 2018, 12, 116-121.	3.3	2
89	A resonant, dielectric micro-motor driven by low ac-voltages (<6V). Microsystem Technologies, 1997, 3, 168-170.	2.0	1
90	Enhancing the regeneration of bone defects by alkalizing the peri-implant zone â€“ anin vitroapproach. Current Directions in Biomedical Engineering, 2016, 2, 547-551.	0.4	1

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91	Electric and Magnetic Fields in Cells and Tissues. , 2017, , .		1
92	Membrane Potentials Induced by External Rotating Electrical Fields. Electromagnetic Biology and Medicine, 1987, 6, 49-69.	1.4	1
93	Rotational Behaviour of Living Cells with Reference to Micro-Motors. , 1990, , 832-837.		1
94	Evaluation of the data of simple cells by electrorotation using square-topped fields. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1988, 253, 389-396.	0.1	0
95	Determination of viral neuraminidase specificity for membrane-bound sialic acids by cell electrophoresis. Molecular Membrane Biology, 1997, 14, 87-90.	2.0	0
96	TRENNBARKEIT VON QUELLEN IN BIOMAGNETISCHEN MESSUNGEN DURCH DIE INDEPENDENT COMPONENT ANALYSIS (ICA). Biomedizinische Technik, 2003, 48, 420-421.	0.8	0
97	Chapter 8 Basic Cellâ€“Cell and Cellâ€“Surface Interactions in Liposome and Cellular Systems. Behavior Research Methods, 2006, , 229-251.	4.0	0
98	Effect Of Temperature On The Electrorotation Behavior Of Human Red Blood Cells. Jurnal Teknologi (Sciences and Engineering), 0, , .	0.4	0
99	Poregenic - Patch on Chip System for Adherent Cellular Networks. Biophysical Journal, 2012, 102, 583a.	0.5	0
100	WST-assay data reveal a pH dependence of the mitochondrial succinate reductase in osteoblast-like cells. Data in Brief, 2017, 12, 442-446.	1.0	0
101	Dynamic Light Scattering Applied to Electrorotation: Measurement of Internal Particle Properties and Layer Capacitance. , 1996, , 160-163.		0
102	Characterization of Internal Particle Structures by Dynamic Light Scattering. , 1996, , 156-159.		0