

Enno Kätelhän

List of Publications by Year in descending order

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Version: 2024-02-01

78
papers

1,927
citations

236612

25
h-index

288905

40
g-index

80
all docs

80
docs citations

80
times ranked

1427
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrodeâ€‘particle impacts: a users guide. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 28-43.	1.3	196
2	Recent Advances in Voltammetry. <i>ChemistryOpen</i> , 2015, 4, 224-260.	0.9	130
3	Destructive nano-impacts: What information can be extracted from spike shapes?. <i>Electrochimica Acta</i> , 2016, 199, 297-304.	2.6	84
4	Nanoscale Electrochemical Sensor Arrays: Redox Cycling Amplification in Dual-Electrode Systems. <i>Accounts of Chemical Research</i> , 2016, 49, 2031-2040.	7.6	75
5	Nanocavity Redox Cycling Sensors for the Detection of Dopamine Fluctuations in Microfluidic Gradients. <i>Analytical Chemistry</i> , 2010, 82, 8502-8509.	3.2	70
6	Stochasticity in Single-Molecule Nanoelectrochemistry: Origins, Consequences, and Solutions. <i>ACS Nano</i> , 2012, 6, 9662-9671.	7.3	57
7	Parallel On-Chip Analysis of Single Vesicle Neurotransmitter Release. <i>Analytical Chemistry</i> , 2013, 85, 5483-5490.	3.2	50
8	Understanding nano-impacts: impact times and near-wall hindered diffusion. <i>Chemical Science</i> , 2014, 5, 4592-4598.	3.7	47
9	Testing and validating electroanalytical simulations. <i>Analyst, The</i> , 2015, 140, 2592-2598.	1.7	47
10	Lithiumâ€‘ionâ€‘transfer Kinetics of Single LiMn_2O_4 Particles. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 641-644.	7.2	46
11	Nanocavity electrode array for recording from electrogenic cells. <i>Lab on A Chip</i> , 2011, 11, 1054.	3.1	42
12	Understanding Nano-Impact Current Spikes: Electrochemical Doping of Impacting Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2016, 120, 17029-17034.	1.5	38
13	Can Nanoimpacts Detect Single-Enzyme Activity? Theoretical Considerations and an Experimental Study of Catalase Impacts. <i>ACS Catalysis</i> , 2016, 6, 8313-8320.	5.5	38
14	A quantitative methodology for the study of particleâ€‘electrode impacts. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 13537-13546.	1.3	37
15	Understanding single enzyme activity via the nano-impact technique. <i>Chemical Science</i> , 2017, 8, 6423-6432.	3.7	35
16	Noise Characteristics of Nanoscaled Redox-Cycling Sensors: Investigations Based on Random Walks. <i>Journal of the American Chemical Society</i> , 2013, 135, 8874-8881.	6.6	33
17	The Influence of Supporting Ions on the Electrochemical Detection of Individual Silver Nanoparticles: Understanding the Shape and Frequency of Current Transients in Nanoâ€‘impacts. <i>Chemistry - A European Journal</i> , 2017, 23, 4638-4643.	1.7	33
18	A Critical Evaluation of the Interpretation of Electrocatalytic Nanoimpacts. <i>Journal of Physical Chemistry C</i> , 2014, 118, 17756-17763.	1.5	32

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19	A Thermodynamic View of Agglomeration. <i>Journal of Physical Chemistry C</i> , 2015, 119, 25093-25099.	1.5	30
20	Electrochemistry of Single Enzymes: Fluctuations of Catalase Activities. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 2814-2817.	2.1	30
21	The Subtleties of the Reversible Hydrogen Evolution Reaction Arising from the Nonunity Stoichiometry. <i>Journal of Physical Chemistry C</i> , 2015, 119, 9402-9410.	1.5	29
22	Fluorescence Monitored Voltammetry of Single Attoliter Droplets. <i>Analytical Chemistry</i> , 2016, 88, 11213-11221.	3.2	29
23	Diffusional impacts of nanoparticles on microdisc and microwire electrodes: The limit of detection and first passage statistics. <i>Journal of Electroanalytical Chemistry</i> , 2015, 755, 136-142.	1.9	28
24	Noise Phenomena Caused by Reversible Adsorption in Nanoscale Electrochemical Devices. <i>ACS Nano</i> , 2014, 8, 4924-4930.	7.3	27
25	Catalytic activity of catalase-silica nanoparticle hybrids: from ensemble to individual entity activity. <i>Chemical Science</i> , 2017, 8, 2303-2308.	3.7	26
26	Nanoparticle Impact Experiments are Highly Sensitive to the Presence of Adsorbed Species on Electrode Surfaces. <i>ChemElectroChem</i> , 2014, 1, 1057-1062.	1.7	24
27	Understanding Nano Impacts: Binary Nature of Charge Transfer during Mediated Reactions. <i>ChemElectroChem</i> , 2015, 2, 64-67.	1.7	24
28	Reaction Layer Imaging Using Fluorescence Electrochemical Microscopy. <i>Analytical Chemistry</i> , 2017, 89, 6870-6877.	3.2	24
29	On-chip redox cycling techniques for electrochemical detection. <i>Reviews in Analytical Chemistry</i> , 2012, 31, .	1.5	23
30	When does near-wall hindered diffusion influence mass transport towards targets?. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 26539-26549.	1.3	23
31	Unscrambling illusory inhibition and catalysis in nanoparticle electrochemistry: Experiment and theory. <i>Applied Materials Today</i> , 2019, 16, 141-145.	2.3	23
32	Nanoparticle electrocatalysis: Unscrambling illusory inhibition and catalysis. <i>Applied Materials Today</i> , 2019, 15, 139-144.	2.3	22
33	Role of Nanomorphology and Interfacial Structure of Platinum Nanoparticles in Catalyzing the Hydrogen Oxidation Reaction. <i>ACS Catalysis</i> , 2018, 8, 6192-6202.	5.5	21
34	Diffusional Nanoimpacts: The Stochastic Limit. <i>Journal of Physical Chemistry C</i> , 2015, 119, 14400-14410.	1.5	20
35	Linear sweep voltammetry with non-triangular waveforms: New opportunities in electroanalysis. <i>Journal of Electroanalytical Chemistry</i> , 2018, 818, 140-148.	1.9	19
36	Voltammetry of porous layers: Staircase vs analog voltammetry. <i>Journal of Electroanalytical Chemistry</i> , 2016, 776, 25-33.	1.9	18

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37	Near-Wall Hindered Diffusion in Convective Systems: Transport Limitations in Colloidal and Nanoparticulate Systems. <i>Journal of Physical Chemistry C</i> , 2016, 120, 10629-10640.	1.5	18
38	Lithium-Ion Transfer Kinetics of Single LiMn_2O_4 Particles. <i>Angewandte Chemie</i> , 2017, 129, 656-659.	1.6	18
39	Frequency-dependent signal transfer at the interface between electrogenic cells and nanocavity electrodes. <i>Physical Review E</i> , 2012, 85, 031917.	0.8	17
40	Nanocavity crossbar arrays for parallel electrochemical sensing on a chip. <i>Beilstein Journal of Nanotechnology</i> , 2014, 5, 1137-1143.	1.5	16
41	Single-entity electrochemistry: Diffusion-controlled transport of an analyte inside a particle. <i>Electrochimica Acta</i> , 2019, 298, 778-787.	2.6	16
42	In situ Detection of Microplastics: Single-Microparticle-electrode Impacts. <i>Electroanalysis</i> , 2017, 29, 2200-2207.	1.5	15
43	Nanoscale carbon electrodes: Structure, electrical properties and application for electrochemistry. <i>Carbon</i> , 2018, 130, 768-774.	5.4	15
44	Predicting Voltammetry Using Physics-Informed Neural Networks. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 536-543.	2.1	15
45	Cyclic voltammetry with non-triangular waveforms: Electrochemically reversible systems. <i>Journal of Electroanalytical Chemistry</i> , 2017, 801, 381-387.	1.9	14
46	Use of Artificial Intelligence in Electrode Reaction Mechanism Studies: Predicting Voltammograms and Analyzing the Dissociative CE Reaction at a Hemispherical Electrode. <i>Analytical Chemistry</i> , 2021, 93, 13360-13372.	3.2	14
47	Voltammetry using multiple cycles: Porous electrodes. <i>Journal of Electroanalytical Chemistry</i> , 2017, 799, 126-133.	1.9	13
48	Improving Single-Carbon-Nanotube Electrode Contacts Using Molecular Electronics. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 3908-3911.	2.1	12
49	Cyclic voltammetry with non-triangular waveforms: Electrochemically irreversible and quasi-reversible systems. <i>Journal of Electroanalytical Chemistry</i> , 2018, 810, 135-144.	1.9	12
50	Sweep voltammetry with a semi-circular potential waveform: Electrode kinetics. <i>Journal of Electroanalytical Chemistry</i> , 2019, 835, 60-66.	1.9	12
51	Near-wall hindered diffusion: Implications for surface-based sensors. <i>Sensors and Actuators B: Chemical</i> , 2016, 234, 420-425.	4.0	11
52	The Role of Entropy in Nanoparticle Agglomeration. <i>ChemPhysChem</i> , 2017, 18, 51-54.	1.0	11
53	Linear sweep voltammetry with non-triangular waveforms at a microdisc electrode. <i>Journal of Electroanalytical Chemistry</i> , 2018, 823, 465-473.	1.9	11
54	Unscrambling illusionary catalysis in three-dimensional particle-modified electrodes: Reversible reactions at conducting particles. <i>Applied Materials Today</i> , 2020, 18, 100514.	2.3	10

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55	Nanoparticles in sensing applications: on what timescale do analyte species adsorb on the particle surface?. <i>Analyst</i> , 2014, 139, 2411.	1.7	9
56	Understanding nano-impacts: Reversible agglomeration and near-wall hindered diffusion. <i>Journal of Electroanalytical Chemistry</i> , 2016, 779, 18-24.	1.9	9
57	Voltammetry at electrodes decorated with an insulating porous film: Understanding the effects of adsorption. <i>Journal of Electroanalytical Chemistry</i> , 2017, 801, 135-140.	1.9	9
58	Semi-circular potential sweep voltammetry: Experimental verification and determination of the formal potential of a reversible redox couple. <i>Journal of Electroanalytical Chemistry</i> , 2019, 836, 62-67.	1.9	9
59	Particle-modified electrodes: General mass transport theory, experimental validation, and the role of electrostatics. <i>Applied Materials Today</i> , 2020, 18, 100480.	2.3	9
60	Equality of diffusion-limited chronoamperometric currents to equal area spherical and cubic nanoparticles on a supporting electrode surface. <i>Chemical Physics Letters</i> , 2014, 595-596, 31-34.	1.2	8
61	Characterising the nature of diffusion via a new indicator: Microcylinder and microring electrodes. <i>Journal of Electroanalytical Chemistry</i> , 2019, 855, 113602.	1.9	8
62	Simulation-based investigations on noise characteristics of redox cycling sensors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 881-884.	0.8	7
63	How Many Molecules are Required to Obtain a Steady Faradaic Current from Mediated Electron Transfer at a Single Nanoparticle on a Supporting Surface?. <i>ChemPhysChem</i> , 2014, 15, 872-875.	1.0	7
64	Reply to Comment on "Can Nanoimpacts Detect Single-Enzyme Activity? Theoretical Considerations and an Experimental Study of Catalase Impacts". <i>ACS Catalysis</i> , 2017, 7, 3594-3596.	5.5	7
65	Non-triangular potential sweep cyclic voltammetry of reversible electron transfer: Experiment meets theory. <i>Journal of Electroanalytical Chemistry</i> , 2018, 815, 24-29.	1.9	7
66	Voltammetric Peak Heights of the Proton-Hydrogen Redox Couple: A Comprehensive Analysis. <i>Journal of Physical Chemistry C</i> , 2015, 119, 23203-23210.	1.5	6
67	Non-linear sweep voltammetry of adsorbed species: theory and a method to determine formal potentials. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 28820-28823.	1.3	5
68	Immobilised Electrocatalysts: Nafion Particles Doped with Ruthenium(II) Tris(2,2'-bipyridyl). <i>Chemistry - A European Journal</i> , 2017, 23, 17605-17611.	1.7	5
69	Experimental Voltammetry Analyzed Using Artificial Intelligence: Thermodynamics and Kinetics of the Dissociation of Acetic Acid in Aqueous Solution. <i>Analytical Chemistry</i> , 2022, 94, 5901-5908.	3.2	5
70	Theoretical prediction of a transient accumulation of nanoparticles at a well-defined distance from an electrified liquid-solid interface. <i>Nanoscale</i> , 2018, 10, 19459-19468.	2.8	4
71	Stripping voltammetry with semi-circular potential waves: Reversible systems. <i>Journal of Electroanalytical Chemistry</i> , 2019, 848, 113290.	1.9	4
72	Determination of standard electrochemical rate constants from semi-circular sweep voltammetry: A combined theoretical and experimental study. <i>Journal of Electroanalytical Chemistry</i> , 2021, 880, 114891.	1.9	4

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73	Sensing with nanopores – the influence of asymmetric blocking on electrochemical redox cycling current. <i>Analyst</i> , 2014, 139, 5499-5503.	1.7	3
74	Time-resolved mapping of neurotransmitter fluctuations by arrays of nanocavity redox-cycling sensors. <i>Procedia Engineering</i> , 2010, 5, 956-958.	1.2	2
75	A new approach to characterising the porosity of particle modified electrodes: Potential step chronoamperometry and the diffusion indicator. <i>Applied Materials Today</i> , 2021, 25, 101249.	2.3	2
76	Simulation of the impact of reversible adsorption on the response time of interdigitated electrode arrays. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2014, 211, 1352-1356.	0.8	1
77	Cover Picture: Nanoparticle-Impact Experiments are Highly Sensitive to the Presence of Adsorbed		