Alexei A Kornyshev

List of Publications by Year
in descending order

96 papers	8,343 citations	87888 38 h-index	45317 90 g-index
100 all docs	100 docs citations	100 times ranked	6577 citing authors

#	Article	IF	Citations
1	Ionic Liquids at Electrified Interfaces. Chemical Reviews, 2014, 114, 2978-3036.	47.7	1,101
2	Double-Layer in Ionic Liquids:Â Paradigm Change?. Journal of Physical Chemistry B, 2007, 111, 5545-5557.	2.6	1,064
3	Double Layer in Ionic Liquids: Overscreening versus Crowding. Physical Review Letters, 2011, 106, 046102.	7.8	828
4	Molecular understanding of charge storage and charging dynamics in supercapacitors with MOF electrodes and ionic liquid electrolytes. Nature Materials, 2020, 19, 552-558.	27.5	405
5	Ionic Liquid Near a Charged Wall: Structure and Capacitance of Electrical Double Layer. Journal of Physical Chemistry B, 2008, 112, 11868-11872.	2.6	383
6	Towards understanding the structure and capacitance of electrical double layer in ionic liquids. Electrochimica Acta, 2008, 53, 6835-6840.	5.2	378
7	Self-assembled nanoparticle arrays for multiphase trace analyte detection. Nature Materials, 2013, 12, 165-171.	27.5	343
8	Accelerating charging dynamics in subnanometre pores. Nature Materials, 2014, 13, 387-393.	27.5	303
9	Structure and interactions of biological helices. Reviews of Modern Physics, 2007, 79, 943-996.	45.6	285
10	Water in Ionic Liquids at Electrified Interfaces: The Anatomy of Electrosorption. ACS Nano, 2014, 8, 11685-11694.	14.6	146
11	Theory of the Double Layer in Water-in-Salt Electrolytes. Journal of Physical Chemistry Letters, 2018, 9, 5840-5846.	4.6	140
12	Mean-Field Theory of Electrical Double Layer In Ionic Liquids with Account of Short-Range Correlations. Electrochimica Acta, 2017, 225, 190-197.	5.2	124
13	Self-Assembly of Nanoparticle Arrays for Use as Mirrors, Sensors, and Antennas. ACS Nano, 2013, 7, 9526-9532.	14.6	120
14	Electrotunable nanoplasmonic liquid mirror. Nature Materials, 2017, 16, 1127-1135.	27.5	115
15	Pressing a spring: what does it take to maximize the energy storage in nanoporous supercapacitors?. Nanoscale Horizons, 2016, 1, 45-52.	8.0	105
16	Plasmonic Ruler at the Liquidâ€"Liquid Interface. ACS Nano, 2012, 6, 7789-7799.	14.6	103
17	Conductive Metalâ€"Organic Frameworks for Supercapacitors. Advanced Materials, 2022, 34, e2200999.	21.0	101
18	Fundamentals and applications of self-assembled plasmonic nanoparticles at interfaces. Chemical Society Reviews, 2016, 45, 1581-1596.	38.1	99

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19	Unravelling the solvent response to neutral and charged solutes. Molecular Physics, 2007, 105, 1-16.	1.7	98
20	Three-Dimensional Double Layers. Journal of Physical Chemistry C, 2014, 118, 18285-18290.	3.1	98
21	Minimizing the electrosorption of water from humid ionic liquids on electrodes. Nature Communications, 2018, 9, 5222.	12.8	96
22	Electrotunable Friction with Ionic Liquid Lubricants: How Important Is the Molecular Structure of the Ions?. Journal of Physical Chemistry Letters, 2015, 6, 3998-4004.	4.6	87
23	Underscreening, overscreening and double-layer capacitance. Electrochemistry Communications, 2017, 82, 129-133.	4.7	80
24	DNA Double Helices Recognize Mutual Sequence Homology in a Protein Free Environment. Journal of Physical Chemistry B, 2008, 112, 1060-1064.	2.6	73
25	Interfacial Layering in the Electric Double Layer of Ionic Liquids. Physical Review Letters, 2020, 125, 116001.	7.8	69
26	On the temperature dependence of the double layer capacitance of ionic liquids. Journal of Electroanalytical Chemistry, 2018, 819, 347-358.	3.8	67
27	Single-File Charge Storage in Conducting Nanopores. Physical Review Letters, 2014, 113, 048701.	7.8	60
28	The simplest model of charge storage in single file metallic nanopores. Faraday Discussions, 2013, 164, 117.	3.2	56
29	Tuneable 2D self-assembly of plasmonic nanoparticles at liquid|liquid interfaces. Nanoscale, 2016, 8, 19229-19241.	5.6	56
30	Free and Bound States of Ions in Ionic Liquids, Conductivity, and Underscreening Paradox. Physical Review X, 2019, 9, .	8.9	54
31	Water in Ionic Liquid Lubricants: Friend and Foe. ACS Nano, 2017, 11, 6825-6831.	14.6	53
32	Theory of electrosorption of water from ionic liquids. Electrochimica Acta, 2018, 284, 346-354.	5.2	53
33	In situ superexchange electron transfer through a single molecule: A rectifying effect. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 6799-6804.	7.1	52
34	Dynamic Charge Storage in Ionic Liquids-Filled Nanopores: Insight from a Computational Cyclic Voltammetry Study. Journal of Physical Chemistry Letters, 2015, 6, 22-30.	4.6	51
35	Theory of ion aggregation and gelation in super-concentrated electrolytes. Journal of Chemical Physics, 2020, 152, 234506.	3.0	49
36	Heavy Metal Sensing Using Selfâ€Assembled Nanoparticles at a Liquidâ€"Liquid Interface. Advanced Optical Materials, 2014, 2, 966-977.	7.3	47

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37	Charging dynamics of supercapacitors with narrow cylindrical nanopores. Nanotechnology, 2014, 25, 315401.	2.6	41
38	Physics of DNA: unravelling hidden abilities encoded in the structure of â€˜the most important moleculeâ€™. Physical Chemistry Chemical Physics, 2010, 12, 12352.	2.8	39
39	Interionic Interactions in Conducting Nanoconfinement. ChemPhysChem, 2013, 14, 4121-4125.	2.1	39
40	Theory of tailorable optical response of two-dimensional arrays of plasmonic nanoparticles at dielectric interfaces. Scientific Reports, 2016, 6, 33712.	3.3	39
41	Interface between an Au(111) Surface and an Ionic Liquid: The Influence of Water on the Doubleâ€Layer Capacitance. ChemElectroChem, 2017, 4, 216-220.	3.4	35
42	Direct Observation of Azimuthal Correlations between DNA in Hydrated Aggregates. Physical Review Letters, 2005, 95, 148102.	7.8	33
43	The homology recognition well as an innate property of DNA structure. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4683-4688.	7.1	33
44	Charging Ultrananoporous Electrodes with Size-Asymmetric Ions Assisted by Apolar Solvent. Journal of Physical Chemistry C, 2016, 120, 16042-16050.	3.1	32
45	Electrotunable Nanoplasmonics for Amplified Surface Enhanced Raman Spectroscopy. ACS Nano, 2020, 14, 328-336.	14.6	32
46	Ion Clusters and Networks in Water-in-Salt Electrolytes. Journal of the Electrochemical Society, 2021, 168, 050514.	2.9	31
47	Connections Matter: On the Importance of Pore Percolation for Nanoporous Supercapacitors. ACS Applied Energy Materials, 2019, 2, 5386-5390.	5.1	29
48	Reflection of light by metal nanoparticles at electrodes. Physical Chemistry Chemical Physics, 2012, 14, 1850.	2.8	28
49	Electrotunable Lubrication with Ionic Liquids: the Effects of Cation Chain Length and Substrate Polarity. ACS Applied Materials & Interfaces, 2020, 12, 4105-4113.	8.0	27
50	Lateral Ordering in Nanoscale Ionic Liquid Films between Charged Surfaces Enhances Lubricity. ACS Nano, 2020, 14, 13256-13267.	14.6	26
51	Mechanisms of Electrotunable Friction in Friction Force Microscopy Experiments with Ionic Liquids. Journal of Physical Chemistry C, 2018, 122, 5004-5012.	3.1	25
52	A Tunable Nanoplasmonic Mirror at an Electrochemical Interface. ACS Photonics, 2018, 5, 4604-4616.	6.6	23
53	Electroactuation with single charge carrier ionomers: the roles of electrostatic pressure and steric strain. Soft Matter, 2013, 9, 3767.	2.7	21
54	Structural Forces in Ionic Liquids: The Role of Ionic Size Asymmetry. Journal of Physical Chemistry B, 2022, 126, 1242-1253.	2.6	21

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55	Salt-in-Ionic-Liquid Electrolytes: Ion Network Formation and Negative Effective Charges of Alkali Metal Cations. Journal of Physical Chemistry B, 2021, 125, 13752-13766.	2.6	21
56	A New Type of In Situ Single-Molecule Rectifier. ChemPhysChem, 2006, 7, 1036-1040.	2.1	20
57	Electrotunable lubricity with ionic liquids: the influence of nanoscale roughness. Faraday Discussions, 2017, 199, 279-297.	3.2	20
58	Helical Structure Determines Different Susceptibilities of dsDNA, dsRNA, and tsDNA to Counterion-Induced Condensation. Biophysical Journal, 2013, 104, 2031-2041.	0.5	19
59	Towards Electrotuneable Nanoplasmonic Fabryâ€"Perot Interferometer. Scientific Reports, 2018, 8, 565.	3.3	19
60	Ionic activity in concentrated electrolytes: Solvent structure effect revisited. Chemical Physics Letters, 2020, 738, 136915.	2.6	19
61	Phase behaviour and structure of a superionic liquid in nonpolarized nanoconfinement. Journal of Physics Condensed Matter, 2016, 28, 464007.	1.8	18
62	Unravelling the optical responses of nanoplasmonic mirror-on-mirror metamaterials. Physical Chemistry Chemical Physics, 2016, 18, 20486-20498.	2.8	18
63	Optical Properties of Ordered Self-Assembled Nanoparticle Arrays at Interfaces. Journal of Physical Chemistry C, 2014, 118, 23264-23273.	3.1	17
64	Enforced Freedom: Electricâ€Fieldâ€Induced Declustering of Ionicâ€Liquid Ions in the Electrical Double Layer. Energy and Environmental Materials, 2020, 3, 414-420.	12.8	17
65	Correlated Ion Transport and the Gel Phase in Room Temperature Ionic Liquids. Journal of Physical Chemistry B, 2021, 125, 2677-2689.	2.6	17
66	Electrotunable Friction in Diluted Room Temperature Ionic Liquids: Implications for Nanotribology. ACS Applied Nano Materials, 2020, 3, 10708-10719.	5.0	15
67	Feeling Your Neighbors across the Walls: How Interpore Ionic Interactions Affect Capacitive Energy Storage. Journal of Physical Chemistry Letters, 2019, 10, 4523-4527.	4.6	14
68	Current-Generating Double-Layer Shoe with a Porous Sole: Ion Transport Matters. Journal of Physical Chemistry C, 2017, 121, 7584-7595.	3.1	13
69	Auxetic Thermoresponsive Nanoplasmonic Optical Switch. ACS Applied Materials & Interfaces, 2019, 11, 22754-22760.	8.0	13
70	Which way up? Recognition of homologous DNA segments in parallel and antiparallel alignments. Journal of Chemical Physics, 2015, 142, 045101.	3.0	12
71	Evidence of protein-free homology recognition in magnetic bead forceâ€"extension experiments. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160186.	2.1	12
72	An electro-tunable Fabryâ€"Perot interferometer based on dual mirror-on-mirror nanoplasmonic metamaterials. Nanophotonics, 2019, 8, 2279-2290.	6.0	12

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73	Homology recognition funnel. Journal of Chemical Physics, 2009, 131, 155104.	3.0	11
74	Principles of a Single-Molecule Rectifier in Electrolytic Environment. Journal of Physical Chemistry C, 2016, 120, 3089-3106.	3.1	11
75	Structural Forces in Mixtures of Ionic Liquids with Organic Solvents. Langmuir, 2019, 35, 15410-15420.	3.5	11
76	Superionic Liquids in Conducting Nanoslits: Insights from Theory and Simulations. Journal of Physical Chemistry C, 2021, 125, 4968-4976.	3.1	11
77	Electrochemical plasmonic metamaterials: towards fast electro-tuneable reflecting nanoshutters. Faraday Discussions, 2017, 199, 585-602.	3.2	10
78	Superionic liquids in conducting nanoslits: A variety of phase transitions and ensuing charging behavior. Journal of Chemical Physics, 2019, 151, 184105.	3.0	9
79	Nanoparticle meta-grid for enhanced light extraction from light-emitting devices. Light: Science and Applications, 2020, 9, 122.	16.6	9
80	Theory of microstructured polymerâ€"electrolyte artificial muscles. Smart Materials and Structures, 2018, 27, 075056.	3.5	8
81	Self-assembling two-dimensional nanophotonic arrays for reflectivity-based sensing. Chemical Science, 2020, 11, 9563-9570.	7.4	8
82	Structural effects in nanotribology of nanoscale films of ionic liquids confined between metallic surfaces. Physical Chemistry Chemical Physics, 2021, 23, 22174-22183.	2.8	8
83	Polar liquids at charged interfaces: A dipolar shell theory. Journal of Chemical Physics, 2022, 156, .	3.0	8
84	Current-generating â€˜double layer shoeâ€™ with a porous sole. Journal of Physics Condensed Matter, 2016, 28, 464009.	1.8	7
85	Debye screening, overscreening and specific adsorption in solutions of organic ions. Physical Chemistry Chemical Physics, 2018, 20, 27684-27693.	2.8	6
86	Ising models of charge storage in multifile metallic nanopores. Journal of Physics Condensed Matter, 2020, 32, 275201.	1.8	5
87	Optical response of electro-tuneable 3D superstructures of plasmonic nanoparticles self-assembling on transparent columnar electrodes. Optics Express, 2019, 27, 26483.	3.4	5
88	Mean-Field Theory of the Electrical Double Layer in Ionic Liquids. , 2021, , 1-13.		4
89	Ionic liquids in conducting nanoslits: how important is the range of the screened electrostatic interactions?. Journal of Physics Condensed Matter, 2022, 34, 26LT01.	1.8	4
90	Electrochemical metamaterials. Journal of Solid State Electrochemistry, 2020, 24, 2101-2111.	2.5	3

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91	Electroactuators: from understanding to micro-robotics and energy conversion: general discussion. Faraday Discussions, 2017, 199, 525-545.	3.2	2
92	Nucleosome-induced homology recognition in chromatin. Journal of the Royal Society Interface, 2021, 18, 20210147.	3.4	2
93	Theoretical demonstration of a capacitive rotor for generation of alternating current from mechanical motion. Nature Communications, 2021, 12, 3678.	12.8	2
94	Theory of polymer-electrolyte-composite electroactuator sensors with flat or volume-filling electrodes. Soft Matter, 2018, 14, 7996-8005.	2.7	1
95	Nanoplasmonic Metamaterial Devices as Electrically Switchable Perfect Mirrors and Perfect Absorbers. , 2019, , .		1
96	On the voltage-controlled assembly of nanoparticle arrays at electrochemical solid/liquid interfaces. Journal of Electroanalytical Chemistry, 2020, 872, 114275.	3.8	0