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	Structural Forces in Ionic Liquids: The Role of Ionic Size Asymmetry. Journal of Physical Chemistry B, 2022, 126, 1242-1253.	2.6	21
2	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
3	Conductive Metalâ€"Organic Frameworks for Supercapacitors. Advanced Materials, 2022, 34, e2200999.	21.0	101
4	Polar liquids at charged interfaces: A dipolar shell theory. Journal of Chemical Physics, 2022, 156, .	3.0	8
5	Mean-Field Theory of the Electrical Double Layer in Ionic Liquids. , 2021, , 1-13.		4
6	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
7	Correlated Ion Transport and the Gel Phase in Room Temperature Ionic Liquids. Journal of Physical Chemistry B, 2021, 125, 2677-2689.	2.6	17
8	Superionic Liquids in Conducting Nanoslits: Insights from Theory and Simulations. Journal of Physical Chemistry C, 2021, 125, 4968-4976.	3.1	11
9	Ion Clusters and Networks in Water-in-Salt Electrolytes. Journal of the Electrochemical Society, 2021, 168, 050514.	2.9	31
10	Nucleosome-induced homology recognition in chromatin. Journal of the Royal Society Interface, 2021, 18, 20210147.	3.4	2
11	Theoretical demonstration of a capacitive rotor for generation of alternating current from mechanical motion. Nature Communications, 2021, 12, 3678.	12.8	2
12	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
13	Ionic activity in concentrated electrolytes: Solvent structure effect revisited. Chemical Physics Letters, 2020, 738, 136915.	2.6	19
14	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
15	Electrotunable Nanoplasmonics for Amplified Surface Enhanced Raman Spectroscopy. ACS Nano, 2020, 14, 328-336.	14.6	32
16	Lateral Ordering in Nanoscale Ionic Liquid Films between Charged Surfaces Enhances Lubricity. ACS Nano, 2020, 14, 13256-13267.	14.6	26
17	Nanoparticle meta-grid for enhanced light extraction from light-emitting devices. Light: Science and Applications, 2020, 9, 122.	16.6	9
18	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

#	Article	IF	Citations
19	On the voltage-controlled assembly of nanoparticle arrays at electrochemical solid/liquid interfaces. Journal of Electroanalytical Chemistry, 2020, 872, 114275.	3.8	0
20	Electrochemical metamaterials. Journal of Solid State Electrochemistry, 2020, 24, 2101-2111.	2.5	3
21	Self-assembling two-dimensional nanophotonic arrays for reflectivity-based sensing. Chemical Science, 2020, 11, 9563-9570.	7.4	8
22	Interfacial Layering in the Electric Double Layer of Ionic Liquids. Physical Review Letters, 2020, 125, 116001.	7.8	69
23	Electrotunable Friction in Diluted Room Temperature Ionic Liquids: Implications for Nanotribology. ACS Applied Nano Materials, 2020, 3, 10708-10719.	5.0	15
24	Theory of ion aggregation and gelation in super-concentrated electrolytes. Journal of Chemical Physics, 2020, 152, 234506.	3.0	49
25	Ising models of charge storage in multifile metallic nanopores. Journal of Physics Condensed Matter, 2020, 32, 275201.	1.8	5
26	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
27	Connections Matter: On the Importance of Pore Percolation for Nanoporous Supercapacitors. ACS Applied Energy Materials, 2019, 2, 5386-5390.	5.1	29
28	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
29	Structural Forces in Mixtures of Ionic Liquids with Organic Solvents. Langmuir, 2019, 35, 15410-15420.	3.5	11
30	Auxetic Thermoresponsive Nanoplasmonic Optical Switch. ACS Applied Materials & Interfaces, 2019, 11, 22754-22760.	8.0	13
31	Free and Bound States of Ions in Ionic Liquids, Conductivity, and Underscreening Paradox. Physical Review X, 2019, 9, .	8.9	54
32	Superionic liquids in conducting nanoslits: A variety of phase transitions and ensuing charging behavior. Journal of Chemical Physics, 2019, 151, 184105.	3.0	9
33	An electro-tunable Fabryâ€"Perot interferometer based on dual mirror-on-mirror nanoplasmonic metamaterials. Nanophotonics, 2019, 8, 2279-2290.	6.0	12
34	Optical response of electro-tuneable 3D superstructures of plasmonic nanoparticles self-assembling on transparent columnar electrodes. Optics Express, 2019, 27, 26483.	3.4	5
35	Nanoplasmonic Metamaterial Devices as Electrically Switchable Perfect Mirrors and Perfect Absorbers. , 2019, , .		1
36	Mechanisms of Electrotunable Friction in Friction Force Microscopy Experiments with Ionic Liquids. Journal of Physical Chemistry C, 2018, 122, 5004-5012.	3.1	25

#	Article	IF	Citations
37	Towards Electrotuneable Nanoplasmonic Fabryâ€"Perot Interferometer. Scientific Reports, 2018, 8, 565.	3.3	19
38	On the temperature dependence of the double layer capacitance of ionic liquids. Journal of Electroanalytical Chemistry, 2018, 819, 347-358.	3.8	67
39	Debye screening, overscreening and specific adsorption in solutions of organic ions. Physical Chemistry Chemical Physics, 2018, 20, 27684-27693.	2.8	6
40	Minimizing the electrosorption of water from humid ionic liquids on electrodes. Nature Communications, 2018, 9, 5222.	12.8	96
41	A Tunable Nanoplasmonic Mirror at an Electrochemical Interface. ACS Photonics, 2018, 5, 4604-4616.	6.6	23
42	Theory of the Double Layer in Water-in-Salt Electrolytes. Journal of Physical Chemistry Letters, 2018, 9, 5840-5846.	4.6	140
43	Theory of electrosorption of water from ionic liquids. Electrochimica Acta, 2018, 284, 346-354.	5.2	53
44	Theory of microstructured polymerâ€"electrolyte artificial muscles. Smart Materials and Structures, 2018, 27, 075056.	3.5	8
45	Theory of polymer-electrolyte-composite electroactuator sensors with flat or volume-filling electrodes. Soft Matter, 2018, 14, 7996-8005.	2.7	1
46	Electrotunable lubricity with ionic liquids: the influence of nanoscale roughness. Faraday Discussions, 2017, 199, 279-297.	3.2	20
47	Water in Ionic Liquid Lubricants: Friend and Foe. ACS Nano, 2017, 11, 6825-6831.	14.6	53
48	Current-Generating Double-Layer Shoe with a Porous Sole: Ion Transport Matters. Journal of Physical Chemistry C, 2017, 121, 7584-7595.	3.1	13
49	Electrochemical plasmonic metamaterials: towards fast electro-tuneable reflecting nanoshutters. Faraday Discussions, 2017, 199, 585-602.	3.2	10
50	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
51	Electrotunable nanoplasmonic liquid mirror. Nature Materials, 2017, 16, 1127-1135.	27.5	115
52	Electroactuators: from understanding to micro-robotics and energy conversion: general discussion. Faraday Discussions, 2017, 199, 525-545.	3.2	2
53	Underscreening, overscreening and double-layer capacitance. Electrochemistry Communications, 2017, 82, 129-133.	4.7	80
54	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

#	Article	IF	Citations
55	Charging Ultrananoporous Electrodes with Size-Asymmetric Ions Assisted by Apolar Solvent. Journal of Physical Chemistry C, 2016, 120, 16042-16050.	3.1	32
56	Phase behaviour and structure of a superionic liquid in nonpolarized nanoconfinement. Journal of Physics Condensed Matter, 2016, 28, 464007.	1.8	18
57	Current-generating â€˜double layer shoeâ€™ with a porous sole. Journal of Physics Condensed Matter, 2016, 28, 464009.	1.8	7
58	Tuneable 2D self-assembly of plasmonic nanoparticles at liquid | liquid interfaces. Nanoscale, 2016, 8, 19229-19241.	5.6	56
59	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
60	Unravelling the optical responses of nanoplasmonic mirror-on-mirror metamaterials. Physical Chemistry Chemical Physics, 2016, 18, 20486-20498.	2.8	18
61	Theory of tailorable optical response of two-dimensional arrays of plasmonic nanoparticles at dielectric interfaces. Scientific Reports, 2016, 6, 33712.	3.3	39
62	Fundamentals and applications of self-assembled plasmonic nanoparticles at interfaces. Chemical Society Reviews, 2016, 45, 1581-1596.	38.1	99
63	Principles of a Single-Molecule Rectifier in Electrolytic Environment. Journal of Physical Chemistry C, 2016, 120, 3089-3106.	3.1	11
64	Pressing a spring: what does it take to maximize the energy storage in nanoporous supercapacitors?. Nanoscale Horizons, 2016, 1, 45-52.	8.0	105
65	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
66	Which way up? Recognition of homologous DNA segments in parallel and antiparallel alignments. Journal of Chemical Physics, 2015, 142, 045101.	3.0	12
67	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
68	Heavy Metal Sensing Using Selfâ€Assembled Nanoparticles at a Liquidâ€“Liquid Interface. Advanced Optical Materials, 2014, 2, 966-977.	7.3	47
69	Single-File Charge Storage in Conducting Nanopores. Physical Review Letters, 2014, 113, 048701.	7.8	60
70	Charging dynamics of supercapacitors with narrow cylindrical nanopores. Nanotechnology, 2014, 25, 315401.	2.6	41
71	Ionic Liquids at Electrified Interfaces. Chemical Reviews, 2014, 114, 2978-3036.	47.7	1,101
72	Accelerating charging dynamics in subnanometre pores. Nature Materials, 2014, 13, 387-393.	27.5	303

#	Article	IF	Citations
73	Water in Ionic Liquids at Electrified Interfaces: The Anatomy of Electrosorption. ACS Nano, 2014, 8, 11685-11694.	14.6	146
74	Optical Properties of Ordered Self-Assembled Nanoparticle Arrays at Interfaces. Journal of Physical Chemistry C, 2014, 118, 23264-23273.	3.1	17
75	Three-Dimensional Double Layers. Journal of Physical Chemistry C, 2014, 118, 18285-18290.	3.1	98
76	Self-Assembly of Nanoparticle Arrays for Use as Mirrors, Sensors, and Antennas. ACS Nano, 2013, 7, 9526-9532.	14.6	120
77	The simplest model of charge storage in single file metallic nanopores. Faraday Discussions, 2013, 164, 117.	3.2	56
78	Interionic Interactions in Conducting Nanoconfinement. ChemPhysChem, 2013, 14, 4121-4125.	2.1	39
79	Electroactuation with single charge carrier ionomers: the roles of electrostatic pressure and steric strain. Soft Matter, 2013, 9, 3767.	2.7	21
80	Self-assembled nanoparticle arrays for multiphase trace analyte detection. Nature Materials, 2013, 12, 165-171.	27.5	343
81	Helical Structure Determines Different Susceptibilities of dsDNA, dsRNA, and tsDNA to Counterion-Induced Condensation. Biophysical Journal, 2013, 104, 2031-2041.	0.5	19
82	Plasmonic Ruler at the Liquidâ€“Liquid Interface. ACS Nano, 2012, 6, 7789-7799.	14.6	103
83	Reflection of light by metal nanoparticles at electrodes. Physical Chemistry Chemical Physics, 2012, 14, 1850.	2.8	28
84	Double Layer in Ionic Liquids: Overscreening versus Crowding. Physical Review Letters, 2011, 106, 046102.	7.8	828
85	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
86	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
87	Homology recognition funnel. Journal of Chemical Physics, 2009, 131, 155104.	3.0	11
88	Towards understanding the structure and capacitance of electrical double layer in ionic liquids. Electrochimica Acta, 2008, 53, 6835-6840.	5.2	378
89	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
90	DNA Double Helices Recognize Mutual Sequence Homology in a Protein Free Environment. Journal of Physical Chemistry B, 2008, 112, 1060-1064.	2.6	73

#	Article	IF	Citations
91	Structure and interactions of biological helices. Reviews of Modern Physics, 2007, 79, 943-996.	45.6	285
92	Unravelling the solvent response to neutral and charged solutes. Molecular Physics, 2007, 105, 1-16.	1.7	98
93	Double-Layer in Ionic Liquids:Â Paradigm Change?. Journal of Physical Chemistry B, 2007, 111, 5545-5557.	2.6	1,064
94	A New Type of In Situ Single-Molecule Rectifier. ChemPhysChem, 2006, 7, 1036-1040.	2.1	20
95	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
96	Direct Observation of Azimuthal Correlations between DNA in Hydrated Aggregates. Physical Review Letters, 2005, 95, 148102.	7.8	33