Narayana Aluru

List of Publications by Year
in descending order

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295 papers	16,985 citations	17405 63 h-index	18075 120 g-index
298 all docs	298 docs citations	298 times ranked	15366 citing authors

#	Article	IF	Citations
1	Single-layer MoS2 nanopores as nanopower generators. Nature, 2016, 536, 197-200.	13.7	830
2	Size and Chirality Dependent Elastic Properties of Graphene Nanoribbons under Uniaxial Tension. Nano Letters, 2009, 9, 3012-3015.	4.5	757
3	Why Are Carbon Nanotubes Fast Transporters of Water?. Nano Letters, 2008, 8, 452-458.	4.5	727
4	Water desalination with a single-layer MoS2 nanopore. Nature Communications, 2015, 6, 8616.	5.8	604
5	Water Transport through Ultrathin Graphene. Journal of Physical Chemistry Letters, 2010, 1, 1590-1594.	2.1	484
6	Calculation of pull-in voltages for carbon-nanotube-based nanoelectromechanical switches. Nanotechnology, 2002, 13, 120-131.	1.3	420
7	Anomalously Immobilized Water:â€‰ A New Water Phase Induced by Confinement in Nanotubes. Nano Letters, 2003, 3, 589-592.	4.5	411
8	Equilibrium swelling and kinetics of pH-responsive hydrogels: models, experiments, and simulations. Journal of Microelectromechanical Systems, 2002, 11, 544-555.	1.7	376
9	Ion concentrations and velocity profiles in nanochannel electroosmotic flows. Journal of Chemical Physics, 2003, 118, 4692-4701.	1.2	310
10	Temperature and strain-rate dependent fracture strength of graphene. Journal of Applied Physics, 2010, 108, .	1.1	309
11	DNA Base Detection Using a Single-Layer MoS₂. ACS Nano, 2014, 8, 7914-7922.	7.3	305
12	Mechanical properties of graphene under shear deformation. Applied Physics Letters, 2011, 98, .	1.5	280
13	Ultrasensitive detection of nucleic acids using deformed graphene channel field effect biosensors. Nature Communications, 2020, 11, 1543.	5.8	251
14	Critical Knowledge Gaps in Mass Transport through Single-Digit Nanopores: A Review and Perspective. Journal of Physical Chemistry C, 2019, 123, 21309-21326.	1.5	234
15	Electrolytic transport through a synthetic nanometer-diameter pore. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 10445-10450.	3.3	220
16	Water Permeation through a Subnanometer Boron Nitride Nanotube. Journal of the American Chemical Society, 2007, 129, 2748-2749.	6.6	205
17	Charge Inversion and Flow Reversal in a Nanochannel Electro-osmotic Flow. Physical Review Letters, 2004, 92, 198301.	2.9	204
18	A point collocation method based on reproducing kernel approximations. International Journal for Numerical Methods in Engineering, 2000, 47, 1083-1121.	1.5	196

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19	Stacked Graphene-Al₂O₃ Nanopore Sensors for Sensitive Detection of DNA and DNAâ€“Protein Complexes. ACS Nano, 2012, 6, 441-450.	7.3	189
20	Electrolytic Transport in Modified Carbon Nanotubes. Nano Letters, 2003, 3, 1399-1403.	4.5	188
21	Measurement of adherent cell mass and growth. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20691-20696.	3.3	186
22	Curved neuromorphic image sensor array using a MoS2-organic heterostructure inspired by the human visual recognition system. Nature Communications, 2020, 11, 5934.	5.8	182
23	Ultrathin, transferred layers of thermally grown silicon dioxide as biofluid barriers for biointegrated flexible electronic systems. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11682-11687.	3.3	175
24	Effect of Cross-Linking on the Diffusion of Water, Ions, and Small Molecules in Hydrogels. Journal of Physical Chemistry B, 2009, 113, 3512-3520.	1.2	171
25	Structure and Dynamics of Water Confined in a Boron Nitride Nanotube. Journal of Physical Chemistry C, 2008, 112, 1812-1818.	1.5	158
26	Spatial Diffusion of Water in Carbon Nanotubes: From Fickian to Ballistic Motion. Journal of Physical Chemistry B, 2011, 115, 12145-12149.	1.2	153
27	Finite cloud method: a true meshless technique based on a fixed reproducing kernel approximation. International Journal for Numerical Methods in Engineering, 2001, 50, 2373-2410.	1.5	142
28	Pumping of Confined Water in Carbon Nanotubes by Rotation-Translation Coupling. Physical Review Letters, 2008, 101, 064502.	2.9	138
29	Graphitic Carbonâ€“Water Nonbonded Interaction Parameters. Journal of Physical Chemistry B, 2013, 117, 8802-8813.	1.2	138
30	Simulating the behavior of MEMS devices: computational methods and needs. IEEE Computational Science and Engineering, 1997, 4, 30-43.	0.6	125
31	The Role of External Defects in Chemical Sensing of Graphene Field-Effect Transistors. Nano Letters, 2013, 13, 1962-1968.	4.5	125
32	Fast reverse osmosis using boron nitride and carbon nanotubes. Applied Physics Letters, 2008, 92, .	1.5	122
33	Full-Lagrangian Schemes for Dynamic Analysis of Electrostatic MEMS. Journal of Microelectromechanical Systems, 2004, 13, 737-758.	1.7	119
34	Doping-Induced Tunable Wettability and Adhesion of Graphene. Nano Letters, 2016, 16, 4708-4712.	4.5	119
35	Laterally extended atomically precise graphene nanoribbons with improved electrical conductivity for efficient gas sensing. Nature Communications, 2017, 8, 820.	5.8	113
36	Molecular and continuum hydrodynamics in graphene nanopores. RSC Advances, 2013, 3, 9365.	1.7	112

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37	Static and Dynamic Analysis of Carbon Nanotube-Based Switches. Journal of Engineering Materials and Technology, Transactions of the ASME, 2004, 126, 230-237.	0.8	111
38	Effect of quantum partial charges on the structure and dynamics of water in single-walled carbon nanotubes. Journal of Chemical Physics, 2006, 125, 114701.	1.2	109
39	DNA translocation through an array of kinkedÂnanopores. Nature Materials, 2010, 9, 667-675.	13.3	109
40	Electrochemistry at the Edge of a Single Graphene Layer in a Nanopore. ACS Nano, 2013, 7, 834-843.	7.3	105
41	A Combined Continuum/DSMC Technique for Multiscale Analysis of Microfluidic Filters. Journal of Computational Physics, 2002, 178, 342-372.	1.9	103
42	Mechanisms for Hydrolysis of Silicon Nanomembranes as Used in Bioresorbable Electronics. Advanced Materials, 2015, 27, 1857-1864.	11.1	98
43	A chemo-electro-mechanical mathematical model for simulation of pH sensitive hydrogels. Mechanics of Materials, 2004, 36, 395-410.	1.7	97
44	Ion separation using a Y-junction carbon nanotube. Nanotechnology, 2006, 17, 895-900.	1.3	96
45	Atypical Dependence of Electroosmotic Transport on Surface Charge in a Single-wall Carbon Nanotube. Nano Letters, 2003, 3, 1013-1017.	4.5	95
46	Ion transport in sub-5-nm graphene nanopores. Journal of Chemical Physics, 2014, 140, 084707.	1.2	95
47	An efficient numerical technique for electrochemical simulation of complicated microelectromechanical structures. Sensors and Actuators A: Physical, 1997, 58, 1-11.	2.0	92
48	Atomistic simulation of KCl transport in charged silicon nanochannels: Interfacial effects. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 267, 103-109.	2.3	91
49	Induced Electrokinetic Transport in Microâ"Nanofluidic Interconnect Devices. Langmuir, 2007, 23, 13209-13222.	1.6	89
50	Hexagonal boron nitride and water interaction parameters. Journal of Chemical Physics, 2016, 144, 164118.	1.2	89
51	Complex Nonlinear Oscillations in Electrostatically Actuated Microstructures. Journal of Microelectromechanical Systems, 2006, 15, 355-369.	1.7	88
52	Reduced-Order Models of Finite Element Approximations of Electromagnetic Devices Exhibiting Statistical Variability. IEEE Transactions on Antennas and Propagation, 2012, 60, 301-309.	3.1	88
53	DNA Origamiâ€"Graphene Hybrid Nanopore for DNA Detection. ACS Applied Materials & Interfaces, 2017, 9, 92-100.	4.0	88
54	Finite-temperature quasicontinuum method for multiscale analysis of silicon nanostructures. Physical Review B, 2006, 74, .	1.1	87

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55	Dissolution of Monocrystalline Silicon Nanomembranes and Their Use as Encapsulation Layers and Electrical Interfaces in Water-Soluble Electronics. ACS Nano, 2017, 11, 12562-12572.	7.3	82
56	Spectroscopic Investigation of the Wettability of Multilayer Graphene Using Highly Ordered Pyrolytic Graphite as a Model Material. Langmuir, 2014, 30, 12827-12836.	1.6	81
57	Meshless analysis of piezoelectric devices. Computational Mechanics, 2001, 27, 23-36.	2.2	75
58	A domain adaptive stochastic collocation approach for analysis of MEMS under uncertainties. Journal of Computational Physics, 2009, 228, 7662-7688.	1.9	75
59	Theory of thermoelastic damping in electrostatically actuated microstructures. Physical Review B, 2006, 74, .	1.1	72
60	Hierarchical Multiscale Simulation of Electrokinetic Transport in Silica Nanochannels at the Point of Zero Charge. Langmuir, 2006, 22, 9041-9051.	1.6	70
61	Strain-resilient electrical functionality in thin-film metal electrodes using two-dimensional interlayers. Nature Electronics, 2021, 4, 126-133.	13.1	67
62	Scaling of Electrokinetic Transport in Nanometer Channels. Langmuir, 2005, 21, 8972-8977.	1.6	66
63	Molecular Understanding of Osmosis in Semipermeable Membranes. Physical Review Letters, 2006, 97, 024501.	2.9	66
64	Development and modeling of electrically triggered hydrogels for microfluidic applications. Journal of Microelectromechanical Systems, 2005, 14, 1198-1207.	1.7	65
65	Kirigami-inspired strain-insensitive sensors based on atomically-thin materials. Materials Today, 2020, 34, 58-65.	8.3	65
66	Strain Modulation of Graphene by Nanoscale Substrate Curvatures: A Molecular View. Nano Letters, 2018, 18, 2098-2104.	4.5	62
67	Positivity conditions in meshless collocation methods. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 1171-1202.	3.4	61
68	Resonant MEMS Mass Sensors for Measurement of Microdroplet Evaporation. Journal of Microelectromechanical Systems, 2012, 21, 702-711.	1.7	60
69	Modeling Water Flow Through Carbon Nanotube Membranes with Entrance/Exit Effects. Nanoscale and Microscale Thermophysical Engineering, 2017, 21, 247-262.	1.4	60
70	Highly Strain-Tunable Interlayer Excitons in MoS₂/WSe₂ Heterobilayers. Nano Letters, 2021, 21, 3956-3964.	4.5	60
71	Ultrasensitive Detection of Dopamine, ILâ€6 and SARSâ€CoVâ€2 Proteins on Crumpled Graphene FET Biosensor. Advanced Materials Technologies, 2021, 6, 2100712.	3.0	60
72	Mechanism for stamp collapse in soft lithography. Applied Physics Letters, 2005, 87, 251925.	1.5	59

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73	Quasiharmonic models for the calculation of thermodynamic properties of crystalline silicon under strain. Journal of Applied Physics, 2006, 99, 064314.	1.1	59
74	Adsorption Kinetics Dictate Monolayer Self-Assembly for Both Lipid-In and Lipid-Out Approaches to Droplet Interface Bilayer Formation. Langmuir, 2015, 31, 12883-12893.	1.6	58
75	A reproducing kernel particle method for meshless analysis of microelectromechanical systems. Computational Mechanics, 1999, 23, 324-338.	2.2	57
76	Inducing Electronic Changes in Graphene through Silicon (100) Substrate Modification. Nano Letters, 2011, 11, 2735-2742.	4.5	57
77	Rotational motion of a single water molecule in a buckyball. Physical Chemistry Chemical Physics, 2013, 15, 17993.	1.3	56
78	Boundary cloud method: a combined scattered point/boundary integral approach for boundary-only analysis. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 2337-2370.	3.4	55
79	Relative Entropy and Optimization-Driven Coarse-Graining Methods in VOTCA. PLoS ONE, 2015, 10, e0131754.	1.1	55
80	Meshless analysis of steady-state electro-osmotic transport. Journal of Microelectromechanical Systems, 2000, 9, 435-449.	1.7	54
81	Modeling and Simulation of Ionic Currents in Three-Dimensional Microfluidic Devices with Nanofluidic Interconnects. Journal of Nanoparticle Research, 2005, 7, 507-516.	0.8	54
82	Water-solubility-driven separation of gases using graphene membrane. Journal of Membrane Science, 2013, 428, 546-553.	4.1	54
83	Universal Reduction in Dielectric Response of Confined Fluids. ACS Nano, 2020, 14, 12761-12770.	7.3	54
84	Linear, nonlinear and mixed-regime analysis of electrostatic MEMS. Sensors and Actuators A: Physical, 2001, 91, 278-291.	2.0	53
85	A compact model for electroosmotic flows in microfluidic devices. Journal of Micromechanics and Microengineering, 2002, 12, 625-635.	1.5	53
86	Complex Oscillations and Chaos in Electrostatic Microelectromechanical Systems under Superharmonic Excitations. Physical Review Letters, 2005, 94, 204101.	2.9	53
87	Combined circuit/device modeling and simulation of integrated microfluidic systems. Journal of Microelectromechanical Systems, 2005, 14, 81-95.	1.7	53
88	A Lagrangian approach for electrostatic analysis of deformable conductors. Journal of Microelectromechanical Systems, 2002, 11, 245-254.	1.7	51
89	Akhiezer damping in nanostructures. Physical Review B, 2011, 84, .	1.1	50
90	Efficient mixed-domain analysis of electrostatic MEMS. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2003, 22, 1228-1242.	1.9	49

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91	Temperature-dependent wettability on a titanium dioxide surface. Molecular Simulation, 2009, 35, 31-37.	0.9	49
92	Existence of Multiple Phases of Water at Nanotube Interfaces. Journal of Physical Chemistry C, 2016, 120, 23763-23771.	1.5	49
93	Solution-Synthesized Chevron Graphene Nanoribbons Exfoliated onto H:Si(100). Nano Letters, 2017, 17, 170-178.	4.5	49
94	Surface-charge-induced asymmetric electrokinetic transport in confined silicon nanochannels. Applied Physics Letters, 2005, 86, 143105.	1.5	48
95	Ordering-Induced Fast Diffusion of Nanoscale Water Film on Graphene. Journal of Physical Chemistry C, 2010, 114, 2595-2599.	1.5	48
96	Modeling mechanophore activation within a crosslinked glassy matrix. Journal of Applied Physics, 2013, 114, .	1.1	48
97	Identification of amino acids with sensitive nanoporous MoS2: towards machine learning-based prediction. Npj 2D Materials and Applications, 2018, 2, .	3.9	47
98	Three-Dimensional Molecular Mapping of Ionic Liquids at Electrified Interfaces. ACS Nano, 2020, 14, 17515-17523.	7.3	47
99	A quasi-continuum hydrodynamic model for slit shaped nanochannel flow. Journal of Chemical Physics, 2013, 139, 074109.	1.2	46
100	Strong Electroosmotic Coupling Dominates Ion Conductance of 1.5 nm Diameter Carbon Nanotube Porins. ACS Nano, 2019, 13, 12851-12859.	7.3	46
101	Gated transport in nanofluidic devices. Microfluidics and Nanofluidics, 2011, 11, 297-306.	1.0	45
102	Interatomic potential-based semiclassical theory for Lennard-Jones fluids. Journal of Chemical Physics, 2007, 127, 174701.	1.2	41
103	Effect of induced electric field on single-file reverse osmosis. Physical Chemistry Chemical Physics, 2009, 11, 8614.	1.3	41
104	The role of A-site ion on proton diffusion in perovskite oxides (ABO3). Journal of Power Sources, 2020, 445, 227327.	4.0	39
105	Stochastic Analysis of Electrostatic MEMS Subjected to Parameter Variations. Journal of Microelectromechanical Systems, 2009, 18, 1454-1468.	1.7	36
106	Transfer-Learning-Based Coarse-Graining Method for Simple Fluids: Toward Deep Inverse Liquid-State Theory. Journal of Physical Chemistry Letters, 2019, 10, 1242-1250.	2.1	36
107	Title is missing!. Journal of Computational Electronics, 2003, 2, 29-47.	1.3	35
108	A chloride ion-selective boron nitride nanotube. Chemical Physics Letters, 2009, 478, 185-190.	1.2	35

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109	Coarse-Grained Potential Model for Structural Prediction of Confined Water. Journal of Chemical Theory and Computation, 2012, 8, 1828-1840.	2.3	35
110	Physical models for coupled electromechanical analysis of silicon nanoelectromechanical systems. Journal of Applied Physics, 2005, 97, 114304.	1.1	34
111	Differential Ion Transport Induced Electroosmosis and Internal Recirculation in Heterogeneous Osmosis Membranes. Nano Letters, 2006, 6, 995-999.	4.5	34
112	Coarse-Grained Force Field for Imidazolium-Based Ionic Liquids. Journal of Chemical Theory and Computation, 2018, 14, 3252-3261.	2.3	34
113	Highly Efficient Solarâ€Driven Carbon Dioxide Reduction on Molybdenum Disulfide Catalyst Using Choline Chlorideâ€Based Electrolyte. Advanced Energy Materials, 2019, 9, 1803536.	10.2	34
114	Measurements of the size and correlations between ions using an electrolytic point contact. Nature Communications, 2019, 10, 2382.	5.8	34
115	A multilevel Newton method for mixed-energy domain simulation of MEMS. Journal of Microelectromechanical Systems, 1999, 8, 299-308.	1.7	33
116	Separation of gases from gasâ€“water mixtures using carbon nanotubes. Applied Physics Letters, 2010, 96, .	1.5	33
117	Nanofluidic Transport Theory with Enhancement Factors Approaching One. ACS Nano, 2020, 14, 272-281.	7.3	33
118	Ion Transport in Electrically Imperfect Nanopores. ACS Nano, 2020, 14, 10518-10526.	7.3	33
119	Application of a parallel DSMC technique to predict flow characteristics in microfluidic filters. Journal of Microelectromechanical Systems, 2001, 10, 538-549.	1.7	31
120	A boundary cloud method with a cloud-by-cloud polynomial basis. Engineering Analysis With Boundary Elements, 2003, 27, 57-71.	2.0	31
121	Self-consistent molecular dynamics formulation for electric-field-mediated electrolyte transport through nanochannels. Physical Review E, 2007, 76, 011202.	0.8	31
122	Crosslinking PMMA: Molecular dynamics investigation of the shear response. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 444-449.	2.4	31
123	Accelerated design and discovery of perovskites with high conductivity for energy applications through machine learning. Npj Computational Materials, 2021, 7, .	3.5	31
124	Capacitive Sensing of Intercalated H₂O Molecules Using Graphene. ACS Applied Materials & Interfaces, 2015, 7, 25804-25812.	4.0	30
125	Title is missing!. Journal of Computational Electronics, 2002, 1, 313-316.	1.3	28
126	Coupling of hierarchical fluid models with electrostatic and mechanical models for the dynamic analysis of MEMS. Journal of Micromechanics and Microengineering, 2006, 16, 1705-1719.	1.5	28

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127	New approximations and collocation schemes in the finite cloud method. Computers and Structures, 2005, 83, 1366-1385.	2.4	27
128	Calculation of thermodynamic and mechanical properties of silicon nanostructures using the local phonon density of states. Physical Review B, 2006, 74, .	1.1	27
129	Thermodynamic insight into spontaneous hydration and rapid water permeation in aquaporins. Applied Physics Letters, 2014, 105, 083702.	1.5	27
130	The interaction between hexagonal boron nitride and water from first principles. Journal of Chemical Physics, 2015, 142, 234702.	1.2	27
131	Multiscale Simulation of Electroosmotic Transport Using Embedding Techniques. International Journal for Multiscale Computational Engineering, 2004, 2, 173-188.	0.8	27
132	A finite element formulation for the hydrodynamic semiconductor device equations. Computer Methods in Applied Mechanics and Engineering, 1993, 107, 269-298.	3.4	26
133	Water Phase Transition Induced by a Stoneâ^'Wales Defect in a Boron Nitride Nanotube. Journal of the American Chemical Society, 2008, 130, 13649-13652.	6.6	26
134	Multiscale modeling of electroosmotic flow: Effects of discrete ion, enhanced viscosity, and surface friction. Journal of Chemical Physics, 2017, 146, .	1.2	26
135	Mechanistic Insights into Hydration of Solid Oxides. Chemistry of Materials, 2018, 30, 138-144.	3.2	26
136	Coarse-grained potential models for structural prediction of carbon dioxide (CO2) in confined environments. Journal of Chemical Physics, 2012, 136, 024102.	1.2	25
137	Antibody Subclass Detection Using Graphene Nanopores. Journal of Physical Chemistry Letters, 2017, 8, 1670-1676.	2.1	25
138	Machine Learning Assisted Screening of Two-Dimensional Materials for Water Desalination. ACS Nano, 2022, 16, 1929-1939.	7.3	25
139	Mathematical Modeling and Simulation of Dissolvable Hydrogels. Journal of Aerospace Engineering, 2003, 16, 55-64.	0.8	24
140	A stochastic Lagrangian approach for geometrical uncertainties in electrostatics. Journal of Computational Physics, 2007, 226, 156-179.	1.9	24
141	Thermodynamic state-dependent structure-based coarse-graining of confined water. Journal of Chemical Physics, 2012, 137, 214707.	1.2	24
142	Electrical Double Layer of Supported Atomically Thin Materials. Nano Letters, 2019, 19, 4588-4593.	4.5	24
143	Title is missing!. Journal of Computational Electronics, 2002, 1, 335-340.	1.3	23
144	Coupling of the mesh-free finite cloud method with the boundary element method: a collocation approach. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 2355-2375.	3.4	23

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145	A dataâ€driven stochastic collocation approach for uncertainty quantification in MEMS. International Journal for Numerical Methods in Engineering, 2010, 83, 575-597.	1.5	23
146	Molybdenum disulfide and water interaction parameters. Journal of Chemical Physics, 2017, 147, 104706.	1.2	23
147	Asymmetric-Fluidic-Reservoirs Induced High Rectification Nanofluidic Diode. Scientific Reports, 2018, 8, 13941.	1.6	23
148	Ion Solvation and Transport in Narrow Carbon Nanotubes: Effects of Polarizability, Cationâ^Ï€ Interaction, and Confinement. Journal of Chemical Theory and Computation, 2021, 17, 1596-1605.	2.3	23
149	ATOMISTIC CAPACITANCE OF A NANOTUBE ELECTROMECHANICAL DEVICE. International Journal of Nanoscience, 2002, 01, 337-346.	0.4	22
150	Understanding anomalous currentâ€“voltage characteristics in microchannelâ€“nanochannel interconnect devices. Journal of Colloid and Interface Science, 2012, 384, 162-171.	5.0	22
151	Optimization of solidification in die casting using numerical simulations and machine learning. Journal of Manufacturing Processes, 2020, 51, 130-141.	2.8	22
152	Modeling of dielectric charging in RF MEMS capacitive switches. Microwave and Optical Technology Letters, 2007, 49, 3188-3192.	0.9	21
153	Analysis of Hybrid Electrothermomechanical Microactuators With Integrated Electrothermal and Electrostatic Actuation. Journal of Microelectromechanical Systems, 2009, 18, 1126-1136.	1.7	21
154	Interfacial friction based quasi-continuum hydrodynamical model for nanofluidic transport of water. Journal of Chemical Physics, 2015, 143, 174702.	1.2	21
155	Selective filling of n-hexane in a tight nanopore. Nature Communications, 2021, 12, 310.	5.8	21
156	Nonlinear electrohydrodynamic ion transport in graphene nanopores. Science Advances, 2022, 8, eabj2510.	4.7	21
157	Atomistic simulations on the mechanical properties of a silicon nanofilm covered with graphene. Computational Materials Science, 2011, 50, 3063-3066.	1.4	20
158	Diameter Dependence of Water Filling in Lithographically Segmented Isolated Carbon Nanotubes. ACS Nano, 2021, 15, 2778-2790.	7.3	20
159	Super-resolved Optical Mapping of Reactive Sulfur-Vacancies in Two-Dimensional Transition Metal Dichalcogenides. ACS Nano, 2021, 15, 7168-7178.	7.3	20
160	Phonon-Fluid Coupling Enhanced Water Desalination in Flexible Two-Dimensional Porous Membranes. Nano Letters, 2022, 22, 419-425.	4.5	20
161	A transferable coarse-grained potential to study the structure of confined, supercritical Lennard-Jones fluids. Journal of Chemical Physics, 2010, 132, 044703.	1.2	19
162	Electromechanical Signatures for DNA Sequencing through a Mechanosensitive Nanopore. Journal of Physical Chemistry Letters, 2015, 6, 650-657.	2.1	19

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163	Water-Assisted Increase of Ionic Conductivity of Lithium Poly(acrylic acid)-Based Aqueous Polymer Electrolyte. ACS Applied Energy Materials, 2020, 3, 10119-10130.	2.5	19
164	Revisiting Sampson's theory for hydrodynamic transport in ultrathin nanopores. Physical Review Research, 2020, 2, .	1.3	19
165	Diffusion of water submonolayers on hydrophilic surfaces. Applied Physics Letters, 2008, 93, 253104.	1.5	18
166	Weighted Smolyak algorithm for solution of stochastic differential equations on nonâ€uniform probability measures. International Journal for Numerical Methods in Engineering, 2011, 85, 1365-1389.	1.5	18
167	Scanning tunneling spectroscopy and density functional calculation of silicon dangling bonds on the Si(100)-2Ã—1:H surface. Surface Science, 2013, 609, 147-151.	0.8	18
168	Characterization of electrochemical properties of a microâ€“nanochannel integrated system using computational impedance spectroscopy (CIS). Electrochimica Acta, 2013, 105, 514-523.	2.6	18
169	A multiscale model for charge inversion in electric double layers. Journal of Chemical Physics, 2018, 148, 214102.	1.2	18
170	Stochastic modeling of coupled electromechanical interaction for uncertainty quantification in electrostatically actuated MEMS. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3456-3471.	3.4	17
171	Nano-electro-mechanical pump: Giant pumping of water in carbon nanotubes. Scientific Reports, 2016, 6, 26211.	1.6	17
172	Energy Dissipation in Fluid Coupled Nanoresonators: The Effect of Phonon-Fluid Coupling. ACS Nano, 2018, 12, 368-377.	7.3	17
173	Self-assembly of graphenes. Surface Science, 2011, 605, 1616-1620.	0.8	16
174	Simulation and experiment of substrate aluminum grain orientation dependent self-ordering in anodic porous alumina. Journal of Applied Physics, 2013, 113, .	1.1	16
175	Molecular Dynamics Properties without the Full Trajectory: A Denoising Autoencoder Network for Properties of Simple Liquids. Journal of Physical Chemistry Letters, 2019, 10, 7568-7576.	2.1	16
176	Interfacial Properties of Water on Hydrogenated and Fluorinated Graphene Surfaces: Parametrization of Nonbonded Interactions. Journal of Physical Chemistry C, 2020, 124, 21467-21475.	1.5	16
177	A fast boundary cloud method for exterior 2D electrostatic analysis. International Journal for Numerical Methods in Engineering, 2003, 56, 239-260.	1.5	15
178	Transient analysis of electro-osmotic transport by a reduced-order modelling approach. International Journal for Numerical Methods in Engineering, 2003, 56, 1023-1050.	1.5	15
179	Hybrid techniques for electrostatic analysis of nanoelectromechanical systems. Journal of Applied Physics, 2004, 96, 2221-2231.	1.1	15
180	Algorithms in FastStokes and Its Application to Micromachined Device Simulation. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2006, 25, 248-257.	1.9	15

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181	Multiscale electrostatic analysis of silicon nanoelectromechanical systems (NEMS) via heterogeneous quantum models. Physical Review B, 2008, 77, .	1.1	15
182	Controlling the Ionic Current Rectification Factor of a Nanofluidic/Microfluidic Interface with Symmetric Nanocapillary Interconnects. Analytical Chemistry, 2015, 87, 3598-3605.	3.2	15
183	Nonlinear intrinsic dissipation in single layer MoS₂ resonators. RSC Advances, 2017, 7, 6403-6410.	1.7	15
184	Numerical solution of two-carrier hydrodynamic semiconductor device equations employing a stabilized finite element method. Computer Methods in Applied Mechanics and Engineering, 1995, 125, 187-220.	3.4	14
185	Dispersion control in nano-channel systems by localized Î¶-potential variations. Sensors and Actuators A: Physical, 2003, 104, 268-274.	2.0	14
186	Numerical analysis of 3D electrostatics of deformable conductors using a Lagrangian approach. Engineering Analysis With Boundary Elements, 2004, 28, 583-591.	2.0	14
187	Surface diffusion of n-alkanes: Mechanism and anomalous behavior. Chemical Physics Letters, 2007, 447, 310-315.	1.2	14
188	Carbon nanotube screening effects on the water-ion channels. Applied Physics Letters, 2008, 93, 43122.	1.5	14
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