Laurent Joly

List of Publications by Year
in descending order

49 papers	3,213 citations	218677 26 h-index	197818 49 g-index
49 all docs	49 docs citations	49 times ranked	3219 citing authors

#	Article	IF	Citations
1	Molecular Origin of Fast Water Transport in Carbon Nanotube Membranes: Superlubricity versus Curvature Dependent Friction. Nano Letters, 2010, 10, 4067-4073.	9.1	666
2	Friction of Water on Graphene and Hexagonal Boron Nitride from Ab Initio Methods: Very Different Slippage Despite Very Similar Interface Structures. Nano Letters, 2014, 14, 6872-6877.	9.1	326
3	Hydrodynamics within the Electric Double Layer on Slipping Surfaces. Physical Review Letters, 2004, 93, 257805.	7.8	256
4	Optimizing water permeability through the hourglass shape of aquaporins. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 16367-16372.	7.1	194
5	Heat transfer from nanoparticles: A corresponding state analysis. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15113-15118.	7.1	186
6	Liquid friction on charged surfaces: From hydrodynamic slippage to electrokinetics. Journal of Chemical Physics, 2006, 125, 204716.	3.0	178
7	Probing the Nanohydrodynamics at Liquid-Solid Interfaces Using Thermal Motion. Physical Review Letters, 2006, 96, 046101.	7.8	139
8	Ultralow Liquid/Solid Friction in Carbon Nanotubes: Comprehensive Theory for Alcohols, Alkanes, OMCTS, and Water. Langmuir, 2012, 28, 14261-14272.	3.5	110
9	Capillary filling with giant liquid/solid slip: Dynamics of water uptake by carbon nanotubes. Journal of Chemical Physics, 2011, 135, 214705.	3.0	90
10	Large permeabilities of hourglass nanopores: From hydrodynamics to single file transport. Journal of Chemical Physics, 2014, 141, 18C526.	3.0	86
11	What Controls Thermo-osmosis? Molecular Simulations Show the Critical Role of Interfacial Hydrodynamics. Physical Review Letters, 2017, 119, 214501.	7.8	75
12	The Carbon-Water Interface: Modeling Challenges and Opportunities for the Water-Energy Nexus. Annual Review of Chemical and Biomolecular Engineering, 2016, 7, 533-556.	6.8	72
13	Viscosity and self-diffusion of supercooled and stretched water from molecular dynamics simulations. Journal of Chemical Physics, 2018, 149, 094503.	3.0	62
14	Liquid-Solid Slip on Charged Walls: The Dramatic Impact of Charge Distribution. Physical Review Letters, 2020, 125, 014501.	7.8	61
15	Molecular dynamics study of nanoconfined TIP4P/2005 water: how confinement and temperature affect diffusion and viscosity. Physical Chemistry Chemical Physics, 2019, 21, 13653-13667.	2.8	59
16	Anomalous capillary filling and wettability reversal in nanochannels. Physical Review E, 2016, 93, 033123.	2.1	43
17	Understanding Fast and Robust Thermo-osmotic Flows through Carbon Nanotube Membranes: Thermodynamics Meets Hydrodynamics. Journal of Physical Chemistry Letters, 2018, 9, 2086-2092.	4.6	43
18	Measuring surface charge: Why experimental characterization and molecular modeling should be coupled. Current Opinion in Colloid and Interface Science, 2018, 37, 101-114.	7.4	39

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19	Decoupling of viscosity and relaxation processes in supercooled water: a molecular dynamics study with the TIP4P/2005f model. Physical Chemistry Chemical Physics, 2017, 19, 2124-2130.	2.8	37
20	Anomalous<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î¶</mml:mi></mml:math>Potential in Foam Films. Physical Review Letters, 2014, 113, 088301.	7.8	35
21	Nanolubrication by ionic liquids: molecular dynamics simulations reveal an anomalous effective rheology. Physical Chemistry Chemical Physics, 2015, 17, 23226-23235.	2.8	34
22	Strong Coupling between Nanofluidic Transport and Interfacial Chemistry: How Defect Reactivity Controls Liquidâ€“Solid Friction through Hydrogen Bonding. Journal of Physical Chemistry Letters, 2016, 7, 1381-1386.	4.6	33
23	Nanoscale Dynamics versus Surface Interactions: What Dictates Osmotic Transport?. Journal of Physical Chemistry Letters, 2017, 8, 478-483.	4.6	30
24	Diffusion in pores and its dependence on boundary conditions. Journal of Physics Condensed Matter, 2005, 17, S4075-S4090.	1.8	28
25	Giant Thermoelectric Response of Nanofluidic Systems Driven by Water Excess Enthalpy. Physical Review Letters, 2019, 123, 138001.	7.8	27
26	Ab initio nanofluidics: disentangling the role of the energy landscape and of density correlations on liquid/solid friction. Nanoscale, 2020, 12, 10994-11000.	5.6	27
27	Shear force measurement of the hydrodynamic wall position in molecular dynamics. Journal of Chemical Physics, 2019, 151, 041103.	3.0	24
28	Molecular modeling of aqueous electrolytes at interfaces: Effects of long-range dispersion forces and of ionic charge rescaling. Journal of Chemical Physics, 2020, 152, 241102.	3.0	22
29	Rheology of an Ionic Liquid with Variable Carreau Exponent: A Full Picture by Molecular Simulation with Experimental Contribution. Tribology Letters, 2016, 64, 1.	2.6	21
30	Orders of Magnitude Changes in the Friction of an Ionic Liquid on Carbonaceous Surfaces. Journal of Physical Chemistry C, 2018, 122, 2145-2154.	3.1	21
31	Green-Kubo measurement of liquid-solid friction in finite-size systems. Journal of Chemical Physics, 2019, 151, .	3.0	21
32	Osmotic Transport at the Aqueous Graphene and hBN Interfaces: Scaling Laws from a Unified, First-Principles Description. ACS Nano, 2021, 15, 15249-15258.	14.6	21
33	Fast increase of nanofluidic slip in supercooled water: the key role of dynamics. Nanoscale, 2020, 12, 20396-20403.	5.6	20
34	Electrokinetic transport in liquid foams. Advances in Colloid and Interface Science, 2017, 247, 477-490.	14.7	18
35	Communication: Truncated non-bonded potentials can yield unphysical behavior in molecular dynamics simulations of interfaces. Journal of Chemical Physics, 2017, 147, 121102.	3.0	13
36	Molecular dynamics analysis of the friction between a water-methanol liquid mixture and a non-polar solid crystal surface. Journal of Chemical Physics, 2017, 146, 174702.	3.0	10

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37	Assessment of elastic models in supercooled water: A molecular dynamics study with the TIP4P/2005f force field. Journal of Chemical Physics, 2017, 147, 014504.	3.0	10
38	Large effect of lateral box size in molecular dynamics simulations of liquid-solid friction. Physical Review E, 2019, 100, 023101.	2.1	9
39	Full characterization of the hydrodynamic boundary condition at the atomic scale using an oscillating channel: Identification of the viscoelastic interfacial friction and the hydrodynamic boundary position. Physical Review Fluids, 2019, 4, .	2.5	9
40	Connection between waterâ€™s dynamical and structural properties: Insights from ab initio simulations. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2121641119.	7.1	9
41	Electro-osmosis at surfactant-laden liquidâ€“gas interfaces: beyond standard models. Soft Matter, 2017, 13, 3341-3351.	2.7	8
42	Extraction of the solid-liquid friction coefficient between a water-methanol liquid mixture and a non-polar solid crystal surface by Green-Kubo equations. Mechanical Engineering Letters, 2017, 3, 17-00422-17-00422.	0.6	8
43	Chemical Physics at Interfaces within a Refrigerant-Lubricated Contact: From Electronic Structure to Large-Scale Molecular Dynamics Simulations. Journal of Physical Chemistry C, 2018, 122, 5420-5429.	3.1	8
44	Fast and versatile thermo-osmotic flows with a pinch of salt. Nanoscale, 2022, 14, 626-631.	5.6	8
45	Ultra-high liquidâ€“solid thermal resistance using nanostructured gold surfaces coated with graphene. Applied Physics Letters, 2022, 120, .	3.3	7
46	Tribological Performance of the R1233zd Refrigerant in Extreme Confinement at the Nanoasperity Level: A Molecular Dynamics Study Using an ab Initio-Based Force Field. Tribology Letters, 2019, 67, 1.	2.6	3
47	Electrokinetic sweeping of colloids at a reactive magnesium oxide interface. Soft Matter, 2021, 17, 8705-8711.	2.7	3
48	Theoretical framework for the atomistic modeling of frequency-dependent liquid-solid friction. Physical Review Research, 2021, 3, .	3.6	2
49	Enhanced local viscosity around colloidal nanoparticles probed by Equilibrium Molecular Dynamics Simulations. Journal of Chemical Physics, 2021, 155, 174701.	3.0	2