Elmar Bonaccurso

List of Publications by Year
in descending order

111 papers	5,365 citations	94433 37 h-index	88630 70 g-index
115 all docs	115 docs citations	115 times ranked	4987 citing authors

#	Article	IF	Citations
1	Boundary slip in Newtonian liquids: a review of experimental studies. Reports on Progress in Physics, 2005, 68, 2859-2897.	20.1	946
2	Hydrodynamic Force Measurements: Boundary Slip of Water on Hydrophilic Surfaces and Electrokinetic Effects. Physical Review Letters, 2002, 88, 076103.	7.8	277
3	Surface Roughness and Hydrodynamic Boundary Slip of a Newtonian Fluid in a Completely Wetting System. Physical Review Letters, 2003, 90, 144501.	7.8	274
4	Effect of Capillary Pressure and Surface Tension on the Deformation of Elastic Surfaces by Sessile Liquid Microdrops: An Experimental Investigation. Langmuir, 2008, 24, 10565-10568.	3.5	168
5	Electrowetting â€" From statics to dynamics. Advances in Colloid and Interface Science, 2014, 210, 2-12.	14.7	146
6	A survey of icephobic coatings and their potential use in a hybrid coating/active ice protection system for aerospace applications. Progress in Aerospace Sciences, 2019, 105, 74-97.	12.1	145
7	Evaporation of sessile water/ethanol drops in a controlled environment. Physical Chemistry Chemical Physics, 2008, 10, 7150.	2.8	128
8	Superhydrophilic and superhydrophobic nanostructured surfaces via plasma treatment. Journal of Colloid and Interface Science, 2011, 357, 234-238.	9.4	128
9	Solid-supported thin elastomer films deformed by microdrops. Soft Matter, 2009, 5, 3611.	2.7	115
10	Design Rules for Laserâ€Treated Icephobic Metallic Surfaces for Aeronautic Applications. Advanced Functional Materials, 2020, 30, 1910268.	14.9	109
11	The Softer the Better: Fast Condensation on Soft Surfaces. Langmuir, 2010, 26, 1544-1547.	3.5	108
12	Evaporation control of sessile water drops by soft viscoelastic surfaces. Soft Matter, 2012, 8, 7875.	2.7	92
13	Effects of surface wettability and liquid viscosity on the dynamic wetting of individual drops. Physical Review E, 2014, 90, 022401.	2.1	84
14	On the Derivation of Young's Equation for Sessile Drops:Â Nonequilibrium Effects Due to Evaporation. Journal of Physical Chemistry B, 2007, 111, 5277-5283.	2.6	79
15	Fabrication of microvessels and microlenses from polymers by solvent droplets. Applied Physics Letters, 2005, 86, 124101.	3.3	77
16	Impact of atomic force microscopy on interface and colloid science. Advances in Colloid and Interface Science, 2007, 133, 91-104.	14.7	76
17	Microdrops on Atomic Force Microscope Cantilevers:Â Evaporation of Water and Spring Constant Calibration. Journal of Physical Chemistry B, 2005, 109, 253-263.	2.6	70
18	Inertial to Viscoelastic Transition in Early Drop Spreading on Soft Surfaces. Langmuir, 2013, 29, 1893-1898.	3.5	67

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19	Measuring normal and friction forces acting on individual fine particles. Review of Scientific Instruments, 2001, 72, 4164-4170.	1.3	66
20	Short time wetting dynamics on soft surfaces. Soft Matter, 2011, 7, 9084.	2.7	65
21	Droplet impact on soft viscoelastic surfaces. Physical Review E, 2016, 94, 063117.	2.1	65
22	Transparent Slippery Surfaces Made with Sustainable Porous Cellulose Lauroyl Ester Films. ACS Applied Materials & Interfaces, 2014, 6, 6969-6976.	8.0	64
23	Static and dynamic wetting of soft substrates. Current Opinion in Colloid and Interface Science, 2018, 36, 46-57.	7.4	63
24	Construction of Redispersible Polypyrrole Coreâ€“Shell Nanoparticles for Application in Polymer Electronics. Advanced Materials, 2009, 21, 1137-1141.	21.0	60
25	General Frost Growth Mechanism on Solid Substrates with Different Stiffness. Langmuir, 2014, 30, 1160-1168.	3.5	59
26	Transition in the Evaporation Kinetics of Water Microdrops on Hydrophilic Surfaces. Langmuir, 2009, 25, 75-78.	3.5	58
27	Confined liquid: Simultaneous observation of a molecularly layered structure and hydrodynamic slip. Journal of Chemical Physics, 2002, 117, 10311-10314.	3.0	53
28	Imaging and elasticity measurements of the sarcolemma of fully differentiated skeletal muscle fibres. Microscopy Research and Technique, 2005, 67, 27-35.	2.2	53
29	Measurement of Line Tension on Droplets in the Submicrometer Range. Langmuir, 2013, 29, 14147-14153.	3.5	53
30	Dynamics of condensation and evaporation: Effect of inter-drop spacing. Europhysics Letters, 2010, 89, 36004.	2.0	52
31	Superhydrophobic surfaces fabricated from nano- and microstructured cellulose stearoyl esters. Chemical Communications, 2013, 49, 4962.	4.1	51
32	Influence of the substrate thermal properties on sessile droplet evaporation: Effect of transient heat transport. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 432, 64-70.	4.7	49
33	Thin liquid films studied by atomic force microscopy. Current Opinion in Colloid and Interface Science, 2008, 13, 107-119.	7.4	48
34	Ice crystal impact onto a dry solid wall. Particle fragmentation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150399.	2.1	47
35	Dynamic Wetting of Hydrophobic Polymers by Aqueous Surfactant and Superspreader Solutions. Langmuir, 2013, 29, 14855-14864.	3.5	45
36	Interaction of a Microsphere with a Solid-Supported Liquid Film. Langmuir, 2010, 26, 11797-11803.	3.5	42

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37	Hydrodynamic drainage force in a highly confined geometry: role of surface roughness on different length scales. Microfluidics and Nanofluidics, 2010, 8, 653-663.	2.2	40
38	Influence of substrate elasticity on particle deposition patterns from evaporating waterâ€“silica suspension droplets. Soft Matter, 2013, 9, 7942.	2.7	38
39	Selfâ€Limited Ice Formation and Efficient Deâ€Icing on Superhydrophobic Microâ€Structured Airfoils through Direct Laser Interference Patterning. Advanced Materials Interfaces, 2020, 7, 2001231.	3.7	38
40	Nanostructuring Effect of Plasma and Solvent Treatment on Polystyrene. Langmuir, 2004, 20, 11183-11190.	3.5	35
41	Superviscosity and electroviscous effects at an electrode/aqueous electrolyte interface: An atomic force microscope study. Journal of Colloid and Interface Science, 2011, 360, 800-804.	9.4	34
42	Electromechanical Resonant Ice Protection Systems: Initiation of Fractures with Piezoelectric Actuators. AIAA Journal, 2018, 56, 4400-4411.	2.6	34
43	Electrostatic forces acting on tip and cantilever in atomic force microscopy. Physical Review B, 2006, 74, .	3.2	33
44	Drop profile analysis tensiometry under highly dynamic conditions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2012, 413, 292-297.	4.7	33
45	Microstructuring of Polystyrene Surfaces with Nonsolvent Sessile Droplets. ChemPhysChem, 2008, 9, 1738-1746.	2.1	32
46	Water Induced Dewetting of Ultrathin Polystyrene Films on Hydrophilic Surfaces. Langmuir, 2002, 18, 8056-8061.	3.5	31
47	Sessile-drop-induced bending of atomic force microscope cantilevers: a model system for monitoring microdrop evaporation. Journal of Micromechanics and Microengineering, 2006, 16, 2273-2280.	2.6	31
48	Snap-in dynamics of single particles to water drops. Applied Physics Letters, 2012, 101, .	3.3	30
49	Theoretical and Experimental Investigation of the Melting Process of Ice Particles. Journal of Thermophysics and Heat Transfer, 2016, 30, 946-954.	1.6	30
50	Arrays of microlenses with variable focal lengths fabricated by restructuring polymer surfaces with an ink-jet device. Optics Express, 2007, 15, 9877.	3.4	27
51	Diffusion of water into SU-8 microcantilevers. Physical Chemistry Chemical Physics, 2010, 12, 10577.	2.8	26
52	Initial Electrospreading of Aqueous Electrolyte Drops. Physical Review Letters, 2013, 110, 026103.	7.8	26
53	Macrodropâ€Impactâ€Mediated Fluid Microdispensing. Advanced Science, 2021, 8, e2101331.	11.2	26
54	Influence of Synapsin I on Synaptic Vesicles: An Analysis by Force-Volume Mode of the Atomic Force Microscope and Dynamic Light Scattering. Biophysical Journal, 2007, 93, 1051-1060.	0.5	25

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55	Evaporation Structures of Solvent Drops Evaporating from Polymer Surfaces: Influence of Molar Mass. Macromolecular Chemistry and Physics, 2007, 208, 2134-2144.	2.2	25
56	Nondestructive and noncontact method for determining the spring constant of rectangular cantilevers. Review of Scientific Instruments, 2007, 78, 043705.	1.3	24
57	Cantilever contribution to the total electrostatic force measured with the atomic force microscope. Measurement Science and Technology, 2010, 21, 025502.	2.6	24
58	Influence of Surfactant Concentration and Background Salt on Forced Dynamic Wetting and Dewetting. Langmuir, 2011, 27, 2112-2117.	3.5	24
59	Influence of the spring constant of cantilevers on hydrodynamic force measurements by the colloidal probe technique. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2010, 354, 72-80.	4.7	23
60	Fast dynamic wetting of polymer surfaces by miscible and immiscible liquids. Colloid and Polymer Science, 2011, 289, 1609-1615.	2.1	23
61	Mechanism for Asymmetric Nanoscale Electrowetting of an Ionic Liquid on Graphene. Langmuir, 2016, 32, 140-150.	3.5	23
62	Electromechanical Resonant Ice Protection Systems: Analysis of Fracture Propagation Mechanisms. AIAA Journal, 2018, 56, 4412-4422.	2.6	23
63	Study of morphology and mechanical properties of polystyreneâ€“polybutadiene blends with nanometre resolution using AFM and forceâ€“distance curves. European Polymer Journal, 2014, 55, 123-134.	5.4	21
64	Influence of wettability and surface charge on the interaction between an aqueous electrolyte solution and a solid surface. Physical Chemistry Chemical Physics, 2008, 10, 4871.	2.8	20
65	Microcantilever sensors for monitoring the evaporation of microdrops of pure liquids and mixtures. Review of Scientific Instruments, 2010, 81, 013702.	1.3	20
66	Nanoelectronic Properties of a Model System and of a Conjugated Polymer: A Study by Kelvin Probe Force Microscopy and Scanning Conductive Torsion Mode Microscopy. Journal of Physical Chemistry C, 2010, 114, 7161-7168.	3.1	20
67	Comparison of spontaneous wetting and drop impact dynamics of aqueous surfactant solutions on hydrophobic polypropylene surfaces: scaling of the contact radius. Colloid and Polymer Science, 2015, 293, 257-265.	2.1	20
68	Revealing Contamination on AFM Cantilevers by Microdrops and Microbubbles. Langmuir, 2004, 20, 11824-11827.	3.5	19
69	Deposition of drops containing surfactants on liquid pools: Movement of the contact line, Marangoni ridge, capillary waves and interfacial particles. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 486, 53-59.	4.7	19
70	Resolving the Apparent Line Tension of Sessile Droplets and Understanding its Sign Change at a Critical Wetting Angle. Physical Review Letters, 2019, 123, 094501.	7.8	19
71	Surfactant-Enhanced Spreading of Sessile Water Drops on Polypropylene Surfaces. Langmuir, 2016, 32, 8322-8328.	3.5	18
72	Microarrays by structured substrate swelling. European Polymer Journal, 2004, 40, 975-980.	5.4	16

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73	Local Mechanical Properties of Plasma Treated Polystyrene Surfaces. Journal of Physical Chemistry B, 2006, 110, 17918-17924.	2.6	16
74	Quasi-static and hydrodynamic interaction between solid surfaces in polyisoprene studied by atomic force microscopy. Polymer, 2006, 47, 7259-7270.	3.8	16
75	Droplet on an elastic substrate: Finite Element Method coupled with lubrication approximation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 521, 13-21.	4.7	16
76	Analysis and modelling of icing of air intake protection grids of aircraft engines. Cold Regions Science and Technology, 2019, 160, 265-272.	3.5	15
77	Development of nanostructured icephobic aluminium oxide surfaces for aeronautic applications. Surface and Coatings Technology, 2021, 405, 126652.	4.8	15
78	Solvent-assisted nanolithography on polystyrene surfaces using the atomic force microscope. Nanotechnology, 2007, 18, 155307.	2.6	14
79	Evaporative cooling of sessile water microdrops measured with atomic force microscope cantilevers. Journal of Micromechanics and Microengineering, 2008, 18, 095026.	2.6	14
80	Conductivity of individual particles measured by a microscopic four-point-probe method. Scientific Reports, 2013, 3, 1991.	3.3	14
81	Water diffusion in polymer nano-films measured with microcantilevers. Sensors and Actuators B: Chemical, 2011, 160, 32-38.	7.8	13
82	Drop impact on surfactant films and solutions. Colloid and Polymer Science, 2013, 291, 1963-1976.	2.1	13
83	Temperature-Responsive Thin Films from Cellulose Stearoyl Triester. Journal of Physical Chemistry C, 2014, 118, 2408-2417.	3.1	13
84	Inscribing wettability gradients onto polymer substrates with different stiffness using corona discharge in point-to-plane geometry. Applied Surface Science, 2015, 330, 104-110.	6.1	13
85	Icephobic Performance of Multi-Scale Laser-Textured Aluminum Surfaces for Aeronautic Applications. Nanomaterials, 2021, 11, 135.	4.1	13
86	Silicone nanofilaments grown on aircraft alloys for low ice adhesion. Surface and Coatings Technology, 2021, 410, 126971.	4.8	13
87	Facile Synthesis of Spherical Polyelectrolyte Brushes as Carriers for Conducting Polymers to be Used in Plastic Electronics. Macromolecular Chemistry and Physics, 2009, 210, 1504-1509.	2.2	12
88	Direct thermal noise calibration of colloidal probe cantilevers. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 443, 377-383.	4.7	12
89	Durability of superhydrophobic laser-treated metal surfaces under icing conditions. Materials Letters: X, 2019, 3, 100021.	0.7	12
90	Propeller-integrated airfoil heater system for small multirotor drones in icing environments: Anti-icing feasibility study. Cold Regions Science and Technology, 2022, 201, 103616.	3.5	12

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91	Influence of surfactant transport suppression on dynamic contact angle hysteresis. Colloid and Polymer Science, 2013, 291, 361-366.	2.1	10
92	Dynamic Wetting of Polyisoprene Melts: Influence of the End Group. Langmuir, 2010, 26, 2544-2549.	3.5	9
93	Influence of Relative Humidity on the Nanoscopic Topography and Dielectric Constant of Thin Films of PPy:PSS. Small, 2011, 7, 950-956.	10.0	9
94	Evaporation of Solvent Microdrops on Polymer Substrates: From Well Controlled Experiments To Mathematical Models and Back. Nanoscale and Microscale Thermophysical Engineering, 2007, 11, 31-41.	2.6	8
95	Surface-mediated buckling of coreâ€“shell spheres for the formation of oriented anisotropic particles with tunable morphologies. Soft Matter, 2013, 9, 2589.	2.7	8
96	Vortex formation in coalescence of droplets with a reservoir using molecular dynamics simulations. Journal of Colloid and Interface Science, 2016, 479, 189-198.	9.4	8
97	Icing Mitigation by MEMS-Fabricated Surface Dielectric Barrier Discharge. Applied Sciences (Switzerland), 2021, 11, 11106.	2.5	6
98	Elasticity-to-Capillarity Transition in Soft Substrate Deformation. Nano Letters, 2021, 21, 10361-10367.	9.1	6
99	Durability of Superamphiphobic Polyester Fabrics in Simulated Aerodynamic Icing Conditions. Coatings, 2020, 10, 1058.	2.6	5
100	Nonconstant piezo velocity in highly dynamic atomic force spectroscopy. Review of Scientific Instruments, 2006, 77, 116107.	1.3	3
101	Mechanical properties of silicone methacrylate microparticles determined by AFM Colloidal Probe Technique. Polymer, 2014, 55, 1209-1216.	3.8	3
102	What Can Probing Liquidâ€“Air Menisci Inside Nanopores Teach Us About Macroscopic Wetting Phenomena?. ACS Applied Materials & Interfaces, 2021, 13, 6897-6905.	8.0	3
103	Initial Development of a Model to Predict Impact Ice Adhesion Stress. , 2018, , .		2
104	Aircraft Icing Mitigation by DBD-based Micro Plasma Actuators. , 2020, , .		2
105	Effects of Surface Characteristics and Droplet Diameter on the Freezing of Supercooled Water Droplets Impacting a Cooled Substrate. , 2014, , .		1
106	Microdrops Evaporating on AFM Cantilevers. , 2008, , 57-65.		0
107	PREFACE: DROP EVAPORATION, SPREADING, AND STABILITY. Interfacial Phenomena and Heat Transfer, 2013, 1, v.	0.8	0
108	Molecular Dynamics Simulations of Nano-scale Icing Phenomena (Invited). , 2020, , .		0

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109	Characterizing Microscopic Ice Particle Impacts onto a Rigid Surface: Wind Tunnel Setup and Analysis. , 2021, , .		0
110	Scanning Conductive Torsion Mode Microscopy. , 2015, , 199-225.		0
111	Atomic Force Microscope Cantilevers Used as Sensors for Monitoring Microdrop Evaporation. Nanoscience and Technology, 2009, , 17-38.	1.5	0