

Frédéric Caupin

List of Publications by Year in descending order

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75
papers

3,723
citations

159585

30
h-index

128289

60
g-index

80
all docs

80
docs citations

80
times ranked

2656
citing authors

#	ARTICLE	IF	CITATIONS
1	Reconstructing lake bottom water temperatures and their seasonal variability in the Dead Sea Basin during MIS5e. <i>Depositional Record</i> , 2022, 8, 616-627.	1.7	4
2	Interplay of vitrification and ice formation in a cryoprotectant aqueous solution at low temperature. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2112248119.	7.1	4
3	Predictions for the properties of water below its homogeneous crystallization temperature revisited. <i>Journal of Non-Crystalline Solids: X</i> , 2022, 14, 100090.	1.2	0
4	High Pressure Inside Nanometer-Sized Particles Influences the Rate and Products of Chemical Reactions. <i>Environmental Science & Technology</i> , 2021, 55, 7786-7793.	10.0	12
5	Minimal Microscopic Model for Liquid Polyamorphism and Waterlike Anomalies. <i>Physical Review Letters</i> , 2021, 127, 185701.	7.8	21
6	Restoring Halite Fluid Inclusions as an Accurate Palaeothermometer: Brillouin Thermometry Versus Microthermometry. <i>Geostandards and Geoanalytical Research</i> , 2020, 44, 243-264.	3.1	7
7	Effect of dissolved salt on the anomalies of water at negative pressure. <i>Journal of Chemical Physics</i> , 2020, 152, 194501.	3.0	4
8	Dynamical Viscoelastic Properties of Poly(Ester-Urethane) Biomaterial for Scaffold Applications. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 1-8.	0.4	1
9	Thermodynamics of supercooled and stretched water: Unifying two-structure description and liquid-vapor spinodal. <i>Journal of Chemical Physics</i> , 2019, 151, 034503.	3.0	53
10	Characterization of elastomeric scaffolds developed for tissue engineering applications by compression and nanoindentation tests, $\frac{1}{4}$ -Raman and $\frac{1}{4}$ -Brillouin spectroscopies. <i>Biomedical Optics Express</i> , 2019, 10, 1649.	2.9	9
11	Thermodynamics of Fluid Polyamorphism. <i>Physical Review X</i> , 2018, 8, .	8.9	61
12	Shrinking of Rapidly Evaporating Water Microdroplets Reveals their Extreme Supercooling. <i>Physical Review Letters</i> , 2018, 120, 015501.	7.8	49
13	Viscosity and self-diffusion of supercooled and stretched water from molecular dynamics simulations. <i>Journal of Chemical Physics</i> , 2018, 149, 094503.	3.0	62
14	Comment on "Maxima in the thermodynamic response and correlation functions of deeply supercooled water". <i>Science</i> , 2018, 360, .	12.6	32
15	Pressure dependence of viscosity in supercooled water and a unified approach for thermodynamic and dynamic anomalies of water. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4312-4317.	7.1	70
16	Two-structure thermodynamics for the TIP4P/2005 model of water covering supercooled and deeply stretched regions. <i>Journal of Chemical Physics</i> , 2017, 146, 034502.	3.0	107
17	Compressibility Anomalies in Stretched Water and Their Interplay with Density Anomalies. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5519-5522.	4.6	58
18	Water: A Tale of Two Liquids. <i>Chemical Reviews</i> , 2016, 116, 7463-7500.	47.7	627

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19	A comprehensive scenario of the thermodynamic anomalies of water using the TIP4P/2005 model. <i>Journal of Chemical Physics</i> , 2016, 145, 054505.	3.0	48
20	Curvature Dependence of the Liquid-Vapor Surface Tension beyond the Tolman Approximation. <i>Physical Review Letters</i> , 2016, 116, 056102.	7.8	63
21	Molecular mechanism for cavitation in water under tension. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 13582-13587.	7.1	110
22	Equation of state for water and its line of density maxima down to ~ 120 MPa. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 5896-5900.	2.8	45
23	Brillouin spectroscopy of fluid inclusions proposed as a paleothermometer for subsurface rocks. <i>Scientific Reports</i> , 2015, 5, 13168.	3.3	7
24	Viscosity of deeply supercooled water and its coupling to molecular diffusion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 12020-12025.	7.1	168
25	Escaping the no man's land: Recent experiments on metastable liquid water. <i>Journal of Non-Crystalline Solids</i> , 2015, 407, 441-448.	3.1	73
26	Detecting vapour bubbles in simulations of metastable water. <i>Journal of Chemical Physics</i> , 2014, 141, 18C511.	3.0	19
27	Anomalies in bulk supercooled water at negative pressure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 7936-7941.	7.1	103
28	A coherent picture of water at extreme negative pressure. <i>Nature Physics</i> , 2013, 9, 38-41.	16.7	170
29	Exploring water and other liquids at negative pressure. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 284110.	1.8	62
30	Cavitation in Heavy Water and Other Liquids. <i>Journal of Physical Chemistry B</i> , 2011, 115, 14240-14245.	2.6	23
31	Fiber optic probe hydrophone for the study of acoustic cavitation in water. <i>Review of Scientific Instruments</i> , 2011, 82, 034904.	1.3	44
32	Water at the cavitation limit: Density of the metastable liquid and size of the critical bubble. <i>Europhysics Letters</i> , 2010, 90, 16002.	2.0	63
33	Time-resolved quantitative multiphase interferometric imaging of a highly focused ultrasound pulse. <i>Applied Optics</i> , 2010, 49, 6127.	2.1	12
34	Equation of state of water under negative pressure. <i>Journal of Chemical Physics</i> , 2010, 133, 174507.	3.0	73
35	Supersolidity and Disorder in Solid Helium 4. <i>Journal of Low Temperature Physics</i> , 2008, 150, 267-275.	1.4	8
36	Static Structure Factor and Static Response Function of Superfluid Helium 4: a Comparative Analysis. <i>Journal of Low Temperature Physics</i> , 2008, 152, 108-121.	1.4	13

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37	Comment on "Nanoscale water capillary bridges under deeply negative pressure" [Chem. Phys. Lett. 451 (2008) 88]. Chemical Physics Letters, 2008, 463, 283-285.	2.6	10
38	Melting and freezing of embedded nanoclusters. Physical Review B, 2008, 77, .	3.2	16
39	Optical Observations of Disorder in Solid Helium 4. Journal of Low Temperature Physics, 2008, , 1.	1.4	0
40	Absence of grain boundary melting in solid helium. Journal of Physics Condensed Matter, 2008, 20, 494228.	1.8	6
41	Absolute limit for the capillary rise of a fluid. Europhysics Letters, 2008, 82, 56004.	2.0	31
42	Supersolidity and disorder. Journal of Physics Condensed Matter, 2008, 20, 173201.	1.8	125
43	Comment on "Observation of Unusual Mass Transport in Solid hcpHe4". Physical Review Letters, 2008, 101, 189601; author reply 189602.	7.8	17
44	Comment on "Capillary Filling of Anodized Alumina Nanopore Arrays". Physical Review Letters, 2007, 98, 259601; author reply 259602.	7.8	3
45	Wetting Properties of Grain Boundaries in Solid ^4He . Physical Review Letters, 2007, 99, 205302.	7.8	42
46	Comment on "Large Melting-Point Hysteresis of Ge Nanocrystals Embedded in SiO_2 ". Physical Review Letters, 2007, 99, 079601; author reply 079602.	7.8	4
47	Cavitation in plants at low temperature: is sap transport limited by the tensile strength of water as expected from Briggs' tube experiment?. New Phytologist, 2007, 173, 571-575.	7.3	19
48	Supersolidity and Superfluidity of Grain Boundaries. Journal of Low Temperature Physics, 2007, 148, 665-670.	1.4	9
49	Homogeneous Nucleation of ^4He Crystals by Acoustic Waves. Journal of Low Temperature Physics, 2007, 148, 645-652.	1.4	4
50	Freezing of Helium-4: Comparison of Different Density Functional Approaches. Journal of Low Temperature Physics, 2007, 148, 731-736.	1.4	7
51	Cavitation pressure in water. Physical Review E, 2006, 74, 041603.	2.1	246
52	Superfluidity of Grain Boundaries and Supersolid Behavior. Science, 2006, 313, 1098-1100.	12.6	153
53	Homogeneous Nucleation of Solid ^4He . AIP Conference Proceedings, 2006, , .	0.4	1
54	Nucleation of crystals from their liquid phase. Comptes Rendus Physique, 2006, 7, 988-999.	0.9	16

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55	Cavitation in water: a review. Comptes Rendus Physique, 2006, 7, 1000-1017.	0.9	331
56	Homogeneous nucleation of crystals by acoustic waves. Europhysics Letters, 2006, 75, 91-97.	2.0	20
57	The limit of metastability of water under tension: theories and experiments. Journal of Physics Condensed Matter, 2005, 17, S3597-S3602.	1.8	23
58	Liquid-vapor interface, cavitation, and the phase diagram of water. Physical Review E, 2005, 71, 051605.	2.1	70
59	Density Functional Theory of the Interface between Solid and Superfluid Helium 4. Journal of Low Temperature Physics, 2005, 138, 331-336.	1.4	5
60	Density Functional Theory of Freezing of Superfluid Helium 4. Journal of Low Temperature Physics, 2004, 134, 181-186.	1.4	6
61	Liquid Helium up to 160 bar. Journal of Low Temperature Physics, 2004, 136, 93-116.	1.4	29
62	Optical Measurement of Wetting by 3He-4He Mixtures Near Their Tri-Critical Point. Journal of Low Temperature Physics, 2003, 130, 543-555.	1.4	7
63	Nucleation of Solid Helium from Liquid Under High Pressure. Journal of Low Temperature Physics, 2003, 131, 145-154.	1.4	13
64	Limits of metastability of liquid helium. Physica B: Condensed Matter, 2003, 329-333, 356-359.	2.7	19
65	Critical Casimir Effect and Wetting by Helium Mixtures. Physical Review Letters, 2003, 90, 116102.	7.8	35
66	Nucleation in a Fermi Liquid at Negative Pressure. Journal of Low Temperature Physics, 2002, 126, 91-96.	1.4	7
67	Heterogeneous Cavitation in Liquid Helium 4 Near a Glass Plate. Journal of Low Temperature Physics, 2002, 126, 615-620.	1.4	8
68	Optical Measurement of the Non-linear Focusing of Sound in Liquid Helium 4. Journal of Low Temperature Physics, 2002, 126, 643-648.	1.4	7
69	The Expansion Coefficient of Liquid Helium 3 and the Shape of Its Stability Limit. Journal of Low Temperature Physics, 2002, 126, 73-78.	1.4	0
70	Quantum Statistics of Metastable Liquid Helium. , 2002, , 201-214.		3
71	Ultrasonic Cavitation in Freon at Room Temperature. , 2002, , 307-313.		1
72	The Limits of Metastability of Liquid Helium. , 2002, , 145-160.		1

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73	Acoustic Nucleation of Solid Helium 4 on a Clean Glass Plate. Journal of Low Temperature Physics, 2001, 125, 155-164.	1.4	16
74	Acoustic Crystallization and Heterogeneous Nucleation. Physical Review Letters, 2001, 86, 5506-5509.	7.8	46
75	Anomaly in the Stability Limit of Liquid H ₃ e. Physical Review Letters, 2001, 87, 145302.	7.8	14