Ã˜ivind Wilhelmsen

List of Publications by Year
in descending order

62 papers	1,434 citations	304368 22 h-index	344852 36 g-index
63 all docs	63 docs citations	63 times ranked	1130 citing authors

#	Article	IF	Citations
1	PVTxy properties of CO2 mixtures relevant for CO2 capture, transport and storage: Review of available experimental data and theoretical models. Applied Energy, 2011, 88, 3567-3579.	5.1	214
2	Viscosities, thermal conductivities and diffusion coefficients of CO2 mixtures: Review of experimental data and theoretical models. International Journal of Greenhouse Gas Control, 2011, 5, 1119-1139.	2.3	102
3	Thermodynamic Modeling with Equations of State: Present Challenges with Established Methods. Industrial & Engineering Chemistry Research, 2017, 56, 3503-3515.	1.8	95
4	Reducing the exergy destruction in the cryogenic heat exchangers of hydrogen liquefaction processes. International Journal of Hydrogen Energy, 2018, 43, 5033-5047.	3.8	72
5	Tolman length and rigidity constants of the Lennard-Jones fluid. Journal of Chemical Physics, 2015, 142, 064706.	1.2	53
6	Communication: Tolman length and rigidity constants of water and their role in nucleation. Journal of Chemical Physics, 2015, 142, 171103.	1.2	47
7	Evaluation of SPUNG* and Other Equations of State for Use in Carbon Capture and Storage Modelling. Energy Procedia, 2012, 23, 236-245.	1.8	42
8	Exploring the potential for waste heat recovery during metal casting with thermoelectric generators: On-site experiments and mathematical modeling. Energy, 2017, 118, 865-875.	4.5	41
9	The spinodal of single- and multi-component fluids and its role in the development of modern equations of state. Fluid Phase Equilibria, 2017, 436, 98-112.	1.4	39
10	Thermodynamic models to accurately describe the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:mi>P</mml:mi><mml:mi>V</mml:mi><mml:mi>T</mml:mi><mml:mi>x</mml:mi><mml:mi>y</mr of water / carbon dioxide mixtures. Fluid Phase Equilibria, 2017, 442, 125-139.	1.4	39
11	A flexible and robust modelling framework for multi-stream heat exchangers. Computers and Chemical Engineering, 2013, 49, 95-104.	2.0	35
12	Comparing exergy losses and evaluating the potential of catalyst-filled plate-fin and spiral-wound heat exchangers in a large-scale Claude hydrogen liquefaction process. International Journal of Hydrogen Energy, 2020, 45, 6663-6679.	3.8	34
13	Thermodynamic stability of nanosized multicomponent bubbles/droplets: The square gradient theory and the capillary approach. Journal of Chemical Physics, 2014, 140, 024704.	1.2	30
14	Curvature Corrections Remove the Inconsistencies of Binary Classical Nucleation Theory. Physical Review Letters, 2020, 124, 045701.	2.9	30
15	Dissecting the exergy balance of a hydrogen liquefier: Analysis of a scaled-up claude hydrogen liquefier with mixed refrigerant pre-cooling. International Journal of Hydrogen Energy, 2021, 46, 8014-8029.	3.8	29
16	CO2 transportâ€"Depressurization, heat transfer and impurities. Energy Procedia, 2011, 4, 3008-3015.	1.8	28
17	Influence of Curvature on the Transfer Coefficients for Evaporation and Condensation of Lennard-Jones Fluid from Square-Gradient Theory and Nonequilibrium Molecular Dynamics. Journal of Physical Chemistry C, 2015, 119, 8160-8173.	1.5	28
18	Energy efficient reactor design simplified by second law analysis. International Journal of Hydrogen Energy, 2010, 35, 13219-13231.	3.8	27

#	ARTICLE	IF	CITATIONS
19	Heat transport through a solidâ€“solid junction: the interface as an autonomous thermodynamic system. Physical Chemistry Chemical Physics, 2016, 18, 13741-13745.	1.3	25
20	Minimum entropy generation in a heat exchanger in the cryogenic part of the hydrogen liquefaction process: On the validity of equipartition and disappearance of the highway. International Journal of Hydrogen Energy, 2019, 44, 15045-15055.	3.8	24
21	Coherent description of transport across the water interface: From nanodroplets to climate models. Physical Review E, 2016, 93, 032801.	0.8	23
22	Equation of state and force fields for Feynmanâ€“Hibbs-corrected Mie fluids. I. Application to pure helium, neon, hydrogen, and deuterium. Journal of Chemical Physics, 2019, 151, .	1.2	23
23	Harnessing thermoelectric power from transient heat sources: Waste heat recovery from silicon production. Energy Conversion and Management, 2017, 138, 171-182.	4.4	22
24	Tolman lengths and rigidity constants of multicomponent fluids: Fundamental theory and numerical examples. Journal of Chemical Physics, 2018, 148, 204702.	1.2	21
25	Thermodynamic properties of the 3D Lennard-Jones/spline model. Molecular Physics, 2019, 117, 3754-3769.	0.8	21
26	Time Efficient Solution of Phase Equilibria in Dynamic and Distributed Systems with Differential Algebraic Equation Solvers. Industrial & Engineering Chemistry Research, 2013, 52, 2130-2140.	1.8	19
27	Heat and Mass Transfer across Interfaces in Complex Nanogeometries. Physical Review Letters, 2015, 114, 065901.	2.9	19
28	Equation of state and force fields for Feynmanâ€“Hibbs-corrected Mie fluids. II. Application to mixtures of helium, neon, hydrogen, and deuterium. Journal of Chemical Physics, 2020, 152, 074507.	1.2	19
29	Heat and mass transfer through interfaces of nanosized bubbles/droplets: the influence of interface curvature. Physical Chemistry Chemical Physics, 2014, 16, 10573-10586.	1.3	18
30	Communication: Superstabilization of fluids in nanocontainers. Journal of Chemical Physics, 2014, 141, 071103.	1.2	17
31	Accurate quantum-corrected cubic equations of state for helium, neon, hydrogen, deuterium and their mixtures. Fluid Phase Equilibria, 2020, 524, 112790.	1.4	14
32	Minimum entropy production in a distillation column for air separation described by a continuous non-equilibrium model. Chemical Engineering Science, 2020, 218, 115539.	1.9	14
33	A distributed dynamic model of a monolith hydrogen membrane reactor. Energy Conversion and Management, 2013, 67, 160-170.	4.4	12
34	Evaluation of finite-size effects in cavitation and droplet formation. Journal of Chemical Physics, 2015, 142, 064703.	1.2	11
35	Chemical Potential Differences in the Macroscopic Limit from Fluctuations in Small Systems. Journal of Chemical Information and Modeling, 2021, 61, 840-855.	2.5	11
36	Enhancing the understanding of heat and mass transport through a cellulose acetate membrane for CO2 separation. Journal of Membrane Science, 2016, 513, 129-139.	4.1	10

#	Article	IF	Citations
37	Ice formation and growth in supercooled waterâ€“alcohol mixtures: Theory and experiments with dual fiber sensors. Fluid Phase Equilibria, 2020, 522, 112741.	1.4	10
38	Heat to Hydrogen by REDâ€”Reviewing Membranes and Salts for the RED Heat Engine Concept. Membranes, 2022, 12, 48.	1.4	10
39	Heat Transfer Characteristics of a Pipeline for CO2 Transport with Water as Surrounding Substance. Energy Procedia, 2013, 37, 3047-3056.	1.8	9
40	Extending the nonequilibrium square-gradient model with temperature-dependent influence parameters. Physical Review E, 2014, 90, 032402.	0.8	8
41	The Nasal Geometry of the Reindeer Gives Energy-Efficient Respiration. Journal of Non-Equilibrium Thermodynamics, 2017, 42, .	2.4	8
42	Energy efficient design of membrane processes by use of entropy production minimization. Computers and Chemical Engineering, 2018, 117, 105-116.	2.0	8
43	A combined fluid-dynamic and thermodynamic model to predict the onset of rapid phase transitions in LNG spills. Journal of Loss Prevention in the Process Industries, 2021, 69, 104354.	1.7	7
44	Choked liquid flow in nozzles: Crossover from heterogeneous to homogeneous cavitation and insensitivity to depressurization rate. Chemical Engineering Science, 2022, 248, 117176.	1.9	6
45	Perturbation theories for fluids with short-ranged attractive forces: A case study of the Lennard-Jones spline fluid. Journal of Chemical Physics, 2022, 156, 104504.	1.2	6
46	CO2Mix Project: Experimental Determination of Thermo-physical Properties of CO2-rich Mixtures. Energy Procedia, 2013, 37, 7841-7849.	1.8	5
47	Finite-size and truncation effects for microscopic expressions for the temperature at equilibrium and nonequilibrium. Journal of Chemical Physics, 2015, 143, 114106.	1.2	5
48	Addressing Challenges in Fabricating Reflection-Based Fiber Optic Interferometers. Sensors, 2019, 19, 4030.	2.1	5
49	Choice of reference, influence of non-additivity, and present challenges in thermodynamic perturbation theory for mixtures. Journal of Chemical Physics, 2020, 152, 134106.	1.2	5
50	Thermodynamic stability of droplets, bubbles and thick films in open and closed pores. Fluid Phase Equilibria, 2020, 505, 112351.	1.4	4
51	Thermodynamic Stability of Volatile Droplets and Thin Films Governed by Disjoining Pressure in Open and Closed Containers. Langmuir, 2020, 36, 7879-7893.	1.6	4
52	Small size effects in open and closed systems: What can we learn from ideal gases about systems with interacting particles?. Journal of Chemical Physics, 2021, 155, 244504.	1.2	4
53	Equation of state for confined fluids. Journal of Chemical Physics, 2022, 156, .	1.2	4
54	Multi-Scale modelling of a membrane reforming power cycle with CO2 capture. Computer Aided Chemical Engineering, 2011, 29, 6-10.	0.3	3

#	ARTICLE	IF	CITATIONS
55	Temperature anisotropy at equilibrium reveals nonlocal entropic contributions to interfacial properties. Physical Review E, 2018, 97, 012126.	0.8	3
56	Using fiber-optic sensors to give insight into liquid-solid phase transitions in pure fluids and mixtures. Experimental Thermal and Fluid Science, 2020, 119, 110198.	1.5	3
57	Thermodynamic Model Evaluations for Hydrogen Pipeline Transportation. , 2022, , .		3
58	Soret separation and thermo-osmosis in porous media. European Physical Journal E, 2022, 45, 41.	0.7	2
59	Responses to â€˜Comments on PVTxy properties of CO2 mixtures relevant for CO2 capture, transport and storage: Review of available experimental data and theoretical modelsâ€™. Applied Energy, 2012, 93, 753-754.	5.1	1
60	Response to â€œComment on â€˜Communication: Tolman length and rigidity constants of water and their role in nucleationâ€â€™ [J. Chem. Phys. 143, 217101 (2015)]. Journal of Chemical Physics, 2015, 143, 217102.	1.2	1
61	The influence of interfacial transfer and film coupling in the modeling of distillation columns to separate nitrogen and oxygen mixtures. Chemical Engineering Science: X, 2020, 8, 100076.	1.5	0
62	Combining FBG and thin-core interferometers to analyse phase-transitions in binary fluids. , 2021, , .		0