Barbosa Jr Jr

List of Publications by Year
in descending order

133	2,720	218677	243625
papers	citations	26 h-index	44 g-index

145	145	145	1398
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A study of frost growth and densification on flat surfaces. Experimental Thermal and Fluid Science, 2009, 33, 371-379.	2.7	189
2	A study of frost nucleation on flat surfaces. Experimental Thermal and Fluid Science, 2008, 32, 1710-1715.	2.7	106
3	Liquid entrainment, droplet concentration and pressure gradient at the onset of annular flow in a vertical pipe. International Journal of Multiphase Flow, 2002, 28, 943-961.	3.4	83
4	Thermodynamic comparison of Peltier, Stirling, and vapor compression portable coolers. Applied Energy, 2012, 91, 51-58.	10.1	82
5	Development of a novel rotary magnetic refrigerator. International Journal of Refrigeration, 2016, 68, 187-197.	3.4	75
6	Performance analysis of a rotary active magnetic refrigerator. Applied Energy, 2013, 111, 669-680.	10.1	72
7	Performance assessment of different porous matrix geometries for active magnetic regenerators. Applied Energy, 2017, 187, 847-861.	10.1	71
8	Visualisation and modelling studies of churn flow in a vertical pipe. International Journal of Multiphase Flow, 2001, 27, 2105-2127.	3.4	61
9	Experimental and numerical results of a high frequency rotating active magnetic refrigerator. International Journal of Refrigeration, 2014, 37, 92-98.	3.4	58
10	A State-of-the-Art Review of Compact Vapor Compression Refrigeration Systems and Their Applications. Heat Transfer Engineering, 2012, 33, 356-374.	1.9	57
11	Performance evaluation of an active magnetic regenerator for cooling applications â€“ part I: Experimental analysis and thermodynamic performance. International Journal of Refrigeration, 2016, 72, 192-205.	3.4	57
12	Axial development of annular, churn and slug flows in a long vertical tube. International Journal of Multiphase Flow, 2013, 57, 38-48.	3.4	56
13	Magnetic heat pumps: An overview of design principles and challenges. Science and Technology for the Built Environment, 2016, 22, 507-519.	1.7	54
14	Experimental evaluation of a Gd-based linear reciprocating active magnetic regenerator test apparatus. International Journal of Refrigeration, 2011, 34, 1518-1526.	3.4	52
15	Design of nested Halbach cylinder arrays for magnetic refrigeration applications. Journal of Magnetism and Magnetic Materials, 2015, 395, 109-122.	2.3	52
16	Performance evaluation of an active magnetic regenerator for cooling applications â€“ part II: Mathematical modeling and thermal losses. International Journal of Refrigeration, 2016, 72, 206-217.	3.4	48
17	A study of the air-side heat transfer and pressure drop characteristics of tube-fin â€˜no-frostâ€™ evaporators. Applied Energy, 2009, 86, 1484-1491.	10.1	37
18	Experimental investigation of different fluid flow profiles in a rotary multi-bed active magnetic regenerator device. International Journal of Refrigeration, 2018, 91, 46-54.	3.4	36

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19	Performance of microchannel condensers with metal foams on the air-side: Application in small-scale refrigeration systems. Applied Thermal Engineering, 2012, 36, 152-160.	6.0	35
20	A 2D hybrid model of the fluid flow and heat transfer in a reciprocating active magnetic regenerator. International Journal of Refrigeration, 2012, 35, 98-114.	3.4	34
21	Optimization of peripheral finned-tube evaporators using entropy generation minimization. International Journal of Heat and Mass Transfer, 2012, 55, 7838-7846.	4.8	31
22	Magnetocaloric properties of spheroidal La(Fe,Mn,Si)13H<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e805" altimg="si94.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mi>y</mml:mi></mml:mrow></mml:msub></mml:math> granules and their performance in epoxy-bonded active magnetic regenerators. Applied Thermal Engineering, 2021, 183, 116185.	6.0	31
23	Modeling of Thermomagnetic Phenomena in Active Magnetocaloric Regenerators. Journal of Thermal Science and Engineering Applications, 2014, 6, .	1.5	30
24	Entropy Generation Minimization analysis of oscillating-flow regenerators. International Journal of Heat and Mass Transfer, 2015, 87, 347-358.	4.8	30
25	Solubility, density and viscosity of a mixture of R-600a and polyol ester oil. International Journal of Refrigeration, 2008, 31, 34-44.	3.4	29
26	Analysis of oil pumping in a reciprocating compressor. Applied Thermal Engineering, 2009, 29, 3118-3123.	6.0	29
27	Experimental assessment of the thermalâ€“hydraulic performance of packed-sphere oscillating-flow regenerators using water. Experimental Thermal and Fluid Science, 2014, 57, 324-334.	2.7	27
28	Influence of the flow rate waveform and mass imbalance on the performance of active magnetic regenerators. Part I: Experimental analysis. International Journal of Refrigeration, 2018, 93, 236-248.	3.4	26
29	Forced convective boiling of binary mixtures in annular flow. Part II: heat and mass transfer. International Journal of Heat and Mass Transfer, 2001, 44, 1475-1484.	4.8	25
30	Assessment of demagnetization phenomena in the performance of an active magnetic regenerator. International Journal of Refrigeration, 2012, 35, 1043-1054.	3.4	25
31	A magnetic wine cooler prototype. International Journal of Refrigeration, 2021, 122, 110-121.	3.4	25
32	High-speed visualisation of nucleate boiling in vertical annular flow. International Journal of Heat and Mass Transfer, 2003, 46, 5153-5160.	4.8	24
33	Thermalâ€“hydraulic evaluation of oscillating-flow regenerators using water: Experimental analysis of packed beds of spheres. International Journal of Heat and Mass Transfer, 2016, 99, 918-930.	4.8	24
34	Novel two-phase jet impingement heat sink for active cooling of electronic devices. Applied Thermal Engineering, 2017, 112, 952-964.	6.0	24
35	Fluid flow in a screw pump oil supply system for reciprocating compressors. International Journal of Refrigeration, 2011, 34, 74-83.	3.4	23
36	Convection-driven absorption of R-1234yf in lubricating oil. International Journal of Refrigeration, 2014, 44, 151-160.	3.4	23

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37	Influence of inlet flow maldistribution and carryover losses on the performance of thermal regenerators. Applied Thermal Engineering, 2018, 133, 472-482.	6.0	23
38	Measurements of the air flow field in the freezer compartment of a top-mount no-frost refrigerator: the effect of temperature. International Journal of Refrigeration, 2005, 28, 774-783.	3.4	22
39	Role of the Thermodynamics, Heat Transfer, and Fluid Mechanics of Lubricant Oil in Hermetic Reciprocating Compressors. Heat Transfer Engineering, 2009, 30, 533-548.	1.9	22
40	Experimental investigation on the prediction of liquid loading initiation in gas wells using a long vertical tube. Journal of Natural Gas Science and Engineering, 2015, 26, 1515-1529.	4.4	22
41	Experimental investigation of two-phase flashing flows of a binary mixture of infinite relative volatility in a Venturi tube. Experimental Thermal and Fluid Science, 2015, 64, 152-163.	2.7	22
42	Design trade-offs for an active magnetic regenerator device. Applied Thermal Engineering, 2020, 165, 114467.	6.0	22
43	Analytical solution of single screw extrusion applicable to intermediate values of screw channel aspect ratio. Journal of Food Engineering, 2009, 92, 152-156.	5.2	21
44	Mini-channel evaporator/heat pipe assembly for a chip cooling vapor compression refrigeration system. International Journal of Refrigeration, 2010, 33, 1402-1412.	3.4	21
45	Solubility, density and viscosity of mixtures of isobutane (R-600a) and a linear alkylbenzene lubricant oil. Fluid Phase Equilibria, 2010, 292, 7-12.	2.5	21
46	Spray cooling of plain and copper-foam enhanced surfaces. Experimental Thermal and Fluid Science, 2012, 39, 198-206.	2.7	20
47	Influence of the flow rate waveform and mass imbalance on the performance of active magnetic regenerators. Part II: Numerical simulation. International Journal of Refrigeration, 2018, 93, 159-168.	3.4	20
48	Forced convective boiling of binary mixtures in annular flow. Part I: liquid phase mass transport. International Journal of Heat and Mass Transfer, 2001, 44, 1465-1474.	4.8	19
49	Prediction of pressure drop in refrigerantâ€“lubricant oil flows with high contents of oil and refrigerant outgassing in small diameter tubes. International Journal of Refrigeration, 2004, 27, 129-139.	3.4	19
50	Experimental evaluation of spray cooling of R-134a on plain and enhanced surfaces. International Journal of Refrigeration, 2013, 36, 527-533.	3.4	19
51	Air-side heat transfer and pressure drop in spiral wire-on-tube condensers. International Journal of Refrigeration, 2012, 35, 939-951.	3.4	18
52	Liquid transport during gas flow transients applied to liquid loading in long vertical pipes. Experimental Thermal and Fluid Science, 2015, 68, 652-662.	2.7	18
53	Performance evaluation of a magnetic refrigeration system. Science and Technology for the Built Environment, 2016, 22, 534-543.	1.7	18
54	Modeling transient churn-annular flows in a long vertical tube. International Journal of Multiphase Flow, 2017, 89, 399-412.	3.4	18

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55	Modeling absorption of pure refrigerants and refrigerant mixtures in lubricant oil. International Journal of Refrigeration, 2006, 29, 773-780.	3.4	17
56	Experimental mapping of the thermodynamic losses in vapor compression refrigeration systems. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2011, 33, 159-165.	1.6	17
57	Air-side heat transfer and pressure drop characteristics of accelerated flow evaporators. International Journal of Refrigeration, 2011, 34, 484-497.	3.4	16
58	Thermal-hydraulic behavior and influence of carryover losses in oscillating-flow regenerators. International Journal of Thermal Sciences, 2017, 113, 89-99.	4.9	16
59	COP-based optimization of accelerated flow evaporators for household refrigeration applications. Applied Thermal Engineering, 2011, 31, 129-135.	6.0	15
60	Modeling the stiction effect in automatic compressor valves. International Journal of Refrigeration, 2013, 36, 1916-1924.	3.4	15
61	Phase Equilibrium and Liquid Viscosity of CO₂ + n-Dodecane Mixtures between 283 and 353 K. Journal of Chemical & Engineering Data, 2019, 64, 3375-3384.	1.9	15
62	Developing airâ€“water flow downstream of a vertical 180Â° return bend. International Journal of Multiphase Flow, 2014, 67, 32-41.	3.4	14
63	Relative permittivity of mixtures of R-134a and R-1234yf and a polyol ester lubricating oil. International Journal of Refrigeration, 2015, 49, 141-150.	3.4	14
64	Analytical solution of concentric two-pole Halbach cylinders as a preliminary design tool for magnetic refrigeration systems. Journal of Magnetism and Magnetic Materials, 2017, 444, 87-97.	2.3	14
65	Analysis and optimization of air coolers using multiple-stage thermoelectric modules arranged in counter-current flow. International Journal of Refrigeration, 2020, 110, 19-27.	3.4	14
66	Forced convective boiling of ternary mixtures at high qualities. International Journal of Heat and Mass Transfer, 2002, 45, 2655-2665.	4.8	13
67	Pressure drop and gas holdup in airâ€“water flow in 180Â° return bends. International Journal of Multiphase Flow, 2014, 61, 83-93.	3.4	13
68	Magnetocaloric effect and H gradient in bulk La(Fe,Si)13Hy magnetic refrigerants obtained by HDSH. Journal of Magnetism and Magnetic Materials, 2015, 386, 125-128.	2.3	13
69	Onset of flow reversal in upflow condensation in an inclinable tube. Experimental Thermal and Fluid Science, 2016, 77, 55-70.	2.7	13
70	Analysis of a variable speed air conditioner considering the R-290/POE ISO 22 mixture effect. Applied Thermal Engineering, 2016, 108, 650-659.	6.0	13
71	A Thermodynamic Nonequilibrium Slug Flow Model. Journal of Heat Transfer, 2005, 127, 323-331.	2.1	12
72	Analytical and CFD modeling of the fluid flow in an eccentric-tube centrifugal oil pump for hermetic compressors. International Journal of Refrigeration, 2013, 36, 1905-1915.	3.4	12

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73	Comparison of metal foam and louvered fins as air-side heat transfer enhancement media for miniaturized condensers. Applied Thermal Engineering, 2013, 51, 334-337.	6.0	12
74	A Numerical Study on the Thermal Behavior of Wellbores. SPE Production and Operations, 2017, 32, 564-574.	0.6	12
75	A compact refrigeration system based on multijet sprays for electronics thermal management. Experimental Thermal and Fluid Science, 2018, 97, 180-191.	2.7	12
76	Predicting thermal expansion pressure buildup in a deepwater oil well with an annulus partially filled with nitrogen. Journal of Petroleum Science and Engineering, 2022, 208, 109275.	4.2	12
77	Forced convective boiling of steamâ€“water in a vertical annulus at high qualities. Experimental Thermal and Fluid Science, 2002, 26, 65-75.	2.7	11
78	Experimental and Theoretical Analysis of Refrigerant Absorption in Lubricant Oil. HVAC and R Research, 2008, 14, 141-158.	0.6	11
79	A departure-function approach to calculate thermodynamic properties of refrigerant-oil mixtures. International Journal of Refrigeration, 2013, 36, 972-979.	3.4	11
80	Prediction of refrigerant-lubricant viscosity using the general PC-SAFT friction theory. International Journal of Refrigeration, 2014, 45, 92-99.	3.4	11
81	Fabrication and thermal analysis of epoxy resin-carbon fiber fabric composite plate-coil heat exchangers. Applied Thermal Engineering, 2017, 127, 1451-1460.	6.0	11
82	A lumped-element magnetic refrigerator model. Applied Thermal Engineering, 2022, 204, 117918.	6.0	11
83	Absorption of isobutane (R-600a) in lubricant oil. Chemical Engineering Science, 2011, 66, 1906-1915.	3.8	10
84	Heat transfer and pressure drop characteristics of peripheral-finned tube heat exchangers. International Journal of Heat and Mass Transfer, 2012, 55, 2835-2843.	4.8	10
85	Performance Assessment of Single and Multiple Jet Impingement Configurations in a Refrigeration-Based Compact Heat Sink for Electronics Cooling. Journal of Electronic Packaging, Transactions of the ASME, 2017, 139, .	1.8	10
86	Phase equilibrium and liquid viscosity data for R-290/POE ISO 22 mixtures between 283 and 353ÂK. International Journal of Refrigeration, 2020, 114, 79-87.	3.4	10
87	Prediction of refrigerant absorption and onset of natural convection in lubricant oil. International Journal of Refrigeration, 2008, 31, 1231-1240.	3.4	9
88	Phase and volumetric behaviour of mixtures of carbon dioxide (R-744) and synthetic lubricant oils. Journal of Supercritical Fluids, 2009, 50, 6-12.	3.2	9
89	Effect of jet length and ambient temperature on the performance of a two-phase jet impingement heat sink refrigeration system. International Journal of Refrigeration, 2017, 75, 331-342.	3.4	9
90	Intermittent flow initiation in a horizontal tube: quantitative visualization and CFD analysis. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2018, 40, 1.	1.6	9

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91	A comparison of parallel and colliding jet arrays in a compact vapour compression heat sink for electronics cooling. Applied Thermal Engineering, 2021, 195, 117217.	6.0	9
92	A note on the influence of droplet interchange on evaporation and condensation of multicomponent mixtures in annular flow. International Journal of Heat and Mass Transfer, 2003, 46, 2505-2509.	4.8	8
93	Refrigerant desorption and foaming in mixtures of HFC-134a and HFO-1234yf and a polyol ester lubricating oil. International Journal of Refrigeration, 2015, 53, 69-79.	3.4	8
94	Thermal performance of peripheral-finned tube evaporators under frosting. International Journal of Heat and Mass Transfer, 2018, 116, 194-207.	4.8	8
95	Entropy Generation Minimization Analysis of Active Magnetic Regenerators. Anais Da Academia Brasileira De Ciencias, 2017, 89, 717-743.	0.8	7
96	Time scaling of frost accretion and the square-root-of-time rule. International Communications in Heat and Mass Transfer, 2019, 108, 104281.	5.6	7
97	Use of peripheral fins for R-290 charge reduction in split-type residential air-conditioners. International Journal of Refrigeration, 2019, 106, 1-6.	3.4	7
98	Influence of Heat Exchanger Design on the Thermal Performance of a Domestic Wine Cooler Driven by a Magnetic Refrigeration System. Anais Da Academia Brasileira De Ciencias, 2022, 94, e20200563.	0.8	7
99	Modeling of state and thermodynamic cycle properties of HFO-1234yf using a cubic equation of state. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2010, 32, 461-467.	1.6	6
100	Dynamics of gas bubble growth in oil-refrigerant mixtures under isothermal depressurization. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2012, 34, 155-166.	1.6	6
101	Synthesis of Room-Temperature Magnetic Refrigerants Based on La-Fe-Si by a Novel Process. IEEE Transactions on Magnetics, 2013, 49, 4626-4629.	2.1	6
102	Numerical analysis of the influence of magnetic field waveforms on the performance of active magnetic regenerators. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42, 1.	1.6	6
103	Angiotensin I converting enzyme genotype affects ventricular remodelling in children with aortic coarctation. Heart, 2005, 91, 367-368.	2.9	5
104	Performance of Vertical Transient Two-Phase Flow Models Applied to Liquid Loading in Gas Wells. , 2011, , .		5
105	Dielectric Constant of Mixtures of Carbon Dioxide and n-Dodecane Between 283 K and 343 K. International Journal of Thermophysics, 2020, 41, 1.	2.1	5
106	Viscosity behavior of mixtures of CO2 and lubricant oil. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2010, 32, 454-459.	1.6	4
107	Experimental and Theoretical Analysis of CO₂ Absorption in Polyolester Oil Using the PC-SAFT Equation of State to Account for Nonideal Effects. Industrial & Engineering Chemistry Research, 2012, 51, 1027-1035.	3.7	4
108	The effect of the lubricating oil on heat transfer in a hermetic reciprocating compressor. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2016, 38, 189-208.	1.6	4

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109	Performance Assessment and Layer Fraction Optimization of Gdâ€“Y Multilayer Regenerators for Near Room-Temperature Magnetic Cooling. International Journal of Air-Conditioning and Refrigeration, 2020, 28, 2050027.	0.7	4
110	Experimental data and Cubic-Equation-Of-State calculations of CO2/R-161 Vapor-Liquid equilibrium. Journal of Chemical Thermodynamics, 2022, 165, 106635.	2.0	4
111	A STUDY OF DRYOUT IN ANNULAR FLOW OF SINGLE COMPONENT HYDROCARBONS AND THEIR MIXTURES. Multiphase Science and Technology, 2000, 12, 19.	0.5	4
112	Thermal Design of a Spray-Based Heat Sink Integrated With a Compact Vapor Compression Cooling System for Removal of High Heat Fluxes. Heat Transfer Engineering, 2015, 36, 1203-1217.	1.9	3
113	Infrared thermal imaging analysis of a 1-kW variable capacity compressor frequency inverter. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2015, 37, 275-284.	1.6	3
114	Numerical analysis of R-290/POE ISO 22 condensers based on the second law and SEER rating. International Journal of Refrigeration, 2018, 88, 441-450.	3.4	3
115	Numerical investigation of refrigerant outgassing in the screw pump of a hermetic reciprocating compressor oil supply system. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2020, , 095440892095260.	2.5	3
116	Flow boiling of water in a vertical tube at sub-atmospheric pressures. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2007, 29, .	1.6	3
117	Improved Annular Flow Modelling of Pure Fluids and Multicomponent Mixtures. Chemical Engineering Research and Design, 2002, 80, 261-266.	5.6	2
118	Air-Side Heat Transfer and Pressure Drop Characteristics of Peripheral Fin Heat Exchangers. , 2010, , .		2
119	Quantifying interfacial parameters of upward and downward annular flow condensation from high-speed visualization. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42, 1.	1.6	2
120	Using electrovalves as a flow distribution system for an active magnetic regenerator. , 2017, , .		2
121	TRANSIENT MODEL AND ENERGY ASSESSMENT OF A DIGITAL SOLENOID VALVE SYSTEM FOR A MAGNETIC REFRIGERATOR. , 2016, , .		2
122	Recent Developments in Vapor Compression Technologies for Small Scale Refrigeration Applications. , 2011, , .		1
123	Modeling of Thermo-Magnetic Phenomena in Active Magnetic Regenerators. , 2013, , .		1
124	Influence of refrigerant solubility and surface geometry on the wetting properties of lubricating oil. International Journal of Refrigeration, 2015, 59, 157-167.	3.4	1
125	A Numerical Study on the Thermal Behavior of Wellbores. , 2016, , .		1
126	Two-phase jet impingement heat sink integrated with a compact vapor compression system for electronics cooling. , 2016, , .		1

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127	Overview on Magnetic Refrigeration. , 2020, , .		1
128	Addendum to â€œDielectric Constant of Mixtures of Carbon dioxide and n-Dodecane Between 283ÂK and 343ÂK, Int. J. Thermophysics 41, 26, 2020â€• Complementary Results for Mixtures of Carbon dioxide and Squalane Between 283ÂK and 343ÂK. International Journal of Thermophysics, 2020, 41, 1.	2.1	1
129	Entropy Generation Minimization Analysis of Passive and Active Magnetocaloric Regenerators. , 2014, , .		1
130	An internally consistent procedure to characterize single carbon number fractions for phase equilibrium of petroleum mixtures: Application to Brazilian pre-salt reservoir fluids. Journal of Petroleum Science and Engineering, 2021, , 109723.	4.2	1
131	An experimental study of a nanoparticle-assisted dielectric fluid in natural convection for subsea cooling applications. Journal of Thermal Analysis and Calorimetry, 0, , 1.	3.6	1
132	Modeling Transient Churn-Annular Flows in a Long Vertical Pipe. , 2013, , .		0
133	A THERMODYNAMIC NON-EQUILIBRIUM SLUG FLOW MODEL EXPLAINS ENHANCEMENT OF BOILING HEAT TRANSFER IN WATER AT LOW PRESSURES. , 2006, , .		0