Piero Colonna

List of Publications by Year
in descending order

93	2,581	159358 30	205818 48
papers	citations	h-index	g-index

95	95	95	1624
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Formation of Rarefaction Shockwaves in Non-ideal Gases with Temperature Gradients. ERCOFTAC Series, 2021, , 20-25.	0.1	0
2	Adjoint-Based Unsteady Optimization of Turbomachinery Operating with Nonideal Compressible Flows. Journal of Propulsion and Power, 2021, 37, 910-918.	1.3	6
3	Dense-vapor effects in compressible internal flows. Physics of Fluids, 2021, 33, .	1.6	6
4	First Experiments and Commissioning of the ORCHID Nozzle Test Section. ERCOFTAC Series, 2021, , 169-178.	0.1	5
5	A Novel Acoustic Resonator for Speed of Sound Measurement in Dense Organic Vapours. ERCOFTAC Series, 2021, , 162-168.	0.1	0
6	Nonlinear wave propagation in dense vapor of Betheâ€“Zel'dovichâ€“Thompson fluids subjected to temperature gradients. Physics of Fluids, 2021, 33, .	1.6	3
7	Fully-turbulent adjoint method for the unsteady shape optimization of multi-row turbomachinery. Aerospace Science and Technology, 2020, 106, 106132.	2.5	10
8	Multistage Turbomachinery Design Using the Discrete Adjoint Method Within the Open-Source Software SU2. Journal of Propulsion and Power, 2020, 36, 465-478.	1.3	21
9	Design guidelines for supersonic stators operating with fluids made of complex molecules. Energy, 2020, 203, 117698.	4.5	6
10	HYBRID ELECTRIC POWERTRAIN FOR LONG-HAUL TRUCKS AND BUSES: PRELIMINARY ANALYSIS OF A NEW CONCEPT BASED ON A COMBINED CYCLE POWER PLANT. Journal of the Global Power and Propulsion Society, 2020, 4, 63-79.	0.8	0
11	A Discrete Adjoint Method for Two-Phase Condensing Flows Applied to the Shape Optimization of Turbine Cascades. Journal of Turbomachinery, 2020, 142, .	0.9	0
12	Toward the Integrated Design of Organic Rankine Cycle Power Plants: A Method for the Simultaneous Optimization of Working Fluid, Thermodynamic Cycle, and Turbine. Journal of Engineering for Gas Turbines and Power, 2019, 141, .	0.5	10
13	Design Method and Performance Prediction for Radial-Inflow Turbines of High-Temperature Mini-Organic Rankine Cycle Power Systems. Journal of Engineering for Gas Turbines and Power, 2019, 141, .	0.5	21
14	Feasibility of particle image velocimetry for low-speed unconventional vapor flows. Experimental Thermal and Fluid Science, 2019, 102, 589-594.	1.5	7
15	Semi-analytical model for the prediction of the Wilson point for homogeneously condensing steam flows. International Journal of Heat and Fluid Flow, 2018, 70, 1-14.	1.1	1
16	Discussion: â€œBeyond Brayton Cycle: It is Time to Change the Paradigmâ€•(S. Can GÃ¼len, 2018, ASME J. Eng.) Tj ETQq0 0 0 rgBT /Ov	0.5	1
17	A look-up table method based on unstructured grids and its application to non-ideal compressible fluid dynamic simulations. Journal of Computational Science, 2018, 28, 70-77.	1.5	13
18	Adjoint-based fluid dynamic design optimization in quasi-periodic unsteady flow problems using a harmonic balance method. Journal of Computational Physics, 2018, 372, 220-235.	1.9	27

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19	Dynamics of Postcombustion CO₂ Capture Plants: Modeling, Validation, and Case Study. Industrial & Engineering Chemistry Research, 2017, 56, 1810-1822.	1.8	23
20	Method for the Preliminary Fluid Dynamic Design of High-Temperature Mini-Organic Rankine Cycle Turbines. Journal of Engineering for Gas Turbines and Power, 2017, 139, .	0.5	43
21	Design, Modelling, and Control of a Waste Heat Recovery Unit for Heavy-Duty Truck Engines. Energy Procedia, 2017, 129, 802-809.	1.8	9
22	Unsteady simulation of quasi-periodic flows in Organic Rankine Cycle cascades using a Harmonic Balance method. Energy Procedia, 2017, 129, 1101-1108.	1.8	3
23	Active subspaces for the optimal meanline design of unconventional turbomachinery. Applied Thermal Engineering, 2017, 127, 1108-1118.	3.0	3
24	Fluid-dynamic design and characterization of a mini-ORC turbine for laboratory experiments. Energy Procedia, 2017, 129, 1141-1148.	1.8	19
25	SU2: the Open-Source Software for Non-ideal Compressible Flows. Journal of Physics: Conference Series, 2017, 821, 012013.	0.3	20
26	Fully turbulent discrete adjoint solver for non-ideal compressible flow applications. Journal of the Global Power and Propulsion Society, 2017, 1, Z1FVOI.	0.8	17
27	Potential of Micro Turbine Based Propulsion Systems for Civil UAVs: A Case Study. , 2016, , .		5
28	Preliminary Design of the ORCHID: A Facility for Studying Non-Ideal Compressible Fluid Dynamics and Testing ORC Expanders. , 2016, , .		16
29	Unsteady Operation of a Highly Supersonic Organic Rankine Cycle Turbine. Journal of Turbomachinery, 2016, 138, .	0.9	23
30	The admissibility domain of rarefaction shock waves in the near-critical vapourâ€“liquid equilibrium region of pure typical fluids. Journal of Fluid Mechanics, 2016, 795, 241-261.	1.4	14
31	ACTIVE SUBSPACES FOR THE PRELIMINARY FLUID DYNAMIC DESIGN OF UNCONVENTIONAL TURBOMACHINERY. , 2016, , .		0
32	Design of CSP plants with optimally operated thermal storage. Solar Energy, 2015, 116, 371-387.	2.9	56
33	Organic Rankine Cycle Power Systems: From the Concept to Current Technology, Applications, and an Outlook to the Future. Journal of Engineering for Gas Turbines and Power, 2015, 137, .	0.5	272
34	Technical equation of state models for heat transfer fluids made of biphenyl and diphenyl ether and their mixtures. Fluid Phase Equilibria, 2015, 393, 64-77.	1.4	8
35	The flexible asymmetric shock tube (FAST): a Ludwieg tube facility for wave propagation measurements in high-temperature vapours of organic fluids. Experiments in Fluids, 2015, 56, 1.	1.1	20
36	Computational Fluid Dynamic Simulation of a Supercritical CO2 Compressor Performance Map. Journal of Engineering for Gas Turbines and Power, 2015, 137, .	0.5	45

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37	Dynamic modelling and validation of pre-combustion CO2 absorption based on a pilot plant at the Buggenum IGCC power station. International Journal of Greenhouse Gas Control, 2015, 36, 13-26.	2.3	18
38	Design optimization of a pre-combustion CO 2 capture plant embedding experimental knowledge. Fuel, 2015, 157, 126-139.	3.4	12
39	Extension of the SU2 open source CFD code to the simulation of turbulent flows of fuids modelled with complex thermophysical laws. , 2015, , .		31
40	Flux-conserving treatment of non-conformal interfaces for finite-volume discretization of conservation laws. Computers and Fluids, 2015, 120, 126-139.	1.3	16
41	â€œMagnetic-ribsâ€•in fully developed laminar liquidâ€“metal channel flow. International Journal of Heat and Fluid Flow, 2015, 56, 198-208.	1.1	3
42	Modeling Curvature Effects on Turbulence Transition for Turbomachinery Flows. , 2014, , .		1
43	Numerical Computation of the Performance Map of a Supercritical CO2 Radial Compressor by Means of Three-Dimensional CFD Simulations. , 2014, , .		5
44	Centrifugal Turbines for Mini-Organic Rankine Cycle Power Systems. Journal of Engineering for Gas Turbines and Power, 2014, 136, .	0.5	54
45	Experimental vapor pressures and thermodynamic models of perfluorocarbons PP80 and PP90. Fluid Phase Equilibria, 2014, 370, 50-57.	1.4	2
46	Critical point anomalies include expansion shock waves. Physics of Fluids, 2014, 26, .	1.6	13
47	Design methodology for flexible energy conversion systems accounting for dynamic performance. Energy, 2014, 68, 667-679.	4.5	32
48	Dynamic Modeling and Validation of a Precombustion CO₂ Capture Plant for Control Design. Industrial & Engineering Chemistry Research, 2014, 53, 13098-13111.	1.8	4
49	Exact Jacobians for implicit Navierâ€“Stokes simulations of equilibrium real gas flows. Journal of Computational Physics, 2014, 270, 459-477.	1.9	22
50	Non-classical gas dynamics of vapour mixtures. Journal of Fluid Mechanics, 2014, 741, 681-701.	1.4	9
51	Use of External Fluid Property Code in Modelica for Modelling of a Pre-combustion CO2 Capture Process Involving Multi-Component, Two-Phase Fluids. , 2014, , .		4
52	Dynamic Modeling of Organic Rankine Cycle Power Systems. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	42
53	Liquid cooling enhancement by means of magnetic fields. Applied Thermal Engineering, 2013, 61, 871-877.	3.0	6
54	Thermal energy storage for solar-powered organic Rankine cycle engines. Solar Energy, 2013, 96, 205-219.	2.9	65

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55	On the fundamental derivative of gas dynamics in the vaporâ€“liquid critical region of single-component typical fluids. Fluid Phase Equilibria, 2013, 337, 259-273.	1.4	18
56	Performance improvement of a radial organic Rankine cycle turbine by means of automated computational fluid dynamic design. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2013, 227, 637-645.	0.8	51
57	An Equation of State Based on PC-SAFT for Physical Solvents Composed of Polyethylene Glycol Dimethylethers. Industrial & Engineering Chemistry Research, 2013, 52, 18401-18412.	1.8	23
58	Assessment of Waste Heat Recovery From a Heavy-Duty Truck Engine by Means of an ORC Turbogenerator. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	42
59	Siloxanes as Working Fluids for Mini-ORC Systems Based on High-Speed Turbogenerator Technology. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	32
60	Efficiency Improvement in Precombustion CO2 Removal Units With a Wasteâ€“Heat Recovery ORC Power Plant. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	15
61	Computational Fluid Dynamics of a Radial Compressor Operating With Supercritical CO2. Journal of Engineering for Gas Turbines and Power, 2012, 134, .	0.5	66
62	Computational Fluid Dynamics of a Radial Compressor Operating With Supercritical CO2. , 2012, , .		6
63	The iPRSV equation of state. Fluid Phase Equilibria, 2012, 330, 24-35.	1.4	22
64	Dynamic modeling of IGCC power plants. Applied Thermal Engineering, 2012, 35, 91-111.	3.0	54
65	Backward uncertainty propagation method in flow problems: Application to the prediction of rarefaction shock waves. Computer Methods in Applied Mechanics and Engineering, 2012, 213-216, 314-326.	3.4	11
66	Developments in the pre-combustion CO2 capture pilot plant at the Buggenum IGCC. Energy Procedia, 2011, 4, 1214-1221.	1.8	31
67	Supercritical ORC Turbogenerators Coupled with Linear Solar Collectors. , 2011, , .		3
68	Maximum intensity of rarefaction shock waves for dense gases. Journal of Fluid Mechanics, 2010, 642, 127-146.	1.4	27
69	Modeling of solid oxide fuel cells for dynamic simulations of integrated systems. Applied Thermal Engineering, 2010, 30, 464-477.	3.0	33
70	Erratum to â€œOn the computation of the fundamental derivative of gas dynamics using equations of stateâ€•[Fluid Phase Equilibr. 286 (1) (2009) 43â€“54]. Fluid Phase Equilibria, 2010, 288, 162-174.	1.4	4
71	Computational Study of a High-Expansion Ratio Radial Organic Rankine Cycle Turbine Stator. Journal of Engineering for Gas Turbines and Power, 2010, 132, .	0.5	50
72	Influence of Thermodynamic Models in Two-Dimensional Flow Simulations of Turboexpanders. Journal of Turbomachinery, 2010, 132, .	0.9	37

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73	The influence of molecular complexity on expanding flows of ideal and dense gases. Physics of Fluids, 2009, 21, .	1.6	41
74	Improvement on multiparameter equations of state for dimethylsiloxanes by adopting more accurate ideal-gas isobaric heat capacities: Supplementary to P. Colonna, N.R. Nannan, A. Guardone, E.W. Lemmon, Fluid Phase Equilib. 244, 193 (2006). Fluid Phase Equilibria, 2009, 280, 151-152.	1.4	7
75	On the computation of the fundamental derivative of gas dynamics using equations of state. Fluid Phase Equilibria, 2009, 286, 43-54.	1.4	29
76	Multiparameter equations of state for siloxanes: [(CH3)3-Si-O1/2]2-[O-Si-(CH3)2]i=1,â€¦,3, and [O-Si-(CH3)2]6. Fluid Phase Equilibria, 2008, 263, 115-130.	1.4	69
77	Real-Gas Effects in Organic Rankine Cycle Turbine Nozzles. Journal of Propulsion and Power, 2008, 24, 282-294.	1.3	101
78	Admissibility region for rarefaction shock waves in dense gases. Journal of Fluid Mechanics, 2008, 599, 363-381.	1.4	39
79	Design of the Dense Gas Flexible Asymmetric Shock Tube. Journal of Fluids Engineering, Transactions of the ASME, 2008, 130, .	0.8	32
80	Siloxanes: A new class of candidate Bethe-Zelâ€™dovich-Thompson fluids. Physics of Fluids, 2007, 19, .	1.6	52
81	Dynamic Simulation of a Biomass-Fired Steam Power Plant: A Comparison Between Causal and A-Causal Modular Modeling. , 2007, , 205.		8
82	Ideal-gas heat capacities of dimethylsiloxanes from speed-of-sound measurements and ab initio calculations. Fluid Phase Equilibria, 2007, 257, 102-113.	1.4	29
83	Dynamic modeling of steam power cycles: Part II â€“ Simulation of a small simple Rankine cycle system. Applied Thermal Engineering, 2007, 27, 2566-2582.	3.0	66
84	Dynamic modeling of steam power cycles.. Applied Thermal Engineering, 2007, 27, 467-480.	3.0	74
85	Preliminary Design of the FAST Dense Gas Ludwieg Tube. , 2006, , .		5
86	Point Explosions in Dense Gases. , 2006, , .		1
87	Multiparameter equations of state for selected siloxanes. Fluid Phase Equilibria, 2006, 244, 193-211.	1.4	122
88	Molecular interpretation of nonclassical gas dynamics of dense vapors under the van der Waals model. Physics of Fluids, 2006, 18, 056101.	1.6	63
89	Modular Lumped-Parameters Dynamic Model for Gas Turbines: Validation and Application to a Small Scale Externally Fired Gas Turbine. , 2005, , 369.		1
90	Dynamic Model of a Small Biomass Fired Steam Power Plant. , 2005, , .		1

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91	Numerical simulation of dense gas flows on unstructured grids with an implicit high resolution upwind Euler solver. International Journal for Numerical Methods in Fluids, 2004, 46, 735-765.	0.9	54
92	Industrial trigeneration using ammoniaâ€“water absorption refrigeration systems (AAR). Applied Thermal Engineering, 2003, 23, 381-396.	3.0	126
93	Dense Gas Thermodynamic Properties of Single and Multicomponent Fluids for Fluid Dynamics Simulations. Journal of Fluids Engineering, Transactions of the ASME, 2003, 125, 414-427.	0.8	54