

Paola Cinnella

List of Publications by Year in descending order

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100
papers

1,769
citations

331670

21
h-index

302126

39
g-index

103
all docs

103
docs citations

103
times ranked

818
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantification of model uncertainty in RANS simulations: A review. Progress in Aerospace Sciences, 2019, 108, 1-31.	12.1	228
2	Bayesian estimates of parameter variability in the $k\epsilon$ turbulence model. Journal of Computational Physics, 2014, 258, 73-94.	3.8	150
3	Discovery of Algebraic Reynolds-Stress Models Using Sparse Symbolic Regression. Flow, Turbulence and Combustion, 2020, 104, 579-603.	2.6	115
4	Numerical simulations of mixtures of fluids using upwind algorithms. Computers and Fluids, 2007, 36, 1547-1566.	2.5	102
5	Predictive RANS simulations via Bayesian Model-Scenario Averaging. Journal of Computational Physics, 2014, 275, 65-91.	3.8	87
6	Coupling Heat Transfer and Fluid Flow Solvers for Multidisciplinary Simulations. Journal of Thermophysics and Heat Transfer, 2005, 19, 417-427.	1.6	61
7	Inviscid and viscous aerodynamics of dense gases. Journal of Fluid Mechanics, 2007, 580, 179-217.	3.4	52
8	Direct numerical simulations of supersonic turbulent channel flows of dense gases. Journal of Fluid Mechanics, 2017, 821, 153-199.	3.4	47
9	Large Eddy Simulation Requirements for the Flow over Periodic Hills. Flow, Turbulence and Combustion, 2019, 103, 55-91.	2.6	40
10	Third-order accurate finite volume schemes for Euler computations on curvilinear meshes. Computers and Fluids, 2001, 30, 875-901.	2.5	37
11	Bayesian Predictions of Reynolds-Averaged Navier-Stokes Uncertainties Using Maximum a Posteriori Estimates. AIAA Journal, 2018, 56, 2018-2029.	2.6	37
12	Numerical Solver for Dense Gas Flows. AIAA Journal, 2005, 43, 2458-2461.	2.6	34
13	Numerical investigation of dense-gas effects in turbomachinery. Computers and Fluids, 2011, 49, 290-301.	2.5	34
14	A Numerical Method for Turbomachinery Aeroelasticity. Journal of Turbomachinery, 2004, 126, 310-316.	1.7	33
15	Aerodynamic Performance of Transonic Bethe-Zal'dovich-Thompson Flows past an Airfoil. AIAA Journal, 2005, 43, 370-378.	2.6	31
16	Robust optimization of dense gas flows under uncertain operating conditions. Computers and Fluids, 2010, 39, 1893-1908.	2.5	29
17	Multi-fidelity optimization strategy for the industrial aerodynamic design of helicopter rotor blades. Aerospace Science and Technology, 2015, 42, 136-147.	4.8	27
18	Small-scale dynamics of dense gas compressible homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2017, 825, 515-549.	3.4	26

#	ARTICLE	IF	CITATIONS
19	Multiple-correction hybrid k-exact schemes for high-order compressible RANS-LES simulations on fully unstructured grids. <i>Journal of Computational Physics</i> , 2017, 350, 45-83.	3.8	25
20	Data-Free and Data-Driven RANS Predictions with Quantified Uncertainty. <i>Flow, Turbulence and Combustion</i> , 2018, 100, 593-616.	2.6	25
21	Dense gas effects in inviscid homogeneous isotropic turbulence. <i>Journal of Fluid Mechanics</i> , 2016, 800, 140-179.	3.4	23
22	Finite-rate chemistry effects in turbulent hypersonic boundary layers: A direct numerical simulation study. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	23
23	Thermochemical non-equilibrium effects in turbulent hypersonic boundary layers. <i>Journal of Fluid Mechanics</i> , 2022, 941, .	3.4	21
24	Roe-type schemes for dense gas flow computations. <i>Computers and Fluids</i> , 2006, 35, 1264-1281.	2.5	20
25	Airfoil Shape Optimization for Transonic Flows Bethe-Zel'dovich-Thompson Flows. <i>AIAA Journal</i> , 2007, 45, 1303-1316.	2.6	20
26	Spectral properties of high-order residual-based compact schemes for unsteady compressible flows. <i>Journal of Computational Physics</i> , 2013, 252, 142-162.	3.8	20
27	Sensitivity analysis of dense gas flow simulations to thermodynamic uncertainties. <i>Physics of Fluids</i> , 2011, 23, .	4.0	19
28	Bayesian quantification of thermodynamic uncertainties in dense gas flows. <i>Reliability Engineering and System Safety</i> , 2015, 134, 305-323.	8.9	19
29	Optimal airfoil shapes for viscous transonic flows of Bethe-Zel'dovich-Thompson fluids. <i>Computers and Fluids</i> , 2008, 37, 250-264.	2.5	18
30	High-order implicit residual smoothing time scheme for direct and large eddy simulations of compressible flows. <i>Journal of Computational Physics</i> , 2016, 326, 1-29.	3.8	18
31	Simplex-stochastic collocation method with improved scalability. <i>Journal of Computational Physics</i> , 2016, 310, 301-328.	3.8	16
32	Robust optimization of an Organic Rankine Cycle for heavy duty engine waste heat recovery. <i>Energy Procedia</i> , 2017, 129, 66-73.	1.8	16
33	Preliminary Design Method for Dense-Gas Supersonic Axial Turbine Stages. <i>Journal of Engineering for Gas Turbines and Power</i> , 2018, 140, .	1.1	14
34	Dense-gas effects on compressible boundary-layer stability. <i>Journal of Fluid Mechanics</i> , 2020, 893, .	3.4	14
35	Numerical Investigation of High-Speed Turbulent Boundary Layers of Dense Gases. <i>Flow, Turbulence and Combustion</i> , 2020, 105, 555-579.	2.6	13
36	CFD-driven symbolic identification of algebraic Reynolds-stress models. <i>Journal of Computational Physics</i> , 2022, 457, 111037.	3.8	13

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37	Quantification of thermodynamic uncertainties in real gas flows. International Journal of Engineering Systems Modelling and Simulation, 2010, 2, 12.	0.2	12
38	On the design of high order residual-based dissipation for unsteady compressible flows. Journal of Computational Physics, 2013, 235, 32-51.	3.8	12
39	Comparison of steady and unsteady RANS CFD simulation of a supersonic ORC turbine. Energy Procedia, 2017, 129, 1063-1070.	1.8	12
40	Numerical Study of Multistage Transcritical Organic Rankine Cycle Axial Turbines. Journal of Engineering for Gas Turbines and Power, 2014, 136, .	1.1	11
41	Robust optimization of an organic Rankine cycle for geothermal application. Renewable Energy, 2020, 161, 1120-1129.	8.9	11
42	Assessment of a high-order shock-capturing central-difference scheme for hypersonic turbulent flow simulations. Computers and Fluids, 2021, 230, 105134.	2.5	10
43	High-order residual-based compact schemes for aerodynamics and aeroacoustics. Computers and Fluids, 2012, 61, 31-38.	2.5	9
44	Convergence of Fourier-based time methods for turbomachinery wake passing problems. Journal of Computational Physics, 2014, 278, 229-256.	3.8	9
45	Development of a third-order accurate vorticity confinement scheme. Computers and Fluids, 2016, 136, 132-151.	2.5	9
46	Development and analysis of high-order vorticity confinement schemes. Computers and Fluids, 2017, 156, 602-620.	2.5	9
47	Large eddy simulation of turbomachinery flows using a high-order implicit residual smoothing scheme. Computers and Fluids, 2020, 198, 104395.	2.5	9
48	Multi-Zone Quasi-Dimensional Combustion Models for Spark-Ignition Engines. , 0, , .		8
49	Large Eddy Simulations of Strongly Non-Ideal Compressible Flows through a Transonic Cascade. Energies, 2021, 14, 772.	3.1	8
50	Transonic flows of dense gases over finite wings. Physics of Fluids, 2008, 20, 046103.	4.0	7
51	Multiblock residual-based compact schemes for the computation of complex turbomachinery flows. International Journal of Engineering Systems Modelling and Simulation, 2011, 3, 2.	0.2	7
52	An accurate finite-volume formulation of a Residual-Based Compact scheme for unsteady compressible flows. Computers and Fluids, 2014, 92, 93-112.	2.5	7
53	Bayesian model-scenario averaged predictions of compressor cascade flows under uncertain turbulence models. Computers and Fluids, 2020, 201, 104473.	2.5	7
54	Shape Optimization for Dense Gas Flows in Turbine Cascades. , 2009, , 555-560.		7

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55	A Numerical Method for Turbomachinery Aeroelasticity. , 2002, , 853.		6
56	Model-form and predictive uncertainty quantification in linear aeroelasticity. Journal of Fluids and Structures, 2017, 73, 137-161.	3.4	6
57	A Priori Tests of RANS Models for Turbulent Channel Flows of a Dense Gas. Flow, Turbulence and Combustion, 2018, 101, 295-315.	2.6	6
58	A Numerical Solver for Dense Gas Flows. , 2004, , .		5
59	The high-order dynamic computational laboratory for CFD research and applications. , 2013, , .		5
60	Sensitivity of Supersonic ORC Turbine Injector Designs to Fluctuating Operating Conditions. , 2015, , .		5
61	Robust optimization of supersonic ORC nozzle guide vanes. Journal of Physics: Conference Series, 2017, 821, 012014.	0.4	5
62	Development of Numerical Schemes for Hybrid Turbulence Modelling in an Industrial CFD Solver. , 2013, , .		4
63	Toward improved simulation tools for compressible turbomachinery: assessment of residual-based compact schemes for the transonic compressor NASA Rotor 37. International Journal of Computational Fluid Dynamics, 2014, 28, 31-40.	1.2	4
64	Efficient Uncertainty Quantification of Turbulent Flows through Supersonic ORC Nozzle Blades. Energy Procedia, 2015, 82, 186-193.	1.8	4
65	Robust prediction of dense gas flows under uncertain thermodynamic models. Reliability Engineering and System Safety, 2019, 183, 400-421.	8.9	4
66	Multi-Fidelity Gradient-Based Strategy for Robust Optimization in Computational Fluid Dynamics. Algorithms, 2020, 13, 248.	2.1	4
67	High-Order Hybrid RANS/LES Strategy for Industrial Applications. ERCOFTAC Series, 2018, , 313-319.	0.1	4
68	Robust Shape Optimization of Uncertain Dense Gas Flows Through a Plane Turbine Cascade. , 2011, , .		3
69	Aerodynamic rotor blade optimization at Eurocopter - a new way of industrial rotor blade design. , 2013, , .		3
70	Automatic Hybrid RANS/LES Strategy for Industrial CFD. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 305-317.	0.3	3
71	Improving the treatment of near-wall regions for multiple-correction k-exact schemes. Computers and Fluids, 2019, 181, 116-134.	2.5	3
72	Viscous Performance of Transonic Dense Gas Flows. , 2005, , .		2

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73	Optimal Airfoil Shapes in Viscous Transonic Flows of Dense Gases. , 2006, , .		2
74	GA-Hardness of Aerodynamic Optimization Problems: Analysis and Proposed Cures. , 2007, , .		2
75	Nozzle Shape Optimization for Wet-Steam Flows. , 2009, , .		2
76	Efficient Implementation of Short Fundamental Equations of State for the Numerical Simulation of Dense Gas Flows. , 2011, , .		2
77	Coupled/Uncoupled solutions of RANS equations using a Jacobian-free Newton-Krylov method. , 2013, , .		2
78	Hybrid Adjoint-based Robust Optimization Approach for Fluid-Dynamics Problems. , 2013, , .		2
79	DNS of turbulent flows of dense gases. Journal of Physics: Conference Series, 2017, 821, 012018.	0.4	2
80	Numerical Method for Wet-Steam Flows with Polydispersed Droplet Spectra. , 2008, , .		1
81	High-order residual-based compact schemes for compressible flows on overset grids. , 2014, , .		1
82	Assessment of time implicit discretizations for the computation of turbulent compressible flows. , 2015, , .		1
83	Toward an improved wall treatment for multiple-correction k-exact schemes. , 2018, , .		1
84	Large Eddy Simulation of dense gas flow around a turbine cascade. , 2019, , .		1
85	Assessment of an Innovative Technique for the Robust Optimization of Organic Rankine Cycles. , 2019, , .		1
86	Transonic Flows of BZT Fluids Through Turbine Cascades. , 2006, , 227-232.		1
87	Numerical Study of Transonic Shock/Boundary Layer Interactions on an Oscillating Airfoil Using a Third-Order Scheme and Nonlinear Turbulence Models. , 2001, , 157-162.		0
88	A Numerical Method for 3D Turbomachinery Aeroelasticity. , 2004, , 539.		0
89	Accurate and Computationally Efficient Equations of State for the Numerical Simulation of Dense Gas Flows. , 2008, , .		0
90	Quantification of Uncertainties in Compressible Flows with Complex Thermodynamic Behavior. , 2009, , .		0

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91	Convergence behaviours of genetic algorithms for aerodynamic optimisation problems. <i>International Journal of Engineering Systems Modelling and Simulation</i> , 2013, 5, 197.	0.2	0
92	A high-order and conservative method is developed for the numerical treatment of interface conditions in patched grids, based on the use of a fictitious grid methodology. The proposed approach is compared with a non-conservative interpolation of the state variables from the neighbouring domain for selected internal flow problems. , 2014, , .		0
93	Direct and inverse uncertainty quantification of acoustic refraction phenomena through a shear layer. , 2015, , .		0
94	Recent Progress in High-Order Residual-Based Compact Schemes for Compressible Flow Simulations: Toward Scale-Resolving Simulations and Complex Geometries. <i>Notes on Numerical Fluid Mechanics and Multidisciplinary Design</i> , 2015, , 397-421.	0.3	0
95	Vortical flow calculations using a high-order Vorticity Confinement method. , 2017, , .		0
96	Estimation of Model Error Using Bayesian Model-Scenario Averaging with Maximum a Posteriori-Estimates. <i>Notes on Numerical Fluid Mechanics and Multidisciplinary Design</i> , 2019, , 53-69.	0.3	0
97	Efficient Numerical Simulation of Dense Gas Flows Past Airfoils and Wings. , 2009, , 295-300.		0
98	Finite Volume Formulation of a Third-Order Residual-Based Compact Scheme for Unsteady Flow Computations. <i>Lecture Notes in Computational Science and Engineering</i> , 2014, , 37-58.	0.3	0
99	Numerical Investigation of Supersonic Dense-Gas Boundary Layers. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 91-103.	0.4	0
100	Numerical Investigation of Hypersonic Boundary Layers of Perfect and Dense Gases. <i>ERCOFTAC Series</i> , 2020, , 277-283.	0.1	0