

# Paola Cinnella

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2384428/publications.pdf>

Version: 2024-02-01

100  
papers

1,769  
citations

331259

21  
h-index

301761

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.	6.3	228
2	Bayesian estimates of parameter variability in the $k\epsilon$ turbulence model. Journal of Computational Physics, 2014, 258, 73-94.	1.9	150
3	Discovery of Algebraic Reynolds-Stress Models Using Sparse Symbolic Regression. Flow, Turbulence and Combustion, 2020, 104, 579-603.	1.4	115
4	Numerical simulations of mixtures of fluids using upwind algorithms. Computers and Fluids, 2007, 36, 1547-1566.	1.3	102
5	Predictive RANS simulations via Bayesian Model-Scenario Averaging. Journal of Computational Physics, 2014, 275, 65-91.	1.9	87
6	Coupling Heat Transfer and Fluid Flow Solvers for Multidisciplinary Simulations. Journal of Thermophysics and Heat Transfer, 2005, 19, 417-427.	0.9	61
7	Inviscid and viscous aerodynamics of dense gases. Journal of Fluid Mechanics, 2007, 580, 179-217.	1.4	52
8	Direct numerical simulations of supersonic turbulent channel flows of dense gases. Journal of Fluid Mechanics, 2017, 821, 153-199.	1.4	47
9	Large Eddy Simulation Requirements for the Flow over Periodic Hills. Flow, Turbulence and Combustion, 2019, 103, 55-91.	1.4	40
10	Third-order accurate finite volume schemes for Euler computations on curvilinear meshes. Computers and Fluids, 2001, 30, 875-901.	1.3	37
11	Bayesian Predictions of Reynolds-Averaged Navier-Stokes Uncertainties Using Maximum a Posteriori Estimates. AIAA Journal, 2018, 56, 2018-2029.	1.5	37
12	Numerical Solver for Dense Gas Flows. AIAA Journal, 2005, 43, 2458-2461.	1.5	34
13	Numerical investigation of dense-gas effects in turbomachinery. Computers and Fluids, 2011, 49, 290-301.	1.3	34
14	A Numerical Method for Turbomachinery Aeroelasticity. Journal of Turbomachinery, 2004, 126, 310-316.	0.9	33
15	Aerodynamic Performance of Transonic Bethe-Zal'dovich-Thompson Flows past an Airfoil. AIAA Journal, 2005, 43, 370-378.	1.5	31
16	Robust optimization of dense gas flows under uncertain operating conditions. Computers and Fluids, 2010, 39, 1893-1908.	1.3	29
17	Multi-fidelity optimization strategy for the industrial aerodynamic design of helicopter rotor blades. Aerospace Science and Technology, 2015, 42, 136-147.	2.5	27
18	Small-scale dynamics of dense gas compressible homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2017, 825, 515-549.	1.4	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.	1.9	25
20	Data-Free and Data-Driven RANS Predictions with Quantified Uncertainty. <i>Flow, Turbulence and Combustion</i> , 2018, 100, 593-616.	1.4	25
21	Dense gas effects in inviscid homogeneous isotropic turbulence. <i>Journal of Fluid Mechanics</i> , 2016, 800, 140-179.	1.4	23
22	Finite-rate chemistry effects in turbulent hypersonic boundary layers: A direct numerical simulation study. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	23
23	Thermochemical non-equilibrium effects in turbulent hypersonic boundary layers. <i>Journal of Fluid Mechanics</i> , 2022, 941, .	1.4	21
24	Roe-type schemes for dense gas flow computations. <i>Computers and Fluids</i> , 2006, 35, 1264-1281.	1.3	20
25	Airfoil Shape Optimization for Transonic Flows Bethe-Zel'dovich-Thompson Flows. <i>AIAA Journal</i> , 2007, 45, 1303-1316.	1.5	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.	1.9	20
27	Sensitivity analysis of dense gas flow simulations to thermodynamic uncertainties. <i>Physics of Fluids</i> , 2011, 23, .	1.6	19
28	Bayesian quantification of thermodynamic uncertainties in dense gas flows. <i>Reliability Engineering and System Safety</i> , 2015, 134, 305-323.	5.1	19
29	Optimal airfoil shapes for viscous transonic flows of Bethe-Zel'dovich-Thompson fluids. <i>Computers and Fluids</i> , 2008, 37, 250-264.	1.3	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.	1.9	18
31	Simplex-stochastic collocation method with improved scalability. <i>Journal of Computational Physics</i> , 2016, 310, 301-328.	1.9	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, .	0.5	14
34	Dense-gas effects on compressible boundary-layer stability. <i>Journal of Fluid Mechanics</i> , 2020, 893, .	1.4	14
35	Numerical Investigation of High-Speed Turbulent Boundary Layers of Dense Gases. <i>Flow, Turbulence and Combustion</i> , 2020, 105, 555-579.	1.4	13
36	CFD-driven symbolic identification of algebraic Reynolds-stress models. <i>Journal of Computational Physics</i> , 2022, 457, 111037.	1.9	13

#	ARTICLE	IF	CITATIONS
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.	1.9	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, .	0.5	11
41	Robust optimization of an organic Rankine cycle for geothermal application. Renewable Energy, 2020, 161, 1120-1129.	4.3	11
42	Assessment of a high-order shock-capturing central-difference scheme for hypersonic turbulent flow simulations. Computers and Fluids, 2021, 230, 105134.	1.3	10
43	High-order residual-based compact schemes for aerodynamics and aeroacoustics. Computers and Fluids, 2012, 61, 31-38.	1.3	9
44	Convergence of Fourier-based time methods for turbomachinery wake passing problems. Journal of Computational Physics, 2014, 278, 229-256.	1.9	9
45	Development of a third-order accurate vorticity confinement scheme. Computers and Fluids, 2016, 136, 132-151.	1.3	9
46	Development and analysis of high-order vorticity confinement schemes. Computers and Fluids, 2017, 156, 602-620.	1.3	9
47	Large eddy simulation of turbomachinery flows using a high-order implicit residual smoothing scheme. Computers and Fluids, 2020, 198, 104395.	1.3	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.	1.6	8
50	Transonic flows of dense gases over finite wings. Physics of Fluids, 2008, 20, 046103.	1.6	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.	1.3	7
53	Bayesian model-scenario averaged predictions of compressor cascade flows under uncertain turbulence models. Computers and Fluids, 2020, 201, 104473.	1.3	7
54	Shape Optimization for Dense Gas Flows in Turbine Cascades. , 2009, , 555-560.		7

#	ARTICLE	IF	CITATIONS
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.	1.5	6
57	A Priori Tests of RANS Models for Turbulent Channel Flows of a Dense Gas. Flow, Turbulence and Combustion, 2018, 101, 295-315.	1.4	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.	0.3	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.	0.5	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.	5.1	4
66	Multi-Fidelity Gradient-Based Strategy for Robust Optimization in Computational Fluid Dynamics. Algorithms, 2020, 13, 248.	1.2	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.	0.2	3
71	Improving the treatment of near-wall regions for multiple-correction k-exact schemes. Computers and Fluids, 2019, 181, 116-134.	1.3	3
72	Viscous Performance of Transonic Dense Gas Flows. , 2005, , .		2

#	ARTICLE	IF	CITATIONS
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.	0.3	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

#	ARTICLE	IF	CITATIONS
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.	0.2	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.	0.2	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.	0.1	0
99	Numerical Investigation of Supersonic Dense-Gas Boundary Layers. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 91-103.	0.3	0
100	Numerical Investigation of Hypersonic Boundary Layers of Perfect and Dense Gases. <i>ERCOFTAC Series</i> , 2020, , 277-283.	0.1	0