Philippe Chatelain

List of Publications by Year
in descending order

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85 papers	1,489 citations	331670 21 h-index	330143 37 g-index
94 all docs	94 docs citations	94 times ranked	1051 citing authors

#	Article	IF	Citations
1	Dynamics of the Wake Vortices of a Two-aircraft Formation, Hazard Assessment at Large Distances and Sensitivity Analysis. , 2022, , .		0
2	A reinforcementâ€learning approach for individual pitch control. Wind Energy, 2022, 25, 1343-1362.	4.2	5
3	Correlations Between Wake Phenomena and Fatigue Loads Within Large Wind Farms: A Large-Eddy Simulation Study. Frontiers in Energy Research, 2022, 10, .	2.3	1
4	Extension and validation of an operational dynamic wake model to yawed configurations. Journal of Physics: Conference Series, 2022, 2265, 022018.	0.4	2
5	Performance assessment of wake mitigation strategies. Journal of Physics: Conference Series, 2022, 2265, 032078.	0.4	0
6	A flexible actuator curve model for aeroelastic simulations of wind turbines in atmospheric boundary layers. Journal of Physics: Conference Series, 2022, 2265, 022050.	0.4	1
7	Handling Individual Pitch Control within an Actuator Disk framework: verification against the Actuator Line method and application to wake interaction problems. Journal of Physics: Conference Series, 2022, 2265, 022053.	0.4	2
8	An immersed interface method for the 2D vorticity-velocity Navier-Stokes equations with multiple bodies. Journal of Computational Physics, 2022, 464, 111339.	3.8	6
9	Analytical solution for multi-component pyrolysis simulations of thermal protection materials. Journal of Materials Science, 2021, 56, 6845-6860.	3.7	1
10	FLUPS: A Fourier-Based Library of Unbounded Poisson Solvers. SIAM Journal of Scientific Computing, 2021, 43, C31-C60.	2.8	10
11	Model coupling biomechanics and fluid dynamics for the simulation of controlled flapping flight. Bioinspiration and Biomimetics, 2021, 16, 026023.	2.9	8
12	Stability and Sensitivity Analysis of Bird Flapping Flight. Journal of Nonlinear Science, 2021, 31, 1.	2.1	7
13	A High-Order Level-Set Method Coupled with an Extended Discontinuous Galerkin Method for Simulating Moving Interface Problems. , 2021, , .		0
14	Wake Vortex Detection and Tracking for Aircraft Formation Flight. Journal of Guidance, Control, and Dynamics, 2021, 44, 2225-2243.	2.8	4
15	Assessment of the Vortex Particle-Mesh Method for Efficient LES of Hovering Rotors and their Wakes. , 2021, , .		2
16	Multiphysics simulations of the dynamic and wakes of a floating Vertical Axis Wind Turbine. Journal of Physics: Conference Series, 2020, 1618, 062053.	0.4	5
17	Wakes of rotorcraft in advancing flight: A large-eddy simulation study. Physics of Fluids, 2020, 32, .	4.0	29
18	Data assimilation for the prediction of wake trajectories within wind farms. Journal of Physics: Conference Series, 2020, 1618, 062055.	0.4	4

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19	Biomimetic individual pitch control for load alleviation. Journal of Physics: Conference Series, 2020, 1618, 022052.	0.4	3
20	Tilted wind turbines in farm configuration for improved global efficiency. Journal of Physics: Conference Series, 2020, 1618, 062035.	0.4	0
21	An immersed lifting and dragging line model for the vortex particle-mesh method. Theoretical and Computational Fluid Dynamics, 2020, 34, 21-48.	2.2	23
22	S-Leaping: An Adaptive, Accelerated Stochastic Simulation Algorithm, Bridging $$au $$ Ï„ -Leaping and R-Leaping. Bulletin of Mathematical Biology, 2019, 81, 3074-3096.	1.9	3
23	Wake Vortex Detection and Tracking for Aircraft Formation Flight. , 2019, , .		6
24	Effects of the fidelity level of numerical simulations on the wake meandering phenomenon. Journal of Physics: Conference Series, 2019, 1256, 012010.	0.4	0
25	A 2D immersed interface Vortex Particle-Mesh method. Journal of Computational Physics, 2019, 394, 700-718.	3.8	14
26	Simulations of propelling and energy harvesting articulated bodies via vortex particle-mesh methods. Journal of Computational Physics, 2019, 392, 34-55.	3.8	15
27	Lifting Line with Various Mollifications: Theory and Application to an Elliptical Wing. AIAA Journal, 2019, 57, 17-28.	2.6	20
28	High Reynolds Number Airfoil: From Wall-Resolved to Wall-Modeled LES. ERCOFTAC Series, 2019, , 381-387.	0.1	0
29	An actuator disk method with tipâ€loss correction based on local effective upstream velocities. Wind Energy, 2018, 21, 766-782.	4.2	16
30	Numerical and experimental evidence of the Fabri-choking in a supersonic ejector. International Journal of Heat and Fluid Flow, 2018, 69, 194-209.	2.4	50
31	A Vortex Particle-Mesh method for subsonic compressible flows. Journal of Computational Physics, 2018, 354, 692-716.	3.8	5
32	Fast immersed interface Poisson solver for 3D unbounded problems around arbitrary geometries. Journal of Computational Physics, 2018, 354, 403-416.	3.8	12
33	Development of wake meandering detection algorithms and their application to large eddy simulations of an isolated wind turbine and a wind farm. Journal of Physics: Conference Series, 2018, 1037, 072024.	0.4	8
34	Numerical Simulations and Development of Drafting Strategies for Robotic Swimmers at Low Reynolds Number. , 2018, , .		3
35	Investigation of the complete power conversion chain for small vertical- and horizontal-axis wind turbines in turbulent winds. Journal of Physics: Conference Series, 2018, 1037, 072046.	0.4	1
36	Two-way coupled simulations of stagnation-point ablation with transient material response. International Journal of Thermal Sciences, 2018, 134, 639-652.	4.9	19

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37	High Reynolds Number Airfoil: From Wall-Resolved to Wall-Modeled LES. Flow, Turbulence and Combustion, 2018, 101, 457-476.	2.6	14
38	The compound-choking theory as an explanation of the entrainment limitation in supersonic ejectors. Energy, 2018, 158, 524-536.	8.8	36
39	New methods for analyzing transport phenomena in supersonic ejectors. International Journal of Heat and Fluid Flow, 2017, 64, 23-40.	2.4	36
40	Numerical simulation of a non-charring ablator in high enthalpy flows by means of a unified flow-material solver. , 2017, , .		2
41	Application of wall-models to discontinuous Galerkin LES. Physics of Fluids, 2017, 29, .	4.0	48
42	An efficient iterative penalization method using recycled Krylov subspaces and its application to impulsively started flows. Journal of Computational Physics, 2017, 347, 490-505.	3.8	9
43	Investigation of the effect of inflow turbulence on vertical axis wind turbine wakes. Journal of Physics: Conference Series, 2017, 854, 012011.	0.4	17
44	Towards physics-based operational modeling of the unsteady wind turbine response to atmospheric and wake-induced turbulence. Journal of Physics: Conference Series, 2017, 854, 012030.	0.4	2
45	Vortex particle-mesh simulations of vertical axis wind turbine flows: from the airfoil performance to the very far wake. Wind Energy Science, 2017, 2, 317-328.	3.3	27
46	Vortex Particle-Mesh simulations of Vertical Axis Wind Turbine flows: from the blade aerodynamics to the very far wake. Journal of Physics: Conference Series, 2016, 753, 032007.	0.4	6
47	Identification and quantification of vortical structures in wind turbine wakes for operational wake modeling. Journal of Physics: Conference Series, 2016, 753, 032050.	0.4	1
48	Immersed interface interpolation schemes for particleâ€“mesh methods. Journal of Computational Physics, 2016, 326, 947-972.	3.8	10
49	Fully implicit Discontinuous Galerkin solver to study surface and volume ablation competition in atmospheric entry flows. International Journal of Heat and Mass Transfer, 2016, 103, 108-124.	4.8	32
50	LES of wind farm response to transient scenarios using a high fidelity actuator disk model. Journal of Physics: Conference Series, 2016, 753, 032053.	0.4	3
51	Development of a melting model for meteors. AIP Conference Proceedings, 2016, , .	0.4	7
52	Unbounded Immersed Interface Solver for Vortex Particle-Mesh Methods. Procedia IUTAM, 2015, 18, 96-106.	1.2	2
53	Vortex Particle-Mesh with Immersed Lifting Lines for Aerospace and Wind Engineering. Procedia IUTAM, 2015, 18, 1-7.	1.2	4
54	High Order Poisson Solver for Unbounded Flows. Procedia IUTAM, 2015, 18, 56-65.	1.2	8

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55	Cross-Validation of Numerical and Experimental Studies of Transitional Airfoil Performance. , 2015, , .		6
56	An immersed interface solver for the 2-D unbounded Poisson equation and its application to potential flow. Computers and Fluids, 2014, 96, 76-86.	2.5	11
57	A high order solver for the unbounded Poisson equation. Journal of Computational Physics, 2013, 252, 458-467.	3.8	52
58	Large Eddy Simulation of Wind Turbine Wakes. Flow, Turbulence and Combustion, 2013, 91, 587-605.	2.6	57
59	Discontinuous Galerkin discretization coupled with sharp interface method for ablative materials. , 2013, , .		1
60	Simulations of single and multiple swimmers with non-divergence free deforming geometries. Journal of Computational Physics, 2011, 230, 7093-7114.	3.8	132
61	Ascent of Bubbles in Magma Conduits Using Boundary Elements and Particles. Procedia Computer Science, 2011, 4, 1554-1562.	2.0	1
62	Adaptive mesh refinement for stochastic reactionâ€“diffusion processes. Journal of Computational Physics, 2011, 230, 13-26.	3.8	23
63	Optimization of Aircraft Wake Alleviation Schemes through an Evolution Strategy. Lecture Notes in Computer Science, 2011, , 210-221.	1.3	2
64	A Fourier-based elliptic solver for vortical flows with periodic and unbounded directions. Journal of Computational Physics, 2010, 229, 2425-2431.	3.8	52
65	The fate of the slabs interacting with a density/viscosity hill in the mid-mantle. Physics of the Earth and Planetary Interiors, 2010, 180, 271-282.	1.9	40
66	An exact accelerated stochastic simulation algorithm. Journal of Chemical Physics, 2009, 130, 144110.	3.0	14
67	Earth curvature effects on subduction morphology: Modeling subduction in a spherical setting. Acta Geotechnica, 2009, 4, 95-105.	5.7	24
68	D-leaping: Accelerating stochastic simulation algorithms for reactions with delays. Journal of Computational Physics, 2009, 228, 5908-5916.	3.8	16
69	Isotropic compact interpolation schemes for particle methods. Journal of Computational Physics, 2008, 227, 3244-3259.	3.8	7
70	An immersed boundaryâ€“lattice-Boltzmann method for the simulation of the flow past an impulsively started cylinder. Journal of Computational Physics, 2008, 227, 4486-4498.	3.8	134
71	Billion vortex particle direct numerical simulations of aircraft wakes. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1296-1304.	6.6	111
72	Multiresolution stochastic simulations of reactionâ€“diffusion processes. Physical Chemistry Chemical Physics, 2008, 10, 5963.	2.8	3

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73	Evolutionary optimization of an anisotropic compliant surface for turbulent friction drag reduction. Journal of Turbulence, 2008, 9, N35.	1.4	55
74	Modeling, Simulation and Optimization of Anguilliform Swimmers. , 2008, , 167-178.		1
75	Vortex Methods for Massively Parallel Computer Architectures. Lecture Notes in Computer Science, 2008, , 479-489.	1.3	0
76	Large Scale, Multiresolution Flow Simulations Using Remeshed Particle Methods. Lecture Notes in Computational Science and Engineering, 2008, , 35-46.	0.3	0
77	PARTICLE MESH HYDRODYNAMICS FOR ASTROPHYSICS SIMULATIONS. International Journal of Modern Physics C, 2007, 18, 610-618.	1.7	11
78	A numerical study of the stabilitiy of helical vortices using vortex methods. Journal of Physics: Conference Series, 2007, 75, 012034.	0.4	24
79	Large Scale Three-Dimensional Boundary Element Simulation of Subduction. Lecture Notes in Computer Science, 2007, , 1122-1129.	1.3	12
80	R-leaping: Accelerating the stochastic simulation algorithm by reaction leaps. Journal of Chemical Physics, 2006, 125, 084103.	3.0	81
81	A Software Framework for the Portable Parallelization of Particle-Mesh Simulations. Lecture Notes in Computer Science, 2006, , 730-739.	1.3	5
82	Reconnection of Colliding Vortex Rings. Physical Review Letters, 2003, 90, 054501.	7.8	48
83	Face-centred cubic lattices and particle redistribution in vortex methods. Journal of Turbulence, 2002, 3, N46.	1.4	2
84	Reverse Engineering of Self-Propelled Anguilliform Swimmers. Advances in Science and Technology, 0, , .	0.2	1
85	A Meandering-Capturing Wake Model Coupled to Rotor-Based Flow-Sensing for Operational Wind Farm Flow Prediction. Frontiers in Energy Research, 0, 10, .	2.3	5