Bartosz Protas

List of Publications by Year in descending order

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66	982	430874	477307
papers	citations	18 h-index	29 g-index

66	66	66	793
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Application of a variational approach to the computation of forces around a wing. Experiments in Fluids, 2022, 63, 1.	2.4	0
2	Systematic search for extreme and singular behaviour in some fundamental models of fluid mechanics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210035.	3.4	4
3	Editorial: Mathematical problems in physical fluid dynamics: part I. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210056.	3.4	0
4	Optimal eddy viscosity in closure models for two-dimensional turbulent flows. Physical Review Fluids, 2022, 7, .	2.5	0
5	Editorial: Mathematical problems in physical fluid dynamics: part II. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210057.	3.4	0
6	Singularity formation in the deterministic and stochastic fractional Burgers equation. Physica D: Nonlinear Phenomena, 2022, , 133432.	2.8	1
7	Stability of confined vortex sheets. Theoretical and Computational Fluid Dynamics, 2021, 35, 109-118.	2.2	0
8	Finite rotating and translating vortex sheets. Journal of Fluid Mechanics, 2021, 923, .	3.4	1
9	Rotating equilibria of vortex sheets. Physica D: Nonlinear Phenomena, 2020, 403, 132286.	2.8	5
10	Optimal Closures in a Simple Model for Turbulent Flows. SIAM Journal of Scientific Computing, 2020, 42, B250-B272.	2.8	2
11	Maximum amplification of enstrophy in three-dimensional Navierâ€“Stokes flows. Journal of Fluid Mechanics, 2020, 893, .	3.4	9
12	Discerning models of phase transformations in porous graphite electrodes: Insights from inverse modelling based on MRI measurements. Electrochimica Acta, 2020, 349, 136290.	5.2	6
13	Linear stability of inviscid vortex rings to axisymmetric perturbations. Journal of Fluid Mechanics, 2019, 874, 1115-1146.	3.4	3
14	Incorporating Dendrite Growth into Continuum Models of Electrolytes: Insights from NMR Measurements and Inverse Modeling. Journal of the Electrochemical Society, 2019, 166, A1591-A1602.	2.9	17
15	On the convergence of data assimilation for the one-dimensional shallow water equations with sparse observations. Advances in Computational Mathematics, 2019, 45, 3195-3216.	1.6	5
16	Bayesian uncertainty quantification in inverse modeling of electrochemical systems. Journal of Computational Chemistry, 2019, 40, 740-752.	3.3	15
17	Maximum Rate of Growth of Enstrophy in Solutions of the Fractional Burgers Equation. Journal of Nonlinear Science, 2018, 28, 395-422.	2.1	6
18	The Effect of Ionic Aggregates on the Transport of Charged Species in Lithium Electrolyte Solutions. Journal of the Electrochemical Society, 2018, 165, H561-H567.	2.9	15

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19	Harnessing the Kelvinâ€“Helmholtz instability: feedback stabilization of an inviscid vortex sheet. Journal of Fluid Mechanics, 2018, 852, 146-177.	3.4	2
20	Transient growth in stochastic Burgers flows. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 2371-2391.	0.9	4
21	Extreme vortex states and the growth of enstrophy in three-dimensional incompressible flows. Journal of Fluid Mechanics, 2017, 818, 772-806.	3.4	14
22	Causes of binder damage in porous battery electrodes and strategies to prevent it. Journal of Power Sources, 2017, 350, 140-151.	7.8	49
23	A Mathematical Model for Mechanically-Induced Deterioration of the Binder in Lithium-Ion Electrodes. SIAM Journal on Applied Mathematics, 2017, 77, 2172-2198.	1.8	8
24	Computation of Ground States of the Gross--Pitaevskii Functional via Riemannian Optimization. SIAM Journal of Scientific Computing, 2017, 39, B1102-B1129.	2.8	31
25	Linear feedback stabilization of point-vortex equilibria near a Kasper wing. Journal of Fluid Mechanics, 2017, 827, 121-154.	3.4	4
26	Linear stability of Hillâ€™s vortex to axisymmetricÂperturbations. Journal of Fluid Mechanics, 2016, 799, 579-602.	3.4	7
27	Drift due to two obstacles in different arrangements. Theoretical and Computational Fluid Dynamics, 2016, 30, 529-542.	2.2	3
28	Three-dimensional investigation of cycling-induced microstructural changes in lithium-ion battery cathodes using focused ion beam/scanning electron microscopy. Journal of Power Sources, 2016, 306, 300-308.	7.8	60
29	Optimal nonlinear eddy viscosity in Galerkin models of turbulent flows. Journal of Fluid Mechanics, 2015, 766, 337-367.	3.4	45
30	Computation of steady incompressible flows in unbounded domains. Computers and Fluids, 2015, 112, 94-107.	2.5	1
31	Homogenization Study of the Effects of Cycling on the Electronic Conductivity of Commercial Lithium-Ion Battery Cathodes. Journal of Physical Chemistry C, 2015, 119, 12199-12208.	3.1	10
32	Accurate Characterization of Ion Transport Properties in Binary Symmetric Electrolytes Using In Situ NMR Imaging and Inverse Modeling. Journal of Physical Chemistry B, 2015, 119, 12238-12248.	2.6	71
33	Optimal reconstruction of inviscid vortices. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150323.	2.1	4
34	Wake effects on drift in two-dimensional inviscid incompressible flows. Physics of Fluids, 2014, 26, 123601.	4.0	5
35	An Optimal Model Identification for Oscillatory Dynamics with a Stable Limit Cycle. Journal of Nonlinear Science, 2014, 24, 245-275.	2.1	6
36	Effective Transport Properties of Porous Electrochemical Materials â€” A Homogenization Approach. Journal of the Electrochemical Society, 2014, 161, E3066-E3077.	2.9	25

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37	Vortices, maximum growth and the problem of finite-time singularity formation. Fluid Dynamics Research, 2014, 46, 031404.	1.3	9
38	Maximum palinstrophy growth in 2D incompressible flows. Journal of Fluid Mechanics, 2014, 742, 340-367.	3.4	18
39	A Method for Geometry Optimization in a Simple Model of Two-Dimensional Heat Transfer. SIAM Journal of Scientific Computing, 2013, 35, B1105-B1131.	2.8	3
40	Optimal reconstruction of material properties in complex multiphysics phenomena. Journal of Computational Physics, 2013, 242, 889-914.	3.8	18
41	On Oseen flows for large Reynolds numbers. Theoretical and Computational Fluid Dynamics, 2013, 27, 665-680.	2.2	7
42	Application of scaled nonlinear conjugate-gradient algorithms to the inverse natural convection problem. Optimization Methods and Software, 2013, 28, 159-185.	2.4	2
43	A framework for linear stability analysis of finite-area vortices. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120709.	2.1	3
44	Computation of effective free surfaces in two phase flows. Physics of Fluids, 2012, 24, 087101.	4.0	1
45	Vortex design problem. Journal of Computational and Applied Mathematics, 2012, 236, 1926-1946.	2.0	2
46	On calculation of hydrodynamic forces for steady flows in unbounded domains. Journal of Fluids and Structures, 2011, 27, 1455-1460.	3.4	6
47	On maximum enstrophy growth in a hydrodynamic system. Physica D: Nonlinear Phenomena, 2011, 240, 1553-1563.	2.8	19
48	On optimal reconstruction of constitutive relations. Physica D: Nonlinear Phenomena, 2011, 240, 1228-1244.	2.8	22
49	Controlling the dual cascade of two-dimensional turbulence. Journal of Fluid Mechanics, 2011, 668, 202-222.	3.4	24
50	On continuation of inviscid vortex patches. Physica D: Nonlinear Phenomena, 2010, 239, 190-201.	2.8	18
51	Adjoint-based optimization of thermo-fluid phenomena in welding processes. Journal of Engineering Mathematics, 2009, 65, 201-220.	1.2	19
52	An inverse model for a free-boundary problem with a contact line: Steady case. Journal of Computational Physics, 2009, 228, 4893-4910.	3.8	9
53	Nonlinear Preconditioning in Problems of Optimal Control for Fluid Systems. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2009, , 351-368.	0.6	0
54	Adjoint-based optimization of PDEs in moving domains. Journal of Computational Physics, 2008, 227, 2707-2723.	3.8	13

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55	Adjoint-based optimization of PDE systems with alternative gradients. Journal of Computational Physics, 2008, 227, 6490-6510.	3.8	21
56	Vortex dynamics models in flow control problems. Nonlinearity, 2008, 21, R203-R250.	1.4	35
57	Center manifold analysis of a point vortex model of vortex shedding with control. Physica D: Nonlinear Phenomena, 2007, 228, 179-187.	2.8	10
58	On an attempt to simplify the Quartapelleâ€“Napolitano approach to computation of hydrodynamic forces in open flows. Journal of Fluids and Structures, 2007, 23, 1207-1214.	3.4	3
59	Vortex Models for Feedback Stabilization of Wake Flows. , 2007, , 422-436.		1
60	Higher-order FÃ¶ppl models of steady wake flows. Physics of Fluids, 2006, 18, 117109.	4.0	7
61	A computational framework for the regularization of adjoint analysis in multiscale PDE systems. Journal of Computational Physics, 2004, 195, 49-89.	3.8	65
62	Skin friction and pressure: the â€œfootprintsâ€•of turbulence. Physica D: Nonlinear Phenomena, 2004, 196, 28-44.	2.8	59
63	Linear feedback stabilization of laminar vortex shedding based on a point vortex model. Physics of Fluids, 2004, 16, 4473-4488.	4.0	58
64	Optimal rotary control of the cylinder wake in the laminar regime. Physics of Fluids, 2002, 14, 2073.	4.0	66
65	An Effective Approach to Computation of Forces in Viscous Incompressible Flows. Journal of Computational Physics, 2000, 159, 231-245.	3.8	21
66	On Uncertainty Quantification in the Parametrization of Newman-Type Models of Lithium-Ion Batteries. Journal of the Electrochemical Society, 0, , .	2.9	5