Eduardo Casas

List of Publications by Citations

108 papers	2,778 citations	32 h-index	49 g-index
118 ext. papers	3,068 ext. citations	1.5 avg, IF	5.64 L-index

#	Paper	IF	Citations
108	Control of an Elliptic Problem with Pointwise State Constraints. *SIAM Journal on Control and Optimization*, **1986**, 24, 1309-1318	1.9	182
107	Pontryagin's Principle for State-Constrained Boundary Control Problems of Semilinear Parabolic Equations. *SIAM Journal on Control and Optimization*, **1997**, 35, 1297-1327	1.9	172
106	Error Estimates for the Numerical Approximation of a Semilinear Elliptic Control Problem. *Computational Optimization and Applications*, **2002**, 23, 201-229	1.4	164
105	Boundary Control of Semilinear Elliptic Equations with Pointwise State Constraints. *SIAM Journal on Control and Optimization*, **1993**, 31, 993-1006	1.9	144
104	Error Estimates for the Numerical Approximation of Dirichlet Boundary Control for Semilinear Elliptic Equations. *SIAM Journal on Control and Optimization*, **2006**, 45, 1586-1611	1.9	92
103	Error Estimates for the Numerical Approximation of Boundary Semilinear Elliptic Control Problems. *Computational Optimization and Applications*, **2005**, 31, 193-219	1.4	81
102	Sufficient Second-Order Optimality Conditions for Semilinear Control Problems with Pointwise State Constraints. *SIAM Journal on Optimization*, **2008**, 19, 616-643	2	75
101	Approximation of Elliptic Control Problems in Measure Spaces with Sparse Solutions. *SIAM Journal on Control and Optimization*, **2012**, 50, 1735-1752	1.9	68
100	Optimality Conditions and Error Analysis of Semilinear Elliptic Control Problems with L^1 Cost Functional. *SIAM Journal on Optimization*, **2012**, 22, 795-820	2	63
99	Second Order Optimality Conditions for Semilinear Elliptic Control Problems with Finitely Many State Constraints. *SIAM Journal on Control and Optimization*, **2002**, 40, 1431-1454	1.9	60
98	L 2 estimates for the finite element method for the Dirichlet problem with singular data. *Numerische Mathematik*, **1985**, 47, 627-632	2.2	60
97	Parabolic Control Problems in Measure Spaces with Sparse Solutions. *SIAM Journal on Control and Optimization*, **2013**, 51, 28-63	1.9	57
96	Second-Order Necessary and Sufficient Optimality Conditions for Optimization Problems and Applications to Control Theory. *SIAM Journal on Optimization*, **2002**, 13, 406-431	2	54
95	Second Order Sufficient Optimality Conditions for Some State-constrained Control Problems of Semilinear Elliptic Equations. *SIAM Journal on Control and Optimization*, **2000**, 38, 1369-1391	1.9	51
94	An Extension of Pontryagin's Principle for State-Constrained Optimal Control of Semilinear Elliptic Equations and Variational Inequalities. *SIAM Journal on Control and Optimization*, **1995**, 33, 274-298	1.9	50
93	A Green's formula for quasilinear elliptic operators. *Journal of Mathematical Analysis and Applications*, **1989**, 142, 62-73	1.1	49
92	Error Estimates for the Numerical Approximation of Semilinear Elliptic Control Problems with Finitely Many State Constraints. *ESAIM - Control, Optimisation and Calculus of Variations*, **2002**, 8, 345-374	1	46

91	Distributed Control of Systems Governed by a General Class of Quasilinear Elliptic Equations. *Journal of Differential Equations*, **1993**, 104, 20-47	2.1	46
90	Second Order Analysis for Bang-Bang Control Problems of PDEs. *SIAM Journal on Control and Optimization*, **2012**, 50, 2355-2372	1.9	45
89	Regularization by Functions of Bounded Variation and Applications to Image Enhancement. *Applied Mathematics and Optimization*, **1999**, 40, 229-257	1.5	45
88	Sparse Optimal Control of the Schl□gl and FitzHugh□Nagumo Systems. *Computational Methods in Applied Mathematics*, **2013**, 13, 415-442	1.2	44
87	Second Order Analysis for Optimal Control Problems: Improving Results Expected From Abstract Theory. *SIAM Journal on Optimization*, **2012**, 22, 261-279	2	42
86	Pontryagin's Principle For Local Solutions of Control Problems with Mixed Control-State Constraints. *SIAM Journal on Control and Optimization*, **2000**, 39, 1182-1203	1.9	42
85	Second Order Optimality Conditions and Their Role in PDE Control. *Deutsche Mathematiker Vereinigung Jahresbericht*, **2015**, 117, 3-44	2.2	41
84	First- and Second-Order Optimality Conditions for a Class of Optimal Control Problems with Quasilinear Elliptic Equations. *SIAM Journal on Control and Optimization*, **2009**, 48, 688-718	1.9	41
83	Error Estimates for the Numerical Approximation of a Distributed Control Problem for the Steady-State Navier□Stokes Equations. *SIAM Journal on Control and Optimization*, **2007**, 46, 952-982	1.9	41
82	Using piecewise linear functions in the numerical approximation of semilinear elliptic control problems. *Advances in Computational Mathematics*, **2007**, 26, 137-153	1.6	39
81	Optimal Control of Semilinear Multistate Systems with State Constraints. *SIAM Journal on Control and Optimization*, **1989**, 27, 446-455	1.9	38
80	Second-Order Necessary Optimality Conditions for Some State-Constrained Control Problems of Semilinear Elliptic Equations. *Applied Mathematics and Optimization*, **1999**, 39, 211-227	1.5	37
79	Error estimates for the numerical approximation of Neumann control problems. *Computational Optimization and Applications*, **2008**, 39, 265-295	1.4	34
78	Some optimal control problems of multistate equations appearing in fluid mechanics. *ESAIM: Mathematical Modelling and Numerical Analysis*, **1993**, 27, 223-247	1.8	32
77	Optimal control in coefficients of elliptic equations with state constraints. *Applied Mathematics and Optimization*, **1992**, 26, 21-37	1.5	32
76	Approximation of sparse controls in semilinear equations by piecewise linear functions. *Numerische Mathematik*, **2012**, 122, 645-669	2.2	31
75	Second Order and Stability Analysis for Optimal Sparse Control of the FitzHugh--Nagumo Equation. *SIAM Journal on Control and Optimization*, **2015**, 53, 2168-2202	1.9	30
74	Penalization of Dirichlet optimal control problems. *ESAIM - Control, Optimisation and Calculus of Variations*, **2009**, 15, 782-809	1	30

73	Error Estimates for Linear-Quadratic Elliptic Control Problems. *IFIP Advances in Information and Communication Technology*, **2003**, 89-100	0.5	28
72	New regularity results and improved error estimates for optimal control problems with state constraints. *ESAIM - Control, Optimisation and Calculus of Variations*, **2014**, 20, 803-822	1	27
71	Spike controls for elliptic and parabolic PDEs. *Systems and Control Letters*, **2013**, 62, 311-318	2.4	25
70	Un principe de Pontryagine pour le contrôle des systèmes semilinéaires elliptiques. *Journal of Differential Equations*, **1991**, 90, 288-303	2.1	25
69	Optimal control of semilinear elliptic equations with pointwise constraints on the gradient of the state. *Applied Mathematics and Optimization*, **1993**, 27, 35-56	1.5	25
68	Optimal Control of Semilinear Elliptic Equations in Measure Spaces. *SIAM Journal on Control and Optimization*, **2014**, 52, 339-364	1.9	23
67	A general theorem on error estimates with application to a quasilinear elliptic optimal control problem. *Computational Optimization and Applications*, **2012**, 53, 173-206	1.4	23
66	Analysis of Spatio-Temporally Sparse Optimal Control Problems of Semilinear Parabolic Equations. *ESAIM - Control, Optimisation and Calculus of Variations*, **2017**, 23, 263-295	1	19
65	Sufficient Second-Order Conditions for Bang-Bang Control Problems. *SIAM Journal on Control and Optimization*, **2017**, 55, 3066-3090	1.9	19
64	Parabolic control problems in space-time measure spaces. *ESAIM - Control, Optimisation and Calculus of Variations*, **2016**, 22, 355-370	1	18
63	Sparse initial data identification for parabolic PDE and its finite element approximations. *Mathematical Control and Related Fields*, **2015**, 5, 377-399	1.5	18
62	A Discontinuous Galerkin Time-Stepping Scheme for the Velocity Tracking Problem. *SIAM Journal on Numerical Analysis*, **2012**, 50, 2281-2306	2.4	17
61	Approximation of Optimal Control Problems in the Coefficient for the p-Laplace Equation. I. Convergence Result. *SIAM Journal on Control and Optimization*, **2016**, 54, 1406-1422	1.9	16
60	Second-Order Optimality Conditions for Weak and Strong Local Solutions of Parabolic Optimal Control Problems. *Vietnam Journal of Mathematics*, **2016**, 44, 181-202	0.5	16
59	Recent advances in the analysis of pointwise state-constrained elliptic optimal control problems. *ESAIM - Control, Optimisation and Calculus of Variations*, **2010**, 16, 581-600	1	16
58	Analysis of the Velocity Tracking Control Problem for the 3D Evolutionary Navier--Stokes Equations. *SIAM Journal on Control and Optimization*, **2016**, 54, 99-128	1.9	15
57	Pontryagin's principle for the control of parabolic equations with gradient state constraints. *Nonlinear Analysis: Theory, Methods & Applications*, **2001**, 46, 933-956	1.3	15
56	A review on sparse solutions in optimal control of partial differential equations. *SeMA Journal*, **2017** , 74, 319-344	1.2	14

55	Optimal control of quasilinear parabolic equations*. *Proceedings of the Royal Society of Edinburgh Section A: Mathematics*, **1995**, 125, 545-565	1	13
54	Optimal Control of Semilinear Parabolic Equations by BV-Functions. *SIAM Journal on Control and Optimization*, **2017**, 55, 1752-1788	1.9	11
53	Second-Order and Stability Analysis for State-Constrained Elliptic Optimal Control Problems with Sparse Controls. *SIAM Journal on Control and Optimization*, **2014**, 52, 1010-1033	1.9	11
52	Approximation of Boundary Control Problems on Curved Domains. *SIAM Journal on Control and Optimization*, **2010**, 48, 3746-3780	1.9	11
51	Numerical analysis of some optimal control problems governed by a class of quasilinear elliptic equations. *ESAIM - Control, Optimisation and Calculus of Variations*, **2011**, 17, 771-800	1	11
50	Error estimates for the numerical approximation of Neumann control problems governed by a class of quasilinear elliptic equations. *Computational Optimization and Applications*, **2012**, 52, 719-756	1.4	10
49	The Stability in W s,p ()Spaces of L 2-Projections on Some Convex Sets. *Numerical Functional Analysis and Optimization*, **2006**, 27, 117-137	1	10
48	4. An Optimal Control Problem Governed by the Evolution Navier-Stokes Equations **1998**, 79-95		10
47	Finite element approximation of sparse parabolic control problems. *Mathematical Control and Related Fields*, **2017**, 7, 393-417	1.5	10
46	Dealing with Integral State Constraints in Boundary Control Problems of Quasilinear Elliptic Equations. *SIAM Journal on Control and Optimization*, **1995**, 33, 568-589	1.9	9
45	Second-Order Analysis and Numerical Approximation for Bang-Bang Bilinear Control Problems. *SIAM Journal on Control and Optimization*, **2018**, 56, 4203-4227	1.9	9
44	Stabilization by Sparse Controls for a Class of Semilinear Parabolic Equations. *SIAM Journal on Control and Optimization*, **2017**, 55, 512-532	1.9	8
43	Error Estimates for Semilinear Parabolic Control Problems in the Absence of Tikhonov Term. *SIAM Journal on Control and Optimization*, **2019**, 57, 2515-2540	1.9	8
42	Critical Cones for Sufficient Second Order Conditions in PDE Constrained Optimization. *SIAM Journal on Optimization*, **2020**, 30, 585-603	2	8
41	Error estimates for the numerical approximation of a quaslinear Neumann problem under minimal regularity of the data. *Numerische Mathematik*, **2011**, 117, 115-145	2.2	8
40	Analysis and optimal control of some quasilinear parabolic equations. *Mathematical Control and Related Fields*, **2018**, 8, 607-623	1.5	8
39	Improved approximation rates for a parabolic control problem with an objective promoting directional sparsity. *Computational Optimization and Applications*, **2018**, 70, 239-266	1.4	7
38	Numerical approximation of elliptic control problems with finitely many pointwise constraints. *Computational Optimization and Applications*, **2012**, 51, 1319-1343	1.4	7

37	A Paradox in the Approximation of Dirichlet Control Problems in Curved Domains.. *SIAM Journal on Control and Optimization*, **2011**, 49, 1998-2007	1.9	7
36	Necessary and sufficient optimality conditions for elliptic control problems with finitely many pointwise state constraints. *ESAIM - Control, Optimisation and Calculus of Variations*, **2008**, 14, 575-589	1	7
35	Optimal Control of Partial Differential Equations. *SEMA SIMAI Springer Series*, **2017**, 3-59	0.2	6
34	Error estimates for the discretization of the velocity tracking problem. *Numerische Mathematik*, **2015**, 130, 615-643	2.2	6
33	Optimal control of a class of reaction□diffusion systems. *Computational Optimization and Applications*, **2018**, 70, 677-707	1.4	6
32	Optimal Control of the Two-Dimensional Stationary Navier--Stokes Equations with Measure Valued Controls. *SIAM Journal on Control and Optimization*, **2019**, 57, 1328-1354	1.9	5
31	Error estimates for the approximation of the velocity tracking problem with Bang-Bang controls. *ESAIM - Control, Optimisation and Calculus of Variations*, **2017**, 23, 1267-1291	1	4
30	State-constrained control problems of quasilinear elliptic equations **1991**, 11-25		4
29	State Error Estimates for the Numerical Approximation of Sparse Distributed Control Problems in the Absence of Tikhonov Regularization. *Vietnam Journal of Mathematics*, **2021**, 49, 713-738	0.5	4
28	Optimality Conditions for Some Control Problems of Turbulent Flows. *The IMA Volumes in Mathematics and Its Applications*, **1995**, 127-147	0.5	4
27	Numerical analysis of quasilinear parabolic equations under low regularity assumptions. *Numerische Mathematik*, **2019**, 143, 749-780	2.2	3
26	Using sparse control methods to identify sources in linear diffusion-convection equations. *Inverse Problems*, **2019**, 35, 114002	2.3	3
25	Pontryagin□ Principle for Optimal Control Problems Governed by Semilinear Elliptic Equations **1994**, 97-114		3
24	A boundary Pontryagin□ principle for the optimal control of state-constrained elliptic systems **1992** , 241-249		3
23	Analysis of control problems of nonmontone semilinear elliptic equations. *ESAIM - Control, Optimisation and Calculus of Variations*, **2020**, 26, 80	1	3
22	Analysis of Optimal Control Problems of Semilinear Elliptic Equations by BV-Functions. *Set-Valued and Variational Analysis*, **2019**, 27, 355-379	1	3
21	Optimal control of quasilinear elliptic equations **1989**, 92-99		2
20	State-constrained semilinear elliptic optimization problems with unrestricted sparse controls. *Mathematical Control and Related Fields*, **2020**, 10, 527-546	1.5	2

19	Optimal Control of the Two-Dimensional Evolutionary Navier--Stokes Equations with Measure Valued Controls. *SIAM Journal on Control and Optimization*, **2021**, 59, 2223-2246	1.9	2
18	Approximation of Sparse Controls in Semilinear Elliptic Equations. *Lecture Notes in Computer Science*, **2012**, 16-27	0.9	1
17	Strong Pontryagin principle for state-constrained control problems governed by parabolic equations **1996**, 193-200		1
16	First and Second Order Conditions for Optimal Control Problems with an L^0 Term in the Cost Functional. *SIAM Journal on Control and Optimization*, **2020**, 58, 3486-3507	1.9	1
15	Sparse optimal control for a semilinear heat equation with mixed control-state constraints regularity of Lagrange multipliers. *ESAIM - Control, Optimisation and Calculus of Variations*, **2021**, 27, 2	1	1
14	Well-posedness of evolutionary Navier-Stokes equations with forces of low regularity on two-dimensional domains. *ESAIM - Control, Optimisation and Calculus of Variations*, **2021**, 27, 61	1	1
13	The Influence of the Tikhonov Term in Optimal Control of Partial Differential Equations. *SEMA SIMAI Springer Series*, **2018**, 73-94	0.2	1
12	Error Estimates for the Numerical Approximation of Boundary Semilinear Elliptic Control Problems. Continuous Piecewise Linear Approximations **2005**, 91-101		1
11	Optimal Control of Semilinear Parabolic Equations with Non-smooth Pointwise-Integral Control Constraints in Time-Space. *Applied Mathematics and Optimization*, **2022**, 85, 1	1.5	1
10	On Optimal Control Problems with Controls Appearing Nonlinearly in an Elliptic State Equation. *SIAM Journal on Control and Optimization*, **2020**, 58, 1961-1983	1.9	0
9	A Review of Numerical Analysis for the Discretization of the Velocity Tracking Problem. *SEMA SIMAI Springer Series*, **2016**, 51-71	0.2	
8	Choosing Lq controls to deal with pointwise state constraints **1992**, 490-499		
7	Analytic singular perturbations of elliptic systems. *Journal of Mathematical Analysis and Applications*, **1987**, 122, 422-426	1.1	
6	Second Order Optimality Conditions for Some Control Problems of Semilinear Elliptic Equations with Integral State Constraints **1999**, 89-97		
5	Recent Advances in the Analysis of State-constrained Elliptic Optimal Control Problems. *International Series of Numerical Mathematics*, **2009**, 57-72	0.4	
4	Second Order Conditions for L2 Local Optimality in PDE Control. *International Federation for Information Processing*, **2013**, 1-12		
3	Measure Control of a Semilinear Parabolic Equation with a Nonlocal Time Delay. *SIAM Journal on Control and Optimization*, **2018**, 56, 4434-4460	1.9	
2	Numerical approximation of control problems of non-monotone and non-coercive semilinear elliptic equations. *Numerische Mathematik*,1	2.2	

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