

Eduardo Casas

List of Publications by Year in descending order

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115
papers

3,540
citations

109137

35
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149479

56
g-index

118
all docs

118
docs citations

118
times ranked

627
citing authors

#	ARTICLE	IF	CITATIONS
1	Control of an Elliptic Problem with Pointwise State Constraints. SIAM Journal on Control and Optimization, 1986, 24, 1309-1318.	1.1	217
2	Pontryagin's Principle for State-Constrained Boundary Control Problems of Semilinear Parabolic Equations. SIAM Journal on Control and Optimization, 1997, 35, 1297-1327.	1.1	214
3	Error Estimates for the Numerical Approximation of a Semilinear Elliptic Control Problem. Computational Optimization and Applications, 2002, 23, 201-229.	0.9	209
4	Boundary Control of Semilinear Elliptic Equations with Pointwise State Constraints. SIAM Journal on Control and Optimization, 1993, 31, 993-1006.	1.1	173
5	Error Estimates for the Numerical Approximation of Dirichlet Boundary Control for Semilinear Elliptic Equations. SIAM Journal on Control and Optimization, 2006, 45, 1586-1611.	1.1	120
6	Error Estimates for the Numerical Approximation of Boundary Semilinear Elliptic Control Problems. Computational Optimization and Applications, 2005, 31, 193-219.	0.9	96
7	Sufficient Second-Order Optimality Conditions for Semilinear Control Problems with Pointwise State Constraints. SIAM Journal on Optimization, 2008, 19, 616-643.	1.2	91
8	Approximation of Elliptic Control Problems in Measure Spaces with Sparse Solutions. SIAM Journal on Control and Optimization, 2012, 50, 1735-1752.	1.1	78
9	Optimality Conditions and Error Analysis of Semilinear Elliptic Control Problems with L^1 Cost Functional. SIAM Journal on Optimization, 2012, 22, 795-820.	1.2	76
10	L^2 estimates for the finite element method for the Dirichlet problem with singular data. Numerische Mathematik, 1985, 47, 627-632.	0.9	74
11	Second Order Optimality Conditions for Semilinear Elliptic Control Problems with Finitely Many State Constraints. SIAM Journal on Control and Optimization, 2002, 40, 1431-1454.	1.1	72
12	Parabolic Control Problems in Measure Spaces with Sparse Solutions. SIAM Journal on Control and Optimization, 2013, 51, 28-63.	1.1	69
13	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.	1.1	67
14	Second-Order Necessary and Sufficient Optimality Conditions for Optimization Problems and Applications to Control Theory. SIAM Journal on Optimization, 2002, 13, 406-431.	1.2	67
15	A Green's formula for quasilinear elliptic operators. Journal of Mathematical Analysis and Applications, 1989, 142, 62-73.	0.5	65
16	Second Order Analysis for Optimal Control Problems: Improving Results Expected From Abstract Theory. SIAM Journal on Optimization, 2012, 22, 261-279.	1.2	63
17	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.	1.1	62
18	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.	0.7	62

#	ARTICLE	IF	CITATIONS
19	Second Order Analysis for Bang-Bang Control Problems of PDEs. SIAM Journal on Control and Optimization, 2012, 50, 2355-2372.	1.1	60
20	Second Order Optimality Conditions and Their Role in PDE Control. Deutsche Mathematiker Vereinigung Jahresbericht, 2015, 117, 3-44.	0.4	55
21	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.	1.1	52
22	Sparse Optimal Control of the Schlägl and FitzHugh–Nagumo Systems. Computational Methods in Applied Mathematics, 2013, 13, 415-442.	0.4	52
23	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.	1.1	51
24	Distributed Control of Systems Governed by a General Class of Quasilinear Elliptic Equations. Journal of Differential Equations, 1993, 104, 20-47.	1.1	50
25	Regularization by Functions of Bounded Variation and Applications to Image Enhancement. Applied Mathematics and Optimization, 1999, 40, 229-257.	0.8	50
26	Error estimates for the numerical approximation of Neumann control problems. Computational Optimization and Applications, 2008, 39, 265-295.	0.9	47
27	Pontryagin's Principle For Local Solutions of Control Problems with Mixed Control-State Constraints. SIAM Journal on Control and Optimization, 2000, 39, 1182-1203.	1.1	46
28	Using piecewise linear functions in the numerical approximation of semilinear elliptic control problems. Advances in Computational Mathematics, 2007, 26, 137-153.	0.8	46
29	Optimal Control of Semilinear Multistate Systems with State Constraints. SIAM Journal on Control and Optimization, 1989, 27, 446-455.	1.1	45
30	Second-Order Necessary Optimality Conditions for Some State-Constrained Control Problems of Semilinear Elliptic Equations. Applied Mathematics and Optimization, 1999, 39, 211-227.	0.8	45
31	Penalization of Dirichlet optimal control problems. ESAIM - Control, Optimisation and Calculus of Variations, 2009, 15, 782-809.	0.7	40
32	Second Order and Stability Analysis for Optimal Sparse Control of the FitzHugh–Nagumo Equation. SIAM Journal on Control and Optimization, 2015, 53, 2168-2202.	1.1	38
33	Some optimal control problems of multistate equations appearing in fluid mechanics. ESAIM: Mathematical Modelling and Numerical Analysis, 1993, 27, 223-247.	0.8	37
34	Optimal control in coefficients of elliptic equations with state constraints. Applied Mathematics and Optimization, 1992, 26, 21-37.	0.8	36
35	Error Estimates for Linear-Quadratic Elliptic Control Problems. IFIP Advances in Information and Communication Technology, 2003, , 89-100.	0.5	36
36	Optimal control of semilinear elliptic equations with pointwise constraints on the gradient of the state. Applied Mathematics and Optimization, 1993, 27, 35-56.	0.8	35

#	ARTICLE	IF	CITATIONS
37	Approximation of sparse controls in semilinear equations by piecewise linear functions. <i>Numerische Mathematik</i> , 2012, 122, 645-669.	0.9	34
38	Optimal Control of Semilinear Elliptic Equations in Measure Spaces. <i>SIAM Journal on Control and Optimization</i> , 2014, 52, 339-364.	1.1	34
39	New regularity results and improved error estimates for optimal control problems with state constraints. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2014, 20, 803-822.	0.7	33
40	Sparse initial data identification for parabolic PDE and its finite element approximations. <i>Mathematical Control and Related Fields</i> , 2015, 5, 377-399.	0.6	31
41	Un principe de Pontryagine pour le contrÃle des systÃmes semilinÃ©aires elliptiques. <i>Journal of Differential Equations</i> , 1991, 90, 288-303.	1.1	30
42	Analysis of Spatio-Temporally Sparse Optimal Control Problems of Semilinear Parabolic Equations. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2017, 23, 263-295.	0.7	30
43	Spike controls for elliptic and parabolic PDEs. <i>Systems and Control Letters</i> , 2013, 62, 311-318.	1.3	27
44	A general theorem on error estimates with application to a quasilinear elliptic optimal control problem. <i>Computational Optimization and Applications</i> , 2012, 53, 173-206.	0.9	26
45	Parabolic control problems in space-time measure spaces. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2016, 22, 355-370.	0.7	24
46	Sufficient Second-Order Conditions for Bang-Bang Control Problems. <i>SIAM Journal on Control and Optimization</i> , 2017, 55, 3066-3090.	1.1	24
47	Second-Order Optimality Conditions for Weak and Strong Local Solutions of Parabolic Optimal Control Problems. <i>Vietnam Journal of Mathematics</i> , 2016, 44, 181-202.	0.4	21
48	A Discontinuous Galerkin Time-Stepping Scheme for the Velocity Tracking Problem. <i>SIAM Journal on Numerical Analysis</i> , 2012, 50, 2281-2306.	1.1	20
49	Approximation of Optimal Control Problems in the Coefficient for the Δ -Laplace Equation. I. Convergence Result. <i>SIAM Journal on Control and Optimization</i> , 2016, 54, 1406-1422.	1.1	19
50	A review on sparse solutions in optimal control of partial differential equations. <i>SeMA Journal</i> , 2017, 74, 319-344.	1.0	19
51	Optimal control of quasilinear parabolic equations. <i>Proceedings of the Royal Society of Edinburgh Section A: Mathematics</i> , 1995, 125, 545-565.	0.8	18
52	Analysis of the Velocity Tracking Control Problem for the 3D Evolutionary Navier-Stokes Equations. <i>SIAM Journal on Control and Optimization</i> , 2016, 54, 99-128.	1.1	18
53	Error Estimates for Semilinear Parabolic Control Problems in the Absence of Tikhonov Term. <i>SIAM Journal on Control and Optimization</i> , 2019, 57, 2515-2540.	1.1	18
54	Critical Cones for Sufficient Second Order Conditions in PDE Constrained Optimization. <i>SIAM Journal on Optimization</i> , 2020, 30, 585-603.	1.2	18

#	ARTICLE	IF	CITATIONS
55	Recent advances in the analysis of pointwise state-constrained elliptic optimal control problems. ESAIM - Control, Optimisation and Calculus of Variations, 2010, 16, 581-600.	0.7	17
56	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.	1.1	16
57	Dealing with Integral State Constraints in Boundary Control Problems of Quasilinear Elliptic Equations. SIAM Journal on Control and Optimization, 1995, 33, 568-589.	1.1	15
58	4. An Optimal Control Problem Governed by the Evolution Navier-Stokes Equations. , 1998, , 79-95.		15
59	Pontryagin's principle for the control of parabolic equations with gradient state constraints. Nonlinear Analysis: Theory, Methods & Applications, 2001, 46, 933-956.	0.6	15
60	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.	0.9	15
61	Stabilization by Sparse Controls for a Class of Semilinear Parabolic Equations. SIAM Journal on Control and Optimization, 2017, 55, 512-532.	1.1	15
62	Approximation of Boundary Control Problems on Curved Domains. SIAM Journal on Control and Optimization, 2010, 48, 3746-3780.	1.1	14
63	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.	0.7	14
64	Finite element approximation of sparse parabolic control problems. Mathematical Control and Related Fields, 2017, 7, 393-417.	0.6	14
65	Analysis and optimal control of some quasilinear parabolic equations. Mathematical Control and Related Fields, 2018, 8, 607-623.	0.6	14
66	Optimal Control of Semilinear Parabolic Equations by BV-Functions. SIAM Journal on Control and Optimization, 2017, 55, 1752-1788.	1.1	13
67	The Stability in $W_{s,p}(\hat{I}^n)$ Spaces of L_2 -Projections on Some Convex Sets. Numerical Functional Analysis and Optimization, 2006, 27, 117-137.	0.6	12
68	Optimal control of a class of reaction-diffusion systems. Computational Optimization and Applications, 2018, 70, 677-707.	0.9	12
69	Improved approximation rates for a parabolic control problem with an objective promoting directional sparsity. Computational Optimization and Applications, 2018, 70, 239-266.	0.9	12
70	Second-Order Analysis and Numerical Approximation for Bang-Bang Bilinear Control Problems. SIAM Journal on Control and Optimization, 2018, 56, 4203-4227.	1.1	12
71	Optimal Control of Partial Differential Equations. SEMA SIMAI Springer Series, 2017, , 3-59.	0.4	11
72	Optimality Conditions for Some Control Problems of Turbulent Flows. The IMA Volumes in Mathematics and Its Applications, 1995, , 127-147.	0.5	11

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73	Error estimates for the numerical approximation of a quasilinear Neumann problem under minimal regularity of the data. <i>Numerische Mathematik</i> , 2011, 117, 115-145.	0.9	9
74	Necessary and sufficient optimality conditions for elliptic control problems with finitely many pointwise state constraints. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2008, 14, 575-589.	0.7	8
75	Error estimates for the discretization of the velocity tracking problem. <i>Numerische Mathematik</i> , 2015, 130, 615-643.	0.9	8
76	Optimal Control of Semilinear Parabolic Equations with Non-smooth Pointwise-Integral Control Constraints in Time-Space. <i>Applied Mathematics and Optimization</i> , 2022, 85, 1.	0.8	8
77	A Paradox in the Approximation of Dirichlet Control Problems in Curved Domains.. <i>SIAM Journal on Control and Optimization</i> , 2011, 49, 1998-2007.	1.1	7
78	Numerical approximation of elliptic control problems with finitely many pointwise constraints. <i>Computational Optimization and Applications</i> , 2012, 51, 1319-1343.	0.9	7
79	Using sparse control methods to identify sources in linear diffusion-convection equations. <i>Inverse Problems</i> , 2019, 35, 114002.	1.0	7
80	Optimal Control of the Two-Dimensional Stationary Navier--Stokes Equations with Measure Valued Controls. <i>SIAM Journal on Control and Optimization</i> , 2019, 57, 1328-1354.	1.1	7
81	Optimal Control of the Two-Dimensional Evolutionary Navier--Stokes Equations with Measure Valued Controls. <i>SIAM Journal on Control and Optimization</i> , 2021, 59, 2223-2246.	1.1	7
82	State Error Estimates for the Numerical Approximation of Sparse Distributed Control Problems in the Absence of Tikhonov Regularization. <i>Vietnam Journal of Mathematics</i> , 2021, 49, 713-738.	0.4	7
83	Error estimates for the approximation of the velocity tracking problem with Bang-Bang controls. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2017, 23, 1267-1291.	0.7	6
84	Numerical analysis of quasilinear parabolic equations under low regularity assumptions. <i>Numerische Mathematik</i> , 2019, 143, 749-780.	0.9	6
85	Pontryagin's Principle for Optimal Control Problems Governed by Semilinear Elliptic Equations. , 1994, , 97-114.		6
86	A boundary Pontryagin's principle for the optimal control of state-constrained elliptic systems. , 1992, , 241-249.		6
87	Infinite Horizon Optimal Control Problems for a Class of Semilinear Parabolic Equations. <i>SIAM Journal on Control and Optimization</i> , 2022, 60, 2070-2094.	1.1	5
88	State-constrained control problems of quasilinear elliptic equations. , 1991, , 11-25.		4
89	On Optimal Control Problems with Controls Appearing Nonlinearly in an Elliptic State Equation. <i>SIAM Journal on Control and Optimization</i> , 2020, 58, 1961-1983.	1.1	4
90	First and Second Order Conditions for Optimal Control Problems with an L^0 Term in the Cost Functional. <i>SIAM Journal on Control and Optimization</i> , 2020, 58, 3486-3507.	1.1	4

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91	Analysis of control problems of nonmonotone semilinear elliptic equations. ESAIM - Control, Optimisation and Calculus of Variations, 2020, 26, 80.	0.7	4
92	Fractional systems and optimization. Optimization, 2014, 63, 1153-1156.	1.0	3
93	Analysis of Optimal Control Problems of Semilinear Elliptic Equations by BV-Functions. Set-Valued and Variational Analysis, 2019, 27, 355-379.	0.5	3
94	State-constrained semilinear elliptic optimization problems with unrestricted sparse controls. Mathematical Control and Related Fields, 2020, 10, 527-546.	0.6	3
95	Optimal control of quasilinear elliptic equations. , 1989, , 92-99.		2
96	The Influence of the Tikhonov Term in Optimal Control of Partial Differential Equations. SEMA SIMAI Springer Series, 2018, , 73-94.	0.4	2
97	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.	0.7	2
98	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.	0.7	2
99	Optimal control of PDEs and FE-approximation. Handbook of Numerical Analysis, 2022, , 115-163.	0.9	2
100	Stability for Semilinear Parabolic Optimal Control Problems with Respect to Initial Data. Applied Mathematics and Optimization, 2022, 86, .	0.8	2
101	Error Estimates in the Approximation of Boundary Control Problems on Curved Domains. , 2009, , .		1
102	Measure Control of a Semilinear Parabolic Equation with a Nonlocal Time Delay. SIAM Journal on Control and Optimization, 2018, 56, 4434-4460.	1.1	1
103	Numerical approximation of control problems of non-monotone and non-coercive semilinear elliptic equations. Numerische Mathematik, 2021, 149, 305-340.	0.9	1
104	Error Estimates for the Numerical Approximation of Boundary Semilinear Elliptic Control Problems. Continuous Piecewise Linear Approximations. , 2005, , 91-101.		1
105	Approximation of Sparse Controls in Semilinear Elliptic Equations. Lecture Notes in Computer Science, 2012, , 16-27.	1.0	1
106	Error estimates for the numerical approximation of optimal control problems with nonsmooth pointwise-integral control constraints. IMA Journal of Numerical Analysis, 0, , .	1.5	1
107	Analytic singular perturbations of elliptic systems. Journal of Mathematical Analysis and Applications, 1987, 122, 422-426.	0.5	0
108	Choosing L^q controls to deal with pointwise state constraints. , 1992, , 490-499.		0

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109	Symposium on Optimal Control of Partial Differential Equations. , 2009, , .		0
110	Numerical Approximation of Elliptic Control Problems with Finitely Many Pointwise Constraints. , 2009, , .		0
111	Approximation of boundary control problems on curved domains. , 2010, , .		0
112	A Review of Numerical Analysis for the Discretization of the Velocity Tracking Problem. SEMA SIMAI Springer Series, 2016, , 51-71.	0.4	0
113	Recent Advances in the Analysis of State-constrained Elliptic Optimal Control Problems. International Series of Numerical Mathematics, 2009, , 57-72.	1.0	0
114	Second Order Conditions for L 2 Local Optimality in PDE Control. International Federation for Information Processing, 2013, , 1-12.	0.4	0
115	Second Order Optimality Conditions for Some Control Problems of Semilinear Elliptic Equations with Integral State Constraints. , 1999, , 89-97.		0