

Günter R Leugering

List of Publications by Year in descending order

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143
papers

2,793
citations

186209

28
h-index

223716

46
g-index

145
all docs

145
docs citations

145
times ranked

1331
citing authors

#	ARTICLE	IF	CITATIONS
19	Modeling, Simulation and Optimization of Process Chains. , 2020, , 549-578.		0
20	Partial Differential Equations on Metric Graphs: A Survey of Results on Optimization, Control, and Stabilizability Problems with Special Focus on Shape and Topological Sensitivity Problems. Industrial and Applied Mathematics, 2020, , 77-115.	0.3	2
21	1-d Wave Equations Coupled via Viscoelastic Springs and Masses: Boundary Controllability of a Quasilinear and Exponential Stabilizability of a Linear Model. Springer INdAM Series, 2019, , 139-156.	0.4	1
22	Existence and uniqueness results for a nonlinear Caputo fractional boundary value problem on a star graph. Journal of Mathematical Analysis and Applications, 2019, 477, 1243-1264.	0.5	43
23	Exact boundary controllability and its applications for a coupled system of quasilinear wave equations with dynamical boundary conditions. Nonlinear Analysis: Real World Applications, 2019, 49, 71-89.	0.9	2
24	Exact boundary controllability of nodal profile for Saint-Venant system on a network with loops. Journal Des Mathematiques Pures Et Appliquees, 2019, 129, 34-60.	0.8	5
25	MIP-based instantaneous control of mixed-integer PDE-constrained gas transport problems. Computational Optimization and Applications, 2018, 70, 267-294.	0.9	34
26	Towards simulation based mixed-integer optimization with differential equations. Networks, 2018, 72, 60-83.	1.6	16
27	Simulation and structural optimization of 3d Timoshenko beam networks based on fully analytic network solutions. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 2409-2431.	0.8	5
28	Analysis of a system of nonlocal balance laws with weighted work in progress. Journal of Hyperbolic Differential Equations, 2018, 15, 375-406.	0.3	12
29	Exact boundary controllability on a tree-like network of nonlinear planar Timoshenko beams. Chinese Annals of Mathematics Series B, 2017, 38, 711-740.	0.2	7
30	Interaction of light with hematite hierarchical structures: Experiments and simulations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 189, 369-382.	1.1	6
31	Exact boundary controllability for 1-d quasilinear wave equations with dynamical boundary conditions. Mathematical Methods in the Applied Sciences, 2017, 40, 3808-3820.	1.2	5
32	Control and Stabilization of Degenerate Wave Equations. SIAM Journal on Control and Optimization, 2017, 55, 2052-2087.	1.1	32
33	Challenges in Optimal Control Problems for Gas and Fluid Flow in Networks of Pipes and Canals: From Modeling to Industrial Applications. Industrial and Applied Mathematics, 2017, , 77-122.	0.3	30
34	Neumann boundary feedback stabilization for a nonlinear wave equation: A strict H^2 -lyapunov function. Mathematical Control and Related Fields, 2017, 7, 419-448.	0.6	16
35	Model-Based Design of Biochemical Microreactors. Frontiers in Bioengineering and Biotechnology, 2016, 4, 13.	2.0	2
36	A Shape-Topological Control Problem for Nonlinear Crack-Defect Interaction: The Antiplane Variational Model. SIAM Journal on Control and Optimization, 2016, 54, 1329-1351.	1.1	40

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37	Consistent treatment of viscoelastic effects at junctions in one-dimensional blood flow models. <i>Journal of Computational Physics</i> , 2016, 314, 167-193.	1.9	26
38	On the inverse problem of the two-velocity tree-like graph. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2015, 95, 1490-1500.	0.9	12
39	Optimal and approximate boundary controls of an elastic body with quasistatic evolution of damage. <i>Mathematical Methods in the Applied Sciences</i> , 2015, 38, 2739-2760.	1.2	5
40	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions I. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2015, 34, 85-108.	0.8	3
41	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions II. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2015, 34, 199-219.	0.8	3
42	Shape Optimization in Electromagnetic Applications. <i>International Series of Numerical Mathematics</i> , 2015, , 251-269.	1.0	10
43	The Eshelby Theorem and its Variants for Piezoelectric Media. <i>Archive for Rational Mechanics and Analysis</i> , 2015, 215, 707-739.	1.1	3
44	On Timoshenko thin elastic inclusions inside elastic bodies. <i>Mathematics and Mechanics of Solids</i> , 2015, 20, 495-511.	1.5	26
45	FIMOR: An efficient simulation for ZnO quantum dot ripening applied to the optimization of nanoparticle synthesis. <i>Chemical Engineering Journal</i> , 2015, 260, 706-715.	6.6	26
46	Unified Design Strategies for Particulate Products. <i>Advances in Chemical Engineering</i> , 2015, , 1-81.	0.5	22
47	Control of crack propagation by shape-topological optimization. <i>Discrete and Continuous Dynamical Systems</i> , 2015, 35, 2625-2657.	0.5	24
48	Stationary states in gas networks. <i>Networks and Heterogeneous Media</i> , 2015, 10, 295-320.	0.5	31
49	Analysis of a system of nonlocal conservation laws for multi-commodity flow on networks. <i>Networks and Heterogeneous Media</i> , 2015, 10, 749-785.	0.5	27
50	On the Existence of Weak Optimal Controls in the Coefficients for a Degenerate Anisotropic p-Laplacian. <i>Studies in Systems, Decision and Control</i> , 2015, , 315-337.	0.8	0
51	Timoshenko thin inclusions in an elastic body with possible delamination. <i>Doklady Physics</i> , 2014, 59, 401-404.	0.2	2
52	Modeling, Analysis and Optimization of Particle Growth, Nucleation and Ripening by the Way of Nonlinear Hyperbolic Integro-Partial Differential Equations. <i>International Series of Numerical Mathematics</i> , 2014, , 471-486.	1.0	1
53	Asymptotic analysis of ϵ thin piezoelectric rods. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2014, 94, 529-550.	0.9	1
54	Regularity Theory and Adjoint-Based Optimality Conditions for a Nonlinear Transport Equation with Nonlocal Velocity. <i>SIAM Journal on Control and Optimization</i> , 2014, 52, 2141-2163.	1.1	17

#	ARTICLE	IF	CITATIONS
55	On Existence of Optimal Solutions to Boundary Control Problem for an Elastic Body with Quasistatic Evolution of Damage. <i>Solid Mechanics and Its Applications</i> , 2014, , 265-286.	0.1	1
56	Stabilization of Networked Hyperbolic Systems with Boundary Feedback. <i>International Series of Numerical Mathematics</i> , 2014, , 487-504.	1.0	13
57	Optimal Control of Nonlinear Hyperbolic Conservation Laws with Switching. <i>International Series of Numerical Mathematics</i> , 2014, , 109-131.	1.0	2
58	Shape-Topological Differentiability of Energy Functionals for Unilateral Problems in Domains with Cracks and Applications. <i>Lecture Notes in Computational Science and Engineering</i> , 2014, , 243-284.	0.1	1
59	Delaminated thin elastic inclusions inside elastic bodies. <i>Mathematics and Mechanics of Complex Systems</i> , 2014, 2, 1-21.	0.5	40
60	Shape-topological differentiability of energy functionals in domains with cracks. , 2013, , .		0
61	Material and shape optimization for multi-layered vocal fold models using transient loadings. <i>Journal of the Acoustical Society of America</i> , 2013, 134, 1261-1270.	0.5	2
62	Stabilization of the Gas Flow in Star-Shaped Networks by Feedback Controls with Varying Delay. <i>International Federation for Information Processing</i> , 2013, , 255-265.	0.4	6
63	Matrix-Valued L^1 -Optimal Controls in the Coefficients of Linear Elliptic Problems. <i>Zeitschrift Fur Analysis Und Ihre Anwendung</i> , 2013, 32, 433-456.	0.8	11
64	The Eshelby Theorem and Application to the Optimization of an Elastic Patch. <i>SIAM Journal on Applied Mathematics</i> , 2012, 72, 512-534.	0.8	10
65	Preface of the Guest Editor - Identification, optimization and control for modern technologies. <i>GAMM Mitteilungen</i> , 2012, 35, 108-109.	2.7	0
66	Adaptive refinement based on asymptotic expansions of finite element solutions for node insertion in 1d. <i>GAMM Mitteilungen</i> , 2012, 35, 175-190.	2.7	1
67	Regularized nonlinear scalarization for vector optimization problems with PDE-constraints. <i>GAMM Mitteilungen</i> , 2012, 35, 209-225.	2.7	2
68	Optimal Control of Inclusion and Crack Shapes in Elastic Bodies. <i>Journal of Optimization Theory and Applications</i> , 2012, 155, 54-78.	0.8	16
69	Optimal Design of Brittle Composite Materials: a Nonsmooth Approach. <i>Journal of Optimization Theory and Applications</i> , 2012, 155, 962-985.	0.8	3
70	Feedback stabilization of quasilinear hyperbolic systems with varying delays. , 2012, , .		1
71	A cohesive crack propagation model: Mathematical theory and numerical solution. <i>Communications on Pure and Applied Analysis</i> , 2012, 12, 1705-1729.	0.4	15
72	Asymptotic analysis of 3D thin anisotropic plates with a piezoelectric patch. <i>Mathematical Methods in the Applied Sciences</i> , 2012, 35, 633-658.	1.2	4

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73	On exact controllability of networks of nonlinear elastic strings in 3-dimensional space. Chinese Annals of Mathematics Series B, 2012, 33, 33-60.	0.2	9
74	H 2-stabilization of the Isothermal Euler equations: a Lyapunov function approach. Chinese Annals of Mathematics Series B, 2012, 33, 479-500.	0.2	24
75	Process control strategies for the gas phase synthesis of silicon nanoparticles. Chemical Engineering Science, 2012, 73, 181-194.	1.9	19
76	Optimal Control Problems for Partial Differential Equations on Reticulated Domains. Systems and Control: Foundations and Applications, 2011, , .	0.1	38
77	Gas Flow in Fan-Shaped Networks: Classical Solutions and Feedback Stabilization. SIAM Journal on Control and Optimization, 2011, 49, 2101-2117.	1.1	63
78	Simulation of fracture in heterogeneous elastic materials with cohesive zone models. International Journal of Fracture, 2011, 168, 15-29.	1.1	34
79	Optimal L 1-Control in Coefficients for Dirichlet Elliptic Problems: W-Optimal Solutions. Journal of Optimization Theory and Applications, 2011, 150, 205-232.	0.8	18
80	On the effect of self-penalization of piezoelectric composites in topology optimization. Structural and Multidisciplinary Optimization, 2011, 43, 405-417.	1.7	14
81	Mixed integer linear models for the optimization of dynamical transport networks. Mathematical Methods of Operations Research, 2011, 73, 339-362.	0.4	36
82	On Shape Optimization for an Evolution Coupled System. Applied Mathematics and Optimization, 2011, 64, 441-466.	0.8	7
83	Optimal control of cracks in elastic bodies with thin rigid inclusions. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2011, 91, 125-137.	0.9	32
84	Topological derivatives for networks of elastic strings. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2011, 91, 926-943.	0.9	4
85	Design of Auxetic Structures via Mathematical Optimization. Advanced Materials, 2011, 23, 2650-2654.	11.1	159
86	Painting by Numbers: Nanoparticleâ€Based Colorants in the Postâ€Empirical Age. Advanced Materials, 2011, 23, 2554-2570.	11.1	26
87	Towards optimization of crack resistance of composite materials by adjustment of fiber shapes. Engineering Fracture Mechanics, 2011, 78, 944-960.	2.0	31
88	Special issue on advances in shape and topology optimization: theory, numerics and new applications areas. Optimization Methods and Software, 2011, 26, 511-512.	1.6	0
89	Material parameter computation for multi-layered vocal fold models. Journal of the Acoustical Society of America, 2011, 129, 2168-2180.	0.5	7
90	Optimal L^1 -Control in Coefficients for Dirichlet Elliptic Problems: H^1 -Optimal Solutions. Zeitschrift Fur Analysis Und Ihre Anwendung, 2011, 31, 31-53.	0.8	15

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91	A strict H^1 -Lyapunov function and feedback stabilization for the isothermal Euler equations with friction. Numerical Algebra, Control and Optimization, 2011, 1, 225-244.	1.0	17
92	On the equilibrium of elastic bodies containing thin rigid inclusions. Doklady Physics, 2010, 55, 18-22.	0.2	2
93	An augmented BV setting for feedback switching control. Journal of Systems Science and Complexity, 2010, 23, 456-466.	1.6	10
94	PDE-constrained optimization for advanced materials. GAMM Mitteilungen, 2010, 33, 209-229.	2.7	2
95	On elastic bodies with thin rigid inclusions and cracks. Mathematical Methods in the Applied Sciences, 2010, 33, n/a-n/a.	1.2	14
96	Shape sensitivity analysis of a quasi-electrostatic piezoelectric system in multilayered media. Mathematical Methods in the Applied Sciences, 2010, 33, 2118-2131.	1.2	8
97	Interfacial energy estimation in a precipitation reaction using the flatness based control of the moment trajectories. Chemical Engineering Science, 2010, 65, 2183-2189.	1.9	6
98	On an inverse problem for tree-like networks of elastic strings. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2010, 90, 136-150.	0.9	33
99	Multidisciplinary Free Material Optimization. SIAM Journal on Applied Mathematics, 2010, 70, 2709-2728.	0.8	49
100	Classical solutions and feedback stabilization for the gas flow in a sequence of pipes. Networks and Heterogeneous Media, 2010, 5, 691-709.	0.5	66
101	Topology and Dynamic Networks: Optimization with Application in Future Technologies. , 2010, , 263-276.		0
102	Homogenization of constrained optimal control problems for one-dimensional elliptic equations on periodic graphs. ESAIM - Control, Optimisation and Calculus of Variations, 2009, 15, 471-498.	0.7	4
103	Modeling and Analysis of Modal Switching in Networked Transport Systems. Applied Mathematics and Optimization, 2009, 59, 275-292.	0.8	57
104	Optimal distributed control of the wave equation subject to state constraints. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2009, 89, 420-444.	0.9	19
105	Global boundary controllability of the Saint-Venant system for sloped canals with friction. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2009, 26, 257-270.	0.7	35
106	A Sequential Convex Semidefinite Programming Algorithm with an Application to Multiple-Load Free Material Optimization. SIAM Journal on Optimization, 2009, 20, 130-155.	1.2	31
107	Free Material Optimization with Fundamental Eigenfrequency Constraints. SIAM Journal on Optimization, 2009, 20, 524-547.	1.2	17
108	Topology optimization of a piezoelectric-mechanical actuator with single- and multiple-frequency excitation. International Journal of Applied Electromagnetics and Mechanics, 2009, 30, 201-221.	0.3	28

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109	Optimal Boundary Control of Convection-Reaction Transport Systems with Binary Control Functions. Lecture Notes in Computer Science, 2009, , 209-222.	1.0	6
110	Free Material Optimization for Plates and Shells. IFIP Advances in Information and Communication Technology, 2009, , 239-250.	0.5	2
111	Shape optimization for the Helmholtz equation. Proceedings in Applied Mathematics and Mechanics, 2008, 8, 10705-10706.	0.2	2
112	Registration of PE segment contour deformations in digital high-speed videos. Medical Image Analysis, 2008, 12, 318-334.	7.0	6
113	L^{∞} -Norm minimal control of the wave equation: on the weakness of the bang-bang principle. ESAIM - Control, Optimisation and Calculus of Variations, 2008, 14, 254-283.	0.7	32
114	Unilateral Contact Problems for two Perpendicular Elastic Structures. Zeitschrift Fur Analysis Und Ihre Anwendung, 2008, 27, 157-177.	0.8	1
115	Domain Decomposition of Constrained Optimal Control Problems for 2D Elliptic System on Networked Domains: Convergence and A Posteriori Error Estimates. Lecture Notes in Computational Science and Engineering, 2008, , 119-130.	0.1	0
116	Repetitive processes modelling of gas transport networks. , 2007, , .		3
117	Asymptotic Analysis of State Constrained Semilinear Optimal Control Problems. Journal of Optimization Theory and Applications, 2007, 135, 301-321.	0.8	4
118	Optimal Control of Coupled Systems of PDE. Oberwolfach Reports, 2006, 2, 995-1072.	0.0	0
119	Conservation law constrained optimization based upon Front-Tracking. ESAIM: Mathematical Modelling and Numerical Analysis, 2006, 40, 939-960.	0.8	10
120	An overview of modelling challenges for a nonlinear plate-beam model. Nonlinear Analysis: Theory, Methods & Applications, 2005, 63, e1529-e1539.	0.6	2
121	Optimal Control for Traffic Flow Networks. Journal of Optimization Theory and Applications, 2005, 126, 589-616.	0.8	107
122	L_p -Optimal Boundary Control for the Wave Equation. SIAM Journal on Control and Optimization, 2005, 44, 49-74.	1.1	39
123	Global controllability between steady supercritical flows in channel networks. Mathematical Methods in the Applied Sciences, 2004, 27, 781-802.	1.2	43
124	Domain Decomposition Methods in Optimal Control of Partial Differential Equations. , 2004, , .		36
125	Time-domain decomposition of optimal control problems for the wave equation. Systems and Control Letters, 2003, 48, 229-242.	1.3	32
126	Global boundary controllability of the deÂSt.ÂVenant equations between steady states. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2003, 20, 1-11.	0.7	78

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127	Time Domain Decomposition in Final Value Optimal Control of the Maxwell System. ESAIM - Control, Optimisation and Calculus of Variations, 2002, 8, 775-799.	0.7	5
128	On the Modelling and Stabilization of Flows in Networks of Open Canals. SIAM Journal on Control and Optimization, 2002, 41, 164-180.	1.1	137
129	S-Homogenization of Optimal Control Problems in Banach Spaces. Mathematische Nachrichten, 2002, 233-234, 141-169.	0.4	9
130	A Posteriori Error Estimates in Time-Domain Decomposition of Final Value Optimal Control of the Acoustic Wave Equation. Applied Mathematics and Optimization, 2002, 46, 263-290.	0.8	1
131	Regularization of L^{∞} -Optimal Control Problems for Distributed Parameter Systems. Computational Optimization and Applications, 2002, 22, 151-192.	0.9	9
132	Instantaneous Control of Vibrating String Networks. , 2001, , 229-249.		5
133	Modelling, Stabilization, and Control of Flow in Networks of Open Channels. , 2001, , 251-270.		25
134	On the semi-discretization of optimal control problems for networks of elastic strings: global optimality systems and domain decomposition. Journal of Computational and Applied Mathematics, 2000, 120, 133-157.	1.1	16
135	Domain Decomposition of Optimal Control Problems for Dynamic Networks of Elastic Strings. Computational Optimization and Applications, 2000, 16, 5-27.	0.9	17
136	On exact controllability of generic trees. ESAIM: Proceedings and Surveys, 2000, 8, 95-105.	0.4	17
137	Dynamic Domain Decomposition of Optimal Control Problems for Networks of Strings and Timoshenko Beams. SIAM Journal on Control and Optimization, 1999, 37, 1649-1675.	1.1	27
138	On the analysis and control of hyperbolic systems associated with vibrating networks. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 1994, 124, 77-104.	0.8	26
139	Modeling, Analysis and Control of Dynamic Elastic Multi-Link Structures. Systems and Control: Foundations and Applications, 1994, , .	0.1	252
140	Uniform stabilization of a nonlinear beam by nonlinear boundary feedback. Journal of Differential Equations, 1991, 91, 355-388.	1.1	105
141	On boundary feedback stabilisability of a viscoelastic beam. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 1990, 114, 57-69.	0.8	12
142	Control and stabilization of a flexible robot arm. Dynamical Systems, 1990, 5, 37-46.	0.7	9
143	Boundary control of a vibrating plate with internal damping. Mathematical Methods in the Applied Sciences, 1989, 11, 573-586.	1.2	8