GÃ¼nter R Leugering

List of Publications by Year
in descending order

143	2,793	186209	223716
papers	citations	28	46
		h-index	g-index

145	145	145	1331
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modeling, Analysis and Control of Dynamic Elastic Multi-Link Structures. Systems and Control: Foundations and Applications, 1994, , .	0.1	252
2	Design of Auxetic Structures via Mathematical Optimization. Advanced Materials, 2011, 23, 2650-2654.	11.1	159
3	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
4	Optimal Control for Traffic Flow Networks. Journal of Optimization Theory and Applications, 2005, 126, 589-616.	0.8	107
5	Uniform stabilization of a nonlinear beam by nonlinear boundary feedback. Journal of Differential Equations, 1991, 91, 355-388.	1.1	105
6	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
7	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
8	Gas Flow in Fan-Shaped Networks: Classical Solutions and Feedback Stabilization. SIAM Journal on Control and Optimization, 2011, 49, 2101-2117.	1.1	63
9	Modeling and Analysis of Modal Switching inÂNetworked Transport Systems. Applied Mathematics and Optimization, 2009, 59, 275-292.	0.8	57
10	Multidisciplinary Free Material Optimization. SIAM Journal on Applied Mathematics, 2010, 70, 2709-2728.	0.8	49
11	Global controllability between steady supercritical flows in channel networks. Mathematical Methods in the Applied Sciences, 2004, 27, 781-802.	1.2	43
12	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
13	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
14	Delaminated thin elastic inclusions inside elastic bodies. Mathematics and Mechanics of Complex Systems, 2014, 2, 1-21.	0.5	40
15	Lp-Optimal Boundary Control for the Wave Equation. SIAM Journal on Control and Optimization, 2005, 44, 49-74.	1.1	39
16	Optimal Control Problems for Partial Differential Equations on Reticulated Domains. Systems and Control: Foundations and Applications, 2011, , .	0.1	38
17	Mixed integer linear models for the optimization of dynamical transport networks. Mathematical Methods of Operations Research, 2011, 73, 339-362.	0.4	36
18	Domain Decomposition Methods in Optimal Control of Partial Differential Equations. , 2004, , .		36

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19	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
20	Simulation of fracture in heterogeneous elastic materials with cohesive zone models. International Journal of Fracture, 2011, 168, 15-29.	1.1	34
21	MIP-based instantaneous control of mixed-integer PDE-constrained gas transport problems. Computational Optimization and Applications, 2018, 70, 267-294.	0.9	34
22	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
23	Time-domain decomposition of optimal control problems for the wave equation. Systems and Control Letters, 2003, 48, 229-242.	1.3	32
24	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
25	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
26	Control and Stabilization of Degenerate Wave Equations. SIAM Journal on Control and Optimization, 2017, 55, 2052-2087.	1.1	32
27	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
28	Towards optimization of crack resistance of composite materials by adjustment of fiber shapes. Engineering Fracture Mechanics, 2011, 78, 944-960.	2.0	31
29	Stationary states in gas networks. Networks and Heterogeneous Media, 2015, 10, 295-320.	0.5	31
30	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
31	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
32	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
33	Analysis of a system of nonlocal conservation laws for multi-commodity flow on networks. Networks and Heterogeneous Media, 2015, 10, 749-785.	0.5	27
34	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
35	Painting by Numbers: Nanoparticle–Based Colorants in the Post–Empirical Age. Advanced Materials, 2011, 23, 2554-2570.	11.1	26
36	On Timoshenko thin elastic inclusions inside elastic bodies. Mathematics and Mechanics of Solids, 2015, 20, 495-511.	1.5	26

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37	FIMOR: An efficient simulation for ZnO quantum dot ripening applied to the optimization of nanoparticle synthesis. Chemical Engineering Journal, 2015, 260, 706-715.	6.6	26
38	Consistent treatment of viscoelastic effects at junctions in one-dimensional blood flow models. Journal of Computational Physics, 2016, 314, 167-193.	1.9	26
39	Fractional optimal control problems on a star graph: Optimality system and numerical solution. Mathematical Control and Related Fields, 2021, 11, 189-209.	0.6	26
40	Modelling, Stabilization, and Control of Flow in Networks of Open Channels. , 2001, , 251-270.		25
41	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
42	Control of crack propagation by shape-topological optimization. Discrete and Continuous Dynamical Systems, 2015, 35, 2625-2657.	0.5	24
43	Unified Design Strategies for Particulate Products. Advances in Chemical Engineering, 2015, , 1-81.	0.5	22
44	Optimal Control Problems Driven by Time-Fractional Diffusion Equations on Metric Graphs: Optimality System and Finite Difference Approximation. SIAM Journal on Control and Optimization, 2021, 59, 4216-4242.	1.1	20
45	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
46	Process control strategies for the gas phase synthesis of silicon nanoparticles. Chemical Engineering Science, 2012, 73, 181-194.	1.9	19
47	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
48	An approach based on Haar wavelet for the approximation of fractional calculus with application to initial and boundary value problems. Mathematical Methods in the Applied Sciences, 2021, 44, 3195-3213.	1.2	18
49	Domain Decomposition of Optimal Control Problems for Dynamic Networks of Elastic Strings. Computational Optimization and Applications, 2000, 16, 5-27.	0.9	17
50	On exact controllability of generic trees. ESAIM: Proceedings and Surveys, 2000, 8, 95-105.	0.4	17
51	Free Material Optimization with Fundamental Eigenfrequency Constraints. SIAM Journal on Optimization, 2009, 20, 524-547.	1.2	17
52	Regularity Theory and Adjoint-Based Optimality Conditions for a Nonlinear Transport Equation with Nonlocal Velocity. SIAM Journal on Control and Optimization, 2014, 52, 2141-2163.	1.1	17
53	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
54	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

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55	Optimal Control of Inclusion and Crack Shapes in Elastic Bodies. Journal of Optimization Theory and Applications, 2012, 155, 54-78.	0.8	16
56	Towards simulation based mixed-integer optimization with differential equations. Networks, 2018, 72, 60-83.	1.6	16
57	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
58	A cohesive crack propagation model: Mathematical theory and numerical solution. Communications on Pure and Applied Analysis, 2012, 12, 1705-1729.	0.4	15
59	Optimal L^1-Control in Coefficients for Dirichlet Elliptic Problems: H-Optimal Solutions. Zeitschrift Fur Analysis Und Ihre Anwendung, 2011, 31, 31-53.	0.8	15
60	A fast adaptive spectral graph wavelet method for the viscous Burgers' equation on a star-shaped connected graph. Mathematical Methods in the Applied Sciences, 2020, 43, 7595-7614.	1.2	15
61	On elastic bodies with thin rigid inclusions and cracks. Mathematical Methods in the Applied Sciences, 2010, 33, n/a-n/a.	1.2	14
62	On the effect of self-penalization of piezoelectric composites in topology optimization. Structural and Multidisciplinary Optimization, 2011, 43, 405-417.	1.7	14
63	Optimal control of a fractional Sturm–Liouville problem on a star graph. Optimization, 2021, 70, 659-687.	1.0	13
64	Stabilization of Networked Hyperbolic Systems with Boundary Feedback. International Series of Numerical Mathematics, 2014, , 487-504.	1.0	13
65	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
66	On the inverse problem of the two-velocity tree-like graph. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2015, 95, 1490-1500.	0.9	12
67	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
68	Existence results and stability analysis for a nonlinear fractional boundary value problem on a circular ring with an attached edge : A study of fractional calculus on metric graph. Networks and Heterogeneous Media, 2021, 16, 155.	0.5	11
69	Matrix-Valued L^1-Optimal Controls in the Coefficients of Linear Elliptic Problems. Zeitschrift Fur Analysis Und Ihre Anwendung, 2013, 32, 433-456.	0.8	11
70	An augmented BV setting for feedback switching control. Journal of Systems Science and Complexity, 2010, 23, 456-466.	1.6	10
71	The Eshelby Theorem and Application to the Optimization of an Elastic Patch. SIAM Journal on Applied Mathematics, 2012, 72, 512-534.	0.8	10
72	Shape Optimization in Electromagnetic Applications. International Series of Numerical Mathematics, 2015, , 251-269.	1.0	10

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73	Conservation law constrained optimization based upon Front-Tracking. ESAIM: Mathematical Modelling and Numerical Analysis, 2006, 40, 939-960.	0.8	10
74	Control and stabilization of a flexible robot arm. Dynamical Systems, 1990, 5, 37-46.	0.7	9
75	S-Homogenization of Optimal Control Problems in Banach Spaces. Mathematische Nachrichten, 2002, 233-234, 141-169.	0.4	9
76	Regularization of L $\hat{a}ˇž$-Optimal Control Problems for Distributed Parameter Systems. Computational Optimization and Applications, 2002, 22, 151-192.	0.9	9
77	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
78	Boundary control of a vibrating plate with internal damping. Mathematical Methods in the Applied Sciences, 1989, 11, 573-586.	1.2	8
79	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
80	On Shape Optimization for an Evolution Coupled System. Applied Mathematics and Optimization, 2011, 64, 441-466.	0.8	7
81	Material parameter computation for multi-layered vocal fold models. Journal of the Acoustical Society of America, 2011, 129, 2168-2180.	0.5	7
82	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
83	Model€Based Optimization of Ripening Processes with Feedback Modules. Chemical Engineering and Technology, 2020, 43, 896-903.	0.9	7
84	An adaptive spectral graph wavelet method for PDEs on networks. Advances in Computational Mathematics, 2021, 47, 1.	0.8	7
85	Singularly perturbed reaction€"diffusion problems on a k€star graph. Mathematical Methods in the Applied Sciences, 2021, 44, 14874-14891.	1.2	7
86	Registration of PE segment contour deformations in digital high-speed videos. Medical Image Analysis, 2008, 12, 318-334.	7.0	6
87	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
88	Interaction of light with hematite hierarchical structures: Experiments and simulations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 189, 369-382.	1.1	6
89	Optimal Boundary Control of Convention-Reaction Transport Systems with Binary Control Functions. Lecture Notes in Computer Science, 2009, , 209-222.	1.0	6
90	Stabilization of the Gas Flow in Star-Shaped Networks by Feedback Controls with Varying Delay. International Federation for Information Processing, 2013, , 255-265.	0.4	6

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91	Optimal control problems of parabolic fractional Sturm-Liouville equations in a star graph. Mathematical Control and Related Fields, 2023, 13, 771-807.	0.6	6
92	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
93	Optimal and approximate boundary controls of an elastic body with quasistatic evolution of damage. Mathematical Methods in the Applied Sciences, 2015, 38, 2739-2760.	1.2	5
94	Exact boundary controllability for 1â€D quasilinear wave equations with dynamical boundary conditions. Mathematical Methods in the Applied Sciences, 2017, 40, 3808-3820.	1.2	5
95	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
96	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
97	Boundary Feedback Stabilization for the Intrinsic Geometrically Exact Beam Model. SIAM Journal on Control and Optimization, 2020, 58, 3533-3558.	1.1	5
98	On boundary exact controllability of oneâ€dimensional wave equations with weak and strong interior degeneration. Mathematical Methods in the Applied Sciences, 2022, 45, 770-792.	1.2	5
99	Instantaneous Control of Vibrating String Networks. , 2001, , 229-249.		5
100	Time-Domain Decomposition for Optimal Control Problems Governed by Semilinear Hyperbolic Systems. SIAM Journal on Control and Optimization, 2021, 59, 4339-4372.	1.1	5
101	Asymptotic Analysis of State Constrained Semilinear Optimal Control Problems. Journal of Optimization Theory and Applications, 2007, 135, 301-321.	0.8	4
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	Topological derivatives for networks of elastic strings. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2011, 91, 926-943.	0.9	4
104	Asymptotic analysis of 3D thin anisotropic plates with a piezoelectric patch. Mathematical Methods in the Applied Sciences, 2012, 35, 633-658.	1.2	4
105	Optimal Control of a Population Dynamics Model with Missing Birth Rate. SIAM Journal on Control and Optimization, 2020, 58, 1289-1313.	1.1	4
106	Repetitive processes modelling of gas transport networks. , 2007, , .		3
107	Optimal Design of Brittle Composite Materials: a Nonsmooth Approach. Journal of Optimization Theory and Applications, 2012, 155, 962-985.	0.8	3
108	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions I. Zeitschrift Fur Analysis Und Ihre Anwendung, 2015, 34, 85-108.	0.8	3

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109	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions II. Zeitschrift Fur Analysis Und Ihre Anwendung, 2015, 34, 199-219.	0.8	3
110	The Eshelby Theorem and its Variants for Piezoelectric Media. Archive for Rational Mechanics and Analysis, 2015, 215, 707-739.	1.1	3
111	An overview of modelling challenges for a nonlinear plate-beam model. Nonlinear Analysis: Theory, Methods & Applications, 2005, 63, e1529-e1539.	0.6	2
112	Shape optimization for the Helmholtz equation. Proceedings in Applied Mathematics and Mechanics, 2008, 8, 10705-10706.	0.2	2
113	On the equilibrium of elastic bodies containing thin rigid inclusions. Doklady Physics, 2010, 55, 18-22.	0.2	2
114	PDE‐constrained optimization for advanced materials. GAMM Mitteilungen, 2010, 33, 209-229.	2.7	2
115	Regularized nonlinear scalarization for vector optimization problems with PDE‐constraints. GAMM Mitteilungen, 2012, 35, 209-225.	2.7	2
116	Material and shape optimization for multi-layered vocal fold models using transient loadings. Journal of the Acoustical Society of America, 2013, 134, 1261-1270.	0.5	2
117	Timoshenko thin inclusions in an elastic body with possible delamination. Doklady Physics, 2014, 59, 401-404.	0.2	2
118	Model-Based Design of Biochemical Microreactors. Frontiers in Bioengineering and Biotechnology, 2016, 4, 13.	2.0	2
119	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
120	Optimal Control of Nonlinear Hyperbolic Conservation Laws with Switching. International Series of Numerical Mathematics, 2014, , 109-131.	1.0	2
121	Free Material Optimization for Plates and Shells. IFIP Advances in Information and Communication Technology, 2009, , 239-250.	0.5	2
122	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
123	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
124	Adaptive refinement based on asymptotic expansions of finite element solutions for node insertion in 1d. GAMM Mitteilungen, 2012, 35, 175-190.	2.7	1
125	Feedback stabilization of quasilinear hyperbolic systems with varying delays. , 2012, , .		1
126	Modeling, Analysis and Optimization of Particle Growth, Nucleation and Ripening by the Way of Nonlinear Hyperbolic Integro-Partial Differential Equations. International Series of Numerical Mathematics, 2014, , 471-486.	1.0	1

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127	Asymptotic analysis of 3‑D thin piezoelectric rods. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 529-550.	0.9	1
128	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
129	Existence and Uniqueness of Time-Fractional Diffusion Equation on a Metric Star Graph. Communications in Computer and Information Science, 2021, , 25-41.	0.4	1
130	Nodal profile control for networks of geometrically exact beams. Journal Des Mathematiques Pures Et Appliquees, 2021, 155, 111-139.	0.8	1
131	On Existence of Optimal Solutions to Boundary Control Problem for an Elastic Body with Quasistatic Evolution of Damage. Solid Mechanics and Its Applications, 2014, , 265-286.	0.1	1
132	Shape-Topological Differentiability of Energy Functionals for Unilateral Problems in Domains with Cracks and Applications. Lecture Notes in Computational Science and Engineering, 2014, , 243-284.	0.1	1
133	Unilateral Contact Problems for two Perpendicular Elastic Structures. Zeitschrift Fur Analysis Und Ihre Anwendung, 2008, 27, 157-177.	0.8	1
134	Optimal Control of Coupled Systems of PDE. Oberwolfach Reports, 2006, 2, 995-1072.	0.0	0
135	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
136	Preface of the Guest Editor - Identification, optimization and control for modern technologies. GAMM Mitteilungen, 2012, 35, 108-109.	2.7	0
137	Shape-topological differentiability of energy functionals in domains with cracks. , 2013, , .		0
138	Exact Boundary Controllability for the Spatial Vibration of String with Dynamical Boundary Conditions. Chinese Annals of Mathematics Series B, 2020, 41, 325-334.	0.2	0
139	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
140	Topology and Dynamic Networks: Optimization with Application in Future Technologies. , 2010, , 263-276.		0
141	On the Existence of Weak Optimal Controls in the Coefficients for a Degenerate Anisotropic p-Laplacian. Studies in Systems, Decision and Control, 2015, , 315-337.	0.8	0
142	Modeling, Simulation and Optimization of Process Chains. , 2020, , 549-578.		0
143	Optimisation of Region of Attraction Estimates for the Exponential Stabilisation of the Intrinsic Geometrically Exact Beam Model. , 2021, , .		0