Joachim Rudolph

List of Publications by Year
in descending order

126	1,846	304368	315357
papers	citations	22 h-index	38 g-index

129	129	129	866
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Survey on algebraic numerical differentiation: historical developments, parametrization, examples, and applications. International Journal of Systems Science, 2022, 53, 1848-1887.	3.7	11
2	Tracking Control for $$2imes 2$$ Linear Heterodirectional Hyperbolic PDEs that Are Bidirectionally Coupled with Nonlinear ODEs. Advances in Delays and Dynamics, 2022, , 117-142.	0.4	1
3	Trajectory Tracking Control for a Class of 2Ã—2 Hyperbolic PDE-ODE Systems. IFAC-PapersOnLine, 2021, 54, 416-421.	0.5	8
4	Parametrization of algebraic differentiators for disturbance annihilation with an application to the differentiation of quantized signals. IFAC-PapersOnLine, 2021, 54, 335-340.	0.5	3
5	Stabilisierung flacher Systeme in vorgebbarer endlicher Zeit. Automatisierungstechnik, 2021, 69, 585-596.	0.4	2
6	Systematic comparison of numerical differentiators and an application to model-free control. European Journal of Control, 2021, 62, 113-119.	1.6	16
7	Data and computation efficient model-based fault detection for rolling element bearings using numerical differentiation. , 2021, , .		0
8	Gaussâ€™s principle and tracking control of underactuated mechanical systems. IFAC-PapersOnLine, 2021, 54, 365-370.	0.5	0
9	Observer design for 2Ã—2 linear hyperbolic PDEs that are bidirectionally coupled with nonlinear ODEs. , 2021, , .		3
10	A singular perturbation approach to nonlinear observer design with an application to electromagnetic actuators. International Journal of Control, 2020, 93, 2015-2028.	1.2	5
11	Flatness-based Trajectory-tracking Control of Dielectric Elastomer Actuators. IFAC-PapersOnLine, 2020, 53, 8757-8762.	0.5	0
12	Analysis of the parameter estimate error when algebraic differentiators are used in the presence of disturbances. IFAC-PapersOnLine, 2020, 53, 572-577.	0.5	2
13	DualitÄt in der regelungstechnischen Methodenentwicklung. Automatisierungstechnik, 2020, 68, 541-556.	0.4	0
14	A Flatness-Based Approach to the Control of Distributed Parameter Systems Applied to Load Transportation with Heavy Ropes. Studies in Systems, Decision and Control, 2019, , 279-294.	0.8	5
15	Neural Controller for Mobile Multipurpose Caterpillar Robot. , 2019, , .		4
16	Flatness-Based Feed-Forward Control Design for Solenoid Actuators Considering Eddy Currents. IFAC-PapersOnLine, 2019, 52, 567-572.	0.5	1
17	Observer Design for Self-Sensing of Solenoid Actuators With Application to Soft Landing. IEEE Transactions on Control Systems Technology, 2019, 27, 1720-1727.	3.2	16
18	Flatnessâ€based control of a rigid body carried by multiple heavy ropes. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800438.	0.2	1

#	Article	IF	Citations
19	Redundant configuration coordinates and nonholonomic velocity coordinates in analytical mechanics. IFAC-PapersOnLine, 2018, 51, 409-414.	0.5	2
20	Redundante Koordinaten in der Modellbildung fÃ¼r ein schweres Seil. Automatisierungstechnik, 2018, 66, 536-547.	0.4	1
21	Control-oriented modelling and development of a model-based switching algorithm for a digital hydraulic independent metering cylinder drive. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2017, 231, 66-81.	0.7	4
22	Sensorlose Positionsregelung eines hydraulischen Proportional-Wegeventils mittels Signalinjektion. Automatisierungstechnik, 2017, 65, 260-269.	0.4	6
23	Advanced approaches to reduce number of actors in a magnetically-operated wheel-mover of a mobile robot. , 2017, , .		3
24	An Algebraic Approach to the Identification of Linear Systems with Fractional Derivatives. IFAC-PapersOnLine, 2017, 50, 6214-6219.	0.5	9
25	A Novel Observer Approach for Self Sensing of Single-Coil Digital Valves. IFAC-PapersOnLine, 2017, 50, 782-787.	0.5	5
26	Modeling a heavy rope using redundant coordinates. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 795-796.	0.2	2
27	AusgewÃhlte BeitrÃge der GMA-FachausschÃ¼sse 1.30 und 1.40. Automatisierungstechnik, 2017, 65, 527-529.	0.4	0
28	Features of clamping electromagnets using in wheel mobile robots and modeling of their interaction with ferromagnetic plate. , 2017, , .		11
29	Simulation of robot's wheel-mover on ferromagnetic surfaces. , 2017, , .		1
30	AusgewÃhlte BeitrÃge der GMA-FachausschÃ¼sse 1.30 und 1.40. Automatisierungstechnik, 2016, 64, 583-585.	0.4	0
31	Position Observation for Proportional Solenoid Valves by Signal Injection. IFAC-PapersOnLine, 2016, 49, 74-79.	0.5	7
32	Parameter identification, fault detection and localization for an electrical transmission line. , 2016, , .		5
33	An algebraic algorithm for parameter identification in a class of systems described by linear partial differential equations. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 39-42.	0.2	2
34	Stator-flux-linkage-referenced control and online optimization of a doubly-fed induction generator. , 2016, , .		0
35	Beispiele fÃ¼r einen direkten Zugang zu einer globalen, energiebasierten Modellbildung und Regelung von StarrkÃ¶rpersystemen. Automatisierungstechnik, 2016, 64, 96-109.	0.4	6
36	Equations of motion with redundant coordinates for mechanical systems on manifolds. IFAC-PapersOnLine, 2015, 48, 681-682.	0.5	2

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37	Vehicle state estimation for anti-lock control with nonlinear observer. Control Engineering Practice, 2015, 43, 69-84.	3.2	27
38	Fully Actuated Tricopter with Pilot-Supporting Controlâˆ—âˆ—This work is supported in part by the German Research Foundation (DFG) in the framework of project â€œRegelung von Trikoptern beim gemeinsamen Transport von an Seilen aufgehÃangten Lastenâ€•. IFAC-PapersOnLine, 2015, 48, 79-84.	0.5	24
39	Nonlinear observer design for state estimation during antilock braking. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2014, 228, 78-86.	0.7	7
40	Fault-tolerant control based on algebraic derivative estimation applied on a magnetically supported plate. Control Engineering Practice, 2014, 26, 107-115.	3.2	24
41	Feed-Forward Control of an HVDC Power Transmission Network. IEEE Transactions on Control Systems Technology, 2014, 22, 597-606.	3.2	22
42	Control of Linear Delay Systems: An Approach without Explicit Predictions. Advances in Delays and Dynamics, 2014, , 17-30.	0.4	2
43	A Model-Based Control Scheme for Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2013, 60, 5359-5375.	5.2	55
44	Algebraic estimation of impact times: Juggling a ball with a magnetically levitated plate. , 2013, , .		4
45	A Review of the Automation of the Czochralski Crystal Growth Process. Acta Physica Polonica A, 2013, 124, 181-192.	0.2	13
46	Algebraic parameter identification for infinite dimensional fluid transmission line models. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2013, 227, 733-743.	0.7	2
47	Parametrization of algebraic numerical differentiators to achieve desired filter characteristics. , 2013, , .		18
48	Quadrotor tracking control based on a moving frame. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 80-85.	0.4	4
49	Controllability and prediction-free control of coupled transport processes viewed as linear systems with distributed delays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 13-18.	0.4	7
50	Controller Canonical Forms and Flatness Based State Feedback for 1D Hyperbolic Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 792-797.	0.4	19
51	Prediction-free tracking control for systems with incommensurate lumped and distributed delays: Two examples*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 37-42.	0.4	2
52	Algebraic identification of heavy rope parameters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 161-166.	0.4	2
53	Algebraische Methodenzur Parameteridentifikation fÃ¼r das schwere Seil. Automatisierungstechnik, 2012, 60, 514-521.	0.4	1
54	Parameter identification for a heavy rope with internal damping. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 725-726.	0.2	1

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55	Identification of transmission line parameters using algebraic methods. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 727-728.	0.2	0
56	Fault diagnosis on a magnetically supported plate. , 2012, , .		12
57	Invariant feedback control for the kinematic car on the sphere. Systems and Control Letters, 2012, 61, 967-972.	1.3	3
58	Flatness-Based Loss Optimization and Control of a Doubly Fed Induction Generator System. IEEE Transactions on Control Systems Technology, 2011, 19, 1457-1466.	3.2	34
59	Flatness-based feed-forward control of an HVDC power transmission network. , 2011, , .		7
60	Zwei Beispiele fÃ¼r die BerÃ¼cksichtigung von Symmetrien beim Reglerentwurf. Automatisierungstechnik, 2011, 59, 540-551.	0.4	3
61	Controllability properties and prediction-free control of linear systems with incommensurate delays. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 809-810.	0.2	4
62	Flatness-based control of a horizontally moving erected beam with a point mass. Mathematical and Computer Modelling of Dynamical Systems, 2011, 17, 49-69.	1.4	10
63	Set-point invariant control design by integrator backstepping. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1163-1168.	0.4	0
64	Sensorless Control of a Stepper Motor Based on Higher Order Sliding Modes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 777-782.	0.4	3
65	Nonlinear model-based control of the Czochralski process II: Reconstruction of crystal radius and growth rate from the weighing signal. Journal of Crystal Growth, 2010, 312, 1019-1028.	0.7	28
66	Nonlinear model-based control of the Czochralski process I: Motivation, modeling and feedback controller design. Journal of Crystal Growth, 2010, 312, 1005-1018.	0.7	50
67	Invariant tracking control design via integrator backstepping. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 603-604.	0.2	2
68	Flatness based trajectory planning for the shallow water equations. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 617-618.	0.2	3
69	Flatness-based control without prediction: example of a vibrating string. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 629-630.	0.2	5
70	Flachheitsbasierte Trajektorienplanung fÃ¼r semilineare hyperbolische Systeme mit RandeingriffFlatness based Trajectory Planning for Boundary Controlled Semi-linear Hyperbolic Systems. Automatisierungstechnik, 2010, 58, 117-127.	0.4	0
71	Flatness-based trajectory planning for the shallow water equations. , 2010, , .		7
72	Boundary Value Problems and Convolutional Systems over Rings of Ultradistributions. Lecture Notes in Control and Information Sciences, 2010, , 179-188.	0.6	18

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73	A flatness based backstepping controller design with sliding mode for asynchronous machines. , 2009, , .		1
74	Flatness based switching frequency estimation of sliding mode controllers for single-input systems. , 2009, , .		1
75	Flatness based trajectory planning for a semi-linear hyperbolic system of first order p.d.e. modeling a tubular reactor. Proceedings in Applied Mathematics and Mechanics, 2009, 9, 3-6.	0.2	5
76	On Some Nonlinear Current Controllers for Three-Phase Boost Rectifiers. IEEE Transactions on Industrial Electronics, 2009, 56, 360-370.	5.2	97
77	Algebraic Parameter Identification and Asymptotic Estimation of the Load of a Boost Converter. IEEE Transactions on Industrial Electronics, 2008, 55, 3352-3360.	5.2	33
78	An algebraic approach to parameter identification in linear infinite dimensional systems. , 2008, , .		14
79	Motion planning and open loop control design for linear distributed parameter systems with lumped controls. International Journal of Control, 2008, 81, 457-474.	1.2	38
80	Flatness and quasi-static state feedback in non-linear delay systems. International Journal of Control, 2008, 81, 445-456.	1.2	5
81	Flatness based loss optimization for a doubly fed induction generator system. , 2008, , .		2
82	An algebraic parameter identification algorithm and asymptotic observers for estimation of the load of a boost converter. , 2007, , .		6
83	Ein algebraischer Zugang zur Parameteridentifikation in linearen unendlichdimensionalen Systemen (An Algebraic Approach to Parameter Identification in Linear Infinite Dimensional Systems). Automatisierungstechnik, 2007, 55, 457-467.	0.4	6
84	A network approach to the modelling of active magnetic bearings. Mathematical and Computer Modelling of Dynamical Systems, 2007, 13, 455-469.	1.4	3
85	On Differential Flatness, Trajectory Planning, Observers, and Stabilization for DC–DC Converters. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2006, 53, 2000-2010.	0.1	54
86	Trajektorienplanung fÃ¼r die Steuerung gewisser linearer Systeme mit verteilten Parametern (Trajectory Planning for the Control of some Linear Distributed Parameter Systems). Automatisierungstechnik, 2006, 54, 228-239.	0.4	3
87	Auslegung aktiv magnetisch gelagerter Werkzeugmaschinen-Hauptspindeln. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2006, 101, 486-491.	0.2	4
88	Rekursiver Entwurf stabiler Regelkreise durch sukzessive BerÃ¼cksichtigung von Integratoren und quasi-statische RÃ¼ckfÃ¼hrungen (Recursive Design of Stable Control Loops by Integrator Backstepping) Tj ETQq0 0 0 rgBT /Overlock	0.4	14
89	Flachheit: Eine nÃ¼tzliche Eigenschaft auch fÃ¼r Systeme mit Totzeiten (Flatness: A Useful Property also) Tj ETQq1 1 0.784314 rgBT /(	0.4	13
90	Flatness based control of three-phase boost rectifiers. , 2005, , .		22

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91	Invariant tracking. ESAIM - Control, Optimisation and Calculus of Variations, 2004, 10, 1-13.	0.7	28
92	Motion planning for a circular elastic plate. Proceedings in Applied Mathematics and Mechanics, 2004, 4, 149-150.	0.2	5
93	Observers and an Online Trajectory Planning Algorithm for Boost Converters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 1479-1484.	0.4	0
94	Difference-Differential flatness of nonlinear delay systems with a chemical reactor example. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 189-194.	0.4	0
95	Invariant tracking for planar rigid body dynamics. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 9-12.	0.2	5
96	Contributions to flatness-based control of systems with input-dependent delays. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 104-105.	0.2	0
97	Motion planning and boundary control for a rotating Timoshenko beam. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 106-107.	0.2	5
98	Flachheitsbasierte Steuerung eines Timoshenko-Balkens. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2003, 83, 119-127.	0.9	15
99	Real-time trajectory generation for flat systems with constraints. , 2003, , 385-394.		11
100	Motion planning for a class of boundary controlled linear hyperbolic PDE's involving finite distributed delays. ESAIM - Control, Optimisation and Calculus of Variations, 2003, 9, 419-435.	0.7	21
101	A Generalized flatness concept for nonlinear delay systems: motivation by chemical reactor models with constant or input dependent delays. International Journal of Systems Science, 2003, 34, 529-541.	3.7	7
102	Flachheitsbasierte Randsteuerung von elastischen Balken mit Piezoaktuatoren (Flatness based) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	0.4	13
103	Flatness-based boundary control of a class of quasilinear parabolic distributed parameter systems. International Journal of Control, 2002, 75, 1219-1230.	1.2	105
104	Flatness-based boundary control of a nonlinear parabolic equation modelling a tubular reactor. , 2001, , 45-54.		9
105	Trajectory tracking for Ï€-flat nonlinear delay systems with a motor example. , 2001, , 339-351.		9
106	Zur Regelung einer elektromagnetisch gelagerten Spindel (On the Control of an Electromagnetically) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.4	3
107	Flachheitsbasierte Randsteuerung parabolischer Systeme mit verteilten Parametern (Flatness-based) Tj ETQq1 1 0.784314 rgBT /Over 478.	0.4	13
108	Randsteuerung von WÃrmetauschern mit Ã¶rtlich verteilten Parametern: Ein flachheitsbasierter Zugang (Boundary Control of Heat Exchangers with Spatially Distributed Parameters: A) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 157 Td (Fla	0.4	15

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109	Flatness-based control by quasi-static feedback illustrated on a cascade of two chemical reactors. International Journal of Control, 2000, 73, 115-131.	1.2	11
110	Invariant tracking and stabilization: problem formulation and examples. Lecture Notes in Control and Information Sciences, 1999, , 261-273.	0.6	18
111	Steering the deflection of a piezoelectric bender. , 1999, , .		7
112	Some Examples and Remarks on Quasi-Static Feedback of Generalized States. Automatica, 1998, 34, 993-999.	3.0	17
113	Flatness-based control of nonlinear delay systems: A chemical reactor example. International Journal of Control, 1998, 71, 871-890.	1.2	74
114	Control of flat systems by quasi-static feedback of generalized states. International Journal of Control, 1998, 71, 745-765.	1.2	91
115	On the Notion of Duality for Linear Delay Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1998, 31, 25-30.	0.4	2
116	Tracking control of a vibrating string with an interior mass viewed as delay system. ESAIM - Control, Optimisation and Calculus of Variations, 1998, 3, 315-321.	0.7	29
117	Flachheit: Ein neuer Zugang zur Steuerung und Regelung nichtlinearer Systeme. Automatisierungstechnik, 1997, 45, 517-525.	0.4	70
118	SystÃ¨mes linÃ©aires sur les opÃ©rateurs de Mikusinski et commande d'une poutre flexible. ESAIM: Proceedings and Surveys, 1997, 2, 183-193.	0.4	59
119	Theory and Practice in the Motion Planning and Control of a Flexible Robot Arm Using MikusiÅ„ski Operators. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 267-273.	0.4	32
120	Two simple observers for a class of polymerization reactors. , 1997, , .		5
121	Duality in time-varying linear systems: A module theoretic approach. Linear Algebra and Its Applications, 1996, 245, 83-106.	0.4	19
122	Flatness based control of a nonlinear chemical reactor model. Automatica, 1996, 32, 1433-1439.	3.0	128
123	A block triangular nonlinear observer normal form. Systems and Control Letters, 1994, 23, 1-8.	1.3	80
124	Controllability and motion planning for linear delay systems with an application to a flexible rod. , 0, , .		25
125	Flatness Based Approach to a Heat Conduction Problem in a Crystal Growth Process. , 0, , 387-401.		8
126	Flatness based control of the VIENNA-rectifier allowing for reactive power compensation. , 0, , .		5