

Joachim Rudolph

List of Publications by Year in descending order

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126
papers

1,846
citations

304368

22
h-index

315357

38
g-index

129
all docs

129
docs citations

129
times ranked

866
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Flatness based control of a nonlinear chemical reactor model. Automatica, 1996, 32, 1433-1439. | 3.0 | 128 |
| 2 | Flatness-based boundary control of a class of quasilinear parabolic distributed parameter systems. International Journal of Control, 2002, 75, 1219-1230. | 1.2 | 105 |
| 3 | On Some Nonlinear Current Controllers for Three-Phase Boost Rectifiers. IEEE Transactions on Industrial Electronics, 2009, 56, 360-370. | 5.2 | 97 |
| 4 | Control of flat systems by quasi-static feedback of generalized states. International Journal of Control, 1998, 71, 745-765. | 1.2 | 91 |
| 5 | A block triangular nonlinear observer normal form. Systems and Control Letters, 1994, 23, 1-8. | 1.3 | 80 |
| 6 | Flatness-based control of nonlinear delay systems: A chemical reactor example. International Journal of Control, 1998, 71, 871-890. | 1.2 | 74 |
| 7 | Flachheit: Ein neuer Zugang zur Steuerung und Regelung nichtlinearer Systeme. Automatisierungstechnik, 1997, 45, 517-525. | 0.4 | 70 |
| 8 | Systèmes linéaires sur les opérateurs de Mikusinski et commande d'une poutre flexible. ESAIM: Proceedings and Surveys, 1997, 2, 183-193. | 0.4 | 59 |
| 9 | A Model-Based Control Scheme for Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2013, 60, 5359-5375. | 5.2 | 55 |
| 10 | 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 |
| 11 | 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 |
| 12 | 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 |
| 13 | 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 |
| 14 | 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 |
| 15 | Theory and Practice in the Motion Planning and Control of a Flexible Robot Arm Using Mikusinski Operators. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 267-273. | 0.4 | 32 |
| 16 | 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 |
| 17 | Invariant tracking. ESAIM - Control, Optimisation and Calculus of Variations, 2004, 10, 1-13. | 0.7 | 28 |
| 18 | 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 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Vehicle state estimation for anti-lock control with nonlinear observer. Control Engineering Practice, 2015, 43, 69-84. | 3.2 | 27 |
| 20 | Controllability and motion planning for linear delay systems with an application to a flexible rod. , 0, , . | | 25 |
| 21 | Fault-tolerant control based on algebraic derivative estimation applied on a magnetically supported plate. Control Engineering Practice, 2014, 26, 107-115. | 3.2 | 24 |
| 22 | Fully Actuated Tricopter with Pilot-Supporting Control—â—This work is supported in part by the German Research Foundation (DFG) in the framework of project âœRegelung von Trikopfern beim gemeinsamen Transport von an Seilen aufgehÃngten Lastenâ€. IFAC-PapersOnLine, 2015, 48, 79-84. | 0.5 | 24 |
| 23 | Flatness based control of three-phase boost rectifiers. , 2005, , . | | 22 |
| 24 | Feed-Forward Control of an HVDC Power Transmission Network. IEEE Transactions on Control Systems Technology, 2014, 22, 597-606. | 3.2 | 22 |
| 25 | 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 |
| 26 | Duality in time-varying linear systems: A module theoretic approach. Linear Algebra and Its Applications, 1996, 245, 83-106. | 0.4 | 19 |
| 27 | 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 |
| 28 | Invariant tracking and stabilization: problem formulation and examples. Lecture Notes in Control and Information Sciences, 1999, , 261-273. | 0.6 | 18 |
| 29 | Parametrization of algebraic numerical differentiators to achieve desired filter characteristics. , 2013, , . | | 18 |
| 30 | Boundary Value Problems and Convolutional Systems over Rings of Ultradistributions. Lecture Notes in Control and Information Sciences, 2010, , 179-188. | 0.6 | 18 |
| 31 | Some Examples and Remarks on Quasi-Static Feedback of Generalized States. Automatica, 1998, 34, 993-999. | 3.0 | 17 |
| 32 | Randsteuerung von WÃrmetauschern mit Ãrtlich verteilten Parametern: Ein flachheitsbasierter Zugang (Boundary Control of Heat Exchangers with Spatially Distributed Parameters: A) Tj ETQq0 0 0 rgBT /Overlock 4.0 Tf 50.217 Td (F | | 17 |
| 33 | 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 |
| 34 | Systematic comparison of numerical differentiators and an application to model-free control. European Journal of Control, 2021, 62, 113-119. | 1.6 | 16 |
| 35 | Flachheitsbasierte Steuerung eines Timoshenko-Balkens. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2003, 83, 119-127. | 0.9 | 15 |
| 36 | Rekursiver Entwurf stabiler Regelkreise durch sukzessive BerÃcksichtigung von Integratoren und quasi-statische RÃckfÃhrungen (Recursive Design of Stable Control Loops by Integrator Backstepping) Tj ETQq0 0 0 rgBT /Overlock | | 14 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | An algebraic approach to parameter identification in linear infinite dimensional systems. , 2008, , . | | 14 |
| 38 | Flachheitsbasierte Randsteuerung parabolischer Systeme mit verteilten Parametern (Flatness-based) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 478. | 0.4 | 13 |
| 39 | Flachheitsbasierte Randsteuerung von elastischen Balken mit Piezoaktuatoren (Flatness based) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5 | 0.4 | 13 |
| 40 | Flachheit: Eine nützliche Eigenschaft auch für Systeme mit Totzeiten (Flatness: A Useful Property also) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 | 0.4 | 13 |
| 41 | A Review of the Automation of the Czochralski Crystal Growth Process. Acta Physica Polonica A, 2013, 124, 181-192. | 0.2 | 13 |
| 42 | Fault diagnosis on a magnetically supported plate. , 2012, , . | | 12 |
| 43 | 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 |
| 44 | Real-time trajectory generation for flat systems with constraints. , 2003, , 385-394. | | 11 |
| 45 | Features of clamping electromagnets using in wheel mobile robots and modeling of their interaction with ferromagnetic plate. , 2017, , . | | 11 |
| 46 | Survey on algebraic numerical differentiation: historical developments, parametrization, examples, and applications. International Journal of Systems Science, 2022, 53, 1848-1887. | 3.7 | 11 |
| 47 | 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 |
| 48 | Flatness-based boundary control of a nonlinear parabolic equation modelling a tubular reactor. , 2001, , 45-54. | | 9 |
| 49 | Trajectory tracking for flat nonlinear delay systems with a motor example. , 2001, , 339-351. | | 9 |
| 50 | An Algebraic Approach to the Identification of Linear Systems with Fractional Derivatives. IFAC-PapersOnLine, 2017, 50, 6214-6219. | 0.5 | 9 |
| 51 | Flatness Based Approach to a Heat Conduction Problem in a Crystal Growth Process. , 0, , 387-401. | | 8 |
| 52 | Trajectory Tracking Control for a Class of 2D Hyperbolic PDE-ODE Systems. IFAC-PapersOnLine, 2021, 54, 416-421. | 0.5 | 8 |
| 53 | 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 |
| 54 | Flatness-based trajectory planning for the shallow water equations. , 2010, , . | | 7 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 55 | Flatness-based feed-forward control of an HVDC power transmission network. , 2011, , . | | 7 |
| 56 | 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 |
| 57 | 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 |
| 58 | Position Observation for Proportional Solenoid Valves by Signal Injection. IFAC-PapersOnLine, 2016, 49, 74-79. | 0.5 | 7 |
| 59 | Steering the deflection of a piezoelectric bender. , 1999, , . | | 7 |
| 60 | An algebraic parameter identification algorithm and asymptotic observers for estimation of the load of a boost converter. , 2007, , . | | 6 |
| 61 | 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 |
| 62 | Beispiele für einen direkten Zugang zu einer globalen, energiebasierten Modellbildung und Regelung von Starrkörperssystemen. Automatisierungstechnik, 2016, 64, 96-109. | 0.4 | 6 |
| 63 | Sensorlose Positionsregelung eines hydraulischen Proportional-Wegeventils mittels Signalinjektion. Automatisierungstechnik, 2017, 65, 260-269. | 0.4 | 6 |
| 64 | Invariant tracking for planar rigid body dynamics. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 9-12. | 0.2 | 5 |
| 65 | Motion planning and boundary control for a rotating Timoshenko beam. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 106-107. | 0.2 | 5 |
| 66 | Motion planning for a circular elastic plate. Proceedings in Applied Mathematics and Mechanics, 2004, 4, 149-150. | 0.2 | 5 |
| 67 | Flatness based control of the VIENNA-rectifier allowing for reactive power compensation. , 0, , . | | 5 |
| 68 | Flatness and quasi-static state feedback in non-linear delay systems. International Journal of Control, 2008, 81, 445-456. | 1.2 | 5 |
| 69 | 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 |
| 70 | Flatness-based control without prediction: example of a vibrating string. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 629-630. | 0.2 | 5 |
| 71 | Parameter identification, fault detection and localization for an electrical transmission line. , 2016, , . | | 5 |
| 72 | A Novel Observer Approach for Self Sensing of Single-Coil Digital Valves. IFAC-PapersOnLine, 2017, 50, 782-787. | 0.5 | 5 |

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|----|---|-----|-----------|
| 73 | 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 |
| 74 | 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 |
| 75 | Two simple observers for a class of polymerization reactors. , 1997, , . | | 5 |
| 76 | 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 |
| 77 | Algebraic estimation of impact times: Juggling a ball with a magnetically levitated plate. , 2013, , . | | 4 |
| 78 | Quadrotor tracking control based on a moving frame. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 80-85. | 0.4 | 4 |
| 79 | 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 |
| 80 | Neural Controller for Mobile Multipurpose Caterpillar Robot. , 2019, , . | | 4 |
| 81 | Auslegung aktiv magnetisch gelagerter Werkzeugmaschinen-Hauptspindeln. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2006, 101, 486-491. | 0.2 | 4 |
| 82 | Zur Regelung einer elektromagnetisch gelagerten Spindel (On the Control of an Electromagnetically) Tj ETQq0 0 0 ggBT /Overlock 10 Tf 0,4 | | 3 |
| 83 | Trajektorienplanung für 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 |
| 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 | 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 |
| 86 | Flatness based trajectory planning for the shallow water equations. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 617-618. | 0.2 | 3 |
| 87 | Zwei Beispiele für die Berücksichtigung von Symmetrien beim Reglerentwurf. Automatisierungstechnik, 2011, 59, 540-551. | 0.4 | 3 |
| 88 | Invariant feedback control for the kinematic car on the sphere. Systems and Control Letters, 2012, 61, 967-972. | 1.3 | 3 |
| 89 | Advanced approaches to reduce number of actors in a magnetically-operated wheel-mover of a mobile robot. , 2017, , . | | 3 |
| 90 | 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 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 91 | Observer design for 2 \ddot{A} —2 linear hyperbolic PDEs that are bidirectionally coupled with nonlinear ODEs. , 2021, , . | | 3 |
| 92 | 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 |
| 93 | Flatness based loss optimization for a doubly fed induction generator system. , 2008, , . | | 2 |
| 94 | Invariant tracking control design via integrator backstepping. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 603-604. | 0.2 | 2 |
| 95 | 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 |
| 96 | Algebraic identification of heavy rope parameters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 161-166. | 0.4 | 2 |
| 97 | 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 |
| 98 | Equations of motion with redundant coordinates for mechanical systems on manifolds. IFAC-PapersOnLine, 2015, 48, 681-682. | 0.5 | 2 |
| 99 | 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 |
| 100 | Modeling a heavy rope using redundant coordinates. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 795-796. | 0.2 | 2 |
| 101 | Redundant configuration coordinates and nonholonomic velocity coordinates in analytical mechanics. IFAC-PapersOnLine, 2018, 51, 409-414. | 0.5 | 2 |
| 102 | Stabilisierung flacher Systeme in vorgebarer endlicher Zeit. Automatisierungstechnik, 2021, 69, 585-596. | 0.4 | 2 |
| 103 | Control of Linear Delay Systems: An Approach without Explicit Predictions. Advances in Delays and Dynamics, 2014, , 17-30. | 0.4 | 2 |
| 104 | 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 |
| 105 | A flatness based backstepping controller design with sliding mode for asynchronous machines. , 2009, , . | | 1 |
| 106 | Flatness based switching frequency estimation of sliding mode controllers for single-input systems. , 2009, , . | | 1 |
| 107 | Algebraische Methodenzur Parameteridentifikation f \ddot{A} ¼r das schwere Seil. Automatisierungstechnik, 2012, 60, 514-521. | 0.4 | 1 |
| 108 | Parameter identification for a heavy rope with internal damping. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 725-726. | 0.2 | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 109 | Simulation of robot's wheel-mover on ferromagnetic surfaces. , 2017, , . | | 1 |
| 110 | Flatness-based control of a rigid body carried by multiple heavy ropes. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800438. | 0.2 | 1 |
| 111 | Redundante Koordinaten in der Modellbildung für ein schweres Seil. Automatisierungstechnik, 2018, 66, 536-547. | 0.4 | 1 |
| 112 | Flatness-Based Feed-Forward Control Design for Solenoid Actuators Considering Eddy Currents. IFAC-PapersOnLine, 2019, 52, 567-572. | 0.5 | 1 |
| 113 | Tracking Control for 2×2 Linear Heterodirectional Hyperbolic PDEs that Are Bidirectionally Coupled with Nonlinear ODEs. Advances in Delays and Dynamics, 2022, , 117-142. | 0.4 | 1 |
| 114 | Contributions to flatness-based control of systems with input-dependent delays. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 104-105. | 0.2 | 0 |
| 115 | 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 |
| 116 | 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 |
| 117 | Set-point invariant control design by integrator backstepping. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1163-1168. | 0.4 | 0 |
| 118 | Flachheitsbasierte Trajektorienplanung für semilineare hyperbolische Systeme mit Randeingriff Flatness based Trajectory Planning for Boundary Controlled Semi-linear Hyperbolic Systems. Automatisierungstechnik, 2010, 58, 117-127. | 0.4 | 0 |
| 119 | Identification of transmission line parameters using algebraic methods. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 727-728. | 0.2 | 0 |
| 120 | Ausgewählte Beiträge der GMA-Fachauschüsse 1.30 und 1.40. Automatisierungstechnik, 2016, 64, 583-585. | 0.4 | 0 |
| 121 | Stator-flux-linkage-referenced control and online optimization of a doubly-fed induction generator. , 2016, , . | | 0 |
| 122 | Ausgewählte Beiträge der GMA-Fachauschüsse 1.30 und 1.40. Automatisierungstechnik, 2017, 65, 527-529. | 0.4 | 0 |
| 123 | Flatness-based Trajectory-tracking Control of Dielectric Elastomer Actuators. IFAC-PapersOnLine, 2020, 53, 8757-8762. | 0.5 | 0 |
| 124 | Dualität in der regelungstechnischen Methodenentwicklung. Automatisierungstechnik, 2020, 68, 541-556. | 0.4 | 0 |
| 125 | Data and computation efficient model-based fault detection for rolling element bearings using numerical differentiation. , 2021, , . | | 0 |
| 126 | Gauss's principle and tracking control of underactuated mechanical systems. IFAC-PapersOnLine, 2021, 54, 365-370. | 0.5 | 0 |