

Fabian R Wirth

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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|--------------------|-------------------------|----------------|-----------------|
| 133 papers | 3,092 citations | 22 h-index | 53 g-index |
| 138 ext. papers | 3,677 ext. citations | 2.6 avg, IF | 5.58 L-index |

| # | Paper | IF | Citations |
|-----|---|-----|-----------|
| 133 | Stability Criteria for Switched and Hybrid Systems. <i>SIAM Review</i> , 2007 , 49, 545-592 | 7.4 | 667 |
| 132 | . <i>IEEE/ACM Transactions on Networking</i> , 2006 , 14, 616-629 | 3.8 | 299 |
| 131 | An ISS small gain theorem for general networks. <i>Mathematics of Control, Signals, and Systems</i> , 2007 , 19, 93-122 | 1.3 | 247 |
| 130 | Small Gain Theorems for Large Scale Systems and Construction of ISS Lyapunov Functions. <i>SIAM Journal on Control and Optimization</i> , 2010 , 48, 4089-4118 | 1.9 | 228 |
| 129 | The generalized spectral radius and extremal norms. <i>Linear Algebra and Its Applications</i> , 2002 , 342, 17-40. | 0.9 | 93 |
| 128 | Parsimonious event-triggered distributed control: A Zeno free approach. <i>Automatica</i> , 2013 , 49, 2116-2124 | 3.7 | 84 |
| 127 | Characterizations of Input-to-State Stability for Infinite-Dimensional Systems. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 1692-1707 | 5.9 | 78 |
| 126 | On a Small Gain Theorem for ISS Networks in Dissipative Lyapunov Form. <i>European Journal of Control</i> , 2011 , 17, 357-365 | 2.5 | 60 |
| 125 | Modelling TCP congestion control dynamics in drop-tail environments. <i>Automatica</i> , 2007 , 43, 441-449 | 5.7 | 57 |
| 124 | Asymptotic stability equals exponential stability, and ISS equals finite energy gain if you twist your eyes. <i>Systems and Control Letters</i> , 1999 , 38, 127-134 | 2.4 | 57 |
| 123 | A Converse Lyapunov Theorem for Linear Parameter-Varying and Linear Switching Systems. <i>SIAM Journal on Control and Optimization</i> , 2005 , 44, 210-239 | 1.9 | 51 |
| 122 | A Generalization of Zubov's Method to Perturbed Systems. <i>SIAM Journal on Control and Optimization</i> , 2001 , 40, 496-515 | 1.9 | 46 |
| 121 | Stabilizability of linear time-varying systems. <i>Systems and Control Letters</i> , 2013 , 62, 747-755 | 2.4 | 44 |
| 120 | An alternative converse Lyapunov theorem for discrete-time systems. <i>Systems and Control Letters</i> , 2014 , 70, 49-59 | 2.4 | 42 |
| 119 | Capability and limitation of max- and sum-type construction of Lyapunov functions for networks of iISS systems. <i>Automatica</i> , 2012 , 48, 1197-1204 | 5.7 | 40 |
| 118 | Complex Polytope Extremality Results for Families of Matrices. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2005 , 27, 721-743 | 1.5 | 40 |
| 117 | Stability criteria for SIS epidemiological models under switching policies. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2014 , 19, 2865-2887 | 1.3 | 36 |

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|-----|--|------|----|
| 116 | Realization of Try-Once-Discard in Wireless Multihop Networks. <i>IEEE Transactions on Industrial Informatics</i> , 2014 , 10, 17-26 | 11.9 | 32 |
| 115 | Control Lyapunov Functions and Zubov's Method. <i>SIAM Journal on Control and Optimization</i> , 2008 , 47, 301-326 | 1.9 | 31 |
| 114 | A Small-Gain Condition for Interconnections of ISS Systems With Mixed ISS Characterizations. <i>IEEE Transactions on Automatic Control</i> , 2011 , 56, 1247-1258 | 5.9 | 30 |
| 113 | Stability radii for positive linear time-invariant systems on time scales. <i>Systems and Control Letters</i> , 2010 , 59, 173-179 | 2.4 | 25 |
| 112 | On the Design of Campus Parking Systems With QoS Guarantees. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2016 , 17, 1428-1437 | 6.1 | 23 |
| 111 | Stochastic optimization approach for the car placement problem in ridesharing systems. <i>Transportation Research Part B: Methodological</i> , 2015 , 80, 173-184 | 7.2 | 22 |
| 110 | Alleviating a form of electric vehicle range anxiety through on-demand vehicle access. <i>International Journal of Control</i> , 2015 , 88, 717-728 | 1.5 | 22 |
| 109 | On Synchronization in Continuous-Time Networks of Nonlinear Nodes With State-Dependent and Degenerate Noise Diffusion. <i>IEEE Transactions on Automatic Control</i> , 2019 , 64, 389-395 | 5.9 | 22 |
| 108 | Stability and positivity of equilibria for subhomogeneous cooperative systems. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2011 , 74, 6416-6426 | 1.3 | 21 |
| 107 | On the calculation of time-varying stability radii. <i>International Journal of Robust and Nonlinear Control</i> , 1998 , 8, 1043-1058 | 3.6 | 21 |
| 106 | A control design method for a class of switched linear systems. <i>Automatica</i> , 2009 , 45, 2592-2596 | 5.7 | 20 |
| 105 | Non-coercive Lyapunov functions for infinite-dimensional systems. <i>Journal of Differential Equations</i> , 2019 , 266, 7038-7072 | 2.1 | 20 |
| 104 | Nonconservative Discrete-Time ISS Small-Gain Conditions for Closed Sets. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 1231-1242 | 5.9 | 19 |
| 103 | On a small-gain approach to distributed event-triggered control. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 2401-2406 | | 18 |
| 102 | Duality results for the joint spectral radius and transient behavior. <i>Linear Algebra and Its Applications</i> , 2008 , 428, 2368-2384 | 0.9 | 18 |
| 101 | Stabilization of Switched Linear Differential Algebraic Equations and Periodic Switching. <i>IEEE Transactions on Automatic Control</i> , 2015 , 60, 2102-2113 | 5.9 | 17 |
| 100 | Dynamics of Time-Varying Discrete-Time Linear Systems: Spectral Theory and the Projected System. <i>SIAM Journal on Control and Optimization</i> , 1998 , 36, 447-487 | 1.9 | 17 |
| 99 | On stability radii of infinite-dimensional time-varying discrete-time systems. <i>IMA Journal of Mathematical Control and Information</i> , 1994 , 11, 253-276 | 1.1 | 17 |

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| 98 | Measurement and optimization of robust stability of multiclass queueing networks: Applications in dynamic supply chains. <i>European Journal of Operational Research</i> , 2013 , 229, 179-189 | 5.6 | 16 |
| 97 | Remarks on universal nonsingular controls for discrete-time systems. <i>Systems and Control Letters</i> , 1998 , 33, 81-88 | 2.4 | 16 |
| 96 | Stochastic Equilibria of AIMD Communication Networks. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2006 , 28, 703-723 | 1.5 | 16 |
| 95 | Electric and Plug-in Hybrid Vehicle Networks | | 15 |
| 94 | Zero Dynamics and Stabilization for Analytic Linear Systems. <i>Acta Applicandae Mathematicae</i> , 2015 , 138, 17-57 | 1.1 | 14 |
| 93 | A Relaxed Small-Gain Theorem for Interconnected Discrete-Time Systems. <i>IEEE Transactions on Automatic Control</i> , 2015 , 60, 812-817 | 5.9 | 14 |
| 92 | Lyapunov characterization of input-to-state stability for semilinear control systems over Banach spaces. <i>Systems and Control Letters</i> , 2018 , 119, 64-70 | 2.4 | 14 |
| 91 | Robust capacity allocation in dynamic production networks. <i>CIRP Annals - Manufacturing Technology</i> , 2011 , 60, 445-448 | 4.9 | 14 |
| 90 | Commutativity and asymptotic stability for linear switched DAEs 2011 , | | 14 |
| 89 | Relaxed ISS Small-Gain Theorems for Discrete-Time Systems. <i>SIAM Journal on Control and Optimization</i> , 2016 , 54, 423-449 | 1.9 | 13 |
| 88 | Numerical construction of LISS Lyapunov functions under a small-gain condition. <i>Mathematics of Control, Signals, and Systems</i> , 2012 , 24, 3-32 | 1.3 | 13 |
| 87 | Numerical verification of local input-to-state stability for large networks 2007 , | | 13 |
| 86 | Parked cars as a service delivery platform 2014 , | | 12 |
| 85 | On a small gain theorem for networks of iISS systems 2009 , | | 12 |
| 84 | . <i>IEEE Technology and Society Magazine</i> , 2016 , 35, 23-24 | 0.8 | 11 |
| 83 | Convergence of the Value Functions of Discounted Infinite Horizon Optimal Control Problems with Low Discount Rates. <i>Mathematics of Operations Research</i> , 1993 , 18, 1006-1019 | 1.5 | 11 |
| 82 | . <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2016 , 17, 1308-1318 | 6.1 | 10 |
| 81 | Nonlinear Scaling of (i)ISS-Lyapunov Functions. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 1087-1092 | 9.2 | 10 |

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|----|---|-----|----|
| 80 | Solving iterative functional equations for a class of piecewise linear KFunctions. <i>Journal of Mathematical Analysis and Applications</i> , 2014 , 411, 652-664 | 1.1 | 10 |
| 79 | A Simulation-Optimization Approach for Reducing Background Leakage in Water Systems. <i>Procedia Engineering</i> , 2014 , 89, 59-68 | | 10 |
| 78 | Noncoercive Lyapunov Functions for Input-to-State Stability of Infinite-Dimensional Systems. <i>SIAM Journal on Control and Optimization</i> , 2020 , 58, 2952-2978 | 1.9 | 10 |
| 77 | A regularization of Zubov's equation for robust domains of attraction 2001 , 277-289 | | 9 |
| 76 | Remarks on Input-to-State Stability and Non-Coercive Lyapunov Functions 2018 , | | 9 |
| 75 | Existence of non-coercive Lyapunov functions is equivalent to integral uniform global asymptotic stability. <i>Mathematics of Control, Signals, and Systems</i> , 2019 , 31, 1-26 | 1.3 | 8 |
| 74 | Extremal norms for positive linear inclusions. <i>Linear Algebra and Its Applications</i> , 2014 , 444, 100-113 | 0.9 | 8 |
| 73 | On classical control and smart cities 2017 , | | 8 |
| 72 | Analysis of the local robustness of stability for flows. <i>Mathematics of Control, Signals, and Systems</i> , 1998 , 11, 289-302 | 1.3 | 8 |
| 71 | Asymptotic Behavior of the Value Functions of Discrete-Time Discounted Optimal Control. <i>Journal of Optimization Theory and Applications</i> , 2001 , 110, 183-210 | 1.6 | 8 |
| 70 | Dynamics and Controllability of Nonlinear Discrete-Time Control Systems. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 1998 , 31, 267-272 | | 8 |
| 69 | Integral Input-to-State Stability of Networked Control Systems. <i>IEEE Transactions on Automatic Control</i> , 2020 , 65, 1203-1210 | 5.9 | 8 |
| 68 | A Note on Recursive Schur Complements, Block Hurwitz Stability of Metzler Matrices, and Related Results. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 4167-4172 | 5.9 | 7 |
| 67 | Stability verification for monotone systems using homotopy algorithms. <i>Numerical Algorithms</i> , 2011 , 58, 529-543 | 2.1 | 7 |
| 66 | Linear switched DAEs: Lyapunov exponents, a converse Lyapunov theorem, and Barabanov norms 2012 , | | 7 |
| 65 | Growth Conditions for the Global Stability of High-Speed Communication Networks With a Single Congested Link. <i>IEEE Transactions on Automatic Control</i> , 2008 , 53, 1770-1774 | 5.9 | 7 |
| 64 | The generalized spectral radius is strictly increasing. <i>Linear Algebra and Its Applications</i> , 2005 , 395, 141-153 | | 7 |
| 63 | On controllability of the real shifted inverse power iteration. <i>Systems and Control Letters</i> , 2001 , 43, 9-23 | 2.4 | 7 |

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| 62 | Stability of infinitely many interconnected systems. <i>IFAC-PapersOnLine</i> , 2019 , 52, 550-555 | 0.7 | 7 |
| 61 | A note on input-to-state stability of linear and bilinear infinite-dimensional systems 2015 , | | 6 |
| 60 | On Maximal Gains Guaranteeing a Small-Gain Condition. <i>SIAM Journal on Control and Optimization</i> , 2015 , 53, 262-286 | 1.9 | 6 |
| 59 | Applications of the general Lyapunov ISS small-gain theorem for networks 2008 , | | 6 |
| 58 | STABILIZATION OF CONTROLLED DIFFUSIONS AND ZUBOV'S METHOD. <i>Stochastics and Dynamics</i> , 2006 , 06, 373-393 | 0.8 | 6 |
| 57 | Feedback stabilization of discrete-time homogeneous semi-linear systems. <i>Systems and Control Letters</i> , 1999 , 37, 19-30 | 2.4 | 6 |
| 56 | Computation of local ISS Lyapunov functions with low gains via linear programming. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2015 , 20, 2477-2495 | 1.3 | 6 |
| 55 | Input-to-state stability of time-delay systems: Criteria and open problems 2017 , | | 5 |
| 54 | Comments on "A Multichannel IOS Small Gain Theorem for Systems With Multiple Time-Varying Communication Delays. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 1722-1725 | 5.9 | 5 |
| 53 | On a small gain theorem for ISS networks in dissipative Lyapunov form 2009 , | | 5 |
| 52 | Local Stabilization of an Unstable Parabolic Equation via Saturated Controls. <i>IEEE Transactions on Automatic Control</i> , 2021 , 66, 2162-2176 | 5.9 | 5 |
| 51 | Compositional construction of abstractions via relaxed small-gain conditions Part II: discrete case 2018 , | | 5 |
| 50 | Barabanov norms, Lipschitz continuity and monotonicity for the max algebraic joint spectral radius. <i>Linear Algebra and Its Applications</i> , 2018 , 550, 37-58 | 0.9 | 4 |
| 49 | On converse Lyapunov theorems for fluid network models. <i>Queueing Systems</i> , 2012 , 70, 339-367 | 1.7 | 4 |
| 48 | On the stability and convergence of a class of consensus systems with a nonlinear input. <i>Automatica</i> , 2017 , 86, 205-211 | 5.7 | 3 |
| 47 | Nonhomogeneous Place-dependent Markov Chains, Unsynchronised AIMD, and Optimisation. <i>Journal of the ACM</i> , 2019 , 66, 1-37 | 2 | 3 |
| 46 | A non-coercive Lyapunov framework for stability of distributed parameter systems 2017 , | | 3 |
| 45 | The stability of Try-Once-Discard for stochastic communication channels: Theory and validation 2015 , | | 3 |

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| 44 | On Minimum Phase. <i>Automatisierungstechnik</i> , 2013 , 61, 805-817 | 0.8 | 3 |
| 43 | A comparison of mathematical modelling approaches for stability analysis of supply chains. <i>International Journal of Logistics Systems and Management</i> , 2011 , 10, 208 | 0.7 | 3 |
| 42 | Domains of attraction of interconnected systems: A Zubov method approach 2009 , | | 3 |
| 41 | Mathematical Models of Autonomous Logistic Processes 2007 , 121-138 | | 3 |
| 40 | Global converse Lyapunov theorems for infinite-dimensional systems. <i>IFAC-PapersOnLine</i> , 2016 , 49, 897-902 | 0.2 | 3 |
| 39 | Compositional construction of abstractions via relaxed small-gain conditions Part I: continuous case 2018 , | | 3 |
| 38 | Control of discrete-time nonlinear systems via finite-step control Lyapunov functions. <i>Systems and Control Letters</i> , 2020 , 138, 104631 | 2.4 | 2 |
| 37 | On the ergodic control of ensembles. <i>Automatica</i> , 2019 , 108, 108483 | 5.7 | 2 |
| 36 | Small gain theorems for large scale systems and construction of ISS Lyapunov functions 2012 , | | 2 |
| 35 | On inter-sampling times for event-triggered large-scale linear systems 2013 , | | 2 |
| 34 | Stabilization of switched linear differential-algebraic equations via time-dependent switching signals 2013 , | | 2 |
| 33 | Input-to-State Stability, Integral Input-to-State Stability, and Unbounded Level Sets. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013 , 46, 38-43 | | 2 |
| 32 | Structure-preserving model reduction of large-scale logistics networks. <i>European Physical Journal B</i> , 2011 , 84, 501-520 | 1.2 | 2 |
| 31 | Numerical construction of LISS Lyapunov functions under a small gain condition 2011 , | | 2 |
| 30 | Construction of lyapunov functions on the domain of asymptotic nullcontrollability: Numerics. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2004 , 37, 715-720 | | 2 |
| 29 | On the rate of convergence of infinite horizon discounted optimal value functions. <i>Nonlinear Analysis: Real World Applications</i> , 2000 , 1, 499-515 | 2.1 | 2 |
| 28 | A relaxed small-gain theorem for discrete-time infinite networks 2020 , | | 2 |
| 27 | Controllability of the shifted inverse power iteration: The case of real shifts 2000 , 859-864 | | 2 |

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| 26 | Stabilization of nonlinear systems with delayed data-rate-limited feedback 2009 , | | 2 |
| 25 | Communication-efficient Distributed Multi-resource Allocation 2018 , | | 2 |
| 24 | Decomposition Approach for Background Leakage Assessment: BBLAWN Instance. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2016 , 142, | 2.8 | 1 |
| 23 | On integral input-to-state stability analysis of networked control systems. <i>IFAC-PapersOnLine</i> , 2017 , 50, 10078-10083 | 0.7 | 1 |
| 22 | Asynchronous algorithms for network utility maximisation with a single bit 2015 , | | 1 |
| 21 | An intelligent speed advisory system for electric vehicles 2015 , | | 1 |
| 20 | A converse Lyapunov theorem for switched DAEs. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2012 , 12, 789-792 | 0.2 | 1 |
| 19 | Supply Network Engineering: An Approach to Robust Capacity Allocation for Stochastic Production Processes*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011 , 44, 441-446 | | 1 |
| 18 | Multichannel small-gain theorems for large scale networked systems 2010 , | | 1 |
| 17 | Distributed Algorithms for Internet-of-Things-Enabled Prosumer Markets: A Control Theoretic Perspective 2020 , 125-149 | | 1 |
| 16 | On noise-to-state stability of stochastic discrete-time systems via finite-step Lyapunov functions 2019 , | | 1 |
| 15 | Design of saturated controls for an unstable parabolic PDE. <i>IFAC-PapersOnLine</i> , 2019 , 52, 310-315 | 0.7 | 1 |
| 14 | ON LIPSCHITZ CONTINUITY OF THE TOP LYAPUNOV EXPONENT OF LINEAR PARAMETER VARYING AND LINEAR SWITCHING SYSTEMS. <i>Stochastics and Dynamics</i> , 2004 , 04, 461-481 | 0.8 | 0 |
| 13 | Remarks on the tail order on moment sequences. <i>Journal of Mathematical Analysis and Applications</i> , 2022 , 512, 126135 | 1.1 | 0 |
| 12 | Persistence, Periodicity and Privacy for Positive Systems in Epidemiology and Elsewhere. <i>Lecture Notes in Control and Information Sciences</i> , 2017 , 3-15 | 0.5 | |
| 11 | On the higher moments of TCP. <i>Linear Algebra and Its Applications</i> , 2013 , 439, 899-913 | 0.9 | |
| 10 | A Nonconservative Small-Gain Theorem for GAS Discrete-Time Systems. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013 , 46, 26-31 | | |
| 9 | Remarks on Equivalence of stability concepts for discrete time-varying systems <i>International Journal of Robust and Nonlinear Control</i> , 1998 , 8, 91-93 | 3.6 | |

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| 8 | Stability of Linear Parameter Varying and Linear Switching Systems. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2003 , 3, 144-147 | 0.2 |
| 7 | Construction of lyapunov functions on the domain of asymptotic nullcontrollability: Theory. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2004 , 37, 709-714 | |
| 6 | THE GELFAND FORMULA FOR LINEAR PARAMETER-VARYING AND LINEAR SWITCHING SYSTEMS. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2005 , 38, 495-500 | |
| 5 | Controllability properties of numerical eigenvalue algorithms 2001 , 467-480 | |
| 4 | A Linearization Principle for Robustness with Respect to Time-Varying Perturbations 2002 , 191-200 | |
| 3 | Application of Small Gain Type Theorems in Logistics of Autonomous Processes 2008 , 359-366 | |
| 2 | ZUBOV'S METHOD FOR STOCHASTIC CONTROL SYSTEMS. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2005 , 38, 259-264 | |
| 1 | A relaxed small-gain theorem for discrete-time infinite networks. <i>Automatica</i> , 2022 , 142, 110363 | 5.7 |