

# Tomáš Vyhládal

## List of Publications by Year in descending order

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81  
papers

1,443  
citations

394421

19  
h-index

345221

36  
g-index

83  
all docs

83  
docs citations

83  
times ranked

487  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mapping Based Algorithm for Large-Scale Computation of Quasi-Polynomial Zeros. IEEE Transactions on Automatic Control, 2009, 54, 171-177.	5.7	234
2	An eigenvalue based approach for the stabilization of linear time-delay systems of neutral type. Automatica, 2005, 41, 991-998.	5.0	136
3	Control design for time-delay systems based on quasi-direct pole placement. Journal of Process Control, 2010, 20, 337-343.	3.3	71
4	Dimensional analysis approach to dominant three-pole placement in delayed PID control loops. Journal of Process Control, 2013, 23, 1063-1074.	3.3	69
5	Delayed resonator with acceleration feedback – Complete stability analysis by spectral methods and vibration absorber design. Journal of Sound and Vibration, 2014, 333, 6781-6795.	3.9	61
6	QPmR - Quasi-Polynomial Root-Finder: Algorithm Update and Examples. Advances in Delays and Dynamics, 2014, , 299-312.	0.4	55
7	Signal shaper with a distributed delay: Spectral analysis and design. Automatica, 2013, 49, 3484-3489.	5.0	47
8	Parameterization of input shapers with delays of various distribution. Automatica, 2015, 59, 256-263.	5.0	46
9	Further remarks on the effect of multiple spectral values on the dynamics of time-delay systems. Application to the control of a mechanical system. Linear Algebra and Its Applications, 2018, 542, 589-604.	0.9	44
10	Strong Stability of Neutral Equations with an Arbitrary Delay Dependency Structure. SIAM Journal on Control and Optimization, 2009, 48, 763-786.	2.1	38
11	Analysis and design aspects of delayed resonator absorber with position, velocity or acceleration feedback. Journal of Sound and Vibration, 2019, 459, 114831.	3.9	35
12	Delayed Resonator With Distributed Delay in Acceleration Feedback – Design and Experimental Verification. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2120-2131.	5.8	33
13	Time-Delay Algorithms for Damping Oscillations of Suspended Payload by Adjusting the Cable Length. IEEE/ASME Transactions on Mechatronics, 2017, 22, 2319-2329.	5.8	33
14	Stability impact of small delays in proportional-derivative state feedback. Control Engineering Practice, 2009, 17, 382-393.	5.5	32
15	On Feedback Architectures With Zero-Vibration Signal Shapers. IEEE Transactions on Automatic Control, 2016, 61, 2049-2064.	5.7	29
16	Extended delayed resonators – Design and experimental verification. Mechatronics, 2017, 41, 29-44.	3.3	29
17	Optimized design of robust resonator with distributed time-delay. Journal of Sound and Vibration, 2019, 443, 576-590.	3.9	26
18	Two-dimensional delayed resonator for entire vibration absorption. Journal of Sound and Vibration, 2021, 500, 116010.	3.9	21

#	ARTICLE	IF	CITATIONS
19	On the Coalescence of Spectral Values and its Effect on the Stability of Time-delay Systems: Application to Active Vibration Control. <i>Procedia IUTAM</i> , 2017, 22, 75-82.	1.2	19
20	Modification of Mikhaylov Criterion for Neutral Time-Delay Systems. <i>IEEE Transactions on Automatic Control</i> , 2009, 54, 2430-2435.	5.7	18
21	Dynamic similarity approach to control system design: delayed PID control loop. <i>International Journal of Control</i> , 2019, 92, 329-338.	1.9	18
22	Model-based moisture sorption stabilization in historical buildings. <i>Building and Environment</i> , 2009, 44, 1181-1187.	6.9	17
23	Inverse signal shapers in effective feedback architecture. , 2013, , .		15
24	Analysis and optimized design of an actively controlled two-dimensional delayed resonator. <i>Mechanical Systems and Signal Processing</i> , 2022, 178, 109195.	8.0	15
25	Input shapers with uniformly distributed delays. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 91-96.	0.4	14
26	Zero vibration shapers with distributed delays of various types. , 2013, , .		14
27	Dominant four-pole placement in filtered PID control loop with delay. <i>IFAC-PapersOnLine</i> , 2017, 50, 6501-6506.	0.9	13
28	Positive trigonometric polynomials for strong stability of difference equations. <i>Automatica</i> , 2012, 48, 2207-2212.	5.0	12
29	IAE Optimization of PID Control Loop with Delay in Pole Assignment Space. <i>IFAC-PapersOnLine</i> , 2016, 49, 177-181.	0.9	12
30	Distributed delay input shaper design by optimizing smooth kernel functions. <i>Journal of the Franklin Institute</i> , 2017, 354, 5463-5485.	3.4	12
31	Reduced modelling and fixed-order control of delay systems applied to a heat exchanger. <i>IET Control Theory and Applications</i> , 2017, 11, 3341-3352.	2.1	12
32	Spectral dominance of complex roots for single-delay linear equations. <i>IFAC-PapersOnLine</i> , 2020, 53, 4357-4362.	0.9	12
33	Spectral features of ZVD shapers with lumped and distributed delays. , 2013, , .		11
34	Inverse Feedback Shapers for Coupled Multibody Systems. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 4804-4810.	5.7	10
35	A model-based method to control temperature and humidity in intermittently heated massive historic buildings. <i>Building and Environment</i> , 2019, 159, 106026.	6.9	10
36	Mechatronic robot arm with active vibration absorbers. <i>JVC/Journal of Vibration and Control</i> , 2020, 26, 1145-1156.	2.6	10

#	ARTICLE	IF	CITATIONS
37	Algorithms for cable-suspended payload sway damping by vertical motion of the pivot base. Mechanical Systems and Signal Processing, 2021, 149, 107131.	8.0	10
38	ULTIMATE-FREQUENCY BASED THREE-POLE DOMINANT PLACEMENT IN DELAYED PID CONTROL LOOP. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 150-155.	0.4	9
39	Diffusion-model-based risk assessment of moisture originated wood deterioration in historic buildings. Building and Environment, 2015, 94, 218-230.	6.9	9
40	Input shaping solutions for drones with suspended load: First results. , 2017, , .		9
41	Dominant Trio of Poles Assignment in Delayed PID Control Loop. Advances in Delays and Dynamics, 2014, , 57-70.	0.4	9
42	Closed-loop smoothers and shapers with distributed delay for damped oscillatory modes. IET Control Theory and Applications, 2016, 10, 2534-2542.	2.1	8
43	Spectral design of robust delayed resonator by double-root assignment. IFAC-PapersOnLine, 2018, 51, 72-77.	0.9	8
44	Magnitude Optimum Design of PID Control Loop with Delay. IFAC-PapersOnLine, 2015, 48, 446-451.	0.9	7
45	Damping a pendulum's swing by string length adjustment - design and comparison of various control methods. , 2019, , .		7
46	Dominant three pole placement in PID control loop with delay. , 2013, , .		6
47	IAE based tuning of controller anti-windup schemes for first order plus dead-time system. , 2017, , .		6
48	Damping oscillation of suspended payload by up and down motion of the pivot base - time delay algorithms for UAV applications. IFAC-PapersOnLine, 2019, 52, 121-126.	0.9	6
49	Frequency weighted $\int_0^{\infty}  H(j\omega) ^2 d\omega$ optimization of multi-mode input shaper. Automatica, 2020, 121, 109202.	5.0	5
50	Double oscillatory mode compensation by inverse signal shaper with distributed delays. , 2014, , . Spectral design of output feedback controllers for systems pre-compensated by input shapers – The presented research has been supported by the Czech Science Foundation under the project No. 13-06962S, by the Programme of Interuniversity Attraction Poles of the Belgian Federal Science Policy Office (IAP P6 – DYSCO), by OPTEC, the Optimization in Engineering Center of the KU Leuven, and the project G.0712.11N and G.0717.11N of the Research Foundation – Flanders (FWO). IFAC-PapersOnLine, 2015, 48, 117-122.		4
51	13-06962S, by the Programme of Interuniversity Attraction Poles of the Belgian Federal Science Policy Office (IAP P6 – DYSCO), by OPTEC, the Optimization in Engineering Center of the KU Leuven, and the project G.0712.11N and G.0717.11N of the Research Foundation – Flanders (FWO). IFAC-PapersOnLine, 2015, 48, 117-122.	0.9	4
52	Control design and experimental validation for flexible multi-body systems pre-compensated by inverse shapers. Systems and Control Letters, 2018, 113, 93-100.	2.3	4
53	Stabilization with Zero Location Constraints for Delay-Based Non-collocated Vibration Suppression. IFAC-PapersOnLine, 2021, 54, 121-126.	0.9	4
54	Multi-criteria optimisation design of shapers with piece-wise equally distributed time-delay. IFAC-PapersOnLine, 2016, 49, 112-117.	0.9	3

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55	Dominant root locus in state estimator design for material flow processes: A case study of hot strip rolling. ISA Transactions, 2017, 68, 381-401.	5.7	3
56	Controlling the variable length pendulum: Analysis and Lyapunov based design methods. Journal of the Franklin Institute, 2022, 359, 1382-1406.	3.4	3
57	Mixed-sensitivity design of a dynamic controller for systems pre-compensated by input shapers. IFAC-PapersOnLine, 2017, 50, 1304-1309.	0.9	2
58	Input Shaper Optimization with a Constraint on the Spectrum Distribution * *Supported by the Czech Science Foundation under project No. 16-17398S. This work has been also supported by the Programme of Interuniversity Attraction Poles of the Belgian Federal Science Policy Office (IAP P6-DYSCO), by OPTEC, the Optimization in Engineering Center of the KU Leuven, and by the project UCoCoS, funded by the European Unions Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Grant Agreement. IFAC-PapersOnLine, 2017, 50, 1324-13329.	0.9	2
59	Flexible Mode Compensation by Inverse Shaper in the Loop with Magnitude Saturated Actuators * * The presented research has been supported by the Czech Science Foundation under the project No. 16-17398S. The work of the first author, which was performed during his study stay at CTU in Prague, was supported under scholarship programme 2214-A of The Scientific and Technological Research Council of Turkey. IFAC-PapersOnLine, 2017, 50, 1251-1256.	0.9	2
60	Control Design With Inverse Feedback Shaper for Quadcopter With Suspended Load. , 2018, , .		2
61	Underactuated pendulum damping by its length adjustment and passive output selection. , 2020, , .		2
62	Design, Analysis and Implementation of Smoothed Input Shapers with Distributed s. Advances in Delays and Dynamics, 2016, , 229-248.	0.4	2
63	Recent Results in Reference Prefiltering for Precision Motion Control. IFAC-PapersOnLine, 2020, 53, 8656-8667.	0.9	2
64	Observer based anti-windup compensator with functional state feedback for time delay controllersâ€”design and case study application. IET Control Theory and Applications, 2022, 16, 861-871.	2.1	2
65	Internal Model Control with Distributed-Delay-Compensator to Attenuate Multi-Harmonic Periodic Disturbance of Time-Delay System. , 2021, , .		2
66	On zero-vibration signal shapers and a wave-absorbing controller for a chain of multi-agent dynamical systems. , 2015, , .		1
67	Humidity change rate control in intermittently heated historic buildings. E3S Web of Conferences, 2020, 172, 15004.	0.5	1
68	Hydroelectric Power-Plant Simulator Implemented in Python. , 2021, , .		1
69	A Comparison of Shaper-Based and Shaper-Free Architectures for Feedforward Compensation of Flexible Modes. Advances in Delays and Dynamics, 2019, , 233-247.	0.4	1
70	Internal Model Controller to Attenuate Periodic Disturbance of a First-Order Time-Delay System. , 2021, , .		1
71	Cascade control parameterization for time delay plants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 123-128.	0.4	0
72	Experimental comparison of signal shapers with lumped and distributed delays. , 2013, , .		0

#	ARTICLE	IF	CITATIONS
73	Mathematical models of equilibrium moisture content and their parameter assessment. , 2013, , .		0
74	Zero vibration derivative shaper with distributed delay for both feed-forward and feedback interconnections. , 2014, , .		0
75	Stability Analysis and Control Design of a Vibration Control System with Uncertain and Tunable Delays—The presented research has been supported by the Ministry of Education of the Czech Republic under the program KONTAKT II LH12066.. IFAC-PapersOnLine, 2015, 48, 123-128.	0.9	0
76	Double Deployment of Delayed Resonator in Active Vibration Suppression. IFAC-PapersOnLine, 2019, 52, 115-120.	0.9	0
77	Lyapunov Based Adaptive Control for Varying Length Pendulum with Unknown Viscous Friction. , 2021, , .		0
78	Swing compensation of a payload suspended to a planar copter. , 2021, , .		0
79	Static-Model-Based Residue Generation for Hereditary Process Fault Detection. , 2007, , 1169-1174.		0
80	Virtual nonholonomic constraints to damp the varying length pendulum swing. , 2021, , .		0
81	CFD Model of Turboprop Engine Nacelle Airflow for Ground Idle Condition. International Journal of Aerospace Engineering, 2022, 2022, 1-9.	0.9	0