

# Joseph Bentsman

## 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.

119  
papers

1,756  
citations

20  
h-index

39  
g-index

154  
ext. papers

2,211  
ext. citations

3.5  
avg, IF

4.43  
L-index

#	Paper	IF	Citations
119	. <i>IEEE Transactions on Power Electronics</i> , <b>1990</b> , 5, 182-190	7.2	351
118	. <i>IEEE Transactions on Automatic Control</i> , <b>1994</b> , 39, 2018-2033	5.9	109
117	Rejection of unknown periodic load disturbances in continuous steel casting process using learning repetitive control approach. <i>IEEE Transactions on Control Systems Technology</i> , <b>1996</b> , 4, 259-265	4.8	90
116	Vibrational control of nonlinear systems: Vibrational stabilizability. <i>IEEE Transactions on Automatic Control</i> , <b>1986</b> , 31, 710-716	5.9	88
115	Nonlinear control oriented boiler modeling-a benchmark problem for controller design. <i>IEEE Transactions on Control Systems Technology</i> , <b>1996</b> , 4, 57-64	4.8	76
114	Stability of fast periodic systems. <i>IEEE Transactions on Automatic Control</i> , <b>1985</b> , 30, 289-291	5.9	59
113	Real-Time, Model-Based Spray-Cooling Control System for Steel Continuous Casting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2011</b> , 42, 87-103	2.5	58
112	. <i>IEEE Transactions on Automatic Control</i> , <b>1994</b> , 39, 898-912	5.9	57
111	Vibrational control of nonlinear systems: Vibrational controllability and transient behavior. <i>IEEE Transactions on Automatic Control</i> , <b>1986</b> , 31, 717-724	5.9	47
110	Adaptive distributed parameter systems identification with enforceable identifiability conditions and reduced-order spatial differentiation. <i>IEEE Transactions on Automatic Control</i> , <b>2000</b> , 45, 203-216	5.9	41
109	Reduced spatial order model reference adaptive control of spatially varying distributed parameter systems of parabolic and hyperbolic types. <i>International Journal of Adaptive Control and Signal Processing</i> , <b>2001</b> , 15, 679-696	2.8	40
108	Application of averaging method for integro-differential equations to model reference adaptive control of parabolic systems. <i>Automatica</i> , <b>1994</b> , 30, 1415-1419	5.7	34
107	PdE-based model reference adaptive control of uncertain heterogeneous multiagent networks. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2008</b> , 2, 1152-1167	4.5	33
106	Vibrational control of systems with Arrhenius dynamics. <i>Journal of Mathematical Analysis and Applications</i> , <b>1983</b> , 91, 152-191	1.1	32
105	Simultaneous gains tuning in boiler/turbine PID-based controller clusters using iterative feedback tuning methodology. <i>ISA Transactions</i> , <b>2012</b> , 51, 609-21	5.5	31
104	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology. <i>IEEE Transactions on Control Systems Technology</i> , <b>2006</b> , 14, 3-17	4.8	30
103	H $\infty$ controller design for boilers. <i>International Journal of Robust and Nonlinear Control</i> , <b>1994</b> , 4, 645-671	3.6	30

102	$H_{\infty}$ Bumpless Transfer Under Controller Uncertainty. <i>IEEE Transactions on Automatic Control</i> , <b>2009</b> , 54, 1718-1723	5.9	23
101	Dynamical Systems With Active Singularities of Elastic Type: A Modeling and Controller Synthesis Framework. <i>IEEE Transactions on Automatic Control</i> , <b>2007</b> , 52, 39-55	5.9	22
100	Enthalpy-based feedback control algorithms for the Stefan problem <b>2012</b> ,		20
99	Vibrational control of nonlinear time lag systems: Vibrational stabilization and transient behavior. <i>Automatica</i> , <b>1991</b> , 27, 491-500	5.7	19
98	Vibrational control of a class of nonlinear systems by nonlinear multiplicative vibrations. <i>IEEE Transactions on Automatic Control</i> , <b>1987</b> , 32, 711-716	5.9	19
97	On vibrational stabilizability of nonlinear systems. <i>Journal of Optimization Theory and Applications</i> , <b>1985</b> , 46, 421-430	1.6	18
96	Full Operating Range Robust Hybrid Control of a Coal-Fired Boiler/Turbine Unit. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2008</b> , 130,	1.6	17
95	Input/output structure of the infinite horizon LQ bumpless transfer and its implications for transfer operator synthesis. <i>International Journal of Robust and Nonlinear Control</i> , <b>2010</b> , 20, 923-938	3.6	16
94	Optimal control problems in hybrid systems with active singularities. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , <b>2006</b> , 65, 999-1017	1.3	15
93	Coal-fired utility boiler modelling for advanced economical low-NOx combustion controller design. <i>Control Engineering Practice</i> , <b>2017</b> , 58, 127-141	3.9	14
92	Nonlinear systems with fast parametric oscillations. <i>Journal of Mathematical Analysis and Applications</i> , <b>1983</b> , 97, 572-589	1.1	14
91	Heat conduction in porcine muscle and blood: experiments and time-fractional telegraph equation model. <i>Journal of the Royal Society Interface</i> , <b>2019</b> , 16, 20190726	4.1	14
90	. <i>IEEE Transactions on Automatic Control</i> , <b>1991</b> , 36, 501-507	5.9	13
89	Dynamical systems with active singularities: Input/state/output modeling and control. <i>Automatica</i> , <b>2008</b> , 44, 1741-1752	5.7	12
88	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systems Part I: System Representations. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2001</b> , 123, 585-592	1.6	12
87	. <i>IEEE Transactions on Automatic Control</i> , <b>1993</b> , 38, 1603-1607	5.9	12
86	Generic Nonsmooth $H_{\infty}$ Output Synthesis: Application to a Coal-Fired Boiler/Turbine Unit With Actuator Dead Zone. <i>IEEE Transactions on Control Systems Technology</i> , <b>2015</b> , 23, 2117-2128	4.8	11
85	Feedback control of the two-phase Stefan problem, with an application to the continuous casting of steel <b>2010</b> ,		11

84	Generalized solutions in systems with active unilateral constraints. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2007</b> , 1, 510-526	4.5	11
83	Robust controller design for simultaneous control of throttle pressure and megawatt output in a power plant unit. <i>International Journal of Robust and Nonlinear Control</i> , <b>1999</b> , 9, 425-446	3.6	11
82	EXPERIMENTAL STUDY OF NON-LINEAR TRANSIENT MOTION CONFINEMENT IN A SYSTEM OF COUPLED BEAMS. <i>Journal of Sound and Vibration</i> , <b>1996</b> , 195, 629-648	3.9	10
81	Adaptive Projection-Based Observers and $L_1$ Adaptive Controllers for Infinite-Dimensional Systems With Full-State Measurement. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 585-598	5.9	9
80	Disturbance rejection in a class of adaptive control laws for distributed parameter systems. <i>International Journal of Adaptive Control and Signal Processing</i> , <b>2009</b> , 23, 166-192	2.8	9
79	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systems Part II: Algorithms and Performance Analysis. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2001</b> , 123, 593-600	1.6	9
78	Stability Criterion For Linear Oscillatory Parabolic Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1992</b> , 114, 175-178	1.6	9
77	Online Recalibration of the State Estimators for a System With Moving Boundaries Using Sparse Discrete-in-Time Temperature Measurements. <i>IEEE Transactions on Automatic Control</i> , <b>2018</b> , 63, 1090-1098	5.9	9
76	Disturbance Rejection in Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems <b>2006</b> ,		8
75	Oscillations-Induced Transitions and Their Application in Control of Dynamical Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1990</b> , 112, 313-319	1.6	8
74	Preference adjustable multi-objective NMPC: An unreachable prioritized point tracking method. <i>ISA Transactions</i> , <b>2017</b> , 66, 134-142	5.5	7
73	Constrained discrete-time state-dependent Riccati equation technique: A model predictive control approach <b>2013</b> ,		7
72	High performance robust linear controller synthesis for an induction motor using a multi-objective hybrid control strategy. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , <b>2006</b> , 65, 2061-2081	1.3	7
71	Vibrational stabilization of linear time delay systems and its robustness with respect to the delay size. <i>Systems and Control Letters</i> , <b>1989</b> , 12, 267-272	2.4	7
70	Application of enthalpy-based feedback control methodology to the two-sided stefan problem <b>2014</b> ,		6
69	. <i>IEEE Transactions on Automatic Control</i> , <b>1992</b> , 37, 1576-1582	5.9	6
68	Modeling and Control of Systems with Active Singularities Under Energy Constraints: Single- and Multi-Impact Sequences. <i>IEEE Transactions on Automatic Control</i> , <b>2012</b> , 57, 1854-1859	5.9	5
67	Robust rejection of sinusoids in stable nonlinearly perturbed unmodelled linear systems: Theory and application to servo <b>2011</b> ,		5

66	Nonlinear Control of Diffusion Processes with Uncertain Parameters Using MRAC Approach <b>1992</b> ,		5
65	Experiment With Vibrational Control of a Laser Illuminated Thermochemical System. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1990</b> , 112, 42-47	1.6	5
64	Singular Space-Time Transformations. Towards One Method For Solving the Painlevé Problem. <i>Journal of Mathematical Sciences</i> , <b>2016</b> , 219, 208-219	0.4	4
63	Bang-Bang Free Boundary Control of a Stefan Problem for Metallurgical Length Maintenance <b>2018</b> ,		4
62	Nonsmooth h-infinity output regulation with application to a coal-fired boiler/turbine unit with actuator deadzone <b>2013</b> ,		4
61	Decentralized compensation of controller uncertainty in the steady-state bumpless transfer under the state/output feedback. <i>International Journal of Robust and Nonlinear Control</i> , <b>2009</b> , 19, 1083-1104	3.6	4
60	Hybrid dynamical systems with controlled discrete transitions. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2007</b> , 1, 466-481	4.5	4
59	The Singularity Opening Approach to Control of Mechanical Systems with Constraints 1. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2003</b> , 36, 263-268		4
58	Dynamical systems with controlled singularities: physically based representation and control-oriented modeling		4
57	Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems with Spatially-varying Parameters		4
56	Vibrational Control of a Laser Illuminated Thermochemical System. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1988</b> , 110, 109-113	1.6	4
55	Approximate local output regulation for nonlinear distributed parameter systems. <i>Mathematics of Control, Signals, and Systems</i> , <b>2016</b> , 28, 1	1.3	4
54	Multiresolution GPC-Structured Control of a Single-Loop Cold-Flow Chemical Looping Testbed. <i>Energies</i> , <b>2020</b> , 13,	3.1	3
53	Partial difference equation based model reference control of a multiagent network of underactuated aquatic vehicles with strongly nonlinear dynamics. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2010</b> , 4, 513-523	4.5	3
52	Disturbance rejection in robust PdE-based MRAC laws for uncertain heterogeneous multiagent networks under boundary reference. <i>Nonlinear Analysis: Hybrid Systems</i> , <b>2010</b> , 4, 484-495	4.5	3
51	Mechanical systems with unilateral constraints: controlled singularity approach		3
50	Fuzzy prediction of maize breakage. <i>Biosystems Engineering</i> , <b>1992</b> , 52, 77-90		3
49	Cyclic control in ecosystems. <i>Mathematical Biosciences</i> , <b>1987</b> , 87, 47-61	3.9	3

48	Modeling and control of resonance effects in steel casting mold oscillators. <i>Acta Mechanica</i> , <b>2019</b> , 230, 2087-2104	2.1	2
47	Optimal control of dynamical systems with active singularities under single- and multi-impact sequences: A ball/racket system example <b>2009</b> ,		2
46	Rejection of sinusoids from nonlinearly perturbed uncertain regular linear systems <b>2011</b> ,		2
45	Robust periodic reference tracking by stable uncertain infinite-dimensional linear systems <b>2011</b> ,		2
44	Multiresolution Finite-Dimensional Adaptive Control of Distributed Parameter Systems <b>2006</b> ,		2
43	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology <b>2004</b> ,		2
42	Unconstrained $H_2$ predictive control with $H_2$ prediction: single-input single-output case. <i>International Journal of Robust and Nonlinear Control</i> , <b>2000</b> , 10, 1279-1316	3.6	2
41	Vibrational stabilization and calculation formulas for nonlinear time delay systems: Linear multiplicative vibrations. <i>Automatica</i> , <b>1994</b> , 30, 1207-1211	5.7	2
40	. <i>IEEE Transactions on Automatic Control</i> , <b>1989</b> , 34, 462-465	5.9	2
39	Control of nonlinear steam generation processes using $H_2$ design <b>1991</b> ,		2
38			2
37	Generalized Predictive Control Algorithms with Guaranteed Frozen-Time Stability and Bounded Tracking Error <b>1993</b> ,		2
36	Enthalpy-based Full-State Feedback Control of the Stefan Problem with Hysteresis <b>2019</b> ,		2
35	Optimal Control of Free Boundary of a Stefan Problem for Metallurgical Length Maintenance in Continuous Steel Casting <b>2019</b> ,		2
34	Technical Committee on Power Generation [Technical Activities]. <i>IEEE Control Systems</i> , <b>2016</b> , 36, 15-27	2.9	1
33	A Stable Multi-Objective Economic MPC Scheme for Boiler-Turbine Units. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 11070-11075	0.7	1
32	Capturing and suppressing resonance in steel casting mold oscillation systems using Timoshenko beam model <b>2015</b> ,		1
31	Stabilizing uncertain nonlinear systems via the constrained discrete-time state-dependent Riccati equation controller <b>2015</b> ,		1

30	Wavelet multiresolution model based predictive control for constrained nonlinear systems <b>2014</b> ,		1
29	Implementation of a Real-time Model-based Spray-cooling Control System for Steel Continuous Casting <b>2011</b> , 77-84		1
28	Spatiotemporal Singular Transformation in Dynamical Systems with Impacts and Its Use in Obtaining Generalized Solution of Painleve Problem. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2011</b> , 44, 3463-3473		1
27	Input/state/output modeling and control of dynamical systems with active singularities: Single- and multi-impact sequences <b>2008</b> ,		1
26	Bumpless Transfer under Controller Uncertainty: Theory and Implementation <b>2006</b> ,		1
25	MODELING AND CONTROL OF DYNAMICAL SYSTEMS WITH ACTIVE SINGULARITIES AND SENSING IN A SINGULAR MOTION PHASE. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2005</b> , 38, 477-482		1
24	Control of Dynamic Systems with Unilateral Constraints and Differential Equations with Measures. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>1998</b> , 31, 403-408		1
23	Robust controller design for simultaneous control of throttle pressure and megawatt output in a power plant unit		1
22	Adaptive control of a time-varying parabolic system: Averaging analysis. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>1999</b> , 32, 2476-2481		1
21	Stabilizing predictive control with output feedback for asymptotic tracking		1
20	Vibrational stabilization of linear systems with time delay <b>1988</b> , 72-79		1
19	Online Hypermodel-based Path Planning for Feedback Control of Tissue Denaturation in Electrosurgical Cutting. <i>IFAC-PapersOnLine</i> , <b>2021</b> , 54, 448-453	0.7	1
18	Enthalpy-based Output Feedback Control of the Stefan Problem with Hysteresis* <b>2020</b> ,		1
17	PDE-Based Modeling and Non-located Feedback Control of Electrosurgical-Probe/Tissue Interaction. <i>Proceedings of the American Control Conference</i> , <b>2021</b> , 2021,	1.2	1
16	Dynamic Modeling of Unsteady Bulging in Continuous Casting of Steel. <i>Minerals, Metals and Materials Series</i> , <b>2019</b> , 23-35	0.3	1
15	High-Fidelity Discrete-Time State-Dependent Riccati Equation Filters for Stochastic Nonlinear Systems with Gaussian/Non-Gaussian Noises <b>2018</b> ,		1
14	Block Diagram Reduction of the Interconnected Linear Time-Varying Systems in the Time-Frequency Domain. <i>Multidimensional Systems and Signal Processing</i> , <b>2002</b> , 13, 7-34	1.8	0
13	Optimal Control of Singularly Perturbed Linear Systems and Applications: High-Accuracy Techniques. <i>Applied Mechanics Reviews</i> , <b>2002</b> , 55, B47-B48	8.6	0

- 12 Robust Industrial Control: Optimal Design Approach for Polynomial Systems [Book Reviews]. *IEEE Transactions on Automatic Control*, **1996**, 41, 1087 5.9
- 11 MODELING AND IDENTIFICATION OF THE DYNAMICS OF THE MF-INFLUENCED FREE-RADICAL TRANSFORMATIONS IN LIPID-MODELING SUBSTANCES AND LIPIDS **2006**, 85-135
- 10 Single Diophantine Equation Polynomial Discrete-Time  $H_2$  and  $H_\infty$  Controller Computation. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2003**, 36, 499-504
- 9  $H_2$  prediction and unconstrained  $H_2$  predictive control: multi-input multi-output case. *International Journal of Robust and Nonlinear Control*, **2001**, 11, 59-86 3.6
- 8 Mathematical modeling and stochastic  $H(\infty)$  identification of the dynamics of the MF-influenced oxidation of hexane. *Mathematical Biosciences*, **2001**, 169, 129-51 3.9
- 7 Adaptive Identification of Heat Processes. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1996**, 29, 4516-4520
- 6 Vibrational Control of Nonlinear Time Lag Systems: Vibrational Stabilization and Transient Behavior. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1989**, 22, 167-172
- 5 Vibrational Stabilizability of a Class of Distributed Parameter Systems. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1987**, 20, 453-457
- 4 Cyclic control in ecosystems **1989**, 423-436
- 3 Vibrational Stabilizability of Nonlinear Systems. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1984**, 17, 85-90
- 2 VIBRATIONAL CONTROL OF NONLINEAR TIME LAG SYSTEMS: VIBRATIONAL STABILIZATION AND TRANSIENT BEHAVIOR\*\*This work was supported by the Engineering Foundation under Grant RI-A-87-6. Computer time was provided by the National Center for Supercomputing Applications of the University of Illinois at Urbana-Champaign. **1990**, 167-172
- 1 Investigating Dynamic Thermal Behavior of Continuous Casting of Steel with CONOFFLINE. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, **2020**, 51, 2917-2934 2.5