Joseph Bentsman

List of Publications by Year in Descending Order

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	Online Hypermodel-based Path Planning for Feedback Control of Tissue Denaturation in Electrosurgical Cutting. *IFAC-PapersOnLine*, **2021**, 54, 448-453	0.7	1
118	PDE-Based Modeling and Non-collocated Feedback Control of Electrosurgical-Probe/Tissue Interaction. *Proceedings of the American Control Conference*, **2021**, 2021,	1.2	1
117	Multiresolution GPC-Structured Control of a Single-Loop Cold-Flow Chemical Looping Testbed. *Energies*, **2020**, 13,	3.1	3
116	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	
115	Enthalpy-based Output Feedback Control of the Stefan Problem with Hysteresis* **2020**,		1
114	Modeling and control of resonance effects in steel casting mold oscillators. *Acta Mechanica*, **2019**, 230, 2087-2104	2.1	2
113	Dynamic Modeling of Unsteady Bulging in Continuous Casting of Steel. *Minerals, Metals and Materials Series*, **2019**, 23-35	0.3	1
112	Enthalpy-based Full-State Feedback Control of the Stefan Problem with Hysteresis **2019**,		2
111	Heat conduction in porcine muscle and blood: experiments and time-fractional telegraph equation model. *Journal of the Royal Society Interface*, **2019**, 16, 20190726	4.1	14
110	Optimal Control of Free Boundary of a Stefan Problem for Metallurgical Length Maintenance in Continuous Steel Casting **2019**,		2
109	Bang-Bang Free Boundary Control of a Stefan Problem for Metallurgical Length Maintenance **2018**,		4
108	Online Recalibration of the State Estimators for a System With Moving Boundaries Using Sparse Discrete-in-Time Temperature Measurements. *IEEE Transactions on Automatic Control*, **2018**, 63, 1090-1096	5.9	9
107	High-Fidelity Discrete-Time State-Dependent Riccati Equation Filters for Stochastic Nonlinear Systems with Gaussian/Non-Gaussian Noises **2018**,		1
106	Preference adjustable multi-objective NMPC: An unreachable prioritized point tracking method. *ISA Transactions*, **2017**, 66, 134-142	5.5	7
105	Coal-fired utility boiler modelling for advanced economical low-NOx combustion controller design. *Control Engineering Practice*, **2017**, 58, 127-141	3.9	14
104	A Stable Multi-Objective Economic MPC Scheme for Boiler-Turbine Units. *IFAC-PapersOnLine*, **2017**, 50, 11070-11075	0.7	1
103	Technical Committee on Power Generation [Technical Activities]. *IEEE Control Systems*, **2016**, 36, 15-27	2.9	1

102	Singular Space-Time Transformations. Towards One Method For Solving the Painlevé Problem. *Journal of Mathematical Sciences*, **2016**, 219, 208-219	0.4	4
101	Approximate local output regulation for nonlinear distributed parameter systems. *Mathematics of Control, Signals, and Systems*, **2016**, 28, 1	1.3	4
100	Generic Nonsmooth $\mathcal{H}_{\infty}$ Output Synthesis: Application to a Coal-Fired Boiler/Turbine Unit With Actuator Dead Zone. *IEEE Transactions on Control Systems Technology*, **2015**, 23, 2117-2128	4.8	11
99	Capturing and suppressing resonance in steel casting mold oscillation systems using Timoshenko beam model **2015**,		1
98	Stabilizing uncertain nonlinear systems via the constrained discrete-time state-dependent Riccati equation controller **2015**,		1
97	Adaptive Projection-Based Observers and ${\rm L}_{1}$ Adaptive Controllers for Infinite-Dimensional Systems With Full-State Measurement. *IEEE Transactions on Automatic Control*, **2014**, 59, 585-598	5.9	9
96	Application of enthalpy-based feedback control methodology to the two-sided stefan problem **2014**,		6
95	Wavelet multiresolution model based predictive control for constrained nonlinear systems **2014**,		1
94	Constrained discrete-time state-dependent Riccati equation technique: A model predictive control approach **2013**,		7
93	Nonsmooth h-infinity output regulation with application to a coal-fired boiler/turbine unit with actuator deadzone **2013**,		4
92	Modeling and Control of Systems with Active Singularities Under Energy Constraints: Single- and Multi-Impact Sequences. *IEEE Transactions on Automatic Control*, **2012**, 57, 1854-1859	5.9	5
91	Simultaneous gains tuning in boiler/turbine PID-based controller clusters using iterative feedback tuning methodology. *ISA Transactions*, **2012**, 51, 609-21	5.5	31
90	Enthalpy-based feedback control algorithms for the Stefan problem **2012**,		20
89	Implementation of a Real-time Model-based Spray-cooling Control System for Steel Continuous Casting **2011**, 77-84		1
88	Spatiotemporal Singular Transformation in Dynamical Systems with Impacts and Its Use in Obtaning Generalized Solution of Painleve Problem. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2011**, 44, 3463-3473		1
87	Real-Time, Model-Based Spray-Cooling Control System for Steel Continuous Casting. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, **2011**, 42, 87-103	2.5	58
86	Rejection of sinusoids from nonlinearly perturbed uncertain regular linear systems **2011**,		2
85	Robust rejection of sinusoids in stable nonlinearly perturbed unmodelled linear systems: Theory and application to servo **2011**,		5

84	Robust periodic reference tracking by stable uncertain infinite-dimensional linear systems **2011**,		2
83	Feedback control of the two-phase Stefan problem, with an application to the continuous casting of steel **2010**,		11
82	Partial difference equation based model reference control of a multiagent network of underactuated aquatic vehicles with strongly nonlinear dynamics. *Nonlinear Analysis: Hybrid Systems*, **2010**, 4, 513-523	4.5	3
81	Disturbance rejection in robust PdE-based MRAC laws for uncertain heterogeneous multiagent networks under boundary reference. *Nonlinear Analysis: Hybrid Systems*, **2010**, 4, 484-495	4.5	3
80	Input/output structure of the infinite horizon LQ bumpless transfer and its implications for transfer operator synthesis. *International Journal of Robust and Nonlinear Control*, **2010**, 20, 923-938	3.6	16
79	Optimal control of dynamical systems with active singularities under single- and multi-impact sequences: A ball/racket system example **2009**,		2
78	H_{∞} Bumpless Transfer Under Controller Uncertainty. *IEEE Transactions on Automatic Control*, **2009**, 54, 1718-1723	5.9	23
77	Disturbance rejection in a class of adaptive control laws for distributed parameter systems. *International Journal of Adaptive Control and Signal Processing*, **2009**, 23, 166-192	2.8	9
76	Decentralized compensation of controller uncertainty in the steady-state bumpless transfer under the state/output feedback. *International Journal of Robust and Nonlinear Control*, **2009**, 19, 1083-1104	3.6	4
75	Full Operating Range Robust Hybrid Control of a Coal-Fired Boiler/Turbine Unit. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2008**, 130,	1.6	17
74	Input/state/output modeling and control of dynamical systems with active singularities: Single- and multi-impact sequences **2008**,		1
73	PdE-based model reference adaptive control of uncertain heterogeneous multiagent networks. *Nonlinear Analysis: Hybrid Systems*, **2008**, 2, 1152-1167	4.5	33
72	Dynamical systems with active singularities: Input/state/output modeling and control. *Automatica*, **2008**, 44, 1741-1752	5.7	12
71	Generalized solutions in systems with active unilateral constraints. *Nonlinear Analysis: Hybrid Systems*, **2007**, 1, 510-526	4.5	11
70	Hybrid dynamical systems with controlled discrete transitions. *Nonlinear Analysis: Hybrid Systems*, **2007**, 1, 466-481	4.5	4
69	Dynamical Systems With Active Singularities of Elastic Type: A Modeling and Controller Synthesis Framework. *IEEE Transactions on Automatic Control*, **2007**, 52, 39-55	5.9	22
68	MODELING AND IDENTIFICATION OF THE DYNAMICS OF THE MF-INFLUENCED FREE-RADICAL TRANSFORMATIONS IN LIPID-MODELING SUBSTANCES AND LIPIDS **2006**, 85-135		
67	Multiresolution Finite-Dimensional Adaptive Control of Distributed Parameter Systems **2006**,		2

66	Bumpless Transfer under Controller Uncertainty: Theory and Implementation **2006**,		1
65	Disturbance Rejection in Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems **2006**,		8
64	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology. *IEEE Transactions on Control Systems Technology*, **2006**, 14, 3-17	4.8	30
63	Optimal control problems in hybrid systems with active singularities. *Nonlinear Analysis: Theory, Methods & Applications*, **2006**, 65, 999-1017	1.3	15
62	High performance robust linear controller synthesis for an induction motor using a multi-objective hybrid control strategy. *Nonlinear Analysis: Theory, Methods & Applications*, **2006**, 65, 2061-2081	1.3	7
61	MODELING AND CONTROL OF DYNAMICAL SYSTEMS WITH ACTIVE SINGULARITIES AND SENSING IN A SINGULAR MOTION PHASE. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2005**, 38, 477-482		1
60	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology **2004**,		2
59	Single Diophantine Equation Polynomial Discrete-Time H 2 and H ∞ Controller Computation. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2003**, 36, 499-504		
58	The Singularity Opening Approach to Control of Mechanical Systems with Constraints 1. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2003**, 36, 263-268		4
57	Block Diagram Reduction of the Interconnected Linear Time-Varying Systems in the Time-Frequency Domain. *Multidimensional Systems and Signal Processing*, **2002**, 13, 7-34	1.8	0
56	Optimal Control of Singularly Perturbed Linear Systems and Applications: High-Accuracy Techniques. *Applied Mechanics Reviews*, **2002**, 55, B47-B48	8.6	0
55	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systems Part I: System Representations12. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2001**, 123, 585-592	1.6	12
54	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systems Part II: Algorithms and Performance Analysis12. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2001**, 123, 593-600	1.6	9
53	H∞ prediction and unconstrained H∞ predictive control: multi-input multi-output case. *International Journal of Robust and Nonlinear Control*, **2001**, 11, 59-86	3.6	
52	Reduced spatial order model reference adaptive control of spatially varying distributed parameter systems of parabolic and hyperbolic types. *International Journal of Adaptive Control and Signal Processing*, **2001**, 15, 679-696	2.8	40
51	Mathematical modeling and stochastic H(infinity) identification of the dynamics of the MF-influenced oxidation of hexane. *Mathematical Biosciences*, **2001**, 169, 129-51	3.9	
50	Unconstrained H∞ predictive control with H∞ prediction: single-input single-output case. *International Journal of Robust and Nonlinear Control*, **2000**, 10, 1279-1316	3.6	2
49	Adaptive distributed parameter systems identification with enforceable identifiability conditions and reduced-order spatial differentiation. *IEEE Transactions on Automatic Control*, **2000**, 45, 203-216	5.9	41

48	Robust controller design for simultaneous control of throttle pressure and megawatt output in a power plant unit. *International Journal of Robust and Nonlinear Control*, **1999**, 9, 425-446	3.6	11
47	Adaptive control of a time-varying parabolic system: Averaging analysis. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1999**, 32, 2476-2481		1
46	Control of Dynamic Systems with Unilateral Constraints and Differential Equations with Measures. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1998**, 31, 403-408		1
45	Robust Industrial Control: Optimal Design Approach for Polynomial Systems [Book Reviews]. *IEEE Transactions on Automatic Control*, **1996**, 41, 1087	5.9	
44	Rejection of unknown periodic load disturbances in continuous steel casting process using learning repetitive control approach. *IEEE Transactions on Control Systems Technology*, **1996**, 4, 259-265	4.8	90
43	Nonlinear control oriented boiler modeling-a benchmark problem for controller design. *IEEE Transactions on Control Systems Technology*, **1996**, 4, 57-64	4.8	76
42	Adaptive Identification of Heat Processes. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1996**, 29, 4516-4520		
41	EXPERIMENTAL STUDY OF NON-LINEAR TRANSIENT MOTION CONFINEMENT IN A SYSTEM OF COUPLED BEAMS. *Journal of Sound and Vibration*, **1996**, 195, 629-648	3.9	10
40	Vibrational stabilization and calculation formulas for nonlinear time delay systems: Linear multiplicative vibrations. *Automatica*, **1994**, 30, 1207-1211	5.7	2
39	Application of averaging method for integro-differential equations to model reference adaptive control of parabolic systems. *Automatica*, **1994**, 30, 1415-1419	5.7	34
38	H∞ controller design for boilers. *International Journal of Robust and Nonlinear Control*, **1994**, 4, 645-671	3.6	30
37	. *IEEE Transactions on Automatic Control*, **1994**, 39, 898-912	5.9	57
36	. *IEEE Transactions on Automatic Control*, **1994**, 39, 2018-2033	5.9	109
35	. *IEEE Transactions on Automatic Control*, **1993**, 38, 1603-1607	5.9	12
34	Generalized Predictive Control Algorithms with Guaranteed Frozen-Time Stability and Bounded Tracking Error **1993**,		2
33	Stability Criterion For Linear Oscillatory Parabolic Systems. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **1992**, 114, 175-178	1.6	9
32	. *IEEE Transactions on Automatic Control*, **1992**, 37, 1576-1582	5.9	6
31	Nonlinear Control of Diffusion Processes with Uncertain Parameters Using MRAC Approach **1992**,		5

30	Fuzzy prediction of maize breakage. *Biosystems Engineering*, **1992**, 52, 77-90		3
29	Vibrational control of nonlinear time lag systems: Vibrational stabilization and transient behavior. *Automatica*, **1991**, 27, 491-500	5.7	19
28	. *IEEE Transactions on Automatic Control*, **1991**, 36, 501-507	5.9	13
27	Control of nonlinear steam generation processes using H⬚ design **1991**,		2
26	Experiment With Vibrational Control of a Laser Illuminated Thermochemical System. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **1990**, 112, 42-47	1.6	5
25	Oscillations-Induced Transitions and Their Application in Control of Dynamical Systems. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **1990**, 112, 313-319	1.6	8
24	. *IEEE Transactions on Power Electronics*, **1990**, 5, 182-190	7.2	351
23	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		
22	Vibrational stabilization of linear time delay systems and its robustness with respect to the delay size. *Systems and Control Letters*, **1989**, 12, 267-272	2.4	7
21	. *IEEE Transactions on Automatic Control*, **1989**, 34, 462-465	5.9	2
20	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		
19	Cyclic control in ecosystems **1989**, 423-436		
18	Vibrational Control of a Laser Illuminated Thermochemical System. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **1988**, 110, 109-113	1.6	4
17	Vibrational stabilization of linear systems with time delay **1988**, 72-79		1
16	Vibrational control of a class of nonlinear systems by nonlinear multiplicative vibrations. *IEEE Transactions on Automatic Control*, **1987**, 32, 711-716	5.9	19
15	Vibrational Stabilizability of a Class of Distributed Parameter Systems. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1987**, 20, 453-457		
14	Cyclic control in ecosystems. *Mathematical Biosciences*, **1987**, 87, 47-61	3.9	3
13	Vibrational control of nonlinear systems: Vibrational stabilizability. *IEEE Transactions on Automatic Control*, **1986**, 31, 710-716	5.9	88

12	Vibrational control of nonlinear systems: Vibrational controllability and transient behavior. *IEEE Transactions on Automatic Control*, **1986**, 31, 717-724	5.9	47
11	On vibrational stabilizability of nonlinear systems. *Journal of Optimization Theory and Applications*, **1985**, 46, 421-430	1.6	18
10	Stability of fast periodic systems. *IEEE Transactions on Automatic Control*, **1985**, 30, 289-291	5.9	59
9	Vibrational Stabilizability of Nonlinear Systems. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1984**, 17, 85-90		
8	Vibrational control of systems with Arrhenius dynamics. *Journal of Mathematical Analysis and Applications*, **1983**, 91, 152-191	1.1	32
7	Nonlinear systems with fast parametric oscillations. *Journal of Mathematical Analysis and Applications*, **1983**, 97, 572-589	1.1	14
6	Dynamical systems with controlled singularities: physically based representation and control-oriented modeling		4
5	Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems with Spatially-varying Parameters		4
4	Mechanical systems with unilateral constraints: controlled singularity approach		3
3	Robust controller design for simultaneous control of throttle pressure and megawatt output in a power plant unit		1
2	Stabilizing predictive control with output feedback for asymptotic tracking		1
1			2