Joseph Bentsman

List of Publications by Year
in descending order

150	2,605	304368	233125
papers	citations	22 h-index	45 g-index

154	154	154	1079
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Feedback Control of the One-Phase Stefan Problem with Unknown Boundary Input Hysteresis. , 2021, , .		0
2	PDE-Based Modeling and Non-collocated Feedback Control of Electrosurgical-Probe/Tissue Interaction. , 2021, 2021, .		6
3	Online Hypermodel-based Path Planning for Feedback Control of Tissue Denaturation in Electrosurgical Cutting. IFAC-PapersOnLine, 2021, 54, 448-453.	0.5	7
4	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.	1.0	1
5	Enthalpy-based Output Feedback Control of the Stefan Problem with Hysteresis. , 2020, , .		7
6	Multiresolution GPC-Structured Control of a Single-Loop Cold-Flow Chemical Looping Testbed. Energies, 2020, 13, 1759.	1.6	3
7	Modeling of the Dynamic-Bulging-Induced Surface Level Fluctuations in Continuous Casting. , 2020, , .		0
8	Modeling and control of resonance effects in steel casting mold oscillators. Acta Mechanica, 2019, 230, 2087-2104.	1.1	2
9	Dynamic Modeling of Unsteady Bulging in Continuous Casting of Steel. Minerals, Metals and Materials Series, 2019, , 23-35.	0.3	2
10	Enthalpy-based Full-State Feedback Control of the Stefan Problem with Hysteresis. , 2019, , .		8
11	Heat conduction in porcine muscle and blood: experiments and time-fractional telegraph equation model. Journal of the Royal Society Interface, 2019, 16, 20190726.	1.5	25
12	Optimal Control of Free Boundary of a Stefan Problem for Metallurgical Length Maintenance in Continuous Steel Casting. , 2019, , .		6
13	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.	3.6	19
14	Technical Committee on Power Generation [Technical Activities]. IEEE Control Systems, 2018, 38, 14-113.	1.0	0
15	High-Fidelity Discrete-Time State-Dependent Riccati Equation Filters for Stochastic Nonlinear Systems with Gaussian/Non-Gaussian Noises. , 2018, , .		1
16	Bang-Bang Free Boundary Control of a Stefan Problem for Metallurgical Length Maintenance. , 2018, , .		10
17	Preference adjustable multi-objective NMPC: An unreachable prioritized point tracking method. ISA Transactions, 2017, 66, 134-142.	3.1	9
18	Coal-fired utility boiler modelling for advanced economical low-NO combustion controller design. Control Engineering Practice, 2017, 58, 127-141.	3.2	23

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19	A Stable Multi-Objective Economic MPC Scheme for Boiler-Turbine Units. IFAC-PapersOnLine, 2017, 50, 11070-11075.	0.5	2
20	Online recalibration of the state estimators for a system with moving boundaries using sparse discrete-in-time temperature measurements. , 2016, , .		0
21	Approximate local output regulation for nonlinear distributed parameter systems. Mathematics of Control, Signals, and Systems, 2016, 28, 1.	1.4	11
22	Technical Committee on Power Generation [Technical Activities]. IEEE Control Systems, 2016, 36, 15-27.	1.0	1
23	Singular Space-Time Transformations. Towards One Method For Solving the PainlevÃ© Problem. Journal of Mathematical Sciences, 2016, 219, 208-219.	0.1	5
24	Capturing and suppressing resonance in steel casting mold oscillation systems using Timoshenko beam model. , 2015, , .		1
25	Stabilizing uncertain nonlinear systems via the constrained discrete-time state-dependent Riccati equation controller. , 2015, , .		3
26	Generic nonsmooth â„‹âˆž output synthesis: Tracking control with application to a coal-fired boiler/turbine unit with input dead zone. , 2015, , .		0
27	Generic Nonsmooth <inline-formula> <tex-math notation="LaTeX">$mathcal {H}_{infty }$ </tex-math></inline-formula> Output Synthesis: Application to a Coal-Fired Boiler/Turbine Unit With Actuator Dead Zone. IEEE Transactions on Control Systems Technology, 2015, 23, 2117-2128.	3.2	18
28	Wavelet multiresolution model based predictive control for constrained nonlinear systems. , 2014, , .		1
29	Adaptive Projection-Based Observers and ${m L}_{1}$ Adaptive Controllers for Infinite-Dimensional Systems With Full-State Measurement. IEEE Transactions on Automatic Control, 2014, 59, 585-598.	3.6	13
30	Application of enthalpy-based feedback control methodology to the two-sided stefan problem. , 2014, , .		12
31	Constrained discrete-time state-dependent Riccati equation technique: A model predictive control approach. , 2013, , .		12
32	Nonsmooth h-infinity output regulation with application to a coal-fired boiler/turbine unit with actuator deadzone. , 2013, , .		6
33	Enthalpy-based feedback control algorithms for the Stefan problem. , 2012, , .		37
34	Wavelet multiresolution model based generalized predictive control for Hybrid Combustion-Gasification Chemical Looping process. , 2012, , .		2
35	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.	3.6	5
36	Simultaneous gains tuning in boiler/turbine PID-based controller clusters using iterative feedback tuning methodology. ISA Transactions, 2012, 51, 609-621.	3.1	40

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37	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.	0.4	1
38	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.	1.0	87
39	Rejection of sinusoids from nonlinearly perturbed uncertain regular linear systems. , 2011, , .		2
40	Robust rejection of sinusoids in stable nonlinearly perturbed unmodelled linear systems: Theory and application to servo. , 2011, , .		6
41	Robust periodic reference tracking by stable uncertain infinite-dimensional linear systems. , 2011, , .		2
42	Strobing optimization in a mobile sensor system associated with the pursuit problem. , 2011, , .		0
43	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.	2.1	4
44	Disturbance rejection in robust PdE-based MRAC laws for uncertain heterogeneous multiagent networks under boundary reference. Nonlinear Analysis: Hybrid Systems, 2010, 4, 484-495.	2.1	6
45	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.	2.1	20
46	Feedback control of the two-phase Stefan problem, with an application to the continuous casting of steel. , 2010, , .		20
47	Optimal control of dynamical systems with active singularities under single- and multi-impact sequences: A ball/racket system example. , 2009, , .		4
48	H_{infty} Bumpless Transfer Under Controller Uncertainty. IEEE Transactions on Automatic Control, 2009, 54, 1718-1723.	3.6	30
49	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.	2.3	11
50	Decentralized compensation of controller uncertainty in the steadyâ€state bumpless transfer under the state/output feedback. International Journal of Robust and Nonlinear Control, 2009, 19, 1083-1104.	2.1	5
51	PdE-based model reference adaptive control of uncertain heterogeneous multiagent networks. Nonlinear Analysis: Hybrid Systems, 2008, 2, 1152-1167.	2.1	46
52	Dynamical systems with active singularities: Input/state/output modeling and control. Automatica, 2008, 44, 1741-1752.	3.0	15
53	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, .	0.9	25
54	Input/state/output modeling and control of dynamical systems with active singularities: Single- and multi-impact sequences. , 2008, , .		5

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55	H<inf>∞</inf> bumpless transfer under controller uncertainty. , 2007, , .		2
56	Dynamical Systems With Active Singularities of Elastic Type: A Modeling and Controller Synthesis Framework. IEEE Transactions on Automatic Control, 2007, 52, 39-55.	3.6	28
57	Generalized solutions in systems with active unilateral constraints. Nonlinear Analysis: Hybrid Systems, 2007, 1, 510-526.	2.1	12
58	Hybrid dynamical systems with controlled discrete transitions. Nonlinear Analysis: Hybrid Systems, 2007, 1, 466-481.	2.1	5
59	Disturbance Rejection in Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems. , 2006, , .		10
60	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology. IEEE Transactions on Control Systems Technology, 2006, 14, 3-17.	3.2	44
61	Optimal control problems in hybrid systems with active singularities. Nonlinear Analysis: Theory, Methods & Applications, 2006, 65, 999-1017.	0.6	18
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.	0.6	12
63	MODELING AND IDENTIFICATION OF THE DYNAMICS OF THE MF-INFLUENCED FREE-RADICAL TRANSFORMATIONS IN LIPID-MODELING SUBSTANCES AND LIPIDS. , 2006, , 85-135.		0
64	Multiresolution Finite-Dimensional Adaptive Control of Distributed Parameter Systems. , 2006, , .		2
65	Bumpless Transfer under Controller Uncertainty: Theory and Implementation. , 2006, , .		2
66	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.	0.4	6
67	Steady-state bumpless transfer under controller uncertainty using the state/output feedback topology. , 2004, , .		5
68	High performance robust linear controller synthesis for an induction motor using a multi-objective hybrid control strategy. , 2004, , .		5
69	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.	0.4	11
70	Title is missing!. Multidimensional Systems and Signal Processing, 2002, 13, 7-34.	1.7	2
71	Optimal Control of Singularly Perturbed Linear Systems and Applications: High-Accuracy Techniques. Applied Mechanics Reviews, 2002, 55, B47-B48.	4.5	10
72	Mathematical modeling and stochastic Hâˆž identification of the dynamics of the MF-influenced oxidation of hexane. Mathematical Biosciences, 2001, 169, 129-151.	0.9	0

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73	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systemsâ€"Part I: System Representations12. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2001, 123, 585-592.	0.9	13
74	Biorthogonal Wavelet Based Identification of Fast Linear Time-Varying Systemsâ€"Part II: Algorithms and Performance Analysis12. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2001, 123, 593-600.	0.9	9
75	H? prediction and unconstrainedH? predictive control: multi-input-multi-output case. International Journal of Robust and Nonlinear Control, 2001, 11, 59-86.	2.1	0
76	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.	2.3	47
77	UnconstrainedH? predictive control withH? prediction: single-input-single-output case. International Journal of Robust and Nonlinear Control, 2000, 10, 1279-1316.	2.1	4
78	Wavelet-based identification of fast linear time-varying systems using function space methods. , 2000, , .		2
79	Adaptive distributed parameter systems identification with enforceable identifiability conditions and reduced-order spatial differentiation. IEEE Transactions on Automatic Control, 2000, 45, 203-216.	3.6	60
80	Ill-posedness and Ill-conditioning in the use of CARMA, CARIMA and Box-Jenkins models in identification and control. , 1999, , .		2
81	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.	2.1	18
82	Adaptive control of a time-varying parabolic system: Averaging analysis. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1999, 32, 2476-2481.	0.4	3
83	Model matching approach to discrete-time polynomial optimization problems. , 1998, , .		2
84	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.	0.4	10
85	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.	3.2	123
86	Nonlinear control oriented boiler modeling-a benchmark problem for controller design. IEEE Transactions on Control Systems Technology, 1996, 4, 57-64.	3.2	123
87	Adaptive Identification of Heat Processes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1996, 29, 4516-4520.	0.4	0
88	EXPERIMENTAL STUDY OF NON-LINEAR TRANSIENT MOTION CONFINEMENT IN A SYSTEM OF COUPLED BEAMS. Journal of Sound and Vibration, 1996, 195, 629-648.	2.1	12
89	Robust Industrial Control: Optimal Design Approach for Polynomial Systems [Book Reviews]. IEEE Transactions on Automatic Control, 1996, 41, 1087.	3.6	0
90	Vibrational stabilization and calculation formulas for nonlinear time delay systems: Linear multiplicative vibrations. Automatica, 1994, 30, 1207-1211.	3.0	4

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91	Application of averaging method for integro-differential equations to model reference adaptive control of parabolic systems. Automatica, 1994, 30, 1415-1419.	3.0	47
92	H_{â^ž} controller design for boilers. International Journal of Robust and Nonlinear Control, 1994, 4, 645-671.	2.1	39
93	Vibrational control of nonlinear time lag systems with bounded delay: averaging theory, stabilizability, and transient behavior. IEEE Transactions on Automatic Control, 1994, 39, 898-912.	3.6	74
94	Direct adaptive control of parabolic systems: algorithm synthesis and convergence and stability analysis. IEEE Transactions on Automatic Control, 1994, 39, 2018-2033.	3.6	145
95	Transient behavior analysis of vibrationally controlled nonlinear parabolic systems with Neumann boundary conditions. IEEE Transactions on Automatic Control, 1993, 38, 1603-1607.	3.6	16
96	Generalized Predictive Control Algorithms with Guaranteed Frozen-Time Stability and Bounded Tracking Error. , 1993, , .		5
97	Properties of the Self-tuning Minimax Predictive Control (MPC). , 1993, , .		2
98	Stability Criterion For Linear Oscillatory Parabolic Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1992, 114, 175-178.	0.9	10
99	Vibrational control of linear time lag systems with arbitrarily large but bounded delays. IEEE Transactions on Automatic Control, 1992, 37, 1576-1582.	3.6	13
100	Nonlinear Control of Diffusion Processes with Uncertain Parameters Using MRAC Approach. , 1992, , .		13
101	Control of nonlinear steam generation process with time lags usings an Hâ^ž design. , 1992, , .		0
102	Fuzzy prediction of maize breakage. Biosystems Engineering, 1992, 52, 77-90.	0.4	4
103	Vibrational stabilization of nonlinear parabolic systems with Neumann boundary conditions. IEEE Transactions on Automatic Control, 1991, 36, 501-507.	3.6	18
104	Sensing and Actuation in a Liquid Propellant Rocket Engine. , 1991, , .		0
105	Control of nonlinear steam generation processes using H_{â^ž} design. , 1991, , .		4
106	Vibrational control of nonlinear time lag systems: Vibrational stabilization and transient behavior. Automatica, 1991, 27, 491-500.	3.0	23
107	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.	0.9	7
108	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.	0.9	9

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109	Control of Steam Generation Processes. , 1990, , .		0
110	Vibrational control of linear time lag systems with no restrictions on the delay size. , 1990, , .		0
111	On the use of averaging for the analysis of power electronic systems. IEEE Transactions on Power Electronics, 1990, 5, 182-190.	5.4	492
112	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.		0
113	Cyclic control in ecosystems. , 1989, , 423-436.		0
114	Vibrational stabilization of linear time delay systems and its robustness with respect to the delay size. Systems and Control Letters, 1989, 12, 267-272.	1.3	12
115	Stability of fast periodic systems with time lags. IEEE Transactions on Automatic Control, 1989, 34, 462-465.	3.6	6
116	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.	0.4	0
117	Stability Criterion for a Linear Oscillatory Parabolic System with Neumann Boundary Conditions. , 1989, , .		0
118	Experiment with Vibrational Control of a Laser Illuminated Thermochemical System. , 1989, , .		1
119	Vibrational Control of a Laser Illuminated Thermochemical System. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1988, 110, 109-113.	0.9	6
120	Vibrational stabilization of linear systems with time delay. , 1988, , 72-79.		1
121	Stability of Fast Periodic Systems with Time Lags. , 1988, , .		0
122	Vibrational control of a class of nonlinear systems by nonlinear multiplicative vibrations. IEEE Transactions on Automatic Control, 1987, 32, 711-716.	3.6	30
123	Vibrational Stabilizability of a Class of Distributed Parameter Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1987, 20, 453-457.	0.4	4
124	Cyclic control in ecosystems. Mathematical Biosciences, 1987, 87, 47-61.	0.9	3
125	Vibrational control of nonlinear systems: Vibrational stabilizability. IEEE Transactions on Automatic Control, 1986, 31, 710-716.	3.6	128
126	Vibrational control of nonlinear systems: Vibrational controllability and transient behavior. IEEE Transactions on Automatic Control, 1986, 31, 717-724.	3.6	66

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127	Vibrational control of a class of nonlinear systems by nonlinear multiplicative vibrations. , 1986, , .		0
128	On vibrational stabilizability of nonlinear systems. Journal of Optimization Theory and Applications, 1985, 46, 421-430.	0.8	21
129	Stability of fast periodic systems. IEEE Transactions on Automatic Control, 1985, 30, 289-291.	3.6	75
130	Vibrational control of nonlinear systems. , 1984, , .		7
131	Vibrational Stabilizability of Nonlinear Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1984, 17, 85-90.	0.4	0
132	Vibrational control of systems with Arrhenius dynamics. Journal of Mathematical Analysis and Applications, 1983, 91, 152-191.	0.5	44
133	Nonlinear systems with fast parametric oscillations. Journal of Mathematical Analysis and Applications, 1983, 97, 572-589.	0.5	24
134	Vibrational control of systems with arrhenius dynamics. , 1982, , .		0
135	Minimax long range parameter estimation. , 0, , .		4
136	Stabilizing predictive control with output feedback for asymptotic tracking. , 0, , .		2
137	Model reference adaptive control (MRAC) of heat processes with simultaneous plant indentification. , 0, , .		7
138	Application of robust adaptive control to a real-time power plant model. , 0, , .		0
139	Sliding mode model reference adaptive control of heat processes. , 0, , .		0
140	Reference tracking using H/sub â^ž/ predictive control based on a minimax predictor. , 0, , .		1
141	Adaptive distributed parameter systems identification with enforceable identifiability conditions and reduced order spatial differentiation. , 0, , .		1
142	Robust controller design for simultaneous control of throttle pressure and megawatt output in a power plant unit. , 0, , .		1
143	Single Diophantine equation solution of the discrete-time polynomial H/sub 2/ and H/sub â^ž/ control problems with a classical feedback structure. , 0, , .		3
144	Mechanical systems with unilateral constraints: controlled singularity approach. , 0, , .		8

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145	Bumpless transfer synthesis in the MIMO systems with a large online/offline controller mismatch using the state/output feedback topology. , 0, , .		4
146	Polynomial discrete-time SISO H/sub 2/ and H/sub â^ž/ controller synthesis: single Diophantine equation solution. , 0, , .		3
147	Dynamical systems with controlled singularities: physically based representation and control-oriented modeling. , 0, , .		10
148	Minimal order polynomial discrete-time SISO H/sub 2/ and H/sub ?/ controller synthesis: summary of the results and existence of solution. , 0, , .		1
149	Robust Model Reference Adaptive Control of Parabolic and Hyperbolic Systems with Spatially-varying Parameters. , 0, , .		6
150	Dynamical systems with controllable singularities: multi-scale and limit representations and optimal control. , 0, , .		8