

Guoming G Zhu

List of Publications by Year in descending order

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126
papers

1,312
citations

361413

20
h-index

501196

28
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127
all docs

127
docs citations

127
times ranked

782
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling and Inverse Compensation of Temperature-Dependent Ionic Polymerâ€“Metal Composite Sensor Dynamics. IEEE/ASME Transactions on Mechatronics, 2011, 16, 80-89.	5.8	60
2	Covariance control design for Hubble Space Telescope. Journal of Guidance, Control, and Dynamics, 1995, 18, 230-236.	2.8	55
3	Closed-Loop Ignition Timing Control for SI Engines Using Ionization Current Feedback. IEEE Transactions on Control Systems Technology, 2007, 15, 416-427.	5.2	52
4	Model-Based Estimation of Flow Characteristics Using an Ionic Polymerâ€“Metal Composite Beam. IEEE/ASME Transactions on Mechatronics, 2013, 18, 932-943.	5.8	48
5	Connectivity-based optimization of vehicle route and speed for improved fuel economy. Transportation Research Part C: Emerging Technologies, 2018, 91, 353-368.	7.6	48
6	Linear Parameter-Varying Control for Engineering Applications. Springer Briefs in Electrical and Computer Engineering, 2013, , .	0.5	43
7	MBT Timing Detection and its Closed-Loop Control Using In-Cylinder Pressure Signal. , 0, , .		40
8	LPV Modeling and Mixed Constrained $\frac{H_2}{H_\infty}$ Control of an Electronic Throttle. IEEE/ASME Transactions on Mechatronics, 2015, 20, 2120-2132.	5.8	40
9	LPV modeling of a flexible wing aircraft using modal alignment and adaptive gridding methods. Aerospace Science and Technology, 2017, 66, 92-102.	4.8	36
10	Trajectory Optimization for the Engineâ€“Generator Operation of a Series Hybrid Electric Vehicle. IEEE Transactions on Vehicular Technology, 2011, 60, 2438-2447.	6.3	31
11	Mixed $\frac{H_2}{H_\infty}$ Observer-Based LPV Control of a Hydraulic Engine Cam Phasing Actuator. IEEE Transactions on Control Systems Technology, 2013, 21, 229-238.	5.2	30
12	Application of ICC LPV control to a blended-wing-body airplane with guaranteed $\frac{H_2}{H_\infty}$ performance. Aerospace Science and Technology, 2018, 81, 88-98.	4.8	29
13	Smooth-switching LPV control for vibration suppression of a flexible airplane wing. Aerospace Science and Technology, 2019, 84, 895-903.	4.8	28
14	Review of Advancement in Variable Valve Actuation of Internal Combustion Engines. Applied Sciences (Switzerland), 2020, 10, 1216.	2.5	25
15	A Control-Oriented Charge Mixing and Two-Zone HCCI Combustion Model. IEEE Transactions on Vehicular Technology, 2014, 63, 1079-1090.	6.3	24
16	SI and HCCI Combustion Mode Transition Control of an HCCI Capable SI Engine. IEEE Transactions on Control Systems Technology, 2013, 21, 1558-1569.	5.2	23
17	Optimum Wing Shape of Highly Flexible Morphing Aircraft for Improved Flight Performance. Journal of Aircraft, 2016, 53, 1305-1316.	2.4	23
18	q-Markov Cover identification using pseudo-random binary signals. International Journal of Control, 1995, 62, 1273-1290.	1.9	22

#	ARTICLE	IF	CITATIONS
19	Adaptive Control of a Pneumatic Valve Actuator for an Internal Combustion Engine. IEEE Transactions on Control Systems Technology, 2011, 19, 730-743.	5.2	22
20	Gain-scheduling control of port-fuel-injection processes. Control Engineering Practice, 2011, 19, 380-394.	5.5	21
21	Optimal Air-to-Fuel Ratio Tracking Control With Adaptive Biofuel Content Estimation for LNT Regeneration. IEEE Transactions on Control Systems Technology, 2014, 22, 428-439.	5.2	20
22	Guaranteed Performance State-Feedback Gain-Scheduling Control With Uncertain Scheduling Parameters. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2016, 138, .	1.6	20
23	Engine EGR Valve Modeling and Switched LPV Control Considering Nonlinear Dry Friction. IEEE/ASME Transactions on Mechatronics, 2020, 25, 1668-1678.	5.8	20
24	Static output-feedback robust gain-scheduling control with guaranteed H ₂ performance. Journal of the Franklin Institute, 2018, 355, 2221-2242.	3.4	19
25	A control-oriented hybrid combustion model of a homogeneous charge compression ignition capable spark ignition engine. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2012, 226, 1380-1395.	1.9	17
26	A control-oriented model of turbulent jet ignition combustion in a rapid compression machine. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2017, 231, 1315-1325.	1.9	16
27	Adaptive Control of a Pneumatic Valve Actuator for an Internal Combustion Engine. Proceedings of the American Control Conference, 2007, , .	0.0	15
28	A real-time pressure wave model for knock prediction and control. International Journal of Engine Research, 2021, 22, 986-1000.	2.3	15
29	Constrained Surrogate-Based Engine Calibration Using Lower Confidence Bound. IEEE/ASME Transactions on Mechatronics, 2021, 26, 3116-3127.	5.8	15
30	Fuel spray visualization and its impingement analysis on in-cylinder surfaces in a direct-injection spark-ignition engine. Journal of Visualization, 2011, 14, 149-160.	1.8	14
31	Economic Adaptive Cruise Control for a Power Split Hybrid Electric Vehicle. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 4161-4170.	8.0	14
32	Hardware-in-the-Loop Simulation of Robust Gain-Scheduling Control of Port-Fuel-Injection Processes. IEEE Transactions on Control Systems Technology, 2011, 19, 1433-1443.	5.2	13
33	Three-parameter transmission gear-shifting schedule for improved fuel economy. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 521-533.	1.9	13
34	Integrated System ID and Control Design for an IC Engine Variable Valve Timing System. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2011, 133, .	1.6	12
35	Camless Variable Valve Actuator with Two Discrete Lifts. , 2015, , .		12
36	Linear Parameter-Varying Model of an Electro-Hydraulic Variable Valve Actuator for Internal Combustion Engines. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2018, 140, .	1.6	12

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37	Multi-zone reaction-based modeling of combustion for multiple-injection diesel engines. International Journal of Engine Research, 2020, 21, 1012-1025.	2.3	12
38	A two-zone reaction-based combustion model for a spark-ignition engine. International Journal of Engine Research, 2021, 22, 109-124.	2.3	12
39	Improved synthesis conditions for mixed H_2/H_2O gain-scheduling control subject to uncertain scheduling parameters. International Journal of Control, 2017, 90, 580-598.	1.9	11
40	Optimum distributed wing shaping and control loads for highly flexible aircraft. Aerospace Science and Technology, 2018, 79, 255-265.	4.8	11
41	Combustion Model for a Homogeneous Turbocharged Gasoline Direct-Injection Engine. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	1.1	11
42	Transient Air-to-Fuel Ratio Control of an Spark Ignited Engine Using Linear Quadratic Tracking. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	1.6	10
43	Optimal LPV control with hard constraints. International Journal of Control, Automation and Systems, 2016, 14, 148-162.	2.7	10
44	Optimal Combustion Phasing Modeling and Control of a Turbulent Jet Ignition Engine. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1811-1822.	5.8	10
45	Adaptive Transfer Case Clutch Touchpoint Estimation With a Modified Friction Model. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2000-2008.	5.8	10
46	Review of engine control-oriented combustion models. International Journal of Engine Research, 0, , 146808742199295.	2.3	10
47	Model-Based Control for Mode Transition Between Spark Ignition and HCCI Combustion. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	9
48	A two-zone control oriented SI-HCCI hybrid combustion model for the HIL engine simulation. , 2011, , .		8
49	Model predictive control of a power split hybrid powertrain. , 2016, , .		8
50	Multi-Objective Stochastic Bayesian Optimization for Iterative Engine Calibration. , 2020, , .		8
51	Transfer Case Clutch Torque Modeling and Validation Under Slip and Overtaken Conditions. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2021, 143, .	1.6	8
52	An iterative algorithm for model-based predictive control of an Electro-Pneumatic Valve Actuator. , 2009, , .		7
53	Improvement in the combustion mode transition for a spark ignition engine capable of homogeneous charge compression ignition. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2016, 230, 215-228.	1.9	7
54	Model-based predictive control of an Electro-Pneumatic exhaust valve for Internal Combustion engines. , 2008, , .		6

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55	Control-oriented mixing model for Homogeneous Charge Compression Ignition engines. , 2010, , .		6
56	A Control-Oriented Two-Zone Charge Mixing Model for HCCI Engines With Experimental Validation Using an Optical Engine. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	1.6	6
57	Switching State-Feedback LPV control with uncertain scheduling parameters. , 2017, , .		6
58	LPV Modeling and Switched Control for EGR Valves with Dry Friction. , 2019, , .		6
59	A Control-Oriented Linear Parameter-Varying Model of a Commercial Vehicle Air Brake System. Applied Sciences (Switzerland), 2020, 10, 4589.	2.5	6
60	A Dual-Loop Robust Control Scheme With Performance Separation: Theory and Experimental Validation. IEEE Transactions on Industrial Electronics, 2022, 69, 13483-13493.	7.9	6
61	Stochastic Bayesian optimization for predicting borderline knock. International Journal of Engine Research, 2023, 24, 793-807.	2.3	6
62	Linear Matrix Inequalities Approach to Input Covariance Constraint Control With Application to Electronic Throttle. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .	1.6	5
63	Stochastic Predictive Boundary Management for a Hybrid Powertrain. IEEE Transactions on Vehicular Technology, 2016, 65, 4700-4713.	6.3	5
64	Guaranteed H_∞ Performance LPV ICC Control with Application to Blended-Wing-Body Model. , 2018, , .		5
65	Model-based calibration of reaction-based diesel combustion dynamics. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 1611-1622.	1.9	5
66	Adaptive Optimal Control for Suppressing Vehicle Longitudinal Vibrations. , 2019, , .		5
67	Profile Tracking for an Electro-Hydraulic Variable Valve Actuator Using Receding Horizon LQT. IEEE/ASME Transactions on Mechatronics, 2019, 24, 338-349.	5.8	5
68	Integrated Clutch Torque Control and Touchpoint Estimation Using Deadbeat Adaptive Backstepping. IEEE Transactions on Control Systems Technology, 2022, 30, 368-375.	5.2	5
69	A Control-Oriented Dynamic Model of Tiltrotor Aircraft for Urban Air Mobility. , 2021, , .		5
70	Dynamic System Identification for a Nonlinear Vehicle Model Using q -Markov Cover under Different Operational Conditions. , 2021, , .		5
71	Model reference adaptive LQT control for anti-jerk utilizing tire-road interaction characteristics. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2021, 235, 1670-1684.	1.9	5
72	Modeling and control of a class of urban air mobility tiltrotor aircraft. Aerospace Science and Technology, 2022, 124, 107561.	4.8	5

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73	Integrated Model Reduction and Control of Aircraft with Flexible Wings. , 2013, , .		4
74	Control-oriented crank-resolved and state-space models for a gasoline turbulent jet ignition engine. , 2017, , .		4
75	Adaptive feedforward control of an electro-hydraulic variable valve actuator for internal combustion engines. , 2017, , .		4
76	Real-Time Co-optimization of Vehicle Route and Speed Using Generic Algorithm for Improved Fuel Economy. Mechanical Engineering, 2019, 141, S08-S15.	0.1	4
77	Smooth Switching LPV Dynamic Output-feedback Control. International Journal of Control, Automation and Systems, 2020, 18, 1367-1377.	2.7	4
78	Linear-Quadratic Tracking Control of a Commercial Vehicle Air Brake System. IEEE Access, 2020, 8, 149741-149750.	4.2	4
79	Performance improvement demonstration of an NMP system using sample and hold inputs. International Journal of Dynamics and Control, 2021, 9, 109-120.	2.5	4
80	Linear parameter-varying-based transition flight control design for a tilt-rotor aircraft. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2022, 236, 3354-3369.	1.3	4
81	Temperature-dependent Ionic polymer-metal composite (IPMC) sensing dynamics: Modeling and inverse compensation. , 2010, , .		3
82	Modeling of Ionic Polymer-Metal Composite beam dynamics and its validation using high-speed motion visualization. , 2010, , .		3
83	Cycle-to-cycle response of ionic polymer-metal composite materials subject to pulsing flow-induced stimulus. , 2012, , .		3
84	Dynamic, output-feedback, gain-scheduling control of an electric variable valve timing system. , 2013, , .		3
85	Regenerative Hydraulic Assisted Turbocharger. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	1.1	3
86	Simultaneous Design of Smooth Switching State-Feedback LPV Control. , 2018, , .		3
87	Adaptive LQT Valve Timing Control for an Electro-Hydraulic Variable Valve Actuator. IEEE Transactions on Control Systems Technology, 2019, 27, 2182-2194.	5.2	3
88	A Two-step LMI Scheme for H_2 $\hat{=} H_\infty$ Control Design. , 2020, , .		3
89	Deadbeat Adaptive Backstepping Design for Tracking Transfer Case Torque and Estimating its Clutch Touchpoint. , 2020, , .		3
90	Adaptive model predictive control of a six-rotor electric vertical take-off and landing urban air mobility aircraft subject to motor failure during hovering. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2022, 236, 1396-1407.	1.3	3

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91	A Sequential Design Approach for Switching $\hat{\alpha}$ LPV Control. International Journal of Control, Automation and Systems, 2021, 19, 3354-3367.	2.7	3
92	Tutorial of model-based powertrain and aftertreatment system control design and implementation. , 2015, , .		2
93	Robust Input Covariance Constraint Control for Uncertain Polytopic Systems. Asian Journal of Control, 2016, 18, 1489-1500.	3.0	2
94	Experimental Study on an Electric Variable Valve Timing Actuator: Linear Parameter Varying Modeling and Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	2
95	Reduced-order nonlinear model of an electro-hydraulic variable valve actuator for internal combustion engines. , 2017, , .		2
96	Model-based calibration of the reaction-based diesel combustion dynamics. , 2017, , .		2
97	A Reduced Complexity Model for the Compressor Power of an Automotive Turbocharger. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2018, 140, .	1.6	2
98	Optimal Combustion Phasing Control of a Turbulent Jet Ignition Engine. , 2018, , .		2
99	Hard Constrained LPV Virtual Control with Application to Flutter Suppression of a Smart Airfoil. International Journal of Control, Automation and Systems, 2020, 18, 1215-1228.	2.7	2
100	Transfer Case Clutch Torque Estimation Using an Extended Kalman Filter With Unknown Input. IEEE/ASME Transactions on Mechatronics, 2022, 27, 2580-2588.	5.8	2
101	Minimal Energy Transient Motion Control of Electrical Connected Vehicles. IEEE/ASME Transactions on Mechatronics, 2022, 27, 2116-2124.	5.8	2
102	Experimental Case Study of Stochastic Surrogate-Assisted Engine Calibration. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4897-4907.	5.8	2
103	Data-driven model-based calibration for optimizing electrically boosted diesel engine performance. International Journal of Engine Research, 0, , 146808742210903.	2.3	2
104	Multirate closed-loop system identification of a variable valve timing actuator for an internal combustion engine. , 2010, , .		1
105	Dynamic gain-scheduling controller design for port-fuel-injection processes. , 2011, , .		1
106	Development of control-oriented charge mixing model and experimental validation using graphical analysis. , 2013, , .		1
107	Detecting the combustion phase and the biodiesel blend using a knock sensor. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2015, 229, 1189-1199.	1.9	1
108	LPV Modeling and Control for Active Flutter Suppression of a Smart Airfoil. , 2018, , .		1

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109	Fuel Economic Co-optimization of Vehicle Route and Speed for Connected Vehicles. , 2018, , .		1
110	Sequential Design of Switching \mathscr{H}_{∞} LPV State-Feedback Control. , 2019, , .		1
111	Mode shape matching for LPV modeling to handle mode veering phenomena. International Journal of Dynamics and Control, 2019, 7, 469-475.	2.5	1
112	Modeling and Control of a Diesel Engine With Regenerative Hydraulic-Assisted Turbocharger. Journal of Engineering for Gas Turbines and Power, 2019, 141, .	1.1	1
113	Optimal Sensor Placement for Flexible Wings Using the Greedy Algorithm. , 2020, , .		1
114	Air-to-fuel ratio control with adaptive estimation of biofuel content for diesel engine LNT regeneration. , 2012, , .		0
115	Guaranteed \mathscr{H}_{∞} to \mathscr{H}_2 control for discrete-time polytopic LPV systems. , 2013, , .		0
116	Robust Gain-Scheduling observers for continuous-time Linear Parameter-Varying systems. , 2017, , .		0
117	Linear quadratic air-path control for diesel engines with regenerative and assisted turbocharger. , 2017, , .		0
118	Optimal Profile Tracking for an Electro-Hydraulic Variable Valve Actuator using Trajectory Linearization. , 2018, , .		0
119	Active Vibration Suppression of BWB Airplane Using Smooth Switching LPV Control. , 2019, , .		0
120	Optimal Hybrid Electric Vehicle Powertrain Control Based on Route and Speed optimization. , 2019, , .		0
121	Optimal Sensor Placement for Vibration Control of a Flexible Aircraft Wing. , 2019, , .		0
122	Novel linear parameter-varying modeling and flutter suppression control of a smart airfoil. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2019, 233, 609-624.	1.0	0
123	Model-based Knock Prediction and its Stochastic Feedforward Compensation. , 2020, , .		0
124	LPV-Based Real-Time Intake Oxygen Fraction Estimation of a Turbocharged Diesel Engine with EGR. , 2020, , .		0
125	Mixed ICC/ \mathscr{H}_{∞} control for systems with sensors aging. International Journal of Control, 2021, 94, 1065-1080.	1.9	0
126	Guaranteed Performance Optimal Control for LPV Systems with Aging Sensors. , 2019, , .		0