

Robin De Keyser

List of Publications by Year in descending order

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155
papers

3,410
citations

159358

30
h-index

168136

53
g-index

155
all docs

155
docs citations

155
times ranked

2419
citing authors

#	ARTICLE	IF	CITATIONS
1	Heuristic approaches in robot path planning: A survey. <i>Robotics and Autonomous Systems</i> , 2016, 86, 13-28.	3.0	442
2	Robust Predictive Control Strategy Applied for Propofol Dosing Using BIS as a Controlled Variable During Anesthesia. <i>IEEE Transactions on Biomedical Engineering</i> , 2008, 55, 2161-2170.	2.5	198
3	A hierarchical global path planning approach for mobile robots based on multi-objective particle swarm optimization. <i>Applied Soft Computing Journal</i> , 2017, 59, 68-76.	4.1	155
4	A novel auto-tuning method for fractional order PI/PD controllers. <i>ISA Transactions</i> , 2016, 62, 268-275.	3.1	118
5	Modeling of the Lung Impedance Using a Fractional-Order Ladder Network With Constant Phase Elements. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2011, 5, 83-89.	2.7	113
6	Relations Between Fractional-Order Model Parameters and Lung Pathology in Chronic Obstructive Pulmonary Disease. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 978-987.	2.5	101
7	Nonlinear predictive control with dead-time compensator: Application to a solar power plant. <i>Solar Energy</i> , 2009, 83, 743-752.	2.9	73
8	Closed Loop Anesthesia. <i>Anesthesia and Analgesia</i> , 2011, 112, 516-518.	1.1	70
9	Variable Time-Delay Estimation for Anesthesia Control During Intensive Care. <i>IEEE Transactions on Biomedical Engineering</i> , 2011, 58, 363-369.	2.5	66
10	A Remote Laboratory as an Innovative Educational Tool for Practicing Control Engineering Concepts. <i>IEEE Transactions on Education</i> , 2013, 56, 436-442.	2.0	60
11	An efficient algorithm for low-order direct discrete-time implementation of fractional order transfer functions. <i>ISA Transactions</i> , 2018, 74, 229-238.	3.1	60
12	The development of an autonomous navigation system with optimal control of an UAV in partly unknown indoor environment. <i>Mechatronics</i> , 2018, 49, 187-196.	2.0	59
13	Mechanical Properties of the Respiratory System Derived From Morphologic Insight. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 949-959.	2.5	58
14	Developing Networked Control Labs: A Matlab and Easy Java Simulations Approach. <i>IEEE Transactions on Industrial Electronics</i> , 2010, 57, 3266-3275.	5.2	58
15	Lessons learned from closed loops in engineering: towards a multivariable approach regulating depth of anaesthesia. <i>Journal of Clinical Monitoring and Computing</i> , 2014, 28, 537-546.	0.7	56
16	Fractional order control of unstable processes: the magnetic levitation study case. <i>Nonlinear Dynamics</i> , 2015, 80, 1761-1772.	2.7	56
17	Nonlinear dynamics of the patient's response to drug effect during general anesthesia. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2015, 20, 914-926.	1.7	54
18	Fractional-order PID design: Towards transition from state-of-art to state-of-use. <i>ISA Transactions</i> , 2019, 84, 178-186.	3.1	54

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19	A Theoretical Study on Modeling the Respiratory Tract With Ladder Networks by Means of Intrinsic Fractal Geometry. IEEE Transactions on Biomedical Engineering, 2010, 57, 246-253.	2.5	53
20	Decentralized and centralized model predictive control to reduce the bullwhip effect in supply chain management. Computers and Industrial Engineering, 2014, 73, 21-31.	3.4	50
21	Fractional order model parameters for the respiratory input impedance in healthy and in asthmatic children. Computer Methods and Programs in Biomedicine, 2011, 101, 315-323.	2.6	46
22	Improved potential field method for unknown obstacle avoidance using UAV in indoor environment. , 2016, , .		46
23	Data-driven modelling of drug tissue trapping using anomalous kinetics. Chaos, Solitons and Fractals, 2017, 102, 441-446.	2.5	43
24	Assessment of respiratory mechanical properties with constant-phase models in healthy and COPD lungs. Computer Methods and Programs in Biomedicine, 2010, 97, 78-85.	2.6	41
25	Fractional-order impulse response of the respiratory system. Computers and Mathematics With Applications, 2011, 62, 845-854.	1.4	38
26	Quantifying and mitigating the bullwhip effect in a benchmark supply chain system by an extended prediction self-adaptive control ordering policy. Computers and Industrial Engineering, 2015, 81, 46-57.	3.4	38
27	A Three-Year Feedback Study of a Remote Laboratory Used in Control Engineering Studies. IEEE Transactions on Education, 2017, 60, 127-133.	2.0	37
28	Performance measures for targeted energy transfer and resonance capture cascading in nonlinear energy sinks. Nonlinear Dynamics, 2018, 93, 259-284.	2.7	37
29	Model-based and model-free learning strategies for wet clutch control. Mechatronics, 2014, 24, 1008-1020.	2.0	35
30	Model identification of a Micro Air Vehicle. Journal of Bionic Engineering, 2007, 4, 227-236.	2.7	32
31	Design and experimental validation of an adaptive control law to maximize the power generation of a small-scale waste heat recovery system. Applied Energy, 2017, 203, 549-559.	5.1	32
32	An industrially relevant formulation of a distributed model predictive control algorithm based on minimal process information. Journal of Process Control, 2018, 68, 240-253.	1.7	31
33	Structural changes in the COPD lung and related heterogeneity. PLoS ONE, 2017, 12, e0177969.	1.1	30
34	A Review of Recent Developments in Autotuning Methods for Fractional-Order Controllers. Fractal and Fractional, 2022, 6, 37.	1.6	30
35	Theoretical Analysis and Experimental Validation of a Simplified Fractional Order Controller for a Magnetic Levitation System. IEEE Transactions on Control Systems Technology, 2015, , 1-1.	3.2	28
36	Theoretical Analysis and Experimental Validation of Single-Phase Direct Versus Cascade Voltage Control in Islanded Microgrids. IEEE Transactions on Industrial Electronics, 2013, 60, 789-798.	5.2	27

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37	Improving particle filters in rainfall runoff models: Application of the resample-move step and the ensemble Gaussian particle filter. <i>Water Resources Research</i> , 2013, 49, 4005-4021.	1.7	25
38	A fractional order control strategy for visual servoing systems. <i>Mechatronics</i> , 2013, 23, 848-855.	2.0	25
39	Towards the Development of a Smart Flying Sensor: Illustration in the Field of Precision Agriculture. <i>Sensors</i> , 2015, 15, 16688-16709.	2.1	25
40	A Distributed Model Predictive Control Strategy for the Bullwhip Reducing Inventory Management Policy. <i>IEEE Transactions on Industrial Informatics</i> , 2019, 15, 932-941.	7.2	25
41	Time delay compensation for the secondary processes in a multivariable carbon isotope separation unit. <i>Chemical Engineering Science</i> , 2012, 80, 205-218.	1.9	24
42	Increasing the efficiency of Organic Rankine Cycle Technology by means of Multivariable Predictive Control. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014, 47, 2195-2200.	0.4	24
43	Identification and path following control of an AR.Drone quadrotor. , 2013, , .		23
44	Measuring Nonlinear Effects in Respiratory Mechanics: A Proof of Concept for Prototype Device and Method. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2014, 63, 124-134.	2.4	23
45	Real-Time Optimization of Organic Rankine Cycle Systems by Extremum-Seeking Control. <i>Energies</i> , 2016, 9, 334.	1.6	23
46	Anesthesiologist in the Loop and Predictive Algorithm to Maintain Hypnosis While Mimicking Surgical Disturbance. <i>IFAC-PapersOnLine</i> , 2017, 50, 15080-15085.	0.5	23
47	Comparison of two-level NMPC and ILC strategies for wet-clutch control. <i>Control Engineering Practice</i> , 2014, 22, 114-124.	3.2	21
48	Discrete-time internal model control with disturbance and vibration rejection. <i>JVC/Journal of Vibration and Control</i> , 2017, 23, 3-15.	1.5	19
49	A Remote Laboratory for Mobile Robot Applications. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011, 44, 7280-7285.	0.4	18
50	Fractional order control of a DC motor with load changes. , 2014, , .		17
51	Evaluation of a Propofol and Remifentanyl interaction model for predictive control of anesthesia induction. , 2011, , .		16
52	Estimation of Patient Sensitivity to Drug Effect during Propofol Hypnosis. , 2015, , .		16
53	Fan-based device for non-invasive measurement of respiratory impedance: Identification, calibration and analysis. <i>Biomedical Signal Processing and Control</i> , 2016, 30, 127-133.	3.5	16
54	Comparative evaluation of a novel principle for PID autotuning. , 2017, , .		16

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55	Autotuning of a Robust Fractional Order PID Controller. IFAC-PapersOnLine, 2018, 51, 466-471.	0.5	16
56	Effect of Control Horizon in Model Predictive Control for Steam/Water Loop in Large-Scale Ships. Processes, 2018, 6, 265.	1.3	16
57	Tuning of fractional order proportional integral/proportional derivative controllers based on existence conditions. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2019, 233, 384-391.	0.7	16
58	Experimental validation of a multiple model predictive control for waste heat recovery organic Rankine cycle systems. Applied Thermal Engineering, 2021, 193, 116993.	3.0	16
59	Revisiting Ziegler's Nichols. A fractional order approach. ISA Transactions, 2022, 129, 287-296.	3.1	16
60	Robust and two-level (nonlinear) predictive control of switched dynamical systems with unknown references for optimal wet-clutch engagement. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2014, 228, 233-244.	0.7	15
61	A constrained EPSAC approach to inventory control for a benchmark supply chain system. International Journal of Production Research, 2016, 54, 232-250.	4.9	15
62	A two-compartment fractional derivative model for Propofol diffusion in anesthesia. , 2013, , .		14
63	Multivariable model-based control strategies for level control in a quadruple tank process. , 2013, , .		14
64	Time domain validation of a fractional order model for human respiratory system. , 2008, , .		13
65	Leader-follower string formation using cascade control for mobile robots. , 2012, , .		12
66	Respiratory mechanics in children with cystic fibrosis. Biomedical Signal Processing and Control, 2014, 11, 74-79.	3.5	12
67	Calibration of UR10 Robot Controller through Simple Auto-Tuning Approach. Robotics, 2018, 7, 35.	2.1	12
68	Adaptive EPSAC predictive control of the hypnotic component in anesthesia. , 2012, , .		11
69	Experimental Validation of a Novel Auto-Tuning Method for a Fractional Order PI Controller on an UR10 Robot. Algorithms, 2018, 11, 95.	1.2	11
70	Robust Fractional Order PI Control for Cardiac Output Stabilisation. IFAC-PapersOnLine, 2019, 52, 994-999.	0.5	11
71	APPLICATION of a SMITH PREDICTOR based NONLINEAR PREDICTIVE CONTROLLER to a SOLAR POWER PLANT. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 414-419.	0.4	9
72	Detecting and analyzing non-linear effects in respiratory impedance measurements. , 2011, , .		9

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73	A Recurrent Parameter Model to Characterize the High-Frequency Range of Respiratory Impedance in Healthy Subjects. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 882-892.	2.7	9
74	Experimental study of Predictive Control strategies for optimal operation of Organic Rankine Cycle systems. , 2015, , .		9
75	A model predictive control framework for centralised management of a supply chain dynamical system. Systems Science and Control Engineering, 2014, 2, 250-260.	1.8	8
76	Patient specific model based induction of hypnosis using fractional order control. IFAC-PapersOnLine, 2017, 50, 15097-15102.	0.5	8
77	Evaluation of three protocols for automatic DOA regulation using Propofol and Remifentanyl. , 2011, , .		7
78	Analysis of the Respiratory Dynamics During Normal Breathing by Means of Pseudophase Plots and Pressure-Volume Loops. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2013, 43, 53-62.	5.9	7
79	Longitudinal control of vehicle platoons for stop-and-go waves mitigation. , 2014, , .		7
80	Modeling and Nonlinear Model Predictive Control of a rotary disc dryer for fishmeal production. , 2014, , .		7
81	Modelling respiratory impedance in patients with kyphoscoliosis. Biomedical Signal Processing and Control, 2014, 11, 36-41.	3.5	7
82	Comparison of model-based and non-model-based strategies for nonlinear control of a three-tank system. , 2017, , .		7
83	Distributed Model Predictive Control of Steam/Water Loop in Large Scale Ships. Processes, 2019, 7, 442.	1.3	7
84	A simplified control method for multivariable stable nonsquare systems with multiple time delays. , 2011, , .		6
85	Analysis of a new continuous-to-discrete-time operator for the approximation of fractional order systems. , 2016, , .		6
86	Closed loop control of an electromagnetic stirrer in the continuous casting process. , 2016, , .		6
87	Multivariable Fractional Order PI Autotuning Method for Heterogeneous Dynamic Systems. IFAC-PapersOnLine, 2018, 51, 865-870.	0.5	6
88	A Robust PID Autotuning Method Applied to the Benchmark PID18. IFAC-PapersOnLine, 2018, 51, 521-526.	0.5	6
89	Nonlinear Predictive Control Applied to Steam/Water Loop in Large Scale Ships. IFAC-PapersOnLine, 2019, 52, 868-873.	0.5	6
90	Estimating the time-delay for predictive control in general anesthesia. , 2010, , .		5

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91	Respiratory impedance model with lumped fractional order diffusion compartment. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 260-265.	0.4	5
92	A Centralized Model Predictive Control Strategy for Dynamic Supply Chain Management. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 1608-1613.	0.4	5
93	Analysis of robustness to gain variation in a fractional-order PI controller for knee joint motion. , 2014, , .		5
94	Development and student evaluation of an Internet-based Control Engineering Laboratory. IFAC-PapersOnLine, 2015, 48, 1-6.	0.5	5
95	A specifications based PID autotuner. , 2012, , .		4
96	Implementation of a fractional PD controller tuned by genetic algorithm for a Steward platform. , 2013, , .		4
97	Modelling drug interaction using a fractional order pharmacokinetic model. , 2014, , .		4
98	A fractional order impedance model to capture the structural changes in lungs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5363-5368.	0.4	4
99	Robust autotuning MPC for a class of process control applications. , 2016, , .		4
100	Interdisciplinary project-based learning at master level: control of robotic mechatronic systems. IFAC-PapersOnLine, 2016, 49, 314-319.	0.5	4
101	Nonlinear identification and control of Organic Rankine Cycle systems using sparse polynomial models. , 2016, , .		4
102	Vibration suppression in multi-body systems by means of disturbance filter design methods. JVC/Journal of Vibration and Control, 2018, 24, 2957-2969.	1.5	4
103	Robust Fractional Order Control of LPV Dynamic Mechatronic Systems. , 2019, , .		4
104	An Autotuning Method for a Fractional Order PD Controller for Vibration Suppression. Advances in Dynamics, Patterns, Cognition, 2019, , 245-256.	0.2	4
105	Reducing the Bullwhip Effect in Supply Chain Management by Applying a Model Predictive Control Ordering Policy. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 481-486.	0.4	3
106	A No-Nonsense Control Engineering Approach to Anaesthesia Control during Induction Phase. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 379-384.	0.4	3
107	Embedded real-time MPC implementation using Rapid Prototyping Tools: A thermal process case study. , 2013, , .		3
108	Fractional order PD ^{1/4} control of a visual servoing manipulator system. , 2013, , .		3

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109	Formation control strategies for emulation of field covering. , 2014, , .		3
110	Decoupled PID control with gain adaptation for a cycling dynamic knee rig. , 2016, , .		3
111	Constrained Multivariable Predictive Control of a Train of Cryogenic 13C Separation Columns. IFAC-PapersOnLine, 2016, 49, 1103-1108.	0.5	3
112	Online weight estimation in a robotic gripper arm. , 2016, , .		3
113	Modelling and identification of a coupled sextuple water tank system. , 2016, , .		3
114	Modelling for control of depth of hypnosis - a patient friendly approach. , 2016, , .		3
115	Benchmark Challenge: a robust fractional order control autotuner for the Refrigeration Systems based on Vapor Compression. IFAC-PapersOnLine, 2018, 51, 31-36.	0.5	3
116	Comparative Analysis of Distributed Model Predictive Control Strategies. , 2019, , .		3
117	Approximation Methods for FO-IMC Controllers for Time Delay Systems. E3S Web of Conferences, 2019, 115, 01003.	0.2	3
118	A Novel Application of Relay Feedback for PID Auto-Tuning. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 107-112.	0.4	2
119	Nonlinear predictive control of a DC-DC converter: A NEPSAC approach. , 2007, , .		2
120	Adaptive control of a pressure-controlled artificial ventilator: A simulator-based evaluation using real COPD patient data. Computer Methods and Programs in Biomedicine, 2011, 104, e178-e188.	2.6	2
121	Switched Nonlinear Predictive Control with Adaptive References for Engagement of Wet Clutches. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 460-465.	0.4	2
122	Towards a Multivariable Model for Controlling the Depth of Anaesthesia using Propofol and Remifentanyl. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 325-330.	0.4	2
123	Validation of a multivariable relay-based PID autotuner with specified robustness. , 2013, , .		2
124	Evaluation of constrained multivariable EPSAC Predictive Control Methodologies. , 2013, , .		2
125	Evaluation of the NEPSAC nonlinear predictive controller on a thermal process. , 2014, , .		2
126	Visual servo control of a Steward platform using fractional-order PID controller. , 2014, , .		2

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127	Comparison of linear control algorithms for a class of nonlinear mechanical actuators. , 2015, , .		2
128	Body levelling of a hexapod robot using the concept of sensor fusion. , 2017, , .		2
129	Minimal information based, simple identification method of fractional order systems for model-based control applications. , 2017, , .		2
130	A Robust PID Autotuning Method for Steam/Water Loop in Large Scale Ships. IFAC-PapersOnLine, 2018, 51, 462-467.	0.5	2
131	Efficient disturbance rejection for dead-time processes using internal model control. , 2018, , .		2
132	Validation of the KC Autotuning Principle on a Multi-Tank Pilot Process. IFAC-PapersOnLine, 2019, 52, 178-183.	0.5	2
133	Decentralized Predictive Formation Control for Mobile Robots without Communication. , 2019, , .		2
134	Robust predictive control of drug dosing during anesthesia. , 2007, , .		1
135	Flow controlled artificial ventilation of a COPD patient. , 2009, , .		1
136	Modeling and simulation of a level control system. , 2010, , .		1
137	Quantifying additive uncertainty in an identified multivariable model for closed loop control of depth of anesthesia*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 577-582.	0.4	1
138	Validation of a simple relay-based PID autotuner with specified modulus margin. , 2012, , .		1
139	Penalty adaptive model predictive control (PAMPC) of constrained, underdamped, non-collocated mechatronic systems. , 2013, , .		1
140	Parameterization through fractional calculus of the stress-strain relation in lungs. , 2014, , .		1
141	Development of a control strategy for efficient operation of a CSTR reactor. , 2015, , .		1
142	Networked communications over a lab-scale test bench for autonomous highway systems. , 2015, , .		1
143	Autotuning method for a fractional order controller for a multivariable ¹³ C isotope separation column. , 2016, , .		1
144	A hierarchical global path planning based on multi-objective particle swarm optimization. , 2016, , .		1

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145	Towards a cyber-medical system for drug assisting devices. Journal of Physics: Conference Series, 2017, 783, 012053.	0.3	1
146	Pharmaco-impedance modelling for lung cancer therapy with predictive control. , 2021, , .		1
147	Model Reduction for Adaptation in Surgery Anaesthesia. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 240-245.	0.4	0
148	Predictive Control Strategy with Online Time Delay Estimation Applied in General Anaesthesia. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 253-258.	0.4	0
149	Evaluation of an Internal Model Control extension for efficient disturbance rejection. , 2013, , .		0
150	Fractional order impedance models as rising tools for quantification of unconscious analgesia. , 2013, , .		0
151	Bridging the gap between modelling and control of anesthesia: An ambitious ideal. , 2014, , .		0
152	Tracking performance evaluation in presence of hard nonlinearities for oscillatory antenna control. , 2015, , .		0
153	Speed control strategy of geophysical measurement platform for archaeological prospection: A conceptual study. , 2016, , .		0
154	Model based control strategies for a class of nonlinear mechanical sub-systems. , 2016, , .		0
155	Experimental comparison between discrete time and event-based PID controllers on a nonlinear process. , 2021, , .		0