Ramon Costa CastellÃ³

List of Publications by Year
in descending order

157 papers	2,333 citations	236833 25 h-index	254106 43 g-index
164 all docs	164 docs citations	164 times ranked	1742 citing authors

#	Article	IF	Citations
1	Odd-Harmonic Digital Repetitive Control of a Single-Phase Current Active Filter. IEEE Transactions on Power Electronics, 2004, 19, 1060-1068.	5.4	193
2	Digital Repetitive Control of a Three-Phase Four-Wire Shunt Active Filter. IEEE Industrial Electronics Magazine, 2007, 54, 1495-1503.	2.3	177
3	Review of control strategies for improving the energy flexibility provided by heat pump systems in buildings. Journal of Process Control, 2019, 74, 35-49.	1.7	110
4	Digital repetitive plug-in controller for odd-harmonic periodic references and disturbances. Automatica, 2005, 41, 153-157.	3.0	107
5	Energy management strategy for fuel cell-supercapacitor hybrid vehicles based on prediction of energy demand. Journal of Power Sources, 2017, 360, 419-433.	4.0	98
6	Demonstration of the Internal Model Principle by Digital Repetitive Control of an Educational Laboratory Plant. IEEE Transactions on Education, 2005, 48, 73-80.	2.0	76
7	Redox Flow Batteries: A Literature Review Oriented to Automatic Control. Energies, 2020, 13, 4514.	1.6	61
8	A Model Predictive Control-Based Energy Management Scheme for Hybrid Storage System in Islanded Microgrids. IEEE Access, 2020, 8, 97809-97822.	2.6	60
9	Assessment of Energy Management in a Fuel Cell/Battery Hybrid Vehicle. IEEE Access, 2019, 7, 16110-16122.	2.6	59
10	Stability analysis of digital repetitive control systems under time-varying sampling period. IET Control Theory and Applications, 2011, 5, 29.	1.2	50
11	Price and carbon-based energy flexibility of residential heating and cooling loads using model predictive control. Sustainable Cities and Society, 2019, 50, 101579.	5.1	50
12	Power factor correction and harmonic compensation using second-order odd-harmonic repetitive control. IET Control Theory and Applications, 2012, 6, 1633.	1.2	48
13	Adaptive Estimation of Time-Varying Parameters With Application to Roto-Magnet Plant. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 731-741.	5.9	45
14	Detection and Mitigation of False Data in Cooperative DC Microgrids With Unknown Constant Power Loads. IEEE Transactions on Power Electronics, 2021, 36, 9565-9577.	5.4	44
15	High-Performance Control of a Single-Phase Shunt Active Filter. IEEE Transactions on Control Systems Technology, 2009, 17, 1318-1329.	3.2	39
16	An Interactivity-Based Methodology to Support Control Education: How to Teach and Learn Using Simple Interactive Tools [Lecture Notes]. IEEE Control Systems, 2016, 36, 63-76.	1.0	39
17	Repetitive controller for time-delay systems based on disturbance observer. IET Control Theory and Applications, 2010, 4, 2391-2404.	1.2	38
18	Repetitive control of servo systems with time delays. Robotics and Autonomous Systems, 2014, 62, 319-329.	3.0	36

#	ARTICLE	IF	CITATIONS
19	Optimal Energy Management in a Standalone Microgrid, with Photovoltaic Generation, Short-Term Storage, and Hydrogen Production. Energies, 2020, 13, 1454.	1.6	36
20	Model-based analysis for the thermal management of open-cathode proton exchange membrane fuel cell systems concerning efficiency and stability. Journal of Process Control, 2016, 47, 201-212.	1.7	35
21	Robust Repetitive Control of Power Inverters for Standalone Operation in DG Systems. IEEE Transactions on Energy Conversion, 2020, 35, 237-247.	3.7	33
22	Experimental Testing of Variable Speed Heat Pump Control Strategies for Enhancing Energy Flexibility in Buildings. IEEE Access, 2019, 7, 37071-37087.	2.6	32
23	Real-Time Adaptive Parameter Estimation for a Polymer Electrolyte Membrane Fuel Cell. IEEE Transactions on Industrial Informatics, 2019, 15, 6048-6057.	7.2	30
24	Learning Respiratory System Function in BME Studies by Means of a Virtual Laboratory: RespiLab. IEEE Transactions on Education, 2008, 51, 24-34.	2.0	29
25	Adaptive compensation strategy for the tracking/rejection of signals with time-varying frequency in digital repetitive control systems. Journal of Process Control, 2010, 20, 551-558.	1.7	26
26	On Addressing the Security and Stability Issues Due to False Data Injection Attacks in DC Microgridsâ€"An Adaptive Observer Approach. IEEE Transactions on Power Electronics, 2022, 37, 2801-2814.	5.4	26
27	Temperature control of open-cathode PEM fuel cells. IFAC-PapersOnLine, 2017, 50, 11088-11093.	0.5	25
28	Observador de alta ganancia con zona muerta ajustable para estimar la saturaciÃ³n de agua lÃquida en pilas de combustible tipo PEM. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2020, 17, 169.	0.6	25
29	On preserving passivity in sampled-data linear systems. , 2006, , .		22
30	Optimal Sizing of Storage Elements for a Vehicle Based on Fuel Cells, Supercapacitors, and Batteries. Energies, 2019, 12, 925.	1.6	22
31	Vanadium Redox Flow Battery State of Charge Estimation Using a Concentration Model and a Sliding Mode Observer. IEEE Access, 2021, 9, 72368-72376.	2.6	22
32	High Performance Control of a Single-Phase Shunt Active Filter. , 2007, , .		21
33	Nonlinear adaptive observation of the liquid water saturation in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2021, 492, 229641.	4.0	21
34	A repetitive controller for discrete-time passive systems. Automatica, 2006, 42, 1605-1610.	3.0	20
35	Discreteâ€time repetitive controller for timeâ€delay systems with disturbance observer. Asian Journal of Control, 2012, 14, 1340-1354.	1.9	19
36	An Analysis of Multi Objective Energy Scheduling in PV-BESS System Under Prediction Uncertainty. IEEE Transactions on Energy Conversion, 2021, 36, 2276-2286.	3.7	19

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37	An Interactive and Comprehensive Software Tool to Promote Active Learning in the Loop Shaping Control System Design. IEEE Access, 2017, 5, 10533-10546.	2.6	18
38	Grid Congestion Mitigation and Battery Degradation Minimisation Using Model Predictive Control in PV-Based Microgrid. IEEE Transactions on Energy Conversion, 2021, 36, 1500-1509.	3.7	18
39	Closed-Loop Shaping Linear Control System Design: An Interactive Teaching/Learning Approach [Focus on Education]. IEEE Control Systems, 2019, 39, 58-74.	1.0	16
40	An adaptive power split strategy with a load disturbance compensator for fuel cell/supercapacitor powertrains. Journal of Energy Storage, 2021, 44, 103341.	3.9	15
41	Voltage H^∞ Control of a Vanadium Redox Flow Battery. Electronics (Switzerland), 2020, 9, 1567.	1.8	14
42	A Passive Repetitive Controller for Discrete-Time Finite-Frequency Positive-Real Systems. IEEE Transactions on Automatic Control, 2009, 54, 800-804.	3.6	13
43	Analysis and design of a robust odd-harmonic repetitive controller for an active filter under variable network frequency. Control Engineering Practice, 2012, 20, 895-903.	3.2	13
44	Control-oriented modelling and analysis of a solid oxide fuel cell system. International Journal of Hydrogen Energy, 2020, 45, 20659-20672.	3.8	13
45	Adaptive Nonlinear Parameter Estimation for a Proton Exchange Membrane Fuel Cell. IEEE Transactions on Power Electronics, 2022, 37, 9012-9023.	5.4	13
46	On Preserving Passivity in Sampled-data Linear Systems. European Journal of Control, 2007, 13, 583-590.	1.6	12
47	Chattering free sliding mode observer estimation of liquid water fraction in proton exchange membrane fuel cells. Journal of the Franklin Institute, 2020, 357, 13816-13833.	1.9	12
48	Energy Management Strategies for Hybrid Energy Storage Systems Based on Filter Control: Analysis and Comparison. Electronics (Switzerland), 2022, 11, 1631.	1.8	12
49	Optimal anti-windup synthesis for repetitive controllers. Journal of Process Control, 2013, 23, 1149-1158.	1.7	11
50	Power active filter control based on a resonant disturbance observer. IET Power Electronics, 2015, 8, 554-564.	1.5	11
51	High Performance Repetitive Control of an Active Filter under Varying Network Frequency. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 3344-3349.	0.4	10
52	Second-order odd-harmonic repetitive control and its application to active filter control. , 2010, , .		10
53	Design and analysis strategies for digital repetitive control systems with time-varying reference/disturbance period. International Journal of Control, 2011, 84, 1209-1222.	1.2	10
54	A repetitive control scheme for distributed solar collector field. International Journal of Control, 2010, 83, 970-982.	1.2	9

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55	Reset Control for DCâ€"DC Converters: An Experimental Application. IEEE Access, 2019, 7, 128487-128497.	2.6	9
56	Precompensated Second Order Repetitive Control of an Active Filter Under Varying Network Frequency. Asian Journal of Control, 2015, 17, 1243-1254.	1.9	8
57	Teaching, Analyzing, Designing and Interactively Simulating Sliding Mode Control. IEEE Access, 2018, 6, 16783-16794.	2.6	8
58	A New Passive Repetitive Controller For Discrete-Time Finite-Frequency Positive-Real Systems. , 2006, , .		7
59	Digital repetitive control under time-varying sampling period: An LMI stability analysis. , 2009, , .		7
60	Interactive Tools to Learn Basic Concepts of Nonlinear Systems Linearization Through a Case Study*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 66-71.	0.4	7
61	A Novel Energy Management Strategy for Fuel-Cell/Supercapacitor Hybrid Vehicles 1 1This work has been supported by the scholarship program BE-CAR of Ministerio de Modernizacion of Argentina, by the project DPI2015-69286-C3-2-R (MINECO/FEDER) and by the European Commission H2020 under the Fuel Cell and Hydrogen Joint Undertaking project INN-BALANCE #735969.. IFAC-PapersOnLine, 2017, 50, 10052-10057.	0.5	7
62	Pollutant Emissions and Combustion Efficiency Assessment of Engines Using Biodiesel. Applied Sciences (Switzerland), 2020, 10, 8646.	1.3	7
63	Resonant Control of a Single-Phase Full-Bridge Unity Power Factor Boost Rectifier. Control Applications (CCA), Proceedings of the IEEE International Conference on, 2007, , .	0.0	6
64	Robust high-order repetitive control of an active filter using an odd-harmonic internal model. , 2010, , .		6
65	Study of fundamental control concepts through interactive learning objects. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 7286-7291.	0.4	6
66	Grid voltage regulation using a reset PI+CI controller for Energy storage systems. IFAC-PapersOnLine, 2018, 51, 226-231.	0.5	6
67	Energy Management Strategy for a Bioethanol Isolated Hybrid System: Simulations and Experiments. Energies, 2018, 11, 1362.	1.6	6
68	An analysis of energy storage system interaction in a multi objective model predictive control based energy management in DC microgrid. , 2019, , .		6
69	Digital control of a single-phase shunt active filter. , 0, , .		5
70	Discrete-Time Resonant Observer Based Control for Periodic Signal Rejection. IEEE Latin America Transactions, 2015, 13, 1279-1285.	1.2	5
71	New Interactive Books for Control Education âŽ âŽThis work has been partially funded by the IEEE Control	0.5	5
72	Repetitive Control to Improve Usersâ€™ Thermal Comfort and Energy Efficiency in Buildings. Energies, 2018, 11, 976.	1.6	5

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73	Temperature Control for a Proton-Exchange Membrane Fuel Cell System with Unknown Dynamic Compensations. Complexity, 2020, 2020, 1-14.	0.9	5
74	Herramientas para la docencia de control digital en grados de ingenierÃa. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2021, 18, 193.	0.6	5
75	PEMFC state and parameter estimation through a high-gain based adaptive observer. IFAC-PapersOnLine, 2020, 53, 5895-5900.	0.5	5
76	Fuel Cell Module Control Based on Switched/Time-Based Adaptive Super-Twisting Algorithm: Design and Experimental Validation. IEEE Transactions on Control Systems Technology, 2023, 31, 434-441.	3.2	5
77	A Novel Repetitive Controlled 3-Phase CVCF PWM Inverter for UPS. , 2007, , .		4
78	An interactive CAD tool to teach and learn Nyquist criterion. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 55-60.	0.4	4
79	Teaching Cascaded Controllers with a Fuel Cell Plant in a Hands-on Laboratory. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 203-207.	0.4	4
80	Repetitive model based predictive controller to reject periodic disturbances.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11494-11499.	0.4	4
81	Autonomous Navigation Control for Quadrotors in Trajectories Tracking. Lecture Notes in Computer Science, 2017, , 287-297.	1.0	4
82	Modeling and control of HTPEMFC based combined heat and power for confort control. , 2017, , .		4
83	Composite PID Control with Unknown Dynamics Estimator for Rotomagnet Plant. IFAC-PapersOnLine, 2018, 51, 817-822.	0.5	4
84	Reset control of boost converters. , 2018, , .		4
85	Experimental validation of a continuous-time MCSI algorithm with bounded adaptive gains. Journal of the Franklin Institute, 2019, 356, 5881-5897.	1.9	4
86	On Teaching Digital Control Systems in a Generic Engineering Degree. IFAC-PapersOnLine, 2019, 52, 103-108.	0.5	4
87	Un enfoque interactivo para el anÃ¡lisis y diseÃ±o de sistemas de control utilizando el mÃ©todo del lugar de las raÃces. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2021, 18, 176.	0.6	4
88	Industrial Robots Fuel Cell Based Hybrid Power-Trains: A Comparison between Different Configurations. Electronics (Switzerland), 2021, 10, 1431.	1.8	4
89	A Repetitive-PD Controller for a Low Order Industrial Plant. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 31-36.	0.4	3
90	Reply to "concerning "odd-harmonic digital repetitive control of a single-phase current active filter"". IEEE Transactions on Power Electronics, 2006, 21, 1159-1160.	5.4	3

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91	Odd-harmonic repetitive control of an active filter under varying network frequency: Control design and stability analysis. , 2010, , .		3
92	Using interactive tools to teach/learn Sliding Mode Control. , 2010, , .		3
93	Digital Repetitive Control under Nonuniform Sampling: An LMI Stability Analysis. Mathematical Problems in Engineering, 2011, 2011, 1-16.	0.6	3
94	An interactive tool to introduce the waterbed effect. IFAC-PapersOnLine, 2015, 48, 259-264.	0.5	3
95	LPV Observer-Based Strategy for Rejection of Periodic Disturbances with Time-Varying Frequency. Mathematical Problems in Engineering, 2015, 2015, 1-9.	0.6	3
96	Different architectures to develop repetitive controllers. IFAC-PapersOnLine, 2017, 50, 13408-13413.	0.5	3
97	Configurations of model predictive control to exploit energy flexibility in building thermal loads. , 2018, , .		3
98	Comparison of Different Repetitive Control Architectures: Synthesis and Comparison. Application to VSI Converters. Electronics (Switzerland), 2018, 7, 446.	1.8	3
99	The use of interactivity in the controller design: Loop shaping versus closed-loop shaping. IFAC-PapersOnLine, 2018, 51, 334-339.	0.5	3
100	Adaptive Online Parameter Estimation Algorithm of PEM Fuel Cells. , 2019, , .		3
101	Robust H_∞ Design for Resonant Control in a CVCF Inverter Application over Load Uncertainties. Electronics (Switzerland), 2020, 9, 66.	1.8	3
102	Power Quality Improvement through a UPQC and a Resonant Observer-Based MIMO Control Strategy. Energies, 2021, 14, 6938.	1.6	3
103	An interactive teaching/learning approach to the design of robust linear control systems using the closed-loop shaping methodology. IFAC-PapersOnLine, 2020, 53, 17174-17178.	0.5	3
104	SOC and diffusion rate estimation in redox flow batteries: An I&I-based high-gain observer approach. , 2021, , .		3
105	Understanding workspace structure of multi-robot systems. , 0, , .		2
106	RESPILAB : A VIRTUAL LABORATORY FOR THE ANALYSIS OF HUMAN RESPIRATORY CONTROL SYSTEM. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 452-457.	0.4	2
107	Adaptive compensation strategy for the tracking/rejection of signals with time-varying frequency in digital repetitive control systems. , 2009, , .		2
108	Virtual laboratories on energy management systems: the Hybrid Electric Vehicle case. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 42, 13-18.	0.4	2

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109	Odd-harmonic repetitive control of an active filter under varying network frequency: Practical considerations. , 2010, , .		2
110	An optimal anti-windup strategy for repetitive control systems. , 2011, , .		2
111	Teaching Model-based Fault Detection and Isolation using Project-based Learning on a Three-tank System. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 9026-9031.	0.4	2
112	On Teaching Model-Based Fault Diagnosis in Engineering Curricula [Lecture Notes]. IEEE Control Systems, 2016, 36, 53-62.	1.0	2
113	Iterative Learning Control Experimental Results in Twin-Rotor Device. Mathematical Problems in Engineering, 2017, 2017, 1-12.	0.6	2
114	H interactive controller design for teaching purposes. IFAC-PapersOnLine, 2020, 53, 17185-17189.	0.5	2
115	Addressing the relative degree restriction in nonlinear adaptive observers: A high-gain observer approach. Journal of the Franklin Institute, 2022, 359, 3857-3882.	1.9	2
116	On Discretizing Linear Passive Controllers. , 0, , .		1
117	USING INTERACTIVE TOOLS TO TEACH AND UNDERSTAND MEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 589-594.	0.4	1
118	Cardiolab : A Virtual Laboratory for the analysis of Human circulatory system. , 2009, , .		1
119	A Virtual/Remote Laboratory to illustrate the Internal Model Principle for periodical signals.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 42, 7-12.	0.4	1
120	Repetitive control of an active filter under varying network frequency: Power factor correction. , 2011, , .		1
121	Repetitive control to counteract the effect of people on thermal comfort control. , 2013, , .		1
122	Nonlinear experiments : a saturation example. IFAC-PapersOnLine, 2015, 48, 200-204.	0.5	1
123	Hands on laboratory for classical nonlinear control systems: The dead-zone case. , 2016, , .		1
124	Energy-efficient full-range oscillation analysis of parallel-plate electrostatically actuated MEMS resonators. Nonlinear Dynamics, 2017, 89, 2889-2904.	2.7	1
125	Chattering Free High Order Sliding Mode Observer for Estimation of Liquid Water Fraction in a Proton Exchange Membrane Fuel Cell. , 2018, , .		1
126	An adaptive disturbance rejection control scheme for voltage regulation in DC micro-grids. , 2019, , .		1

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127	An Interactive Software Tool to Learn/Teach Robust Closed-Loop Shaping Control Systems Design. IEEE Access, 2021, 9, 125805-125821.	2.6	1
128	Adaptive Estimation of Time-Varying Parameters With Application to Roto-Magnet Plant. , 0, .		1
129	Repetitive Control. Lecture Notes in Control and Information Sciences, 2013, , 5-12.	0.6	1
130	Adaptive Parameter Estimation-based Observer Design for Nonlinear Systems. , 2020, , .		1
131	Flow controlling tuning for the voltage of a redox flow battery considering the effect of overpotentials. , 2021, , .		1
132	On state-estimation in weakly-observable scenarios and implicitly regularized observers. , 2021, , .		1
133	Singularity Characterization of DAE Systems Appearing in Constrained Robotic Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 711-716.	0.4	0
134	Virtual Laboratory for the dissemination of energy management systems. The case of the metropolitan transport system. , 2009, , .		0
135	Disturbance observer based repetitive controller for time-delay systems. , 2009, , .		0
136	EJS-Based Laboratory for Learning the Function of the Cardiovascular System. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 42, 19-24.	0.4	0
137	Anti-windup schemes comparison for digital repetitive control. , 2010, , .		0
138	Repetitive Control for Systems with Time-Delays and Application to Robotic Servo Motor. Lecture Notes in Computer Science, 2012, , 377-389.	1.0	0
139	Shunt Active Power Filter. Lecture Notes in Control and Information Sciences, 2013, , 101-137.	0.6	0
140	Rejection of periodic disturbances using MRAC with minimal controller synthesis. , 2016, , .		0
141	Economic MPC for the energy management of hybrid vehicles including fuel cells and supercapacitors. , 2016, , .		0
142	Duino-Based Learning (DBL) in Control Engineering Courses. , 2019, , .		0
143	Control no lineal adaptativo con identificaciã³n dispersa. , 2021, , 365-372.		0
144	Integraciã³n de dispositivos fãsicos en un laboratorio remoto de control mediante diferentes plataformas: Labview, Matlab y C/C++. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2010, 7, 23-34.	0.6	0

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145	Stability Analysis Methods. Lecture Notes in Control and Information Sciences, 2013, , 15-25.	0.6	0
146	Design Methods. Lecture Notes in Control and Information Sciences, 2013, , 27-34.	0.6	0
147	Estrategia de gestión de la energía en vehículos eléctricos con pila de combustible y sistema de almacenamiento híbrido utilizando control predictivo económico. Maskay, 2019, 9, 31.	0.2	0
148	Uso de pilas de combustible PEM de alta temperatura en una aplicación de cogeneración para aplicaciones de confort. , 0, , .		0
149	Duino-based learning (DBL): un proyecto para facilitar el uso de Arduino y MATLAB. , 0, , .		0
150	Observación de la fracción de agua líquida en pilas de combustible tipo PEM de cátodo abierto. , 0, , .		0
151	Construcción y modelado de un prototipo fan & plate para prácticas de control automático. , 0, , .		0
152	Implementación de controladores en Arduino mediante Simulink. , 0, , .		0
153	Set-based Adaptive Parameter Estimation for a Class of Systems with Nonlinear Parametrization. , 2021, , .		0
154	Combined heat and power using high-temperature proton exchange membrane fuel cells for housing facilities. , 2021, , .		0
155	Library-based adaptive observation through a sparsity-promoting adaptive observer. , 2021, , .		0
156	Una estrategia de control mediante observadores para la temperatura en edificio de oficinas. , 0, , .		0
157	MPC como estrategia de gestión energética para un vehículo híbrido eléctrico. , 0, , .		0