Guilherme Raffo

List of Publications by Year
in descending order

73 papers	1,747 citations	623734 14 h-index	315739 38 g-index
73 all docs	73 docs citations	73 times ranked	1454 citing authors

#	Article	IF	Citations
1	An integral predictive/nonlinear <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si21.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi mathvariant="script">H</mml:mi></mml:mrow><mml:mrow><mml:mi>âˇž</mml:mi></mml:mrow></mml:msub></mml:math> control structure for a quadrotor helicopter. Automatica, 2010, 46, 29-39.	5.0	666
2	A Predictive Controller for Autonomous Vehicle Path Tracking. IEEE Transactions on Intelligent Transportation Systems, 2009, 10, 92-102.	8.0	253
3	Backstepping/nonlinear H<inf>&#x221E;</inf> control for path tracking of a quadrotor unmanned aerial vehicle. , 2008, , .		83
4	Path Tracking of a UAV via an Underactuated Control Strategy. European Journal of Control, 2011, 17, 194-213.	2.6	54
5	Robust Nonlinear Control for Path Tracking of a Quadâ€Rotor Helicopter. Asian Journal of Control, 2015, 17, 142-156.	3.0	42
6	Nonlinear robust control of a quadrotor UAV for load transportation with swing improvement. , 2016, , .		40
7	Guaranteed methods based on constrained zonotopes for set-valued state estimation of nonlinear discrete-time systems. Automatica, 2020, 111, 108614.	5.0	40
8	Nonlinear Hâˇž Controller for the Quad-Rotor Helicopter with Input Coupling*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 13834-13839.	0.4	38
9	A nonlinear H-infinity control method for multi-DOF robotic manipulators. Nonlinear Dynamics, 2017, 88, 329-348.	5.2	34
10	A new robust adaptive mixing control for trajectory tracking with improved forward flight of a tilt-rotor UAV. ISA Transactions, 2021, 110, 86-104.	5.7	32
11	Two-wheeled self-balanced pendulum workspace improvement via underactuated robust nonlinear control. Control Engineering Practice, 2015, 44, 231-242.	5.5	30
12	MPC with Nonlinear â„‹âˇž Control for Path Tracking of a Quad-Rotor Helicopter. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 8564-8569.	0.4	29
13	Suspended load path tracking control using a tilt-rotor UAV based on zonotopic state estimation. Journal of the Franklin Institute, 2019, 356, 1695-1729.	3.4	23
14	Towards an Ontology for Autonomous Robots. , 2012, , .		22
15	Set-valued state estimation of nonlinear discrete-time systems with nonlinear invariants based on constrained zonotopes. Automatica, 2021, 129, 109638.	5.0	20
16	Robust Fixed-Wing UAV Guidance with Circulating Artificial Vector Fields. , 2018, , .		18
17	Nonlinear Model Predictive Path Following Controller with Obstacle Avoidance. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 102, 1.	3.4	17
18	Model predictive control of a tilt-rotor UAV for load transportation. , 2016, , .		16

#	Article	IF	Citations
19	Nonlinear Model Predictive Control on SE(3) for Quadrotor Aggressive Maneuvers. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 101, 1.	3.4	16
20	Input–Output Linearizing Control of the Underactuated Hovercraft Using the Derivative-Free Nonlinear Kalman Filter. Unmanned Systems, 2015, 03, 127-142.	3.6	15
21	Set-based state estimation of nonlinear systems using constrained zonotopes and interval arithmetic. , 2018, , .		13
22	A Load Transportation Nonlinear Control Strategy Using a Tilt-Rotor UAV. Journal of Advanced Transportation, 2018, 2018, 1-20.	1.7	13
23	Suspended Load Path Tracking Control Strategy Using a Tilt-Rotor UAV. Journal of Advanced Transportation, 2017, 2017, 1-22.	1.7	12
24	Nonlinear Control of a TiltRotor UAV for Load Transportation**The authors would like to thank the Brazilian research agencies CAPES, CNPq and FAPEMIG for their financial contribution for the accomplishment of this work.. IFAC-PapersOnLine, 2015, 48, 232-237.	0.9	11
25	Tube-based MPC with Nonlinear Control for Load Transportation using a UAV. IFAC-PapersOnLine, 2018, 51, 459-465.	0.9	11
26	Dead–time compensation of constrained linear systems with bounded disturbances: output feedback case. IET Control Theory and Applications, 2013, 7, 52-59.	2.1	10
27	Small scale UAV with birotor configuration. , 2013, , .		10
28	Nonlinear Balance Control of an Inverted Pendulum on a Tilt-rotor UAVˆˆThe authors would like to thank the Brazilian research agencies CAPES, CNPq and FAPEMIG for their financial contribution for the accomplishment of this work.. IFAC-PapersOnLine, 2015, 48, 168-173.	0.9	10
29	An H-infinity nonlinear control approach for multi-DOF robotic manipulators. IFAC-PapersOnLine, 2016, 49, 1406-1411.	0.9	10
30	Autonomous Navigation of Multiple Robots using Supervisory Control Theory. , 2019, , .		10
31	A robust optimal control approach in the weighted Sobolev space for underactuated mechanical systems. Automatica, 2021, 125, 109474.	5.0	10
32	Wireless Communication Infrastructure for a Short-Range Unmanned Aerial. , 2014, , .		8
33	Robust whole-body control of an unmanned aerial manipulator. , 2016, , .		8
34	Path Tracking Control with State Estimation based on Constrained Zonotopes for Aerial Load Transportation. , 2018, , .		8
35	Nonlinear Model Predictive Control on SE(3) for Quadrotor Trajectory Tracking and Obstacle Avoidance. , 2019, , .		8
36	Path tracking Model Predictive Control of a Tilt-rotor UAV carrying a suspended load. , 2016, , .		7

#	Article	IF	Citations
37	A discrete robust adaptive control of a tilt-rotor UAV for an enlarged flight envelope. , 2017, , .		7
38	Nonlinear â„‹<inf>âˆž</inf> control applied to the Personal Pendulum Car. , 2007, , .		6
39	On the prediction error of dead-time compensation control for constrained nonlinear systems. , 2014, , .		5
40	Guaranteed Quadrotor Position Estimation Based on GPS Refreshing Measurementsâˆ—âˆ—The authors would like to thank the MCeI for funding this work through projects DPI2010-19154 and DPI2012-37580-C02-02, as well as FAPEMIG and Programa Institucional de AuxÃlio Ã Pesquisa de Doutores RecÃ©m Contratados of the PRPq/UFMG.. IFAC-PapersOnLine, 2015, 48, 67-72.	0.9	5
41	Managing CPS Complexity: Design Method for Unmanned Aerial Vehicles. IFAC-PapersOnLine, 2016, 49, 141-146.	0.9	5
42	A robust adaptive mixing control for improved forward flight of a tilt-rotor UAV. , 2016, , .		5
43	Suspended load path tracking control based on zonotopic state estimation using a tilt-rotor UAV. , 2016, , .		5
44	AUV Control and Navigation with Differential Flatness Theory and Derivative-Free Nonlinear Kalman Filtering. Intelligent Industrial Systems, 2017, 3, 29-41.	1.0	5
45	Collision-free vector field guidance and MPC for a fixed-wing UAV. , 2021, , .		5
46	Nonlinear control of the underactuated hovercraft using the Derivative-free nonlinear Kalman filter. , 2014, , .		4
47	Distributed Control of Unmanned Surface Vessels Using the Derivative-free Nonlinear Kalman Filter. Intelligent Industrial Systems, 2015, 1, 99-126.	1.0	4
48	Path Following and Trajectory Tracking Model Predictive Control using Artificial Variables for Constrained Vehicles. , 2019, , .		4
49	A Nonlinear W$_{\infty}$Controller of a Tilt-rotor UAV for trajectory tracking. , 2019, , .		4
50	Zonotopic Filtering for Uncertain Nonlinear Systems: Fundamentals, Implementation Aspects, and Extensions [Applications of Control]. IEEE Control Systems, 2022, 42, 19-51.	0.8	4
51	Joint state and parameter estimation based on constrained zonotopes. Automatica, 2022, 142, 110425.	5.0	4
52	Control Predictivo en Cascada de un VehÃculo AutÃ³nomo. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2009, 6, 63-74.	1.0	3
53	An application of the underactuated nonlinear ℋ<inf>∞</inf> controller to two-wheeled self-balanced vehicles. , 2010, , .		3
54	Control of AUVs using differential flatness theory and the derivative-free nonlinear Kalman Filter. AIP Conference Proceedings, 2015, , .	0.4	3

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55	Singular Perturbation Control for the Longitudinal and Lateral-Directional Flight Dynamics of a UAV. IFAC-PapersOnLine, 2018, 51, 124-129.	0.9	3
56	Stability Constraints for Robust Model Predictive Control. Mathematical Problems in Engineering, 2015, 2015, 1-11.	1.1	2
57	Nonlinear <tex>$\mathcal{H}_{2}$</tex> and <tex>$\mathcal{H}_{infty}$</tex> control formulated in the Weighted Sobolev space for underactuated mechanical systems with input coupling. , 2018, , .		2
58	Approximated solutions to the nonlinear H<inf>2</inf> and H<inf>∞</inf> control approaches formulated in the Sobolev space[*]. , 2018, , .		2
59	Tracking Nonlinear Model Predictive Control for Obstacle Avoidance. , 2021, , .		2
60	State Estimation and Leakage Detection in Water Distribution Networks Using Constrained Zonotopes. IEEE Transactions on Control Systems Technology, 2022, 30, 1920-1933.	5.2	2
61	Distributed supervisory control for multiple robot autonomous navigation performing single-robot tasks. Mechatronics, 2022, 86, 102848.	3.3	2
62	RBESP: Reliable and best effort stack protocol for UAV collaboration with WSN. , 2014, , .		1
63	Suspended Load Path Tracking by a Tilt-rotor UAV**This work was supported by the Brazilian agencies CNPq, CAPES, and FAPEMIG.. IFAC-PapersOnLine, 2016, 49, 234-239.	0.9	1
64	Distributed Parameterized Predictive Control for Multi-robot Curve Tracking. IFAC-PapersOnLine, 2020, 53, 3144-3149.	0.9	1
65	Set-based state estimation and fault diagnosis of linear discrete-time descriptor systems using constrained zonotopes. IFAC-PapersOnLine, 2020, 53, 4291-4296.	0.9	1
66	Tutorial 1: Mobile Robotics. , 2011, , .		0
67	Analyzing the Use of Anytime Algorithms on an Unmanned Aerial Vehicle. , 2013, , .		0
68	Flatness-based adaptive fuzzy control of an autonomous submarine model. AIP Conference Proceedings, 2015, , .	0.4	0
69	Target tracking by distributed autonomous vessels using the derivative-free nonlinear Kalman filter. AIP Conference Proceedings, 2015, , .	0.4	0
70	Formation Backstepping Control Based on the Cooperative Dual Task-Space Framework: A Case Study on Unmanned Aerial Vehicles. , 2016, , .		0
71	Nonlinear H and H∞ control formulated in the Sobolev space for mechanical systems. IFAC-PapersOnLine, 2018, 51, 96-101.	0.9	0
72	Modeling and Control of an Aerial Manipulator from the Perspective of its End-effector. , 0, , .		0

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73	Enforcing State-Based Opacity using Synchronizing Automata. , 2021, , .		0