

Fernando Lobo Pereira

List of Publications by Year in descending order

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164
papers

1,613
citations

361296

20
h-index

434063

31
g-index

174
all docs

174
docs citations

174
times ranked

790
citing authors

#	ARTICLE	IF	CITATIONS
1	A Maximum Principle for Optimal Processes with Discontinuous Trajectories. SIAM Journal on Control and Optimization, 1988, 26, 205-229.	1.1	108
2	Necessary conditions of optimality for vector-valued impulsive control problems. Systems and Control Letters, 2000, 40, 205-215.	1.3	74
3	The Maximum Principle for Optimal Control Problems with State Constraints by R.V. Gamkrelidze: Revisited. Journal of Optimization Theory and Applications, 2011, 149, 474-493.	0.8	74
4	Blockchain and smart contracts for higher education registry in Brazil. International Journal of Network Management, 2019, 29, e2061.	1.4	65
5	Optimal Rendezvous Trajectory for Unmanned Aerial-Ground Vehicles. IEEE Transactions on Aerospace and Electronic Systems, 2018, 54, 834-847.	2.6	58
6	IMC: A communication protocol for networked vehicles and sensors. , 2009, , .		57
7	A Nondegenerate Maximum Principle for the Impulse Control Problem with State Constraints. SIAM Journal on Control and Optimization, 2005, 43, 1812-1843.	1.1	47
8	A new approach to the Pontryagin maximum principle for nonlinear fractional optimal control problems. Mathematical Methods in the Applied Sciences, 2016, 39, 3640-3649.	1.2	47
9	Neptus - a framework to support multiple vehicle operation. , 2005, , .		44
10	Mission planning and specification in the Neptus framework. , 0, , .		39
11	UAV and AUVs coordination for ocean exploration. , 2009, , .		34
12	Pontryagin's maximum principle for constrained impulsive control problems. Nonlinear Analysis: Theory, Methods & Applications, 2012, 75, 1045-1057.	0.6	32
13	Necessary Conditions for Impulsive Nonlinear Optimal Control Problems without a priori Normality Assumptions. Journal of Optimization Theory and Applications, 2005, 124, 55-77.	0.8	30
14	A new ROV design: issues on low drag and mechanical symmetry. , 2005, , .		29
15	Hamilton-Jacobi-Bellman Equation and Feedback Synthesis for Impulsive Control. IEEE Transactions on Automatic Control, 2012, 57, 244-249.	3.6	28
16	On a generalization of the impulsive control concept: Controlling system jumps. Discrete and Continuous Dynamical Systems, 2011, 29, 403-415.	0.5	27
17	On the properness of an impulsive control extension of dynamic optimization problems. ESAIM - Control, Optimisation and Calculus of Variations, 2015, 21, 857-875.	0.7	26
18	Mapping and initial dilution estimation of an ocean outfall plume using an autonomous underwater vehicle. Continental Shelf Research, 2007, 27, 583-593.	0.9	25

#	ARTICLE	IF	CITATIONS
19	On constrained impulsive control problems. <i>Journal of Mathematical Sciences</i> , 2010, 165, 654-688.	0.1	25
20	On a Few Questions Regarding the Study of State-Constrained Problems in Optimal Control. <i>Journal of Optimization Theory and Applications</i> , 2019, 180, 235-255.	0.8	25
21	Regular path-constrained time-optimal control problems in three-dimensional flow fields. <i>European Journal of Control</i> , 2020, 56, 98-106.	1.6	25
22	Stability for impulsive control systems. <i>Dynamical Systems</i> , 2002, 17, 421-434.	0.2	24
23	Second Order Necessary Conditions for Optimal Impulsive Control Problems. <i>Journal of Dynamical and Control Systems</i> , 2003, 9, 131-153.	0.4	23
24	Maximum principle in problems with mixed constraints under weak assumptions of regularity. <i>Optimization</i> , 2010, 59, 1067-1083.	1.0	22
25	An Indirect Method for Regular State-Constrained Optimal Control Problems in Flow Fields. <i>IEEE Transactions on Automatic Control</i> , 2021, 66, 787-793.	3.6	20
26	On some extension of optimal control theory. <i>European Journal of Control</i> , 2014, 20, 284-291.	1.6	19
27	A Predictive Path-Following Approach for Fixed-Wing Unmanned Aerial Vehicles in Presence of Wind Disturbances. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 623-634.	0.5	19
28	SLAM algorithm applied to robotics assistance for navigation in unknown environments. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2010, 7, 10.	2.4	18
29	Deep learning in exchange markets. <i>Information Economics and Policy</i> , 2019, 47, 38-51.	1.7	18
30	Invariance for impulsive control systems. <i>Automation and Remote Control</i> , 2008, 69, 788-800.	0.4	17
31	Second-Order Necessary Optimality Conditions for Problems Without A Priori Normality Assumptions. <i>Mathematics of Operations Research</i> , 2006, 31, 1-12.	0.8	16
32	Control Design for Autonomous Vehicles: A Dynamic Optimization Perspective. <i>European Journal of Control</i> , 2001, 7, 178-202.	1.6	15
33	Coordinated Control of Networked Vehicles: An Autonomous Underwater System. <i>Automation and Remote Control</i> , 2004, 65, 1037-1045.	0.4	14
34	Investigation of regularity conditions in optimal control problems with geometric mixed constraints. <i>Optimization</i> , 2016, 65, 185-206.	1.0	14
35	A Hierarchical Framework For The Optimal Flow Control In Manufacturing Systems. , 0, ,		13
36	On the solvability of implicit differential inclusions. <i>Applicable Analysis</i> , 2015, 94, 129-143.	0.6	12

#	ARTICLE	IF	CITATIONS
37	Lyapunov Stability of Measure Driven Impulsive Systems. Differential Equations, 2004, 40, 1122-1130.	0.1	11
38	Measure-controlled dynamic systems: Polyhedral approximation of their reachable set boundary. Automation and Remote Control, 2006, 67, 350-360.	0.4	11
39	Predictive Control for Path-Following. From Trajectory Generation to the Parametrization of the Discrete Tracking Sequences. Lecture Notes in Control and Information Sciences, 2015, , 161-181.	0.6	11
40	A fully distributed method for distributed multiagent system in a microgrid. Energy Reports, 2021, 7, 2294-2301.	2.5	11
41	Design of a mission management system for the autonomous underwater vehicle MARIUS. , 0, , .		10
42	Investigation of Controllability and Regularity Conditions for State Constrained Problems * *This publication was supported by the Russian Foundation for Basic Research, project no. 16-31-60005, and by the Ministry of Education and Science of the Russian Federation (Agreement number 02.a03.21.0008) Tj ETQq0,0,0 rgBT /Overlock 1	0.5	10
43	support of the Russian Science Foundation (project no. 17-11-01168). The third author also acknowledges the support. IFAC-PapersOnLine, 2017, 50, 6295-6302. An indirect numerical method for a time-optimal state-constrained control problem in a steady two-dimensional fluid flow. , 2018, , .		10
44	Optimal Impulsive Control. Lecture Notes in Control and Information Sciences, 2019, , .	0.6	10
45	Nonlinear Analysis and Optimization. Journal of Optimization Theory and Applications, 2019, 180, 1-4.	0.8	10
46	A receding horizon strategy for the hierarchical control of manufacturing systems. , 0, , .		9
47	A Model Predictive Control-Based Architecture for Cooperative Path-Following of Multiple Unmanned Aerial Vehicles. Lecture Notes in Control and Information Sciences, 2015, , 141-160.	0.6	9
48	Optimal Multi-process Control of a Two Vortex Driven Particle in the Plane. IFAC-PapersOnLine, 2017, 50, 2193-2198.	0.5	9
49	Integrated maneuver and control design for ROV operations. , 2003, , .		8
50	On the feedback control of impulsive dynamic systems. , 2008, , .		8
51	State Constraints in Impulsive Control Problems: Gamkrelidze-Like Conditions of Optimality. Journal of Optimization Theory and Applications, 2015, 166, 440-459.	0.8	8
52	Sensor systems on networked vehicles. Networks and Heterogeneous Media, 2009, 4, 223-247.	0.5	8
53	An automatic path planing system for autonomous robotic vehicles. , 0, , .		7
54	On the receding horizon hierarchical optimal control of manufacturing systems. Journal of Intelligent Manufacturing, 1997, 8, 425-433.	4.4	7

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55	Post mission trajectory smoothing for the Isurus AUV. , 2003, , .		7
56	Modeling and control of the IES project ROV. , 2003, , .		7
57	Dynamic programming based feedback control for systems with switching costs. , 2012, , .		7
58	Feedback Maximum Principle for Ensemble Control of Local Continuity Equations: An Application to Supervised Machine Learning. , 2022, 6, 1046-1051.		7
59	First and second order necessary conditions of optimality for impulsive control problems. , 0, , .		6
60	Sewage outfall plume dispersion observations with an Autonomous Underwater Vehicle. Water Science and Technology, 2005, 52, 283-290.	1.2	6
61	An impulsive framework for the control of hybrid systems. , 2007, , .		6
62	Necessary Optimality Conditions for Problems with Equality and Inequality Constraints: Abnormal Case. Journal of Optimization Theory and Applications, 2009, 140, 391-408.	0.8	6
63	Pontryagin's maximum principle for optimal impulsive control problems. Doklady Mathematics, 2010, 81, 418-421.	0.1	6
64	Monte Carlo uncertainty maps-based for mobile robot autonomous SLAM navigation. , 2010, , .		6
65	A Maximum Principle for Constrained Infinite Horizon Dynamic Control Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10207-10212.	0.4	6
66	Autonomous Simultaneous Localization and Mapping driven by Monte Carlo uncertainty maps-based navigation. Knowledge Engineering Review, 2013, 28, 35-57.	2.1	6
67	Minimax optimal control problem with state constraints. European Journal of Control, 2016, 32, 24-31.	1.6	6
68	Path-constrained trajectory time-optimization in a three-dimensional steady flow field. , 2019, , .		6
69	Trajectory generation for a remotely operated vehicle. , 2003, , .		6
70	Multiple UAV teams for multiple tasks. , 2009, , .		5
71	Conditions for the absence of jumps of the solution to the adjoint system of the maximum principle for optimal control problems with state constraints. Proceedings of the Steklov Institute of Mathematics, 2016, 292, 27-35.	0.1	5
72	Cooperative Human-Machine Interaction in Industrial Environments. , 2018, , .		5

#	ARTICLE	IF	CITATIONS
73	Model Predictive Control for Autonomous Underwater Vehicles. <i>Procedia Computer Science</i> , 2019, 150, 19-27.	1.2	5
74	A Regularization Approach to Analyze the Time-Optimal Motion of a Mobile Robot under State Constraints using Pontryagin's Maximum Principle. <i>Procedia Computer Science</i> , 2021, 186, 11-20.	1.2	5
75	Optimal Control Problems in Drone Operations for Disaster Search and Rescue. <i>Procedia Computer Science</i> , 2021, 186, 78-86.	1.2	5
76	A Differential Game with Graph Constrained Switching Strategies. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001, 34, 887-891.	0.4	4
77	Large scale data collection using networks of heterogeneous vehicles and sensors. , 2009, , .		4
78	Cooperative Autonomous Underwater Vehicle localization. , 2010, , .		4
79	Model Predictive Control of Impulsive Dynamical Systems. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 305-310.	0.4	4
80	An Optimal Control Framework for Resources Management in Agriculture. <i>Conference Papers in Mathematics</i> , 2013, 2013, 1-15.	0.5	4
81	An Optimization-Based Framework for Impulsive Control Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2015, , 277-300.	0.6	4
82	A Model Predictive Control Scheme for Autonomous Underwater Vehicle Formation Control. , 2018, , .		4
83	Necessary Conditions of Optimality in the Gamkrelidze's Form for State Constrained Problems With Differential Inclusion. , 2020, 4, 958-963.		4
84	Optimal Control of Quantum Systems by Pontryagin Maximum Principle. <i>U Porto Journal of Engineering</i> , 2022, 8, 194-201.	0.2	4
85	Hybrid maneuver for gradient search with multiple coordinated AUVs. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2004, 37, 233-238.	0.4	3
86	Mission Review and Analysis. , 2006, , .		3
87	New problems of optimal path coordination for multi-vehicle systems. , 2009, , .		3
88	Chemical plume source localization with multiple Autonomous Underwater Vehicles. , 2010, , .		3
89	R.V. Gamkrelidze's maximum principle for optimal control problems with bounded phase coordinates and its relation to other optimality conditions. <i>Doklady Mathematics</i> , 2011, 83, 131-135.	0.1	3
90	Necessary conditions of optimality for state constrained infinite horizon differential inclusions. , 2011, , .		3

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91	On the extension of classical calculus of variations and optimal control to problems with discontinuous trajectories. , 2012, , .		3
92	A Model Predictive Control Approach to AUVs Motion Coordination. Lecture Notes in Control and Information Sciences, 2015, , 9-18.	0.6	3
93	Developments in Model-Based Optimization and Control. Lecture Notes in Control and Information Sciences, 2015, , .	0.6	3
94	Optimal power consumption motion control of a fish-like vehicle in a vortices vector field. , 2017, , .		3
95	A remark on the continuity of the measure Lagrange multiplier in state constrained optimal control problems. , 2018, , .		3
96	A General Attainable-Set Model Predictive Control Scheme. Application to AUV Operations. IFAC-PapersOnLine, 2018, 51, 314-319.	0.5	3
97	A Framework for the Control of Bilevel Sweeping Processes. , 2019, , .		3
98	Regular perturbations to the motion of a three-wheeled mobile robot with the front-wheel drive under restricted state variables. , 2020, , .		3
99	Investigation of a perturbation method to solve essentially non-regular time-optimal control problems with state constraints. , 2020, , .		3
100	Time-Optimal Control Problem with State Constraints in a Time-Periodic Flow Field. Communications in Computer and Information Science, 2020, , 340-354.	0.4	3
101	Necessary Conditions of Optimality for a Time-Optimal Bi-level Sweeping Control Problem. IFAC-PapersOnLine, 2020, 53, 6831-6836.	0.5	3
102	Optimal Control of a Passive Particle Advected by a Lambâ€™Oseen (Viscous) Vortex. Computation, 2022, 10, 87.	1.0	3
103	Linear-Quadratic Problems of Optimal Control in the Space of Probabilities. , 2022, , 1-1.		3
104	Necessary conditions for optimal control problems with discontinuous trajectories. Journal of Economic Dynamics and Control, 1986, 10, 115-118.	0.9	2
105	A methodology for replanning collision free trajectories for a mobile robot. , 0, , .		2
106	Hamilton-Jacobi Conditions for an Impulsive Control Problem. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 1297-1302.	0.4	2
107	On linear and nonlinear tracking of the wheeled mobile robot. , 2009, , .		2
108	Experimental results with value function based control of an AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 164-169.	0.4	2

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109	Adaptive Sampling Using an Unsupervised Learning of GMMs Applied to a Fleet of AUVs with CTD Measurements. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 321-332.	0.5	2
110	A Robust Reach Set MPC Scheme for Control of AUVs. <i>Advances in Intelligent Systems and Computing</i> , 2018, , 213-224.	0.5	2
111	Attainable-Set Model Predictive Control for AUV Formation Control. , 2018, , .		2
112	Optimal Control Framework for AUV's Motion Planning in Planar Vortices Vector Field. , 2018, , .		2
113	Second-Order Necessary Optimality Conditions in Optimal Impulsive Control Problems. <i>Differential Equations</i> , 2018, 54, 1083-1101.	0.1	2
114	A framework for e-cooperating business agents: An application to the (re)engineering of production facilities. , 2003, , 189-204.		2
115	Trajectory Tracking for a Multicopter under a Quaternion Representation. <i>IFAC-PapersOnLine</i> , 2020, 53, 5731-5736.	0.5	2
116	Invariance for impulsive control systems. , 0, , .		1
117	Simultaneous Control, Navigation and Target Tracking for Robotic Formations. , 2006, , .		1
118	Video Summary - Neptus, Command and Control Infrastructure for Heterogeneous Teams of Autonomous Vehicles. , 2007, , .		1
119	An underwater cooperative navigation scheme. , 2013, , .		1
120	Reachability analysis of dynamic programming based controlled systems. , 2013, , .		1
121	Optimal Control of Particle Advection in Couette and Poiseuille Flows. <i>Conference Papers in Mathematics</i> , 2013, 2013, 1-4.	0.5	1
122	A moving path following approach for trajectory optimization of UAVs: An application for target tracking of marine vehicles. , 2016, , .		1
123	Investigation of second-order optimality conditions for impulsive control problems under the Frobenius condition. , 2017, , .		1
124	A Short Survey on Measure-Driven Optimal Control Problems. , 2018, , .		1
125	Optimization of Controlled Free-Time Sweeping Processes with Applications to Marine Surface Vehicle Modeling. , 2021, , 1-1.		1
126	Roll Padding and WaveNet for Multivariate Time Series in Human Activity Recognition. <i>Advances in Intelligent Systems and Computing</i> , 2021, , 238-248.	0.5	1

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127	Necessary conditions of optimality for impulsive control problems with state constraints. , 2007, , .		1
128	Investigation of Conditions for Non-degeneracy and Normality in Control Problems with Equality and Inequality State Constraints. IFAC-PapersOnLine, 2020, 53, 6869-6874.	0.5	1
129	Smart Disaster Risk Reduction and Emergency Management in the Built Environment. Structural Integrity, 2022, , 315-340.	0.8	1
130	Maximum Principle and Second-Order Optimality Conditions in Control Problems with Mixed Constraints. Axioms, 2022, 11, 40.	0.9	1
131	Localisation system for an autonomous mobile platform. , 0, , .		0
132	User-assisted trajectory generation- of underwater vehicles. , 2003, , .		0
133	Necessary optimality conditions for impulsive control problems *. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 2-12.	0.4	0
134	AN IMPLEMENTATION OF A FRAMEWORK FOR COOPERATIVE ENGINEERING. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 25-30.	0.4	0
135	Motion Planning and Control of Coordinated Systems. , 0, , .		0
136	Nondegenerate Necessary Conditions of Optimality for Problems Without Normality Assumptions. , 0, , .		0
137	A set-valued framework for coordinated motion control of networked vehicles. Journal of Computer and Systems Sciences International, 2006, 45, 824-830.	0.2	0
138	Portable control console for autonomous ocean-going vehicles. , 2009, , .		0
139	A Maximum Principle for Infinite Time Asymptotically Stable Impulsive Dynamic Control Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1326-1331.	0.4	0
140	Underwater plume tracing with an AUV cooperative navigation scheme based on the simplex algorithm. , 2013, , .		0
141	Herbicide Dosage Optimization Model for Weed Control Using the Resistance Dynamics. , 2013, , .		0
142	Reachability analysis of dynamic programming based controlled systems: An extended algorithm. , 2014, , .		0
143	On properness of impulsive extension. , 2014, , .		0
144	Application of covering mappings to constrained dynamic systems and differential inclusions. , 2014, , .		0

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145	Obstacle Avoidance Framework Based on Reach Sets. <i>Advances in Intelligent Systems and Computing</i> , 2018, , 768-779.	0.5	0
146	Maximum Principle for the Optimal Control of the Obukhov Model. , 2018, , .		0
147	A Recursive Algorithm Based on the Maximum Principle of Pontryagin. , 2018, , .		0
148	A Generalized Filippov-like Existence Theorem for Optimal Control Problems with Constraints. <i>Procedia Computer Science</i> , 2019, 150, 478-487.	1.2	0
149	A Framework for the Sustainable Control and Optimization of Resources in Agriculture. , 2019, , .		0
150	Impulsive Control Problems with State Constraints. <i>Lecture Notes in Control and Information Sciences</i> , 2019, , 99-119.	0.6	0
151	Optimal Impulsive Control Problems Motivated by Mechanical Systems With Vibrations and Blockable DOFs. , 2021, 5, 701-706.		0
152	Necessary Conditions of Optimality in the Gamkrelidze's Form for General Dynamic Control Systems with State and Mixed Constraints. , 2021, , .		0
153	Crowd Motion Paradigm Modeled by a Bilevel Sweeping Control Problem. , 2022, 6, 385-390.		0
154	Explaining the definition of wholesale access prices in the Portuguese telecommunications industry. <i>Journal of Dynamics and Games</i> , 2021, , .	0.6	0
155	High Level Architecture for Trading Agents in Betting Exchange Markets. <i>Advances in Intelligent Systems and Computing</i> , 2013, , 497-510.	0.5	0
156	Impulsive observation and control strategies in minimax problems. , 1997, , .		0
157	On the Optimal Control of Flow Driven Dynamic Systems. <i>CIM Series in Mathematical Sciences</i> , 2015, , 183-189.	0.4	0
158	Impulsive Control Problems Under Borel Measurability. <i>Lecture Notes in Control and Information Sciences</i> , 2019, , 19-38.	0.6	0
159	Impulsive Control Problems Without the Frobenius Condition. <i>Lecture Notes in Control and Information Sciences</i> , 2019, , 75-97.	0.6	0
160	General Nonlinear Impulsive Control Problems. <i>Lecture Notes in Control and Information Sciences</i> , 2019, , 153-172.	0.6	0
161	Impulsive Control Problems Under the Frobenius Condition. <i>Lecture Notes in Control and Information Sciences</i> , 2019, , 39-74.	0.6	0
162	Direct numerical solution of a time-optimal state-constrained control problem in a flow. , 2020, , .		0

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163	Investigation of Quasi-Optimal Motion of a Mobile Robot: the Maximum Principle Based Approach* , 2020, , .		0
164	A Maximum Principle for a Time-Optimal Bilevel Sweeping Control Problem. Journal of Optimization Theory and Applications, 2022, 192, 1022-1051.	0.8	0