Marco Ariola

List of Publications by Year in descending order

170 papers	5,253 citations	136950 32 h-index	95266 68 g-index
176 all docs	176 docs citations	176 times ranked	2747 citing authors

#	Article	IF	Citations
1	Annular Stochastic Finite-Time Stability Using Piecewise Quadratic Lyapunov Functions. , 2022, 6, 277-282.		6
2	Constrained Reference Tracking via Structured Input–Output Finite-Time Stability. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 7411-7421.	9.3	2
3	Development of a concept and basis for the DEMO diagnostic and control system. Fusion Engineering and Design, 2022, 179, 113122.	1.9	16
4	New conditions for finite–time stability of impulsive dynamical systems via piecewise quadratic functions. IET Control Theory and Applications, 2022, 16, 1341-1351.	2.1	2
5	Enhanced performance in fusion plasmas through turbulence suppression by megaelectronvolt ions. Nature Physics, 2022, 18, 776-782.	16.7	36
6	Annular finite-time stability analysis and synthesis of stochastic linear time-varying systems. International Journal of Control, 2021, 94, 2252-2263.	1.9	16
7	Sweeping control performance on DEMO device. Fusion Engineering and Design, 2021, 171, 112640.	1.9	7
8	Model predictive control of resistive wall mode for ITER. Fusion Engineering and Design, 2020, 160, 111877.	1.9	1
9	On the Numerical Solution of Differential Linear Matrix Inequalities. Journal of Optimization Theory and Applications, 2020, 185, 540-553.	1.5	9
10	Conditions for annular finite–time stability of Itô stochastic linear time–varing systems with Markov switching. IET Control Theory and Applications, 2020, 14, 626-633.	2.1	15
11	On the finite-time boundedness of linear systems. Automatica, 2019, 107, 454-466.	5.0	24
12	An Observer-Based Output Feedback Controller for the Finite-Time Stabilization of Markov Jump Linear Systems. , 2019, 3, 763-768.		17
13	Overview of the JET preparation for deuterium–tritium operation with the ITER like-wall. Nuclear Fusion, 2019, 59, 112021.	3.5	87
14	Simulation of magnetic control of the plasma shape on the DEMO tokamak. Fusion Engineering and Design, 2019, 146, 728-731.	1.9	8
15	Diagnostics for plasma control – From ITER to DEMO. Fusion Engineering and Design, 2019, 146, 465-472.	1.9	71
16	Runaway electron beam control. Plasma Physics and Controlled Fusion, 2019, 61, 014036.	2.1	26
17	A Hypersonic Application of the Fully Sensor-Less Virtual Air Data Algorithm. , 2018, , .		1
18	14 MeV calibration of JET neutron detectors—phase 1: calibration and characterization of the neutron source. Nuclear Fusion, 2018, 58, 026012.	3.5	22

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19	Model predictive control of ITER plasma current and shape using singular-value decomposition. Fusion Engineering and Design, 2018, 129, 158-163.	1.9	9
20	Annular Finite-Time Stabilization of Stochastic Linear Time-Varying Systems. , 2018, , .		10
21	Hybrid architecture for vehicle lateral collision avoidance. IET Control Theory and Applications, 2018, 12, 1941-1950.	2.1	10
22	Obstacle Avoidance via Landmark Clustering in a Path-Planning Algorithm. , 2018, , .		7
23	Model predictive control for a multi-body slung-load system. Robotics and Autonomous Systems, 2017, 92, 1-11.	5.1	49
24	Efficient generation of energetic ions in multi-ion plasmas by radio-frequency heating. Nature Physics, 2017, 13, 973-978.	16.7	73
25	The DTT proposal. A tokamak facility to address exhaust challenges for DEMO: Introduction and executive summary. Fusion Engineering and Design, 2017, 122, 274-284.	1.9	32
26	Diagnostics, data acquisition and control of the divertor test tokamak experiment. Fusion Engineering and Design, 2017, 122, 365-374.	1.9	5
27	A 3D Decentralized Guidance and Control System for a Swarm of Multi-Copters. IFAC-PapersOnLine, 2017, 50, 5788-5793.	0.9	0
28	Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution [a]. Nuclear Fusion, 2017, 57, 102014.	3.5	23
29	Development of an autonomous multi-rotor UAV for outdoor missions in unknown environments. , 2017, , .		1
30	Overview of the JET results in support to ITER. Nuclear Fusion, 2017, 57, 102001.	3.5	150
31	Vehicle collision avoidance via control over a finite-time horizon. , 2017, , .		2
32	Overview of the TCV tokamak program: scientific progress and facility upgrades. Nuclear Fusion, 2017, 57, 102011.	3.5	52
33	A strategy for the optimal choice of the magnetic sensors for the estimation of plasma parameters with fault tolerance in the ITER tokamak. , 2016, , .		0
34	Plasma current and shape control for ITER using fast online MPC. , 2016, , .		1
35	Plasma Shape Control for ITER. Advances in Industrial Control, 2016, , 117-127.	0.5	0
36	Control of the Resistive Wall Modes for the ITER Tokamak. Advances in Industrial Control, 2016, , 169-180.	0.5	0

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37	Plasma Shape Control at JET. Advances in Industrial Control, 2016, , 143-167.	0.5	0
38	On the Realization of an Embedded Subtractor Module for the Control of Chemical Reaction Networks. IEEE Transactions on Automatic Control, 2016, 61, 3638-3643.	5.7	20
39	Magnetic Control of Tokamak Plasmas. Advances in Industrial Control, 2016, , .	0.5	29
40	Plasma Magnetic Control Problem. Advances in Industrial Control, 2016, , 77-90.	0.5	0
41	Plasma Modelling for Magnetic Control. Advances in Industrial Control, 2016, , 23-41.	0.5	2
42	The Plasma Boundary and Its Identification. Advances in Industrial Control, 2016, , 43-62.	0.5	0
43	Optimal number and position of the magnetic sensors for plasma shape identification in ITER. , 2016, , .		0
44	Improving the performance of the JET Shape Controller. Fusion Engineering and Design, 2015, 96-97, 668-671.	1.9	3
45	Design and nonlinear validation of the ITER magnetic control system. , 2015, , .		6
46	Overview of the JET results. Nuclear Fusion, 2015, 55, 104001.	3.5	50
47	An SFDI Observerâ€"Based Scheme for a General Aviation Aircraft. International Journal of Applied Mathematics and Computer Science, 2015, 25, 149-158.	1.5	8
48	The science program of the TCV tokamak: exploring fusion reactor and power plant concepts. Nuclear Fusion, 2015, 55, 104004.	3.5	37
49	Shape Control with the eXtreme Shape Controller During Plasma Current Ramp-Up and Ramp-Down at the JET Tokamak. Journal of Fusion Energy, 2014, 33, 149-157.	1.2	11
50	Finite-Time Stability and Control. Lecture Notes in Control and Information Sciences, 2014, , .	1.0	131
51	Control of resistive wall modes in tokamak plasmas. Control Engineering Practice, 2014, 24, 15-24.	5.5	13
52	FTS Analysis Via PQLFs. Lecture Notes in Control and Information Sciences, 2014, , 67-87.	1.0	0
53	Italian unmanned space vehicle mission: Flight results of the Virtual Air Data algorithm. , 2013, , .		4
54	Reconfigurable flight control laws for re-entry vehicles. , 2013, , .		2

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55	Overview of the JET results with the ITER-like wall. Nuclear Fusion, 2013, 53, 104002.	3.5	70
56	An SFDI observer-based scheme for a general aviation aircraft. , 2013, , .		1
57	Domain of attraction and guaranteed cost control for nonâ€linear quadratic systems. Part 2: controller design. IET Control Theory and Applications, 2013, 7, 565-572.	2.1	10
58	Shape control with the XSC during plasma current ramp-up and ramp-down at the JET tokamak. , 2013, , .		3
59	Optimization of the magnetic diagnostic for plasma shape identification in tokamak machines. , 2013, , .		4
60	Piecewise quadratic functions for finite-time stability analysis. , 2012, , .		5
61	Simultaneous control of modes with multiple toroidal periodicity in tokamak plasmas. , 2012, , .		0
62	A Convex Condition for Robust Stability Analysis via Polyhedral Lyapunov Functions. SIAM Journal on Control and Optimization, 2012, 50, 490-506.	2.1	7
63	Exploitation of modularity in the JET tokamak vertical stabilization system. Control Engineering Practice, 2012, 20, 846-856.	5.5	15
64	Domain of attraction and guaranteed cost control for non-linear quadratic systems. Part 1. Analysis. IET Control Theory and Applications, 2012, 6, 2611-2618.	2.1	9
65	Control of Elongated Plasma in Presence of ELMs in the JET Tokamak. IEEE Transactions on Nuclear Science, 2011, 58, 1497-1502.	2.0	19
66	Robust vertical control of ITER plasmas via static output feedback. , 2011, , .		3
67	Robust finite-time stabilisation of uncertain linear systems. International Journal of Control, 2011, 84, 2117-2127.	1.9	36
68	Overview of modelling activities for Plasma Control Upgrade in JET. Fusion Engineering and Design, 2011, 86, 1030-1033.	1.9	17
69	First plasma operation of the enhanced JET vertical stabilisation system. Fusion Engineering and Design, 2011, 86, 539-543.	1.9	19
70	Current, Position, and Shape Control in Tokamaks. Fusion Science and Technology, 2011, 59, 486-498.	1.1	20
71	Input to Output Finite-Time Stabilization of Discrete-Time Linear Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 156-161.	0.4	11
72	Robust finiteâ€time stability of impulsive dynamical linear systems subject to normâ€bounded uncertainties. International Journal of Robust and Nonlinear Control, 2011, 21, 1080-1092.	3.7	60

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73	Exploitation of modularity in the JET tokamak Vertical Stabilization system. , 2011, , .		3
74	Plasma Vertical Stabilization in the ITER Tokamak via Constrained Static Output Feedback. IEEE Transactions on Control Systems Technology, 2011, 19, 376-381.	5.2	39
75	Assessment of alternative vessel and blanket design on ITER operation. Fusion Engineering and Design, 2010, 85, 2245-2250.	1.9	0
76	Stability and instability conditions using polyhedral Lyapunov functions. IET Control Theory and Applications, 2010, 4, 1179-1187.	2.1	7
77	Finite-time stability of linear systems: an approach based on polyhedral Lyapunov functions. IET Control Theory and Applications, 2010, 4, 1767-1774.	2.1	14
78	Finite-time control of discrete-time linear systems: Analysis and design conditions. Automatica, 2010, 46, 919-924.	5.0	207
79	Finite-Time Stability of Linear Time-Varying Systems: Analysis and Controller Design. IEEE Transactions on Automatic Control, 2010, 55, 1003-1008.	5.7	254
80	Output feedback control of nonlinear quadratic systems. , 2010, , .		24
81	Using magnetic diagnostics to extrapolate operational limits in elongated tokamak plasmas. , 2010, , .		1
82	Robust stability: A relaxation method for the generation of polyhedral Lyapunov functions. , 2010, , .		3
83	Overview of JET results. Nuclear Fusion, 2009, 49, 104006.	3.5	46
84	ITER vertical stabilization system. Fusion Engineering and Design, 2009, 84, 394-397.	1.9	9
85	Finite-time stability of linear time-varying systems with jumps. Automatica, 2009, 45, 1354-1358.	5.0	229
86	Path Generation and Tracking in 3-D for UAVs. IEEE Transactions on Control Systems Technology, 2009, 17, 980-988.	5.2	118
87	Robust stability via polyhedral Lyapunov functions. , 2009, , .		2
88	Design of the Plasma Position and Shape Control in the ITER Tokamak Using In-Vessel Coils. IEEE Transactions on Plasma Science, 2009, 37, 1324-1331.	1.3	27
89	H_∞ optimal terminal control for linear systems with delayed states and controls. Automatica, 2008, 44, 2676-2679.	5.0	9
90	The JET PCU project: An international plasma control project. Fusion Engineering and Design, 2008, 83, 202-206.	1.9	35

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91	Finite-time stability analysis of linear discrete-time systems via polyhedral Lyapunov functions. , 2008, , .		10
92	Finite-time stabilization of impulsive dynamical linear systems. , 2008, , .		3
93	A two-time-scale dynamic-model approach for magnetic and kinetic profile control in advanced tokamak scenarios on JET. Nuclear Fusion, 2008, 48, 106001.	3.5	73
94	Plasma position and shape control in ITER using in-vessel coils. , 2008, , .		4
95	Design and Implementation of an Output Regulation Controller for the JET Tokamak. IEEE Transactions on Control Systems Technology, 2008, 16, 1101-1111.	5.2	26
96	Plasma Strike-Point Sweeping on JET Tokamak With the eXtreme Shape Controller. IEEE Transactions on Plasma Science, 2008, 36, 834-840.	1.3	17
97	Basic issues on tokamak plasma magnetic control. , 2008, , .		2
98	A procedure for robust stability analysis of discrete-time systems via polyhedral Lyapunov functions. , 2008, , .		3
99	Finite-time stability of linear time-varying systems with jumps: Analysis and controller design. , 2008, , .		5
100	Real-Time Profile Control for Advanced Tokamak Operation. AIP Conference Proceedings, 2008, , .	0.4	3
101	Integrated Plasma Shape and Boundary Flux Control on JET Tokamak. Fusion Science and Technology, 2008, 53, 789-805.	1.1	11
102	Optimal steady-state control for linear non-right-invertible systems. IET Control Theory and Applications, 2007, 1, 604-610.	2.1	25
103	Development of steady-state scenarios compatible with ITER-like wall conditions. Plasma Physics and Controlled Fusion, 2007, 49, B529-B550.	2.1	33
104	Finite-time stability of linear systems: an approach based on polyhedral Lyapunov functions. , 2007, , .		4
105	State feedback control of nonlinear quadratic systems. , 2007, , .		23
106	XSC Tools: A Software Suite for Tokamak Plasma Shape Control Design and Validation. IEEE Transactions on Plasma Science, 2007, 35, 709-723.	1.3	34
107	Finite-Time Control of Linear Systems: A Survey. , 2006, , 195-213.		32
108	Algorithms for 3D UAV Path Generation and Tracking. , 2006, , .		45

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109	Finite-time stabilization via dynamic output feedback. Automatica, 2006, 42, 337-342.	5.0	416
110	The Role of Controls in Nuclear Fusion. , 2006, , .		7
111	Finite-Time Output Feedback Control of Linear Systems via Differential Linear Matrix Conditions. , 2006, , .		27
112	Graphic tools for plasma shape control design and validation. , 2006, , .		1
113	A mixed decoupling/decentralized controller for coil current control in tokamaks. , 2006, , .		1
114	A multiple-time-scale approach to the control of ITBs on JET. , 2006, , .		1
115	DESIGN AND EXPERIMENTAL TESTING OF A MULTIVARIABLE SHAPE CONTROLLER FOR THE JET TOKAMAK. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 496-501.	0.4	0
116	FINITE-TIME OUTPUT FEEDBACK CONTROL OF DISCRETE-TIME SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 514-519.	0.4	5
117	XSC plasma control: Tool development for the session leader. Fusion Engineering and Design, 2005, 74, 521-525.	1.9	8
118	The system architecture of the new JET Shape Controller. Fusion Engineering and Design, 2005, 74, 587-591.	1.9	5
119	Design, implementation and test of the XSC extreme shape controller in JET. Fusion Engineering and Design, 2005, 74, 627-632.	1.9	34
120	Development of real-time diagnostics and feedback algorithms for JET in view of the next step. Plasma Physics and Controlled Fusion, 2005, 47, 395-407.	2.1	15
121	Plasma shape control for the JET tokamak: an optimal output regulation approach. IEEE Control Systems, 2005, 25, 65-75.	0.8	56
122	A model-based technique for integrated real-time profile control in the JET tokamak. Plasma Physics and Controlled Fusion, 2005, 47, 155-183.	2.1	69
123	Finite-time control of discrete-time linear systems. IEEE Transactions on Automatic Control, 2005, 50, 724-729.	5.7	403
124	Finite-time stability of discrete-time systems. , 2004, , .		21
125	Control of linear discrete-time systems over a finite-time interval. , 2004, , .		6
126	Bounded Control of Multiple-Delay Systems with Applications to ATM Networks. Lecture Notes in Computational Science and Engineering, 2004, , 339-353.	0.3	0

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127	Next-generation plasma control in the DIII-D tokamak. Fusion Engineering and Design, 2003, 66-68, 749-753.	1.9	18
128	A new shape controller for extremely shaped plasmas in JET. Fusion Engineering and Design, 2003, 66-68, 797-802.	1.9	25
129	Upgrade of the present JET shape and vertical stability controller. Fusion Engineering and Design, 2003, 66-68, 803-807.	1.9	25
130	Plasma modeling for position and current control in FTU. Fusion Engineering and Design, 2003, 66-68, 681-689.	1.9	6
131	Integrated scenario in JET using real-time profile control. Plasma Physics and Controlled Fusion, 2003, 45, A367-A383.	2.1	55
132	An Application of the Singular Perturbation Decomposition to Plasma Position and Shape Control. European Journal of Control, 2003, 9, 433-443.	2.6	9
133	Reduced-order solutions for the singular H/sup â^ž/ filtering problem. IEEE Transactions on Automatic Control, 2003, 48, 271-275.	5.7	3
134	Overview of JET results. Nuclear Fusion, 2003, 43, 1540-1554.	3.5	38
135	Robust Finite-Time Stabilization via Dynamic Output Feedback: An LMI Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 413-418.	0.4	5
136	Finite-time control with pole placement. , 2003, , .		2
137	An Application of the Singular Perturbation Decomposition to Plasma Position and Shape Control. European Journal of Control, 2003, 9, 433-434.	2.6	6
138	Design and experimental testing of a robust multivariable controller on a tokamak. IEEE Transactions on Control Systems Technology, 2002, 10, 646-653.	5.2	31
139	Statistical learning methods in linear algebra and control problems: the example of finite-time control of uncertain linear systems. Linear Algebra and Its Applications, 2002, 351-352, 11-26.	0.9	11
140	A control scheme to deal with coil current saturation in a Tokamak. IEEE Transactions on Control Systems Technology, 2001, 9, 831-838.	5.2	18
141	An application of the singular perturbation decomposition to plasma position and shape control. , 2001, , .		0
142	Applications of Statistical-Learning Methods in Systems and Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 175-180.	0.4	0
143	An integrated approach to the control of magnetically confined plasmas. Fusion Engineering and Design, 2001, 56-57, 705-709.	1.9	0
144	Statistical learning control of uncertain systems: theory and algorithms. Applied Mathematics and Computation, 2001, 120, 31-43.	2.2	10

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145	Finite-time control of linear systems subject to parametric uncertainties and disturbances. Automatica, 2001, 37, 1459-1463.	5.0	831
146	Improved sample complexity estimates for statistical learning control of uncertain systems. IEEE Transactions on Automatic Control, 2000, 45, 2383-2388.	5.7	52
147	Dynamic output feedback finite-time control of LTI systems subject to parametric uncertainties and disturbances. , 1999, , .		18
148	Finite-time control for uncertain linear systems with disturbance inputs. , 1999, , .		15
149	Quantified inequalities and robust control. , 1999, , 373-390.		3
150	A Framework for the Design of a Plasma Current and Shape Controller in Next-Generation Tokamaks. Fusion Science and Technology, 1999, 36, 263-277.	0.6	12
151	A Modern Plasma Controller Tested on the TCV Tokamak. Fusion Science and Technology, 1999, 36, 126-138.	0.6	45
152	Robust finite-time stabilization of linear uncertain systems via gain-scheduled output feedback. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1999, 32, 3325-3330.	0.4	3
153	Can better modelling improve tokamak control?. , 0, , .		4
154	Plasma current and shape control in tokamaks using H/sub âˆž/ and Î¼-synthesis. , 0, , .		24
155	A model based controller design approach for the TCV tokamak. , 0, , .		1
156	Robust finite-time stabilization of linear systems depending on parametric uncertainties. , 0, , .		6
157	Statistical controller design for the linear benchmark problem. , 0, , .		4
158	Statistical learning control of delay systems: theory and algorithms. , 0, , .		1
159	Design and experimental testing of robust MIMO controllers on TCV. , 0, , .		0
160	Statistical-learning control of an ABR explicit rate algorithm for ATM switches. , 0, , .		3
161	Vertical stabilization and plasma shape control in the ITER-FEAT tokamak. , 0, , .		5
162	Reduced order solutions for the singular H/sup âˆž/ filtering problem. , 0, , .		1

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163	Necessary and sufficient conditions for finite-time stability of linear systems. , 0, , .		48
164	Bounded controller design of an ABR explicit rate algorithm for ATM switches. , 0, , .		0
165	Optimal regulation for linear non right-invertible plants. , 0, , .		5
166	Finite time control via output feedback: a general approach. , 0, , .		4
167	Controlling extremely shaped plasmas in the JET tokamak. , 0, , .		5
168	Finite-time control of linear time-varying systems via output feedback. , 0, , .		24
169	Bounded control of multiple-delay systems with applications to ATM networks. , 0, , .		7
170	Saturated Controller Design of an ABR Explicit Rate Algorithm for ATM Switches. Lecture Notes in Control and Information Sciences, 0, , 159-176.	1.0	0