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	Finite-time control of linear systems subject to parametric uncertainties and disturbances. Automatica, 2001, 37, 1459-1463.	5.0	831
2	Finite-time stabilization via dynamic output feedback. Automatica, 2006, 42, 337-342.	5.0	416
3	Finite-time control of discrete-time linear systems. IEEE Transactions on Automatic Control, 2005, 50, 724-729.	5.7	403
4	Finite-Time Stability of Linear Time-Varying Systems: Analysis and Controller Design. IEEE Transactions on Automatic Control, 2010, 55, 1003-1008.	5.7	254
5	Finite-time stability of linear time-varying systems with jumps. Automatica, 2009, 45, 1354-1358.	5.0	229
6	Finite-time control of discrete-time linear systems: Analysis and design conditions. Automatica, 2010, 46, 919-924.	5.0	207
7	Overview of the JET results in support to ITER. Nuclear Fusion, 2017, 57, 102001.	3.5	150
8	Finite-Time Stability and Control. Lecture Notes in Control and Information Sciences, 2014, , .	1.0	131
9	Path Generation and Tracking in 3-D for UAVs. IEEE Transactions on Control Systems Technology, 2009, 17, 980-988.	5.2	118
10	Overview of the JET preparation for deuterium–tritium operation with the ITER like-wall. Nuclear Fusion, 2019, 59, 112021.	3.5	87
11	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
12	Efficient generation of energetic ions in multi-ion plasmas by radio-frequency heating. Nature Physics, 2017, 13, 973-978.	16.7	73
13	Diagnostics for plasma control – From ITER to DEMO. Fusion Engineering and Design, 2019, 146, 465-472.	1.9	71
14	Overview of the JET results with the ITER-like wall. Nuclear Fusion, 2013, 53, 104002.	3.5	70
15	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
16	Robust finite–time stability of impulsive dynamical linear systems subject to norm–bounded uncertainties. International Journal of Robust and Nonlinear Control, 2011, 21, 1080-1092.	3.7	60
17	Plasma shape control for the JET tokamak: an optimal output regulation approach. IEEE Control Systems, 2005, 25, 65-75.	0.8	56
18	Integrated scenario in JET using real-time profile control. Plasma Physics and Controlled Fusion, 2003, 45, A367-A383.	2.1	55

#	Article	IF	Citations
19	Improved sample complexity estimates for statistical learning control of uncertain systems. IEEE Transactions on Automatic Control, 2000, 45, 2383-2388.	5.7	52
20	Overview of the TCV tokamak program: scientific progress and facility upgrades. Nuclear Fusion, 2017, 57, 102011.	3.5	52
21	Overview of the JET results. Nuclear Fusion, 2015, 55, 104001.	3.5	50
22	Model predictive control for a multi-body slung-load system. Robotics and Autonomous Systems, 2017, 92, 1-11.	5.1	49
23	Necessary and sufficient conditions for finite-time stability of linear systems. , 0, , .		48
24	Overview of JET results. Nuclear Fusion, 2009, 49, 104006.	3.5	46
25	A Modern Plasma Controller Tested on the TCV Tokamak. Fusion Science and Technology, 1999, 36, 126-138.	0.6	45
26	Algorithms for 3D UAV Path Generation and Tracking. , 2006, , .		45
27	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
28	Overview of JET results. Nuclear Fusion, 2003, 43, 1540-1554.	3.5	38
29	The science program of the TCV tokamak: exploring fusion reactor and power plant concepts. Nuclear Fusion, 2015, 55, 104004.	3.5	37
30	Robust finite-time stabilisation of uncertain linear systems. International Journal of Control, 2011, 84, 2117-2127.	1.9	36
31	Enhanced performance in fusion plasmas through turbulence suppression by megaelectronvolt ions. Nature Physics, 2022, 18, 776-782.	16.7	36
32	The JET PCU project: An international plasma control project. Fusion Engineering and Design, 2008, 83, 202-206.	1.9	35
33	Design, implementation and test of the XSC extreme shape controller in JET. Fusion Engineering and Design, 2005, 74, 627-632.	1.9	34
34	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
35	Development of steady-state scenarios compatible with ITER-like wall conditions. Plasma Physics and Controlled Fusion, 2007, 49, B529-B550.	2.1	33
36	Finite-Time Control of Linear Systems: A Survey. , 2006, , 195-213.		32

#	ARTICLE	IF	CITATIONS
37	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
38	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
39	Magnetic Control of Tokamak Plasmas. Advances in Industrial Control, 2016, , .	0.5	29
40	Finite-Time Output Feedback Control of Linear Systems via Differential Linear Matrix Conditions. , 2006, , .		27
41	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
42	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
43	Runaway electron beam control. Plasma Physics and Controlled Fusion, 2019, 61, 014036.	2.1	26
44	A new shape controller for extremely shaped plasmas in JET. Fusion Engineering and Design, 2003, 66-68, 797-802.	1.9	25
45	Upgrade of the present JET shape and vertical stability controller. Fusion Engineering and Design, 2003, 66-68, 803-807.	1.9	25
46	Optimal steady-state control for linear non-right-invertible systems. IET Control Theory and Applications, 2007, 1, 604-610.	2.1	25
47	Plasma current and shape control in tokamaks using H/sub âˆž/ and Î¼-synthesis. , 0, , .		24
48	Finite-time control of linear time-varying systems via output feedback. , 0, , .		24
49	Output feedback control of nonlinear quadratic systems. , 2010, , .		24
50	On the finite-time boundedness of linear systems. Automatica, 2019, 107, 454-466.	5.0	24
51	State feedback control of nonlinear quadratic systems. , 2007, , .		23
52	Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution [a]. Nuclear Fusion, 2017, 57, 102014.	3.5	23
53	14 MeV calibration of JET neutron detectorsâ€"phase 1: calibration and characterization of the neutron source. Nuclear Fusion, 2018, 58, 026012.	3.5	22
54	Finite-time stability of discrete-time systems. , 2004, , .		21

#	Article	IF	Citations
55	Current, Position, and Shape Control in Tokamaks. Fusion Science and Technology, 2011, 59, 486-498.	1.1	20
56	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
57	Control of Elongated Plasma in Presence of ELMs in the JET Tokamak. IEEE Transactions on Nuclear Science, 2011, 58, 1497-1502.	2.0	19
58	First plasma operation of the enhanced JET vertical stabilisation system. Fusion Engineering and Design, 2011, 86, 539-543.	1.9	19
59	Dynamic output feedback finite-time control of LTI systems subject to parametric uncertainties and disturbances. , 1999, , .		18
60	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
61	Next-generation plasma control in the DIII-D tokamak. Fusion Engineering and Design, 2003, 66-68, 749-753.	1.9	18
62	Plasma Strike-Point Sweeping on JET Tokamak With the eXtreme Shape Controller. IEEE Transactions on Plasma Science, 2008, 36, 834-840.	1.3	17
63	Overview of modelling activities for Plasma Control Upgrade in JET. Fusion Engineering and Design, 2011, 86, 1030-1033.	1.9	17
64	An Observer-Based Output Feedback Controller for the Finite-Time Stabilization of Markov Jump Linear Systems. , 2019, 3, 763-768.		17
65	Annular finite-time stability analysis and synthesis of stochastic linear time-varying systems. International Journal of Control, 2021, 94, 2252-2263.	1.9	16
66	Development of a concept and basis for the DEMO diagnostic and control system. Fusion Engineering and Design, 2022, 179, 113122.	1.9	16
67	Finite-time control for uncertain linear systems with disturbance inputs. , 1999, , .		15
68	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
69	Exploitation of modularity in the JET tokamak vertical stabilization system. Control Engineering Practice, 2012, 20, 846-856.	5.5	15
70	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
71	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
72	Control of resistive wall modes in tokamak plasmas. Control Engineering Practice, 2014, 24, 15-24.	5.5	13

#	Article	IF	Citations
73	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
74	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
75	Integrated Plasma Shape and Boundary Flux Control on JET Tokamak. Fusion Science and Technology, 2008, 53, 789-805.	1.1	11
76	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
77	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
78	Statistical learning control of uncertain systems: theory and algorithms. Applied Mathematics and Computation, 2001, 120, 31-43.	2.2	10
79	Finite-time stability analysis of linear discrete-time systems via polyhedral Lyapunov functions. , 2008, , .		10
80	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
81	Annular Finite-Time Stabilization of Stochastic Linear Time-Varying Systems. , 2018, , .		10
82	Hybrid architecture for vehicle lateral collision avoidance. IET Control Theory and Applications, 2018, 12, 1941-1950.	2.1	10
83	An Application of the Singular Perturbation Decomposition to Plasma Position and Shape Control. European Journal of Control, 2003, 9, 433-443.	2.6	9
84	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi>H</mml:mi></mml:mrow><mml:mrow><mml:mi>â^ž</mml:mi></mml:mrow></m optimal terminal control for linear systems with delayed states and controls. Automatica, 2008, 44, 2676-2679.	5.0	9
85	ITER vertical stabilization system. Fusion Engineering and Design, 2009, 84, 394-397.	1.9	9
86	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
87	Model predictive control of ITER plasma current and shape using singular-value decomposition. Fusion Engineering and Design, 2018, 129, 158-163.	1.9	9
88	On the Numerical Solution of Differential Linear Matrix Inequalities. Journal of Optimization Theory and Applications, 2020, 185, 540-553.	1.5	9
89	XSC plasma control: Tool development for the session leader. Fusion Engineering and Design, 2005, 74, 521-525.	1.9	8
90	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

#	Article	IF	Citations
91	Simulation of magnetic control of the plasma shape on the DEMO tokamak. Fusion Engineering and Design, 2019, 146, 728-731.	1.9	8
92	The Role of Controls in Nuclear Fusion. , 2006, , .		7
93	Stability and instability conditions using polyhedral Lyapunov functions. IET Control Theory and Applications, 2010, 4, 1179-1187.	2.1	7
94	A Convex Condition for Robust Stability Analysis via Polyhedral Lyapunov Functions. SIAM Journal on Control and Optimization, 2012, 50, 490-506.	2.1	7
95	Obstacle Avoidance via Landmark Clustering in a Path-Planning Algorithm. , 2018, , .		7
96	Sweeping control performance on DEMO device. Fusion Engineering and Design, 2021, 171, 112640.	1.9	7
97	Bounded control of multiple-delay systems with applications to ATM networks. , 0, , .		7
98	Robust finite-time stabilization of linear systems depending on parametric uncertainties. , 0, , .		6
99	Plasma modeling for position and current control in FTU. Fusion Engineering and Design, 2003, 66-68, 681-689.	1.9	6
100	Control of linear discrete-time systems over a finite-time interval. , 2004, , .		6
101	Design and nonlinear validation of the ITER magnetic control system. , 2015, , .		6
102	Annular Stochastic Finite-Time Stability Using Piecewise Quadratic Lyapunov Functions. , 2022, 6, 277-282.		6
103	An Application of the Singular Perturbation Decomposition to Plasma Position and Shape Control. European Journal of Control, 2003, 9, 433-434.	2.6	6
104	Vertical stabilization and plasma shape control in the ITER-FEAT tokamak. , 0, , .		5
105	Optimal regulation for linear non right-invertible plants. , 0, , .		5
106	Controlling extremely shaped plasmas in the JET tokamak. , 0, , .		5
107	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
108	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

#	Article	IF	Citations
109	The system architecture of the new JET Shape Controller. Fusion Engineering and Design, 2005, 74, 587-591.	1.9	5
110	Finite-time stability of linear time-varying systems with jumps: Analysis and controller design. , 2008, , .		5
111	Piecewise quadratic functions for finite-time stability analysis. , 2012, , .		5
112	Diagnostics, data acquisition and control of the divertor test tokamak experiment. Fusion Engineering and Design, 2017, 122, 365-374.	1.9	5
113	Can better modelling improve tokamak control?. , 0, , .		4
114	Statistical controller design for the linear benchmark problem. , 0, , .		4
115	Finite time control via output feedback: a general approach. , 0, , .		4
116	Finite-time stability of linear systems: an approach based on polyhedral Lyapunov functions. , 2007, , .		4
117	Plasma position and shape control in ITER using in-vessel coils. , 2008, , .		4
118	Italian unmanned space vehicle mission: Flight results of the Virtual Air Data algorithm. , 2013, , .		4
119	Optimization of the magnetic diagnostic for plasma shape identification in tokamak machines. , 2013, , .		4
120	Quantified inequalities and robust control. , 1999, , 373-390.		3
121	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
122	Statistical-learning control of an ABR explicit rate algorithm for ATM switches. , 0, , .		3
123	Reduced-order solutions for the singular H/sup âˆž/ filtering problem. IEEE Transactions on Automatic Control, 2003, 48, 271-275.	5.7	3
124	Finite-time stabilization of impulsive dynamical linear systems. , 2008, , .		3
125	A procedure for robust stability analysis of discrete-time systems via polyhedral Lyapunov functions. , 2008, , .		3
126	Real-Time Profile Control for Advanced Tokamak Operation. AIP Conference Proceedings, 2008, , .	0.4	3

#	ARTICLE	IF	CITATIONS
127	Robust stability: A relaxation method for the generation of polyhedral Lyapunov functions. , 2010, , .		3
128	Robust vertical control of ITER plasmas via static output feedback. , 2011, , .		3
129	Exploitation of modularity in the JET tokamak Vertical Stabilization system. , 2011, , .		3
130	Shape control with the XSC during plasma current ramp-up and ramp-down at the JET tokamak. , 2013, , .		3
131	Improving the performance of the JET Shape Controller. Fusion Engineering and Design, 2015, 96-97, 668-671.	1.9	3
132	Finite-time control with pole placement. , 2003, , .		2
133	Basic issues on tokamak plasma magnetic control. , 2008, , .		2
134	Robust stability via polyhedral Lyapunov functions. , 2009, , .		2
135	Reconfigurable flight control laws for re-entry vehicles. , 2013, , .		2
136	Vehicle collision avoidance via control over a finite-time horizon. , 2017, , .		2
137	Plasma Modelling for Magnetic Control. Advances in Industrial Control, 2016, , 23-41.	0.5	2
138	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
139	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
140	A model based controller design approach for the TCV tokamak. , 0, , .		1
141	Statistical learning control of delay systems: theory and algorithms. , 0, , .		1
142	Reduced order solutions for the singular H/sup â˘ž/ filtering problem. , 0, , .		1
143	Graphic tools for plasma shape control design and validation. , 2006, , .		1
144	A mixed decoupling/decentralized controller for coil current control in tokamaks. , 2006, , .		1

#	Article	IF	Citations
145	A multiple-time-scale approach to the control of ITBs on JET. , 2006, , .		1
146	Using magnetic diagnostics to extrapolate operational limits in elongated tokamak plasmas. , 2010, , .		1
147	An SFDI observer-based scheme for a general aviation aircraft. , 2013, , .		1
148	Plasma current and shape control for ITER using fast online MPC. , 2016, , .		1
149	Development of an autonomous multi-rotor UAV for outdoor missions in unknown environments. , 2017, , .		1
150	A Hypersonic Application of the Fully Sensor-Less Virtual Air Data Algorithm. , 2018, , .		1
151	Model predictive control of resistive wall mode for ITER. Fusion Engineering and Design, 2020, 160, 111877.	1.9	1
152	Design and experimental testing of robust MIMO controllers on TCV. , 0, , .		0
153	An application of the singular perturbation decomposition to plasma position and shape control. , 2001, , .		0
154	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
155	An integrated approach to the control of magnetically confined plasmas. Fusion Engineering and Design, 2001, 56-57, 705-709.	1.9	0
156	Bounded controller design of an ABR explicit rate algorithm for ATM switches. , 0, , .		0
157	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
158	Assessment of alternative vessel and blanket design on ITER operation. Fusion Engineering and Design, 2010, 85, 2245-2250.	1.9	0
159	Simultaneous control of modes with multiple toroidal periodicity in tokamak plasmas. , 2012, , .		0
160	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
161	Plasma Shape Control for ITER. Advances in Industrial Control, 2016, , 117-127.	0.5	0
162	Control of the Resistive Wall Modes for the ITER Tokamak. Advances in Industrial Control, 2016, , 169-180.	0.5	0

#	Article	IF	Citations
163	Plasma Shape Control at JET. Advances in Industrial Control, 2016, , 143-167.	0.5	0
164	A 3D Decentralized Guidance and Control System for a Swarm of Multi-Copters. IFAC-PapersOnLine, 2017, 50, 5788-5793.	0.9	0
165	Bounded Control of Multiple-Delay Systems with Applications to ATM Networks. Lecture Notes in Computational Science and Engineering, 2004, , 339-353.	0.3	0
166	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
167	FTS Analysis Via PQLFs. Lecture Notes in Control and Information Sciences, 2014, , 67-87.	1.0	0
168	Plasma Magnetic Control Problem. Advances in Industrial Control, 2016, , 77-90.	0.5	0
169	The Plasma Boundary and Its Identification. Advances in Industrial Control, 2016, , 43-62.	0.5	0
170	Optimal number and position of the magnetic sensors for plasma shape identification in ITER. , 2016, , .		0