Antonio Tornambe

List of Publications by Year in descending order

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121 papers	1,470 citations	471509 17 h-index	395702 33 g-index
125 all docs	125 docs citations	125 times ranked	711 citing authors

#	Article	IF	Citations
1	On the Use of the Time-Integrals of the Output in Observer Design for Nonlinear Autonomous Systems. IEEE Transactions on Automatic Control, 2022, 67, 336-343.	5.7	3
2	Trajectory tracking of a bouncing ball in a triangular billiard by unfolding and folding the billiard table. International Journal of Control, 2022, 95, 2642-2655.	1.9	1
3	A solution to the path planning problem via algebraic geometry and reinforcement learning. Journal of the Franklin Institute, 2022, 359, 1732-1754.	3.4	4
4	Distance to Internal Instability of Linear Time-Invariant Systems Under Structured Perturbations. IEEE Transactions on Automatic Control, 2021, 66, 1941-1956.	5.7	3
5	A dynamical interval Newton method. European Journal of Control, 2021, 59, 290-300.	2.6	2
6	A locally convergent continuous-time algorithm to find all the roots of a time-varying polynomial. Automatica, 2021, 131, 109681.	5.0	0
7	On the uniform algebraic observability of multi-switching linear systems. International Journal of Control, 2021, 94, 2175-2185.	1.9	0
8	Algebraic approaches for the design of simultaneous observers for linear systems. IET Control Theory and Applications, 2020, 14, 52-62.	2.1	0
9	A symbolic algorithm to compute immersions of polynomial systems into linear ones up to an output injection. Journal of Symbolic Computation, 2020, 99, 1-20.	0.8	2
10	Trajectory tracking in rectangular billiards by unfolding the billiard table. IFAC-PapersOnLine, 2020, 53, 6195-6200.	0.9	2
11	Algebraic tests for the asymptotic stability of parametric linear systems. IFAC-PapersOnLine, 2020, 53, 4434-4439.	0.9	0
12	Algebraic analysis of the structural properties of parametric linear timeâ€invariant systems. IET Control Theory and Applications, 2020, 14, 3568-3579.	2.1	3
13	Algebraic certificates for the structural properties of parametric linear systems. IFAC-PapersOnLine, 2020, 53, 4676-4681.	0.9	1
14	Observability analysis of discontinuous dynamical systems via algebraic geometry. , 2019, , .		1
15	Boolean network analysis through the joint use of linear algebra and algebraic geometry. Journal of Theoretical Biology, 2019, 472, 46-53.	1.7	5
16	Observers for Linear Systems by the Time Integrals and Moving Average of the Output. IEEE Transactions on Automatic Control, 2019, 64, 4859-4874.	5.7	10
17	A linear algebra method to decompose forms whose length is lower than the number of variables into weighted sum of squares. International Journal of Control, 2019, 92, 2647-2666.	1.9	1
18	Newton-like algorithms for the inversion of switched maps. Automatica, 2019, 104, 228-232.	5.0	6

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19	Algebraic Certificates of (Semi)Definiteness for Polynomials Over Fields Containing the Rationals. IEEE Transactions on Automatic Control, 2018, 63, 158-173.	5.7	9
20	Algebraic Methods for Multiobjective Optimal Design of Control Feedbacks for Linear Systems. IEEE Transactions on Automatic Control, 2018, 63, 4188-4203.	5.7	14
21	A Newton-like algorithm to compute the inverse of a nonlinear map that converges in finite time. Automatica, 2018, 89, 411-414.	5.0	14
22	Deadâ€beat regulation of mechanical juggling systems. Asian Journal of Control, 2018, 20, 1-11.	3.0	164
23	An Algorithm to Design Pareto Optimal Controllers for Linear Systems. , 2018, , .		0
24	A Certificate of Global Asymptotic Stability for Planar Polynomial Systems. , 2018, , .		0
25	Tracking of a Bouncing Ball in a Planar Billiard Through Continuous-Time Approximations. Journal of Computational and Nonlinear Dynamics, 2018, 13, .	1.2	4
26	Boolean network representation of a continuous-time system and finite-horizon optimal control: application to the single-gene regulatory system for the lac operon. International Journal of Control, 2017, 90, 519-552.	1.9	10
27	A â€œpracticalâ€•observer for nonlinear systems. , 2017, , .		12
28	Synchronization of two gyroscopes with measures affected by an unknown sinusoidal disturbance. , 2017, , .		1
29	State immersion observers for mechanical systems with impacts. , 2016, , .		3
30	Switching Signal Estimator Design for a Class of Elementary Systems. IEEE Transactions on Automatic Control, 2016, 61, 1362-1367.	5.7	26
31	On the computation of the continuous-time reference trajectory for mechanical juggling systems. , 2015, , .		10
32	Sinusoidal disturbance rejection in chaotic planar oscillators. International Journal of Adaptive Control and Signal Processing, 2015, 29, 1578-1590.	4.1	16
33	Exact Sum Of Squares decomposition of univariate polynomials. , 2015, , .		5
34	Stabilization of Polynomial Nonlinear Systems by Algebraic Geometry Techniques. IEEE Transactions on Automatic Control, 2015, 60, 2482-2487.	5.7	10
35	On polynomial vector fields having a given affine variety as attractive and invariant set: application to robotics. International Journal of Control, 2015, , 1-25.	1.9	9
36	Application of algebraic geometry techniques in permanent-magnet DC motor fault detection and identification. European Journal of Control, 2015, 25, 39-50.	2.6	16

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37	On f-invariant and attractive affine varieties for continuous-time polynomial systems: The case of robot motion planning. , 2014, , .		9
38	On observer design for a class of continuous-time affine switched or switching systems. , 2014, , .		15
39	On a Lyapunov equation for polynomial continuous-time systems. International Journal of Control, 2014, 87, 393-403.	1.9	12
40	Motion planning for a unicycle-like mobile robot, using algebraic attractive curves. , 2014, , .		4
41	Nonlinear Superposition Formulas for Two Classes of Non-holonomic Systems. Journal of Dynamical and Control Systems, 2014, 20, 365-382.	0.8	2
42	High-gain observers for nonlinear systems with trajectories close to unobservability. European Journal of Control, 2014, 20, 118-131.	2.6	5
43	On the use of algebraic geometry for the design of high-gain observers for continuous-time polynomial systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 43-48.	0.4	10
44	Special issue on â€˜periodic systems and robust controlâ€™ dedicated to Osvaldo Maria Grasselli. International Journal of Control, 2013, 86, 1201-1206.	1.9	0
45	Deformations for linear periodic discrete-time systems: the adjoint normal form. International Journal of Control, 2013, 86, 1248-1257.	1.9	5
46	Immersion of nonlinear systems through Power Geometry. , 2013, , .		1
47	Deformations for linear control systems in polynomial matrix form. , 2013, , .		1
48	Observability and dead-beat observers for Boolean networks modeled as polynomial discrete-time systems. , 2013, , .		7
49	Immersion and darboux polynomials of boolean networks with application to the pseudomonas syringae hrp regulon. , 2013, , .		8
50	Analytic linearization of PDE's through Lie symmetries. , 2012, , .		4
51	Exact and approximate feedback linearization without the linear controllability assumption. Automatica, 2012, 48, 2221-2228.	5.0	18
52	Extension of the Belitskii normal form to nonlinear control systems. , 2012, , .		3
53	A Lie symmetry approach for the solution of the inverse kinematics problem. Nonlinear Dynamics, 2012, 69, 1965-1977.	5.2	17
54	Darboux Polynomials for Lie Algebras. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5872-5877.	0.4	3

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55	Design of state detectors for nonlinear systems using symmetries and semi-invariants. Systems and Control Letters, 2011, 60, 128-137.	2.3	13
56	Nonlinear superposition formulas: Some physically motivated examples. , 2011, , .		9
57	Symmetries and first integrals for nonlinear discrete-time systems. , 2011, , .		3
58	Symmetries and Semi-invariants in the Analysis of Nonlinear Systems. , 2011, , .		31
59	Stability Analysis. , 2011, , 293-328.		0
60	Notation and Background. , 2011, , 1-28.		0
61	Linearization by State Immersion. , 2011, , 275-291.		0
62	Analysis of Continuous-Time Nonlinear Systems. , 2011, , 55-151.		0
63	Linearization of discrete-time nonlinear systems through state immersion and Lie symmetries *. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 197-202.	0.4	5
64	Use of semi-invariants for an algebraic version of the internal model principle*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1255-1260.	0.4	2
65	Analysis and observer design for the Bullard and Rikitake dynamos. IET Control Theory and Applications, 2010, 4, 1353-1365.	2.1	9
66	Computation of the real logarithm for a discrete-time nonlinear system. Systems and Control Letters, 2010, 59, 33-41.	2.3	22
67	Stability analysis of planar systems with nilpotent (non-zero) linear part. Automatica, 2010, 46, 537-542.	5.0	13
68	Generalized Lax pairs for the computation of semi-invariants. , 2010, , .		3
69	Semi-invariants and their use for stability analysis of planar systems. International Journal of Control, 2010, 83, 154-181.	1.9	24
70	Computation of a linearizing diffeomorphism by quadrature. , 2010, , .		8
71	On the generation of classes of planar systems with given orbital symmetries. , 2009, , .		1
72	On the use of orbital symmetries and semi-invariants for the analysis of planar nonlinear systems. , 2009, , .		0

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73	Linearization through state immersion of nonlinear systems admitting Lie symmetries. Automatica, 2009, 45, 1873-1878.	5.0	28
74	A procedure for the computation of semi-invariants. , 2009, , .		11
75	Observer design via linear immersion for nonlinear systems homogeneous of degree 0. , 2008, , .		2
76	Inputâ€“Output Decoupling With Asymptotic Stability for Linear Circuits Through Interconnection. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 3744-3755.	5.4	0
77	Trajectory tracking for a particle in elliptical billiards. International Journal of Control, 2008, 81, 189-213.	1.9	49
78	On the use of semi-invariants for the stability analysis of planar systems. , 2008, , .		19
79	Linearization of Hamiltonian systems through state immersion. , 2008, , .		13
80	Tracking control with time delay compensation for linear time invariant networked control systems. , 2008, , .		1
81	A high gain observer for the estimation of velocity and coefficient of restitution in non-smooth mechanical systems. International Journal of Modelling, Identification and Control, 2008, 4, 44.	0.2	6
82	Adaptive compensation of modeled friction using a RBF neural network approximation. , 2007, , .		8
83	Control of a series of carts in the case of nonsmooth unilateral impacts. Applied Mathematics Letters, 2006, 19, 541-546.	2.7	3
84	A parameterization of exponentially stabilizing controllers for linear mechanical systems subject to non-smooth impacts. Annual Reviews in Control, 2004, 28, 13-21.	7.9	7
85	State estimation for the Newton's cradle: A mechanism that is unobservable in absence of impacts. Applied Mathematics Letters, 2003, 16, 469-474.	2.7	0
86	Control of (otherwise) uncontrollable linear mechanical systems through non-smooth impacts. Systems and Control Letters, 2003, 49, 311-322.	2.3	14
87	Identification of the Relationship Between the Coefficient of Restitution and the Impact Velocity. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 275-280.	0.4	0
88	Discussion on â€˜Effectiveness of Multirate Input Control in Dead-beat Servomechanismâ€™ by H. Ito. European Journal of Control, 2002, 8, 341-342.	2.6	0
89	State estimation of (otherwise unobservable) linear mechanical systems through the use of non-smooth impacts: the case of two mating gears. Automatica, 2002, 38, 1823-1826.	5.0	14
90	Velocity observers for non-linear mechanical systems subject to non-smooth impacts. Automatica, 2002, 38, 2169-2175.	5.0	32

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91	On the design of a position feedback control law for a simple mechanical system subject to impacts. International Journal of Control, 2001, 74, 857-872.	1.9	5
92	Velocity observers for linear mechanical systems subject to single non-smooth impacts. Systems and Control Letters, 2001, 43, 193-202.	2.3	37
93	Control of mechanical systems subject to non-smooth impacts. Annual Reviews in Control, 2001, 25, 25-42.	7.9	4
94	The Use of the Barrier Method for the Impact Analysis in Mechanical Systems 1. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 77-82.	0.4	2
95	Discussion on: â€˜Impact Control of a Single-link Robot Striking Different Environments: Theoretical and Experimental Investigationâ€™ by M. Indri and A. TornambÃ¨. European Journal of Control, 2000, 6, 338-340.	2.6	0
96	Impact Control of a Single-link Robot Striking Different Environments: Theoretical and Experimental Investigation. European Journal of Control, 2000, 6, 322-337.	2.6	12
97	Robust output regulation and tracking for linear periodic systems under structured uncertainties. Automatica, 1996, 32, 1015-1019.	5.0	16
98	Lyapunov analysis of the approximate motion equations of flexible structures. Systems and Control Letters, 1996, 28, 31-41.	2.3	3
99	Asymptotic stabilization of a class of continuous-time linear periodic systems. Systems and Control Letters, 1996, 28, 189-196.	2.3	13
100	Robust regulation and trajectory tracking for flexible robots by using piezoelectric actuators. Advanced Robotics, 1995, 10, 265-282.	1.8	0
101	System Equivalence for Periodic Models and Systems. SIAM Journal on Control and Optimization, 1995, 33, 455-468.	2.1	22
102	OUTPUT TRACKING FOR A CLASS OF SINGLE-INPUT SINGLE-OUTPUT NONLINEAR SYSTEMS: CASE OF POLYNOMIAL REFERENCE SIGNALS**This work has been supported by funds of Ministero dell'UniversitÃ e della Ricerca Scientifica.. , 1995, , 7-12.		0
103	Global output tracking for a class of single-input single-output non-linear systems. International Journal of Systems Science, 1994, 25, 1145-1155.	5.5	0
104	A polynomial approach to deriving a state-space model of a periodic process described by difference equations. Circuits, Systems, and Signal Processing, 1994, 13, 373-384.	2.0	6
105	Nonlinear map inversion via state observers. Circuits, Systems, and Signal Processing, 1994, 13, 571-589.	2.0	10
106	Output Tracking for a Class of Single-Input Single-output Nonlinear Systems: Case of Polynomial Reference Signals. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1994, 27, 7-12.	0.4	1
107	Robust tracking and performance for multivariable systems under physical parameter uncertainties. Automatica, 1993, 29, 169-179.	5.0	24
108	State estimation in robotic manipulators: Some experimental results. Journal of Intelligent and Robotic Systems: Theory and Applications, 1993, 7, 321-351.	3.4	3

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109	High-gain observers for non-linear systems. International Journal of Systems Science, 1992, 23, 1475-1489.	5.5	150
110	A PID controller for the robust stabilization of SISO linear systems. Applied Mathematics Letters, 1992, 5, 15-18.	2.7	10
111	A decentralized controller for the robust stabilization of a class of MIMO linear systems. Systems and Control Letters, 1992, 18, 383-390.	2.3	13
112	Output feedback stabilization of a class of non-minimum phase nonlinear systems. Systems and Control Letters, 1992, 19, 193-204.	2.3	82
113	A feedback control law for nonlinear time lag systems. Applied Mathematics Letters, 1991, 4, 81-85.	2.7	0
114	Asymptotic inverse dynamics of feedback linearizable systems. Systems and Control Letters, 1991, 16, 145-153.	2.3	6
115	Use of observers for the inversion of nonlinear maps. Systems and Control Letters, 1991, 16, 447-455.	2.3	25
116	Use of asymptotic observers in the parameter estimation of robotic manipulators having elastic joints. Advanced Robotics, 1990, 5, 349-376.	1.8	2
117	An approximate observer for a class of nonlinear systems. Systems and Control Letters, 1989, 13, 43-51.	2.3	55
118	High-gain observers in the state and parameter estimation of robots having elastic joints. Systems and Control Letters, 1989, 13, 331-337.	2.3	123
119	Discrete-time modeling and control of robotic manipulators. Journal of Intelligent and Robotic Systems: Theory and Applications, 1989, 2, 411.	3.4	5
120	Design of neural high-gain observers for autonomous nonlinear systems using universal differential equations. International Journal of Dynamics and Control, 0, , 1.	2.5	0
121	The directional anti-derivative about a point: existence conditions and some applications. International Journal of Control, 0, , 1-0.	1.9	0