Antonio Tornambe

List of Publications by Year in Descending Order

116 papers	1,103 citations	16 h-index	29 g-index
125 ext. papers	1,287 ext. citations	2.9 avg, IF	4.8 L-index

#	Paper	IF	Citations
116	A solution to the path planning problem via algebraic geometry and reinforcement learning. *Journal of the Franklin Institute*, **2022**, 359, 1732-1754	4	1
115	An Algorithm to Determine the Exact Solution to Polynomial Semi-Definite Problems: Application to Structural Optimization **2022**, 597-607		
114	On the uniform algebraic observability of multi-switching linear systems. *International Journal of Control*, **2021**, 94, 2175-2185	1.5	
113	Distance to Internal Instability of Linear Time-Invariant Systems Under Structured Perturbations. *IEEE Transactions on Automatic Control*, **2021**, 66, 1941-1956	5.9	1
112	A dynamical interval Newton method. *European Journal of Control*, **2021**, 59, 290-300	2.5	1
111	. *IEEE Transactions on Automatic Control*, **2021**, 1-1	5.9	2
110	A locally convergent continuous-time algorithm to find all the roots of a time-varying polynomial. *Automatica*, **2021**, 131, 109681	5.7	
109	Algebraic tests for the asymptotic stability of parametric linear systems. *IFAC-PapersOnLine*, **2020**, 53, 4434-4439	0.7	
108	Algebraic analysis of the structural properties of parametric linear time-invariant systems. *IET Control Theory and Applications*, **2020**, 14, 3568-3579	2.5	
107	Algebraic certificates for the structural properties of parametric linear systems. *IFAC-PapersOnLine*, **2020**, 53, 4676-4681	0.7	
106	Trajectory tracking in rectangular billiards by unfolding the billiard table. *IFAC-PapersOnLine*, **2020**, 53, 6195-6200	0.7	1
105	Algebraic approaches for the design of simultaneous observers for linear systems. *IET Control Theory and Applications*, **2020**, 14, 52-62	2.5	
104	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	
103	Boolean network analysis through the joint use of linear algebra and algebraic geometry. *Journal of Theoretical Biology*, **2019**, 472, 46-53	2.3	3
102	Observability analysis of discontinuous dynamical systems via algebraic geometry **2019**,		1
101	Newton-like algorithms for the inversion of switched maps. *Automatica*, **2019**, 104, 228-232	5.7	5
100	Observers for Linear Systems by the Time Integrals and Moving Average of the Output. *IEEE Transactions on Automatic Control*, **2019**, 64, 4859-4874	5.9	8

99	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	1.5	1
98	Algebraic Certificates of (Semi)Definiteness for Polynomials Over Fields Containing the Rationals. *IEEE Transactions on Automatic Control*, **2018**, 63, 158-173	5.9	4
97	Algebraic Methods for Multiobjective Optimal Design of Control Feedbacks for Linear Systems. *IEEE Transactions on Automatic Control*, **2018**, 63, 4188-4203	5.9	8
96	A Newton-like algorithm to compute the inverse of a nonlinear map that converges in finite time. *Automatica*, **2018**, 89, 411-414	5.7	8
95	Dead-beat regulation of mechanical juggling systems. *Asian Journal of Control*, **2018**, 20, 1-11	1.7	137
94	Tracking of a Bouncing Ball in a Planar Billiard Through Continuous-Time Approximations. *Journal of Computational and Nonlinear Dynamics*, **2018**, 13,	1.4	3
93	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	1.5	6
92	A □ractical□bserver for nonlinear systems **2017**,		6
91	Switching Signal Estimator Design for a Class of Elementary Systems. *IEEE Transactions on Automatic Control*, **2016**, 61, 1362-1367	5.9	20
90	Application of algebraic geometry techniques in permanent-magnet DC motor fault detection and identification. *European Journal of Control*, **2015**, 25, 39-50	2.5	8
89	On the computation of the continuous-time reference trajectory for mechanical juggling systems **2015**,		6
88	Sinusoidal disturbance rejection in chaotic planar oscillators. *International Journal of Adaptive Control and Signal Processing*, **2015**, 29, 1578-1590	2.8	10
87	Exact Sum Of Squares decomposition of univariate polynomials **2015**,		4
86	Stabilization of Polynomial Nonlinear Systems by Algebraic Geometry Techniques. *IEEE Transactions on Automatic Control*, **2015**, 60, 2482-2487	5.9	6
85	On polynomial vector fields having a given affine variety as attractive and invariant set: application to robotics. *International Journal of Control*, **2015**, 1-25	1.5	4
84	Nonlinear Superposition Formulas for Two Classes of Non-holonomic Systems. *Journal of Dynamical and Control Systems*, **2014**, 20, 365-382	1.1	2
83	High-gain observers for nonlinear systems with trajectories close to unobservability. *European Journal of Control*, **2014**, 20, 118-131	2.5	4
82	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		5

81	On f-invariant and attractive affine varieties for continuous-time polynomial systems: The case of robot motion planning **2014**,		7
80	On observer design for a class of continuous-time affine switched or switching systems **2014**,		12
79	On a Lyapunov equation for polynomial continuous-time systems. *International Journal of Control*, **2014**, 87, 393-403	1.5	11
78	Motion planning for a unicycle-like mobile robot, using algebraic attractive curves **2014**,		4
77	Deformations for linear periodic discrete-time systems: the adjoint normal form. *International Journal of Control*, **2013**, 86, 1248-1257	1.5	4
76	Immersion of nonlinear systems through Power Geometry **2013**,		1
75	Deformations for linear control systems in polynomial matrix form **2013**,		1
74	Observability and dead-beat observers for Boolean networks modeled as polynomial discrete-time systems **2013**,		7
73	Immersion and darboux polynomials of boolean networks with application to the pseudomonas syringae hrp regulon **2013**,		8
72	Exact and approximate feedback linearization without the linear controllability assumption. *Automatica*, **2012**, 48, 2221-2228	5.7	13
71	Extension of the Belitskii normal form to nonlinear control systems **2012**,		3
70	A Lie symmetry approach for the solution of the inverse kinematics problem. *Nonlinear Dynamics*, **2012**, 69, 1965-1977	5	13
69	Analytic linearization of PDE's through Lie symmetries **2012**,		4
68	Darboux Polynomials for Lie Algebras. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2011**, 44, 5872-5877		
67	Design of state detectors for nonlinear systems using symmetries and semi-invariants. *Systems and Control Letters*, **2011**, 60, 128-137	2.4	12
66	Nonlinear superposition formulas: Some physically motivated examples **2011**,		6
65	Symmetries and first integrals for nonlinear discrete-time systems **2011**,		3
64	Stability Analysis **2011**, 293-328		

63	Notation and Background **2011**, 1-28		
62	Analysis of Discrete-Time Nonlinear Systems **2011**, 153-186		
61	Analysis of Linear Systems **2011**, 29-54		
60	Linearization by State Immersion **2011**, 275-291		
59	Analysis of Continuous-Time Nonlinear Systems **2011**, 55-151		
58	Symmetries and Semi-invariants in the Analysis of Nonlinear Systems **2011**,		24
57	Generalized Lax pairs for the computation of semi-invariants **2010**,		3
56	Semi-invariants and their use for stability analysis of planar systems. *International Journal of Control* , **2010**, 83, 154-181	1.5	21
55	Computation of a linearizing diffeomorphism by quadrature **2010**,		8
54	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		1
53	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		
52	Analysis and observer design for the Bullard and Rikitake dynamos. *IET Control Theory and Applications*, **2010**, 4, 1353-1365	2.5	9
51	Computation of the real logarithm for a discrete-time nonlinear system. *Systems and Control Letters* , **2010**, 59, 33-41	2.4	18
50	Stability analysis of planar systems with nilpotent (non-zero) linear part. *Automatica*, **2010**, 46, 537-542	5.7	12
49	On the generation of classes of planar systems with given orbital symmetries **2009**,		1
48	Linearization through state immersion of nonlinear systems admitting Lie symmetries. *Automatica*, **2009**, 45, 1873-1878	5.7	25
47	A procedure for the computation of semi-invariants **2009**,		9
46	Observer design via linear immersion for nonlinear systems homogeneous of degree 0 **2008**,		1

45	. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2008**, 55, 3744-3755	3.9	
44	Trajectory tracking for a particle in elliptical billiards. *International Journal of Control*, **2008**, 81, 189-213	1.5	38
43	On the use of semi-invariants for the stability analysis of planar systems **2008**,		16
42	Linearization of Hamiltonian systems through state immersion **2008**,		13
41	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	0.6	4
40	Adaptive compensation of modeled friction using a RBF neural network approximation **2007**,		6
39	Control of a series of carts in the case of nonsmooth unilateral impacts. *Applied Mathematics Letters*, **2006**, 19, 541-546	3.5	3
38	A parameterization of exponentially stabilizing controllers for linear mechanical systems subject to non-smooth impacts. *Annual Reviews in Control*, **2004**, 28, 13-21	10.3	7
37	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		
36	State estimation for the Newton's cradle: A mechanism that is unobservable in absence of impacts. *Applied Mathematics Letters*, **2003**, 16, 469-474	3.5	
35	Control of (otherwise) uncontrollable linear mechanical systems through non-smooth impacts. *Systems and Control Letters*, **2003**, 49, 311-322	2.4	12
34	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	5.7	12
33	Velocity observers for non-linear mechanical systems subject to non-smooth impacts. *Automatica*, **2002**, 38, 2169-2175	5.7	24
32	Velocity observers for linear mechanical systems subject to single non-smooth impacts. *Systems and Control Letters*, **2001**, 43, 193-202	2.4	24
31	Control of mechanical systems subject to non-smooth impacts. *Annual Reviews in Control*, **2001**, 25, 25-42	10.3	4
30	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	1.5	4
29	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		1
28	Discussion on: Impact Control of a Single-link Robot Striking Different Environments: Theoretical and Experimental Investigation by M. Indri and A. Tornamb *European Journal of Control*, **2000**, 6, 338-340	2.5	

27	Impact Control of a Single-link Robot Striking Different Environments: Theoretical and Experimental Investigation. *European Journal of Control*, **2000**, 6, 322-337	2.5	9
26	Robust output regulation and tracking for linear periodic systems under structured uncertainties. *Automatica*, **1996**, 32, 1015-1019	5.7	14
25	Lyapunov analysis of the approximate motion equations of flexible structures. *Systems and Control Letters*, **1996**, 28, 31-41	2.4	2
24	Asymptotic stabilization of a class of continuous-time linear periodic systems. *Systems and Control Letters*, **1996**, 28, 189-196	2.4	9
23	Robust regulation and trajectory tracking for flexible robots by using piezoelectric actuators. *Advanced Robotics*, **1995**, 10, 265-282	1.7	
22	System Equivalence for Periodic Models and Systems. *SIAM Journal on Control and Optimization*, **1995**, 33, 455-468	1.9	14
21	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'Universit□ della Ricerca Scientifica. **1995**, 7-12		
20	Global output tracking for a class of single-input single-output non-linear systems. *International Journal of Systems Science*, **1994**, 25, 1145-1155	2.3	
19	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	2.2	2
18	Nonlinear map inversion via state observers. *Circuits, Systems, and Signal Processing*, **1994**, 13, 571-589	2.2	8
17	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		
16	Robust tracking and performance for multivariable systems under physical parameter uncertainties. *Automatica*, **1993**, 29, 169-179	5.7	18
15	State estimation in robotic manipulators: Some experimental results. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **1993**, 7, 321-351	2.9	1
14	High-gain observers for non-linear systems. *International Journal of Systems Science*, **1992**, 23, 1475-1489	2.3	111
13	A PID controller for the robust stabilization of SISO linear systems. *Applied Mathematics Letters*, **1992**, 5, 15-18	3.5	9
12	A decentralized controller for the robust stabilization of a class of MIMO linear systems. *Systems and Control Letters*, **1992**, 18, 383-390	2.4	8
11	Output feedback stabilization of a class of non-minimum phase nonlinear systems. *Systems and Control Letters*, **1992**, 19, 193-204	2.4	61
10	A feedback control law for nonlinear time lag systems. *Applied Mathematics Letters*, **1991**, 4, 81-85	3.5	

9	Asymptotic inverse dynamics of feedback linearizable systems. *Systems and Control Letters*, **1991**, 16, 145-153	2.4	4
8	Use of observers for the inversion of nonlinear maps. *Systems and Control Letters*, **1991**, 16, 447-455	2.4	20
7	Use of asymptotic observers in the parameter estimation of robotic manipulators having elastic joints. *Advanced Robotics*, **1990**, 5, 349-376	1.7	1
6	An approximate observer for a class of nonlinear systems. *Systems and Control Letters*, **1989**, 13, 43-51	2.4	47
5	High-gain observers in the state and parameter estimation of robots having elastic joints. *Systems and Control Letters*, **1989**, 13, 331-337	2.4	85
4	Discrete-time modeling and control of robotic manipulators. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **1989**, 2, 411	2.9	5
3	Trajectory tracking of a bouncing ball in a triangular billiard by unfolding and folding the billiard table. *International Journal of Control*,1-14	1.5	
2	Design of neural high-gain observers for autonomous nonlinear systems using universal differential equations. *International Journal of Dynamics and Control*,1	1.7	
1	The directional anti-derivative about a point: existence conditions and some applications. *International Journal of Control*,1-0	1.5	