

Graziano Chesi

List of Publications by Year in descending order

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156
papers

4,011
citations

172386

29
h-index

138417

58
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158
all docs

158
docs citations

158
times ranked

1809
citing authors

#	ARTICLE	IF	CITATIONS
1	LMI Techniques for Optimization Over Polynomials in Control: A Survey. IEEE Transactions on Automatic Control, 2010, 55, 2500-2510.	3.6	322
2	Polynomially parameter-dependent Lyapunov functions for robust stability of polytopic systems: an LMI approach. IEEE Transactions on Automatic Control, 2005, 50, 365-370.	3.6	217
3	Homogeneous Lyapunov functions for systems with structured uncertainties. Automatica, 2003, 39, 1027-1035.	3.0	172
4	Homogeneous Polynomial Forms for Robustness Analysis of Uncertain Systems. Lecture Notes in Control and Information Sciences, 2009, , .	0.6	164
5	Distributed H_{∞} Filtering for Polynomial Nonlinear Stochastic Systems in Sensor Networks. IEEE Transactions on Industrial Electronics, 2011, 58, 1971-1979.	5.2	150
6	Solving quadratic distance problems: an LMI-based approach. IEEE Transactions on Automatic Control, 2003, 48, 200-212.	3.6	146
7	A Nonconservative LMI Condition for Stability of Switched Systems With Guaranteed Dwell Time. IEEE Transactions on Automatic Control, 2012, 57, 1297-1302.	3.6	138
8	Keeping Features in the Field of View in Eye-In-Hand Visual Servoing: A Switching Approach. , 2004, 20, 908-913.		131
9	Estimating the domain of attraction for non-polynomial systems via LMI optimizations. Automatica, 2009, 45, 1536-1541.	3.0	125
10	Robust stability of time-varying polytopic systems via parameter-dependent homogeneous Lyapunov functions. Automatica, 2007, 43, 309-316.	3.0	118
11	Estimating the domain of attraction for uncertain polynomial systems. Automatica, 2004, 40, 1981-1986.	3.0	105
12	Visual Servoing Path Planning via Homogeneous Forms and LMI Optimizations. IEEE Transactions on Robotics, 2009, 25, 281-291.	7.3	102
13	Global Path-Planning for Constrained and Optimal Visual Servoing. , 2007, 23, 1050-1060.		97
14	LMI-based computation of optimal quadratic Lyapunov functions for odd polynomial systems. International Journal of Robust and Nonlinear Control, 2005, 15, 35-49.	2.1	94
15	Stability analysis of uncertain genetic sum regulatory networks. Automatica, 2008, 44, 2298-2305.	3.0	94
16	Computing Output Feedback Controllers to Enlarge the Domain of Attraction in Polynomial Systems. IEEE Transactions on Automatic Control, 2004, 49, 1846-1850.	3.6	93
17	Domain of Attraction. Lecture Notes in Control and Information Sciences, 2011, , .	0.6	82
18	Necessary and Sufficient LMI Conditions for Stability and Performance Analysis of 2-D Mixed Continuous-Discrete-Time Systems. IEEE Transactions on Automatic Control, 2014, 59, 996-1007.	3.6	77

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19	Visual Servoing for Large Camera Displacements. Journal of the American College of Radiology, 2004, 20, 724-735.	0.9	70
20	Estimating the domain of attraction via union of continuous families of Lyapunov estimates. Systems and Control Letters, 2007, 56, 326-333.	1.3	69
21	Rational Lyapunov functions for estimating and controlling the robust domain of attraction. Automatica, 2013, 49, 1051-1057.	3.0	64
22	Robust Stability Analysis and Synthesis for Uncertain Discrete-Time Networked Control Systems Over Fading Channels. IEEE Transactions on Automatic Control, 2017, 62, 1966-1971.	3.6	61
23	On the Gap Between Positive Polynomials and SOS of Polynomials. IEEE Transactions on Automatic Control, 2007, 52, 1066-1072.	3.6	58
24	Robust stability and performance analysis of 2D mixed continuous–discrete-time systems with uncertainty. Automatica, 2016, 67, 233-243.	3.0	52
25	Robustness analysis of genetic regulatory networks affected by model uncertainty. Automatica, 2011, 47, 1131-1138.	3.0	49
26	Robust Consensus for a Class of Uncertain Multi-Agent Dynamical Systems. IEEE Transactions on Industrial Informatics, 2013, 9, 306-312.	7.2	39
27	On the non-conservatism of a novel LMI relaxation for robust analysis of polytopic systems. Automatica, 2008, 44, 2973-2976.	3.0	38
28	Estimating the fundamental matrix via constrained least-squares: a convex approach. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2002, 24, 397-401.	9.7	37
29	Robust Analysis of LFR Systems Through Homogeneous Polynomial Lyapunov Functions. IEEE Transactions on Automatic Control, 2004, 49, 1211-1216.	3.6	36
30	Characterizing the solution set of polynomial systems in terms of homogeneous forms: an LMI approach. International Journal of Robust and Nonlinear Control, 2003, 13, 1239-1257.	2.1	34
31	Robust stability of uncertain linear systems with input and output quantization and packet loss. Automatica, 2018, 87, 267-273.	3.0	32
32	Establishing stability and instability of matrix hypercubes. Systems and Control Letters, 2005, 54, 381-388.	1.3	30
33	Homogeneous Rational Lyapunov Functions for Performance Analysis of Switched Systems With Arbitrary Switching and Dwell Time Constraints. IEEE Transactions on Automatic Control, 2017, 62, 5124-5137.	3.6	30
34	\mathcal{H}_∞ and \mathcal{H}_2 Norms of 2-D Mixed Continuous-Discrete-Time Systems via Rationally-Dependent Complex Lyapunov Functions. IEEE Transactions on Automatic Control, 2015, 60, 2614-2625.	3.6	29
35	Robust Static Output Feedback Controllers via Robust Stabilizability Functions. IEEE Transactions on Automatic Control, 2014, 59, 1618-1623.	3.6	27
36	LMI conditions for time-varying uncertain systems can be non-conservative. Automatica, 2011, 47, 621-624.	3.0	26

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37	Camera Displacement via Constrained Minimization of the Algebraic Error. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 370-375.	9.7	24
38	On the Complexity of SOS Programming and Applications in Control Systems. Asian Journal of Control, 2018, 20, 2005-2013.	1.9	24
39	212D Visual Servoing with Respect to Planar Contours having Complex and Unknown Shapes. International Journal of Robotics Research, 2003, 22, 841-853.	5.8	23
40	Sufficient and Necessary LMI Conditions for Robust Stability of Rationally Time-Varying Uncertain Systems. IEEE Transactions on Automatic Control, 2013, 58, 1546-1551.	3.6	23
41	LMI-Based Fixed Order Output Feedback Synthesis for Two-Dimensional Mixed Continuous-Discrete-Time Systems. IEEE Transactions on Automatic Control, 2018, 63, 960-972.	3.6	23
42	A simple technique for improving camera displacement estimation in eye-in-hand visual servoing. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2004, 26, 1239-1242.	9.7	22
43	Establishing tightness in robust H_∞ analysis via homogeneous parameter-dependent Lyapunov functions. Automatica, 2007, 43, 1992-1995.	3.0	22
44	Guest Editorial: Special Issue on Positive Polynomials in Control. IEEE Transactions on Automatic Control, 2009, 54, 935-936.	3.6	22
45	Exact robust stability analysis of uncertain systems with a scalar parameter via LMIs. Automatica, 2013, 49, 1083-1086.	3.0	21
46	A convex approach to a class of minimum norm problems. , 1999, , 359-372.		20
47	An LMI approach to constrained optimization with homogeneous forms. Systems and Control Letters, 2001, 42, 11-19.	1.3	19
48	Robust Synchronization via Homogeneous Parameter-Dependent Polynomial Contraction Matrix. IEEE Transactions on Circuits and Systems I: Regular Papers, 2014, 61, 2931-2940.	3.5	18
49	On the synthesis of linear filters for polynomial systems. Systems and Control Letters, 2012, 61, 31-36.	1.3	17
50	On the Design of Output Feedback Controllers for LTI Systems Over Fading Channels. IEEE Transactions on Automatic Control, 2018, 63, 1503-1508.	3.6	17
51	On the Minimum Stable Commutation Time for Switching Nonlinear Systems. IEEE Transactions on Automatic Control, 2009, 54, 1284-1289.	3.6	16
52	Conferring Robustness to Path-Planning for Image-Based Control. IEEE Transactions on Control Systems Technology, 2012, 20, 950-959.	3.2	16
53	Straight Line Path-Planning in Visual Servoing. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2007, 129, 541-543.	0.9	15
54	Analysis and Synthesis of Nonlinear Systems With Uncertain Initial Conditions. IEEE Transactions on Automatic Control, 2008, 53, 1262-1267.	3.6	15

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55	Projective reconstruction of ellipses from multiple images. <i>Pattern Recognition</i> , 2010, 43, 545-556.	5.1	15
56	Instability Analysis of Uncertain Systems via Determinants and LMIs. <i>IEEE Transactions on Automatic Control</i> , 2015, 60, 2458-2463.	3.6	15
57	Establishing robust stability of discrete-time systems with time-varying uncertainty: The Gram-SOS approach. <i>Automatica</i> , 2014, 50, 2813-2821.	3.0	14
58	Robust Stability of Time-Varying Uncertain Systems With Rational Dependence on the Uncertainty. <i>IEEE Transactions on Automatic Control</i> , 2010, 55, 2353-2357.	3.6	13
59	Convex Synthesis of Robust Controllers for Linear Systems With Polytopic Time-Varying Uncertainty. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 337-349.	3.6	13
60	Image Noise Induced Errors in Camera Positioning. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2007, 29, 1476-1480.	9.7	12
61	Computing Equilibrium Points of Genetic Regulatory Networks. <i>Lecture Notes in Computer Science</i> , 2009, , 268-282.	1.0	12
62	Time-invariant uncertain systems: A necessary and sufficient condition for stability and instability via homogeneous parameter-dependent quadratic Lyapunov functions. <i>Automatica</i> , 2010, 46, 471-474.	3.0	12
63	Visual Servoing Path Planning for Cameras Obeying the Unified Model. <i>Advanced Robotics</i> , 2012, 26, 843-860.	1.1	12
64	Worst-Case Mahler Measure in Polytopic Uncertain Systems. <i>IEEE Transactions on Automatic Control</i> , 2012, 57, 3208-3213.	3.6	12
65	Input-Feedforward-Passivity-Based Distributed Optimization Over Jointly Connected Balanced Digraphs. <i>IEEE Transactions on Automatic Control</i> , 2021, 66, 4117-4131.	3.6	12
66	Exact LMI Conditions for Stability and L_2 Gain Analysis of 2-D Mixed Continuous-Discrete Time Systems via Quadratically Frequency-Dependent Lyapunov Functions. <i>IEEE Transactions on Automatic Control</i> , 2022, 67, 1147-1162.	3.6	12
67	On the robust stability of time-varying uncertain genetic regulatory networks. <i>International Journal of Robust and Nonlinear Control</i> , 2011, 21, 1778-1790.	2.1	11
68	Robust consensus for uncertain multi-agent systems with discrete-time dynamics. <i>International Journal of Robust and Nonlinear Control</i> , 2014, 24, 1858-1872.	2.1	11
69	Optimized vision-based robot motion planning from multiple demonstrations. <i>Autonomous Robots</i> , 2018, 42, 1117-1132.	3.2	11
70	Establishing Convexity of Polynomial Lyapunov Functions and Their Sublevel Sets. <i>IEEE Transactions on Automatic Control</i> , 2008, 53, 2431-2436.	3.6	9
71	Polynomial relaxation-based conditions for global asymptotic stability of equilibrium points of genetic regulatory networks. <i>International Journal of Systems Science</i> , 2010, 41, 65-72.	3.7	9
72	Fast multiple-view L2 triangulation with occlusion handling. <i>Computer Vision and Image Understanding</i> , 2011, 115, 211-223.	3.0	9

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73	On the estimation of the equilibrium points of uncertain nonlinear systems. <i>International Journal of Robust and Nonlinear Control</i> , 2013, 23, 137-148.	2.1	9
74	On the estimation of the domain of attraction for discrete-time switched and hybrid nonlinear systems. <i>International Journal of Systems Science</i> , 2015, 46, 2781-2787.	3.7	9
75	Guaranteed estimates of the domain of attraction for a class of hybrid systems. <i>International Journal of Robust and Nonlinear Control</i> , 2015, 25, 3270-3285.	2.1	9
76	On the Steady States of Uncertain Genetic Regulatory Networks. <i>IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans</i> , 2012, 42, 1020-1024.	3.4	8
77	Parameter and Controller Dependent Lyapunov Functions for Robust D-Stability and Robust Performance Controller Design. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 4798-4803.	3.6	8
78	Consensus of Heterogeneous Multi-Agent Systems With Diffusive Couplings via Passivity Indices. , 2019, 3, 434-439.		8
79	Epipole-based visual servoing for mobile robots. <i>Advanced Robotics</i> , 2006, 20, 255-280.	1.1	7
80	Synchronization Conditions for Multiagent Systems With Intrinsic Nonlinear Dynamics. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2013, 60, 227-231.	2.2	7
81	Stabilization and Entropy Reduction via SDP-Based Design of Fixed-Order Output Feedback Controllers and Tuning Parameters. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 1094-1108.	3.6	7
82	Checking Structural Stability of BDC-Decomposable Systems via Convex Optimisation. , 2020, 4, 205-210.		7
83	A convex approach to the characterization of the frequency response of ellipsoidal plants. <i>Automatica</i> , 2002, 38, 249-259.	3.0	6
84	Tightness Conditions for Semidefinite Relaxations of Forms Minimization. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2008, 55, 1299-1303.	2.2	6
85	Robust domain of attraction: Computing and controlling estimates with non-polynomial Lyapunov functions. , 2012, , .		6
86	Homogeneous polynomial Lyapunov functions for robust local synchronisation with time-varying uncertainties. <i>IET Control Theory and Applications</i> , 2014, 8, 855-862.	1.2	6
87	Static output feedback control of switched systems with dwell time constraints or arbitrary switching. , 2017, , .		6
88	Designing image trajectories in the presence of uncertain data for robust visual servoing path-planning. , 2009, , .		5
89	Optimal Object Configurations to Minimize the Positioning Error in Visual Servoing. <i>IEEE Transactions on Robotics</i> , 2010, 26, 584-589.	7.3	5
90	On the estimation and control of the domain of attraction through rational Lyapunov functions. , 2012, , .		5

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91	Stability Test for Complex Matrices Over the Complex Unit Circumference via LMIs and Applications in 2D Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1960-1969.	3.5	5
92	Complete characterization of the spherical spectral set. IEEE Transactions on Automatic Control, 2002, 47, 1875-1879.	3.6	4
93	Performance limitation analysis in visual servo systems: Bounding the location error introduced by image points matching. , 2009, , .		4
94	Structured Feedback Synthesis for Stability and Performance of Switched Systems. IEEE Transactions on Automatic Control, 2020, 65, 4695-4709.	3.6	4
95	Convergent upper bounds of peak response of LTI and polytopic LTV systems through LMIs. Automatica, 2020, 122, 109260.	3.0	4
96	Effects of camera calibration errors on static-eye and hand-eye visual servoing. Advanced Robotics, 2003, 17, 1023-1039.	1.1	3
97	Robust stochastic stability of genetic regulatory networks with time delays and parametric uncertainties. Asian Journal of Control, 2011, 13, 635-644.	1.9	3
98	Robust discrete-time consensus of multi-agent systems with uncertain interaction. , 2012, , .		3
99	Measuring the instability in continuous-time linear systems with polytopic uncertainty. , 2013, , .		3
100	On the $\hat{\alpha}, \hat{\beta}$ Norm of 2D Mixed Continuous-Discrete-Time Systems via Rationally-Dependent Complex Lyapunov Functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5568-5573.	0.4	3
101	Static feedback design for 2D mixed continuous-discrete-time systems via LMIs. , 2015, , .		3
102	Quantifying the unstable in linearized nonlinear systems. Automatica, 2015, 60, 210-218.	3.0	3
103	On the synthesis of output feedback controllers for increasing the domain of attraction of piecewise polynomial systems. , 2015, , .		3
104	On the Synthesis of Static Output Feedback Controllers for Guaranteed RMS Gain of Switched Systems with Arbitrary Switching. , 2018, , .		3
105	On the Computation of the Peak of the Impulse Response of LTI Systems. , 2019, , .		3
106	Stabilization of Linear Systems Across a Time-Varying AWGN Fading Channel. IEEE Transactions on Automatic Control, 2020, 65, 4902-4907.	3.6	3
107	LMI-based estimation of the domain of attraction of equilibrium points for nonlinear non-polynomial dynamical systems. , 2009, , .		2
108	Assessing robust stability properties of uncertain genetic regulatory networks. , 2010, , .		2

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109	Systems Biology. International Journal of Robust and Nonlinear Control, 2011, 21, 1729-1729.	2.1	2
110	Motion planning from demonstrations and polynomial optimization for visual servoing applications. , 2013, , .		2
111	On the design of robust static output feedback controllers via robust stabilizability functions. , 2013, , .		2
112	A necessary and sufficient LMI condition for stability of 2D mixed continuous-discrete-time systems. , 2013, , .		2
113	On the robust stability of 2D mixed continuous-discrete-time systems with uncertainty. , 2014, , .		2
114	On the robust asymptotical stability of uncertain complex matrices over the complex unit circumference. , 2015, , .		2
115	On the H-two norm of switched systems via homogeneous rational Lyapunov functions. , 2016, , .		2
116	Control With Communications Constraints: Measuring the Instability in Parametric Linear Systems. IEEE Transactions on Control of Network Systems, 2017, 4, 312-322.	2.4	2
117	Input-Feedforward-Passivity-Based Distributed Optimization Over Directed and Switching Topologies. , 2019, , .		2
118	Distributed Resource Allocation Over Time-Varying Balanced Digraphs With Discrete-Time Communication. IEEE Transactions on Control of Network Systems, 2022, 9, 487-499.	2.4	2
119	Image Measurement Errors in Visual Servoing: Estimating the Induced Positioning Error. Lecture Notes in Control and Information Sciences, 2010, , 151-167.	0.6	2
120	Configuration and Robustness in Visual Servo. Journal of Robotics and Mechatronics, 2004, 16, 178-185.	0.5	2
121	Robust Detection and Tracking of Multiple Moving Objects with 3D Features by an Uncalibrated Monocular Camera. Lecture Notes in Computer Science, 2009, , 140-149.	1.0	2
122	An LMI-Based Technique for Robust Stability Analysis of Linear Systems with Polynomial Parametric Uncertainties. Lecture Notes in Control and Information Sciences, 0, , 87-101.	0.6	1
123	Toward non-conservative stability conditions for equilibrium points of genetic networks with SUM regulatory functions. , 2009, , .		1
124	Estimation of the camera pose from image point correspondences through the essential matrix and convex optimization. , 2009, , .		1
125	Call for Papers: Special Issue on Systems Biology. International Journal of Robust and Nonlinear Control, 2010, 20, 723-724.	2.1	1
126	On the admissible equilibrium points of nonlinear dynamical systems affected by parametric uncertainty: Characterization via LMIs. , 2010, , .		1

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127	A new condition and equivalence results for robust stability analysis of rationally time-varying uncertain linear systems. , 2011, , .		1
128	Guaranteed estimates of the domain of attraction for a class of hybrid systems. , 2013, , .		1
129	On the Mahler measure of matrix pencils. , 2013, , .		1
130	A gram-SOS approach for robust stability analysis of discrete-time systems with time-varying uncertainty. , 2013, , .		1
131	On the unstable of continuous-time linearized nonlinear systems. , 2014, , .		1
132	On the robust ∞ norm of 2D mixed continuous-discrete-time systems with uncertainty. , 2014, , .		1
133	LMI-Based Estimation of Scene Points in Vision Systems with Generalized Cameras. IEEE Transactions on Automatic Control, 2014, 59, 2996-3001.	3.6	1
134	Topological entropy control via static feedback synthesis for continuous-time linear time-invariant systems. , 2015, , .		1
135	On the RMS gain of switched systems via homogeneous rational Lyapunov functions. , 2016, , .		1
136	Visual servoing with cylinders: Reaching the desired location following a straight line. , 2017, , .		1
137	Inclusion of peripheral correspondences in object and pose estimation for visual servoing path-planning. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2018, 232, 336-347.	0.7	1
138	Determinant-Based Hurwitz Test For Complex Matrices Over The Complex Unit Circumference And Applications in 2D Systems. , 2018, , .		1
139	On the Peak of the Impulse Response of Polytopic LTV Systems. , 2019, , .		1
140	Genetic networks with SUM regulatory functions: Characterizing the equilibrium points. , 2009, , .		0
141	On the robust stability of continuous-time and discrete-time time-invariant uncertain systems with rational dependence on the uncertainty: A non-conservative condition. , 2010, , .		0
142	Synchronization seeking in multi-agent dynamic systems with communication uncertainties. , 2011, , .		0
143	Discussion on: "Positive Switched 2D Linear Systems Described by the Roesser Models" European Journal of Control, 2012, 18, 247-248.	1.6	0
144	On the positivity of polynomials on the complex unit disc via LMIs. , 2012, , .		0

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145	On the determination of the solutions and maximum admissible power of the load flow equation via LMIS. Asian Journal of Control, 2012, 14, 1262-1272.	1.9	0
146	Multiview stereo object reconstruction with a one-line search method. Journal of Electronic Imaging, 2013, 22, 023019.	0.5	0
147	Intelligent Modeling and Verification. Journal of Applied Mathematics, 2013, 2013, 1-2.	0.4	0
148	LMI-based computation of the instability measure of continuous-time linear systems with a scalar parameter. , 2014, , .		0
149	Minimizing trigonometric matrix polynomials over semi-algebraic sets. Automatica, 2015, 52, 266-271.	3.0	0
150	On the Complexity of Robust Stability Analysis of Polytopic LTI Systems. , 2018, , .		0
151	Computing Parametric LQRs For Polytopic Discrete-Time Systems. , 2018, , .		0
152	On the L2 Gain of 2D Mixed Continuous-Discrete-Time Systems via Complex LFR and Lyapunov Functions. , 2019, , .		0
153	Designing parametric linear quadratic regulators for parametric LTI systems via LMIs. International Journal of Control, 2019, 92, 2907-2916.	1.2	0
154	Planning Image Trajectories for Visual Servoing via LMI-Based Optimization. Lecture Notes in Electrical Engineering, 2011, , 159-172.	0.3	0
155	Certain and Uncertain Triangulation in Multiple Camera Vision Systems via LMIs. Advances in Computational Intelligence and Robotics Book Series, 2012, , 53-64.	0.4	0
156	Certain and Uncertain Triangulation in Multiple Camera Vision Systems via LMIs. , 0, , 112-124.		0