

Antonio Sala

List of Publications by Year in descending order

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148
papers

3,418
citations

279487

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55
g-index

161
all docs

161
docs citations

161
times ranked

1625
citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive polyhedral meshing for approximate dynamic programming in control. Engineering Applications of Artificial Intelligence, 2022, 107, 104515.	4.3	5
2	Analysis and Synthesis of Nonlinear Control Systems. Studies in Systems, Decision and Control, 2022, , .	0.8	6
3	Modelling via Convex Structures. Studies in Systems, Decision and Control, 2022, , 23-96.	0.8	0
4	Stability Analysis. Studies in Systems, Decision and Control, 2022, , 97-167.	0.8	1
5	Application of SOS-constrained regression to model unknown reaction kinetics. IFAC-PapersOnLine, 2021, 54, 395-400.	0.5	0
6	Asynchronous Sensor Fusion of GPS, IMU and CAN-Based Odometry for Heavy-Duty Vehicles. IEEE Transactions on Vehicular Technology, 2021, 70, 8617-8626.	3.9	20
7	On the Frontier Between Kalman Conjecture and Markus-Yamabe Conjecture. , 2021, 5, 1309-1314.		2
8	Módulo de error de Bellman con ponderación de volumen para mallado adaptativo en programación dinámica aproximada. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2021, 19, 37-47.	0.6	1
9	On the Stability of Nonlinear Wheel-Slip Zero Dynamics in Traction Control Systems. IEEE Transactions on Control Systems Technology, 2020, 28, 489-504.	3.2	15
10	Fitted Q-Function Control Methodology Based on Takagi-Sugeno Systems. IEEE Transactions on Control Systems Technology, 2020, 28, 477-488.	3.2	6
11	Exact Takagi-Sugeno descriptor models of recurrent high-order neural networks for control applications. Computational and Applied Mathematics, 2020, 39, 1.	1.0	1
12	Set-based gain-scheduled control via quasi-convex difference inclusions. International Journal of Robust and Nonlinear Control, 2020, , .	2.1	0
13	Engine-Based Input-Output Linearization for Traction Control Systems. IFAC-PapersOnLine, 2020, 53, 14055-14060.	0.5	3
14	A Sum-Of-Squares Constrained Regression Approach for Process Modeling. IFAC-PapersOnLine, 2019, 52, 754-759.	0.5	1
15	Drive Force and Longitudinal Dynamics Estimation in Heavy-Duty Vehicles. Sensors, 2019, 19, 3515.	2.1	5
16	A Systematic Grey-Box Modeling Methodology via Data Reconciliation and SOS Constrained Regression. Processes, 2019, 7, 170.	1.3	20
17	Stability analysis of LPV systems: Scenario approach. Automatica, 2019, 104, 233-237.	3.0	10
18	Gain-Scheduled Control via Convex Nonlinear Parameter Varying Models. IFAC-PapersOnLine, 2019, 52, 70-75.	0.5	7

#	ARTICLE	IF	CITATIONS
19	Minimal Controllable Set for Takagi-Sugeno Fuzzy Systems with disturbances. IFAC-PapersOnLine, 2019, 52, 55-60.	0.5	2
20	Performance-oriented quasi-LPV modeling of nonlinear systems. International Journal of Robust and Nonlinear Control, 2019, 29, 1230-1248.	2.1	18
21	A generalised integral polynomial Lyapunov function for nonlinear systems. Fuzzy Sets and Systems, 2019, 356, 77-91.	1.6	15
22	MetodologÃa de programaciÃn dinÃmica aproximada para control Ãptimo basada en datos. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2019, 16, 273.	0.6	3
23	Learning Upper-Level Policy using Importance Sampling-based Policy Search Method. , 2018, , .		0
24	Constraint-aware learning of policies by demonstration. International Journal of Robotics Research, 2018, 37, 1673-1689.	5.8	12
25	Subspace-Based Takagi-Sugeno Modeling for Improved LMI Performance. IEEE Transactions on Fuzzy Systems, 2017, 25, 754-767.	6.5	12
26	Piecewise-Takagi-Sugeno asymptotically exact estimation of the domain of attraction of nonlinear systems. Journal of the Franklin Institute, 2017, 354, 1514-1541.	1.9	11
27	Stable receding-horizon scenario predictive control for Markov-jump linear systems. Automatica, 2017, 86, 121-128.	3.0	15
28	Shape-independent model predictive control for Takagi-Sugeno fuzzy systems. Engineering Applications of Artificial Intelligence, 2017, 65, 493-505.	4.3	14
29	Cancellation-Based Nonquadratic Controller Design for Nonlinear Systems via Takagi-Sugeno Models. IEEE Transactions on Cybernetics, 2017, 47, 2628-2638.	6.2	15
30	Reliability and time-to-failure bounds for discrete-time constrained Markov jump linear systems. International Journal of Robust and Nonlinear Control, 2017, 27, 1773-1791.	2.1	4
31	Asymptotically exact stabilisation for constrained discrete Takagi-Sugeno systems via set-invariance. Fuzzy Sets and Systems, 2017, 316, 117-138.	1.6	19
32	Generalising quasi-LPV and CDI models to Quasi-Convex Difference Inclusions. IFAC-PapersOnLine, 2017, 50, 7560-7565.	0.5	4
33	A generalisation of Line-Integral Lyapunov Function for Takagi-Sugeno systems * * The authors gratefully to the financial support of Spanish ministry of Economy and European Union, grant DPI2016-81002-R (AEI/FEDER, UE), the CONACyT/COECYT Sonora scholarship 383252, Project Ciencia BÃsica SEP-CONACYT CB-168406, and the scholarship GRISOLIA/2014/006 from Generalitat Valenciana (regional) Tj ETQq1 1 0.784314 rgBT	0.5	2
34	Improving LMI controllers for discrete nonlinear systems using policy iteration. , 2017, , .		2
35	Reliable controllable sets for constrained Markov-Jump Linear Systems. International Journal of Robust and Nonlinear Control, 2016, 26, 2075-2089.	2.1	12
36	Optimisation of transient and ultimate inescapable sets with polynomial boundaries for nonlinear systems. Automatica, 2016, 73, 82-87.	3.0	12

#	ARTICLE	IF	CITATIONS
37	Optimal-Performance Takagi-Sugeno Models via the LMI Null Space**The authors are grateful to project DPI2011-27845-C02-01 from Spanish Government, Grant PROMETEOII/2013/004 from Generalitat Valenciana, the Project SEP-CONACYT CB-168406, and the scholarship program Santiago Grisolia GRISOLIA/2014/006.. IFAC-PapersOnLine, 2016, 49, 13-18.	0.5	1
38	Improvement of LMI controllers of Takagi-Sugeno models via Q-learning**The authors are grateful to projects DPI2011-27845-C02-01 and DPI2013-42302-R from Spanish Government, Grant PROM-ETEOII/2013/004 from Generalitat Valenciana and Ph.D. grant SENESCYT from the Government of Ecuador.. IFAC-PapersOnLine, 2016, 49, 67-72.	0.5	5
39	Control synthesis for polynomial discrete-time systems under input constraints via delayed-state Lyapunov functions. International Journal of Systems Science, 2016, 47, 1176-1184.	3.7	7
40	Choosing a Takagi-Sugeno model for improved performance. , 2015, , .		4
41	Multiple-Horizon predictive control for Markov/switched linear systems. IFAC-PapersOnLine, 2015, 48, 230-235.	0.5	5
42	Shape-dependent maximal controllable sets for constrained discrete-time TS systems. , 2015, , .		1
43	Invariant sets of nonlinear models via piecewise affine Takagi-Sugeno models. , 2015, , .		2
44	Duality-Based Nonlinear Quadratic Control: Application to Mobile Robot Trajectory-Following. IEEE Transactions on Control Systems Technology, 2015, 23, 1494-1504.	3.2	13
45	Fuzzy control turns 50: 10 years later. Fuzzy Sets and Systems, 2015, 281, 168-182.	1.6	93
46	Reliable fault-tolerant predictive control for Markov-jump Linear Systems. , 2014, , .		2
47	Model Predictive Control for discrete fuzzy systems via iterative quadratic programming. , 2014, , .		6
48	Polytopic invariant and contractive sets for closed-loop discrete fuzzy systems. Journal of the Franklin Institute, 2014, 351, 3559-3576.	1.9	18
49	Robot coordination using task-priority and sliding-mode techniques. Robotics and Computer-Integrated Manufacturing, 2014, 30, 74-89.	6.1	12
50	Hierarchical Triple-Maglev Dual-Rate Control Over a Profibus-DP Network. IEEE Transactions on Control Systems Technology, 2014, 22, 1-12.	3.2	13
51	A new algorithm for dual-rate systems frequency response computation in discrete control systems. Applied Mathematical Modelling, 2014, 38, 5692-5704.	2.2	4
52	Multicriteria fuzzy-polynomial observer design for a 3DoF nonlinear electromechanical platform. Engineering Applications of Artificial Intelligence, 2014, 30, 96-106.	4.3	9
53	Closed-Form Estimates of the Domain of Attraction for Nonlinear Systems via Fuzzy-Polynomial Models. IEEE Transactions on Cybernetics, 2014, 44, 526-538.	6.2	31
54	A reactive geometric-invariance approach for robot coordination. , 2014, , .		0

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55	Polynomial Fuzzy Systems: Stability and Control. Atlantis Computational Intelligence Systems, 2014, , 95-115.	0.5	1
56	Reactive Sliding-Mode Algorithm for Collision Avoidance in Robotic Systems. IEEE Transactions on Control Systems Technology, 2013, 21, 2391-2399.	3.2	32
57	LK stability analysis of predictor-based controllers for discrete-time systems with time-varying actuator delay. Systems and Control Letters, 2013, 62, 764-769.	1.3	13
58	Integrated sliding-mode algorithms in robot tracking applications. Robotics and Computer-Integrated Manufacturing, 2013, 29, 53-62.	6.1	17
59	Finsler's relaxation for local H-infinity controller design of continuous-time Takagi-Sugeno models via non-quadratic Lyapunov functions. , 2013, , .		8
60	Robustness analysis of discrete predictor-based controllers for input-delay systems. International Journal of Systems Science, 2013, 44, 232-239.	3.7	23
61	Robust polytopic invariant sets for discrete fuzzy control systems. , 2013, , .		3
62	Extended Rauch-Tung-Striebel controller. , 2013, , .		4
63	Inescapable-set Estimation for Nonlinear Systems with Non-vanishing Disturbances. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 462-467.	0.4	1
64	Linear Matrix Inequalities in Multirate Control over Networks. Mathematical Problems in Engineering, 2012, 2012, 1-22.	0.6	1
65	Spherical domain of attraction estimation for nonlinear systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 108-114.	0.4	0
66	New controllers and new designs for continuous-time Takagi-Sugeno models. , 2012, , .		37
67	Dynamic estimations of metabolic fluxes with constraint-based models and possibility theory. Journal of Process Control, 2012, 22, 1946-1955.	1.7	14
68	Discrete fuzzy polynomial observers. , 2012, , .		1
69	Predictor-based stabilization of discrete time-varying input-delay systems. Automatica, 2012, 48, 454-457.	3.0	38
70	A supervisory loop approach to fulfill workspace constraints in redundant robots. Robotics and Autonomous Systems, 2012, 60, 1-15.	3.0	16
71	A path conditioning method with trap avoidance. Robotics and Autonomous Systems, 2012, 60, 862-873.	3.0	13
72	A Delay-Dependent Dual-Rate PID Controller Over an Ethernet Network. IEEE Transactions on Industrial Informatics, 2011, 7, 18-29.	7.2	82

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73	A Transfer-Function Approach to Dual-Rate Controller Design for Unstable and Non-Minimum-Phase Plants. IEEE Transactions on Control Systems Technology, 2011, 19, 1186-1194.	3.2	13
74	Application of Takagi-Sugeno observers for state estimation in a quadrotor. , 2011, , .		17
75	Some refinements for non quadratic stabilization of continuous TS models. , 2011, , .		7
76	Guaranteed Cost Piecewise Fuzzy Controller Design**. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 12789-12794.	0.4	0
77	Fuzzy Polynomial observers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 12772-12776.	0.4	7
78	Stability analysis of polynomial fuzzy models via polynomial fuzzy Lyapunov functions. Fuzzy Sets and Systems, 2011, 185, 5-14.	1.6	47
79	Neural networks in virtual reference tuning. Engineering Applications of Artificial Intelligence, 2011, 24, 983-995.	4.3	28
80	Efficiency improvement of a ground coupled heat pump system from energy management. Applied Thermal Engineering, 2011, 31, 391-398.	3.0	19
81	Sliding mode speed auto-regulation technique for robotic tracking. Robotics and Autonomous Systems, 2011, 59, 519-529.	3.0	22
82	Estimating domains of attraction of fuzzy polynomial systems. , 2011, , .		2
83	Perspectives of Multivariable Fuzzy Control. , 2011, , 283-314.		0
84	Guaranteed cost control analysis and iterative design for constrained Takagi-Sugeno systems. Engineering Applications of Artificial Intelligence, 2010, 23, 1420-1427.	4.3	15
85	Time invariant control of MIMO systems under random transient failures. , 2010, , .		0
86	Maglev platform networked control: A Profibus DP application. , 2010, , .		1
87	Detection and Diagnosis of Incipient Faults in Heavy-Duty Diesel Engines. IEEE Transactions on Industrial Electronics, 2010, 57, 3522-3532.	5.2	34
88	The polytopic/fuzzy polynomial approach for non-linear control: Advantages and drawbacks. , 2010, , .		0
89	Local fuzzy modeling: Maximising the basin of attraction. , 2010, , .		6
90	Improvements on local non-quadratic stability of Takagi-Sugeno models. , 2010, , .		1

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91	A proposal for dual-rate controller design for unstable plants. , 2010, , .		3
92	Switching algorithm for fast robotic tracking under joint speed constraints. , 2010, , .		1
93	Some remarks on polynomial fuzzy control. , 2009, , .		2
94	Applications of possibilistic reasoning to intelligent system monitoring: a case study. , 2009, , .		0
95	A possibilistic framework for constraint-based metabolic flux analysis. BMC Systems Biology, 2009, 3, 79.	3.0	11
96	On the conservativeness of fuzzy and fuzzy-polynomial control of nonlinear systems. Annual Reviews in Control, 2009, 33, 48-58.	4.4	129
97	Sampled-data gain scheduling of continuous LTV plants. Automatica, 2009, 45, 2451-2453.	3.0	16
98	A retunable PID multi-rate controller for a networked control system. Information Sciences, 2009, 179, 2390-2402.	4.0	54
99	A Triangulation Approach to Asymptotically Exact Conditions for Fuzzy Summations. IEEE Transactions on Fuzzy Systems, 2009, 17, 985-994.	6.5	78
100	Polynomial Fuzzy Models for Nonlinear Control: A Taylor Series Approach. IEEE Transactions on Fuzzy Systems, 2009, 17, 1284-1295.	6.5	191
101	A software application for possibilistic fuzzy diagnosis in complex system. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 522-527.	0.4	0
102	Guaranteed Cost Control For Constrained Takagi-Sugeno Fuzzy Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 325-330.	0.4	0
103	Enhancing integrity in multivariable process control under actuator failures. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 1599-1604.	0.4	0
104	Encoding fuzzy possibilistic diagnostics as a constrained optimization problem. Information Sciences, 2008, 178, 4246-4263.	4.0	15
105	Relaxed Stability and Performance LMI Conditions for Takagi-Sugeno Fuzzy Systems With Polynomial Constraints on Membership Function Shapes. IEEE Transactions on Fuzzy Systems, 2008, 16, 1328-1336.	6.5	122
106	Extensions to "Stability Analysis of Fuzzy Control Systems Subject to Uncertain Grades of Membership" IEEE Transactions on Systems, Man, and Cybernetics, 2008, 38, 558-563.	5.5	100
107	Frequency Response of Discrete Dual-Rate Systems. , 2008, , .		2
108	Introducing shape-dependent relaxed conditions in fuzzy control of nonlinear systems in Takagi-Sugeno form. , 2008, , .		7

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109	Stability Analysis of Fuzzy Systems: membership-shape and polynomial approaches. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 5605-5610.	0.4	11
110	Encoding Fuzzy Diagnosis Rules as Optimisation Problems. , 2008, , 49-58.		0
111	Design of Multiple-Parameterisation PDC Controllers via Relaxed Conditions for Multi-Dimensional Fuzzy Summations. , 2007, , .		9
112	APPLICATION OF NEURAL NETWORKS TO VIRTUAL REFERENCE FEEDBACK TUNING CONTROLLER DESIGN. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 145-150.	0.4	4
113	REDUCING THE GAP BETWEEN FUZZY AND NONLINEAR CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 121-126.	0.4	1
114	Relaxed Stability and Performance Conditions for Takagi-Sugeno Fuzzy Systems With Knowledge on Membership Function Overlap. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 727-732.	5.5	138
115	Fuzzy Diagnosis Module Based on Interval Fuzzy Logic: Oil Analysis Application. , 2007, , 43-50.		4
116	An Optimization Approach to Fuzzy Diagnosis: Oil Analysis Application. IEEE International Conference on Fuzzy Systems, 2007, , .	0.0	9
117	Improving Performance Under Sampling-Rate Variations via Generalized Hold Functions. IEEE Transactions on Control Systems Technology, 2007, 15, 794-797.	3.2	12
118	Diseño de controladores en varios puntos de funcionamiento para una clase de modelos borrosos Takagi-Sugeno afines. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2007, 4, 98-105.	0.6	4
119	Fuzzy-logic diagnostic rules: a constrained optimisation viewpoint. , 2007, , .		0
120	Integrating virtual reference feedback tuning into a unified closed-loop identification framework. Automatica, 2007, 43, 178-183.	3.0	45
121	Relaxed LMI conditions for closed-loop fuzzy systems with tensor-product structure. Engineering Applications of Artificial Intelligence, 2007, 20, 1036-1046.	4.3	80
122	Asymptotically necessary and sufficient conditions for stability and performance in fuzzy control: Applications of Polyá's theorem. Fuzzy Sets and Systems, 2007, 158, 2671-2686.	1.6	539
123	A fuzzy clustering algorithm enhancing local model interpretability. Soft Computing, 2007, 11, 973-983.	2.1	8
124	Is bridging the gap between fuzzy and nonlinear control possible (partially)?. , 2007, , .		2
125	Controller Design Under Fuzzy Pole-Placement Specifications: An Interval Arithmetic Approach. IEEE Transactions on Fuzzy Systems, 2006, 14, 822-836.	6.5	22
126	CONTROL WITH ON/OFF SENSORS AND ACTUATORS: AN ELLIPSOID OBSERVER PLUS SLIDING-MODE CONTROL APPROACH. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 61-66.	0.4	2

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127	Target-shaped possibilistic clustering applied to local-model identification. Engineering Applications of Artificial Intelligence, 2006, 19, 201-208.	4.3	9
128	Fuzzy logic-based expert system for diesel engine oil analysis diagnosis. Insight: Non-Destructive Testing and Condition Monitoring, 2006, 48, 462-469.	0.3	14
129	Remote TCP/IP-based process control with time-varying sampling period. , 2006, , .		4
130	Modal fuzzy quantities and applications to control. , 2006, , .		1
131	Local Stability of Open- and Closed-loop Fuzzy Systems. , 2006, , .		5
132	Remote TCP/IP-based process control with time-varying sampling period. , 2006, , .		1
133	VIRTUAL REFERENCE FEEDBACK TUNING IN RESTRICTED COMPLEXITY CONTROLLER DESIGN OF NON-MINIMUM PHASE SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 235-240.	0.4	14
134	FAULT-TOLERANT TIME-INVARIANT FEEDBACK CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 61-66.	0.4	2
135	Perspectives of fuzzy systems and control. Fuzzy Sets and Systems, 2005, 156, 432-444.	1.6	358
136	Extensions to "virtual reference feedback tuning: A direct method for the design of feedback controllers". Automatica, 2005, 41, 1473-1476.	3.0	102
137	Computer control under time-varying sampling period: An LMI gridding approach. Automatica, 2005, 41, 2077-2082.	3.0	143
138	Preface to the special section on fuzzy system applications in control. Control Engineering Practice, 2004, 12, 605.	3.2	0
139	An Alternative Aggregation Algorithm for Fuzzy Local Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 19-24.	0.4	2
140	Reduced-Order Controller Design via Iterative Identification and Control. European Journal of Control, 2003, 9, 105-117.	1.6	5
141	FUZZY CONTROLLERS WITH NON-CONVENTIONAL (SCARCE) MEASUREMENTS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 217-222.	0.4	0
142	FUZZY CLUSTERING ALGORITHM FOR LOCAL MODEL CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 337-342.	0.4	4
143	Inference error minimisation: fuzzy modelling of ambiguous functions. Fuzzy Sets and Systems, 2001, 121, 95-111.	1.6	21
144	Output prediction under scarce data operation: control applications. Automatica, 1999, 35, 1671-1681.	3.0	51

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145	Fuzzy systems evaluation: The inference error approach. IEEE Transactions on Systems, Man, and Cybernetics, 1998, 28, 268-275.	5.5	11
146	Analysis of rulebase coherence in fuzzy control systems. Annual Review in Automatic Programming, 1994, 19, 79-84.	0.2	0
147	Perspectives of fuzzy control: lights and shadows. , 0, , .		1
148	Learning Constrained Generalizable Policies by Demonstration. , 0, , .		6