Fabio Pasqualetti

List of Publications by Year
in descending order

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128 papers	7,219 citations	172457 29 h-index	118850 62 g-index
135 all docs	135 docs citations	135 times ranked	4739 citing authors

#	Article	IF	Citations
1	Relay Interactions Enable Remote Synchronization in Networks of Phase Oscillators. , 2022, 6, 500-505.		7
2	Energy-Aware Controllability of Complex Networks. Annual Review of Control, Robotics, and Autonomous Systems, 2022, 5, 465-489.	11.8	3
3	Path-dependent dynamics induced by rewiring networks of inertial oscillators. Physical Review E, 2022, 105, 024304.	2.1	3
4	Network theoretic analysis of maximum a posteriori detectors for optimal input detection. Automatica, 2022, 141, 110277.	5.0	0
5	Data-Driven Meets Geometric Control: Zero Dynamics, Subspace Stabilization, and Malicious Attacks. , 2022, 6, 2569-2574.		7
6	Multiagent Persistent Monitoring via Time-Inverted Kuramoto Dynamics. , 2022, 6, 2798-2803.		4
7	Non-Stationary Representation Learning in Sequential Linear Bandits. , 2022, 1, 41-56.		5
8	Mediated Remote Synchronization of Kuramoto-Sakaguchi Oscillators: The Number of Mediators Matters. , 2021, 5, 767-772.		12
9	Data-Driven Attack Detection for Linear Systems. , 2021, 5, 671-676.		14
10	Linear-Threshold Dynamics for the Study of Epileptic Events. , 2021, 5, 1405-1410.		4
11	Minimum-Gain Pole Placement With Sparse Static Feedback. IEEE Transactions on Automatic Control, 2021, 66, 3445-3459.	5.7	7
12	Controllability of Network Systems. , 2021, , 419-424.		0
13	Brain network dynamics fingerprints are resilient to data heterogeneity. Journal of Neural Engineering, 2021, 18, 026004.	3.5	5
14	On a security vs privacy trade-off in interconnected dynamical systems. Automatica, 2021, 125, 109426.	5.0	4
15	Data-driven control of complex networks. Nature Communications, 2021, 12, 1429.	12.8	72
16	Optimal Dynamic Load-Altering Attacks Against Power Systems. , 2021, , .		1
17	Deflection-based Attack Detection for Network Systems. , 2021, , .		1
18	Brain network dynamics during working memory are modulated by dopamine and diminished in schizophrenia. Nature Communications, 2021, 12, 3478.	12.8	69

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19	Phase-amplitude coupling in neuronal oscillator networks. Physical Review Research, 2021, 3, .	3.6	8
20	Detection of Attacks in Cyber-Physical Systems: Theory and Applications. Lecture Notes in Control and Information Sciences, 2021, , 79-98.	1.0	1
21	Time-evolving controllability of effective connectivity networks during seizure progression. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	41
22	On Direct vs Indirect Data-Driven Predictive Control. , 2021, , .		25
23	Distributed Learning of Optimal Controls for Linear Systems. , 2021, , .		8
24	Robust Adversarial Classification via Abstaining. , 2021, , .		0
25	Time-Inverted Kuramoto Dynamics for Î²-Clustered Circle Coverage. , 2021, , .		0
26	Benchmarking Measures of Network Controllability on Canonical Graph Models. Journal of Nonlinear Science, 2020, 30, 2195-2233.	2.1	27
27	A Fundamental Performance Limitation for Adversarial Classification. , 2020, 4, 169-174.		6
28	Stability Conditions for Cluster Synchronization in Networks of Heterogeneous Kuramoto Oscillators. IEEE Transactions on Control of Network Systems, 2020, 7, 302-314.	3.7	61
29	Secure Navigation of Robots in Adversarial Environments. , 2020, 4, 1-6.		11
30	Gramian-Based Optimization for the Analysis and Control of Traffic Networks. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 3013-3024.	8.0	17
31	Secure trajectory planning against undetectable spoofing attacks. Automatica, 2020, 112, 108655.	5.0	29
32	On the real stability radius of sparse systems. Automatica, 2020, 113, 108685.	5.0	8
33	Centralized Versus Decentralized Detection of Attacks in Stochastic Interconnected Systems. IEEE Transactions on Automatic Control, 2020, 65, 3903-3910.	5.7	11
34	Gene coexpression patterns predict opiate-induced brain-state transitions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19556-19565.	7.1	26
35	Path-dependent connectivity, not modularity, consistently predicts controllability of structural brain networks. Network Neuroscience, 2020, 4, 1091-1121.	2.6	10
36	Models of communication and control for brain networks: distinctions, convergence, and future outlook. Network Neuroscience, 2020, 4, 1122-1159.	2.6	46

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37	Guest Editorial: Special Issue on Security and Privacy of Distributed Algorithms and Network Systems. IEEE Transactions on Automatic Control, 2020, 65, 3725-3727.	5.7	5
38	Accuracy Prevents Robustness in Perception-based Control. , 2020, , .		6
39	Learning in brain-computer interface control evidenced by joint decomposition of brain and behavior. Journal of Neural Engineering, 2020, 17, 046018.	3.5	15
40	Control of brain network dynamics across diverse scales of space and time. Physical Review E, 2020, 101, 062301.	2.1	14
41	Conditions for Feedback Linearization of Network Systems. , 2020, 4, 578-583.		7
42	Fragility Limits Performance in Complex Networks. Scientific Reports, 2020, 10, 1774.	3.3	11
43	A practical guide to methodological considerations in the controllability of structural brain networks. Journal of Neural Engineering, 2020, 17, 026031.	3.5	74
44	Learning Minimum-Energy Controls from Heterogeneous Data. , 2020, , .		8
45	Optimization of energy state transition trajectory supports the development of executive function during youth. ELife, 2020, 9, .	6.0	47
46	Controllability of Network Systems. , 2020, , 1-6.		0
47	Accuracy Prevents Robustness in Perception-based Control. , 2020, , .		0
48	Data-Driven Minimum-Energy Controls for Linear Systems. , 2019, 3, 589-594.		58
49	The Shannon Capacity of Linear Dynamical Networks. , 2019, , .		3
50	White Matter Network Architecture Guides Direct Electrical Stimulation through Optimal State Transitions. Cell Reports, 2019, 28, 2554-2566.e7.	6.4	104
51	RE: Warnings and caveats in brain controllability. NeuroImage, 2019, 197, 586-588.	4.2	19
52	Heterogeneity of central nodes explains the benefits of time-varying control scheduling in complex dynamical networks. Journal of Complex Networks, 2019, , .	1.8	11
53	A Framework to Control Functional Connectivity in the Human Brain. , 2019, , .		14
54	Exact and Approximate Stability Conditions for Cluster Synchronization of Kuramoto Oscillators. , 2019, , .		8

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55	Structural Controllability of Symmetric Networks. IEEE Transactions on Automatic Control, 2019, 64, 3740-3747.	5.7	50
56	Networks with diagonal controllability Gramian: Analysis, graphical conditions, and design algorithms. Automatica, 2019, 102, 10-18.	5.0	21
57	Sex differences in network controllability as a predictor of executive function in youth. NeuroImage, 2019, 188, 122-134.	4.2	59
58	Hierarchical Location Identification of Destabilizing Faults and Attacks in Power Systems: A Frequency-Domain Approach. IEEE Transactions on Smart Grid, 2019, 10, 2036-2045.	9.0	20
59	Resilience of Traffic Networks with Partially Controlled Routing. , 2019, , .		5
60	A Probabilistic Approach to Design Switching Attacks against Interconnected Systems. , 2019, , .		1
61	The Energy Landscape of Neurophysiological Activity Implicit in Brain Network Structure. Scientific Reports, 2018, 8, 2507.	3.3	81
62	Dynamic Load Altering Attacks Against Power System Stability: Attack Models and Protection Schemes. IEEE Transactions on Smart Grid, 2018, 9, 2862-2872.	9.0	133
63	On privacy vs. cooperation in multi-agent systems. International Journal of Control, 2018, 91, 1693-1707.	1.9	28
64	Role of graph architecture in controlling dynamical networks with applications to neural systems. Nature Physics, 2018, 14, 91-98.	16.7	96
65	Attack Detection in Stochastic Interconnected Systems: Centralized vs Decentralized Detectors. , 2018, , .		8
66	A Network Optimization Framework for the Analysis and Control of Traffic Dynamics and Intersection Signaling. , 2018, , .		7
67	Controllability Degree of Directed Line Networks: Nodal Energy and Asymptotic Bounds. , 2018, , .		6
68	On the Role of Information Sharing in the Security of Interconnected Systems. , 2018, , .		1
69	Time-Delay Attacks in Network Systems. , 2018, , 157-174.		10
70	Fragility and Controllability Tradeoff in Complex Networks. , 2018, , .		13
71	Stealthy Attacks in Cloud-Connected Linear Impulsive Systems. , 2018, , .		5
72	The Structured Controllability Radius of Symmetric (Brain) Networks. , 2018, , .		13

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73	Optimal trajectories of brain state transitions. NeuroImage, 2017, 148, 305-317.	4.2	143
74	Brain and cognitive reserve: Translation via network control theory. Neuroscience and Biobehavioral Reviews, 2017, 75, 53-64.	6.1	95
75	Data-injection attacks in stochastic control systems: Detectability and performance tradeoffs. Automatica, 2017, 82, 251-260.	5.0	160
76	On Kalman Filtering with Compromised Sensors: Attack Stealthiness and Performance Bounds. IEEE Transactions on Automatic Control, 2017, 62, 6641-6648.	5.7	95
77	Cluster Synchronization in Networks of Kuramoto Oscillators 1 1This material is based upon work supported in part by NSF awards BCS-1631112 and BCS-1430279.. IFAC-PapersOnLine, 2017, 50, 2433-2438.	0.9	17
78	Bode meets Kuramoto: Synchronized clusters in oscillatory networks. , 2017, , .		5
79	Autaptic Connections Shift Network Excitability and Bursting. Scientific Reports, 2017, 7, 44006.	3.3	39
80	Secure reference-tracking with resource-constrained UAVs. , 2017, , .		4
81	On the number of strongly structurally controllable networks. , 2017, , .		4
82	The Observability Radius of Networks. IEEE Transactions on Automatic Control, 2017, 62, 3006-3013.	5.7	16
83	55th IEEE Conference on Decision and Control, CDC 2016 [Conference Reports]. IEEE Control Systems, 2017, 37, 104-110.	0.8	0
84	Discrete-Time Dynamical Networks with Diagonal Controllability Gramian * *This material is based upon work supported in part by ONR award N00014-14-1-0816 and NSF award ECCS 1462530.. IFAC-PapersOnLine, 2017, 50, 8297-8302.	0.9	8
85	Time-invariant versus time-varying actuator scheduling in complex networks. , 2017, , .		17
86	Synchronization patterns in networks of Kuramoto oscillators: A geometric approach for analysis and control. , 2017, , .		20
87	Hybrid attack monitor design to detect recurrent attacks in a class of cyber-physical systems. , 2017, , .		4
88	Stimulation-Based Control of Dynamic Brain Networks. PLoS Computational Biology, 2016, 12, e1005076.	3.2	234
89	Optimally controlling the human connectome: the role of network topology. Scientific Reports, 2016, 6, 30770.	3.3	190
90	Network composition for optimal disturbance rejection. , 2016, , .		4

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91	Network invariants for optimal input detection. , 2016, , .		3
92	Periodic coordinated attacks against cyber-physical systems: Detectability and performance bounds. , 2016, , .		5
93	Scheduling of control nodes for improved network controllability. , 2016, , .		19
94	The observability radius of network systems. , 2016, , .		4
95	Cross-Layer Codesign for Secure Cyber-Physical Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 699-711.	2.7	57
96	Detecting dynamic load altering attacks: A data-driven time-frequency analysis. , 2015, , .		14
97	A divide-and-conquer approach to distributed attack identification. , 2015, , .		26
98	The role of diameter in the controllability of complex networks. , 2015, , .		10
99	Security in stochastic control systems: Fundamental limitations and performance bounds. , 2015, , .		75
100	Control-Theoretic Methods for Cyberphysical Security: Geometric Principles for Optimal Cross-Layer Resilient Control Systems. IEEE Control Systems, 2015, 35, 110-127.	0.8	286
101	Design and Operation of Secure Cyber-Physical Systems. IEEE Embedded Systems Letters, 2015, 7, 3-6.	1.9	21
102	Dynamic load altering attacks in smart grid. , 2015, , .		46
103	Controllability of structural brain networks. Nature Communications, 2015, 6, 8414.	12.8	600
104	Continuous graph partitioning for camera network surveillance. Automatica, 2015, 52, 227-231.	5.0	4
105	On the controllability of isotropic and anisotropic networks. , 2014, , .		25
106	Consensus networks over finite fields. Automatica, 2014, 50, 349-358.	5.0	46
107	Controllability metrics, limitations and algorithms for complex networks. , 2014, , .		27
108	Camera Network Coordination for Intruder Detection. IEEE Transactions on Control Systems Technology, 2014, 22, 1669-1683.	5.2	24

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109	Controllability Metrics, Limitations and Algorithms for Complex Networks. IEEE Transactions on Control of Network Systems, 2014, 1, 40-52.	3.7	452
110	Stochastic surveillance strategies for spatial quickest detection. International Journal of Robotics Research, 2013, 32, 1438-1458.	8.5	21
111	Attack Detection and Identification in Cyber-Physical Systems. IEEE Transactions on Automatic Control, 2013, 58, 2715-2729.	5.7	1,579
112	Continuous-Time Distributed Observers With Discrete Communication. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 296-304.	10.8	41
113	Finite-field consensus. , 2013, , .		1
114	Cyber-physical security via geometric control: Distributed monitoring and malicious attacks. , 2012, , .		50
115	Distributed multi-camera synchronization for smart-intruder detection. , 2012, , .		9
116	On Cooperative Patrolling: Optimal Trajectories, Complexity Analysis, and Approximation Algorithms. IEEE Transactions on Robotics, 2012, 28, 592-606.	10.3	142
117	Consensus Computation in Unreliable Networks: A System Theoretic Approach. IEEE Transactions on Automatic Control, 2012, 57, 90-104.	5.7	398
118	Cooperative Patrolling via Weighted Tours: Performance Analysis and Distributed Algorithms. IEEE Transactions on Robotics, 2012, 28, 1181-1188.	10.3	87
119	Distributed estimation via iterative projections with application to power network monitoring. Automatica, 2012, 48, 747-758.	5.0	89
120	Cyber-physical attacks in power networks: Models, fundamental limitations and monitor design. , 2011, , .		193
121	A distributed method for state estimation and false data detection in power networks. , 2011, , .		41
122	Distributed detection of cyber-physical attacks in power networks: A waveform relaxation approach. , 2011, , .		17
123	A graph-theoretical characterization of power network vulnerabilities. , 2011, , .		58
124	On optimal cooperative patrolling. , 2010, , .		32
125	Identifying cyber attacks via local model information. , 2010, , .		13
126	On the security of linear consensus networks. , 2009, , .		28

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127	Steering a Leader-Follower Team Via Linear Consensus. Lecture Notes in Computer Science, 2008, , 642-645.	1.3	10
128	Distributed intrusion detection for secure consensus computations. , 2007, , .		74