Ilia G Polushin

List of Publications by Year
in descending order

50 papers	954 citations	623734 14 h-index	713466 21 g-index
50 all docs	50 docs citations	50 times ranked	662 citing authors

#	Article	IF	Citations
1	Attitude Synchronization of Multiple Rigid Bodies With Communication Delays. IEEE Transactions on Automatic Control, 2012, 57, 2405-2411.	5.7	118
2	A Force-Reflection Algorithm for Improved Transparency in Bilateral Teleoperation With Communication Delay. IEEE/ASME Transactions on Mechatronics, 2007, 12, 361-374.	5.8	109
3	Synchronization of Lagrangian Systems With Irregular Communication Delays. IEEE Transactions on Automatic Control, 2014, 59, 187-193.	5.7	103
4	A small gain framework for networked cooperative force-reflecting teleoperation. Automatica, 2013, 49, 338-348.	5.0	69
5	Leader-Follower Synchronization of Euler-Lagrange Systems With Time-Varying Leader Trajectory and Constrained Discrete-Time Communication. IEEE Transactions on Automatic Control, 2017, 62, 2539-2545.	5.7	67
6	A Multichannel IOS Small Gain Theorem for Systems With Multiple Time-Varying Communication Delays. IEEE Transactions on Automatic Control, 2009, 54, 404-409.	5.7	57
7	A Small-Gain Approach for Nonpassive Bilateral Telerobotic Rehabilitation: Stability Analysis and Controller Synthesis. IEEE Transactions on Robotics, 2017, 33, 49-66.	10.3	46
8	Stability of bilateral teleoperators with generalized projection-based force reflection algorithms. Automatica, 2012, 48, 1005-1016.	5.0	43
9	Projection-Based Force Reflection Algorithm for Stable Bilateral Teleoperation Over Networks. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 1854-1865.	4.7	34
10	Networked teleoperation with non-passive environment: Application to tele-rehabilitation. , 2012, , .		34
11	Distributed Coordination of Dynamical Multi-Agent Systems Under Directed Graphs and Constrained Information Exchange. IEEE Transactions on Automatic Control, 2017, 62, 1668-1683.	5.7	33
12	Motion coordination of thrust-propelled underactuated vehicles with intermittent and delayed communications. Systems and Control Letters, 2015, 79, 15-22.	2.3	32
13	Projection-Based Force-Reflection Algorithms With Frequency Separation for Bilateral Teleoperation. IEEE/ASME Transactions on Mechatronics, 2015, 20, 143-154.	5.8	31
14	Cooperative Teleoperation With Projection-Based Force Reflection for MIS. IEEE Transactions on Control Systems Technology, 2015, 23, 1411-1426.	5.2	29
15	Projection-based force reflection algorithms for teleoperated rehabilitation therapy. , 2013, , .		15
16	A Generalization of the Scattering Transformation for Conic Systems. IEEE Transactions on Automatic Control, 2014, 59, 1989-1995.	5.7	15
17	Scattering-based stabilization of non-planar conic systems. Automatica, 2018, 93, 1-11.	5.0	12
18	On the Model-Based Approach to Nonlinear Networked Control Systems. Proceedings of the American Control Conference, 2007, , .	0.0	10

#	Article	IF	Citations
19	Classical Preisach model of hysteretic behavior in a da Vinci instrument. , 2016, , .		8
20	Observer-based control of vertical penetration rate in rotary drilling systems. Journal of Process Control, 2021, 106, 29-43.	3.3	8
21	Synchronization of multiple Euler-Lagrange systems with communication delays. , 2012, , .		7
22	A Motion Transmission Model for a Class of Tendon-Based Mechanisms With Application to Position Tracking of the daÂVinciÂInstrument. IEEE/ASME Transactions on Mechatronics, 2019, 24, 538-548.	5.8	7
23	Design of Telerobotic Drilling Control System with Haptic Feedback. Journal of Control Science and Engineering, 2013, 2013, 1-15.	1.0	6
24	Sliding-mode control of nonlinear discrete-input pneumatic actuators. , 2011, , .		5
25	Adaptive synchronization of networked Lagrangian systems with irregular communication delays. , 2012, , .		5
26	Algorithm for Power Stabilization in Rotary Drilling Systems. , 2019, , .		5
27	A scheme for VR-enhanced bilateral teleoperation with time delay. , 2008, , .		4
28	Small-gain design of networked cooperative bilateral teleoperators. , 2011, , .		4
29	Human dynamics and stability of teleoperator systems with generalized projection-based force reflection algorithms. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 338-343.	0.4	4
30	Scattering-Based Stabilization of Complex Interconnections of (Q,S,R)-Dissipative Systems With Time Delays. , 2019, 3, 368-373.		4
31	Regulation of Penetration Rate and Drilling Power in Rotary Drilling Systems. , 2020, , .		4
32	Consensus algorithms design for constrained heterogeneous multi-agent systems. , 2012, , .		3
33	Rigid body attitude synchronization with communication delays. , 2012, , .		3
34	Experimental evaluation of a projection-based force reflection algorithm for haptic interfaces. , 2012, , .		3
35	Stability of bilateral teleoperators with projection-based force reflection algorithms. , 2008, , .		2
36	Virtual reality enhanced bilateral teleoperation with communication constraints. , 2009, , .		2

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37	Frequency separation in projection-based force reflection algorithms for bilateral teleoperators. , 2013, , .		2
38	Cooperative teleoperation with projection-based force reflection for MIS. , 2014, , .		2
39	Scattering transformation for planar conic systems with nonlinear sector boundaries. , 2019, , .		2
40	Observer-Based Control of Drilling Mode in Rotary Drilling Systems. , 2021, , .		2
41	Position-Error Based Schemes for Bilateral Teleoperation with Time Delay: Theory and Experiments. , 2006, , .		1
42	Projection-based force reflection algorithm for stable bilateral teleoperation over networks. , 2007, , .		1
43	Experimental studies of a teleoperator system with projection-based force reflection algorithms. , 2009, , .		1
44	L₂ stability of haptic systems with projection-based force reflection. IEEE Transactions on Haptics, 2014, 7, 405-410.	2.7	1
45	Distributed coordination of linear second-order multi-agent systems with communication constraints. , 2015, , .		1
46	Small gain design of cooperative teleoperator system with projection-based force reflection. , 2011, , .		0
47	A Graph Separation Stability Condition for Non-Planar Conic Systems**The research was supported by the Discovery Grants Program of the Natural Sciences and Engineering Research Council (NSERC) of Canada through grants RGPIN-05753 (I.G. Polushin) and RGPIN-1345 (R.V. Patel). A.A. Usova was also supported by Ontario Trillium Scholarship.. IFAC-PapersOnLine, 2016, 49, 933-938.	0.9	0
48	Stabilization of Robot-Environment Interaction Through Generalized Scattering Techniques. IEEE Transactions on Robotics, 2022, 38, 1319-1333.	10.3	0
49	A Generalized Scattering Framework for Teleoperation with Communication Delays. IFAC-PapersOnLine, 2020, 53, 10064-10069.	0.9	0
50	Stabilization of networks of switched dissipative systems through a scattering transformation technique. , 2021, , .		0