

James F Whidborne

List of Publications by Year in descending order

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158
papers

2,668
citations

257101

24
h-index

264894

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160
all docs

160
docs citations

160
times ranked

1890
citing authors

#	ARTICLE	IF	CITATIONS
1	Tuning Class E Inverters Applied in Inductive Links Using Saturable Reactors. IEEE Transactions on Power Electronics, 2014, 29, 2969-2978.	5.4	168
2	Electronic Tuning of Misaligned Coils in Wireless Power Transfer Systems. IEEE Transactions on Power Electronics, 2014, 29, 5975-5982.	5.4	144
3	High-Input-Voltage High-Frequency Class E Rectifiers for Resonant Inductive Links. IEEE Transactions on Power Electronics, 2015, 30, 1328-1335.	5.4	123
4	A prototype of an autonomous controller for a quadrotor UAV. , 2007, , .		115
5	A three-term backpropagation algorithm. Neurocomputing, 2003, 50, 305-318.	3.5	109
6	A review of ground vehicle dynamic state estimations utilising GPS/INS. Vehicle System Dynamics, 2011, 49, 29-58.	2.2	90
7	Wireless Power Transfer Using Class E Inverter With Saturable DC-Feed Inductor. IEEE Transactions on Industry Applications, 2014, 50, 2710-2718.	3.3	79
8	Control allocation for fault tolerant control of a VTOL octorotor. , 2012, , .		77
9	Road vehicle state estimation using low-cost GPS/INS. Mechanical Systems and Signal Processing, 2011, 25, 1988-2004.	4.4	76
10	Direct Method Based Control System for an Autonomous Quadrotor. Journal of Intelligent and Robotic Systems: Theory and Applications, 2010, 60, 285-316.	2.0	70
11	Robust controller design using H_{∞} loop-shaping and the method of inequalities. IEEE Transactions on Control Systems Technology, 1994, 2, 455-461.	3.2	53
12	State-Space Modeling of a Class E^2 Converter for Inductive Links. IEEE Transactions on Power Electronics, 2015, 30, 3242-3251.	5.4	48
13	Detailed analytical model of a single-cylinder diesel engine in the crank angle domain. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2001, 215, 1197-1216.	1.1	47
14	On the Minimization of Maximum Transient Energy Growth. IEEE Transactions on Automatic Control, 2007, 52, 1762-1767.	3.6	46
15	Robust control of an unknown plant—the IFAC 93 benchmark. International Journal of Control, 1995, 61, 589-640.	1.2	45
16	Adaptive sliding-mode-backstepping trajectory tracking control of underactuated airships. Aerospace Science and Technology, 2020, 97, 105610.	2.5	44
17	Instantaneous friction components model for transient engine operation. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2000, 214, 809-824.	1.1	41
18	A Unifying Framework for Finite Wordlength Realizations. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 1765-1774.	0.1	41

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19	Reduction of controller fragility by pole sensitivity minimization. IEEE Transactions on Automatic Control, 2001, 46, 320-325.	3.6	40
20	Simulation of wake vortex effects for UAVs in close formation flight. Aeronautical Journal, 2009, 113, 727-738.	1.1	36
21	Multirotor Sizing Methodology with Flight Time Estimation. Journal of Advanced Transportation, 2020, 2020, 1-14.	0.9	31
22	Attitude control system for directional drilling bottom hole assemblies. IET Control Theory and Applications, 2012, 6, 884.	1.2	30
23	Dynamic simulation of a single-cylinder diesel engine including dynamometer modelling and friction. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 1999, 213, 391-402.	1.1	28
24	Finite word length stability issues in an l1 framework. International Journal of Control, 2000, 73, 166-176.	1.2	28
25	Application of an Efficient Gradient-Based Optimization Strategy for Aircraft Wing Structures. Aerospace, 2018, 5, 3.	1.1	28
26	Linear Parameter Varying control of a quadrotor. , 2011, , .		27
27	Adopting exergy analysis for use in aerospace. Progress in Aerospace Sciences, 2017, 93, 73-94.	6.3	27
28	Optimising stability bounds of finite-precision controller structures for sampled-data systems in the $\hat{\Gamma}$ -operator domain. IET Control Theory and Applications, 1999, 146, 517-526.	1.7	25
29	A linear state-space representation of plane Poiseuille flow for control design: a tutorial. International Journal of Modelling, Identification and Control, 2006, 1, 272.	0.2	25
30	Propulsion and Flight Controls Integration for a Blended-Wing-Body Transport Aircraft. Journal of Aircraft, 2010, 47, 895-903.	1.7	25
31	On-board trajectory generation for collision avoidance in unmanned aerial vehicles. , 2011, , .		24
32	Real-time optimal techniques for unmanned air vehicles fuel saving. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2012, 226, 1315-1328.	0.7	24
33	EMS control system design for a maglev vehicleâ€”A critical system. Automatica, 1993, 29, 1345-1349.	3.0	22
34	Linear quadratic control of plane Poiseuille flowâ€”the transient behaviour. International Journal of Control, 2007, 80, 1912-1930.	1.2	22
35	Gainâ€”Scheduled H_2 Control for Tensor Product Type Polytopic Plants. Asian Journal of Control, 2015, 17, 417-431.	1.9	22
36	Non-intrusive classification of gas-liquid flow regimes in an S-shaped pipeline riser using a Doppler ultrasonic sensor and deep neural networks. Chemical Engineering Journal, 2021, 403, 126401.	6.6	21

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37	Genetic algorithm approach to designing finite-precision controller structures. IET Control Theory and Applications, 2001, 148, 377-382.	1.7	20
38	Evolutionary H _∞ design of an electromagnetic suspension control system for a maglev vehicle. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 1997, 211, 345-355.	0.7	19
39	Gain-scheduled H _∞ control via parameter-dependent Lyapunov functions. International Journal of Systems Science, 2015, 46, 125-138.	3.7	19
40	Wind Shear Energy Extraction using Dynamic Soaring Techniques. , 2009, , .		18
41	Computing the maximum transient energy growth. BIT Numerical Mathematics, 2011, 51, 447-457.	1.0	18
42	Linear feedback control of transient energy growth and control performance limitations in subcritical plane Poiseuille flow. Physics of Fluids, 2011, 23, .	1.6	18
43	Decision-making for unmanned aerial vehicle operation in icing conditions. CEAS Aeronautical Journal, 2016, 7, 663-675.	0.9	18
44	An Advanced Unmanned Aerial Vehicle (UAV) Approach via Learning-Based Control for Overhead Power Line Monitoring: A Comprehensive Review. IEEE Access, 2021, 9, 130410-130433.	2.6	18
45	Real-Time Transient Three Spool Turbofan Engine Simulation: A Hybrid Approach. Journal of Engineering for Gas Turbines and Power, 2009, 131, .	0.5	17
46	Optimised configuration of sensors for fault tolerant control of an electro-magnetic suspension system. International Journal of Systems Science, 2012, 43, 1785-1804.	3.7	17
47	Collaborative Control in a Flying-Boom Aerial Refueling Simulation. Journal of Guidance, Control, and Dynamics, 2015, 38, 1274-1289.	1.6	17
48	Simulated annealing for multiobjective control system design. IET Control Theory and Applications, 1997, 144, 582-588.	1.7	15
49	Maximizing lower bound stability measure of finite precision PID controller realizations by nonlinear programming. , 1998, , .		15
50	Robust sliding mode control of a quadrotor. , 2016, , .		15
51	Fault tolerant control of a quadrotor using C ₁ adaptive control. International Journal of Intelligent Unmanned Systems, 2016, 4, 43-66.	0.6	15
52	Bilinear modelling, control and stability of directional drilling. Control Engineering Practice, 2019, 82, 161-172.	3.2	15
53	Application of Norm Optimal Iterative Learning Control to Quadrotor Unmanned Aerial Vehicle for Monitoring Overhead Power System. Energies, 2020, 13, 3223.	1.6	15
54	Robust control of the benchmark problem using H _∞ methods and numerical optimization techniques. Automatica, 1994, 30, 615-619.	3.0	14

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55	A numerical investigation into the effect of engine bleed on performance of a single-spool turbojet engine. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2008, 222, 939-949.	0.7	14
56	Quaternion-Based Inverse Dynamics Model for Expressing Aerobatic Aircraft Trajectories. Journal of Guidance, Control, and Dynamics, 2009, 32, 1388-1391.	1.6	13
57	Robust Linear Feedback Control of Attitude for Directional Drilling Tools (13th IFAC Symposium on) Tj ETQq1 1 0.784314 rgBT /Overl Federation of Automatic Control, 2010, 43, 92-97.	0.4	13
58	Positioning Algorithm for Autonomous Thermal Soaring. Journal of Aircraft, 2012, 49, 472-482.	1.7	13
59	Finite wordlength controller realisations using the specialised implicit form. International Journal of Control, 2010, 83, 330-346.	1.2	12
60	Wireless power transfer using Class E inverter with saturable DC-feed inductor. , 2013, , .		12
61	Real-time obstacle collision avoidance for fixed wing aircraft using B-splines. , 2014, , .		12
62	MPC-Based Feedback Delay Compensation Scheme for Directional Drilling Attitude Control. , 2015, , .		12
63	Framework for Flight Loads Analysis of Trajectory-Based Manoeuvres with Pilot Models. Journal of Aircraft, 2014, 51, 637-650.	1.7	11
64	Mixed Uncertainty Analysis of Pole Placement and H^∞ Controllers for Directional Drilling Attitude Tracking. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .	0.9	11
65	Modelling, Stabilization and Single Motor Failure Recovery of a 4Y Octorotor. , 2011, , .		11
66	A Furcated Visual Collision Avoidance System for an Autonomous Microrobot. IEEE Transactions on Cognitive and Developmental Systems, 2020, 12, 1-11.	2.6	10
67	Backstepping sliding-mode control of stratospheric airships using disturbance-observer. Advances in Space Research, 2021, 67, 1174-1187.	1.2	10
68	Development of Gas-Liquid Flow Regimes Identification Using a Noninvasive Ultrasonic Sensor, Belt-Shape Features, and Convolutional Neural Network in an S-Shaped Riser. IEEE Transactions on Cybernetics, 2023, 53, 3-17.	6.2	10
69	A unified closed-loop stability measure for finite-precision digital controller realizations implemented in different representation schemes. IEEE Transactions on Automatic Control, 2003, 48, 816-822.	3.6	9
70	Minimizing transient energy growth in plane Poiseuille flow. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2008, 222, 323-331.	0.7	9
71	Slug flow control using topside measurements: A review. Chemical Engineering Journal Advances, 2022, 9, 100204.	2.4	9
72	Gas-liquid flow regimes identification using non-intrusive Doppler ultrasonic sensor and convolutional recurrent neural networks in an s-shaped riser. Digital Chemical Engineering, 2022, 2, 100012.	1.2	9

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73	Robust control of a paper machine. Control Engineering Practice, 1995, 3, 1475-1478.	3.2	8
74	Real-time Trajectory Generation for Collision Avoidance with Obstacle Uncertainty. , 2011, , .		8
75	Rotary Steerable Directional Drilling Stick/Slip Mitigation Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 66-71.	0.4	8
76	Entropy Generation Minimisation and Exergy analysis approaches for aerospace applications - A review. , 2016, , .		8
77	Severe slug mitigation in an S-shape pipeline-riser system by an injectable venturi. Chemical Engineering Research and Design, 2019, 150, 299-310.	2.7	8
78	Comments on "On the structure of digital controllers with finite word length consideration". IEEE Transactions on Automatic Control, 2000, 45, 344.	3.6	7
79	Optimal realizations of floating-point implemented digital controllers with finite word length considerations. International Journal of Control, 2004, 77, 427-440.	1.2	7
80	A multiobjective trajectory optimisation method for planning environmentally efficient trajectories. , 2012, , .		7
81	Gust Rejection Properties of VTOL Multirotor Aircraft. IFAC-PapersOnLine, 2017, 50, 175-180.	0.5	7
82	Classification of flow regimes using a neural network and a non-invasive ultrasonic sensor in an S-shaped pipeline-riser system. Chemical Engineering Journal Advances, 2022, 9, 100215.	2.4	7
83	Kolmogorov-Chaitin complexity of digital controller implementations. International Journal of Automation and Computing, 2006, 3, 314-322.	4.5	6
84	Ideal Vehicle Sideslip Estimation Using Consumer Grade GPS and INS. , 0, , .		6
85	Unmanned aerial vehicle aerodynamic model identification from a racetrack manoeuvre. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2010, 224, 831-842.	0.7	6
86	Evaluating the Rationale for Folding Wing Tips Comparing the Exergy and Breguet Approaches. , 2017, , .		6
87	Bilinear Modelling and Attitude Control of a Quadrotor. IFAC-PapersOnLine, 2017, 50, 193-198.	0.5	6
88	Application of Lyapunov matrix inequality based unsymmetrical saturated control to a multi-vectorised propeller airship. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2018, 232, 884-901.	0.7	6
89	Disturbance Observer Enhanced Neural Network LPV Control for a Blended-Wing-Body Large Aircraft. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 2689-2703.	2.6	6
90	Observer-based incremental backstepping sliding-mode fault-tolerant control for blended-wing-body aircrafts. Neurocomputing, 2021, 464, 546-561.	3.5	6

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91	Optimal finite-precision controller realization of sampled-data systems. International Journal of Systems Science, 2000, 31, 429-438.	3.7	5
92	A Comparison of Dynamic Models of Various Complexity for Diesel Engines. Mathematical and Computer Modelling of Dynamical Systems, 2002, 8, 273-289.	1.4	5
93	Modelling and Control of a Star-Shaped Octorotor. Applied Mechanics and Materials, 0, 325-326, 994-998.	0.2	5
94	A study on a multi-controller design of the drawtube for aerial boom refueling. , 2014, , .		5
95	Directional Drilling Attitude Control With Input Disturbances and Feedback Delay * *This work was supported by Schlumberger. IFAC-PapersOnLine, 2017, 50, 1409-1414.	0.5	5
96	High Aspect Ratio Wing Design Using the Minimum Exergy Destruction Principle. , 2019, , .		5
97	Adaptive simulated annealing for designing finite-precision PID controller structures. , 1998, , .		4
98	Multi-objective design of finite word-length controller structures. , 0, , .		4
99	Controller realizations of a teleoperated dual-wrist assembly system with finite word length considerations. IEEE Transactions on Control Systems Technology, 2001, 9, 624-628.	3.2	4
100	LPV Autopilot Design of a Jindivik UAV. , 2009, , .		4
101	A Quaternion-Based Inverse Dynamics Model for Real-Time UAV Trajectory Generation. , 2009, , .		4
102	Computational Air Traffic Management. , 2011, , .		4
103	Vector Based Kinematic Closed-Loop Attitude Control-System for Directional Drilling. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 78-83.	0.4	4
104	Automated return-to-route manoeuvres for Unmanned Aircraft systems. , 2012, , .		4
105	Bilinear modelling and bilinear PI control of directional drilling. , 2016, , .		4
106	Multiobjective Environmental Departure Procedure Optimization. Journal of Aircraft, 2018, 55, 905-917.	1.7	4
107	Visual Flight Rules-Based Collision Avoidance Systems for UAV Flying in Civil Aerospace. Robotics, 2020, 9, 9.	2.1	4
108	Slug Flow Control in an S-shape Pipeline-Riser System using an Ultrasonic Sensor. Digital Chemical Engineering, 2022, 2, 100005.	1.2	4

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109	A genetic algorithm approach to designing finite-precision PID controller structures. , 1999, , .		3
110	Multiobjective design of low complexity digital controllers. , 0, , .		3
111	OPTIMAL FINITE-PRECISION CONTROLLER AND FILTER IMPLEMENTATIONS USING FLOATING-POINT ARITHMETIC. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 295-300.	0.4	3
112	MINIMIZATION OF MAXIMUM TRANSIENT ENERGY GROWTH BY OUTPUT FEEDBACK. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 283-288.	0.4	3
113	Linear and non-linear simulations of feedback control in plane Poiseuille flow. International Journal for Numerical Methods in Fluids, 2009, 59, 907-925.	0.9	3
114	Multi-Objective Optimal Longitudinal Flight Control System Design for Large Flexible Transport Aircraft. , 2018, , .		3
115	Quadrotor System Design for a 3 DOF platform based on Iterative Learning Control. , 2019, , .		3
116	Venturi Multiphase Flow Measurement based Active Slug Control. , 2019, , .		3
117	Application of LQG and H ∞ Gain Scheduling Techniques to Active Suppression of Flutter. IFAC-PapersOnLine, 2019, 52, 502-507.	0.5	3
118	A benchtop flight control demonstrator. International Journal of Mechanical Engineering Education, 2021, 49, 80-97.	0.6	3
119	Finite-Precision Computing for Digital Control Systems: Current Status and Future Paradigms. Advances in Industrial Control, 2001, , 1-12.	0.4	3
120	Multiobjective design using various control techniques. , 0, , .		2
121	Optimal controller and filter realizations using finite-precision, floating-point arithmetic. International Journal of Systems Science, 2005, 36, 405-413.	3.7	2
122	Modeling of Wake Vortex Effects for Unmanned Air Vehicle Simulations. , 2009, , .		2
123	Application of pilot models to study trajectory based manoeuvres. , 2012, , .		2
124	Solving optimal control problems using chebfun. , 2016, , .		2
125	Extremum Seeking Control for Truck Drag Reduction. , 2018, , .		2
126	Modelling and control of the roll-stabilised control unit of a rotary steerable system directional drilling tool. Journal of Engineering, 2019, 2019, 4555-4559.	0.6	2

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127	Intelligent Collision Avoidance for Multi Agent Mobile Robots. Studies in Computational Intelligence, 2014, , 297-315.	0.7	2
128	MODCONS - a MATLAB toolbox for multi-objective control system design. , 1995, , .		1
129	Diesel engine indicated and load torque estimation using a non-linear observer. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2009, 223, 599-600.	1.1	1
130	Design of poiseuille flow controllers using the method of inequalities. International Journal of Automation and Computing, 2009, 6, 14-21.	4.5	1
131	Aircraft Route Re-planning for a Pop-up Obstacle using a Direct Method. , 2010, , .		1
132	Recursive Variable Horizon Trajectory Control for Directional Drilling Using Elliptical Helices. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10836-10841.	0.4	1
133	Application of L1 Adaptive Controller to Longitudinal Dynamics of a High Manoeuvrability Aircraft. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 447-452.	0.4	1
134	Oneâ€œcomparator counterâ€œbased controller for synchronous DC/DC converters. IET Power Electronics, 2014, 7, 2209-2217.	1.5	1
135	Applying a Modified Smith Predictor-Bilinear Proportional Plus Integral Control for Directional Drilling â€” This work was supported by Schlumberger. IFAC-PapersOnLine, 2017, 50, 139-144.	0.5	1
136	Degraded Planary Tracking Control of an Omnidirectional Vected-Thruster Aerostat. Journal of Aerospace Engineering, 2019, 32, 04019026.	0.8	1
137	A Mol Based on â„CEâ„ž Theory â€” with a Case Study. , 2005, , 311-326.		1
138	Neural network adaptive backstepping fault tolerant control for unmanned airships with multi-vectorred thrusters. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2021, 235, 1507-1520.	0.7	1
139	Critical Control of the Suspension for a Maglev Transport System. , 2005, , 327-338.		1
140	Stability issues of finite precision state estimate feedback controller realizations for discrete time systems. , 2000, , .		0
141	MINIMISATION OF TRANSIENT PERTURBATION GROWTH IN LINEARISED LORENZ EQUATIONS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 342-347.	0.4	0
142	INTEGRATION OF Hâ„ž AND TIME DOMAIN SPECIFICATIONS USING THE CONVEX COMBINATION METHOD. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 135-140.	0.4	0
143	Optimal Finite-precision Implementations of Linear Parameter Varying Controllers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 15220-15225.	0.4	0
144	Identification and control of RTAF aerial target. , 2009, , .		0

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145	Effector Failure Mitigation by Control Allocation for a UAV with Integrated Fluidic Control Devices. , 2010, , .		0
146	LMI Formulations for Minimal Sensitivity Finite Word Length Controller Realizations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 780-785.	0.4	0
147	Minimum strain energy waypoint-following controller for directional drilling using OGH curves. , 2011, , .		0
148	A comparison of neural networks for FDI of rolling element bearings “ demonstrated on experimental rig data. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2011, 225, 1012-1026.	0.7	0
149	Automated return-to-route maneuvers for unmanned aircraft systems. , 2012, , .		0
150	Electronic tuning of a high frequency DC/AC inverter for inductive power transfer. , 2013, , .		0
151	Research and design on a control system for a disk-type flying robot with multiple rotors. , 2014, , .		0
152	Performance Limits for Control of Boundary Layer Streaks Induced by Free Stream Turbulence. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 7007-7012.	0.4	0
153	Introduction to Multicopter Design and Control Q. Quan Springer. 2017. xvii; 384pp. Illustrated. £79.99. ISBN 978-981-10-3381-0.. Aeronautical Journal, 2018, 122, 2044-2046.	1.1	0
154	Quasi-bilinear modelling and control of directional drilling. International Journal of Modelling, Identification and Control, 2019, 33, 331.	0.2	0
155	Simulations of Feedback Control of Early Transition in Poiseuille Flow. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 345-348.	0.1	0
156	A Simulated Annealing Inequalities Solver. , 2005, , 219-229.		0
157	Adaptive Backstepping Nonsingular Terminal Sliding-Mode Attitude Control of Flexible Airships with Actuator Faults. Aerospace, 2022, 9, 209.	1.1	0
158	LPV Systems Analysis Using Pseudospectra. , 2022, , .		0