

James F Whidborne

List of Publications by Year in descending order

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158
papers

2,668
citations

257101

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42
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160
all docs

160
docs citations

160
times ranked

1890
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Slug flow control using topside measurements: A review. Chemical Engineering Journal Advances, 2022, 9, 100204.	2.4	9
3	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
4	Slug Flow Control in an S-shape Pipeline-Riser System using an Ultrasonic Sensor. Digital Chemical Engineering, 2022, 2, 100005.	1.2	4
5	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
6	Adaptive Backstepping Nonsingular Terminal Sliding-Mode Attitude Control of Flexible Airships with Actuator Faults. Aerospace, 2022, 9, 209.	1.1	0
7	LPV Systems Analysis Using Pseudospectra. , 2022, , .		0
8	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
9	Backstepping sliding-mode control of stratospheric airships using disturbance-observer. Advances in Space Research, 2021, 67, 1174-1187.	1.2	10
10	A benchtop flight control demonstrator. International Journal of Mechanical Engineering Education, 2021, 49, 80-97.	0.6	3
11	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
12	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
13	Observer-based incremental backstepping sliding-mode fault-tolerant control for blended-wing-body aircrafts. Neurocomputing, 2021, 464, 546-561.	3.5	6
14	Neural network adaptive backstepping fault tolerant control for unmanned airships with multi-vectorized thrusters. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2021, 235, 1507-1520.	0.7	1
15	A Furcated Visual Collision Avoidance System for an Autonomous Microrobot. IEEE Transactions on Cognitive and Developmental Systems, 2020, 12, 1-11.	2.6	10
16	Adaptive sliding-mode-backstepping trajectory tracking control of underactuated airships. Aerospace Science and Technology, 2020, 97, 105610.	2.5	44
17	Visual Flight Rules-Based Collision Avoidance Systems for UAV Flying in Civil Aerospace. Robotics, 2020, 9, 9.	2.1	4
18	Application of Norm Optimal Iterative Learning Control to Quadrotor Unmanned Aerial Vehicle for Monitoring Overhead Power System. Energies, 2020, 13, 3223.	1.6	15

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19	Multicopter Sizing Methodology with Flight Time Estimation. Journal of Advanced Transportation, 2020, 2020, 1-14.	0.9	31
20	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
21	High Aspect Ratio Wing Design Using the Minimum Exergy Destruction Principle. , 2019, , .		5
22	Degraded Planary Tracking Control of an Omnidirectional Vectored-Thruster Aerostat. Journal of Aerospace Engineering, 2019, 32, 04019026.	0.8	1
23	Quasi-bilinear modelling and control of directional drilling. International Journal of Modelling, Identification and Control, 2019, 33, 331.	0.2	0
24	Quadrotor System Design for a 3 DOF platform based on Iterative Learning Control. , 2019, , .		3
25	Venturi Multiphase Flow Measurement based Active Slug Control. , 2019, , .		3
26	Application of LQG and H _∞ Gain Scheduling Techniques to Active Suppression of Flutter. IFAC-PapersOnLine, 2019, 52, 502-507.	0.5	3
27	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
28	Bilinear modelling, control and stability of directional drilling. Control Engineering Practice, 2019, 82, 161-172.	3.2	15
29	Application of Lyapunov matrix inequality based unsymmetrical saturated control to a multi-vectored propeller airship. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Aerospace Engineering, 2018, 232, 884-901.	0.7	6
30	Extremum Seeking Control for Truck Drag Reduction. , 2018, , .		2
31	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
32	Multi-Objective Optimal Longitudinal Flight Control System Design for Large Flexible Transport Aircraft. , 2018, , .		3
33	Multiobjective Environmental Departure Procedure Optimization. Journal of Aircraft, 2018, 55, 905-917.	1.7	4
34	Application of an Efficient Gradient-Based Optimization Strategy for Aircraft Wing Structures. Aerospace, 2018, 5, 3.	1.1	28
35	Evaluating the Rationale for Folding Wing Tips Comparing the Exergy and Breguet Approaches. , 2017, , .		6
36	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

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37	Adopting exergy analysis for use in aerospace. Progress in Aerospace Sciences, 2017, 93, 73-94.	6.3	27
38	Bilinear Modelling and Attitude Control of a Quadrotor. IFAC-PapersOnLine, 2017, 50, 193-198.	0.5	6
39	Gust Rejection Properties of VTOL Multirotor Aircraft. IFAC-PapersOnLine, 2017, 50, 175-180.	0.5	7
40	Applying a Modified Smith Predictor-Bilinear Proportional Plus Integral Control for Directional Drilling. This work was supported by Schlumberger. IFAC-PapersOnLine, 2017, 50, 139-144.	0.5	1
41	Bilinear modelling and bilinear PI control of directional drilling. , 2016, , .		4
42	Robust sliding mode control of a quadrotor. , 2016, , .		15
43	Solving optimal control problems using chebfun. , 2016, , .		2
44	Decision-making for unmanned aerial vehicle operation in icing conditions. CEAS Aeronautical Journal, 2016, 7, 663-675.	0.9	18
45	Entropy Generation Minimisation and Exergy analysis approaches for aerospace applications - A review. , 2016, , .		8
46	Fault tolerant control of a quadrotor using C_1 adaptive control. International Journal of Intelligent Unmanned Systems, 2016, 4, 43-66.	0.6	15
47	MPC-Based Feedback Delay Compensation Scheme for Directional Drilling Attitude Control. , 2015, , .		12
48	Collaborative Control in a Flying-Boom Aerial Refueling Simulation. Journal of Guidance, Control, and Dynamics, 2015, 38, 1274-1289.	1.6	17
49	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
50	State-Space Modeling of a Class \mathcal{H}_2 Converter for Inductive Links. IEEE Transactions on Power Electronics, 2015, 30, 3242-3251.	5.4	48
51	Gain-scheduled H_∞ Control for Tensor Product Type Polytopic Plants. Asian Journal of Control, 2015, 17, 417-431.	1.9	22
52	Gain-scheduled H_∞ control via parameter-dependent Lyapunov functions. International Journal of Systems Science, 2015, 46, 125-138.	3.7	19
53	High-Input-Voltage High-Frequency Class E Rectifiers for Resonant Inductive Links. IEEE Transactions on Power Electronics, 2015, 30, 1328-1335.	5.4	123
54	A study on a multi-controller design of the drawtube for aerial boom refueling. , 2014, , .		5

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55	Oneâ€œcomparator counterâ€œbased controller for synchronous DC/DC converters. IET Power Electronics, 2014, 7, 2209-2217.	1.5	1
56	Research and design on a control system for a disk-type flying robot with multiple rotors. , 2014, , .		0
57	Tuning Class E Inverters Applied in Inductive Links Using Saturable Reactors. IEEE Transactions on Power Electronics, 2014, 29, 2969-2978.	5.4	168
58	Wireless Power Transfer Using Class E Inverter With Saturable DC-Feed Inductor. IEEE Transactions on Industry Applications, 2014, 50, 2710-2718.	3.3	79
59	Framework for Flight Loads Analysis of Trajectory-Based Manoeuvres with Pilot Models. Journal of Aircraft, 2014, 51, 637-650.	1.7	11
60	Real-time obstacle collision avoidance for fixed wing aircraft using B-splines. , 2014, , .		12
61	Electronic Tuning of Misaligned Coils in Wireless Power Transfer Systems. IEEE Transactions on Power Electronics, 2014, 29, 5975-5982.	5.4	144
62	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
63	Intelligent Collision Avoidance for Multi Agent Mobile Robots. Studies in Computational Intelligence, 2014, , 297-315.	0.7	2
64	Wireless power transfer using Class E inverter with saturable DC-feed inductor. , 2013, , .		12
65	Electronic tuning of a high frequency DC/AC inverter for inductive power transfer. , 2013, , .		0
66	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
67	Automated return-to-route maneuvers for unmanned aircraft systems. , 2012, , .		0
68	Control allocation for fault tolerant control of a VTOL octorotor. , 2012, , .		77
69	Positioning Algorithm for Autonomous Thermal Soaring. Journal of Aircraft, 2012, 49, 472-482.	1.7	13
70	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
71	A multiobjective trajectory optimisation method for planning environmentally efficient trajectories. , 2012, , .		7
72	Application of pilot models to study trajectory based manoeuvres. , 2012, , .		2

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73	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
74	Rotary Steerable Directional Drilling Stick/Slip Mitigation Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 66-71.	0.4	8
75	Automated return-to-route manoeuvres for Unmanned Aircraft systems. , 2012, , .		4
76	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
77	Attitude control system for directional drilling bottom hole assemblies. IET Control Theory and Applications, 2012, 6, 884.	1.2	30
78	Linear Parameter Varying control of a quadrotor. , 2011, , .		27
79	A review of ground vehicle dynamic state estimations utilising GPS/INS. Vehicle System Dynamics, 2011, 49, 29-58.	2.2	90
80	On-board trajectory generation for collision avoidance in unmanned aerial vehicles. , 2011, , .		24
81	Computational Air Traffic Management. , 2011, , .		4
82	Recursive Variable Horizon Trajectory Control for Directional Drilling Using Elliptical Helixes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10836-10841.	0.4	1
83	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
84	Road vehicle state estimation using low-cost GPS/INS. Mechanical Systems and Signal Processing, 2011, 25, 1988-2004.	4.4	76
85	Computing the maximum transient energy growth. BIT Numerical Mathematics, 2011, 51, 447-457.	1.0	18
86	Real-time Trajectory Generation for Collision Avoidance with Obstacle Uncertainty. , 2011, , .		8
87	Minimum strain energy waypoint-following controller for directional drilling using OGH curves. , 2011, , .		0
88	Linear feedback control of transient energy growth and control performance limitations in subcritical plane Poiseuille flow. Physics of Fluids, 2011, 23, .	1.6	18
89	A comparison of neural networks for FDI of rolling element bearings “ demonstrated on experimental rig data. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Aerospace Engineering, 2011, 225, 1012-1026.	0.7	0
90	Modelling, Stabilization and Single Motor Failure Recovery of a 4Y Octorotor. , 2011, , .		11

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91	Robust Linear Feedback Control of Attitude for Directional Drilling Tools (13th IFAC Symposium on) Tj ETQq1 1 0.784314 rgBT /Overlaid Federation of Automatic Control, 2010, 43, 92-97.	0.4	13
92	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
93	Propulsion and Flight Controls Integration for a Blended-Wing-Body Transport Aircraft. Journal of Aircraft, 2010, 47, 895-903.	1.7	25
94	Effector Failure Mitigation by Control Allocation for a UAV with Integrated Fluidic Control Devices. , 2010, , .		0
95	Finite wordlength controller realisations using the specialised implicit form. International Journal of Control, 2010, 83, 330-346.	1.2	12
96	Aircraft Route Re-planning for a Pop-up Obstacle using a Direct Method. , 2010, , .		1
97	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
98	Identification and control of RTAF aerial target. , 2009, , .		0
99	Quaternion-Based Inverse Dynamics Model for Expressing Aerobatic Aircraft Trajectories. Journal of Guidance, Control, and Dynamics, 2009, 32, 1388-1391.	1.6	13
100	Real-Time Transient Three Spool Turbofan Engine Simulation: A Hybrid Approach. Journal of Engineering for Gas Turbines and Power, 2009, 131, .	0.5	17
101	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
102	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
103	Design of poiseuille flow controllers using the method of inequalities. International Journal of Automation and Computing, 2009, 6, 14-21.	4.5	1
104	Modeling of Wake Vortex Effects for Unmanned Air Vehicle Simulations. , 2009, , .		2
105	LPV Autopilot Design of a Jindivik UAV. , 2009, , .		4
106	A Quaternion-Based Inverse Dynamics Model for Real-Time UAV Trajectory Generation. , 2009, , .		4
107	Wind Shear Energy Extraction using Dynamic Soaring Techniques. , 2009, , .		18
108	Simulation of wake vortex effects for UAVs in close formation flight. Aeronautical Journal, 2009, 113, 727-738.	1.1	36

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109	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
110	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
111	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
112	Simulations of Feedback Control of Early Transition in Poiseuille Flow. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 345-348.	0.1	0
113	A Unifying Framework for Finite Wordlength Realizations. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 1765-1774.	0.1	41
114	Linear quadratic control of plane Poiseuille flow—the transient behaviour. International Journal of Control, 2007, 80, 1912-1930.	1.2	22
115	INTEGRATION OF H _∞ 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
116	On the Minimization of Maximum Transient Energy Growth. IEEE Transactions on Automatic Control, 2007, 52, 1762-1767.	3.6	46
117	A prototype of an autonomous controller for a quadrotor UAV. , 2007, , .		115
118	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
119	Kolmogorov-Chaitin complexity of digital controller implementations. International Journal of Automation and Computing, 2006, 3, 314-322.	4.5	6
120	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
121	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
122	Optimal controller and filter realizations using finite-precision, floating-point arithmetic. International Journal of Systems Science, 2005, 36, 405-413.	3.7	2
123	A Mol Based on “CE” Theory” with a Case Study. , 2005, , 311-326.		1
124	Critical Control of the Suspension for a Maglev Transport System. , 2005, , 327-338.		1
125	A Simulated Annealing Inequalities Solver. , 2005, , 219-229.		0
126	Optimal realizations of floating-point implemented digital controllers with finite word length considerations. International Journal of Control, 2004, 77, 427-440.	1.2	7

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127	A three-term backpropagation algorithm. <i>Neurocomputing</i> , 2003, 50, 305-318.	3.5	109
128	A unified closed-loop stability measure for finite-precision digital controller realizations implemented in different representation schemes. <i>IEEE Transactions on Automatic Control</i> , 2003, 48, 816-822.	3.6	9
129	OPTIMAL FINITE-PRECISION CONTROLLER AND FILTER IMPLEMENTATIONS USING FLOATING-POINT ARITHMETIC. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2002, 35, 295-300.	0.4	3
130	A Comparison of Dynamic Models of Various Complexity for Diesel Engines. <i>Mathematical and Computer Modelling of Dynamical Systems</i> , 2002, 8, 273-289.	1.4	5
131	Reduction of controller fragility by pole sensitivity minimization. <i>IEEE Transactions on Automatic Control</i> , 2001, 46, 320-325.	3.6	40
132	Detailed analytical model of a single-cylinder diesel engine in the crank angle domain. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2001, 215, 1197-1216.	1.1	47
133	Controller realizations of a teleoperated dual-wrist assembly system with finite word length considerations. <i>IEEE Transactions on Control Systems Technology</i> , 2001, 9, 624-628.	3.2	4
134	Genetic algorithm approach to designing finite-precision controller structures. <i>IET Control Theory and Applications</i> , 2001, 148, 377-382.	1.7	20
135	Finite-Precision Computing for Digital Control Systems: Current Status and Future Paradigms. <i>Advances in Industrial Control</i> , 2001, , 1-12.	0.4	3
136	Instantaneous friction components model for transient engine operation. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2000, 214, 809-824.	1.1	41
137	Optimal finite-precision controller realization of sampled-data systems. <i>International Journal of Systems Science</i> , 2000, 31, 429-438.	3.7	5
138	Stability issues of finite precision state estimate feedback controller realizations for discrete time systems. , 2000, , .		0
139	Finite word length stability issues in an l1 framework. <i>International Journal of Control</i> , 2000, 73, 166-176.	1.2	28
140	Comments on "On the structure of digital controllers with finite word length consideration". <i>IEEE Transactions on Automatic Control</i> , 2000, 45, 344.	3.6	7
141	A genetic algorithm approach to designing finite-precision PID controller structures. , 1999, , .		3
142	Optimising stability bounds of finite-precision controller structures for sampled-data systems in the $\hat{\Gamma}$ -operator domain. <i>IET Control Theory and Applications</i> , 1999, 146, 517-526.	1.7	25
143	Dynamic simulation of a single-cylinder diesel engine including dynamometer modelling and friction. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 1999, 213, 391-402.	1.1	28
144	Adaptive simulated annealing for designing finite-precision PID controller structures. , 1998, , .		4

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145	Maximizing lower bound stability measure of finite precision PID controller realizations by nonlinear programming. , 1998, , .		15
146	Evolutionary H _{infin} ; 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
147	Simulated annealing for multiobjective control system design. IET Control Theory and Applications, 1997, 144, 582-588.	1.7	15
148	Robust control of a paper machine. Control Engineering Practice, 1995, 3, 1475-1478.	3.2	8
149	MODCONS - a MATLAB toolbox for multi-objective control system design. , 1995, , .		1
150	Robust control of an unknown plantâ€”the IFAC 93 benchmark. International Journal of Control, 1995, 61, 589-640.	1.2	45
151	Robust control of the benchmark problem using H ₂ methods and numerical optimization techniques. Automatica, 1994, 30, 615-619.	3.0	14
152	Robust controller design using H ₂ /loop-shaping and the method of inequalities. IEEE Transactions on Control Systems Technology, 1994, 2, 455-461.	3.2	53
153	EMS control system design for a maglev vehicleâ€”A critical system. Automatica, 1993, 29, 1345-1349.	3.0	22
154	Multi-objective design of finite word-length controller structures. , 0, , .		4
155	Multiobjective design using various control techniques. , 0, , .		2
156	Multiobjective design of low complexity digital controllers. , 0, , .		3
157	Ideal Vehicle Sideslip Estimation Using Consumer Grade GPS and INS. , 0, , .		6
158	Modelling and Control of a Star-Shaped Octorotor. Applied Mechanics and Materials, 0, 325-326, 994-998.	0.2	5