

# Matthew Cole

## List of Publications by Year in descending order

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49  
papers

510  
citations

623574

14  
h-index

713332

21  
g-index

50  
all docs

50  
docs citations

50  
times ranked

413  
citing authors

#	ARTICLE	IF	CITATIONS
1	Piezo-based flexural vibration suppression for an annular rotor via rotating-frame H2 control optimization. <i>Journal of Intelligent Material Systems and Structures</i> , 2022, 33, 572-589.	1.4	1
2	Structural vibration control using delayed state feedback via LMI approach: with application to chatter stability problems. <i>International Journal of Dynamics and Control</i> , 2021, 9, 85-96.	1.5	4
3	Control of a nonlinear flexure-jointed X-Y positioning stage using LTV-FIR command prefiltering for finite-time error cancellation. <i>Mechanical Systems and Signal Processing</i> , 2021, 151, 107349.	4.4	5
4	Mini-max optimization of actuator/sensor placement for flexural vibration control of a rotating thin-walled cylinder over a range of speeds. <i>Journal of Sound and Vibration</i> , 2021, 506, 116105.	2.1	4
5	Adaptive Kinematic Mapping Based on Chebyshev Interpolation: Application to Flexure-Jointed Micromanipulator Control. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 118-129.	3.7	10
6	Sensorless stepwise breakthrough detection technique for safe surgical drilling of bone. <i>Mechatronics</i> , 2020, 65, 102306.	2.0	8
7	Linearizing Control of a Distributed Actuation Magnetic Bearing for Thin-Walled Rotor Systems. <i>Actuators</i> , 2020, 9, 99.	1.2	3
8	Controllability and actuator placement optimization for active damping of a thin rotating ring with piezo-patch transducers. <i>Journal of Sound and Vibration</i> , 2020, 472, 115172.	2.1	10
9	On the vibrational dynamics of rotating thin-walled cylinders: A theoretical and experimental study utilizing active magnetic bearings. <i>International Journal of Mechanical Sciences</i> , 2019, 163, 105101.	3.6	9
10	Convolution-Based Input Shaping for Finite-Time Settling in Non-LTI Systems: An LTV Approach. , 2019, , .		2
11	Results on Active Damping Control of a Thin-Walled Rotating Cylinder with Piezoelectric Patch Actuation and Sensing. , 2019, , .		2
12	Kinematic modeling and design optimization of flexure-jointed planar mechanisms using polynomial bases for flexure curvature. <i>Mechanism and Machine Theory</i> , 2019, 132, 80-97.	2.7	15
13	Model and Control System Development for a Distributed Actuation Magnetic Bearing and Thin-Walled Rotor Subject to Noncircularity. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2019, 141, .	1.0	4
14	Vibration due to non-circularity of a rotating ring having discrete radial supports - With application to thin-walled rotor/magnetic bearing systems. <i>Journal of Sound and Vibration</i> , 2018, 423, 355-372.	2.1	4
15	Time-domain prefilter design for enhanced tracking and vibration suppression in machine motion control. <i>Mechanical Systems and Signal Processing</i> , 2018, 104, 106-119.	4.4	15
16	An Active Magnetic Bearing for Thin-Walled Rotors: Vibrational Dynamics and Stabilizing Control. <i>IEEE/ASME Transactions on Mechatronics</i> , 2018, 23, 2859-2869.	3.7	44
17	New LMI based gain-scheduling control for recovering contact-free operation of a magnetically levitated rotor. <i>Mechanical Systems and Signal Processing</i> , 2017, 96, 104-124.	4.4	15
18	H-infinity controller design for active magnetic bearings considering nonlinear vibrational rotordynamics. <i>Mechanical Engineering Journal</i> , 2017, 4, 16-00716-16-00716.	0.2	6

#	ARTICLE	IF	CITATIONS
19	Dynamic conditions to destabilize persistent Rotor/touchdown bearing contact in AMB systems. Mechanical Engineering Journal, 2017, 4, 17-00005-17-00005.	0.2	6
20	Model-Based Analysis of Friction-Induced Subsynchronous Whirl for a Rotor Contacting With Clearance Bearings Under Axial Load. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	0.5	1
21	Vibration sensing in smart machine rotors using internal MEMS accelerometers. Journal of Sound and Vibration, 2016, 377, 58-75.	2.1	28
22	Model-Based Analysis of Friction-Induced Sub-Synchronous Whirl for a Rotor Contacting With Clearance Bearings Under Axial Load. , 2015, , .		0
23	Weak signal detection based on two dimensional stochastic resonance. , 2015, , .		6
24	An analysis and design framework for robust control of a multi-axis active vibration isolation system with unknown payload. JVC/Journal of Vibration and Control, 2015, 21, 1100-1114.	1.5	1
25	Mechanical structure optimization in minimum-time motion control of flexible bodies. Automatica, 2015, 62, 213-221.	3.0	1
26	Internal Sensing and Actuation Strategies for Smart Machine Rotors. Mechanisms and Machine Science, 2015, , 1527-1537.	0.3	0
27	Optimal LQ feedforward tracking with preview: Practical design for rigid body motion control. Control Engineering Practice, 2014, 26, 41-50.	3.2	12
28	An Active Vibration Control Strategy to Prevent Nonlinearly Coupled Rotor Stator Whirl Responses in Multimode Rotor-Dynamic Systems. IEEE Transactions on Control Systems Technology, 2014, 22, 1122-1129.	3.2	23
29	A Direct Method of Adaptive FIR Input Shaping for Motion Control With Zero Residual Vibration. IEEE/ASME Transactions on Mechatronics, 2013, 18, 316-327.	3.7	43
30	Synchronous whirl mode maps for rotor vibration with stator interaction across clearance annuli in multiple planes. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2013, 227, 261-275.	1.1	3
31	An Algorithm to Obtain Control Solutions Achieving Minimum-Time State Transfer of a Linear Dynamical System Based on Convexity of the Reachable Set. , 2013, , .		1
32	A class of low-pass FIR input shaping filters achieving exact residual vibration cancelation. Automatica, 2012, 48, 2377-2380.	3.0	21
33	A discrete-time approach to impulse-based adaptive input shaping for motion control without residual vibration. Automatica, 2011, 47, 2504-2510.	3.0	30
34	Optimal FIR Input Shaper Designs for Motion Control With Zero Residual Vibration. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2011, 133, .	0.9	25
35	Force Feedback Control for Active Stabilization of Synchronous Whirl Orbits in Rotor Systems With Non-Linear Stiffness Elements. , 2010, , .		1
36	Robust Impedance Control of a Flexible Structure Mounted Manipulator Performing Contact Tasks. IEEE Transactions on Robotics, 2009, 25, 445-451.	7.3	26

#	ARTICLE	IF	CITATIONS
37	Model-Free Control of Touchdowns Involving Circular Whirl in Rotor-Magnetic Bearing Systems. Journal of System Design and Dynamics, 2009, 3, 584-595.	0.3	1
38	Controller design for flexible structure vibration suppression with robustness to contacts. Automatica, 2008, 44, 2876-2883.	3.0	9
39	On stability of rotordynamic systems with rotor-stator contact interaction. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 3353-3375.	1.0	19
40	Analysis of a Gravity Compensated Four-Bar Linkage Mechanism With Linear Spring Suspension. Journal of Mechanical Design, Transactions of the ASME, 2008, 130, .	1.7	14
41	On LMI-Based Optimization of Vibration and Stability in Rotor System Design. Journal of Engineering for Gas Turbines and Power, 2006, 128, 677-684.	0.5	9
42	Traction Characteristics of a Rolling Element Bearing Under Rapid Acceleration and Implications for Auxiliary Operation in Magnetic Bearing Systems. , 2006, , .		0
43	Characteristics of a Magnetically Levitated Flexible Rotor When in Contact With One or More Auxiliary Bearings. , 2005, , .		1
44	On LMI-Based Optimization of Vibration and Stability in Rotor System Design. , 2005, , .		0
45	On the Control of Synchronous Vibration in Rotor/Magnetic Bearing Systems Involving Auxiliary Bearing Contact. Journal of Engineering for Gas Turbines and Power, 2004, 126, 366-372.	0.5	14
46	Towards fault-tolerant active control of rotor-magnetic bearing systems. Control Engineering Practice, 2004, 12, 491-501.	3.2	42
47	Robust Control of Multiple Discrete Frequency Vibration Components in Rotor-Magnetic Bearing Systems. JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing, 2003, 46, 891-899.	0.3	8
48	On the Control of Synchronous Vibration in Rotor/Magnetic Bearing Systems Involving Auxiliary Bearing Contact. , 2002, , .		3
49	ROBUST CONTROL OF MULTIPLE DISCRETE FREQUENCY VIBRATION COMPONENTS IN ROTOR/MAGNETIC BEARING SYSTEMS. The Proceedings of the International Conference on Motion and Vibration Control, 2002, 6.2, 1009-1014.	0.0	0