Sumeet S Aphale

List of Publications by Year
in descending order

71	1,690	516215 16	288905 40
papers	citations	h-index	g-index

72	72	72	945
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High performance raster scanning of atomic force microscopy using Model-free Repetitive Control. Mechanical Systems and Signal Processing, 2022, 173, 109027.	4.4	3
2	Suppressing stickâ€“slip oscillations in drill-strings by Modified Integral Resonant Control. International Journal of Mechanical Sciences, 2022, 228, 107425.	3.6	6
3	A Surface Plasmon Resonance Bio-Sensor Based on Dual Core D-Shaped Photonic Crystal Fibre Embedded With Silver Nanowires for Multisensing. IEEE Sensors Journal, 2021, 21, 76-84.	2.4	36
4	Enhanced Odd-Harmonic Repetitive Control of Nanopositioning Stages Using Spectrum-Selection Filtering Scheme for High-Speed Raster Scanning. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1087-1096.	3.4	9
5	Influence of the Sub-Peak of Secondary Surface Plasmon Resonance Onto the Sensing Performance of a D-Shaped Photonic Crystal Fibre Sensor. IEEE Sensors Journal, 2021, 21, 33-42.	2.4	14
6	High-bandwidth nanopositioning via active control of system resonance. Frontiers of Mechanical Engineering, 2021, 16, 331-339.	2.5	6
7	Erratum to â€œA Smoothed Raster Scanning Trajectory Based on Acceleration-Continuous B-Spline Transition for High-Speed Atomic Force Microscopyâ€•[Feb 21 24-32]. IEEE/ASME Transactions on Mechatronics, 2021, 26, 1700-1700.	3.7	2
8	Eliminating Stick-Slip Vibrations in Drill-Strings with a Dual-Loop Control Strategy Optimised by the CRO-SL Algorithm. Mathematics, 2021, 9, 1526.	1.1	8
9	Feedback control method to suppress stick-slip in drill-strings featuring delay and actuation constraints. European Physical Journal: Special Topics, 2021, 230, 3627-3642.	1.2	6
10	Energy saving by reducing motor rating of sucker-rod pump systems. Energy, 2021, 228, 120618.	4.5	9
11	Switching Control in Two-Wheeled Self-Balancing Robots. , 2021, , .		1
12	Control Method to Suppress Stick-slip in Drill-strings Featuring Actuation Delay and Constraints. IFAC-PapersOnLine, 2021, 54, 115-120.	0.5	1
13	Redistributing Controller Orders to Increase Positioning Bandwidth in Nanopositioners. IFAC-PapersOnLine, 2021, 54, 97-102.	0.5	0
14	Sliding-Mode Control of a Dielectric Elastomer Actuator Featuring Non-Invertible Dynamics. , 2021, , .		2
15	Analysis of potential low frequency resonance between a 1GW MMC HVDC and a nearby nuclear generator. Electric Power Systems Research, 2020, 187, 106491.	2.1	4
16	Vibration Isolation and Alignment of Multiple Platforms on a Non-Rigid Supporting Structure. Actuators, 2020, 9, 108.	1.2	4
17	A Systems Based Modelling Tool for the Selection of Wave Energy Device to Power Remote Islands. , 2020, , .		0
18	Parametric analysis of a sliding-mode controller to suppress drill-string stick-slip vibration. Meccanica, 2020, 55, 2475-2492.	1.2	14

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19	A Modified Linear Integral Resonant Controller for suppressing jump-phenomenon and hysteresis in micro-cantilever beam structures. Journal of Sound and Vibration, 2020, 480, 115365.	2.1	13
20	Dynamics and frequency and voltage control of downhole oil pumping system. Mechanical Systems and Signal Processing, 2020, 139, 106562.	4.4	16
21	Fractional Repetitive Control of Nanopositioning Stages for High-Speed Scanning Using Low-Pass FIR Variable Fractional Delay Filter. IEEE/ASME Transactions on Mechatronics, 2020, 25, 547-557.	3.7	17
22	Experimental validation of the simultaneous damping and tracking controller design strategy for highâ€bandwidth nanopositioning â€“ a PAVPF approach. IET Control Theory and Applications, 2020, 14, 3506-3514.	1.2	7
23	A dual-loop tracking control approach to precise nanopositioning. JVC/Journal of Vibration and Control, 2019, 25, 666-674.	1.5	7
24	Two-degrees-of-freedom PI<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll" id="d1e440" altimg="si175.gif"><mml:msup><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msup></mml:math>D controller for precise nanopositioning in the presence of hardware-induced constant time delay. ISA Transactions, 2019, 91, 207-217.	3.1	4
25	Simultaneous Design of Positive Acceleration Velocity and Position Feedback Based Combined Damping and Tracking Control Scheme for Nanopositioners. , 2019, , .		1
26	A Fast Algebraic Estimator for System Parameter Estimation and Online Controller Tuningâ€”A Nanopositioning Application. IEEE Transactions on Industrial Electronics, 2019, 66, 4534-4543.	5.2	5
27	Enhanced Positioning Bandwidth in Nanopositioners via Strategic Pole Placement of the Tracking Controller. Vibration, 2019, 2, 49-63.	0.9	6
28	Design and Analysis of Surface-Plasmon-Resonance-Based Photonic Quasi-Crystal Fiber Biosensor for High-Refractive-Index Liquid Analytes. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-9.	1.9	78
29	A Linear Integral Resonant Controller for Suppressing Jump-Phenomena in MEMS. , 2019, , .		0
30	Fractional order implementation of Integral Resonant Control â€“ A nanopositioning application. ISA Transactions, 2018, 82, 223-231.	3.1	8
31	Resonance-shifting Integral Resonant Control for High-speed Nanopositioning. , 2018, , .		2
32	High-Precision Control of a Piezo-Driven Nanopositioner Using Fuzzy Logic Controllers. Computers, 2018, 7, 10.	2.1	10
33	Multi-loop Damping and Tracking Strategy Emulating a Butterworth Pattern for Accurate Nanopositioning. Communications in Computer and Information Science, 2017, , 12-26.	0.4	0
34	Application of a Fractional Order Integral Resonant Control to increase the achievable bandwidth of a nanopositioner. * *This work has been supported in part by the Spanish Agencia Estatal de InvestigaciÃ³n (AEI) under project DPI2016-80547-R (Ministerio de EconomÃa y Competitividad), in part by the European Social Fund (FEDER, EU) and in part by the Spanish scholarship FPU12/00984 of the FPU Program of the Ministerio de Educacion, Cultura y Deporte.. IFAC-PapersOnLine, 2017, 50, 14539-14544.	0.5	5
35	Evaluating the performance of robust controllers for a nanopositioning platform under loading.. IFAC-PapersOnLine, 2017, 50, 10895-10900.	0.5	3
36	Upper limb vibration prototype with sports and rehabilitation applications: development, evaluation and preliminary study. Healthcare Technology Letters, 2017, 4, 44-49.	1.9	11

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37	Butterworth Pattern-based Simultaneous Damping and Tracking Controller Designs for Nanopositioning Systems. Frontiers in Mechanical Engineering, 2016, 2, .	0.8	8
38	Severity Analysis of Stick-slip Bifurcation in Drill-string Dynamics under Parameter Variation. , 2016, , .		2
39	Simultaneous Optimization of Damping and Tracking Controller Parameters Via Selective Pole Placement for Enhanced Positioning Bandwidth of Nanopositioners. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .	0.9	27
40	Two-degrees-of-freedom controller delivering zero-error tracking of ramp-like trajectories for nanopositioning systems. , 2015, , .		1
41	A modified positive velocity and position feedback scheme with delay compensation for improved nanopositioning performance. Smart Materials and Structures, 2015, 24, 075021.	1.8	21
42	Simultaneous optimization of damping and tracking controller parameters via selective pole placement for enhanced positioning bandwidth of nanopositioners. , 2014, , .		4
43	An Analytical Approach to Integral Resonant Control of Second-Order Systems. IEEE/ASME Transactions on Mechatronics, 2014, 19, 651-659.	3.7	50
44	Optimal integral force feedback and structured PI tracking control: Application for objective lens positioner. Mechatronics, 2014, 24, 701-711.	2.0	23
45	Improving the positioning bandwidth of the Integral Resonant Control Scheme through strategic zero placement.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6539-6544.	0.4	1
46	A modified polynomial-based controller for enhancing the positioning bandwidth of nanopositioners.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5890-5895.	0.4	1
47	Optimal Integral Force Feedback and Structured PI Tracking Control: Application for High Speed Confocal Microscopy.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11793-11799.	0.4	8
48	Realizing a robust optical pulse compressor operating at 850 nm using a photonic crystal fiber. Journal of Modern Optics, 2013, 60, 368-377.	0.6	5
49	A robust loop-shaping approach to fast and accurate nanopositioning. Sensors and Actuators A: Physical, 2013, 204, 88-96.	2.0	25
50	Stability of positive-position feedback controllers with low-frequency restrictions. Journal of Sound and Vibration, 2013, 332, 2900-2909.	2.1	6
51	Resonance-shifting integral resonant control scheme for increasing the positioning bandwidth of nanopositioners. , 2013, , .		6
52	A mathematical approach to Integral Resonant Control of second-order systems. , 2012, , .		1
53	Generation of a Train of Ultrashort Pulses Near-Infrared Regime in a Tapered Photonic Crystal Fiber Using Raised-Cosine Pulses. IEEE Photonics Journal, 2012, 4, 1420-1437.	1.0	9
54	Dynamics of 850 nm optical pulses upon compression in a tapered photonic crystal fiber. , 2011, , .		1

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55	A Survey of Modeling and Control Techniques for Micro- and Nanoelectromechanical Systems. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 2011, 41, 350-364.	3.3	31
56	Integral Resonant Control for Vibration Damping and Precise Tip-Positioning of a Single-Link Flexible Manipulator. IEEE/ASME Transactions on Mechatronics, 2011, 16, 232-240.	3.7	159
57	A New Method for Robust Damping and Tracking Control of Scanning Probe Microscope Positioning Stages. IEEE Nanotechnology Magazine, 2010, 9, 438-448.	1.1	162
58	A new robust damping and tracking controller for SPM positioning stages. , 2009, , .		6
59	Loop-shaping H<inf>∞</inf>-control of a 2-DOF piezoelectric-stack actuated platform for nanoscale positioning. , 2009, , .		2
60	Design, Identification, and Control of a Flexure-Based XY Stage for Fast Nanoscale Positioning. IEEE Nanotechnology Magazine, 2009, 8, 46-54.	1.1	316
61	A hybrid control strategy for vibration damping and precise tip-positioning of a single-link flexible manipulator. , 2009, , .		6
62	Correction to "Minimizing Scanning Errors in Piezoelectric Stack-Actuated Nanopositioning Platforms" [Jan 08 79-90]. IEEE Nanotechnology Magazine, 2009, 8, 560-560.	1.1	2
63	Design, analysis and control of a fast nanopositioning stage. , 2008, , .		4
64	High-bandwidth control of a piezoelectric nanopositioning stage in the presence of plant uncertainties. Nanotechnology, 2008, 19, 125503.	1.3	111
65	Minimizing Scanning Errors in Piezoelectric Stack-Actuated Nanopositioning Platforms. IEEE Nanotechnology Magazine, 2008, 7, 79-90.	1.1	134
66	Achieving high-bandwidth nanopositioning in presence of plant uncertainties. , 2008, , .		2
67	Dominant resonant mode damping of a piezoelectric tube nanopositioner using optimal sensorless shunts. , 2007, , .		3
68	Integral control of collocated smart structures. , 2007, , .		3
69	Integral resonant control of collocated smart structures. Smart Materials and Structures, 2007, 16, 439-446.	1.8	179
70	Integral control of smart structures with collocated sensors and actuators. , 2007, , .		1
71	High speed nano-scale positioning using a piezoelectric tube actuator with active shunt control. Micro and Nano Letters, 2007, 2, 9.	0.6	50