Afzal Suleman

List of Publications by Year
in descending order

153	3,158	186265	182427
papers	citations	28 h-index	51 g-index

158	158	158	2427
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On the multi-fidelity approach in surrogate-based multidisciplinary design optimisation of high-aspect-ratio wing aircraft. Aeronautical Journal, 2023, 127, 2-23.	1.6	3
2	Multi-scale and multi-material topology optimization of gradient lattice structures using surrogate models. Composite Structures, 2022, 289, 115402.	5.8	11
3	Simultaneous topology and fiber path optimization of composite structures with MAC constraints. Composite Structures, 2022, 294, 115645.	5.8	6
4	Dynamic Scaling of a Wing Structure Model Using Topology Optimization. Machines, 2022, 10, 374.	2.2	1
5	A Leader-Follower Trajectory Tracking Controller for Multi-Quadrotor Formation Flight. International Journal of Aviation Science and Technology, 2022, vm03, 13-20.	0.7	0
6	Multi-material topology optimization of structures with discontinuities using Peridynamics. Composite Structures, 2021, 258, 113345.	5.8	21
7	On the design of environmentally sustainable aircraft for urban air mobility. Transportation Research, Part D: Transport and Environment, 2021, 91, 102688.	6.8	23
8	Long term sedimentation of an elliptic disc subject to an electrostatic field using smoothed particle hydrodynamics method. International Journal of Multiphase Flow, 2021, 135, 103524.	3.4	1
9	Design and performance quantification of VTOL systems for a canard aircraft. Aeronautical Journal, 2021, 125, 1768-1791.	1.6	2
10	A new methodology for thermoelastic model identification in composite materials using digital image correlation. Optics and Lasers in Engineering, 2021, 146, 106689.	3.8	10
11	Topology optimization of the internal structure of an aircraft wing subjected to self-weight load. Engineering Optimization, 2020, 52, 1119-1135.	2.6	10
12	On the Design of Aeroelastically Scaled Models of High Aspect-Ratio Wings. Aerospace, 2020, 7, 166.	2.2	8
13	Exploring Diffusion and Cellular Uptake: Charged Gold Nanoparticles in an in Vitro Breast Cancer Model. ACS Applied Bio Materials, 2020, 3, 6992-7002.	4.6	21
14	Fabrication and characterization of highly controllable magnetorheological material in compression mode. Journal of Intelligent Material Systems and Structures, 2020, 31, 1641-1661.	2.5	7
15	Morphing of an adaptive shock control bump using pressurized chambers. Journal of Intelligent Material Systems and Structures, 2020, 31, 1821-1837.	2.5	2
16	Non-destructive determination of the stiffness matrix of a laminated composite structure with lamb wave. Composite Structures, 2020, 237, 111956.	5.8	13
17	Continuous density-based topology optimization of cracked structures using peridynamics. Structural and Multidisciplinary Optimization, 2020, 62, 2375-2389.	3.5	23
18	From Dermal Patch to Implantsâ€"Applications of Biocomposites in Living Tissues. Molecules, 2020, 25, 507.	3.8	6

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19	Dielectrophoretic interaction of circular particles in a uniform electric field. European Journal of Mechanics, B/Fluids, 2019, 78, 194-202.	2.5	2
20	Instrumentation influence: a study about the intrusiveness level caused by a single PVDF in a flexible dynamic system. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2019, 41, 1.	1.6	1
21	Appointed-time prescribed performance attitude tracking control via double performance functions. Aerospace Science and Technology, 2019, 93, 105337.	4.8	85
22	Topology optimization of cracked structures using peridynamics. Continuum Mechanics and Thermodynamics, 2019, 31, 1645-1672.	2.2	51
23	Measurement of Aeroelastic Wing Deflections Using Modal Shapes and Strain Pattern Analysis. , 2019, , .		3
24	Remaining useful life prediction of laminated composite materials using Thermoelastic Stress Analysis. Composite Structures, 2019, 210, 381-390.	5.8	12
25	Design and Development of a Phased Array System for Damage Detection in Structures. Computational and Experimental Methods in Structures, 2018, , 153-189.	0.3	0
26	A hybrid damage assessment for E-and S-glass reinforced laminated composite structures under in-plane shear loading. Composite Structures, 2018, 186, 347-354.	5.8	35
27	Efficient strategies for reliability-based design optimization of variable stiffness composite structures. Structural and Multidisciplinary Optimization, 2018, 57, 689-704.	3.5	25
28	Semi-active structural vibration control of base-isolated buildings using magnetorheological dampers. Journal of Low Frequency Noise Vibration and Active Control, 2018, 37, 565-576.	2.9	26
29	Probabilistic first ply failure prediction of composite laminates using a multi-scale M-SaF and Bayesian inference approach. Journal of Composite Materials, 2018, 52, 169-195.	2.4	9
30	UAV-BASED INTEGRATED MULTISENSOR PAYLOAD FOR HIGH RESOLUTION IMAGING. , 2018, , .		1
31	3.10 Composite Aerostructures For Unmanned Aircraft. , 2018, , 261-287.		0
32	Cost analysis of variable stiffness composite structures with application to a wind turbine blade. Composite Structures, 2018, 203, 681-695.	5.8	15
33	A review on non-linear aeroelasticity of high aspect-ratio wings. Progress in Aerospace Sciences, 2017, 89, 40-57.	12.1	145
34	Test rig development and characterization of magnetorheological elastomers. , 2017, , .		7
35	Non-linear aeroelastic analysis in the time domain of high-aspect-ratio wings: Effect of chord and taper-ratio variation. Aeronautical Journal, 2017, 121, 21-53.	1.6	8
36	Nonlinear aeroelastic scaling of high aspect-ratio wings. Aerospace Science and Technology, 2017, 63, 363-371.	4.8	16

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37	Design optimization of thin-walled composite structures based on material and fiber orientation. Composite Structures, 2017, 176, 1081-1095.	5.8	22
38	A coupled WC-TL SPH method for simulation of hydroelastic problems. International Journal of Computational Fluid Dynamics, 2017, 31, 174-187.	1.2	22
39	Performance based multidisciplinary design optimization of morphing aircraft. Aerospace Science and Technology, 2017, 67, 1-12.	4.8	36
40	Microfluidic technologies for anticancer drug studies. Drug Discovery Today, 2017, 22, 1654-1670.	6.4	63
41	Monitoring the Damage State of Fiber Reinforced Composites Using an FBG Network for Failure Prediction. Materials, 2017, 10, 32.	2.9	19
42	Modal characterization of composite flat plate models using piezoelectric transducers. Mechanical Systems and Signal Processing, 2016, 79, 16-29.	8.0	20
43	Monitoring Poissonâ€™s ratio of glass fiber reinforced composites as damage index using biaxial Fiber Bragg Grating sensors. Polymer Testing, 2016, 53, 98-107.	4.8	23
44	Prediction of fatigue response of composite structures by monitoring the strain energy release rate with embedded fiber Bragg gratings. Journal of Intelligent Material Systems and Structures, 2016, 27, 17-27.	2.5	21
45	An experimental study on the effect of length and orientation of embedded FBG sensors on the signal properties under fatigue loading. Science and Engineering of Composite Materials, 2016, 23, 711-719.	1.4	2
46	Probabilistic First Ply Failure Analysis of Wind Turbine Blade Laminates. , 2016, , .		1
47	Fatigue life prediction of laminated composites using a multi-scale M-LaF and Bayesian inference. Composite Structures, 2016, 151, 149-161.	5.8	8
48	Analytical modeling of eddy current brakes with the application of time varying magnetic fields. Applied Mathematical Modelling, 2016, 40, 1168-1179.	4.2	33
49	DIV-based distributed xmlns:mml="http://www.w3.org/1998/Math/MathML" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	3.3	3
50	A comparative study of semi-active control strategies for base isolated buildings. Earthquake Engineering and Engineering Vibration, 2015, 14, 487-502.	2.3	17
51	Probabilistic micromechanical analysis of composite material stiffness properties for a wind turbine blade. Composite Structures, 2015, 131, 905-916.	5.8	21
52	Damage Detection of Composite Plates by Lamb Wave Ultrasonic Tomography with a Sparse Hexagonal Network Using Damage Progression Trends. Shock and Vibration, 2014, 2014, 1-8.	0.6	15
53	Structural Synthesis for Prescribed Target Natural Frequencies and Mode Shapes. Shock and Vibration, 2014, 2014, 1-8.	0.6	9
54	Robust and Reliability-Based Design Optimization Framework for Wing Design. AIAA Journal, 2014, 52, 711-724.	2.6	40

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55	Optimized Braking Torque Generation Capacity of an Eddy Current Brake With the Application of Time-Varying Magnetic Fields. IEEE Transactions on Vehicular Technology, 2014, 63, 1530-1538.	6.3	19
56	LMI-based distributed H<inf>∞</inf> control of dynamically coupled large segmented telescope mirrors. , 2014, , .		1
57	Stochastic optimization in aircraft design. , 2014, , 267-272.		2
58	Structural optimization of a joined wing aircraft using DMS algorithm. , 2014, , 919-923.		0
59	Performance based MDO of a regional transport aircraft with a joined wing configuration. , 2014, , 391-396.		0
60	Topology optimization of a wing structure. , 2014, , 507-512.		0
61	Optimal Control and Energy Balance Evaluation of a Morphing Aircraft. , 2013, , .		0
62	Performance Evaluation of a Morphing Joined Wing Aircraft Configuration. , 2013, , .		4
63	Study of an Articulated Winglet Mechanism. , 2013, , .		2
64	Multibody simulation of the musculoskeletal system of the human hand. Multibody System Dynamics, 2013, 29, 271-288.	2.7	6
65	Aircraft Wind Tunnel Characterization using Modern Design of Experiments. , 2013, , .		0
66	Topology Optimization of a Wing Including Self-Weight Load. , 2013, , .		3
67	Geometry of Global Stress Space in Multi-Phase Fiber-Reinforced Composites. Mechanics of Advanced Materials and Structures, 2013, 20, 353-360.	2.6	0
68	Structural Health Monitoring of Aircraft Structures. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2013, , 81-148.	0.6	8
69	Improved braking torque generation capacity of an eddy current brake with time varying magnetic fields: A numerical study. Finite Elements in Analysis and Design, 2012, 59, 66-75.	3.2	42
70	Aeroelastic Scaling of a Joined Wing for Nonlinear Geometric Stiffness. AIAA Journal, 2012, 50, 513-522.	2.6	31
71	An Experimental Study on the Process Monitoring of Resin Transfer Molded Composite Structures Using Fiber Optic Sensors. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2012, 134, .	2.2	18
72	Prediction of Turbulent Boundary Layer Induced Noise in the Cabin of a BWB Aircraft. Shock and Vibration, 2012, 19, 693-705.	0.6	9

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73	Distributed Hâˆž control of dynamically coupled segmented telescope mirrors: Design and simulation. Mechatronics, 2012, 22, 121-135.	3.3	6
74	A robust weakly compressible SPH method and its comparison with an incompressible SPH. International Journal for Numerical Methods in Engineering, 2012, 89, 939-956.	2.8	149
75	Embedded fiber optic sensors for monitoring processing, quality and structural health of resin transfer molded components. Journal of Physics: Conference Series, 2011, 305, 012135.	0.4	16
76	Design and Analysis of an Adaptive Wingtip. , 2011, , .		5
77	PZT Network and Phased Array Lamb Wave Based SHM Systems. Journal of Physics: Conference Series, 2011, 305, 012087.	0.4	3
78	Application of SEUMRE global optimization algorithm in automotive magnetorheological brake design. Structural and Multidisciplinary Optimization, 2011, 44, 761-772.	3.5	14
79	Aero-Structural Optimization and Performance Evaluation of a Morphing Wing with Variable Span and Camber. Journal of Intelligent Material Systems and Structures, 2011, 22, 1057-1073.	2.5	34
80	Simulation of rigid-body impact using the articulated-body algorithm. Robotica, 2011, 29, 649-656.	1.9	1
81	Flow-Induced Noise and Vibration in Aircraft Cylindrical Cabins: Closed-Form Analytical Model Validation. Journal of Vibration and Acoustics, Transactions of the ASME, 2011, 133, .	1.6	12
82	Aero-structural Design Optimization of a Morphing Wingtip. Journal of Intelligent Material Systems and Structures, 2011, 22, 1113-1124.	2.5	36
83	Optimization of a proton exchange membrane fuel cell membrane electrode assembly. Structural and Multidisciplinary Optimization, 2010, 40, 563-583.	3.5	29
84	Design of an Embedded Sensor Network for Manufacturing Process Monitoring, Quality Control Management and Structural Health Assessment of Advanced Composite Structures. , 2010, , .		0
85	Joined-Wing Wind-Tunnel Test for Longitudinal Control via Aftwing Twist. Journal of Aircraft, 2010, 47, 1481-1489.	2.4	10
86	Comparison of Surrogate Models in a Multidisciplinary Optimization Framework for Wing Design. AIAA Journal, 2010, 48, 995-1006.	2.6	59
87	Prediction of Turbulent Flow-Induced Noise in Aircraft Cabins. , 2010, , .		3
88	Advancement of a Robust and Reliability-Based Design Optimization Framework for Wing Design. , 2010, , .		6
89	Multidisciplinary Design for Flight Test of a Scaled Joined Wing SensorCraft. , 2010, , .		7
90	Distributed and Centralized Hâˆž Control of Large Segmented Telescopes. , 2010, , .		3

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91	Investigation of the Blood Flow and Mitral-Septal Opposition in the Left Ventricle With the Obstructive Hyperthrophic Cardiomyopathy During Systole Using Fluid-Structure Interaction Technique. , 2010, , .		0
92	Design of a PZT Sensor Network Based on Guided Lamb Waves for Structural Health Monitoring of Metallic Structures. , 2010, , .		1
93	Fluid-Structure Interaction Simulation of Blood Flow Inside a Diseased Left Ventricle With Obstructive Hypertrophic Cardiomyopathy in Early Systole. , 2009, , .		1
94	SPH with the multiple boundary tangent method. International Journal for Numerical Methods in Engineering, 2009, 77, 1416-1438.	2.8	127
95	A Comparison of Surrogate Models in the Framework of an MDO Tool for Wing Design. , 2009, , .		5
96	Optimization of a Morphing Wing Based on Coupled Aerodynamic and Structural Constraints. AIAA Journal, 2009, 47, 2087-2104.	2.6	95
97	Design and testing of a biomimetic tuna using shape memory alloy induced propulsion. Computers and Structures, 2008, 86, 491-499.	4.4	34
98	Design considerations for an automotive magnetorheological brake. Mechatronics, 2008, 18, 434-447.	3.3	258
99	Multidisciplinary design optimization of an automotive magnetorheological brake design. Computers and Structures, 2008, 86, 207-216.	4.4	184
100	Multi-objective optimization of a polymer electrolyte fuel cell membrane electrode assembly. Energy and Environmental Science, 2008, 1, 378.	30.8	39
101	Design of a Polymer Electrolyte Fuel Cell Membrane Electrode Assembly for Maximum Performance under Different Operating Conditions. , 2008, , .		0
102	Development of an Automotive Magnetorheological Brake via Design Optimization of the Magnetic Circuit. , 2008, , .		0
103	Aeroelastic Scaling for Verification and Evaluation of Geometric Nonlinearity on a Joined-Wing Aircraft Model. , 2008, , .		3
104	A Modular MDO Tool for Conceptual Aircraft Design. , 2008, , .		1
105	Topology Optimization of a Reinforced Wing Box for Enhanced Roll Maneuvers. AIAA Journal, 2008, 46, 548-556.	2.6	31
106	Optimal Design of Ultralow-Platinum PEMFC Anode Electrodes. Journal of the Electrochemical Society, 2008, 155, B125.	2.9	29
107	Aeroelastic Control of a Wing with Active Skins Using Piezoelectric Patches. Mechanics of Advanced Materials and Structures, 2007, 14, 23-32.	2.6	8
108	Preface: Smart Materials and Structures. Mechanics of Advanced Materials and Structures, 2007, 14, 1-1.	2.6	6

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109	Development of an Automotive Magnetorheological Brake Via Optimization of Magnetic Circuit. , 2007, , 425.		0
110	Non-Linear Aeroelastic Scaling of a Joined-Wing Concept. , 2007, , .		12
111	Aeroelastic Scaling and Optimization of a Joined-Wing Aircraft Concept. , 2007, , .		18
112	Efficient Level Set Algorithm for Topology Optimization. , 2007, , .		0
113	Implicit Stress Integration in Elastoplasticity of n-Phase Fiber-Reinforced Composites. Mechanics of Advanced Materials and Structures, 2007, 14, 633-641.	2.6	3
114	Application of the corotational structural kinematics and Euler flow to two-dimensional nonlinear aeroelasticity. Computers and Structures, 2007, 85, 1372-1381.	4.4	6
115	Numerical optimization of proton exchange membrane fuel cell cathodes. Electrochimica Acta, 2007, 52, 2668-2682.	5.2	74
116	Multi-variable optimization of PEMFC cathodes using an agglomerate model. Electrochimica Acta, 2007, 52, 6318-6337.	5.2	167
117	Design of a Morphing Airfoil Using Aerodynamic Shape Optimization. AIAA Journal, 2006, 44, 1550-1562.	2.6	60
118	Aeroelasticity of Nonlinear Structures Using the Corotational Method. Journal of Aircraft, 2006, 43, 749-762.	2.4	9
119	Preface: Smart Materials and Structures. Mechanics of Advanced Materials and Structures, 2006, 13, 441-441.	2.6	0
120	A performance evaluation of an automotive magnetorheological brake design with a sliding mode controller. Mechatronics, 2006, 16, 405-416.	3.3	174
121	Application of spectral level set methodology in topology optimization. Structural and Multidisciplinary Optimization, 2006, 31, 430-443.	3.5	32
122	Fluidâ€“structure interaction modelling of nonlinear aeroelastic structures using the finite element corotational theory. Journal of Fluids and Structures, 2006, 22, 59-75.	3.4	9
123	Closed-form Solutions for the Overall Coefficient of Thermal Expansion of n-phase Fiber Composites with Arbitrary Fiber Orientation. Journal of Composite Materials, 2006, 40, 397-415.	2.4	5
124	Development of a Fuel Cell Hybrid Low-Speed Electric Vehicle Testing Facility. , 2006, , .		0
125	Spectral Level Set Methodology in the Design of a Morphing Airfoil. , 2006, , 343-352.		1
126	Benchmark case studies in optimization of geometrically nonlinear structures. Structural and Multidisciplinary Optimization, 2005, 30, 273-296.	3.5	16

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127	Fluid-Structure Interaction Issues in Deformation Based Subsea Propulsion Systems. , 2005, , .		0
128	A Stable and Efficient Nonlinear Aeroelastic Method Using Moving Frames. , 2005, , .		1
129	Multibody Dynamics and Nonlinear Control of Flexible Space Structures. JVC/Journal of Vibration and Control, 2004, 10, 1639-1661.	2.6	15
130	Design and modeling of an electrostrictive inchworm actuator. Mechatronics, 2004, 14, 567-586.	3.3	21
131	Adaptive control of an aeroelastic flight vehicle using piezoelectric actuators. Computers and Structures, 2004, 82, 1303-1314.	4.4	30
132	Enhancement of Aircraft Roll Maneuvers Using the Spectral Level Optimization Method. , 2004, , .		0
133	Sequential Optimization Algorithms for Aerodynamic Shape Optimization. , 2004, , .		5
134	A numerical study of the propulsive efficiency of a flapping hydrofoil. International Journal for Numerical Methods in Fluids, 2003, 42, 493-526.	1.6	75
135	<title>An RPV adaptive aeroelastic demonstrator</title>. , 2003, 4763, 113.		1
136	Numerical study of a pitching and heaving hydrofoil. , 2003, , 1083-1086.		0
137	An Analytical Model for a Composite Adaptive Rectangular Structure Using the Heaviside Function. Mechanics of Advanced Materials and Structures, 2002, 9, 273-298.	2.6	2
138	MDO Concepts for an European Research Project on Active Aeroelastic Aircraft. , 2002, , .		16
139	Spectral Level Set Methodology in Topology Optimization. , 2002, , .		3
140	Design Optimization Against Instability of Frame Structures Undergoing Large Deflections. , 2002, , .		0
141	On the use of system modes to model multibody flexible structures. Acta Astronautica, 2002, 50, 653-664.	3.2	0
142	Design and testing of an adaptive RPV aeroelastic demonstrator. , 2001, , .		1
143	Optimum design of structures with multiple frequency constraints using the finite element force method. , 2001, , .		3
144	<title>Experimental aeroelastic control using adaptive wing model concepts</title>. , 2001, , .		2

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145	Adaptive composites modelling and application in panel flutter and noise suppression. Computers and Structures, 2000, 76, 365-378.	4.4	13
146	Optimum design of nonlinear symmetric truss structures under system stability constraint. , 2000, , .		2
147	Dynamics of a flexible platform due to operational disturbances. Acta Astronautica, 1999, 44, 1-9.	3.2	2
148	Modeling of shell adaptive composites and its application to noise suppression. , 1999, 3667, 23.		1
149	<title>Closed form solution for a composite plate with distributed actuators and sensors</title>. , 1998, , .		0
150	Multi-objective optimization of an adaptive composite plate using the physical programming approach. , 1998, , .		0
151	Flutter control of an adaptive laminated composite panel with piezoelectric layers. , 1996, , .		3
152	System modes and dynamics of the proposed space station type configurations. Nonlinear Dynamics, 1990, 1, 379-400.	5.2	5
153	Experimental Aeroelastic Investigation using Piezoelectric Transducers in Wind Tunnel Testing. Experimental Techniques, 0, , 1.	1.5	0