

Afzal Suleman

List of Publications by Year in descending order

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153
papers

3,158
citations

186265

28
h-index

182427

51
g-index

158
all docs

158
docs citations

158
times ranked

2427
citing authors

#	ARTICLE	IF	CITATIONS
1	Design considerations for an automotive magnetorheological brake. <i>Mechatronics</i> , 2008, 18, 434-447.	3.3	258
2	Multidisciplinary design optimization of an automotive magnetorheological brake design. <i>Computers and Structures</i> , 2008, 86, 207-216.	4.4	184
3	A performance evaluation of an automotive magnetorheological brake design with a sliding mode controller. <i>Mechatronics</i> , 2006, 16, 405-416.	3.3	174
4	Multi-variable optimization of PEMFC cathodes using an agglomerate model. <i>Electrochimica Acta</i> , 2007, 52, 6318-6337.	5.2	167
5	A robust weakly compressible SPH method and its comparison with an incompressible SPH. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 89, 939-956.	2.8	149
6	A review on non-linear aeroelasticity of high aspect-ratio wings. <i>Progress in Aerospace Sciences</i> , 2017, 89, 40-57.	12.1	145
7	SPH with the multiple boundary tangent method. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 77, 1416-1438.	2.8	127
8	Optimization of a Morphing Wing Based on Coupled Aerodynamic and Structural Constraints. <i>AIAA Journal</i> , 2009, 47, 2087-2104.	2.6	95
9	Appointed-time prescribed performance attitude tracking control via double performance functions. <i>Aerospace Science and Technology</i> , 2019, 93, 105337.	4.8	85
10	A numerical study of the propulsive efficiency of a flapping hydrofoil. <i>International Journal for Numerical Methods in Fluids</i> , 2003, 42, 493-526.	1.6	75
11	Numerical optimization of proton exchange membrane fuel cell cathodes. <i>Electrochimica Acta</i> , 2007, 52, 2668-2682.	5.2	74
12	Microfluidic technologies for anticancer drug studies. <i>Drug Discovery Today</i> , 2017, 22, 1654-1670.	6.4	63
13	Design of a Morphing Airfoil Using Aerodynamic Shape Optimization. <i>AIAA Journal</i> , 2006, 44, 1550-1562.	2.6	60
14	Comparison of Surrogate Models in a Multidisciplinary Optimization Framework for Wing Design. <i>AIAA Journal</i> , 2010, 48, 995-1006.	2.6	59
15	Topology optimization of cracked structures using peridynamics. <i>Continuum Mechanics and Thermodynamics</i> , 2019, 31, 1645-1672.	2.2	51
16	Improved braking torque generation capacity of an eddy current brake with time varying magnetic fields: A numerical study. <i>Finite Elements in Analysis and Design</i> , 2012, 59, 66-75.	3.2	42
17	Robust and Reliability-Based Design Optimization Framework for Wing Design. <i>AIAA Journal</i> , 2014, 52, 711-724.	2.6	40
18	Multi-objective optimization of a polymer electrolyte fuel cell membrane electrode assembly. <i>Energy and Environmental Science</i> , 2008, 1, 378.	30.8	39

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19	Aero-structural Design Optimization of a Morphing Wingtip. Journal of Intelligent Material Systems and Structures, 2011, 22, 1113-1124.	2.5	36
20	Performance based multidisciplinary design optimization of morphing aircraft. Aerospace Science and Technology, 2017, 67, 1-12.	4.8	36
21	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
22	Design and testing of a biomimetic tuna using shape memory alloy induced propulsion. Computers and Structures, 2008, 86, 491-499.	4.4	34
23	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
24	Analytical modeling of eddy current brakes with the application of time varying magnetic fields. Applied Mathematical Modelling, 2016, 40, 1168-1179.	4.2	33
25	Application of spectral level set methodology in topology optimization. Structural and Multidisciplinary Optimization, 2006, 31, 430-443.	3.5	32
26	Topology Optimization of a Reinforced Wing Box for Enhanced Roll Maneuvers. AIAA Journal, 2008, 46, 548-556.	2.6	31
27	Aeroelastic Scaling of a Joined Wing for Nonlinear Geometric Stiffness. AIAA Journal, 2012, 50, 513-522.	2.6	31
28	Adaptive control of an aeroelastic flight vehicle using piezoelectric actuators. Computers and Structures, 2004, 82, 1303-1314.	4.4	30
29	Optimal Design of Ultralow-Platinum PEMFC Anode Electrodes. Journal of the Electrochemical Society, 2008, 155, B125.	2.9	29
30	Optimization of a proton exchange membrane fuel cell membrane electrode assembly. Structural and Multidisciplinary Optimization, 2010, 40, 563-583.	3.5	29
31	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
32	Efficient strategies for reliability-based design optimization of variable stiffness composite structures. Structural and Multidisciplinary Optimization, 2018, 57, 689-704.	3.5	25
33	Monitoring Poisson'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
34	On the design of environmentally sustainable aircraft for urban air mobility. Transportation Research, Part D: Transport and Environment, 2021, 91, 102688.	6.8	23
35	Continuous density-based topology optimization of cracked structures using peridynamics. Structural and Multidisciplinary Optimization, 2020, 62, 2375-2389.	3.5	23
36	Design optimization of thin-walled composite structures based on material and fiber orientation. Composite Structures, 2017, 176, 1081-1095.	5.8	22

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37	A coupled WC-TL SPH method for simulation of hydroelastic problems. International Journal of Computational Fluid Dynamics, 2017, 31, 174-187.	1.2	22
38	Design and modeling of an electrostrictive inchworm actuator. Mechatronics, 2004, 14, 567-586.	3.3	21
39	Probabilistic micromechanical analysis of composite material stiffness properties for a wind turbine blade. Composite Structures, 2015, 131, 905-916.	5.8	21
40	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
41	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
42	Multi-material topology optimization of structures with discontinuities using Peridynamics. Composite Structures, 2021, 258, 113345.	5.8	21
43	Modal characterization of composite flat plate models using piezoelectric transducers. Mechanical Systems and Signal Processing, 2016, 79, 16-29.	8.0	20
44	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
45	Monitoring the Damage State of Fiber Reinforced Composites Using an FBG Network for Failure Prediction. Materials, 2017, 10, 32.	2.9	19
46	Aeroelastic Scaling and Optimization of a Joined-Wing Aircraft Concept. , 2007, , .		18
47	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
48	A comparative study of semi-active control strategies for base isolated buildings. Earthquake Engineering and Engineering Vibration, 2015, 14, 487-502.	2.3	17
49	MDO Concepts for an European Research Project on Active Aeroelastic Aircraft. , 2002, , .		16
50	Benchmark case studies in optimization of geometrically nonlinear structures. Structural and Multidisciplinary Optimization, 2005, 30, 273-296.	3.5	16
51	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
52	Nonlinear aeroelastic scaling of high aspect-ratio wings. Aerospace Science and Technology, 2017, 63, 363-371.	4.8	16
53	Multibody Dynamics and Nonlinear Control of Flexible Space Structures. JVC/Journal of Vibration and Control, 2004, 10, 1639-1661.	2.6	15
54	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

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55	Cost analysis of variable stiffness composite structures with application to a wind turbine blade. Composite Structures, 2018, 203, 681-695.	5.8	15
56	Application of SEUMRE global optimization algorithm in automotive magnetorheological brake design. Structural and Multidisciplinary Optimization, 2011, 44, 761-772.	3.5	14
57	Adaptive composites modelling and application in panel flutter and noise suppression. Computers and Structures, 2000, 76, 365-378.	4.4	13
58	Non-destructive determination of the stiffness matrix of a laminated composite structure with lamb wave. Composite Structures, 2020, 237, 111956.	5.8	13
59	Non-Linear Aeroelastic Scaling of a Joined-Wing Concept. , 2007, , .		12
60	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
61	Remaining useful life prediction of laminated composite materials using Thermoelastic Stress Analysis. Composite Structures, 2019, 210, 381-390.	5.8	12
62	Multi-scale and multi-material topology optimization of gradient lattice structures using surrogate models. Composite Structures, 2022, 289, 115402.	5.8	11
63	Joined-Wing Wind-Tunnel Test for Longitudinal Control via Aftwing Twist. Journal of Aircraft, 2010, 47, 1481-1489.	2.4	10
64	Topology optimization of the internal structure of an aircraft wing subjected to self-weight load. Engineering Optimization, 2020, 52, 1119-1135.	2.6	10
65	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
66	Aeroelasticity of Nonlinear Structures Using the Corotational Method. Journal of Aircraft, 2006, 43, 749-762.	2.4	9
67	Fluid-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
68	Prediction of Turbulent Boundary Layer Induced Noise in the Cabin of a BWB Aircraft. Shock and Vibration, 2012, 19, 693-705.	0.6	9
69	Structural Synthesis for Prescribed Target Natural Frequencies and Mode Shapes. Shock and Vibration, 2014, 2014, 1-8.	0.6	9
70	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
71	Aeroelastic Control of a Wing with Active Skins Using Piezoelectric Patches. Mechanics of Advanced Materials and Structures, 2007, 14, 23-32.	2.6	8
72	Fatigue life prediction of laminated composites using a multi-scale M-LaF and Bayesian inference. Composite Structures, 2016, 151, 149-161.	5.8	8

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73	Non-linear aeroelastic analysis in the time domain of high-aspect-ratio wings: Effect of chord and taper-ratio variation. <i>Aeronautical Journal</i> , 2017, 121, 21-53.	1.6	8
74	On the Design of Aeroelastically Scaled Models of High Aspect-Ratio Wings. <i>Aerospace</i> , 2020, 7, 166.	2.2	8
75	Structural Health Monitoring of Aircraft Structures. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2013, , 81-148.	0.6	8
76	Multidisciplinary Design for Flight Test of a Scaled Joined Wing SensorCraft. , 2010, , .		7
77	Test rig development and characterization of magnetorheological elastomers. , 2017, , .		7
78	Fabrication and characterization of highly controllable magnetorheological material in compression mode. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1641-1661.	2.5	7
79	Preface: Smart Materials and Structures. <i>Mechanics of Advanced Materials and Structures</i> , 2007, 14, 1-1.	2.6	6
80	Application of the corotational structural kinematics and Euler flow to two-dimensional nonlinear aeroelasticity. <i>Computers and Structures</i> , 2007, 85, 1372-1381.	4.4	6
81	Advancement of a Robust and Reliability-Based Design Optimization Framework for Wing Design. , 2010, , .		6
82	Distributed H ∞ control of dynamically coupled segmented telescope mirrors: Design and simulation. <i>Mechatronics</i> , 2012, 22, 121-135.	3.3	6
83	Multibody simulation of the musculoskeletal system of the human hand. <i>Multibody System Dynamics</i> , 2013, 29, 271-288.	2.7	6
84	From Dermal Patch to Implants—Applications of Biocomposites in Living Tissues. <i>Molecules</i> , 2020, 25, 507.	3.8	6
85	Simultaneous topology and fiber path optimization of composite structures with MAC constraints. <i>Composite Structures</i> , 2022, 294, 115645.	5.8	6
86	System modes and dynamics of the proposed space station type configurations. <i>Nonlinear Dynamics</i> , 1990, 1, 379-400.	5.2	5
87	Sequential Optimization Algorithms for Aerodynamic Shape Optimization. , 2004, , .		5
88	Closed-form Solutions for the Overall Coefficient of Thermal Expansion of n-phase Fiber Composites with Arbitrary Fiber Orientation. <i>Journal of Composite Materials</i> , 2006, 40, 397-415.	2.4	5
89	A Comparison of Surrogate Models in the Framework of an MDO Tool for Wing Design. , 2009, , .		5
90	Design and Analysis of an Adaptive Wingtip. , 2011, , .		5

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91	Performance Evaluation of a Morphing Joined Wing Aircraft Configuration. , 2013, , .		4
92	Flutter control of an adaptive laminated composite panel with piezoelectric layers. , 1996, , .		3
93	Optimum design of structures with multiple frequency constraints using the finite element force method. , 2001, , .		3
94	Spectral Level Set Methodology in Topology Optimization. , 2002, , .		3
95	Implicit Stress Integration in Elastoplasticity of n-Phase Fiber-Reinforced Composites. Mechanics of Advanced Materials and Structures, 2007, 14, 633-641.	2.6	3
96	Aeroelastic Scaling for Verification and Evaluation of Geometric Nonlinearity on a Joined-Wing Aircraft Model. , 2008, , .		3
97	Prediction of Turbulent Flow-Induced Noise in Aircraft Cabins. , 2010, , .		3
98	PZT Network and Phased Array Lamb Wave Based SHM Systems. Journal of Physics: Conference Series, 2011, 305, 012087.	0.4	3
99	Topology Optimization of a Wing Including Self-Weight Load. , 2013, , .		3
100	LMI-based distributed  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"/> Measurement of Aeroelastic Wing Deflections Using Modal Shapes and Strain Pattern Analysis. , 2019, , .	3.3	3
101	Measurement of Aeroelastic Wing Deflections Using Modal Shapes and Strain Pattern Analysis. , 2019, , .		3
102	Distributed and Centralized H ∞ Control of Large Segmented Telescopes. , 2010, , .		3
103	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
104	Dynamics of a flexible platform due to operational disturbances. Acta Astronautica, 1999, 44, 1-9.	3.2	2
105	Optimum design of nonlinear symmetric truss structures under system stability constraint. , 2000, , .		2
106	<title>Experimental aeroelastic control using adaptive wing model concepts</title>. , 2001, , .		2
107	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
108	Study of an Articulated Winglet Mechanism. , 2013, , .		2

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109	An experimental study on the effect of length and orientation of embedded FBC sensors on the signal properties under fatigue loading. Science and Engineering of Composite Materials, 2016, 23, 711-719.	1.4	2
110	Dielectrophoretic interaction of circular particles in a uniform electric field. European Journal of Mechanics, B/Fluids, 2019, 78, 194-202.	2.5	2
111	Morphing of an adaptive shock control bump using pressurized chambers. Journal of Intelligent Material Systems and Structures, 2020, 31, 1821-1837.	2.5	2
112	Design and performance quantification of VTOL systems for a canard aircraft. Aeronautical Journal, 2021, 125, 1768-1791.	1.6	2
113	Stochastic optimization in aircraft design. , 2014, , 267-272.		2
114	Modeling of shell adaptive composites and its application to noise suppression. , 1999, 3667, 23.		1
115	Design and testing of an adaptive RPV aeroelastic demonstrator. , 2001, , .		1
116	<title>An RPV adaptive aeroelastic demonstrator</title>. , 2003, 4763, 113.		1
117	A Stable and Efficient Nonlinear Aeroelastic Method Using Moving Frames. , 2005, , .		1
118	A Modular MDO Tool for Conceptual Aircraft Design. , 2008, , .		1
119	Fluid-Structure Interaction Simulation of Blood Flow Inside a Diseased Left Ventricle With Obstructive Hypertrophic Cardiomyopathy in Early Systole. , 2009, , .		1
120	Simulation of rigid-body impact using the articulated-body algorithm. Robotica, 2011, 29, 649-656.	1.9	1
121	LMI-based distributed H _∞ control of dynamically coupled large segmented telescope mirrors. , 2014, , .		1
122	Probabilistic First Ply Failure Analysis of Wind Turbine Blade Laminates. , 2016, , .		1
123	UAV-BASED INTEGRATED MULTISENSOR PAYLOAD FOR HIGH RESOLUTION IMAGING. , 2018, , .		1
124	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
125	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
126	Spectral Level Set Methodology in the Design of a Morphing Airfoil. , 2006, , 343-352.		1

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127	Design of a PZT Sensor Network Based on Guided Lamb Waves for Structural Health Monitoring of Metallic Structures. , 2010, , .		1
128	Dynamic Scaling of a Wing Structure Model Using Topology Optimization. Machines, 2022, 10, 374.	2.2	1
129	<title>Closed form solution for a composite plate with distributed actuators and sensors</title>. , 1998, , .		0
130	Design Optimization Against Instability of Frame Structures Undergoing Large Deflections. , 2002, , .		0
131	On the use of system modes to model multibody flexible structures. Acta Astronautica, 2002, 50, 653-664.	3.2	0
132	Enhancement of Aircraft Roll Maneuvers Using the Spectral Level Optimization Method. , 2004, , .		0
133	Fluid-Structure Interaction Issues in Deformation Based Subsea Propulsion Systems. , 2005, , .		0
134	Preface: Smart Materials and Structures. Mechanics of Advanced Materials and Structures, 2006, 13, 441-441.	2.6	0
135	Development of a Fuel Cell Hybrid Low-Speed Electric Vehicle Testing Facility. , 2006, , .		0
136	Development of an Automotive Magnetorheological Brake Via Optimization of Magnetic Circuit. , 2007, , 425.		0
137	Efficient Level Set Algorithm for Topology Optimization. , 2007, , .		0
138	Design of a Polymer Electrolyte Fuel Cell Membrane Electrode Assembly for Maximum Performance under Different Operating Conditions. , 2008, , .		0
139	Development of an Automotive Magnetorheological Brake via Design Optimization of the Magnetic Circuit. , 2008, , .		0
140	Design of an Embedded Sensor Network for Manufacturing Process Monitoring, Quality Control Management and Structural Health Assessment of Advanced Composite Structures. , 2010, , .		0
141	Optimal Control and Energy Balance Evaluation of a Morphing Aircraft. , 2013, , .		0
142	Aircraft Wind Tunnel Characterization using Modern Design of Experiments. , 2013, , .		0
143	Geometry of Global Stress Space in Multi-Phase Fiber-Reinforced Composites. Mechanics of Advanced Materials and Structures, 2013, 20, 353-360.	2.6	0
144	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

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145	3.10 Composite Aerostructures For Unmanned Aircraft. , 2018, , 261-287.		0
146	Numerical study of a pitching and heaving hydrofoil. , 2003, , 1083-1086.		0
147	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
148	Multi-objective optimization of an adaptive composite plate using the physical programming approach. , 1998, , .		0
149	Structural optimization of a joined wing aircraft using DMS algorithm. , 2014, , 919-923.		0
150	Performance based MDO of a regional transport aircraft with a joined wing configuration. , 2014, , 391-396.		0
151	Topology optimization of a wing structure. , 2014, , 507-512.		0
152	Experimental Aeroelastic Investigation using Piezoelectric Transducers in Wind Tunnel Testing. Experimental Techniques, 0, , 1.	1.5	0
153	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