Alex ElÃ-as-ZÃºÃ±iga

List of Publications by Year
in descending order

125	2,448	218592	289141
papers	citations	26 h-index	40 g-index

129	129	129	2158
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Hybrid Superhydrophobic/Hydrophilic Surface Based on SiO2 Nanoparticles over a Clay Substrate for Enhanced Dew Yield Potential. Applied Sciences (Switzerland), 2022, 12, 1526.	1.3	1
2	Fractal equation of motion of a non-Gaussian polymer chain: investigating its dynamic fractal response using an ancient Chinese algorithm.. Journal of Mathematical Chemistry, 2022, 60, 461-473.	0.7	12
3	ON TWO-SCALE DIMENSION AND ITS APPLICATION FOR DERIVING A NEW ANALYTICAL SOLUTION FOR THE FRACTAL DUFFINGâ€™S EQUATION. Fractals, 2022, 30, .	1.8	5
4	ELUCIDATING THE FRACTAL NATURE OF POWDER BED IN SELECTIVE LASER MELTING OF METALLIC COMPONENTS. Fractals, 2022, 30, .	1.8	2
5	New analytical solution of the fractal anharmonic oscillator using an ancient Chinese algorithm: Investigating how plasma frequency changes with fractal parameter values. Journal of Low Frequency Noise Vibration and Active Control, 2022, 41, 833-841.	1.3	6
6	Study of the Evolution of the Plastic Zone and Residual Stress in a Notched T-6061 Aluminum Sample. Materials, 2022, 15, 1546.	1.3	3
7	Influence of Epoxy Resin Curing Kinetics on the Mechanical Properties of Carbon Fiber Composites. Polymers, 2022, 14, 1100.	2.0	15
8	Soft Tissue Hybrid Model for Real-Time Simulations. Polymers, 2022, 14, 1407.	2.0	4
9	Recent strategy to study fractal-order viscoelastic polymer materials using an ancient Chinese algorithm and Heâ€™s formulation. Journal of Low Frequency Noise Vibration and Active Control, 2022, 41, 842-851.	1.3	7
10	Engineering and Evaluation of Forcespun Gelatin Nanofibers as an Isorhamnetin Glycosides Delivery System. Pharmaceutics, 2022, 14, 1116.	2.0	7
11	DYNAMIC RESPONSE OF A FRACTAL CUSHIONING PACKAGING SYSTEM. Fractals, 2022, 30, .	1.8	1
12	A fractal model for current generation in porous electrodes. Journal of Electroanalytical Chemistry, 2021, 880, 114883.	1.9	17
13	EQUIVALENT POWER-FORM REPRESENTATION OF THE FRACTAL TODA OSCILLATOR. Fractals, 2021, 29, 2150034.	1.8	24
14	EQUIVALENT POWER-FORM TRANSFORMATION FOR FRACTAL BRATUâ€™S EQUATION. Fractals, 2021, 29, 2150019.	1.8	14
15	Spark Plasma Sintering of Aluminum-Based Powders Reinforced with Carbon Nanotubes: Investigation of Electrical Conductivity and Hardness Properties. Materials, 2021, 14, 373.	1.3	10
16	Enhanced Mathematical Model for Producing Highly Dense Metallic Components through Selective Laser Melting. Materials, 2021, 14, 1571.	1.3	7
17	Influence of the Epoxy Resin Process Parameters on the Mechanical Properties of Produced Bidirectional [Â±45Â°] Carbon/Epoxy Woven Composites. Polymers, 2021, 13, 1273.	2.0	34
18	Enhancement of Electrical Conductivity of Aluminum-Based Nanocomposite Produced by Spark Plasma Sintering. Nanomaterials, 2021, 11, 1150.	1.9	5

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19	ANALYTICAL SOLUTION OF THE FRACTAL CUBICâ€“QUINTIC DUFFING EQUATION. Fractals, 2021, 29, 2150080.	1.8	15
20	A power-form method for dynamic systems: investigating the steady-state response of strongly nonlinear oscillators by their equivalent Duffing-type equation. Nonlinear Dynamics, 2021, 104, 3065-3075.	2.7	7
21	Determination of the frequency-amplitude response curves of undamped forced Duffingâ€™s oscillators using an ancient Chinese algorithm. Results in Physics, 2021, 24, 104085.	2.0	9
22	DYNAMICS RESPONSE OF THE FORCED FANGZHU FRACTAL DEVICE FOR WATER COLLECTION FROM AIR. Fractals, 2021, 29, .	1.8	11
23	A mathematical dimensionless model for electrohydrodynamics. Results in Physics, 2021, 25, 104256.	2.0	6
24	Study of Friction and Wear Effects in Aluminum Parts Manufactured via Single Point Incremental Forming Process Using Petroleum and Vegetable Oil-Based Lubricants. Materials, 2021, 14, 3973.	1.3	8
25	AN EFFICIENT ANCIENT CHINESE ALGORITHM TO INVESTIGATE THE DYNAMICS RESPONSE OF A FRACTAL MICROGRAVITY FORCED OSCILLATOR. Fractals, 2021, 29, 2150144.	1.8	8
26	Manufacture and mechanical properties of knee implants using SWCNTs/UHMWPE composites. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 120, 104554.	1.5	37
27	INVESTIGATION OF THE STEADY-STATE SOLUTION OF THE FRACTAL FORCED DUFFINGâ€™S OSCILLATOR USING AN ANCIENT CHINESE ALGORITHM. Fractals, 2021, 29, 2150133.	1.8	5
28	Exact steady-state solution of fractals damped, and forced systems. Results in Physics, 2021, 28, 104580.	2.0	8
29	A Mathematical Dimensional Model for Predicting Bulk Density of Inconel 718 Parts Produced by Selective Laser Melting. Materials, 2021, 14, 512.	1.3	9
30	Insights on the Molecular Behavior of Polypropylene in the Process of Ultrasonic Injection Molding. Polymers, 2021, 13, 4010.	2.0	3
31	Spark Plasma Sintering of Aluminum Nanocomposite Powders: Recent Strategy to Translate from Lab-Scale to Mass Production. Nanomaterials, 2021, 11, 3372.	1.9	1
32	Broadening the frequency bandwidth of a finite extensibility nonlinear vibration absorber by exploiting its internal resonances. Nonlinear Dynamics, 2020, 102, 1239-1270.	2.7	10
33	Uncharted Stable Peninsula for Multivariable Milling Tools by High-Order Homotopy Perturbation Method. Applied Sciences (Switzerland), 2020, 10, 7869.	1.3	9
34	Investigating the Mullins Effect and Energy Dissipation in Magnetorheological Polyurethane Elastomers. International Journal of Molecular Sciences, 2020, 21, 5318.	1.8	3
35	Semi-Active Magnetorheological Damper Device for Chatter Mitigation during Milling of Thin-Floor Components. Applied Sciences (Switzerland), 2020, 10, 5313.	1.3	25
36	Investigation of the Mechanical Properties of Parts Fabricated with Ultrasonic Micro Injection Molding Process Using Polypropylene Recycled Material. Polymers, 2020, 12, 2033.	2.0	3

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37	He's frequencyâ€“amplitude formulation for nonlinear oscillators using Jacobi elliptic functions. Journal of Low Frequency Noise Vibration and Active Control, 2020, 39, 1216-1223.	1.3	32
38	Enhanced Heâ€™s frequency-amplitude formulation for nonlinear oscillators. Results in Physics, 2020, 19, 103626.	2.0	26
39	Investigation of the Effect of Carbonyl Iron Micro-Particles on the Mechanical and Rheological Properties of Isotropic and Anisotropic MREs: Constitutive Magneto-Mechanical Material Model. Polymers, 2019, 11, 1705.	2.0	21
40	Design, fabrication, and characterization of polycaprolactone (PCL)-TiO2-collagenase nanofiber mesh scaffolds by Forcespinning. MRS Communications, 2019, 9, 390-397.	0.8	7
41	Prediction Methods and Experimental Techniques for Chatter Avoidance in Turning Systems: A Review. Applied Sciences (Switzerland), 2019, 9, 4718.	1.3	29
42	Development, Fabrication, and Characterization of Composite Polycaprolactone Membranes Reinforced with TiO2 Nanoparticles. Polymers, 2019, 11, 1955.	2.0	12
43	Advances in the Processing of UHMWPE-TiO2 to Manufacture Medical Prostheses via SPIF. Polymers, 2019, 11, 2022.	2.0	16
44	Electrospun Polycaprolactone Fibrous Membranes Containing Ag, TiO2 and Na2Ti6O13 Particles for Potential Use in Bone Regeneration. Membranes, 2019, 9, 12.	1.4	28
45	Intraluminal Ultrasonic Palpation Imaging Technique Revisited for Anisotropic Characterization of Healthy and Atherosclerotic Coronary Arteries: A Feasibility Study. Ultrasound in Medicine and Biology, 2019, 45, 35-49.	0.7	6
46	Single point incremental forming of bilayer sheets made of two different thermoplastics. Journal of Applied Polymer Science, 2019, 136, 47093.	1.3	7
47	Processing of ultra-high molecular weight polyethylene/graphite composites by ultrasonic injection moulding: Taguchi optimization. Ultrasonics Sonochemistry, 2018, 44, 350-358.	3.8	51
48	Equivalent representation form in the sense of Lyapunov, of nonlinear forced, damped second-order differential equations. Nonlinear Dynamics, 2018, 92, 2143-2158.	2.7	11
49	Plasticized and reinforced poly(methyl methacrylate) obtained by a dissolution-dispersion process for single point incremental forming: Enhanced formability towards the fabrication of cranial implants. Polymer Testing, 2018, 68, 39-45.	2.3	19
50	Fabrication and Characterization of Isotropic and Anisotropic Magnetorheological Elastomers, Based on Silicone Rubber and Carbonyl Iron Microparticles. Polymers, 2018, 10, 1343.	2.0	51
51	Experimental Determination of Residual Stresses Generated by Single Point Incremental Forming of AlSi10Mg Sheets Produced Using SLM Additive Manufacturing Process. Materials, 2018, 11, 2542.	1.3	14
52	Improving Stability Prediction in Peripheral Milling of Al7075T6. Applied Sciences (Switzerland), 2018, 8, 1316.	1.3	22
53	High throughput fabrication of curcumin embedded gelatin-polylactic acid forcespun fiber-aligned scaffolds for the controlled release of curcumin. MRS Communications, 2018, 8, 1395-1403.	0.8	26
54	Single-Point Incremental Forming of Two Biocompatible Polymers: An Insight into Their Thermal and Structural Properties. Polymers, 2018, 10, 391.	2.0	39

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55	Lyapunov Equivalent Representation Form of Forced, Damped, Nonlinear, Two Degree-of-Freedom Systems. Applied Sciences (Switzerland), 2018, 8, 649.	1.3	11
56	Development of forcespun fiber-aligned scaffolds from gelatin-zein composites for potential use in tissue engineering and drug release. MRS Communications, 2018, 8, 885-892.	0.8	28
57	Investigation of residual stress distribution in single point incremental forming of aluminum parts by X-ray diffraction technique. International Journal of Advanced Manufacturing Technology, 2017, 91, 2571-2580.	1.5	36
58	Improvement of the gas sensing response of nanostructured LaCoO3 by the addition of Ag nanoparticles. Sensors and Actuators B: Chemical, 2017, 246, 181-189.	4.0	18
59	Simple Route to Obtain Nanostructured CeO2 Microspheres and CO Gas Sensing Performance. Nanoscale Research Letters, 2017, 12, 169.	3.1	19
60	Fabrication of gelatin-poly(epichlorohydrin-co-ethylene oxide) fiber scaffolds by ForcespinningÂ® for tissue engineering and drug release. MRS Communications, 2017, 7, 913-921.	0.8	26
61	The influence of a transversal crack on rotor nonlinear transient response. Nonlinear Dynamics, 2017, 90, 671-682.	2.7	8
62	<scp>C</scp>ytotoxicity evaluation of unfunctionalized multiwall carbon nanotubesâ€ultrahigh molecular weight polyethylene nanocomposites. Journal of Biomedical Materials Research - Part A, 2017, 105, 3042-3049.	2.1	20
63	Micro injection molding processing of UHMWPE using ultrasonic vibration energy. Materials and Design, 2017, 132, 1-12.	3.3	54
64	Enhancement of a magnetorheological PDMS elastomer with carbonyl iron particles. Polymer Testing, 2017, 57, 78-86.	2.3	76
65	Mechanical and structural studies on single point incremental forming of polypropylene-MWCNTs composite sheets. Journal of Materials Processing Technology, 2017, 242, 218-227.	3.1	33
66	An Optimum Specimen Geometry for Equibiaxial Experimental Tests of Reinforced Magnetorheological Elastomers with Iron Micro- and Nanoparticles. Nanomaterials, 2017, 7, 254.	1.9	11
67	Experimental Investigation of the Magnetorheological Behavior of PDMS Elastomer Reinforced with Iron Micro/Nanoparticles. Polymers, 2017, 9, 696.	2.0	34
68	Past, Present and Future of Surgical Meshes: A Review. Membranes, 2017, 7, 47.	1.4	181
69	Non-destructive Assessment of Guava (Psidium guajava L.) Maturity and Firmness Based on Mechanical Vibration Response. Food and Bioprocess Technology, 2016, 9, 1471-1480.	2.6	23
70	Spindle speed variation technique in turning operations: Modeling and real implementation. Journal of Sound and Vibration, 2016, 383, 384-396.	2.1	48
71	Improved predictions of the stability lobes for milling cutting operations of thin-wall components by considering ultra-miniature accelerometer mass effects. International Journal of Advanced Manufacturing Technology, 2016, 86, 2139-2146.	1.5	23
72	Assessing a stepped sonotrode in ultrasonic molding technology. Journal of Materials Processing Technology, 2016, 229, 687-696.	3.1	27

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73	Modeling Percolation in Polymer Nanocomposites by Stochastic Microstructuring. Materials, 2015, 8, 6697-6718.	1.3	23
74	Manufacturing of Polymeric Biocompatible Cranial Geometry by Single Point Incremental Forming. Procedia Engineering, 2015, 132, 267-273.	1.2	38
75	Study of the Ultrasonic Molding Process Parameters for Manufacturing Polypropylene Parts. Procedia Engineering, 2015, 132, 7-14.	1.2	18
76	Forming force and temperature effects on single point incremental forming of polyvinylchloride. Journal of Materials Processing Technology, 2015, 219, 221-229.	3.1	87
77	Tool Dynamics During Single Point Incremental Forming Process. Procedia Engineering, 2014, 81, 2286-2291.	1.2	2
78	Identifying Polymeric Constitutive Equations for Incremental Sheet Forming Modelling. Procedia Engineering, 2014, 81, 2292-2297.	1.2	10
79	Surface modification of single-walled carbon nanotubes and their use in the polymerization of acrylic monomers. Designed Monomers and Polymers, 2014, 17, 416-424.	0.7	5
80	Enhanced Multistage Homotopy Perturbation Method: Approximate Solutions of Nonlinear Dynamic Systems. Abstract and Applied Analysis, 2014, 2014, 1-12.	0.3	3
81	On the Rule of Mixtures for Predicting Stress-Softening and Residual Strain Effects in Biological Tissues and Biocompatible Materials. Materials, 2014, 7, 441-456.	1.3	17
82	A Transformation Method for Solving Conservative Nonlinear Two-Degree-of-Freedom Systems. Mathematical Problems in Engineering, 2014, 2014, 1-14.	0.6	3
83	Determination of the stability lobes in milling operations based on homotopy and simulated annealing techniques. Mechatronics, 2014, 24, 177-185.	2.0	39
84	Solution of the damped cubicâ€“quintic Duffing oscillator by using Jacobi elliptic functions. Applied Mathematics and Computation, 2014, 246, 474-481.	1.4	15
85	â€œQuinticationâ€•method to obtain approximate analytical solutions of non-linear oscillators. Applied Mathematics and Computation, 2014, 243, 849-855.	1.4	24
86	Levator ani deformation during the second stage of labour. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2014, 228, 501-508.	1.0	9
87	Stability Prediction Maps in Turning of Difficult-to-cut Materials. Procedia Engineering, 2013, 63, 514-522.	1.2	8
88	Designing and Prototyping of New Device for Scapholunate Ligament Repair. Procedia CIRP, 2013, 5, 270-275.	1.0	4
89	Exact solution of the cubic-quintic Duffing oscillator. Applied Mathematical Modelling, 2013, 37, 2574-2579.	2.2	66
90	Investigation of the Equivalent Representation Form of Strongly Damped Nonlinear Oscillators by a Nonlinear Transformation Approach. Journal of Applied Mathematics, 2013, 2013, 1-7.	0.4	15

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91	Polymeric Materials Reinforced with Multiwall Carbon Nanotubes: A Constitutive Material Model. Materials, 2013, 6, 2873-2891.	1.3	5
92	Equivalent Representation Form of Oscillators with Elastic and Damping Nonlinear Terms. Mathematical Problems in Engineering, 2013, 2013, 1-11.	0.6	1
93	Stress-Softening and Residual Strain Effects in Suture Materials. Advances in Materials Science and Engineering, 2013, 2013, 1-9.	1.0	7
94	Equivalent Mathematical Representation of Second-Order Damped, Driven Nonlinear Oscillators. Mathematical Problems in Engineering, 2013, 2013, 1-11.	0.6	0
95	Transient and Steady-State Responses of an Asymmetric Nonlinear Oscillator. Mathematical Problems in Engineering, 2013, 2013, 1-9.	0.6	2
96	Energy Method to Obtain Approximate Solutions of Strongly Nonlinear Oscillators. Mathematical Problems in Engineering, 2013, 2013, 1-7.	0.6	8
97	Accurate Solutions of Conservative Nonlinear Oscillators by the Enhanced Cubication Method. Mathematical Problems in Engineering, 2013, 2013, 1-9.	0.6	21
98	A Nonmonotonous Damage Model to Characterize Mullins and Residual Strain Effects of Rubber Strings Subjected to Transverse Vibrations. Advances in Materials Science and Engineering, 2013, 2013, 1-9.	1.0	0
99	Approximate Solution for the Duffing-Harmonic Oscillator by the Enhanced Cubication Method. Mathematical Problems in Engineering, 2012, 2012, 1-12.	0.6	21
100	Exact solution of the quadratic mixed-parity Helmholtzâ€“Duffing oscillator. Applied Mathematics and Computation, 2012, 218, 7590-7594.	1.4	27
101	Application of the elliptic balance method to a nonlinear singular oscillator. Applied Mathematics and Computation, 2012, 218, 11112-11117.	1.4	8
102	Analytical solution of the damped Helmholtzâ€“Duffing equation. Applied Mathematics Letters, 2012, 25, 2349-2353.	1.5	34
103	Characterization and stability analysis of a multivariable milling tool by the enhanced multistage homotopy perturbation method. International Journal of Machine Tools and Manufacture, 2012, 57, 27-33.	6.2	76
104	Monitoring deep twist drilling for a rapid manufacturing of light high-strength parts. Mechanical Systems and Signal Processing, 2011, 25, 2745-2752.	4.4	19
105	Evaluation of micromechanical manufacturing processes for microfluidic devices. International Journal of Advanced Manufacturing Technology, 2010, 48, 963-972.	1.5	38
106	An experimental analysis of process parameters to manufacture metallic micro-channels by micro-milling. International Journal of Advanced Manufacturing Technology, 2010, 51, 945-955.	1.5	84
107	A non-monotonous damage function to characterize stress-softening effects with permanent set during inflation and deflation of rubber balloons. International Journal of Engineering Science, 2010, 48, 1937-1943.	2.7	14
108	On the solution of strong nonlinear oscillators by applying a rational elliptic balance method. Computers and Mathematics With Applications, 2010, 60, 1409-1420.	1.4	12

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109	Stability Predictions for End Milling Operations With a Nonlinear Cutting Force Model. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2009, 131, .	1.3	6
110	Elliptic balance solution to two degree of freedom, undamped, homogeneous systems having cubic nonlinearities. Journal of Sound and Vibration, 2007, 304, 175-185.	2.1	2
111	Evaluation and modeling of productivity and dynamic capability in high-speed machining centers. International Journal of Advanced Manufacturing Technology, 2007, 33, 403-411.	1.5	11
112	Elliptic balance solution of two-degree-of-freedom, undamped, forced systems with cubic nonlinearity. Nonlinear Dynamics, 2007, 49, 151-161.	2.7	4
113	A nonlinear oscillatory system subjected to driving forces of elliptic type. Nonlinear Dynamics, 2007, 49, 307-315.	2.7	1
114	A General Solution of the Duffing Equation. Nonlinear Dynamics, 2006, 45, 227-235.	2.7	19
115	A non-Gaussian network model for rubber elasticity. Polymer, 2006, 47, 907-914.	1.8	18
116	A phenomenological energy-based model to characterize stress-softening effect in elastomers. Polymer, 2005, 46, 3496-3506.	1.8	31
117	Application of Jacobian Elliptic Functions to the Analysis of the Steady-State Solution of the Damped Duffing Equation with Driving Force of Elliptic Type. Nonlinear Dynamics, 2005, 42, 175-184.	2.7	15
118	Industry and university cooperation to enhance manufacturing education. Journal of Manufacturing Systems, 2005, 24, 277-287.	7.6	14
119	Analysis of a beam-column system under varying axial forces of elliptic type: the exact solution of LamÃ©â€™s equation. International Journal of Solids and Structures, 2004, 41, 2155-2163.	1.3	12
120	Stress-softening Effects in the Transverse Vibration of a Non-Gaussian Rubber String. Meccanica, 2003, 38, 419-433.	1.2	7
121	Constitutive equations for amended non-Gaussian network models of rubber elasticity. International Journal of Engineering Science, 2002, 40, 2265-2294.	2.7	63
122	Forced vibrations of a body supported by hyperelastic shear mountings. Mechanics Research Communications, 2001, 28, 429-446.	1.0	6
123	Forced vibrations of a body supported by viscohyperelastic shear mountings. Journal of Engineering Mathematics, 2001, 40, 333-353.	0.6	9
124	Evaluating Material Constitutive Equations for the Simulation of Incremental Sheet Forming Applied to Form Thermoplastic Materials. Key Engineering Materials, 0, 554-557, 1312-1319.	0.4	5
125	Investigation of the fractal response of a Nonlinear Packaging System. Fractals, 0, , .	1.8	7