Akif Kaynak

List of Publications by Year
in descending order

119 papers	4,144 citations	101384 36 h-index	128067 60 g-index
120 all docs	120 docs citations	120 times ranked	3925 citing authors

#	Article	IF	Citations
1	Evolution of 3D printed soft actuators. Sensors and Actuators A: Physical, 2016, 250, 258-272.	2.0	232
2	Soil Bulk Density Estimation Methods: A Review. Pedosphere, 2018, 28, 581-596.	2.1	193
3	Characterization of conducting polymer coated synthetic fabrics for heat generation. Synthetic Metals, 2004, 144, 21-28.	2.1	144
4	Electromagnetic shielding properties of polypyrrole/polyester composites in the 1â€“18GHz frequency range. Synthetic Metals, 2006, 156, 917-925.	2.1	133
5	Closed-loop 4D-printed soft robots. Materials and Design, 2020, 188, 108411.	3.3	127
6	Electromagnetic shielding effectiveness of galvanostatically synthesized conducting polypyrrole films in the 300â€“2000 MHz frequency range. Materials Research Bulletin, 1996, 31, 845-860.	2.7	116
7	Electromagnetic interference shielding and radiation absorption in thin polypyrrole films. European Polymer Journal, 2007, 43, 205-213.	2.6	105
8	3D/4D-printed bending-type soft pneumatic actuators: fabrication, modelling, and control. Virtual and Physical Prototyping, 2020, 15, 373-402.	5.3	103
9	Polymerising pyrrole on polyester textiles and controlling the conductivity through coating thickness. Thin Solid Films, 2005, 479, 77-82.	0.8	97
10	Improvement of adhesion of conductive polypyrrole coating on wool and polyester fabrics using atmospheric plasma treatment. Synthetic Metals, 2007, 157, 41-47.	2.1	95
11	Conducting nylon, cotton and wool yarns by continuous vapor polymerization of pyrrole. Synthetic Metals, 2008, 158, 1-5.	2.1	95
12	The effects of dye dopants on the conductivity and optical absorption properties of polypyrrole. Synthetic Metals, 2006, 156, 1194-1202.	2.1	92
13	Effect of synthesis parameters on the electrical conductivity of polypyrrole-coated poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock	1.6	90
14	Pattern-driven 4D printing. Sensors and Actuators A: Physical, 2018, 274, 231-243.	2.0	81
15	Some microwave and mechanical properties of carbon fiber-polypropylene and carbon black-polypropylene composites. Materials Research Bulletin, 1996, 31, 1195-1206.	2.7	77
16	Change of mechanical and electrical properties of polypyrrole films with dopant concentration and oxidative aging. Materials Research Bulletin, 2000, 35, 813-824.	2.7	74
17	Effect of synthesis parameters on the surface morphology of conducting polypyrrole films. Materials Research Bulletin, 1997, 32, 271-285.	2.7	70
18	Conductive wool yarns by continuous vapour phase polymerization of pyrrole. Synthetic Metals, 2007, 157, 1-4.	2.1	70

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19	A study of microwave transmission, reflection, absorption, and shielding effectiveness of conducting polypyrrole films. Journal of Applied Polymer Science, 1994, 54, 269-278.	1.3	69
20	Dynamic Hydrogels and Polymers as Inks for Three-Dimensional Printing. ACS Biomaterials Science and Engineering, 2019, 5, 2688-2707.	2.6	67
21	Characterization of conductive polypyrrole coated wool yarns. Fibers and Polymers, 2002, 3, 24-30.	1.1	66
22	Control-Based 4D Printing: Adaptive 4D-Printed Systems. Applied Sciences (Switzerland), 2020, 10, 3020.	1.3	66
23	Development and analysis of a 3D printed hydrogel soft actuator. Sensors and Actuators A: Physical, 2017, 265, 94-101.	2.0	62
24	Topology-Optimized 4D Printing of a Soft Actuator. Acta Mechanica Solida Sinica, 2020, 33, 418-430.	1.0	61
25	Dynamic plant-derived polysaccharide-based hydrogels. Carbohydrate Polymers, 2020, 231, 115743.	5.1	57
26	Technical Review : Conducting Polymer Electronics. Journal of Intelligent Material Systems and Structures, 1992, 3, 380-395.	1.4	56
27	Study of oxygen plasma pre-treatment of polyester fabric for improved polypyrrole adhesion. Materials Chemistry and Physics, 2014, 143, 668-675.	2.0	55
28	4D printing soft robots guided by machine learning and finite element models. Sensors and Actuators A: Physical, 2021, 328, 112774.	2.0	55
29	Development of a cooling fabric from conducting polymer coated fibres: Proof of concept. Synthetic Metals, 2005, 150, 139-143.	2.1	53
30	Polyelectrolyte Soft Actuators: 3D Printed Chitosan and Cast Gelatin. 3D Printing and Additive Manufacturing, 2018, 5, 138-150.	1.4	53
31	A Review on Miniaturized Ultrasonic Wireless Power Transfer to Implantable Medical Devices. IEEE Access, 2019, 7, 2092-2106.	2.6	49
32	Development of a novel soft parallel robot equipped with polymeric artificial muscles. Smart Materials and Structures, 2015, 24, 035017.	1.8	48
33	Fracture Resistance Analysis of 3D-Printed Polymers. Polymers, 2020, 12, 302.	2.0	48
34	Polypyrrole nanoparticles and dye absorption properties. Synthetic Metals, 2005, 151, 136-140.	2.1	46
35	Study of Radio Frequency Plasma Treatment of PVDF Film Using Ar, O2 and (Ar + O2) Gases for Improved Polypyrrole Adhesion. Materials, 2013, 6, 3482-3493.	1.3	41
36	Development of a Compact Rectenna for Wireless Powering of a Head-Mountable Deep Brain Stimulation Device. IEEE Journal of Translational Engineering in Health and Medicine, 2014, 2, 1-13.	2.2	38

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37	The influence of polymerization time and dopant concentration on the absorption of microwave radiation in conducting polypyrrole coated textiles. Synthetic Metals, 2009, 159, 1373-1380.	2.1	36
38	Generating heat from conducting polypyrrole-coated PET fabrics. Advances in Polymer Technology, 2005, 24, 194-207.	0.8	32
39	Dielectric characterization of conducting textiles using free space transmission measurements: Accuracy and methods for improvement. Synthetic Metals, 2007, 157, 1054-1063.	2.1	32
40	3Dâ€Printed Triboelectric Nanogenerators: State of the Art, Applications, and Challenges. Advanced Energy and Sustainability Research, 2021, 2, 2000045.	2.8	32
41	Dynamic nanocellulose hydrogels: Recent advancements and future outlook. Carbohydrate Polymers, 2021, 270, 118357.	5.1	32
42	Frictional and tensile properties of conducting polymer coated wool and alpaca fibers. Fibers and Polymers, 2005, 6, 259-262.	1.1	31
43	Soluble poly-3-alkylpyrrole polymers on films and fabrics. Synthetic Metals, 2005, 155, 185-190.	2.1	30
44	Methods of Coating Textiles with Soluble Conducting Polymers. Research Journal of Textile and Apparel, 2011, 15, 107-113.	0.6	30
45	A 3D printable dynamic nanocellulose/nanochitin self-healing hydrogel and soft strain sensor. Carbohydrate Polymers, 2022, 291, 119545.	5.1	29
46	Effect of weight reduction pre-treatment on the electrical and thermal properties of polypyrrole coated woven polyester fabrics. Synthetic Metals, 2007, 157, 764-769.	2.1	28
47	DEVELOPING LSPR DESIGN GUIDELINES. Progress in Electromagnetics Research, 2012, 126, 203-235.	1.6	28
48	Double dynamic cellulose nanocomposite hydrogels with environmentally adaptive self-healing and pH-tuning properties. Cellulose, 2020, 27, 1407-1422.	2.4	27
49	Rational Design of Musselâ€Inspired Hydrogels with Dynamic Catecholatoâ€'Metal Coordination Bonds. Macromolecular Rapid Communications, 2020, 41, e2000439.	2.0	26
50	Study of conducting polypyrrole films in the microwave region. Materials Research Bulletin, 1993, 28, 1109-1125.	2.7	24
51	Electrical Conductivity of Polypyrrole Films at a Temperature Range of 70 K to 350 K. Materials Research Bulletin, 1998, 33, 81-88.	2.7	24
52	Application of soluble poly(3-alkylpyrrole) polymers on textiles. Synthetic Metals, 2006, 156, 637-642.	2.1	24
53	Nonlinear dynamic modeling of ionic polymer conductive network composite actuators using rigid finite element method. Sensors and Actuators A: Physical, 2014, 217, 168-182.	2.0	24
54	3D printed soft parallel actuator. Smart Materials and Structures, 2018, 27, 045019.	1.8	24

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55	Bending control of a 3D printed polyelectrolyte soft actuator with uncertain model. Sensors and Actuators A: Physical, 2019, 288, 134-143.	2.0	24
56	Thermal conductivity studies on wool fabrics with conductive coatings. Journal of the Textile Institute, 2006, 97, 265-270.	1.0	22
57	Characterization of conducting polymer coated fabrics at microwave frequencies. International Journal of Clothing Science and Technology, 2009, 21, 117-126.	0.5	20
58	Effects of Laundering on Conductivity of Polypyrrole-Coated Textiles. Research Journal of Textile and Apparel, 2007, 11, 11-17.	0.6	20
59	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	20
60	Aging studies on conducting polypyrrole. Fibers and Polymers, 2001, 2, 171-177.	1.1	19
61	Decay of electrical conductivity in p-toluene sulfonate doped polypyrrole films. Fibers and Polymers, 2009, 10, 590-593.	1.1	19
62	Effects of design parameters on sensitivity of microcantilever biosensors. , 2010, , .		19
63	Control-Oriented Modelling of a 3D-Printed Soft Actuator. Materials, 2019, 12, 71.	1.3	19
64	Dynamic Mussel-Inspired Chitin Nanocomposite Hydrogels for Wearable Strain Sensors. Polymers, 2020, 12, 1416.	2.0	19
65	Sodium alginate/magnesium oxide nanocomposite scaffolds for bone tissue engineering. Polymers for Advanced Technologies, 2018, 29, 2553-2559.	1.6	19
66	Conducting Polymers: Properties and Applications. Journal of Intelligent Material Systems and Structures, 1994, 5, 595-604.	1.4	18
67	Plane-wave shielding effectiveness studies on conducting polypyrrole. Journal of Materials Science Letters, 1994, 13, 1121-1123.	0.5	18
68	3D Printing of a Photo-thermal Self-folding Actuator. KnE Engineering, 2017, 2, 15.	0.1	17
69	Correlating the fineness and residual gum content of degummed hemp fibres. Fibers and Polymers, 2002, 3, 129-133.	1.1	16
70	A Bioinspired Compliant 3D-Printed Soft Gripper. Soft Robotics, 2022, 9, 680-689.	4.6	16
71	Short-term heating tests on doped polypyrrole-coated polyester fabrics. Synthetic Metals, 2008, 158, 350-354.	2.1	15
72	Fluorescence and conductivity studies on wool. Materials Chemistry and Physics, 2009, 113, 480-484.	2.0	15

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73	Improved Bonding and Conductivity of Polypyrrole on Polyester by Gaseous Plasma Treatment. Plasma Processes and Polymers, 2012, 9, 1006-1014.	1.6	15
74	3D printed hydrogel soft actuators. , 2016, , .		15
75	Electrochemical fabrication and modelling of mechanical behavior of a tri-layer polymer actuator. Materials Chemistry and Physics, 2011, 125, 113-117.	2.0	14
76	Control-Oriented Modeling of a Polymeric Soft Robot. Soft Robotics, 2016, 3, 82-97.	4.6	14
77	Rigid elements dynamics modeling of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 025003.	1.8	14
78	Nano-plasmonic biosensors: A review. , 2011, , .		13
79	Stimuli-Responsive Polymer Systemsâ€"Recent Manufacturing Techniques and Applications. Materials, 2019, 12, 2380.	1.3	13
80	Advanced Design, Fabrication, and Applications of 3D-Printable Piezoelectric Nanogenerators. Electronic Materials Letters, 2022, 18, 129-144.	1.0	13
81	Synthesis, polymerization and wool coating studies of 3-iso-butylpyrrole and 3-iso-pentylpyrrole. Synthetic Metals, 2006, 156, 1333-1340.	2.1	11
82	Conductive poly(Î±,Ï‰-bis(3-pyrrolyl)alkanes)-coated wool fabrics. Synthetic Metals, 2007, 157, 534-539.	2.1	11
83	Electrothermal Modeling and Analysis of Polypyrrole-Coated Wearable E-Textiles. Materials, 2021, 14, 550.	1.3	11
84	Dynamic Nanohybrid-Polysaccharide Hydrogels for Soft Wearable Strain Sensing. Sensors, 2021, 21, 3574.	2.1	11
85	RF rectifiers for EM power harvesting in a Deep Brain Stimulating device. Australasian Physical and Engineering Sciences in Medicine, 2015, 38, 157-172.	1.4	10
86	An electroactive polymer composite with reinforced bending strength, based on tubular micro carbonized-cellulose. Chemical Engineering Journal, 2018, 334, 1775-1780.	6.6	10
87	System identification and robust tracking of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 075025.	1.8	10
88	Nonlinear large deformation dynamic analysis of electroactive polymer actuators. Smart Structures and Systems, 2015, 15, 1601-1623.	1.9	10
89	A Surface-Stress-Based Microcantilever Aptasensor. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 15-24.	2.7	9
90	A protocol for improving fabrication yield of thin SU-8 microcantilevers for use in an aptasensor. Microsystem Technologies, 2015, 21, 371-380.	1.2	9

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91	Functional Polymers in Sensors and Actuators: Fabrication and Analysis. Polymers, 2020, 12, 1569.	2.0	9
92	Optimization of polymerization conditions and thermal degradation of conducting polypyrrole coated polyester fabrics. Fibers and Polymers, 2012, 13, 153-158.	1.1	8
93	Synthesis and Characterization of Soluble Conducting Polymers. Research Journal of Textile and Apparel, 2010, 14, 45-52.	0.6	7
94	Low Actuation Wideband RF MEMS Shunt Capacitive Switch. Procedia Engineering, 2012, 29, 1292-1297.	1.2	7
95	Surface nanogrooving of carbon microtubes. Scientific Reports, 2018, 8, 9924.	1.6	7
96	Synthesis and polymerization studies of 3-(+) and (â^')-menthyl carboxylate pyrroles. Synthetic Metals, 2007, 157, 924-929.	2.1	6
97	Compact stacked planar inverted-F antenna for passive deep brain stimulation implants. , 2012, 2012, 851-4.		6
98	FT-RAMAN SPECTROSCOPIC STUDY OF THE FORMATION OF POLYENES DURING THERMAL DEGRADATION OF POLY(VINYL CHLORIDE) AND POLY (N-VINYL-2-PYRROLIDONE) BLENDS. Journal of Macromolecular Science - Pure and Applied Chemistry, 2001, 38, 1033-1048.	1.2	5
99	Synthesis and polymerisation of Î±,Ï‰-bis(3-pyrrolyl)alkanes. Tetrahedron, 2007, 63, 4237-4242.	1.0	5
100	Equivalent dynamic thermoviscoelastic modeling of ionic polymers. Polymers for Advanced Technologies, 2015, 26, 385-391.	1.6	5
101	Investigating nanoparticle-substrate interaction in LSPR biosensing using the image-charge theory. , 2012, 2012, 2363-6.		4
102	Change in Dielectric Properties in the Microwave Frequency Region of Polypyrroleâ€“Coated Textiles during Aging. Materials, 2016, 9, 609.	1.3	4
103	Cyclic cryogelation: a novel approach to control the distribution of carbonized cellulose fibres within polymer hydrogels. Cellulose, 2018, 25, 549-558.	2.4	4
104	The Performance of the DES Sensor for Estimating Soil Bulk Density under the Effect of Different Agronomic Practices. Geosciences (Switzerland), 2020, 10, 117.	1.0	4
105	Synthesis, Characterization and Analytical Modelling of Mechanical Behavior of a Conducting Polymer Actuator. Materials Science Forum, 2010, 654-656, 2467-2470.	0.3	2
106	Theoretical Modeling and Experimental Validation of Surface Stress in Thrombin Aptasensor. IEEE Transactions on Nanobioscience, 2014, 13, 384-391.	2.2	2
107	Experimental Investigation of Thermo-Physical Properties of Soil Using Solarisation Technology. American Journal of Applied Sciences, 2017, 14, 649-661.	0.1	2
108	Nanogrooved carbon microtubes for wet threeâ€dimensional printing of conductive composite structures. Polymer International, 2019, 68, 922-928.	1.6	2

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109	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	2
110	4D printing modeling via machine learning. , 2022, , 73-102.		2
111	Design and construction of a micropump for drug delivery applications. , 2010, , .		1
112	A micromechanical biosensor with interdigitated capacitor readout. , 2011, , .		1
113	Design and evaluation of a microcantilever aptasensor. , 2014, , .		1
114	Uniform Micellization: The Key to Enhanced Mechanical Strength and Swelling Efficiency of Chitosan Hydrogel. Fibers and Polymers, 2019, 20, 11-18.	1.1	1
115	Finite Element Methods in Smart Materials and Polymers. Polymers, 2020, 12, 1229.	2.0	1
116	Closed-loop control of 4D-printed hydrogel soft robots. , 2022, , 251-278.		1
117	Electromagnetic field and other physical methods influencing cell growth in mammal cell culture systems. , 2011, , .		0
118	A study on tunable bulk acoustic wave macro resonators. , 2016, , .		0
119	Wet 3â€D printing of epoxy crossâ€linked chitosan/carbon microtube composite. Polymers for Advanced Technologies, 2019, 30, 1732-1737.	1.6	0