

Ionic polymer-metal composites: IV. Industrial and n

Smart Materials and Structures

14, 197-214

DOI: 10.1088/0964-1726/14/1/020

Citation Report

#	ARTICLE	IF	CITATIONS
2	Smart Ionic Polymer Conductor Composite Materials as Multifunctional Distributed Nanosensors, Nanoactuators and Artificial Muscles. , 2005, , 485.		1
3	Design of IPMC actuator-driven valve-less micropump and its flow rate estimation at low Reynolds numbers. Smart Materials and Structures, 2006, 15, 1103-1109.	1.8	67
4	Performance improvement of an ionic polymer-metal composite actuator by parylene thin film coating. Smart Materials and Structures, 2006, 15, 1540-1546.	1.8	58
5	A model for ionic polymer metal composites as sensors. Smart Materials and Structures, 2006, 15, 749-758.	1.8	107
6	Electronic Structure of B2-Type Ti-Ni-Fe Alloys Exhibiting Second-Order-Like Structural Transformation. Materials Transactions, 2006, 47, 594-598.	0.4	10
7	Response characteristics of a viscoelastic gel under the co-action of sound waves and an electric field. Smart Materials and Structures, 2006, 15, 86-92.	1.8	6
8	Modal Reduced Order Model for Vision Sensing of IPMC Actuator. Key Engineering Materials, 2006, 326-328, 1523-1526.	0.4	0
9	Ionic Polymer Conductor Nano-Composites as Distributed Nanosensors, Nanoactuators and Artificial Muscles - A Review. Materials Research Society Symposia Proceedings, 2006, 949, 1.	0.1	0
10	A Novel Polymeric Micropump based on a Multilayered Ionic Polymer-Metal Composite. , 2006, , .		14
11	Modeling of an ionic polymer-metal composite beam on human tissue. Smart Materials and Structures, 2007, 16, S197-S206.	1.8	22
12	Bio-potential Neural Activation of Artificial Muscles. Journal of Intelligent Material Systems and Structures, 2007, 18, 103-109.	1.4	10
13	A hands-on paradigm for EAP education: undergraduates, pre-college students, and beyond. , 2007, , .		8
14	A linear actuator from a single ionic polymer-metal composite (IPMC) strip. , 2007, , .		8
15	A nonlinear model for ionic polymer metal composites as actuators. Smart Materials and Structures, 2007, 16, 1-12.	1.8	237
16	An active vibration control strategy for a flexible link using distributed ionic polymer metal composites. Smart Materials and Structures, 2007, 16, 617-625.	1.8	16
17	Biologically Inspired Path-Controlled Linear Locomotion of Polymer Gel in Air. Journal of Physical Chemistry B, 2007, 111, 941-945.	1.2	12
18	Ionic Polymer-metal Composites for Underwater Operation. Journal of Intelligent Material Systems and Structures, 2007, 18, 123-131.	1.4	55
19	Effects of Humidity on the Performance of Ionic Polymer-Metal Composite Actuators: An Experimental Study of the Back-Relaxation of Actuators. Journal of Physical Chemistry B, 2007, 111, 11915-11920.	1.2	56

#	ARTICLE	IF	CITATIONS
20	A dynamic model for ionic polymer-metal composite sensors. <i>Smart Materials and Structures</i> , 2007, 16, 1477-1488.	1.8	154
21	Fuzzy Control of Ionic Polymer-Metal Composites. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2007, 2007, 4198-201.	0.5	3
22	Ionic polymer-metal composite bending actuator loaded with multi-walled carbon nanotubes. <i>Sensors and Actuators A: Physical</i> , 2007, 133, 117-127.	2.0	81
23	Manufacture and performance of ionic polymer-metal composites. <i>Journal of Bionic Engineering</i> , 2007, 4, 143-149.	2.7	35
24	Polymer artificial muscles. <i>Materials Today</i> , 2007, 10, 30-38.	8.3	787
25	The effects of the potential and polarization time on the performance of ionic polymer metal composite actuators: a control of forward and reverse displacements. <i>Polymers for Advanced Technologies</i> , 2007, 18, 346-352.	1.6	10
26	Electrically induced linear locomotion of polymer gel in air. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2007, 45, 1187-1197.	2.4	7
27	An artificial muscle actuator for biomimetic underwater propulsors. <i>Bioinspiration and Biomimetics</i> , 2007, 2, S31-S41.	1.5	80
28	Modeling and experiment of a muscle-like linear actuator using an ionic polymer-metal composite and its actuation characteristics. <i>Smart Materials and Structures</i> , 2007, 16, 583-588.	1.8	24
29	Integrated IPMC/PVDF sensory actuator and its validation in feedback control. <i>Sensors and Actuators A: Physical</i> , 2008, 144, 231-241.	2.0	85
30	Multiphysics modeling of an IPMC microfluidic control device. <i>Microsystem Technologies</i> , 2008, 14, 871-879.	1.2	22
31	Field-induced bending deformation of various rubber films. <i>Polymers for Advanced Technologies</i> , 2008, 19, 276-280.	1.6	1
32	Ionic polymer-metal composites made from radiation grafted FEP-g-styrene- SO_3H membranes. <i>Journal of Applied Polymer Science</i> , 2008, 110, 2041-2046.	1.3	4
33	A Biomimetic Actuator Based on an Ionic Networking Membrane of Poly(styrene- <i>co</i> -maleimide)-incorporated Poly(vinylidene fluoride). <i>Advanced Functional Materials</i> , 2008, 18, 1290-1298.	7.8	126
34	A scalable model for trilayer conjugated polymer actuators and its experimental validation. <i>Materials Science and Engineering C</i> , 2008, 28, 421-428.	3.8	57
35	Design, fabrication, and experimental characterization of a flap valve IPMC micropump with a flexibly supported diaphragm. <i>Sensors and Actuators A: Physical</i> , 2008, 141, 640-648.	2.0	95
36	A bio-inspired device to detect equilibrium variations using IPMCs and ferrofluids. <i>Sensors and Actuators A: Physical</i> , 2008, 144, 242-250.	2.0	14
37	Electrode reactions in Cu-Pt coated ionic polymer actuators. <i>Sensors and Actuators B: Chemical</i> , 2008, 131, 340-346.	4.0	40

#	ARTICLE	IF	CITATIONS
38	The effect of IPMC parameters in electromechanical coefficient based on equivalent beam theory. , 2008, , .		3
39	Ionic polymeric conductor nanocomposites (IPCNCs) as distributed nanosensors and nanoactuators. Bioinspiration and Biomimetics, 2008, 3, 035003.	1.5	10
40	Modeling of an ionic polymer-metal composite ring. Smart Materials and Structures, 2008, 17, 015023.	1.8	8
41	Characterization of the harvesting capabilities of an ionic polymer metal composite device. Smart Materials and Structures, 2008, 17, 015009.	1.8	90
42	A Control-Oriented and Physics-Based Model for Ionic Polymer-Metal Composite Actuators. IEEE/ASME Transactions on Mechatronics, 2008, 13, 519-529.	3.7	215
43	Robust Adaptive Control of Conjugated Polymer Actuators. IEEE Transactions on Control Systems Technology, 2008, 16, 600-612.	3.2	77
44	A model of ionic polymer-metal composite actuators in underwater operations. Smart Materials and Structures, 2008, 17, 025029.	1.8	100
45	Model reference adaptive control for an ionic polymer metal composite in underwater applications. Smart Materials and Structures, 2008, 17, 045020.	1.8	33
46	Beyond Nafion: Charged Macromolecules Tailored for Performance as Ionic Polymer Transducers. Macromolecules, 2008, 41, 7765-7775.	2.2	124
47	A mixture theory framework for modeling the mechanical actuation of ionic polymer metal composites. Smart Materials and Structures, 2008, 17, 045010.	1.8	72
48	Active Vibration Control Strategy for a Single-Link Flexible Manipulator Using Ionic Polymer Metal Composite. Journal of Intelligent Material Systems and Structures, 2008, 19, 487-496.	1.4	13
49	Modeling IPMC Actuators for Model Reference Motion Control. , 2008, , .		1
50	Optimization of IPMC Actuator Conversion Efficiency. Advances in Science and Technology, 2008, 61, 131-140.	0.2	1
51	Fabrication and actuation of electro-active polymer actuator based on PSMI-incorporated PVDF. Smart Materials and Structures, 2008, 17, 045002.	1.8	38
52	A nonlinear, control-oriented model for ionic polymer-metal composite actuators. , 2008, , .		1
53	All organic actuation and sensing devices. , 2008, , .		11
54	Palladium buffer-layered high performance ionic polymer-metal composites. Smart Materials and Structures, 2008, 17, 035011.	1.8	58
55	A resonant force sensor based on ionic polymer metal composites. Smart Materials and Structures, 2008, 17, 015014.	1.8	49

#	ARTICLE	IF	CITATIONS
56	Modeling and control with hysteresis and creep of ionic polymer-metal composite (IPMC) actuators. , 2008, , .		7
57	Application of feedforward dynamics compensation in ionic-polymer metal composite actuators. Proceedings of SPIE, 2008, , .	0.8	0
58	Ionic polymer-metal composites (IPMCs) with bimetallic Pt-Pd electrode. Proceedings of SPIE, 2008, , .	0.8	3
59	Design of integrated IPMC/PVDF sensory actuator and its application to feedback control. Proceedings of SPIE, 2008, , .	0.8	1
60	Self healing properties of Cu-Pt coated ionic polymer actuators. , 2008, , .		0
61	IPMC paints. Proceedings of SPIE, 2008, , .	0.8	1
62	Novel electro-active polymer actuator based on ionic networking membrane of PSMI-incorporated PVDF. , 2008, , .		0
63	Electroactive Polymer Actuator for Lens-Drive Unit in Auto-Focus Compact Camera Module. ETRI Journal, 2009, 31, 695-702.	1.2	27
64	Adaptive inverse control based on the creep property of IPMC. , 2009, , .		2
65	IPMC propelled biomimetics robotic fish energy consumption model construction and its application to energy-saving control. , 2009, , .		5
66	Pseudo-rigid Body Modeling of IPMC for a Partially Compliant Four-bar Mechanism for Work Volume Generation. Journal of Intelligent Material Systems and Structures, 2009, 20, 51-61.	1.4	20
67	Robust adaptive control with leakage modification for a nonlinear model of Ionic Polymer Metal Composites (IPMC). , 2009, , .		3
68	Ionic polymer metal-composite (IPMC) actuators: Augmentation of their actuation force capability. , 2009, , .		5
69	Frequency-weighted feedforward control for dynamic compensation in ionic polymer-metal composite actuators. Smart Materials and Structures, 2009, 18, 125016.	1.8	30
70	Adaptive neuro-fuzzy control of ionic polymer metal composite actuators. Smart Materials and Structures, 2009, 18, 065016.	1.8	32
71	Quasi-Static Tip Positioning of Multi-Segmented IPMC for Micro-Manipulation following Euler-Bernoulli and Pseudo-Rigid Body Model. Journal of Reinforced Plastics and Composites, 2009, 28, 743-764.	1.6	8
72	Characterization of IPMC as Passive and Active Damper as an Alternative Novel Smart Actuator. Journal of Reinforced Plastics and Composites, 2009, 28, 183-200.	1.6	6
73	Modelling and analysis of an ionic polymer-metal composite (IPMC)-rocker-based four-bar for variable path generation using the Euler-Bernoulli approach. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2009, 223, 2405-2411.	1.1	3

#	ARTICLE	IF	CITATIONS
74	A Distributed Model of Ionomeric Polymer Metal Composite. Journal of Intelligent Material Systems and Structures, 2009, 20, 1711-1724.	1.4	48
75	Estimation of bending resistance of Ionic Polymer Metal Composite (IPMC) actuator following variable parameters pseudo-rigid body model. Materials Letters, 2009, 63, 745-747.	1.3	12
76	A Camera Based Method for the Measurement of Motion Parameters of IPMC Actuators. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 2626-2633.	2.4	15
77	All-Organic Motion Sensors: Electromechanical Modeling. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 3731-3738.	2.4	31
78	Polymer actuator based on PVA/PAMPS ionic membrane: Optimization of ionic transport properties. Sensors and Actuators A: Physical, 2009, 155, 152-162.	2.0	49
79	Hybrids perfluorosulfonic acid ionomer and silicon oxide membrane for application in ion-exchange polymer-metal composite actuators. Science in China Series D: Earth Sciences, 2009, 52, 3061-3070.	0.9	18
80	Performance of ionic polymer-metal composite (IPMC) with different surface roughening methods. Frontiers of Mechanical Engineering in China, 2009, 4, 430-435.	0.4	13
81	Modeling of bending behavior of IPMC beams using concentrated ion boundary layer. International Journal of Precision Engineering and Manufacturing, 2009, 10, 131-139.	1.1	19
82	Selective growth of platinum electrodes for MDOF IPMC actuators. Thin Solid Films, 2009, 517, 5288-5292.	0.8	38
83	Novel biomimetic actuator based on SPEEK and PVDF. Sensors and Actuators B: Chemical, 2009, 143, 357-364.	4.0	90
84	An electromechanical model for sensing and actuation of ionic polymer metal composites. Smart Materials and Structures, 2009, 18, 015016.	1.8	80
85	A biomimetic jellyfish robot based on ionic polymer metal composite actuators. Smart Materials and Structures, 2009, 18, 085002.	1.8	259
86	Carbon Nanotube Enhanced Gripping in Polymer-Based Actuators. Journal of Physical Chemistry C, 2009, 113, 7223-7226.	1.5	24
87	A nonlinear, control-oriented model for ionic polymer-metal composite actuators. Smart Materials and Structures, 2009, 18, 055008.	1.8	63
88	A membrane actuator based on an ionic polymer network and carbon nanotubes: the synergy of ionic transport and mechanical properties. Smart Materials and Structures, 2009, 18, 085016.	1.8	20
89	Nafion®-based polymer actuators with ionic liquids as solvent incorporated at room temperature. Journal of Applied Physics, 2009, 106, .	1.1	44
90	Nanoporous carbon-based electrodes for high strain ionomeric bending actuators. Smart Materials and Structures, 2009, 18, 095028.	1.8	72
91	A rotary joint sensor using ionic polymer metallic composite. Proceedings of SPIE, 2009, , .	0.8	5

#	ARTICLE	IF	CITATIONS
92	Position control of ionic polymer metal composite actuator based on neuro-fuzzy system. Proceedings of SPIE, 2009, , .	0.8	1
94	Sectored-electrode IPMC actuator for bending and twisting motion. Proceedings of SPIE, 2010, , .	0.8	10
95	Ionic polymer-metal composite material as a diaphragm for micropump devices. Sensors and Actuators A: Physical, 2010, 161, 225-233.	2.0	45
96	“Equivalent” Electromechanical Coefficient for IPMC Actuator Design Based on Equivalent Bimorph Beam Theory. Experimental Mechanics, 2010, 50, 1157-1168.	1.1	9
97	Static and Dynamic Characterization of the Temperature and Humidity Influence on IPMC Actuators. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 893-908.	2.4	60
98	A Resonant Vibrating Tactile Probe for Biomedical Applications Based on IPMC. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 1453-1462.	2.4	43
99	Biocompatible Composite Actuator: A Supramolecular Structure Consisting of the Biopolymer Chitosan, Carbon Nanotubes, and an Ionic Liquid. Advanced Materials, 2010, 22, 3745-3748.	11.1	114
100	Advances in Dielectric Elastomers for Actuators and Artificial Muscles. Macromolecular Rapid Communications, 2010, 31, 10-36.	2.0	1,245
101	Monolithic fabrication of ionic polymer-metal composite actuators capable of complex deformation. Sensors and Actuators A: Physical, 2010, 157, 246-257.	2.0	81
102	Development of sensing/actuating ionic polymer-metal composite (IPMC) for active guide-wire system. Sensors and Actuators A: Physical, 2010, 158, 1-9.	2.0	44
103	Electroactive artificial muscle based on crosslinked PVA/SPTES. Sensors and Actuators B: Chemical, 2010, 150, 57-64.	4.0	43
104	Electric-stimuli-responsive bending actuator based on sulfonated polyetherimide. Sensors and Actuators B: Chemical, 2010, 151, 198-204.	4.0	69
105	A review of recent research on mechanics of multifunctional composite materials and structures. Composite Structures, 2010, 92, 2793-2810.	3.1	927
106	Oligomeric A ₂ + B ₃ synthesis of highly branched polysulfone ionomers: novel candidates for ionic polymer transducers. Polymer International, 2010, 59, 25-35.	1.6	18
107	High Temperature Capable Ionic Polymer-Metal Composite Capacitors and Power Storage Systems. , 2010, , .		0
108	Carbon nanotube nanocomposites for biomedical actuators. , 2010, , 832-861.		2
109	Characteristics and Elastic Modulus Evaluation of Pd-Nafion Ionic Polymer-Metal Composites. Advanced Materials Research, 2010, 97-101, 1590-1594.	0.3	5
110	Evaluation of dehydration loss and investigation of its effect on bending response of segmented IPMC actuators. International Journal of Smart and Nano Materials, 2010, 1, 187-200.	2.0	2

#	ARTICLE	IF	CITATIONS
111	Tracking control of oscillatory motion in IPMC actuators for underwater applications. , 2010, , .		2
112	Control-oriented modeling of Ionic Polymer Metal Composites for biomimetic underwater propulsion. , 2010, , .		5
113	IPMC based micro gripper for miniature part handling. , 2010, , .		4
114	All polymeric transducers for energy harvesting. , 2010, , .		1
115	Temporally-resolved hydrodynamics in the vicinity of a vibrating ionic polymer metal composite. Journal of Applied Physics, 2010, 107, .	1.1	28
116	A multiphasic model for the volume change of polyelectrolyte hydrogels. Journal of Chemical Physics, 2010, 133, 114904.	1.2	31
117	Towards self-powering touch-sensitive OLED systems. , 2010, , .		1
118	Modeling and control of IPMC for micro-manipulation. , 2010, , .		1
119	Temperature-dependent ionic polymer-metal composite (IPMC) sensing dynamics: Modeling and inverse compensation. , 2010, , .		3
120	Derivation of Transfer Function of an IPMC Actuator Based on Pseudo-Rigid Body Model. Journal of Reinforced Plastics and Composites, 2010, 29, 372-390.	1.6	1
121	Derivation of Transfer Function of an IPMC Actuator Based on Pseudo-Rigid Body Model. Journal of Reinforced Plastics and Composites, 2010, 29, 372-390.	1.6	5
122	Identification for Piezoelectric Smart Materials based on Neural Networks method. , 2010, , .		0
123	MOGA application feasibility research on ocean petroleum exploration platform seawater environment supervision. , 2010, , .		2
124	Tridimensional ionic polymer metal composites: optimization of the manufacturing techniques. Smart Materials and Structures, 2010, 19, 055002.	1.8	21
125	Modeling and adaptive inverse control of hysteresis and creep in ionic polymer-metal composite actuators. Smart Materials and Structures, 2010, 19, 025014.	1.8	42
126	Identification of a nonlinear black-box model for a self-sensing polymer metal composite actuator. Smart Materials and Structures, 2010, 19, 085015.	1.8	20
127	Performance enhancement of an ionic polymer metal composite actuator using a microcellular foaming process. Smart Materials and Structures, 2010, 19, 065029.	1.8	10
128	Enzymatically Triggered Actuation of Miniaturized Tools. Journal of the American Chemical Society, 2010, 132, 16314-16317.	6.6	112

#	ARTICLE	IF	CITATIONS
129	Enhanced Electromechanical Performance of Graphite Oxide-Nafion Nanocomposite Actuator. Journal of Physical Chemistry C, 2010, 114, 9659-9663.	1.5	78
130	Free-Loocomotion of Underwater Vehicles Actuated by Ionic Polymer Metal Composites. IEEE/ASME Transactions on Mechatronics, 2010, 15, 603-614.	3.7	289
131	A highly porous nafion membrane templated from polyoxometalates-based supramolecule composite for ion-exchange polymer-metal composite actuator. Journal of Materials Chemistry, 2010, 20, 10159.	6.7	50
132	Comparison of electroactive polymers for energy scavenging applications. Smart Materials and Structures, 2010, 19, 085012.	1.8	90
133	Ionic polymer metal composites with nanoporous carbon electrodes. , 2010, , .		3
134	Energy harvesting from base excitation of ionic polymer metal composites in fluid environments. Smart Materials and Structures, 2010, 19, 015003.	1.8	181
135	A Study on the Effects of Kalman Filter on Performance of IPMC-Based Active Vibration Control Scheme. IEEE Transactions on Control Systems Technology, 2010, , .	3.2	5
136	Towards Self-Powering Touch/Flex-Sensitive OLED Systems. IEEE Sensors Journal, 2011, 11, 2771-2779.	2.4	7
137	Electroactive polymer actuators as artificial muscles: are they ready for bioinspired applications?. Bioinspiration and Biomimetics, 2011, 6, 045006.	1.5	173
138	Ionomer Composite Thin Film Capacitors. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2011, 1, 1305-1310.	1.4	4
139	NMR study on mechanisms of ionic polymer-metal composites deformation with water content. Europhysics Letters, 2011, 96, 27005.	0.7	17
140	A helical ionic polymer-metal composite actuator for radius control of biomedical active stents. Smart Materials and Structures, 2011, 20, 035008.	1.8	30
141	Effect of hydrostatic pressure on martensitic transformation in a ferromagnetic shape memory alloy Ni ₂ MnGa. Journal of Alloys and Compounds, 2011, 509, 7840-7843.	2.8	9
142	Development and Force/Position Control of a New Hybrid Thermo-Piezoelectric MicroGripper Dedicated to Micromanipulation Tasks. IEEE Transactions on Automation Science and Engineering, 2011, 8, 824-834.	3.4	124
143	Real-time compensation control for hysteresis and creep in IPMC actuators. International Journal of Modelling, Identification and Control, 2011, 12, 182.	0.2	5
144	Characterization of Sectored-Electrode IPMC-Based Propulsors for Underwater Locomotion. , 2011, , .		4
145	Two IPMC Fingers Based Micro Gripper for Handling. International Journal of Advanced Robotic Systems, 2011, 8, 13.	1.3	29
146	Nonlinear strain-electric field relationship of carbon nanotube buckypaper/Nafion actuators. Sensors and Actuators A: Physical, 2011, 170, 164-171.	2.0	31

#	ARTICLE	IF	CITATIONS
147	Characterization of the Temperature and Humidity Influence on Ionic Polymerâ€“Metal Composites as Sensors. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 2951-2959.	2.4	32
148	Modeling and Inverse Compensation of Temperature-Dependent Ionic Polymerâ€“Metal Composite Sensor Dynamics. IEEE/ASME Transactions on Mechatronics, 2011, 16, 80-89.	3.7	60
149	The use of composite materials in modern orthopaedic medicine and prosthetic devices: A review. Composites Science and Technology, 2011, 71, 1791-1803.	3.8	232
150	Micromachined optical fiber enclosed 4-electrode IPMC actuator with multidirectional control ability for biomedical application. Biomedical Microdevices, 2011, 13, 169-177.	1.4	50
151	Experimental identification of IPMC actuator parameters through incorporation of linear and nonlinear least squares methods. Sensors and Actuators A: Physical, 2011, 168, 140-148.	2.0	41
152	Performance enhancement of ionic polymer-metal composite actuators based on radiation-grafted Poly(ethylene-co-tetrafluoroethylene). Macromolecular Research, 2011, 19, 1014-1021.	1.0	13
153	Force optimization of ionic polymer metal composite actuators by an orthogonal array method. Science Bulletin, 2011, 56, 2061-2070.	1.7	8
154	New ionic polymerâ€“metal composite actuators based on PVDF/PSSA/PVP polymer blend membrane. Polymer Engineering and Science, 2011, 51, 1730-1741.	1.5	28
155	Experimental study and model analysis of the performance of IPMC Membranes with various thickness. Journal of Bionic Engineering, 2011, 8, 77-85.	2.7	52
156	Electroâ€“active Polymer Actuator Based on Sulfonated Polyimide with Highly Conductive Silver Electrodes Via Selfâ€“metallization. Macromolecular Rapid Communications, 2011, 32, 1583-1587.	2.0	23
157	Controlling the deposition of Pt nanoparticles within the surface region of Nafion. Journal of Membrane Science, 2011, 376, 162-169.	4.1	19
158	Position control of an Ionic Polymer Metal Composite actuated rotary joint using Iterative Feedback Tuning. Mechatronics, 2011, 21, 315-328.	2.0	35
159	Sulfonated polystyrene-based ionic polymerâ€“metal composite (IPMC) actuator. Journal of Industrial and Engineering Chemistry, 2011, 17, 49-55.	2.9	47
160	A bio-inspired multi degree of freedom actuator based on a novel cylindrical ionic polymer-metal composite material. , 2011, , .		10
161	Dynamic mechanics and electric field analysis of an ICPF actuated fish-like underwater microrobot. , 2011, , .		9
162	Thermodynamically based multiphysic modeling of ionic polymer metal composites. Journal of Intelligent Material Systems and Structures, 2011, 22, 1887-1897.	1.4	66
163	Adaptive control of ionic polymerâ€“metal composite in air and under water using a modified direct self-tuning regulator embedded with integral action. Smart Materials and Structures, 2011, 20, 105016.	1.8	6
164	Fabrication and reliable implementation of an ionic polymerâ€“metal composite (IPMC) biaxial bending actuator. Smart Materials and Structures, 2011, 20, 105026.	1.8	21

#	ARTICLE	IF	CITATIONS
165	A Novel Design of Ionic Polymer-Metal Composites (IPMCs) Actuator Based on Poly(MMA-co-AA). Advanced Materials Research, 0, 321, 151-156.	0.3	0
166	Millimeter thick ionic polymer membrane-based IPMCs with bimetallic Pd-Pt electrodes. , 2011, , .		2
167	Design and Verification of a Non-linear Black-Box Model for Ionic Polymer Metal Composite Actuators. Journal of Intelligent Material Systems and Structures, 2011, 22, 253-269.	1.4	17
168	Dynamic curvature sensing employing ionic-polymerâ€metal composite sensors. Smart Materials and Structures, 2011, 20, 094011.	1.8	100
169	Linear and bending actuation of bucky gel. Proceedings of SPIE, 2011, , .	0.8	0
170	Dynamic model of ion and water transport in ionic polymer-metal composites. AIP Advances, 2011, 1, 040702.	0.6	31
171	Underwater source localization using an IPMC-based artificial lateral line. , 2011, , .		30
172	Electromechanical model for a self-sensing ionic polymerâ€metal composite actuating device with patterned surface electrodes. Smart Materials and Structures, 2011, 20, 124001.	1.8	24
174	Dynamic model of a cylindrical ionic polymer-metal composite actuator. , 2011, , .		4
175	MULTIPHYSICS MODELING OF SELF-OSCILLATIONS OF IONIC POLYMER GEL ACTUATORS. International Journal of Applied Mechanics, 2011, 03, 355-363.	1.3	6
176	Fabrication and Thermo-Mechanical Analysis of Pure Silver-Electrode Ionic Polymer-Metal Composite (IPMC) Actuator. Applied Mechanics and Materials, 0, 110-116, 1199-1206.	0.2	1
177	Electromechanical dynamics and optimization of pectoral finâ€based ionic polymerâ€metal composite underwater propulsor. Journal of Intelligent Material Systems and Structures, 2012, 23, 1069-1082.	1.4	9
178	Multiple path generation by a flexible four-bar mechanism using ionic polymer metal composite. Journal of Intelligent Material Systems and Structures, 2012, 23, 1379-1393.	1.4	7
179	Microassembly by an IPMC-based flexible 4-bar mechanism. Smart Materials and Structures, 2012, 21, 075004.	1.8	14
180	A structure model for Ionic Polymer-Metal Composite (IPMC). , 2012, , .		2
181	Efficient active actuation to imitate locomotion of gecko's toes using an ionic polymer-metal composite actuator enhanced by carbon nanotubes. Applied Physics Letters, 2012, 101, .	1.5	16
182	A seismic sensor based on IPMC combined with ferrofluids. , 2012, , .		2
183	A multi-physics model of an IPMC actuator in the electrical, chemical, mechanical and thermal domains. , 2012, , .		3

#	ARTICLE	IF	CITATIONS
184	SYNTHESIS, EXPERIMENTAL CHARACTERIZATION AND PARAMETRIC IDENTIFICATION OF IONIC-POLYMER METAL COMPOSITE BENDING ACTUATORS. International Journal of Computational Materials Science and Engineering, 2012, 01, 1250012.	0.5	0
185	Bias-dependent impedance model for ionic polymer-metal composites. Journal of Applied Physics, 2012, 111, .	1.1	8
186	Effect of Thermal Treatment on Preshaped Ionic Polymer Metal Composite (IPMC) Actuators. Journal of Macromolecular Science - Physics, 2012, 51, 1731-1741.	0.4	0
187	Computational analysis of blood clot dissolution using a vibrating catheter tip. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2012, 226, 337-340.	1.0	0
188	Nonlinear dynamics of curved IPMC actuators undergoing electrically driven large deformations. International Journal of Smart and Nano Materials, 2012, 3, 214-225.	2.0	2
189	Introduction to the themed articles on ionic polymer-metal composites. International Journal of Smart and Nano Materials, 2012, 3, 183-187.	2.0	1
190	Development of Dielectric Elastomer Actuators - Part I: Performance of Polyurethane Film Actuators with Dangling Chains and Network Structures. Advanced Materials Research, 2012, 557-559, 1852-1856.	0.3	3
191	Multi-physical modeling for electro-transport and deformation of ionic polymer metal composites. , 2012, , .		2
192	Characterization of longitudinal tensile force of millimeter thick IPMCs. Proceedings of SPIE, 2012, , .	0.8	1
194	Chitosan/IPMC Artificial Muscles. Advances in Science and Technology, 2012, 79, 32-40.	0.2	5
195	IP ² C sensor modeling. , 2012, , .		0
196	Wireless Powering of Ionic Polymer Metal Composites Toward Hovering Microswimmers. IEEE/ASME Transactions on Mechatronics, 2012, 17, 924-935.	3.7	36
197	Bio-inspired robotic manta ray powered by ionic polymer-metal composite artificial muscles. International Journal of Smart and Nano Materials, 2012, 3, 296-308.	2.0	78
198	Modeling and open-loop control of IPMC actuators under changing ambient temperature. Smart Materials and Structures, 2012, 21, 065014.	1.8	15
199	A biomimetic underwater microrobot with multifunctional locomotion. Robotics and Autonomous Systems, 2012, 60, 1472-1483.	3.0	53
200	Dynamic mechanical, electrical, and actuation properties of ionic polymer metal composites using PVDF/PVP/PSSA blend membranes. Materials Chemistry and Physics, 2012, 135, 928-937.	2.0	48
201	On the thrust performance of an ionic polymer-metal composite actuated robotic fish: Modeling and experimental investigation. Science China Technological Sciences, 2012, 55, 3359-3369.	2.0	23
202	Carbon nanotube-graphene composite for ionic polymer actuators. Smart Materials and Structures, 2012, 21, 055012.	1.8	38

#	ARTICLE	IF	CITATIONS
203	Manufacturing process and electrode properties of palladium-electroded ionic polymer-metal composite. <i>Smart Materials and Structures</i> , 2012, 21, 065018.	1.8	49
204	Ionic Polymer-Metal Composite Artificial Muscles in Bio-Inspired Engineering Research: Underwater Propulsion. , 2012, , .		3
205	Design and fabrication of preshaped ionic polymer metal composite gripper by thermal treatment process. <i>Polymer Engineering and Science</i> , 2012, 52, 1991-1997.	1.5	5
206	Highly Stable Air Working Bimorph Actuator Based on a Graphene Nanosheet/Carbon Nanotube Hybrid Electrode. <i>Advanced Materials</i> , 2012, 24, 4317-4321.	11.1	125
207	Novel biocomposites from poly(trimethylene terephthalate) and recycled carbon fibres. <i>Journal of Materials Science</i> , 2012, 47, 6056-6065.	1.7	10
208	Preparation and experimental investigation of thermo-electro-mechanical behavior of Ag-IPMC actuator. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 777-782.	1.1	11
209	Impact of carbon nanotube additives on carbide-derived carbon-based electroactive polymer actuators. <i>Carbon</i> , 2012, 50, 4351-4358.	5.4	38
210	High actuation response of PVDF/PVP/PSSA based ionic polymer metal composites actuator. <i>Sensors and Actuators B: Chemical</i> , 2012, 161, 460-470.	4.0	79
211	Integrated Sensing for IPMC Actuators Using Strain Gages for Underwater Applications. <i>IEEE/ASME Transactions on Mechatronics</i> , 2012, 17, 345-355.	3.7	60
212	Enhanced Biomimetic Performance of Ionic Polymer-metal Composite Actuators Prepared with Nanostructured Block Ionomers. <i>Macromolecular Rapid Communications</i> , 2012, 33, 61-68.	2.0	44
213	Adaptive feedforward control of ionic polymer metal composites with disturbance cancellation. <i>Journal of Mechanical Science and Technology</i> , 2012, 26, 205-212.	0.7	9
214	A review on IPMC material as actuators and sensors: Fabrications, characteristics and applications. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 141-163.	1.1	199
215	A New Biodegradable Injection Moulded Bioplastic from Modified Soy Meal and Poly (butylene) Terephthalate. <i>Environment</i> , 2013, 21, 615-622.	2.4	25
216	Nonlinear sensing of ionic polymer metal composites. <i>Continuum Mechanics and Thermodynamics</i> , 2013, 25, 273-310.	1.4	71
217	Model study of IPMC beam electroactive response based on root deformation. <i>Journal Wuhan University of Technology, Materials Science Edition</i> , 2013, 28, 31-39.	0.4	2
218	Curled actuated shapes of ionic polymer metal composites strips. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	28
219	Analytical dynamic modeling of a cantilever IPMC actuator based on a distributed electrical circuit. <i>Smart Materials and Structures</i> , 2013, 22, 055033.	1.8	23
220	Strain phenomenon in carbon nanotube buckpaper actuator: Experiments and modeling. <i>Sensors and Actuators A: Physical</i> , 2013, 194, 252-258.	2.0	14

#	ARTICLE	IF	CITATIONS
221	Kinematically stable bipedal locomotion using ionic polymer-metal composite actuators. <i>Smart Materials and Structures</i> , 2013, 22, 085021.	1.8	2
222	Experimental investigation of the streaming potential hypothesis for ionic polymer transducers in sensing. <i>Smart Materials and Structures</i> , 2013, 22, 035020.	1.8	11
223	Advances in Energy Harvesting Methods. , 2013, , .		191
224	Investigation on a Linear Actuator Using an Ionic Polymer-Metal Composite. <i>Applied Mechanics and Materials</i> , 0, 461, 358-363.	0.2	1
225	Multi-input identification of IP2C actuators. , 2013, , .		2
226	Electroactuation with single charge carrier ionomers: the roles of electrostatic pressure and steric strain. <i>Soft Matter</i> , 2013, 9, 3767.	1.2	21
227	Fuzzy control of a conjugated polymer actuator. , 2013, , .		2
228	An optimized frequency-dependent multiphysics model for an ionic polymer-metal composite actuator with ethylene glycol as the solvent. <i>Smart Materials and Structures</i> , 2013, 22, 125016.	1.8	12
229	Microstructural dielectric elastomer actuator with uniaxial in-plane contraction. <i>Journal of Intelligent Material Systems and Structures</i> , 2013, 24, 347-356.	1.4	3
230	Electromechanical behaviour of Nafion-based soft actuators. <i>Journal of Materials Chemistry B</i> , 2013, 1, 2502.	2.9	23
231	Swimming like algae: biomimetic soft artificial cilia. <i>Journal of the Royal Society Interface</i> , 2013, 10, 20120666.	1.5	68
232	Active Disturbance Rejection Control for Precise Position Tracking of Ionic Polymer-Metal Composite Actuators. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013, 18, 86-95.	3.7	63
233	Energy Harvesting from Fluids Using Ionic Polymer Metal Composites. , 2013, , 221-239.		9
234	Redox-Generated Mechanical Motion of a Supramolecular Polymeric Actuator Based on Host-Guest Interactions. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 5731-5735.	7.2	199
235	Recent advances in ionic polymer-metal composite actuators and their modeling and applications. <i>Progress in Polymer Science</i> , 2013, 38, 1037-1066.	11.8	336
236	A Seismic Sensor Based on IPMC Combined With Ferrofluids. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2013, 62, 1292-1298.	2.4	12
237	Graphene-Stabilized Silver Nanoparticle Electrochemical Electrode for Actuator Design. <i>Advanced Materials</i> , 2013, 25, 1270-1274.	11.1	130
238	Derivation of finite element formulation for electrochemical governing equations of ionic polymer actuators. <i>Journal of Mechanical Science and Technology</i> , 2013, 27, 69-75.	0.7	4

#	ARTICLE	IF	CITATIONS
239	A thermodynamic model for ionic polymer-metal composites and finite volume-finite element solution. Composite Structures, 2013, 106, 461-469.	3.1	4
240	$\{m\{IP\}^{\{2\}}\{m\ C\}$ Sensor Modeling. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1284-1291.	2.4	4
241	The effects of electrode surface morphology on the actuation performance of IPMC. , 2013, , .		4
242	Sectoried Tube-Shaped Ionic Polymer-Metal Composite Actuator With Integrated Sensor. , 2013, , .		3
243	Multiphysics of ionic polymer-metal composite actuator. Journal of Applied Physics, 2013, 114, .	1.1	54
244	Muscular Biopolymers. , 2013, , 139-160.		2
245	A New Kind of Electro-Active Nano-Composite Actors Based on SSMA-Reinforced Nafion. Applied Mechanics and Materials, 0, 461, 323-329.	0.2	0
246	Laboratory Research on Energy Harvesting of Ionic Polymer Metal Composite. Solid State Phenomena, 0, 208, 134-139.	0.3	1
247	Kirigami artificial muscles with complex biologically inspired morphologies. Smart Materials and Structures, 2013, 22, 014004.	1.8	50
248	Preparation and Characterization of SPS-PMHS Hybrid Ionic Polymer-Metal Composites Studies. Applied Mechanics and Materials, 0, 461, 402-406.	0.2	0
249	Investigation and evaluation of effect of dehydration on vibration characteristics of silver-electroded ionic polymer-metal composite actuator. Journal of Intelligent Material Systems and Structures, 2013, 24, 1197-1212.	1.4	6
250	How does clamping pressure influence actuation performance of soft ionic polymer-metal composites?. Smart Materials and Structures, 2013, 22, 025014.	1.8	13
251	Bucky gel actuator displacement: experiment and model. Smart Materials and Structures, 2013, 22, 025034.	1.8	8
252	Physical interpretation of deformation evolution with water content of ionic polymer-metal composite actuator. Journal of Applied Physics, 2013, 114, .	1.1	31
253	SELF-CONSISTENT MEAN FIELD MODEL OF HYDROGEL AND ITS NUMERICAL SIMULATION. Journal of Theoretical and Computational Chemistry, 2013, 12, 1350048.	1.8	12
254	Modelling and Fuzzy Control of an Efficient Swimming Ionic Polymer-Metal Composite Actuated Robot. International Journal of Advanced Robotic Systems, 2013, 10, 350.	1.3	21
255	Nonlinear Learning Control of Ionic Polymer Metal Composites. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 233-238.	0.4	4
256	A comparison between robust and parameterized controllers for fractional order modeled Ionic Polymeric Metal Composite actuator* *This work has been supported by the Italian Ministry of University and Research (MIUR) under PRIN projects "Non integer order systems in modeling and control", grant no. 2009F4NZJP.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 905-910.	0.4	1

#	ARTICLE	IF	CITATIONS
258	Historical Developments and Potential Applications: Smart Materials and Structures. , 0, , 1-112.		0
259	Experimental Characterization of Ionic Polymer Metal Composite as a Novel Fractional Order Element. Advances in Mathematical Physics, 2013, 2013, 1-10.	0.4	34
260	An Enhanced Fractional Order Model of Ionic Polymer-Metal Composites Actuator. Advances in Mathematical Physics, 2013, 2013, 1-6.	0.4	10
261	Analysis on oscillating actuator frequency influence of the fluid flow characterization for 2D contractile water jet thruster. IOP Conference Series: Materials Science and Engineering, 2013, 50, 012010.	0.3	0
262	Microfabricated Tactile Sensors for Biomedical Applications: A Review. Biosensors, 2014, 4, 422-448.	2.3	88
263	Self-Assembling Swimming Smart Boxes. , 2014, , .		1
264	Electrode of ionic polymer-metal composite sensors: modeling and experimental investigation. Proceedings of SPIE, 2014, , .	0.8	0
265	Inverse hysteresis modeling and nonlinear compensation of ionic polymer metal composite sensors. , 2014, , .		1
266	Effects of electrode surface structure on the mechano-electrical transduction of IPMC sensors. Proceedings of SPIE, 2014, , .	0.8	7
267	Investigation of spray-coated silver-microparticle electrodes for ionic electroactive polymer actuators. Journal of Applied Physics, 2014, 115, .	1.1	16
268	Modeling and simulation of a new bioinspired muscle actuator. , 2014, , .		3
269	Comparative experimental investigation on the actuation mechanisms of ionic polymer-metal composites with different backbones and water contents. Journal of Applied Physics, 2014, 115, 124903.	1.1	33
270	IPMC-Actuated Compliant Mechanism-Based Multifingered Multifingered Microgripper. Mechanics Based Design of Structures and Machines, 2014, 42, 312-325.	3.4	22
271	Design and control of two fingered compliant gripper for micro gripping. , 2014, , .		6
272	Redox-Responsive Macroscopic Gel Assembly Based on Discrete Dual Interactions. Angewandte Chemie - International Edition, 2014, 53, 3617-3621.	7.2	115
273	Grasshopper Knee Joint - Inverse Kinematic Modeling and Simulation of Ionic Polymer Metal Composites (IPMC) Actuators. Journal of Biomimetics, Biomaterials, and Tissue Engineering, 0, 19, 1-11.	0.7	7
274	Effects of preparation steps on the physical parameters and electromechanical properties of IPMC actuators. Smart Materials and Structures, 2014, 23, 125015.	1.8	29
275	Multi degree of freedom IPMC sensor. Proceedings of SPIE, 2014, , .	0.8	1

#	ARTICLE	IF	CITATIONS
276	Adaptive Neuro-Fuzzy Control for Ionic Polymer Metal Composite Actuators. <i>Advances in Intelligent Systems and Computing</i> , 2014, , 939-947.	0.5	2
277	Deflection Analysis of Ionic Polymer Metal Composites (IPMC) Actuators for Bionic Joints. <i>Applied Mechanics and Materials</i> , 0, 627, 251-253.	0.2	2
278	Forward Kinematic Modeling and Simulation of Ionic Polymer Metal Composites (IPMC) Actuators for Bionic Knee Joint. <i>Advanced Materials Research</i> , 0, 889-890, 938-941.	0.3	4
279	Intelligent Controller Design for Nonlinear Piezoelectric Smart Actuators. <i>Applied Mechanics and Materials</i> , 0, 635-637, 1447-1450.	0.2	0
280	Nonlinear identification of IPMC actuators based on ANFISâ€‘NARX paradigm. <i>Sensors and Actuators A: Physical</i> , 2014, 209, 140-148.	2.0	43
281	Effect of Dehydration on the Mechanical and Physicochemical Properties of Gold- and Palladium-Ionomeric Polymer-Metal Composite (IPMC) Actuators. <i>Electrochimica Acta</i> , 2014, 129, 450-458.	2.6	68
282	Ex-situ temperature and humidity aging effect on the tensile behavior of Nafion N117 membrane used in Ionic Polymerâ€‘Metal Composite actuators. <i>Materials Letters</i> , 2014, 124, 293-295.	1.3	6
283	A bio-inspired multi degree of freedom actuator based on a novel cylindrical ionic polymerâ€‘metal composite material. <i>Robotics and Autonomous Systems</i> , 2014, 62, 53-60.	3.0	46
284	Carbon Nanotube and Grapheneâ€‘based Bioinspired Electrochemical Actuators. <i>Advanced Materials</i> , 2014, 26, 1025-1043.	11.1	245
285	Ionic Liquids at Electrified Interfaces. <i>Chemical Reviews</i> , 2014, 114, 2978-3036.	23.0	1,101
286	Influence of additives on the properties of casting nafion membranes and SOâ€‘based ionic polymerâ€‘Metal composite actuators. <i>Polymer Engineering and Science</i> , 2014, 54, 818-830.	1.5	21
287	Monolithic IPMC Fins for Propulsion and Maneuvering in Bioinspired Underwater Robotics. <i>IEEE Journal of Oceanic Engineering</i> , 2014, 39, 540-551.	2.1	93
288	Pneumatic artificial rubber muscle using shape-memory polymer sheet with embedded electrical heating wire. <i>Smart Materials and Structures</i> , 2014, 23, 125005.	1.8	68
289	Electrode of ionic polymer-metal composite sensors: Modeling and experimental investigation. <i>Journal of Applied Physics</i> , 2014, 115, .	1.1	24
290	Dynamic Modeling and Effect of Dehydration on Segmented IPMC Actuators Following Variable Parameter Pseudo-Rigid Body Modeling Technique. <i>Mechanics of Advanced Materials and Structures</i> , 2014, 21, 129-138.	1.5	5
291	Grasshopper Knee Joint - Torque Analysis of Actuators Using Ionic Polymer Metal Composites (IPMC). <i>Journal of Biomimetics, Biomaterials, and Tissue Engineering</i> , 0, 19, 13-23.	0.7	4
292	Electromechanical performance and other characteristics of IPMCs fabricated with various commercially available ion exchange membranes. <i>Smart Materials and Structures</i> , 2014, 23, 074001.	1.8	16
293	Modeling contacts of ionic polymer metal composites based tactile sensors. <i>Acta Mechanica Sinica</i> , 2014, 27, 407-411.	1.0	5

#	ARTICLE	IF	CITATIONS
294	Microporous and Mesoporous Carbide-Derived Carbons for Strain Modification of Electromechanical Actuators. <i>Langmuir</i> , 2014, 30, 2583-2587.	1.6	12
295	pH- and Sugar-Responsive Gel Assemblies Based on Boronate-Catechol Interactions. <i>ACS Macro Letters</i> , 2014, 3, 337-340.	2.3	82
296	On the multiobjective optimization of conjugated polymer based trilayer actuators. <i>Synthetic Metals</i> , 2014, 197, 34-47.	2.1	2
297	Improving electromechanical output of IPMC by high surface area Pd-Pt electrodes and tailored ionomer membrane thickness. <i>International Journal of Smart and Nano Materials</i> , 2014, 5, 99-113.	2.0	27
298	Electroactive nanostructured polymer actuators fabricated using sulfonated styrenic pentablock copolymer/montmorillonite/ionic liquid nanocomposite membranes. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 08NC03.	0.8	3
299	Water content criterion for relaxation deformation of Nafion based ionic polymer metal composites doped with alkali cations. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	36
300	Investigation of the effects of PWM parameters on ionic polymer metal composite actuators. <i>Smart Materials and Structures</i> , 2014, 23, 095024.	1.8	2
301	Modeling of an ionic polymer metal composite actuator based on an extended Kalman filter trained neural network. <i>Smart Materials and Structures</i> , 2014, 23, 074008.	1.8	9
302	Design of a robust quantitative feedback theory position controller for an ionic polymer metal composite actuator using an analytical dynamic model. <i>Journal of Intelligent Material Systems and Structures</i> , 2014, 25, 1965-1977.	1.4	7
303	Identification of IPMC nonlinear model via single and multi-objective optimization algorithms. <i>ISA Transactions</i> , 2014, 53, 481-488.	3.1	10
304	Second order sliding mode approaches to fault detection and control of infinite dimensional systems. , 2014, , .		9
305	Kraton based ionic polymer metal composite (IPMC) actuator. <i>Sensors and Actuators A: Physical</i> , 2014, 216, 295-300.	2.0	40
307	Fast nastic motion of plants and bioinspired structures. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20150598.	1.5	95
308	A comprehensive physics-based model encompassing variable surface resistance and underlying physics of ionic polymer-metal composite actuators. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	29
309	Robotic micro assembly by compliant piezoelectric micro grippers in multi mobile micro manipulation system. , 2015, , .		0
310	Self-Healing, Expansion-Contraction, and Shape-Memory Properties of a Preorganized Supramolecular Hydrogel through Host-Guest Interactions. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 8984-8987.	7.2	454
312	Graphitic carbon nitride nanosheet electrode-based high-performance ionic actuator. <i>Nature Communications</i> , 2015, 6, 7258.	5.8	211
313	Identification and Fractional Super-Twisting Robust Control of IPMC Actuators. <i>Fractional Calculus and Applied Analysis</i> , 2015, 18, 1358-1378.	1.2	12

#	ARTICLE	IF	CITATIONS
314	Removal of cadmium and zinc ions from industrial wastewater using nanocomposites of PANI/ZnO and PANI/CoHCF: a comparative study. <i>Desalination and Water Treatment</i> , 0, , 1-20.	1.0	7
315	Research on enhanced performance of ionic polymer metal composite by multiwalled carbon nanotubes. <i>Materials Research Innovations</i> , 2015, 19, S1-477-S1-481.	1.0	5
316	Ionic Polymer-Metal Composite Actuators: Investigation of Parametric Model Based on Electrical Values. <i>Solid State Phenomena</i> , 2015, 235, 52-57.	0.3	0
317	A biomimetic underwater vehicle actuated by waves with ionic polymer-metal composite soft sensors. <i>Bioinspiration and Biomimetics</i> , 2015, 10, 055007.	1.5	36
318	Towards development of a bio-inspired artificial muscle using IPMC for potential applications in robotics. <i>International Journal of Mechanisms and Robotic Systems</i> , 2015, 2, 341.	0.1	0
319	Double-section curvature tunable functional actuator with micromachined buckle and grid wire for electricity delivery. <i>Smart Materials and Structures</i> , 2015, 24, 095010.	1.8	9
320	Reverse Adhesion of a Gecko-Inspired Synthetic Adhesive Switched by an Ion-Exchange Polymer-metal Composite Actuator. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 5480-5487.	4.0	51
321	A model based predictive compensation for ionic polymer metal composite sensors for displacement measurement. <i>Sensors and Actuators A: Physical</i> , 2015, 224, 43-49.	2.0	22
322	Single active finger IPMC microgripper. <i>Smart Materials and Structures</i> , 2015, 24, 025015.	1.8	23
323	Morphology characterization and failure mechanism investigation of Ag-IPMC. <i>Ionics</i> , 2015, 21, 1089-1094.	1.2	6
324	Non-uniform deformation and curvature identification of ionic polymer metal composite actuators. <i>Journal of Intelligent Material Systems and Structures</i> , 2015, 26, 582-598.	1.4	20
325	Enhanced ionic polymer metal composite actuator with porous nafion membrane using zinc oxide particulate leaching method. <i>Smart Materials and Structures</i> , 2015, 24, 037007.	1.8	14
326	Deflection Simulation of Ionic Polymer Metal Composites (IPMC) Actuators for Bionic Knee Joints. <i>Advanced Materials Research</i> , 0, 1101, 459-462.	0.3	0
327	Aided manufacturing techniques and applications in optics and manipulation for ionic polymer-metal composites as soft sensors and actuators. <i>Journal of Polymer Engineering</i> , 2015, 35, 611-626.	0.6	12
328	Effect of mass loading on ionic polymer metal composite actuators and sensors. , 2015, , .		1
329	The sliding mode control for different shapes and dimensions of IPMC on resisting its creep characteristics. <i>Smart Materials and Structures</i> , 2015, 24, 045040.	1.8	18
330	Polymeric Artificial Muscles are Linear Faradaic Motors. <i>Key Engineering Materials</i> , 2015, 644, 137-144.	0.4	0
331	A new ionic polymer-metal composite based on Nafion/poly(vinyl alcohol-co-ethylene) blends. <i>Smart Materials and Structures</i> , 2015, 24, 105011.	1.8	21

#	ARTICLE	IF	CITATIONS
332	Smarter Actuator Design with Complementary and Synergetic Functions. <i>Advanced Materials</i> , 2015, 27, 4418-4422.	11.1	44
333	RNA as a stable polymer to build controllable and defined nanostructures for material and biomedical applications. <i>Nano Today</i> , 2015, 10, 631-655.	6.2	103
334	IPMC actuators based on metal-“Nafion”, composite films prepared by thermal decomposition of noble metal complexes. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 120, 785-791.	1.1	4
335	Slender tube-shaped and square rod-shaped IPMC actuators with integrated sensing for soft mechatronics. <i>Meccanica</i> , 2015, 50, 2781-2795.	1.2	13
336	Analytical structural optimization and experimental verifications for traveling wave generation in self-assembling swimming smart boxes. <i>Smart Materials and Structures</i> , 2015, 24, 094005.	1.8	15
337	Micromanipulation tool replaceable soft actuator with gripping force enhancing and output motion converting mechanisms. , 2015, , .		6
338	Integrated static and dynamic modeling of an ionic polymer-metal composite actuator. <i>Journal of Intelligent Material Systems and Structures</i> , 2015, 26, 1164-1178.	1.4	11
339	The enhancement effect of lithium ions on actuation performance of ionic liquid-based IPMC soft actuators. <i>Polymer</i> , 2015, 76, 140-149.	1.8	31
340	Development of sulfonated poly(vinyl alcohol)/polypyrrole based ionic polymer metal composite (IPMC) actuator and its characterization. <i>Smart Materials and Structures</i> , 2015, 24, 095003.	1.8	28
341	Actuation Properties Investigation: A Muscle like Linear Actuator Based on Biopolymer Material: Ionic Polymer Metal Composites. <i>Journal of Biomimetics, Biomaterials and Biomedical Engineering</i> , 2015, 25, 19-24.	0.5	1
342	Experimental and theoretical investigation of ionic polymer transducers in shear sensing. <i>Journal of Intelligent Material Systems and Structures</i> , 2015, 26, 2042-2054.	1.4	10
343	Accurate Dynamic Modeling of Helical Ionic Polymer-Metal Composite Actuator Based on Intrinsic Equations. <i>IEEE/ASME Transactions on Mechatronics</i> , 2015, 20, 1680-1688.	3.7	3
344	Numerical Investigations on a Tunable Helmholtz Resonator: Integration of a Passive Polymer Membrane in a Helmholtz Resonator. , 0, , .		5
345	Ordered and Active Nanochannel Electrode Design for High-Performance Electrochemical Actuator. <i>Small</i> , 2016, 12, 4986-4992.	5.2	42
346	Easy, operable ionic polymer metal composite actuator based on a platinum-coated sulfonated poly(vinyl alcohol)-polyaniline composite membrane. <i>Journal of Applied Polymer Science</i> , 2016, 133, .	1.3	19
347	Smart Material-Actuated Flexible Tendon-Based Snake Robot. <i>International Journal of Advanced Robotic Systems</i> , 2016, 13, 89.	1.3	13
348	Application-oriented simplification of actuation mechanism and physical model for ionic polymer-metal composites. <i>Journal of Applied Physics</i> , 2016, 120, .	1.1	15
349	Nanocomposite Polymeric-Based Coatings: From Mathematical Modeling to Experimental Insights for Adapting Microstructure to High-Tech Requirements. , 2016, , 355-371.		1

#	ARTICLE	IF	CITATIONS
350	Analysis of Time Dependent Bending Response of Ag-IPMC Actuator. <i>Procedia Engineering</i> , 2016, 144, 600-606.	1.2	6
351	Design and analysis of a smart soft composite structure for various modes of actuation. <i>Composites Part B: Engineering</i> , 2016, 95, 155-165.	5.9	26
352	Enhanced electromechanical response of Ionic Polymer-Metal Composite (IPMC) actuators by various Nafion roughening levels. , 2016, , .		1
353	Preparation and characterization of sulfonated carbon nanotube/Nafion IPMC actuators. , 2016, , .		3
354	Removal of rubidium ions by polyaniline nanocomposites modified with cobalt-Prussian blue analogues. <i>Journal of Environmental Chemical Engineering</i> , 2016, 4, 2440-2449.	3.3	42
355	Solvent tunable multi-block ionomer morphology and its relationship to modulus, water swelling, directionally dependent ion transport, and actuator performance. <i>Polymer</i> , 2016, 103, 104-111.	1.8	24
356	Advanced Materials for Self-Healing Applications. , 2016, , 316-349.		0
357	A new class of ionic electroactive polymers based on green synthesis. <i>Sensors and Actuators A: Physical</i> , 2016, 249, 32-44.	2.0	23
358	Arch-Shaped Ionic Polymer-Metal Composite Actuator Integratable With Micromachined Functional Tools for Micromanipulation. <i>IEEE Sensors Journal</i> , 2016, 16, 7109-7115.	2.4	6
359	Replacement of surface roughening using polyvinyl alcohol coating in the fabrication of nafion-based ionic polymer metal composite (IPMC) actuators. <i>Journal of Polymer Research</i> , 2016, 23, 1.	1.2	5
360	Preparation and characterization of water-soluble carbon nanotube reinforced Nafion membranes and so-based ionic polymer metal composite actuators. <i>Smart Materials and Structures</i> , 2016, 25, 095006.	1.8	31
361	Ionic polymer-metal composite applications. <i>Emerging Materials Research</i> , 2016, 5, 153-164.	0.4	13
362	Soft robotic finger fabrication with PDMS and IPMC actuator for gripping. , 2016, , .		3
363	IPMCs as EAPs: Fundamentals. , 2016, , 131-150.		2
365	A fabrication method of unique Nafion® shapes by painting for ionic polymer-metal composites. <i>Smart Materials and Structures</i> , 2016, 25, 085006.	1.8	17
366	Effects of surface roughening of Nafion 117 on the mechanical and physicochemical properties of ionic polymer-metal composite (IPMC) actuators. <i>Smart Materials and Structures</i> , 2016, 25, 085012.	1.8	25
367	Toward Energetically Autonomous Foraging Soft Robots. <i>Soft Robotics</i> , 2016, 3, 186-197.	4.6	18
368	An experimental study of force control of an IPMC actuated two-link manipulator using time-delay control. <i>Smart Materials and Structures</i> , 2016, 25, 117001.	1.8	11

#	ARTICLE	IF	CITATIONS
369	Enhanced Actuation Response of Nafion-Based Ionic Polymer Metal Composites by Doping BaTiO ₃ Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2016, 120, 12377-12384.	1.5	29
370	An external disturbance sensor for ionic polymer metal composite actuators. <i>Smart Materials and Structures</i> , 2016, 25, 015008.	1.8	7
371	Restraining IPMC Back Relaxation in Large Bending Displacements: Applying Non-Feedback Local Gaussian Disturbance by Patterned Electrodes. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 1689-1695.	1.6	26
372	Mechanism of adhesion of the diglycidyl ether of bisphenol A (DGEBA) to the Fe(100) surface. <i>Composites Science and Technology</i> , 2016, 126, 9-16.	3.8	32
373	Motion Planning Based on Learning From Demonstration for Multiple-Segment Flexible Soft Robots Actuated by Electroactive Polymers. <i>IEEE Robotics and Automation Letters</i> , 2016, 1, 391-398.	3.3	60
374	Artificial Muscle Devices: Innovations and Prospects for Fecal Incontinence Treatment. <i>Annals of Biomedical Engineering</i> , 2016, 44, 1355-1369.	1.3	47
375	Fabrication of SGO/Nafion-based IPMC soft actuators with sea anemone-like Pt electrodes and enhanced actuation performance. <i>Carbon</i> , 2016, 100, 243-257.	5.4	42
376	Combination mechanism investigation on the muscle-like linear actuator using ionic polymer metal composites. <i>Polymer Composites</i> , 2017, 38, 479-488.	2.3	4
377	Potential Applications of Smart Multifunctional Wearable Materials to Gerontology. <i>Gerontology</i> , 2017, 63, 287-298.	1.4	36
378	Experimental study on strain distribution of ionic polymer-metal composite actuator using digital image correlation. <i>Smart Materials and Structures</i> , 2017, 26, 025004.	1.8	6
379	A new high-performance ionic polymer-metal composite based on Nafion/polyimide blends. <i>Smart Materials and Structures</i> , 2017, 26, 035015.	1.8	20
380	A novel projection based electro-stereolithography (PES) process for production of 3D polymer-particle composite objects. <i>Rapid Prototyping Journal</i> , 2017, 23, 236-245.	1.6	11
381	Modelling compression sensing in ionic polymer metal composites. <i>Smart Materials and Structures</i> , 2017, 26, 035030.	1.8	24
382	Energy Harvesting from Crystalline and Conductive Polymer Composites. <i>Springer Series on Polymer and Composite Materials</i> , 2017, , 43-75.	0.5	8
383	An alternative explanation of back-relaxation in ionic polymer metal composites. <i>Extreme Mechanics Letters</i> , 2017, 13, 78-83.	2.0	34
384	Analysis of multiple robotic assemblies by cooperation of multimobile micromanipulation systems (M4S). <i>International Journal of Advanced Manufacturing Technology</i> , 2017, 91, 3033-3050.	1.5	5
385	Fused filament 3D printing of ionic polymer-metal composites for soft robotics. <i>Proceedings of SPIE</i> , 2017, , .	0.8	21
386	Fractional-Order Devices. <i>SpringerBriefs in Applied Sciences and Technology</i> , 2017, , .	0.2	42

#	ARTICLE	IF	CITATIONS
387	Effect of porosity of the electrodes on ionic electroactive polymer actuators. Proceedings of SPIE, 2017, , .	0.8	0
388	Development and modeling of a new ionogel based actuator. Journal of Intelligent Material Systems and Structures, 2017, 28, 2036-2050.	1.4	8
389	Devices. SpringerBriefs in Applied Sciences and Technology, 2017, , 21-53.	0.2	2
390	High-Performance Electroactive Polymer Actuators Based on Ultrathick Ionic Polymerâ€“Metal Composites with Nanodispersed Metal Electrodes. ACS Applied Materials & Interfaces, 2017, 9, 21998-22005.	4.0	86
391	Humidity sensor based on the ionic polymer metal composite. Sensors and Actuators B: Chemical, 2017, 247, 498-504.	4.0	44
392	Synthesis and properties of polymerized ionic liquids. European Polymer Journal, 2017, 90, 245-272.	2.6	165
393	Theoretical and experimental investigation of the shape memory properties of an ionic polymerâ€“metal composite. Smart Materials and Structures, 2017, 26, 045020.	1.8	4
394	Soft Actuators for Smallâ€“Scale Robotics. Advanced Materials, 2017, 29, 1603483.	11.1	973
395	A neural network modeling and sliding mode control of self-sensing ionic polymerâ€“metal composite actuator. Journal of Intelligent Material Systems and Structures, 2017, 28, 3163-3174.	1.4	3
396	Searching for a new ionomer for 3D printable ionic polymerâ€“metal composites: Aquivion as a candidate. Smart Materials and Structures, 2017, 26, 115029.	1.8	28
397	Soft actuator based on Kraton with GO/Ag/Pani composite electrodes for robotic applications. Materials Research Express, 2017, 4, 115701.	0.8	19
398	An iteratively optimized resolution to hyper redundancy for dissimilarly doped compliant IPMC actuators. Mechatronics, 2017, 46, 154-167.	2.0	2
399	Electronic Muscles and Skins: A Review of Soft Sensors and Actuators. Chemical Reviews, 2017, 117, 11239-11268.	23.0	418
400	Kriging modeling and SPSA adjusting PID with KPWF compensator control of IPMC gripper for mm-sized objects. Review of Scientific Instruments, 2017, 88, 125003.	0.6	8
401	Influence of electrolytes of Li^+ salts, EMIMBF_4 , and mixed phases on electrochemical and physical properties of Nafion membrane. Journal of Applied Polymer Science, 2017, 134, 45239.	1.3	6
402	A novel multifunctional soft robotic transducer made with poly (ethylene-co-methacrylic acid) ionomer metal nanocomposite. International Journal of Intelligent Robotics and Applications, 2017, 1, 143-156.	1.6	10
403	Bioinspired travelling wave generation in soft-robotics using ionic polymer-metal composites. International Journal of Intelligent Robotics and Applications, 2017, 1, 167-179.	1.6	14
404	Experimental study and electromechanical model analysis of the nonlinear deformation behavior of IPMC actuators. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 382-393.	1.5	14

#	ARTICLE	IF	CITATIONS
405	Thorium (IV) phosphate-polyaniline composite based hydrophilic membranes for bending actuator application. <i>Polymer Engineering and Science</i> , 2017, 57, 258-267.	1.5	15
406	Ecofriendly electroactive polymer actuator using highly porous carboxylated bacterial cellulose. , 2017, , .		1
407	Comparative Experimental Study on Ionic Polymer Metal Composite based on Nafion and Aquivion Membrane as Actuators. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017, 269, 012014.	0.3	1
408	Finite element modeling of blocking force of ionic polymer metal composites (IPMC) in micro gripper. , 2017, , .		1
409	Hybrid artificial muscle underactuated humanoid robotic hand. , 2017, , .		0
410	Displacement control of integrated ionic polymer-metal composite actuator with stochastic ON/OFF controller. <i>Transactions of the JSME (in Japanese)</i> , 2017, 83, 17-00328-17-00328.	0.1	0
411	High-performance graphdiyne-based electrochemical actuators. <i>Nature Communications</i> , 2018, 9, 752.	5.8	268
412	Tunable actuation behavior of ionic polymer metal composite utilizing carboxylated carbon nanotube-doped Nafion matrix. <i>RSC Advances</i> , 2018, 8, 3090-3094.	1.7	20
413	A moisture and electric coupling stimulated ionic polymer-metal composite actuator with controllable deformation behavior. <i>Smart Materials and Structures</i> , 2018, 27, 02LT01.	1.8	8
414	Soft wearable ionic polymer sensors for palpatory pulse-rate extraction. <i>Sensors and Actuators A: Physical</i> , 2018, 270, 65-71.	2.0	16
415	Artificial Muscles: Mechanisms, Applications, and Challenges. <i>Advanced Materials</i> , 2018, 30, 1704407.	11.1	701
416	Effect of porosity and tortuosity of electrodes on carbon polymer soft actuators. <i>Journal of Applied Physics</i> , 2018, 123, 014502.	1.1	9
417	Theoretical analysis and design for a multilayered ionic polymer metal composite actuator. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 446-459.	1.4	6
418	Nonlinear analysis of ionic polymer-metal composite beams using the von Kármán strains. <i>International Journal of Non-Linear Mechanics</i> , 2018, 98, 64-74.	1.4	7
419	Diamond like carbon nanocomposites with embedded metallic nanoparticles. <i>Reports on Progress in Physics</i> , 2018, 81, 024501.	8.1	45
420	Polymer actuators of fluorene derivatives with enhanced inner channels and mechanical performance. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 791-799.	4.0	13
421	Influence of Humidity and Actuation time on Electromechanical Characteristics of Ionic Polymer-Metal Composite Actuators. <i>Procedia Manufacturing</i> , 2018, 17, 960-967.	1.9	4
422	Modelling and Analysis of Ionic Polymer Metal Composite based Energy Harvester. <i>Materials Today: Proceedings</i> , 2018, 5, 19815-19827.	0.9	4

#	ARTICLE	IF	CITATIONS
423	Surfactant enhanced drying of waterbased poly(vinyl alcohol) coatings. Progress in Organic Coatings, 2018, 125, 443-452.	1.9	17
424	Fast and Stable Ionic Electroactive Polymer Actuators with PEDOT:PSS/(Graphene@Ag-Nanowires) Nanocomposite Electrodes. Sensors, 2018, 18, 3126.	2.1	30
425	Ionic Electroactive Polymers Used in Bionic Robots: A Review. Journal of Bionic Engineering, 2018, 15, 765-782.	2.7	41
426	Soft Robotic Grippers. Advanced Materials, 2018, 30, e1707035.	11.1	1,097
427	Active Tube-Shaped Actuator with Embedded Square Rod-Shaped Ionic Polymer-Metal Composites for Robotic-Assisted Manipulation. Applied Bionics and Biomechanics, 2018, 2018, 1-12.	0.5	7
428	Enhanced sensing performance of carboxyl graphene@ionic liquid attached ionic polymer@metal nanocomposite based polymer strain sensors. Journal of Materials Chemistry C, 2018, 6, 8395-8404.	2.7	19
429	Development of sulfonated poly(vinyl alcohol)/aluminium oxide/graphene based ionic polymer-metal composite (IPMC) actuator. Sensors and Actuators A: Physical, 2018, 280, 114-124.	2.0	24
430	From modeling to implementation of a method for restraining back relaxation in ionic polymer@metal composite soft actuators. Journal of Intelligent Material Systems and Structures, 2018, 29, 3124-3135.	1.4	19
431	Large-Scale Fabrication of High-Performance Ionic Polymer@Metal Composite Flexible Sensors by in Situ Plasma Etching and Magnetron Sputtering. ACS Omega, 2018, 3, 9146-9154.	1.6	19
432	Adaptive Helmholtz resonator based on electroactive polymers: modeling, characterization, and control. Smart Materials and Structures, 2018, 27, 105029.	1.8	18
433	Polyvinylidene fluoride grafted poly(styrene sulfonic acid) as ionic polymer-metal composite actuator. Sensors and Actuators A: Physical, 2018, 279, 157-167.	2.0	15
434	A Gradient Model for Young's Modulus and Surface Electrode Resistance of Ionic Polymer@Metal Composite. Acta Mechanica Sinica, 2019, 32, 754-766.	1.0	7
436	A Compact Review of IPMC as Soft Actuator and Sensor: Current Trends, Challenges, and Potential Solutions From Our Recent Work. Frontiers in Robotics and AI, 2019, 6, 129.	2.0	34
437	Mutually Exclusive p-Type and n-Type Hybrid Electrode of MoS ₂ and Graphene for Artificial Soft Touch Fingers. Advanced Functional Materials, 2019, 29, 1905454.	7.8	30
438	Fundamentals and Advances in the Adhesion of Polymer Surfaces and Thin Films. Langmuir, 2019, 35, 15914-15936.	1.6	66
439	Finite element analysis of taper ionic polymer metal composites energy harvester. Journal of Physics: Conference Series, 2019, 1240, 012046.	0.3	2
440	Controllable and durable ionic electroactive polymer actuator based on nanoporous carbon nanotube film electrode. Smart Materials and Structures, 2019, 28, 085032.	1.8	15
441	Structure-Property Relationships in Hybrid Cellulose Nanofibrils/Nafion-Based Ionic Polymer-Metal Composites. Materials, 2019, 12, 1269.	1.3	15

#	ARTICLE	IF	CITATIONS
442	Biocompatible Carbon Nanotube-Based Hybrid Microfiber for Implantable Electrochemical Actuator and Flexible Electronic Applications. ACS Applied Materials & Interfaces, 2019, 11, 20615-20627.	4.0	36
444	Study on Time-Dependent Bending Response of IPMC Actuator. Engineering Materials, 2019, , 75-138.	0.3	1
445	Thermal Conductivity of Protein-Based Materials: A Review. Polymers, 2019, 11, 456.	2.0	38
446	PEDOT and PANI Electrodes for IP2C Actuators. , 2019, , .		7
447	Preparation, Physicochemical Characterization, and Microrobotics Applications of Polyvinyl Chloride- (PVC-) Based PANI/PEDOT: PSS/ZrP Composite Cation-Exchange Membrane. Advances in Materials Science and Engineering, 2019, 2019, 1-11.	1.0	10
448	The effect of gold electrode thicknesses on electromechanical performance of Nafion-based Ionic Polymer Metal Composite actuators. Composites Part B: Engineering, 2019, 165, 747-753.	5.9	21
449	Frequency Domain Based Fractional Order Modeling of IPMC Actuators for Control. , 2019, , .		1
450	Nonlinear identification of IPMC actuators employing RFNN-NARX model and Particle Swarm Optimization. , 2019, , .		0
451	Ionic Polymer Metal Composites. , 2019, 23, 64-74.		0
452	â€œPaperâ€Based Sensor for Deformation Measurements. , 2019, , .		11
453	Polypyrrole nanoparticles-based soft actuator for artificial muscle applications. RSC Advances, 2019, 9, 39721-39734.	1.7	21
454	Sulfonic SiO ₂ nanocolloid doped perfluorosulfonic acid films with enhanced water uptake and inner channel for IPMC actuators. RSC Advances, 2019, 9, 42450-42458.	1.7	13
455	Hydrophilic Poly(vinylidene Fluoride) Film with Enhanced Inner Channels for Both Water- and Ionic Liquid-Driven Ion-Exchange Polymer Metal Composite Actuators. ACS Applied Materials & Interfaces, 2019, 11, 2386-2397.	4.0	58
456	High-performance ionic polymerâ€metal composite actuators fabricated with microneedle roughening. Smart Materials and Structures, 2019, 28, 015007.	1.8	13
457	Ionic polymer pressure sensor with gradient shape based on ion migration. Journal of Applied Physics, 2019, 125, .	1.1	19
458	Design and development of nonâ€perfluorinated ionic polymer metal compositeâ€based flexible link manipulator for robotics assembly. Polymer Composites, 2019, 40, 2582-2593.	2.3	18
459	Radio-frequency enabled ionic polymer metal composite (IPMC) actuator for drug release application. Smart Materials and Structures, 2019, 28, 015024.	1.8	35
460	Electroactive Artificial Muscles Based on Functionally Antagonistic Coreâ€Shell Polymer Electrolyte Derived from PSâ€bâ€PSS Block Copolymer. Advanced Science, 2019, 6, 1801196.	5.6	29

#	ARTICLE	IF	CITATIONS
461	Cost-effective fabrication of ionic polymer based artificial muscles for catheter-guidewire maneuvering application. <i>Microsystem Technologies</i> , 2019, 25, 1129-1136.	1.2	10
462	Performance Characterization of a Biodegradable Deformation Sensor Based on Bacterial Cellulose. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2020, 69, 2561-2569.	2.4	33
463	Phenazine-1,6-dicarboxamides: Redox-Responsive Molecular Switches. <i>Journal of the American Chemical Society</i> , 2020, 142, 60-63.	6.6	28
464	PEDOT coating enhanced electromechanical performances and prolonged stable working time of IPMC actuator. <i>Sensors and Actuators B: Chemical</i> , 2020, 305, 127488.	4.0	36
465	Hammerstein modeling and hybrid control of force and position for a novel integration of actuating and sensing ionic polymer metal composite gripper. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2021, 235, 3113-3124.	1.1	2
466	Electroactive polymer-based inner vessel-wall pressure transducer capable of integration with a PTA balloon catheter for examining blood vessel health. <i>Materials Science and Engineering C</i> , 2020, 114, 111047.	3.8	2
467	A recurrent neural network-based model for predicting bending behavior of ionic polymer-metal composite actuators. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1973-1985.	1.4	8
468	Beyond Human Hand: Shape-Adaptive and Reversible Magnetorheological Elastomer-Based Robot Gripper Skin. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 44147-44155.	4.0	21
469	Actuation and self-sensing performance of soft polymer actuator skin using polyelectrolyte attached terpolymer. <i>Sensors and Actuators A: Physical</i> , 2020, 315, 112277.	2.0	14
470	Thermoplastic Polyurethane/Lead Zirconate Titanate/Carbon Nanotube Composites with Very High Dielectric Permittivity and Low Dielectric Loss. <i>Journal of Composites Science</i> , 2020, 4, 137.	1.4	12
471	Synthesis of Three-Dimensional Carbon Nanostructure/Copper Nanowire for Additive Interface Layer of Ionic Polymer Metal Composite. <i>Nanomaterials</i> , 2020, 10, 423.	1.9	7
472	Pumps operated by solid-state electromechanical smart material actuators - A review. <i>Sensors and Actuators A: Physical</i> , 2020, 307, 111915.	2.0	39
473	Bioinspired Sensing, Actuation, and Control in Underwater Soft Robotic Systems. , 2021, , .		13
474	Development of the Multi-Material Inspection for Closed-Loop Rapid Optimization (MICRO) Sensor for Extrusion-Based Additive Manufacturing of Metal-Polymer Composite Inks. <i>IEEE Sensors Journal</i> , 2021, 21, 265-272.	2.4	5
475	Polymer Degradation: Category, Mechanism and Development Prospect. <i>E3S Web of Conferences</i> , 2021, 290, 01012.	0.2	5
476	Energy-Based Modeling of Ionic Polymer-Metal Composite Actuators Dedicated to the Control of Flexible Structures. <i>IEEE/ASME Transactions on Mechatronics</i> , 2021, 26, 3139-3150.	3.7	8
477	Modeling actuation and sensing in ionic polymer metal composites by electrochemo-poromechanics. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 148, 104292.	2.3	35
478	Smart wearable medical devices for Isometric Contraction of muscles and joint tracking with gyro sensors for elderly people. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 0, , 1.	3.3	4

#	ARTICLE	IF	CITATIONS
479	Tunable Hydrophobicity via Dimensionally Confined Polymerization of Organometallic Adducts. <i>Angewandte Chemie</i> , 2021, 133, 14048-14055.	1.6	2
480	Tunable Hydrophobicity via Dimensionally Confined Polymerization of Organometallic Adducts. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 13929-13936.	7.2	5
481	Ionic Elastomers for Electric Actuators and Sensors. <i>Engineering</i> , 2021, 7, 581-602.	3.2	44
482	Position Control of a Biomimetic IPMC Underwater Propulsor. <i>Journal of the Institution of Engineers (India): Series C</i> , 2021, 102, 1031-1040.	0.7	2
483	Printing ionic polymer metal composite actuators by fused deposition modeling technology. <i>International Journal of Smart and Nano Materials</i> , 2021, 12, 218-231.	2.0	11
484	Two-Dimensional Nanosheets-Based Soft Electro-Chemo-Mechanical Actuators: Recent Advances in Design, Construction, and Applications. <i>ACS Nano</i> , 2021, 15, 9273-9298.	7.3	55
485	Facile and effective repair of Pt/Nafion IPMC actuator by dip-coating of PVP@AgNPs. <i>Nanotechnology</i> , 2021, 32, .	1.3	4
486	Computing and Verification of IPMC Parameters Through Equivalent Beam Theory. <i>Lecture Notes in Mechanical Engineering</i> , 2022, , 131-140.	0.3	0
487	A Comparative Study of Predictive Models for Nafion-117 IPMC Soft Actuators. , 2021, , .		3
488	A hyperelastic porous media framework for ionic polymer-metal composite actuators and sensors: thermodynamically consistent formulation and nondimensionalization of the field equations. <i>Smart Materials and Structures</i> , 2021, 30, 095024.	1.8	12
489	Hybrid tail excitation for robotic fish: Modeling and performance analysis. <i>Ocean Engineering</i> , 2021, 234, 109296.	1.9	12
490	IPMC Based Flexible Platform: A Boon to the Alternative Energy Solution. , 0, , .		4
491	The evolution of mechanical actuation: from conventional actuators to artificial muscles. <i>International Materials Reviews</i> , 2022, 67, 575-619.	9.4	32
492	Development of different types of ionic polymer metal composite-based soft actuators for robotics and biomimetic applications. , 2021, , 39-87.		3
493	Dielectric Elastomers for Actuators and Artificial Muscles. , 2012, , 1-56.		32
494	Modeling of IPMC Guide Wire Stirrer in Endovascular Surgery. , 2012, , 57-65.		3
495	Ionic Polymer-Metal Composite as a New Actuator and Transducer Material. , 2007, , 153-164.		11
496	Deep Learning for Soft Sensor Design. <i>Studies in Computational Intelligence</i> , 2020, , 31-59.	0.7	10

#	ARTICLE	IF	CITATIONS
497	Chapter 5. Ionic Polymer Metal Nanocomposites as Intelligent Materials and Artificial Muscles. , 2007, , 126-141.		1
498	Symbolic finite element discretization and model order reduction of a multiphysics model for IPMC sensors. Smart Materials and Structures, 2020, 29, 115037.	1.8	10
499	Distributed Actuation and Shape Control of Ionic Polymer Metal Composites. , 2006, , .		2
500	Soft gripper actuated by electro-hydraulic force. , 2019, , .		5
501	Modelling and control of self-sensing ionic electroactive polymer actuator. , 2019, , .		1
502	Searching for clues about Maxwell stress in the back-relaxation of ionic polymer-metal composites. , 2019, , .		3
503	Modeling of ionic polymer-metal composite (IPMC) beam on human tissues. , 2006, , .		3
504	Manufacturing Processes and QA/QC. , 2013, , 39-54.		1
505	Ionic polymer-metal composite as energy harvesters. Smart Structures and Systems, 2008, 4, 549-563.	1.9	77
506	Recent Developments About IPMCs (Ionic Polymer-Metal) Composites: A Review of Performances for Different Conditions. Fluid Dynamics and Materials Processing, 2018, 14, 243-258.	0.5	2
507	Dynamic Modeling and Simulation of Ionic Polymer Metal Composites (IPMC) Actuated Manipulator. Journal of Applied Sciences, 2014, 14, 501-509.	0.1	4
508	Promising Developments in Marine Applications With Artificial Muscles: Electrodeless Artificial Cilia Microfibers. Marine Technology Society Journal, 2016, 50, 24-34.	0.3	20
509	Data-Driven Inverse Modelling of Ionic Polymer Conductive Composite Plates. Lecture Notes in Computer Science, 2006, , 131-138.	1.0	1
512	Electroactive Polymers as Smart Materials with Intrinsic Actuation Properties. , 2008, , 483-503.		2
513	Finite Element Modeling of Electrochemical Governing Equations for Ionic Polymer Actuators. Journal of Advanced Marine Engineering and Technology, 2008, 32, 759-767.	0.1	1
514	Pre-shaping of ionic polymer metal composite actuators by heat treatment and characterization. Journal of Sensor Science and Technology, 2009, 18, 353-358.	0.1	0
515	Fabrication and Actuation of IPMC based on PVA/ SSA /5-SSIP. , 2012, , .		0
516	IPMC-Based Biomedical Applications. Advanced Topics in Science and Technology in China, 2012, , 533-567.	0.0	0

#	ARTICLE	IF	CITATIONS
517	Ionic Polymer-Metal Composite and its Actuation Characteristics. Advanced Topics in Science and Technology in China, 2012, , 501-532.	0.0	0
518	Evaluation of Electromechanical, Damping and Dynamic Mechanical Properties of Silver Electrode IPMC Actuator. Springer Proceedings in Physics, 2013, , 321-331.	0.1	0
519	Study of a Conducting Nafion Film-Gold Electrode Actuator. Journal of the Korean Institute of Electrical and Electronic Material Engineers, 2013, 26, 360-366.	0.0	0
520	Electroactive Polymers as Smart Materials. , 0, , 3155-3168.		0
521	IPMCs as EAPs: Fundamentals. , 2016, , 1-20.		0
522	Moisture and electric coupling stimulated ionic polymer actuator with superior deformation behavior. , 2018, , .		0
523	Fabrication of carbon polymer composite manipulated multi-degree motion platform. , 2018, , .		0
524	Strain analysis of ionic polymer-metal composite cantilever actuator using DIC method. , 2018, , .		0
525	IPMC Actuation Mechanisms and Multi-physical Modeling. , 2019, , 455-502.		0
526	Electrostatic actuation in ionic polymer-metal composites. , 2019, , .		0
528	Micro-structured porous electrolytes for highly responsive ionic soft actuators. Sensors and Actuators B: Chemical, 2022, 352, 131006.	4.0	14
529	Methodology for the selection of a smart material as actuator in neurosurgical robotics. Scientific Journal of the Ternopil National Technical University, 2020, 100, 5-10.	0.0	1
530	Harvesting Energy From an Ionic Polymer-Metal Composite in a Steady Air Flow. Journal of Fluids Engineering, Transactions of the ASME, 2020, 142, .	0.8	3
531	Controllable Deformation of Composite Graphite Electrodes during Electrochemical Process. Journal of the Electrochemical Society, 2020, 167, 140511.	1.3	1
532	Ionic Polymer-Metal Composite (IPMC) Artificial Muscles in Underwater Environments: Review of Actuation, Sensing, Controls, and Applications to Soft Robotics. , 2021, , 117-139.		6
533	Review of soft fluidic actuators: classification and materials modeling analysis. Smart Materials and Structures, 2022, 31, 013001.	1.8	31
535	Electronic-ionic polymer composite for high output voltage generation. Composites Part B: Engineering, 2022, 232, 109601.	5.9	6
536	Design and test of wirelessly powered IPMC artificial muscle for aquatic ecosystem health applications. Journal of Intelligent Material Systems and Structures, 2022, 33, 2074-2085.	1.4	2

#	ARTICLE	IF	CITATIONS
538	Modeling the actuation of curved ionic polymer metal composites. Smart Materials and Structures, 2022, 31, 035013.	1.8	2
540	Characterizing the transduction behavior of ionic polymer-metal composite actuators and sensors via dimensional analysis. Smart Materials and Structures, 2022, 31, 025014.	1.8	3
541	Advances in stimuli-responsive and functional thermoplastic elastomers. , 2022, , 353-404.		3
542	Towards enduring autonomous robots via embodied energy. Nature, 2022, 602, 393-402.	13.7	84
543	Review on Improvement, Modeling, and Application of Ionic Polymer Metal Composite Artificial Muscle. Journal of Bionic Engineering, 2022, 19, 279-298.	2.7	21
544	Research Progress on Hydrogelâ€Elastomer Adhesion. Materials, 2022, 15, 2548.	1.3	6
545	Velocity control and dynamic modeling of biomimetic underwater propulsor actuated by ionic polymer metal composite. ISSS Journal of Micro and Smart Systems, 0, , 1.	1.0	0
546	Actuation characteristics and experimental identification of IPMC actuator for underwater biomimetic robotic application. Materials Today: Proceedings, 2022, 62, 7461-7466.	0.9	4
547	Effect of doping polyethylene oxide on the properties of Nafion-IPMC actuators. Functional Materials Letters, 2022, 15, .	0.7	2
548	Prolonged Working Time in Air of Ionic Polymer-Metal Composite Actuators with Polyethylene Oxide[*]. , 2021, , .		0
549	Adjustable electro-active performances of IPMCs based on carboxylated carbon nanotube/Nafion. , 2021, , .		0
550	Review of multi-fin propulsion and functional materials of underwater bionic robotic fish. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2022, 236, 7350-7367.	1.1	7
551	MXene Enhanced the Electromechanical Performance of a Nafion-Based Actuator. Materials, 2022, 15, 2833.	1.3	4
554	Modeling and Control of IPMC-Based Artificial Eukaryotic Flagellum Swimming Robot: Distributed Actuation. Algorithms, 2022, 15, 181.	1.2	5
555	Actuation of ionic polymer-metal composites with alkali metal counterionsâ€”a molecular dynamics study. Engineering Research Express, 2022, 4, 025031.	0.8	1
556	Ionic polymer metal composites actuators with enhanced driving performance by incorporating graphene quantum dots. Journal of Central South University, 2022, 29, 1412-1422.	1.2	6
557	Dynamic modeling of a fish tail actuated by IPMC actuator based on the absolute nodal coordinate formulation. Smart Materials and Structures, 2022, 31, 115005.	1.8	2
558	Fabrication and performance analysis of high-performance cylindrical ionic polymer-metal composite actuators with various diameters. Smart Materials and Structures, 0, , .	1.8	3

#	ARTICLE	IF	CITATIONS
559	Position Control Using a Physics-Based Model for Biomimetic Underwater Propulsor Actuated by IPMC. Lecture Notes in Mechanical Engineering, 2023, , 653-663.	0.3	0
560	Phenazine-Based Oligomers as Redox-Responsive Molecular Actuators. Journal of Organic Chemistry, 2022, 87, 15744-15753.	1.7	3
561	Review of Soft Actuators Controlled with Electrical Stimuli: IPMC, DEAP, and MRE. Applied Sciences (Switzerland), 2023, 13, 1651.	1.3	8
562	Review of Ionic Polymerâ€“Metal Composites (IPMCs) as Smart Materials. , 2020, , 203-221.		0