Yves Perriard

List of Publications by Year
in descending order

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153	2,219	304743	265206
papers	citations	22	42
		h-index	g-index

154	154	154	1696
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Control-Oriented Modeling and Analysis of Tubular Dielectric Elastomer Actuators Dedicated to Cardiac Assist Devices. IEEE Robotics and Automation Letters, 2022, 7, 4361-4367.	5.1	6
2	Exploring Beyond the Helmholtz Coils for Uniform Magnetic Field Generation With Topology Optimization. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	1
3	Adaptation of a Solid-State Marx Modulator for Electroactive Polymer. IEEE Transactions on Power Electronics, 2022, 37, 13014-13021.	7.9	5
4	Untethered Feelâ€Through Haptics Using 18â€Âµm Thick Dielectric Elastomer Actuators. Advanced Functional Materials, 2021, 31, 2006639.	14.9	97
5	Characterization and Verification of Eddy-Current Position Sensing for Magnetic Levitation. IEEE Transactions on Industry Applications, 2021, 57, 5796-5805.	4.9	5
6	Feasibility of a Dielectric Elastomer Augmented Aorta. Advanced Science, 2021, 8, 2001974.	11.2	25
7	Shape Optimization of Soft Magnetic Composites Using Level-Set Method. IEEE Transactions on Magnetics, 2021, 57, 1-8.	2.1	4
8	Experimental Electromechanical Characterization of Slotted and Slotless Miniature Bearingless Drives. , 2021, , .		1
9	LOD Homogenization of Multiscale Eddy Current Problem in Time Domain. IEEE Transactions on Magnetics, 2021, 57, 1-4.	2.1	0
10	Ultra-High-Voltage (7-kV) Bidirectional Flyback Converter Used to Drive Capacitive Actuators. IEEE Transactions on Industry Applications, 2021, 57, 5145-5156.	4.9	4
11	Novel Generalized Notch Filter for Harmonic Vibration Suppression in Magnetic Bearing Systems. IEEE Transactions on Industry Applications, 2021, 57, 6977-6987.	4.9	12
12	Efficiency Optimization of Slotless Magnetic-Bearing Machines. IEEE Transactions on Industry Applications, 2021, 57, 6833-6843.	4.9	8
13	An untethered mechanically-intelligent inchworm robot powered by a shape memory alloy oscillator. Sensors and Actuators A: Physical, 2021, 332, 113115.	4.1	12
14	Evaluation of dielectric elastomers to develop materials suitable for actuation. Soft Matter, 2021, 17, 10786-10805.	2.7	17
15	Schmitt trigger-based control strategy for the discharge phase of an ultra-high-voltage bidirectional flyback. , 2021, , .		0
16	Optimal Design of Magnetorheological Valve Integrated in an Intelligent Footwear for Diabetic Patients with Foot Insensitivity. , 2021, , .		2
17	Novel Optimized Shape and Topology for Slotless Windings in BLDC Machines. IEEE Transactions on Industry Applications, 2020, 56, 1275-1283.	4.9	13
18	Design of Compact Bearingless Disc Drive Systems. IEEE Transactions on Industry Applications, 2020, 56, 4870-4881.	4.9	10

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19	Ultrahigh-Voltage Switch for Bidirectional DCâ€“DC Converter Driving Dielectric Elastomer Actuator. IEEE Transactions on Power Electronics, 2020, 35, 13172-13181.	7.9	6
20	Towards the material limit and field concentration smoothing in multilayer dielectric elastomer actuators. Smart Materials and Structures, 2020, 29, 045044.	3.5	6
21	Integrated, Eddy-Current-Based Sensing of Rotor Position for Magnetic Levitation. , 2020, , .		1
22	An optimized self-sensing piezoelectric cantilever for micro-robotic applications. Journal of Micro-Bio Robotics, 2019, 15, 91-103.	2.1	3
23	General Sensorless Method with Parameter Identification and Double Kalman Filter Applied to a Bistable Fast Linear Switched Reluctance Actuator for Textile Machine. IEEJ Journal of Industry Applications, 2019, 8, 33-40.	1.1	2
24	Critical Parasitic Elements of Coupled Inductors for Ultra-High Voltage Flyback Converters Used to Drive Capacitive Actuators. , 2019, , .		2
25	Very-High-Speed Miniaturized Permanent Magnet Motors: Design and Optimization. , 2019, , .		3
26	Very-High-Speed Miniaturized Permanent Magnet Motors: Modeling and Experimental Validation. , 2019, , .		8
27	An autonomous untethered fast soft robotic insect driven by low-voltage dielectric elastomer actuators. Science Robotics, 2019, 4, .	17.6	295
28	Density-Based Topology Optimization of Conductor Paths for Windings in Slotted Electrical Machines. , 2019, , .		4
29	Current Control Strategy for Dynamic Winding Reconfiguration of Slotless Brushless DC Motors. IEEE Transactions on Industry Applications, 2019, 55, 417-425.	4.9	11
30	Passive, Active and Loss Tradeoffs in High-Speed Bearingless Motors. , 2018, , .		2
31	Force Analysis of a Slotless Lorentz-Type Active Magnetic Bearing Actuator. , 2018, , .		3
32	Optimization of Shape and Topology for Slotless Windings in BLDC Machines. , 2018, , .		8
33	Balanced Metal Detector Based on Optimized Frequencies and Spatial Phase Profile Responses to Differentiate Metal Rods. IEEE Magnetics Letters, 2017, 8, 1-5.	1.1	5
34	Very-high-speed permanent magnet motors: Mechanical rotor stresses analytical model. , 2017, , .		19
35	Validation by measurements of a windage losses model for very-high-speed machines. , 2017, , .		11
36	Battery Charger for Electric Vehicle Based on a Wireless Power Transmission. , 2016, , .		2

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37	Design and characterization of a soft magneto-rheological miniature shock absorber for a controllable variable stiffness sole. Archives of Electrical Engineering, 2015, 64, 547-558.	1.0	7
38	3-Coil resonance structure wireless power transfer for 5kV implantable device. , 2015, , .		1
39	Quality factor and vibration amplitude estimation of a piezoelectric-actuated system using impedance measurements. , 2015, , .		1
40	Validity Tests of Superposition Principle Based on Forward Model for Electromagnetic Induction Scattering. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	8
41	Study of the efficiency of an electronically-controlled linear escapement. , 2015, , .		0
42	Design and modelling of a test bench to characterise magnetic fluids. , 2015, , .		2
43	Closed-loop magnetic bearing and angular velocity control of a reaction sphere actuator. Mechatronics, 2015, 30, 214-224.	3.3	23
44	Minimizing the circulating currents of a slotless BLDC motor through winding reconfiguration. , 2015, , .		11
45	Optimisation of the mover kinetic energy of a miniature linear actuator. , 2014, , .		3
46	Modeling and characterization of a MEMS synchronous generator. , 2014, , .		2
47	A novel electronically-controlled linear escapement mechanism. , 2014, , .		2
48	Modelling and design of complex geometry parts vibratory conveying. , 2014, , .		2
49	Comparison of FPCB windings of BLDC machines with paralelly and radially magnetized rotor poles. , 2014, , .		0
50	Design of a self-oscillating class D power amplifier for piezoelectric actuators. , 2014, , .		0
51	Analysis of a new topology of flexible PCB winding for slotless BLDC machines. , 2014, , .		10
52	Modeling and Compensation of Thermal Effects on an Ironless Inductive Position Sensor. IEEE Transactions on Industry Applications, 2014, 50, 375-382.	4.9	10
53	Rotor Design Optimization for a Reaction Sphere Actuator. IEEE Transactions on Industry Applications, 2014, 50, 1706-1716.	4.9	41
54	Theoretical and Experimental Investigation of Flex-PCB Air-Gap Windings in Slotless BLDC Machines. IEEE Transactions on Industry Applications, 2014, 50, 3153-3160.	4.9	26

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55	Back-EMF and rotor angular velocity estimation for a reaction sphere actuator. , 2014, , .		6
56	Design considerations for a contactless battery charger. , 2014, , .		6
57	Equivalent piezoelectric actuator circuits and comparison. , 2014, , .		3
58	Empirical Modeling of a Squeeze Film Haptic Actuator. IEEE Transactions on Industry Applications, 2014, 50, 1809-1816.	4.9	2
59	Erratum to â€œElectromagnetic Analysis and Validation of an Ironless Inductive Position Sensorâ€•[May 13 1267-1275]. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 2356-2356.	4.7	0
60	Electromagnetic Analysis and Validation of an Ironless Inductive Position Sensor. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1267-1275.	4.7	29
61	Modeling of High-Frequency Electromagnetic Effects on an Ironless Inductive Position Sensor. IEEE Sensors Journal, 2013, 13, 4663-4670.	4.7	12
62	Force and Torque Analytical Models of a Reaction Sphere Actuator Based on Spherical Harmonic Rotation and Decomposition. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1006-1018.	5.8	60
63	Optimal design of a squeeze film actuator for friction feedback. , 2013, , .		6
64	Hybrid FEM-analytical force and torque models of a reaction sphere actuator. , 2013, , .		6
65	Characterization of Magnetic Immunity of an Ironless Inductive Position Sensor. IEEE Sensors Journal, 2013, 13, 941-948.	4.7	25
66	About tuning capacitors in inductive coupled power transfer systems. , 2013, , .		11
67	Design and Optimization of A Blood Pump for A Wearable Artificial Kidney Device. IEEE Transactions on Industry Applications, 2013, 49, 2053-2060.	4.9	18
68	Modelling and optimal design of a ring-type structure for the generation of a traveling wave. , 2013, , .		1
69	Haptic tactile interface (HTI): Friction coefficient measurements. , 2013, , .		0
70	Haptic tactile interface: A novel click-wheel user experience. , 2013, , .		0
71	Haptic tactile interface (HTI): Design of the power supply stage. , 2013, , .		0
72	Robust and efficient 3D model of an electromagnetic induction (EMI) sensor. , 2013, , .		2

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73	A Novel winding topology applied for a self-shielding induction cooker. , 2013, , .		0
74	Design of a blood pump for a wearable artificial kidney device. , 2012, , .		1
75	Self-sensing of linear short-stroke actuators for multi-finger haptic interfaces using induced high frequency oscillations. , 2012, , .		3
76	First-Pulse Technique for Brushless DC Motor Standstill Position Detection Based on Iron B-H Hysteresis. IEEE Transactions on Industrial Electronics, 2012, 59, 2319-2328.	7.9	13
77	Empirical modeling of a squeeze film haptic actuator. , 2012, , .		3
78	An optimal sensor placement strategy for force and torque analytical models of a reaction sphere actuator for satellite attitude control. , 2012, , .		1
79	Design of a resonant power inverter for a piezoelectric actuator. , 2012, , .		4
80	Thermal modeling of a BLDC motor for a kick scooter. , 2012, , .		5
81	Modelling and compensation of thermal effects on an Ironless Inductive Position Sensor. , 2012, , .		1
82	Electromagnetic model of an ironless inductive position sensor. , 2012, , .		8
83	Slotless Permanent-Magnet Machines: General Analytical Magnetic Field Calculation. IEEE Transactions on Magnetics, 2011, 47, 1739-1752.	2.1	85
84	Extension of the local observability down to zero speed of BLDC motor state-space models using iron B-H local hysteresis. , 2011, , .		2
85	Analytical and experimental investigation on the force and torque of a Reaction Sphere for satellite attitude control. , 2011, , .		9
86	Kalman filter to measure position and speed of a linear actuator. , 2011, , .		6
87	Development of a Hybrid MEMS BLDC Micromotor. IEEE Transactions on Industry Applications, 2011, 47, 3-11.	4.9	41
88	Design of a Contactless Energy-Transfer System for Desktop Peripherals. IEEE Transactions on Industry Applications, 2011, 47, 1643-1651.	4.9	43
89	Miniature Short-Stroke Linear Actuator. IEEE Industry Applications Magazine, 2011, 17, 14-19.	0.4	3
90	Design of a Semi-Implantable Hearing Device for Direct Acoustic Cochlear Stimulation. IEEE Transactions on Biomedical Engineering, 2011, 58, 420-428.	4.2	35

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91	Design for self-sensing of a linear actuator. , 2011, , .		1
92	Skin and proximity effects for coreless transformers. , 2011, , .		7
93	An analytical solution for the torque and power of a solid-rotor induction motor. , 2011, , .		12
94	Ironless position sensor with intrinsic immunity to external magnetic fields. , 2011, , .		10
95	Towards multi-finger haptic devices: A computer keyboard with adjustable force feedback. , 2011, , .		7
96	Conception of a piezoelectric linear motor for the generation of high linear forces. , 2011, , .		2
97	An open-loop control strategy of a reaction sphere for satellite attitude control. , 2011, , .		8
98	Torque measurement methods for very highâ€speed motors. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2010, 29, 1172-1183.	0.9	3
99	Finite element method based design and optimisation methodology for piezoelectric ultrasonic motors. Mathematics and Computers in Simulation, 2010, 81, 446-459.	4.4	5
100	Indirect rotor position detection method based on angular admittance modulation of optimally designed piezoelectric ultrasonic motors. , 2010, , .		3
101	Design of a contactless energy transfer system for desktop peripherals. , 2010, , .		5
102	Optimal design and sensorless position control of a piezoelectric motor integrated into a mechatronic cylinder lock. , 2010, , .		2
103	Analysis of BLDC motor with zigzag and rhombic winding. , 2010, , .		9
104	Optimal design of an in-wheel BLDC motor for a kick scooter. , 2010, , .		6
105	Modeling and design of a hybrid MEMS motor. , 2010, , .		3
106	Study of a miniature magnetorheological fluid actuator for haptic devices. , 2010, , .		10
107	Analytical Determination of the Phase Inductances of a Brushless DC Motor With Faulhaber Winding. IEEE Transactions on Industry Applications, 2010, 46, 1360-1366.	4.9	12
108	Very-High-Speed Slotless Permanent-Magnet Motors: Analytical Modeling, Optimization, Design, and Torque Measurement Methods. IEEE Transactions on Industrial Electronics, 2010, 57, 296-303.	7.9	174

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109	Modelling and design of a contactless energy transfer system for a notebook battery charger. , 2010, , .		1
110	Towards self-sensed drives in linear haptic systems. , 2009, , .		2
111	Exploitation of iron B-H local hysteresis for the rotor position detection of a PM motor. , 2009, , .		7
112	Optimization design of a linear actuator using a genetic algorithm. , 2009, , .		8
113	A miniature short stroke linear actuator and its position control for a haptic key. , 2009, , .		3
114	Development of a hybrid MEMS BLDC micromotor. , 2009, , .		2
115	Optimization Design of a Segmented Halbach Permanent-Magnet Motor Using an Analytical Model. IEEE Transactions on Magnetics, 2009, 45, 2955-2960.	2.1	87
116	PM motor sensorless position detection based on iron B-H local hysteresis. , 2009, , .		18
117	An analytical solution for the rotor eddy current losses in a slotless PM motor: the case of current layer excitation. , 2009, , .		6
118	Sensorless position detection of a linear actuator using the resonance frequency. , 2009, , .		12
119	An analytical determination of the torque-speed and efficiency-speed characteristics of a BLDC motor. , 2009, , .		13
120	Eddy current power losses in a toroidal laminated core with rectangular cross section. , 2009, , .		9
121	Analytical Solution for Rotor Eddy-Current Losses in a Slotless Permanent-Magnet Motor: The Case of Current Sheet Excitation. IEEE Transactions on Magnetics, 2008, 44, 386-393.	2.1	60
122	Analytical Force Determination in an Electromagnetic Actuator. IEEE Transactions on Magnetics, 2008, 44, 2181-2185.	2.1	12
123	A new electrically assist scooter. , 2008, , .		1
124	Optimization of a new type of ultrasonic linear motor. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 659-667.	3.0	8
125	Torque measurement methods for very high speed synchronous motors. , 2008, , .		6
126	Contactless system dedicated to colic stimulation. , 2008, , .		3

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127	Development of Planar Microcoils for an Electromagnetic Linear Actuator Fabricated in Batch-Type Wafer Technology. , 2008, , .		4
128	Adaptive control of ultrasonic motors using the maximum power point tracking method. , 2008, , .		6
129	Study of a hollow ultrasonic rotary motor. , 2008, , .		2
130	Genetic Algorithm optimization for a surgical ultrasonic transducer. , 2008, , .		3
131	Brushless DC Motor for a Solar Airplane Application: Comparison between Simulations and Measurements. , 2008, , .		7
132	Modeling of Hysteresis Losses Applied to Slotless Permanent Magnet Motors. , 2007, , .		0
133	Analytical Determination of the Phase Inductances for a Brushless DC Motor with Faulhaber Winding. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	1
134	Optimization of a Biomedical Actuator for Implantable Continuous Glucose Monitoring. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	0
135	Analysis and Modeling of Electrostatic Discharge in a Tactile Glass Featured Watch. IEEE Transactions on Industry Applications, 2007, 43, 1091-1098.	4.9	0
136	An analytical formula for the back emf of a slotted BLDG motor. , 2007, , .		4
137	A New Standstill Position Detection Technique for Nonsalient Permanent-Magnet Synchronous Motors Using the Magnetic Anisotropy Method. IEEE Transactions on Magnetics, 2007, 43, 554-560.	2.1	22
138	Design optimization of a BLDC motor: a comparative analysis. , 2007, , .		13
139	An Analytical Determination of Eddy-Current Losses in a Configuration With a Rotating Permanent Magnet. IEEE Transactions on Magnetics, 2007, 43, 3380-3386.	2.1	38
140	Optimization of electric motor for a solar airplane application. IEEE Transactions on Industry Applications, 2006, 42, 1053-1061.	4.9	42
141	Brushless DC Motor Optimization Process - Choice between Standard or Straight Tooth Shape. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	16
142	Micro-Actuator for New Implantable Hearing Device. Conference Record - IAS Annual Meeting (IEEE) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.0	0
143	A square magnetic circuit analysis using Schwarzâ€“Christoffel mapping. Mathematics and Computers in Simulation, 2006, 71, 460-465.	4.4	1
144	Simplified Design Methodology for a Slotless Brushless DC Motor. IEEE Transactions on Magnetics, 2006, 42, 3842-3846.	2.1	35

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145	Determination of the Thermal Convection Coefficient for a Small Electric Motor. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	25
146	Ultrasonic Transducer Model for Optimization of a Spinal Tissue Ablation System. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	1
147	New Implantable Hearing Device Based on a Micro-Actuator that is Directly Coupled to the Inner Ear Fluid. , 2006, 2006, 3162-5.		8
148	Sensitivity analysis and optimization of a standing wave ultrasonic linear motor. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 53, 1352-1361.	3.0	21
149	Sensorless Speed Control of Traveling Wave Ultrasonic Motor. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	7
150	Determination of tooth cogging force in a hard-disk brushless DC motor. IEEE Transactions on Magnetics, 2005, 41, 4421-4426.	2.1	27
151	Reducing the Cogging Torque in Brushless DC Motors by Using Conformal Mappings. IEEE Transactions on Magnetics, 2004, 40, 451-455.	2.1	73
152	Contactless power and information transmission. IEEE Transactions on Industry Applications, 2002, 38, 1266-1272.	4.9	111
153	Design of a Miniature Short-Stroke Constant-Force Linear Actuator. Applied Mechanics and Materials, 0, 416-417, 109-114.	0.2	3