Berker Bilgin

List of Publications by Year in descending order

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118 papers	3,606 citations	172207 29 h-index	161609 54 g-index
119 all docs	119 docs citations	119 times ranked	2162 citing authors

#	Article	IF	Citations
1	An Online Torque Sharing Function Method Involving Current Dynamics for Switched Reluctance Motor Drives. IEEE Transactions on Transportation Electrification, 2023, 9, 534-548.	5.3	10
2	Reluctance Mesh-Based Magnetic Equivalent Circuit Modeling of Switched Reluctance Motors for Static and Dynamic Analysis. IEEE Transactions on Transportation Electrification, 2022, 8, 2164-2176.	5.3	4
3	Radial Force Density Calculation of Switched Reluctance Machines Using Reluctance Mesh-Based Magnetic Equivalent Circuit. IEEE Open Journal of the Industrial Electronics Society, 2022, 3, 37-49.	4.8	1
4	A Multi-objective Optimization Framework for the Design of a High Power-Density Switched Reluctance Motor. , 2022, , .		8
5	Axial-Flux Switched Reluctance Motor Design for a Light Electric Vehicle Application. , 2022, , .		2
6	Analytical Calculation of Temporal and Circumferential Orders of Radial Force Density Harmonics in External-Rotor and Internal-Rotor Switched Reluctance Machines. IEEE Open Journal of Industry Applications, 2021, 2, 70-81.	4.8	6
7	Fatigue Life Calculation and Mitigation of Bridge Stresses in the Rotor Core of a Delta-Shape Interior Permanent Magnet Motor. , 2021, , .		4
8	Comparative Analysis of Two Rotor Topologies for a High-Power Density Dual Three-Phase IPM Propulsion Motor. , 2021, , .		4
9	Comprehensive Analysis and Optimized Control of Torque Ripple and Power Factor in a Three-Phase Mutually Coupled Switched Reluctance Motor With Sinusoidal Current Excitation. IEEE Transactions on Power Electronics, 2021, 36, 7150-7164.	5.4	12
10	Reluctance Mesh-Based Modeling of Switched Reluctance Machines. , 2021, , .		2
11	A Novel Three-Dimensional Analytical Approach for Acoustic Noise Modeling in Switched Reluctance Machines. IEEE Transactions on Energy Conversion, 2021, 36, 2099-2109.	3.7	7
12	Design of Multilayer Concentric Ferrite-Magnet Machines for a Traction Application. IEEE Transactions on Transportation Electrification, 2021, 7, 1548-1560.	5.3	6
13	800-V Electric Vehicle Powertrains: Review and Analysis of Benefits, Challenges, and Future Trends. IEEE Transactions on Transportation Electrification, 2021, 7, 927-948.	5.3	139
14	A New Torque Sharing Function Method for Switched Reluctance Machines With Lower Current Tracking Error. IEEE Transactions on Industrial Electronics, 2021, 68, 10612-10622.	5.2	57
15	Analytical EMI Modeling of an Active Neutral Point Clamped Inverter. , 2021, , .		3
16	Switched Reluctance Motor Design for an EV Propulsion Application. , 2021, , .		4
17	Frequency-Band Analysis for Acoustic Noise Characterization of an Interior Permanent Magnet Motor. , 2021, , .		0
18	Time-Efficient Integrated Electrothermal Model for a 60-kW Three-Phase Bidirectional Synchronous DCâ€“DC Converter. IEEE Transactions on Industry Applications, 2020, 56, 654-668.	3.3	9

#	Article	IF	Citations
19	Power Inductor Optimization Using Non-linear Magnetization Characteristics. , 2020, , .		3
20	Gradient-Based Design Optimization of a Switched Reluctance Motor for an HVAC Application. , 2020, , .		4
21	Study on the Effect of Dynamic Eccentricity on Acoustic Noise of an Interior Permanent Magnet Traction Motor. , 2020, , .		4
22	A Comprehensive Analysis for High-Power Density, High-Efficiency 60 kW Interleaved Boost Converter Design for Electrified Powertrains. IEEE Transactions on Vehicular Technology, 2020, 69, 7131-7145.	3.9	36
23	Source of Acoustic Noise in a 12/16 External-Rotor Switched Reluctance Motor: Stator Tangential Vibration and Rotor Radial Vibration. IEEE Open Journal of Industry Applications, 2020, 1, 63-73.	4.8	14
24	A Truncated Fourier Based Analytical Model for SRMs with Higher Number of Rotor Poles. , 2020, , .		1
25	Modeling of Conducted Emissions for EMI Analysis of Power Converters: State-of-the-Art Review. IEEE Access, 2020, 8, 189313-189325.	2.6	33
26	Dynamic Vector Modeling of Three-Phase Mutually Coupled Switched Reluctance Machines with Single dq-Quadrant Look-up Tables. IEEE Open Journal of the Industrial Electronics Society, 2020, , 1-1.	4.8	5
27	Electromagnetic Modeling Techniques for Switched Reluctance Machines: State-of-the-Art Review. IEEE Open Journal of the Industrial Electronics Society, 2020, 1, 218-234.	4.8	15
28	Comparison of Current Control Strategies for Low- and High-Power Switched Reluctance Motor Drives. , 2020, , .		7
29	Design of Unskewed Interior Permanent Magnet Traction Motor with Asymmetric Flux Barriers and Shifted Magnets for Electric Vehicles. Electric Power Components and Systems, 2020, 48, 652-666.	1.0	6
30	An optimization Study for a Switched Reluctance Motor using Magnetic Equivalent Circuit and Space Mapping Techniques. , 2020, , .		6
31	Making the Case for Switched Reluctance Motors for Propulsion Applications. IEEE Transactions on Vehicular Technology, 2020, 69, 7172-7186.	3.9	74
32	Prediction of acoustic noise and vibration of a 24/16 traction switched reluctance machine. IET Electrical Systems in Transportation, 2020, 10, 35-43.	1.5	10
33	Design of a mutually coupled externalâ€rotor direct drive Eâ€bike switched reluctance motor. IET Electrical Systems in Transportation, 2020, 10, 89-95.	1.5	9
34	Design of an External-Rotor Direct Drive E-Bike Switched Reluctance Motor. IEEE Transactions on Vehicular Technology, 2020, 69, 2552-2562.	3.9	36
35	An Improved Torque Sharing Function for Torque Ripple Reduction in Switched Reluctance Machines. IEEE Transactions on Power Electronics, 2019, 34, 1635-1644.	5.4	156
36	Mutually Coupled Switched Reluctance Motor: Fundamentals, Control, Modeling, State of the Art Review and Future Trends. IEEE Access, 2019, 7, 100099-100112.	2.6	37

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37	Modeling and Analysis of Electric Motors: State-of-the-Art Review. IEEE Transactions on Transportation Electrification, 2019, 5, 602-617.	5.3	77
38	Design of a Spoke-Type Ferrite Magnet Generator for a Hybrid Electric Vehicle Application. , 2019, , .		4
39	Junction Temperature Estimation Based on Updating RC Network for Different Liquid Cooling Conditions. , 2019, , .		4
40	Adjoint-Based Design Optimization of Nonlinear Switched Reluctance Motors. Electric Power Components and Systems, 2019, 47, 1705-1716.	1.0	5
41	A Finite Control Set Model Predictive Torque Control for Switched Reluctance Motor Drives with Adaptive Turn-off Angle. , 2019, , .		22
42	Torque Ripple Reduction for Interior Permanent Magnet Synchronous Machines under Load Excitation by Optimizing Rotor Skew Angles. , 2019, , .		4
43	A Comprehensive Analysis of the Acoustic Noise in an Interior Permanent Magnet Traction Motor. , 2019, , .		9
44	A Comprehensive Review of Flux Barriers in Interior Permanent Magnet Synchronous Machines. IEEE Access, 2019, 7, 149168-149181.	2.6	33
45	Radial Force Density Analysis of Switched Reluctance Machines: The Source of Acoustic Noise. IEEE Transactions on Transportation Electrification, 2019, 5, 93-106.	5.3	42
46	Radial Force Shaping for Acoustic Noise Reduction in Switched Reluctance Machines. IEEE Transactions on Power Electronics, 2019, 34, 9866-9878.	5.4	62
47	Switched Reluctance Machines in Generating Mode. , 2019, , 183-195.		0
48	Electric Motor Industry and Switched Reluctance Machines. , 2019, , 1-33.		7
49	Investigation and design of an axial flux permanent magnet machine for a commercial midsize aircraft electric taxiing system. IET Electrical Systems in Transportation, 2018, 8, 52-60.	1.5	17
50	Bus Bar Design for High-Power Inverters. IEEE Transactions on Power Electronics, 2018, 33, 2354-2367.	5.4	82
51	Advanced Dynamic Modeling of Three-Phase Mutually Coupled Switched Reluctance Machine. IEEE Transactions on Energy Conversion, 2018, 33, 146-154.	3.7	24
52	Adjoint Sensitivity Analysis of Switched Reluctance Motors. Electric Power Components and Systems, 2018, 46, 1959-1968.	1.0	6
53	Geometric Optimization of Switched Reluctance Motors Using an Invasive Weed Method. , 2018, , .		3
54	A MATLAB Toolbox for Adjoint-Based Sensitivity Analysis of Switched Reluctance Motors. , 2018, , .		5

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55	Effects of Current Excitation on Nodal Forces in Switched Reluctance Motors. , 2018, , .		1
56	External-Rotor Switched Reluctance Motor for Direct-Drive Home Appliances. , 2018, , .		14
57	Design of a Switched Reluctance Motor for a Pump Jack Application. , 2018, , .		4
58	Shaft Design for Electric Traction Motors. IEEE Transactions on Transportation Electrification, 2018, 4, 720-731.	5.3	7
59	Development of an External Rotor V-Shape Permanent Magnet Machine for E-Bike Application. IEEE Transactions on Energy Conversion, 2018, 33, 1650-1658.	3.7	28
60	Hybrid Acoustic Noise Analysis Approach of Conventional and Mutually Coupled Switched Reluctance Motors. IEEE Transactions on Energy Conversion, 2017, 32, 1042-1051.	3.7	35
61	Three-Phase 24/16 Switched Reluctance Machine for a Hybrid Electric Powertrain. IEEE Transactions on Transportation Electrification, 2017, 3, 76-85.	5.3	83
62	Estimating switching losses for SiC MOSFETs with non-flat miller plateau region. , 2017, , .		33
63	Optimisationâ€based procedure for characterising switched reluctance motors. IET Electric Power Applications, 2017, 11, 1366-1375.	1.1	6
64	An investigation of slot-pole combinations for interior permanent magnet synchronous machines with different magnet topologies. , 2017, , .		9
65	Thermal trade-off analysis of an exterior rotor e-bike switched reluctance motor. , 2017, , .		6
66	Inductor design for multiphase bidirectional DC-DC boost converter for an EV/HEV application. , 2017, , .		8
67	Noise and vibration reduction for IPMSM by using rotor circumferential slits. , 2017, , .		7
68	Radial forces and vibration analysis in an externalâ€rotor switched reluctance machine. IET Electric Power Applications, 2017, 11, 252-259.	1.1	29
69	Speed Range Extended Maximum Torque Per Ampere Control for PM Drives Considering Inverter and Motor Nonlinearities. IEEE Transactions on Power Electronics, 2017, 32, 7151-7159.	5.4	59
70	Design and Comparison of Interior Permanent Magnet Motor Topologies for Traction Applications. IEEE Transactions on Transportation Electrification, 2017, 3, 86-97.	5.3	193
71	Thermal management of electric machines. IET Electrical Systems in Transportation, 2017, 7, 104-116.	1.5	94
72	Maximizing thermal effectiveness and minimizing parasitic loss in a liquid cooled switched reluctance machine. , 2016, , .		7

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73	Thermal analysis of a three-phase 24/16 switched reluctance machine used in HEVs. , 2016, , .		4
74	A novel axial flux switched reluctance motor with multi-level air gap geometry. , 2016, , .		6
75	A Review of Shaft Voltages and Bearing Currents in EV and HEV Motors. , 2016, , .		41
76	Rotor skew pattern design and optimisation for cogging torque reduction. IET Electrical Systems in Transportation, 2016, 6, 126-135.	1.5	38
77	Closed loop control of a six phase interleaved bidirectional dc-dc boost converter for an EV/HEV application. , 2016, , .		12
78	Design considerations of switched reluctance machines with high power density. , 2016, , .		6
79	Analysis of unbalanced magnetic pull in eccentric interior permanent magnet machines with series and parallel windings. IET Electric Power Applications, 2016, 10, 526-538.	1.1	24
80	Acoustic Noise Analysis of a High-Speed High-Power Switched Reluctance Machine: Frame Effects. IEEE Transactions on Energy Conversion, 2016, 31, 69-77.	3.7	62
81	Design optimization of switched reluctance machine using genetic algorithm. , 2015, , .		28
82	A topological evaluation of isolated DC/DC converters for Auxiliary Power Modules in Electrified Vehicle applications. , 2015, , .		40
83	Performance evaluation of a high-speed high-power switched reluctance motor drive. , 2015, , .		8
84	Modeling and analysis of AC resistance of a permanent magnet machine for online estimation purposes. , 2015, , .		4
85	State-of-the-art high-speed switched reluctance machines. , 2015, , .		22
86	Enhancement of electric motor thermal management through axial cooling methods: A materials approach. , 2015, , .		27
87	Modeling and analysis of core losses of an IPM machine for online estimation purposes. , 2015, , .		4
88	An Offline Torque Sharing Function for Torque Ripple Reduction in Switched Reluctance Motor Drives. IEEE Transactions on Energy Conversion, 2015, 30, 726-735.	3.7	217
89	Loss and Efficiency Analysis of Switched Reluctance Machines Using a New Calculation Method. IEEE Transactions on Industrial Electronics, 2015, 62, 3072-3080.	5.2	73
90	Investigation of impact of number of phases in interleaved dc-dc boost converter. , 2015, , .		11

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91	Making the Case for Electrified Transportation. IEEE Transactions on Transportation Electrification, 2015, 1, 4-17.	5.3	328
92	A Review of Structural and Thermal Analysis of Traction Motors. IEEE Transactions on Transportation Electrification, 2015, 1, 255-265.	5.3	36
93	Global loss minimization control of PMSM considering cross-coupling and saturation. , 2015, , .		19
94	A reduced-order model based induction machine self-commissioning method. , 2015, , .		1
95	An Extended-Speed Low-Ripple Torque Control of Switched Reluctance Motor Drives. IEEE Transactions on Power Electronics, 2015, 30, 1457-1470.	5.4	218
96	Elimination of Mutual Flux Effect on Rotor Position Estimation of Switched Reluctance Motor Drives. IEEE Transactions on Power Electronics, 2015, 30, 1499-1512.	5.4	50
97	Elimination of Mutual Flux Effect on Rotor Position Estimation of Switched Reluctance Motor Drives Considering Magnetic Saturation. IEEE Transactions on Power Electronics, 2015, 30, 532-536.	5.4	39
98	A comprehensive evaluation of bidirectional boost converter topologies for electrified vehicle applications. , 2014, , .		11
99	Transient electro-thermal analysis for a MOSFET based traction inverter. , 2014, , .		16
100	Laminated busbar design criteria in power converters for electrified powertrain applications. , 2014, , .		15
101	Dynamic analysis of the interaction between an Interleaved Boost Converter with Coupled Inductor and a Constant Power Load. , 2014, , .		5
102	Electric Motors in Electrified Transportation: A step toward achieving a sustainable and highly efficient transportation system. IEEE Power Electronics Magazine, 2014, 1, 10-17.	0.6	86
103	Fundamentals of Electric Machines. Energy, Power Electronics, and Machines Series, 2014, , 107-186.	1.0	11
104	Comprehensive Evaluation of the Dynamic Performance of a 6/10 SRM for Traction Application in PHEVs. IEEE Transactions on Industrial Electronics, 2013, 60, 2564-2575.	5.2	133
105	Comparative evaluation of power converters for 6/4 and 6/10 switched reluctance machines. , 2012, , .		2
106	Switched reluctance generator with higher number of rotor poles than stator poles. , 2012, , .		4
107	A simple control scheme for active power filtering in ultracapacitor assisted plug-in hybrid electric vehicles. , 2012, , .		1
108	Reduced-parts three-phase inverters: A comparative study. , 2012, , .		4

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109	Design Considerations for Switched Reluctance Machines With a Higher Number of Rotor Poles. IEEE Transactions on Industrial Electronics, 2012, 59, 3745-3756.	5.2	155
110	An FEA/MATLAB based machine design tool for switched reluctance motors. , 2011, , .		7
111	Universal input battery charger circuit for PHEV applications with simplified controller. , 2011, , .		21
112	An REU project on the design of a brushless DC machine for plug-in hybrid electric vehicles. , 2011, , .		0
113	Comparative evaluation of 6/8 and 6/10 switched reluctance machines for traction application in Plug-in Hybrid Electric Vehicles. , 2011, , .		9
114	Design considerations for a universal input battery charger circuit for PHEV applications. , 2010, , .		30
115	Design considerations for switched reluctance machines with higher number of rotor poles for solar-assisted plug-in electric auto rickshaw. , 2010, , .		8
116	Design of a Compact Thermal Management System for a High-Power Silicon Carbide Traction Inverter. , 0, , .		0
117	Integrated Busbar Design for Stray Inductance and Volume Reduction in a High-Power SiC Traction Inverter. , 0, , .		1
118	Dynamic Modeling of an Interior Permanent Magnet Machine with Space-Vector-Modulation-Based Voltage Source Inverter. , 0, , .		5