## Nicola Bianchi

## List of Publications by Year in descending order

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342 papers 11,202 citations

28274 55 h-index 91 g-index

342 all docs 342 docs citations

times ranked

342

3160 citing authors

#	Article	IF	Citations
1	Hybrid Excitation PM Synchronous Motors: Part II — Finite Element Analysis. IEEE Transactions on Energy Conversion, 2022, 37, 495-504.	5.2	6
2	Hybrid Excitation PM Synchronous Motors: Part I – Per Unit Analysis. IEEE Transactions on Energy Conversion, 2022, 37, 487-494.	5.2	7
3	A Vector-Phasor Combined With Superposition Method for Analyzing 3D-Space Topology for Leakage Flux and Losses Suppression of a Generator. IEEE Transactions on Energy Conversion, 2022, 37, 912-920.	5.2	O
4	Cage Losses in Induction Motors Considering Harmonics: A New Finite Element Procedure and Comparison With the Time-Domain Approach. IEEE Transactions on Industry Applications, 2022, 58, 1931-1940.	4.9	6
5	A computationally efficient surrogate model based robust optimization for permanent magnet synchronous machines. IEEE Transactions on Energy Conversion, 2022, , 1-1.	5 <b>.</b> 2	5
6	Dynamic Performance Enhancement of a Renewable Energy System for Grid Connection and Stand-Alone Operation with Battery Storage. Energies, 2022, 15, 1002.	3.1	10
7	Synchronous Reluctance Machines: A Comprehensive Review and Technology Comparison. Proceedings of the IEEE, 2022, 110, 382-399.	21.3	38
8	Enhanced Control and Power Management for a Renewable Energy-Based Water Pumping System. IEEE Access, 2022, 10, 36028-36056.	4.2	10
9	Improving the Dynamic Performance of a Variable Speed DFIG for Energy Conversion Purposes Using an Effective Control System. Processes, 2022, 10, 456.	2.8	6
10	A Permanent Magnet Assembling Approach to Mitigate the Cogging Torque for Permanent Magnet Machines Considering Manufacturing Uncertainties. Energies, 2022, 15, 2154.	3.1	3
11	A Review about Flux-Weakening Operating Limits and Control Techniques for Synchronous Motor Drives. Energies, 2022, 15, 1930.	3.1	8
12	Comparative Study of Non-Rare-Earth and Rare-Earth PM Motors for EV Applications. Energies, 2022, 15, 2711.	3.1	15
13	Different Approaches in the Use of Ferrites in Assisted Reluctance Machines. IEEE Transactions on Industry Applications, 2022, 58, 6136-6144.	4.9	O
14	Optimised Design of Permanent Magnet Assisted Synchronous Reluctance Machines for Household Appliances. IEEE Transactions on Energy Conversion, 2021, 36, 3084-3095.	5.2	18
15	Hybrid-Excited PM Motor for Electric Vehicle. Energies, 2021, 14, 916.	3.1	8
16	A Complete and Fast Analysis Procedure for Three-Phase Induction Motors Using Finite Element, Considering Skewing and Iron Losses. Applied Sciences (Switzerland), 2021, 11, 2428.	2.5	3
17	A Comparison between Hybrid Excitation and Interior Permanent Magnet Motors., 2021,,.		16
18	Comparison of Fault Characteristics According to Winding Configurations for Dual Three-Phase Synchronous Reluctance Motor. IEEE Transactions on Industry Applications, 2021, 57, 2398-2406.	4.9	10

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19	Analysis and Design of Dual-Rotor Synchronous Reluctance Machine. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 4376-4383.	5.4	4
20	Electro-Magnetic and Structural Analysis of Six-Pole Hybrid-Excited Permanent Magnet Motors. Electronics (Switzerland), 2021, 10, 2051.	3.1	5
21	Homothetic Design in Synchronous Reluctance Machines and Effects on Torque Ripple. IEEE Transactions on Energy Conversion, 2021, 36, 2195-2205.	5.2	7
22	Measures and Simulations of Induction Machines Flux Linkage Characteristics Based on Rotor Field Orientation. IEEE Transactions on Industry Applications, 2021, 57, 4686-4693.	4.9	2
23	Cuckoo Search Algorithm for Multi-Objective Optimization of Transient Starting Characteristics of a Self-Starting HVPMSM. IEEE Transactions on Energy Conversion, 2021, 36, 1861-1872.	5.2	4
24	Methods to Improve the Cogging Torque Robustness Under Manufacturing Tolerances for the Permanent Magnet Synchronous Machine. IEEE Transactions on Energy Conversion, 2021, 36, 2152-2162.	5.2	12
25	Design and Optimization Techniques in Performance Improvement of Line-Start Permanent Magnet Synchronous Motors: A Review. IEEE Transactions on Magnetics, 2021, 57, 1-14.	2.1	13
26	Experimental Tests of Dual Three-Phase Synchronous Reluctance Motor Under Half-Control Mode. IEEE Transactions on Industry Applications, 2021, 57, 5887-5893.	4.9	11
27	Direct Drive Applications: Possible Replacement of Rare-Earth Permanent Magnet Motors. Energies, 2021, 14, 8058.	3.1	4
28	Design and Evaluation of a Short-Circuit Rotor-Ring for Enhanced Self-Sensing Capability in a Slotless PM Motor. IEEE Transactions on Industrial Electronics, 2020, 67, 3462-3471.	7.9	3
29	Two Approaches in the Use of Ferrites in Assisted Reluctance Machines. , 2020, , .		3
30	Experiment-Based Performance Analysis for Dual Three-Phase Synchronous Reluctance Motor According to Different Winding Configurations. , 2020, , .		1
31	Alternatives to Replace Rare-Earth Permanent Magnet Motors in Direct Drive Applications. , 2020, , .		6
32	Methods to Reduce the Computational Burden of Robust Optimization for Permanent Magnet Motors. IEEE Transactions on Energy Conversion, 2020, 35, 2116-2128.	5.2	10
33	The Formula SAE Electric Vehicle Competition: A High-Torque Density Permanent Magnet Motor. IEEE Industry Applications Magazine, 2020, 26, 76-86.	0.4	5
34	A Method for Evaluating the Worst-Case Cogging Torque Under Manufacturing Uncertainties. IEEE Transactions on Energy Conversion, 2020, 35, 1837-1848.	5.2	29
35	Direct Analysis of Three-Phase Induction Motor Considering Rotor Parameters' Variation and Stator Belt Harmonics Effect. IEEE Transactions on Industry Applications, 2020, 56, 3559-3570.	4.9	6
36	Design and Analysis of Normal Saliency IPM Spoke Motor. IEEE Transactions on Industry Applications, 2020, , 1-1.	4.9	15

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37	High-Speed Synchronous Reluctance Motor for Electric-Spindle Application. , 2020, , .		3
38	Measurements and simulation of induction machines flux linkage characteristics adopting rotor field orientation. , 2020, , .		3
39	Comparison of Dual Three-Phase Synchronous Reluctance Motor under Half-Control Mode according to Winding Configurations. , 2020, , .		3
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41	A method to estimate the worst-case torque ripple under manufacturing uncertainties for permanent magnet synchronous machines. , 2020, , .		3
42	Analysis Guideline to Determine Capabilities of IPM Motors for Automotive Application., 2019,,.		2
43	Fault Analysis for Dual Three-Phase Synchronous Reluctance Motor. , 2019, , .		6
44	Induction Motor Analysis Using Magnetostatic Finite Element Simulations Considering Skewing. , 2019, , .		11
45	High-Speed PM Generators for Organic Rankine Cycle Systems: Reduction of Eddy Current Rotor Losses. IEEE Transactions on Industry Applications, 2019, 55, 5800-5808.	4.9	4
46	Design Optimization and Analysis of a Synchronous Reluctance Machine for Fault-Tolerant Applications. , 2019, , .		4
47	Stator fault diagnosis by reactive power in dual three-phase reluctance motors. , 2019, , .		2
48	A High Speed PM Generator for an Organic Rankine Cycle System. IEEE Transactions on Industry Applications, 2019, 55, 4633-4642.	4.9	5
49	Low Inductance Effects on Electric Drives using Slotless Permanent Magnet Motors: A Framework for Performance Analysis. , 2019, , .		8
50	The Influence of the Rotor Geometry on Synchronous Reluctance Machine Vibration., 2019,,.		1
51	Design and Optimization of a PMASR Motor for Low-Voltage E-Scooter Applications. , 2019, , .		5
52	Impact of Geometry on the Rotor Iron Losses in Synchronous Reluctance Motors. IEEE Transactions on Industry Applications, 2019, 55, 5865-5872.	4.9	11
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55	High-Torque Low-Speed Permanent Magnet Assisted Synchronous Reluctance Motor Design. , 2019, , .		7
56	A Review on Magnetic Gears: Topologies, Computational Models, and Design Aspects. IEEE Transactions on Industry Applications, 2019, 55, 4557-4566.	4.9	54
57	Analytical Energy-Based Approaches for Cogging Torque Calculation in Surface-Mounted PM Motors. IEEE Transactions on Magnetics, 2019, 55, 1-10.	2.1	18
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60	Optimal Design and Experimental Validation of a Synchronous Reluctance Machine for Fault-Tolerant Applications. , $2019, , .$		8
61	Efficiency Maps Computation and Comparison Including Thermal Limits. , 2019, , .		4
62	Comparison of Fault Characteristics for Dual Three-Phase Synchronous Reluctance Motor., 2019,,.		9
63	The Influence of Flux-Barriers Distribution on Vibrations in Synchronous Reluctance Machine. , 2019, , .		1
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65	Induction Motor Mapping Using Rotor Field-Oriented Analysis Technique. , 2019, , .		13
66	Scalability of Synchronous Reluctance Machines Considering Thermal Performance. , 2019, , .		3
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75	Synchronous Reluctance Motor Iron Losses: Considering Machine Nonlinearity at MTPA, FW, and MTPV Operating Conditions. IEEE Transactions on Energy Conversion, 2018, 33, 1402-1410.	5.2	30
76	Design Guideline of an AC Hairpin Winding. , 2018, , .		75
77	High-Speed Synchronous Reluctance Motors: Computation of the Power Limits by Means of Reluctance Networks. , 2018, , .		1
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79	A Rapid Estimation of the Rotor Losses in High Speed Synchronous PM Machines. , 2018, , .		1
80	Synchronous Reluctance Motor with Dual Three-Phase Winding for Fault- Tolerant Applications. , $2018,  ,  .$		14
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92	Design methodology for highâ€speed synchronous reluctance machines. IET Electric Power Applications, 2018, 12, 1110-1116.	1.8	19
93	Electromagnetic-thermal coupling applied to the analysis of the heat transfer in a traction motor. , 2018, , .		3
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104	Unified equivalent MMF concept for torque analysis of AC machines., 2017,,.		1
105	Investigation of self-excitation in reluctance generators. , 2017, , .		4
106	High torque density PM motor for racing applications. , 2017, , .		8
107	Nonlinear Analytical Computation of the Magnetic Field in Reluctance Synchronous Machines. IEEE Transactions on Industry Applications, 2017, 53, 5373-5382.	4.9	21
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109	A high speed PM generator for an Organic Rankine Cycle system. , 2017, , .		7
110	Analytical approach to determine the power limit of high-speed synchronous reluctance machines. , 2017, , .		6
111	High speed motors: A comparison between synchronous PM and reluctance machines. , 2017, , .		18
112	Rotor losses reduction in high speed PM generators for organic rankine cycle systems. , 2017, , .		4
113	Choice of flux-barriers position in synchronous reluctance machines. , 2017, , .		19
114	The influence of rotor design on active flux-based sensorless synchronous reluctance motor drives. , $2017, \dots$		1
115	Replacing SPM by PMAREL machines in low-speed high-torque applications. , 2016, , .		1
116	The nature of the torque ripple in fractional-slot synchronous PMAREL machines. , 2016, , .		8
117	Magnetic field analytical computation in synchronous reluctance machines considering the iron saturation. , 2016, , .		5
118	The Rediscovery of Synchronous Reluctance and Ferrite Permanent Magnet Motors. Springer Briefs in Electrical and Computer Engineering, $2016$ , , .	0.5	116
119	Electric Vehicle Traction Based on Synchronous Reluctance Motors. IEEE Transactions on Industry Applications, 2016, 52, 4762-4769.	4.9	196
120	Comparison between synchronous machines with eccentricity: Reluctance and Permanent Magnets. , 2016, , .		2
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122	Secondary saliencies decoupling technique for self-sensing integrated multi-drives. , 2016, , .		5
123	An improved analytical model of eccentric synchronous reluctance machines considering the iron saturation and slotting effect. , 2016, , .		2
124	Improved analytical estimation of rotor losses in high-speed PM synchronous machines. , 2016, , .		2
125	Fractional-slot PM assisted reluctance motors: Configuration comparison and optimization. , 2016, , .		0
126	Geometry analysis and optimization of PM-assisted reluctance motors. , 2016, , .		4

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127	Synchronous reluctance machine analytical model optimization and validation through finite element analysis. , $2016,  ,  .$		18
128	Parameters identification of multi-windings induction machines. , 2016, , .		1
129	Iron saturation impact on high frequency sensorless control of synchronous permanent magnets motor., 2016,,.		6
130	Fast synthesis of permanent magnet assisted synchronous reluctance motors. IET Electric Power Applications, 2016, 10, 312-318.	1.8	56
131	An Inverse Approach for Interturn Fault Detection in Asynchronous Machines Using Magnetic Pendulous Oscillation Technique. IEEE Transactions on Industry Applications, 2016, 52, 226-233.	4.9	29
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133	An Analytical Approach to Design the PM in PMAREL Motors Robust Toward the Demagnetization. IEEE Transactions on Energy Conversion, 2016, 31, 800-809.	5.2	53
134	Design and Analysis of a Novel High-Torque Stator-Segmented SRM. IEEE Transactions on Industrial Electronics, 2016, 63, 1458-1466.	7.9	71
135	Traction PMASR Motor Optimization According to a Given Driving Cycle. IEEE Transactions on Industry Applications, 2016, 52, 209-216.	4.9	104
136	Experimental Comparison of PM-Assisted Synchronous Reluctance Motors. IEEE Transactions on Industry Applications, 2016, 52, 163-171.	4.9	68
137	Design and test of an electric minidumper. , 2015, , .		0
138	On the proprieties of the differential cross-saturation inductance in synchronous machines. , 2015, , .		10
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140	Industrial-scale motor cogging torque control for a high-volume motor manufacturing. , 2015, , .		1
141	An inverse approach for inter-turn fault detection in asynchronous machines using magnetic pendulous oscillation technique. , 2015, , .		2
142	Analytical comparison of synchronous reluctance and surface permanent magnet machines with rotor eccentricity. , $2015,  \dots$		6
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145	Performance comparison of fractional slot concentrated winding spoke type synchronous motors with different slot-pole combinations. , $2015$ , , .		16
146	Ring Losses Evaluation in Ringed-Pole PM Motors. IEEE Transactions on Industry Applications, 2015, 51, 3686-3695.	4.9	6
147	Eccentricity in Synchronous Reluctance Motorsâ€"Part II: Different Rotor Geometry and Stator Windings. IEEE Transactions on Energy Conversion, 2015, 30, 754-760.	5.2	33
148	Eccentricity in Synchronous Reluctance Motors—Part I: Analytical and Finite-Element Models. IEEE Transactions on Energy Conversion, 2015, 30, 745-753.	5.2	56
149	Selection Criteria and Robust Optimization of a Traction PM-Assisted Synchronous Reluctance Motor. IEEE Transactions on Industry Applications, 2015, 51, 4383-4391.	4.9	49
150	Optimization of Flux Barriers of Line-start Synchronous Reluctance Motors for Transient- and Steady-state Operation. Electric Power Components and Systems, 2015, 43, 594-606.	1.8	21
151	Design of Synchronous Reluctance Motor for Hybrid Electric Vehicles. IEEE Transactions on Industry Applications, 2015, 51, 3030-3040.	4.9	90
152	Selection of PM Flux Linkage for Maximum Low-Speed Torque Rating in a PM-Assisted Synchronous Reluctance Machine. IEEE Transactions on Industry Applications, 2015, 51, 3600-3608.	4.9	57
153	Design and tests of a four-layer fractional-slot Interior Permanent Magnet motor., 2015,,.		1
154	High-Frequency \$d\$– \$q\$ Model of Synchronous Machines for Sensorless Control. IEEE Transactions on Industry Applications, 2015, 51, 3923-3931.	4.9	25
155	Comparison between synchronous reluctance and interior permanent magnet motors with eccentricity, , $2015$ , , .		5
156	Sensitivity Analysis of Torque Ripple Reduction of Synchronous Reluctance and Interior PM Motors. IEEE Transactions on Industry Applications, 2015, 51, 187-195.	4.9	113
157	Analysis and Experimental Tests of the Sensorless Capability of a Fractional-Slot Inset PM Motor. IEEE Transactions on Industry Applications, 2015, 51, 224-231.	4.9	16
158	Analysis of Rotor Saturation in Synchronous Reluctance and PM-Assisted Reluctance Motors. IEEE Transactions on Industry Applications, 2015, 51, 169-177.	4.9	53
159	Permanent magnet volume minimization of spoke type fractional slot synchronous motors. , 2014, , .		14
160	Procedure for fast electromagnetic design of axial flux permanent magnet machines. , 2014, , .		6
161	Optimal selection of PM flux linkage in a PM assisted synchronous reluctance machine. , 2014, , .		7
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164	Design and comparison of interior permanent magnet synchronous motors with nonâ€uniform airgap and conventional rotor for electric vehicle applications. IET Electric Power Applications, 2014, 8, 240-249.	1.8	36
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169	Finite-Element Analysis of Electrical Machines for Sensorless Drives With High-Frequency Signal Injection. IEEE Transactions on Industry Applications, 2014, 50, 1871-1879.	4.9	28
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176	Structural Analysis of the Interior PM Rotor Considering Both Static and Fatigue Loading. IEEE Transactions on Industry Applications, 2014, 50, 253-260.  Core Axial Lengthening as Effective Solution to Improve the Induction Motor Efficiency Classes. IEEE Transactions on Industry Applications, 2014, 50, 218-225.	4.9	59 41
176 177	Structural Analysis of the Interior PM Rotor Considering Both Static and Fatigue Loading. IEEE Transactions on Industry Applications, 2014, 50, 253-260.  Core Axial Lengthening as Effective Solution to Improve the Induction Motor Efficiency Classes. IEEE Transactions on Industry Applications, 2014, 50, 218-225.  Optimization of a traction PMASR motor according to a given driving cycle., 2014,,.	4.9	59 41 13

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181	Analysis and test of the sensorless capability of induction motors with created saliency., 2014,,.		O
182	Sensorless Capability of Fractional-Slot Surface-Mounted PM Motors. IEEE Transactions on Industry Applications, 2013, 49, 1325-1332.	4.9	19
183	Energy efficiency improvement adopting synchronous motors. , 2013, , .		5
184	Design of synchronous reluctance motor for hybrid electric vehicles. , 2013, , .		27
185	Synchronous reluctance and interior permanent magnet motors. , 2013, , .		25
186	Permanent magnet volume minimization in permanent magnet assisted synchronous reluctance motors. , $2013,  \ldots$		18
187	Relationship Between Rotor Losses and Size of Permanent-Magnet Machines. IEEE Transactions on Industry Applications, 2013, 49, 2015-2023.	4.9	17
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189	Thermal Analysis of a Five-Phase Motor Under Faulty Operations. IEEE Transactions on Industry Applications, 2013, 49, 1531-1538.	4.9	39
190	Effect of Stator and Rotor Saturation on Sensorless Rotor Position Detection. IEEE Transactions on Industry Applications, 2013, 49, 1333-1342.	4.9	69
191	Investigation on the self-sensing capability of a fractional-slot inset PM motor. , 2013, , .		7
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197	Ring losses evaluation in ringed pole PM motors. , 2013, , .		6
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200	Sensitivity analysis of torque ripple reduction of synchronous reluctance and interior PM motors. , 2013, , .		18
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