Mario J Duran

List of Publications by Year
in descending order

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122 papers	6,573 citations	87888 38 h-index	64796 79 g-index
124 all docs	124 docs citations	124 times ranked	2253 citing authors

#	Article	IF	Citations
1	Permanent magnet synchronous machines. , 2023, , 329-336.		0
2	On the Advantages of Symmetrical Over Asymmetrical Multiphase AC Drives With Even Phase Number Using Direct Controllers. IEEE Transactions on Industrial Electronics, 2022, 69, 7639-7650.	7.9	19
3	On the Use of Predictive Tools to Improve the Design of Undergraduate Courses. IEEE Access, 2022, 10, 3105-3115.	4.2	1
4	Model Predictive Current Control of Six-Phase Induction Motor Drives Using Virtual Vectors and Space Vector Modulation. IEEE Transactions on Power Electronics, 2022, 37, 7617-7628.	7.9	21
5	Hybrid Multivector FCSâ€“MPC for Six-Phase Electric Drives. IEEE Transactions on Power Electronics, 2022, 37, 8988-8999.	7.9	15
6	A Comprehensive Survey on Fault Tolerance in Multiphase AC Drives, Part 2: Phase and Switch Open-Circuit Faults. Machines, 2022, 10, 221.	2.2	29
7	A Comprehensive Survey on Fault Tolerance in Multiphase AC Drives, Part 1: General Overview Considering Multiple Fault Types. Machines, 2022, 10, 208.	2.2	37
8	The Evolution of Model Predictive Control in Multiphase Electric Drives: A Growing Field of Research. IEEE Industrial Electronics Magazine, 2022, 16, 29-39.	2.6	14
9	Model Predictive Control Based on Dynamic Voltage Vectors for Six-Phase Induction Machines. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2710-2722.	5.4	35
10	Smart Voltage Vectors for Model Predictive Control of Six-Phase Electric Drives. IEEE Transactions on Industrial Electronics, 2021, 68, 9024-9035.	7.9	25
11	Large virtual voltage vectors for direct controllers in six-phase electric drives. International Journal of Electrical Power and Energy Systems, 2021, 125, 106425.	5.5	18
12	Model Predictive Control of Six-Phase Electric Drives Including ARX Disturbance Estimator. IEEE Transactions on Industrial Electronics, 2021, 68, 81-91.	7.9	27
13	Current Harmonic Mitigation Using a Multi-Vector Solution for MPC in Six-Phase Electric Drives. IEEE Access, 2021, 9, 117761-117771.	4.2	15
14	Symmetrical Six-Phase Induction Machines: A Solution for Multiphase Direct Control Strategies. , 2021, , .		11
15	Predictive Control with Fixed Switching Frequency for Three-Level Boost and NPC Converters Interfaced PMSG Wind Turbine. , 2021, , .		1
16	Proportional Usage of Low-Level Actions in Model Predictive Control for Six-Phase Electric Drives. Energies, 2021, 14, 4358.	3.1	3
17	Assessment of Virtual-Voltage-Based Model Predictive Controllers in Six-Phase Drives Under Open-Phase Faults. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 2634-2644.	5.4	60
18	Field-Oriented Control of Multiphase Drives With Passive Fault Tolerance. IEEE Transactions on Industrial Electronics, 2020, 67, 7228-7238.	7.9	70

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19	Assessing Variable Sampling Time Controllers for Five-Phase Induction Motor Drives. IEEE Transactions on Industrial Electronics, 2020, 67, 2523-2531.	7.9	9
20	Analysis of the Gearbox Oil Maintenance Procedures in Wind Energy. Energies, 2020, 13, 3414.	3.1	5
21	Automatic Fault-Tolerant Control of Multiphase Induction Machines: A Game Changer. Electronics (Switzerland), 2020, 9, 938.	3.1	13
22	Single-Index Open-Phase Fault Detection Method for Six-Phase Electric Drives. IEEE Transactions on Industrial Electronics, 2020, 67, 10233-10242.	7.9	23
23	Predictive current control in electrical drives: an illustrated review with case examples using a fiveâ€phase induction motor drive with distributed windings. IET Electric Power Applications, 2020, 14, 1291-1310.	1.8	29
24	Multiphase current imbalance localisation method applied to natural faultâ€tolerant strategies. IET Electric Power Applications, 2020, 14, 1421-1429.	1.8	5
25	Constrained Model Predictive Control in Nine-Phase Induction Motor Drives. IEEE Transactions on Energy Conversion, 2019, 34, 1881-1889.	5.2	35
26	Interest and Applicability of Meta-Heuristic Algorithms in the Electrical Parameter Identification of Multiphase Machines. Energies, 2019, 12, 314.	3.1	7
27	Model-Based Predictive Current Controllers in Multiphase Drives Dealing with Natural Reduction of Harmonic Distortion. Energies, 2019, 12, 1679.	3.1	5
28	Direct Torque and Predictive Control Strategies in Nine-Phase Electric Drives Using Virtual Voltage Vectors. IEEE Transactions on Power Electronics, 2019, 34, 12106-12119.	7.9	48
29	Power Conversion and Predictive Control of Wind Energy Conversion Systems. Power Systems, 2019, , 113-139.	0.5	4
30	Efficient Model Predictive Control with Natural Fault-Tolerance in Asymmetrical Six-Phase Induction Machines. Energies, 2019, 12, 3989.	3.1	9
31	Assessment of a Universal Reconfiguration-less Control Approach in Open-Phase Fault Operation for Multiphase Drives. Energies, 2019, 12, 4698.	3.1	14
32	Model Predictive Control of Six-Phase Induction Motor Drives Using Two Virtual Voltage Vectors. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 321-330.	5.4	73
33	Model-Based Control for Power Converters With Variable Sampling Time: A Case Example Using Five-Phase Induction Motor Drives. IEEE Transactions on Industrial Electronics, 2019, 66, 5800-5809.	7.9	9
34	Open-Switch Fault Detection in Five-Phase Induction Motor Drives Using Model Predictive Control. IEEE Transactions on Industrial Electronics, 2018, 65, 3045-3055.	7.9	107
35	A Simple, Fast, and Robust Open-Phase Fault Detection Technique for Six-Phase Induction Motor Drives. IEEE Transactions on Power Electronics, 2018, 33, 547-557.	7.9	103
36	Model Predictive Control of Six-Phase Induction Motor Drives Using Virtual Voltage Vectors. IEEE Transactions on Industrial Electronics, 2018, 65, 27-37.	7.9	189

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37	An Experimental Assessment of Open-Phase Fault-Tolerant Virtual-Vector-Based Direct Torque Control in Five-Phase Induction Motor Drives. IEEE Transactions on Power Electronics, 2018, 33, 2774-2784.	7.9	88
38	Trade-offs analysis in predictive current control of multi-phase induction machines. Control Engineering Practice, 2018, 81, 105-113.	5.5	32
39	Variable sampling time model predictive control of multiphase induction machines. , 2018, , .		2
40	Vectores Virtuales de TensiÃ³n en Control Directo de Par para una MÃ¡quina de InducciÃ³n de Seis Fases. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2018, 15, 277.	1.0	3
41	Impact of Postfault Flux Adaptation on Six-Phase Induction Motor Drives With Parallel Converters. IEEE Transactions on Power Electronics, 2017, 32, 515-528.	7.9	49
42	A Unified Analysis of the Fault Tolerance Capability in Six-Phase Induction Motor Drives. IEEE Transactions on Power Electronics, 2017, 32, 7824-7836.	7.9	201
43	Use of field harmonics in multiphase induction motor drives for on-line parameter estimation. , 2017, , .		7
44	A Simple Braking Method for Six-Phase Induction Motor Drives With Unidirectional Power Flow in the Base-Speed Region. IEEE Transactions on Industrial Electronics, 2017, 64, 6032-6041.	7.9	28
45	Fault-Tolerant Control of Six-Phase Induction Motor Drives With Variable Current Injection. IEEE Transactions on Power Electronics, 2017, 32, 7894-7903.	7.9	63
46	Sensitivity of predictive controllers to parameter variation in five-phase induction motor drives. Control Engineering Practice, 2017, 68, 23-31.	5.5	36
47	PMSGâ€based wind energy conversion systems: survey on power converters and controls. IET Electric Power Applications, 2017, 11, 956-968.	1.8	172
48	Multiphase Energy Conversion Systems Connected to Microgrids With Unequal Power-Sharing Capability. IEEE Transactions on Energy Conversion, 2017, 32, 1386-1395.	5.2	25
49	Open-Phase Fault-Tolerant Direct Torque Control Technique for Five-Phase Induction Motor Drives. IEEE Transactions on Industrial Electronics, 2017, 64, 902-911.	7.9	158
50	Multiphase rotor current observers for current predictive control: A five-phase case study. Control Engineering Practice, 2016, 49, 101-111.	5.5	22
51	Five-Phase Induction Motor Rotor Current Observer for Finite Control Set Model Predictive Control of Stator Current. IEEE Transactions on Industrial Electronics, 2016, 63, 4527-4538.	7.9	78
52	Multiphase machines and drives - Revisited. IEEE Transactions on Industrial Electronics, 2016, 63, 429-432.	7.9	210
53	Fault-Tolerant Operation of Six-Phase Energy Conversion Systems With Parallel Machine-Side Converters. IEEE Transactions on Power Electronics, 2016, 31, 3068-3079.	7.9	69
54	Optimal Fault-Tolerant Control of Six-Phase Induction Motor Drives With Parallel Converters. IEEE Transactions on Industrial Electronics, 2016, 63, 629-640.	7.9	68

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55	Recent Advances in the Design, Modeling, and Control of Multiphase Machinesâ€"Part I. IEEE Transactions on Industrial Electronics, 2016, 63, 449-458.	7.9	653
56	Recent Advances in the Design, Modeling, and Control of Multiphase Machinesâ€"Part II. IEEE Transactions on Industrial Electronics, 2016, 63, 459-468.	7.9	504
57	Comparative Study of Predictive and Resonant Controllers in Fault-Tolerant Five-Phase Induction Motor Drives. IEEE Transactions on Industrial Electronics, 2016, 63, 606-617.	7.9	184
58	A simple braking method for six-phase induction motor drives with diode front-end rectifier. , 2015, , .		9
59	Rotor current observer in finite-state model predictive control of five-phase IM. , 2015, , .		0
60	Applying predictive power control to BESS for mitigation of wind power fluctuations. , 2015, , .		1
61	Unbalanced operation of multiphase wind energy conversion systems connected to microgrids. , 2015, , .		4
62	IGBT-Gating Failure Effect on a Fault-Tolerant Predictive Current-Controlled Five-Phase Induction Motor Drive. IEEE Transactions on Industrial Electronics, 2015, 62, 15-20.	7.9	98
63	Harmonic Distribution in Finite State Model Predictive Control. International Review of Electrical Engineering, 2015, 10, 172.	0.2	3
64	SVM Procedure for n-Phase VSI With Low Harmonic Distortion in the Overmodulation Region. IEEE Transactions on Industrial Electronics, 2014, 61, 92-97.	7.9	67
65	Operation of a Six-Phase Induction Machine Using Series-Connected Machine-Side Converters. IEEE Transactions on Industrial Electronics, 2014, 61, 164-176.	7.9	137
66	Speed Control of Five-Phase Induction Motors With Integrated Open-Phase Fault Operation Using Model-Based Predictive Current Control Techniques. IEEE Transactions on Industrial Electronics, 2014, 61, 4474-4484.	7.9	212
67	Postfault Operation of an Asymmetrical Six-Phase Induction Machine With Single and Two Isolated Neutral Points. IEEE Transactions on Power Electronics, 2014, 29, 5406-5416.	7.9	303
68	Understanding Power Electronics and Electrical Machines in Multidisciplinary Wind Energy Conversion System Courses. IEEE Transactions on Education, 2013, 56, 174-182.	2.4	38
69	Space-Vector PWM With Reduced Common-Mode Voltage for Five-Phase Induction Motor Drives. IEEE Transactions on Industrial Electronics, 2013, 60, 4159-4168.	7.9	107
70	Fault-tolerant control of six-phase induction generators in wind energy conversion systems with series-parallel machine-side converters. , 2013, , .		8
71	Space Vector PWM With Reduced Common-Mode Voltage for Five-Phase Induction Motor Drives Operating in Overmodulation Zone. IEEE Transactions on Power Electronics, 2013, 28, 4030-4040.	7.9	101
72	Variable-Speed Five-Phase Induction Motor Drive Based on Predictive Torque Control. IEEE Transactions on Industrial Electronics, 2013, 60, 2957-2968.	7.9	144

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73	Post-fault operation of an asymmetrical six-phase induction machine with single and two isolated neutral points. , 2013, , .		15
74	Analytical Evaluation of Switching Characteristics in Five-Phase Drives with Discontinuous Space Vector Pulse Width Modulation Techniques. EPE Journal (European Power Electronics and Drives) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6		4
75	Harmonic content in VSI operated with homogeneous pulse width. , 2013, , .		1
76	Current Control of a Six-Phase Induction Generator for Wind Energy Plants. , 2012, , .		10
77	Learner-centered activities for engineering students using a dynamic teaching methodology. , 2012, , .		0
78	A comprehensive fault analysis of a five-phase induction motor drive with an open phase. , 2012, , .		30
79	Speed control of five-phase induction motor drives with an open phase fault condition and predictive current control methods. , 2012, , .		2
80	Direct torque control for five-phase induction motor drives with reduced common-mode voltage. , 2012, , .		12
81	Wind energy conversion system course for electrical engineers. Part 2: Simulation activities. , 2012, , .		1
82	Wind energy conversion system course for electrical engineers. Part 1: Theoretical background. , 2012, , .		3
83	Reduction of Common-Mode Voltage in Five-Phase Induction Motor Drives Using Predictive Control Techniques. IEEE Transactions on Industry Applications, 2012, 48, 2059-2067.	4.9	92
84	Dual-boost-NPC converter for a dual three-phase PMSG wind energy conversion system. , 2012, , .		13
85	Modeling of a five-phase induction motor drive with a faulty phase. , 2012, , .		8
86	A six-phase wind energy induction generator system with series-connected DC-links. , 2012, , .		33
87	Fault-tolerant current predictive control of five-phase induction motor drives with an open phase. , 2011, , .		24
88	Predictive Current Control of Dual Three-Phase Drives Using Restrained Search Techniques. IEEE Transactions on Industrial Electronics, 2011, 58, 3253-3263.	7.9	125
89	An Enhanced Predictive Current Control Method for Asymmetrical Six-Phase Motor Drives. IEEE Transactions on Industrial Electronics, 2011, 58, 3242-3252.	7.9	128
90	Restrained search predictive control for five-phase dual-inverter supplied loads. , 2011, , .		1

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91	Estimation of the electrical parameters of a five-phase induction machine using standstill techniques. Part II: Practical implications. , 2011, , .		8
92	Estimation of the electrical parameters of a five-phase induction machine using standstill techniques. Part I: Theoretical discussions. , 2011, , .		11
93	Predictive-space vector PWM current control method for asymmetrical dual three-phase induction motor drives. IET Electric Power Applications, 2010, 4, 26.	1.8	103
94	Stability analysis of five-phase induction motor drives with variable third harmonic injection. Electric Power Systems Research, 2010, 80, 1459-1468.	3.6	10
95	Predictive current control of dual three-phase drives using restrained search techniques and multi level voltage source inverters. , 2010, , .		8
96	DC-bus utilization and overmodulation performance of five-phase voltage source inverters using model predictive control. , 2010, , .		8
97	Enhanced predictive current control method for the asymmetrical dual—three phase induction machine. , 2009, , .		4
98	Modeling Learner Satisfaction in an Electronic Instrumentation and Measurement Course Using Structural Equation Models. IEEE Transactions on Education, 2009, 52, 190-199.	2.4	10
99	PI tuning of five-phase drives with third harmonic injection. Control Engineering Practice, 2009, 17, 787-797.	5.5	20
100	A Modified Sector Based Space Vector PWM Technique for Fiveâ€Phase Drives. IEEJ Transactions on Electrical and Electronic Engineering, 2009, 4, 453-464.	1.4	5
101	Multi-phase current control using finite-state model-predictive control. Control Engineering Practice, 2009, 17, 579-587.	5.5	97
102	Improved techniques of restrained search predictive control for multiphase drives. , 2009, , .		8
103	A Proof of Concept Study of Predictive Current Control for VSI-Driven Asymmetrical Dual Three-Phase AC Machines. IEEE Transactions on Industrial Electronics, 2009, 56, 1937-1954.	7.9	195
104	One-Step Modulation Predictive Current Control Method for the Asymmetrical Dual Three-Phase Induction Machine. IEEE Transactions on Industrial Electronics, 2009, 56, 1974-1983.	7.9	123
105	A method of predictive current control with reduced number of calculations for five-phase voltage source inverters. , 2009, , .		9
106	Bifurcation Analysis of Five-Phase Induction Motor Drives With Third Harmonic Injection. IEEE Transactions on Industrial Electronics, 2008, 55, 2006-2014.	7.9	128
107	Real-time implementation of multi-dimensional five-phase space vector pulse-width modulation. Electronics Letters, 2007, 43, 949.	1.0	21
108	Multi-dimensional space vector pulse width modulation for disturbance-free operation of a five-phase AC motor drive. , 2007, , .		7

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109	Addressing Learner Satisfaction Outcomes in Electronic Instrumentation and Measurement Laboratory Course Organization. IEEE Transactions on Education, 2007, 50, 129-136.	2.4	28
110	Real-Time Implementation of Multi-Dimensional Five-Phase Space Vector PWM Using Look-Up Table Techniques. , 2007, , .		7
111	Multi-Dimensional Space Vector Pulse Width Modulation Scheme for Five-Phase Series-Connected Two-Motor Drives. , 2007, , .		9
112	Short-Term Wind Power Forecast Based on ARX Models. Journal of Energy Engineering - ASCE, 2007, 133, 172-180.	1.9	52
113	A learning methodology using Matlab/Simulink for undergraduate electrical engineering courses attending to learner satisfaction outcomes. International Journal of Technology and Design Education, 2007, 17, 55-73.	2.6	44
114	An electronic engineering curriculum design based on concept-mapping techniques. International Journal of Technology and Design Education, 2007, 17, 341-356.	2.6	26
115	Multi-Dimensional Approach to Multi-Phase Space Vector Pulse Width Modulation. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	32
116	A NOVEL SENSORLESS ROTOR-FLUX-ORIENTED CONTROL SCHEME WITH THERMAL AND DEEP-BAR PARAMETER ESTIMATION. , 2006, , 165-176.		0
117	Induction-motor sensorless vector control with online parameter estimation and overcurrent protection. IEEE Transactions on Industrial Electronics, 2006, 53, 154-161.	7.9	28
118	eDSPlab: A remote-accessed instrumentation laboratory for digital signal processors training based on the Internet. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	17
119	Induction machine deep-bar and thermal models for sensorless IRFOC application. IET Electric Power Applications, 2005, 152, 479.	1.4	1
120	Lumped-Parameter Thermal Model for Induction Machines. IEEE Transactions on Energy Conversion, 2004, 19, 791-792.	5.2	25
121	A novel induction motor IRFOC with on-line parameter estimation taking into account thermal and deep-bar effects. , 2004, , .		1
122	PES News. IEEE Power Engineering Review, 2002, 22, 28-28.	0.1	4