

# Mauro Zigliotto

## Curriculum Vitæ

✉ Dept. of Engineering and Management (DTG)  
University of Padova  
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### Personal Information

Affiliation ✉ Dept. of Engineering and Management, University of Padova  
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E-mail ✉ mauro.zigliotto@unipd.it  
Citizenship Italian  
Languages Italian (native language)  
English - CEFR level B2 (Common European Framework of Reference for Languages)

### Current position

since March '08 **Full Professor of Electrical Machines and Drives,**  
*Department of Engineering and Management, University of Padova, Vicenza, Italy.*

Standard bibliometric parameters (Scopus, 09.2021)

H-index: 31, Papers: 142 Citations: 4490 Co-authors: 85.

Research areas Electrical machines and drives, Mechatronics, Artificial Intelligence, Automatic Control.

Technical direction Head of the Electric drives laboratory ( $E_{v}^{DAB}$ ) in Vicenza. Coordination of the research with the heads of the other laboratories of the EDLAB-net, Italy. Research interests in self-commissioning of electrical drives, model predictive, hierarchical and sensorless control, artificial neural network models, AI-based predictive maintenance of inverter-fed AC motors.

Main achievements

Main achievements in the reference period:

- First implementation of hybrid formulation of Extended Kalman Filter for the sensorless control of synchronous reluctance motors, 2021.
- Inaugurated the new paradigm of research *More Intelligent Drives*. Application of convolutional neural networks to predictive maintenance, 2020.
- invented a new flux weakening technique for capacitorless ac drives, 2019
- investigated the new paradigm of model-free predictive current control for ac motors, 2019
- conceived the application of radial basis function networks for the comprehensive magnetic modelling of ac motors, 2017-2018
- proposed the hierarchical scaled-states predictive control for PM and reluctance synchronous motor drives, 2016
- surveyed the frontiers and applications of PM synchronous motor drives, 2015
- launched the maximum efficiency combined control in solar water pumping systems, 2014

- Engineering responsibility In the last few years, scientific responsible of the  $E_{v}^{D_{LA}}B$  group for the following research contracts with private companies and Italian Ministry of Universities and Research, for a total amount of about € 300 000:
- *Study of an innovative algorithm for the speed loop autotuning in small-power brushless servo drives*, 2020
  - *Innovative solutions for capacitor-less voltage inverters for applications in electric pumps*, 2017-2019
  - *Smart domotics for safe and energy-aware assisted living*, 2014-16
  - *Algorithms for parameters estimation in three-phase induction motors*, 2015
  - *Advanced, control-design-oriented tools for integrated virtual prototyping*, 2015
- Patent applications
- L. Peretti and M. Zigliotto, “Procedimento per stimare i parametri del circuito equivalente di un motore asincrono, particolarmente in un azionamento vettoriale sensorless”, Italian Patent Application ITVI20100066 (A1), Sept. 13, 2011.
  - F. Tinazzi and M. Zigliotto “Control method for a flux weakening drive”, European Patent Application EP19193544.4, Aug. 29, 2019.
- International collaborations
- Established cooperative collaborations with the following foreign centers:
- Department of Electrical and Electronic Engineering, Nottingham University, (UK)
  - ABB Corporate Research Center, Västerås, Sweden (S)
  - Institute for Electrical Drive Systems and Power Electronics (TUM), Munich (D)
  - Electrical and Electronic Engineering, Mie University, Tsu city, Japan (J)

## Former positions

Nov.'05 - Feb.'08 **Associate Professor of Electrical Machines and Drives,**  
*Department of Engineering and Management, University of Padova, Vicenza, Italy.*

Research areas Electrical machines and drives, Automatic Control.

Technical direction Founder and head of the Electric drives laboratory in Vicenza ( $E_{v}^{D_{LA}}B$ ), partner of EDLAB-net, a network of four research laboratories on the machines and electrical drives in the north-eastern part of Italy, along with the EDLAB-PD (Padova), EDLAB-UD (Udine) and EDLAB-BZ (Bolzano). Research activity mainly focused on time-optimal control, drives and control techniques for automotive applications, magneto-rheological fluids, AC drives self-tuning.

Main achievements Main achievements in the reference period:

- experimented the model predictive control in PM synchronous motor drives, 2008
- applied minimum-time control and repetitive control to synchronous motor drives, 2007
- developed innovative steer-by-wire systems for automotive applications, 2006
- investigated a cheap magneto-rheological fluid in a variable-viscosity brake, 2006

Engineering responsibility Scientific responsible of the following research projects with private companies and public bodies, for a total amount of about € 85 000:

- *Study and simulation of a PM synchronous motor drive for a labelling machine*, 2008
- *Study and implementation of an innovative control technique for a generator set*, 2007-08
- *Design and simulation of the control system for a PM synchronous motor generator for motorcycles*, 2007.

Oct.'00 - Oct.'05 **Associate Professor of Electrical Machines and Drives,**  
*Dept. of Electrical, Management and Mechanical Engineering, University of Udine, Udine, Italy.*

Research areas Electrical drives, Industrial Electronics, Automotive systems.

Technical direction Founder and head of the Electric drives laboratory in Udine (EDLAB-UD). The research activity mainly focused on relay-feedback control, sensorless drives, FPGA-based control design.

Main achievements Main achievements in the reference period:

- developed innovative auto-tuning algorithms for PM motor drives, 2005
- proposed the use of FPGA in high performance control of electric drives, 2004
- invented a method for the tuning of the EKF observer in sensorless PMSM drives, 2003

Engineering responsibility Scientific responsible of the following research projects with private companies and public bodies, for a total amount of about € 105 000:

- *ELITE Programme*, applied research project financing, Texas Instruments Europe (2000-04).
- *Innovative control techniques for industrial and civil applications*, in the frame of Scientific Research Projects and Disclosure Initiatives of Relevant Interest in the Friuli-Venezia Giulia Region, 2002-04
- *Steer-by-wire advanced drive control techniques and mechatronic modelling*, National Research Project (PRIN), 2002-04
- *Application of Synchronous Motor Drives to High Efficiency City-Scooters*, National Research Project (PRIN), 2000-02

Apr.'92 - Sept.'00 **Assistant Professor of Electrical Machines and Drives,**  
*Dept. of Electrical Engineering, University of Padova, Padova, Italy.*

Research areas Electrical drives and converters

Research activities The research activity mainly focused on fuzzy logic, innovative space vector overmodulation techniques, random modulation.

Main achievements Main achievements in the reference period:

- proposed a novel overmodulation technique for three phase voltage inverter, 1997
- conceived the use of random pulse width modulation for electromagnetic noise reduction, 1996-99
- explored the application of fuzzy logic and artificial experience in industrial drives, 1993-00

Engineering responsibility Scientific responsible of the following research projects with private companies and public bodies:

- *Application of nonlinear control techniques to electrical drives*, 1999-00.
- *Self-commissioning speed and position control for electrical drives with identification of mechanical loads*, CRAFT European Brite EuRam III, 1996-98
- *Electronic Doser-Mixer*, CRAFT European Brite EuRam II, 1994-96

Jan.'90 - Mar.'92 **R&D Manager,**  
*ITACO srl, Ponte di Nanto, Vicenza, Italy.*

Research areas Power Converters, Electrical drives

Technical direction Responsible for the design and development of microprocessor-based control cards for automation systems. Coordinator of the ITACO - Vibrometer SA (now Meggitt SA, Fribourg, CH) joint development of powder brakes and clutches control units.

Main achievements Main achievements in the reference period:

- designed and co-managed the enterprise's transition from analog to digital control boards in textile machines and wheelchairs, 1991

**Note All the main research achievements mentioned in each time period are evidenced by one or more international peer-reviewed publications.**

Supervisor of 7 PhD students, at the Universities of Padova and Udine:

- *Control techniques and models for AC drives in electric mobility*, 2021-present.
- *Towards more autonomous and intelligent industrial AC drives for Mechatronics*, 2018-2021. Current job position of the Ph. doctor: competing for a post-doc research grant in the "Kalman filter-based sensorless control of anisotropic synchronous motors" at University of Padova, Italy. Working place: Italy.
- *Innovative solutions for converters and motor drives oriented to smart cities and communities*, 2015-18. Current job position of the Ph. doctor: Research associate, University of Padova, Italy. Working place: Italy.
- *More intelligent electric drives for mechatronic applications*, 2013-15. Current job position of the Ph. doctor: Assistant professor at University of Padova, Italy. Working place: Italy.
- *Control and estimation algorithms for the efficiency and performances improvement of mechatronic ac drives*, 2011-13. Current job position of the Ph. doctor: R&D manager for digital products in a multinational enterprise that operates in the fields of glass engineering, renewable energy and industrial automation. Working place: Italy.
- *Electric drives for Mechatronics*, 2006-08. Current job position of the Ph. doctor: Associate professor at KTH Royal Institute of Technology in Stockholm, Sweden.
- *Innovative electrical drives for home appliances and automotive*, 2001-03. Current job position of the Ph. doctor: Customer Service Global Manager of a multinational company that operates in technologies for the production, filling and packaging of PET containers. Working place: Italy.

## Teaching and laboratory experience

The teaching experience consists of 28 years of teaching, with 54 university courses offered. More than 1800 exams, supervisor of 6 Ph.D. students, more than 70 B.Sc. and M.Sc. degree theses. The details are the following:

- AY'08 - present    **Full Professor,**  
*Department of Engineering and Management, University of Padova, Vicenza, Italy.*
- Course    *Electrical Machines and Drives* for the Laurea degrees in Mechatronics Engineering (BSc level)
- Course    *Industrial AC drives* for the Laurea degrees in Mechatronics Engineering (MSc level)
- AY'08 - AY'18    **Full Professor,**  
*Department of Engineering and Management, University of Padova, Vicenza, Italy.*
- Course    *Fundamentals of Electrical Machines and Drives* for the Laurea degrees in Mechanical and Mechatronics Engineering (BSc level)
- Course    *Industrial AC drives* for the Laurea degrees in Mechatronics Engineering (MSc level)
- AY'05 - '07    **Associate Professor,**  
*Faculty of Engineering, University of Padova, Vicenza, Italy.*
- Course    *Fundamentals of Electrical Machines and Drives* for the Laurea degrees in Mechatronics Engineering (BSc level)
- Course    *Industrial AC drives* for the Laurea degrees in Mechatronics Engineering (MSc level)
- Laboratory    *Electrical Drives Laboratory* for the Laurea degrees in Mechatronics Engineering (BSc level).
- AY'01 - '04    **Associate Professor,**  
*Faculty of Engineering - University of Udine, Udine, Italy.*
- Course    *Electrical Drives I & II*, for the Laurea degrees in Electronic Engineering (MSc level)
- AY'00 - '01    **Associate Professor,**  
*Faculty of Engineering - University of Udine, Udine, Italy.*
- Course    *Electrotechnics II*, for the Laurea degrees in Mechanical Engineering (BSc level)

- Course *Electrical Drives for Automation*, for the Laurea degrees in Management Engineering (MSc level)
- AY'97 - Oct.'99 **Assistant Professor**,  
*Faculty of Engineering - University of Udine, Udine, Italy.*
- Course *Electrical Drives for Automation*, for the Laurea degrees in Management Engineering (MSc level level)
- Course *Electrical Drives*, for the Laurea degrees in Electrical and Electronic Engineering (BSc level level),  
At University of Padova
- Oct.'95 - Oct.'97 **Assistant Professor**,  
*Faculty of Engineering - University of Udine, Udine, Italy.*
- Course *Power Electronics*, for the Laurea degrees in Electronic Engineering (BSc level)
- Course *Industrial AC drives* for the Laurea degrees in Electronic Engineering (MSc level)
- Laboratory *Electrical Drives Laboratory* for the Laurea degrees in Mechatronics Engineering (BSc level).

## Professional service

- Faculty Chair person of the Council of the Degree Course in Mechatronics Engineering (2008-2012).  
Department Deputy Director, (2021-present)  
Member of Executive Board for the SISTEMA National Excellence Project funded with 8.9 M€, (2019-present)
- Editorial Secretary of the IEEE IAS-IES-PELS North Italy Joint Chapter (since 1998).  
activities Reviewer for IEEE Transactions on Industrial Electronics, IEEE Transactions on Power Electronics, IEEE Transactions on Industrial Informatics, Journal of Emerging and Selected Topics in Power Electronics.
- Committees Appointed member of the Executive Board of the National Electrical Mobility Consortium (ELMO), (2019 - present)  
Elected member in the Executive Board of the National Association of Converters, Electrical Machines and Drives (CMAEL), also as proxy of University of Udine and University of Bolzano, (2017 - 2020)  
Member of the Board of Mechanical Technologies Group of the Center for Productivity in Veneto (CPV), which gathered more than 300 members, including R&D responsables and CEOs, (2012-2016)  
Member of the Executive Committee for the Coordination of Strategic Development Plans of CPV research groups, (2014-2016)  
Member of 13 Selection Boards for the Comparative Assessment of Full, Associate and Assistant professorships, (2014-21)
- Professional IEEE Senior member  
membership

Welfare of the engineering profession Activated and funded the following annual or two-year research grants (the title of the research topic is in *italic*), for a total of about €178 000:

- *Sensorless control of synchronous motor drives*, 2021
- *High speed ac drives for electrical mobility applications*, 2020
- *Artificial neural networks-based more autonomous industrial AC drives*, 2019
- *Energy efficient advanced control and modelling of PM-assisted and synchronous reluctance motor drives*, 2015
- *Smart domotics for safe and energy-aware assisted living*, 2014
- *Automatic parametric identification in synchronous PM drives*, 2012
- *Innovative self-commissioning techniques for electric drives*, 2008-2009

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## Education

Oct'82 - Feb'88 **M.Sc. degree in Electronic Engineering**,  
*Faculty of Engineering, University of Padova, Padova, Italy.*

Thesis *PC Control of a PM Brushless Motor Drive*  
Supervisor Prof. Silverio Bolognani  
Final grade 110/110 summa cum laude

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## Publications

Author of 143 publications on International Journals or Conferences with peer-review (source: Scopus, 13/09/2021). The relevant publications of the last few years are reported hereafter.

International journal papers F. Tinazzi, P. G. Carlet, S. Bolognani and **M. Zigliotto**, "Motor Parameter-Free Predictive Current Control of Synchronous Motors by Recursive Least-Square Self-Commissioning Model", IEEE Transactions on Industrial Electronics, doi: 10.1109/TIE.2019.2956407, Scopus:2-s2.0-85068786114, ISI: 3A000552206000007, vol. 67, no. 11, pp. 9093-9100, Nov. 2020.

S. Mancin, G. Righetti, L. Ortombina, **M. Zigliotto** and C. Zilio, "Artificial Neural Network (Ann) For Predicting Low-Gwp Refrigerant Boiling Heat Transfer Inside Brazed Plate Heat Exchangers (BPHE)", International Journal of Heat and Mass Transfer, Elsevier, doi: 10.1016/j.ijheatmasstransfer.2020.119824, Scopus: 2-s2.0-85088217365, ISI: 3A000571812700011, ISSN 0017-9310, Vol.160, pp.1-10, Oct.2020.

L. Ortombina, D. Pasqualotto, F. Tinazzi and **M. Zigliotto**, "Magnetic Model Identification of Synchronous Motors Considering Speed and Load Transients", IEEE Transactions on Industry Applications, doi: 10.1109/TIA.2020.3003555, Scopus:2-s2.0-85091798596, vol. 56, no. 5, pp. 4945-4954, Sept.-Oct. 2020.

S. Brown, G.A.Longo, L.Ortombina, G. Righetti, **M. Zigliotto** and C. Zilio, "Application Of An Artificial Neural Network (Ann) For Predicting Low-GWP Refrigerant Condensation Heat Transfer Inside Herringbone-Type Brazed Plate Heat Exchangers (BPHE)", International Communications in Heat and Mass Transfer, Elsevier, doi:10.1016/j.ijheatmasstransfer.2020.119824, Scopus:2-s2.0-85084591812, ISSN:0017-9310, vol. 156, pp. 1-14, Aug. 2020.

L. Ortombina, F. Tinazzi and **M. Zigliotto**, "Adaptive Maximum Torque per Ampere Control of Synchronous Reluctance Motors by Radial Basis Function Networks", IEEE Journal of Emerging and Selected Topics in Power Electronics, doi: 10.1109/JESTPE.2018.2858842, Scopus:2-s2.0-85068786114, ISI: 000474562900046, vol. 7, no. 4, pp. 2531-2539, Dec. 2019.

S. Bolognani, P. G. Carlet, F. Tinazzi and **M. Zigliotto**, "An Effective Model-Free Predictive Current Control for Synchronous Reluctance Motor Drives", IEEE Transactions on Industrial Applications, doi: 10.1109/TIA.2019.2910494, Scopus:2-s2.0-85068786114, ISI: 000474562900046, vol. 55, no. 4, pp. 3781-3790, July-Aug. 2019.

R. Antonello, L. Peretti, F. Tinazzi, and **M. Zigliotto**, "Self-commissioning calculation of dynamic models for synchronous machines with magnetic saturation using flux as state variable". In: The Journal of Engineering - Institution of Engineering and Technology (IET). Open Access. url: <https://digital-library.theiet.org/content/journals/10.1049/joe.2018.8259>, ISI: 000472719600028, January 2019.

L.Ortombina, F.Tinazzi, **M. Zigliotto**, "Online Stator Resistance Tracking for Reluctance and Interior Permanent Magnet Synchronous Motors", IEEE Transactions on Industry Applications, ISI: 000439381300039, Scopus: 2-s2.0-85044376090, ISSN: 0093-9994, DOI: 10.1109/TIA.2018.2819961, Vol.54, No.4, pp. 3405-3414, July/August 2018.

F.Tinazzi, L.Ortombina, **M.Zigliotto**, Enhanced Low-Speed Operations for Sensorless Anisotropic PM Synchronous Motor Drives by a Modified Back-EMF Observer, IEEE Transactions on Industrial Electronics, ISI: 000422806300023, Scopus: 2-s2.0-85029180450, ISSN: 0278-0046, DOI: 10.1109/TIE.2017.2748042, Vol.65, No.4, pp.3069-3076, April 2018.

F.Tinazzi, L.Ortombina, **M.Zigliotto**, Magnetic Modelling of Synchronous Reluctance and Internal Permanent Magnet Motors Using Radial Basis Function Networks, IEEE Transactions on Industrial Electronics, ISI: 000418415200018, Scopus: 2-s2.0-85028979193, ISSN: 0278-0046, DOI: 10.1109/TIE.2017.2733502, Vol.65, No.2, pp.1140-1148, Feb. 2018.

S.Bolognani, L. Ortombina, F.Tinazzi, **M.Zigliotto**, Model Sensitivity of Fundamental-frequency-based Position Estimators for Sensorless PM and Reluctance Synchronous Motor Drives, IEEE Transactions on Industrial Electronics, ISI: 000416221000008, Scopus 2-s2.0-85023165614, ISSN: 0278-0046, DOI:10.1109/TIE.2017.2716902, Vol.65, No.1, pp.77-85, Jan. 2018

A.Beghi, F.Marcuzzi, F.Tinazzi, **M.Zigliotto**, Virtual prototyping of embedded control software in mechatronic systems: a case study, Journal of Simulation Modelling - Practice and Theory, Elsevier, ISSN: 1569-190X, DOI: 10.1016/j.mechatronics.2017.03.004, Vol.43, pp.99-111, 2017.

G.A.Longo, C.Zilio, L.Ortombina, **M.Zigliotto**, Application of Artificial Neural Network (ANN) for modeling oxide-based nanofluids dynamic viscosity, International Communications in Heat and Mass Transfer, Elsevier, ISSN: 0735-1933, DOI: <http://dx.doi.org/10.1016/j.icheatmasstransfer.2017.03.003>, Vol.83, pp.8-14, Apr.2017.

R.Antonello, M.Carraro, A.Costabeber, F.Tinazzi, **M.Zigliotto**, Energy-efficient autonomous solar water-pumping system for permanent magnet synchronous motors, IEEE Transactions on Industrial Electronics, ISI:000390470600005, Scopus 2-s2.0-85007006496, ISSN: 0278-0046, DOI: 10.1109/TIE.2016.2595480, Vol.64, No.1, pp.43-51, Jan. 2017.

R.Antonello, M.Carraro, L.Peretti, **M.Zigliotto**, Hierarchical Scaled-States Direct Predictive Control of Synchronous Reluctance Motor Drives, IEEE Transactions on Industrial Electronics, Special Issue on Predictive Control, Invited Paper, DOI: 10.1109/TIE.2016.2536581, Vol.63, No.8, pp. 5176 - 5185, August 2016.

F.Tinazzi, **M.Zigliotto**, Torque Estimation in High-Efficiency IPM Synchronous Motor Drives IEEE Transactions on Energy Conversion, DOI 10.1109/TEC.2015.2408214, ISSN: 0885-8969 ISI: 000360439300018 Scopus: 2-s2.0-84939786382, Vol.30, No.3, pp. 983-990, Sept. 2015

M.Carraro, A.Costabeber, **M.Zigliotto**, Convergence Analysis and Tuning of a Sliding-Mode Ripple-Correlation MPPT, IEEE Transactions on Energy Conversion, DOI 10.1109/TEC.2014.2371873, ISSN 0885-8969, ISI: 000354864300030, Scopus: 2-s2.0-84930204876, Vol.30, No.2, pp. 696-706, June 2015

L.Peretti, G.Zanuso, **M.Zigliotto**, Permanent magnet synchronous machines flux linkage estimation with zero steady-state error and its field-programmable gate array implementation IET Electric Power Applications, ISI:000353210600005, Scopus 2-s2.0-84928340332, ISSN: 1751-8660, DOI:10.1049/iet-epa.2014.0241, Vol.9, No.4, pp.332-343, April 2015.

D. Pasqualotto, F. Tinazzi, and **M. Zigliotto**, "Enhanced solar water-pumping system driven by a synchronous reluctance motors", 22nd IEEE International Conference on Industrial Technology (ICIT), ISBN: 978-172815730-6, doi: 10.1109/ICIT46573.2021.9453546, Valencia, Spain, pp.365-370, 10-12 March, 2021

D. Pasqualotto, J.Daviù and **M. Zigliotto**, "Automatic Detection of Rotor Faults in Induction Motors by Convolutional Neural Networks applied to Stray Flux Signals", 22nd IEEE International Conference on Industrial Technology (ICIT), ISBN: 978-172815730-6, doi: 10.1109/ICIT46573.2021.9453624, Valencia, Spain, pp.148-153, 10-12 March, 2021

F. Tinazzi, S. Bolognani, S. Calligaro, P. Kumar, R.Petrella, and **M. Zigliotto**, "Classification and review of MTPA algorithms for synchronous reluctance and interior permanent magnet motor drives", 21st European Conference on Power Electronics and Applications, EPE'19, Genova, Italy, DOI: 10.23919/EPE.2019.8915144 Scopus: 2-s2.0-85076687745, Sept.2-6, 2019.

L. Ortombina, D. Pasqualotto, F. Tinazzi and **M. Zigliotto**, "Automatic Tuning Procedure at Standstill for Extended Kalman Filter in Sensorless Control of Permanent Magnet Synchronous Motors", 10th IEEE International Symposium on Sensorless Control for Electrical Drives, SLED 2019, Torino, Italy, DOI: 10.1109/SLED.2019.8896350, Scopus:2-s2.0-85075630509, ISSN: 2166-6733, Sept. 9-10, 2019

L.Ortombina, D.Pasqualotto, F.Tinazzi and **M. Zigliotto**, "Magnetic Model Identification for Synchronous Reluctance Motors Including Transients", IEEE Energy Conversion Congress & Exposition (ECCE), DOI: 10.1109/ECCE.2019.8913164, Scopus: 2-s2.0-85076788309, ISSN: 2329-3748, pp.3196-3202, Baltimore, Maryland, USA, Sept. 29 ? Oct. 3, 2019.

R.Antonello, L.Peretti, F.Tinazzi and **M. Zigliotto**, "Self-commissioning calculation of dynamic models for synchronous machines with magnetic saturation using flux as state variable", 9th IET International Conference on Power Electronics, Machines and Drives (PEMD 2018), Liverpool, UK, April 17-19, 2018.

L. Ortombina, E. Liegmann, P. Karamanakos, F. Tinazzi, R. Kennel and **M. Zigliotto**, "Constrained Long-Horizon Direct Model Predictive Control for Synchronous Reluctance Motor Drives", 2018 IEEE 19th Workshop on Control and Modeling for Power Electronics (COMPEL), ISBN: 978-1-5386-5541-2, Scopus: 2-s2.0-85054503298, ISI: 000455139800158, ISSN: 2151-0997, doi: 10.1109/COMPEL.2018.8460173, Padua, 2018, pp. 1-8.

S. Bolognani, P. G. Carlet, F. Tinazzi and **M. Zigliotto**, "Fast and Robust Model Free Predictive Current Control for SynREL Motor Drives", 2018 IEEE Energy Conversion Congress and Exposition (ECCE), Portland, OR, doi: 10.1109/ECCE.2018.8558321, Scopus: 2-s2.0-85060282801, ISI: 000455187605125, ISSN: 2329-3721, pp. 5466-5472, Sept. 23-27, 2018.F.Tinazzi, L.Ortombina, **M.Zigliotto**, Energy-efficient stand-alone solar water-pumping system for synchronous reluctance motor, Proc. 12th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2017), DOI: 10.1109/PEDS.2017.8289164, ISBN: 978-1-5090-2364-6, pp. 1049-1054, Hawaii, USA, 12 - 15 Dec. 2017.

F.Tinazzi, L.Ortombina, **M.Zigliotto**, An Effective Start-up Algorithm for Synchronous Reluctance and PM Sensorless Drives, Proc. 12th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2017), DOI: 10.1109/PEDS.2017.8289167, ISBN: 978-1-5090-2364-6, pp.1062-1067, Hawaii, USA, 12 - 15 Dec. 2017.

F.Tinazzi, L.Ortombina, **M.Zigliotto**, Advanced Current Controls for Synchronous Reluctance Motors, Proc. 12th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2017), DOI: 10.1109/PEDS.2017.8289150, ISBN: 978-1-5090-2364-6, pp. 1037-1042, Hawaii, USA, 12 - 15 Dec. 2017.

L.Peretti, P.Sandulescu, F.Tinazzi, **M.Zigliotto**, On the True Maximum Efficiency Operations of Synchronous Motor Drives, Proc. 12th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2017), DOI: 10.1109/PEDS.2017.8289154, ISBN: 978-1-5090-2364-6, pp. 1043-1048, Hawaii, USA, 12 - 15 Dec. 2017.

N.Bianchi, S.Bolognani, F.Tinazzi, **M.Zigliotto**, The Influence of Rotor Design on Active Flux-based Sensorless Synchronous Reluctance Motor Drives, Proc. 8th IEEE International Symposium on Sensorless Control for Electrical Drives (SLED), ISI: WOS:000414283300002, ISSN: 2166-6725, DOI: 10.1109/SLED.2017.8078419, ISBN: 978-1-5090-6587-5, pp.7-12, Catania, Italy, 18-19 Sept. 2017.

R.Antonello, L.Ortombina, F.Tinazzi, **M.Zigliotto**, Online Stator Resistance Tracking for Synchronous Reluctance and Interior Permanent Magnet Motors, IEEE Energy Conversion Congress and Exposition , ECCE 2017, DOI: 10.1109/ECCE.2017.8096970, ISBN: 978-1-5090-2998-3, pp.5861-5868, Cincinnati, Ohio, USA October 1-5, 2017.

L. Ortombina, F.Tinazzi, **M.Zigliotto**, Comprehensive Magnetic Modelling of Internal PM Synchronous Motors Through Radial Basis Function Networks, Proceedings of IEEE International Conference on Industrial Electronics, Control and Instrumentation, IECON'16, DOI: 10.1109/IECON.2016.7793898, ISBN: 978-1-5090-3474-1, 4319 - 4324, Firenze, Italia, 23-26 Oct. 2016.

S.Bolognani, L. Ortombina, F.Tinazzi, **M.Zigliotto**, Model Sensitivity Assessment for Sensorless PM and Reluctance Motor Drives, Proceedings of IEEE International Conference on Industrial Electronics, Control and Instrumentation, IECON'16, DOI: 10.1109/IECON.2016.7793841, ISBN: 978-1-5090-3474-1, 2851 - 2856, Firenze, Italia, 23-26 Oct. 2016.

L. Ortombina, F.Tinazzi, **M.Zigliotto**, Enhanced low-speed operations of back EMF-based sensorless anisotropic PMSM drives, Proceedings of IEEE International Conference on Industrial Electronics, Control and Instrumentation, IECON'16, DOI: 10.1109/IECON.2016.7794056, ISBN: 978-1-5090-3474-1, pp.2784-2789, Firenze, Italia, 23-26 Oct. 2016.

A. Boglietti, A.Cavagnino, M. Cossale, F. Tinazzi, **M.Zigliotto**, Energy Efficiency Assessment for Inverter-fed Induction Motors, 8th IET International Conference on Power Electronics, Machines and Drives (PEMD 2016), DOI: 10.1049/cp.2016.0356, ISBN: 978-1-78561-188-9, pp.1-6, Glasgow, UK, April 19-22, 2016.

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## Other information

Authorization I authorize the processing of my personal data in accordance with Legislative Decree 30 June 2003, n. 196 "Code on the protection of personal data" and the GDPR, "General Data Protection Regulation", EU Regulation 2016/679.

Place and date Vicenza (Italy), September 14, 2021

Signature (Mauro Zigliotto) \_\_\_\_\_