

Curriculum Vitae

INFORMAZIONI PERSONALI

Nome GIANPAOLO
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FORMAZIONE TITOLI

Livello conoscenza lingua inglese: B2

ATTIVITA' DIDATTICA

1999-2000	Professor of "Electronics" M.D. Electrical Engineering, University of Palermo, Italy.
2000-2001	Professor of "Power Electronics" M.D. Electrical Engineering, University of Palermo, Italy.
2002-2003	Professor of "Power Electronics" M.D. Electrical Engineering, University of Palermo, Italy.
2003-2004	Professor of "Power Electronics" M.D. Electrical Engineering, University of Palermo, Italy.
2004-2005 Italy.	Professor of "Applied Electronic" M.D. Mechanical Engineering, University of Palermo, Italy.
2005-2006 Italy.	Professor of "Applied Electronic" M.D. Mechanical Engineering, University of Palermo, Italy.
2006-2007 Italy.	Professor of "Applied Electronic" M.D. Mechanical Engineering, University of Palermo, Italy.
2013-2014	Professor of "Electronics 3" M.D. Electronic Engineering, University of Palermo, Italy.
2014-2015	Professor of "Electronics 3" M.D. Electronic Engineering, University of Palermo, Italy.
2015-2016	Professor of "Electronics 3" M.D. Electronic Engineering, University of Palermo, Italy.
2016-2017	Professor of "Elettronica 3" (Power Electronics) M.D. Electronic Engineering, Univ. of Palermo, Italy
2017-2018	Professor of "Industrial Electronics" M.D. Electronic Engineering, Univ. of Palermo, Italy
2018-2019	Professor of "Industrial Electronics" M.D. Electronic Engineering, Univ. of Palermo, Italy
2019-2020	Professor of "Industrial Electronics and laboratory" M.D. Electronic Engineering, Univ. of Palermo, Italy

RICERCHE FINANZIATE

Scientific Responsibility of Research Projects

1995..... Responsible of the CERISEP-CNR research project "Progetto CAD di circuiti elettronici VLSI ed MMIC", (Computer Aided Design of VLSI integrated Circuits and MMIC), Finalized project funded by CNR.

1995..... Responsible of the CERISEP-CNR research project "Microprocessori e microcontrollori per robotica" (Microprocessors for Robotica)

1997..... Responsible of the CERISEP-CNR research project "Prove di compatibilità elettromagnetica (EMC) su azionamenti e su componenti per auto elettrica" (Electromagnetic Compatibility of Electrical Drives and Electric Vehicles).

1998..... Responsible of the CERISEP-CNR research project "Compatibilità elettromagnetica (EMC) su azionamenti elettrici su componenti per auto elettrica" (Electromagnetic Compatibility of Electrical Drives and Electric Vehicles).

1999..... Responsible of the CERISEP-CNR research project "Compatibilità elettromagnetica (EMC) degli azionamenti elettrici e dei componenti nei veicoli a guida vincolata e su gomma" (Electromagnetic Compatibility of Electrical Drives and Electric Vehicles).

2001..... Coordinator of the research activities of the CERISEP-CNR in the research projects "Sistema integrato con veicoli a propulsione elettrica per la mobilità collettiva e singola dei disabili in ambiente urbano" (Integrated Systems for Electrical Vehicles for Urban Disabled Mobility) facente parte dei programmi di ricerca scientifica di rilevante interesse nazionale cofinanziato dal MURST per gli anni 2000 e 2001.

2004..... Responsible of the CERISEP-CNR research project "studio e progettazione di convertitori statici di potenza per azionamenti elettrici e per generazione distribuita da fonti non inquinanti" (Analysis and Design of Power Electronics Converters for Electrical Driver and Distributed Generation from Renewables and non Polluting Sources).

1997-2001..... Responsible of the CNR Finalized project "Beni Culturali" del CNR: "Diagnostica e controllo automatizzato delle condizioni ambientali del clima museale attraverso sistemi innovativi di sensori intelligenti" (Diagnosis and Control of a Museum Environmental Climate through Innovative and Intelligent Sensors). Funded by CNR with about 50.000 euro.

2000-2006..... Responsible of the CERISEP-CNR research project: "Laboratorio e ricerche di compatibilità elettromagnetica per l'innovazione e la sperimentazione sugli azionamenti elettrici intelligenti, sul software di gestione e sui sistemi di telecomunicazione ad essi associati nei sistemi di trasporto al fine di garantirne la sicurezza di funzionamento (dependability), la sicurezza attiva (safety) e la sicurezza passiva (security)" (Laboratory and Research on Electromagnetic Compatibility of Intelligent Electrical drives and Related Management Software, of Communication Systems and of Transportation Systems to assure their dependability, safety and Security), project CLUSTER 13 EMC of MIUR. Funded by Italian Ministry of Education, University and Research (MIUR) with 2.272.742 €.

2004-2008 Responsible of the CERISEP-CNR research project: "Automazione della gestione intelligente della generazione distribuita di energia elettrica da fonti rinnovabili e non inquinanti e della domanda di energia elettrica, anche con riferimento alle compatibilità interne e ambientali, all'affidabilità e alla sicurezza" (Automatic Intelligent Management of Electric Energy Distributed Generation by Renewable and non Polluting Sources also with Reference to Environmental Compatibility, to Safety and Security)

Funded by Italian Ministry of Education, University and Research (MIUR) with 350.000 €.

2012 Responsible for the Palermo section of the ISSIA-CNR research project "RITmare, Italian Research for the sea" funded by CNR with 1.000.000 €. Project duration from 2012 to 2017.

2012.....Responsible for the Palermo section of the ISSIA-CNR research project "TESEO" (High Efficiency technologies for On-board environmental sustainability) , units: 1.4.1 "Analysis and design of electric energy storage systems" and 1.5 "Experimental characterization of subsystems", PON02005132939517, funded with 430.000 euro, Project duration from 2012 to 2015.

INCARICHI / CONSULENZE

Responsabile scientifico per l'ISSIA del contratto "Valutazione delle possibili cause degli incendi avvenuti nelle cabine di trasformazione dell'impianto fotovoltaico "La sugarella" Canino (Viterbo) aprile 2016.

ASSOCIAZIONI SCIENTIFICHE

Since 2004 IEEE member (since 2013 senior Member)

PUBBLICAZIONE

Libri

Manuel Pérez-Donsión, **Gianpaolo Vitale** "Advances in Renewable Energy and Power Quality", Cambridge Scholars Publishing, ISBN-13: 978-1-5275-4530-4 ISBN-10: 1-5275-4530-X., Date of Publication: 01/03/2020.

Manuel Pérez-Donsión, Silvano Vergura and **Gianpaolo Vitale**: "Renewable energy – selected issues vol. II", edited book, Cambridge Scholars Publishing, Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK, ISBN (13): 978-1-4438-8803-5, 2016.

Manuel Pérez-Donsión, Silvano Vergura and **Gianpaolo Vitale**: "Renewable energy – selected issues vol. I", edited book, Cambridge Scholars Publishing, Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK, ISBN (13): 978-1-4438-8377-1, 2015.

Di Piazza M. C., **Vitale G.** 'Photovoltaic Sources: Modelling and Emulation', Springer, date of publication: 2013 ISBN: ISSN 1865-3529 ISSN 1865-3537 (electronic), ISBN 978-1-4471-4377-2 ISBN 978-1-4471-4378-9 (eBook) , DOI 10.1007/978-1-4471-4378-9

Cirrincone M., Pucci M. , **Vitale G.** 'Power Converters and AC Electrical Drives with Linear Neural Networks', CRC PRESS of Taylor and Francis Group, June 2012, ISBN: 978-1-4398-1814-5

Riviste ISI

[A50] Guida, V., Guilbert, D., **Vitale, G.**, & Douine, B. (2020). Design and Realization of a Stacked Interleaved DC–DC Step Down Converter for PEM Water Electrolysis with Improved Current Control. Fuel Cells.

[A49] Yodwong, B., Guilbert, D., Phattanasak, M., Kaewmanee, W., Hinaje, M., **Vitale, G.** (2020). AC-DC Converters for Electrolyzer Applications: State of the Art and Future Challenges. *Electronics*, 9(6), 912.

[A48] Ribino, P., Bonomolo, M., Lodato, C., **Vitale, G.** (2020). A Humanoid Social Robot Based Approach for Indoor Environment Quality Monitoring and Well-Being Improvement. *International Journal of Social Robotics*, 1-20.

[A47] Alonge, F., Collura, S. M., D'ippolito, F., Guilbert, D., Luna, M., **Vitale, G.** (2020). Design of a robust controller for DC/DC converter–electrolyzer systems supplied by WECSs subject to highly fluctuating wind speed. *Control Engineering Practice*, 98, 104383

[A46] D. Guilbert, and **G. Vitale.** "Improved Hydrogen-Production-Based Power Management Control of a Wind Turbine Conversion System Coupled with Multistack Proton Exchange Membrane Electrolyzers." *Energies* 13.5 (2020): 1239.

[A45] D. Guilbert, D. Sorbera, and **G. Vitale.** "A stacked interleaved DC-DC buck converter for proton exchange membrane electrolyzer applications: Design and experimental validation." *International Journal of Hydrogen Energy* 45.1 (2020): 64-79.

[A44] E. Pipitone, and **G. Vitale.** "A regenerative braking system for internal combustion engine vehicles using supercapacitors as energy storage elements-Part 1: System analysis and modelling." *Journal of Power Sources* (2019): 227368.

[A43] E. Pipitone, and **G. Vitale.** "A regenerative braking system for internal combustion engine vehicles using supercapacitors as energy storage elements-Part 2: Simulation results." *Journal of Power Sources* (2019): 227258.

[A42] Collura SM, Guilbert D, Vitale G, Luna M, Alonge F, D'ippolito F, Scipioni A (2019). Design and experimental validation of a high voltage ratio DC/DC converter for proton exchange membrane electrolyzer applications. *International Journal of Hydrogen Energy*, vol. 44, p. 7059-7072, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2019.01.210

[A41] **G. Vitale** et al.. "Design and experimental validation of a high voltage ratio DC/DC converter for proton exchange membrane electrolyzer applications." *International Journal of Hydrogen Energy* 44.14 (2019): 7059-7072.

[A40] D. Guilbert and **G. Vitale.** "Dynamic Emulation of a PEM Electrolyzer by Time Constant Based Exponential Model." *Energies* 12.4 (2019): 750.

[A39] G. Giglia, G. Ala, M. C. Di Piazza, G. C. Giaconia, M. Luna, **G. Vitale**, P. Zanchetta, "Automatic EMI Filter Design for Power Electronic Converters Oriented to High Power Density", *Electronics* 2018, 7, 9; doi:10.3390/electronics7010009.

[A38] F. Alonge, M. Pucci, R. Rabbeni, **G. Vitale**, "Dynamic modelling of a quadratic DC/DC single-switch boost converter", *Electric Power Systems Research*, Jul 2017, ISSN 0378-7796, 152 (2017) 130–139.

[A37] G. Ala; G. C. Giaconia, G. Giglia; M. C. Di Piazza, G. Vitale, " Design and performance evaluation of a high power density EMI filter for PWM inverter-fed induction motor drives, *IEEE Transactions on Industry Applications*, Year: 2016, Volume: 52, Issue: 3. Pages: 2397 – 2404.

[A36] F. Alonge, M. Pucci, R. Rabbeni, G. Vitale, " Identification and Robust Control of a Quadratic DC/DC Boost Converter by Hammerstein Model, *IEEE Transactions on Industry Applications*. Year: 2015, Volume: 51, Issue: 5 Pages: 3975 – 3985.

[A35] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, " Closed-Loop MRAS Speed Observer for Linear Induction Motor Drives", *IEEE Transactions on Industry Applications*. *Industry Applications*, Year: 2015, Volume: 51, Issue: 3, Pages: 2279 – 2290.

[A34] F. Alonge, M. Cirrincione, M. Pucci, A. Sferlazza, F. D'ippolito, G. Vitale, " Descriptor-type Kalman Filter and TLS EXIN Speed Estimate for Sensorless Control of a Linear Induction Motor", 2013-IDC-195 *IEEE Transactions on Industry*

Applications. Vol. 50, No. 6, Nov/Dec 2014.

[A33] M. C. Di Piazza, M. Luna, G. Vitale, "EMI Reduction in DC-fed Electric Drives by Active Common Mode Compensator", IEEE transaction on Electromagnetic Compatibility Volume:56, Issue: 5, 2014 , Page(s): 1067- 1076.

[A32] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, "Neural Sensorless Control of Linear Induction Motors by a Full-Order Luenberger Observer considering the End-effects", 2012-IDC-680. IEEE Transactions on Industry Applications, Volume:50, Issue: 3, 2014, Page(s): 1891- 1904

[A31] M. C. Di Piazza, M. Pucci, G. Vitale, "Intelligent Power Conversion System Management for Photovoltaic Generation", Sustainable Energy Technologies and Assessments journal SETA, 2 (2013) pp. 19–30, DOI: 10.1016/j.seta.2013.02.003.

[A30] M. C. Di Piazza, M. Luna, G. Vitale, "Dynamic PV Model Parameter Identification by Least Square Regression " IEEE Journal of Photovoltaics, 2013 pp 1-8.

[A29] M. C. Di Piazza, M. Pucci, G. Vitale, "Intelligent Power Conversion System Management for Photovoltaic Generation", Sustainable Energy Technologies and Assessments journal SETA, 2 (2013) pp. 19–30, DOI: 10.1016/j.seta.2013.02.003.

[A28] M. C. Di Piazza, M. Luna, G. Vitale, "Dynamic PV Model Parameter Identification by Least Square Regression " IEEE Journal of Photovoltaics, 2013 pp 1-8.

[A27] M. Cirrincione, M. Pucci, G. Vitale, "Neural MPPT of Variable Pitch Wind Generators with Induction Machines in a Wide Wind Speed Range", IEEE Transactions on Industry Applications, VOL. 49, NO 2, March/April 2013..

[A26] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, "MRAS Speed Observer for High Performance Linear Induction Motor Drives based on Linear Neural Networks", IEEE Transactions on Power Electronics VOL. 28, NO. 1, Jan. 2013

[A25] G. Ala, M. C. Di Piazza A. Ragusa, F. Viola, G. Vitale, "EMI Analysis in Electrical Drives under Lightning Surge Conditions", IEEE Transactions on Electromagnetic Compatibility, vol 54, issue 4, pp 850-859 Aug. 2012.

[A24]M. Cirrincione, M. Pucci, G. Vitale, "Neural MPPT of Variable Pitch Wind Generators with Induction Machines in a Wide Wind Speed Range", accepted for publication in the IEEE Transactions on Industry Applications.

[A23] M. Cirrincione, M. Pucci, G. Vitale, "Growing Neural Gas based MPPT of Variable Pitch Wind Generators with Induction Machines", IEEE Transactions on Industry Applications, vol. 48, n. 3, May/June 2012.

[A22] G. Ala, M. C. Di Piazza A. Ragusa, F. Viola, G. Vitale, "EMI Analysis in Electrical Drives under Lightning Surge Conditions", accepted for publication on IEEE Transactions on Electromagnetic Compatibility

*[A21] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, "Sensorless Control of PMSM Fractional Horsepower Drives by Signal Injection and Neural Adaptive-Band Filtering", IEEE transaction on Industrial Electronics, vol. 59, no. 3, March 2012

[A20] A. Ragusa, M. C. Di Piazza, G. Vitale, "Magnetic material performance of transformers in common mode active EMI filters for bearing currents suppression", PRZEGL D ELEKTROTECHNICZNY Vol 2011, No 6, pp 198-201.

[A19] A. Ragusa, M. C. Di Piazza, G. Vitale, "An Optimized Feedback Common Mode Active Filter for Vehicular Induction Motor Drives", accepted to the IEEE Transactions on Power Electronics, Forthcoming

[A18] A. Ragusa, M. C. Di Piazza, G. Vitale, "Power Losses Evaluation in CM Active EMI Filters for Bearing Currents

Suppression", IEEE Transactions on Industrial Electronics, Vol. 58, N. 11, November 2011.

[A17] M. Pucci, G. Vitale, M. Cirrincione, "Direct Power Control of Three-Phase VSIs for the Minimization of Common-Mode Emissions in Distributed Generation Systems", Electric Power Systems Research. vol. 81, issue 4, april 2011. DOI 10.1016/j.epsr.2010.11.007. 81 (2011)830–839

[A16] M. Cirrincione, M. Pucci, G. Vitale, "Growing Neural Gas (GNG) based Maximum Power Point Tracking for High Performance Wind Generator with an Induction Machine", IEEE Transactions on Industry Applications VOL. 47, NO. 2, MARCH/APRIL 2011 pp. 861-872.

[A15] A. Ragusa, A. Di Piazza, M. C. Di Piazza, G. Vitale, "Environmental Data Processing by Clustering Methods for Energy Forecast and Planning", Renewable Energy (2010), doi:10.1016/j.renene.2010.09.011. Online available <http://dx.doi.org/10.1016/j.renene.2010.09.011>, RENEWABLE ENERGY vol. 36 Issue 3, March 2011, pp. 1063-1074

[A14] A. Ragusa, M. C. Di Piazza, M. Pucci, G. Vitale, "Analytical versus Neural Real-time Simulation of a Photovoltaic Generator based on a DC-DC Converter", IEEE Transactions on Industry Applications vol. 46, no. 6, nov/dec 2010. pp. 2501-2510.

[A13] M.C. Di Piazza, A. Ragusa, G. Vitale, "Effects of Common Mode Active Filtering in Induction Motor Drives for Electric Vehicles", IEEE Transactions on Vehicular Technology, Special Section on Vehicle Power and Propulsion. VOL. 59, NO. 6, JULY 2010

[A12] M.C. Di Piazza, G. Vitale, "A Laplace Domain Modelling Approach for CM Active EMI Filters", PRZEGL D ELEKTROTECHNICZNY (Electrical Review), ISSN 0033-2097, R. 86 NR 3/2010, pp. 200-204.

[A11] M.C. Di Piazza, G. Vitale, "Photovoltaic field emulation including dynamic and partial shadow conditions", APPLIED ENERGY, n. 87 (2010) pp. 814–823.

[A10] M.C. Di Piazza, A. Ragusa, G. Vitale, "Input EMI in Inverter-fed Motor Drives with Active Filtering of Motor CM Voltage", PRZEGL D ELEKTROTECHNICZNY (Electrical Review), ISSN 0033-2097, R. 85 NR 10/2009, pp. 248-252.

[A9] M.C. Di Piazza, A. Ragusa, G. Vitale, "EMI Filter Design Issues in AC Motor Drives with Motor-Side Common Mode Active Compensation", IEEE Transaction on Electromagnetic compatibility Volume 51, [Issue 3](#), Part 2, Aug. 2009 Page(s):673 – 682.

[A8] G. Marsala, M. Pucci, G. Vitale, M. Cirrincione, A. Miraoui, "A Prototype of a Fuel Cell PEM Emulator Based on a Buck Converter", APPLIED ENERGY, vol. 86, issue 10, pp.2192-2203, Oct 2009.

[A7] M. Cirrincione, M. Pucci, G. Vitale, A. Miraoui, "Current Harmonic Compensation by a Single-Phase Shunt Active Power Filter Controlled by Adaptive Neural Filtering" IEEE Transactions on Industrial Electronics Vol. 56, No. 8, August 2009.

[A6] M. Cirrincione, M. Pucci, G. Scordato, G. Vitale, "A Single-Phase Shunt Active Power Filter for Current Harmonic Compensation by Adaptive Neural Filtering", EPE Journal, vol 19, n° 1, March 2009.

*[A5] M. Cirrincione, M. Pucci, G. Vitale, "A Single-Phase DG Generation Unit With Shunt Active Power Filter Capability by Adaptive Neural Filtering", IEEE Transaction on Industrial Electronics, Vol. 55, n. 5, pp. 2093-2110, May 2008.

[A4] M. C. Di Piazza, G. Tinè, G. Vitale, "An Improved Active Common-Mode Voltage Compensation Device for Induction Motor Drives", IEEE Transaction on Industrial Electronics", Vol. 55, n. 4, pp. 1823-1834, April 2008.

[A3] G. Ala, M. C. Di Piazza, G. Tinè, F. Viola, G. Vitale, "Evaluation of Radiated EMI in 42 V Vehicle Electrical Systems by FDTD Simulation", IEEE Transactions on Vehicular Technology, Vol 56, n. 4, July 2007.

[A2] M. Cirrincione, M. Pucci, G. Vitale, "A New Direct Torque Control Strategy for the Minimization of Common Mode Emissions", IEEE transactions on Industry Applications, Vol 42, n. 2, March/April 2006.

[A1] G. Ala, M. C. Di Piazza, G. Tinè, F. Viola, G. Vitale, "Numerical Simulation of Radiated EMI in 42V Electrical Automotive Architectures", IEEE transaction on Magnetics, Volume 42, Issue 4, April 2006.

Lavori presentati a congressi Internazionali (Conferenze internazionali con revisori anonimi)

[B111] F. Alonge, M. Pucci, R. Rabbeni, G. Vitale, "Identification and Robust Control of a High Gain DC/DC Boost Converter by Hammerstein Model" ECCE 2014, IEEE Energy Conversion Congress and Exposition (ECCE). September 14-18, 2014, Pittsburgh, PA, (USA).

[B110] M. Cirrincione, M. Pucci, G. Vitale C. Testa, L. Greco, "Marine Current Turbine Generator System with Induction Machine Growing Neural Gas (GNG) MPPT based on Sensorless Sea Speed Estimation", ECCE 2014, IEEE Energy Conversion Congress and Exposition (ECCE). September 14-18, 2014, Pittsburgh, PA, (USA)

[B109] A. Di Piazza, M. C. Di Piazza and G. Vitale, "Solar Radiation Forecasting Based on Artificial Neural Networks Optimized by Genetic Algorithm for Energy Management in Smart Grids", EU PVSEC2014 29th European PV Solar Energy Conference and Exhibition, Amsterdam, The Netherland, 22-26 September 2014.

[B108] S. Cannizzaro, M.C. Di Piazza, M. Luna, G. Vitale, G. Calogero, I. Citro, "Parameter Identification and Real-Time J-V curve Reconstruction of Polymer and Sensitized Cells Using non-iterative Algorithm", EU PVSEC2014 29th European PV Solar Energy Conference and Exhibition, Amsterdam, The Netherland, 22-26 September 2014.

[B107] G. Vitale, "Characterization of a DC grid for Power Line Communications in Smart Grids", 15th IEEE workshop on Control and Modelling for Power Electronics, Santander (Spain) June 22-25, 2014. (corresponding author, speaker at the conference).

[B106] S. Cannizzaro, M. C. Di Piazza, M. Luna, G. Vitale, "PVID: an Interactive Matlab Application for Parameter Identification of Complete and Simplified Single-Diode PV Models", 15th IEEE workshop on Control and Modelling for Power Electronics, Santander (Spain) June 22-25, 2014. (corresponding author, speaker at the conference)

[B105] S. Cannizzaro, M. C. Di Piazza, M. Luna, G. Vitale, "Generalized Classification of PV Modules by Simplified Single-Diode Models", ISIE 2014, IEEE International Symposium on Industrial Electronics, Istanbul (Turkey), 1 - 4 June 2014.

[B104] M. C. Di Piazza, M. Luna, G. Vitale "Design and FPGA Implementation of an All-Digital Two-Quadrant General Pulse-Width Modulator", ISIE 2014, IEEE International Symposium on Industrial Electronics, Istanbul (Turkey), 1 - 4 June 2014.

[B103] M. C. Di Piazza, G. Giglia, M. Luna, G. Vitale, "EMI Filter Design in Motor Drives with Common Mode Voltage Active Compensation", ISIE 2014, IEEE International Symposium on Industrial Electronics, Istanbul (Turkey), 1 - 4 June 2014.

[B102] A. Di Piazza, M. C. Di Piazza and G. Vitale, "Estimation and Forecast of Wind Power Generation by FTDNN and NARX-net based models for Energy Management Purpose in Smart Grids", International Conference on Renewable Energies

and Power Quality (ICREPQ'14), Cordoba (Spain), 8th to 10th April, 2014. (corresponding author, speaker at the conference)

[B101] F. Alonge, M. Pucci, R. Rabbeni, G. Vitale, "Sensitivity analysis of a High Gain DC/DC boost converter including parasitic parameters", International Conference on Renewable Energies and Power Quality (ICREPQ'14), Cordoba (Spain), 8th to 10th April, 2014. (corresponding author, speaker at the conference)

[B100] A. Di Piazza, M. C. Di Piazza, G. Vitale, "Solar Radiation Estimate and Forecasting by Neural Networks for Smart Grid Energy Management", EU PVSEC 2013, 28th European Photovoltaic Solar Energy Conference and Exhibition, 30 Sep - 04 Oct 2013, Paris, France.

[B99] M. Cirrincione, M. Pucci, G. Vitale, "Parameter Identification of a Double-Layer-Capacitor 2-Branch Model by a Least-Squares Method", Special Session on Battery and supercapacitor state and parameter estimation, IECON 2013 - The 39th Annual Conference of the IEEE Industrial Electronics Society 10th -13th of November 2013, Vienna, Austria.

[B98] M. C. Di Piazza, M. Pucci, G. Vitale, "Efficiency Modeling in Voltage Source Inverters with Several PWM Techniques: a Unified Approach", IECON 2013 - The 39th Annual Conference of the IEEE Industrial Electronics Society 10th -13th of November 2013, Vienna, Austria.

[B97] M. C. Di Piazza, G. Giglia, M. Luna, G. Vitale, "EMI and Reliability Improvement in DC supplied Motor Drives by Filtering Techniques", IECON 2013 - The 39th Annual Conference of the IEEE Industrial Electronics Society 10th -13th of November 2013, Vienna, Austria.

[B96] M. C. Di Piazza, M. Luna, M. Pucci, G. Vitale, "PV-based Li-ion Battery Charger with Neural MPPT for Autonomous Sea Vehicles", Special session on Power Electronics, Control, Motor Drives and Energy Management in Electric and Fuel Cell Vehicles, IECON 2013, The 39th Annual Conference of the IEEE Industrial Electronics Society 10th -13th of November 2013, Vienna, Austria.

[B95] M. C. Di Piazza, M. Pucci, G. Vitale, "Benchmarking of PWM Techniques Effects on Efficiency, Power Quality and EMI in DC-supplied Induction Motor Drives", ECCE IEEE Energy Conversion Congress and Exposition, Denver, Colorado, USA, 15-19 september 2013.

[B94] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, "Closed-Loop MRAS Speed Observer for Linear Induction Motor Drives", ECCE IEEE Energy Conversion Congress and Exposition, Denver, Colorado, USA, 15-19 september 2013.

[B93] A. Di Piazza, M. C. Di Piazza, G. Vitale, "Solar Radiation Estimate and Forecasting by Neural Networks-based Approach", XIII Spanish-Portuguese Conference on electrical engineering (XIIIICHLIE), Valencia from 3 to 5 of July, 2013

[B92] M. Cirrincione, M. Pucci, G. Vitale, "Linear Neural Networks applied to Power Converters and AC Electrical Drives", Invited Paper, Plenary session PL5, International Conference on Renewable Energy and Power Quality (ICREPQ'13), Bilbao (Spain), 20-22 of March 2013.

[B91] M. C. Di Piazza, G. Vitale "Efficiency Comparison of Grid Side Converters for DC Distribution Systems", International Conference on Renewable Energy and Power Quality (ICREPQ'13), Special session on *Power Electronics for Renewable Energy Systems*, Bilbao (Spain), 20-22 of March 2013.

[B90] A Accetta, M. Cirrincione, M. Pucci, G. Vitale, "Neural Sensorless Control of Linear Induction Motors by a Full-Order Luenberger Observer considering the End-effects", 2012 IEEE Energy Conversion Congress and Exposition ECCE 2012) Raleigh, North Carolina, USA, September 2012.

[B89] M. Cirrincione, M. Pucci, A. Sferlazza, G. Vitale "Descriptor-type Kalman Filter and Adaptive Speed Estimate for Sensorless Control of Linear Induction Motor." 3rd IEEE International Symposium on Sensorless Controls for Electrical Drives (SLED 2012) September 21-22, 2012, Milwaukee, WI, USA

“Grid-Connected System for Multi-String PV Systems Control for Electric Drives (SLED 2012) September 21-22, 2012, Milwaukee, WI, USA

[B87] M. C. Di Piazza, F. Viola, G. Vitale, “High Frequency Model of PV Systems for the Evaluation of Ground Currents”, International Conference on Renewable Energies and Power Quality (ICREPQ’12) Santiago de Compostela (Spain), 28th to 30th March, 2012.

[B86] M. C. Di Piazza, M. Luna, G. Vitale, “Parameter Identification of a PV Source Dynamic Model with Piecewise-Linear Circuit-Based Approach”, International Conference on Renewable Energies and Power Quality (ICREPQ’12) Santiago de Compostela (Spain), 28th to 30th March, 2012.

[B85] A. Accetta, M. Cirrincione, M. Pucci, G. Vitale, “MRAS Speed Observer for High Performance Linear Induction Motor Drives based on Linear Neural Networks”, IEEE Energy Conversion Congress & Exposition, Phoenix, Arizona, 2011 September 17-22.

[B84] M. Cirrincione, M. Pucci, G. Vitale, “Neural MPPT of Variable Pitch Wind Generators with Induction Machine in a Wide Speed Range”, IEEE Energy Conversion Congress & Exposition, Phoenix, Arizona, 2011 September 17-22.

[B83] G. Marsala, M. Pucci, R. Rabbeni, G. Vitale, “Analysis and Design of a dc-dc Converter with High Boosting and Reduced Current Ripple for PEM FC”, IEEE Vehicle Power and Propulsion Conference, VPP 2011, Chicago Il. USA, September 6-9.

[B82] M. C. Di Piazza, A. Ragusa, G. Vitale “An Improved Common Mode Active Filter for EMI Reduction in Vehicular Motor Drives”, IEEE Vehicle Power and Propulsion Conference, VPP 2011, Chicago Il. USA, September 6-9.

[B81] M. Cirrincione, M. Pucci, A. Sferlazza, G. Vitale, “Neural based MRAS Sensorless Techniques for High Performance Linear Induction Motor Drives”, 36th Annual Conference of the IEEE Industrial Electronics Society. IECON-2010, 7-10 November 2010

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AMBITI DI RICERCA

- Power Electronics

- Electromagnetic Compatibility

- Social robotics