Curriculum Vitae et Studiorum of Giovanni Petrone

Giovanni Petrone was born in Salerno (Italy) on 23 March 1975.

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Studies

- He received the M.Sc. degree in Electronic Engineering from the University of Salerno (Italy) on January 15th, 2001.
- He received the Ph.D. degree in Electrical Engineering from the University "Federico II" of Naples (Italy) on March 16th, 2004.

Employment at the University of Salerno (Italy)

- From January 2005 to October 2014 he was Assistant Professor of "Elettrotecnica" (ING-IND/31).
- Since October 31st, 2014 he is Associate Professor of "Elettrotecnica" (ING-IND/31).

Editorial Activities

- Since September 2011 he has been serving as Associate Editor of the IEEE Journal of Photovoltaics
- He has been co-Guest Editor of two Special Issues of the IEEE Transactions on Industrial Electronics:
  - "Photovoltaic power processing systems" (July 2008)
  - "Efficient and reliable photovoltaic systems" (July 2009)
- He is co-Guest Editor of Special Issue of the IEEE Transactions on Industrial Informatics:
  - Monitoring, diagnosis, prognosis and techniques for increasing the lifetime/reliability of photovoltaic systems (2015).

Roles in Conferences Organization

- He has been track co-Chair for Special Sessions in International conferences:
  - *Photovoltaic systems for building integration and sustainable mobility*, 15th International Power Electronics and Motion Control Conference - EPE-PEMC 2012 -Novi Sad, Republic of Serbia - September 2012
  - *Power electronics dedicated to a single photovoltaic module: grid-connected and standalone applications*, IEEE International Conference on Industrial Technology (ICIT) - Vina del Mar - March 2010.
  - *Circuits and Systems for Renewable Energy Sources*, IEEE International Symposium on Circuits and Systems (ISCAS) - Paris - June 2010.
  - *Granular control of renewable energy systems*, IEEE International Symposium on Industrial Electronics (ISIE) – Bari - July 2010.
  - *Power Electronics for Photovoltaics*, IEEE International Symposium on Industrial Electronics (ISIE) - Vigo - June 2007.

Memberships

- Since 2013 he is IEEE Member.
- Since 2009 he is Member of "IEEE Industrial Electronics Society – Technical Committee on Renewable Energy Systems".
- Since 2001 he is member of the "Ordine degli Ingegneri della Provincia di Salerno".

Funded Research Projects

- PRIN 2008 project funded by Italian government, entitled: Miniturbine eoliche per funzionamento universale (grid-connected, standalone, microgrid). (Responsible of the University Research Unit).
- PRIN 2006 project funded by Italian government, entitled: Integrazione di sistemi fotovoltaici in autoveicoli convenzionali ed ibridi. (Responsible of the University Research Unit).
- Project funded by Campania Region, law 05/2002, entitled: High efficiency grid-connected inverters for renewable sources using innovative control techniques and robust design methodologies. (Responsible of the Research Project).
- FARB 2011 project funded by University of Salerno entitled: Tecnica di controllo sliding mode per applicazioni fotovoltaiche. (Responsible of the Research Project).
- FARB 2012 project funded by University of Salerno entitled: Modelli e algoritmi per la riconfigurazione automatica del campo fotovoltaico finalizzati alla massimizzazione dell'energia prodotta. (Responsible of the Research Project).
- FARB 2013 project funded by University of Salerno entitled: Tecniche numeriche per la diagnostica di moduli fotovoltaici. (Responsible of the Research Project).

Patents and patents pending

- P. Manganiello, P. L. Carotenuto, L. Cirillo, C. Cullino, G. Petrone, G. Spagnuolo, and M. Vitelli, "Metodo per la decimazione dei campioni necessari all'identificazione di una curva caratteristica di almeno un modulo di erogazione di energia elettrica e programma per elaboratore associato," ITALIAN PATENT APPLICATION No: TO2013A000717
  APPLICANT: Bitron S.p.A. PRIORITY DATE: 05-09-2013.

- P. Manganiello, P. L. Carotenuto, L. Cirillo, C. Cullino, G. Petrone, G. Spagnuolo, and M. Vitelli, "Metodo per valutare la necessita di eseguire una fase di riconfigurazione di due o più pannelli fotovoltaici," ITALIAN PATENT APPLICATION No: TO2013A000718
  APPLICANT: Bitron S.p.A. PRIORITY DATE: 05-09-2013.

- E. Bianconi, C. F. J. Calvente, N. Femia, C. R. Giral, G. Petrone, C. A. Ramos-Paja, G. Spagnuolo, and M. Vitelli, "Method and device for maximizing the electric power delivered by a generator, in particular a generator based on a renewable power source,"
  PCT PATENT APPLICATION No: PCT/IB2011/053389 (July 29, 2011)
  ITALIAN PATENT No: TO2010A000661
  APPLICANT: Bitron S.p.A. PRIORITY DATE: July 30, 2010.

- L. Egiziano, N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli, "Controller apparatus with maximum power point tracking for controlling an electric power generation system based on photovoltaic sources, controlling method and related electric power generation system,"
  PCT PATENT APPLICATION No: PCT/IT2010/000167(April 19, 2010)
  ITALIAN PATENT No: RM2009000193
  APPLICANT: Università degli Studi di Salerno. PRIORITY DATE:April 24, 2009.

- L. Egiziano, N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli, "Method for controlling an electric power generation system based on energy sources, in particular renewable energy

sources, and related controller device,"
PCT PATENT APPLICATION No: PCT/IT2010/000066 (Feb. 22, 2010)
EUROPEAN PATENT No: EP2399179 (20-Feb-2013)
ITALIAN PATENT No: SA2009A000004
APPLICANT: Università degli Studi di Salerno. PRIORITY DATE: Feb. 20, 2009.

- N. Femia, F. De Rosa, A. Sirianni, G. Petrone, L. Egiziano, G. Spagnuolo, and M. Vitelli, "Method and device for controlling the operation of power at the point of maximum power,"
  US PATENT APPLICATION No: US20100219690A1 (Sep. 2, 2010)
  PCT PATENT APPLICATION No: PCT/IT2007/000406
  ITALIAN PATENT No: SA2006A/000016
  APPLICANT: Università degli Studi di Salerno PRIORITY DATE: June 7, 2007.

- D. Nocentini, S. Macerini, N. Femia, M. Vitelli, G. Spagnuolo, G. Petrone, F. De Rosa, and A. Sirianni, "System for producing electric power from renewable sources and a control method thereof,"
  US PATENT No: US007952897B2 (31-May-2011) US PRIORITY DATE: Apr. 9, 2009
  PCT PATENT APPLICATION No: PCT/IT2005/000757
  APPLICANT: POWER-ONE Italy S.p.A., Arezzo (IT)
  PCT PRIORITY DATE: Dec. 22, 2005.

- L. Egiziano, N. Femia, D. Granozio, G. Petrone, G. Spagnuolo, and M. Vitelli, "Single stage inverter device, and related controlling method, for converters of power from energy sources, in particular photovoltaic sources,"
  US PATENT No: US8189352 (29-May-2012)
  EUROPEAN PATENT No: EP1902349 (18-Ago-2010)
  PCT PATENT No: PCT/IT2005/000747
  ITALIAN PATENT No: SA2005A000014
  APPLICANT: Università degli Studi di Salerno PRIORITY DATE: July 13, 2005.

Invited Lectures

- "Innovative Methods for Photovoltaic Systems", GREENGINEERING workshop at the University of Salerno (1-2 September 2015).
- "Non linear control techniques in photovoltaic and fuel cell power processing systems". workshop IEEE Seminar on Renewable Enegy Systems (SERENE) University of Salerno (1-2 June 2010).
- "High efficiency and reliability power converters for photovoltaic applications" in the frame of the Hannover fair –Germany (21 April 2010).
- "Auxiliary Power Unit basate su fonti energetiche rinnovabili", in the frame of workshop "*Innovazioni nella Nautica"* at the University of Salerno (22 May 2008).
- "Progettazione e Validazione Sperimentale di Circuiti Elettronici di Potenza per Applicazioni Fotovoltaiche", in the frame of ET2005, Riunione Annuale dei Ricercatori di Elettrotecnica, Roma 16-18 June 2005.

Lectures given in foreign universities

- May 2015 - two hours seminar for master and PhD students entitled: "Diagnostic for Photovoltaic panels: models and methods for the on-line identification of the PV degradation", University of Malaga (Spain)
- April 2012 - two hours seminar for master and PhD students entitled: "Power Electronics in Smart Grid", University of Malaga (Spain)
- July 2011- five hours seminar for master and PhD students entitled: "Distributed Maximum

Power Point Tracking: Architectures, Techniques and Commercial devices" University of Rovira I Virgili - Tarragona (Spain), financed by Erasmus teaching program.

Research activities in foreign universities

- October 2011 – one month visiting researcher at "Centre of Competence for Distributed Electric Power Technology", University of Kassel (Germany), financed with DAAD (Deutscher Akademischer Austauschdienst - German Academic Exchange Service) university grant.
- April 2010 – two weeks visiting researcher at "Centre of Competence for Distributed Electric Power Technology" University of Kassel (Germany) in the frame of bilateral Vigoni project.

PhD Committees final defense

- June 2014 – Universidad del Valle -Cali (Colombia) in co-tutorship with University of Salerno (Italy) – Dr. Juan David Bastidas-Rodriguez.

PhD Students Supervisor

- Alessandro Giustiniani (2008-2010)
- Emilio Mamarelis (2010-2012)
- Massimiliano De Cristofaro (2013-2015)

Reviewer of Research Projects

- Reviewer for the R&D Agency of Slovak Republic in the years 2006-2007.
- Reviewer of one research project submitted to the Piemonte Region (Italy)

Other roles

- Since 2014 contact person for the Erasmus agreements with the Université de Cergy Pontoise (France), and Universidad de Malaga (Spain).
- Since 2015 contact person for the Erasmus agreement with the University of Kiel (Germany).

Prizes

- DAAD (Deutscher Akademischer Austauschdienst - German Academic Exchange Service) university grant for research activities.
- Thomson Reuters Highly Cited Researcher for the year 2015 (web: highlycited.com)

Teaching Activities

Professor of the following courses, some of them given together collegues:

- Electronic Engineering bachelor degree:
  - Circuiti Elettronici di Potenza per le fonti rinnovabili (5 CFU)
  - Circuiti Elettronici di Potenza (5 CFU)
  - Circuiti Elettronici di Potenza per il Fotovoltaico (6 CFU)
  - Elettrotecnica I & II (6 +6 CFU)
- Electronic Engineering master degree:
  - Circuiti Elettronici di Potenza I & II (6+6 CFU)
- Computer Science Engineering bachelor degree:
  - Elettrotecnica (9 CFU)
- Civil Engineering bachelor degree:
  - Elettrotecnica (6/3 CFU)

IEEE Learning Library Course:

- "Maximum Power Point Tracking (MPPT): Algorithms and Applications", publication year 2012.
- "Non-Linear Control Techniques in Photovoltaic and Fuel Cell Power Processing Systems", publication year 2012.

September 18, 2015, Salerno, Italy

Prof. Giovanni Petrone

List of publications

PhD Thesis in Electrical Engineering

T1. **G. Petrone**: "Sistemi Fotovoltaici: Fattori d'Influenza e Strategie per la Massimizzazione dell'Efficienza", Tesi di Dottorato di Ricerca in Ingegneria Elettrica XVI ciclo, Università di Napoli "Federico II", 16 Marzo 2004.

Books

B1. **N. Femia, G. Petrone, G. Spagnuolo, M. Vitelli**: Power Electronics and Control Techniques for Maximum Energy Harvesting in Photovoltaic Systems, 1st Edition, CRC Press, 2012.

Book chapters

Bc1. **G. Petrone, F. J. Sa´nchez Pacheco, and G. Spagnuolo**, "Real time techniques and architectures for maximizing the power produced by a photovoltaic array," in Neural Nets and Surroundings, vol. 19 of Smart Innovation, Systems and Technologies, pp. 239–257, Springer Berlin Heidelberg, 2013. ISBN:978-3-642-35466-3

Bc2. **E. Arango, C. Ramos-Paja, D. Gonzalez, S. Serna, and G. Petrone**, "Automatic parameters calculation of controllers for photovoltaic dc/dc converters". Electrical Engineering and Control - Selected Papers from the 2011 International Conference on Electric and Electronics (EEIC 2011) Vol. 2, pp. 431-440 - Nanchang, China, 20-22 June, ISBN: 9783642217647 2011.

Bc3. **E. Arango, C. Ramos-Paja, R. Giral, S. Serna, and G. Petrone**, "Modeling and control of cuk converter operating in DCM". Electrical Engineering and Control - Selected Papers from the 2011 International Conference on Electric and Electronics (EEIC 2011) Vol. 2, pp. 441-449 - Nanchang, China, 20-22 June, ISBN: 9783642217647 2011.

Bc4. **G. Petrone and G. Spagnuolo,** "Solar Energy Conversion", vol. Power Electronics and Motor Drives. The Industrial Electronics Handbook, Second Edition, February, ISBN: 9781439802854 2010.

Journal papers

J1. **Ricco, M.; Manganiello, P.; Monmasson, E.; Petrone, G.; Spagnuolo, G.,** "FPGA-Based Implementation of Dual Kalman Filter for PV MPPT Applications," in *Industrial Informatics, IEEE Transactions on* , vol.PP, no.99, pp.1-1 doi: 10.1109/TII.2015.2462313.

J2. **Manganiello, P.; Ricco, M.; Petrone, G.; Monmasson, E.; Spagnuolo, G.,** "Dual Kalman Filter based Identification and Real-Time Optimization of PV Systems," in *Industrial Electronics, IEEE Transactions on* , vol.PP, no.99, pp.1-1 doi: 10.1109/TIE.2015.2475240.

J3. **M. L. Orozco-Gutierrez, G. Petrone, J. Ramirez-Scarpetta, G. Spagnuolo, and C. Ramos-Paja,** "A method for the fast estimation of the maximum power points in mismatched pv strings," Electric Power System Research- Issn:0378-7796, vol. 121, no. 0, pp. 115 – 125, 2015.

J4. **Spagnuolo, G.; Petrone, G.; Lehman, B.; Ramos Paja, C.A.; Ye Zhao; Orozco Gutierrez, M.L.**, "Control of Photovoltaic Arrays: Dynamical Reconfiguration for Fighting Mismatched Conditions and Meeting Load Requests," in Industrial Electronics Magazine, IEEE , vol.9, no.1, pp.62-76, March 2015 doi: 10.1109/MIE.2014.2360721

J5. **H. Renaudineau, F. Donatantonio, J. Fontchastagner, G. Petrone, G. Spagnuolo, J. Martin, and S. Pierfederici,** "A pso-based global mppt technique for distributed pv power generation," Industrial Electronics, IEEE Transactions on, vol. PP, no. 99, pp. 1–1, 2014. ISSN: 0278-0046.

J6. **P. Manganiello, M. Ricco, G. Petrone, E. Monmasson, and G. Spagnuolo**, "Optimization of perturbative pv mppt methods through on line system identification," Industrial Electronics, IEEE Transactions on, vol. PP, no. 99, pp. 1–1, 2014. ISSN:0278-0046.

J7. **J. D. Bastidas-Rodriguez, E. Franco, G. Petrone, C. A. Ramos-Paja, and G. Spagnuolo,** "Maximum power point tracking architectures for photovoltaic systems in mismatching conditions: a review," IET Power Electronics, March 2014. ISSN:1755-4535. Available online.

J8. **C. A. Ramos-Paja, G. Spagnuolo, G. Petrone, and E. Mamarelis,** "A perturbation strategy for fuel consumption minimization in polymer electrolyte membrane fuel cells: Analysis, design and {FPGA} implementation," Applied Energy, vol. 119, no. 0, pp. 21 – 32, 2014. ISSN:0306-2619.

J9. **E. Mamarelis, G. Petrone, and G. Spagnuolo,** "A two-steps algorithm improving the p&o steady state {MPPT} efficiency," Applied Energy, vol. 113, no. 0, pp. 414 – 421, 2014. ISSN:0306-2619.

J10. **E. Mamarelis, G. Petrone, and G. Spagnuolo**, "Design of a sliding-mode-controlled sepic for pv mppt applications," Industrial Electronics, IEEE Transactions on, vol. 61, pp. 3387–3398, July 2014. ISSN:0278-0046.

J11. **P. L. Carotenuto, P. Manganiello, G. Petrone, and G. Spagnuolo,** "Online recording a pv module fingerprint," Photovoltaics, IEEE Journal of, vol. 4, pp. 659–668, March 2014. ISSN:2156-3381.

J12. **E. Mamarelis, C. A. Ramos-Paja, G. Petrone, G. Spagnuolo, M. Vitelli, and R. Giral,** "Reducing the hardware requirements in fpga based controllers: a photovoltaic application," Revista Facultad de Ingeniera Universidad de Antioquia, pp. 36–48, September 2013. ISSN: 0120-6230.

J13. **G.Petrone, C.A.Ramos-Paja, G.Spagnuolo, and M.Vitelli,** "Granular control of photovoltaic arrays by means of a multi-output maximum power point tracking algorithm," Progress in Photovoltaics: Research and Applications, vol. 21, no. 5, pp. 918–932, 2013. ISSN:1099-159X.

J14. **E. Bianconi, J. Calvente, R. Giral, E. Mamarelis, G. Petrone, C. Ramos-Paja, G. Spagnuolo, and M. Vitelli,** "A fast current-based mppt technique employing sliding mode control," Industrial Electronics, IEEE Transactions on, vol. 60, pp. 1168–1178, March 2013. ISSN: 0278-0046.

J15. **N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli,** "Optimal control of photovoltaic arrays," Journal of Mathematics and Computers in Simulation, no. 0, pp. 1–15, 2013. ISSN:0378-4754.

J16. **E. Mamarelis, G. Petrone, and G. Spagnuolo,** "An hybrid digital-analog sliding mode controller for photovoltaic applications," Industrial Informatics, IEEE Transactions on, vol. 9, no.

2, pp. 1094–1103, 2013. ISSN:1551-3203.

J17. **J. Bastidas, E. Franco, G. Petrone, C. Ramos-Paja, and G. Spagnuolo,** "A model of photovoltaic fields in mismatching conditions featuring an improved calculation speed," Electric Power Systems Research, vol. 96, no. 0, pp. 81 – 90, 2013. ISSN:0378-7796.

J18. **E. Bianconi, J. Calvente, R. Giral, E. Mamarelis, G. Petrone, C. A. Ramos-Paja, G. Spagnuolo, and M. Vitelli,** "Perturb and observe {MPPT} algorithm with a current controller based on the sliding mode," International Journal of Electrical Power & Energy Systems, vol. 44, no. 1, pp. 346 – 356, 2013. ISSN: 0142-0615.

J19. **G.Petrone, G.Spagnuolo, and M.Vitelli,** "Distributed maximum power point tracking: challenges and commercial solutions," Automatika: Journal for Control, Measurement, Electronics, Computing and Communications, vol. 2, no. 53, pp. 128–141, 2012. Online ISSN 1848-3380, Print ISSN 0005-1144.

J20. **C. Ramos-Paja, G. Petrone, and A. Saavedra-Montes**, "Compensation of dc-link voltage oscillations in grid connected pv systems," Revista Facultad de Ingeniera Universidad de Antioquia - ISSN 0120-6230., vol. 1, pp. 82–92, June 2012. ISSN:0120-6230.

J21. **G. Petrone, G. Spagnuolo, and M. Vitelli**, "An analog technique for distributed mppt pv applications," Industrial Electronics, IEEE Transactions on, vol. 59, pp. 4713 –4722, dec. 2012. ISSN:0278-0046.

J22. **D. Gonzales, C. A. Ramos-Paja, and G. Petrone,** "Automated procedure for calculating the controller parameters in photovoltaic dc/dc converters," International Review of Electrical Engineering (IREE), vol. 6, no. 7, pp. 3027– 3040, 2011. ISSN:1827-6679.

J23. **G. Petrone and C. Ramos-Paja,** "Modeling of photovoltaic fields in mismatched conditions for energy yield evaluations," Journal of Electric Power Systems Research, vol. 81, no. 4, pp. 1003–1013, 2011. ISSN:03787796.

J24. **G. Petrone, G. Spagnuolo, and M. Vitelli**, "A multivariable perturb-and-observe maximum power point tracking technique applied to a single-stage photovoltaic inverter," Industrial Electronics, IEEE Transactions on, vol. 58, pp. 76 –84, jan. 2011. ISSN:0278-0046.

J25. **A. Giustiniani, G. Petrone, G. Spagnuolo, and M. Vitelli,** "Low-frequency current oscillations and maximum power point tracking in grid-connected fuel-cell-based systems," Industrial Electronics, IEEE Transactions on, vol. 57, pp. 2042 –2053, june 2010. ISSN:0278-0046.

J26. **A. De Nardo, N. Femia, G. Petrone, and G. Spagnuolo,** "Optimal buck converter output filter design for point-of- load applications," Industrial Electronics, IEEE Transactions on, vol. 57, pp. 1330 –1341, april 2010. ISSN:0278- 0046.

J27. **G. Spagnuolo, G. Petrone, S. Araujo, C. Cecati, E. Friis-Madsen, E. Gubia, D. Hissel, M. Jasinski, W. Knapp, M. Liserre, P. Rodriguez, R. Teodorescu, and P. Zacharias,** "Renewable energy operation and conversion schemes: A summary of discussions during the seminar on renewable energy systems," Industrial Electronics Magazine, IEEE, vol. 4, pp. 38 –51, march 2010. ISSN:1932-4529.

J28. **G. Adinolfi, N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli,** "Design of dc/dc converters for dmppt pv applications based on the concept of energetic efficiency," Journal of Solar Energy Engineering, Transactions of the ASME, vol. 132, no. 2, pp. 0210051–02100510, 2010. ISSN:01996231.

J29. **N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli,** "A new analog mppt technique: Teodi," Journal of Progress in Photovoltaics: Research and Applications, vol. 18, no. 1, pp. 28–41, 2010. ISSN:10627995.

J30. **A. Giustiniani, G. Petrone, G. Spagnuolo, I. Arsie, A. Di Domenico, C. Pianese, M. Sorrentino, and M. Vitelli,** "Enhancing polymeric electrolyte membrane fuel cell control by means of the perturb and observe technique," Journal of Fuel Cell Science and Technology, vol. 7, no. 1, pp. 0110211–01102111, 2010. ISSN:1550624X.

J31. **N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli,** "A technique for improving p&o mppt performances of double-stage grid-connected photovoltaic systems," IEEE Transactions on Industrial Electronics, vol. 56, no. 11, pp. 4473–4482, 2009. ISSN:02780046.

J32. **N. Femia, M. Fortunato, G. Petrone, G. Spagnuolo, and M. Vitelli**, "Dynamic model of one-cycle control for converters operating in continuous and discontinuous conduction modes," International Journal of Circuit Theory and Applications, vol. 37, no. 5, pp. 661–684, 2009. ISSN:00989886.

J33. **A. De Nardo, N. Femia, M. Nicolo, G. Petrone, and G. Spagnuolo,** "Power stage design of fourth-order dc-dc converters by means of principal components analysis," Power Electronics, IEEE Transactions on, vol. 23, pp. 2867–2877, Nov 2008. ISSN:0885-8993.

J34. **N. Femia, G. Lisi, G. Petrone, G. Spagnuolo, and M. Vitelli**, "Distributed maximum power point tracking of photovoltaic arrays: Novel approach and system analysis," Industrial Electronics, IEEE Transactions on, vol. 55, pp. 2610–2621, July 2008. ISSN:0278-0046.

J35. **G. Petrone, G. Spagnuolo, R. Teodorescu, M. Veerachary, and M. Vitelli**, "Reliability issues in photovoltaic power processing systems," Industrial Electronics, IEEE Transactions on, vol. 55, pp. 2569–2580, July 2008. ISSN:0278-0046.

J36. **M. Fortunato, A. Giustiniani, G. Petrone, G. Spagnuolo, and M. Vitelli**, "Maximum power point tracking in a one-cycle-controlled single-stage photovoltaic inverter," Industrial Electronics, IEEE Transactions on, vol. 55, pp. 2684–2693, July 2008. ISSN:0278-0046.

J37. **N. Fermia, D. Granozio, G. Petrone, and M. Vitelli,** "Predictive adaptive mppt perturb and observe method," Aerospace and Electronic Systems, IEEE Transactions on, vol. 43, pp. 934–950, July 2007. ISSN:0018-9251.

J38. **G. Petrone, G. Spagnuolo, and M. Vitelli,** "Analytical model of mismatched photovoltaic fields by means of lambert w-function," Solar Energy Materials and Solar Cells, vol. 91, no. 18, pp. 1652 – 1657, 2007. ISSN:0927-0248.

J39. **N. Femia, D. Granozio, G. Petrone, G. Spagnuolo, and M. Vitelli**, "Optimized one-cycle control in photovoltaic grid connected applications," Aerospace and Electronic Systems, IEEE Transactions on, vol. 42, pp. 954–972, July 2006. ISSN:0018-9251.

J40. **N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli,** "Optimization of perturb and observe

maximum power point tracking method," Power Electronics, IEEE Transactions on, vol. 20, pp. 963–973, July 2005. ISSN:0885-8993.

J41. **G.Petrone and G.Spagnuolo,** "Tolerance design of controllers for switching regulators," Aerospace and Electronic Systems, IEEE Transactions on, vol. 40, pp. 661–674, April 2004. ISSN:0018-9251.

J42. **G. Petrone, G. Spagnuolo, and M. Vitelli,** "Worst case tolerance analysis in static field problems," Magnetics, IEEE Transactions on, vol. 40, pp. 366–370, March 2004. ISSN:0018-9464.

Papers presented at international conferences

C1. **M. C. Di Piazza, M. Luna, G. Petrone, and G. Spagnuolo**, "About the identification of the single-diode model parameters of high-fill-factor photovoltaic modules," in International Conference on CLEAN ELECTRICAL POWER Renewable Energy Resources Impact (ICCEP), Taormina, Italy, pp. 91–97, 16-18 June 2015. ISBN: 978-1-4799-8704-7/15.

C2. **P. L. Carotenuto, M. C. DiPiazza, M. Luna, G. Petrone, and G. Spagnuolo,** "A geostatistical approach for identifying the shadowing conditions affecting a photovoltaic plant," in International Conference on CLEAN ELECTRICAL POWER Renewable Energy Resources Impact (ICCEP), Taormina, Italy, June 2015.

C3. **P. L. Carotenuto, G. Petrone, and G. Spagnuolo**, "An adaptive method for the identification of the main features of photovoltaic panels v-i curves," in International Conference on CLEAN ELECTRICAL POWER Renewable Energy Resources Impact (ICCEP), Taormina, Italy, June 2015.

C4. **G. Petrone and G. Spagnuolo,** "Parameters identification of the single-diode model for amorphous pv panels," in International Conference on CLEAN ELECTRICAL POWER Renewable Energy Resources Impact (ICCEP), Taormina, Italy, June 2015.

C5. **M. Orozco-Gutierrez, J. Ramirez-Scarpetta, C. Ramos-Paja, G. Petrone, and G. Spagnuolo,** "Fast estimation of mpps in mismatched pv arrays," in International Conference on CLEAN ELECTRICAL POWER Renewable Energy Resources Impact (ICCEP), Taormina, Italy, June 2015.

C6. **M. Ricco, P. Manganiello, G. Petrone, E. Monmasson, and G. Spagnuolo,** "Fpga-based implementation of an adaptive p&o mppt controller for pv applications," IEEE International Symposium on Industrial Electronics (ISIE-2014), pp. 1872–1877. ISBN: 978-1-4799-2398-4/14.

C7. **P. Carotenuto, P.Manganiello, G. Petrone, and G. Spagnuolo,** "About the criteria for triggering the reconfiguration of a photovoltaic array," IEEE International Symposium on Industrial Electronics (ISIE-2014), pp. 2468–2473. ISBN: 978-1-4799-2398-4/14.

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