Publications

Trading mechanism and pricing strategy of integrated energy systems based on credit rating and Bayesian game

Hybrid automaton-fuzzy control of single phase dual buck half bridge shunt active power filter for shoot through elimination and power quality improvement

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Compensation of distortions in VSC-based DC-AC DC–AC power systems using a modified vector control method

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Adaptive frequency regulation strategy in multi-area microgrids including renewable energy and electric vehicles supported by virtual inertia

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A Reduced-Order Generalized Proportional Integral Observer-Based R resonant Super-Twisting Sliding Mode Control for Grid-Connected Power Converters

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A Communication-less Multi-mode Control Approach for Adaptive Power-Sharing in Ships-based Seaport Microgrid

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Protection of LVDC Microgrids in Grid-Connected and Islanded Modes Using Bifurcation Theory

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Author Correction: Optimal SSSC-based power damping inter-area oscillations using firefly and harmony search algorithms (Scientific Reports, (2020), 10, 1, (12437), 10.1038/s41598-020-69319-x)

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Virtual Admittance Loop for Voltage Harmonic Compensation in Microgrids

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Analysis, Modelling, and Simulation of Droop Control with Virtual Impedance Loop Applied to Parallel UPS Systems

A New Synchronous Reference Frame-Based Method for Single-Phase Shunt Active Power Filters

A new virtual-flux-vector based droop control strategy for parallel connected inverters in microgrids
A Novel Grid Impedance Estimation Technique based on Adaptive Virtual Resistance Control Loop Applied to Distributed Generation Inverters

A Novel Robust Communication Algorithm for Distributed Secondary Control of Islanded MicroGrids

A parametric study on unbalanced three phase islanded microgrids with inverter interfaced units

Autonomous Voltage Unbalance Compensation in an Islanded Droop-Controlled Microgrid

Battery State-of-Charge and Parameter Estimation Algorithm Based on Kalman Filter

Control of single-phase islanded PV/battery streetlight cluster based on power-line signaling

Coordinated Power Control Strategy based on Primary-Frequency-Signaling for Islanded Microgrids

Coordinated Primary and Secondary Control with Frequency-Bus-Signaling for Distributed Generation and Storage in Islanded Microgrids

Distributed Cooperative Control of Nonlinear and Non-identical Multi-agent Systems

Distributed Cooperative Secondary Control of Microgrids Using Feedback Linearization

Distributed Secondary Control for DC Microgrid Applications with Enhanced Current Sharing Accuracy

Dynamics Assessment of Advanced Single-Phase PLL Structures

Grid simulator for power quality assessment of micro-grids
Industrial applications of the Kalman filter: a review

MAS Based Event-Triggered Hybrid Control for Smart Microgrids

Microgrid Reactive and Harmonic Power Sharing Using Enhanced Virtual Impedance

Modeling, analysis, and design of stationary reference frame droop controlled parallel three-phase voltage source inverters

Modelling, Analysis, and Design of a Frequency-Droop-Based Virtual Synchronous Generator for Microgrid Applications

Optimal Power Flow in Microgrids with Energy Storage

Optimization with System Damping Restoration for Droop Controlled DC-DC Converters

Selective compensation of voltage harmonics in grid-connected microgrids

Selective virtual capacitive impedance loop for harmonics voltage compensation in islanded microgrids

Stability Constrained Efficiency Optimization for Droop Controlled DC-DC Conversion System

Voltage-Based Control of a Smart Transformer in a Microgrid

直流微电网储能系统中带有母线电压跌落补偿功能的负荷功率动态分配方法

Introduction to the special section on industrial applications and implementation issues of the Kalman filter
Automatic Power-Sharing Modification of P/V Droop Controllers in Low-Voltage Resistive Microgrids

Comments on "Economic analysis of different supporting policies for the production of electrical energy by solar photovoltaics in western European Union countries" by Luigi Dusonchet and Enrico Telaretti

Lyapunov based control of hybrid energy storage system in electric vehicles

An islanding microgrid reactive power sharing scheme enhanced by programmed virtual impedances

A Review of Power Electronics Based Microgrids

Cooperative Control with Virtual Selective Harmonic Capacitance for Harmonic Voltage Compensation in Islanded MicroGrids

Design and Tuning of a Modified Power-Based PLL for Single-Phase Grid-Connected Power Conditioning Systems

Distributed Secondary Control for Islanded MicroGrids – A Networked Control Systems Approach

Grid-connected of photovoltaic module using nonlinear control

Grid Integration of Renewables

Highly efficient distributed generation and high-capacity energy storage

Improving the voltage quality of an inverter via by-passing the harmonic current components

Mitigation of Voltage and Current Harmonics in Grid-Connected Microgrids
Multilayer Control for Inverters in Parallel Operation without Intercommunications

Multiple Distributed Smart Microgrids with a Self-Autonomous, Energy Harvesting Wireless Sensor Network

Online Detection and Estimation of Grid Impedance Variation for Distributed Power Generation

Precise Modeling Based on Dynamic Phasors for Droop-Controlled Parallel-Connected Inverters

Secondary Control for Compensation of Voltage Harmonics and Unbalance in Microgrids

Secondary Control for Reactive Power Sharing and Voltage Amplitude Restoration in Droop-Controlled Islanded Microgrids

Secondary Control for Reactive Power Sharing in Droop-Controlled Islanded MicroGrids

Secondary Control for Voltage Quality Enhancement in Microgrids

Secondary Control Scheme for Voltage Unbalance Compensation in an Islanded Droop-Controlled Microgrid

Selective Harmonic Virtual Impedance for Voltage Source Inverters with LCL filter in Microgrids

SoC-Based Droop Method for Distributed Energy Storage in DC Microgrid Applications

SoC-Based Dynamic Power Sharing Method with AC-Bus Voltage Restoration for Microgrid Applications

Voltage Quality Improvement in Islanded Microgrids Supplying Nonlinear Loads
Editorial: Special issue on power electronics for microgrids - Part II

Nonlinear control of single-phase shunt active power filter theoretical analysis of closed-loop performances

Advanced control of interleaved boost converter for fuel cell energy generation system

Intelligent connection agent for three-phase grid-connected microgrids

Adaptive control of interleaved boost converter for fuel cell energy

Fuzzy variable structure control for PWM inverters

A novel improved variable step-size incremental-resistance MPPT method for PV systems

Detailed Operation Scheduling and Control for Renewable Energy Powered Microgrids

Selective compensation of voltage harmonics in an islanded microgrid

Design and analysis of the droop control method for parallel inverters considering the impact of the complex impedance on the power sharing

Hierarchical control of droop-controlled AC and DC microgrids - A general approach toward standardization

A centralized control architecture for harmonic voltage suppression in islanded microgrids

A Distributed Control Strategy Based on DC Bus Signaling for Modular Photovoltaic Generation Systems With Battery Energy Storage
Connecting Renewable Energy Sources into the Smartgrid

Control of parallel-connected bidirectional AC-DC converters in stationary frame for microgrid application

Droop-Controlled Inverters with Seamless Transition between Islanding and Grid-Connected Operations

Experimental evaluation of voltage unbalance compensation in an islanded microgrid

Hierarchical Control Scheme for Voltage Harmonics Compensation in an Islanded Droop-Controlled Microgrid

Hierarchical Control Scheme for Voltage Unbalance Compensation in Islanded Microgrids

Modeling, analysis, and design of stationary reference frame droop controlled parallel three-phase voltage source inverters

Multilayer control for inverters in parallel operation without signal interconnection

Secondary control for voltage unbalance compensation in an islanded microgrid

Selective Compensation of Voltage Harmonics in a Grid-Connected Microgrid

Smart grid and renewable energy systems

Voltage Harmonic Compensation of a Microgrid Operating in Islanded and Grid-Connected Modes

Intelligent control agent for transient to an island grid
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Guest editorial: Editorial special issue on power electronics for microgrids - Part I

Hierarchical control of intelligent microgrids

Hierarchical control of power plants with microgrid operation

An integrated multifunction DC/DC converter for PV generation systems

Resonant current regulation for transformerless hybrid active filter to suppress harmonic resonances in industrial power systems

A simple control algorithm to avoid flux density bias in isolated full-bridge topologies

Design of an analog quasi-steady-state nonlinear current-mode controller for single-phase active power filter

Control design guidelines for single-phase grid-connected photovoltaic inverters with damped resonant harmonic compensators

Voltage support provided by a droop-controlled multifunctional inverter

Sliding-mode control for a single-phase AC/AC quantum resonant converter

Selective harmonic-compensation control for single-phase active power filter with high harmonic rejection

Sharing of active power supply and reactive power compensation for Parallel Inverters
Control strategy for flexible microgrid based on parallel line-interactive UPS systems

Flux DC bias and digital suppression scheme for isolated power factor correction converter

Droop control of a multifunctional PV inverter

Ride-through improvement of wind-turbines via feedback linearization

Adaptive nonlinear control of multiphase synchronous buck power converters

Analysis of flux density bias and digital suppression strategy for single-stage power factor corrector converter

Control of distributed uninterruptible power supply systems

Guest editorial

Linear current control scheme with series resonant harmonic compensator for single-phase grid-connected photovoltaic inverters

Feedback linearization of direct-drive synchronous wind-turbines via a sliding mode approach

Comparative study of hysteretic controllers for single-phase voltage regulators

Feedback linearization of a single-phase active power filter via sliding mode control

Reactive power compensation for parallel inverters without control interconnections in microgrid

Control of line-interactive UPS connected in parallel forming a microgrid
Droop control method with virtual output impedance for parallel operation of uninterruptible power supply systems in a microgrid

Parallel operation of uninterruptible power supply systems in MicroGrids

Author's reply [2]

Simple low-cost hysteretic controller for single-phase synchronous buck converters

Designing VRM hysteretic controllers For optimal transient response

Decentralized control for parallel operation of distributed generation inverters using resistive output impedance

Uninterruptible power supply systems provide protection

Decentralized control for parallel operation of distributed generation inverters in microgrids using resistive output impedance

Analysis, design and practical evaluation of an input-output linearization controller for the CLL-T dc-dc resonant converter

Droop control method for the parallel operation of online uninterruptible power systems using resistive output impedance

Wireless-control strategy for parallel operation of distributed-generation inverters

Feedback linearization control with average current sharing for multiphase synchronous buck converter

Wireless-control strategy for parallel operation of distributed generation inverters
Decentralized control for parallel operation of distributed generation inverters using resistive output impedance

One-cycle control for the parallel operation of synchronous buck converters

Simple feedback linearizing controller to reduce audiosusceptibility and load disturbance in the full-bridge current doubler synchronous rectifier

Steady-state invariant frequency and amplitude droop control using adaptive output impedance for parallel-connected UPS inverters

Design of voltage-mode hysteretic controllers for synchronous buck converters supplying microprocessor loads

Output impedance design of parallel-connected UPS inverters with wireless load-sharing control

Half-bridge CLL resonant rectifier with quantum mode control

Sliding-mode control of quantum series-parallel resonant converters via input-output linearization

Averaged large-signal model of single magnetic push-pull forward converter with built-in input filter

Output impedance design of parallel-connected UPS inverters

Simplified feedback linearization of a single-phase active power filter using sliding mode control

Parallel operation of Half-Bridge Converters with Current-Doubler Rectifier uUsing feedback linearization control

A simple sliding mode control of an active power filter

Output impedance performance for parallel operation of UPS inverters using wireless and average current-sharing controllers
A wireless controller to enhance dynamic performance of parallel inverters in distributed generation systems

A high-performance DSP-controller for parallel operation of online UPS systems

A Wireless Controller for Parallel Inverters in Distributed Online UPS Systems

A Sliding Mode Control of an Active Power Filter

Non-Linear Control of a Paralleled Half-Bridge Complementary-Control Converter System with a Single-Wire Current Sharing

A wireless load sharing controller to improve dynamic performance of parallel-connected UPS inverters

Simple nonlinear controller to reduce line and load disturbances in HBCC converter

A nonlinear feed-forward control technique for single-phase UPS inverters

Discrete non-linear control of a PWM inverter

Feedback sliding mode control linearization of a single phase active filter

A discrete sliding mode control of a buck-boost inverter

Steady-state invariant-frequency control of parallel redundant uninterruptible power supplies

Integral control technique for single-phase UPS inverter

Parallel operation of charge-controlled-DC-DC converters

Activities

Workshop: IoT-driven eNERgy systems (INET) - Advances and Applications
Amjad Anvari-Moghaddam (Lecturer), Yajuan Guan (Lecturer), Juan Carlos Vasquez Quintero (Lecturer) & Josep M. Guerrero (Lecturer)
30 Jul 2018

Special Issue "IoT and Energy Internet" (Event)
Josep M. Guerrero (Editor), Juan C. Vasquez (Editor) & Yajuan Guan (Editor)
26 Jul 2018 → 9 Sep 2019

Tutorial: Advances in Microgrids Control and Management
Amjad Anvari-Moghaddam (Lecturer), Qobad Shafiee (Lecturer), Hassan Bevrani (Lecturer) & Josep M. Guerrero (Lecturer)
20 Feb 2018 → 21 Feb 2018

Tutorial: The Internet of Energy - The Building Block for the Future Smart Grids
Mehdi Savaghebi (Lecturer), Juan Carlos Vasquez Quintero (Lecturer), Yajuan Guan (Lecturer) & Josep M. Guerrero (Lecturer)
29 Oct 2017

Special Section on "Energy Internet" (Event)
Josep M. Guerrero (Editor), Yajuan Guan (Editor), Juan C. Vasquez (Editor) & Kai Sun (Editor)
28 Aug 2017 → 31 Dec 2018

Keynote: Advanced Control Architectures of DC Microgrids
Josep M. Guerrero (Lecturer)
10 Jun 2015

Keynote Plenary session: Future challenges on microgrids and DC homes
Josep M. Guerrero (Lecturer)
21 May 2014

Keynote: Microgrid Technologies for Future Electric Vehicle Charging Stations
Josep M. Guerrero (Lecturer)
16 May 2014

Keynote: New technologies and future challenges on MicroGrid Research
Josep M. Guerrero (Speaker)
26 Mar 2014

Invited presentation: Advanced Control Architectures for Intelligent Microgrids
Josep M. Guerrero (Lecturer)
25 Aug 2011

Press clippings

40 nye medlemmer optaget i ATV i 2021
Brian Vejrum Wæhrens, Josep M. Guerrero, Kirsten Gram-Hanssen, Morten Mattrup Smedskjær, Zhe Chen & Lasse Rosendahl
21/06/2021
1 item of Media coverage

Computer-professorat med Obelsk Støtte
Gert Frølund Pedersen, Josep M. Guerrero, Svend Birkelund & Mark Grimshaw
30/04/2012
16 items of Media coverage
Fornem hæder til AAU-professor
Josep M. Guerrero
06/12/2014
12 items of Media coverage

Forskning i fremtidens el-systemer
Josep M. Guerrero
03/01/2014
5 items of Media coverage

Mikroanlæg skal sikre bæredygtig energiforsyning
Josep M. Guerrero
28/05/2019
1 item of Media coverage

NAVNE I NOTER
Josep M. Guerrero
25/12/2013
1 item of Media coverage

NAVNE I NOTER
Josep M. Guerrero
25/12/2013
1 item of Media coverage

Navne i noter
Josep M. Guerrero
14/12/2014
1 item of Media coverage

Svinghjul kan give billigere strøm til søs
Josep M. Guerrero
12/01/2015
10 items of Media coverage

Syv forskere fra Aalborg Universitet på Clarivates "Highly Cited Researchers List 2017"
Frede Blaabjerg, Josep M. Guerrero, Henrik Lund, Brian Vad Mathiesen, Remus Teodorescu, Christian Torp-Pedersen & Juan Carlos Vasquez Quintero
21/11/2017
1 item of Media coverage

Villum Fonden udvælger 11 nye investigators
Josep M. Guerrero
02/05/2019
1 item of Media coverage

Aalborgprofessor skal udvikle bæredygtig energiforsyning
Josep M. Guerrero
02/04/2019
12 items of Media coverage

Projects
Active filter functionalities for power converters in wind power plants
Guerrero, J. M., Chaudhary, S., Teodorescu, R., Bak, C. L., Freijedo Fernandez, F. D., Hoseinzadeh, B. & Lascu, C. V.
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ASSET: A holistic and Scalable Solution for Research, Innovation and Education in Energy Transition
Guerrero, J. M., Vasquez, J. C., Akhavan, A., Nasir, M. & Guldbæk, B. K.
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DiCyPS: Center for Data-Intensive Cyber-Physical Systems
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CROM: Center for Research on Microgrids
Guerrero, J. M., Vasquez, J. C., Tinajero, G. D. A., Akhavan, A. & Guldbæk, B. K.
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MMGrid: Control and Management of Multi-Microgrid Clusters in Taiwan
Guerrero, J. M., Dragicevic, T., Vasquez, J. C. & Wu, D.
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Distributed Converter And MicroGrid Advanced Control Algorithm Project
Guerrero, J. M. & Guldbæk, B. K.
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Anvari-Moghaddam, A., Guerrero, J. M., Nami, H. & Mohammadivatloo, B.
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iDClab: Intelligent DC Microgrid Living Lab
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DiCyPS: IT-Infrastructures for Control, Optimization and Management in Energy Systems
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MeTER_Demo: Microgrid Technology Research and Demonstration
Guerrero, J. M., Wu, D., Guan, Y., Vasquez, J. C. & Savaghebi, M.
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HyMG: Microgrid technology research based on wind/PV/storage hybrid system
Guerrero, J. M., Vasquez, J. C. & Wu, D.
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Flywheel: Off-Shore Application of the Flywheel Energy Storage
Guerrero, J. M., Dragicevic, T. & Anvari-Moghaddam, A.
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OFFSHORE WIND FARMS LARGE-SCALE INTEGRATION IN TURKEY
Chaudhary, S., Guerrero, J. M., Vasquez, J. C., Tinajero, G. D. A. & Høyer, M.
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VICINITY: Open virtual neighbourhood network to connect IoT infrastructures and smart objects
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REMCE: Renewable Energy based Minigrid Clusters in Ethiopia
Golestan, S., Guan, Y., Wu, Y., Vasquez, J. C., Guerrero, J. M. & Guldbæk, B. K.
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Others
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